[Service Desk Plus]

Admin Guide

SDP help desk guide

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ServiceDesk Plus editions

ServiceDesk Plus is available in three editions namely,

- Standard Edition- Help Desk Only.
- Professional Edition - Includes Help Desk & Asset Management.
- Enterprise Edition - Help Desk, Asset Management, ITIL and Project Management.

A quick view of the features available in the editions and the comparison table can be viewed here.

Contacting ZOHO Corporation

- Contact Information
- Sales
- Technical Support

Contact Information

Web site	www.zohocorp.com
Corporate Office	**USA** **Zoho Corporation** 4141 Hacienda Drive Pleasanton, CA 94588 USA Phone: +1-925-924-9500 Fax : +1-925-924-9600 E-mail: info@manageengine.com **Zoho Corporation** 3910 S, IH 35, Suite 100 Austin, Texas 78704, USA
	India **Zoho Corporation Private Limited** Estancia IT Park Pvt Ltd Plot No. 140 & 151, GST Road, Vallancherry Village, Chengalpattu Taluk, Kanchipuram District 603 202. Phone : 044- 67447070 / 71817070 / 22707070 / 66997070 Fax : 044 67447172 E-mail: info@manageengine.com
	Japan **ZOHO Japan Corporation** Minato-Mirai-Center building 13F, 3-6-1, Nishi-ku, Yokohama 221-0012, Japan Website: www.zoho.jp/ Contact Us: www.zoho.jp/contact/ **Singapore** **Zoho Corporation Pte. Ltd.** 138 Cecil Street, #08-01 Cecil Court, Singapore 069538, Phone: 63344486 Fax: 62819188

Sales

For purchasing ManageEngine ServiceDesk Plus from any part of the world, fill out the Sales Request Form. A salesperson will contact you shortly. You can also email us at sales@manageengine.com

You can also call the Corporate office of ZOHO Corporation at the following numbers:
Phone: +1-925-924-9500

Fax: +1-925-924-9600 and request for Sales

Technical Support

One of the value propositions of ZOHO Corporation to its customers is excellent support. During the evaluation phase, the support program is extended to users free of charge.

For support, please mail to servicedeskplus-support@manageengine.com

Alternatively, you can submit your feedback from the ServiceDesk Plus product by clicking the Feedback link at the top right corner just above the header tabs after logging in to the application. Your feedback will be sent to the ServiceDesk Plus Support Team and they will get in touch with you. Do not forget to provide your e-mail address or your contact information for the team to get in touch with you.

Installation

Introduction

The ServiceDesk Plus Installation Guide helps you overcome the initial hiccups of installing ServiceDesk Plus and starting ServiceDesk Plus as a service. This guide also provides step-by-step instructions for setting up your database, performing a manual backup, restoration of the backup data, changing your server port to HTTPS and installing SSL Certificate.

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System Requirements

Mentioned below are the minimum requirements to run ServiceDesk Plus. You may require more RAM space and high-end processors depending upon the support load, simultaneous access load, and other applications' load installed on the same server.

<table>
<tr><th>Inbound Requests Per Day</th><th>Hard Disk Type</th><th>RAM</th><th>Processor</th><th>OS</th></tr>
<tr><td>10x - Less than 100</td><td>500GB SDD</td><td>16GB</td><td>1.7GHz to 2.4GHz
10MB to 12MB Cache
4 cores to 8 cores
or Any entry-level server grade processor
E.g
Intel Xeon Scalable - Bronze/Silver
Intel Xeon E Family</td><td rowspan="3">Windows Server OS (2012-2016)

Linux

RHEL 8 or above

Ubuntu 14.0 or above</td></tr>
<tr><td>100x - Upto 1000</td><td>2TB - SDD</td><td>16GB/32GB*</td><td>p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545} 2.4GHz to 3.0GHz
12MB to 20MB Cache
6 cores to 8 cores
or equivalent technology
E.g
Intel Xeon E Family</td></tr>
<tr><td>1000x- More than 1000</td><td>2TB#/3TB* - SDD</td><td>16GB/32GB*</td><td>3.0GHz to 4.5GHz
12MB to 30 MB Cache
10 cores to 20 cores
or equivalent technology
E.g
Intel Xeon Scalable Gold/Platinum</td></tr>
</table>

* - PostgreSQL bundled is configured as a database

- More size required if request description /conversations and attachments etc are prone to be more, in a given business usage.

Supported Browsers

- Internet Explorer: IE 11, IE Edge
- Firefox
- Google Chrome

MSSQL:

If your ServiceDesk Plus runs on an MSSQL setup, then make sure to host the database server in a separate machine under the same network as the application server. The db server machine configuration solely depends on no of databases configured and usage. Please consult with your DBA or Microsoft MSSQL support for system requirements.

How to enable read committed snapshot isolation (RCSI)

All MSSQL databases usually have lock issues, which may affect an application's optimal performance. To avoid such performance issues in ServiceDesk Plus, enable the read committed snapshot isolation (RCSI) by following these steps:

This might take a while to complete and also requires downtime, so please schedule it over a weekend.

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1. Stop ServiceDesk Plus application.
2. Log in to SQL Management studio.
3. Take the ServiceDesk Plus database offline by executing
   ```
   USE master GO ALTER DATABASE <db_name> SET OFFLINE WITH ROLLBACK IMMEDIATE
   GO
   ```
4. Enable the read committed snapshot by running
   ```
   ALTER DATABASE <db_name> SET READ_COMMITTED_SNAPSHOT ON WITH ROLLBACK IMMEDIATE
   GO
   ```
5. Bring the database online using
   ```
   USE master GO ALTER DATABASE <db_name> SET ONLINE
   GO
   ```
6. Check if you have enabled RCSI successfully by running the following query
   ```
   SELECT is_read_committed_snapshot_on FROM sys.databases WHERE [name] = '<db_name>'
   ```

If the output to this query is 1, you've successfully enabled RCSI.

You can now start the application. For more information on MSSQL databases and RSCI, go here.

Benefits of enabling the MS SQL Snapshot Mode

Simultaneous user-querying of the database will be possible without any delay or disruption (although load on the application might exceed the usual limits).

User querying records will be maintained in a separate tempdb, which will not be affected by other user queries occurring in parallel or subsequently.

Database tables will be updated only after a transaction reaches completion.

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Install ServiceDesk Plus

Installation Files

The types of installation files for ServiceDesk Plus are,

- ManageEngine_ServiceDesk_Plus.exe (for Windows OS)
- ManageEngine_ServiceDesk_Plus.bin (for Linux OS)

Upgrade Service Pack

- ManageEngine_ServiceDesk_Plus_<latest_version>_SP-<build_number>.ppm

Click here to download your appropriate installation file.

p.p1 {margin: 0.0px 0.0px 2.0px 0.0px; font: 14.0px 'Helvetica Neue'; color: #454545} p.p2 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545} p.p3 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545; min-height: 14.0px} li.li2 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545} span.s1 {font: 10.0px Menlo} span.s2 {color: #e4af0a} ol.ol1 {list-style-type: decimal} ul.ul1 {list-style-type: disc}

Installation on Windows

Download **ManageEngine_ServiceDesk_Plus.exe** file.

- Click the .exe file to begin the installation. The ServiceDesk Plus installation wizard appears.
- Click **Next** to proceed with the installation.

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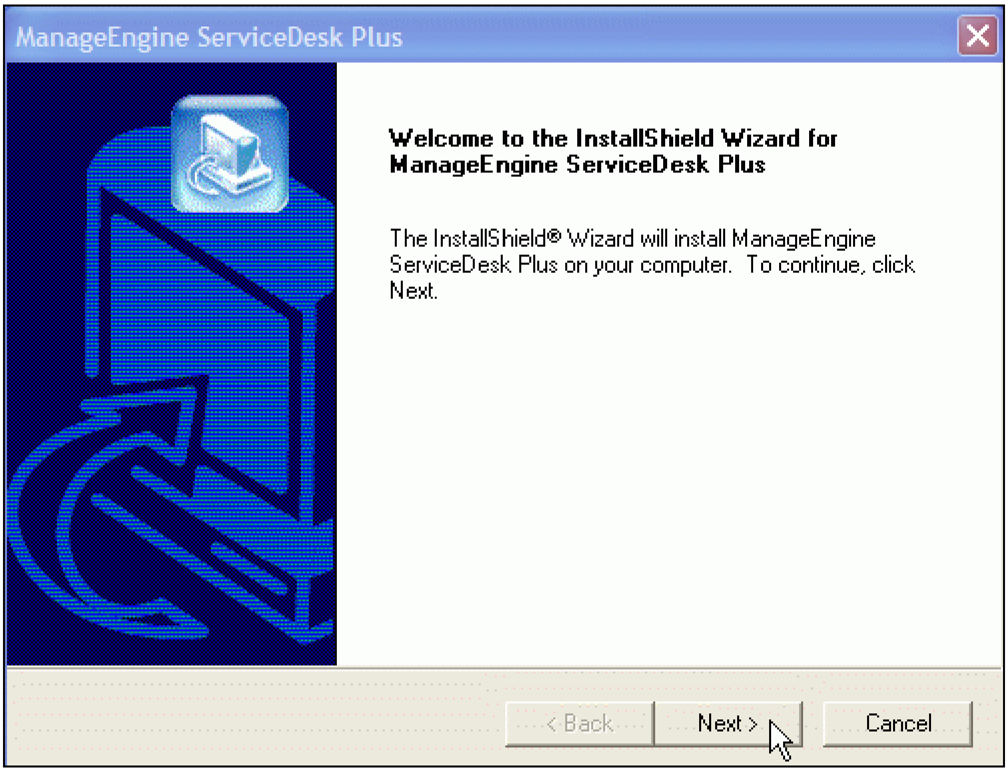
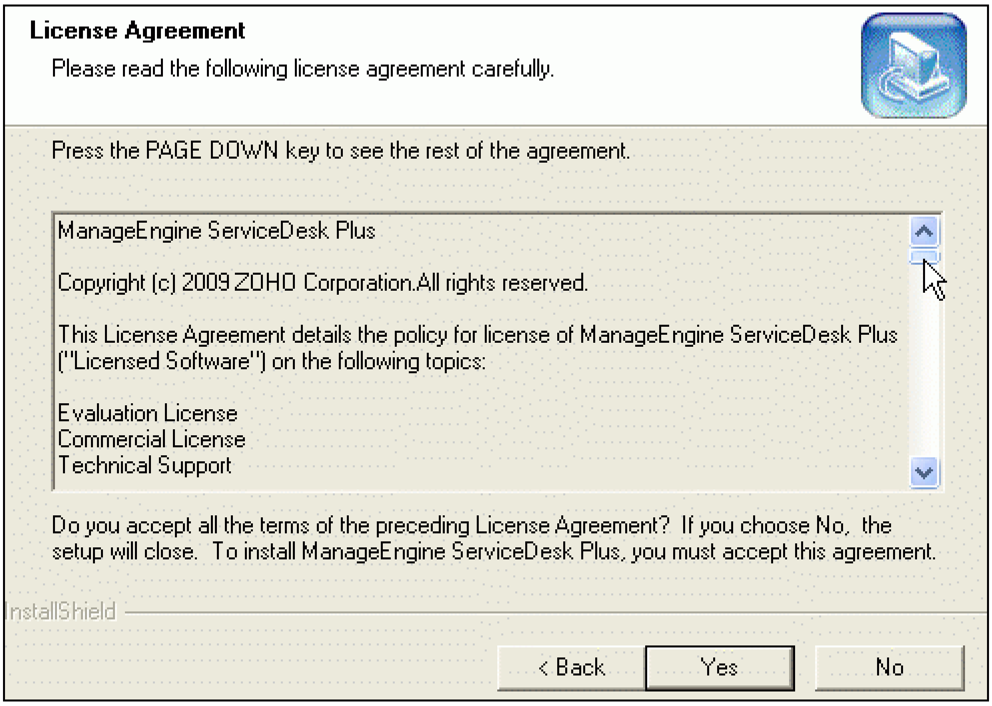


- The **License Agreement** is displayed. Please read the license agreement carefully. You need to accept the license agreement to proceed with the installation.

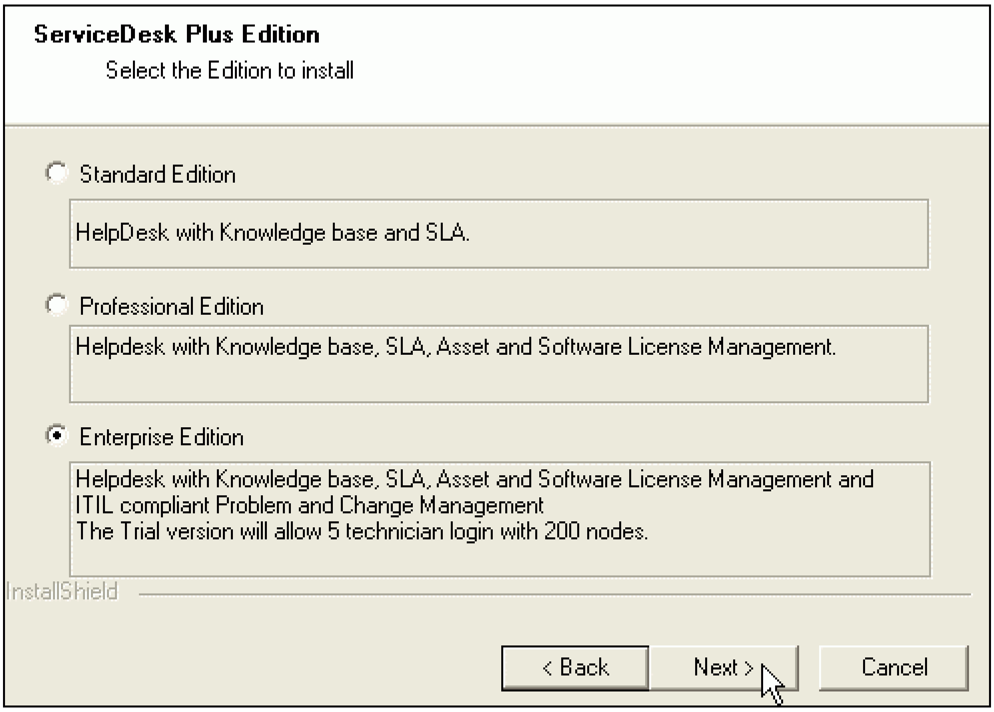


- Click **Yes** to accept.
- Select the **ServiceDesk Plus Edition** to install.
  - **Standard Edition** - This edition offers Help Desk Management, Self-Service Portal, Knowledge Base, SLA Management and Help Desk Report to help you manage and track your requests.
  - **Professional Edition** - This edition offers Software Compliance & License Tracking, Product Catalog, NMS

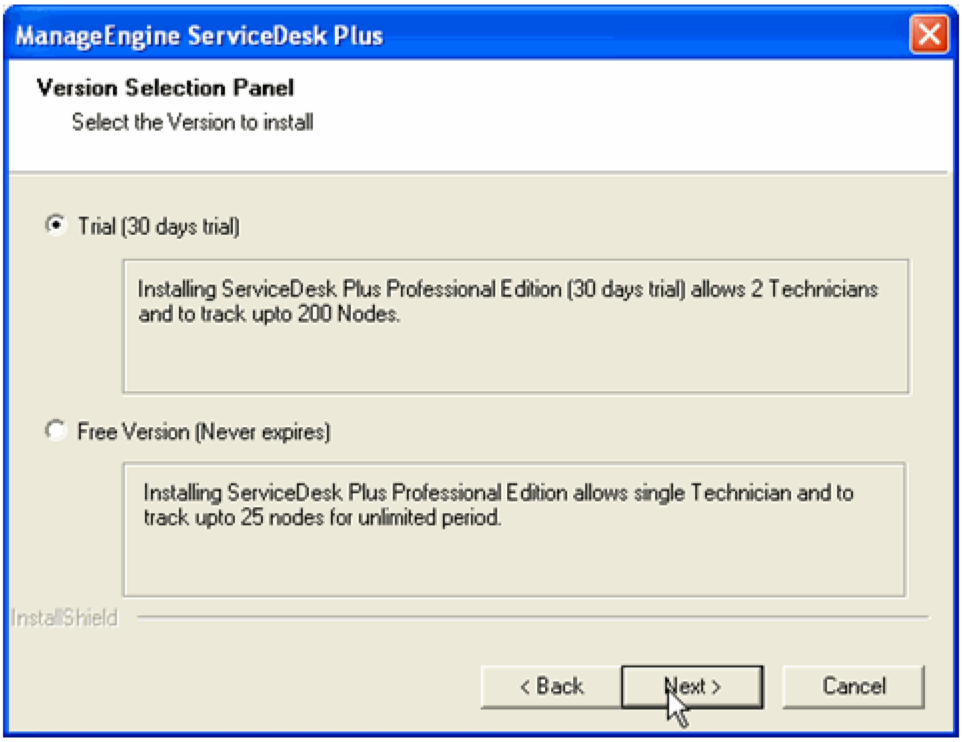
Integration, Asset Reports and few other asset related process along with the features of Standard Edition.

- **Enterprise Edition** - This is an ITIL ready help desk. It includes all features of Professional Edition plus Incident Management, Problem Management, Change Management & Configuration Management Database (CMDB).

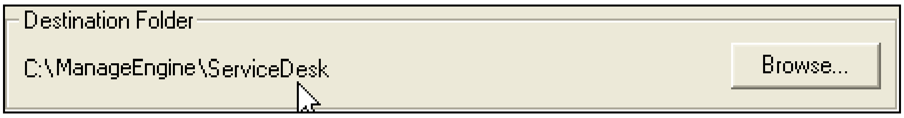
You can also refer the document ServiceDesk Plus Edition Comparison to choose your required edition.



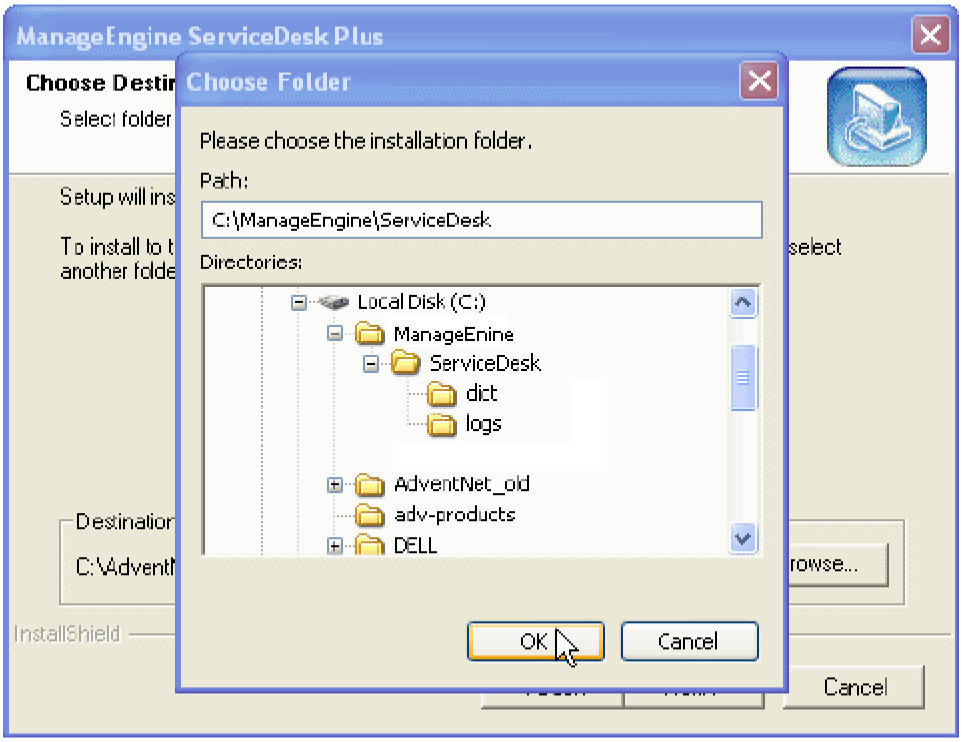
- If you have selected Standard Edition or the Professional Edition, then the **Version Selection Panel** displays options to select either the **Trail Version** or the **Free Version**.
  - The **Trial Version** is valid for 30 days and allows 2 technician logins with 200 nodes. You need to apply a valid license key to continue using ServiceDesk Plus.
  - The **Free Version**, on the other hand, never expires and can be used for unlimited time period without applying a valid license key. But the free version is restricted to a single technician login with 25 nodes.



- If you have selected Enterprise Edition, then the **Version Selection Panel** displays only the 30 days Trial Version with 5 Technician login and up to 200 Nodes. You need to apply a valid license to continue using ServiceDesk Plus. Refer Register ServiceDesk Plus to apply the license key.
- The next step is choosing the installation directory. By default, the application is installed in *C:ManageEngineServiceDesk* directory.

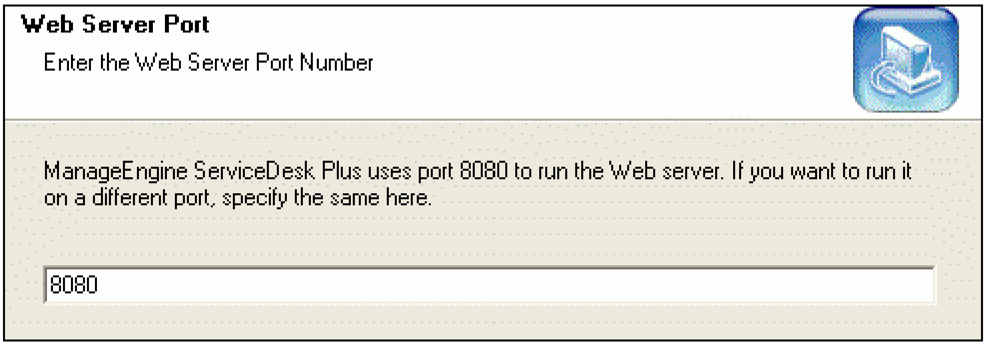


Click **Browse...** button to change the installation directory. Choose the installation folder and click **OK**.



NOTE: Please make sure that the installation directory or its parent directories do not have any space character in its name.

- Click **Next**.
- Provide a name that needs to appear in the **Program Folders**. By default, it is **ManageEngine ServiceDesk Plus.** Click **Next**.
- Enter the **Web Server Port Number** to run the web server. The default port number provided is **8080**. If you already have another application running in that port, then enter the port number which is free and can be used to run the web server.



- Click **Next**.
- By default, ServiceDesk Plus supports PGSQL database. To switch over to **MSSQL / MYSQL database,** refer configure the database to configure the corresponding database. Click **Next**.
- The **Registration for Technical Support** form is for acquiring technical assistance from our support team. By registering for technical support, our support team will be better informed about your organization and its specific needs, and hence provide a more focused support. Enter your details such as **Name**, contact **Email**

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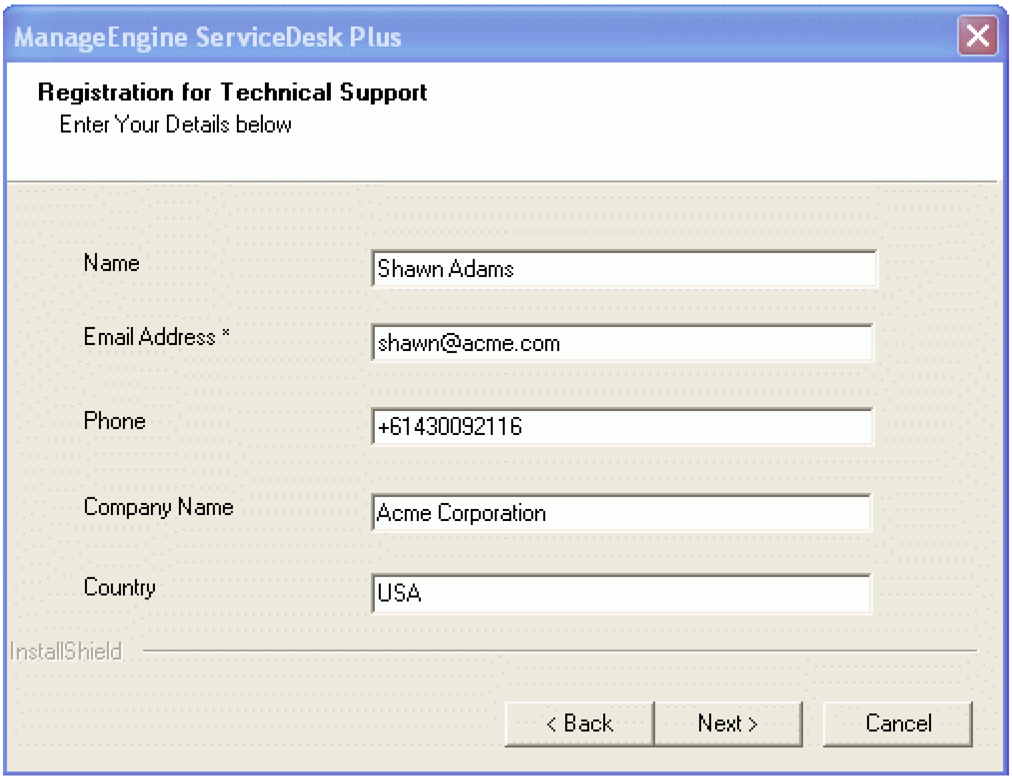
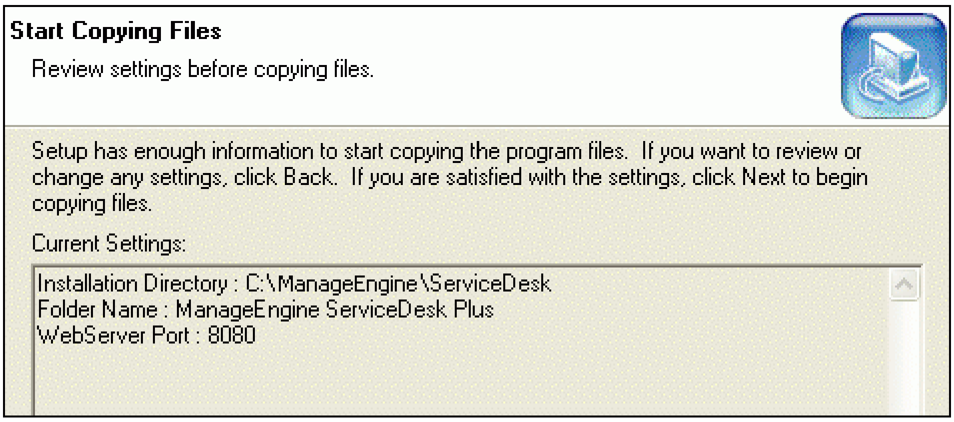
Address, **Phone Number** (helps in making calls for immediate support), **Company Name** and **Country**. The Email Address is a mandatory field.



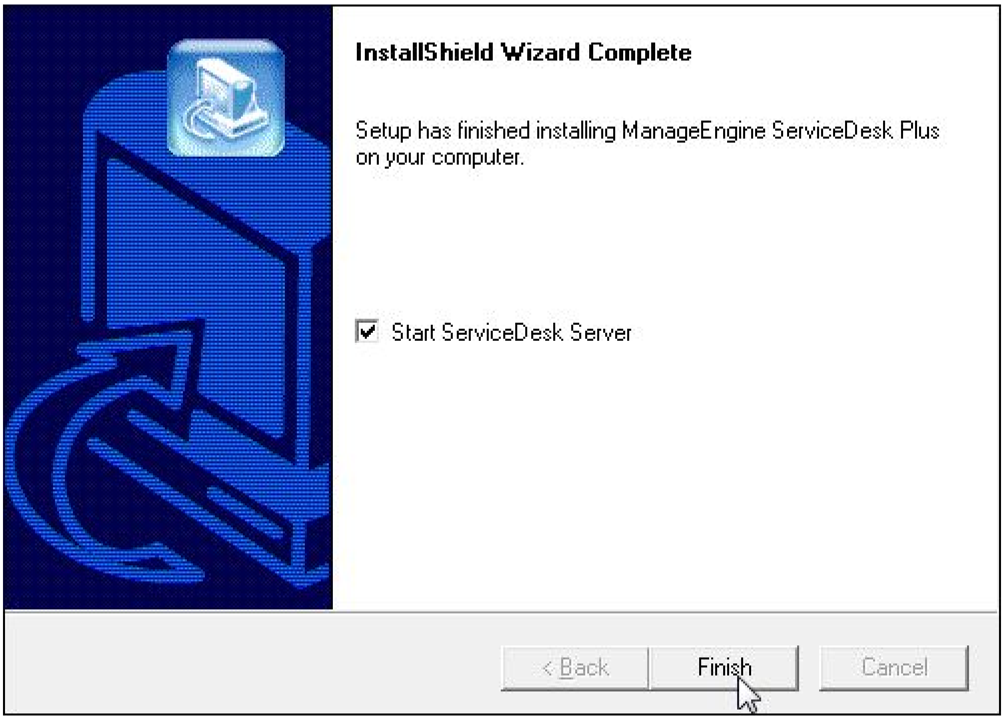
- Click **Next**.
- The details that you have provided till now is displayed for your confirmation:

Installation Directory: *C:ManageEngineServiceDesk*
Folder Name: *ManageEngine ServiceDesk Plus*
Web Server Port: *8080*



If the displayed information is correct, then click the **Next** button, or else click the **Back** button and make the necessary changes and proceed with the installation.

- After you confirm the details, the application is installed.
- On successful installation, the InstallShield Wizard Complete screen is displayed. By default, the option to start ServiceDesk Server is enabled. If you do not want to start ServiceDesk Plus Server, then deselect the options.
- Click **Finish** to complete the installation. The **ReadMe** document is displayed in a pop up window.



If you had followed the instructions in the wizard and installed the application with the default settings, then the **ManageEngine ServiceDesk Plus** program group is created in the **Start** menu. If you chose to start ServiceDesk Server, then the server is started and the client window opens to view the login page. Enter the **Username** and **Password** as "administrator" to log into the application.

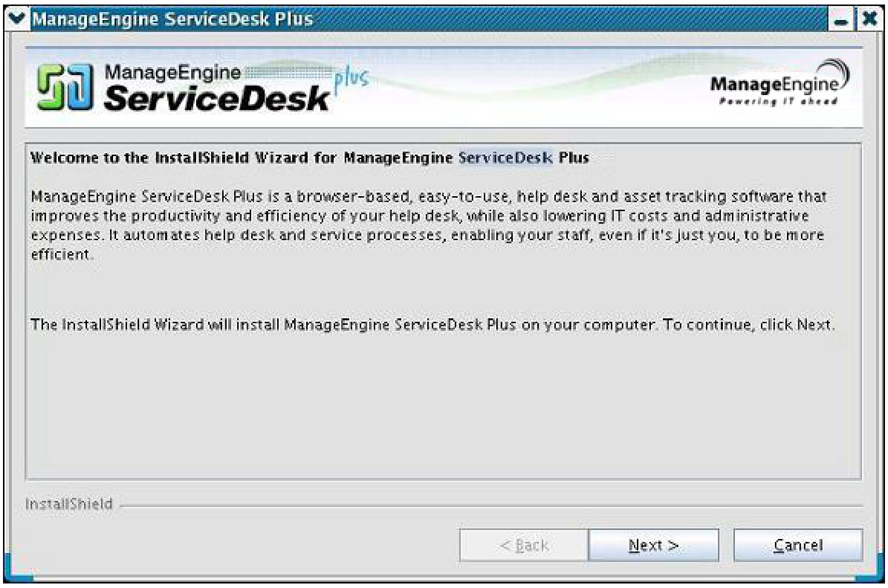
Installation on Linux

- Install ServiceDesk Plus on a Linux machine
- Install ServiceDesk Plus on a Linux machine without GUI
- Install ServiceDesk Plus as a Linux Service

Install ServiceDesk Plus on a Linux machine

1. Download ManageEngine_**ServiceDesk_Plus.bin** file.
2. To execute .bin type files, you require the execute permission. Enter the command as given below in your command prompt.

#chmod +xManageEngine_ServiceDesk_Plus_x_Linux.bin



1. Execute the .bin file.

   ./ManageEngine_ServiceDesk_Plus.bin
2. The **ManageEngine ServiceDesk Plus Installation Wizard** is displayed. Click **Next** to proceed with the installation.
3. The **License Agreement** is displayed. Please read the license agreement carefully. You need to accept the license agreement to proceed with the installation.
4. Click **Yes** to accept the license agreement.
5. Select the **ServiceDesk Plus Edition** to install.
   - Standard Edition: This edition offers Help Desk Management, Self-Service Portal, Knowledge Base, SLA Management and Help Desk Report to help you manage and track your requests.
   - Professional Edition: This edition offers Software Compliance & License Tracking, Product Catalog, NMS Integration, Asset Reports and few other asset related process along with the features of Standard Edition.

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- Enterprise Edition: This is an ITIL ready help desk. It includes all features of Professional Edition plus Incident Management, Problem Management, Change Management and Configuration Management Database (CMDB).

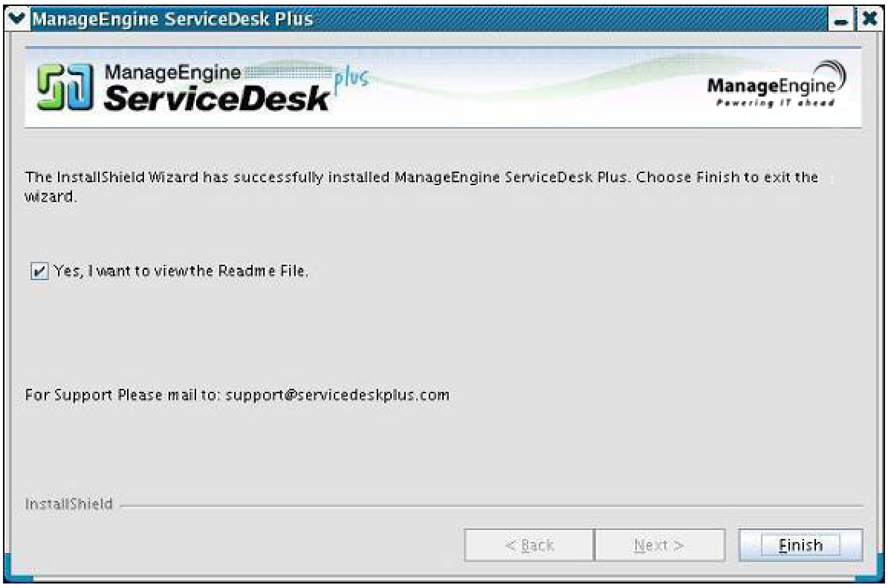
You can also refer the document ServiceDesk Plus Edition Comparison to choose your required edition.

6. If you have selected Standard Edition or the Professional Edition, then the **Version Selection Panel** displays options to select either the **Trail Version** or the **Free Version**.
   - The **Trial Version** is valid for 30 days and allows 2 technician logins with 200 nodes. You need to apply a valid license key to continue using ServiceDesk Plus.
   - The **Free Version**, on the other hand, never expires and can be used for unlimited time period without applying a valid license key. But the free version is restricted to a single technician login with 25 nodes.
7. If you have selected Enterprise Edition, then the **Version Selection Panel** displays only the 30 days Trial Version with 5 Technician login and up to 200 Nodes. You need to apply a valid license to continue using ServiceDesk Plus. Refer Register ServiceDesk Plus to apply the license key.
8. The next step is choosing the installation directory. By default, the application is installed in *home/<user>/ManageEngine/ServiceDesk* directory. If you want to change the installation directory, then click the **Browse** button and choose the installation folder. Click OK.
9. Click **Next**.
10. Enter the **Web Server Port Number** to run the web server. The default port number provided is **8080**. If you already have another application running in that port, then enter the port number which is free and can be used to run the web server. Click **Next**.

Note: If you want to provide a port number lesser than 1024 as the web server port, then you need to be the super-user of the system to successfully install and run ServiceDesk Plus application.

1. The **Registration for Technical Support** form is for obtaining technical assistance from our support team. By registering for technical support, our support team will be better informed about your organization and its specific needs, and hence provide a more focused support. Enter your details such as **Name**, contact **Email Address**, **Phone Number** (helps in making calls for immediate support), **Company Name** and **Country**. The Email Address is a mandatory field. Click Next.
2. The details that you have provided till now are displayed for your confirmation.

Installation Directory: *home/<user>/ManageEngine/ServiceDesk*
Product Size*: 62.8 MB*
If the displayed information is correct, then click the **Next** button, or else click the **Back** button and make the necessary changes and proceed with the installation.



1. After you confirm the above details, the application is installed.
2. On successful installation, the **InstallShield Wizard Complete** screen is displayed. By default, the option to view the ReadMe file is enabled. If you do not wish to view the ReadMe file, deselect the check box.
3. Click **Finish** to complete the installation.

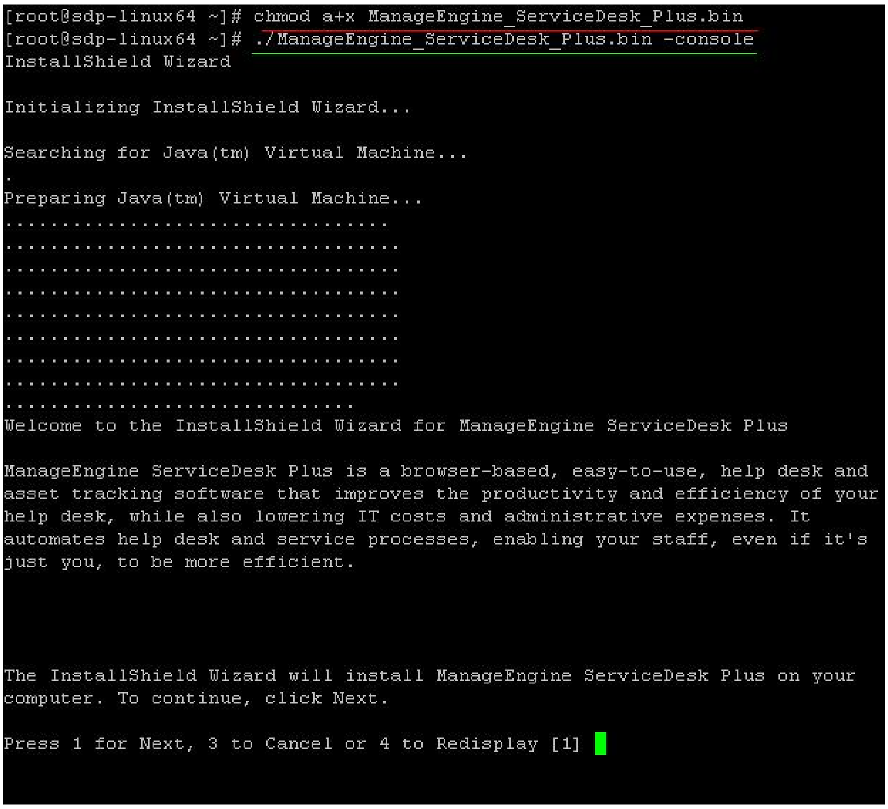
Install ServiceDesk Plus on a Linux machine without GUI

1. Download ManageEngine**_ServiceDesk_Plus.bin** file.
2. To execute .bin type files, you require the execute permission. Enter the command as given below in your command prompt.

#chmod +xManageEngine_ServiceDesk_Plus_x_Linux.bin

1. Execute the .bin file.

./ManageEngine_ServiceDesk_Plus.bin -console



1. Follow with the on-screen instructions to proceed with the installation.

Install ServiceDesk Plus as a Linux Service

1. **Download** the servicedesk.txt file from here.
2. Copy the **servicedesk.txt** to /etc/init.d/

cp servicedesk.txt /etc/init.d/servicedesk

1. **Edit** the servicedesk file to modify the MDIR Variable. MDIR refers to /bin. Typically, if you have installed ServiceDesk Plus as a guest user, then MDIR will be,

MDIR=/home/guest/ManageEngine/ServiceDesk/bin
Note: To edit the servicedesk file type **#vi servicedesk.txt**

1. Give executable permissions for servicedesk startup script.

chmod 755 /etc/init.d/servicedesk

1. Create a blank file under /var/log for logging purposes.

touch /var/log/servicedesk-plus.log

1. Use chkconfig command to add the script as a startup process.

chkconfig --add servicedesk

Upgrade service pack

1. Upgrade Service Pack on Windows
2. Upgrade Service Pack on Linux

    - Apply patch from console or command line

Upgrade Service Pack on Windows

To upgrade to the latest version and build of ServiceDesk Plus,

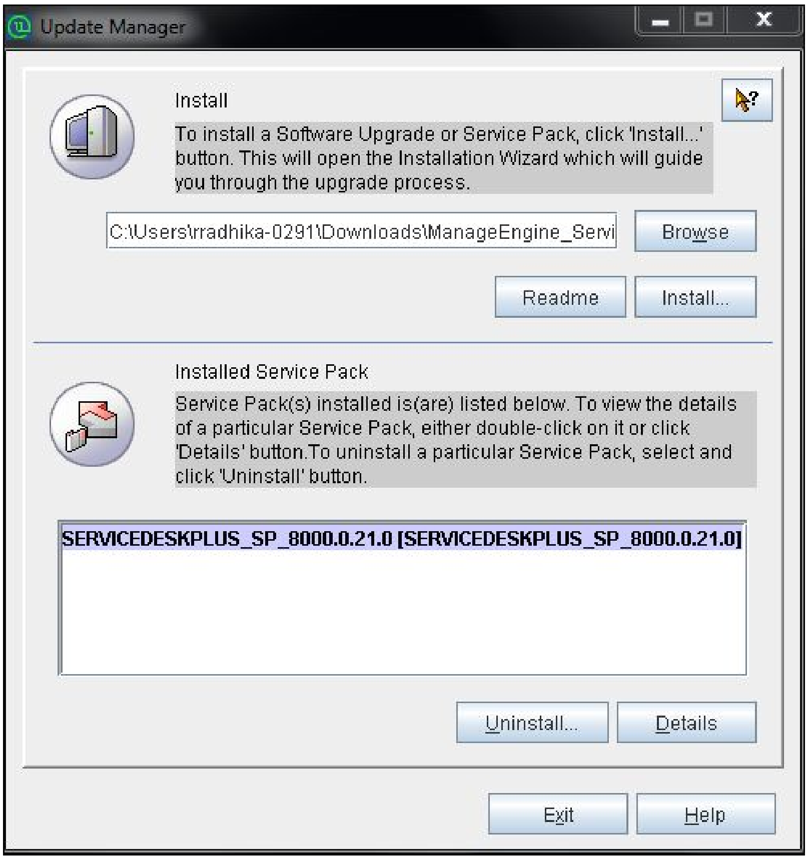
1. Stop **ManageEngine ServiceDesk** service.
2. Take a backup of the existing build for security reasons. Refer Backup Process to know how to take a backup of your data.

Note: Taking a backup is essential to revert to the existing build without any loss of data if the upgrade fails due to unexpected reasons. The backup is stored under Backup folder in ServiceDesk Plus Home directory.

1. Click here to download the latest hotfix or the .ppm file.
2. Go to [ServiceDesk Plus Home]bin and execute the file **UpdateManager.bat**.

cmd> UpdateManager.bat

A Java UI pops up where you can browse for the location of the .ppm file and click install to start the installation process.



Note: If you are planning on performing multiple upgrades, please make sure to start and stop the application once after successfully applying a service pack, make a backup of this upgraded version and then proceed with the next service pack.

Upgrade Service Pack on Linux

1. Stop ManageEngine ServiceDesk Server.
2. Take a backup of the existing build for security reasons. Refer Backup Process to know how to take a backup of your data.
3. Click here to download the latest hotfix or the .ppm file.
4. Run the script **UpdateManager.sh** in the <ServiceDesk_Plus_Home>/bin folder.
5. From the Update Manager tool click **Browse** button to select the Service Pack file (ManageEngine_ServiceDesk_Plus__0_0_SP-x_0.ppm) that you had downloaded.
6. Click **Install** and Follow the on-screen instructions to apply the Service Pack / Hotfix.
7. Once the upgrade is complete, start ServiceDesk Plus Server.

Apply patch from console or command line
To install a patch from console or command line,
Easiest option:
sh UpdateManager.sh -c
And it will guide the user through the steps.

Other options (in version 9400 and above)
*sh UpdateManager.sh -u **<ServiceDesk_Home>conf** -c -option i -ppmPath <Patch file path including patch file name> -h <Product Home>*
*To un-install a patch: sh UpdateManager.sh -u **<ServiceDesk_Home>conf** -c -option u -h <Product Home> -version <Patch version>*
*To view installed patch versions: sh UpdateManager.sh -u **<ServiceDesk_Home>conf** -c -option v -h <Product Home>*

Other options (in versions below 9400)
*sh UpdateManager.sh -u **<ServiceDesk_Home>serverdefaultconf** -c -option i -ppmPath <Patch file path including patch file name> -h <Product Home>*
*To un-install a patch: sh UpdateManager.sh -u **<ServiceDesk_Home>serverdefaultconf** -c -option u -h <Product Home> -version <Patch version>*
*To view installed patch versions: sh UpdateManager.sh -u**<ServiceDesk_Home>serverdefaultconf** -c -option v -h <Product Home>*

To run UPDATEMANGER.bat from konsole mode: *UpdateManager.sh -c -option i ppmPath <Path where PPM is downloaded> -h C:ManageEngineServiceDesk*

Start ServiceDesk Plus server

- Start ServiceDesk Plus Server on Windows
- Start ServiceDesk Plus Server on Linux

Start ServiceDesk Plus Server on Windows

1. Click Start >> Programs >> ManageEngine ServiceDesk Plus -> ServiceDesk Server to start the web server. This takes approximately 2 minutes in a Windows XP, 512 MB RAM, and 1.0 GHZ processor. The server is started and the web client is launched in the default browser.
2. If the web client is not launched automatically, then click Start >> Programs >> ManageEngine ServiceDesk Plus >> ServiceDesk Web Client to start the web client. The ServiceDesk Plus login page in opened in the default web browser.
3. Enter the User name as "administrator" and the Password as "administrator" to log in to ServiceDesk Plus.

As soon as you log in, the Product Overview page will be displayed. Select the module and play the video of the module you wish to learn about. Click Skip Tour on the right bottom of the page to skip the overview videos of each module and navigate to the Admin page. Proceed with the configurations in the Admin settings page. Refer Admin Configurations in the Admin Guide to know how to configure ServiceDesk Plus.

Start ServiceDesk Plus Server on Linux

1. Go to <ServiceDesk Plus>/bin directory and execute the run.sh file

   $ sh run.sh
2. To start the web client, open a web browser and type the following in the address field.

   http://localhost:8080

   Here, you need to replace the localhost with the corresponding server name where the ServiceDesk Plus web server is running and the port number 8080 should be replaced with the actual port where the server is running. The ServiceDesk Plus login page opens in the default web browser.
3. Enter the Username as "administrator" and the Password as "administrator" to log in to ServiceDesk Plus.

As soon as you log in, the Product Overview page will be displayed. Select the module and play the video of the module you wish to learn about. Click Skip Tour on the right bottom of the page to skip the overview videos of each module and navigate to the Admin page. Proceed with the configurations in the Admin settings page. Refer Admin Configurations in the Admin Guide to know how to configure ServiceDesk Plus.

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Register ServiceDesk Plus

Once your trial evaluation period is over, you need to apply a valid license key to continue using ServiceDesk Plus. Please contact our sales team at sales@manageengine.com for a valid license key. Upon receiving the license file, you can register ServiceDesk Plus.

To register ServiceDesk Plus,

1. Log in to the ServiceDesk Plus application using the **User name** and **Password** of an admin user.
2. Click **Help** drop down menu -> select License option. The License window is opened.
3. Click the **Browse** button to locate the license file sent to you when you purchased the application.
4. From the file chooser window, select the license file and click **Open**.
5. Click Upgrade.

The registration of the ServiceDesk Plus application is complete. You can continue using the application.

Shutdown ServiceDesk Plus server

- Shutdown ServiceDesk Plus on Windows
- Shutdown ServiceDesk Plus on Linux

Shutdown ServiceDesk Plus on Windows

1. Click **Start -> Programs -> ManageEngine ServiceDesk Plus -> Shutdown ServiceDesk**. A confirmation message is displayed.
2. Click OK to proceed with the shutdown.

Alternatively, right-click on the system tray icon and select Shut down Server. A confirmation message is displayed. Click OK to shut down ServiceDesk Plus.

Shutdown ServiceDesk Plus on Linux

Execute **shutdown.sh** file from the bin directory as given below,
sh shutdown.sh -S

Configure the database

- Configure the Database

1. Configuring Postgres SQL database
2. Configuring MS SQL database

- Non-GUI Users
- Connect to Postgres SQL Database
- MS SQL Connection Resolution

Configure the Database
By default, ServiceDesk plus supports PostgreSQL database. To switch over to SQL database, you need to configure SQL server to establish a connection and start the server.

Configuring Postgres SQL database

1. Execute the changeDBServer.bat [changeDBServer.sh for Linux] file present under the ServiceDesk Home directory. This opens the Database Setup Wizard. Fill in the respective server details:
   - Server Type: Select the server type from the combo box. **(**Postgres SQL**).**
   - Host Name: Enter the IP Address/ Host Name in which the database is available. The default hostname is 'localhost'.
   - Port**:** Specify the Port. The default port is 65432.
   - Database**:** By default, the database name will be servicedesk (can be changed as per your requirement).
   - User Name**:** Specify the User Name to login to the server.
   - Password: Specify the Password.
2. To check the availability of connection, click the Test button. A window pops up showing 'Connection Established' message.
3. Click OK to proceed.
4. Click Save button to save the SQL server settings.

Configuring MS SQL database
Execute the changeDBServer.bat [changeDBServer.sh for Linux] file present under the ServiceDesk Home directory. This opens the Database Setup Wizard. Fill in the respective server details:

- Server Type: Select the server type from the combo box. (MS SQL)
- Host Name: Enter the IP Address/ host name in which the database is available. The default hostname is 'localhost'.

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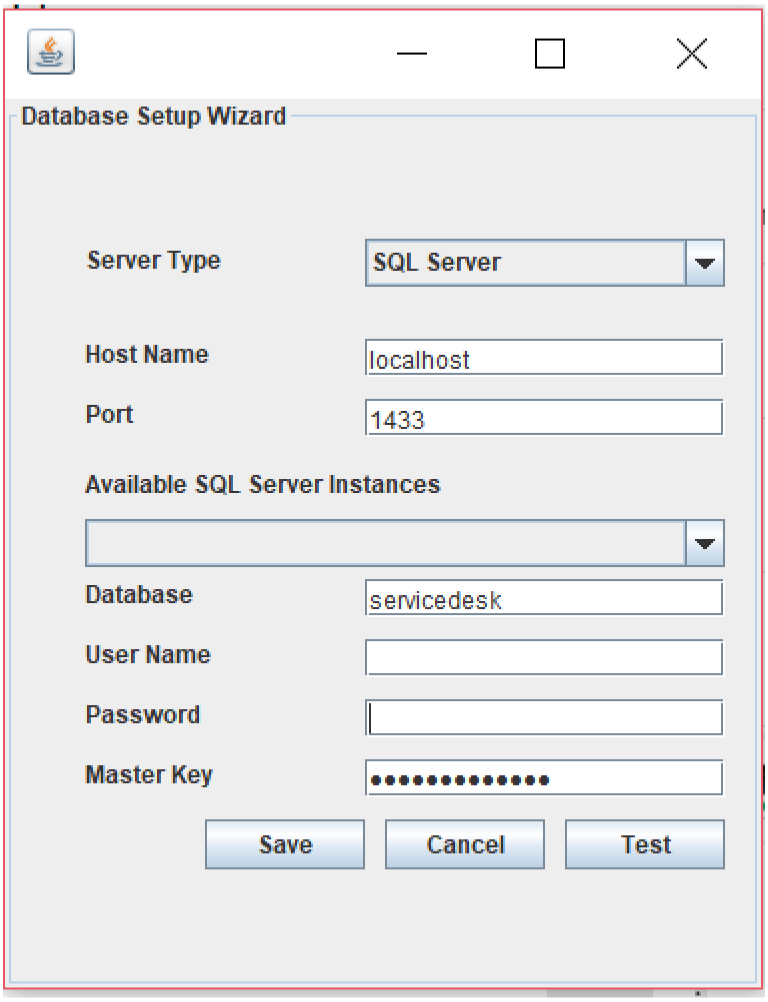
- Port: Specify the Port. The default port is 1433.
- Database: By default, the database name will be servicedesk (can be changed to your requirement).
- User Name: Specify the User Name to login to the server.
- Master Key Password: Enter a Master Key password to encrypt the SCHAR columns in database. Master Key password will be asked only during the creation of a database.
  Note: Only admin user can create a master key. Make sure to remember the Master Key password as it won't be stored anywhere. To alter Master Key password, refer here.

For more info on Master Key, refer this page.



To create or alter the Master Key password manually, use the following queries.

1. To create a Master Key password, use "create master key encryption by password='' ; . For altering a Master Key password use this query: "alter master key encryption by password='' ;
2. Internally, customer-config.xml will be saved with the encrypted Master Key password.

Note
i. You need full Admin rights to configure the MS SQL database for Windows with versions 2012 and above. (Remember, the standard user account is of the administrator).
ii. The login account for creating the database requires SQL authentication and it should have the following roles enabled:

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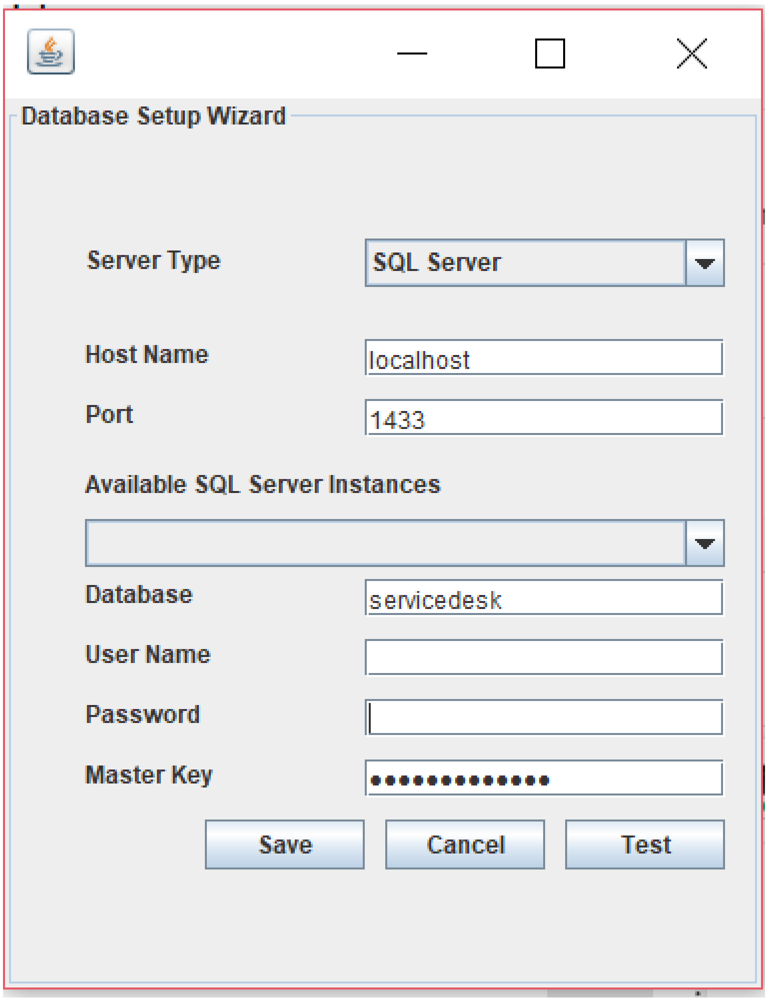
* dbcreator
* Public
* Sysadmin

- Password**:** Specify the Password.



1. To check the availability of connection, click the Test button. A window pops up showing 'Connection Established' message.
2. Click OK to proceed.
3. Click Save button to save the SQL server settings.

Non-GUI Users

Run the command changeDBServer.bat [changeDBServer.sh for Linux] in the command prompt by passing parameters as given below:
C:[ServiceDesk Plus Home]bin>changeDBServer.bat --console
It will get the DB Server necessary information from the console.
For PGSQL it will read as follows:

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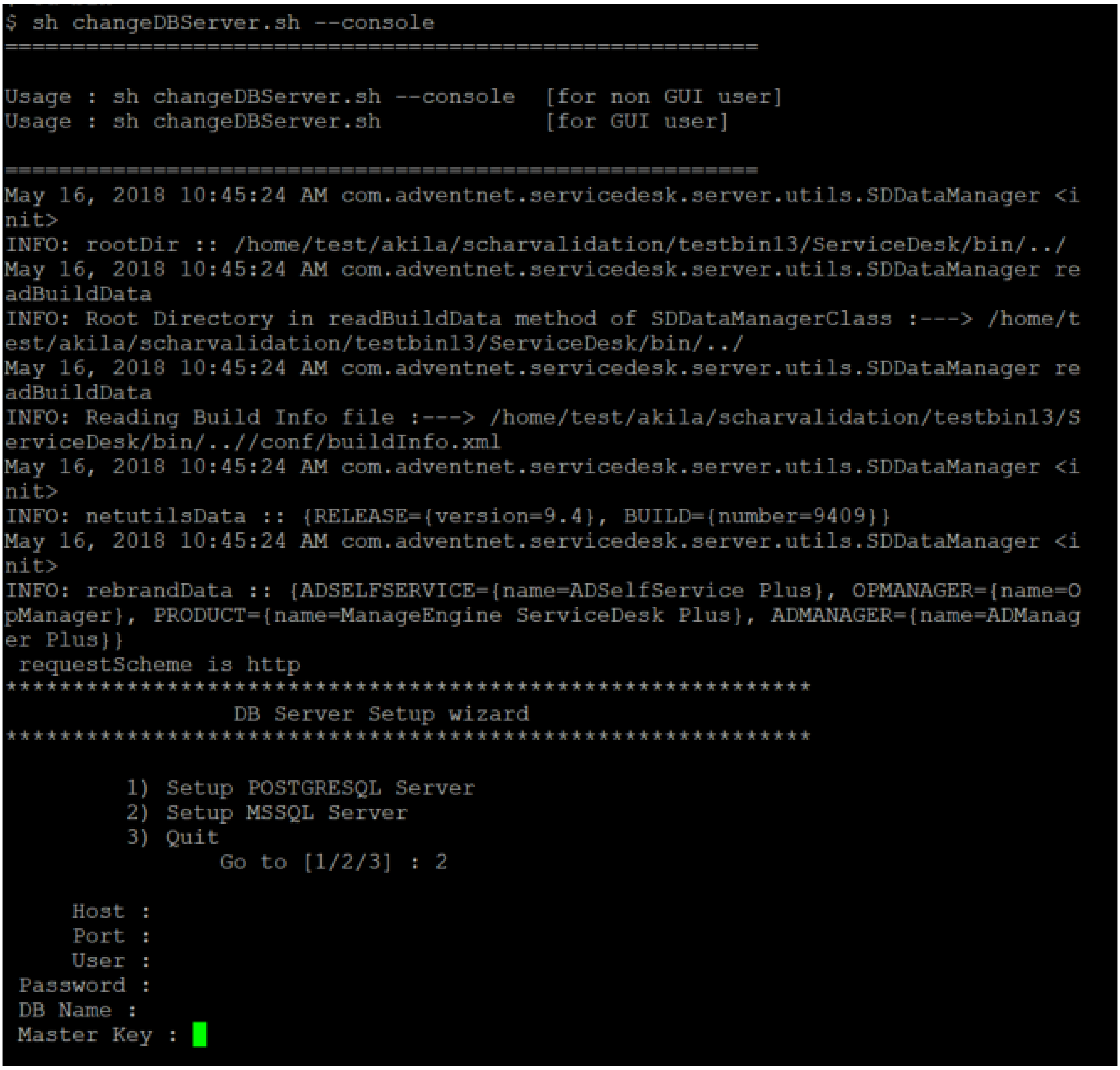
```
$ sh changeDBServer.sh --console
========================================================

Usage : sh changeDBServer.sh --console  [for non GUI user]
Usage : sh changeDBServer.sh            [for GUI user]

========================================================
May 16, 2018 10:12:02 AM com.adventnet.servicedesk.server.utils.SDDataManager <init>
INFO: rootDir :: /home/test/akila/scharvalidation/testbin13/ServiceDesk/bin/../
May 16, 2018 10:12:02 AM com.adventnet.servicedesk.server.utils.SDDataManager <init>
INFO: netutilsData :: {RELEASE={version=9.4}, BUILD={number=9408}}
May 16, 2018 10:12:02 AM com.adventnet.servicedesk.server.utils.SDDataManager <init>
INFO: rebrandData :: {ADSELFSERVICE={name=ADSelfService Plus}, OPMANAGER={name=OpManager}, PRODUCT={name=ManageEng
ine ServiceDesk Plus}, ADMANAGER={name=ADManager Plus}}
 requestScheme is http
************************************************************
                 DB Server Setup wizard
************************************************************

         1) Setup POSTGRESQL Server
         2) Setup MSSQL Server
         3) Quit
             Go to [1/2/3] : 1

     Host : localhost
     Port : 65432
     User :
 Password :
```

For MSSQL, it will read as follows,



```
$ sh changeDBServer.sh --console
========================================================

Usage : sh changeDBServer.sh --console  [for non GUI user]
Usage : sh changeDBServer.sh            [for GUI user]

========================================================
May 16, 2018 10:45:24 AM com.adventnet.servicedesk.server.utils.SDDataManager <i
nit>
INFO: rootDir :: /home/test/akila/scharvalidation/testbin13/ServiceDesk/bin/../
May 16, 2018 10:45:24 AM com.adventnet.servicedesk.server.utils.SDDataManager re
adBuildData
INFO: Root Directory in readBuildData method of SDDataManagerClass :---> /home/t
est/akila/scharvalidation/testbin13/ServiceDesk/bin/../
May 16, 2018 10:45:24 AM com.adventnet.servicedesk.server.utils.SDDataManager re
adBuildData
INFO: Reading Build Info file :---> /home/test/akila/scharvalidation/testbin13/S
erviceDesk/bin/..//conf/buildInfo.xml
May 16, 2018 10:45:24 AM com.adventnet.servicedesk.server.utils.SDDataManager <i
nit>
INFO: netutilsData :: {RELEASE={version=9.4}, BUILD={number=9409}}
May 16, 2018 10:45:24 AM com.adventnet.servicedesk.server.utils.SDDataManager <i
nit>
INFO: rebrandData :: {ADSELFSERVICE={name=ADSelfService Plus}, OPMANAGER={name=O
pManager}, PRODUCT={name=ManageEngine ServiceDesk Plus}, ADMANAGER={name=ADManag
er Plus}}
 requestScheme is http
************************************************************
                 DB Server Setup wizard
************************************************************

         1) Setup POSTGRESQL Server
         2) Setup MSSQL Server
         3) Quit
                Go to [1/2/3] : 2

     Host :
     Port :
     User :
 Password :
 DB Name :
 Master Key :
```

Connect to Postgres SQL Database in Windows

1. Go to [ServiceDesk Plus Home] pgsql bin in the command prompt.

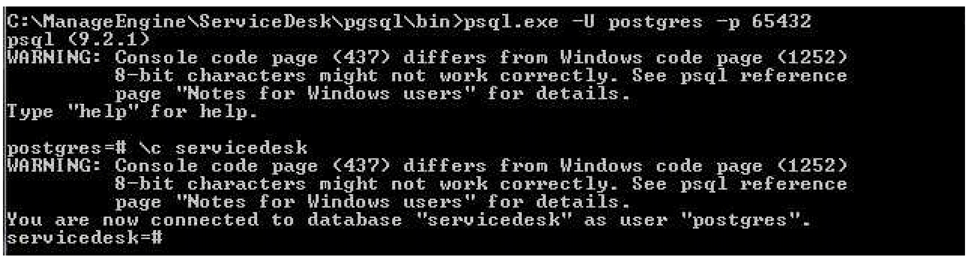
cd ManageEngineServiceDeskpgsqlbin

2. Enter the command: psql**.**exe -U postgres -p 65432 servicedesk

C:> cd ManageEngineServiceDeskpgsqlbin> pgsql.exe -U postgres -p 65432 servicedesk

3. To use ServiceDesk database, use the command: postgres=# c servicedesk.

The prompt changes to:servicedesk=#.

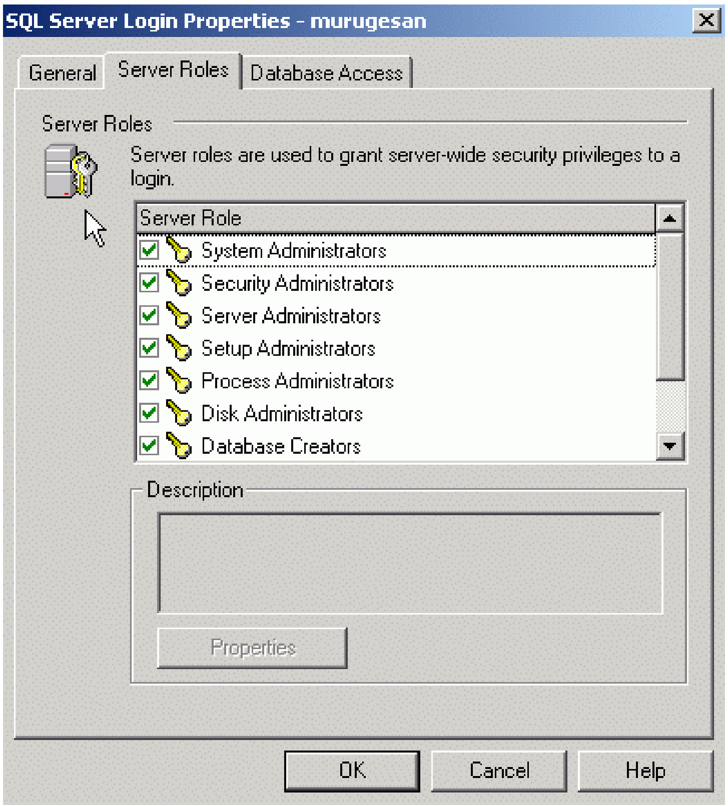


```
C:\ManageEngine\ServiceDesk\pgsql\bin>psql.exe -U postgres -p 65432
psql (9.2.1)
WARNING: Console code page (437) differs from Windows code page (1252)
         8-bit characters might not work correctly. See psql reference
         page "Notes for Windows users" for details.
Type "help" for help.

postgres=# \c servicedesk
WARNING: Console code page (437) differs from Windows code page (1252)
         8-bit characters might not work correctly. See psql reference
         page "Notes for Windows users" for details.
You are now connected to database "servicedesk" as user "postgres".
servicedesk=#
```

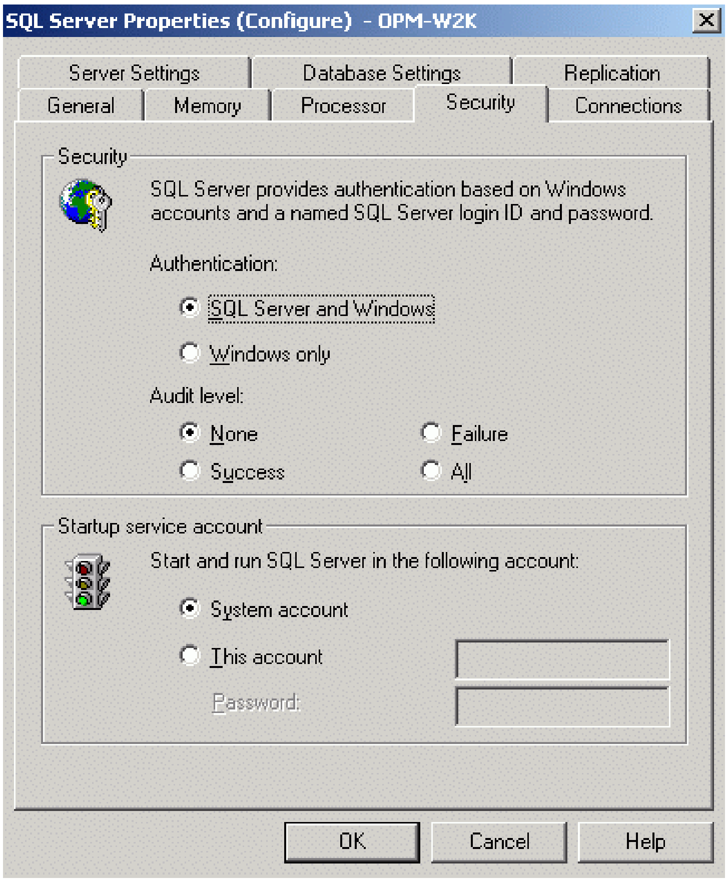
MS SQL Connection Resolution:

If a connection is refused and an exception is thrown by SQL Server as 'unable to connect the server', then there could be following reasons why this could happen such as:

- The server name is misspelled or the port number is incorrect.
- The SQL server may not be configured to use TCP/IP. In this case, enable TCP/IP from SQL server's network utility application.
- If there is a firewall blocking the port 1433 on the server then you will not be able to connect to the server.
- To confirm the firewall block connect to TCP/IP use "telnet<server_host>1433"n to confirm the block.
- SQL Server Instance is not currently supported by ServiceDesk and will be available in the feature release. You can also connect to SQL Server named instance once if you know the machine name and port of the named instance.
- Create a new user with full privileges as shown below:



- While configuring SQL server properties select the authentication type as SQL server as shown below. Windows authentication is not supported by ServiceDesk Plus currently.



p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545}

Installing SSL certificate

- Introduction
- Steps to install SSL in ServiceDesk Plus
- Install a .P7b Certificate
- Commands to install certificates of some common vendors

Introduction

ServiceDesk Plus can run as a HTTPS service. But it requires a SSL (Secure Socket Layer) Certificate signed by a valid Certificate Authority (CA).

By default, on first time start-up, it creates a self-signed certificate. This self-signed certificate will not be trusted by the user browsers. Thus, while connecting to ServiceDesk Plus, you need to manually verify the certificate information and the hostname of ServiceDesk Plus server carefully and should force the browser to accept the certificate.

To make ServiceDesk Plus server identify itself correctly to the web browser and the user, you need to obtain a new signed certificate from a CA for the ServiceDesk Plus host. You can use keytool (bundled with Java) to create your certificates, get them signed by a CA and use them with ServiceDesk Plus.

Steps to install SSL in ServiceDesk Plus

The steps involved in configuring ServiceDesk Plus to use the SSL are as given below.

Step 1: Create a Keystore file

Step 2: Create .CSR (Certificate Signing Request) file

Step 3a: Install the SSL Certificate from the ServiceDesk Plus UI

Step 3b: Install your SSL Certificate

Note: In all the images, replace the highlighted text with the alias name you want to use for ServiceDesk Plus.

Step 1: Create a Keystore file

Before requesting for a certificate from a CA, you need to create tomcat specific **".keystore"** file and **".csr"** file. The **.keystore** file and **.csr** file will include information provided by the individual who creates the **.keystore** and **.csr** files.

To create the .keystore file follow the below steps,

- Open the Command Prompt.
- From the location **<installation directory> jre bin** execute the command
  keytool -genkey -alias <your_alias_name> or [Domain Name] -keyalg RSA -keystore sdp.keystore
- If your vendor requires a **CSR of size 2048** please use the command given below.
  keytool -genkey -alias <your_alias_name> or [Domain Name] -keyalg RSA -keysize 2048 -keystore sdp.keystore
- You will then be prompted to choose a password for your keystore.

Note: Please note that the password **should not contain $ symbol**.

- When it asks for first and last name, this is **NOT** your first and last name, but rather it is your **Fully Qualified**

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Domain Name for the site you are securing.

- If you are ordering a **Wildcard Certificate** this must begin with the * character.
- On entering the required information, confirm that the information is correct by entering 'y' or 'yes' when prompted.
- At the end of executing the above command, you will be prompted to enter keystore password. Try giving the password **same as your key password**. Make sure to remember the password you choose.
- Your keystore file named sdp.keystore is now created in your current working directory.

  Note: We request you to make a backup copy of the sdp.keystore file before installing the Certs. This backed up keystore can be used if the certificate installation goes wrong or when you renew your certificates the next year.

Step 2: Creating .CSR (Certificate Signing Request) file

The .CSR (Certificate Signing Request) file is temporary and should be submitted to a CA to receive **CA-Signed Certificate** files.

Please follow the steps given below to create the CSR file.

- Open the Command Prompt
- From the location **<installation directory> jre bin** execute the below command.
  keytool -certreq -alias <your_alias_name> -file key.csr -keystore sdp.keystore

  In the above command <your_alias_name> is the alias name provided when creating the keystore, key.csr is the name of the CSR file that will be created after the command is executed.

You can install the SSL certificate either from the UI or manually.

Step 3a: Install the SSL Certificate from the ServiceDesk Plus UI

- Download the certificate files from the CA to the location of your keystore (sdp.keystore).
- Go to **Admin**>>**General Settings**>>**Import SSL Settings**.
- On the screen displayed, browse to the certificate files and select the primary or domain certificate file. Note that you can select only files that have the .cer, .crt, .p7b, .pfx, .keystore, or .jks extension.
- For **.pfx, .keystore,** or**.jks** files, provide the keystore password and click the **Import** button for the SSL certificate to be installed.
- For **.cer** or **.crt** files, provide the keystore file and the password and select the upload method for the intermediate/root certificate. Then, click the **Import** button for the SSL certificate to be installed.
- For the **.p7b** file, just provide the keystore file and the password and click the **Import** button for the SSL certificate to be installed.
- Restart the application for the changes to take effect.

Note: If you have the Private Key as a .key file, you do not have to enter any password.

The following screenshot describes the process for a .cer/.crt file where the intermediate/root certificates are uploaded manually.

Note: You can upload a maximum of four Intermediate/Root Certificates.

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Step 3b: Install your SSL Certificate

Download the Certificate files received from the CA via e-mail to the directory where your keystore (sdp.keystore) was saved during the CSR creation process. The certificates must be installed to this exact keystore. If you try to install it to a different keystore it will not work.

The certificates you had downloaded must be installed to your keystore in the correct order for your certificate to be trusted. If the certificates are not installed in the correct order, then the certificate will not authenticate properly. To find the correct order, double click on the domain certificate and then go to 'Certification Path'.

These certificates are usually in the format .**cer or .crt**. If your certificate is with the **extension .p7b** please follow the instructions given in **Installing a .P7b Certificate** to export the certs to a .cer or .crt format.

Looking at the above certification path we can infer that we need to import two other certificates before the domain certificate. First is the **Root**, next the **Intermediate** and finally the **Domain Certificate**. Some CAs may also use another certificate called **Cross Intermediate**. These certificates can be downloaded from the Vendor's website.

Installing the Root Certificate file

Each time you install a certificate to your keystore you will be prompted for the keystore password, which you chose while generating your CSR. Type the following command to install the Root certificate file:

keytool -import -trustcacerts -alias root -file <File_Name>.crt -keystore sdp.keystore

Note: Choose '**Yes**' if you get prompted with a message that says "Certificate already exists in system-wide CA keystore under alias <Alias Name> Do you still want to add it to your own keystore? [no]:"

You will get a confirmation stating that the "Certificate was added to keystore".

Install the Intermediate Certificates and Cross Intermediate Certificates (if any).

Follow the instructions provided by the CA.

keytool -import -trustcacerts -alias intermediate -file <File_Name>.crt -keystore sdp.keystore

keytool -import -trustcacerts -alias cross -file <File_Name>.crt -keystore sdp.keystore

You will get a confirmation stating that the "Certificate was added to keystore".

Install the Primary or the Domain Certificate file

Type the following command to install the Primary certificate file:

keytool -import -trustcacerts -alias <your_alias_name or [Domain Name]> -file your_domain_name.crt -keystore sdp.keystore

Please note that **<your_alias_name or [Domain Name]>** should be replaced with the alias name provided when creating the keystore (as discussed in Step 1). This time you will get a different confirmation stating that the **"Certificate reply was installed in keystore"**.

If you want to trust the certificate, then choose y or yes**.** Your Certificates are now installed to your keystore file (sdp.keystore).

Configuring the Server (in version 9400 and above)

- Copy the sdp.keystore file from **<ServiceDesk_Home>jrebin** to **<ServiceDesk_Home>conf**
- From the command prompt, execute **changeWebServerPort.bat** script to change the connection mode to

HTTPS.

Cmd>**[ServiceDesk Plus Home]bin> changeWebServerPort.bat <WEBSERVER_PORT> https**

- Finally, update the name of the keystore and the password, you gave in Step 1, while generating sdp.keystore in the file **server.xml** present under **<ServiceDesk_Home>conf**
- Restart the service ManageEngine ServiceDesk Plus for the changes to take effect.

Configuring the Server (in versions below 9400)

- Copy the sdp.keystore file from **<ServiceDesk_Home>jrebin** to **<ServiceDesk_Home>serverdefaultconf**
- From the command prompt, execute **changeWebServerPort.bat** script to change the connection mode to HTTPS.

Cmd>**[ServiceDesk Plus Home]bin> changeWebServerPort.bat <WEBSERVER_PORT> https**

- Finally, update the name of the keystore and the password, you gave in Step 1, while generating sdp.keystore in the file **server.xml** present under **<ServiceDesk_Home>serverdefaultdeployjbossweb-tomcat50.sar**
- Restart the service ManageEngine ServiceDesk Plus for the changes to take effect.

Install a .P7b Certificate

Some CA will provide the certificates with an extension .p7b. In such a case you can double click on this file to open a console which will list all the required certificates. You can export these certificates to Base-64 encoded X.509 (.cer) files.
These certs can then be installed onto the keystore file using the instructions given in Step 3.
To export the certificate,

- Go to **[ServiceDesk Plus Home] jre bin domain.P7B**.
- Right click on the certificate and select **All Tasks** -> **Export** option.
- The Certificate Export Wizard dialog pops up. Click **Next** button to proceed.
- Select the export file format as **Base-64 encoded X.509 (.cer)**. Click **Next**.
- Specify the name of the file you want to export. Click **Next**.
- The certificate export wizard is completed successfully. You can check for the settings you have specified. Click **Finish**.
- A success message appears in a dialog box. Click **OK**.

Commands to install certificates of some common vendors

Please find below the commands you need to use to install certificates of some common vendors.
Note: These instructions might change depending on the Certificates issued by the CA.

GoDaddy

If your CA is **"GoDaddy"**, then the steps to follow will be:

keytool -import -alias root -keystore **<Keystore_Name>.keystore** -trustcacerts -file gd_bundle.crt

keytool -import -alias cross -keystore **<Keystore_Name>.keystore** -trustcacerts -file gd_cross_intermediate.crt
keytool -import -alias intermediate -keystore **<Keystore_Name>.keystore** -trustcacerts -file gd_intermediate.crt
keytool -import -alias ***<Alias Specified when creating the Keystore>*** -keystore **<Keystore_Name>.keystore** -trustcacerts -file **<CertificateName>.crt**

Verisign
If your CA is **"Verisign"**, then the steps to follow will be:

keytool -import -alias intermediateCA -keystore **<Keystore_Name>.keystore** -trustcacerts -file **<your_intermediate_certificate_name>.cer**
keytool -import -alias <***Alias Specified when creating the Keystore***> -keystore < **Keystore_Name>.keystore** -trustcacerts -file **<CertificateName>.cer**

Comodo
If your CA is **"Comodo"**, then the steps to follow will be:

keytool -import -trustcacerts -alias root -file AddTrustExternalCARoot.crt -keystore **<Keystore_Name>.keystore**
keytool -import -trustcacerts -alias addtrust -file UTNAddTrustServerCA.crt -keystore **<Keystore_Name>.keystore**
keytool -import -trustcacerts -alias ComodoUTNServer -file ComodoUTNServerCA.crt -keystore **<Keystore_Name>.keystore**
keytool -import -trustcacerts -alias essentialSSL -file essentialSSLCA.crt -keystore **<Keystore_Name>.keystore**
keytool -import -trustcacerts -alias ***<Alias Specified when creating the Keystore>*** -file **<Certificate-Name>.crt** -keystore **<Keystore_Name>.keystore**

ServiceDeskPlus - Help Desk and Asset Management Software

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Renew SSL certificate

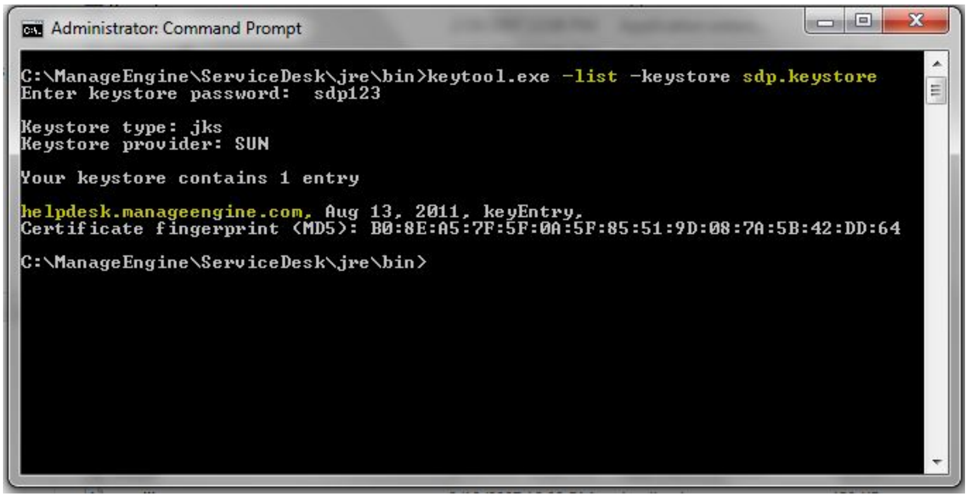
In order to use the renewed certificate, you need to have taken a backup of the existing keystore file (created while configuring the SSL), which was taken before the installation of any certs. If this file is present, then you can replace this file in the [ServiceDesk Home]jrebin folder and follow the instructions from Step 3: Install your SSL Certificate.

If you do not have a backup of the keystore file, then you need to start from scratch i.e., from Step 1, and get the certificates reissued for the new CSR (Certificate Signing Request).

You can use the following command to get the list of certificates installed in the keystore.

Keytool.exe -list -keystore sdp.keystore

Below is an example of how a keystore looks before installing any Certificates. It will only have the keyEntry.



Installing .PFX certificate

.PFX is an extension for security certificate. It defines a file format that stores private keys (generated by your server at the time the CSR was generated) and public key certificate (your SSL Certificate provided by the CA) in a single encrypted file.

1. To install a certificate with the extension .PFX,

2. Stop ManageEngine ServiceDesk Plus service.

3. Copy the .pfx file to the location **C:ManageEngineServiceDeskconf** (where C: is the drive in which ServiceDesk Plus is installed)

> In versions below 9400, the copying location is **C:ManageEngineServiceDeskserverdefaultconf**

4. Change the web server port to 443 to run ServiceDesk Plus on secure mode. To change the web server port, open the command prompt and go to [ServiceDesk Plus Home]bin. Enter the command as given below,
[ServiceDesk Plus Home]bin> changewebserverport.bat 443 https

5. Go to the location **[ServiceDesk Plus Home]conf** and open the file 'server.xml' in a word pad.

> In versions below 9400, server.xml is present under the location **[ServiceDesk Plus Home]serverdefaultdeployjbossweb-tomcat50.sar**

Locate the below entries in the file.
<!-- SSL/TLS Connector configuration using the admin devl guide keystore
<Connector port="8443" maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
enableLookups="true"
scheme="https" secure="true" clientAuth="false" SSLEnabled="true"
keystoreFile="**conf/sdp.keystore**" keystorePass="**sdpsecured**" sslProtocol="TLS"
sslEnabledProtocols="TLSv1.2,TLSv1.1,TLSv1"
server="-" compression="on" maxPostSize="-1" compressionMinSize="2048" URIEncoding="UTF-8"
noCompressionUserAgents="gozilla, traviata"
compressableMimeType="text/css,text/javascript,application/javascript,text/plain,text/html"
parseBodyMethods="POST,PUT,DELETE"/>

6. Please replace the file name **sdp.keystore** with the pfx file name (name.pfx) and enter the ***keystoreType*="pkcs12"** after the file name. Also replace the 'sdpsecured' with the password for the .pfx file.

7. The entries should look like this,
<!-- SSL/TLS Connector configuration using the admin devl guide keystore
<Connector port="8443"

maxThreads="150" minSpareThreads="25" maxSpareThreads="75" enableLookups="true"
scheme="https" secure="true" clientAuth="false" SSLEnabled="true"
keystoreFile="**conf/name.pfx**" keystorePass="**your password**" **keystoreType="pkcs12"** sslProtocol="TLS"
sslEnabledProtocols="TLSv1.2,TLSv1.1,TLSv1"
server="-" compression="on" maxPostSize="-1" compressionMinSize="2048" URIEncoding="UTF-8"
noCompressionUserAgents="gozilla, traviata"
compressableMimeType="text/css,text/javascript,application/javascript,text/plain,text/html"
parseBodyMethods="POST,PUT,DELETE"/>

8. Restart ManageEngine ServiceDesk Plus service.

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Uninstalling ServiceDesk Plus

- Uninstall ServiceDesk Plus on Windows
- Uninstall ServiceDesk Plus on Linux

Uninstall ServiceDesk Plus on Windows

1. Click **Start -> Programs -> ManageEngine ServiceDesk Plus -> Uninstall ServiceDesk**.

Uninstall ServiceDesk Plus on Linux

1. Go to <ServiceDesk>/_uninst directory.
2. Execute uninstaller.bin as below:

   $ ./uninstaller.bin

Startup script for the pmagent

```
#!/bin/bash
#
# Startup script for the pmagent
#

# chkconfig: 345 99 02
# description: Run the ServiceDesk-Plus program

INITLOG_ARGS=""

prog="servicedesk"
progname="AdventNet ManageEngine ServiceDesk-Plus"
RETVAL=0
# Edit the following to indicate the 'bin' directory for your installation
MDIR=/home/guest/servicedesk/AdventNet/ME/ServiceDesk/bin

if [ ! -d "$MDIR" ]
then
 echo "Invalid directory $MDIR"
    exit 1
fi

start()
{
        mv -f /var/log/servicedesk-plus.log /var/log/servicedesk-plus1.log
        echo "Starting $progname"
        cd $MDIR
        nohup sh run.sh >/var/log/servicedesk-plus.log 2>&1 &
        RETVAL=$?
        echo
        [ $RETVAL = 0 ] && touch /var/lock/subsys/servicedesk
}

stop()
{
        echo "Stopping $progname"
        cd $MDIR
        sh shutdown.sh -S >>/var/log/servicedesk-plus.log 2>&1
}

case "$1" in
 start)
       start
         ;;
 stop)
      stop
        ;;
    *)
     echo "Usage: $prog {start|stop}"
     exit 1
     ;;
esac
```

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```
exit $RETVAL
```

Home page

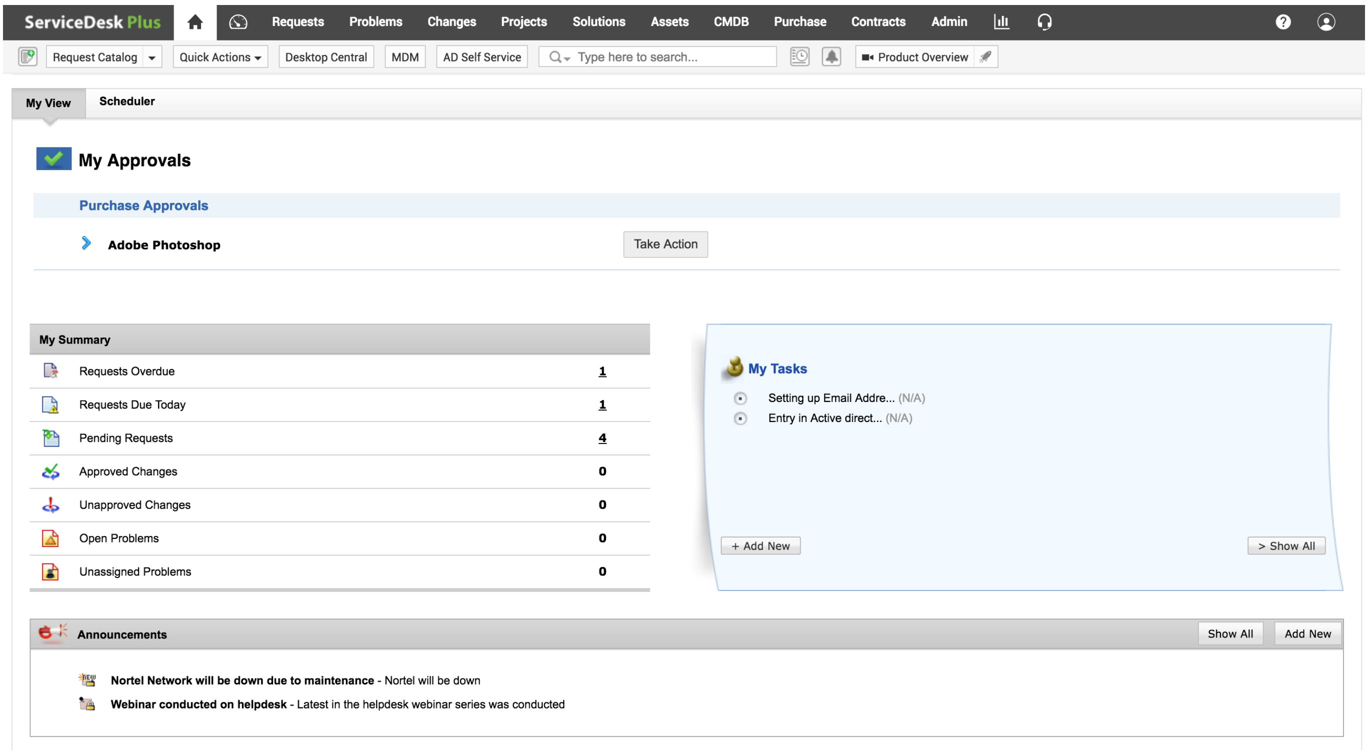
The home page of ServiceDesk Plus has various useful information displayed that enables an administrator or a technician to take necessary action.
The user you are logged in as is the Administrator and the following are available in home page,

1. My View
2. Scheduler
3. Quick Create
4. Search
5. Personalize
6. Quick Actions drop-down menu
7. Request Catalog drop-down menu OR

   Incident Catalog drop-down menu
   Service Catalog drop-down menu

If you are on a Trial version, then the following links will appear along with the above,

1. License Expiry Alert
2. Get Quote



My View

The My View tab displays the following information:

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- My Approvals
- My Summary
- My Tasks
- Announcements

My Approvals

This block lists all the approval actions to be taken by you for a service request and purchase order. To approve or reject, click Take Actions button. The approval for service requests and purchase orders are listed only if you have the approval permission.

My Summary

This block displays the summary of requests, problem and changes assigned to the logged in technician.

- Request Overdue - Number of requests assigned to the logged in technician that are overdue.
- Requests Due Today - Number of requests assigned to the logged in technician that are due for that day.
- Pending Requests - Number of pending requests that are assigned to the technician.
- Approved Changes - Number of changes assigned to the logged in technician that are approved.
- Unapproved Changes - Number of changes assigned to the logged in technician that are unapproved.
- Pending Problems - Number of Open problems assigned to the logged in technician.
- Unassigned Problems - Number of problems that are unassigned to technicians.

Scheduler

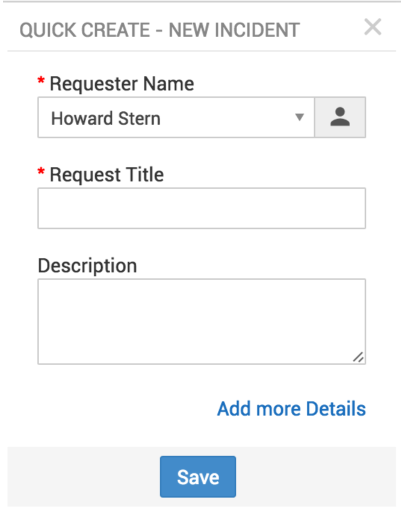
Scheduler gives a calendar view of the number of open requests, problems, changes, task and reminder for a technician in a given month. Using the Technician Availability Chart, the availability of a technician on a given date can be viewed, based on which requests can be assigned to other technicians (backup technicians).

- My Scheduler
- Technician Availability Chart

Quick Create - New Incident

An instant mode to create new incident when you are on a call with a requester. To access Quick Create - New Incident,

Click on the Quick Create icon in the top left corner.

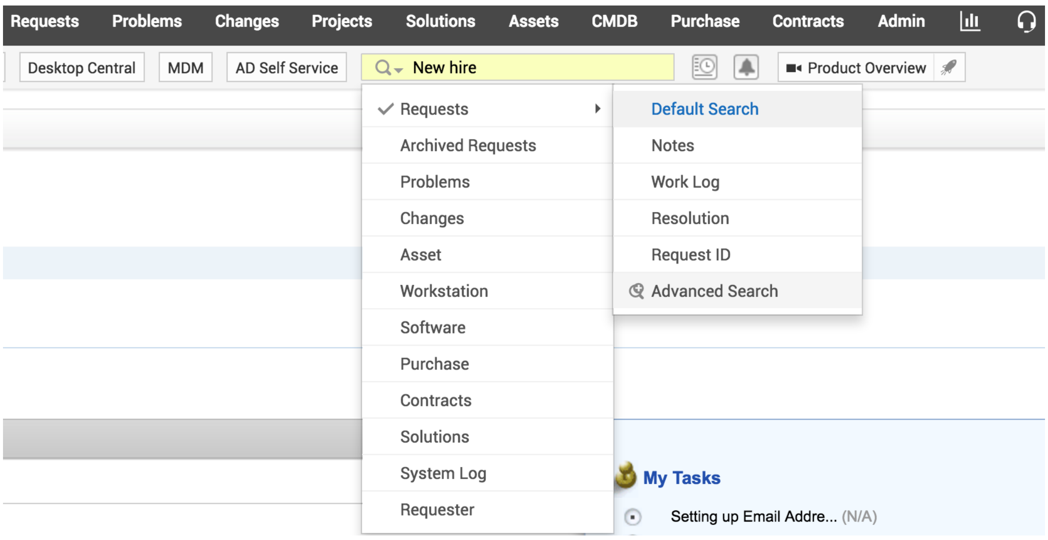


You can either conduct a search for the requester using theRequester List icon or you can enter the name of the requester in the field provided. Next, all you need to do is enter Request Title and Description. If you require additional details such as category, priority or assign a technician, click Add More Details >> link. This takes you to the New Incident form.

Note: The Quick Create - New Incident section is available only when 'Quick Create Settings' option is enabled in the Self-Service Portal Settings.

Search

You can search for Requests, Archived Requests, Problem, Change, Assets, Workstation, Software, Purchase, Contract, Solutions, System Log and Requester from the home page. You can further enhance the request search by drilling it down to sub modules. You can search for notes, work log, resolution and request ID. Conducting a search using the request ID/Keyword takes you to the request details page of the specified request ID/keyword.



Personalize

You can change the language and time zone displayed in the application, customize your signature, and change your password from the Personalize link. Click here to view more.

Quick Actions drop-down menu

The Quick Actions drop-down menu functions as a instant navigator to the Add New forms, Scheduler, Tasks, Reminders, Asset - Groups, Scanning inventories and Archived Requests.

Request Catalog drop-down menu

The Request Catalog drop-down menu groups both, the Incident Requests and Service Request Templates based on the category.

The Request Catalog drop-down menu is made available to your technicians only if you has enabled the option "Combine incident and service templates listing for the service" in Self Service Portal Settings.

Incident Catalog drop-down menu

The incident templates made available to your technicians are grouped based on the Service Category and listed in the Incident Catalog drop down. Click Incident Catalog link to access the default incident template.

Service Catalog drop-down menu

The service categories and the service items available to you are listed in the Service Catalog drop down. The list is organized to view the service items under each service category. All you need to do is browse for the available services in the catalog and submit a request.

License Expiry Alert

The license expiry alert shows the number of days for the existing license to get expired. In addition, it also provides the date within which the license should be renewed and the contact information of the support team.

Get Quote

The Get Quote link is visible to users using the Demo or Trial version. Clicking Get Quote link navigates the page to the Get Quote form in the website. Entering the specifications in the form will help us to provide you with the exact details of your requirement. Click Submit on specifying the details and our sales team will contact you on receiving the e-mail.

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My tasks

My Tasks in the home page, under My View tab beside my requests summary block, shows all the Tasks assigned to you. These tasks could be added by you as a personal reminder of the due by tasks. Or, it can be the tasks assigned to you by other technicians.
You can also assign tasks to other technicians through this option. On adding the tasks to other technicians, the added tasks will be listed in their home page under the My Tasks block and the technicians will be able to view the tasks immediately on logging in to ServiceDesk Plus application.
All your tasks including the requests assigned on your name can be added to this list as My Tasks, but you cannot maintain the log for the requests entered under my tasks list.

Adding Tasks
You can add Tasks from either the My Tasks block or from Quick Actions drop-down menu.

Quick Actions drop-down menu

The Quick Actions drop-down is an instant means to access the task form. Click Quick Actions -> Add New option under Tasks.

My Tasks

1. Click Add New button. The Tasks form pops-up.
2. You can add a task instantly by using the pre-defined task templates in the application. Select a template from Use Task Template drop down. The task details such as Title, Description, assigned to Group or Technician and the task Status are automatically populated.
3. If you do not wish to use the Task Template, then specify the Title of the task in the given text field. This is a mandatory field.
4. Specify relevant information about the tasks in the Description field.
5. Select the Scheduled Start Time from the calendar button. Also select the Scheduled End Time for the task from the calendar button.
6. The Actual Start Time and End Time of the task will be entered by the technician doing (owning) the task.
7. The actual start time and end time is the real time schedule of the task. The scheduled start time and end time specified by the task owner is a tentative time schedule.
8. Select the Owner (technician) of the task from the combo box.
9. Specify the Status of the task. By default the Status of the task is Open.
10. Specify any relevant comment about the task in the Comments field.
11. If you wish to be reminded of the task previously then select the Email me before option and select the number of days from the combo box. This option will be selected based on the scheduled start time.
12. Save the values. You can see the added tasks getting listed under My Tasks block in the home page as shown below. The tasks will be listed under the tasks tab in ascending order based on the scheduled start time.

To view the details of the tasks click the title of the task to be viewed. This opens the Tasks page and you can view the details.

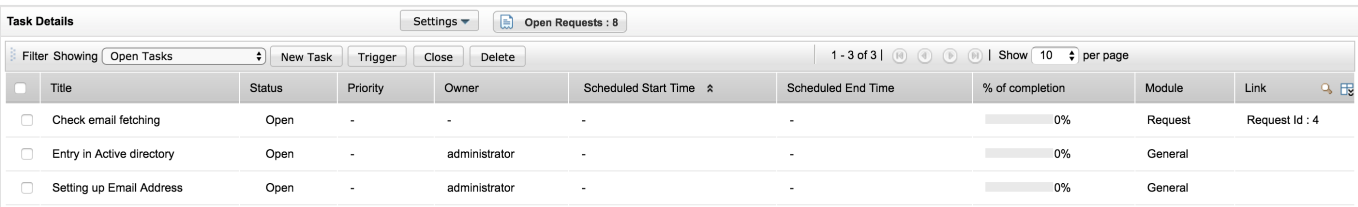
Closing Completed Tasks

When you have completed the task, you can just close the task by selecting the radio button beside the task. Alternatively,

1. Click the Show All link on the right hand side of the block. This opens the Show all Tasks page.
2. Select the tasks which have been completed by enabling the check box.
3. Click the Close button to close the task. You can see the tasks moved under closed status and in the home page you can see the tasks deleted from the My task block.

Viewing all Tasks

To view all the tasks added to the list, click the >Show All button on the down right hand side of the My Tasks block. This opens the Show all Tasks page as shown below,



You can also add new task through this page by clicking the New Task button available on the top right corner of the page.
To view the tasks based on the status-> click the Filter Showing combo box and select the task status from the list. You can see the tasks getting listed based on the selected status.
Alternatively, you can view All tasks and tasks assigned to you in Quick Actions under the Task block.

Viewing tasks based on Filters

Using the pre-defined filters in the Task details page, you can have a quick consolidated view of the tasks configured in the application.

- My Open Tasks

  Lists all the tasks assigned to the logged in technician with status as Open.

- My Overdue

Lists all the tasks assigned to the logged in technician that has exceeded the due date.

- My Due Today

  Lists all the tasks assigned to the logged in technician that are due to be completed today.

- My All Tasks

  Lists all the tasks assigned to the logged in technician irrespective of their status

- Open Tasks

  Lists all the tasks with the status as Open.

- Pending Tasks

  Lists all the pending tasks available in the application with the status as Open (or) On Hold

- Overdue

  Lists all the tasks that has exceeded the due date.

- Due Today

  Lists all the tasks that are due to complete today.

- Pending - My Group Tasks

  Lists all the tasks assigned to the group associated to the logged in technician that are to be completed.

- Unassigned Pending Tasks

  Lists all the unassigned pending tasks that have been configured in the application

- All Tasks

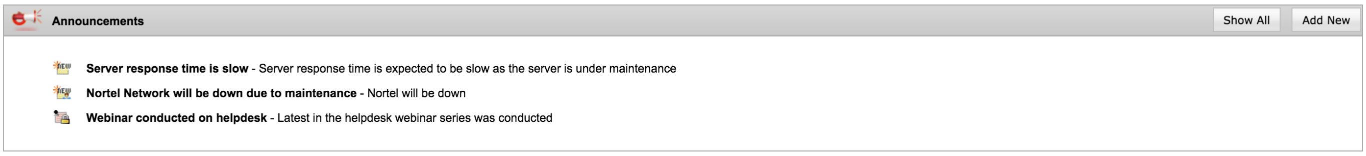
  Lists all the tasks that are configured in the application irrespective of the status.

Deleting Tasks

1. Click the >Show All button on the down right hand side of the My Tasks block. This opens the Show all Tasks page as shown above.
2. Click the Delete button. A confirmation message pops up asking you confirm on the delete process.
3. Click Yes to proceed. You can see the task deleted from the Show all Tasks list as well as from the home page.

Publish announcements

ServiceDesk Plus allows you to publish Announcements company-wide or just to the technicians group. The announcement board is available in the login home page of the My View tab, below the My Summary block. Any technician can add, edit, and delete announcements.



The recent announcements will be displayed in the box. To view all the announcements, even completed ones, click the Show All button. This will display the list of all announcements added till date.
To view an announcement, click the Announcement Title to open the complete announcement details in a pop-up. If there is more than one announcement, then you will notice a Previous and Next button in the pop-up. Using this you can navigate through the announcements list and view all the announcements without closing the pop-up window.

Representation of Icons
- Private Announcement i.e., announcements published to the technicians
- New Private Announcement
- Public Announcement i.e., announcements that are published to technicians and requesters.
- New Public Announcement
- Public Announcements restricted to certain User Groups
- Newly added Public Announcement restricted to certain User Groups

Adding Announcement
To add an announcement,

1. Click **Add New** button in the Announcements block. The Add New announcement window pops up.
2. Enter the Announcement Title. This can be a short statement that describes the announcement. This is mandatory field.
3. Type the Announcement Content in the text box provided for the same.
4. Select the From date and To date using the calendar icon beside the respective fields.
5. By default, the announcement is available to technicians. If you want to publish the announcement in the requester login, enable Show to Requester check box.

   If you have configured User Groups, then you can publish the announcement to requesters under the user group. Select the **User Group** from the available list, select >> button to move the list to the selected user group. The announcement is displayed in the home page with a lock beside it. Click here to know more on configuring User Groups.
6. If you wish to Send this announcement as mail then select the corresponding option by enabling the check box.

7. Click Save. At any point of time, you do not wish to add the announcement, click Cancel.

The announcement will be added and the pop-up will display the announcement details as entered by you. The announcement title will be displayed in the login home in bold text in the announcement box with a new icon beside it.

Viewing All Announcements

To view all the announcements that have been displayed in the application, click **Show All** button in Announcements block. The **Manage Announcements** page is displayed. From this page, you can Add Announcement, Edit Announcements and Delete Announcements.

	Title	Shown To	Date From	Date To
	Server response time is slow	Everyone	Oct 13, 2016 12:31 PM	Oct 15, 2016 12:53 PM
	Nortel Network will be down due to maintenance	Restricted	Oct 13, 2016 11:47 AM	Oct 18, 2016 12:53 PM
	Webinar conducted on helpdesk	Technician	Oct 12, 2016 07:33 PM	Oct 19, 2016 12:54 PM

By default, all the announcements are shown. You can select the announcements to display in the column view from **Filtering Showing** drop-down menu. You can view announcements that are **Currently Shown**, or announcements that are **To be shown** in the home page or announcements that are **Already displayed**.

Edit an Announcement

1. In the login home page, click the title of the announcement that you wish to edit. The announcement details are displayed in a View Announcement pop-up. If you have permissions to edit / delete the announcements, you will see an Edit and Delete button.
2. Click Edit button.
3. You can change all the fields of the announcement in the Edit Announcement form.
4. Click Save. At any point of time, you do not wish to edit the announcement, click Cancel.

All the changes made in the announcement will be saved.

Delete an Announcement

1. In the login home page, click the title of the announcement that you wish to delete. The announcement details are displayed in a View Announcement pop-up. If you have permissions to edit / delete the announcements, you will see an Edit and Delete button.
2. Click Delete button. A confirmation dialog pops up.
3. Click OK to delete, and Cancel to retain the announcement.

Alternatively,

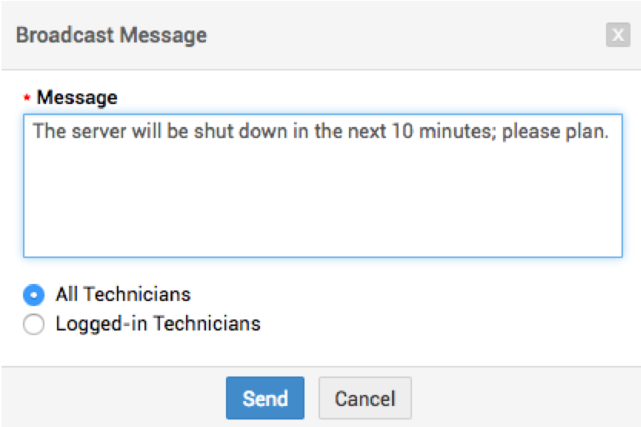
1. In the login home page, click Show All button in the Announcements box.
2. In the announcements list view, select check boxes beside the announcement Title which you wish to delete.
3. Click Delete. A confirmation dialog pops up.
4. Click OK to delete, and Cancel to retain the announcements.

Communication

This feature enables the SD admin and technicians to communicate important messages to all technicians in just a click. For example, you can use this feature for sending out emergency messages, such as instant server shutdowns or unplanned power outages.

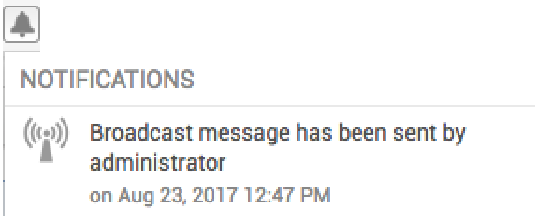
Go to **Quick Actions**>>**Communication**>>**Broadcast Message**

In the **Broadcast Message** dialog that opens, type in your message, select whether you want the message to be sent to all technicians or to only the logged-in technicians, and click **Send**



Logged-in technicians receive the broadcast message as a push notification and also as a desktop notification.

For offline technicians, the message is queued under the notifications icon.



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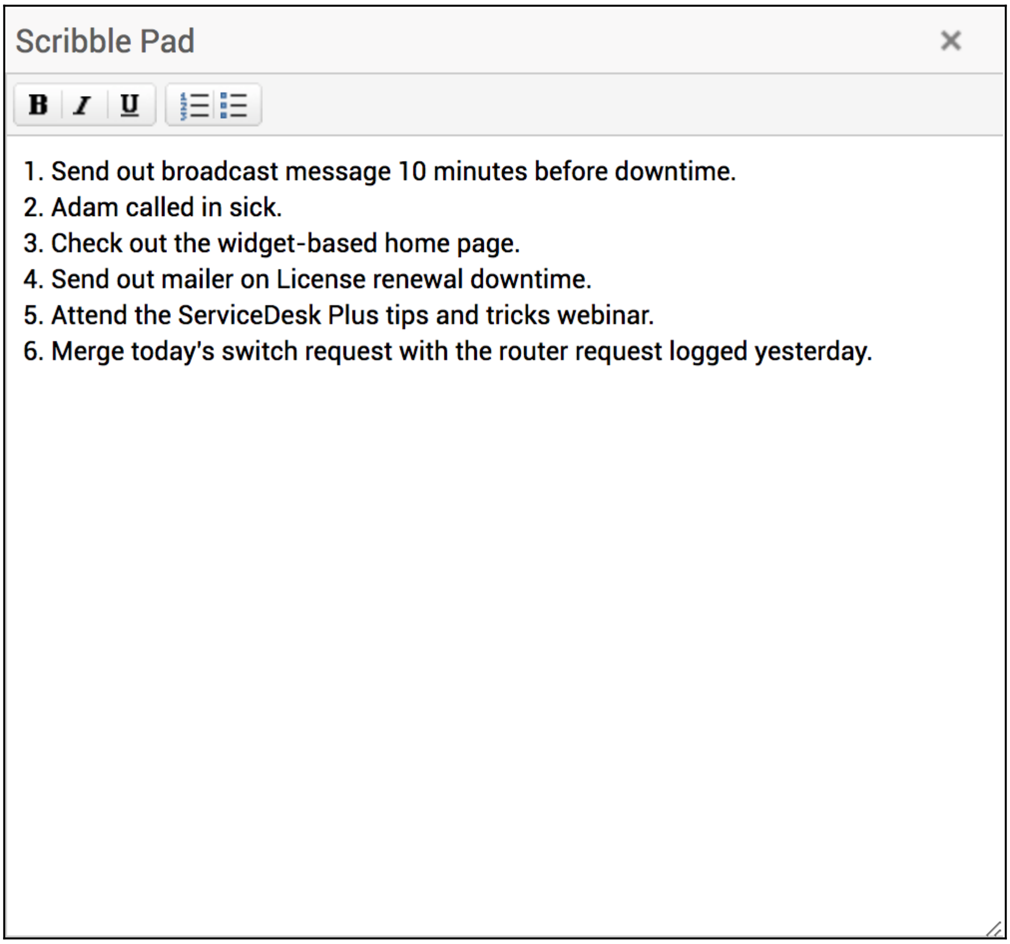
Scribble Pad

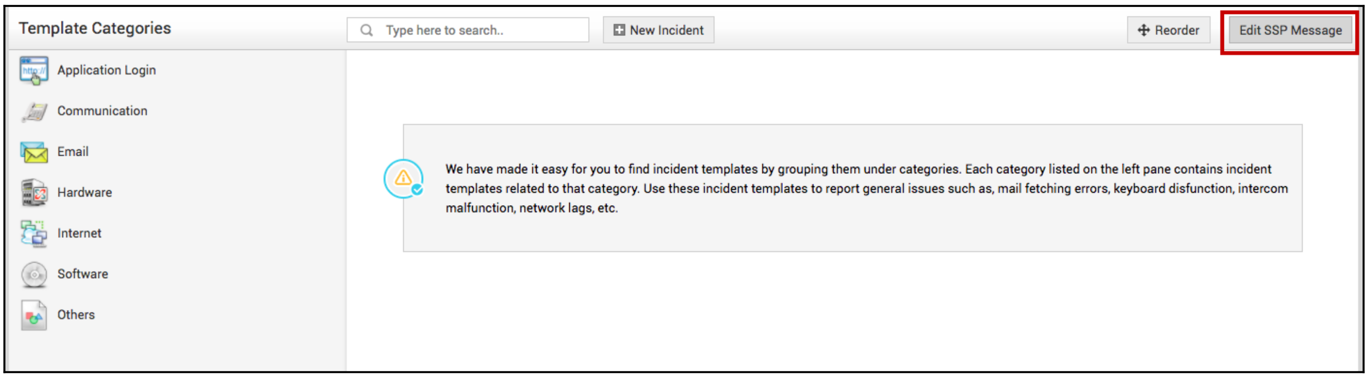
Often, technicians make hurried notes on paper while working on tickets. It could be a reminder to themselves to close a certain task or read up on the latest technology trend, or even an idea to link two seemingly similar requests. Scribble Pad is an easy and a better way of making these notes.
The Scribble Pad is on the top right of the Header.
Click the **Scribble Pad**  and begin making your notes, as shown below:



You can access the Scribble Pad across modules. Any information entered remains until the technician deletes it.

Request Catalog

To list both incidents and service templates under Request Catalog, go to the Self Service Portal and select **Yes** for the **Combine incident and service templates listing for the service** option.
When you click **Request Catalog** or **Incident/Service Catalog**, if you have not opted to display both incidents and services together, a landing page appears with a customizable message. The admin can add any information that must be displayed to all users.
To add a new message on this page, click the **Edit SSP Message**.



Scheduler

ServiceDesk Plus gives the provision of a schedule calendar showing the number of open requests, problems, changes, task and reminder for a technician in a given month. The availability of a technician can be viewed from the technician availability chart, depending on which, the task, requests, problems and change can be re-assigned to other technicians.

The following are available under Scheduler,

- My Schedule
- Technician Availability Chart
- Mark Unavailability

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My schedule

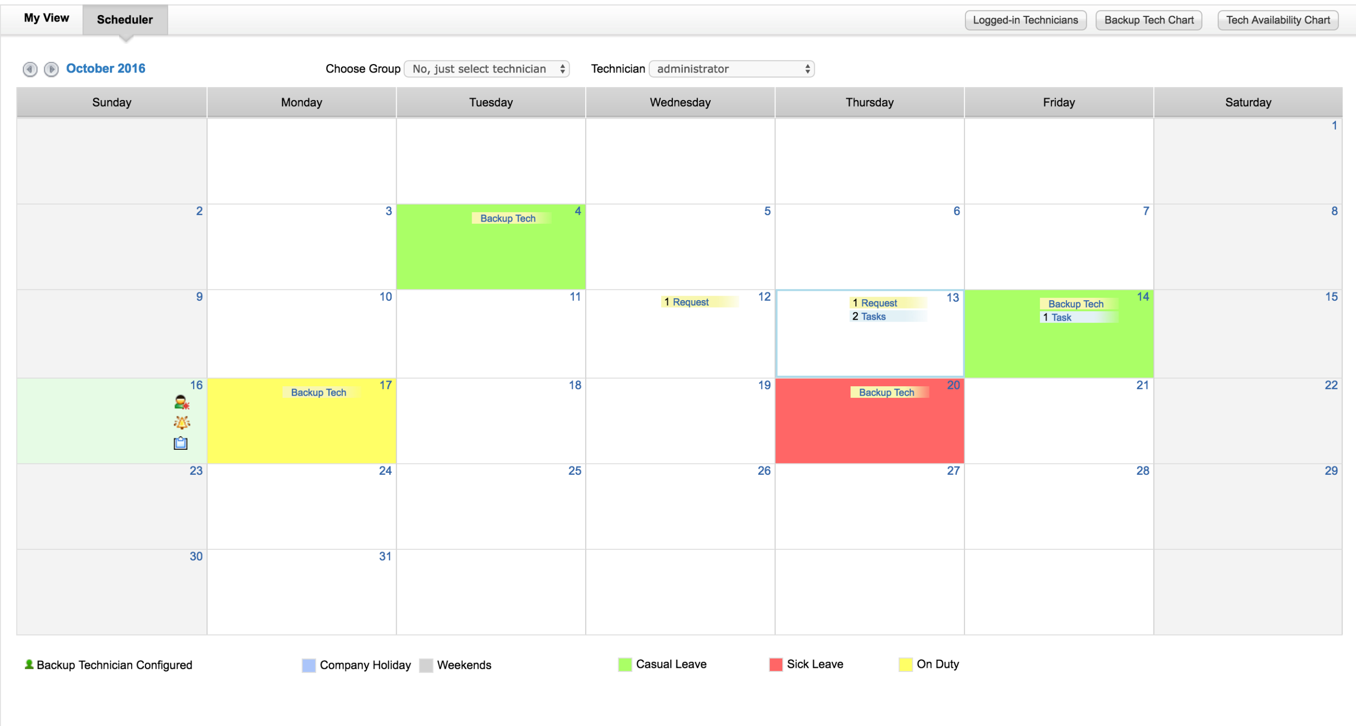
My Schedule is a calendar view displaying the number of open requests, problems, changes, tasks and reminders assigned to a technician for a given month. The calendar also shows the availability of the technician for a specific day in a given month.

The My Schedule calendar can be viewed by All Technicians.
The administrator has the ability to view the number of open requests/ tasks/ problems / changes and availability of All Technicians in All Site.
The Site Admin has the privilege to view the number of open requests/tasks/problems/changes and availability of technicians only in his site.
The Technician can view only his open requests/ tasks/ problems/ changes and availability.

To view the My Schedule calendar,

1. Login to ServiceDesk Plus application using your username and password.
2. In the home page, click Scheduler tab beside My View tab (OR)

   Click Quick Actions -> My Schedule under the schedule block. This opens the Schedule Calendar. By default, the calendar shows the number of open requests, problems, changes, tasks and reminders assigned to you as shown below,



Schedule Calendar

- The Schedule Calendar shows the current month and year along with the navigation buttons on the left hand side of the page.

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- The Navigation buttons helps to navigate to the previous and the forth coming months.
- The current date is marked in separate border.
- For an administrator all the sites should be listed along with its corresponding groups and technicians loaded in the drop down field.

  For a Site Admin, the site for which he is the administrator gets listed in the drop down box along with its corresponding groups and technicians.

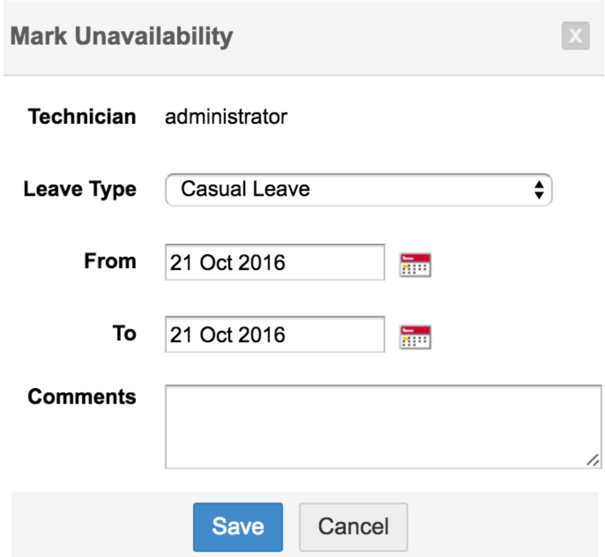
  Technician can view only his open requests, problems, changes, tasks and reminders.
- The number of Open Requests, problems, changes and task assigned to the technicians for a specific date in a given month can be viewed.
- The unavailability of the technician is indicated in a different color.
- The company holidays and weekends is marked in a separate.

Using My Schedule, you can perform actions such as,

- Mark Leave
- Edit/Cancel Leave
- Add Task
- Add Reminders
- Viewing requests/task/problems/change
- Re-assigning requests/task/problem/change

Mark Leave
It is essential to keep a track of technicians on leave so that work is not assigned to them for that particular day. To mark leave,

1. From My Schedule, hover over the day on which you want to mark leave. The list of icons gets displayed on the right hand side below the date. Click Mark Leave icon. This opens the Mark Unavailability pop-up window as shown below,



1. The name of the Technician is displayed in non-editable text.
2. Select the Leave Type from the combo box. For ex. Casual Leave, Sick Leave etc.
3. Select the From and To date of leave from the calendar icon.
4. Specify any relevant Comments regarding the leave.
5. Click Save. The technician's holiday is indicated in a different color.

Leave can be marked to other technicians using Technician Availability Chart. You can configure your leave by clicking Quick Actions -> Mark Unavailability under the scheduler block. This opens the Mark Unavailability pop up window. Follow the above steps to mark leave.

Edit/Cancel Leave

If you wish to edit or cancel a leave then,

1. From the schedule calendar, hover over on the day the technician is on leave. Click the Edit leave icon on the right hand side below the date. This opens the Mark Unavailability pop-up window.
2. Click Save on making the changes.
3. If you wish to cancel the leave then click Cancel Leave. The leave gets cancelled.

   Note: For continuous holidays, the entire series gets cancelled.

Add Task

You can also add, view and re-assign the tasks to other technicians. The tasks can be added to technicians for the current day and the forth coming days. To add task refer Add Tasks.

Add Reminders

The reminder option is available only for the logged in technician, that is, if the logged in technician is an administrator then the reminders of other technicians cannot be viewed by him. To know more on reminders refer Reminders.

Viewing Requests / Tasks / Problems / Changes

The number open requests, tasks, problems and changes assigned to you gets listed in the calendar, by default. To view the details of the request/tasks/problem/change, click the link corresponding to the requests/task/problems/changes to be viewed for a specific day.

Re-assigning Requests / Tasks / Problems / Changes

The requests, tasks, problems or changes assigned to a particular technician can be re-assigned to other technicians. For example, if requests are assigned to a technician for a specific day and if the technician is unavailable on that day, then the request can be re-assigned to other technicians. Similarly tasks, problems and changes can be re-assigned.

To re-assign requests/tasks/problems/changes,

1. Click the requests/problems/tasks/changes on the day, of the corresponding technician you want to re-assign from the Schedule Calendar. This lists out all the open request for that day.
2. Enable the check box adjacent to the request which you want to re-assign.
3. Select the technician from the combo box to whom the task is re-assigned. Click Re-assign button. The task is re-assigned to the technician.

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Technician availability chart

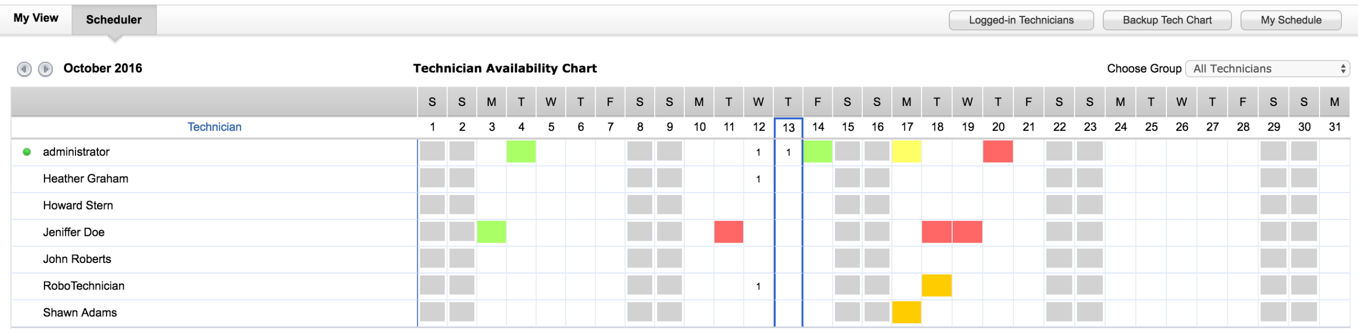
The Technician Availability Chart displays the list of technicians, along with the number of open requests assigned to them and their availability for a given month. The chart is a matrix view, indicating the availability of the technician for a specific day. It allows technicians to apply for leave, edit/ cancel leave and even configure backup technicians when a technician is unavailable.

The Technician Availability Chart is available only for technicians with Admin privileges such as an administrator and Site Admin.

The administrator has the ability to view the availability of technicians and the number of open requests assigned to All Technicians in All Sites. The Site Admin has the privilege to view the availability of technicians and the number of open requests of technicians only in his site.

To view the Technician Availability Chart,

1. Click Scheduler tab in the Home page. This opens the Schedule Calendar displaying the number of open requests, problems, changes, task and reminders assigned to the technician who has logged in.
2. Click Tech Availability Chart button on the right hand side of the page.
3. You can also choose Tech Availability Chart from the Quick Actions link under the header pane. This opens the Technician Availability Chart.



Technician Availability Chart:

- The Technician Availability Chart shows the current month and year.
- The Navigation buttons on the left top help to navigate to the previous and the forth coming months.
- The current date in the calendar is marked in blue border.
- By default, for an administrator, the list of all the technicians gets displayed, irrespective of the Site and Group. Using the "Site", "Group" and "Technician" combo boxes, the administrator can view the availability of a particular technician in a particular Site.
- For a Site Admin, the list of all technicians in his/her site is displayed irrespective of Groups. The number of Open Requests assigned to the technicians for a specific date is displayed in the Chart.
- Unavailability of a technician is indicated in pink color.
- Company holidays, weekends, logged-in technicians and backup technician are marked in other different

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colors.

Using the Technician Availability Chart, you can perform actions such as,

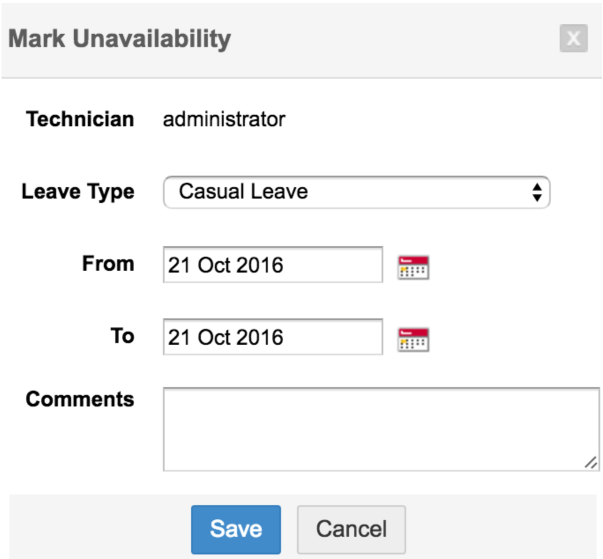
- Marking Leave
- Configuring Backup Technician
- Re-assigning Requests
- Editing/Cancelling Leave
- Viewing Request
- Viewing Logged-in Technician
- Backup Tech Chart

Mark Leave

The unavailability of a technician can be marked using the Technician Availability Chart. This is essential so that requests that are assigned to that particular technician on that day can be re-assigned to another technician.

To mark leave,

1. From the Technician Availability Chart, click on the day corresponding to the technician on leave. This opens the Mark Unavailability pop-up window as shown below,



2. The name of the Technician is displayed in a non-editable text format.
3. Select the Leave Type (Casual Leave, Sick Leave and so on) from the combo box.
4. Select the From and To date of leave by invoking the calendar icon.
5. Specify any relevant Comments regarding the leave in the Comments text box.
6. Click Save. The technician's holiday will be indicated in a different color.

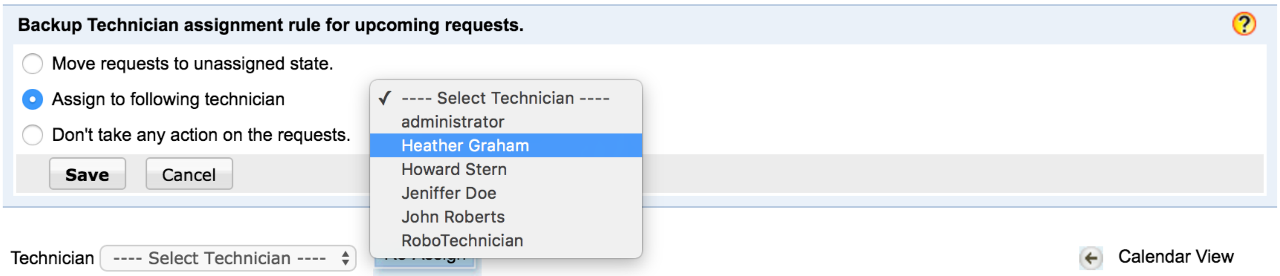
Leave can also be marked by clicking Quick Actions -> Mark Unavailability under the Scheduler block. This opens the Mark Unavailability pop up window. Follow the above steps to mark leave.
Notifications rules can be configured to keep other technicians informed about the leave of absence of a

technician. Once the technician applies leave, selected technicians or the group in which the technician is present will be notified about the leave when it is added, modified or cancelled.

Configure Backup Technician:

To configure a Backup Technician on the day of unavailability of a technician,

1. Click the name of the technician who will be on leave in the Technician Availability Chart. This opens the Technician Calendar for that month with the technician's days of unavailability indicated in a different shade.
2. Click Backup Tech link displayed in a different color. This opens Backup Technician Assignment screen.



3. Choose one of the 3 options provided to handle the upcoming requests assigned to the unavailable technician.

- Move requests to unassigned state - The requests assigned to the technician on leave are moved to an unassigned state, which means, it is assigned to no technician. This is done so that the unassigned requests can be re-assigned to another available technician by the administrator or help desk coordinator.
- Assign to following technician - This option allows you to configure a Backup Technician throughout the absence of a particular technician. On choosing this option, one can select the Backup Tech from the list of technicians displayed in the drop down box. If Sites are configured, this drop down box displays only the names of the technician who are associated with the same site as that of the technician who is on leave.
- Don't take any action on the requests - This is the default option visible in the Backup Technician Assignment screen. In this case, no action is taken on the requests that are assigned to the technician. The request is assigned to the technician even if he is on leave.

4. Click Save after configuring the Backup Tech.
5. Once the Backup Tech is configured, an icon appears in the calendar indicating that the backup technician has been configured. By moving the mouse pointer over the icon, a description box appears indicating the status of the backup technician configuration.

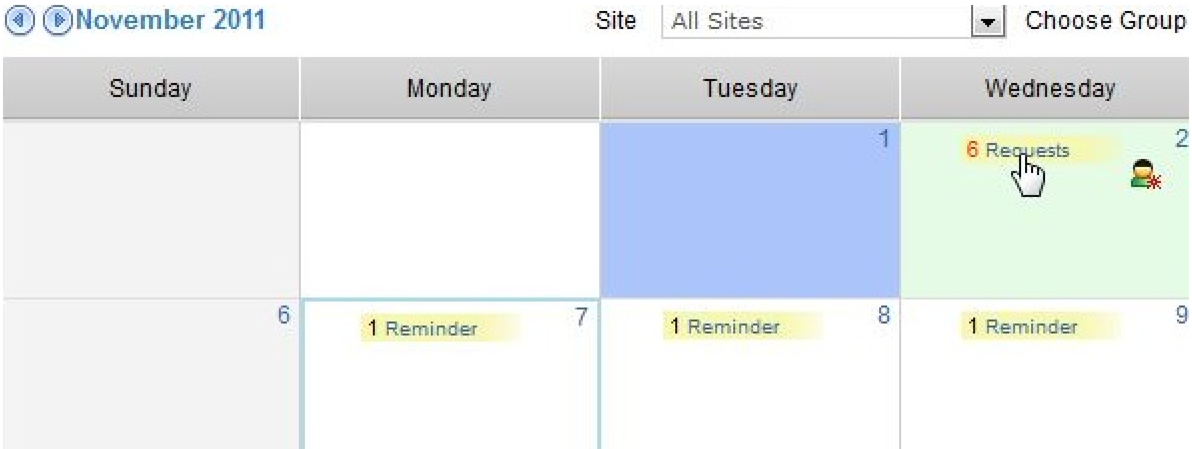
If notification rules are configured, then notification e-mails will be sent to selected technicians or the group in which the unavailable technician is present.

> Backup Technicians can be configured only up to one level. This means, if the backup technician is on leave, another backup technician cannot be configured.

All information relating to unavailability of a technician, including the period of leave and backup technicians (if configured) are displayed in the Backup Tech Chart.

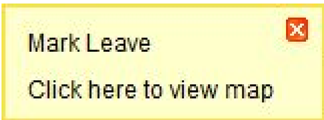
Re-Assigning Requests:

Requests assigned to a technician can be re-assigned to another technician through the Technician Calendar.



To re-assign requests to another technician,

- Click the number of requests and this opens the Backup Technician Assignment screen along with the list of requests in the second half of the screen.
- Select the requests that need to be re-assigned by clicking on the check boxes.
- Select the Technician from the Technician drop down box.
- Click Re-Assign button to assign the requests to another technician.
- Click Calendar View to go back to the Technician Calendar.
- You can also re-assign requests by clicking on the requests in the Technician Availability Chart and selecting Click here to view map from the following pop-up:



- Follow the above steps to re-assign the requests.

Re-assigning requests is different from assigning requests through Backup Tech. Although Backup Tech can be configured only up to one level, in the absence of the backup technician, the pending requests can be assigned to another technician through this feature.

Click the name of the technician to have a detailed view about the number of requests, problems, changes and tasks assigned to the particular technician in My Schedule.

Editing/Cancelling Leave

To edit leave,

Click on the leave of the technician that needs to be edited from the Technician Availability Chart. This opens the Mark Unavailability pop-up window.

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2. Make necessary changes (Leave Type or Leave Period).
3. Click Save.

To cancel leave,

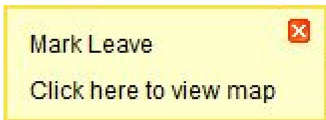
1. Click on the leave of the technician that needs to be cancelled from the Technician Availability Chart. This opens the Mark Unavailability pop-up window.
2. Click Cancel Leave button. The leave gets cancelled.

If a continuous period of leave is applied, then the entire period will be cancelled.

Viewing Requests

To view the requests assigned to a technician for a particular day,

- Select the requests on the day of absence of the corresponding technician from the Technician Availability Chart.
- **Click here to view map in the following drop-down box.**



- This opens the list of all open request due for that day.
- Click the request you want to see and the request information is displayed in the same screen.

Viewing Logged-in Technicians

If you are an SDAdmin, SDSite Admin or SD Co-ordinator, then the Technicians logged-in the application is indicated in the Technician Availability Chart. Click Logged-in Technician button to view the list of logged in technician irrespective of the associated sites. You can also view the logged-in technicians from Quick Actions drop-down.

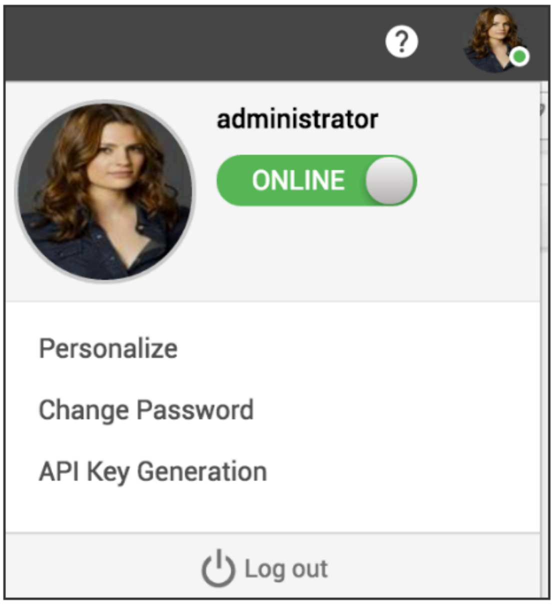
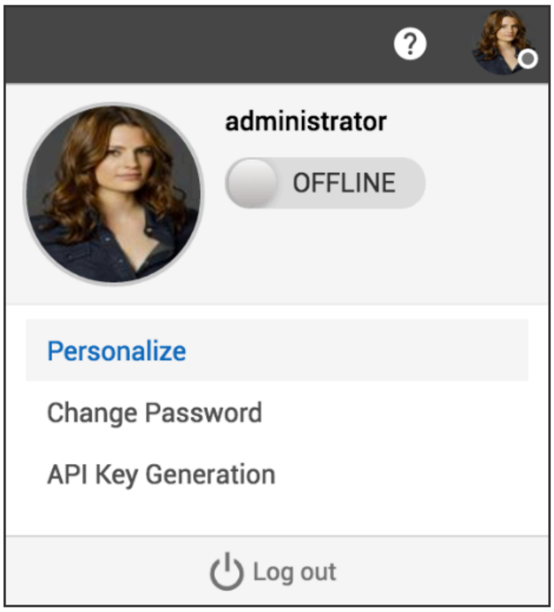
Backup Tech Chart

Backup Technician Chart displays information such as absence of leave of a technician, name of the technician and the backup technician configured through the period. This chart helps to keep a check on the backup technicians whenever a technician applies for leave. To view the Backup Technician Chart, click on the Backup Tech Chart link next to the My Schedule link.

Using the Navigation buttons at the left top of the screen one can navigate to the previous and the forth coming months to get a broader idea about the technicians on leave, their period of absence and the backup technicians configured for that period.

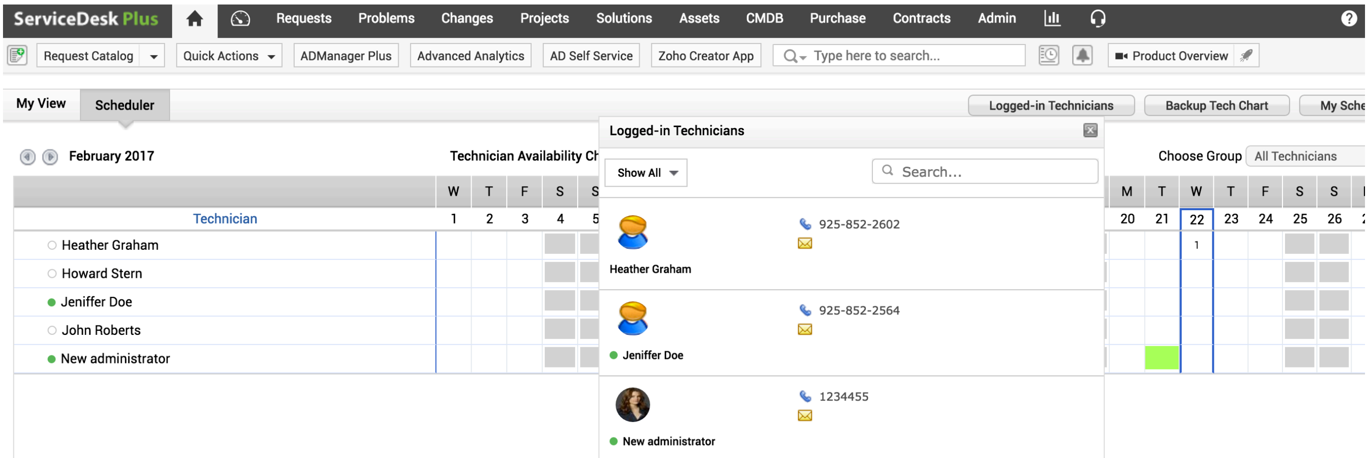
Mark technician online/offline

An Administrator or a Technician can mark his/her availability by marking themselves Online/Offline. This helps the Admin and other Technicians to assign a Task/Request to an available Technician. This also helps to configure Back-up Technicians depending on their availabilty. A Technician when Online will be indicated by a green dot, when offline by a grey dot and logged-out by a transparent dot. A Technician who is on leave will be denoted by an asterix on the top right corner of his/her name.
After logging-in to the application, click on the 'User Profile' section. Slide to mark yourself 'Online' or 'Offline'.

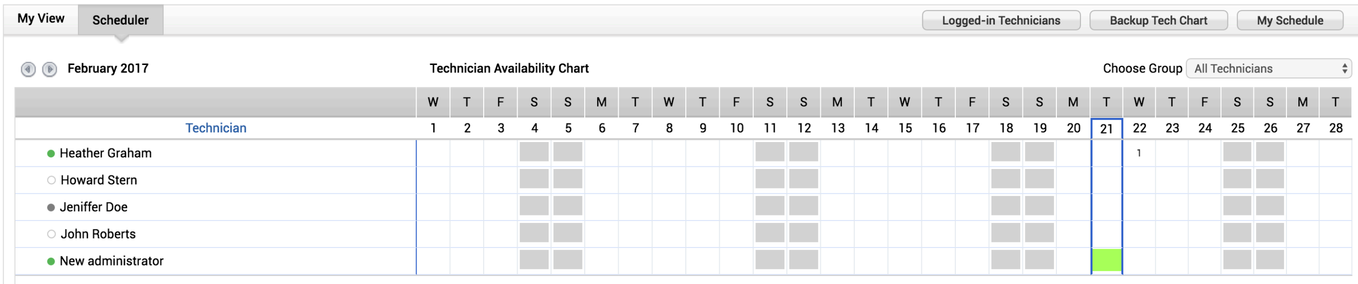
Online	Offline
	

The Technician Online/Offline indication can be viewed in the Task assigning areas under Request module and in the Home page.
Folling are a few places are where the indication can be seen:

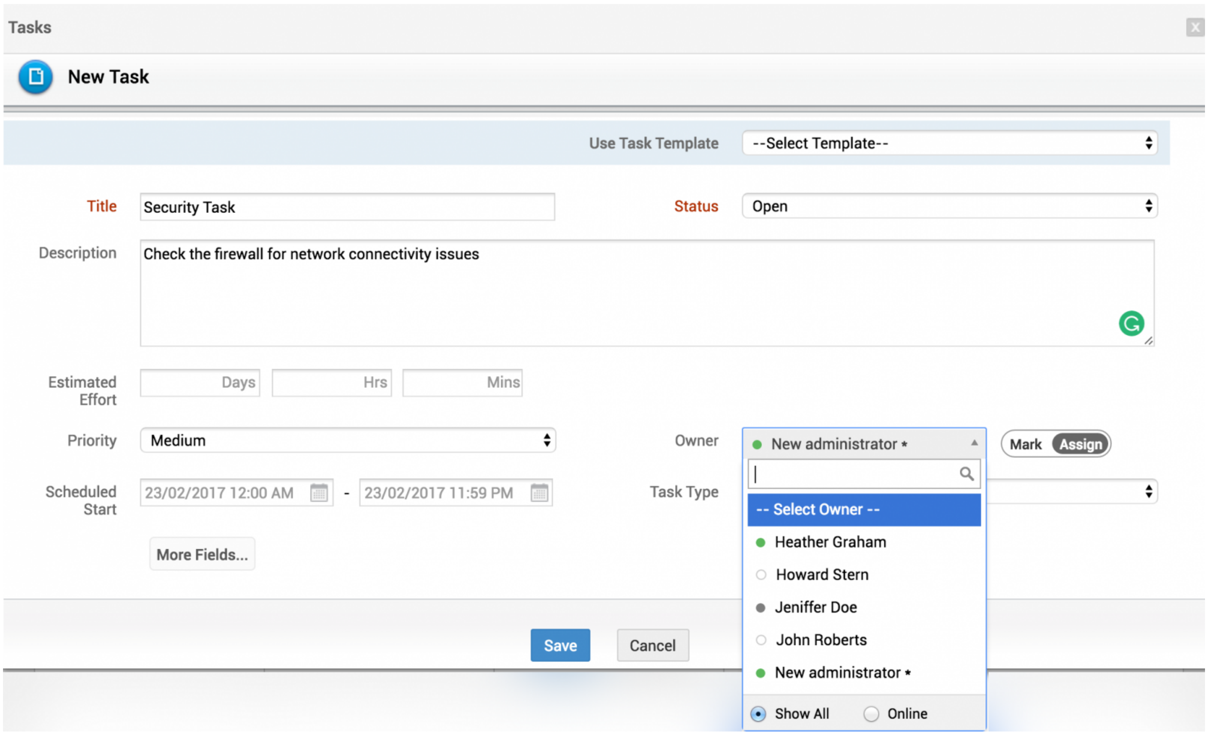
- **Logged-in Technicians** tab available in the **Scheduler** page. You can either list **Show All** or view only the **Online** Technicians.



- **Technician Availability Chart / Backup Tech chart** available in the **Scheduler** page.

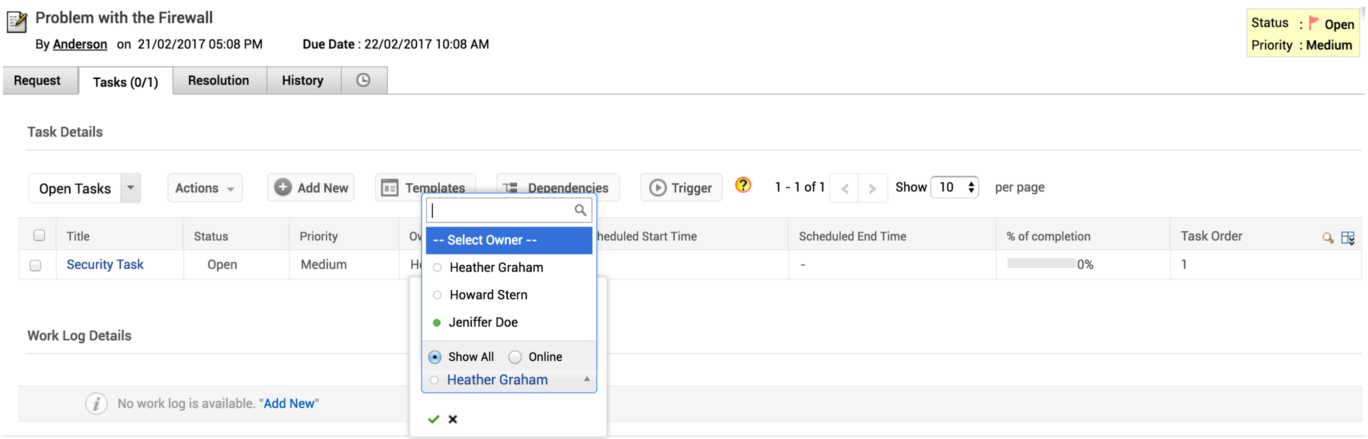


- While choosing a **Owner** for a new task from the Scheduler page. You can either list **Show All** or view only the **Online** Technicians.

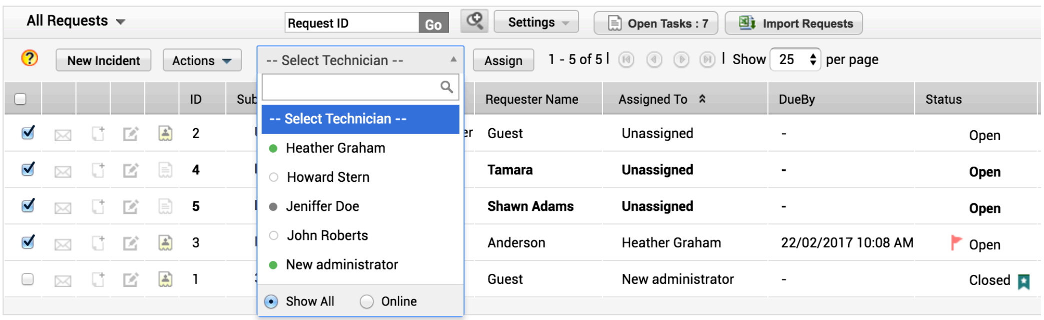


- While choosing a **Owner** for a new task from the **Tasks** tab within a Request.

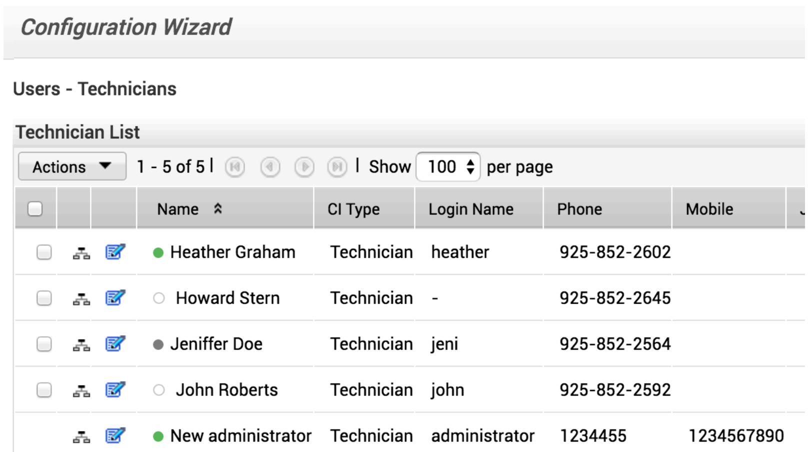
- While selecting a Owner for a Task in the **Tasks** listed under a Request.



- While assigning a Technician for a Task from the **Task details** page.
- While choosing a Technician to assign a Task from the **Assign** option available within the Request.
- While choosing a Technician to assign a Request from the Request List View.
- While selecting Requests in bulk and choosing a Technician from **Select Technician**.



In the **Technicians** section available under the **Admin.**



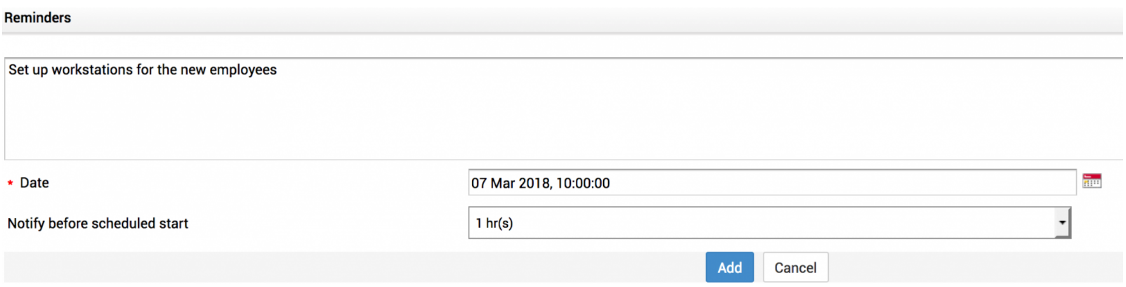
Reminders

ManageEngine ServiceDesk Plus provides you with the option of tracking your tasks every day. The tasks that you add to the My Reminders list act as substitute for your sticky notes or post-it notes which you would use to remember your tasks for the day.

Add Reminders

To add new reminders,

1. Log in to the ServiceDesk Plus application using your user name and password.
2. Click Quick Actions drop-down menu just below the header tabs -> select Add New option under the Reminders block. (or)
   Go to Quick Actions -> My Reminder (s) and click Add new link.
3. Enter the task summary in the text field provided.
4. Schedule the reminder and click **Add**.



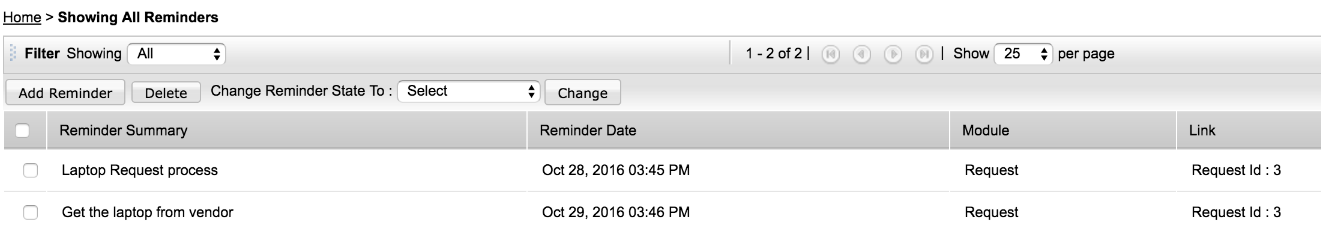
Changing Status

Strike through the reminders of completed tasks.

- Head to **My Reminder** and click the Warning icon of the completed task, then it will turn as:

OR

- Click Show All button on the **My Reminders** window.



   - Select the reminders that are completed.

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- Click **Change** button and select **Completed**.

Deleting Reminders

- Use the **Delete** icon right next to the reminders to delete the reminder. (OR)
- Select the reminders and click **Delete button**.

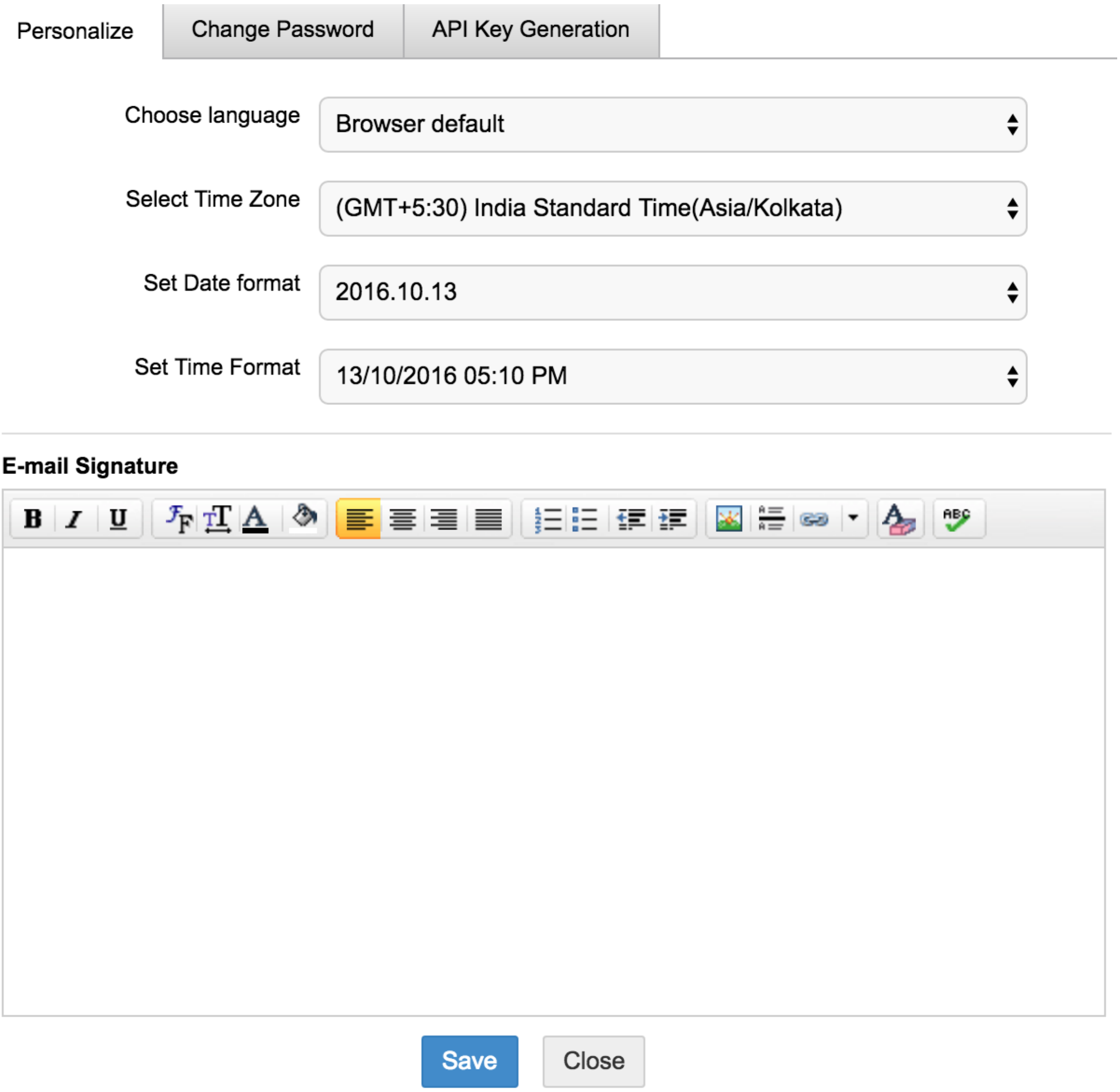
The advantage of moving the reminder to completed state instead of deleting it completely is that, you can revert the state of the reminder to **Open** again and edit its attributes. But once you delete the reminder, it is completely removed from the application and cannot be retrieved.

Personalize

You can localize your personalization such as display language, time zone and so on, as well as change your login password using this option. Apart from the option of changing password from the user management configurations, you can also change your individual password.

1. Log in to the ServiceDesk Plus application using your user name and password.
2. Click the Account icon at the top right corner of the page.

Select **Personalize**. This opens the Personalization page which has three tabs which are, Personalize, Change Password and API Key Geneartion as shown below,



Personalize
The personalize tab consists of display language, time zone, data format, time format and e-mail signature.

- Display Language

Select the language of your choice from the Choose Language combo box. The selected language will be you default display language in the application. All the data will be displayed in the language selected by you.

- Time Zone

  Since the organizations can be situated in various sites; every site has its particular time zone. Select the time zone of the site of your organization from the Select Time Zone combo box. The date and time will be set according to the selected time zone.

- **Date/Time Format**

  Select the format of the date such as, Tue 16 Sep 2008, from the Set Date Format combo box. Similarly you can also set the time format from Set Time Format combo box. The selected date and time format will be displayed where ever date/time is considered

For Example: While creating a request, the request created on and due by time will be displayed in the selected date and time format corresponding to the selected time zone. The same can be viewed under Problem, Change, Solution and Purchase modules.

- E-mail Signature

  You can have your own personalized signature while replying to the mails using this option. Enter your signature in the text provided. Click Save.

Change Password

1. Click the **Change Password** tab in the personalize page. This displays the Change Password form.
2. **Enter your old password in the Current Password** field.
3. Enter your new password in the New Password field.
4. In the Confirm New Password, enter the new password again.
5. Click Save button.

Upload/delete profile picture:
Users can upload profile picture by clicking on the space where the profile picture has to be uplaoded in the header pane. The picture can be in .jpg, .png, .jpeg, .bmp formats. Note that the file size should not exceed 5MB.

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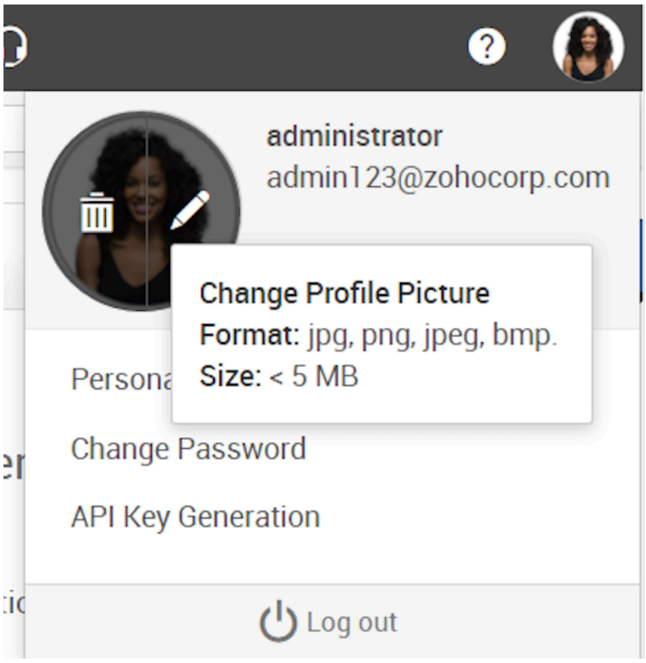


The users can delete the profile picture by clicking the delete option available when hovering over the picture

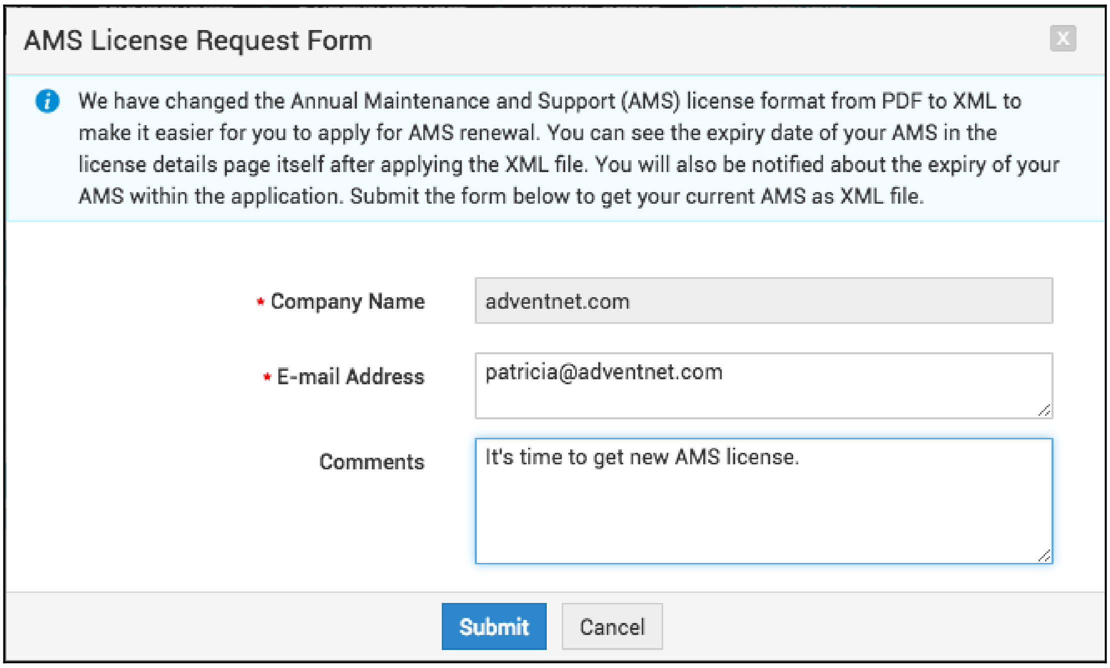
License expiry alert

The **License Expiry Alert** shows the number of days for the existing license (or the trial version) to expire. If you wish to renew the license, then a renewal request must be sent to our support team, and they, in turn will provide you with the license file. To send a renewal request, click the Renew button. The page navigates to a Renewal Form where the License ID and Customer ID are pre populated. Enter the Email Address and your Company Name, also specify the Number of Technicians and Nodes license you wish to avail, and enable the add-ons if required. Enter relevant comments in the provided field and click Submit.

An email notification is sent to our support team, and they in turn will provide you with the license file. Once the license file is obtained, click the License link to install the license file. To know more on applying the license file, click Registering ServiceDesk Plus.

Annual Maintenance Support License

If you have purchased a perpetual license, you will need to purchase the Annual Maintenance Support License for continued support from the ServiceDesk Plus team.
To purchase the license, click **Get your AMS** in the User menu. Check the details, prepopulated, on the displayed form and click **Submit**.



You will receive XML files by email. Use those files to apply your AMS license. The license page will then display the expiry date of the AMS license for your records. When the license is due to expire in 30 days, a banner will alert you to renew the license.

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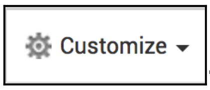
Technician / Requester home page customization

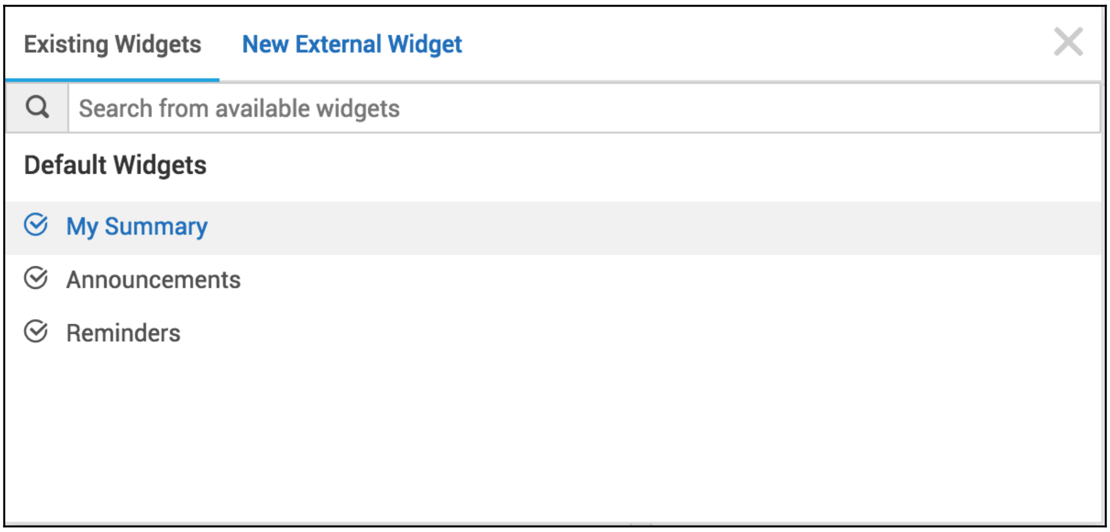
You can now customize the technician's/ requester's home page by adding / organizing widgets, and changing the layout style and background color. Embed your organization’s resource page or intranet page on the home page via the external widget addition option.

To customize,

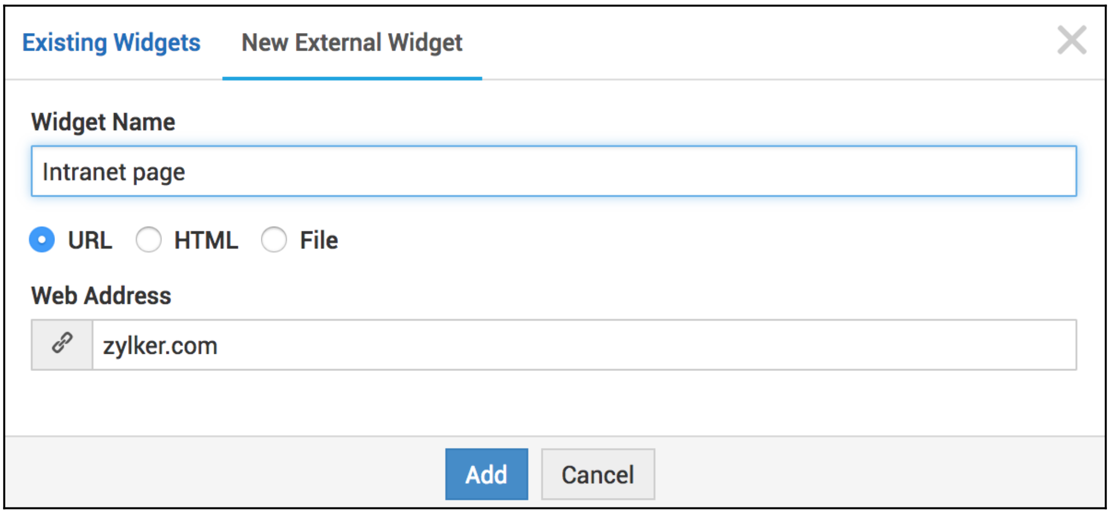
- Head to the **Home** page.
- Click on **Customize** at the top right 

.
- Select **Requester Home Page / Technician Home Page**.
- The page turns to edit mode.
- Click 

to add a new widget. Default widgets will be listed.

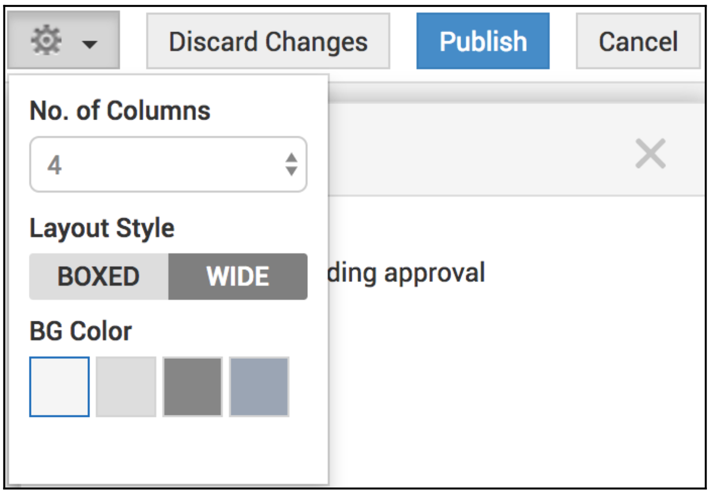


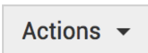
- Click on the ones you want to add them to the homepage.
- To add external widgets, choose **External widgets** while adding a new widget. You can also Embed URLs, HTML files, or other files as an external widget.



External widgets help you to include your organization's intranet/knowledge base or other information related pages into the home page.

- Drag and drop the widgets to move them around.
- Use the settings menu to customize the column count, layout style, and the background color of the homepage.



- Preview how the changes look like by hitting on the preview button.
- Save/clear the changes does to the page by clicking on the actions menu  . Changes can be discarded as well.
- Save and publish the new configuration by clicking on the **Publish** button  .

Dashboards

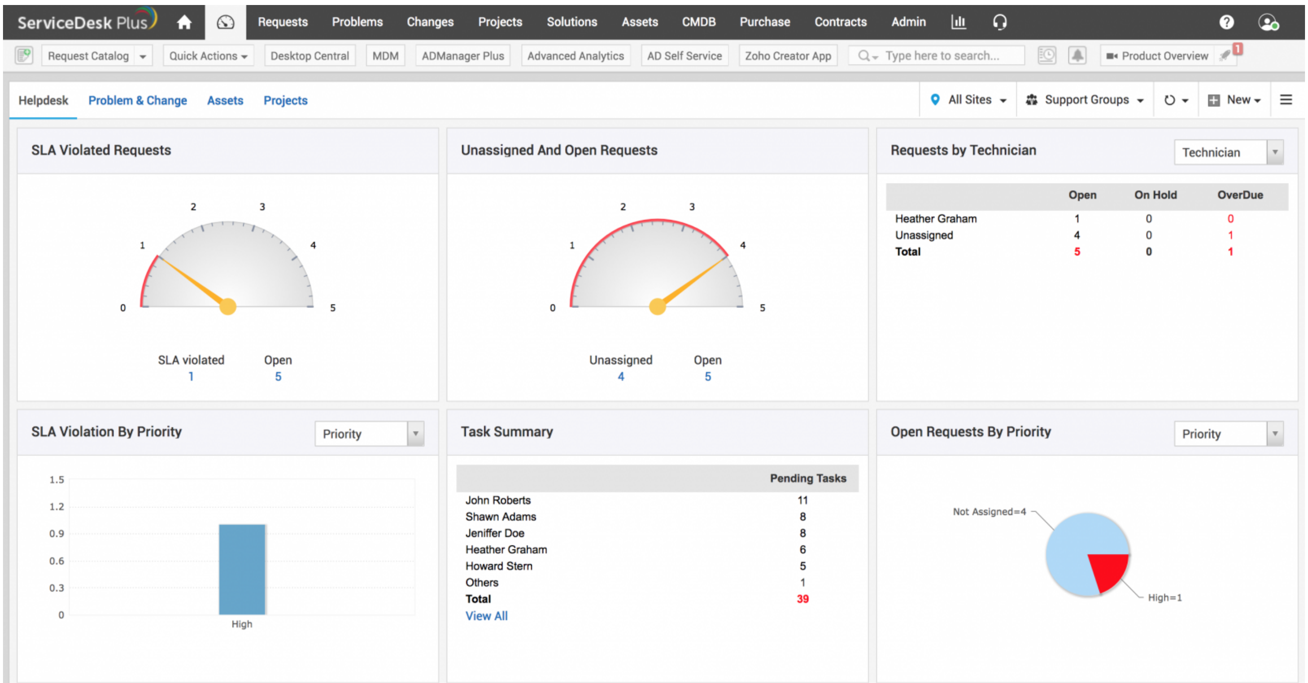
The Dashboards homepage contains dashboards with a graphical display of real-time information, consolidated and arranged in a single view so that it can be easily monitored. Dashboards display various statistical data related to a number of Requests, Changes, Problems, Assets, Software, POs and Contracts based on various criteria.

Note

- Information displayed on the dashboards depends on the sites and roles associated with the Technicians.

The Dashboards page contains the following elements by default:

1. Helpdesk
2. Problem & Change
3. Assets
4. Projects
5. Refresh drop down
6. Filters
7. Settings



Helpdesk

Under the Helpdesk tab, widgets are available to provide request based information at one glance.

- The first widget shows the total number of Open, On Hold, and OverDue Requests. This information can be viewed based on the criteria provided in the drop-down box. A number of requests can be viewed based on Technician, Category, Level, Priority, and Mode.

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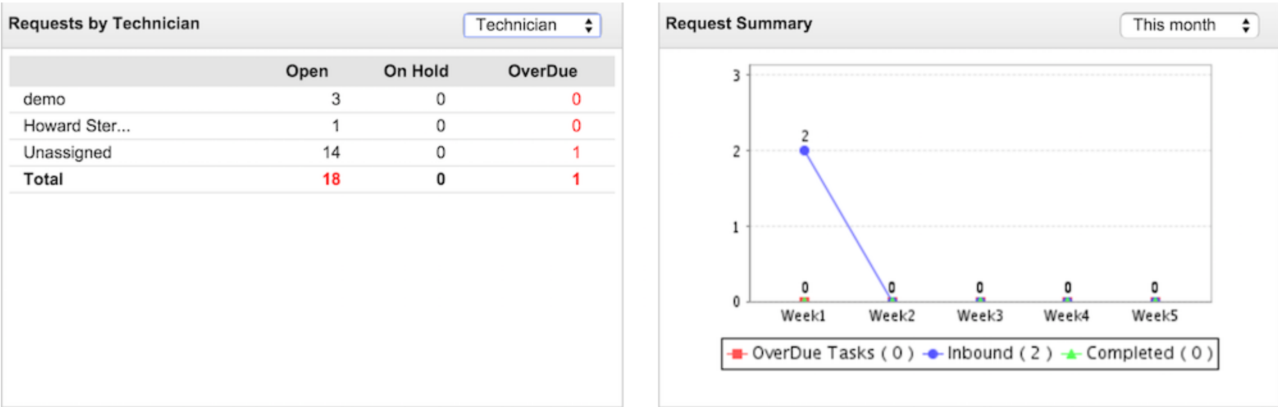
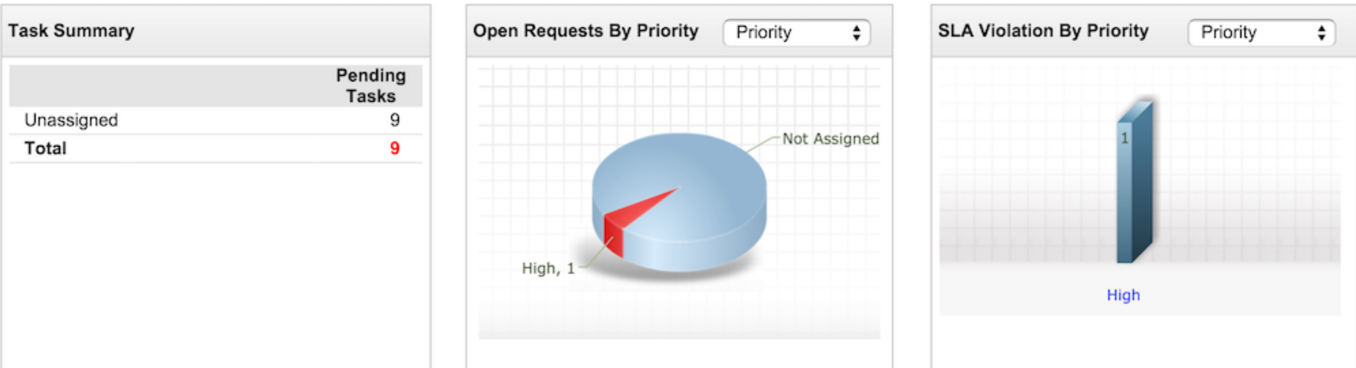
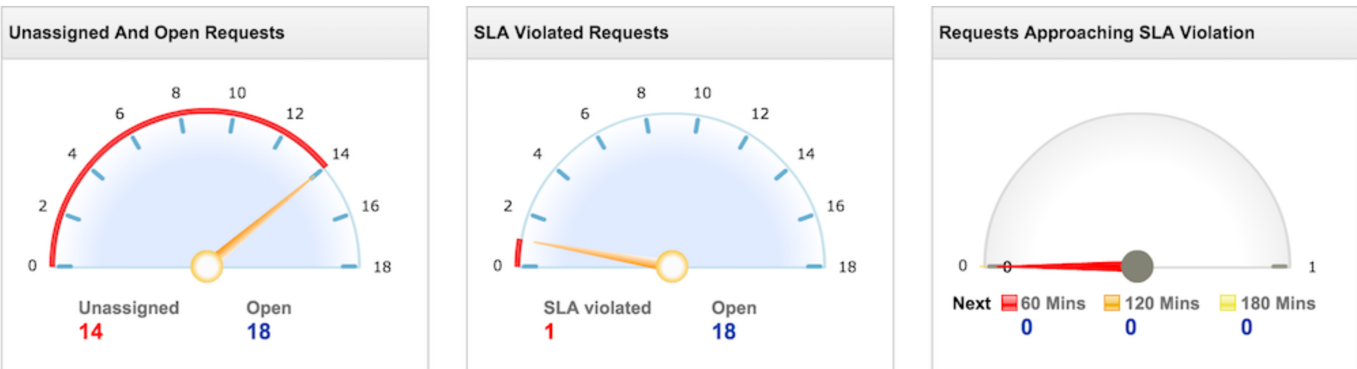
- The second widget displays the Request Summary. You can view the requests raised in This week, Last week, This month, and Last month.



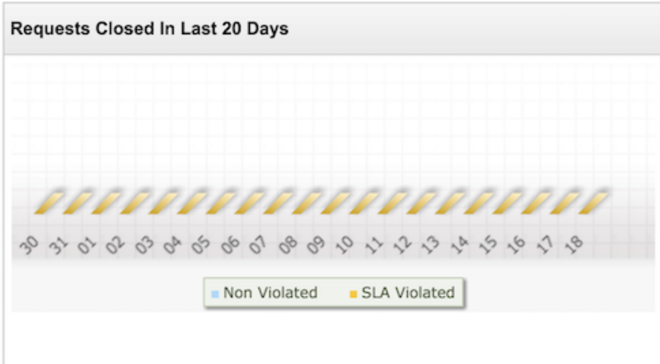
- The third widget displays the Task Summary that shows the number of pending tasks, unassigned tasks, etc.
- The fourth widget shows the number of Open Requests that can be viewed based on Level, Mode, Priority, and Category.
- The fifth widget displays the number of SLA violated Requests. A drop-down box provided allows you to view the number of SLA violated requests based on Priority, Group, Level, Technician, and Category.



- The next 3 widgets show the number of Unassigned and Open Requests, number of SLA violated Open requests, and number of Requests Approaching SLA violation in the next 60, 120, and 180 minutes. Clicking on the number of requests present in the bottom of the widget opens the corresponding list of requests for viewing.



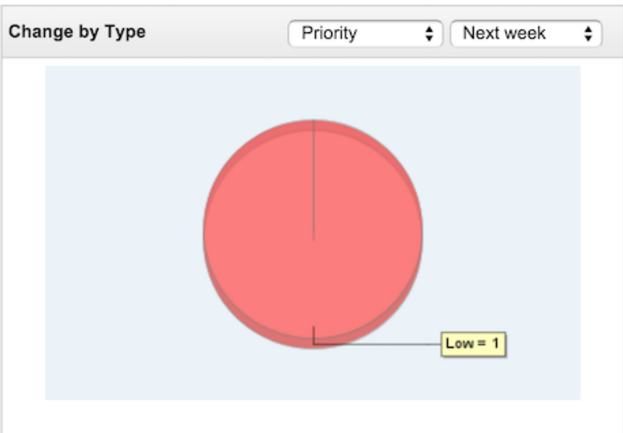
- The last 2 widgets show the number of requests that were received and closed in the last 20 days. Clicking on the bars in the graph opens the corresponding requests for a better view.

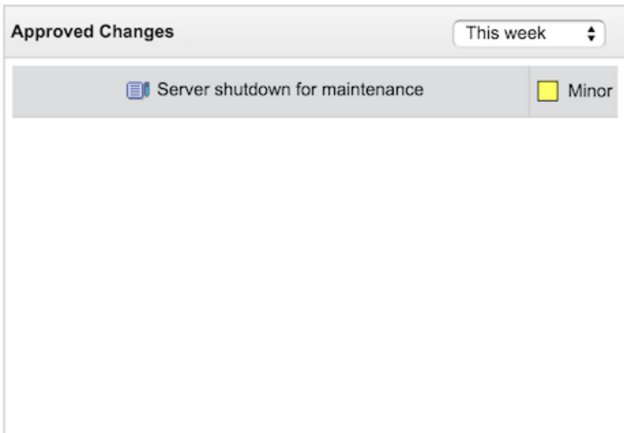


Problem & Change

Technicians who have permission to view the Problems and Changes module can also view the Problem & Change widgets in the dashboard.

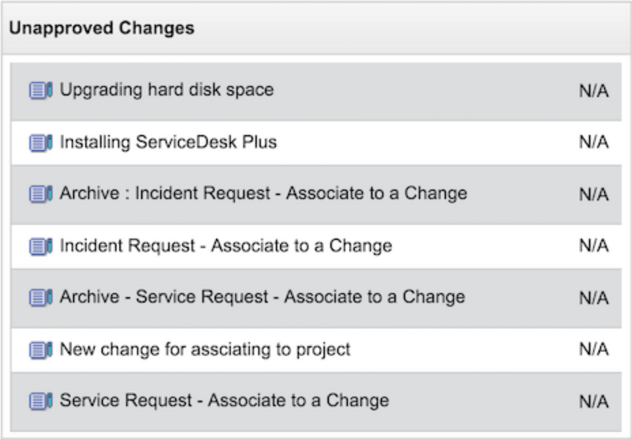
- The first widget in the dashboard shows all the scheduled approved changes that are to be rolled out. The changes that are scheduled to be rolled out in the following time period (This week, Next week, This month and so on) can be viewed by selecting the time period from the first drop-down box. The changes can also be viewed based on criteria such as Change Type, Priority, Urgency, and Impact.
- The second widget shows a list of Approved Changes that are scheduled to be rolled out. The list can be viewed based on the time period during which the changes are scheduled to be rolled out (This week, Next week, This month and so on). The list indicates the Title of the change along with the Change Type. Clicking on the title of the change opens a pop-up with the change details. By clicking on the title of the change in the pop-up, the complete change details page can be viewed.

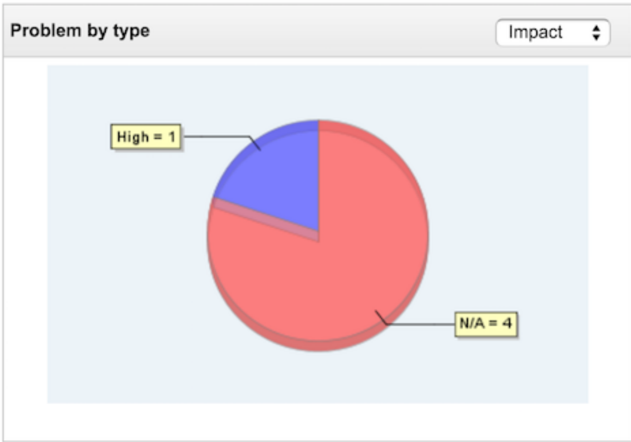




- The third widget shows a list of unapproved changes along with the change type. Clicking on the title of the change opens a pop-up with the change details. By clicking on the title of the change in the pop-up, the complete change details page can be viewed.

- The last widget displays the problems. By using the filters, the chart can be viewed based on Priority, Urgency, and Impact.

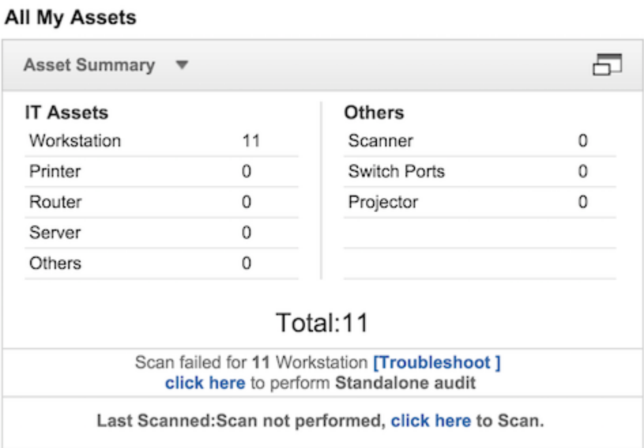


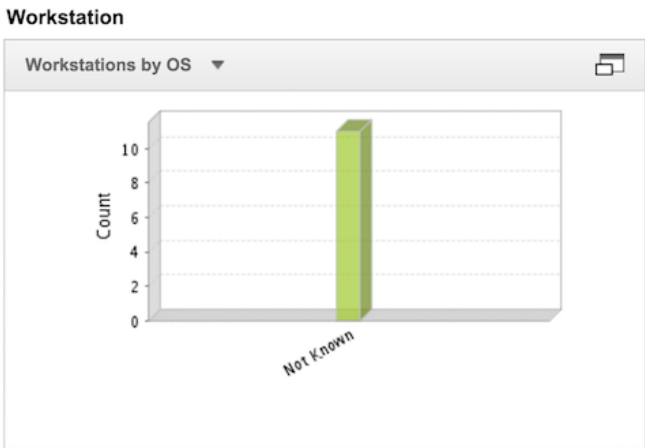


Assets

Technicians who have permission to view Asset module can also view the Asset dashboard and monitor the statistical data displayed on it. The widgets in the Asset Dashboard give a complete summary of all physical assets, software assets, workstations and POs & contracts.

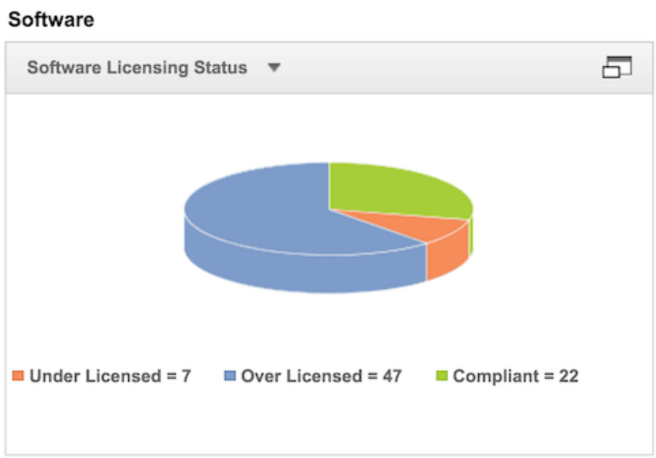
- The first widget shows a summary of all physical assets (IT and non-IT) in the organization. By default, only the number of Workstations, Printers, Routers, Servers, and Others are displayed. By clicking on "View All", the Others category is expanded and other IT and non-IT assets such as Access points, Switches are displayed. The number of workstations failed to be scanned is also indicated in this widget along with the option to Troubleshoot the failure operation. By clicking on the number displayed next to the assets, one can view the list of those assets under the Asset module.
- The second widget displays the number of workstations depending on various criteria. These criteria can be selected by clicking on the drop-down menu at the top of the widget. By clicking on "View All", a pop-up showing the extended graph is displayed. Set of graphs that are not included in the original widget is displayed in this pop-up. Mouse hovering over each bar displays the number of workstations corresponding to the selected criteria. By clicking on the bar, the list of workstations is displayed under the Asset module.

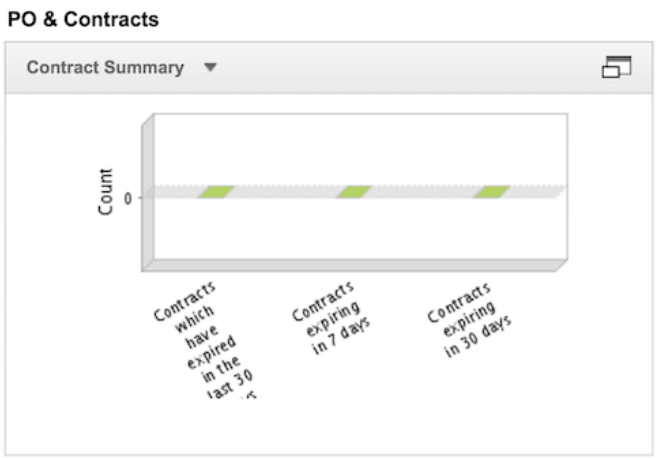




- The third widget shows software related information. By clicking on the drop-down menu below the widget title, one can select the criteria based on which the widget should be displayed. By clicking on "View All", a pop-up showing the extended view is displayed. Mouse hovering over each bar/pie region displays the number of software corresponding to the selected criteria. By clicking on the bar/pie region, the list of software is displayed under the Asset module.

- The fourth widget shows a summary of Purchase Orders (POs) and Contracts. By selecting Purchase Order summary from the drop down, one can view the overdue POs, POs due in the next 7 days and the POs due in the next 30 days. By Selecting Contracts summary, one can view the contracts that have expired in the last 30 days, contracts expiring in the next 7 days and contracts expiring in the next 30 days.





Projects

Get all the information you need on projects in just one glance. Add, edit, and organize widgets related to the projects. Technicians with permission to view the projects module can view the dashboard data for projects.

Some of the widgets available for projects include,

- **Pending projects by project type / priority**

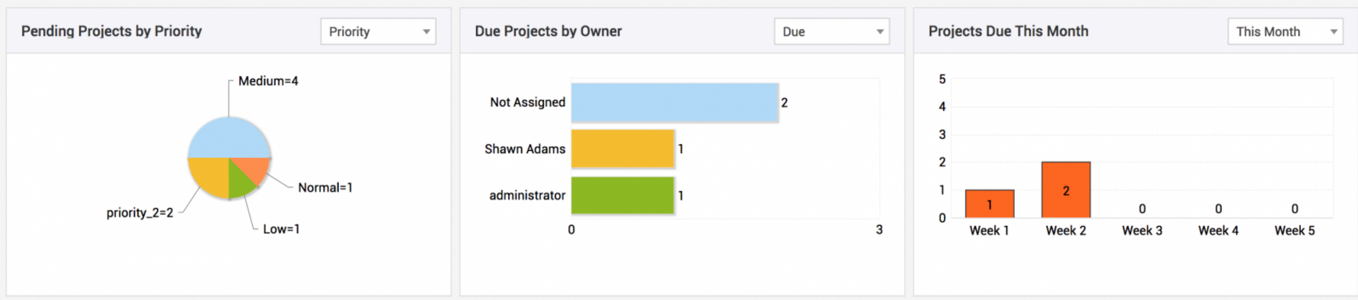
This widget shows the pending projects by projects type. You can use the filters to display projects by priority as well.

- **Due/overdue projects by Owner**

This widget shows due projects by Owner. You can use the filters to get the overdue projects as well.

- **Projects due by month**

This one displays the projects that are due by current / next month.



- **Milestones**

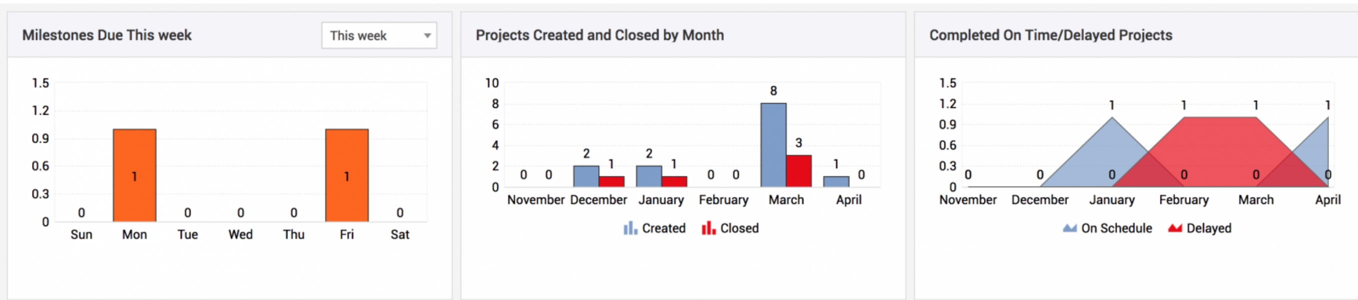
This widget helps you to keep a track of milestones that are due by current / next week.

- **Projects created / closed by month**

This one displays all the projects that were created and closed by months.

- **On Time / Delayed projects**

This one shows the projects that were completed on time as per the schedule and also shows the delayed projects by months.

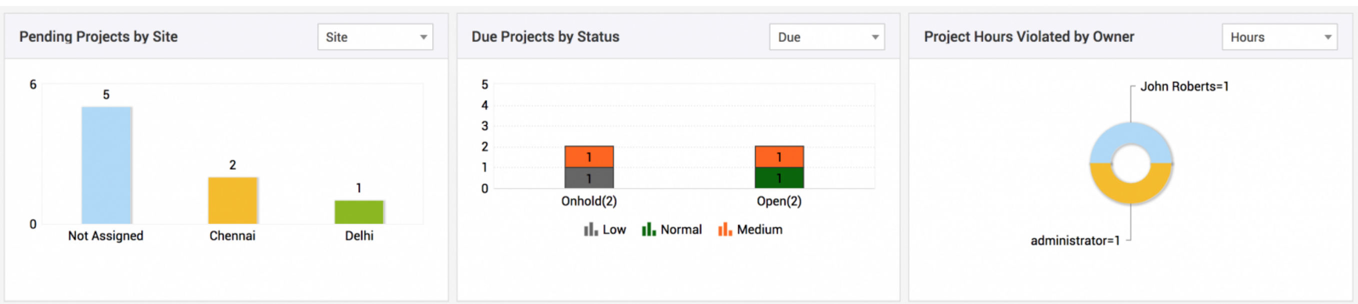


- **Pending projects**

This one shows the projects that are pending by department / site.

- **Projects by status**

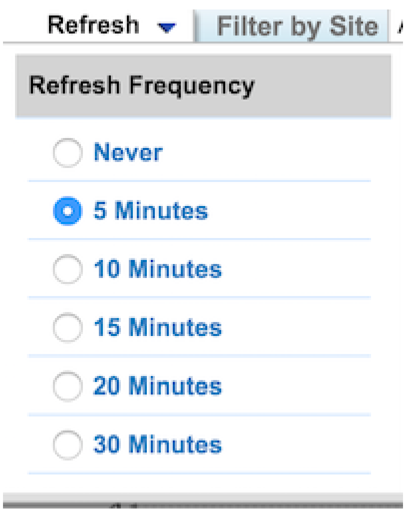
This one shows the due/ overdue projects by status. Notice the color pattern to identify the priorities of the projects.



Note: Graph types in widgets can be changed by using the graphs filter. You can also click on any part of the graph to open the mentioned projects.

Refresh drop-down

Dashboards need to be refreshed periodically to make sure only the latest data is loaded and displayed in the dashboard. Refresh dropdown automates this process. Select the refresh frequency in which you want the dashboards to be refreshed automatically. The dashboards will be refreshed automatically in the set refresh frequencies.



Filters

The dashboard can be customized with filters. There are two types of filters available. Site-based filter and Support group based filter. Use the Site based filter to display data pertaining to all sites or only to a particular site. Use the Support group filter to display data pertaining to the Support groups.

Site-based filter

- Click on the Sites filter to see the site based filters
- Select the site.
- Data pertaining to the site selected will be displayed in the dashboard.

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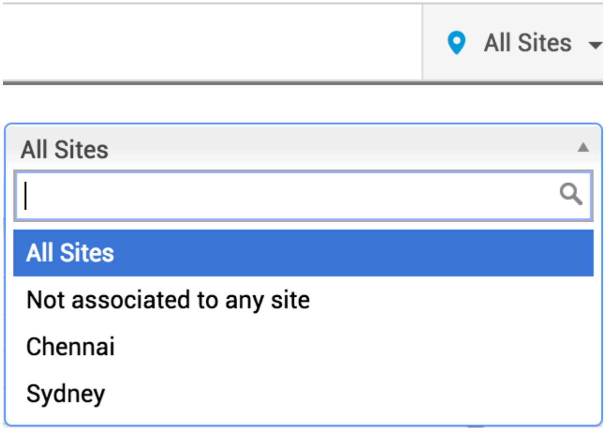
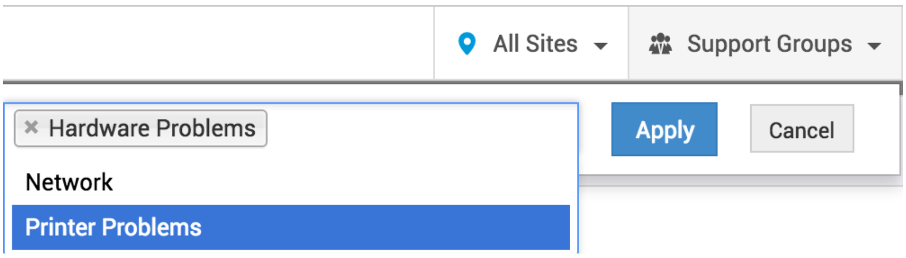


Support Group-based filters

- Click on the Support Groups filter to see the support groups based filters.
- Select the support groups.
- Click on Apply.
- Data pertaining to the selected support groups will be displayed in the dashboard.



Settings
Settings menu can be used to customize the dashboards. To know more about customizing the dashboards click here.

Customizing the dashboard

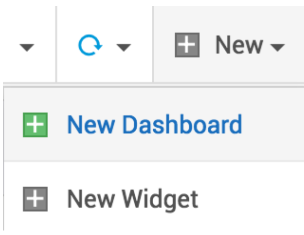
The Dashboards home page can be customized as per your requirement by adding new dashboards, widgets, and organizing widgets. Widgets can be grouped under the existing dashboards (**Helpdesk, Problem & Change, Assets**), or the newly added dashboards.

- Adding Dashboard
- Adding and Organizing Widgets
- Dashboard Settings
- Adding Report Widgets to the Dashboard
- Editing Report Widgets Settings

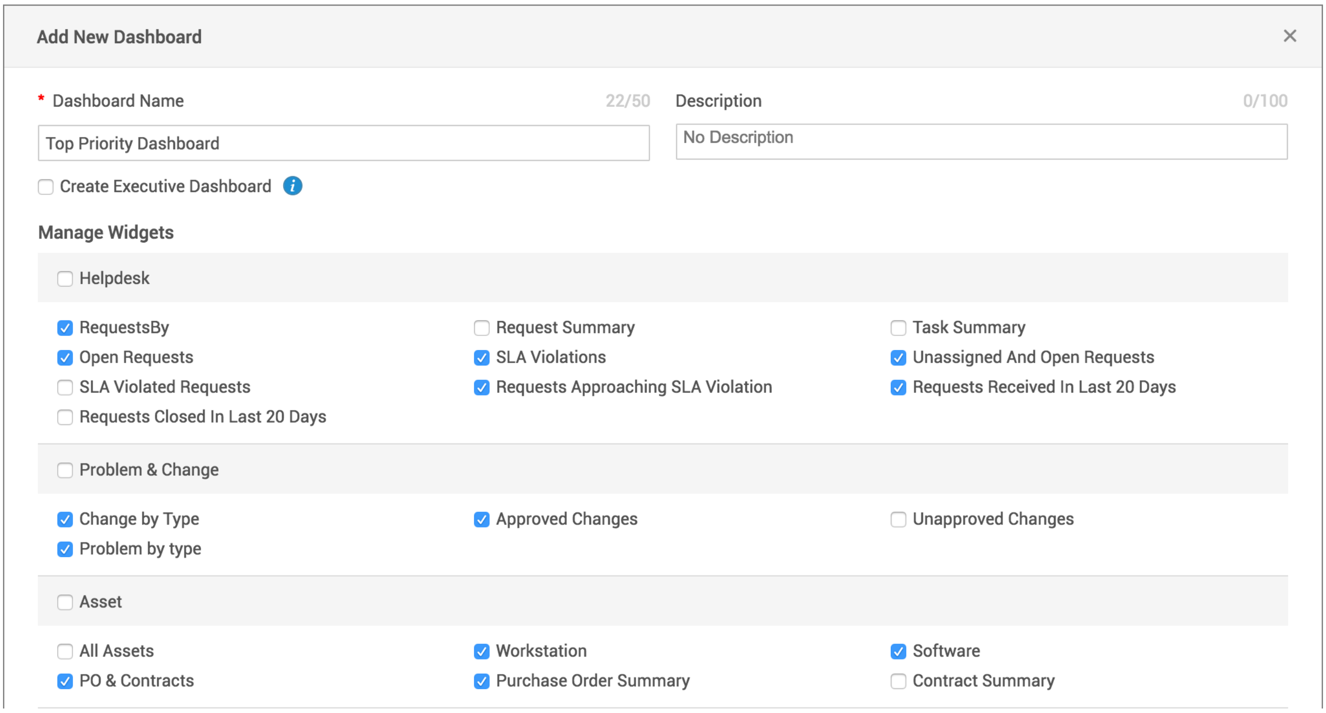
Adding Dashboard

Apart from the dashboards available by default such Helpdesk, Problem & Change, and Assets, new dashboards can be added as per the requirement. For eg, You can create a dashboard to display data across Helpdesk, Problem&Change, and Assets in one place. Reports summary, Requests status by priority can be made to be displayed in a single dashboard. An organization's intranet or another resource page can be added as an external widget in a dashboard by giving the URL of that page.
To add a new dashboard,

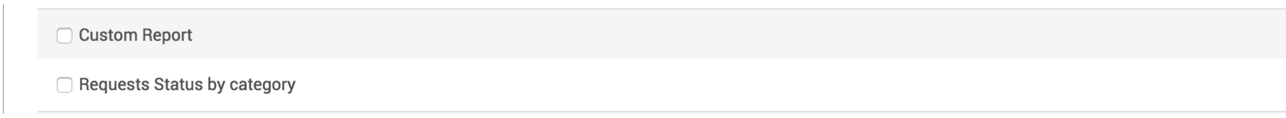
- Click on the **New** icon.
- Click on New Dashboard.



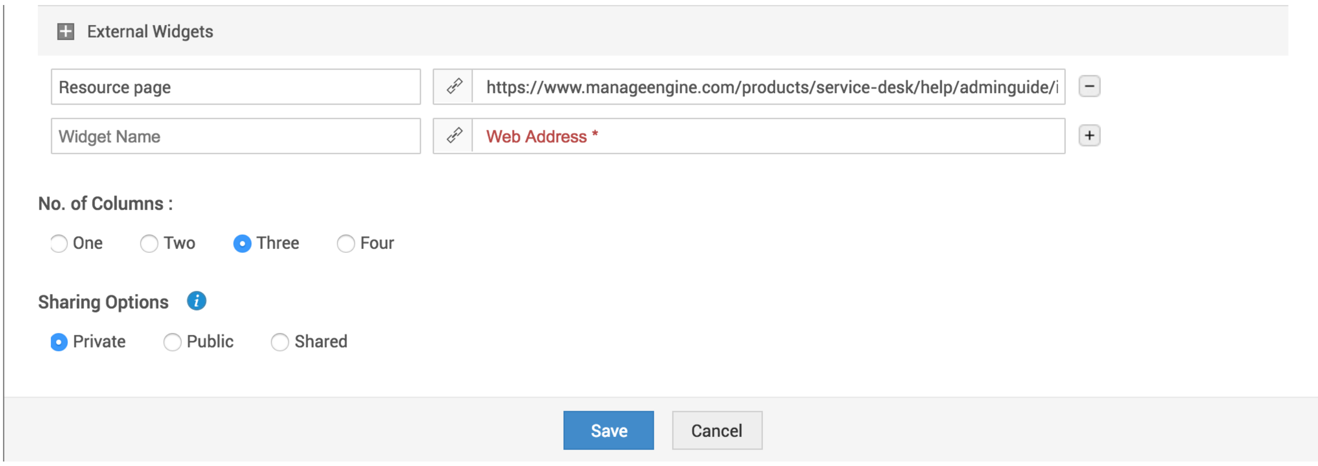
- Enter a name and description for the dashboard.
- Select the widgets you want to add to the dashboard. These widgets could be from helpdesk, problems&change, and assets.



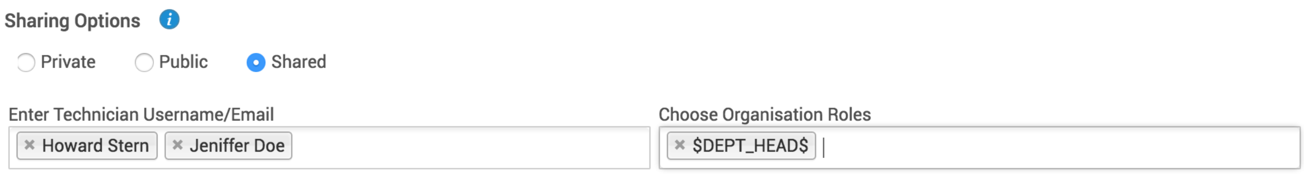
- If any custom report is added to the dashboard from the reports tab, those custom reports will be listed under the custom report widgets and can be added to the new dashboard by clicking on the checkbox.



- If you want to add external links such as a resource page, an intranet etc. as a widget, click on External Widgets and add a name and enter the URL.
- Click on the plus icon to add more external widgets to the dashboard.



- Select the number of columns to be displayed on the dashboard. The widgets will be arranged according to the columns you select.
- Select the sharing options of the dashboard by clicking on the respective radio button. Select Private to hide the dashboard from the public view.
- Select Public to show the dashboard in the public view.
- Select Shared to show the dashboard to the selected technicians. To select the technicians, enter the username/email of the technician.
- You can also give access to the dashboard based on the organization roles such Department heads, Regional Managers etc.
- Choose the roles from the organization roles field.



- Click on Save.

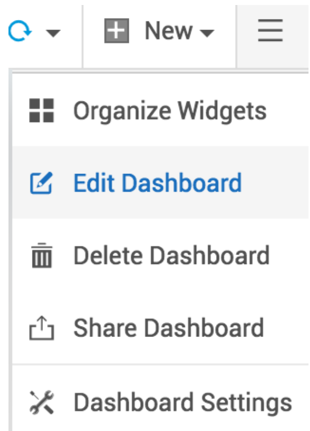
Note

- **Enable Create Executive Dashboard to create a dashboard with helpdesk widgets alone. External widgets can also be added to this dashboard.**

Editing a Dashboard

The dashboards can be edited and updated from time to time. To edit a dashboard,

- Click on Dashboard options on the top right corner and select Edit Dashboard.



- Remove or add widgets, rename the dashboard or add a new description.
- Click on Save.

Note

- When a dashboard is edited, the current configuration will be lost. Rearrange and resize widgets to suit the new set of widgets.

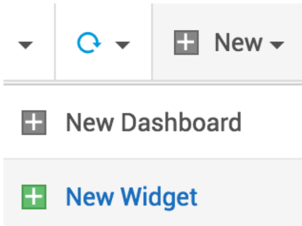
To delete a dashboard,

- Click on the dashboard you want to delete.
- Go to the settings menu.
- Click on Delete Dashboard.

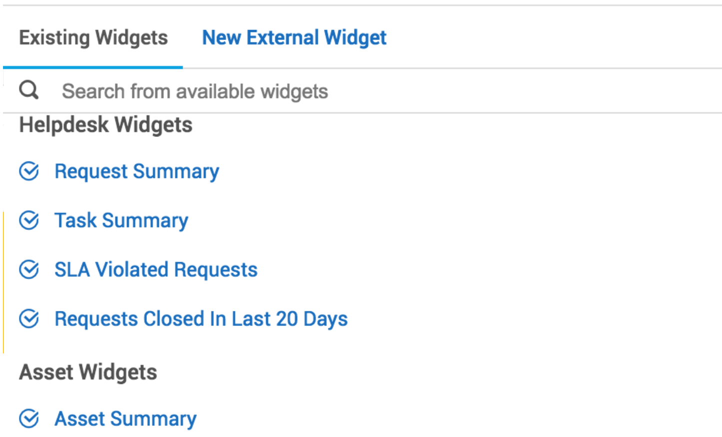
Adding and Organizing the widgets

New widgets can be added to the dashboard. A maximum of 20 widgets can be added to a single dashboard.
To add new widgets to the dashboard,

- Click on the **New** icon.
- Select New Widget.



- Select the widgets you want to add. It will get added to the dashboard once you click on the widget name.



- If you want to add external widgets click on the External Widgets tab.

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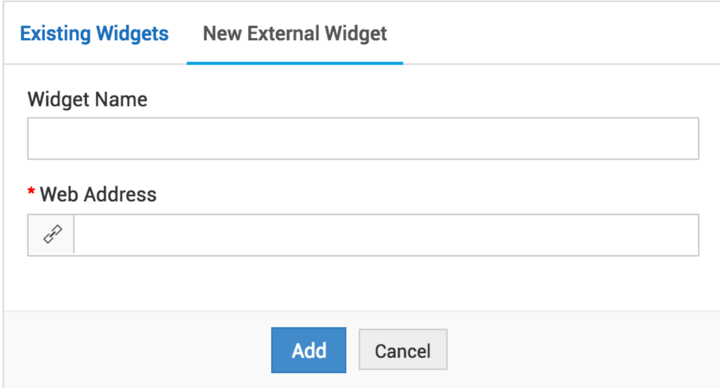
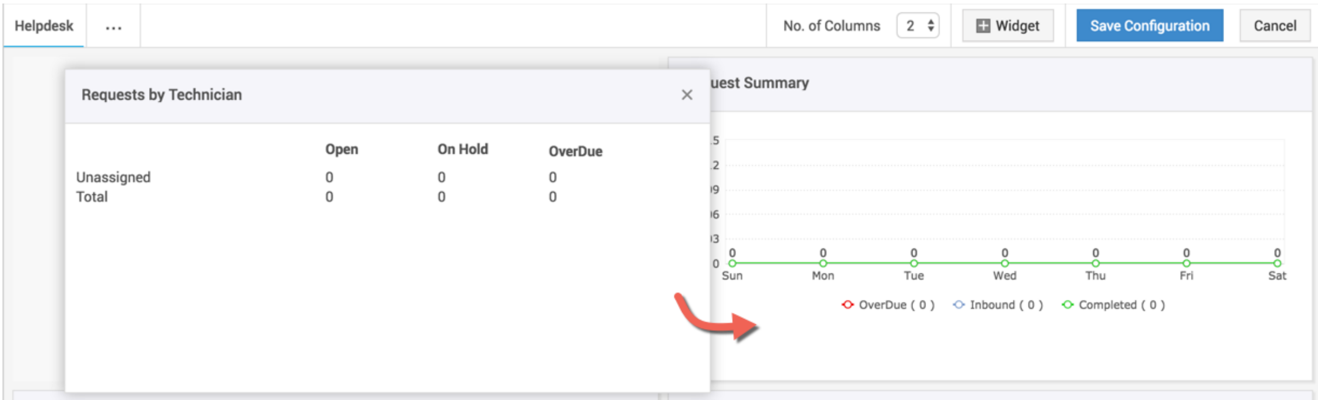


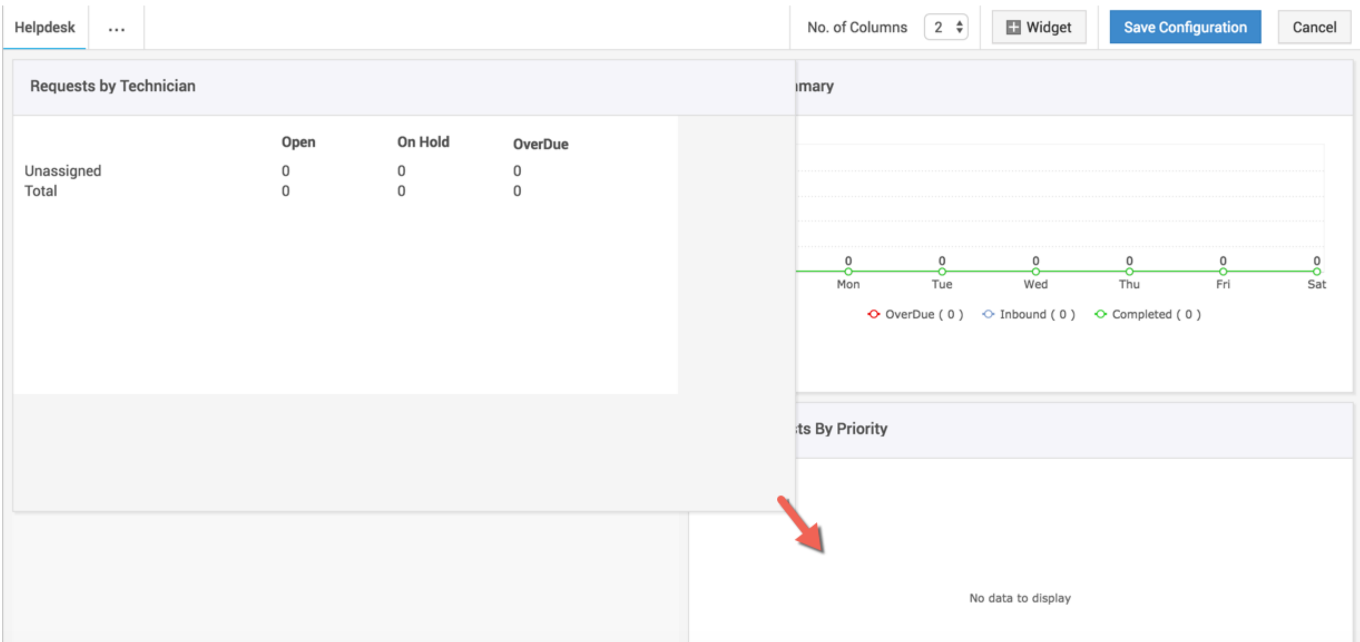
- Enter a name and the URL. Click on Add.
- Click on Save Configuration to save it.

To organize the widgets,

- Click on Organize widgets.
- You can drag and drop the widgets to a new position.



- You can also drag and resize the widgets.



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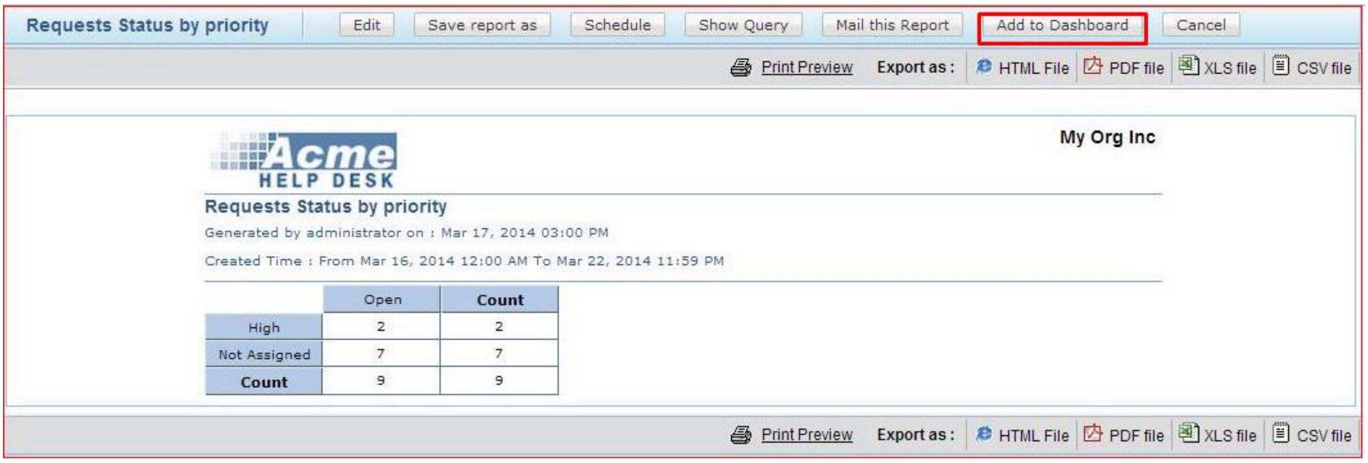
To delete a custom widget,

- Click on the settings icon and select Organize widgets.
- Click on the remove widget icon in the top right corner of the widget.

Adding Report Widgets to Dashboard

Report widgets can also be added to the dashboards. To add reports as widgets to dashboard,

- **Select report** (which is to be added to the dashboard) from the Reports tab (**Example:** Request Status by Priority)
- Click **Add to Dashboard** button available on the report's details page

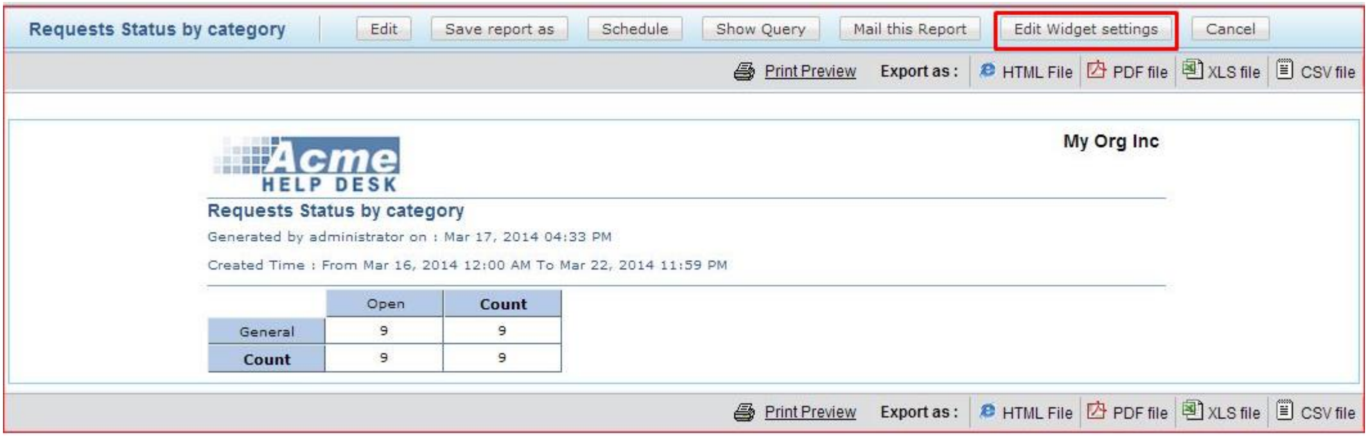


- **Add to Dashboard** pop up opens up. Specify the following details.
- Choose the **tab** (**Helpdesk, Problem & Change, Assets**) under which Reports widget is to be added.
- Choose whether the **widget** should be made **public** (visible to everyone) or should be kept **private** (visible only to you).
- Provide a suitable **description** for the widget and click **Add** button

Editing Report Widget Settings:

To edit custom widget settings,

- **Select report** (appearing as a custom widget in the dashboard) which is to be edited (**Example:** Request Status by Priority).
- Click **Edit Widget Settings** button available on the report's details page.

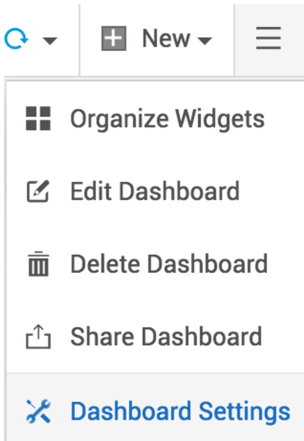


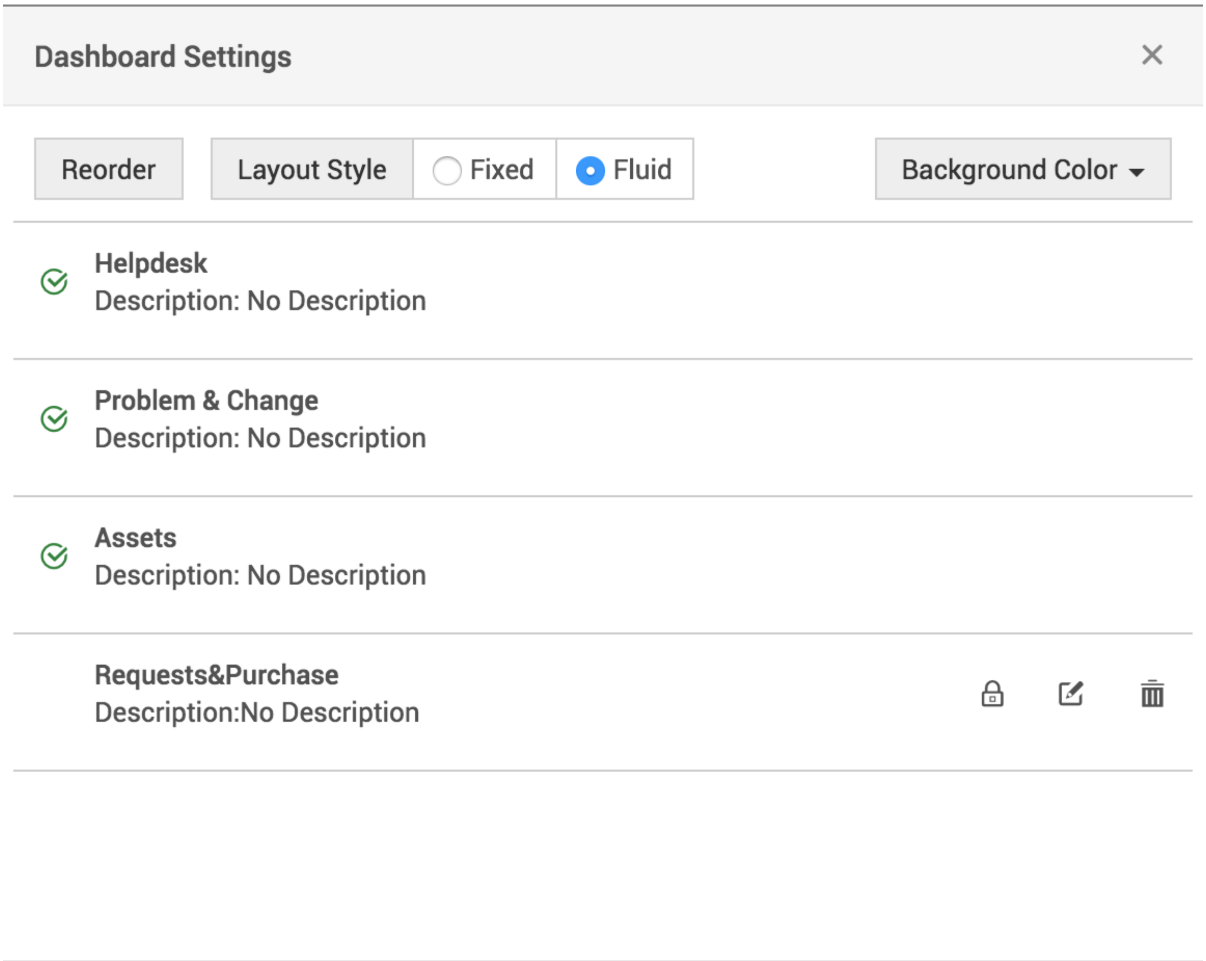
- **Edit Widget Settings** pop up opens up.
- Edit the details as per your requirements (example: change the widget from public to private/private to public (or) change the tab to which the widget belongs etc).
- Click **Update Settings** button

Dashboard Settings

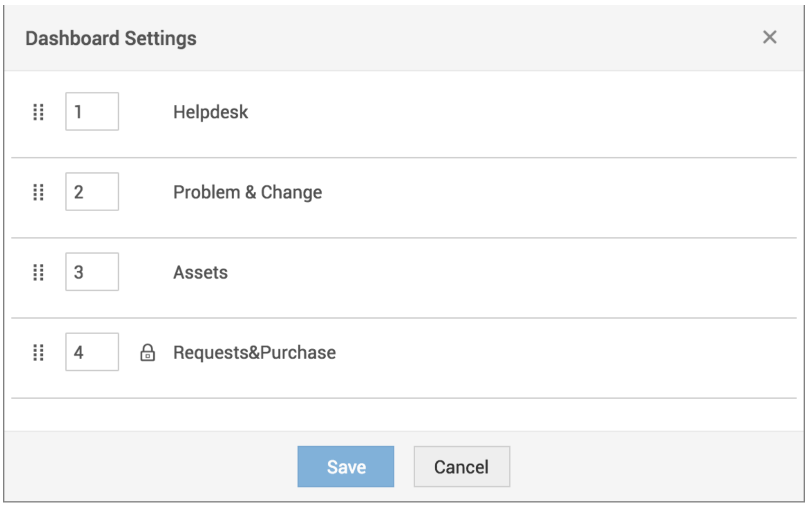
The dashboard's background color, layout, dashboard order can be configured with this setting.
To access this setting,

- Click on Dashboard options on the top right.
- Select Dashboard Settings.

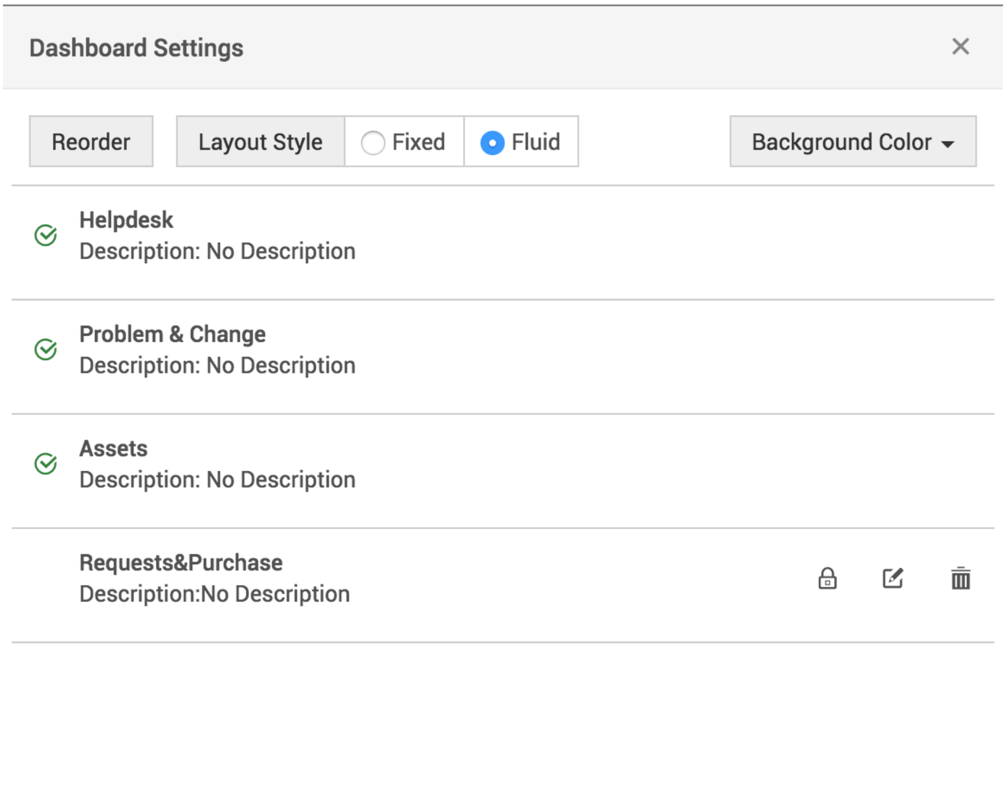




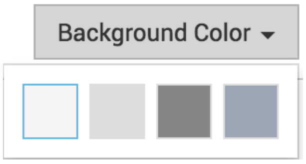
- Select Reorder to change the order of the dashboards.
- Enter a number for each dashboard according to the order they should appear.
- You can also drag and drop fields to reorder.



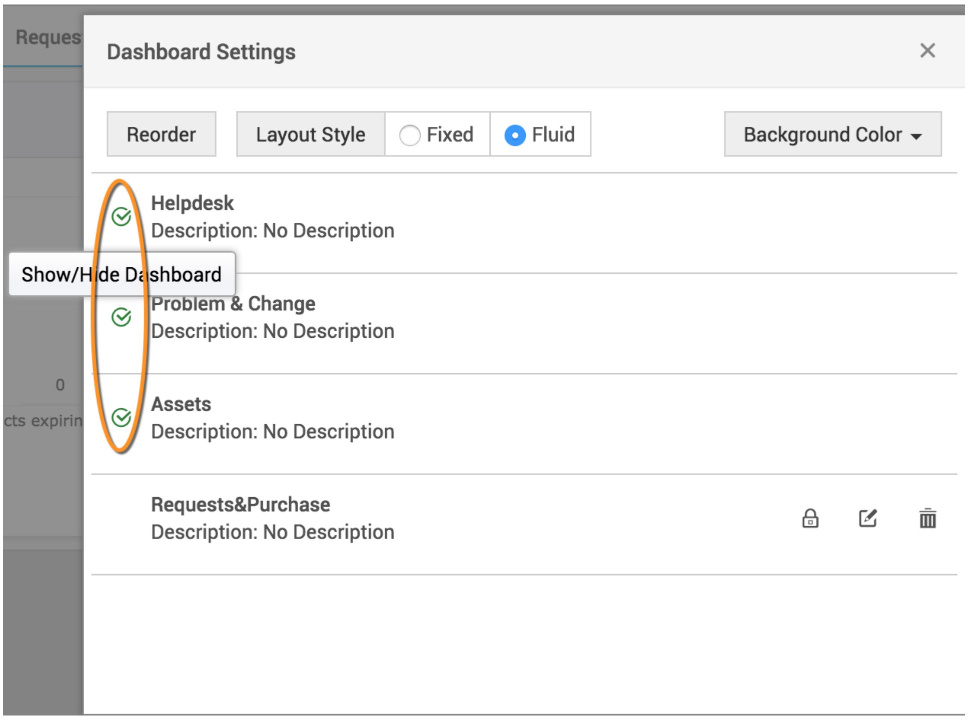
- Select a layout style: Fixed or Fluid. Fixed would fix the dashboard size to a constant width. Fluid allows the dashboard to occupy the full screen.



- Click on the Background color to change the background color of the dashboards page.



- Check/Uncheck the tick mark to show/hide the dashboard.



- Click on the edit icon to edit the dashboard.
- Click on delete icon to delete the dashboard.

Note

- Widgets available by **default** in the dashboard cannot be deleted/edited.
- Up to **20 Widgets** (including the ones available by default) can be added to each dashboard **(Helpdesk, Problem & Change, Assets).**
- Only **Matrix-based** (or) **Chart-based reports** can be added as **widgets** to the dashboard.
- Only technicians with **SDAdmin, SDSiteAdmin**, and **SDCo-ordinator** roles can create/edit/delete Custom Widgets in the Dashboard.
- Custom Widgets cannot be deleted directly edited from the dashboard. To edit a custom widget, the respective report must be accessed.

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Requests

The numerous help desk tickets raised in your organization are organized and tracked in the **Requests** module. The Requests module enables you to handle tickets promptly, assign tickets to technicians, merge similar requests and so on.
By keeping track of the outstanding and overdue requests, the Request module helps to improve the response time and resolution time by your IT help desk team. The Requests raised by your users are of two types namely, **Incident Requests** and **Service Requests**.

- Incident Requests are requests that denote the failure or degradation of an IT service. For example, Unable to print, unable to fetch mails and so on.
- Service Requests on the other hand are requests raised by the user for support, delivery, information, advice or documentation. Some examples are installing software in workstations, resetting lost password, requesting for hardware device and so on.

Note: Please note that a Service Request is not an Incident.
The Requests module allows you to add relevant notes pertaining to the request that is being handled. The notes may contain information like, the exact scenario of the request or how the issue was resolved. Also, every action performed on the request in the ServiceDesk Plus is stored in the **Request History**.
Clicking the **Requests** tab takes you to the request module. Here the term request denotes any service (both incident requests and service requests) that is requested by a user from the internal IT services team. The request is submitted to the system via mail or a web-based form. Sometimes, the request can also be placed through a phone call during which, the help desk agent has to record the details of the phone call in the web-based form, and assign priority and technician based on the urgency of the request. The various actions that one can perform in the request module are explained in the respective sections.
To ease the process of tracking the requests posted by individual requesters, a **Self Service Portal** has been provided. The Self Service Portal is used by the individual requesters to track the status of their requests and to look up solutions from the online knowledge base. To access the self-service portal, the requesters need to log in to the ServiceDesk Plus application using their respective user name and password. For more details on self-service portal, refer to self-service portal topic.

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Request Details Page

The request details page offers features to submit the request for approval, add tasks and reminders, link or merge requests, update notes and work logs, create associations with other module items, specify resolution, and close the request. In addition, you can modify any field during the request processing provided the request lifecycle allows the change (learn about request life cycle here) from within the details page.
The page is divided into three sections with a clear, prioritized display of fields for your easy access.

Sections

- **Request list on the left pane (you can pin this section by using the icon)**

Helps you avoid switching between the list view and the details page

- **Request details at the center**

Displays complete request information along with the actions to perform, structured and organized for technician's easy access

- **Key information on the right panel**

Provides quick access to the primary request fields along with the requester details

Screenshot

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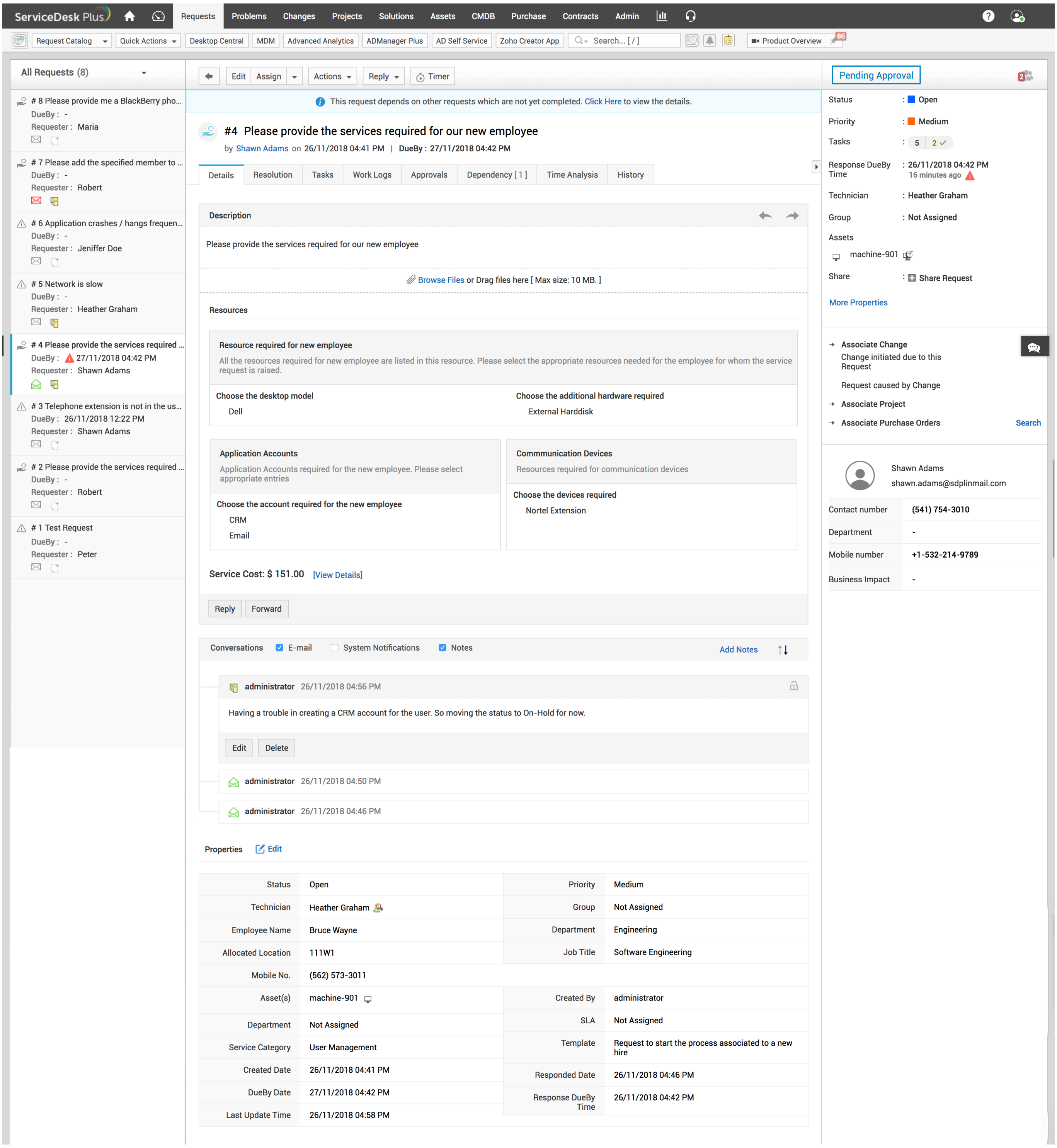

The document will discuss in detail, the complete request processing flow and essentially in the order.

Add Properties

Fill out all the request fields to enable the assigned technician to resolve the request quickly.
You can use the Edit button (Global edit) in the header or the section edit beside **Properties** under **Details**.

Note that you can modify the request description only with the global edit option.

Associate Assets

When the reported issue or the service request is related to the requester's asset, you can manually add the assets under **Properties** inside the details page (can also add while creating the request). To auto-populate the assets associated with a requester when logging a request, you must map the user and the assets in **Assets** or **CMDB**.

You can assign a technician for the request, if not already done. You can also pick up the request for yourself.

Assign Technician

Click the **Assign** button in the header. Mark the request's **Site** (if not marked already), select a **Group** under the Site, and choose a **Technician** from the Group. A green circle indicates the availability of the technician.

Note that you can assign a technician without selecting any **Group**.

Sites will be available to select only if the admin has configured them under **Admin** >> **Organizational Details** >> **Sites**.

Pick Up the Request

Click **Pick up** from the **Assign** drop-down. Your name will be instantly displayed for the **Technician** field.

Submit for Approval

Some incident requests and most service requests demand approval from managers or stakeholders of the company. At any instant, the assigned technician can submit the request for approval to users. Once the request is submitted for approval, a new tab Approval will be displayed in the request details page under which technicians working on the request can find the approval details. Also, from **Submitted for Approval**, any update on the approval status will be constantly displayed on the right panel.
In service requests, admin can pre-configure the approvals and stage-wise approvers in the templates. So, in service request details page, Approvals tab will be displayed by default. Under this tab, you can view the various approval stages, approvers for each stage, and you can also submit the request for a stage approval. Regardless of the pre-configured stage approvals, the **Submit for Approval** option allows you to request approval from users at any given point in time.
To perform this operation, use the **Submit for Approval** option under **Default Actions** (or simply Actions when your ServiceDesk Plus instance is not integrated with any other application) in the header.
Here's a step by step guide to submitting a request for approval. From the request submission for approval, all further approval statuses will be displayed on top of the right panel in the details page.

Once the request is approved, you can proceed with the request processing as follows:

Add Task

Tasks are the finer and individual work units of a request that allow different technicians to handle different components of the request. Besides creating tasks from the available templates, you can add new tasks. For each task, you can provide the complete details such as **priority**, estimated time to complete, etc. You can then select

a group and assign a technician from the group as the task owner. Instead of directly assigning, you can mark a technician, which will set the Group/Technician to be assigned only when the task is triggered.
You can add a task inside the **Tasks** tab, or by using the **Add Task**/**Add Task from Template** options from the **Actions** menu. Here's a how-to guide on adding tasks.
You can sequence the tasks by marking dependencies between them. Dependency mapping restricts users from closing tasks until the dependent tasks are closed. Task dependencies are important because the results of one task might form the input for a different task. Learn how to mark task dependencies here.
To initiate a task, select the task from the list view, click **Actions**, and select **Trigger**.

Add Reminders

Time a reminder either to alert or to inform the assigned technician of what portion of the request must be resolved in a given time. In the reminder, you can detail on the task to complete, specify the expected date of completion, and pick a date to send the reminder. Here's a document on adding reminders.

Link Requests

Link requests that have any common reference, such as the issue itself, the resource in which the issues are reported, etc. Linking requests enables you to add **Notes**, **Resolution**, and **Work Logs** for all the linked requests in one go. For example, any critical issue that's specific to a machine will be reported by multiple users rapidly. Since all the requests address a common issue, you can link them all to easily add the resolution, which in this case might be replacing the machine.
The option to add Notes, Resolution, and Work Logs to all linked requests will be displayed inside the oldest request among the linked requests. Here's a detailed document on linking requests.

Merge Requests

Incident or service requests are duplicated when users log their requests through both email and phone call, and by other events. With this feature, you can merge duplicated requests from a requester to ensure efficient helpdesk. (As for multiple incidents raised by different users for the same issue, the incident must be analyzed under Problem Management.)
You can merge two or more incidents or service requests (of the same template) from a user. In addition, you can merge incidents with service requests.
Learn how merge requests here.

Add Request Dependency

Request dependencies help define a clear sequence of the requests to be resolved. Request dependencies are important, because sometimes the deliverable of one request will form the input details for the following request. Dependency mapping restricts users from closing requests until the dependent requests are closed.
Say, you have two requests: one to create an Active Directory account for a user; the other to set up an email address for the same user. In this case, you can use the Request Dependency feature to mark setting up an email address as a dependent of creating an Active Directory account.
Once you mark dependency for a request, a new tab **Dependency** will be displayed in the details page under which the dependent requests will be listed. You can also view and edit the dependency mapping from this tab.

Learn how to mark request dependencies from here.

Once the request has been analyzed for details and relations with other requests, the technician can start work on the request. During the request processing, the technician will interact with the requester and other technicians, constantly record the updates through notes and work logs, and finally provide a solution. Each of these operations is described as follows:

Notify Requester/Technician

Resolving a reported issue sometimes involves a two-way involvement, between requester and technician. At any time, the technician can email the requester asking for more information on the request or instructing to perform an operation on the requester's end. To email the requester, use the option in the Reply **menu in the header.**
Also, the technician assigned to the request might sometimes need assistance or the insights of colleagues on the reported issue. In that case, the technician can forward the request to other users by using the option in the **Reply** menu.
When you have to notify the assigned technician of some information, you can use the **E-mail the Technician** or the **SMS the Technician** option in the **Reply** menu.

Conversations

This feature provides you a consolidated view of all the request notifications (including user emails and system notifications) and notes. You can view user emails and notes separately by using the filters. The Conversations will be displayed in the descending order of the Creation Date by default. You can, however, **sort them in the earliest or latest time of creation.**
To reply, forward, or resend a notification, click the notification and use the buttons displayed.

Add Notes

Technicians can add comments or updates to a request as notes.
You can add a note by using the **Add Note**s option under **Actions** or under **Details** >> **Conversations**. To modify or delete a note, click the note and use the respective button.
By default, only technicians will be able to view notes. To display a note to requesters, you must select the corresponding option inside a note.
Learn more about adding a note here.
Under **Conversations**, you can view all the request notes combined request notifications **and displayed in the descending order of the** Creation Date**. You can filter the notes separately and also sort them in the earliest or latest time of creation.**

> When the requests are linked, go to the reference request (the oldest request), and add the note to all linked requests in one go by using the displayed option.

Add Work logs

Worklogs will allow technicians to record the time spent on resolving the request or the tasks within the request. In work logs, technicians can brief their work, specify the time taken to resolve, the cost involved, and add the work log as the first response. Worklogs will help the admin analyze the time management of technicians working on the request, work delegation, and request processing to improve efficiency and ensure that the service level agreements are properly met.

You can either manually add a work log under **Work Logs** or automate by using the Timer option.

The **Timer** option helps you automate the recording of the time that you spend on resolving a request and add to the request work log. Also, when a technician starts the timer in a request, other technicians involved in the request will become aware that the work on the request has been initiated.

Every time you begin work on the request, click **Timer**, enter comments, and click **Start**. After completing each session, click **Add to Worklog** in the **Timer**. You can any time **stop** the timer to start anew, but the time tracked until then will be discarded.

When the requests are linked, go to the reference request (the oldest request), and add the work log to all linked requests in one go by using the displayed option.

Create Associations

Besides associations with other requests, you can associate a request with problems, changes, and projects to establish a flow in your help desk management. Note that the request status does not change during any of the association.

Associate Change

The goal of change management is to follow standardized methods and procedures to minimize the impact of change-related incidents on service quality and also to improve the everyday operations of the organization. Implementation of changes in general result in some services or issues, which will be resolved quickly. Sometimes a change is connected to one or multiple requests, for example, users repetitively complain about the firewall settings in their computers. You analyze the issue and conclude that the firewall needs an upgrade, which is not as easy as handling a request. You must create a change request for Firewall Upgrade and proceed with implementing it. In either case, a connection exists between the request and the change, either the request is resulted by the change or the other way round. You can establish this connection between the request and the change from within the details page.

To perform the operation, use the **Associate Change** button on the right pane or go to **Actions** >> **Associate Change**.

Associate Project

When a request has the prospect to be undertaken as a project, you can create and associate a project with the request. For example, you receive requests for various services in the Knowledge Base (KB) used for your product, which the current KB cannot provide for. Over time, the requests keep increasing and the KB constantly fails to meet the requirements. At one point, you decide to adopt a new KB and move your product articles there. Now,

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incorporating a new KB must be treated as a substantial project. Instead of creating a standalone project, you can link the requests that ensued this project, then create and associate a project to the reference request.
To perform this operation, use the Associate Project button on the right pane.

Associate Purchase Request/Purchase Request

In general, service requests for assets will first go for approval. After the request is approved, the technician will check the asset's availability along with the In Store status. If the asset is not available, the technician will raise a purchase request or directly place a purchase order to a vendor, depending on the workflow in the specific organization. In that case, the technician can associate the corresponding purchase order or purchase request with the request from within the details page. This helps you to keep track of the minority assets purchased during uncommon times.
To associate a purchase order, go to **Actions** >> **Associate PO** or use the **Associate Purchase Orders** button on the right pane. Learn in detail how to associate a purchase order with a request from here.
You can alternatively associate a service request from within a purchase order.
To associate a purchase request, use the Associate **Purchase Requests** button on the right pane.

Request Collaboration

This feature helps technicians who work simultaneously on a request stay informed of each other's actions performed on the request. Learn more about Request Collaboration here.
At the top of the right panel, an icon displays the technicians who are currently viewing the request. You can click a technician name to view the profile.

Share a Request

You can share a request with other technicians or support groups to collaborate. In addition, you can share the request with requesters to keep them informed of the associated activities. For example, a user reports an issue that the printer on the user's floor stopped working. Before every person in the floor reports the same issue, you can share the already logged request with all of them. This will help them learn that the issue had already been addressed and will be taken care of. That way, sharing requests with requesters saves time for technicians otherwise spent in handling redundant requests.
You can share the request with select support groups, departments, and users.
To perform this operation, use the Share icon on the right pane. Here's a detailed document on how to share requests.

Quick Update

Primary request fields such as **Status**, **Priority**, **Site**, **Group**, and **Technician** are displayed on the right pane to allow quick access. Use the inline edit option to update each of the fields.

View Request Transitions

On the right pane, you can view the possible transitions of the request from the current status as configured in the

associated request life cycle. Learn more about Request Life Cycle here.
Click a transition to update the request to the corresponding status.

View Time Analysis

The **Time Analysis** tab displays Service Level Agreements (SLAs) defined for the request, the time thus spent by support groups and technicians individually and cumulatively in resolving the request, and the intervals of various statuses. Keeping track of such information will help you locate the inefficiencies occurred during the request processing, such as delayed action on high priority requests, request held up for long by a technician and untimely transferred to another technician, etc.

View Request Activities

You can track all request activities under the **History** tab. Use filters to view specific request field updates. Also, you can sort the request activities based on the date of the recording.

Add Resolution from Solutions

Resolution informs the technicians on how a reported incident is resolved along with the necessary steps.
Technicians working on any request can, at first, must look for relevant solutions in the Solutions bank of the application. Solutions will have detailed information on various issues, explaining from cause to resolution in detailed steps.
You can explore solutions from within the request details page.
Go to Solutions under the Resolutions tab.
Select a topic relevant to your issue to list all the available solutions. In the Search option, type in keywords to narrow down the solutions. In the Search drop-down, you can also select options such as Topic, Title, Description, or Keywords based on which the solution can be searched.

The **Search** option will list the solutions that you added to the application. For default solutions to be listed in the details page search, you must edit and save them.

If you do find a relevant solution from the search results, click the solution and try the steps mentioned to resolve your request. If the information specified in the solution helps you resolve your issue thoroughly, copy the solution to the Resolution in your request.
If a solution provides information that can only partly resolve the issue, you can add comments to the solution and the solution will be moved to Tried Solutions within the request.

Add New Resolution

If you do not find any relevant solution to your issue, then you can analyze the issue on your own, figure out the cause, methods of resolving and manually add the resolution. You can also save the resolution to the **Solutions** in the application.
You can add resolution under the **Resolutions** tab or use the **Enter Resolution** option in the **Actions** menu.

When the requests are linked, go to the reference request (the oldest request), and add the resolution to all linked requests in one go by using the displayed option.

Here's a detailed document on how to add resolution.

Close Request

When a request is completely resolved and acknowledged by the requester, the assigned technician can move the request status to **Closed**. The request being closed must fulfill the conditions defined under **Admin** >> **Helpdesk Configurations** >> Request Closing Rules.

Make sure that you provide work logs before closing the request.

To perform this operation,
Edit **Status** to **Closed** on the right pane or under **Properties** under the middle segment.
On the displayed page, fill out the mandatory fields configured in request closure rules and click **Next**.
On the second page, mark/specify the following information and click **Update**:

- First call resolution (if the technician responds to the requester only after resolving the request)
- Requester's acknowledgment of the resolution
- Comments
- Request closure code (configured under Admin >> Helpdesk Customizer >> Request Closure Code) and relevant comments

Service Request - Specific Information and Action

Resource questions and cost fields are exclusively available for service templates. They will be displayed as part of the request details page following the **Description** section.

1. Resource Information

Resources questions in service requests allow requesters to choose their assets. In the request details page, resource information follows description to help the technician easily view the requester's requirements with the specifics and then work on the request.

Note that unanswered resource questions will not be displayed unless you use the **Edit** option.

2. Cost Information

Service cost plays a determinant role in the request approval by managers or the company stakeholders.
The overall service cost (added to the service template) that includes the base service cost and the resource cost will be displayed on the details page.
Click **View Details** to drill down the cost information.

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3. Convert Service to Incident Request

As the action name implies, you can change an existing service request to an incident. For example, a user creates a request for a new laptop as the current laptop has some issues. The technician examines the laptop and realizes that it requires only an OS update. In this case, the technician can change the service request to an incident instead of creating one.
When you change a service request to an incident, you can choose whether to overwrite the request with the new template values and to add tasks of the new template.
Following associations will be removed during the conversion:

- Approvals
- Resource information

To perform this operation, use the **Convert Service to Incident** from the Actions menu. Learn more here.

Incident Request - Specific Action

1. Associate Problem

When multiple incidents are raised by different users for the same issue, the incident must be analyzed under Problem Management. In that case, you can create a corresponding problem, link all the requests and associate the reference request with the problem. To perform this operation, use the **Associate Problem** button in the right pane or the **Search Problems** option from the **Actions** menu. Alternatively, you can associate incidents from within a problem.
Here's a how-to guide for associating problems from the request details page.

2. Convert Incident to Service Request

As the action name implies, you can change an existing incident to a service request. For example, an issue is reported in a user's laptop. The technician examines and finds that the laptop is beyond repair and that the best solution is to replace with a new laptop. Now, instead of creating a new service request, the technician can change the user's incident request to a service request.
When you change an incident to a service request, you can choose whether to overwrite the request with the new template values and to add tasks of the new template.
Following associations will be removed during the conversion:

- Approvals
- Problems associated

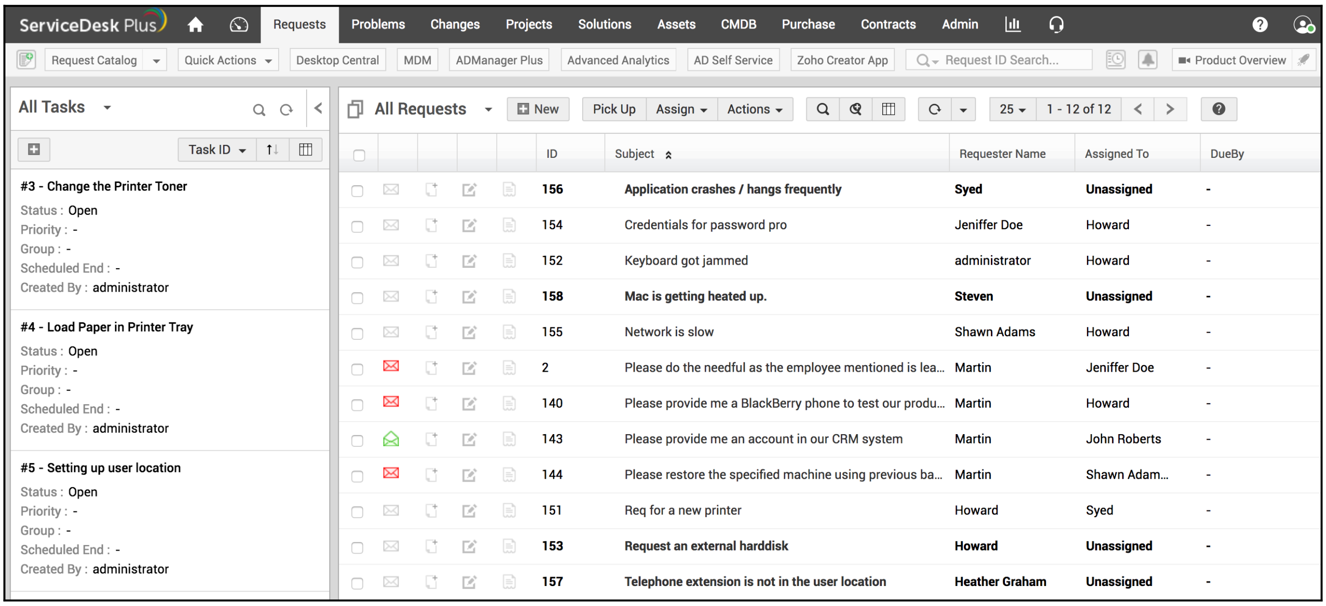
When a bulk conversion is required, for example, a machine-specific issue that requires a replacement is reported by multiple users. Then, you can add resolution to all the linked requests from within the oldest request explaining the common issue, request conversion, and machine replacement. This allows you to update the status of all requests to **Closed** from the request list view page while keeping all the associated technicians informed.

To perform this operation, use the **Convert Incident to Service** from the Actions menu. Learn more here.

Request list view

The **Request List** view organizes and manages the help desk tickets raised into ServiceDesk Plus. In the enhanced Request List view, you have the facility to,

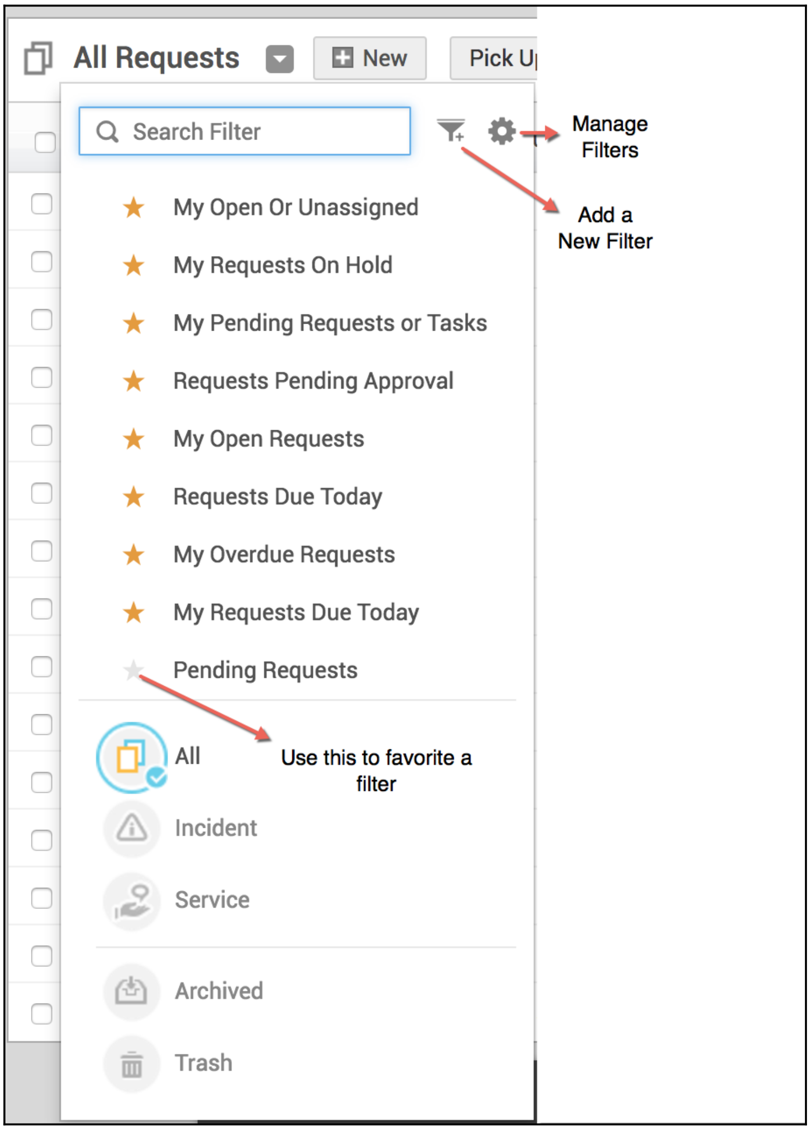
- View requests (incident and service requests) based on default filters.
- View tasks and requests in the same page.
- Customize your own filters.
- View Archived Requests.
- Customize the columns in the list view.
- Perform operations like edit, delete, assign and merge requests from the list view.



Click **Requests** tab in the header pane. The page redirects to the request list view page displaying all requests in the **Open** status as well as the tasks.

Request list view elements

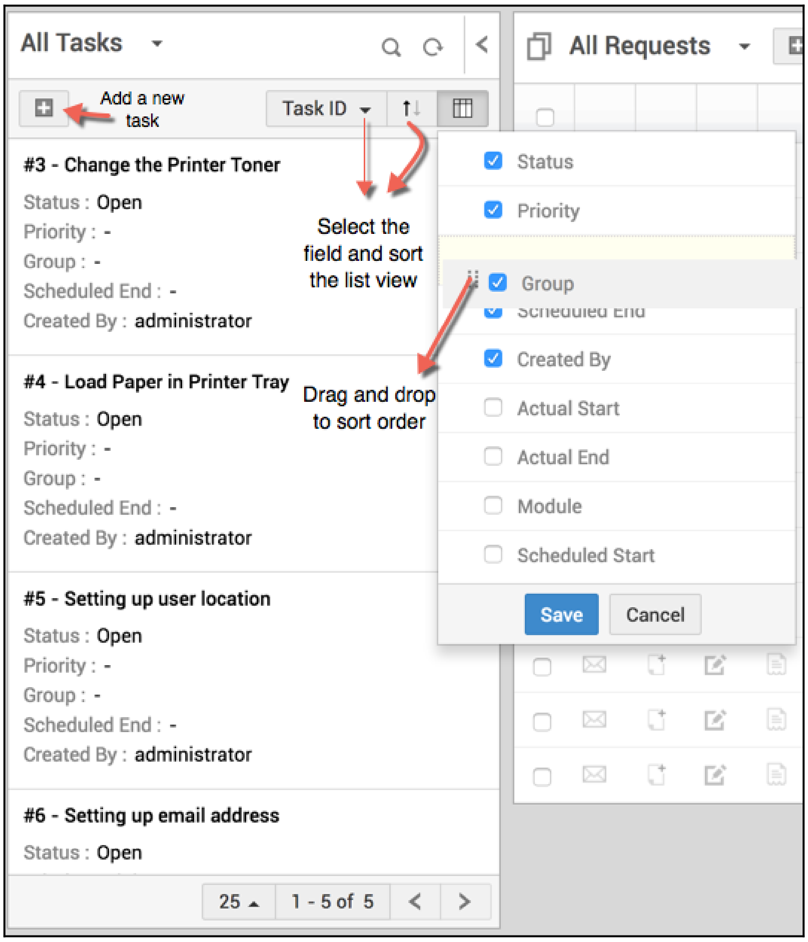
- **Filter drop-down menu:** The Filter drop-down menu consists of default filter list. You can create new filters, manage existing filters, and favourite the filters you use often from this menu.



Task list view elements

Task list view displays the tasks for the technician. Tasks can be created, edited or deleted from this page itself. You can also customize how the list view appears by using the following options.

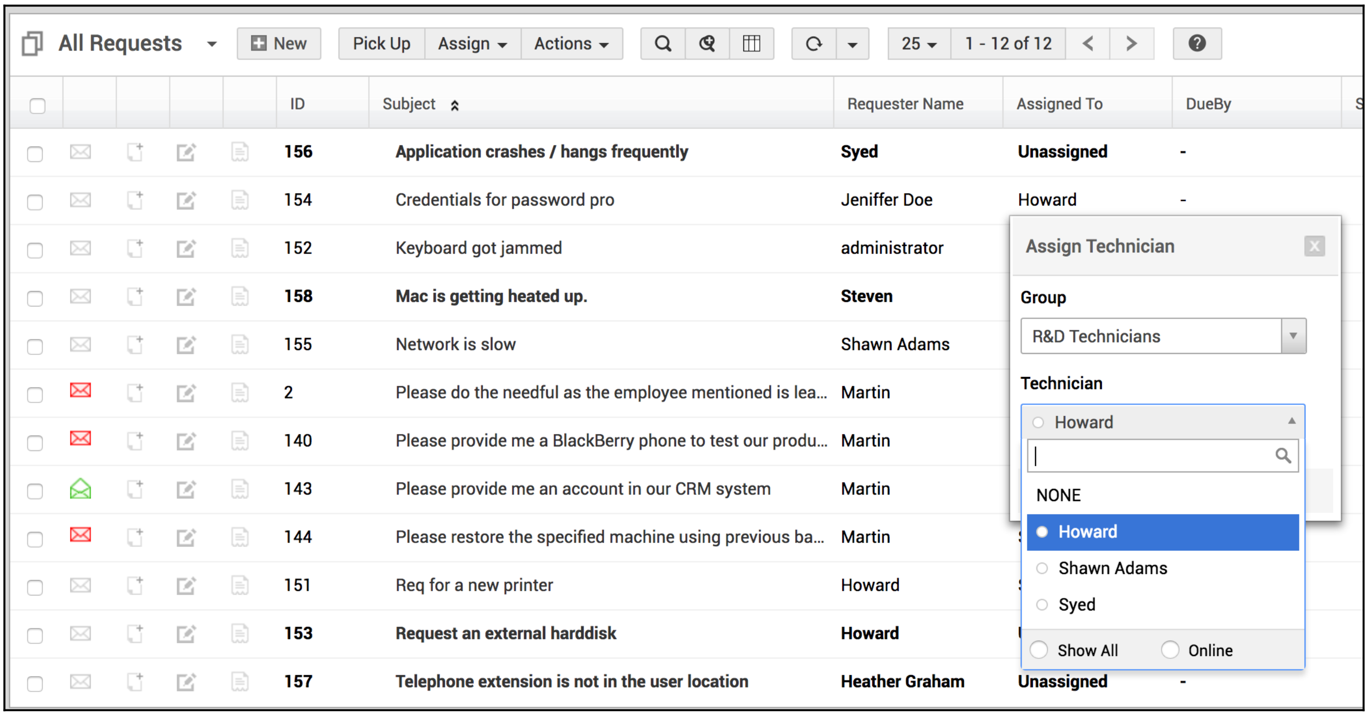
1. Use this icon to add new fields in the task view snippet. (*Ref. Image below*)
2. Drag and drop the fields to sort how they appear in the task snippet. (*Ref. Image below*)
3. Sort tasks by using the sort option present at the top. (*Ref. Image below*)



Assigning Requests from the list view:

Now you can assign requests to a technician or a group from the request list view page itself.
To assign requests to technician/group,

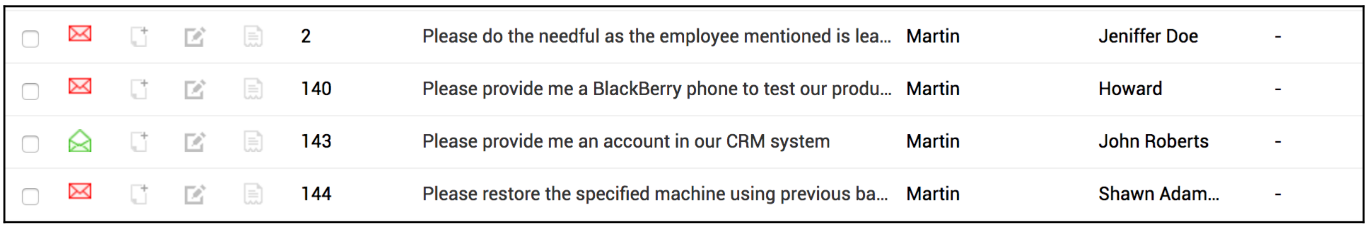
- Hover the cursor over the "unassigned" in the '**Assigned to**' column.



- Click on the drop-down to select the technician/group. Please note if you select a group, technicians related to that group alone will be listed.
- Click **Assign**.
- You can also alternatively assign technicians to requests by selecting requests and clicking the **Assign** option at the top header.

Request Icon Indications:

-  : After a request has been created by the requester, if the mail icon turns green, it indicates that the reply has been sent by the technician.
-  : If the mail icon turns red, it indicates that the requester has replied, but the request is yet to be responded by the technician.
-  [2] : The red mail icon with a number count, indicates the number of responses made by the requester with respect to the last response made by the technician. After the technician replies to the request, the mail icon turns green.



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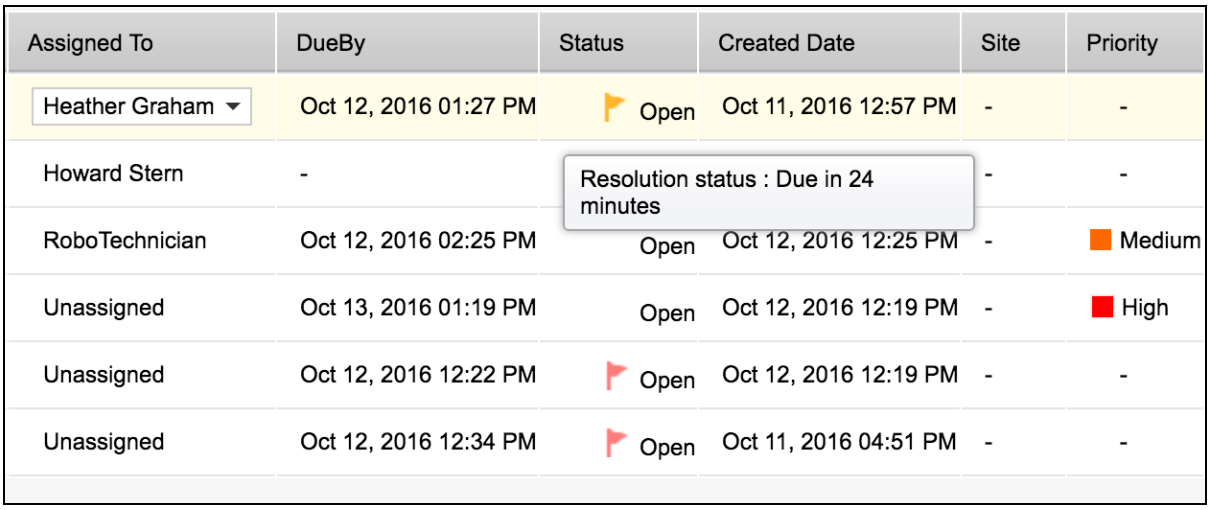
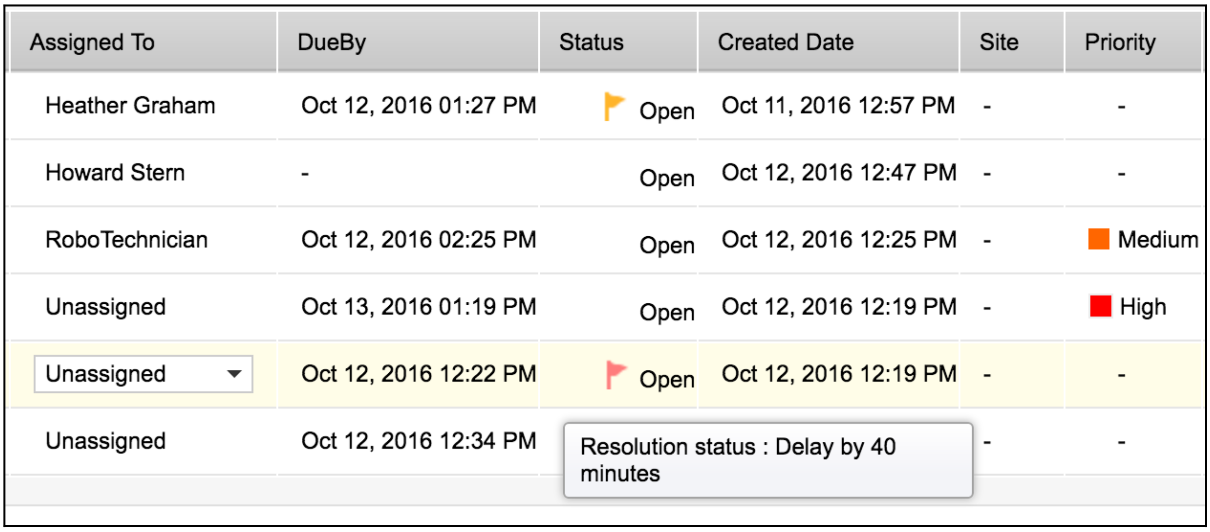
Flags denoting 'Delay by' time and 'Due in' time.

- : Yellow flag pops up, when the request **SLA** is 70% complete, indicating the "**Due in**" time without considering the non-business hours.
- : Red flag pops up when the request **SLA** is breached, indicating the "**Delay by**" time.



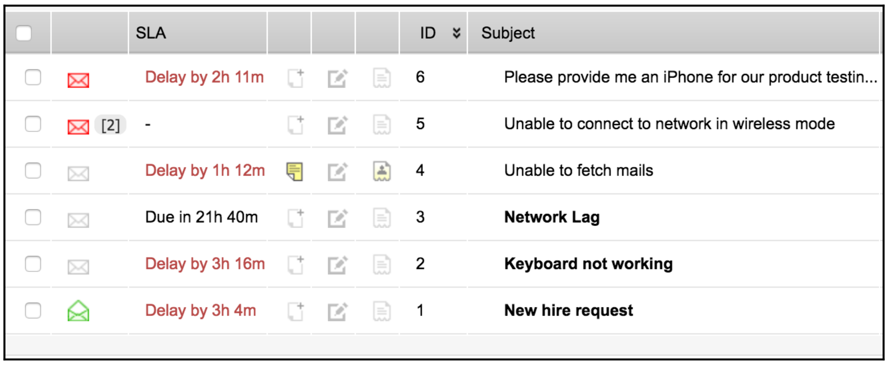
Assigned To	DueBy	Status	Created Date	Site	Priority
Heather Graham	Oct 12, 2016 01:27 PM	Open	Oct 11, 2016 12:57 PM	-	-
Howard Stern	-			-	-
RoboTechnician	Oct 12, 2016 02:25 PM	Open	Oct 12, 2016 12:25 PM	-	Medium
Unassigned	Oct 13, 2016 01:19 PM	Open	Oct 12, 2016 12:19 PM	-	High
Unassigned	Oct 12, 2016 12:22 PM	Open	Oct 12, 2016 12:19 PM	-	-
Unassigned	Oct 12, 2016 12:34 PM	Open	Oct 11, 2016 04:51 PM	-	-



Assigned To	DueBy	Status	Created Date	Site	Priority
Heather Graham	Oct 12, 2016 01:27 PM	Open	Oct 11, 2016 12:57 PM	-	-
Howard Stern	-	Open	Oct 12, 2016 12:47 PM	-	-
RoboTechnician	Oct 12, 2016 02:25 PM	Open	Oct 12, 2016 12:25 PM	-	Medium
Unassigned	Oct 13, 2016 01:19 PM	Open	Oct 12, 2016 12:19 PM	-	High
Unassigned	Oct 12, 2016 12:22 PM	Open	Oct 12, 2016 12:19 PM	-	-
Unassigned	Oct 12, 2016 12:34 PM			-	-

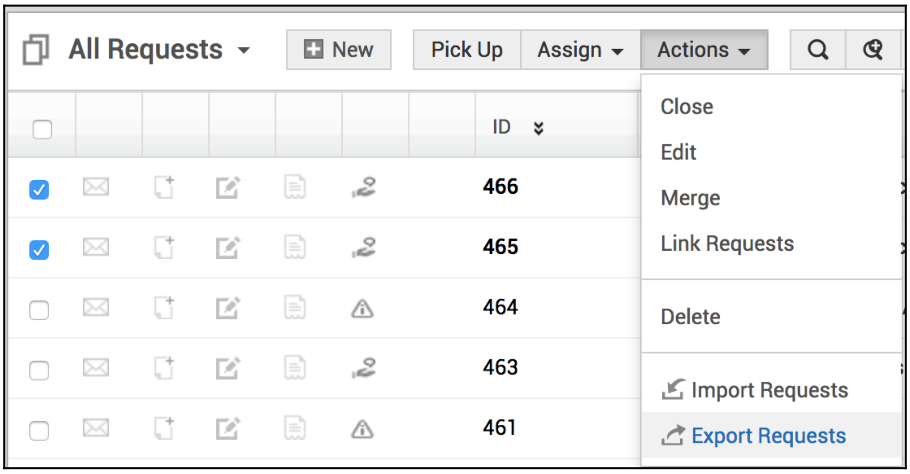
SLA Column:

Enabling the SLA column will display the request "Due in" time as well the request "Delay by" time without considering the non-business hours.

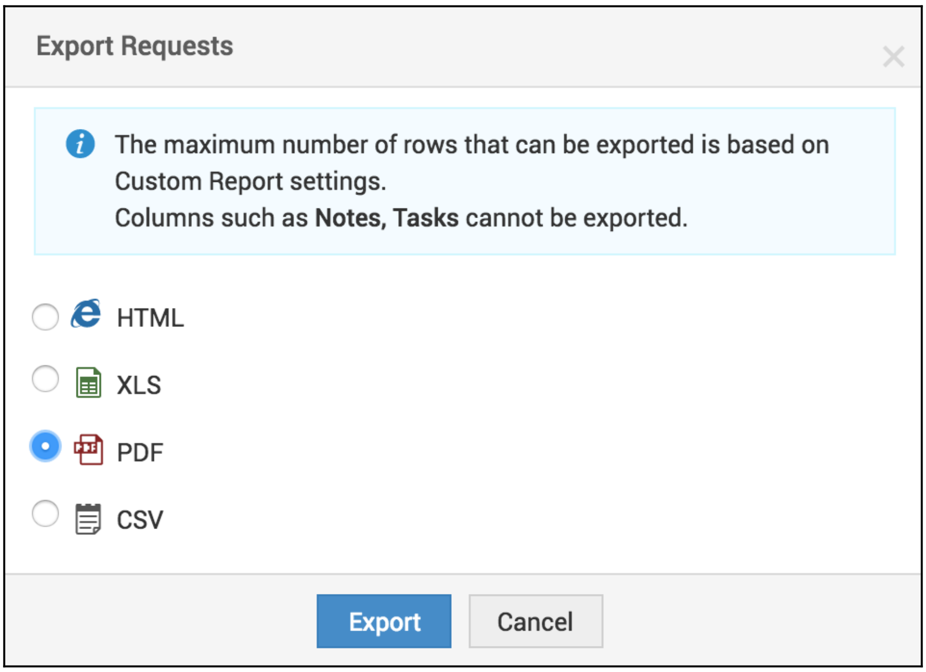


Export from the request list view

Select the requests from the list, click the **Actions** drop-down, click **Export Requests**.



Then, select the format in the dialog box that appears, as shown below:



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All the requests will be exported in the format you chose.

Create an incident

When users detect a failure of an asset/resource or a degradation of IT service, then they can send an incident request to the system administration team.

Modes to report an incident

There are various modes of placing a request to the system administration team. Some of the most common modes are:

- Requesters call up the help desk agent and report an issue or explain the nature of their request. The help desk agent will then manually feed in the details into the application.
- Requesters log into the Self Service Portal and submit their requests.
- Requesters email the request to the help desk team. The email is automatically converted to a new request in the application.

Note: The requests created via email will use the default template.

Apart from the above three modes, there are various other modes by which an incident request is created. For more information on adding additional modes, refer to Configuring Mode section.

Create Incident Requests from the application

A typical example for technicians to create an incident request from the application would be when a technician is on a call with the requester. The technician fills in the necessary details for future references.
There are three ways in which the new incident request form can be accessed in the application,

1. New Incident drop-down menu
2. Quick Create - New Incident
3. Requests tab

1. New Incident drop-down menu
The **New Incident drop-down menu** lists all the Incident Templates configured in the application. It is an instant means to quickly access the new incident form. For easy identification, the incident templates are grouped according to **Service Categories**. So all you need to do is browse through the available incident templates, select the one relevant to your issue and raise a new incident request.
The Incident Templates are configured in the **Admin** module under Helpdesk block.
Note: The New Incident drop-down menu is available only if the administrator has disabled the option "Merge Incident and Service Templates" in Self Service Portal Settings.

2. Quick Create - New Incident
Quick Create - New Incident is an instant mode to create new incidents when you are on a call with a requester or when you are loaded with a lot of work. This section is available only when the 'Quick Create Settings' is enabled in the Self-Service Portal Settings.
In the Quick Create - New Incident block, you can either conduct a search for the existing requesters using the icon  or enter the requesters name in the field provided. Next, you need to enter Request Title and Description. Click Save. The incident is saved and the request details page is displayed.

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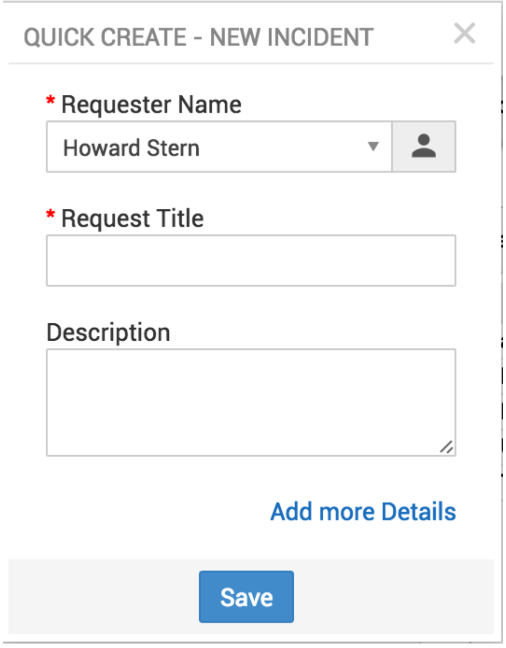
If you require additional details such as category, priority or assign a technician, click Add More Details >> link. This takes you to the New Incident form.



3. Requests Tab
To create a new request from the request tab,

1. Click Requests tab in the header pane.
2. From the Request List view, click New Incident button. By default, the 'Default Incident Template' form is displayed. From this form, you can select an incident template from the Change Template drop-down menu.
3. In the default request form, select the Request Type from the combo box. Request Type denotes the type of request sent by the requester to the help desk team. You can configure Request Type in the Admin tab.
4. Select the Status of the request, the Mode of request submission, Level and Priority of the request from the drop-down box.
5. **Also, select the Impact, Impact Details and Urgency of the request from the corresponding drop-down box.**
6. In the Requester Details block, specify the Requesters Name, Contact Number, Job Title and Department of the requester.
7. You can select the requester from the list of users configured in the application. Click **Requester** lookup icon  beside the requester name field. The Requester List window pops up.

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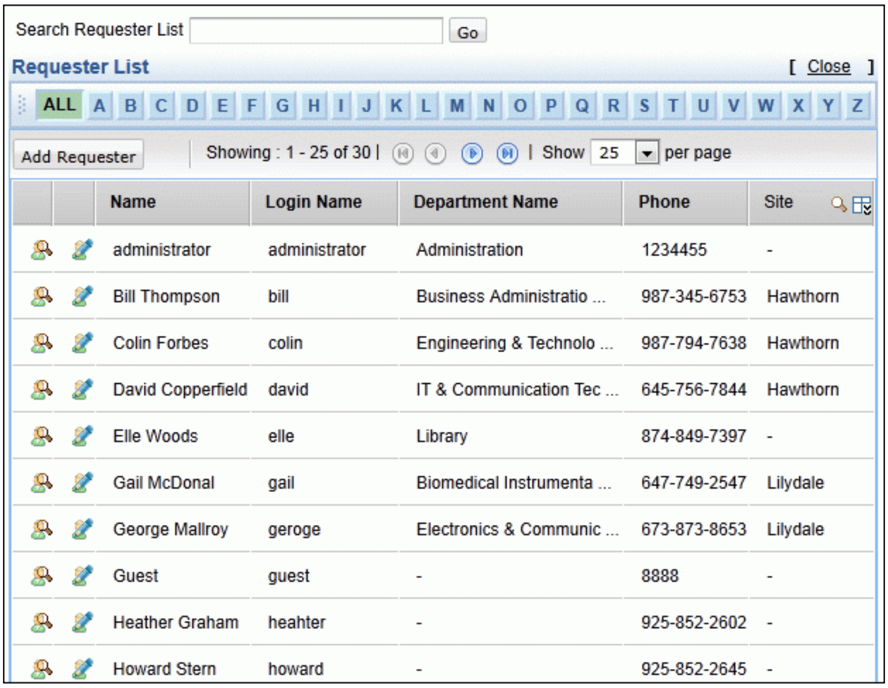

To select a requester from the list, click the hyper-linked requester Name. The requester name and details associated with the requester are populated in the requester details block.

- If the requester list is huge, then click on the Alphabets at the top of the page to view only a selected group of requesters.
- Also, you have an option to edit the requester details directly from this page. Click the edit icon beside the requester name to perform the edit operation.
- In addition, add new requester directly by clicking the Add Requester button from the requester list page.
- If you are aware of any requesters details such as name, login name, department, email and so on, then conduct a column-wise search using the search icon .
- Conduct an instant search for the requester by entering the search string in Search Requester List field and click Go.

8. The assets associated to the requester are populated in the Asset drop-down. Select the Asset from the drop-down. If the issue is caused by a network resource such as a router or an access point, then click the icon and select the asset.

   In Select Assets pop-up window, you can filter the assets by selecting the Type of assets such as, access point, routers, workstation and so on, from the drop-down. Selecting All Assets lists all the assets available in the application, irrespective of the asset type. You can further filter the assets according to sites using the Site drop-down. Selecting a site lists the assets from that particular site. Say, for instance, if the site selected is "New York" and the asset type is "Access Point", then all the access points associated to the site New York are listed.

   Note: The sites associated to the logged in technician are listed in the Site drop-down.

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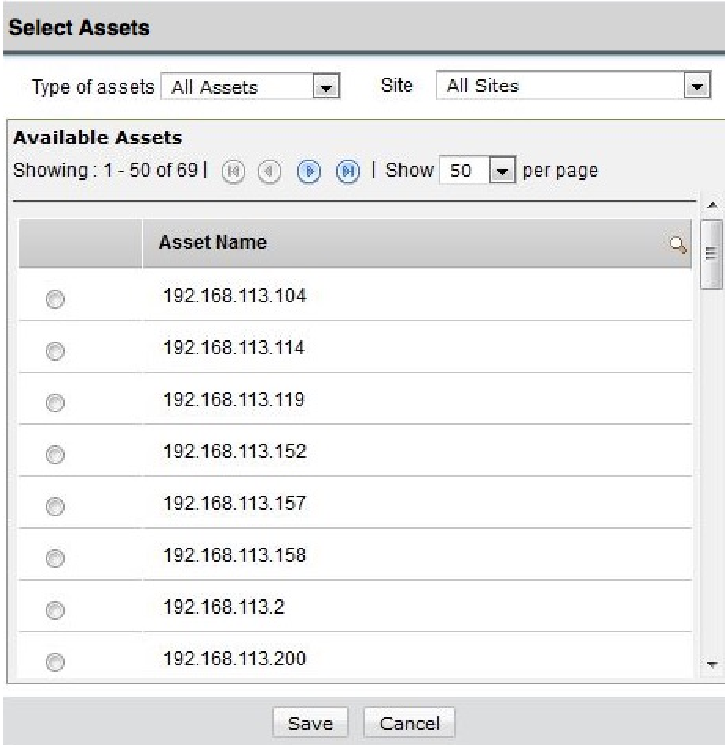
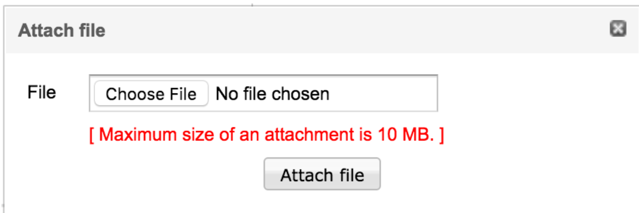


9. By default, if the location of the requester is configured in the application, then the same is populated in the Site field. In certain scenarios, the requester may raise a request from one site to a problem in another site. In this case, the site in which the issue persists should be selected.
10. On selecting the site, the groups corresponding to the site gets populated under the Group field. The request is routed to the particular group by selecting the Group name from the drop-down.
11. On selecting the Group, technicians associated with the Group alone are listed in the Technician drop-down list. Select a Technician to handle the request from the drop-down.
12. Select the Service Category which is affected by the incident from the drop-down.
13. Select the relevant category under which the request is classified from Category **drop-down** box.
14. Also, select the relevant Sub-Category and Item from the drop-down box.
15. If you wish to add a CC to the email loop, then select the Email Id(s) to Notify by clicking the icon . From the Requester List pop up window, enable the check box beside the requester name. Click Add Requester.

    Note: Please note that the email address should be configured for the selected requesters.
16. Specify the subject line to be displayed while sending the request in the Subject text field. The subject line is displayed as the request title and is a mandatory field.
17. Provide a detailed description with any other associated details relevant to the request in the **Description** text box.
18. To add any attachments relevant to the request, click the **Attach file** button in the Attachments block. The Attach File pops up as shown below,



1. Click the **Browse** button and select the file to be attached from the file chooser window and click the **Open** button.
2. Click the **Attach file** button. The selected file is listed below the Attachments heading. If you have more files to choose, follow steps 2 and 3 repeatedly till you have attached all the relevant files. Please ensure that the maximum size of the attachment is 10 MB.

   The attached document is indicated with an attachment icon beside the title of the request in the request list view page.

10. While entering the request details, if you have a solution for the request, then the same can be entered in the Resolution field. The purpose of resolution field in the new request form is, when you are reported a problem for which you are aware of the solution, then in this case, specify the solution in the resolution field, set the status as closed to close the request.

To add resolution, click the button beside Resolution title in the new request form. Specify the solution in the resolution text field. The entered resolution can be viewed by clicking the Resolution tab while viewing the request.

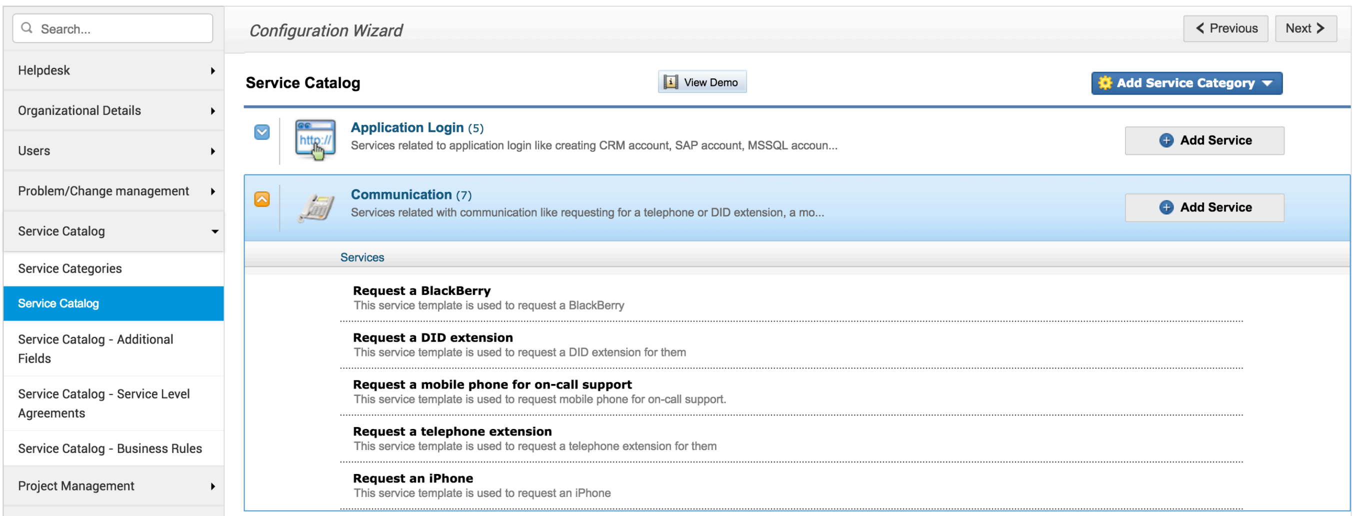
19. If there are any additional fields configured for the new incident form, then enter the values for the fields. To know more on adding user defined fields in the incident form, refer Incident - Additional Fields.
20. Click the **Add request** button. The request is added to the existing list of requests and can be viewed from the request list view.
21. Once request is added/submitted, the **created date/time** will be set automatically (see request details section) and a **unique id** (see request details page (or) request list view page) will be assigned to the request.

Raise a service request

Service Requests are requests raised by the user for support, delivery, information, advice or documentation, and is not related to any failure in the IT structure. The two modes through which requesters can raise service requests to the system administration team are:

- Requesters can call up the help desk agent and request for service. The help desk agent will in turn raise a service request by conducting a search for the service item from the list and manually feed in the users details. OR,
- Requesters can log into the Self Service Portal and raise the service request by themselves.

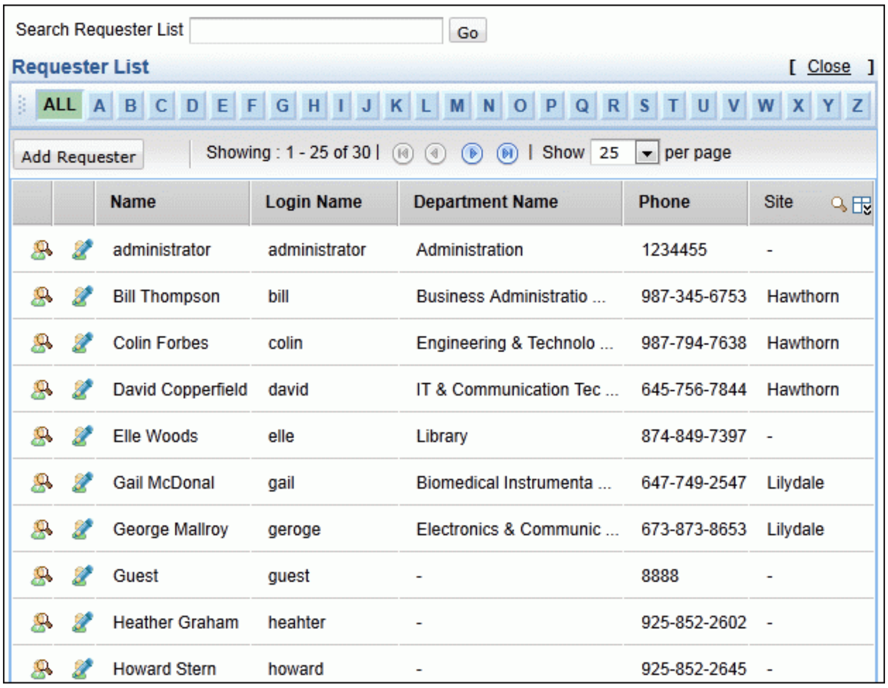
The Service Catalog list
Similarly to the New Incident drop down menu, the Service Catalog drop-down menu lists all the service items configured in the application. The service items are grouped under a service category for easy reference and identification. From the list of service items available to you, you can browse and raise a service request.
Note: If New Request drop-down is displayed instead of Service Catalog drop-down menu, then the administrator has enabled the option **Combine incident and service templates listing for the service** in Self Service Portal Settings. The **New Request** drop-down menu groups both, the Incident Requests and Service Request Templates based on the category.
Click **Service Catalog** drop-down link to view the **Template Categories** and the **Template List**.



Raise a Service Request
Raising a new service request is as simple as creating a new incident request from the available templates. Browse through the Template List and select a service that is relevant to your needs.

1. Select the service item from the catalog. This takes you to the New Service Request form. The delivery time frame of the service is displayed. The delivery time frame is displayed only if an SLA is assigned to the service request.
2. Select the parameters such as Status, Level, Mode, Priority, Category, Sub category and so on, that is available in the template.
3. To select a Requester from the list of users configured in the application, click requester lookup icon beside the requester name field. The Requester List window pops up. Click the hyper-linked requester Name.

The requester name and details associated with the requester are populated in the requester details block.



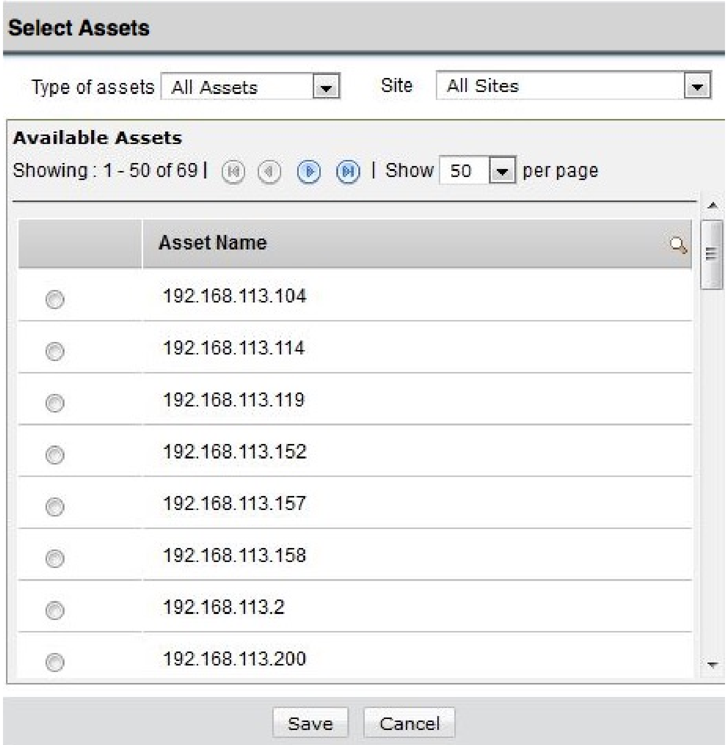
- If the requester list is huge, then click on the Alphabets at the top of the page to view only a selected group of requesters.
- Conduct an instant search for the requester by entering the search string in Search Requester List field and click Go.
- If you are aware of any requesters details such as name, login name, department, email and so on, then conduct a column-wise search using the search icon .
- In addition, add new requester directly by clicking the Add Requester button from the requester list page. Also, you have an option to edit the requester details directly from this page. Click the edit icon beside the requester name to perform the edit operation.

4. The assets associated to the requester are populated in the Asset drop down. Select the Asset from the drop down. You can also select assets by clicking the icon .

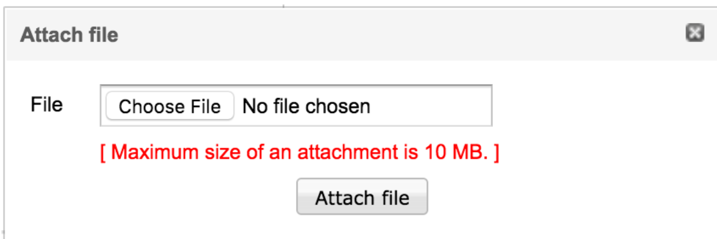
   In Select Assets pop-up window, you can filter the assets by selecting the Type of assets such as, access point, routers, workstation and so on, from the drop-down. Selecting All Assets lists all the assets available in the application, irrespective of the asset type. You can further filter the assets according to sites associated to the logged in technician using the Site drop-down. Selecting a site lists the assets from that particular site.

   Say, for instance, if the site selected is "New York" and the asset type is "Access Point", then all the access points associated to the site New York are listed.

   Tip:
   If the Service Request is "Installing Software", then select the workstation in which the software should be installed.



5. By default, if the site location of the requester is configured in the application, then the same is populated in the Site field.
6. On selecting the site, the groups corresponding to the site gets populated under the Group field. The request is routed to the particular group by selecting the Group name from the drop down.
7. On selecting the Group, technicians associated with the Group alone are listed in the Technician drop down list. Select a Technician to handle the request from the drop down.
8. If the editor field is enabled for the service request, then select the **Editor** from the icon . Refer the topic Service Request Editor to know the purpose of the editor and how to enable the editor field.
9. For a service request template, the subject line is already specified. You can change or modify the subject. The subject line is displayed as the request title and is a mandatory field.
10. Provide a detailed description with any other associated details relevant to the request in the **Description** text box.
11. To add any attachments relevant to the service request, click the **Attach file** button in the Attachments block. The Attach File pops up as shown below,



- Click the **Browse** button and select the file to be attached from the file chooser window and click the **Open** button.
- Click the **Attach file** button. The selected file is listed below the Attachments heading. If you have more files to choose, follow steps 2 and 3 repeatedly till you have attached all the relevant files. Please ensure that the maximum size of the attachment is 10 MB.

- The attached document is indicated with an attachment icon beside the title of the request in the request list view page.

11. While entering the request details, if you have a solution for the service request, then the same can be entered in the Resolution field.
12. Click Add New Request button. The request details page is displayed from where you can perform further actions on the service request.

Note

Please note that the following operations cannot be performed on a service request - Merging requests, Duplicating requests, Associating Problems to a request and Associating Changes to a request.

Custom views

The **Settings drop-down menu** consists of options to **Add Custom Views** and **Manage Custom Views**.
Custom Views helps you sort requests by customizing the request list view to display requests based on certain criteria. The Custom Views are listed in the **Filter drop-down menu**.
Say, you are a technician who is concerned only with the high priority requests from a particular site. Instead of performing a search in the request list view, each and every time, you can create a custom view that will filter requests based on your specified criteria.

Add Custom Views

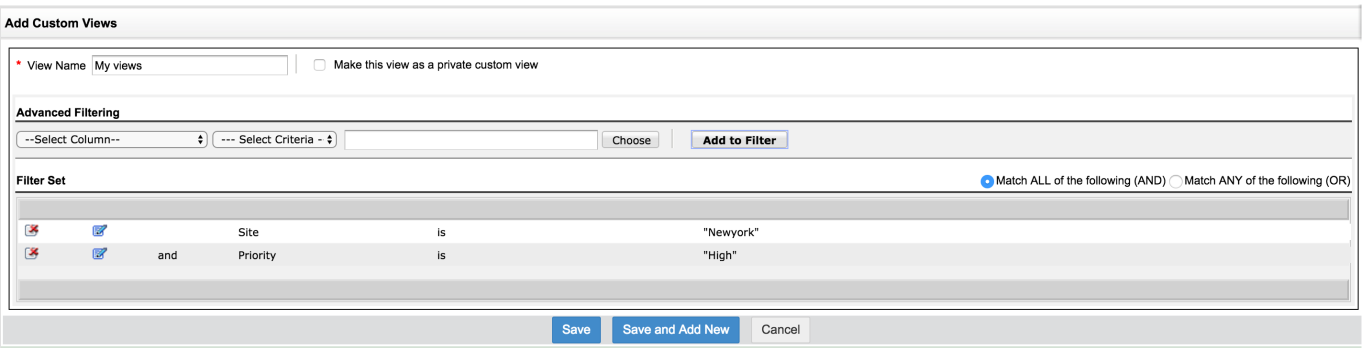
You can add custom views by specifying the criteria to filter requests accumulated in your request list view.

Note:

1. If you are logged in as the administrator, then you have the privilege to mark a custom view as private or public. **Public Custom Views** can be viewed by all the technicians but **Private Custom View** can only be viewed by the technician who has created the view.
2. If you are logged in as a technician, then the custom views created by you are marked as private, by default.

To create custom view,

1. Click **Requests** tab in the header pane. The **Request List view** page is displayed.
2. Click **Settings drop-down menu** and select **New Custom View** option. The Add Custom Views page is displayed.
3. Specify a name for the custom view in View Name text field. This field is mandatory.
4. Select the **Columns** and its **Criteria** from the drop-down box.
    1. Click **Choose** to select a value for the column.
    2. Click Add to Filter button. The filter criteria details is saved and listed in the Filter Set block. You can add more filter conditions to this view by selecting the column, criteria and condition of the filter.
    3. If you have more than two criteria, then select the AND or OR conditions by enabling either of the two radio buttons.



1. If you are logged in as the administrator, then you have the privilege to make your view as private by selecting Make this view as private custom view check box.
2. Click **Save** button. The custom view is saved and listed in Custom Views List view page.

3. Click **Save and Add New** button, to save and add another custom view.

The Custom Views are listed in the Filter drop-down menu. The Custom View marked as **Private** is listed under **My Views**, and the Views marked as Public is listed along with the remaining filters.

Manage Custom Views
Manage Custom Views helps manage your views by providing a consolidate view of all your public and private views. While viewing the custom views, you can edit, delete and add custom views.

1. Click **Requests** tab in the header pane. The **Request List view** page is displayed.
2. Click **Settings drop-down menu** and select Manage Custom Views option.

Edit a Custom View
To edit a custom view,

1. In the **Custom Views List** view, click the **Edit** icon beside the filter name to edit. The Edit Custom Views page is displayed.
2. Edit the details and save the changes.

Delete Custom Views

1. In the **Custom Views List** view, select the check box beside the custom views to delete.
2. Click **Delete** button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed. The Custom View is deleted from the list.

Note: The Public Views can be deleted by a technician with Administrator privileges.

Edit request

To edit a single request available in the ServiceDesk Plus Request module

1. Click the **Requests** tab in the header pane. This opens the **Requests** list.
2. Click the **Title** of the request which you want to edit from the view list page. This opens the View Request page. Click the **Edit tab** on the top of the page to modify the request details. [OR]

   From the request list view page, click the edit icon beside the request to be edit. This opens the Edit Request form where you can add resolution while editing, and change the status of the request from open to close, and so on.

Alternatively, you also have an inline edit option to modify the request details in the view request page. Click the edit button beside each block which opens the request form fields in editable format. This comes in handy when you need to edit the values of the entire block say Request Details one by one.

Note: While editing the request details block, the SLA, department and the template is in non-editable mode. The SLA of the corresponding site selected on editing the request gets applied. The department of the corresponding technician selected on editing the request gets displayed.

4. On modifying the values, click Update Request to save the changes. If you do not want to save the changes, click **Cancel**.

Edit more than one Request

You have an option to edit more than one request simultaneously. For instance, you want to assign a group say, Printer to ten requests relating to Printer Problem or you want to assign a Category to bulk requests. Instead of editing the requests individually you can perform a bulk edit to edit the requests instantly.

1. Select the check box beside the requests to be edited from the request list view page.
2. Click Edit Request button. The Edit Request page opens. The title displays the request Ids that are grouped together to edit.
3. Edit the fields, say Category into Desktop. This will replace the categories of all the requests grouped together.
4. Specify the Reason for Updating the request in the given text field.
5. Click Update button to save the changes.

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Editing requests (For requesters)

This feature allows the requesters to edit a request raised by them before it is approved, resolved, or closed. With this feature, requesters can now correct any wrong information, or fill any missed out fields in their request. The edit option is available for both incident and service requests. All the fields in the requests can be edited, including attachments."Requested by" users and "On-Behalf-Of-User" can edit the request.

Enabling Edit Permission For Requesters

To allow the requesters to edit the service/incident requests,

- Go to the Self-Service Portal Settings.
- Tick the check boxes for Incident and Service requests in the "Allow Requesters to edit" option.

- If the boxes are not ticked, edit option will not be available for the requesters.
- You can also choose to enable edit permission for only Service or Incident requests by ticking the particular check box.

Editing the Requests

Once the request edit access is enabled by the admin, requesters will be able to edit their requests.
To edit requests,

- Go to the Requests tab.
- Click on a request and click **Edit** in the request details page.

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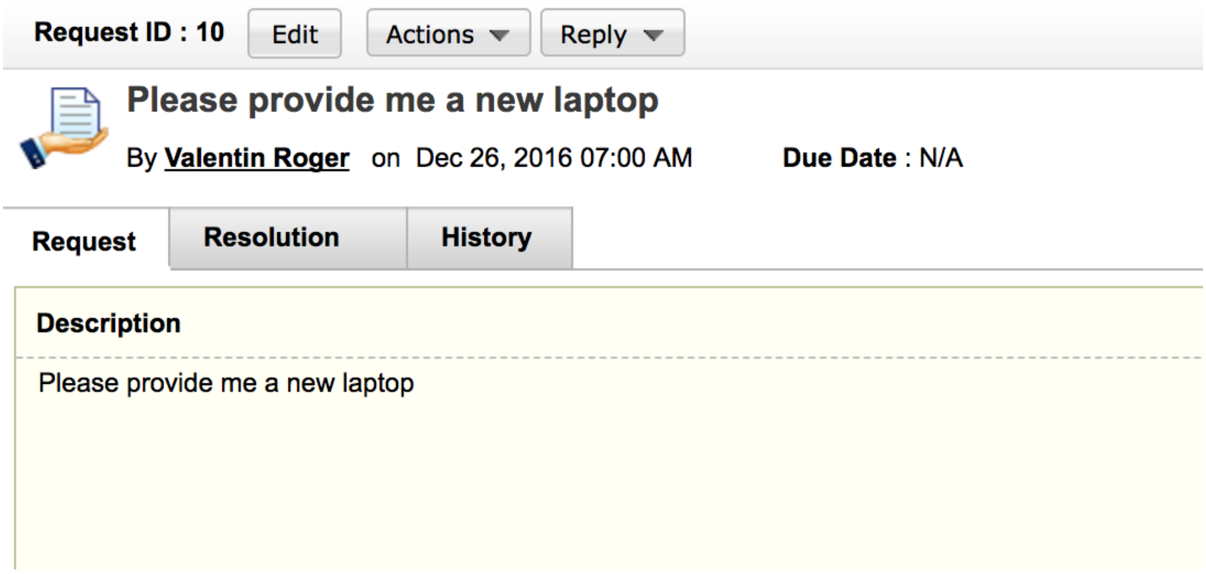
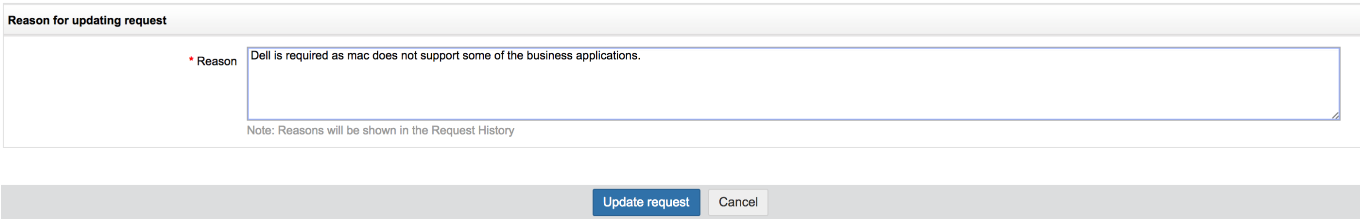
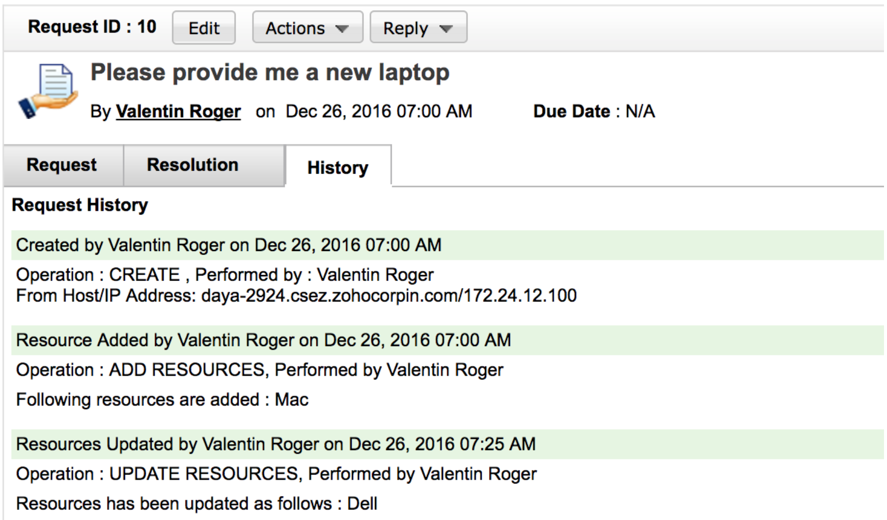


- Update the request information, add reason for the update, and click '**Update request**'.



- The update details of the request can be found in the history tab of the request details page.



Note

- For requests with approvers, edit option will be available till one of the approvers approve.
- Business Rules, Technician Auto Assign functionalities will be applied according to the edited request information.

- SLA First Response and Resolution Time calculation will be based on the created time and not the edited time.
- For requests that are approved, resolved, or closed, the edit option will be disabled.

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Request collaboration

Purpose and Need

When multiple Technicians work on the same request in parallel, the changes(s) made by each of them are not known to one another. This might result in any of the following consequences:

- The same request might be assigned to different Technicians
- Multiple responses might be sent for the same request by different Technicians

Example:

Let us consider two Technicians Heather and Jennifer simultaneously working on a request 6010. Say, Heather has assigned 6010 to a Technician Sam, and Jennifer, who is not aware of this again assigns 6010 to another Technician Adam. Therefore, the same request has been assigned to two different Technicians, which results in redundancy and waste of time.
To overcome the above hassles, the Request Collaboration feature has come in. This feature shows notifications in the Requests page to all the Technicians, working on the same request, about the modification(s) made by any of the other Technicians.

Benefits

Using this feature, you will be able to:

- view the number of Technicians currently on-board the same request page.
- notify about the following operations to the Technicians:
- Request edit
- Reply from Contacts/Technicians
- Note add/edit/delete
- Resolution add/edit

Viewing the Request Collaborators

1. Log in to ServiceDesk Plus application as two different Technicians, i.e., using **two different browsers / two different sessions**.
2. Once both the logins are successful, execute the following steps in both the windows, in parallel.
i. Click the **Requests** tab in the header pane. The page redirects to the **Request List View** page that displays all available requests.
ii. Click the **Subject** link of any one Request from the list view. (Make sure you click the same Request in both the windows by using the Request ID.)
3. In the Request details view page displayed, you will be able to see the **collaborators icon** at the right corner that shows the total number of collaborators/Technicians associated with the Request.
4. Click the icon to view the name of the collaborators/Technicians.
5. Click the individual Technician name to view the relevant details.

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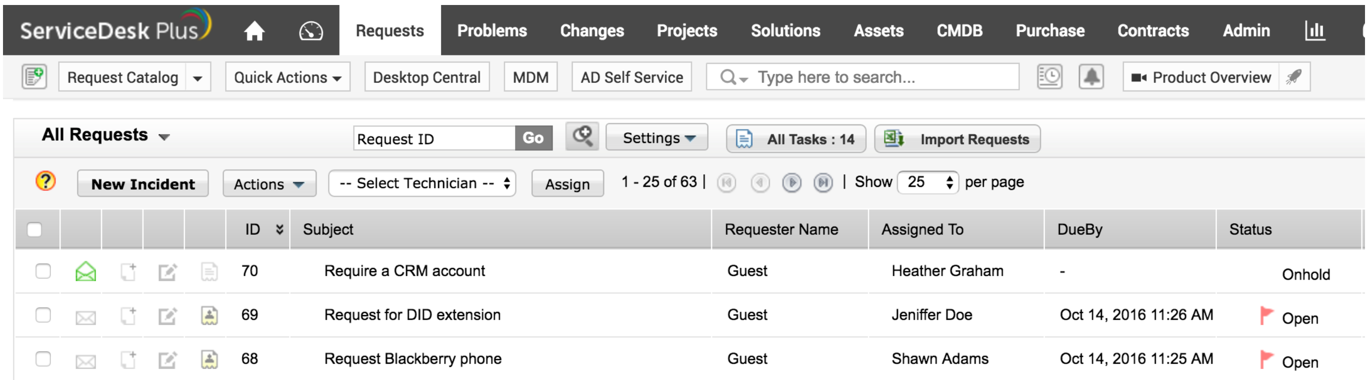
Note:
1. The **collaborators icon** will be shown only if at least two Technicians work on a particular Request.
2. By default, the Request Collaboration feature works over the port 8081. You can modify the port number in server.xml.

Viewing Request Page Notifications:

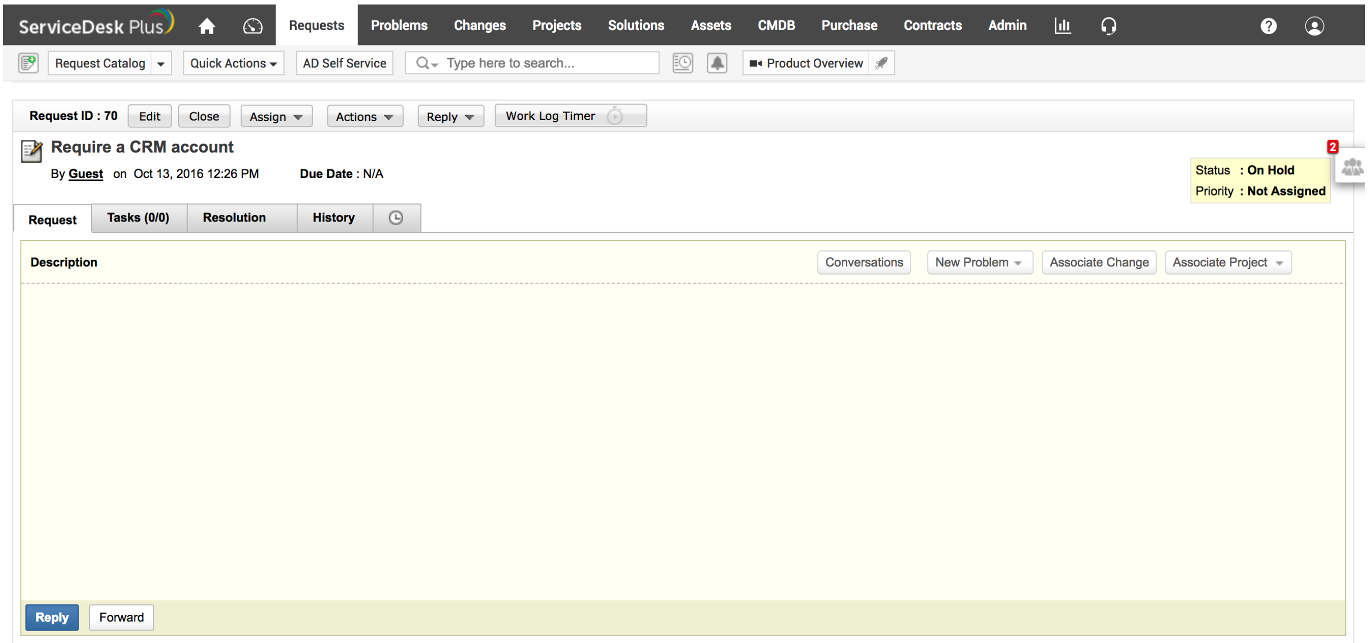
1. Make any change to the Request in the Request details view page in one session and save it.
2. Now, in the other session, you will be able to see notifications about the Request changes done in the first session.

Example with Screenshots

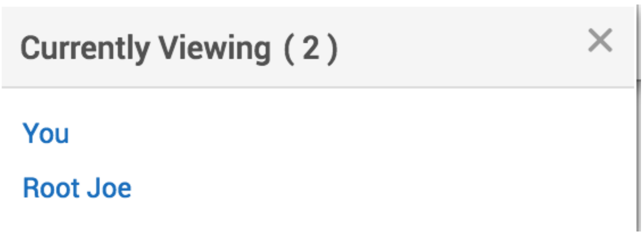
The below steps helps you in better understanding of Request Collaborators feature. Consider two Technicians, namely "administrator" and "Root", to be the collaborators working on the same Request. Let us see how the collaboration and Request Page Notifications work.
1. The "administrator" with appropriate login credentials logs into the ServiceDesk Plus application using the chrome browser. Similarly, "Root" logs into the ServiceDesk Plus application using the firefox browser.
2. Both of them click the **Requests** tab in the header pane. The page redirects to the **Request List View** page that displays all available requests.
3. The "administrator" clicks the Request with ID 70 from the list view.



4. Similarly, "Root" clicks the same Request with ID 70 from the list view.
5. For both of them, the Request details view page is displayed that shows the **collaborators icon** at the right corner.



6. When the "administrator" clicks the **collaborators icon**, the Currently Viewing window will be shown as below:



7. Similarly, when "Root" clicks the **collaborators icon**, the Currently Viewing window will be shown as below:

8. On clicking their respective names, the relevant Technician details will be shown in a new window, as below:

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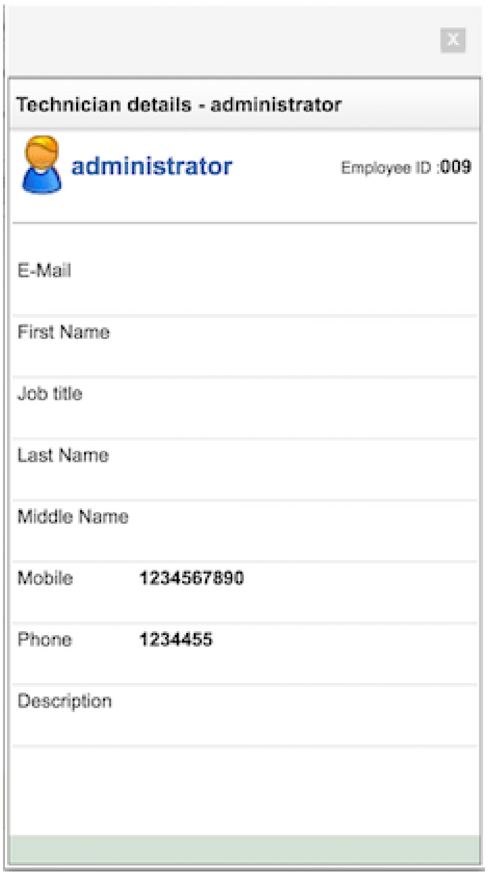
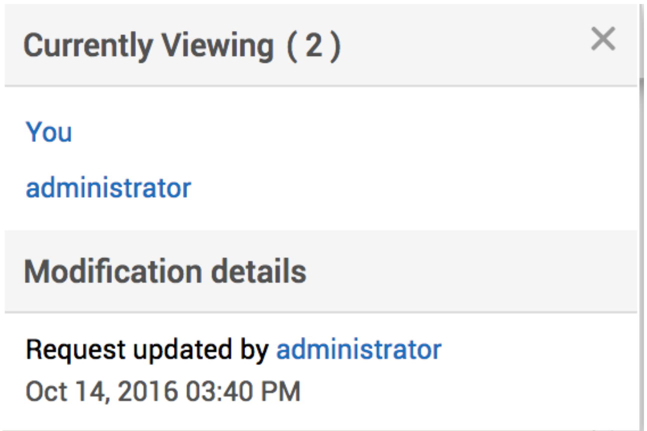


Request Page Notifications:

The "Administrator" makes a change in the Request. Now, "Root" gets notifications about the change, as shown below:



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Solution suggest - Under request resolution

Purpose and Introduction

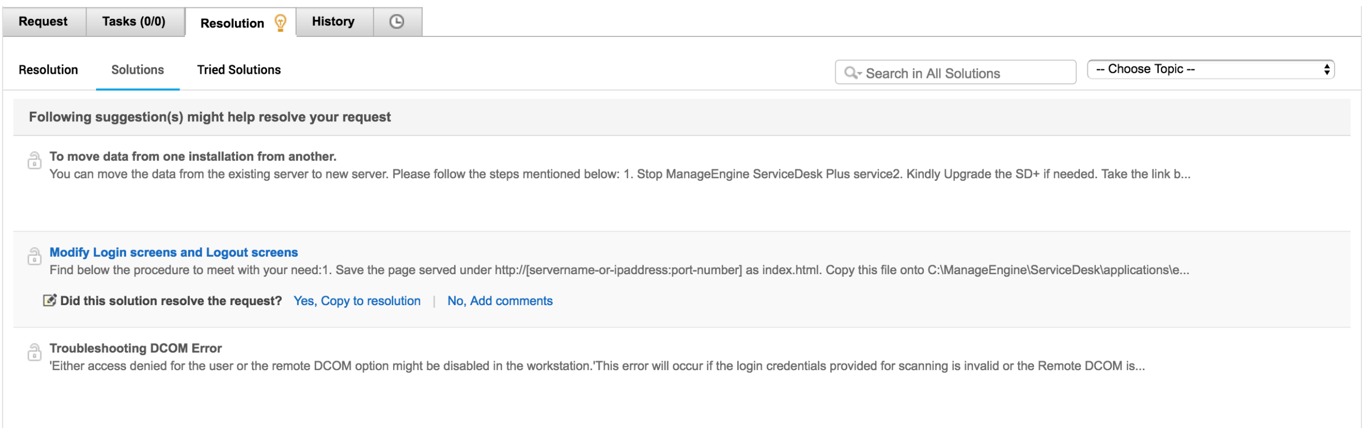
This feature auto suggests solutions for a request. With this, the technicians will be shown the related solutions for a request based on the keywords found in the fields of a request such as Subject, Category, Sub Category and Item. Technicians can try different solutions from the suggested list and if it resolves the issue, they can copy it to the resolution. If it doesn't, they can give their inference on the solution suggested. Technicians can even search from the entire solutions list from then and there itself using the solutions search option.

Accessing and Using the feature

To access this feature,

- Go to the Requests module.
- Click on a request.
- In the request details page, next to the resolution tab there will be a bulb icon  indicating the availability of suggested solutions for the request. Click on the resolution tab to view the suggested solutions.

The solutions available for the request will be listed.



Note

- Only top 5 Solutions will be listed. Click on **View More** to view all the suggested solutions.
- Solution suggestion(s)  will not be listed for resolved or closed requests.
- Solutions will not be visible for technicians without solutions view permission.
- Solution suggestions will not be available for the requesters.
- Only approved solutions will be listed.

To view the suggested solution, click on it.

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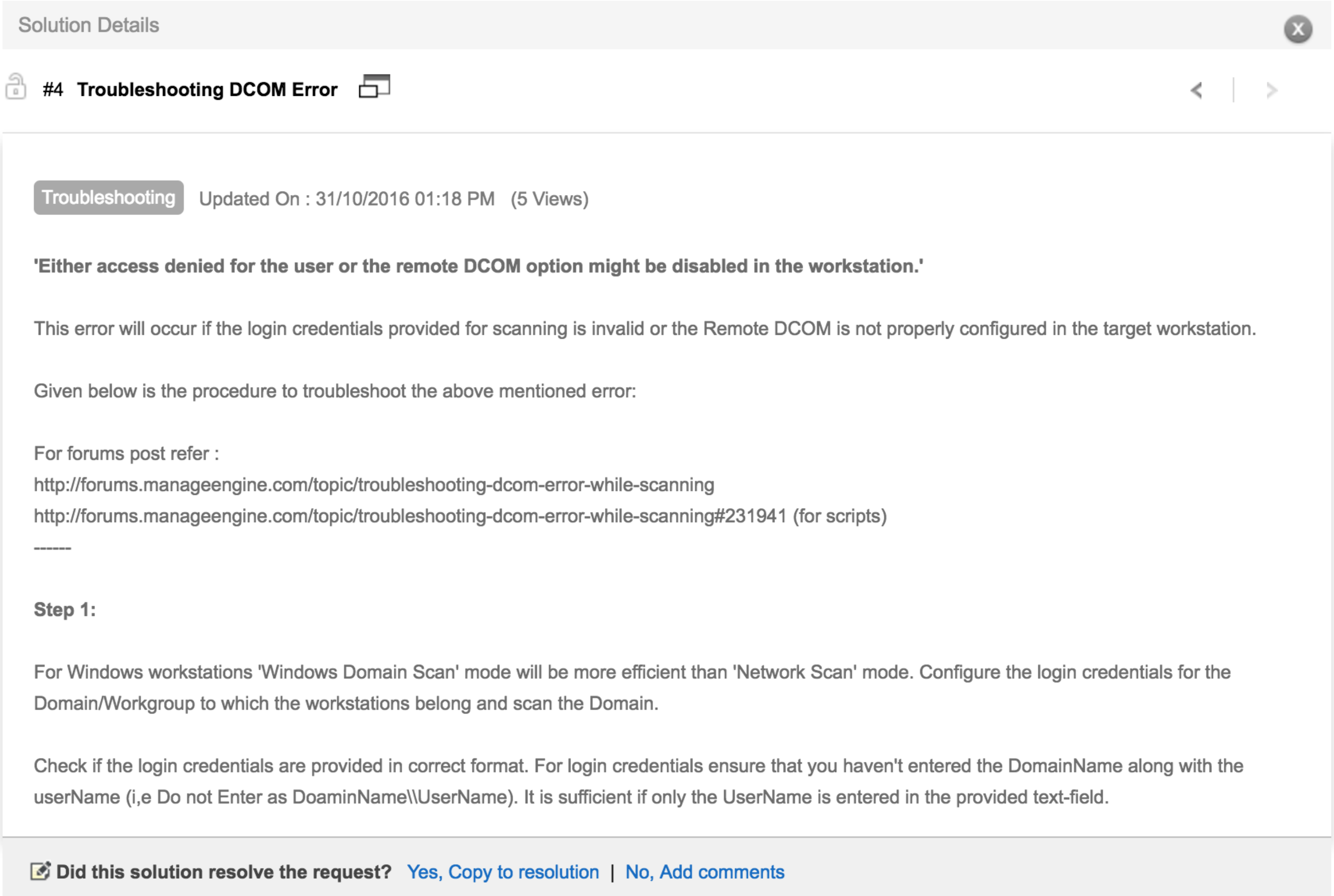
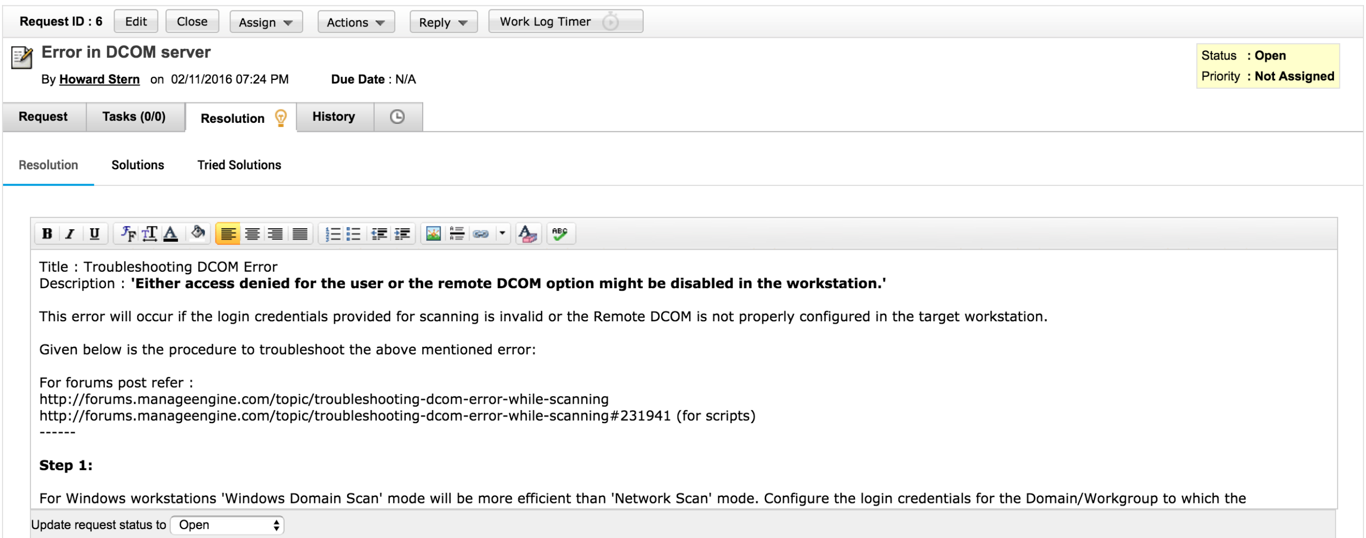


- You can try a solution and if the solution solves the issue, you can copy it to the resolution.
- To copy the solution to the resolution, Click on **Yes, Copy to resolution**. The solution will be copied to the resolution text editor.
- Click on **Save** to save the solution as a resolution to the request.

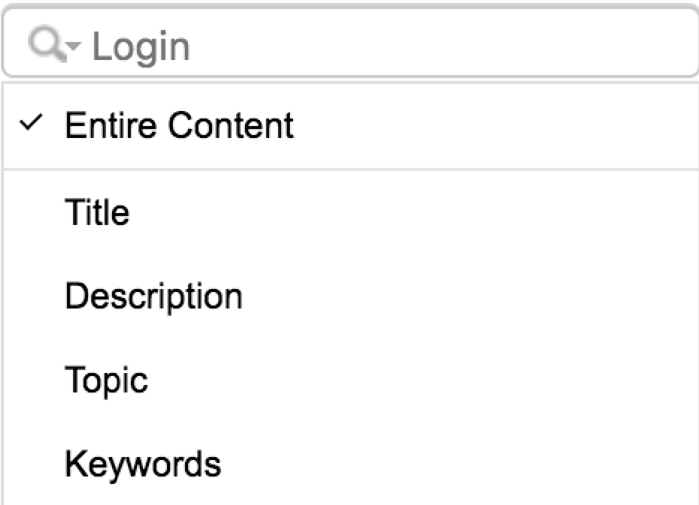


If the solution doesn't solve the issue, you can add your observation about the solution by adding comments.

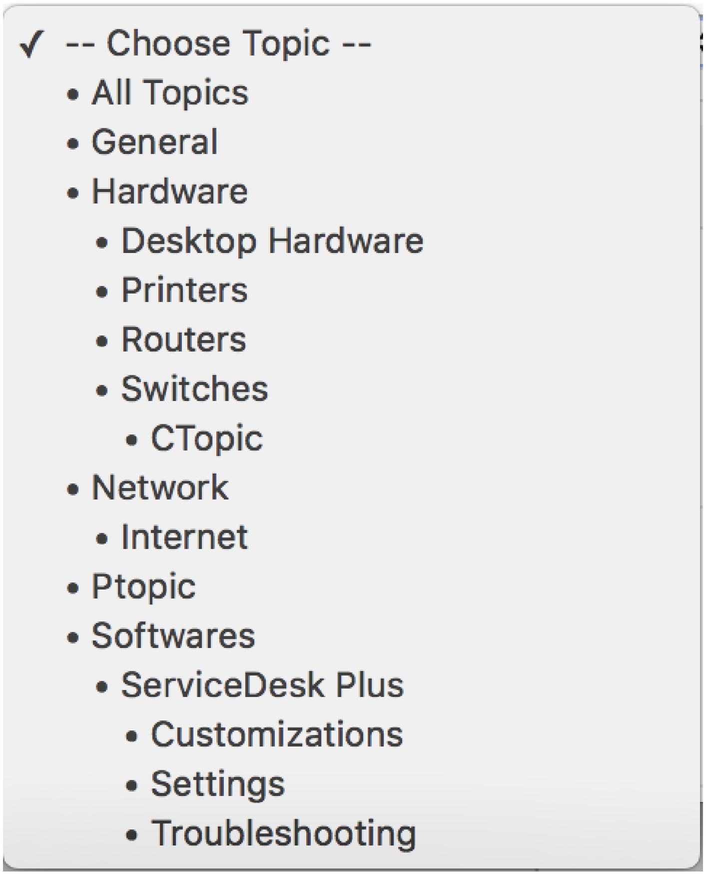
- By adding comments, it helps to keep a track of the solutions you have tried and also lets someone else handling the request know that the solution was tried.

- The tried solutions will be moved to the Tried Solutions tab. The applied solutions (Solution that was copied to resolution) will also be under the same tab.
- To add comments, click on **No, Add comments**.

- Enter your comments about the solution and click **Add**.
- The comments added can be updated/deleted.
- To modify the comments, go to applied solutions under the resolution tab. Click on edit comments icon. Edit the inference and click on **Update**.
- Click on the delete icon to delete the applied/tried solution.
- You can also manually search different solutions by using the search option
- Enter the keywords in the search box and use the filters provided such as Title, description to search in the particular fields.

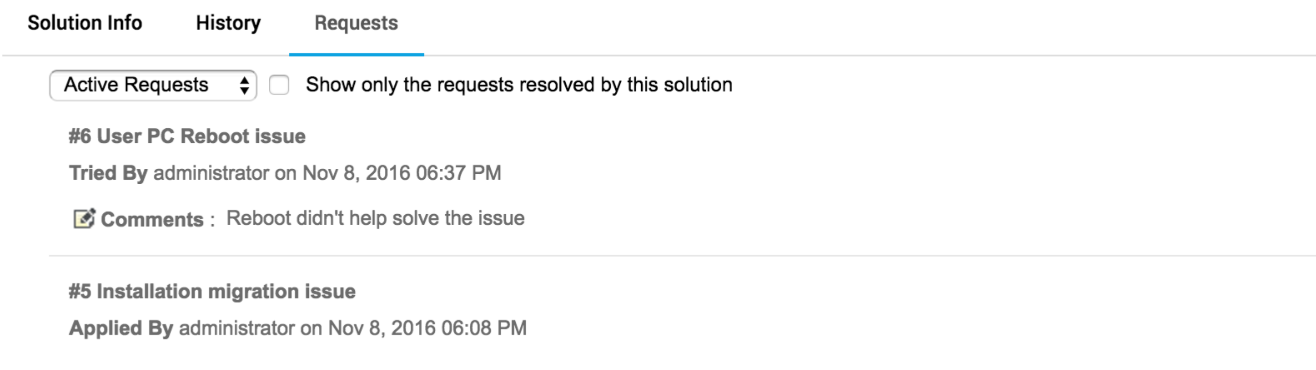


- You can also search solutions from the Topics filter.
- Click on a topic to list all solutions under that topic.



You can also check the requests solved using the suggested solutions in the Solutions module.
To check that,

- Click on the Solutions module.
- Select a Solution. Click on Requests.
- The requests that were tried/appplied with the solution will be listed.



Close request

When a requester is completely satisfied that his/her request has been completely attended to and the reported problem has been resolved, then the request can be moved to closed state. You can close a single request or multiple requests from the request module.
While closing a request in ServiceDesk Plus, you need to check if Request Closing Rule and Request Closure Code are configured and enabled in Admin tab -> Helpdesk Configurations. Request Closing Rule imply certain rules while closing a request like confirming the users acknowledgement of the resolution and setting the mandatory request parameters for closing the request. Whereas, Request Closure Code denote the reason behind closing the request.

Close a single request
To close a request from the request details page,

1. Click **Requests** tab in the header pane. The request list view page opens.
2. Click the Subject link of the request.
3. From the details page of the selected request, click Close sub tab.
4. The request is closed and a success message appears.

Note:

- If you have selected the mandatory fields to be filled while closing the request in Request Closing Rule, then enter the mandatory fields and close the request.
- If you have enabled the option "Yes, prompt a message" to confirm a users acknowledgement in Request Closing Rule, then a Close Request dialog box appears.

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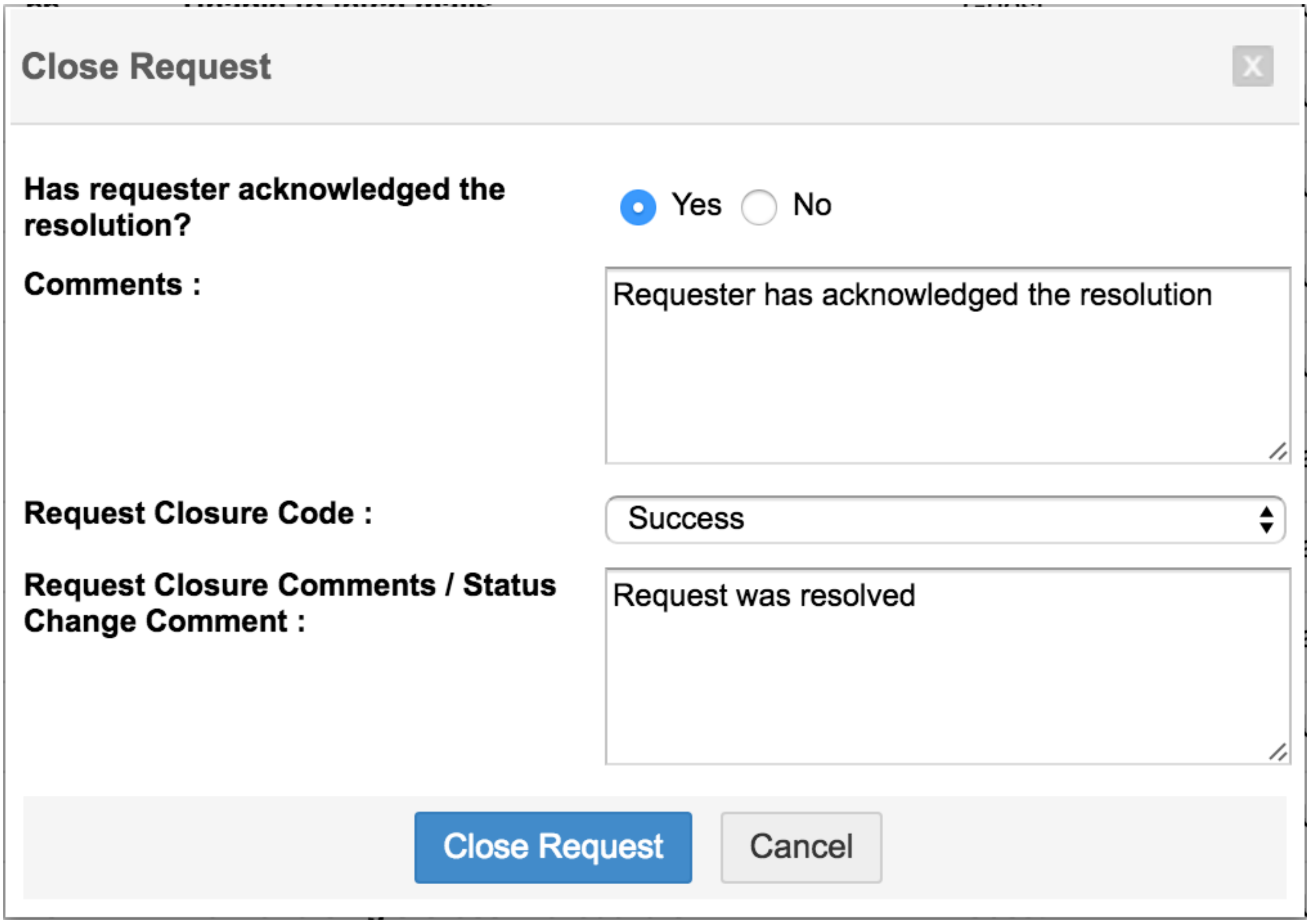

1. If the requester has acknowledges the resolution, select 'Yes' radio button. Else, enable 'No' radio button.
2. Enter relevant Comments in the field provided.
3. Select the Request Closure Code from the drop down. The Request Closure Code denotes the reason for closing the request.
4. Enter relevant Request Closure Comments in the field provided.
5. Click Close to close the request. If you do not wish to close the request then click Cancel.

Alternatively, you can also change the status of the request to "Closed" through in-line edit or when the request is in editable mode.

Close more than one request
You can close bulk requests from the request list view. To close more than one requests,

1. In the **Request** list view page, enable the check box beside requests to close.
2. Click **Close** button. The selected requests are closed followed by a success message in the request list view page.

If you have selected Request Closing Rules like setting the mandatory fields before closing a request or prompting a message to confirm user's acknowledgement, then refer the steps in the above NOTE to close the requests.

View Closed Requests

You can view all the closed requests from the list view. To view the closed/completed requests,

1. From the Request list view page, select **Completed Requests** from the Filter drop-down menu. This lists all the closed and resolved requests.
2. Select My Completed Requests from the Filter drop-down to view the list of closed/resolved requests that were assigned to you.

Reopen Closed Requests

Requests can be reopened from the closed state. You can reopen bulk requests or a single request. To reopen a single request,

1. From the Request list view page, select Completed Requests from the Filter drop-down to view the list of closed/completed requests.
2. Select the Subject link of the closed request to reopen. Click Edit. You can also bring the request in editable mode through in-line edit.
3. When the request is in editable mode, change the status field from Closed to Open.

When a request is opened from the closed state, you can also change the Due By time of the request. Also, the completed date is removed once the request is reopened. When this request is finally closed, the **completed date** is updated and the **Time taken to close** is recalculated taking the reopened period into account.

To reopen bulk requests from the list view,

1. From the Request list view page, select Completed Requests from the Filter drop-down to view the list of closed/completed requests.
2. Enable the check box beside the requests to reopen.
3. Click Edit Request button. The Editing Requests window pops-up specifying the Request ID. All the fields in this pop-up window are editable.
4. Change the status field to Open.
5. Click Save.
6. A success message appears indicating that the selected requests are reopened.

Pick up requests

ManageEngine ServiceDesk Plus provides the option of self-pick up of requests that are received in the requests module. If there are unassigned requests in the application, then the technicians can themselves pick up requests. This increases the efficiency in the turnaround time of the IT help desk team as the requests are assigned and answered sooner and waiting time of the request till it is assigned is reduced.

To pick up requests,

1. Click the **Requests** tab in the header pane. The unassigned requests will be in bold font.
2. Select the requests you would like to pick up by enabling the check box. Click **Pick up** button. The selected request will be assigned to you. (Or)
3. You can also pick up requests after viewing the request details. Click the title of the request to open View Request page.
4. Click Assign tab. Select Pick Up option to pick up the request.

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Assign request to technician

Each request will be owned by a technician, who would be responsible for handling the request till it is closed.

To assign request to technician,

1. Click Request**s** tab in the header pane. This opens the Requests list.
2. Click the **Title** of the request for which you have to assign a technician. This opens the view request page.
3. The View Request page lists the Tasks that can be performed on the requests on top of the page. Here click the **Assign link and select the assign option**. This opens Assign Group and Technician page as shown below.

Based on the issue you can assign this request to the appropriate Group and as well as to the Technician who belongs to that group. Or you can select either of the one. If you wish to select the technician alone then choose the technician from the list and click Assign button to assign the technician to handle the request. And when the technician logs into ServiceDesk Plus, he/she would see this request in the **My Open Requests** list.

5. Alternatively, you can also assign technician using inline edit option. Click the technician name shown in the request details block. This opens the drop down box as shown below. Select the technician from the list and click the icon to select the technician name else click cancel icon.

Bulk assign requests to technicians

You can also assign more than one request at a time to a technician.

1. In the **Requests** list view, select the requests to be assigned a technician by enabling the check box beside left side of each of the request title.

2. Select the **Technician** from the drop down menu.
3. Click Assign button to assign the selected requests to the technician.

Unassign technician from request

Each request will be owned by a technician, who would be responsible for handling the request till it is closed. You can unassign a request from the request and move it back to unassigned status.

To unassign a technician,

1. Click the Request**s** tab in the header pane. This opens the Requests list.
2. Click the **Title** of the request for which you have to unassign a technician. This opens the view request page.
3. The View Request page lists the Tasks that can be performed on the requests on top of the page. Click the **Assign** link and select the Assign option from the list. Alternatively, you can also unassign technician using inline edit option. Click the technician name shown in the request details block. This opens the drop down box as shown below. Select the technician name from the list and click the select icon to select the technician else click cancel icon.
4. Now select the NONE option and click **Assign**. The request will be unassigned. If you do not wish to unassign the technician then you can just close the pop-up by clicking **Cancel**.

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Start / Stop request timer

In certain scenarios, technicians may be unable to close a request due to lack of necessary information or awaiting a certain response from the requester to continue work on the request. In such circumstances, the request remains in the open state, eventually leading to the violation of SLA that governs the request. Also, the time taken to close the request reflects the efficiency of the technician handling the request.
With the Start/Stop Timer option, you can move the request status to On Hold until you are ready to resume work on the same.

Note:

- When requests are sent for approval to the concerned authority, the helpdesk team may not be held responsible for the delay in approval process. In order to minimize the SLA violations by the helpdesk team, you can stop the timer automatically for requests with status as ‘pending approval’ using the option available in Self Service Portal Settings.
- The Start/Stop Request Timer will work only during the operational hours configured for the organization.

The Start/Stop Timer is available under the Actions drop-down menu in the Request details page. To access the option,

1. Click the **Requests** tab in the header pane.
2. Click the Subject link of the request in the **Requests** list page. The Request details page is displayed.

Stop Timer
To stop timer for a request,

1. Click Actions drop-down menu and select Stop Timer option. A pop-up window opens, requesting the reason for stopping the timer.
2. Enter the relevant reason to stop timer in the text area provided for the same.
3. Click Add button. The status of the request is changed to On Hold and the reason gets appended to the request history.

Start Timer
To restart timer for the request,

1. Click Actions drop-down menu and select Start Timer option. A pop-up window opens, requesting the reason for starting the timer.
2. Enter the relevant reason to stop timer in the text area provided for the same.
3. Click Add button. The status of the request is changed to Open and the reason gets appended to the request history.

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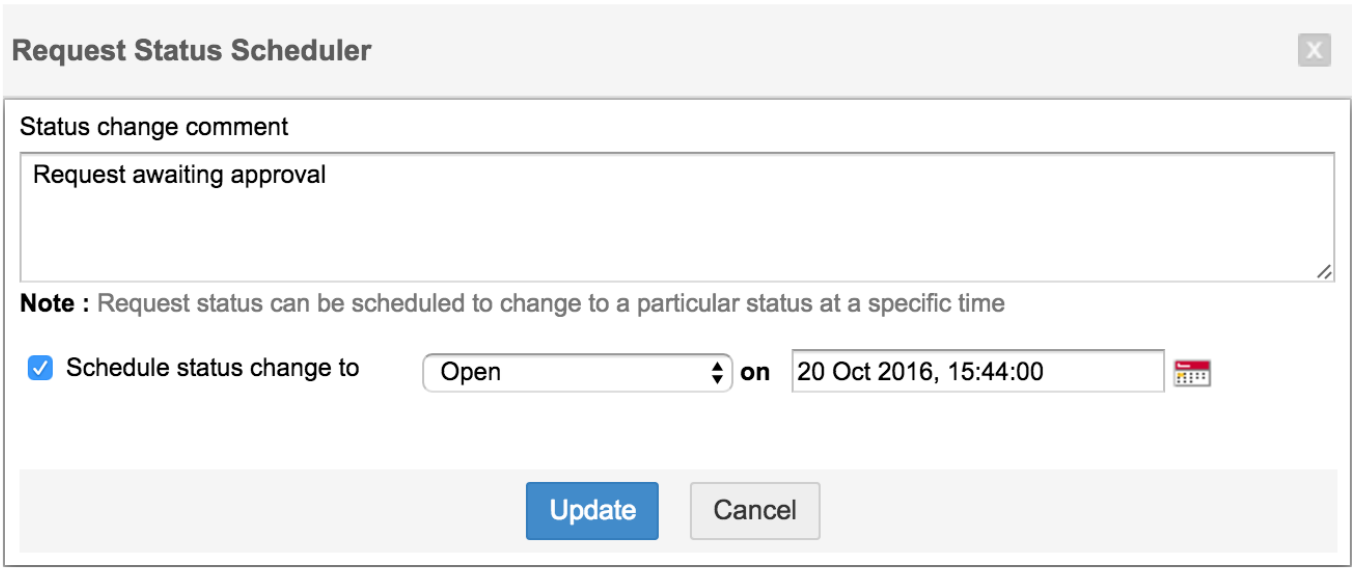
Schedule request status change

At times technicians might have to stall a request (that is, change it to onhold status, in progress status etc.,) for various reasons like company policy, technician seeking requester’s approval and so on. Such stalled requests often face the risk of being forgotten owing to the technician’s busy schedule.
To ensure these requests are not forgotten, ServiceDesk Plus allows its technicians to **schedule these requests** such that their status changes automatically (*preferably from timer stopped status like* '*onhold*' *to* **'***a timer running status like open*') **based on the time & date specified by the technicians**, thus reminding them the request is yet to be closed and action needs to be taken.

To schedule **status change of a request**, do the following:



1. Select a request from **Request List View**
2. Click the **Request Details Edit** button
3. Request Details will change to **editable mode**
4. Change **Request Status** to **Onhold**
5. This action will pop up the r**equest status scheduler** dialog box
6. Specify **Reason** for scheduling **status change** for the request (as shown in the image)
7. Select the **Schedule status change to** check box to **specify status the request would move to** next when schedule is over
8. Specify **Date & Time** (using Calendar Icon) when the **scheduled status change** would take place.
9. Clic**k Update** button
10. **Request Schedule Icon** will appear besides **Request Status** (in the **request details page** as well as the **request view**) indicating the schedule has been configured
11. Save the request.

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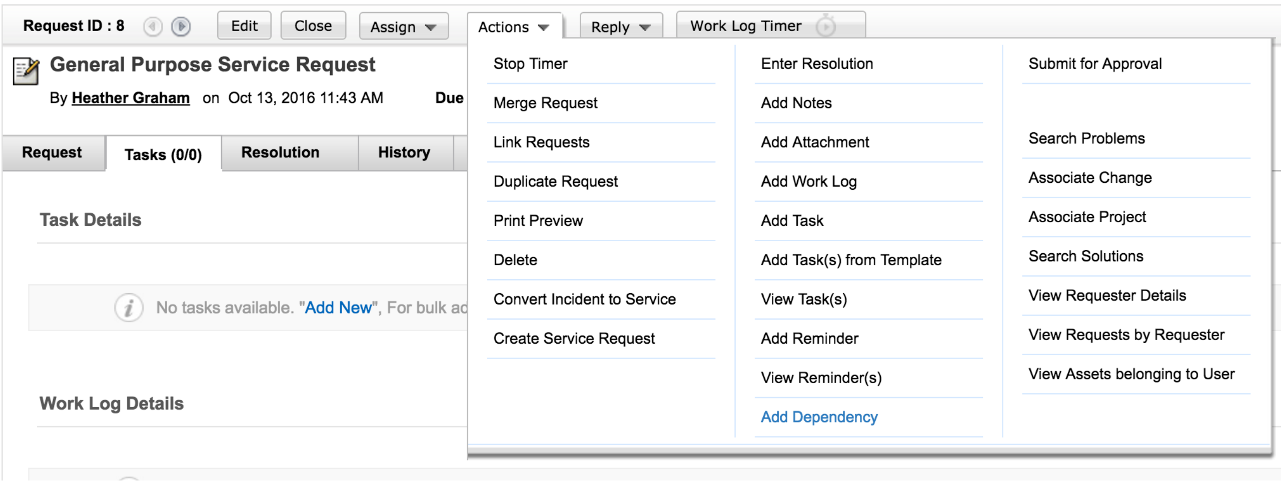
Note:

- **By default**, Request Status Scheduler applies only to **Onhold Status**, but can be configured for any **In Progress** status; more on this in the Configuring Request Status page)
- An already configured **Request Status Schedule** can be edited using the **Edit Link** (appearing when **Request Schedule Icon** is clicked from the request details page).
- When Request Status is scheduled, the **Request Timer will be stopped**, indicating that the SLA does not apply for the scheduled time period.
- **Request Timer will start again** when the schedule gets completed

Request dependency marking

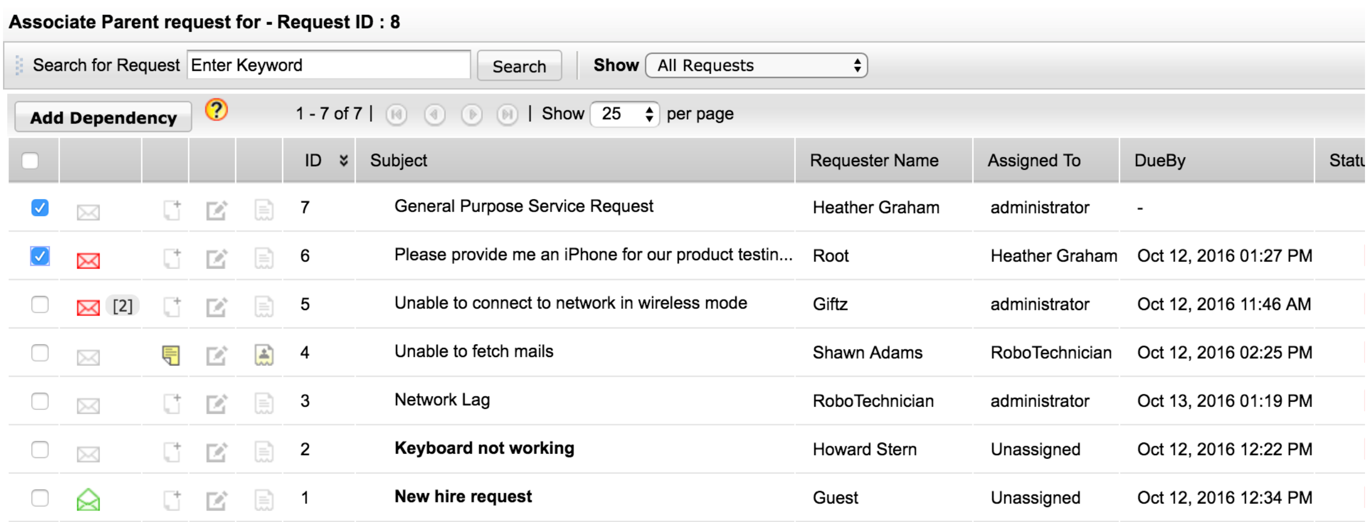
After creating a request,

1.Click **Actions** tab and choose **Add dependency**. The dependency tab will be available only for dependent requests.



A Pop-up window showing the list of available requests appears.

2.Select the check boxes of the desired requests and click **Add Dependency**. The dependency is now associated for the desired request.



3.After the dependency has been marked, dependency tab with the following options appear:

Add Dependency: More dependent requests can be added to the desired request.

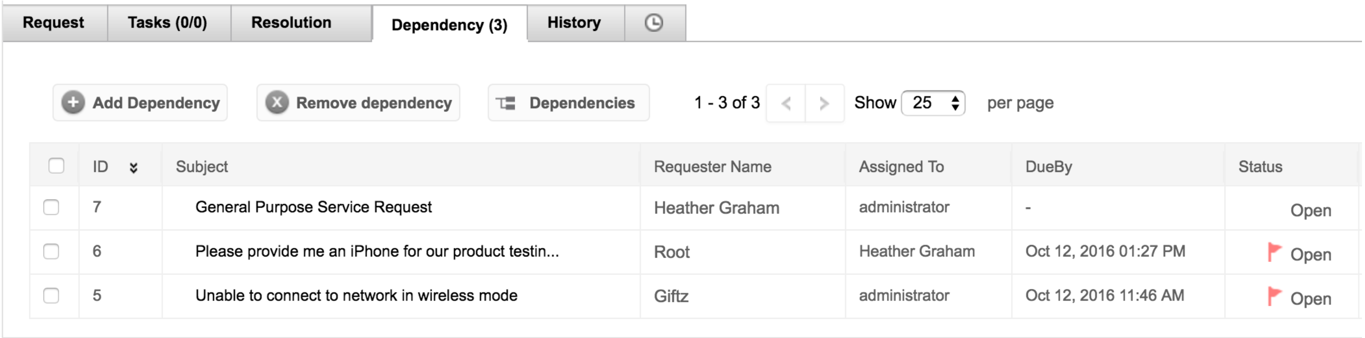
Remove Dependency: One or more requests that were marked dependent, can be removed.

Dependencies: When clicked, the dependency map can be viewed.

Active requests: It lists the active requests in the selected group.

Archived requests: It lists the archived requests in the selected group.

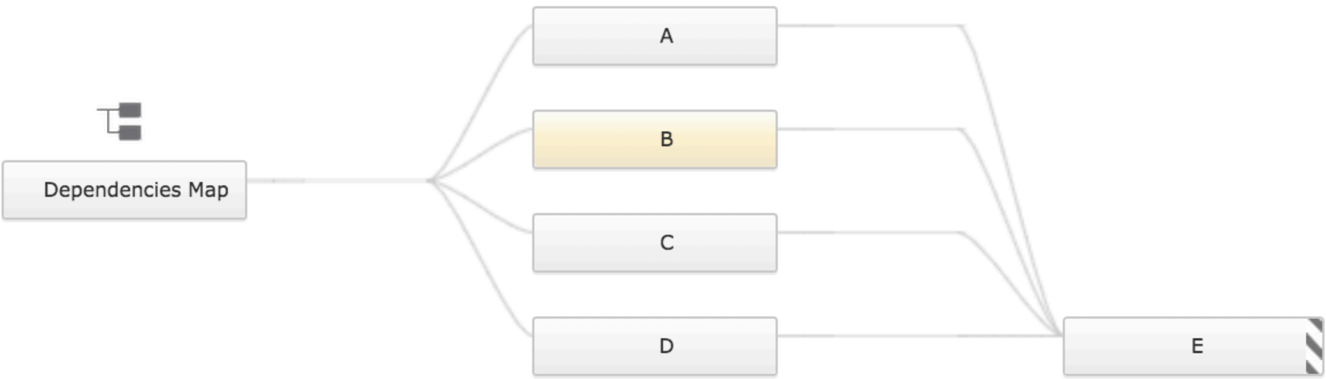
The last column in the requests list view shows the dependency of the request.

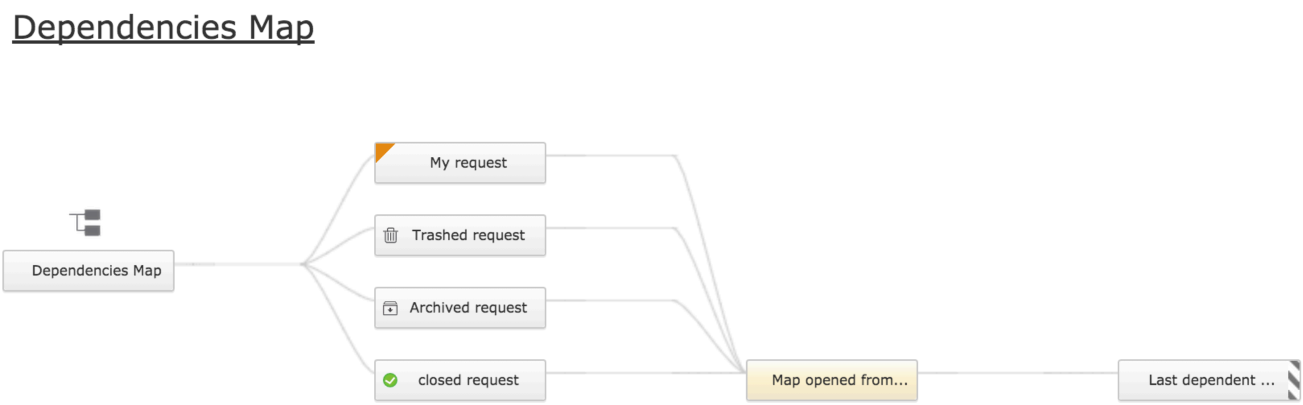


	ID	Subject	Requester Name	Assigned To	DueBy	Status
	7	General Purpose Service Request	Heather Graham	administrator	-	Open
	6	Please provide me an iPhone for our product testin...	Root	Heather Graham	Oct 12, 2016 01:27 PM	Open
	5	Unable to connect to network in wireless mode	Giftz	administrator	Oct 12, 2016 11:46 AM	Open

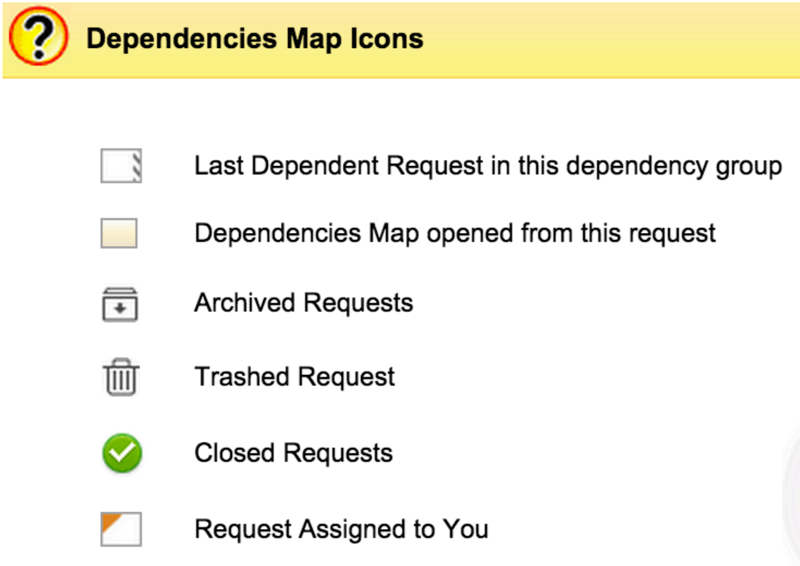
The dependencies map can also be viewed by clicking on / .

From the below dependency map, it can be understood that request E is dependent on requests A,B,C and D. Only when all the dependent requests are completed, the last column of request E turns green. It stays red even if one of the many dependent requests are yet to be completed.





The dependencies map gives a clear pictorial representation of the dependent requests.

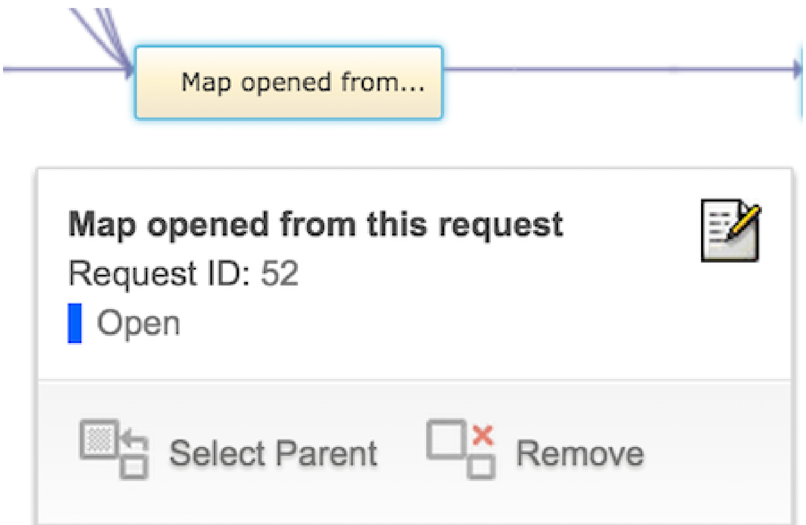


Guidelines to Add Dependency:

- For the first time when we associate parent request, this request will be considered as the last request in this dependency group, which depends on all the other requests selected by default. And this can be changed from the dependency graph.
- Requests selected to associate to the dependency group will be considered as dependent from where this "Add dependent request" is performed. And various

  dependencies can be added/removed across the requests through dependency graph.
- Multiple Dependency group association is restricted.
- Pending Request(s) cannot be marked dependent to a Completed Request, if the dependency closure rule is enabled.
- Total number of requests in the dependency group cannot exceed 15 inclusive of this request.

On hovering over a request, the request id, status and options like '**select parent**' and '**remove**' will appear.



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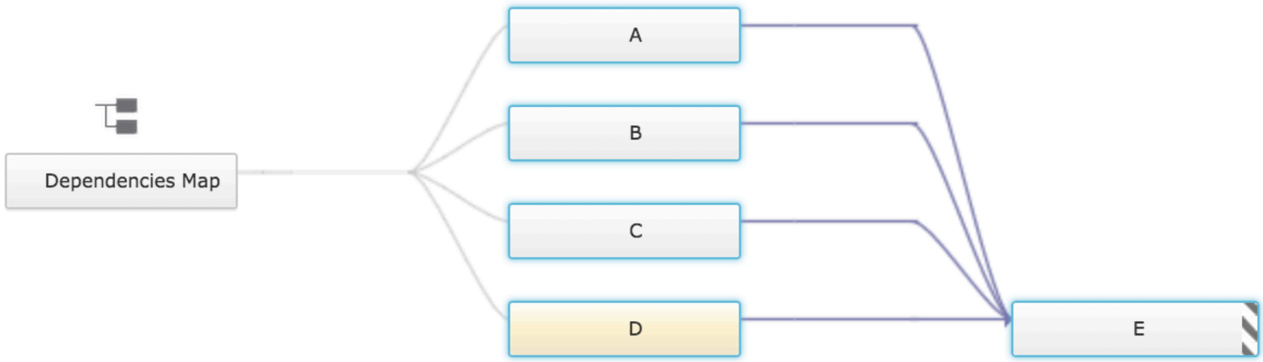
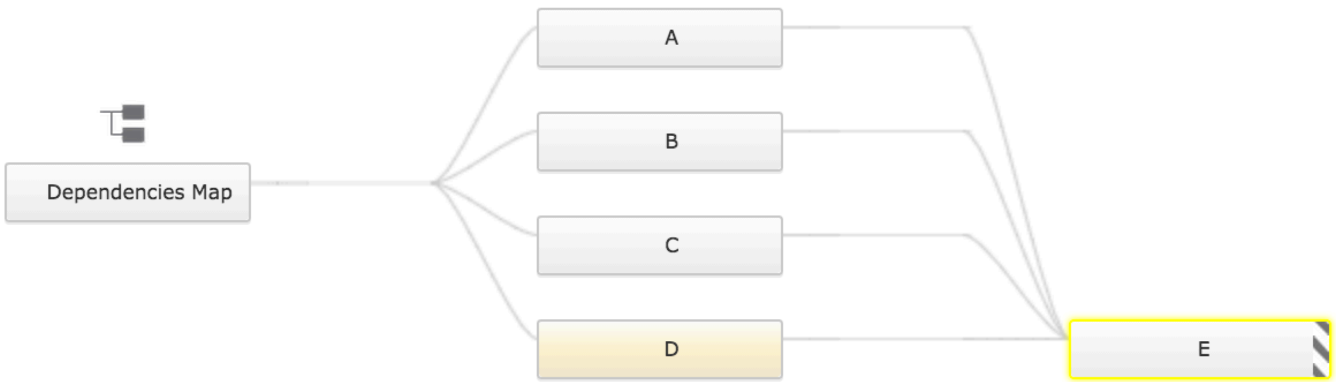
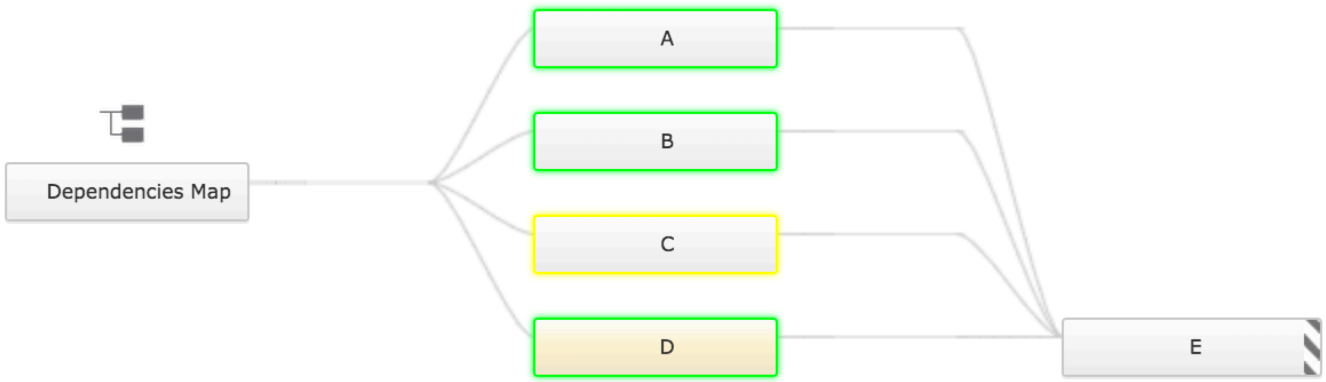
A combination of blue , green , yellow and red colours can be seen when performing different actions in the dependencies map. These colours indicate the following:
On hovering over the request, its dependent requests get highlighted in blue.



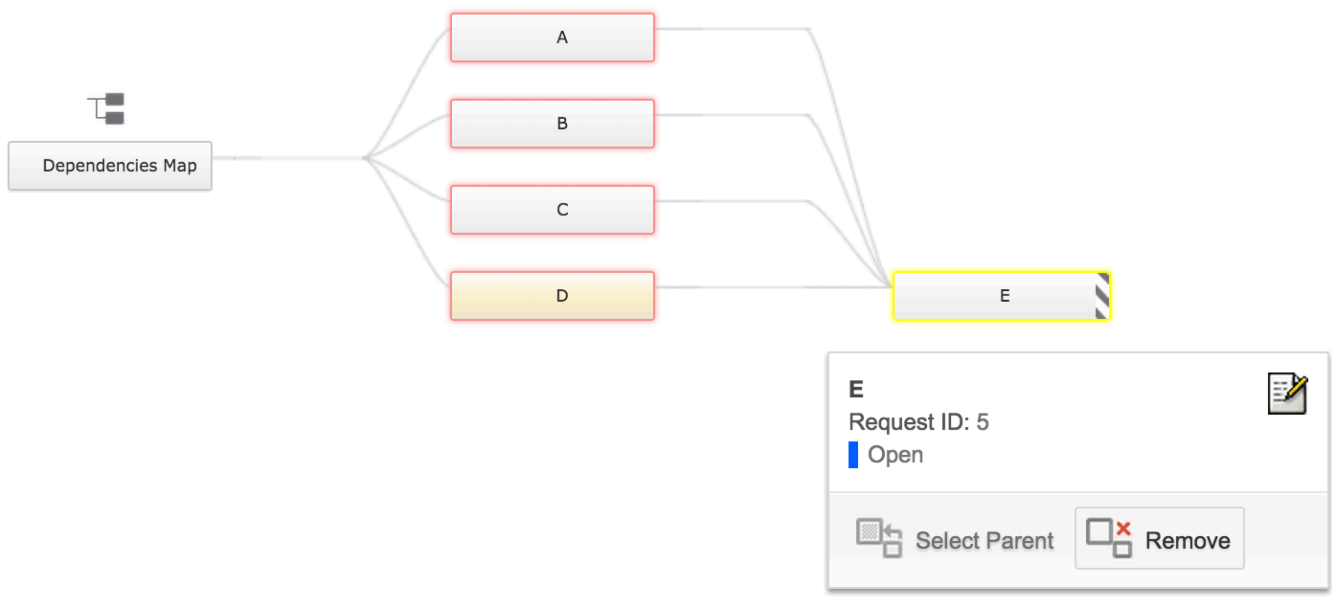
When 'select parent' is chosen, the child request for which the parent is to be selected, will get highlighted in yellow.



when a parent for the request shown in yellow is to be selected, (i.e, on choosing 'select parent' option in dependencies map) , the possible requests that can possibly be selected as parent , will get highlighted.



When 'remove' option is selected, the possible requests that removed dependent from the request shown in yellow, will get highlighted in red.



Note:
1.In both archived and trashed requests , 'select parent' option will not be available.
2.The dependency tab will not be visible in trashed requests' details page. It will be visible in archived and active requests' details page.
3.A dependency cannot be marked between a pending request and completed dependency request.

First Call Resolution (FCR)

First Call Resolution (FCR) is a powerful and valuable metric which serves as a Key Performance Indicator for operational performance of a technician and customers' satisfaction. FCR helps the administrator to comprehend if the customer's problem or inquiry has been resolved by the technician in the first call.
Information with respect to First Call Resolution can be viewed in

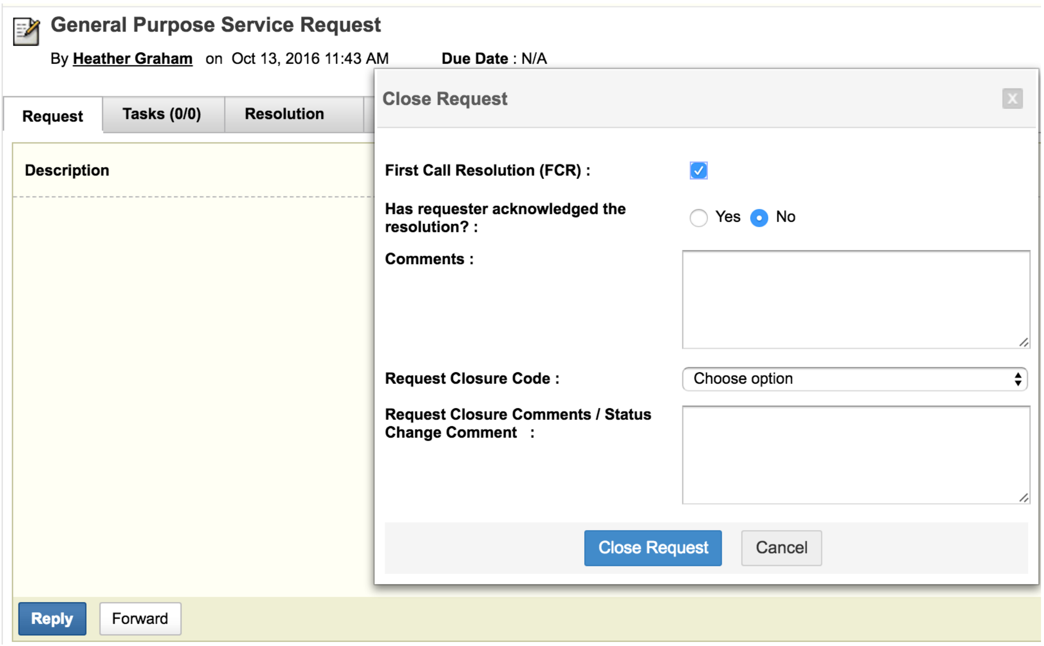
- Request Details page
- Request List View page
- Archive Detail page
- Archive List view
- Trash List view
- Problem and Change association list view

How to

- Mark FCR
- Unmark FCR

Mark FCR for a request :
A technician can mark FCR for a request only when the administrator provides edit permission to technician for resolving, closing a request and edit a closed request.
To mark FCR for a request

- Open the request details page of the request.
- Click 'Close' from the request menu. 'Close Request' window will pop up.
- Enable the 'First Call Resolution' checkbox and close the request.
- The request will now be marked as FCR.



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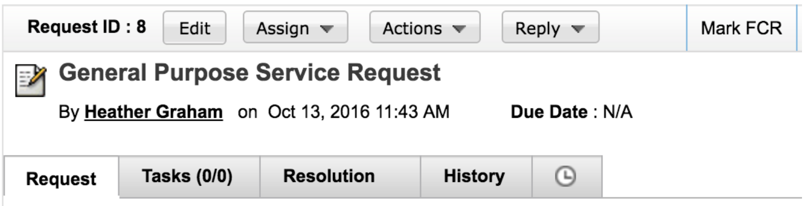
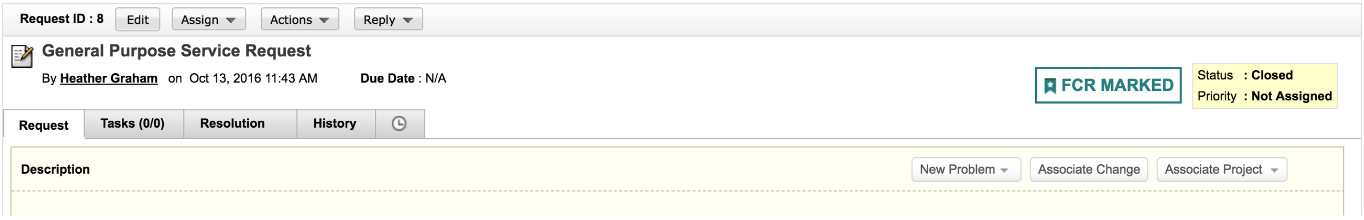
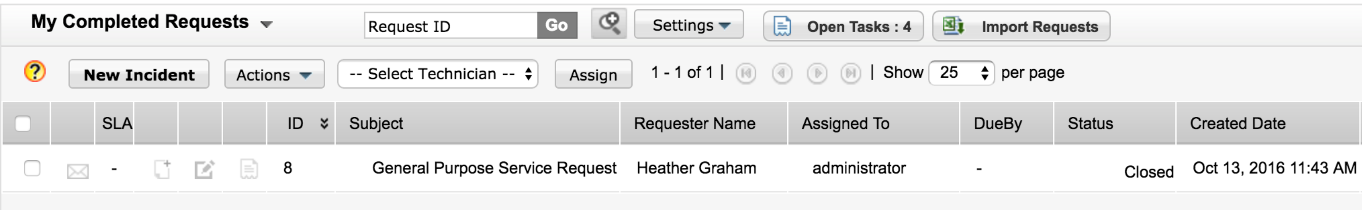
If the request has been closed without enabling the FCR checkbox in the close request window view the closed request and click 'Mark FCR' from the request menu.



The closed request will now be displayed with 'FCR MARKED' icon in the request details page as displayed below.



The closed requests will be displayed as follows in the Request List View page.

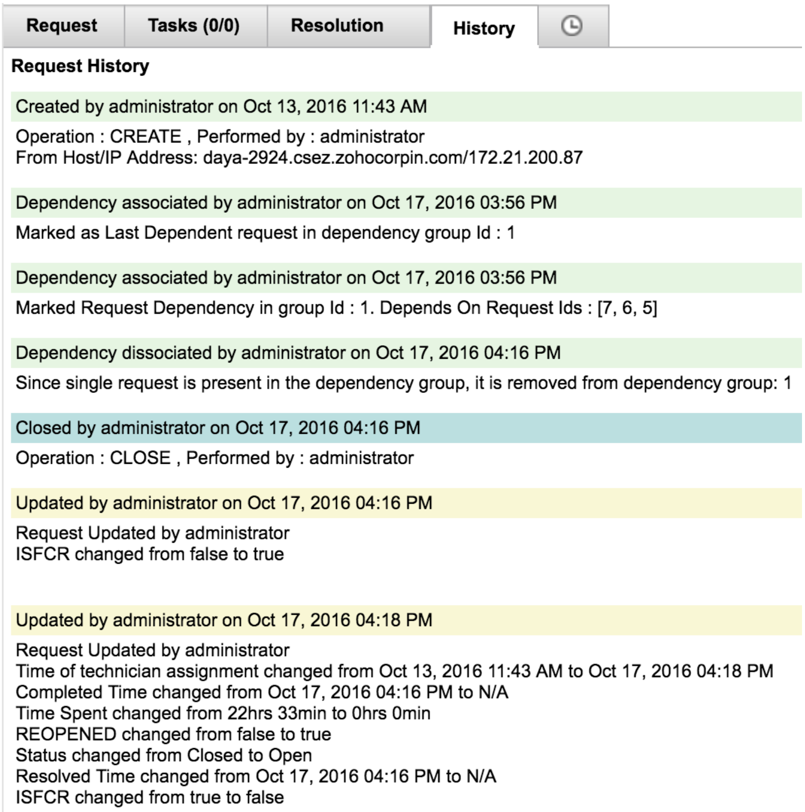


Unmark FCR for a request:

To unmark a FCR marked request

- Open the FCR marked request from the 'completed requests' list view.
- Click on 'FCR Marked' option available below the request header in the request details page. The FCR will be unmarked for the request.
- The FCR will be automatically unmarked for requests if the 'Closed' status is changed to 'In Progress' status. ie; when a request is re-opened.

The operational information for FCR will be captured in request history

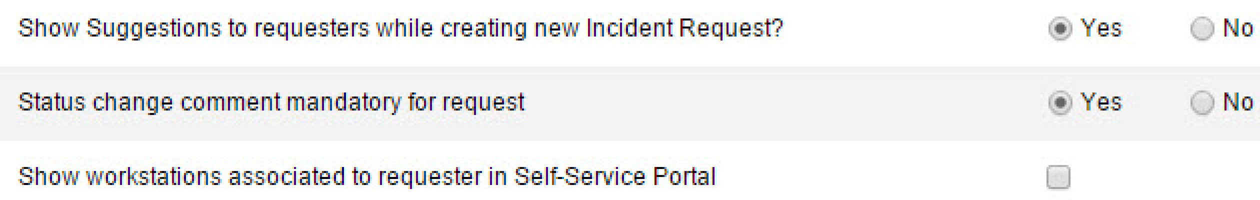

Request
Tasks (0/0)
Resolution
History
Request History
Created by administrator on Oct 13, 2016 11:43 AM
Operation : CREATE , Performed by : administrator
From Host/IP Address: daya-2924.csez.zohocorpin.com/172.21.200.87
Dependency associated by administrator on Oct 17, 2016 03:56 PM
Marked as Last Dependent request in dependency group Id : 1
Dependency associated by administrator on Oct 17, 2016 03:56 PM
Marked Request Dependency in group Id : 1. Depends On Request Ids : [7, 6, 5]
Dependency dissociated by administrator on Oct 17, 2016 04:16 PM
Since single request is present in the dependency group, it is removed from dependency group: 1
Closed by administrator on Oct 17, 2016 04:16 PM
Operation : CLOSE , Performed by : administrator
Updated by administrator on Oct 17, 2016 04:16 PM
Request Updated by administrator
ISFCR changed from false to true
Updated by administrator on Oct 17, 2016 04:18 PM
Request Updated by administrator
Time of technician assignment changed from Oct 13, 2016 11:43 AM to Oct 17, 2016 04:18 PM
Completed Time changed from Oct 17, 2016 04:16 PM to N/A
Time Spent changed from 22hrs 33min to 0hrs 0min
REOPENED changed from false to true
Status changed from Closed to Open
Resolved Time changed from Oct 17, 2016 04:16 PM to N/A
ISFCR changed from true to false

Status change comment

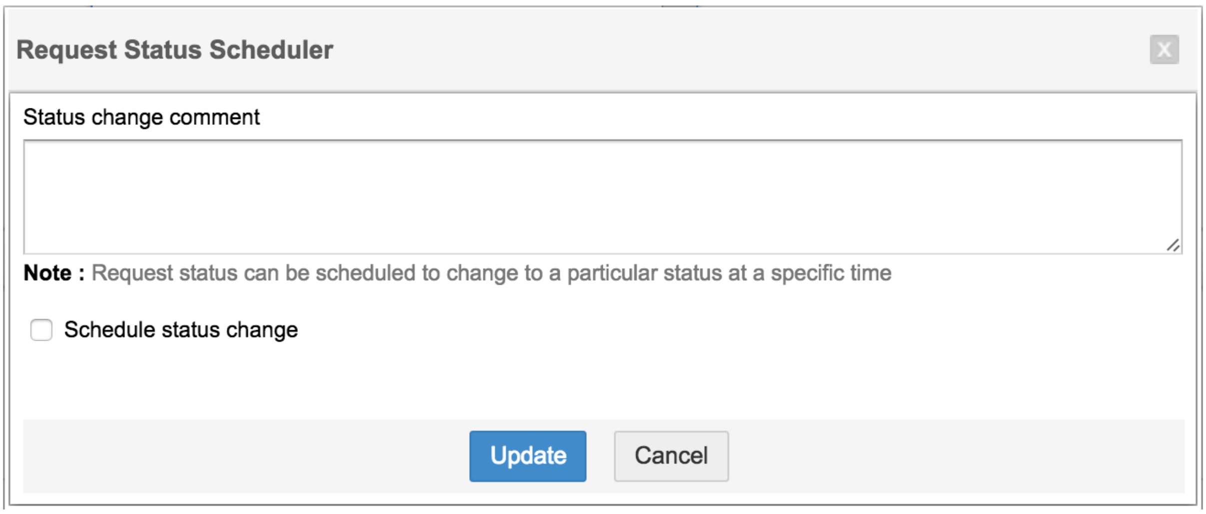
Status Change Comment lets you to enable a mandatory comment box that pops up before changing a status. This can be customized by enabling the **Status change comment mandatory for request** option in the Self-Service Portal Settings under the Admin tab.

Enabling Status change comment for request

1. Click on the **Admin** tab.
2. Click on **Self-Service Portal Settings**.
3. Enable **Status Change comment mandatory for request** option by clicking on the **Yes** radio button.



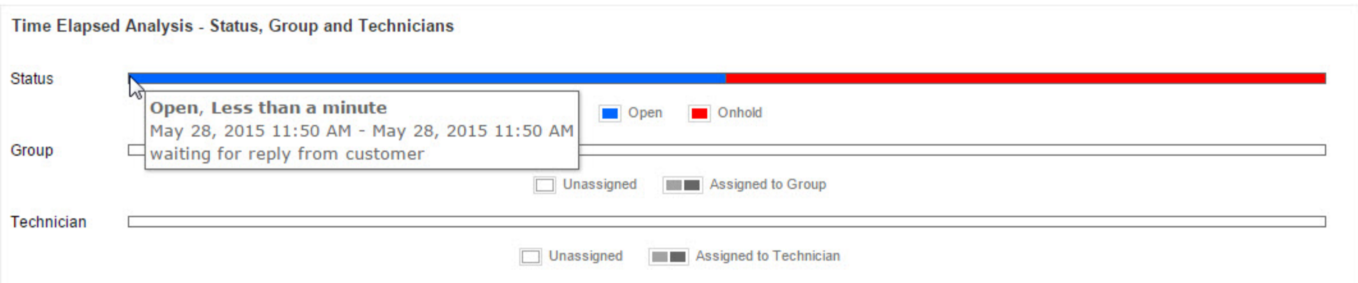
When the status change comment is enabled, there will be a pop up that prompts to enter the status change comments.



Viewing Status Change Comments

The status change comments can be viewed in the Time line present in the **Time elapsed analysis**.

Hover over the Previous status to view comment for the Status change. For example, if you want to see the comment for the "Onhold" status change then hover over the "Open" status.



The status change comments can also be viewed in the **History** tab of the request details page.

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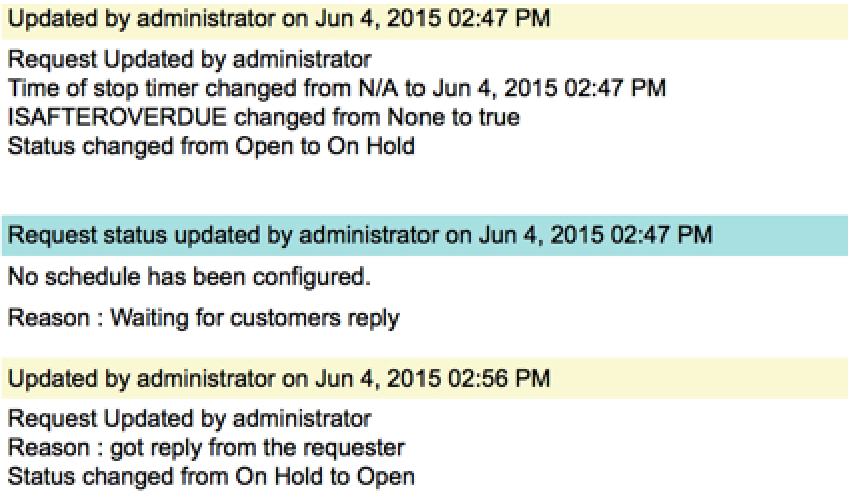
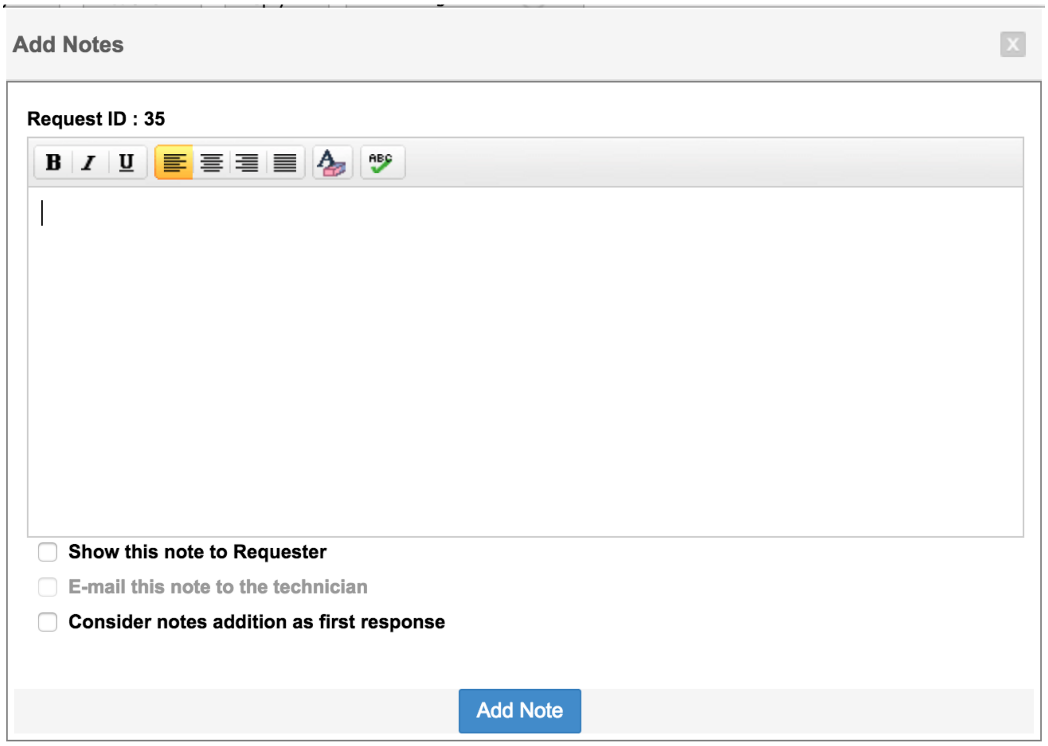
- Click on the **History** tab on the request details page



Add a note

When you would like to add some additional information including technical information to a particular request based on your observations, you can use Add Notes. You can also use notes to update the status of the request. To add notes to a request,

1. Click **Requests** tab in the header pane.
2. Click the **Subject** link of the request to add the note.
3. In the Request Details page, click **Actions drop-down menu** and select **Add Notes** link. The **Add Notes** form pops up.
4. Enter your content in the text field.



There are two types of notes that can be added to the request namely, Public Notes and Private Notes.
Public Notes: Public notes can be viewed by the requesters and technicians.
Private Notes: Private notes can be viewed only by the technicians (all the technicians).

1. If you want the notes to be visible to the requesters (public), then select the Show this notes to Requester also check box. Else only the technicians will be able to view the notes (private).
2. If you want to notify the technician about the addition of the note, then select the check box, E-mail the technician for notes addition.
3. Click the **Add Note** button. The note is added at the bottom of the request along with a date and time stamp. The name of the person who added the note is also displayed.
4. You can add any number of notes to a request. The added notes will be displayed in the descending order with recently added note first. You can also edit or delete the notes that have been added.

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Add a reminder

You can add reminders to the request using this add reminders option. All the pending tasks specific to the request can be added as reminders. The technician can add these task lists as a personal reminder to himself/her. On adding these reminders they get displayed in the My Reminders page.

To add a reminder,

1. Click the **Request** tab in the header pane.
2. Click the **Title** of the request to add reminders. This opens the View Request page.
3. Click on the Actions tab on the top right side of the page. Click Add Reminder link. This opens the Reminders page.
4. Specify the content in the given text field on the left side of the page.
5. Select the Date on clicking the calendar button to remind you of the task.
6. Select the Time of reminder from the combo box.
7. Select the buffer time from the Remind me before combo box.
8. Click Add button to add the reminder. You can see the reminder getting listed in the My Reminders page.

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Merge requests

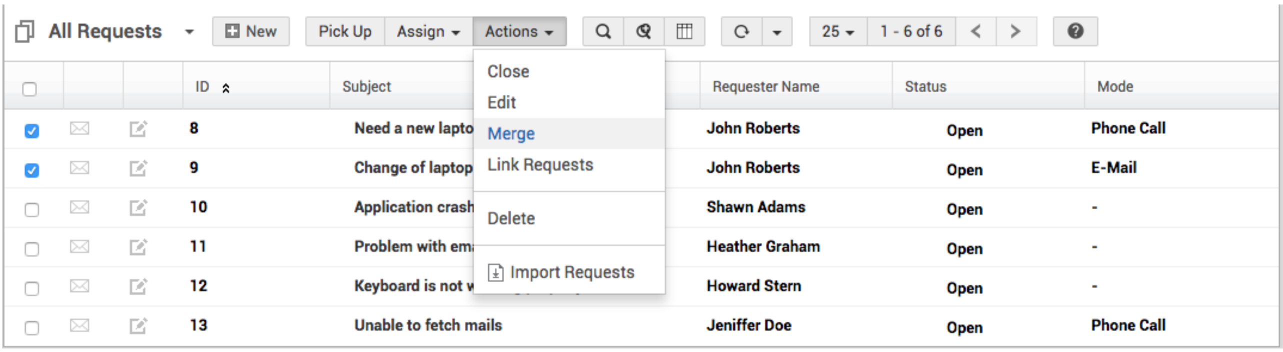
Merging allows you to combine duplicate entries of incidents or service requests. You can merge similar requests raised by a requester for the same incident or service.
Sometimes a request is created twice for the same issue, when a user logs an incident/service request both by email or through a phone call. Such requests must be merged to ensure an efficient help desk.
Using the Merge feature, you can merge two or more incidents or service requests (of the same template) from a user. You can also merge duplicate incidents and service requests from the same user.

> As for multiple incidents raised by different users for the same issue, the incident must be analyzed under Problem Management.

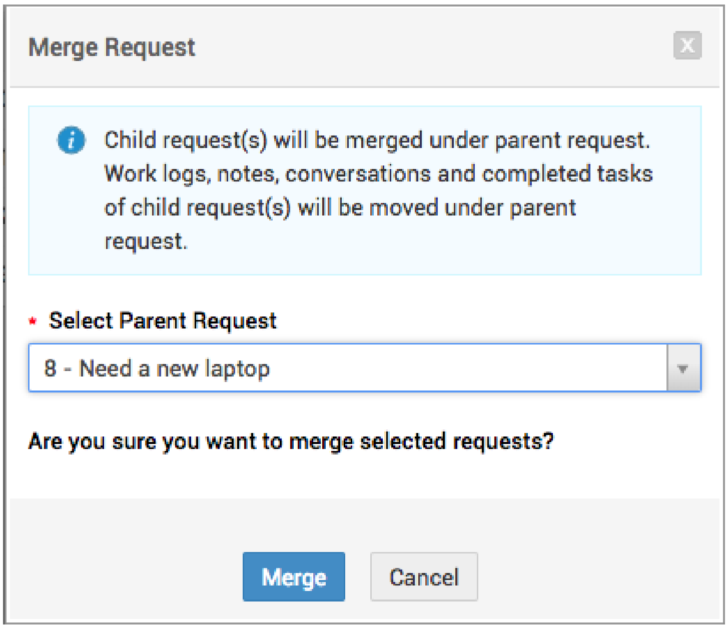
Under the **Admin** >>**Roles**, the admin can grant merge permissions to all technicians.
There are two ways to merge requests.

Merge Requests from requests list view page

Click **Requests** and select the requests to be merged.
Then, click **Actions** and select **Merge**.



- Parent selection window appears. Among the multiple requests to be merged, select a request (parent request) to which all other requests will be attached as a conversation thread after merging.

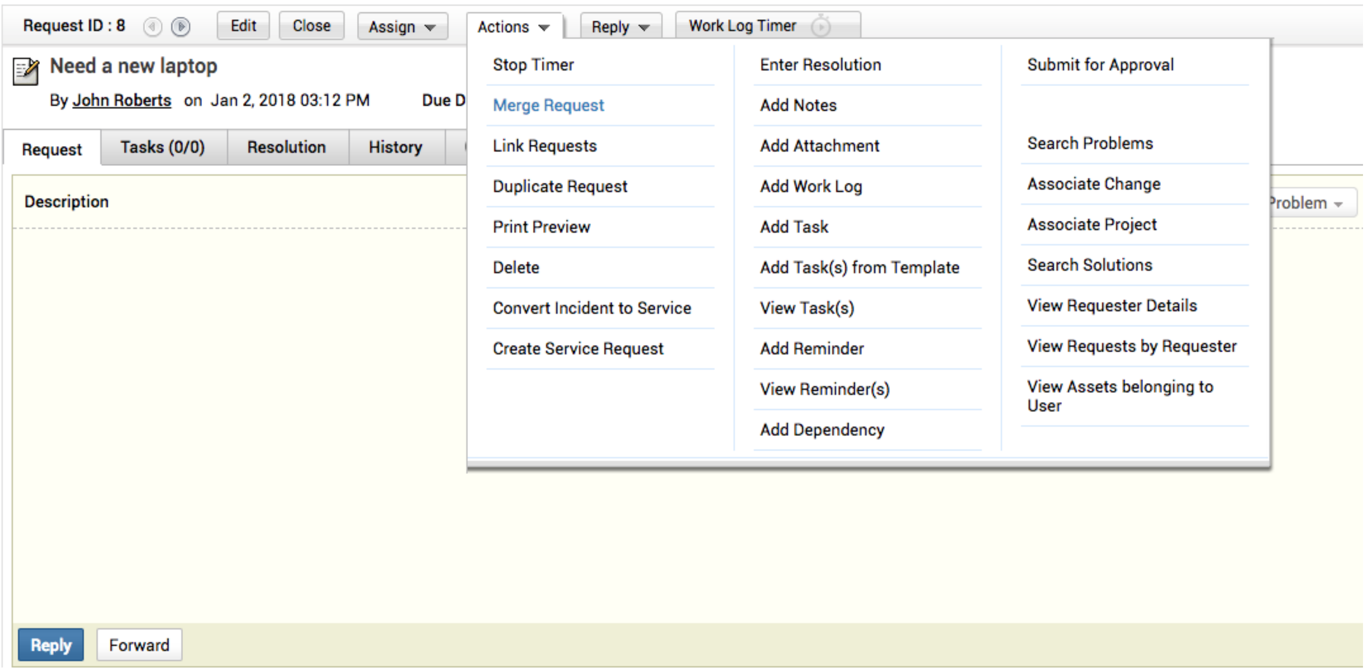


- Click **Merge**.

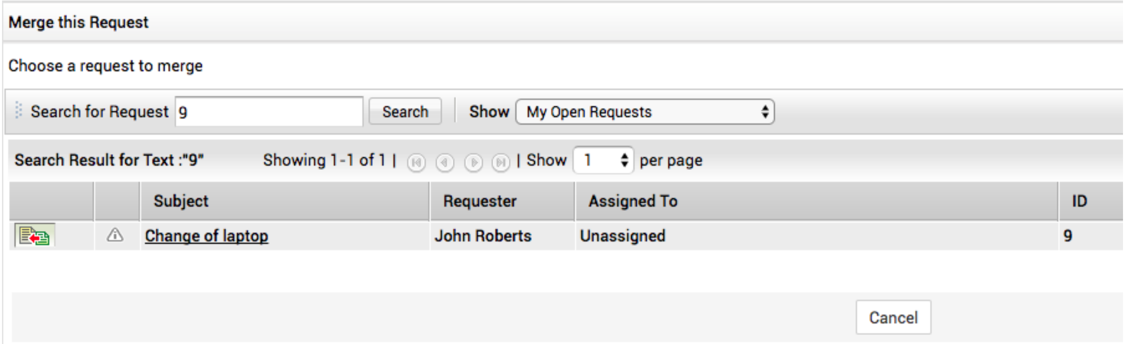
Merge requests from the request details page
You can merge two requests at one time here.

Click **Requests** and select a request. This request will be the child after merging.

Click **Actions** on the request details page and select **Merge Request** from the drop-down.



The **Merge this Request** window opens. Locate the parent request with which the child request has to be merged.



Click the **Merge Request** icon  beside the request to merge.

Click **Ok**.

After merging the requests, you can view the merged requests' details in the **History** tab of the parent request.

Requests after merging

The field values of **Assigned Technician** or **Group** and **DueBy date** of the parent request are retained after the merge process.

When you select a closed request as the parent request, its status becomes open after merging.

On merging, Completed Tasks, Notes, Worklogs, and Attachments of the child request will be moved to the parent request.

In the absence of Change/Problem/Project associations of the parent, the child's associations will be moved to the parent on condition that they are not conflicting the parent's associations.

You can split a conversation thread of a request into a new request. Refer Request Conversations - Split as new Request for the same.

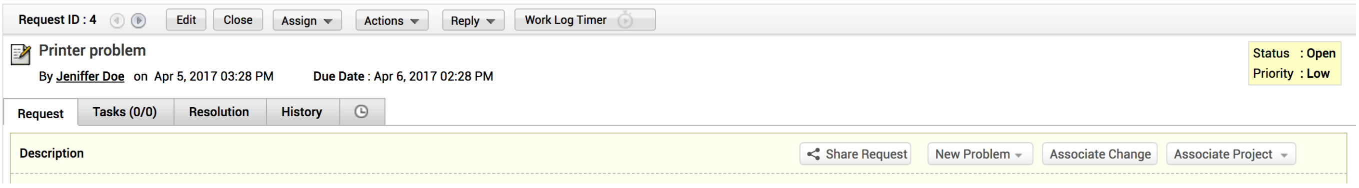
You cannot merge requests of different dependancy groups.

Share a request

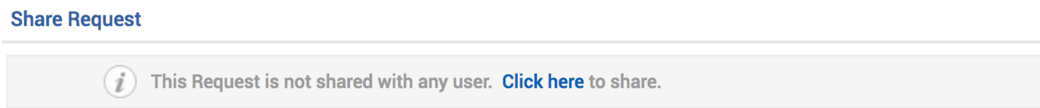
Share Request allows Technicians to share their Requests with:

- Technicians and selected Support Groups
- Requesters of certain Sites and Departments

This feature helps Technicians and Requesters to access a Request that is beyond their scope of viewing/editing.
Steps to Share a Request:
Step 1: Click on the **Share Request** option available in the Request details page. You will be taken to the Share Request section available at the end of the page.

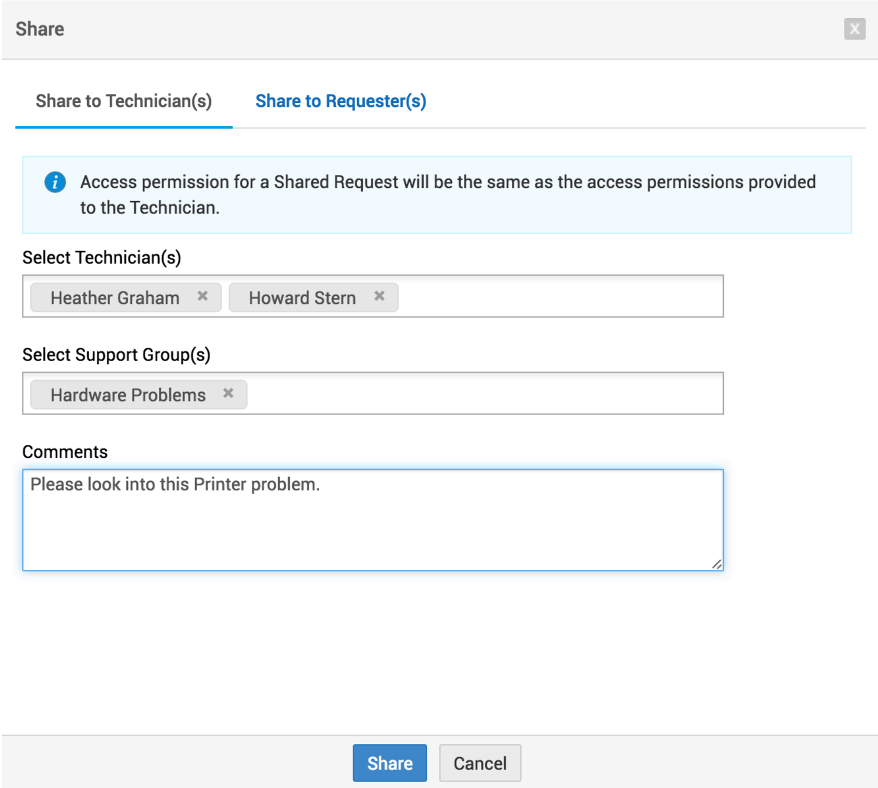


Step 2: Click on **Click here** link to share the Request. Share window will pop-up.



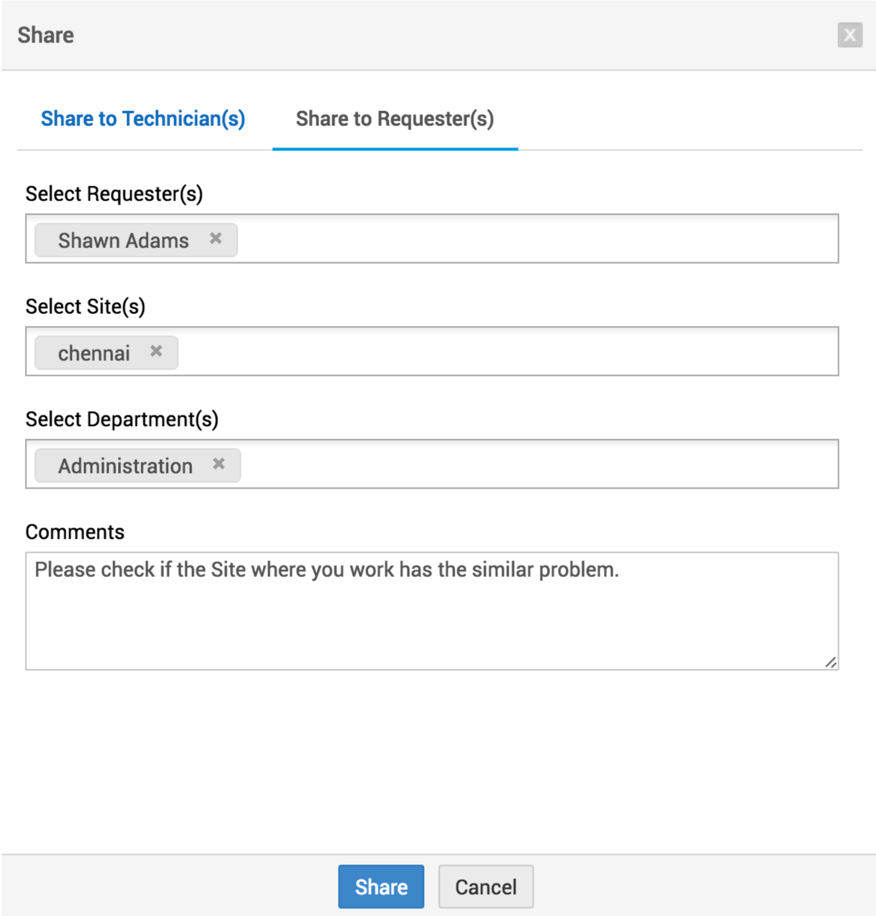
Step 3: Click on **Share to Technician(s)** if you want to share with Technicians and **Share to Requester(s)**, if you want to share it with Requesters.

Share to Technicians: You can share the Request with all Technicians or select the required Technician(s) with whom you want to share the Request. You can also share the Request with Technicians of certain support groups. Let us consider a scenario where there is problem with the organization's printer. You can select the Technicians (Eg: Heather Graham and Howard stern) or select the Hardware Problems support group since the printer problem is related to hardware. Type-in your comments/suggestions/queries in the comments section. Click **Share** to share the Request.
Note : View/edit permission for a Shared Request will be the same as the access permissions provided to the Technician with whom the Request is shared with.

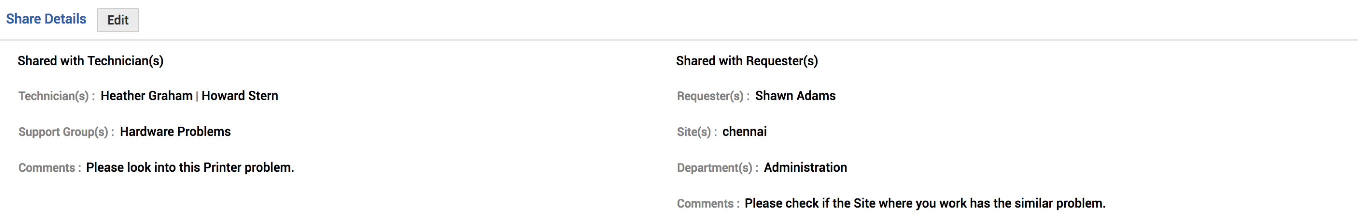


Share to Requester(s): You can share the Request with all Requesters or select the required Requester(s) with whom you want to share the Request. You can also share the Request with Requesters of certain selected Site(s) and Department(s). In our scenario, you can select the Requesters (Eg: Shawn Adams) or select the site and administration/IT Services department since the printer problem is related to general administration. Type-in your comments/suggestions/queries in the comments section. Click **Share** to share the Request.

Note: Requesters can only view the shared Request and not edit it.



After successfully sharing a Request, you can view the share details at the end of the Request details page. You can also edit the details by clicking **Edit**.



Share Filters in Request List view : You can specifially view the Shared Requests by selecting the appropriate filter from the list of available filters.

Pending Request shared with me: When this filter is selected, all the Requests in **pending** status that are shared with you will be displayed.

Requests shared with me: When this filter is selected, all the Requests that are shared with you will be displayed.

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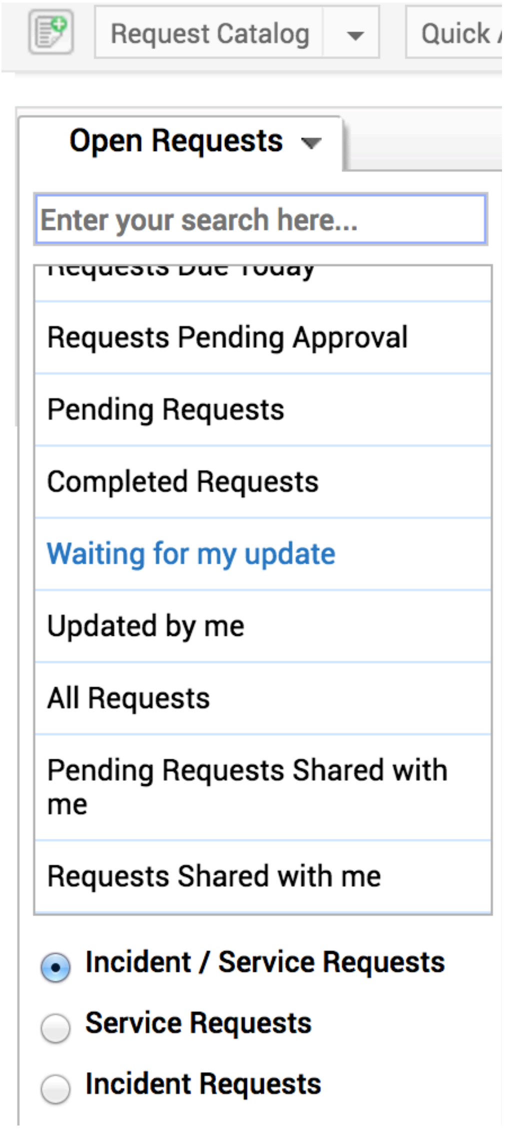

Include Shared Requests in Reports:

You can include the Shared Requests in the reports that you generate.

Go to Custom settings under Reports and enable **Include Shared Requests** in the Report Settings pop-up.

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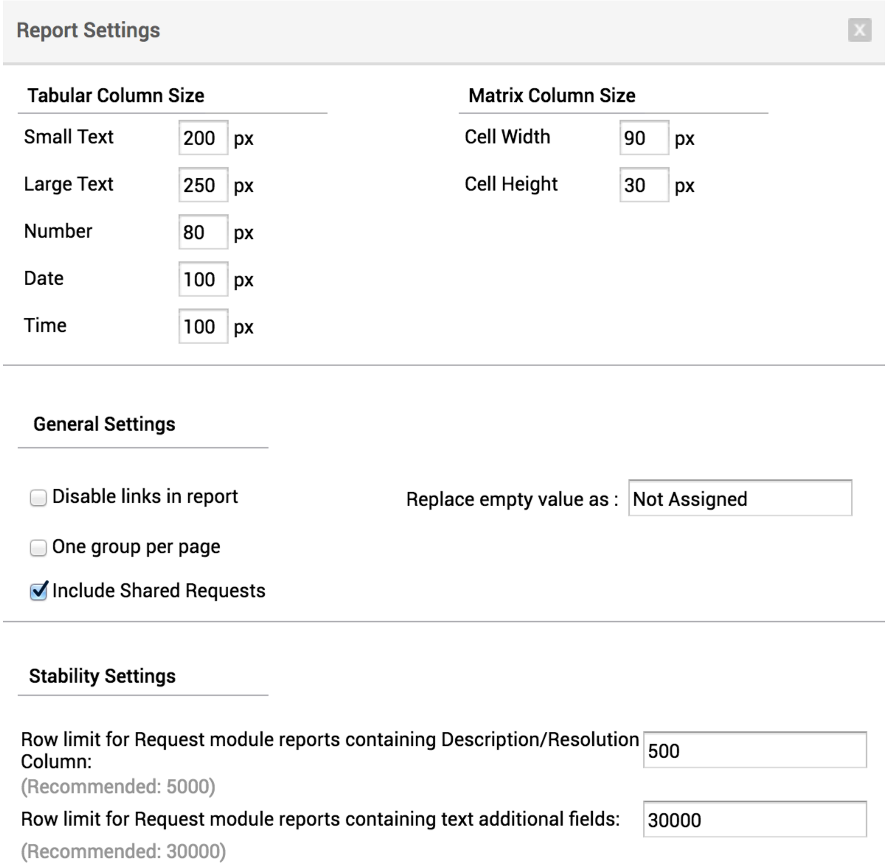
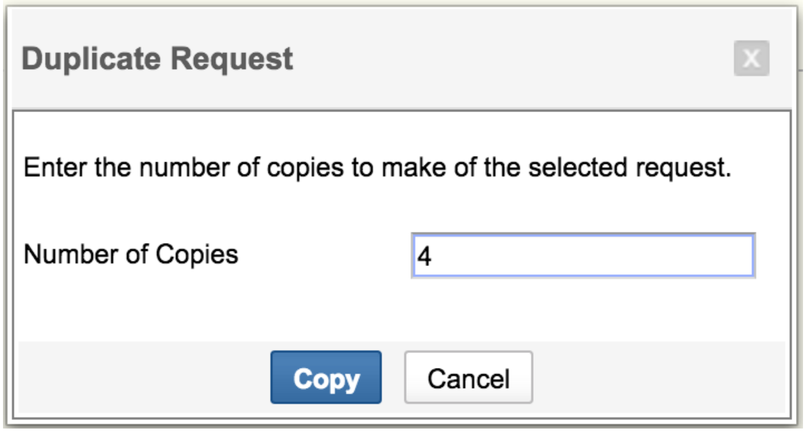

Report Settings
Tabular Column Size
Small Text 200 px
Large Text 250 px
Number 80 px
Date 100 px
Time 100 px
Matrix Column Size
Cell Width 90 px
Cell Height 30 px
General Settings
Disable links in report
One group per page
Include Shared Requests
Replace empty value as : Not Assigned
Stability Settings
Row limit for Request module reports containing Description/Resolution Column: 500
(Recommended: 5000)
Row limit for Request module reports containing text additional fields: 30000
(Recommended: 30000)

Duplicate an incident request

When a single request has multiple issues in it that requires more than a single technician to handle them, then the request can be duplicated and each of the duplicated requests can have only one issue. This makes it easier for the technician to take ownership and complete the task independently.

To make multiple copies of a request,

1. Click the **Requests** tab in the header pane. This opens the request list view page.
2. Click the Subject link of the request that you want to duplicate in the view list page. This opens the Request details page.
3. Click Duplicate Request option under Actions combo box. A Duplicate **Request** pop-up window opens, requesting you to give the number of copies.



4. Enter the number of copies in the text field provided beside the **Number of Copies** label. The maximum value you can enter is 9. If you need more than 9 copies of the request, then you need to invoke **Copy Request** again.
5. Click Copy to make the copies of the request. The new copies of the request will be assigned new request ID that will uniquely identify them. The rest of the information such as the request details and description remains as it is.

Once you have created the copies of the request, you can edit the same to contain only the necessary information and assign appropriate technicians. You can modify the request copies by editing the copy of the request.
Note: While copying the request, the **Notes, Tasks, Reminders, Resolution and Approval status** of the original request (if any) will not be present in the duplicated requests. Also, the **Created Date** and **Due by Date** will be different from that of the original request.

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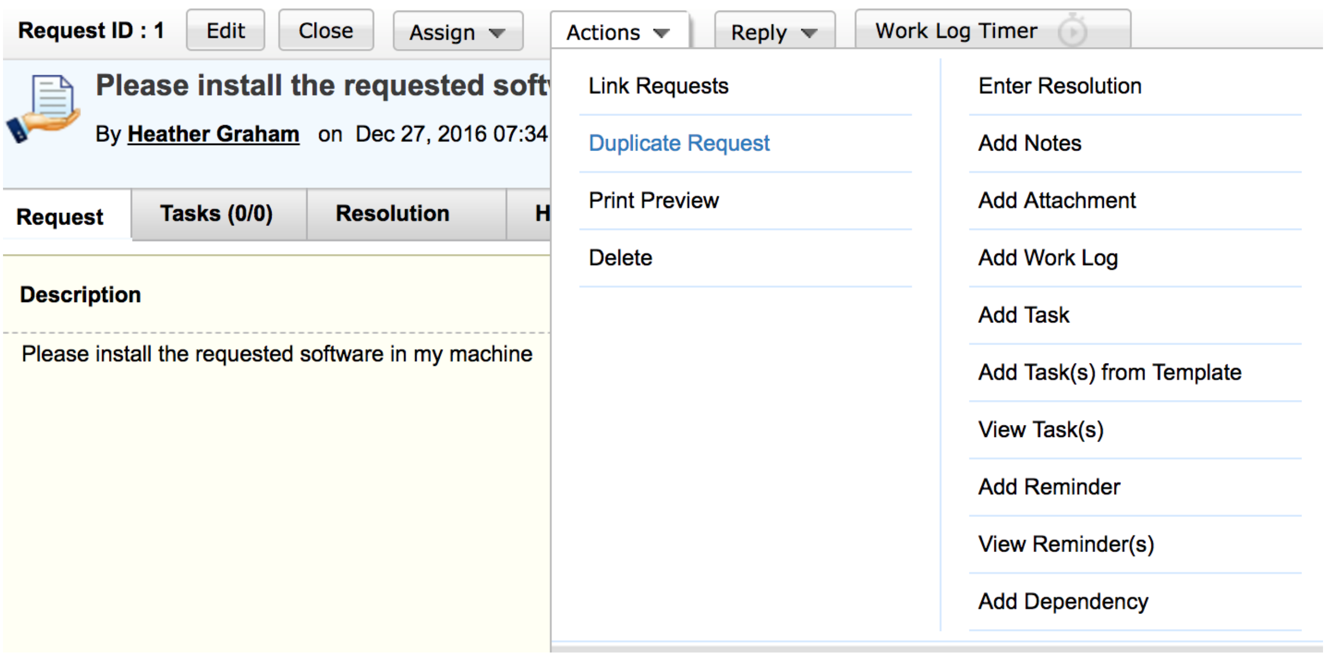
Duplicating service requests

This feature allows the users to create a new service request by duplicating an existing, similar type of service request. Once the request is duplicated, a new service request page will be shown with the request details copied from the existing one. The users can also edit the request details.

To duplicate a Service Request,

- Go to the Requests module.
- Select the request you want to duplicate.
- Click on the **Actions** menu and select **Duplicate Request**.



- New service request form will be shown with the request details copied from the existing request.
- You can edit the request details. Select the tasks you want to duplicate.
- Click on **Add Request**.

Note

- Notes and Conversations will not be duplicated.
- Linked or Merged requests will not be duplicated as well.

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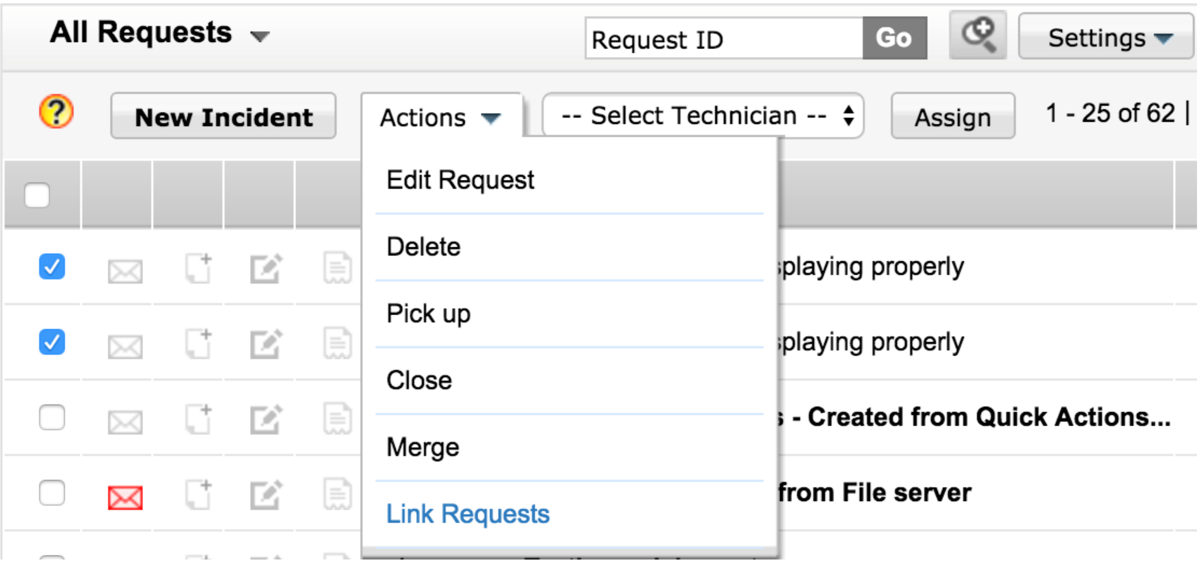
Link requests

Linking Requests is a feature that primarily provides an option to relate requests to one another and set some references between them. Secondly, certain common operations such as adding notes, creating resolutions and adding work logs can also be linked between them.
When two or more requests are linked, one of the requests becomes the "Reference request" and the other requests are the "Linked requests".

Link requests from the Request List View page

To link two or more requests from the Request List view page,

1. Click Requests tab in the header pane.
2. From the Request List View page, select the requests that need to be linked by enabling the check boxes.
3. Click **Actions** drop-down menu -> Link Requests option.

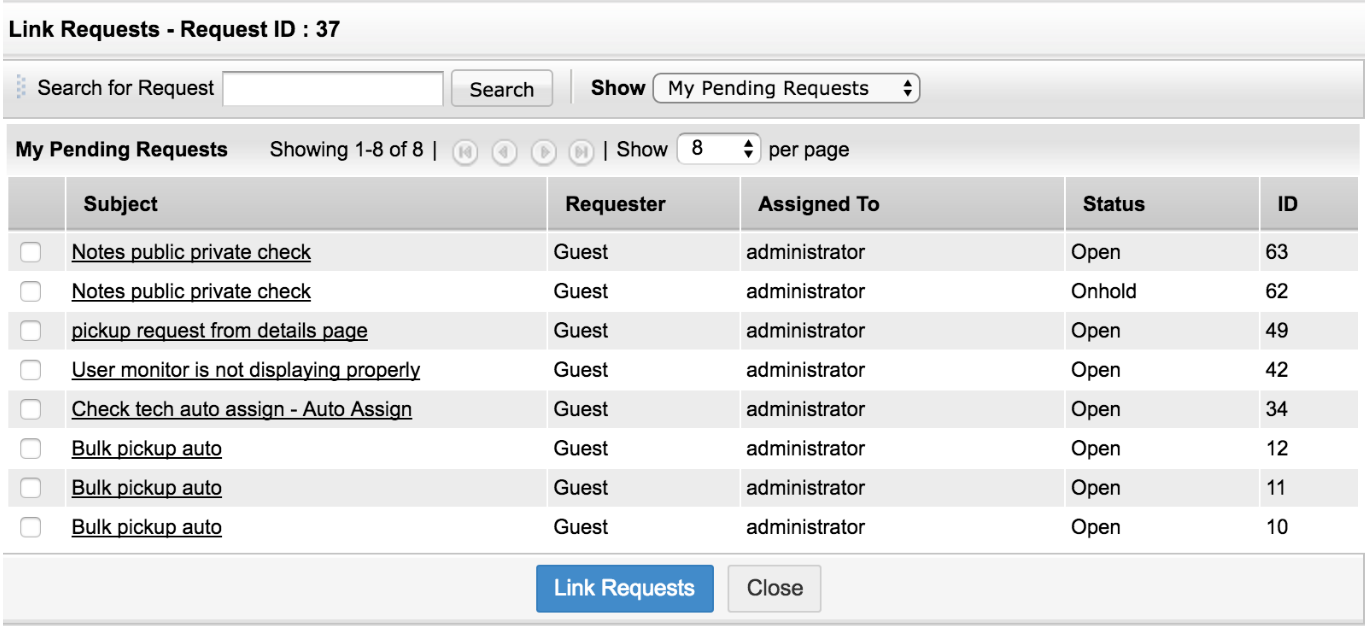


Here, among the selected requests, the oldest created request becomes the "Reference request" and the other requests become the "Linked requests".

Link requests from the Request Details page

To link two or more requests from the Request details page,

1. Click the **Subject** link of the request you want to link. This opens the Request Details page.
2. In the request details page, click Actions drop-down menu and select the Link Requests option. This opens a pop-up window with a list of requests.
3. Select the requests that need to be linked by enabling the check boxes.
4. Click the Link Requests button to link the requests.



In this case, the request through which the linking is done becomes the "Reference request" and other requests are its "Linked requests". This option is useful when you want to choose a specific request as the Reference request instead of the oldest created request. A relatively new request can be made as Reference request with older requests related to it as Linked requests.
In the above example, linking is done through the details page of Request ID 27 and so it is made as the Reference request. Other older and newer requests (18, 25, 28 and 61) linked to it are its Linked requests.

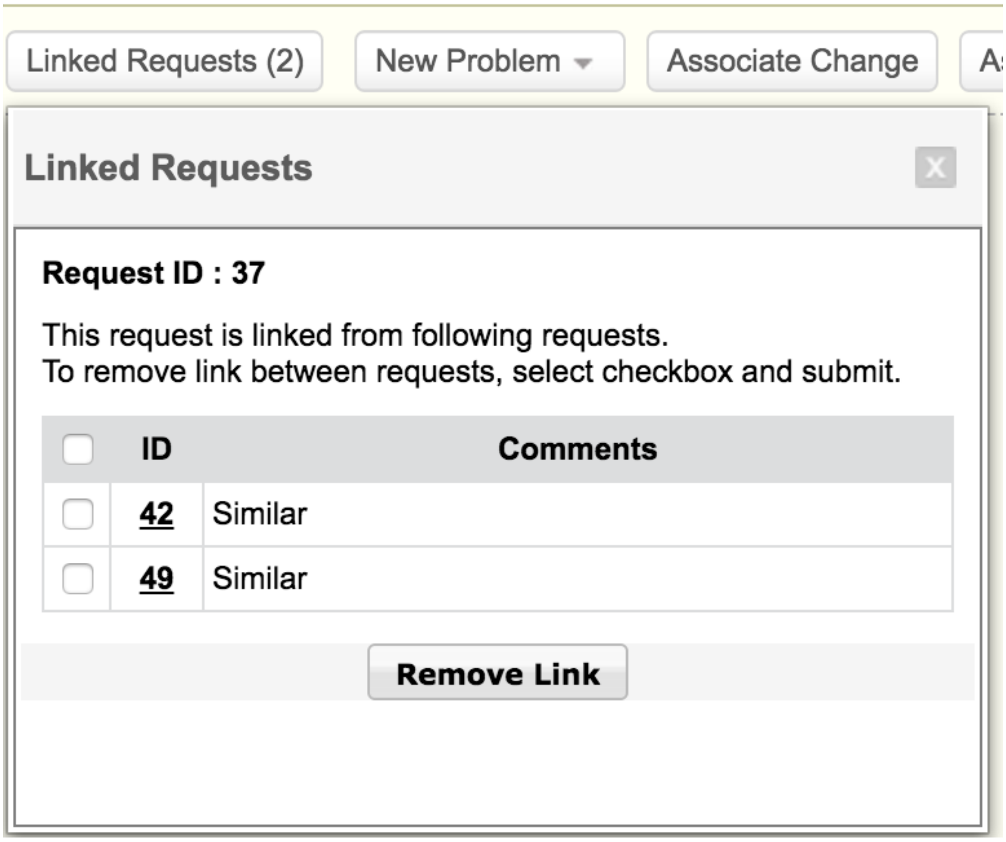
Note: Linking requests is different from "Tasks" that are created within requests. Tasks are created in a request so that the request can be split into various activities and can be assigned to different technicians. All the tasks inside a request will be considered as a single request. However, Reference requests and the Linked requests are independent requests with only references set between them.

Attributes of Reference Request and Linked Requests:

1. Any Linked request can be associated with only one Reference request at any time.
2. Even though Linked requests are linked to a Reference request, they will still be considered as independent requests with their own SLA, Business Rules, and so on.
3. If a Reference request (A) is made as the Linked request of a new Reference request (B), then all the Linked requests earlier associated to Reference request A will be linked the new Reference request B.
4. Linked requests have their own independent work logs, resolutions and notes. Operations performed over the Linked requests have no impact over the Reference request. However, any work log, resolution or note added to the Reference request can be linked to all the Linked requests by enabling corresponding check boxes.
5. Notes added to a Reference request can be made available to the Linked requests by enabling the Add notes to all linked requestscheck box. The Discussions Notes section in the Linked request details page will show its own notes and the notes that have been linked from the Reference request. Editing notes in the Reference request has no impact on the notes that have been earlier linked to the Linked requests.
6. Similarly, work logs added to a Reference request can be made available to the Linked requests by enabling the Add work log to all linked requests check box. However, any changes made to the work log in the Reference request will not change the work logs that were earlier linked to the Linked requests.

7. If a resolution written for a Reference request is linked to the Linked requests, then it overwrites any resolutions earlier added to the Linked requests. Editing resolutions for a Reference request will change the same in the Linked requests. All resolutions written for a particular Linked request can be viewed under the History tab of that Linked request. The Click here link opens a pop-up with all resolutions associated with that request. Also, Change Status to option applies only to the Reference request and does not have any impact on Linked requests upon linking.

8. While viewing a request's details page, indications are shown if there are any requests linked to the current request. By clicking on this indication, a description box opens and by clicking on the Request ID of the linked requests, one can navigate to the requests linked to the current request. Options to remove links between requests are also provided here.



9. Links between requests can be added, modified and also removed. Each of these operations will be recorded in the request History.
10. Links can be created between requests belonging to different request templates and even different sites. But, if the technician who has permissions in the site where the Base request is present does not have permission in the sites where the Linked requests are present, then the technician will not be able to perform operations on those Linked requests.
11. Closing and re-opening of requests is independent to both Reference and Linked requests.
12. Requests cannot be linked through API or E-Mail Command features.
13. video

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Associate problem to request

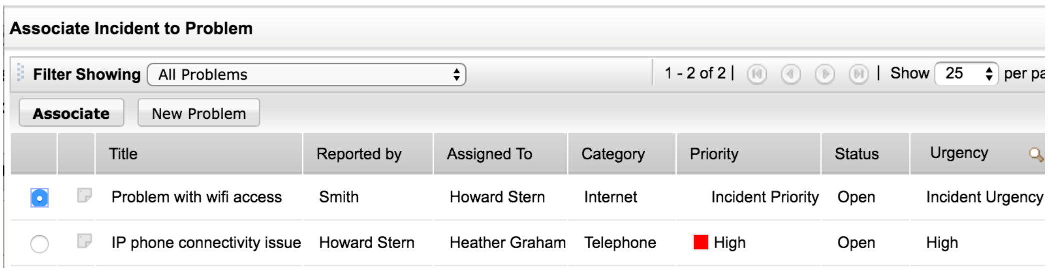
You have an option to add, associate, view and detach problem to requests. Similar problem occurred to Incidents (requests) can be associated in order to track the problem occurred for the same request. You can also add new problem or detach the existing problem to a request. While adding/associating/detaching a problem the approval status of the request does not change.

- Associating Problem to request
- Add Problem to request
- Viewing Associated problem
- Detach Request from Problem

Associate Problem to Request

You can also associate the existing problem to the request. To associate problem,

1. Click the Request**s** tab in the header pane. This opens the request list view page.
2. Click the Subject link of the request for which you want to add a problem. This opens the request details page.
3. Click the Actions drop-down menu -> select Search Problems link. The Associate Incidents to problem window pops up showing the list of Open Problems with Incident Category by default.
4. Select the type of problem to be displayed by selecting from the Filter Showing combo box on the top left hand side of the page. Ex: Open Problems or All Problems and so on. On selecting the problem type the corresponding problems gets listed.
5. Select any one problem to be associated with the request by enabling the radio button beside the title of the problem.



6. Click Associate button to associate respective problem to the request (particular selected request). You can associate the same problem to different requests.

7. Once the problem is associated to the request, the View Problem and Detach from Problem option appears under Actions combo box.

Add Problem to requests

You can add new problem to requests. To add new problem,

1. From the request list view page, click the Subject link of the request for which you want to add a problem.

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This opens the request details page. Click New Problem button on the right hand side of description field.
[OR]
Alternatively, you add a new change from the Associate Problem to Incident pop up page. Click New Problem button below the filter showing combo box. This opens the New Problem form.

2. The details such as Status, Impact, Urgency, Priority, Category, Sub category, Item along with Subject and Description remains the same as of the request. If required, you can modify the same on selecting from the combo box.
3. Select the Reported By requester from the list by clicking on the Requester icon .This opens the requester list page and click the requester title.
4. Select the Technician from the combo box.
5. Select the Due by Date and the Closed Date from thecalendar button.
6. Select the affected IT Services from the list by clicking on the icon .This opens the Services Affected pop up box. Select the affected IT services and Save the changes.
7. Select the Assets Involved with the problem by clicking the icon .This opens the Select Assets page. Select the Type of Assets or the category of assets to be involved from the combo box. Ex: Workstations, Routers, Switches and so on. Select the Available Assets under the selected type from the list and move to Assets involved using >> button. And Save the changes.
8. If you have any file attachments for the problem click the Attach File button and attach files. The maximum size of an attachment is 10 MB.
9. Save the changes. A new problem gets added in the problem list view page.

View Associated Problems

You have an option to view the newly added problems or the problems associated to the request.
To view the problem,

1. From the request list view page, click on the request for which you wish to view the problem. This opens the request details page.
2. Click View Problem button on the right hand side of the request description.
   [OR]
   Click Actions drop-down menu -> select View Problem option. This displays the Problems Details page of the problem added/associated to the request.

Detach Request from Problem

If you want to add another problem to the request then the existing problem has to be detached. To detach a problem,

1. From the request list view page, click the request you wish to detach the problem. This open the request details page.
2. Click Actions combo box -> Detach from Problem option. The request is detached from the problem.

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Associate change to request

In some cases, a change may arise due to a request or a change may lead to the creation of a request. In either case, you can associate change to the request.
Note: While associating change to a request, the status of the request does not change.

To associate change to a request,

1. Click **Requests** tab in the header pane.
2. In the Request List view, click the **Subject** link of the request to associate the change.
3. In the Request Details page, click **Change Request** link. The **Change Request** dialog box pops up.
   From the Change Request dialog box you can,
   - **Associate the change initiated due to this request**
   - **Associate the change due to which this request is raised.**
4. To associate the change, click the associate link icon . The Associate Change to Incident window pops up showing the list of Open Changes with Incident Category by default.
5. Select the type of change to be displayed by selecting from the Filter Showing combo box on the top left hand side of the page. Ex: Open Change or All Change and so on. On selecting the change type the corresponding changes gets listed.
6. Select any one change to be associated with the request by enabling the radio button beside the title of the change.
7. Click Associate button to associate change to the request. The Change ID of the change is displayed. Once the change is associated to the request, the **Detach Change** icon appears beside the Change ID.

Note:

1. If a change needs to be initiated due to a request, then you can add change from **Change Request** pop up. Click the **New Change** icon to access the form. Refer Create New Change to know how to add a change request.
2. In the Request Details page, an Associated Change link appears indicating that a change is associated to this request.
3. You can associate a change to different requests.

Detach Change from Request

If you want to associate another change to the request, then the existing change has to be detached.
To detach a change,

1. From the Request Details page, click **Associated Change** link. The **Change Request** dialog box pops up.
2. Click **Detach Change** icon beside the Change ID. The change is detached from the request.

Viewing the Change

To view the change associated to the request,

1. From the Request Details page, click **Associated Change** link. The **Change Request** dialog box pops up.
2. Click the **Change ID** link to view the change details. The details of the change are displayed.

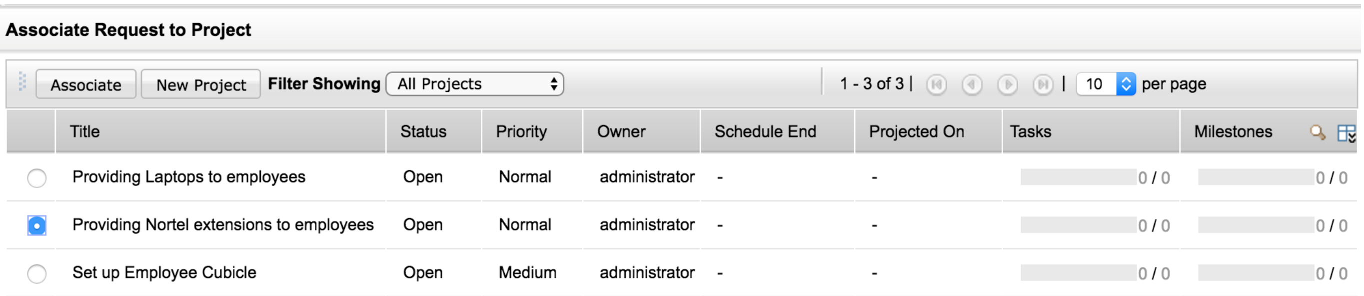
Associate project to request

Requests can be broken down into a project for handling specific activities concerned with the request which might need special attention. This splitting up of requests into a project will be especially useful for service requests that might contain innumerable tasks which have to be executed in a systematic way. This page explains to you can Associate, Add, View and Detach Projects to/from Requests.

- [Associating Project to request]
- [Add Project to request]
- [Viewing Associated projects]
- [Detach Request from Project]

Associate Project to Request

Technicians can associate existing projects to the request. To associate project,


Associate Request to Project

Associate | New Project | Filter Showing All Projects | 1 - 3 of 3 | 10 per page

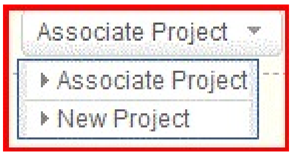
	Title	Status	Priority	Owner	Schedule End	Projected On	Tasks	Milestones
○	Providing Laptops to employees	Open	Normal	administrator	-	-	0 / 0	0 / 0
●	Providing Nortel extensions to employees	Open	Normal	administrator	-	-	0 / 0	0 / 0
○	Set up Employee Cubicle	Open	Medium	administrator	-	-	0 / 0	0 / 0

1. Click the Request**s** tab in the header pane. This opens the request list view page.
2. Click the Subject link of the request which you wish to associate with a project. This opens the request details page.
3. Click the **Associate Project** button (available beside **Associate Change** button)
4. Associate **Request to Project popup box** opens up.
5. Select the **desired project** by clicking the respective radio button
6. Click Associate button (available above the projects being listed) to associate project to the request. You can associate the same project to several requests.

Note: Once the project has been associated to the request, the **Associate button** will be replaced with **View Problem** button.

Add Project to requests

You can also add new project to requests. To add new project,
Alternatively, you can click the **dropdown** next to **Associate Project** button and directly select the **New Project** option



1. From the request list view page, click the Subject link of the request to which you wish to add/create a project. This opens the request details page.
2. Click **Associate Project** button. This opens the **Associate Requests to Project** popup box. Click **New Project** button in this popup. (OR)
3. **Create the project** by filling in the respective details concerning the project like **Project Title, Description, Type** etc (see Creating Projects for more info).
4. Click **Save and Associate** button.

View Associated Projects

You can view the projects associated to the request by doing the following:

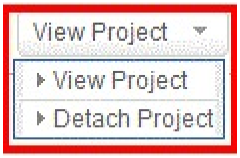
1. From the request list view page, **select the request** for which you want to view the associated project. This opens the request details page.
2. Click View Problem button on the right hand side of the request description. This will lead you the respective project.

Note: You can also view the project by clicking the dropdown beside View Project button and selecting the View Project option.

Detach Request from Project

If you want to add another project to the request then the existing project has to be detached.
To **detach** a project,

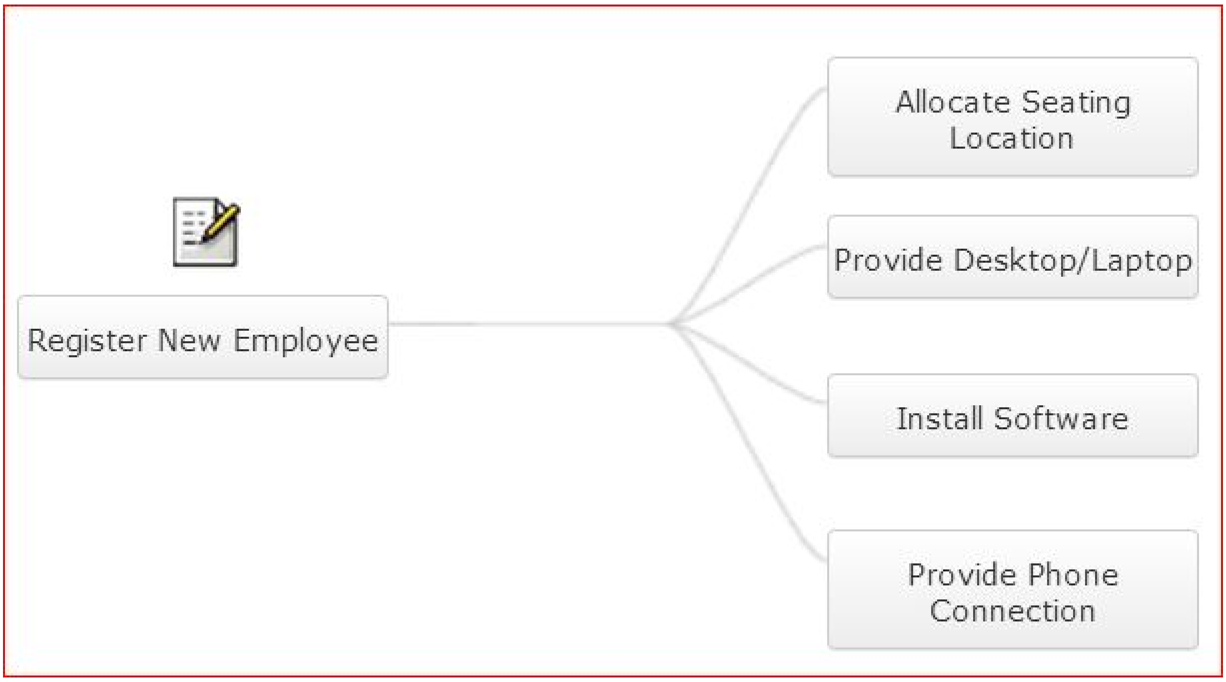
1. From the request list view page, **select the request** from which you wish to detach the project. This open the request details page.
2. Click the **dropdown** besides **View Project** button (available on the right hand side of the request description) and select **Detach Project** option



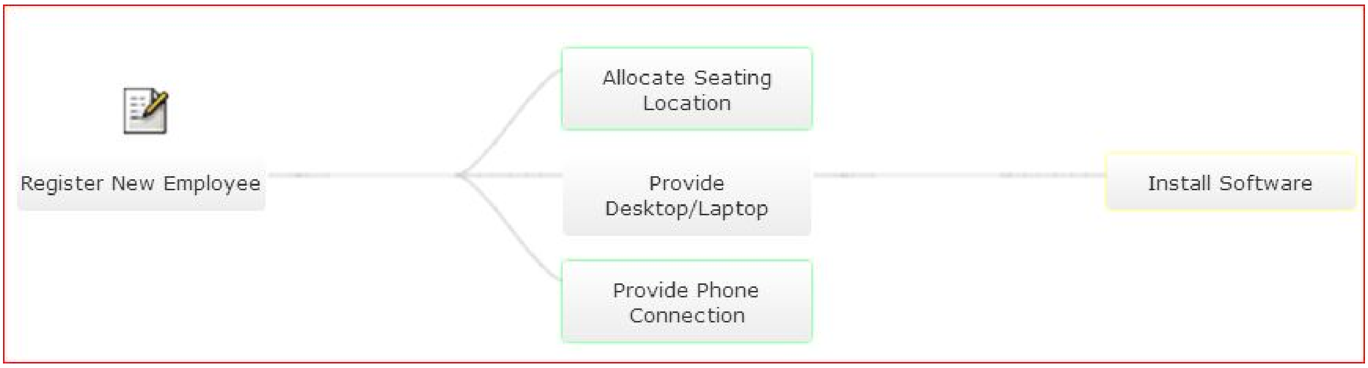
Configuring Task Dependencies

When a task is dependent on another task, the task dependency (relationship) between them can be established as follows:

1. Click Dependencies button
2. Dependencies Map popup will open up



3. Select parent for the dependent task (in this case Install Software is the child task and Provide Desktop/Laptop is the parent task) by clicking Select Parent icon.
4. Task Dependency will be established as follows:



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Print a request

You can customize the print preview of the request to satisfy your needs. To print a request,

1. Click the **Requests** tab in the header pane.
2. Select the **Title** of the request you wish to print.
3. Click Actions drop down list -> Print Preview option. The print preview of the request opens in a pop-up window.
4. By default, all the check box is enable under Select the required information block. To customize the print preview, disable the check box of the information that is not required. The disabled information disappears from the print preview.
5. Click the Print menu item from the browser File menu.
6. The default printer associated with your workstation is invoked. Set the required options and click **OK**. You can collect the printed copy of the request at the printer that is linked to your workstation.

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Add a resolution

You can add resolutions for the issues reported in the requests.

To add a new resolution,
1. Click the **Requests** tab in the header pane. This opens the request list view page.
2. Click the request **Title** for which you want to add the resolution.
3. Check if a resolution already exists for the request by clicking the **Resolution** tab in the Request details page.
4. If no resolution is available for the request, then a plain html text page is displayed. Specify resolution in the text field.
5. You can also add files to a resolution using **Attach file** option.
6. On specifying the resolution, status can be changed by selecting the status from the combo box.
7. You can also add Time Spent Entry details for the request in this page.
8. Save the resolution. You can see the resolution displayed in this page.
9. If you wish to add the specified resolution to the solutions database, then click **Save and Add to Solutions**, or else click **Save**.
10. On selecting Save and Add to Solutions, you get a **New Solution** form. The solution takes the **Title** of the request and **Contents** of the resolution which can be edited. Files attached to the resolution are updated to the solution.
11. Enter relevant keywords for the solution in the **Keywords** text box. Separate each keyword by a comma. This option is provided for the users to improve the search capability and get appropriate solution for the problem.
12. If needed you can attach files to the solution.
13. Click **Add**. This adds the resolution to the list of solutions.
14. Resolution can also be copied from a suggested solution with its attachments. To copy the suggested solution to the resolution tab, click on **Copy to Resolution** in the suggested solution pop up. The solution content will be copied to the resolution text box tab. Click **Save**.
15. You can copy resolution of a request to other requests that are linked to it by enabling **Add resolution to all linked requests** option that appears under Resolution tab of the request details page.
16. You can update solution and workaround of a problem to multiple incidents. Go to **Problem Closure Rules** under **Admin** tab. Enable **Copy problem solution and workaround to all associated incidents** option under **Optional Rules** and click **Save**. Select a problem and associate relevant incidents to it. Once you close the problem, the solution and workaround of that problem will get updated to the associated incidents.

These added resolutions can be used for various purposes. One of them is to add these resolutions as knowledge based articles which can be used for future reference to solve the same issue if reported. The resolution of the request also helps other technicians to know the kind of solution provided to the reported issue. This also serves as a documented proof of the way a reported issue was resolved.

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Search a solution

From the request, you can search for solutions that might help you solve the issue described in the request.

To search for a solution,

1. Click the **Requests** tab in the header pane. This opens the request list view page.
2. Click the request **Title** for which you need to look up the solution.
3. In the **View Request** page, click the **Resolution** tab.
4. Click Search Solution link. Alternatively, you can also click the **Search Solutions** option under Actions combo box in the task block.
5. In the **Search Solutions** page, provide a search string in the **Search** field and click **Search** or press **Enter**. The solutions that match the search string are displayed.

Submitting for Approval

For some incident and service requests you may want approval from higher officials before you proceed with resolving the request. The **Submit for Approval** option enables you to send an e-mail notification to the user to approve the request.
While most incident requests do not require an approval process, the service requests, on the other hand, may go through multiple stages of approval. These multiple stages are usually configured while configuring the work flow of a service item. Refer Service Item - Work Flow under Admin Configurations -> Service Catalog to know more on configuring multiple stage approval.

Note:

1. The Approvers may be technicians or requesters with permission to Approve Service Request and should possess an e-mail address in the application.
2. Apart from multiple stage approval, the steps to submit incident and service requests are similar. The topic explains steps to submit service request for approval

Submitting Service Request for Approval
The Approval Details is usually configured while configuring the Service Request. You can configure up to 5 stages of approvals for a service request. Each stage may possess one or more approvers.
If you have not configured the Approval Details for a service request and want to submit the request for approval, then

1. Click **Requests** tab in the header pane.
2. Click the **Subject** link of the request to submit for approval.
3. In the Request Details page, click **Actions** drop-down menu and select **Submit for Approval** option. The **Submit for Recommendation** window pops up.
4. Specify the **To** address in the field. If you want to specify more than two e-mail addresses then use comma as the separator.
5. By default, the **Subject** of the e-mail is specified. You can edit the same, if required. The Subject is a mandatory field.
6. Specify the relevant Description in the given text field. The $ApprovalLink is a variable and should be available in the mail to replace the variable with the link where you have the request details.
7. Click **Send**. An e-mail notification is sent to the users specified in the To address. Using the link in the mail, the approver can approve/reject the request.

Simultaneously, the **Approvals** tab appears between the Work Log tab and History tab. The Approvals tab lists the e-mail address of the approvers, the status of the approval, the date and time of the approval notification, the date and time when the approver had approved/rejected the request and the comments provided by the approver.
Note: Submitting Incident Requests for Approval follows similar steps (Step 1 to Step 7) as Submitting Service Request for Approval.

From the Approvals tab of a service request, you can either add the next consecutive approval stages or add another approver for a stage. You can also resubmit notification to an approver, if required.

Adding Approver to Stage

To add another approver to a stage,

1. Click **Add** button. The **Submit for Recommendation** window pops up.
2. Follow Step 4 to Step 7 in Submitting Service Request for Approval to send an e-mail notification to the approver.

Adding an Approval Stage

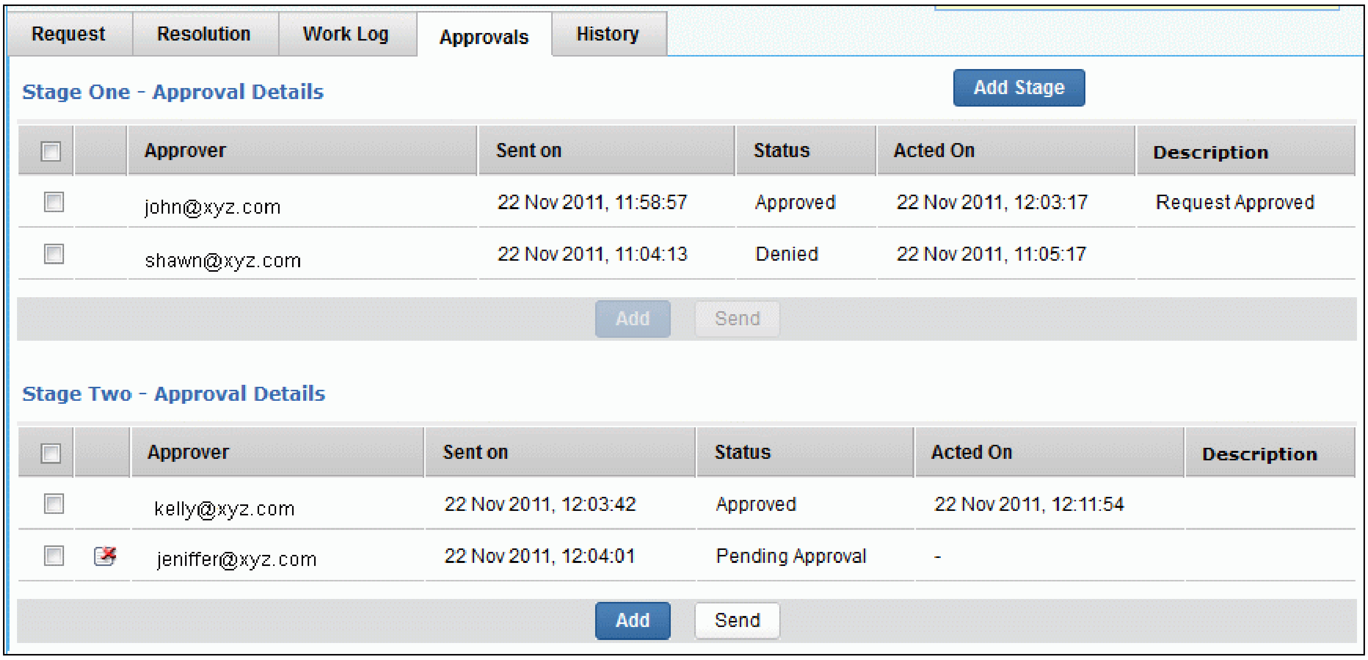
To add the next approval stage,

1. Click **Add Stage** button. The **Submit for Recommendation** window pops up.
2. Follow Step 4 to Step 7 to send an e-mail notification to the approver.

Multiple Stage Approval

The multiple stage approval are based on the notifications enabled in Work Flow.

If **Send approval notification automatically when a service request is raised** is enabled, then an approval notification is sent to the concerned authority each time a service request is raised. If you have configured multiple stages of approvals, then the notification is sent to the next consecutive stage only on approval from the previous stage i.e., any one approver can approve the service request.



If **All configured approvers have to approve the Service Request** is enabled, then its mandatory for all the configured approvers to approve the service request. If anyone of the approver (at any stage) rejects the service request, then the request does not proceed to the next stage.

Note: If you have selected more than one approver in a stage, then all the approvers in that stage should approve the request.

Resubmitting approval notification

To resubmit the notification to an approver,

1. Select the check box beside the approver and click **Send** button. A dialog box confirming the operation appears.
2. Click **OK** to proceed. An e-mail notification is resubmitted to the selected approver.

Deleting an Approver

You can delete an approver from any stage before the approver records his decision. If the approver has recorded his decision, then the delete icon would not appear.

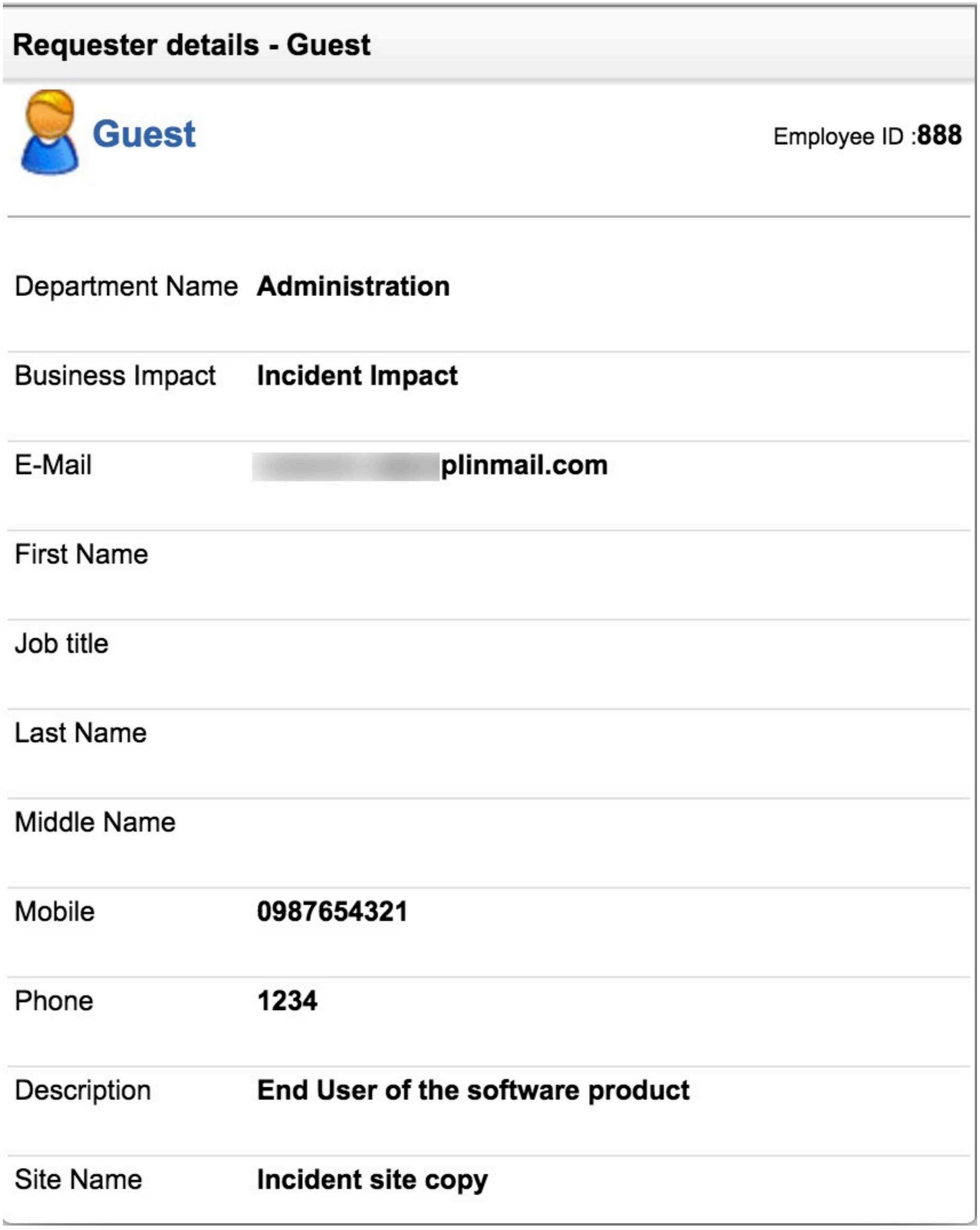
1. Click the **Delete** icon beside the approver e-mail address. A dialog box confirming the delete operation appears.
2. Click **OK** to proceed. The approver is deleted from the list. The deleted approver will not be able to access the link provided in the e-mail notification.

View requester details

When attending to a request, you may want to contact the requester to get additional information. You can view details such as the **Requester Name**, **Employee ID**, **Department** and **Site** to which the requester belongs, **Designation**, **E-mail ID**, **Phone** and **Mobile number** of the requester.

To view the requester details,

1. Click the **Request** tab in the header pane. The **Request List view** page is displayed.
2. Click the **Subject** link of a request.
3. In the Request Details page, click **Actions drop-down menu** and select **View Requester Details** link. The **Requester Details** window pops up.



4. **Close** the window after viewing the details.

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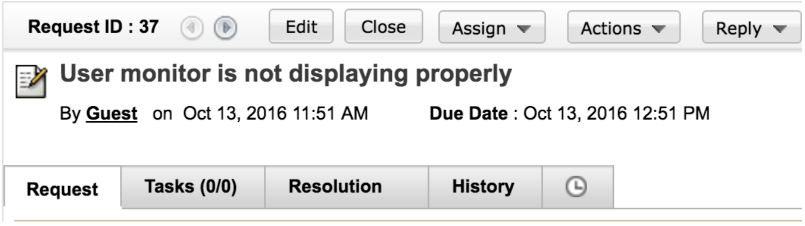
Alternatively, you can also view the Requester details by clicking the **Requester Name** link as shown below,



Trigger Button

To operate on tasks sequentially and to ensure child tasks are executed only upon the completion of parent task, use trigger button to trigger the tasks
Using trigger button, you can can trigger tasks individually or as a group based on your requirement.

Triggering Tasks
1. Select all tasks and click trigger (OR)
2. Select a single task and click trigger.
3. Repeat this process every time a task is completed.

If you choose to trigger tasks, please remember that there is no need to schedule those tasks, as they will be scheduled automatically while they are being triggered

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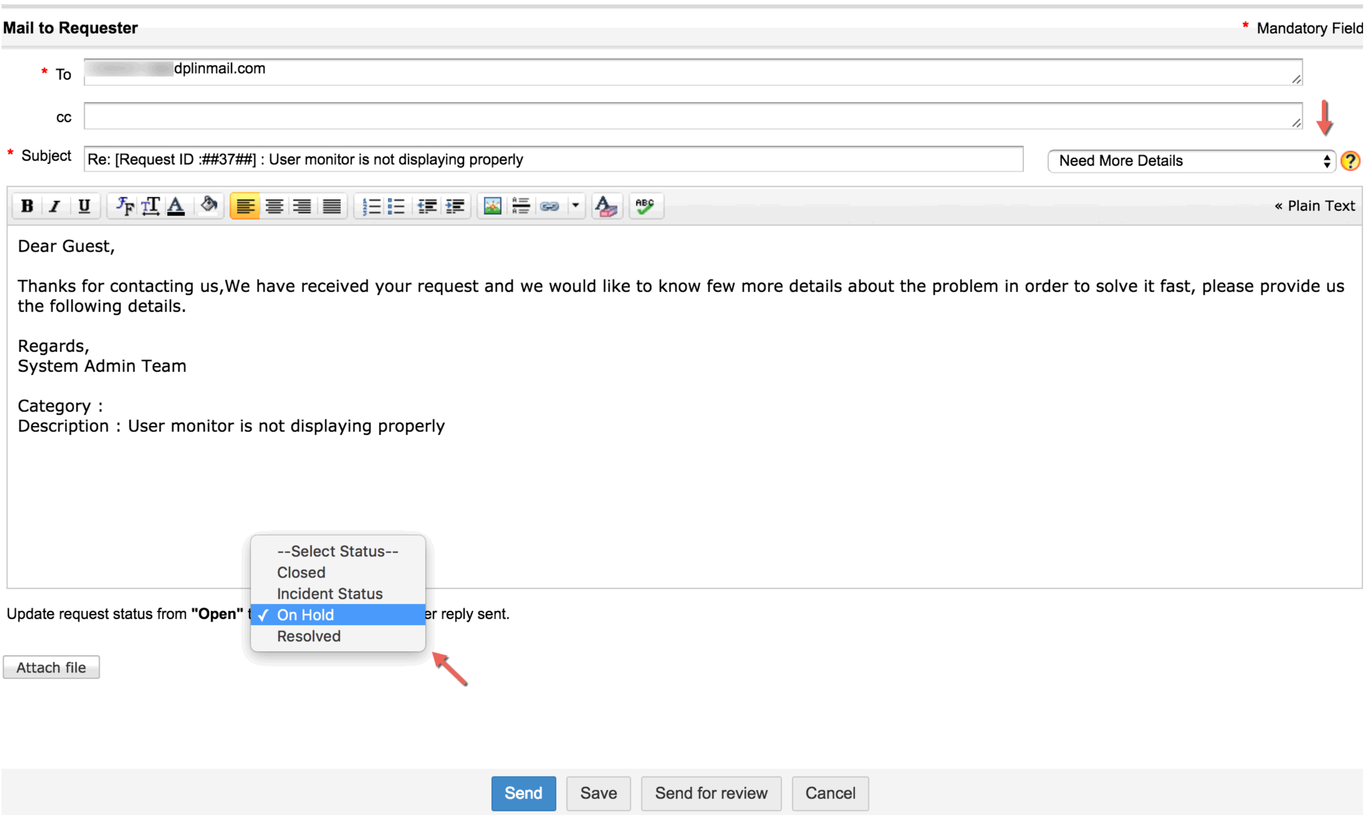
Email the requester

Sending a response to the requester is required when a new request is received. Also, when a technician is ready to close a request, the same can be notified to the requester so that if the requester has any concerns about the same, he/she can raise. The technician can then address the same and close the request after the requester is completely satisfied with the way his/her request has been attended to.

To respond to the requester,



1. Click the **Requests** tab in the header pane.
2. Select the **Subject** link of the request in the requests list page.
3. In the **Request details** page, click **Reply** just below the description of the request. Alternatively, you can reply to the requester from Reply drop down -> Reply. The **Mail to the Requester** window pops up.
4. The To field is pre-populated with the e-mail ID of the requester. If you wish to send the same information to more than one person then enter the e-mail IDs of those people in the CC field with comma as a separator.
5. Edit the **Subject** of the request, if required.
6. You can reply to a request using the Reply Template configured under the Admin section. Select the Reply Template from the drop down list.
7. You can also choose to **change the request status** (to **onhold** by default) when the reply is successfully sent to the requester
8. Click Attach File button to add files as attachments to the mail.
9. Click **Send to send the email to the requester. You can save the email and send it later to the requester by clicking Save. The email is saved as draft, in the request details page, above the title of the request along with Send for review and Delete button. To send the draft for review to**

the concern authority, click Send for review. A pop up as shown below appears,

The responses that have been sent to the requester can be viewed as conversations in the request details view.

Note:

- While editing the subject of the e-mail, ensure that the request ID value remains intact with the # symbols beside it. Else, the threading of requests may not be proper.

Forward the request

If the technician is unable to resolve a request and requires further assistance, then the technician can forward the request to other technicians. The conversation threads between the technicians are private and hence cannot be viewed by the requester.
To forward a request,

1. Click the **Requests** tab in the header pane. This opens the request list view page.
2. Click the **Title** of the request in the requests list page.
3. In the **View Request** page, click **Forward** button just below the **Request Description. Alternatively, you can click** Forward the Request option under Reply combo box. This opens the **Forward Request** form.
4. Enter the e-mail ID of the person to whom you wish to forward the request in the To field. You can also mark a copy of the forward to others. To do this, enter their e-mail IDs in the CC field.
5. Edit the **Subject** and **Description** of the e-mail.
6. Click Attach a File button to add files as attachments to the mail
7. Click **Send**. The request is sent to the e-mail IDs mentioned in the **To** and **CC** field. The forwarded requests will be shown in the conversation block.

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SMS the Technician

ManageEngine ServiceDesk Plus enables you to notify technicians through SMS. This option is available to the technicians assigned to requests.

To send an SMS to a technician,

1. Click the **Requests** tab in the header pane.
2. Select the **Subject** link of the request. Make sure that a technician is assigned to the request.
3. From the Request details page, click **Reply** sub tab -> **SMS the Technician** option. A **Mail to Technician** window pops-up with the **To** address as the **SMS Mail ID** configured for the technician in the admin tab.
4. Add your message in the **Description** field.
5. Click **Send**. The notification is added as a request conversation.

Before sending the SMS alert to technician, you can send it for review to your higher officials. Click **Send for review** button in Mail to Technician pop up window. A **Send for Review** dialog pops-up. Enter the **To** mail address and click **Send**.

To automatically alert the technician when a new request is assigned to them, click **Alert Technician by SMS when a request is assigned** option in **Notification Rules** under **Admin** tab. You can also modify the default content for Subject and Description by selecting **Customizing Template** link in Notification Rules.

Email the technician

To e-mail a technician

1. Click the **Requests** tab in the header pane.
2. Click the **Title** of the request from the requests list page.
3. In the **View Request** page, from the **Reply** dropdown (available above **Request Details** section) select **E-mail the Technician** option. This opens the **Mail to Technician** form.
4. Enter the E-mail ID in the To field. This is a mandatory field.
5. Edit the **Subject** and **Description** of the e-mail.
6. Click Attach a File button to add files as attachments to the mail. All the newly attached files will be listed in the Newly attached files field.
7. Click **Send**. An e-mail is sent to the technician. To send the information to more people, enter their e-mail IDs in the **To** field or CC separated by comma.
8. You also have an option to Save the mail as draft copy for later use.
9. If you wish to send the drafted mail for review to the higher authority then click Send for review button.

Note:

- A technician can be notified when a new request is assigned or an already existing request is reassigned to him/her by configuring **notification rules**.

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Request conversations

ServiceDesk Plus displays the mail transactions happening between the technician handling a request and the requester, as conversations. At times, the technicians can converse with other technicians regarding the request which also gets listed in the conversation block. The conversations are listed one below the other in the ascending order of the time when the notification (response) was sent (received). You can choose to view either All conversation or Requester conversations.
To view all the conversation details, click the View All Conversation link at the top of this block. This shows all the conversation between the technician and the requester and between the technicians. If the conversation has any attachments, then the attachment icon can be viewed in this block. To view only the requester conversation, click View Requester Conversation link.

Split As New Request
You can choose to split the requester's conversations into a new request. To split the conversation as a new request,

1. Expand the conversations by clicking on the View All Conversation link or by clicking the  button on the left of the row which you wish to expand.
2. Click Split as New request button at the right bottom of that conversation.

This splits the conversation into a new request.

Delete Conversation
You can delete a specific requester's conversation. To delete a conversation,

1. Expand the conversations by clicking on the Expand all link or by clicking the > button on the left of the row which you wish to expand.
2. Click Delete button at the right bottom of that conversation. A confirmation pop-up opens.
3. Click OK in the confirmation pop-up to delete the thread/conversation.

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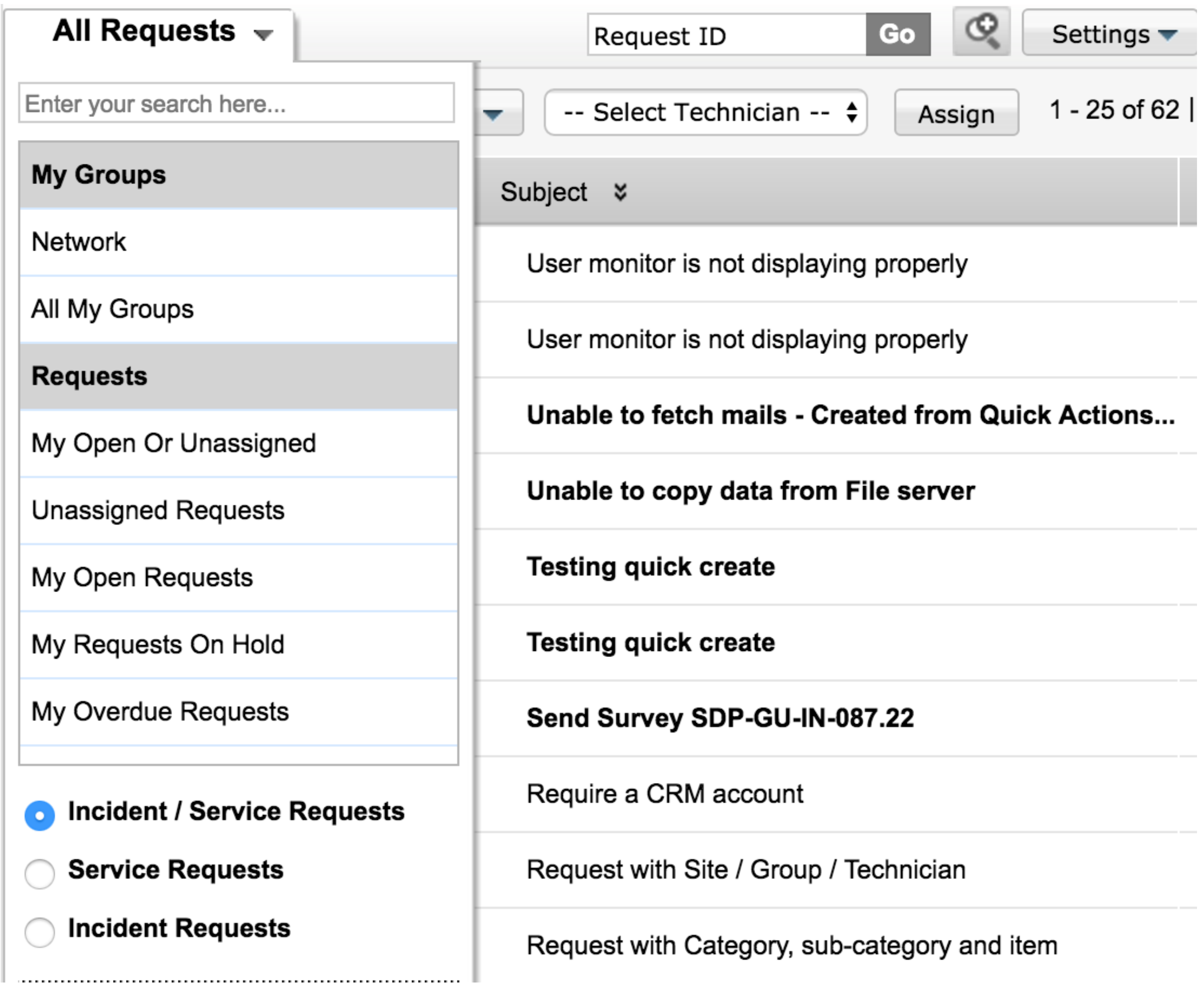
View requests based on filters

The Filter drop-down menu consists of default filter list which classifies requests into three categories namely, **My Group**, **Requests** and **My Views**. The filter has options to restrict the list view to display **Service Requests**, **Incident Requests** or both, and link to view **Archive Requests**.
To view requests under the filter categories,

1. Click **Requests** tab in the header pane.
2. Select the **Filter** drop-down menu to view the list of filters.



My Groups
The support groups to which you are assigned is listed under **My Groups**. You can view all the requests raised for a group using the filters.

Requests
The **Requests** consists of default filters which classifies requests based on the status.

- **My Open Or Unassigned Requests**

All your open requests and the requests that are not assigned to any technicians will be listed under this option.

- **Unassigned Requests**

All the requests that have not been assigned to any technician will be listed under this option.

- **My Open Requests**

Lists all the open request assigned to the logged in technician.

- **My Requests On Hold**

All your assigned requests that are kept on hold will be listed under this option.

- **My Overdue Requests**

Lists the requests assigned to the logged in technician that has exceeded the due date.

- **My Pending Requests**

Lists the requests assigned to the logged in technician that is unfinished.

- **My Requests Due Today**

Lists the requests assigned to the logged in technician that is due to complete on that day.

- **My Completed Requests**

Lists the requests assigned to the logged in technician that are completed and closed.

- **Requests Pending My Approval**

Lists all the request that require approval from the logged in technician.

- **All My Requests**

Lists all the requests assigned to the logged in technician.

- **Open Requests**

Lists all the open request irrespective of the technician.

- **Requests On Hold**

Lists all the request that are in on hold status.

- **Overdue Requests**

Lists all the request that have exceeded the due date.

- **Requests Due Today**

Lists all the request that are due for the day.

- **Requests Pending Approval**

Lists all the request that are pending for approval.

- **Pending Requests**

Lists all the unfinished request irrespective of the technician.

- **Completed Requests**

Lists all the closed request irrespective of the technician.

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- **All Requests**

Lists all request irrespective of the status (closed, pending, open, on hold) and technician.

My View

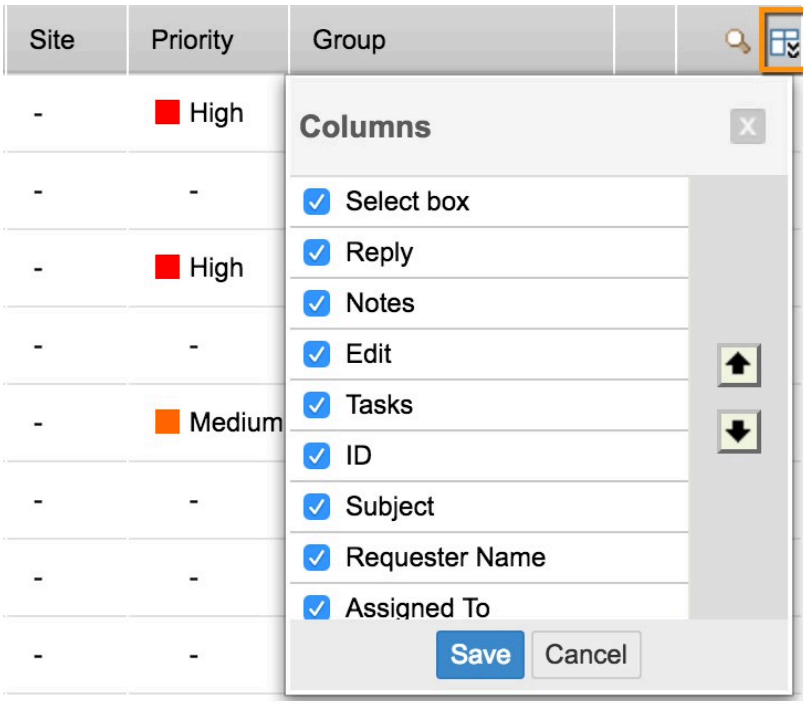
The customized private views are listed under **My Views**. You can create a custom view from **Settings** drop-down menu -> **New Custom View** option.

Customize request list view

You can customize the request list view to display the columns of your choice.

To customize the list view,

1. Click the **Requests** tab in the header pane.
2. Click the **column edit** icon available at the corner of the request list headers. This opens the available columns that can be displayed in the list view. All those that are visible currently, will have the check box beside them selected.



3. To remove a column, remove the selection from the respective check box beside the column name.
4. To add a column to the list view, select the unchecked select box beside the column name.
5. To change the column order, click the up and down arrow after selecting the column that you wish to move.
6. Click Save.

This will add only those columns which you have chosen in the list view.

Workorder assessment:

The work-order assessment gives a clear picture of, how long the the request was handled by each technician, stayed in each group and stayed in different status. The work-order assessment details can be viewed by clicking on .

Request SLA:

In request service level agreements, information about the response time and resolution time will be available.

Request SLA	
Response Time **5 minutes** (Overdue by 138 hours 36 minutes)	Resolution Time **30 minutes** (Overdue by 138 hours 11 minutes)

If service level agreement is not assigned, the following table will be displayed.

Request SLA	
Response Time **No SLA Available**	Resolution Time **No SLA Available**

Actual Time Spent:

The actual time spent table shows the time ,the request was present in the group and time ,the request was with the technician.

Actual Time Spent	
Group **18 hours 1 minute**	Technician **18 hours 1 minute**

If group and technician is not assigned ,then hyphen will be displayed.

Actual Time Spent	
Group **-**	Technician **-**

Time Elapsed Analysis:

The time elapsed analysis shows a colored representation of different status the request went through, different groups assigned and different technicians who handled the request. It gives a clear picture of how long the request remained unassigned to a group or to a technician.

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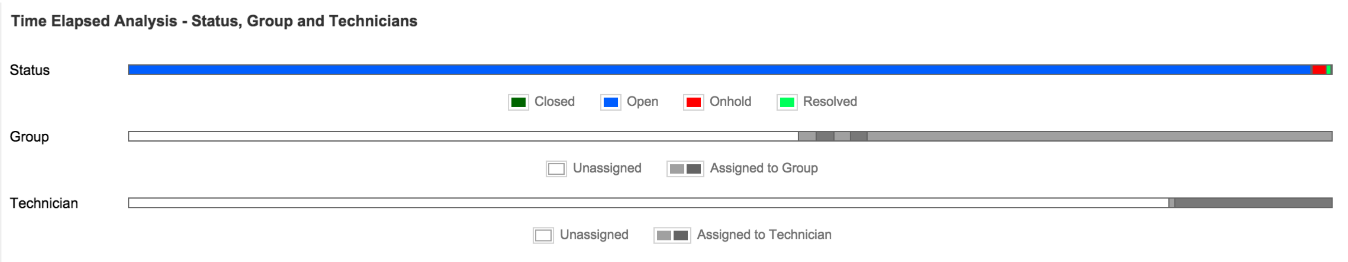
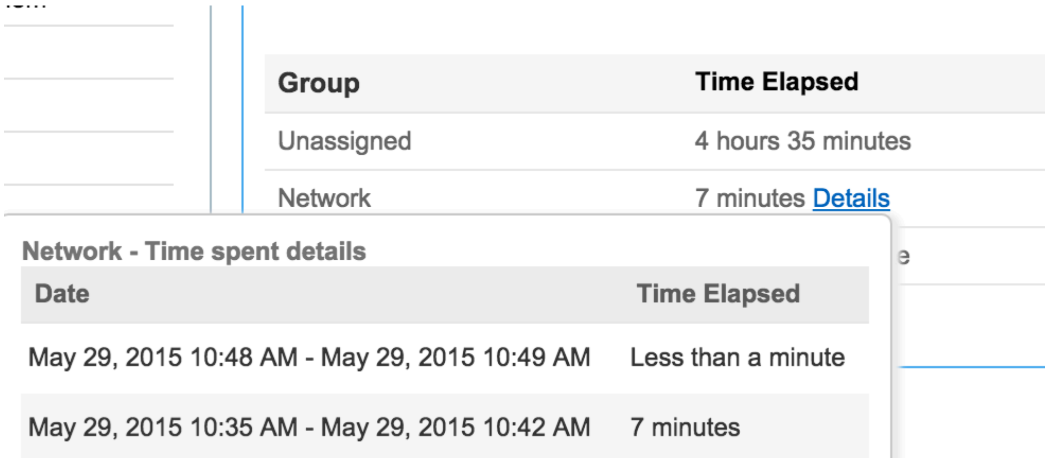


The details of the technician and time spent by him on the request can be viewed by hovering over the technician bar. Similiarly,the group details and status details can be viewed by hovering over the corresponding bars. Details regarding the group and the time elapsed, and the technician and the time elapsed,can be viewed belowed the **time elapsed analysis**.

Group	Time Elapsed
Unassigned	26 hours
Hardware Problems	Less than a minute Details
Network	Less than a minute
Printer Problems	18 hours 1 minute Details

Technician	Time Elapsed
Unassigned	118 hours 59 minutes
Heather Graham	Less than a minute
Jeniffer Doe	18 hours 1 minute

The **time spent details** of each technician can be viewed individually by clicking **details** option next to the time details.



Work Log Timer

Work Log Timer eliminates the need to manually add the time taken to resolve a request in the worklog form. With the Work Log Timer being present in the request details page, the technicians working on a request just have to activate the timer to track the time spent on the request. Once the request is resolved the technician can stop the timer and check the time spent to resolve the request. The time shown can be added to the worklog form from there itself. This feature also helps the admin to know if a technician[s] has started to work on a request.

Using the Work Log Timer

To activate the timer,

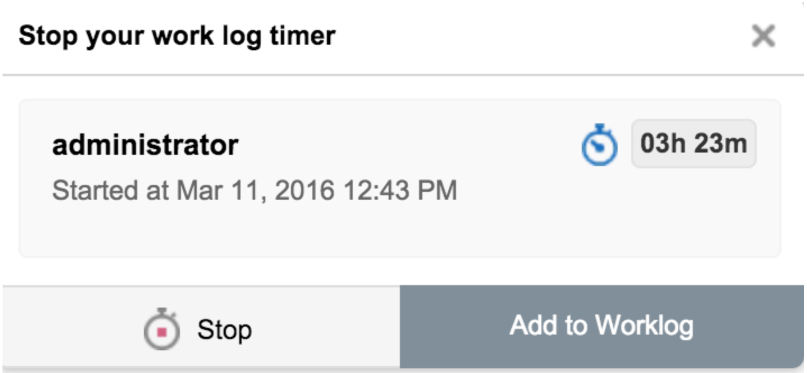
- Click on the Work Log Timer 

in the request details page.
- Enter comments if any and click on the 

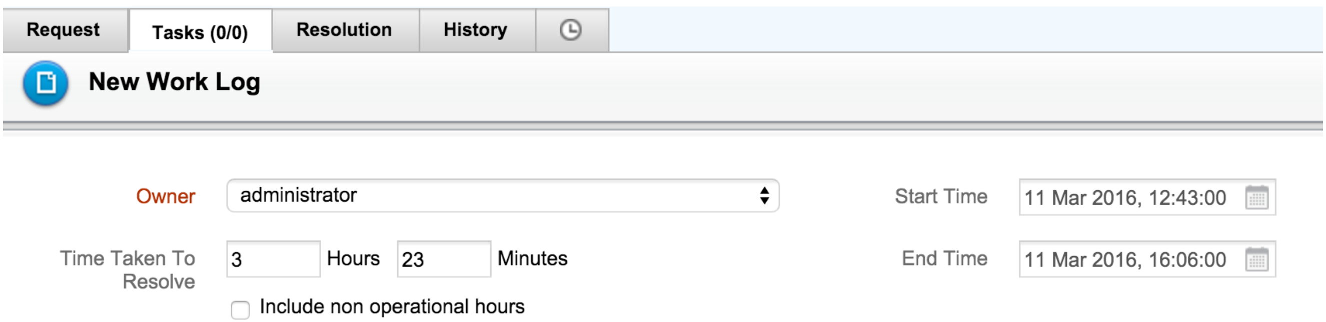
icon. It will trigger the timer.

The time shown in the Work Log Timer can be added to the worklog.
To add the time to the worklog,

- Click on **Add to Worklog**. It will stop the timer and add the calculated time to the Worklog.



- The time taken to resolve will be added to the worklog form.

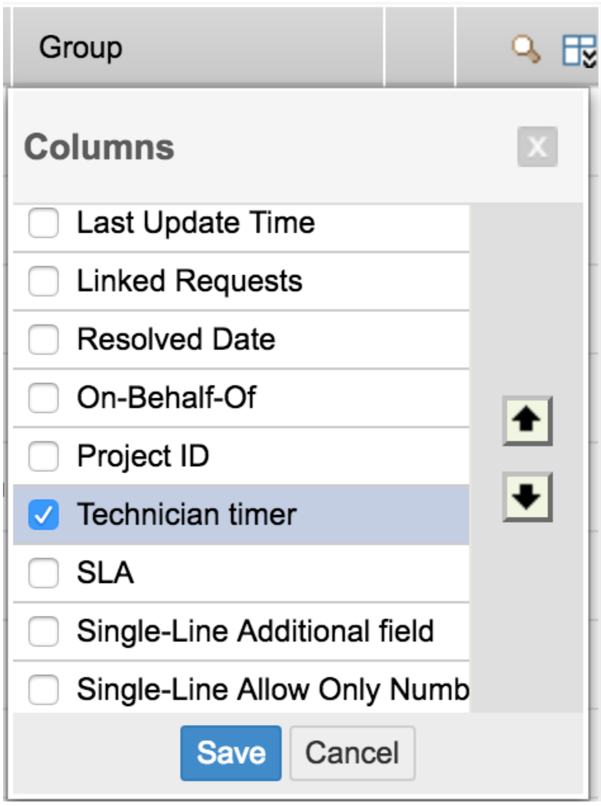


Work log Timers in the request list view

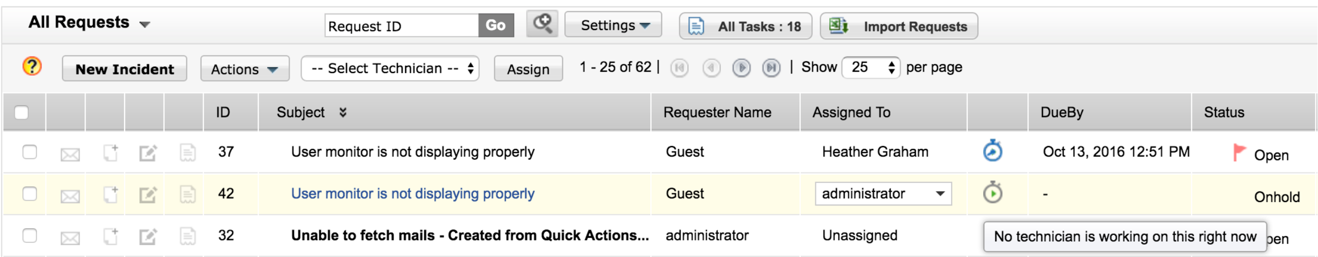
Work log Timers can be added in the request list view.

To add the Work Log Timer,

- Click on the Columns icon 
- Tick the **Technician Timer** Check box.



- Click on **Save**.
- The timer will appear in every requests.



- Click on the timer to see which technician is working on it. Also multiple technicians working on a request can also be seen with a timer icon followed by number of technicians working on it.

Three different timer icons indicating three different things

-  : Indicates that a technician is working on that request.
-  **2**: Indicates two technicians are working on a request.
-  : Indicates that the logged-in technician/admin is working on the request.
-  **2** : Indicates that two technicans[including logged-in technician/admin] are working on the request.
- : Indicates no one is working on the request.

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Multi-site on requests

An organization can have branches spread across different regions and sites of the globe to handle various specialized activities. In this globally distributed environment, a request can be raised from a site to a technician located in another branch of the organization. The request is resolved based on the admin configurations (operational hours, holidays, SLA and business rules) of the site from which the request was raised. Hence with site base configuration, the request module experiences an immense change.
If an organization has no branches and hence no sites configured, then while creating a new request then the default admin configurations gets applied to resolve the request.

Key entities in Request module

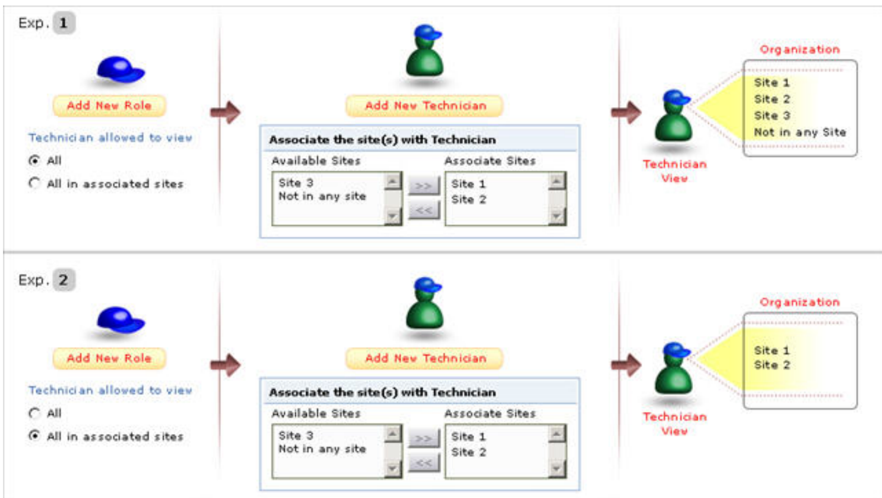
Creating Requests

- The admin configurations of the selected site in the new request form will get applied to the request.
- The Groups and Technicians corresponding to the selected site will be listed. Groups act as a filter in choosing the technician to resolve the request.
- A request template with the group and technician pre-filled with values needs to be re-selected on choosing the requester, if the group/technician is not associated to the requester's site.

Editing Requests
If a request needs to be routed to a technician in another site, then on selecting the site, the SLAs and business rules for the site will be applied and the due by time recalculated accordingly.

Viewing Requests
Technicians can view all the requests of a site if,

- The technician is associated to the site and has the viewing permission as 'All' in Configuring Roles.
- The technician is associated to the site with the viewing permission as 'All in associated sites'.



Assigning Technicians
ServiceDesk Plus provides you with an option to bulk assign requests to technicians. The request can be assigned

to the technician if,

- The technician is associated to the site where the problem persists.
- The technician has the permission to view the requests in all sites. This can be done in Configuring Roles.
- If the technician is not associated to the site where the problem persist and if the technician has restricted view permissions then an error message occurs while assigning the request to the technician as shown below,

Scenario : Roles on Requests
A requester from London raises a demo related request persisting in Sydney through self-service portal of the ServiceDesk Plus application. By default, the admin configurations for London will be applied to the request. The request is handled by John, a technician in London. John can view and re-assign the request,

- If John is only associated to London with the viewing permissions as 'All', then he will be able to view the requests in all the sites of the organization. He will be able to assign the request to technicians associated in other sites but if he assigned the request to himself, then the site field automatically changes to London.
- If John is only associated to London with the viewing permissions as 'All in associated sites', then he will be able to view all the requests raised in London. He will not have the privilege to re-assign the request to technicians in other sites.
- If John is associated to London and Sydney with the viewing permissions as 'All in associated sites', then he will be able to view all the requests raised in London and Sydney. He can re-assign the request to request to a technician in Sydney but not to technicians in other sites of the organization.

On assigning the request to Amy, the technician in Sydney, the SLAs and business rules configured for Sydney will be applied to the request and the due by time re-calculated. If Amy is assigned to a Group say, Support, then she can view and re-assign the request,

- If Amy is associated to Sydney along with the viewing permissions as 'All in Group and assigned to him', then she will be able to view all the requests raised in the groups to which she is assigned.
- If Amy is associated to Sydney and London with the viewing permission 'All his requests', then she will be able to view only the requests assigned to her. She will be able to re-assign the requests to other technicians in London and Sydney but will not be able to view the request as it does not fall under their permitted scope.

Service request from incident request

It is possible for helpdesk technicians to create a **new service request** from an already **existing incident request.** For example: your organization might be recruiting new employees by creating a request called **register new employee with a set of tasks** associated to it. Now, while registering new employee/facilitating employee recruitment, one of the tasks will be to provide him/her with a laptop/desktop, which is typically a service request, as you might have to contact your vendor in case the asset is not already in store.

Under such circumstances, technicians can create a separate service request (provide desktop/laptop in this case) from the existing incident request.

To **create a service request from an incident request**, do the following:

1. Select the **incident request** from the **request list view** by clicking on the subject of request
2. Under **Actions dropdown**, select **Create Service Request** option
3. **Create Service Request** popup will open up as shown below:

1. Select the **Service Category** and Choose the **Service Template**
2. Specify suitable comments
3. Click **Create Service Request** button

Note:

- Remember that you are creating a service request from an incident request **and not converting the incident request** into service request.
- Therefore you will now have two requests: an already **existing incident request** and the **newly created service request**
- Technicians also convert an existing incident request into service request; to know about this, visit: converting incident request to service request

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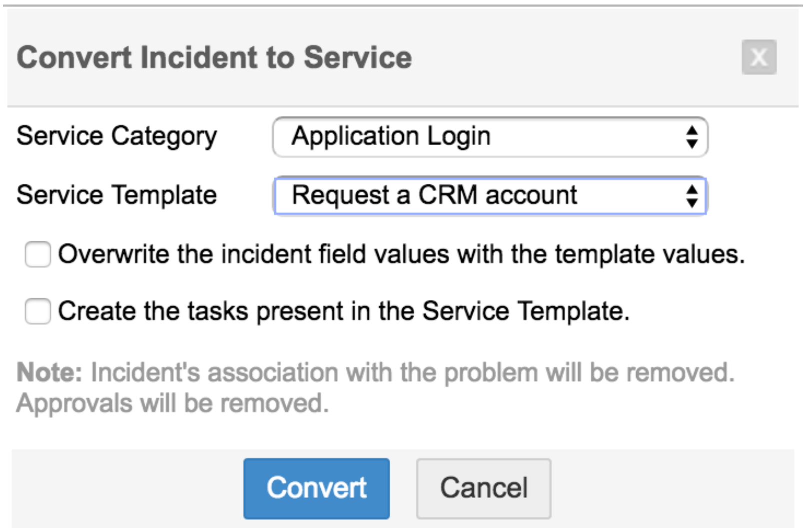
Convert incident request to service request

To **convert an incident request to service request**, do the following:



1. Select the **incident request** from the **request list view** by clicking on the subject of request
2. Under **Actions dropdown**, select **Convert Incident to Service** option
3. **Convert Incident to Service** popup will open up as shown below:
4. Select the **Service Category** and Choose the **Service Template**
5. Check **Overwrite the incident field values with the template values** checkbox in case you want to **overwrite the existing request's values**
6. Check **Create the tasks present in the Service Template** checkbox if you want **to apply task hierarchy already defined as per the selected template** of the service request
7. Specify suitable comments
8. Click **Convert** button

Note:
- Remember the **problems associated with the request (**if any) will get dissociated when the request is converted
- **Approvals associated with the request** being converted too will get dissociated

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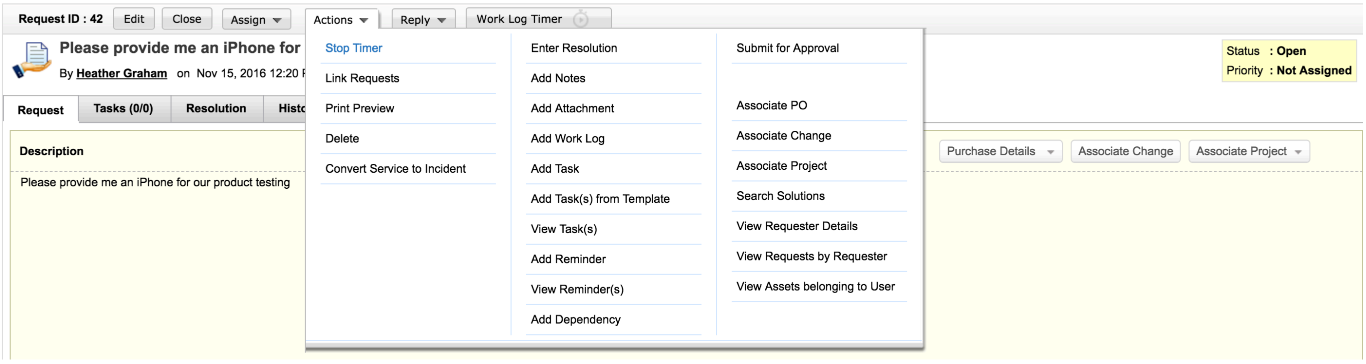
Convert service request to incident request

Sample scenario:
Let us consider a case where a user's Iphone has a few glitches and needs repair. Instead of creating an Incident Request to repair his phone, he accidentaly clicks on **Request for an Iphone** as he just witnesses the word 'Iphone'. In such cases where the user accidently raises a Service Request instead of an Incident Request, the action **Convert Service to Incident** becomes handy.
Steps to convert a Service Request to Incident Request:
1.Click on the Actions tab in the Request details page. From the listed options, click on **Convert Service to Incident**.

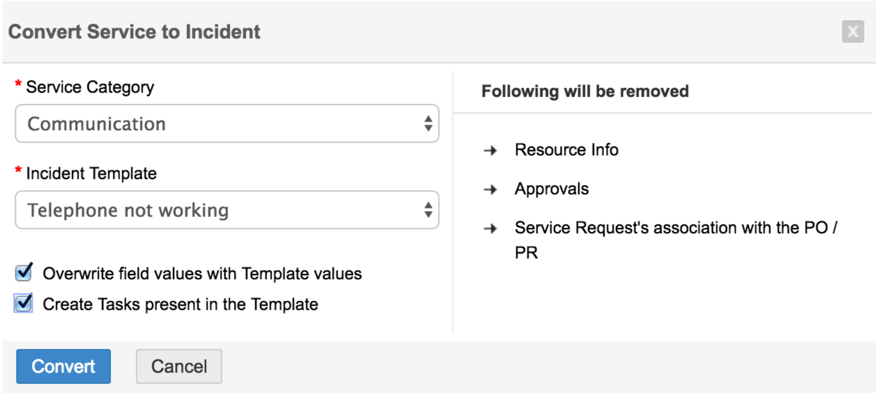


2.From the pop-up displayed, choose the Service Category and Incident Template to which the Request belongs.

- **Overwrite field values with Template values:** On enabling this checkbox, the field values present in the created Service Request will get replaced with the field values available in the Incident Template that is choosen. Note that the Site, Group and Technician details will remain unaffected regardless of enabling this checkbox.
- **Create Tasks present in the Template:** On enabling this checkbox, the tasks which are already present in the Incident Template will get created while converting this Service Request.

3.After enabling the required checkboxes, click **Convert**. The accidentally created Service Request will be converted to an Incident now.
The following factors will influence the conversion of Service Request to an Incident:

- Any Resource info / Approval info available in the Service Request will be removed while converting it into an Incident.
- If the Request is associated with any Purchase Order or a Purchase Request, only Technicians with **Modify PO / PR** permission will be able to view this option. Also Service Request's association with the PO/PR will be removed while converting.
- If the PR is closed / PO is cancelled, then the option to detach the Service Request from the respective PR/PO will not be available in the **Purchase** module.



Following are few points to be noted while converting a Service Request to an Incident Request:

- The conversion option will be available only for Requests with **Pending** status (By default, Open and onhold/ custom pending status) and Technicians with create and edit permission.
- This option will not be available, if the Service Request has been Approved by the approver. It will be available for Service Requests with pending approval or those Requests that have been rejected by the approver.

Associate service requests with purchase orders

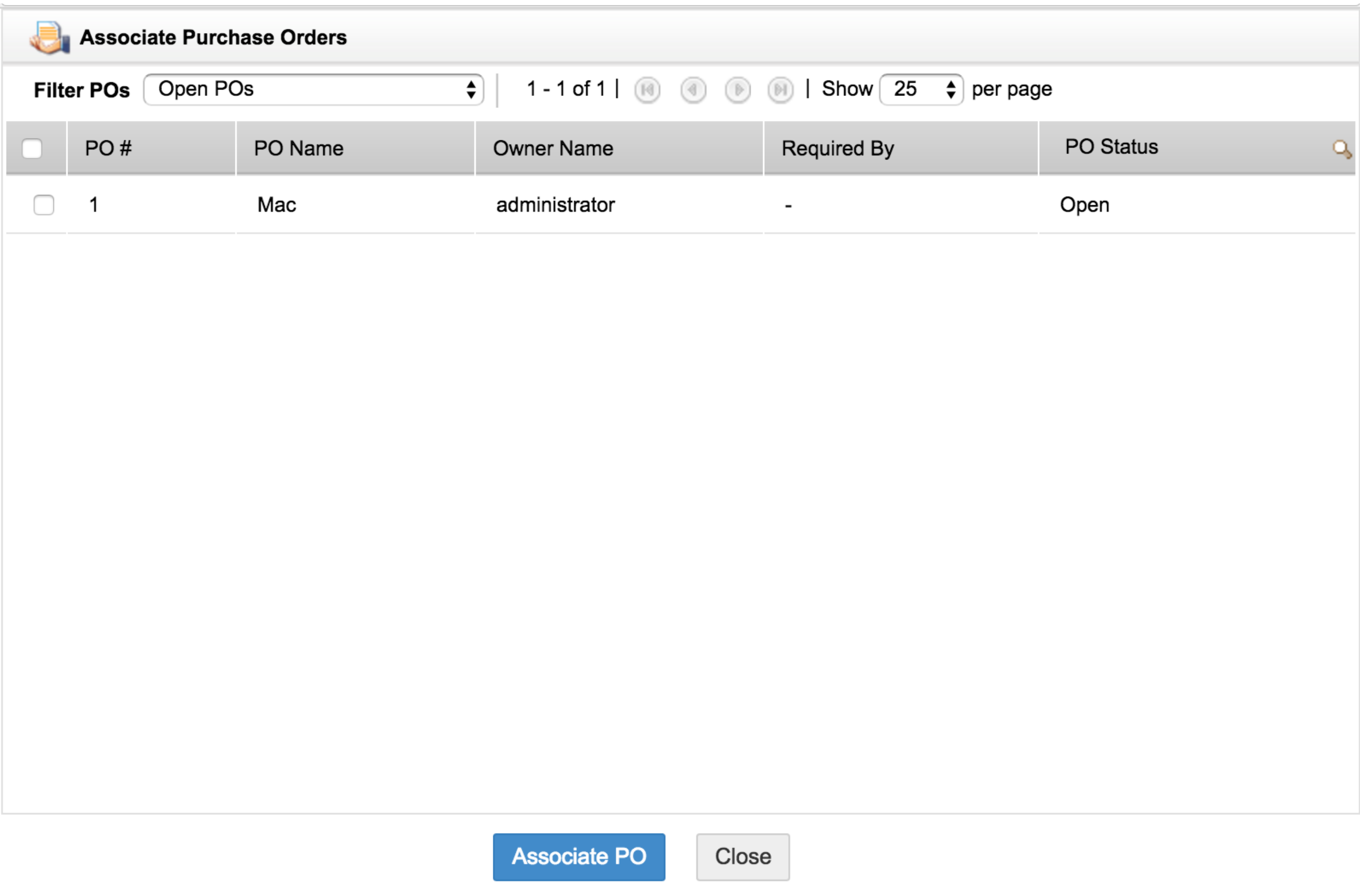
Service Requests involve delivery of some sort of service like laptop, phone, tablet etc., to the requester. This type of requests can be completed only after a series of tasks are performed. For example, in case of a laptop delivery, the technician will check whether the requested asset is available (in store) and might have to seek for higher authority's approval before proceeding with the service delivery. Now, when the requested service is not in store, then service delivery process has to begin from scratch: that is, first the purchase order (PO) for the service request will be created and submitted to the concerned vendor; then the asset will be acquired and provided to the requester.
Since Service Requests are often associated with Purchase Orders (maybe new or existing), ServiceDesk Plus provides an option to associate Service Requests with Purchase Orders (and vice versa) from the request details page as well as from the purchase details page.

Remember::
•
Only **technicians having roles with permission to edit and view both request and purchase modules** can associate/detach purchase orders from service requests

- Associating Service Request to Purchase Order
- Associating Service Request to multiple Purchase Orders
- Viewing Associated Purchase Orders
- Dissociate Requests from Purchase Order

Associate Service Request to Purchase Order
To associate **service request with purchase order**, do the following:

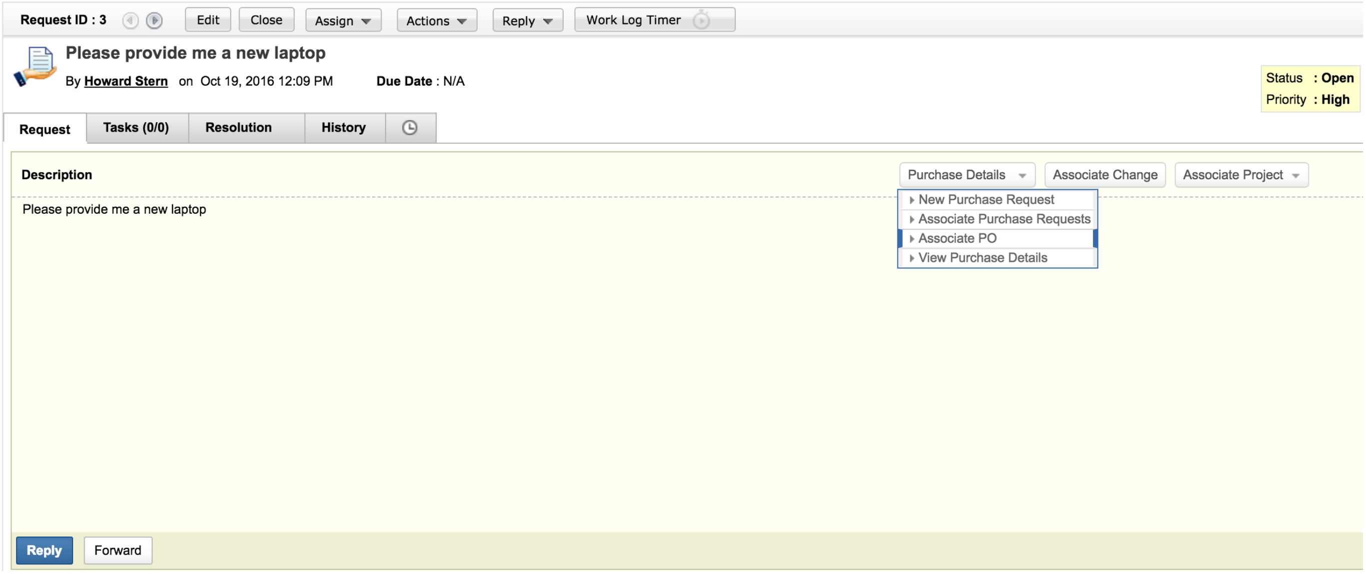
1. From the request list view, **select the service request** to be associated with the purchase order by clicking on the **subject of that request**
2. Click **Associate PO** button availabe in the **request details page** (present at the right side). **[OR]**
3. Click **Actions dropdow**n and **select Associate PO** option
4. **Associate Purchase Orders popup** will open up
5. Select the purchase order from the **available list** (or) by **filtering the available list** using various **PO filters** options like **Open POs**, **Pending POs**, **Closed POs** etc., **[OR]**
6. You can also **search for the purchase order** using the **PO number, PO name, PO status** etc., using the **search icon** available at the right extreme of the columns.
7. Click **Associate PO** button



Associating Service Request to multiple Purchase Orders

Sometimes a single **service request might involve several purchases** and therefore might have to be associated with **multiple purchase orders.** To associate a service request with multiple purchase orders, do the following:.

1. Select **request** by clicking on the request subject
2. Click **Associated PO dropdown button** availabe in the request details page (present at the right side) and select **Associate PO** option **[OR]**
3. Click **Actions dropdown** and select **Associate PO** option
4. **Select PO(s)** that you want to associate with the **Service Request** and click **Associate PO** button



Viewing Associated Purchase Orders

To view details of the purchase order (PO) associated with the Service Request, do the following:

1. Select **request** by clicking on the request subject
2. Click **Associated PO dropdown button** availabe in the request details page (present at the right side) and select **View Associated PO** option **[OR]**
3. Click **Actions dropdown** and **View Associated PO** option
4. Click on the **PO Name link** and the purchase order will open up in **Print Preview** mode

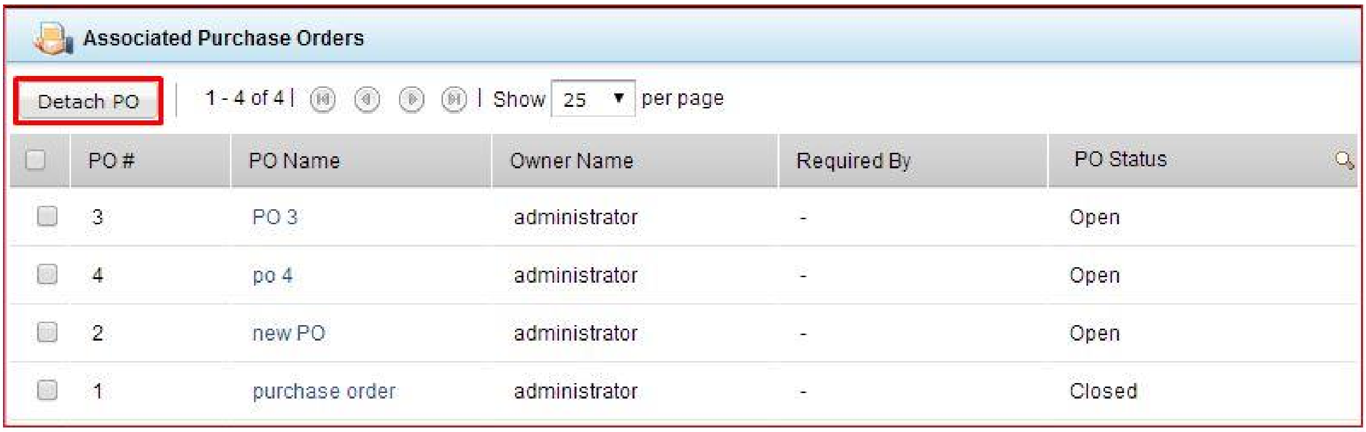
Remember::

- **Requesters can view the list of associated purchase orders** but cannot access the PO details

Detach Request from Purchase Order

In case the technician wants to delete the purchase orders associated with the service request once the purchase is completed, he/she can do so by following the steps given below:

1. Select **request** by clicking on the request subject
2. Click directly on the **Associated PO(s)**
3. Select Purchase Order
4. Detach PO button



Associated Purchase Orders

Detach PO | 1 - 4 of 4 | Show 25 per page

	PO #	PO Name	Owner Name	Required By	PO Status
	3	PO 3	administrator	-	Open
	4	po 4	administrator	-	Open
	2	new PO	administrator	-	Open
	1	purchase order	administrator	-	Closed

Note:

- **Technicians of the Service Request will be informed about the Purchase Order's status** - whether the PO related Items have been **received, partially received** (or) whether the Purchase Order has been **rejected** by higher authority - through **notifications**
- **Any number of Purchase Orders** can be associated with a **Service Request**

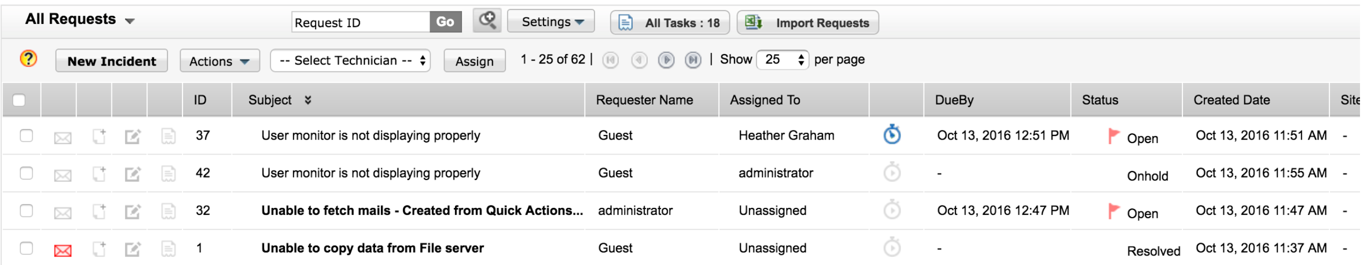
Importing requests From XLS file

ServiceDesk Plus allows you to import requests in bulk through XLS files. This option is especially useful for importing requests from one SDP application to another and from other helpdesk applications as well.

- Precautions to be taken before importing requests
- Upload XLS file
- Map Fields
- Check Import Summary
- Points to remember

To import requests through XLS file,

1. Click **Requests** tab in the header pane
2. Click **Import Requests** button available in the **Request List view** page (close to **Settings** Dropdown)



Importing requests is a 3-step process:

Precautions to be taken before importing requests

- Ensure **Notification Settings have been disabled** otherwise request related notifications could be unncessarily dispatched to technicians in case of importing closed/resolved requests.
- Ensure **Request Closure Rules have been disabled** as any disagreement with the Request closure rules will mean the requests being imported will be added as requests with open status although they might actually be requests that have been closed/resolved

Step 1: Upload the xls file

1. Click **Choose File** button and **search** for the xls file
2. **Locate** the file and select the same
3. Click **Next** button

Step 2: Map Fields

The next step is to **sync/map request fields of the xls file** with the **request fields of ServiceDesk Plus** application. The purpose behind this mapping process is to **identify request attributes/properties that are new (or) have not been configured in ServiceDesk Plus** and to **configure/incorporte** the same in the

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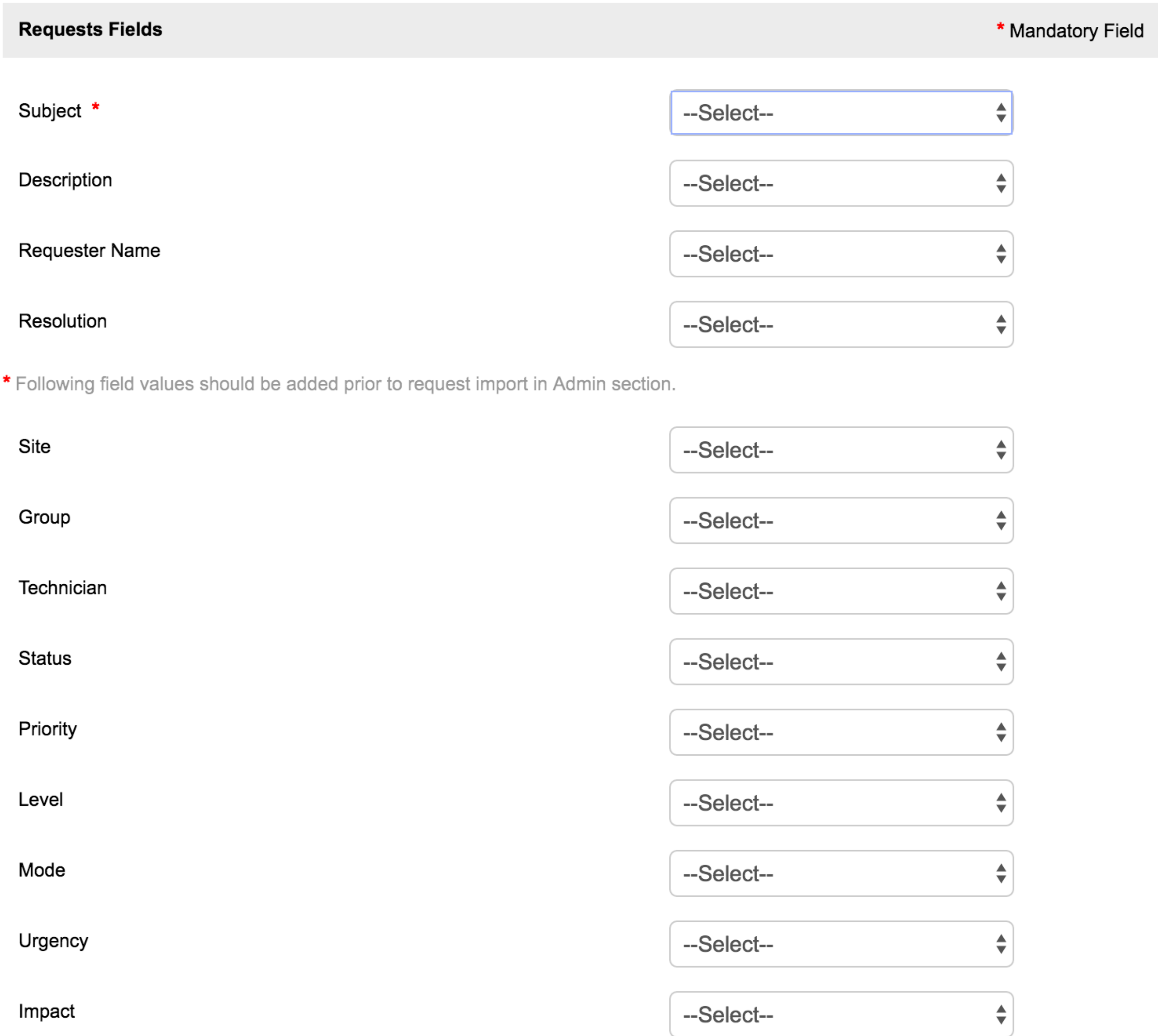
application before the requests are imported.

- The XLS file might have several sheets for containing many requests. **Specify the sheet from which you wish to import the requests**. The no. of filled in rows (which represent the **no. of requests**) available in the sheet will be displayed in the **Data Count** section.
- **Standard request fields** like Subject, Description, Requester Name, Resolution and Created Date will be **automatically mapped by ServiceDesk Plus application** itself; whereas **other request fields** like Site, Urgency, Impact, Category etc., have to be **manually mapped by the technicians** while importing requests.

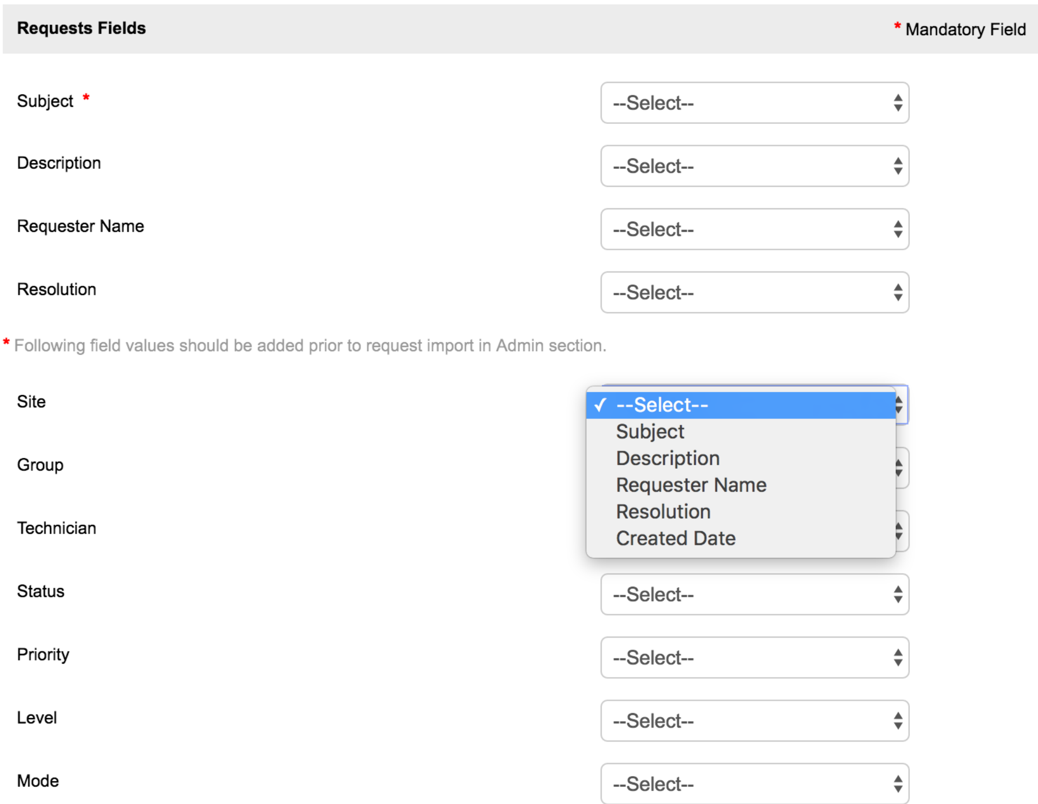
Image below lists the **fields which have to be manually mapped by technicians** while importing requests.



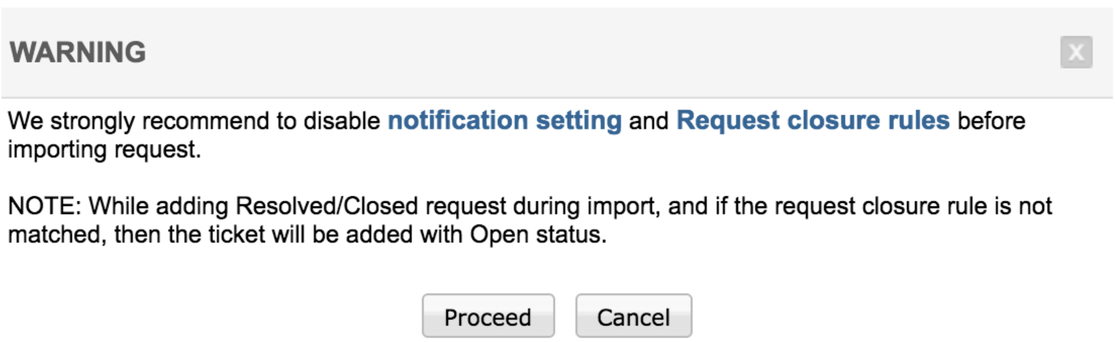
Note: Apart from these, the fields **Resolved date** and **Completed date** under **Date Fields** section too have to selected manually by technicians

- Mapping of request fields is a simple process where you **indicate the values associated** with the requests being imported by **selecting them** (from the drop down boxes) against the **appropriate properties**. For example: let's say the requests being imported have been assigned with the property **'Site'** XYZ. Then the same can be indicated by selecting the option **'Site'** (from the drop down boxes) against the property **'Site'**. Similarly, you can **map all the other properties** associated with the requests being imported.

	Note: Fields new to ServiceDesk Plus have to configured prior to the request import. In the above example, you should make sure the Site **'XYZ'** has been created in ServiceDesk Plus before importing the requests. If not, then no value will be associated with the property **'Site'** despite you **mapping/selecting** it. (that is, the value will be in unassigned state). .



- Once mapping is over, click the **Import** button
- n case you forgot to disable **Notification Settings** and **Request Closure Rules**, a warning message will be displayed as shown below suggesting you to do the same before request import.



Note:

- Requests should at least contain subject for the import to be successful. (Subject is a **mandatory field** while importing requests)
- **Default request template** of ServiceDesk Plus application will be applied to the imported requests

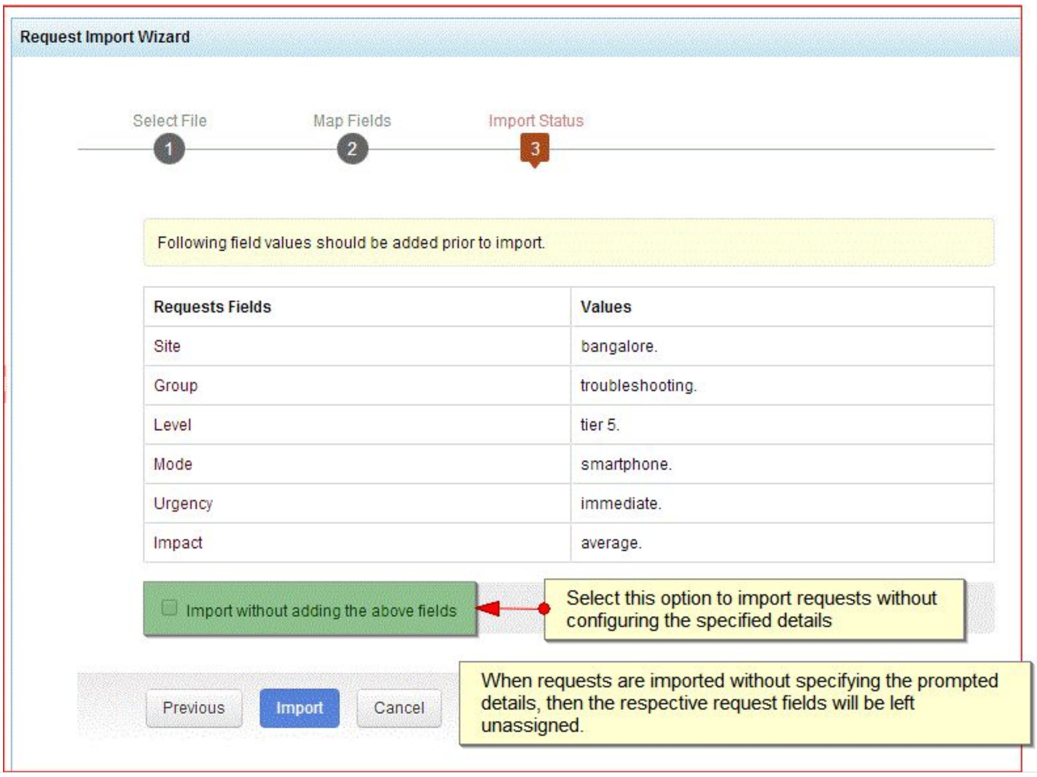
Step 3: Checking Import Summary

Final step is to check or review the import summary. Import Status section of the Request Import Wizard lists the following information:

- **Total number of records** (requests) **being imported** [in case the requests have been successfully imported]
- **Causes behind import failure** [in case of request import failure]

In case requests being imported **contain fields which haven't been configured** in ServiceDesk Plus. Those fields will be **pointed out to the technicians** who can either:

- Choose to **configure those new fields in ServiceDesk Plus application** and then import the requests (or)
- Can choose to **skip those new fields alone** and add the requests by enabling the **Import without adding the above fields** checkbox (see image below)



- If everything is fine with the request import, then click **Finish** button. The requests will be imported successfully.

Points to remember

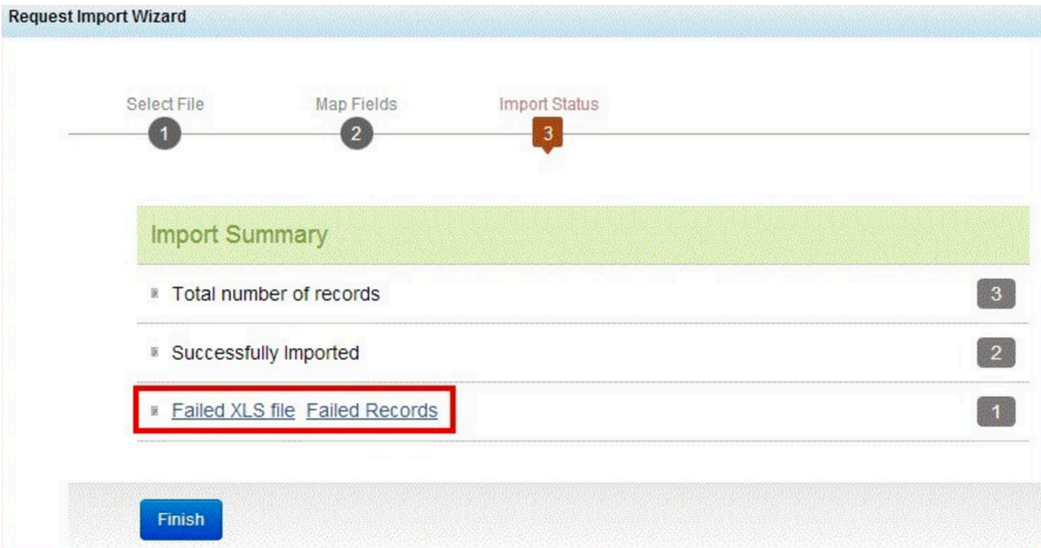
- **Service Level Agreements** associated with the requests being imported (if any) will be **redefined based on**

the rules that make up ServiceDesk Plus' Service Level Agreements (see ServiceDesk Plus SLA(s) for more info). For example: if the request being imported has **priority high** and **urgency high** and if the **top level SLA of ServiceDesk Plus** is defined for requests with **priority high** and **urgency high**, then the requests being imported will be assigned with the top level SLA, as they match the required conditions (or rules) and the due date will be calculated accordingly.

- Please remember that **operational hours** defined within ServiceDesk Plus application (see: Operational Hours for more info) **will also influence the SLA** that will be defined for the requests being imported.
- During Import all DATE formats supported by Excel will be supported by SDP as well if the cells holding the date values are formatted as DATE types.
- If the cell holding the date value is non-formatted, then the date format prescribed by SDP which is "dd MMM yyyy, hh:mm:ss" has to be followed.

  Note: Date values that do not follow the assigned DATE format are not recognized as date by Excel which in turn is reflected in SDP as well.

- If the given format is incorrect in either case (formatted or non formatted cells), current time of import / addition will be considered.
- **Failed XLS files** and **Failed Records** (if any) will be displayed in the Import Summary. Both the files will be in downloadable format. Technicians can download these files and correct the Failed XLS files by referring to the **Failed Records** file which indicate the errors that exist in the XLS files. An image of the error reports is shown below for your reference.



Delete a request

You may receive lots of mails of which some may not qualify as requests at all and hence need to be removed from the ServiceDesk Plus application completely. In such cases, you can delete those individual requests in the view request page or select a group of requests in the list view page and delete them together.
To delete individual requests,

1. Click the **Requests** tab in the header pane. This opens the request list view page.
2. Click the **Subject link** of the request that you want to delete. This opens the request details page.
3. Click Actions combo box -> Delete option. A confirmation dialog pops up.
4. Click OK to proceed deleting. The notes, work logs and conversations (if any) added to the request gets deleted. Click Cancel to abort deletion.

To delete more than one request at a time

1. In the requests list view page, select the check boxes beside the request that you wish to delete.
2. Click the **Delete** button. A confirmation dialog pops up.
3. Click OK to proceed deleting. Click Cancel to abort deletion.

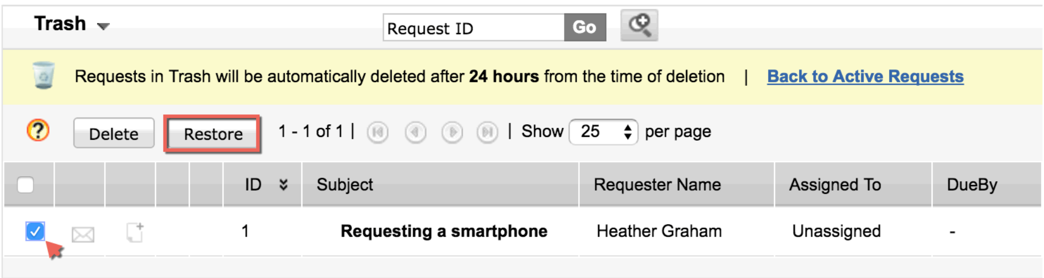
Request trash

Technicians usually delete requests when they are closed. But under certain circumstances closed requests might be needed for future reference. Therefore to prevent accidental deletion of closed requests which might be needed for future affairs, technicians are provided with the **Request Trash** option (available in the **Request Filter dropdown** below the **Request Filters**) which stores all the deleted requests for a period of 24 hours from the time of deletion - after which it will be deleted permanently from ServiceDesk Plus application.

Recovering deleted request(s) from Trash

To recover deleted request(s), do the following,

1. Click **Request Filter** dropdown
2. Select **Trash** option (available below request filters)
3. **Request Trash** will open up as shown below



1. Select the request you want to recover
2. Click **Restore** button

Note: To restore all the deleted requests, click the select box (available beside request id column), and click Restore button.

	Note: • Request Trash holds the deleted requests **only for 24 hrs** after which it will be deleted permanently

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Service request editor

Most of the service requests raised by the end users would require additional information before its processed and delivered by the IT Team. A user, who is not a technician, would be required to add this additional information for the service request. This user is called as the Editor. The Editor has permission to edit the service request and specify the required information.

Let’s consider the case of a New Hire process. The HR department raises a service request on a new employee joining the organization. The HR is equipped only with part of information to raise a service request. The rest of the information such as the type of workstation and software to install will be provided by the department head of the employee being hired.

Enable the Editor

If you are logged in to ServiceDesk Plus as the Administrator, then you can enable the editor while configuring the Service Request Template.

1. Click **Admin** tab in the header pane.
2. Click **Service Catalog** under Helpdesk block.
3. Select the Service Request for which you want to add the Editor.
4. In the Form Designer, select the **Editor** under Service Fields. Drag and drop this field in the canvas. By dragging and dropping this field in the canvas, you have enabled Service Request Editor. You can choose to make this field as mandatory or make it available to the requester.
5. Click **Save** button. The Service Request Template is saved.

While raising a service request, choose the editor using the icon . On creating the service request, the status is moved to **On Hold** indicating that further updates are required from the editor. When the request is updated by the editor, the status of the service request is moved to **Open**.

Notifications

The administrator can enable notifications to be sent to the editor and the requester who has raised the service request.

- **Notify editor when a request is waiting for update:** Enabling this option sends a notification to the editor that the request is awaiting for his/her update.
- **Notify requester when a request is waiting for update by editor:** Enabling this options sends a notification to the requester when the request is awaiting updated by the editor.
- **Notify requester when a request is waiting for update by editor:** Enabling this options sends a notification to the requester when the request is updated by the editor.
- **Notify requester when intermediate editor is changed by technician:** Enabling this option sends a notification to the requester when the intermediate editor is changed by the technician.
- **Notify old editor when he is removed from the responsibility:** Enabling this option sends a notification to the old editor stating that he is removed from his responsibility.
- **Notify new editor when a request is waiting for update:** Enabling this option sends a notification to the new editor that the request is awaiting for his/her update.

Edit the Service Request

If you are logged in to ServiceDesk Plus as the Editor, then the number of service requests that are awaiting your updated is shown in **Request Summary** -> **Waiting Update**. Clicking the numerical link takes you to the Request List view displaying all the requests that are **Waiting for my update**. Click the Subject link of the request to edit. In the Request Details page, click the Edit button. In the Edit form, specify the necessary details and click Update Request button. The Request is updated and the status is moved to Open.

Note:

1. The editor is allowed to edit the request only once. After editing a request, the Edit button will not appear when the status moves to Open.
2. If approval notifications are configured for the service request, then the notifications are sent to the approvers only when the status of the requets is moved to Open.

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Technician space

Besides various notification alerts (both email and sms) technicians are also provided with **Notifications Alerts** icon within **ServiceDesk Plus** application. This icon alarms technicians about only the **vital aspects associated with a request** and facilitates prompt action on their part thereby increasing the overall productivity of your helpdesk.

The **Notifications Icon** which is available beside the **Quick Actions Menu** alerts technicians about the following events:

- When a **request is assigned** to them
- When a **task is assigned** to them
- When **notes are added to the request** assigned to them
- When a **requester replies to a request** assigned to them
- When **approval is required for a request** for which they have been assigned as **approvers**
- When a requester/higher authority **approves/rejects the resolution** provided by them

Few points to remember:

- A **red mark with a number over the Notifications Icon** indicates the number of **unopened notifications**
- A **quick view regarding the notifications and their nature** will be presented to the technicians using a popup dropdown that opens up when the **Notification Alerts** icon is clicked
- When **technicians click the notification(s)** they will be led to the **appropriate section** within ServiceDesk Plus application to which these notification(s) correspond
- **Unopened notifications will appear grey** in color whereas viewed/opened notifications will no longer appear grey.

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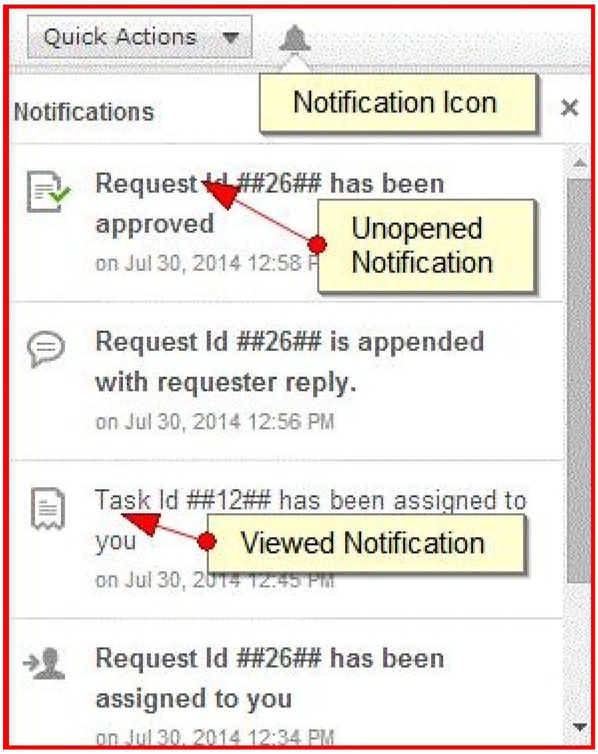


Notification Alerts Icon

Note: **Self-assigned or self-approved technician requests** will not be listed/recorded under the technician space.

Searching a request

There are 3 ways for searching a request:

- Keyword based Search (Using Search Box of Request List View page)
- Column Wise Search (Using Search Icon of Request List View page)
- Using Advance Search (Available besides Request ID Search Box)

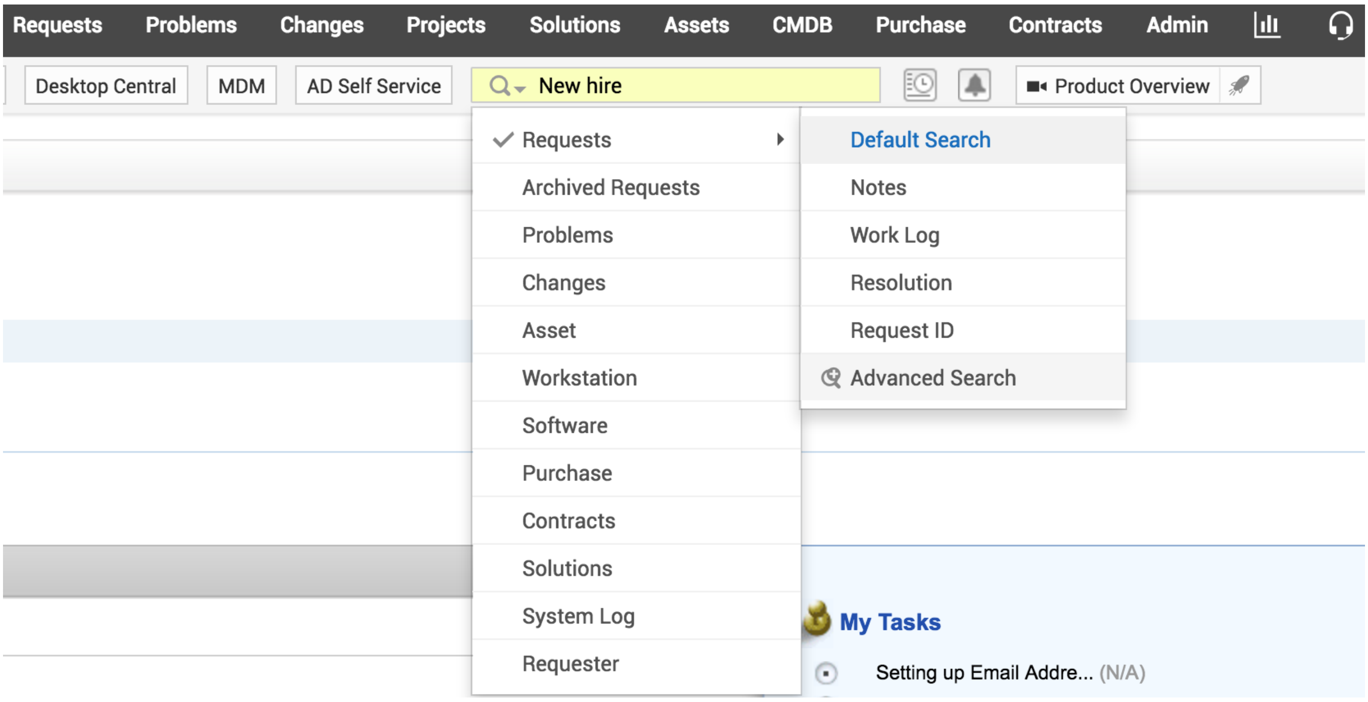
Keyword Search
In **Keyword Search** option, you can search for requests based on a keyword, say laptop or printer. The keyword can be from the subject or description of the request or a value of the request fields (Priority, Status, Group and so on) like High, Open, Printer Team and so on. You can also search for requests assigned to a technician by entering the name of the technician as the keyword. The search results in a list of requests which matches the keyword. You can further sub divide the request module to search based on **Notes**, **Work Log**, **Resolution** and **Request ID**.

To perform **Keyword Search**,

1. Click **Requests** tab in the header pane.
2. In the **Search** block, select **Requests** in **Search in** drop down menu.
3. You can further fine grain your search by selecting the **Sub Modules**. You can search for requests based on Notes, Work Log, Resolution and Request ID.
4. Enter a keyword relevant to the request in **Enter Keyword** text field.

Note

- If you have selected the sub module as **Notes**, then you can either enter a relevant keyword from the notes content or the name of the technician who has added the note.
- If you are searching requests based on **Work Log**, then enter the technician's name as the keyword.



1. Click **Go**. The search results in requests that match the keyword.

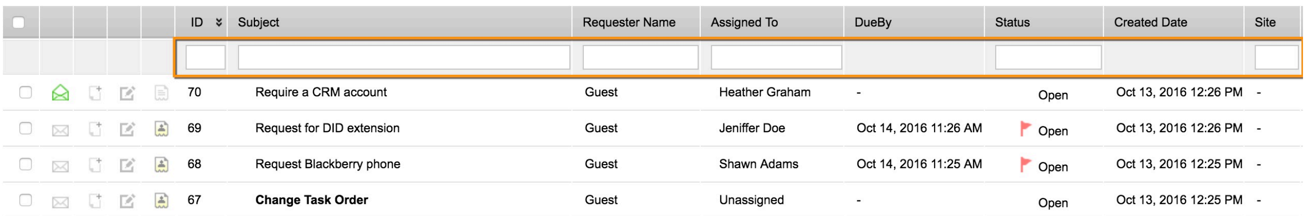
Column-wise Search

Column-wise Search allows you to search for requests using two or more keywords. For example, if you want to search for all the **High** priority requests assigned to the **Printer Group** with Subject as **Printer**, then you can do so using column-wise search option.

Note: You cannot search for requests based on any of the date fields of the request.

To perform column-wise search,

1. Click **Requests** tab in the header pane.
2. In the **Request List view** page, click **Search** icon at the end of the request list view headers. This opens the search field just below every column that is visible in the list view.
3. Enter the search key in field under the column of your choice.
4. Click Go. The search results matching the search string(s) are displayed.



Advance Search

Advance Search allows you to search for requests using a **combination of AND and OR logical conditions** and also allows technicians to choose from **multiple filter criteria** like "is, is not, contains, not contains, start with and end with" etc.,. See Advanced Search for more info.

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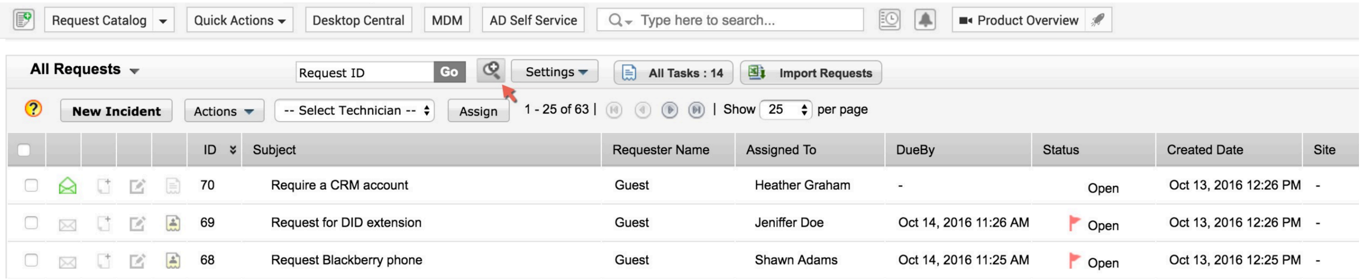

Request Catalog
Quick Actions
Desktop Central
MDM
AD Self Service
Type here to search...
Product Overview
All Requests
Request ID
Go
Settings
All Tasks : 14
Import Requests
New Incident
Actions
-- Select Technician --
Assign
1 - 25 of 63 | Show 25 per page
ID Subject Requester Name Assigned To DueBy Status Created Date Site
70 Require a CRM account Guest Heather Graham - Open Oct 13, 2016 12:26 PM -
69 Request for DID extension Guest Jeniffer Doe Oct 14, 2016 11:26 AM Open Oct 13, 2016 12:26 PM -
68 Request Blackberry phone Guest Shawn Adams Oct 14, 2016 11:25 AM Open Oct 13, 2016 12:25 PM -

Advanced search of requests (filters)

The Advanced Search option allows you to search requests, based on multiple filter **Criteria** *(is, is not,* etc.,) and by using the combination of logical operators **(AND / OR**) on the same fields and different fields (columns), as well. This is unlike the basic request search or the advanced filtering in custom view, which permit you to search using **either AND or OR**, and not the combination of both.
The below topics are discussed in this section:

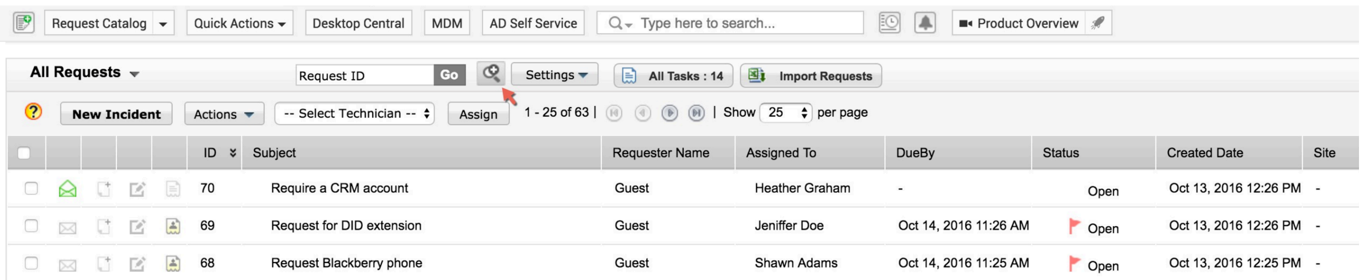
1. Key Points
2. Accessing the Advanced Search UI
3. Searching for Requests
4. Example Scenario
5. The Filtered List view

Key Points

1. The advanced search is applicable for **all editions**.
2. The advanced search view is scoped to view only by **Technicians** and **not Requesters**.
3. This can be performed on all **Requests (Incidents / ServiceRequests)** in a Request List View, to which the logged in user has access.

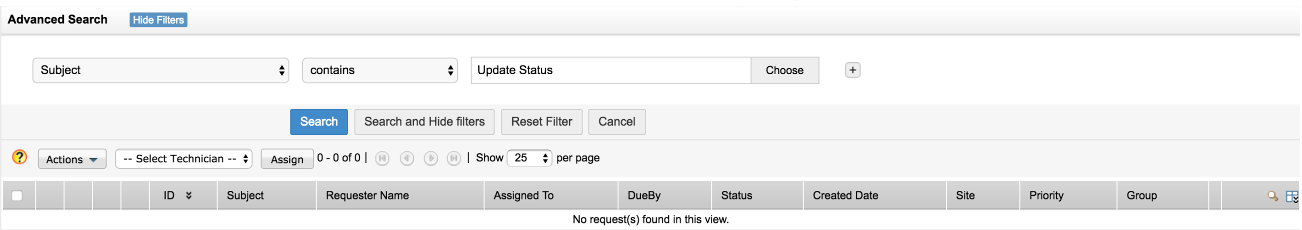
Steps to Access the Advanced Search UI

1. Login to the ServiceDesk Plus application using appropriate Username and Password.
2. Click the **Requests** tab in the header pane. This opens the **Request List View** page.
3. Click the icon besides the **Settings** dropdown.



1. The Advanced Search UI is shown.

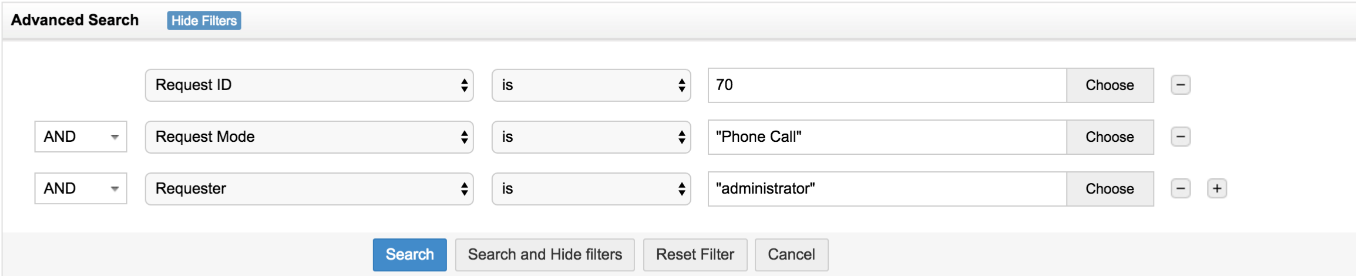
1. The UI has the structure shown in below image, **before adding any criteria:**



- **Search**, **Search and Hide Filters** and **Reset Filter**: These buttons are disabled.

- **Cancel**: This button is enabled. Click it to close the **Advanced Search Filter View** and go to the **Request list view**.

2. The UI has the structure shown in below image, **after adding criteria**:
   - **Search**: This button allows you to search for requests, based on the selected criteria. The Filtered Request List view will be displayed at the bottom. This filter will be applied on "**All Requests**" view, for which the logged in user has access.
   - **Search and Hide Filters**: This button allows you to first search for requests, based on the selected criteria and then hide the filters.
   - **Reset Filter**: This button allows you to reset the criteria values. It removes all rows except the first one. The **Column**, **Criteria**, **Values / Column Data** and the **AND / OR** of the first row will be emptied.



TOP

Searching for Requests using Advanced Search

1. This search is **not** case sensitive.
2. The logical operators **AND / OR** will be applied in the order they are created.
3. You can add/remove the filter columns using "**+**" and "**-**" icons.
4. You can search for a maximum of **15** criteria, exceeding which shows up with an alert message.

1. Choose a **Column**, say '***Request ID***' from the drop down.

1. Choose a **Criteria**, say '***is'***, from the dropdown.

1. Choose the required **Column Data** for the selected column:

   - The Column Data can be **single/multi line**, e.g., ***Request ID***.
   - The Column Data can be a **drop list**, e.g., ***Category***.

If the Column Data is a **drop list**, all the selected values are shown, only if you mouse-over the field.

1. Choose **AND / OR** from the dropdown.
2. Add the required number of search criteria by repeating the above steps.
3. Click **Search**. Now, all the requests relevant to the search criteria are listed below the Search button.
4. Click **Search and Hide Filters** to hide the Filters view once the filtering is done.
5. Click **Reset Filter** to reset the criteria values for a new search.

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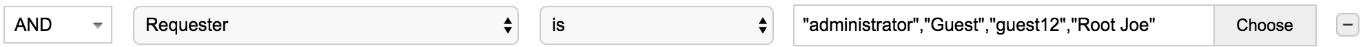
Example Scenario:

Let us consider creating a search criteria by using 3 different filters:

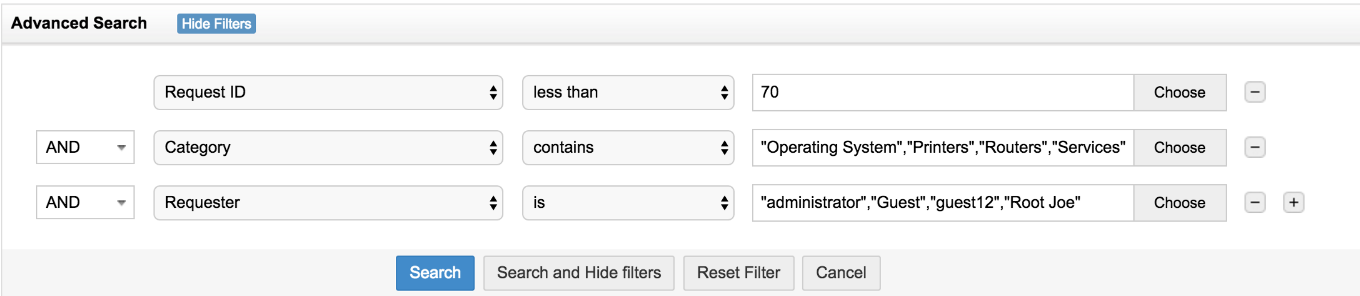
[Filter 1: Column=*Request ID*; Criteria=*less than;* Column Data=70]

[Filter 2: Operator=OR; Column=*Category*; Criteria=*contains;* Column Data=Operating systems, Printers, Routers, Services]

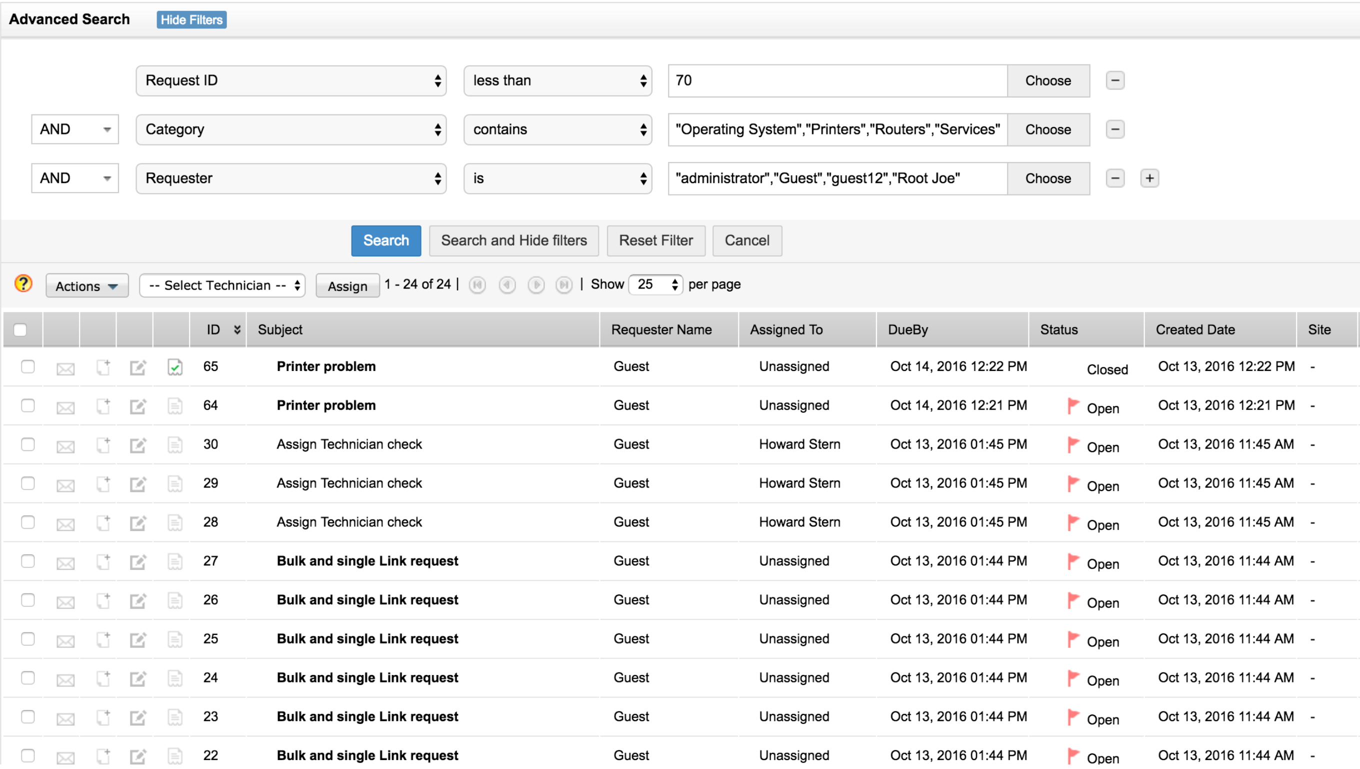
[Filter 3: Operator=AND; Column=*Requester*; Criteria=*is;* Column Data=Administarator,guest, guest12,Root joe]



With all the above 3 filters, the wizard will look like:



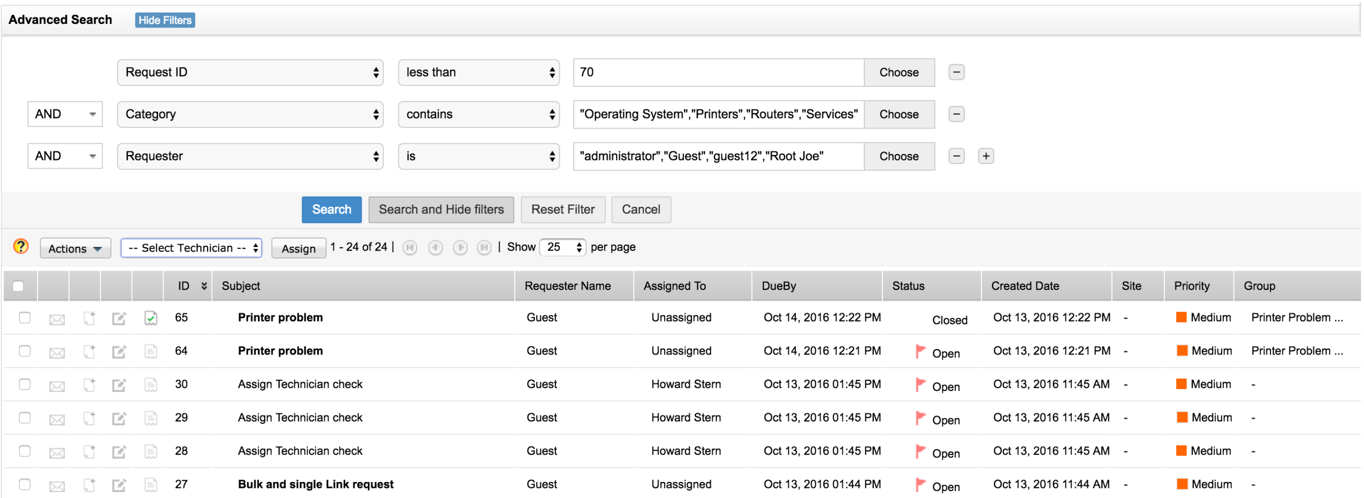
As you click **Search**, all the requests relevant to the search criteria are displayed as shown below:



TOP

The Filtered List view

The Filtered List view is similar to the Request List View. This view lists all the filtered criteria created by you.



Functionalities of Filtered List View:

- You can **Sort, Spot search** and also **Personalize** the view. Be noted that these changes **will also affect** the personalized views of the **Requests** module.
- When you navigate to the next page in the Filtered list view, or move to some other tab / page, this view will be maintained as such until the cache is cleared.
- Any operation performed in this filtered list view will be synced with the main Request list view.

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Possible Actions from Filtered List View:

1. **Show / Hide Filters:**

   Click **Show Filters**, if you wish to add more filter criteria to the list. Click **Hide Filters** to collapse the Filters View.

2. **Edit:**

   Click the **Subject** link or **Edit** icon to modify the request.

3. **Actions Menu:**

   Select the required requests and use this menu to perform the following bulk operations: **Edit Requests, Delete, Pick up, Close, Merge** and **Link Requests**.

4. **Select Technician Dropdown:**

   Select the required requests, choose a Technician from the dropdown and then click **Assign**. Now, the Technician chosen will be assigned to the selected requests.

Tasks

Sometimes, a request might involve multiple technician work. In that case, the request can be divided into several tasks and each task can be assigned to a technician/group.
For example, consider a scenario where a new employee joins the organization. There is a list of tasks that need to be performed such as allocating seating location, providing a computer/laptop, installing necessary software, connecting telephone links, entering the employee's name in the active directory and so on. These operations can be considered as separate tasks and be can assigned to different technicians.

To know more about tasks such as how they can be added, assigned, managed and related to each other, visit the following pages:

- **Adding Tasks**
  - **Mark/Assign Technician**
- **Task List View Page**
  - **Organizing Tasks**
  - **Task Dependency**
  - **Triggering Tasks**
- **Task Details Page**
- **Adding Worklogs**
- **Adding First Response Time using Worklog**
- **Adding General Tasks**
- **Close/Delete Tasks**
- **Task Comments**

Adding task(s)

- Click Request**s** tab in the header pane.
- Click the **Subject** link of the request to which you would like to add tasks.
- Click the Actions drop-down menu -> select Add Task option. The Tasks form opens in a pop up window.
- To add routine tasks instantly, choose a Template from **Use Task Template** drop-down menu. The details added in the Template are populated in the Task form. Refer Task Template to know - how to configure Task Template.
- If you are manually adding a task in the Task form, specify the Title of the task in the given text field. This is a mandatory field.
- Specify relevant information about the tasks in the Description field.
- Specify Task **Status** (Open by default).
- Provide **Estimated Technician Effort** expected to be involved while technician is working on the task (will be useful in calculating Scheduled End Time of the Task)
- Specify Task **Priority**
- **Choose Group/Technician for assigning/marking task.**

Tasks can be assigned/marked:

1. to a Group alone,
2. to a Group and a specific Technician in the group,
3. to a Technician alone without selecting the group,
4. to no Group and no Technician.

- **Optional:** Specify Scheduled Start time for Task (the same will be done automatically, in case you choose to trigger tasks)
- Select Task **Type** from the list
- **Optional:** More Fields button

Specify the following by clicking ‘More Fields’ button:

1. Actual Start-End Dates: To be filled upon task completion
2. % of Completion: To specify the extent to which task has been completed (eg: 30%, 70% etc.,)
3. Additional Costs (if any)
4. Specify relevant comments about the task in the Comments field.
5. If task being configured is dependent on another task, use Mark parent task(s) dropdown and select the parent task.
6. Click Save (or) Save and Add New

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Note:

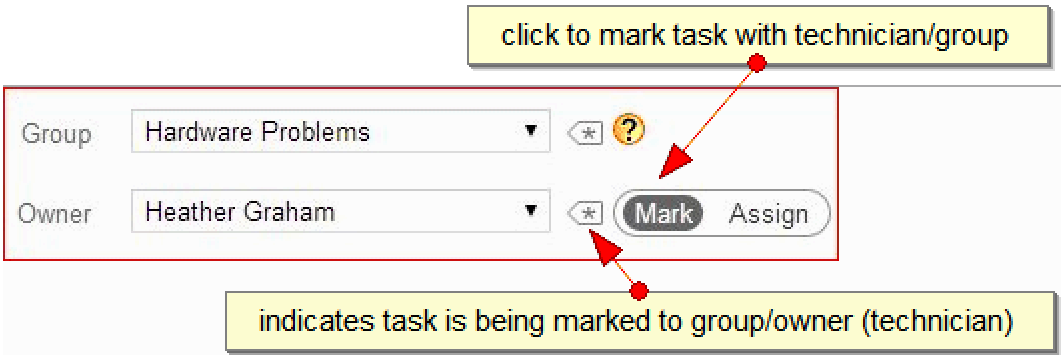
- Individual tasks (not associated with request, problem, change, project and milestone) will not have **Mark Parent Task(s)** option.

Assigning/Marking tasks to technicians

While **selecting Group/Owner for the task,** you have the option of either **marking (or) assigning the task** to the technician.

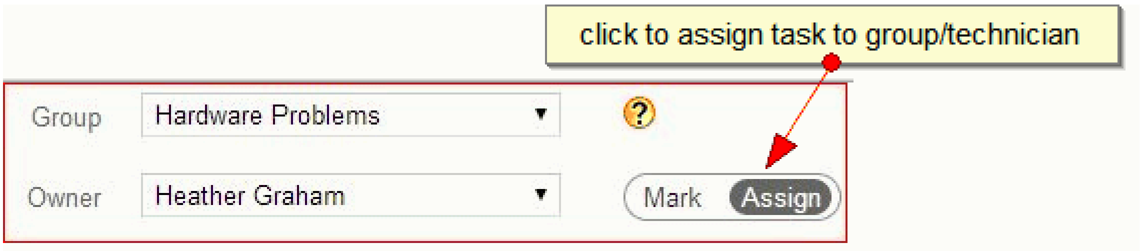
- Marking Task(s) is a way of **associating tasks to technicians** that helps administrator plan tasks in a better way
- Marking Task(s) is an **administrator activity that the technician never gets to know** until the task is assigned to him/her
- Marking Task(s) helps administrators to allocate 'marked tasks' to technicians '**only when it is time**' for the task to be executed and **not unnecessarily in advance**
- Marking Task(s) is especially useful for **dependent tasks** that heavily depend upon the **completion of parent task**. Under such circumstance, the **child task can be marked with a technician**, and can be later assigned to him/her based on the **real-time** completion of the parent task
- **Marked tasks** do not appear in the respective technician�s **My Tasks** list (but only serve as a reference for the administrator) until the task is triggered.
- Whereas **Assigning Tasks** to technicians will directly intimate the concerned technician about the task assigned (through notification) and will be listed on his/her **My Tasks** list.

Marking a Task
To mark a task to technician/group, do the following:



1. Select **Mark** button besides **Owner** dropdown
2. *** asterisk ico**n will appear besides Group/Owner fields indicating task form is in **marking Group/Technician mode**.
3. **Choose Group & Technician** to be marked with the task
4. Save the task

Assigning a Task
To assign task to a technician/group, do the following:



1. Select **Assign** button besides **Owner** dropdown
2. Choose **Group & Technician** to be assigned with the task
3. Save the task

Task List View Page (of Associated Tasks)

Tasks Tab (or) Task List View Page of task(s) associated with request, problem, change, project and milestone will appear as shown below:

In the image above, Install Software is the child task dependent on parent task Provide Deskto/Laptop, and is indicated using the arrow symbol; whereas the asterisk * icon (available besides Owner/Group) indicates task has been marked to be assigned to technician Shawn Adams of Software-Related group.

From Task List View Page, you can do the following
* Organize/Close/Delete Tasks using Actions dropdown
* Establish dependencies (relationship) between tasks
* Add Tasks using Add New button
* Add Tasks from existing Task Template(s) by clicking Templates button
* Trigger tasks manually using Trigger button
* Add Worklog Details

Task List View pages of associated tasks and general tasks slightly differ from each other. Task List View page of general tasks does not have Actions dropdown menu, Templates and Dependencies button.

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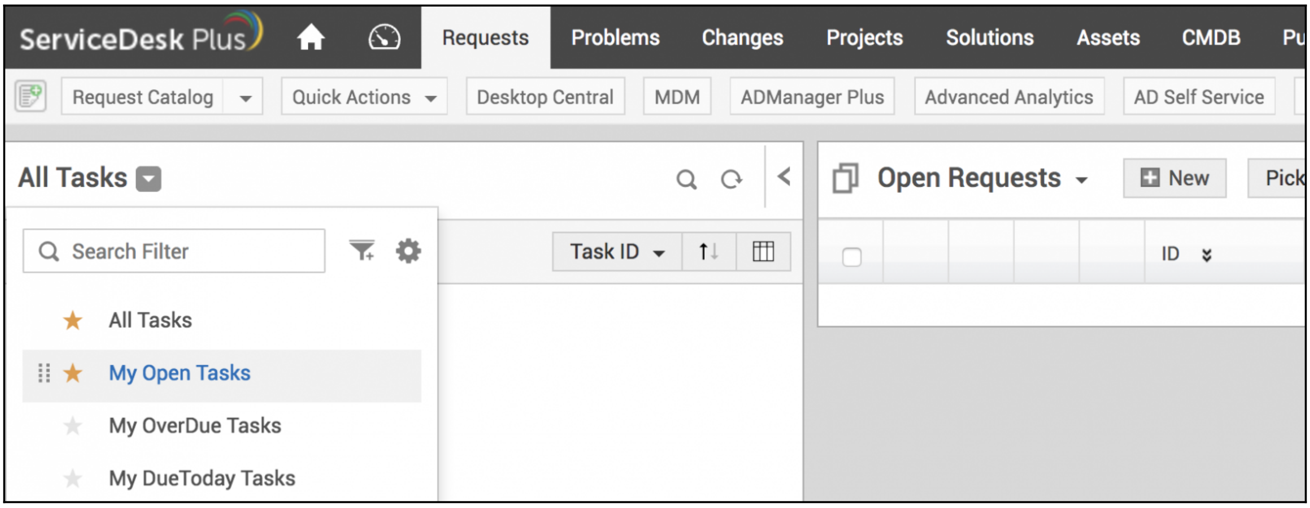
Custom views

Custom Views helps you filter tasks based on certain criteria. The Custom Views are listed in the **Filter drop-down menu.** This drop-down menu consists of options to **Add Custom Views**  and **Manage Custom Views**  Custom views can be marked as 'favorite' by tapping the  icon and the order can be rearranged by 'drag and drop'  icon.



Add custom view

You can add custom views by specifying the criteria to filter tasks accumulated in your task list view.

Note:

1. If you are logged in as an SDAdmin, then you have the privilege to mark a custom view as private or public. **Public Custom Views** can be viewed by all the technicians but **Private Custom View** can only be viewed by the technician who has created the view.
2. If you are logged in as a technician, then the custom views created by you are marked as private, by default.

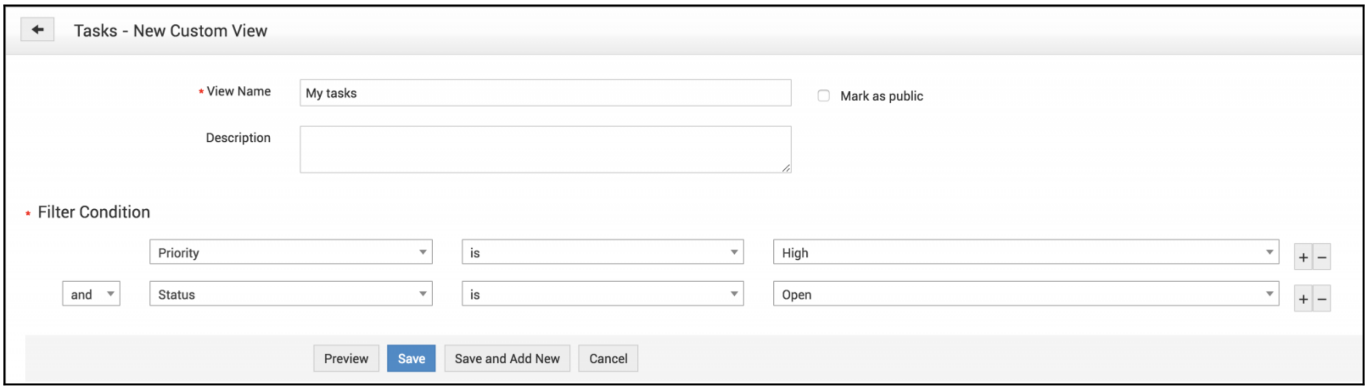
To create a custom view,

- Click **Requests** tab in the header pane. The **Request List view** page will be displayed.
- Click **Filter drop-down menu** on the left and select **Add View**  option. The **Tasks - New Custom View** page is displayed.
- Specify a name for the custom view in **View Name** text field. This field is mandatory.
- Select the **Columns** and its **Criteria** from the drop-down box.

1. Click Add to Filter Button. The filter criteria details are saved and listed in the Filter Set block. You can add more filter conditions to this view by selecting the column, criteria, and condition of the filter.
2. If you have more than two criteria, then select the AND or OR conditions by enabling either of the two radio Buttons.

3. If you are logged in as the administrator, then you have the privilege to make your view as public by selecting **Mark as public** checkbox.
4. Click **Preview** Button to preview the custom view.
5. Click **Save** Button. The custom view is saved and listed in the Custom Views List view page.
6. Click **Save and Add New** Button to save and add another custom view.

The Custom views are listed in the **Filter drop-down menu**. The Custom view marked as **Private** is listed under **My Views**, and the views marked as **Public** are listed along with the remaining filters.



Manage custom views

Manage custom views helps manage your views by providing a consolidated view of all your public and private views. While viewing the custom views, you can edit, delete and add custom views.

1. Click **Requests** tab in the header pane. The **Request List view** page is displayed.
2. Click **Filter drop-down menu** under Tasks and select **Manage View** option.

Edit custom views

To edit a custom view,

1. In the **Manage Views** section, click the **Edit** icon  to edit. The **Edit Custom View** page will be displayed.
2. Edit the details and save the changes.

Delete custom views

To delete a custom view,

1. In the **Manage Views** list view, select the check box to delete.
2. Click **Delete** Button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed. The Custom View will be deleted from the list.

Note: The Public Views can be deleted by a technician with SDAdmin privileges.

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Task details page

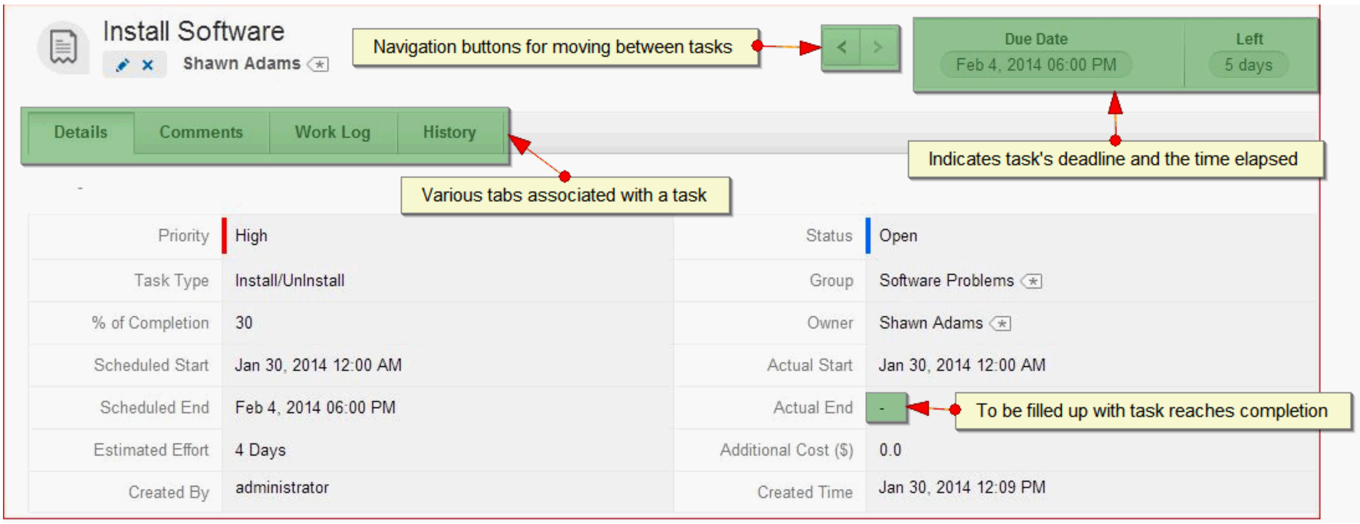
Click on a task to view the **task details** section. Once a task is saved, it would have the **following tabs**:

- **Details tab -** listing various details added using task form
- **Comments tab -** where technicians involved can add task-related comments
- **Worklog tab -** using which time spent by technicians and the cost incurred due to the task can be recorded
- **History tab -** to keep track of "who does what and at what time" within the task

Task Details

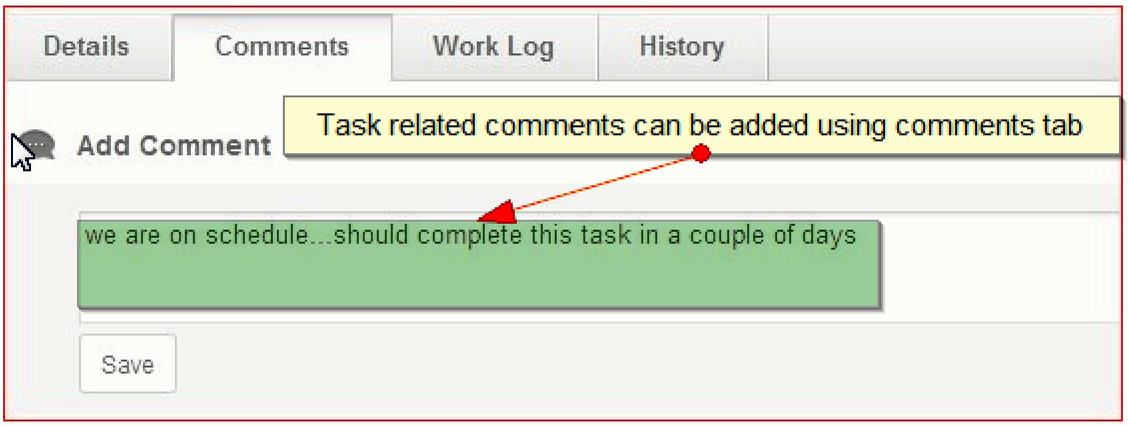
Details tab has an **editable task form** displaying various **task details/fields** which can be edited as the task progresses.

Sample **filled in task details page** (tab) is shown below:



Task Comments:

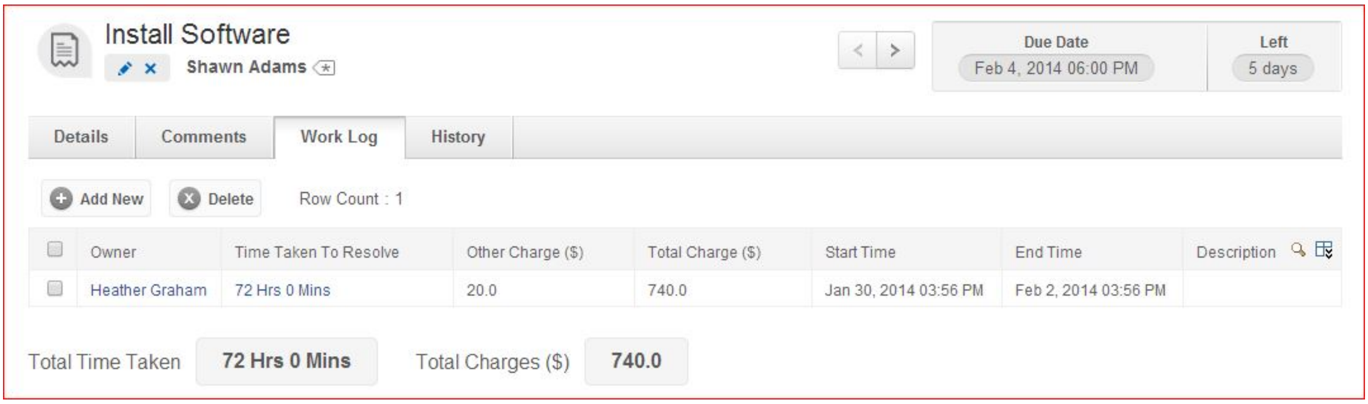
Technician assigned with the task and other technicians involved with it can **discuss/offer views regarding the task's progress** and ways of bettering through comments.



Task Worklogs:

Technician Worklogs can be **added, updated or deleted** (if required) using/from Worklogs tab.

- To add a new Worklog, use **Add New Button** (Add New Link in case you're about to add the first task); **Delete Button** to delete Worklogs, use Delete button
- To know more about how to add Worklog, see: Adding Worklogs.
  Sample Worklog tab (with an added Worklog) is shown below:



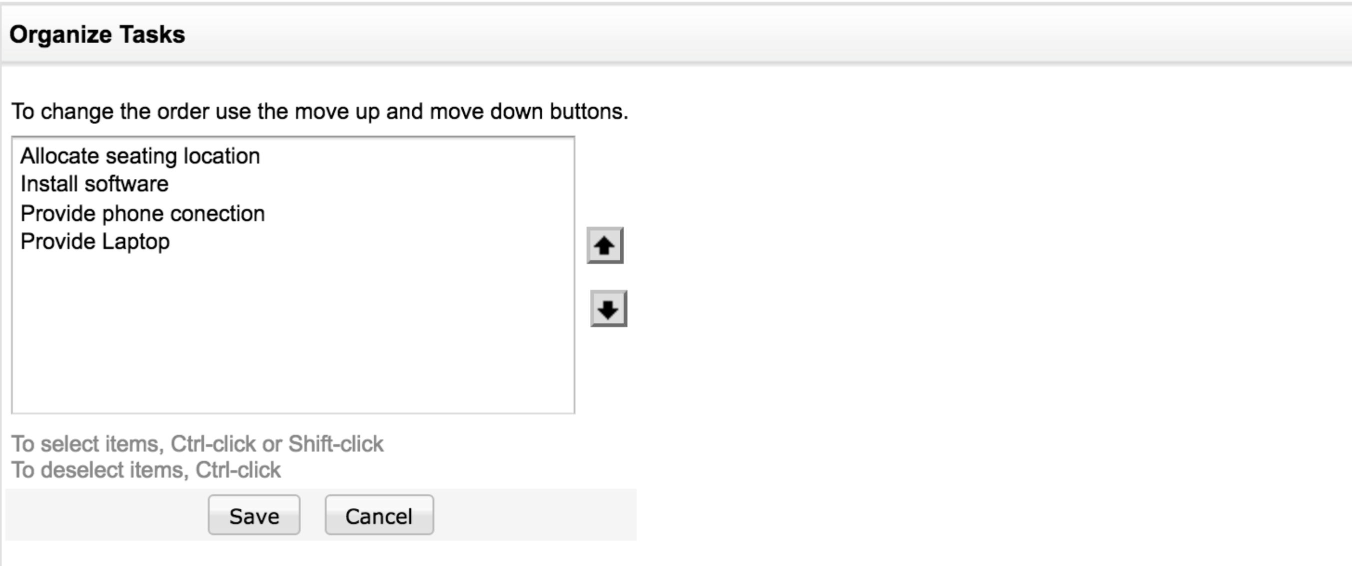
Task History:
Keep track of actions being performed on your task and also understand '**who does what and at what time**' using History tab.

- Task History can be viewed on '**day to day'** basis.

Organizing Tasks

While adding multiple tasks, by default they are ordered (using task order) sequentially. Now it is not always possible to remember: 1) the order in which these tasks would be executed 2) which task would be dependent (has a parent task) or independent while adding them. To solve these issues, you are provided with Organize Tasks option, which helps you organize tasks after they have been added.

1. Select Actions dropdown >> Organize.
2. Organize Tasks page opens up.



3. To change order in which a task appears:

- Select task by clicking Ctrl+Click.
- Use arrow keys to move the task up or down.
- Click Save after ordering task based on execution sequence.
- Use Ctrl+Click to deselect items.

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Adding worklogs

Record time spent by technicians (along with the cost involved) while working on tasks using Worklogs
Technician Worklogs can be added/viewed from **Work Log details** section.
To add a Worklog, click **Add New** link below Work Log details section and fill the Worklog form as follows:

1. Select **Task Owne**r from **Owner Dropdown** list
2. Specify **Start** and **End Time.**
3. **Time Taken to Resolve** will be populated based on the duration provided
4. **Technician Charge** will be calculated and populated in the respective field by **multiplying technician cost per hour** (owner's cost per hour) with **Time Taken to Resolve data**.
5. Specify **Other Charges** (if any) in the respective field
6. Field **Total Charge** will be the sum of **Technician Charge** and **Other Charge**
7. Provide a suitable **description**
8. Click **Save** (or) Save and Add New to add another Worklog.

Once Worklog has been saved, its details will appear in the **task list view page** under **Worklog details section.**

Note:
- Worklogs can also be added from the details page of the respective task
- Owner's cost per hour (technician cost per hour) will be automatically populated based on the respective technician details saved under admin --> technician section
- You can also **add first response time for requests** using Worklogs (see Adding First Response using Worklogs for more details)

Adding first response time using worklog

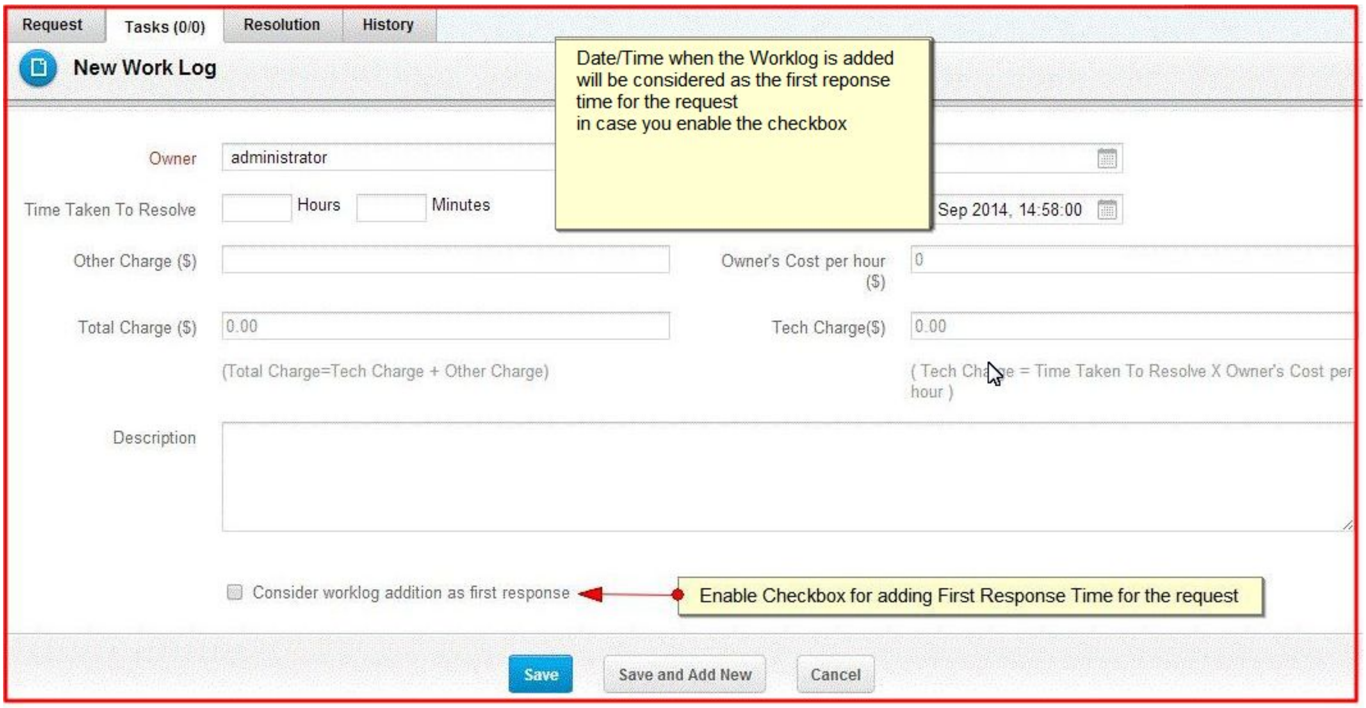
Technicians have the option of adding first response time for a request while adding worklogs. Normally first response time (indicated by field **Responded Date** in the request form) corrosponds to the time when technician replies to the request through mail. Technicians can also choose to record the same when adding worklogs to the request as well.

Adding First Response Time using Worklog:

1. Fill in the worklog details like you do normally and
2. Check **Consider worklog addition as first response** option (available at the bottom)
3. Save the Worklog

Important:

- *First Response Time is an entry which once made - through request reply or while adding worklog - cannot be edited in the request form.*



Note:

- This checkbox will be available in Worklogs **until the technician responds to the request**
- This option will not be available **in case the technician has already responded to** the request
- When this option is enabled, the **date/time when the worklog is being added** will be considered as the **First Response Time** for the request
- **First Response Time** is indicated by the field **Responded Date** in the Request Form

Add general tasks

To add **general tasks** that are not associated with requests, problems, changes, projects and milestones, do the following:

1. Login into ServiceDesk Plus using your credentials
2. Click **Quick Actions dropdown** and select **Add New** under **Tasks block** (or)
3. Click **Home tab** of the header pane and click Click **Add New button** under **My Tasks** section
4. Add tasks in the same manner you would add task to associate with a request (refer: Adding Tasks)
5. Save the task

Viewing Tasks from Home Page
All the tasks present in ServiceDesk Plus application can be viewed from the home page by clicking the **Show All** button under **My Tasks** section (if you're a **technician** with **SDAdmin Role**).
Task List View of the Home Page also has the following options:

- **Trigger button** for triggering tasks
- **New Task button** for adding tasks
- **Close/Delete buttons** for closing/deleting tasks respectively

Editing Tasks from Home Page
Tasks can be edited right from the task list view (applies for independent as well as associated tasks) if the technician is directly assigned to the task (or) if he/she possesses the SDAdmin role.
To edit tasks from task list view, do the following:
Select **technician** (or group) from **select technician/group popup** to whom you want the task to be reassigned
Mark or Assign the task to him/her
Click the **tick** mark

Editing Marked/Assigned Technicians

- To edit **status** and **priority** associated with tasks, **click** on the respective fields and **choose** the appropriate option
- To edit **group** and **technicians** assigned/marked with tasks, **click** on the respective field
- To edit **scheduled start time and end time, click** the respective fields and select the desired date from the **calendar popup**

Identifying General Tasks and Associated Tasks
You can identify general tasks and associated tasks using the following details:

- By enabling **Link** option in the **Column Customizer** box. Doing this will display **info regarding whether the**

task is associated to request, problem, change, project or milestone in the **task list view page.**

- By **viewing the task's details by clicking on the respective task.** In the **right extreme of the task details page,** next to the navigation buttons, the **task's association** with the request, problem, change, project or milestone **will be displayed along with the task's status**; for independent/general tasks, no information will be shown.

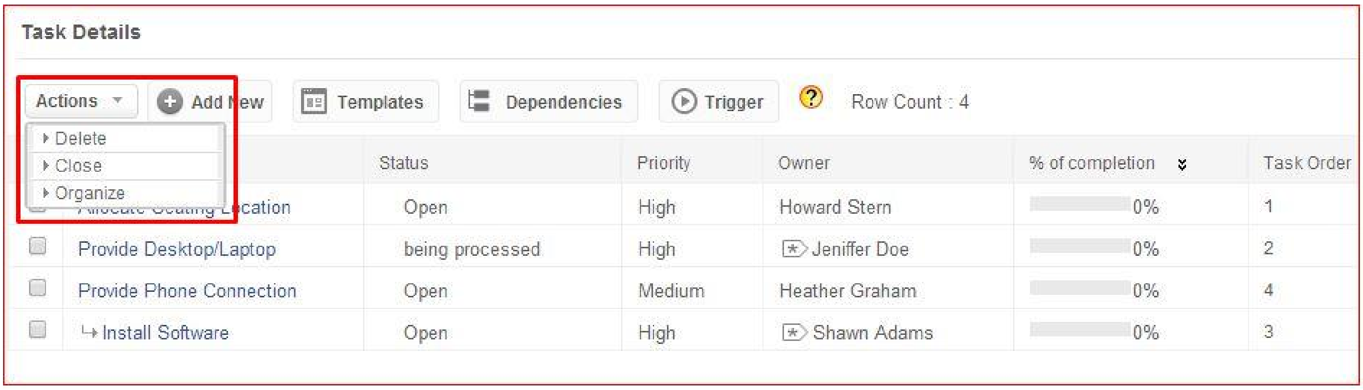
Note:

- Technicians can also edit tasks by accessing the respective task's details page (by clicking on the task)
- Bulk deletion/closing of tasks can be done from task list view page
- Task view can also be changed based on the various task filters available

Close/ Delete tasks

Close/Delete tasks that are no longer applicable or expired. You can also bulk delete tasks using this option.

- Head to Tasks list view.
- Select the tasks you want to delete.
- Click on the Actions menu and select Close/Delete.



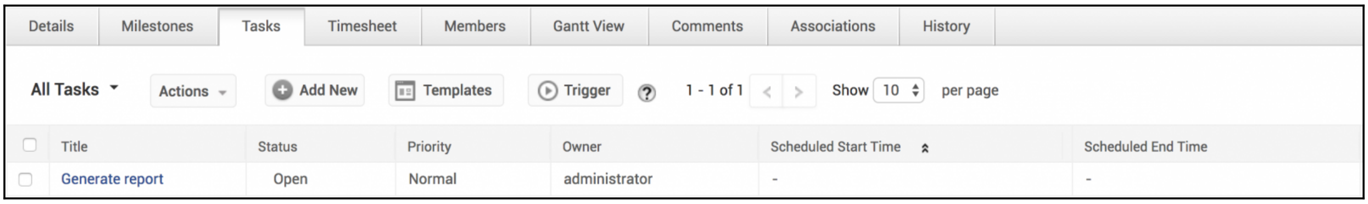
Task comments

Task comments enable you to update any changes in the Tasks/Projects/Requests/Problems/Changes/Milestones by entering comments in the Tasks modules. The task comments are available for the tasks under Request, Problems, Changes, Projects and Milestones modules.

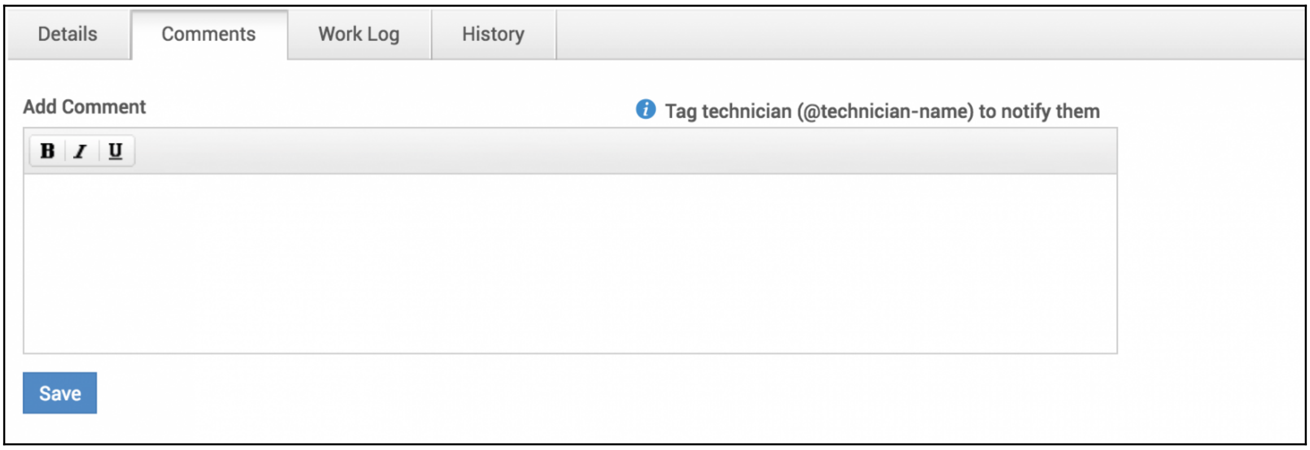
Accessing task comments.

Task comments are accessible for the tasks under Request, Problems, Changes, Projects and Milestones modules.

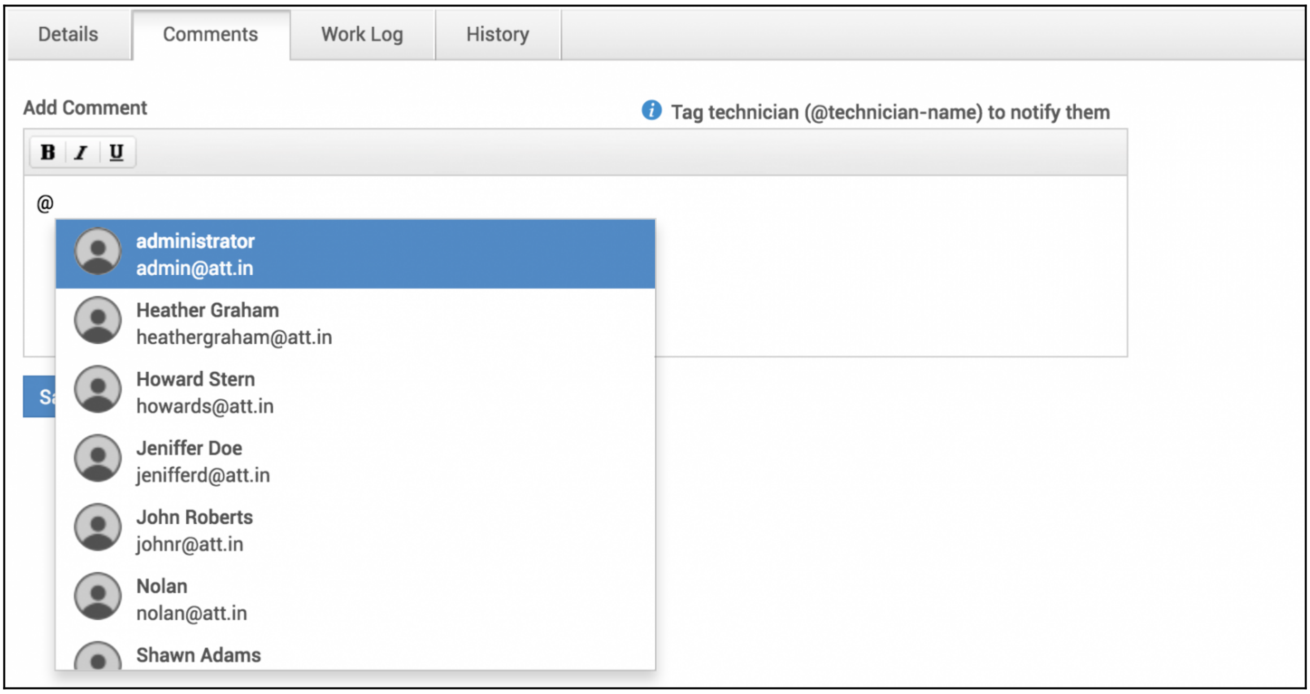
- Click on the **Tasks** menu under the particular module to open the task list.
- Click on a particular task.



- Click on the **Comments** menu in the header.



- Enter the comments related to the task.
- Click on **Save**.
- To notify the users, comments field is enhanced with '@mentions' as shown in the below screenshot.



Note	• For tasks under milestone, if the Project owner and Milestone owner are the same, then only $MilestoneOwner will be pre-selected. • If the user you're searching is the entity owner, which is already selected as a $variable, then the user will not be filtered in the search. • Any Technician/Requester in the application can be notified about the comment. • Entity owner will be pre-selected as default options, only if the entity is assigned to an owner.

Problem Management

This module is available only in the ServiceDesk Plus Enterprise edition.

A problem is an unknown underlying cause of one or more Incidents. The objective of Problem Management is to minimize the adverse impact of Incidents and Problems on the business that is caused by errors within the IT infrastructure, and to prevent recurrence of Incidents related to these errors. In order to achieve this goal, Problem Management seeks to get to the root cause of Incidents and then initiate actions to improve or correct the situation.
The Problem Management process has both reactive and proactive aspects. The reactive aspect is concerned with solving Problems in response to one or more Incidents. Proactive Problem Management is concerned with identifying and solving problems and known errors before incidents occur in first place.

Create a new problem

The goal of problem management is to minimize the adverse impact of incidents and problems on the business that are caused by errors within the IT infrastructure and to prevent recurrence of incidents related to these errors. The new problem form can be accessed by two ways in ServiceDesk Plus application,

a. Quick Actions drop down

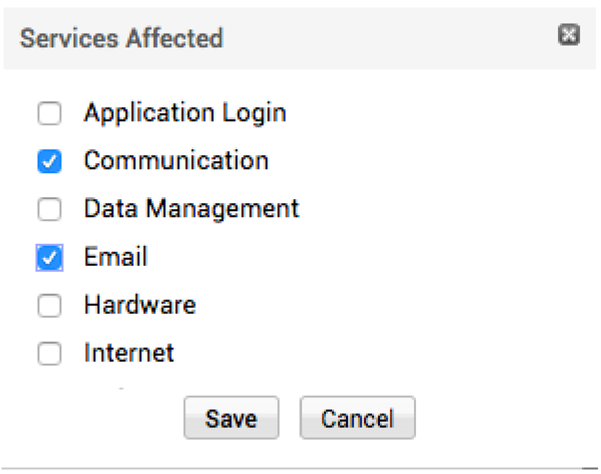
b. Problems Tab

Quick Actions drop-down menu

The Quick Actions drop-down menu is a quick navigator to instantly access the New Problem form. Click Quick Actions drop-down menu -> Problem under Create New block.

Problems Tab

1. Click the Problems tab in the header pane.
2. Click the New Problem button to open the New Problem form.
3. Specify the user who has requested the problem in the Requested By field. You can also select the user by conducting a search in the requesters list using the icon .
4. Select the Technician from the drop down. If you have configured Sites in the application, then Sites drop down appears. Select the Site in which the problem has occurred. The Technicians associated to the sites gets listed in the technicians drop down.
5. Select the Category, Sub Category and Item from the drop down.
6. Select the Status of the problem, say Open from the drop down.
7. Select the Impact, Urgency and Priority of the problem from the drop down.
8. Select the Due by Date and the Closed Date from the calendar button.
9. Select the affected IT Services from the list by clicking on the icon .This opens the Services Affected pop up box as shown below. Select the affected IT services and Save the changes.



10. Select the Assets Involved with the problem by clicking the icon . The Select Assets page pops up. Select the asset category from Type of Assets drop down. Say, Workstations, Printers, Routers, Switches, all assets, all site assets and so on. All Assets lists the assets within your permission scope.

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11. Say, John, a technician, is associated to Site1 and Site2. John has the privilege to view the assets associated to Site 1 and Site 2. So, if John is creating a problem arising in Site 1, the Type of Assets - All Site Assets lists the assets available only in the selected Site 1 and All Assets lists the assets available in Site 1 and Site 2. Select the Available Assets under the selected type from the list and move to Assets involved using >> button. Click Save.
12. Specify the Title of the problem. The title is a mandatory field.
13. Specify the details of the problem in the Description field.
14. If you have any file attachments for the problem click Attach File button and attach files. Maximum size of an attachment can be 100 MB.
15. Save the details.

View problem details

1. Click the Problems tab. This opens the problems list view page.
2. Click the Title of the problem to view the problem details. This opens the problem details page. By default the problem details page opens in the Problem tab.

Problem Tab

The problem tab shows general details of the problem such as, Category, Technician, Status, Priority, Urgency, Impact, Requester, Reported Date, Due By Date, Closed Date, affected IT Services and Assets Involved.
Click the Edit button to edit all the details of the change. You also have inline edit option for all the details. To modify the details of the problem click the details and choose the option from the combo box.

Analysis Tab

In the Analysis tab the technicians analyze the root cause and impact of the problem and attach the same in SDP as part of the problem. Also they specify the symptoms of the problem to identify the same problem in the future.

Solution Tab

In the solutions tab resolution for the problem is given as Workarounds and Solutions. Workarounds are temporary solutions that can be used by the technician till the actual solution is ready. Solutions are the permanent fixes to the problems raised.

Incidents Tab

The incidents tab shows the list of all associated incidents with the problem. You have Attach option to attach the incident with the problem. And the Detach Incidents option to detach associated incidents with the problem.

History Tab

The **History** tab shows the problem history from the time of its creation. It shows all the actions performed in the problem. The history tab also shows the incidents and the changes associated to the problem on clicking the Property View link available on the right hand side. The details that are displayed in the history are in the ascending order with the earliest performed action shown at the top of the page and the latest action at the bottom of the page.

Edit a problem

To edit a problem available in the ServiceDesk Plus Problem module

1. Click the Problems tab in the header pane. This opens the problems list view page.
2. Click the **Title** of the problem which you want to edit. This opens the Problem details page which lists the Tasks that can be performed on the problem.
3. Click the **Edit** link on the top of the page to modify the problem details. This opens the Edit Problem page. From this page you can add status of the problem from open to close, and also change the entire template to a new one apart from the regular editing of the problem details.

Alternatively, you also have an inline edit option to modify the problem details in the view problem page. Click the edit icon on the right side of each block which opens the problem form fields in editable format. After modifying the values, save the changes. This comes in handy when you need to edit the values of the entire block say Problem Details one by one.

Edit the Problem Details

In the editable problem form you can change the problem details, such as Status of the problem as Closed or Open, Impact details, Urgency and Priority details. You can also modify affected IT Services and Assets Involved in the problem.

Edit the Owner Details

You can modify the owner details and technician details of the problem. If you have configured Sites in the application, then Sites drop down appears. You can modify the site in which the problem has occurred. The corresponding technicians associated to the site are listed. You can also edit the Reported Date and **Due by Date** of the problem. If the problem has been closed, then the Closed date will be displayed beside this due by date.

Edit the Problem Category

You can change the Category, Sub Category and Item of the problem. If the same was not appropriately chosen at the time of submitting then the problem can be selected now from the drop down list.

Edit the Problem Description

You can modify the title and description of the problem to completely capture the actual nature of the task at hand.

Append Attachments

If you wish to attach more files to the problem, click the Attach a File button and attach as many files as you wish and click Done. You can also delete the attachments that were already available in the problem by clicking the delete icon available beside the attachment.

Close a problem

If a requester is completely satisfied that his/her problem has been attended and completely solved, then the problem can be closed.
To close a problem,

1. Click the Problems tab in the header pane.
2. Click the **Title** of the problem in the Problems list page. This opens the problem details page.
3. Click the Close Problem link under the Tasks block. This closes the problem.

NOTE: If the mandatory fields are not entered then an error message is shown asking you to enter the value in the fields.
You can reopen a problem from the closed state to open state. To do this, open the closed problem that you wish to reopen by clicking the edit button. Then change the status field from **Closed** to **Open and save the changes**. When a problem is opened from the closed state, you can change the Due by time of the problem. Also, the closed date is removed once the request is reopened. When this request is finally closed, the **completed date** is updated and the t**ime taken to close** is recalculated taking the reopened period into account.
To view the closed requests:

1. From the Problem list page, select **Closed Problems** from the Filter drop-down menu. This lists all the closed problems.
2. To view the closed problems which were assigned to you, select **My Closed Problems**.

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Pick up problems

ManageEngine ServiceDesk Plus provides an option to the technicians to self-pick up problem. If there are unassigned problems, the technicians can pick up any of the unassigned problems from the list. As the problems are picked up and answered quickly the waiting time to assign the problem to each technician and then closing the problem will be reduced. This in turn will increase the turnaround time and the efficiency of the IT help desk team. To pick up problems,

1. Log in to ServiceDesk Plus application using your **user name** and **password**.
2. Click the Problem**s** tab in the header pane. The unassigned problems will be in bold font.
3. Select the problems you would like to pick up by enabling the check box. Click **Pick up** button. The selected problem will be assigned to you. (Or)
4. You can also pick up problems after viewing the problem details. Click the title of the problem to open View Problem page.
5. Click Assign tab. Select Pick Up option to pick up the problem.

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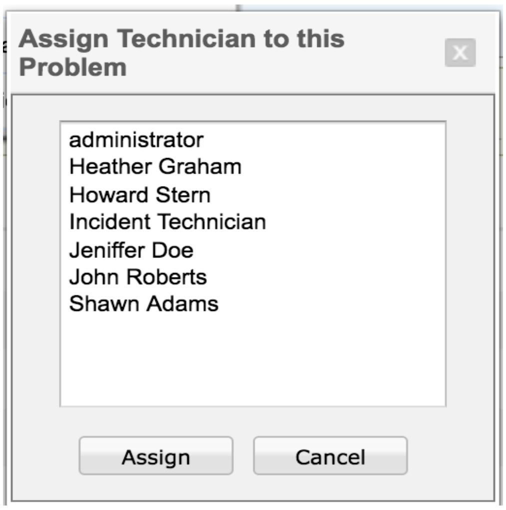
Assign a technician to a problem

Each problem will be handled by a technician, who would be responsible for closing the problem.
To assign a technician to the problem,

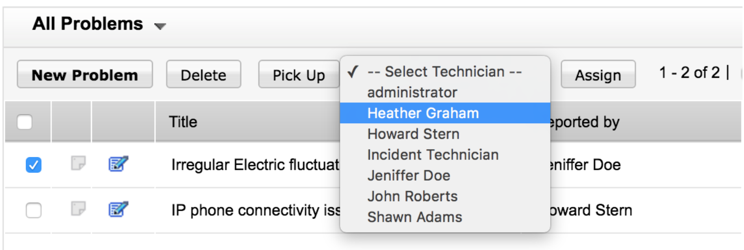
1. Click the Problem tab in the header pane. This opens the Problems list page.
2. Click the **Title** of the problem for which you have to assign a technician. This opens the problem details page.
3. Click the Actions combo box on the right hand side of the page ->Click Assign Technician link from the list. This opens Assign Technician to this Problem pop up page as shown below. Select the technician from the list and Assign the problem to the technician.



5. Alternatively, you can also assign technician using inline edit option. Click the technician name shown in the problem details block. This opens the drop down box as shown below. Select the technician from the list and click the icon to select the technician name else click cancel icon.

You can also assign more than one problem at a time to a technician.
To bulk assign problems to technicians

1. In the Problems list page, select the problems to be assigned a technician by enabling the check box beside left side each of the problem title.



2. Click the Select Technician check box. Select the technician from the drop down list.
3. Assign the technician.

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Root cause analysis

The goal of Problem Management is to find the root cause of the incidents and reduce the impact on the business by providing solutions and workarounds. In the problem analysis the technicians analyze the root cause and impact of the problem and attach the same in SDP as part of the problem. Also they can specify the symptoms of the problem to identify the same problem in the future. The following are the steps to understanding the cause of the problem,

- Symptoms - Evidences helping in identifying the problem.
- Root Cause - Detecting the underlying cause of the incident.
- Impact - Adverse effect of the problem on the business.

To specify the Problem Analysis,

1. Log in to ServiceDesk Plus application using your user name and password.
2. Click the Problems tab -> click the title of the problem for which you need to specify the analysis. This opens the problem details page.
3. Click the Analysis tab.

Add the Impact details

1. Click the Add button. You can see the text area getting displayed for the impact details.
2. Specify the impact details in the text field and Save the changes. You can see the details getting displayed below the title.
3. If you like to attach a file on the impact details instead of entering the details in the text field then click Attach File button to attach a file for the impact details. The maximum size of the attachment should be 10MB.

Add the Root Cause

1. Click the Add button. You can see the text area getting displayed for the root cause.
2. Specify the root cause in the given text field and Save the changes. You can see the details getting displayed below the title.
3. If you like to attach a file on the root cause instead of entering it in the text field then click Attach File button to attach a file for the root cause. The maximum size of the attachment should be 10MB.

Add the Symptoms

1. Click the Add button. You can see the text area getting displayed for the symptoms.
2. Specify the symptoms in the given text field and Save the changes. You can see the details getting displayed below the title.
3. If you like to attach a file on the symptoms instead of entering it in the text field then click Attach File button to attach a file for the symptoms. The maximum size of the attachment should be 10MB.

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Problem resolution

Resolution for the problem can be given as Workarounds and Solutions in ServiceDesk Plus. Workarounds are temporary solutions that can be used by the technician till the actual solution is ready. Solutions are the permanent fixes to the problems raised. The problem is considered as a known error when a solution or work around is added to a problem.
To add resolution,

1. Log in to the ServiceDesk Plus application using your **user name** and **password**. This opens the ManageEngine ServiceDesk plus home page.
2. Click the Problems tab. This opens the problems list page.
3. Click the Title of the problem for which you like to view the reminder. This opens the problem details page.
4. Click the Solution tab.

To Add Workaround,

1. Click the Add button. You can see the text area getting displayed for the Workaround details. Specify the temporary solutions for the problem.
2. Save the details. You can see the details getting displayed.
3. Click Attach File button to attach a file for the impact details. The maximum size of the attachment should be 10MB.

To Add Solution

1. Click the Add button. You can see the text area getting displayed for the Solution details. Specify the permanent fixes to the problems.
2. Save the details. You can see the details getting displayed.
3. Click Attach File button to attach a file for the impact details. The maximum size of the attachment should be 10MB.

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Add notes

If you like to add additional information including technical information based on your observations to a particular problem, then you can Add Notes to that problem. You can also use notes to update the status of the problem.
To add a note to the problem,

1. Click the Problems tab in the header pane.
2. Click the **Title** of the problem to which you would like to add a note. This opens the problem details page.
3. Click the Add New combo box -> Select Note option. The Add Notes text pops up.
4. Enter your content in the text box. These notes are public.
5. Save the details. The note is added at the bottom of the problem along with a date and time stamp. The name of the person who added the note is also displayed.

You can add any number of notes to a problem. The added notes will be displayed in the ascending order. You can also edit or delete the notes that have been added.

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Add tasks

Using this option you can assign different tasks to different technicians. Task is a sub-unit of an activity. If a problem involves multiple technicians work, then the technician whoever receives the problem (owner of the problem) can assign different tasks to different technicians.
To add a task,

1. Click the Problems tab in the header pane.
2. Click the **Title** of the problem to which you would like to add tasks.
3. Click the Add New menu -> select Task option. This opens the Tasks window.
4. You can either select the task template from Select Template drop down list or you can add a new task.
5. Specify the Title of the task in the given text field. This is a mandatory field.
6. Specify relevant information about the tasks in the Description field.
7. Select the Scheduled Start Time from the calendar button. Also select the Scheduled End Time for the task from the calendar button.
8. The Actual Start Time and End Time of the task will be entered by the technician doing (owning) the task.

   The actual start time and end time is the real time schedule of the task. The scheduled start time and end time specified by the problem owner is a tentative time schedule.

10. Select the Group to which the task needs to be assigned. Select the Technician of the task from the combo box. Tasks can be assigned either to a:
    - Group alone,
    - Group and a Technician,
    - Technician alone,
    - Group and the corresponding technician from the group,
11. Specify the Status of the task.
12. Specify any relevant comment about the task in the Comments field.
13. If you wish to be reminded of the task previously then select the Email me before option and select the number of days from the combo box. This option will be selected based on the scheduled start time.
14. Save the values. You can see a Tasks tab getting created next to the solution tab. All the tasks created for the problem will be listed under the tasks tab in descending order. The tasks assigned to other technicians can be viewed in their Task summary list in the home page.

Add bulk Task to a Problem

Certain problem may require more than one task involving different technicians. In this case, rather than adding tasks one by one, you can add bulk tasks to the problem from the task template.

1. From the problem details page, click the Task tab. The task details page opens.
2. Click Add Task from Template button. The Task Template window pops up listing all the active templates.
3. Select the check box beside the templates and click Add Template button. The tasks selected are added under Task Details.

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Delete Tasks

1. From the tasks details page, select the check box beside the task you wish to delete.
2. Click the Delete button. A confirmation message appears.
3. Click OK to continue. The task is deleted from the list.

Add work log

You can enter the technicians time spent details for the problem using this option. The total time spent will exclude the time that the problem was kept on hold. It takes the time of creation to till the problem was closed.
To add work log,

1. Select the Technician Name from the combo box.
2. Specify the Executed Time (date & time) taken to resolve the problem from the calendar button.
3. The Technician Cost per hour will be fetched automatically from the technician details, which is a non-editable field. If you have already entered the per hour cost of the technician while adding the technician details, then the details will be fetched automatically. If you wish to change these values, you can do so manually.
4. The Incident Cost will be automatically calculated taking the (total time spent to resolve the problem * Technician's cost per hour).
5. If there are any extra charges specify in the Other Charges field.
6. Using the above two data the Total Charges (Technician Charges + Other Charges) will be displayed automatically.
7. Specify any relevant information about the time spent in the description field.
8. Save the details.

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Delete problem

You have an option to delete individual problems or group of problems together.
To delete a problem,

1. Click the Problems tab in the header pane.
2. Click the **Title** of the problem to be deleted in the problems list view page. This opens the Problem Details page.
3. Click the **Actions combo box on the top right hand side of the page.**
4. Click the **Delete** link from the list. A dialog pops up asking you to confirm on the delete process.
5. Click OK to proceed. You can see the problem deleted from the list.

To delete more than one problem at a time,

1. In the Problem list view page, select the problems to be deleted by enabling the check boxes.
2. Click the **Delete** button. A dialog pops up asking you to confirm on the delete process.
3. Click OK to proceed deleting Or click Cancel to abort deletion.

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Associate incidents to problem

You have an option to associate Incidents to the problem. Similar Incidents to problem can be associated in order to track the number of incidents occurred for the same problem and also to track the priority and severity of the problem based on the number of incidents.
To Associate Incidents to a Problem,

1. Click the Problems tab. This opens the Problem List View page. Click the problem title to be associated with the Incidents. This opens the problem details page.
2. Click the Actions drop-down menu on the top right side of the page. Click Associate Incidents option. The Associate Incidents to problem window pops up.
3. Select the type of requests to be displayed by selecting from the Show combo box on the top left hand side of the page. Ex: Open Requests or All Requests and so on. On selecting the request type the corresponding requests gets listed.
4. Select the Incidents from the list by enabling the check box beside each incident.
5. Click Associate Incidents to associate respective requests to the problem (particular selected problem). The associated incidents get listed in the Incidents tab in the problem details page.

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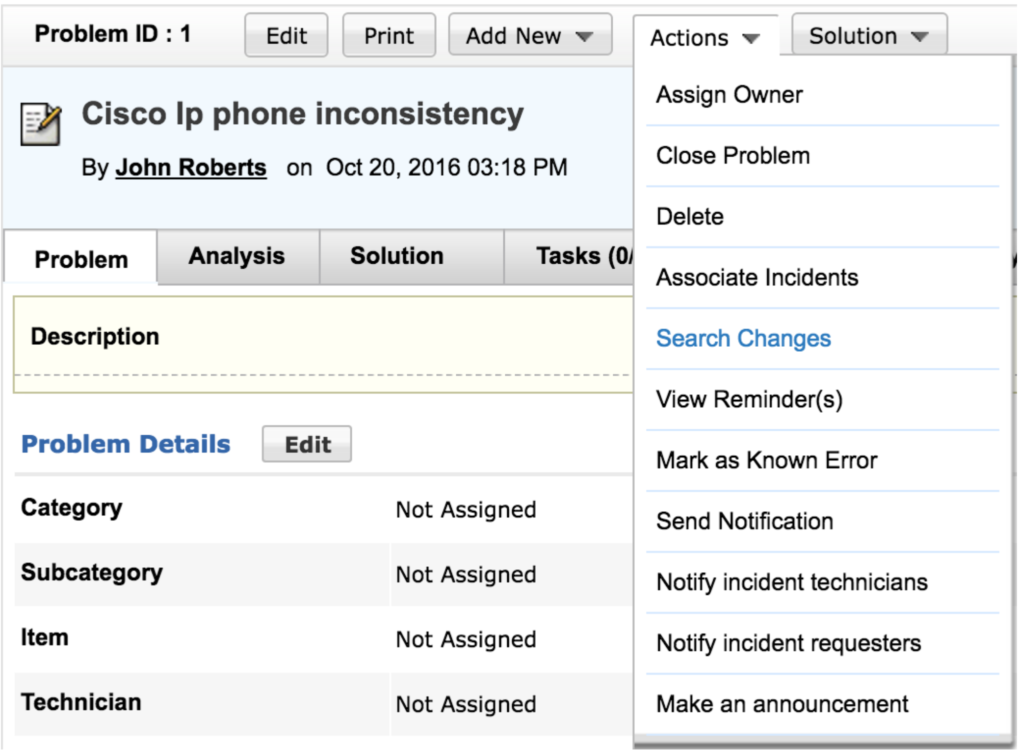
Associate change to problem

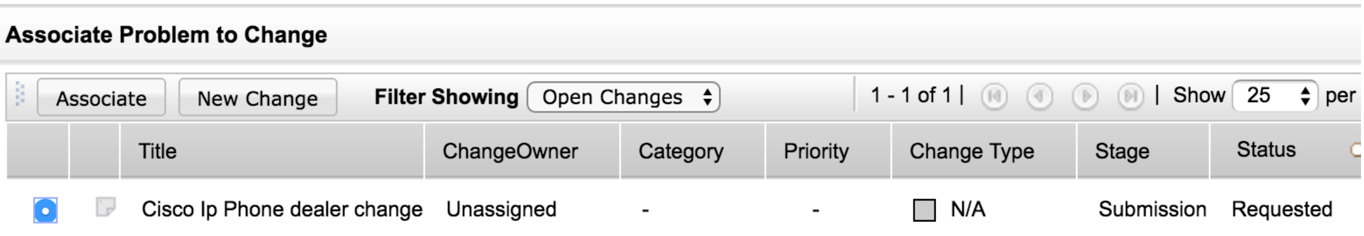
You have option to associate Change to a Problem from within the Problem details page. Once you associate the Change, you will be able to:

- View the change details of a problem
- Disassociate change from problem

Steps to Associate Change to a Problem

1. Log in to ServiceDesk Plus application using the user name and password of an Admin user.
2. Click the **Problems** tab. In the page displayed, you will find the Problem List View.
3. Click the Problem Title to be associated with the Change. The **Problem details** page shows up.
4. Click the Actions dropdown and click the Search Changes option. The Associate Problem to Change window pops up.





5. Choose the type of changes (say,Open Changes, All Changes, etc.,) From the Filter Showing dropdown.
6. Select a Change from the list shown by enabling the relevant check box.
7. Click the Associate button to associate the selected Change to the Problem.

View change details of a problem

1. Click the **Problems** tab. In the page displayed, you will find the **Problem List View**.

2. Click the Problem **Title** whose Change details you wish to view. The **Problem details** page shows up.
3. Click the **View Change** button at the right corner of the page. You will be led to the respective **Change details** page.

Disassociate change from problem

1. Click the **Problems** tab. In the page displayed, you will find the **Problem List View**.
2. Click the Problem **Title** from which the Change has to be disassociated. The **Problem details** page shows up.
3. Click the **Actions** dropdown and click the **Detach From Change** option.

The change will be successfully dissociated.

Add a Reminder

You can add reminders to the problems using this option. All the pending tasks specific to the problem can be added as reminders. The technician can add these task lists as a personal reminder to himself/herself. On adding these reminders they get displayed in My Reminder(s) under Quick Actions.
To add a reminder,

1. Click the Problems tab in the header pane. This opens the problems list page.
2. Click the **Title** of the problems from the list. This opens the problems details page.
3. Click on the Add New combo box on the top right side of the page. Click the Reminder link. This opens the Reminders page. Specify the content in the given text field.
4. Select the reminder Date and Time by invoking the calendar icon.
5. To be reminded of the task in advance, select the time from the Email me before combo box.
6. The problem id is shown in non-editable mode.
7. Click Add button to add the reminder. You can see the reminder getting listed in the My Reminder(s) pop up window in ascending order.

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View reminders

You can view the reminders specific to each problem in this module.
To view reminders,

1. Click the Problems tab. This opens the problems list page.
2. Click the Title of the problem for which you like to view the reminder. This opens the problem details page.
3. Click the Actions combo box -> Click the View Reminders option. This opens the Showing All Reminders Page as shown below. This lists all the reminders in ascending order based on the date.
4. Once the task is completed you can change the state of the reminder from Open to Completed. To do this, select the reminder from the list to be closed by enabling the check box beside each of the reminder.
5. Select the Change Reminder State To Completed then -> click Change button to change the state. The reminder is stroked off to indicate the change.
   Alternatively, you can also view the reminders by, clicking Quick Actions link -> My Reminder(s) option under the Reminders block. This opens the My Reminders pop up window as shown below. This shows all your reminders irrespective any specific module.

You can also add new reminders by clicking +Add New link at the bottom of the my reminders form. The new task is added and is listed along with the already existing tasks in the ascending order based on date and time.
When you have completed the task, you can just strike out the task to indicate that it is completed by selecting the radio button beside the task summary.
You can also delete the task by clicking the delete icon beside the task.

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Publish announcements

ServiceDesk Plus gives you an option to publish announcements while fixing the problem without breaking the work flow. Say if you want to inform the company that, the mail server will be down for next five hours and you are fixing the problem then in this case you need not go to the home page to make an announcement you can publish the announcement from the problem module.
To publish an announcement,

1. In the Problem details page click the Actions combo box and select the Make an announcement option. This opens the Add New page.
2. The announcement Title and Description of the problem gets displayed automatically. This is a mandatory field. You can also modify the title and description of the problem.
3. Specify any relevant information about the announcement in the Description field.
4. Specify the date and time to Show this announcement between these dates from the calendar button. If this field is not entered the announcement will be displayed in the home tab for ever.
5. Select Show to Requester check box to make this announcement visible in the self-service portal.
6. To Send this announcement as mail select the check box.
7. Save the changes. You can see the announcement page as shown below. To view the next and previous announcement in the dash board click the Next and Previous buttons on the right side of the page.

You can also edit and delete the announcement in the same page.
To edit the announcement,

1. Click Edit button. This opens the Edit Announcement form.
2. Change the details of the announcement in form.
3. Save the changes. All the changes made in the announcement will be saved.

To delete an announcement,

1. To delete the announcement click Delete button. A dialog pops up asking you confirm on the delete operation.
2. Click OK to delete. Or click Cancel to retain the announcement.

Alternatively you can also publish Announcements company-wide or just to the technicians group from the Home page. The announcements are displayed just below the My View Requests tab in the home page.
All recent announcements will be displayed first based on the date. To view all the announcements (even completed ones), click the Show All button on the right side of the page. You can also add new announcements from the home page.

Send notifications

To send notifications specific to the problem to the CAB members, technicians or to any concerned person then,

1. Click the Problems tab in the header pane. This opens the problem list view page.
2. Click the title of the problem to which the notification has to be sent. This opens the problem details page.
3. Click the Actions combo box and select the Send Notification link. This opens the Send Notification page.
4. Specify the To and CC address in the given text field.
5. Specify the Subject of the notification in the given text field.
6. Specify relevant information about the notification in the Description field.
7. Send the notification.

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Print problem

To print a problem,

1. Log in to the ServiceDesk Plus application using your user name and password.
2. Click the Problems tab in the header pane.
3. Click the **Title** of the problem you would like to print.
4. Click the Print Preview link on the right side Tasks block. The print preview page of the problem opens in a pop-up window.

In the print preview page you can view the Impact Analysis, Root Cause, Symptoms, Workaround, Solution, Problem Details Notes and their attachments.

5. Click the Print menu item from the browser File menu.
6. The default printer associated with your workstation is invoked. Set the required options and click **OK**. You can collect the printed copy of the problem at the printer that is linked to your workstation.

Change management

Changes arise as a result of problems. But, a lot of changes can come from pro-actively seeking business benefits such as reducing costs or improving services. The goal of Change Management is to ensure that standardized methods and procedures are used for efficient, and prompt handling of all changes, in order to minimize the impact of change-related incidents upon service quality and consequently to improve the day-to-day operations of the organization.

The change is initiated by creating a change request, entering values in the defined fields (available in the change form), and assigning it to the change technician.

Change has 6 stages, all of which go through several status(es) before reaching completion.

Features:

- A Six-Stage Change Life Cycle
- Workflow configuration for each and every change stage
- Change Templates for designing the change as per your requirements
- Change Progress Indicator indicating stage-to-stage progress of change
- Emergency Workflow for changes with pressing urgency or deadlines
- Well-planned Change Role System

Change can be:

- A solution to long persisting incidents/problems
- Proactive measure against future incidents/problems

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Change stages

Stage	Purpose	StageStatus Involved	Expected Course of Actions
Submission	Deciding Change Template and Change Workflow, Configuring Change Related Details like Change Type, Risk Involved, Priority, Urgency etc.,	Requested Requested for Info Submitted for Authorization Accepted/Rejected	Requested>>Submitted for Authorization >>[Requested for Info**]**>>Accepted/Rejected **Authority Directly Involved:** Change Requester and Line Manager
Planning	Analyzing and Working Out Change Impact, Roll Out Plan, Backout Plan, Checklist and Downtime concerned with the Change	Planning In Progress Requested for Info Approved/Rejected Submit for Review	Planning In Progress>> Submit for Review>> [Requested for Information] >>Approved/Rejected **Authority Directly Involved:** Change Planning Team, Change Owner
Approval	Convening CAB(s) (Change Advisory Board) to assess change plans and get their approval for change implementation.	Approval Pending Approved/Rejected	Approval Pending>>Approved (or) Rejected **Authority Directly Involved:** Change Advisory Board (CAB), Change Manager
Implementation	Implementing Change through Projects and Tasks, Estimating Change Implementation team's activities using Worklogs and informing them about Downtime Scheduling (as per the Change Plans)	In Progress Requested for Information Onhold/Backout Completed	In Progress>>[Requested for Info] >[OnHold]>>Completed [Back Out] **Authority Directly Involved:** Change Implementation Team,Change Owner
Review	Reviewing Change-to-be-Implemented and deciding whether it can be implemented or not	In Progress Completed (or) Failed	In Progress>>Completed/Failed **Authority Directly Involved:** Change Review Team
Close	Formal closing of Change by associating it with a suitable closure code that represents how the change was closed.	In Progress Completed Cancelled	In Progress >>Completed/Cancelled Closure Code Selection (depending on how the change was closed) **Authority Directly Involved:** Change Manger, Change Requester

Every Change Stage has its own Status(es). The column Stage-Status Involved lists Status(es) available by default for each change stage. Technicians can also configure new Status(es) for every Change Stage; **see** configuring change status for more info

Change Submission

Change Submission involves thorough assessment of the proposed change and its various attributes - like its Impact, Risk involved, Urgency, Priority etc. – based on which the methodology needed for deploying the change (workflow and template) will be worked out.

First step in Change Submission is creating a Change Request using New Change form.

But before accessing the change form, you have to plan the following:

- Decide what your Change will be: general (or) retrospective (or) emergency.
- Decide Change Template (see: Configuring Change Template for more info).
- Decide Change Workflow (see: Configuring Change Workflow for more info).
- Then, create the change request, by filling out the new change form.

New/General Change

Changes are of two types: new and retrospective. New change(s) are implemented when organizations demand for an unexpected change in the environment which hasn't been dealt with previously. In this case, the procedure for handling the change is not known and therefore has to be worked out from scratch. Example: keeping IT organizations updated based on the technology changes (occurring in the industry) whose pattern cannot be predicted easily.

Retrospective Change

Changes which have been already implemented based on need/urgency by getting approvals through voice calls, mails etc. are known as retrospective changes. These changes will be recorded for tracking purpose.

Emergency Change

For scenarios that demand the change to be implemented immediately without any delay, Emergency Change will suit them better. With a change workflow that skips the basic preliminaries (submission and planning), Emergency Change ensures change(s) get implemented immediately to meet the pressing deadline.

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Create New Change

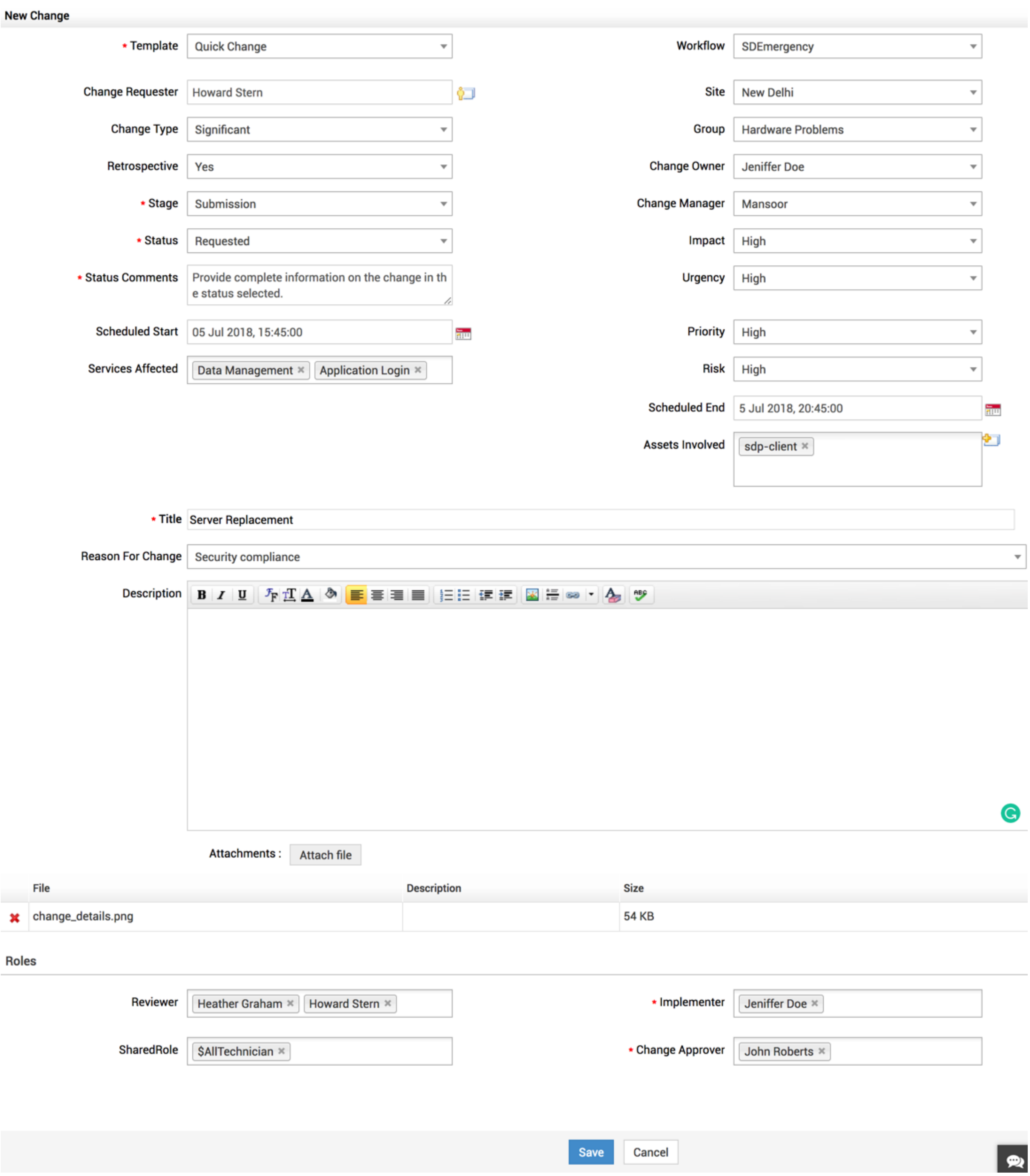
Go to **Change**>>**New Change** or **Quick Actions**>>**Create New**>>**Change**.
Select the change template and workflow and fill out the displayed form with required information.
Fill out all the mandatory fields.

Mark as retrospective when a change had already been incorporated and is simply recorded into the application for audit.

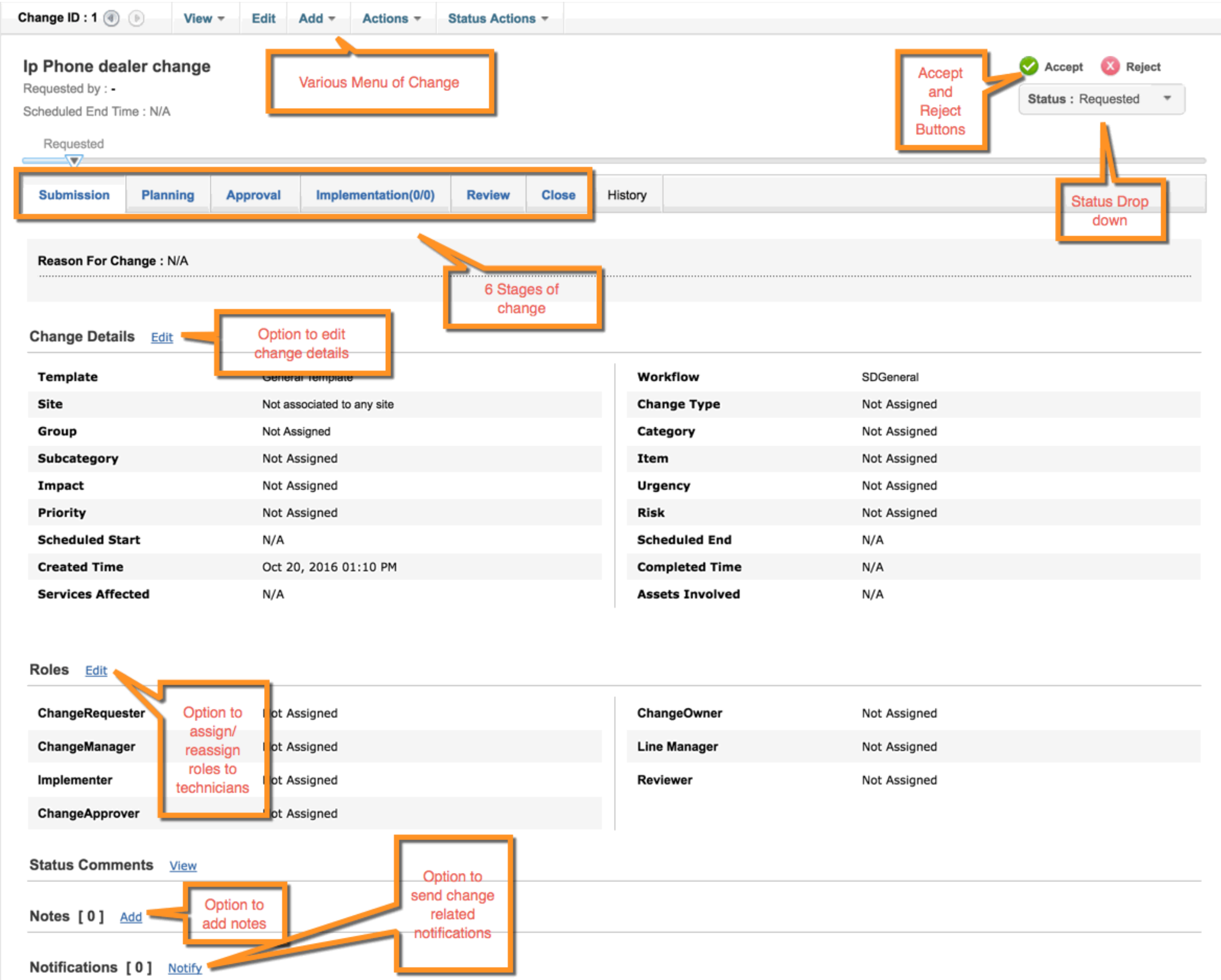
Provide the title and description for your change and attach the relevant files, if necessary.
Select users for the configured roles and click **Save**.

Note that changes shared with all technicians will not be displayed under **My Changes** in the list view.

Sample change:


New Change
* Template
Quick Change
Workflow
SDEmergency
Change Requester
Howard Stern
Site
New Delhi
Change Type
Significant
Group
Hardware Problems
Retrospective
Yes
Change Owner
Jeniffer Doe
* Stage
Submission
Change Manager
Mansoor
* Status
Requested
Impact
High
* Status Comments
Provide complete information on the change in the status selected.
Urgency
High
Scheduled Start
05 Jul 2018, 15:45:00
Priority
High
Services Affected
Data Management
Application Login
Risk
High
Scheduled End
5 Jul 2018, 20:45:00
Assets Involved
sdp-client
* Title
Server Replacement
Reason For Change
Security compliance
Description
Attachments :
Attach file
File
Description
Size
change_details.png
54 KB
Roles
Reviewer
Heather Graham
Howard Stern
* Implementer
Jeniffer Doe
SharedRole
$AllTechnician
* Change Approver
John Roberts
Save
Cancel

Change submission view: Screenshot



Editing and Viewing Change Details

- Editing Change Details
- Editing Change Template and Workflow
- Viewing Change Details

Technicians with **Edit** permisison for individual stages (see: Change Roles) can edit the change only in those specific stages. But after a change is through the **Submission** stage, only the Change Manager can perform global edit on the change. The **Change Owner** can be granted global edit permisison for changes by modifying the Database (DB) configuration with the following query:
update changeconfigurations set paramvalue=true where parameter='IsCOAllowed';
Change can be edited (by the concerned change technicians) in the following manner:

- To **edit details of the change form**, click Edit link besides **Change Details** section (under change submission stage)
- To **edit the assigned change template and change workflow**, click **Edit button** of Action Menu bar (available above change stages)
- To **edit/assign change roles**, click Edit link besides Roles section (under change submission stage). To know more about assigning/editing Change Roles, see: **Assigning Change Roles**

Editing Change Details

1. Click **Edit link** besides **Change Details** section. The Change Details section will change to editable mode
2. **Set Change Details** as per the requirements
3. Click **Save** to save the details (or) Click **Reset** in case you want to retain previously configured values and start editing a new (or) Click **Cance**l to cancel editing

Editing Change Template and Change Workflow

1. Click **Edit button** of **Actions Menu bar** (available above **change stages**)
2. Change form will turn to editable mode
3. Reset **Change template** and **Change workflow** as per the requirement
4. Mark it as **'Emergency'** or '**Retrospective**' if needed
5. **Save** the Change

Note:
- **Edit links will not be available** once change moves from Submission stage to Planning stage, therefore it is not be possible to reassign change roles and edit change details, once change moves past submission stage, unless you are the change manager/change owner of the given change (or change technician having SDChangeManger Role in ServiceDesk Plus)
- **Edit button** (available in Action Menu bar) will be available only to **change technicians assigned with SDChangeManager role** (ie. technician playing the role of change manager) or **change owner** so that he/she can reset the entire change at any given stage.

Viewing Change Details

Change details can be viewed in two ways: **Stage-wise & Status-wise**

Change Workflow being followed

Reminders added to the Change

Approval Summary of the Change

- **Stage-wise:** To view change details stage-wise, all the change technician has to do is **click on the respective stage**
- **Viewing Status History:** Use **View menu** (available in Action Menu bar).Click **View -->** select **Status History.**
- Technicians can **also view the following details** using View menu:

Assign Change Roles

1. Click **title of the change** for which change roles are to be assigned to the concerned change staff
2. **Click Submission tab and Scroll down** to the **Roles section** --> and click **Edit** link (under submission stage)
3. Roles section will change to **editable** mode
4. **To select technicians** for a specific role, click icon and **select technician** from the available list and --> **click Add** button
5. **Repeat the process** to assign various **change roles** to the concerned technicians
6. Save it

Add notes

Change technicians can add notes for their reference and the reference of other technicians involved using Notes option.

Notes can be added in two ways:

- Using **Notes** option within **Submission** stage (scroll down to **Notes** Section --> click **Add** --> enter note --> Save it)
- Using **Add** menu (available above Change Stages) (click **Add** menu --> select **Note** option --> enter note --> Save it).

Notes section within submission stage is primarily for change technician's (working in submission stage) use; other technicians can use Add menu to add notes.

Stage-Status

Every Change Stage involves certain number of status(es) amongst which a Change toggles with the help of **Status Drop-Down (or) Status Actions Menu** before reaching completion.
For example, let say, a change has been initiated but the change technicians are unable to work on it, as information provided by the change requester is insufficient; under such circumstance, change technicians can switch the change status to **Requested for Information (RFI)** and wait till the change requester provides them with the concerned information, before proceeding with the change.
Here **Requested for Information** is a **status** of the **stage Submission**
Note: Any number of (change) status(es) can be available for a particular change stage. (see: configuring change status)
Stage-Status can be **accessed** in two ways:

- Using **Status dropdown** (within **Change Pane**)
- Using **Status Actions dropdown** (available in **Status Actions Menu bar**)

Stage-Status for Submission Stage (available by default)

Status	Purpose
Requested	Indicates Change has been requested
Accepted	Indicates Change has been accepted by concerned authority
Rejected	Indicates Change has been rejected by concerned authority
RFI (Request for Information)	Indicates Change Staff is seeking more info on the proposed change
Submitted for Authorization	Indicates Change has been submitted for higher authority approval

Status(es) responsible for moving change from existing stage to a succeeding/preceding stage (Accepted/Rejected, in this case) depending on the change workflow cannot be deleted, but can be renamed as per your requirement

Change technician role in submission

Change technicians who have permission to work (edit only) only in the Change Submission stage,
Can:

- **Edit change details** (if required) after assessing the submitted details
- **Assign change roles** to change technicians (by clicking on edit link)
- **Add notes** to the change
- **Add reminders** (using Add menu)
- **Publish change related announcements** (using Actions menu)
- Send **change-related notifications**

Cannot:

- Edit the assigned **change template** and **workflow**
- **Approve/Reject the Change** and therefore cannot move the Change from submission to planning stage

> - Only change technicians provided with **SDChangeManager role** will have permission to edit/reassign the configured **change template and workflow** (by clicking on the edit button available in the **Action Menu bar**)

> - To know about how to configure change roles, visit: change roles under admin section

Move change to planning

When change has been assessed thoroughly and (change) roles have been assigned, it will be moved (after receiving higher authority approval) to the next stage, which is change planning

To move change to next stage:

1. Click **Status Drop-Down** (available within **change pane**)
2. Click **Status Actions Drop-Down** (available in **Action Menu bar**)
3. Choose **Status Accepted** and specify comments for status change
4. Click **Save**

The **Status Accepted** stage can only be renamed, not deleted.

Permission to move change from stage to stage will be provided only to higher authority like Line Manager (only for submission stage), Change Manager, Change Approver, Change Owner etc.,.

Change planning

All design work concerned with implementing the change like drafting change plan, analyzing its impact, preparing a fallback plan (to be used in case of implementation failure), working out a to-do list, and planning the downtime (outages) are done in this stage:
Change Planning is **split into two sections**:

- Analysis - where Change is analyzed and various plans are worked out .
- Problems/Incidents - where Change can be associated with already raised problems/incidents

Change Analysis Tab
Impact Analysis
Under this section technicians record the impact (both positives & negatives) change will have before and after implementation. Thorough analysis of the change by technicians in this phase will ensure there is no room for any assumptions.
Rollout Plan
Change can be implemented in phased manner or could be brought out wholly using a single change or a series of changes. This methodology that will be followed while releasing change will be recorded under rollout plan section.

Backout Plan
Contingency plan to be implemented in case change technicians decide to back out of the change will be recorded/planned under the backout plan section. The detailed procedure on how to backout by restoring the original state is described here

Checklist
A to-do list listing the essential steps to be completed in order to verify whether the change implementation is completed with all requirements fullfilled.
These analyses (Impact, Rollout, Backout & Checklist) can be either added manually or attaching ready planned documents.

To append attachments

- Click **Add link** under the respective section
- Enter the **details /Attach** the details
- **Save** them

Change analysis

Impact Analysis

Under this section technicians record the impact (both positives & negatives) change will have before and after implementation. Thorough analysis of the change by technicians in this phase will ensure there is no room for any assumptions.

Rollout Plan

Change can be implemented in phased manner or could be brought out wholly using a single change or a series of changes. This methodology that will be followed while releasing change will be recorded under rollout plan section.

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Contingency plan to be implemented in case change technicians decide to back out of the change will be recorded/planned under the backout plan section.

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A to-do list listing the essential steps to be completed in order to verify whether the change implementation is completed with all requirements fullfilled.

These analyses (Impact, Rollout, Backout & Checklist) can be either added manually or attaching ready planned documents.

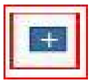
To append attachments

- Click **Add link** under the respective section
- Enter the **details /Attach** the details
- **Save** them

Downtime Scheduling

Downtime Scheduling is an integral part of Change Implementation process and therefore the change planning section allows technicians to plan in advance the downtime scheduling to be followed during the Change Implementation process.

Scheduling Downtime

1. Click **Add link** under **Downtime Scheduling** section
2. Enter the services or assets that will be affected during the downtime, reason for downtime, and the like.
3. Using **Calendar Icon** , select **Start and End time**
4. **Multiple Downtimes** too can be added **consecutively** using **Add Downtime**  button. Click Save.

5. Add Downtime button appears besides End Time Calendar Icon; you also have Delete Downtime button to delete downtime entries.

Editing Downtime

1. Click **Edit Icon** appearing **on-hove**r the Downtime Schedule
2. **Edit** the details
3. Click **Update** Button

Deleting Downtime

1. Click **Delete Icon** appearing **on-hover** the Downtime Schedule
2. **Confirm Deletion** when prompted
3. Downtime will be **deleted**

Associating problems or incidents to change

Problems/Incidents which caused the change as well as future problems/incidents which can be addressed by the change can be associated to it under this section.

- Associating Problems with Change
- Associating Incidents with Change

Associating Problems with Change

1. Select **Problems/Incidents** tab
2. Click **Attach button** under **Problems List** section
3. **Choose Problems to be associated** with the Change
4. Click **Associate Problems** button

Associating Incidents with Change

1. Select **Problems/Incidents** tab
2. Click **Attach button** under **Requests List** section
3. Choose **Incidents (Requests) to be associated** with the Change
4. Click **Associate Problems** button

- Associated incidents/problems can be disassociated using **Detach Request(s) (or) Detach Problem(s)** buttons respectively

- Both types of requests (**requests** which were the **cause for the change** and **requests** which will be **caused due the change**) can be associated with the change

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Stage-Status

Stage-Status for Planning Stage (available by default)

Status	Purpose
Planning In Progress	Indicates planning is in progress
Requested for Information	Indicates technicians are seeking more info on the change
Submit for Review	Indicates Change has been submitted to higher authority for Review
RFI (Request for Information)	Indicates Change Staff is seeking more info on the proposed change
Approved	Indicates Change Plan has been approved
Rejected	Indicates Change Plan has been rejected

Status(es) responsible for moving change from existing stage to a succeeding/preceding stage (Approved/Rejected, in this case) depending on the change workflow cannot be deleted, but can be renamed as per your requirement

Change technician's role in planning

'Change technicians' assigned to work (edit permission only) on Change Planning stage,
Can:

- 'Change technicians' assigned to work only (edit permission only) on Change Planning stage,
- Associate problems/incidents to the change
- **Add notes** to the change (using **Add menu**)
- **Add reminders** (using **Add menu**)
- **Publish change related announcements** (using **Actions menu**)
- Send **change-related notifications** (using **Actions menu**)

Cannot:

- Edit the assigned **change template** and **workflow**
- **Approve/Reject the Change** and therefore cannot move the Change from submission to planning stage

> - Only change technicians provided with **SDChangeManager role** will have permission to edit/reassign the configured **change template and workflow** (by clicking on the edit button available in the **Action Menu bar**)

> - Permission to move change from stage to stage will be provided only to higher authority like Change Manager, Change Approver, Change Owner etc.,

> - To know about how to configure change roles, visit: change roles under admin section

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Move change to approval stage

Once all the activities in the planning are done, the change will move to the next stage which is **Approval**.

To move change to next stage:

1. Click **Status Drop-Down** (available within **change pane**)
2. Click **Status Actions Drop-Down** (available in **Action Menu bar**)
3. Choose **Status Approved** and specify comments for status change
4. Click **Save**

Please Remember: Status Approved can be **changed** (edited) to some other name (like **finished, stage over** etc.,) - see configuring change roles - but **cannot be deleted.**

Permission to move change from stage to stage will be provided only to higher authority like Line Manager (only for submission stage), Change Manager, Change Approver, etc.,.

Change approval

Change Advisory Board (CAB) is formulated and exposed to the change. Their job is to scrutinize the drafted change plan and provide advice as to whether it is ready to be implemented or not, based on which further actions will be taken. CAB voices its opinion about the change after CAB meetings which all CAB members will attend.
Please Remember: Change Manager's decision will be final here in this Approval stage.
To know more about **Change Approval/CAB Approval stage**, visit the following pages:

- Adding CAB Members to Change
- Sending for Recommendation
- Stage-Status Involved
- CAB's Role in Change Approval Stage

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Adding CAB (change advisory board) members to the change

Change advisory board can consist of technicians or members of the organization holding authorizing roles for a change to be processed.
To add a CAB member,

1. Click **Add CAB Member** button
2. **Add CAB Members** dialog box opens up
3. **Select CAB** from drop down (CABs should have been already configured for them to be available under Admin Section, see: configuring CABs)
4. **Members** belonging to the **selected CAB** will get listed
5. Click **Save** to add them.

Note: Make sure e-mail ids are configured for all CAB Members

Send for recommendation

Notifications seeking CAB's opinion about the change-to-be-implemented can be dispatched using **Send for Recommendation** button (available under Change Approval stage/tab).
Do the following to dispatch notifications:

1. Select the required **CAB Members**.
2. Click the **Send for Recommendation** button.
3. **Submit Change for Approval** dialog box will open
4. Provide suitable **Subject & Description** for the notification
5. Click **Send.**

A non-login url will be available for each CAB, using which they can recommend/reject the change without logging into ServiceDesk Plus.

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Stage-Status

Stage-Status for Approval Stage (available by default)

Status	Purpose
Approval Pending	Indicates CAB is yet to voice its opinion
Approved	Approval Stage has been approved based on CAB’s opinion
Rejected	Indicates Change Implementation has been completed successfully
Rejected	Approval Stage has been rejected based on CAB’s opinion

Status(es) responsible for moving change from existing stage to a succeeding/preceding stage (Approved/Rejected, in this case) depending on the change workflow cannot be deleted, but can be renamed as per your requirement.

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CAB in approval

CAB members involved in the Change Approval Stage,

Can:

- **Recommend** (or) **Reject a Change** using the respective buttons (available under **Approval Stage**)

Cannot:

- **Approve/Reject Change** (that is, cannot move change from one stage to another)

Permission to move change from stage to stage will be provided only to higher authority like Change Manager, Change Approver etc.,

Moving change from approval

Once the change is approved, it will move on to the **Implementation** stage.
To move change from **approval stage to next stage**, do the following:

1. Click **Status Drop-Down** (available within **change pane**)
2. Click **Status Actions Drop-Down** (available in **Action Menu bar**)
3. Choose **Status Approved** and specify comments for status change
4. Click **Save.**

Please Remember: Status Approved/Rejected can be **changed** (edited) to some other name (like **finished, stage over** etc.,) - see configuring change roles - but **cannot be deleted.**

Change Manager (or) **Change Approver** will have the rights to **approve** (or) **reject** the change after examining the CAB recommendations

Change implementation

Change is finally materialized through **projects and tasks** and is **assigned to various technicians** in this stage by higher change authority.
To know more about **Change Implementation stage**, visit the following pages:

- Associating Change with Projects
- Adding Tasks and Worklogs
- Editing Downtime Schedule as per requirements
- Stage-Status Involved
- Moving Change to next Stage
- Technician's Role in Change Implementation Stage

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Associating projects to change

A new project to implement the change can be created and associated with the change. Apart from creating new projects and tasks for implementing the change, already existing projects (worked out in anticipation of changes like the change-in-progress) too can be associated with the change.
Note: Although a change can have **multiple projects**, **only one can be associated** to it at a given time.
Associating Change to New Project

1. Click **Associate a Project** link (under **Change Implementation** stage)
2. **Associate Change to Project pop-up** will open up
3. Click **New Project** button
4. **New Project form** will open up
5. Specify **Project Details** (see: creating project)
6. **Save** the Project

Associating Change to an Existing Project

1. Click Associate a Project link (under Change Implementation stage)
2. Associate Change to Project pop-up will open up
3. Select Project to be associated
4. Click Associate

Editing downtime

Downtime Schedule configured in change planning stage will be available under change implementation stage as well, so that the **project/task scheduling can be done based on the configured downtime**. Apart from this, due to some unanticipated reasons, if there arises a need to reconfigure downtime, the same can be done from change implementation stage.
That is, the **configured downtime can be edited from change implementation stage**, if required.
Editing Downtime Schedule:

1. Click the configured **Start Time** (or) **End Time** Date links
2. Select **Calendar icon** and **reschedule** date & time
3. Click on hover **tick mark** to save it

Asset details or any description added cannot be edited here in this stage.

Stage-Status

Stage-Status for Implementation Stage (available by default).

Status	Purpose
In Progress	Indicates Change Implementation is in progress
Back Out	Indicates Change Implementation has been cancelled
Completed	Indicates Change Implementation has been completed successfully
On Hold	Indicates Change Implementation Stage has been put On Hold
Requested for Information	Indicates Technicians have Requested for Information

Status(es) responsible for moving change from existing stage to a succeeding/preceding stage (Approved/Rejected, in this case) depending on the change workflow cannot be deleted, but can be renamed as per your requirement.

Change technician's role (implementation)

'Change technicians' assigned to work **having edit permission only** in the Change Implementation stage,
Can:

- Add Tasks individually (or) in groups
- Add Worklog details for technicians
- Reconfigure downtime scheduling (if required)
- Organize Tasks/Establish Task Dependencies
- Trigger Tasks

Cannot:

- Edit the change details, change template or change workflow
- Move Change from implementation stage to next stage

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Moving change from implementation

When Implementation of a change is done, the change will proceed for a **Review**.

To move change to next stage:

1. Click **Status Drop-Down** (available within **change pane**)
2. Click **Status Actions Drop-Down** (available in **Change Action Menu bar**)
3. Choose **Status Completed** and specify comments for status change
4. Click **Save**

Please Remember: Status Completed can be **changed** (edited) to some other name (like **finished, stage over** etc.,) - see configuring change roles - but **cannot be deleted.**

Permission to move change from stage to stage will be provided only to higher authority like Change Manager, Change Approver, etc.,.

Change review

Change Implementation is followed by Change Review during which the Review Committee reviews the change and ensures that it is ready for release.
To know more about **Change Review stage**, visit the following pages:

- Adding Review
- Stage Status Involved
- Moving Change from Review Stage to next stage
- Role of Change Reviewer in Change

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Add change review

To add review, do the following:

1. Click **Add link** (under Change Review tab)
2. **Add Review Sectio**n opens up
3. **Enter** the **Review**
4. Add Attachments (if any) using **Attach a file** link
5. **Schedule date** for next review (see: scheduling next review)
6. **Save** it

Editing Review

1. Click **Edit link** (under **Change Review** tab)
2. Edit the review
3. **Reschedule date** for the next schedule (if required)
4. **Add Attachments** (if any) using Attach a file link
5. **Save** it

Scheduling Next Review

While adding review, do the following in order to **schedule the next review**:

- Click **Calendar Icon** besides **Next Review Schedule** option (available below **review section)**
- **Select date** for the next schedule
- **Specify/Schedule** time for the review
- **Save it**

Stage-Status

Stage-Status for Review Stage (available by default)

Status	Purpose
In Progress	Indicates Review is in progress
Completed	Indicates review committee has completed reviewing the change
Failed	Indicates change review was unsuccessful

Note:

- Status(es) responsible for moving change from existing stage to a succeeding/preceding stage (Approved/Rejected, in this case) depending on the change workflow cannot be deleted, but can be renamed as per your requirement

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Change reviewer's role

Reviewers involved in the Change Review stage,
Can:

- Review the Change
- Append Change Review related attachments
- Move Change from **review stage to next stage**

Cannot:

- Edit the **change details, change template** or **change workflow**

> Permission to move change from stage to stage will be provided only to higher authority like Change Manager, Change Approver etc.,

Move change from review

After the Review is completed for a change, the change will move to the **Closing** stage.
To move change from **review stage to next stage**, do the following:

1. Click **Status Drop-Down** (available within **change pane**)
2. Click **Status Actions Drop-Down** (available in **Action Menu bar**)
3. Choose **Status Completed** and specify comments for status change
4. Click **Save**

Status Completed can be **changed** (edited) to some other name (like **finished, stage over** etc.,) - see configuring change roles - but **cannot be deleted.**

Permission to move change from stage to stage will be provided only to higher authority like Line Manager (only for submission stage), Change Manager, Change Approver, etc.,.

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Change closing

Change Closing Stage allows technicians to formally close a change by adding a closure code to it. Change Closure Codes represent how the change was closed: whether it was after successful completion or rejection, or after getting the concerned approval, and so on.
To know more about **Change Closing stage**, visit the following pages:

- Associating Closure Code
- Stage-Status Involved

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Associating closure code

In the Closure Code popup (that opens up when status **closed or canceled** is selected) specify the following to formally close the change by associating it with a closure code:

1. Select Closure Code from Closure Code dropdown
2. Options available by default (under Closure Code dropdown)
3. Specify comments for selecting the closure code
4. Scan Assets Involved to ensure Changes done to reflect in Asset DB has been successfully implemented (by checking Trigger Asset Scanning Process
5. **Save** it

- Approval Summary (available under **View menu** above change stages) will also be available in the closing stage, displaying a complete decision summary of whole workflow based on **who approved which stage and at what time.**

- **Closure Cod**e can be **edited** (if required) by clicking on **edit link** that appears beside an **already added Closure Code**.

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Stage-Status

Stage-Status for Closing Stage (available by default)

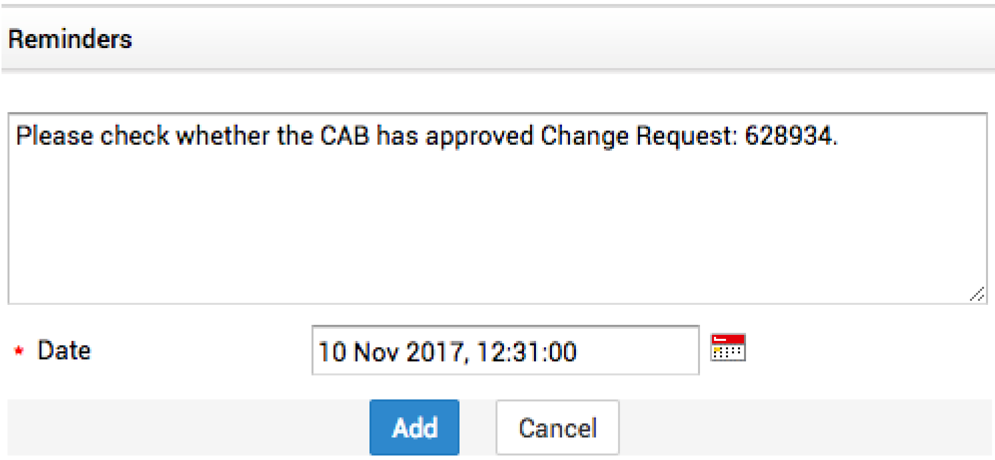
Status	Purpose
In Progress	Indicates Review is in progress
Completed	Indicates Change has been Completed
Cancelled	ndicates Change has been Cancelled

Whenever the change is moved to status ‘closed’ or ‘canceled’, technicians will be prompted to associate a Closure Code to the Change, to indicate how it was closed (see: associating closure code).

Adding reminders

Technicians can set up personal reminders concerning the change in which they are currently involved, using **Reminders** option under **Add menu** (available in **Action Menu bar**), so that they do not miss out on important events associated with the change.On adding these reminders they get displayed in My Reminder(s) under Quick Actions.
To add a reminder,

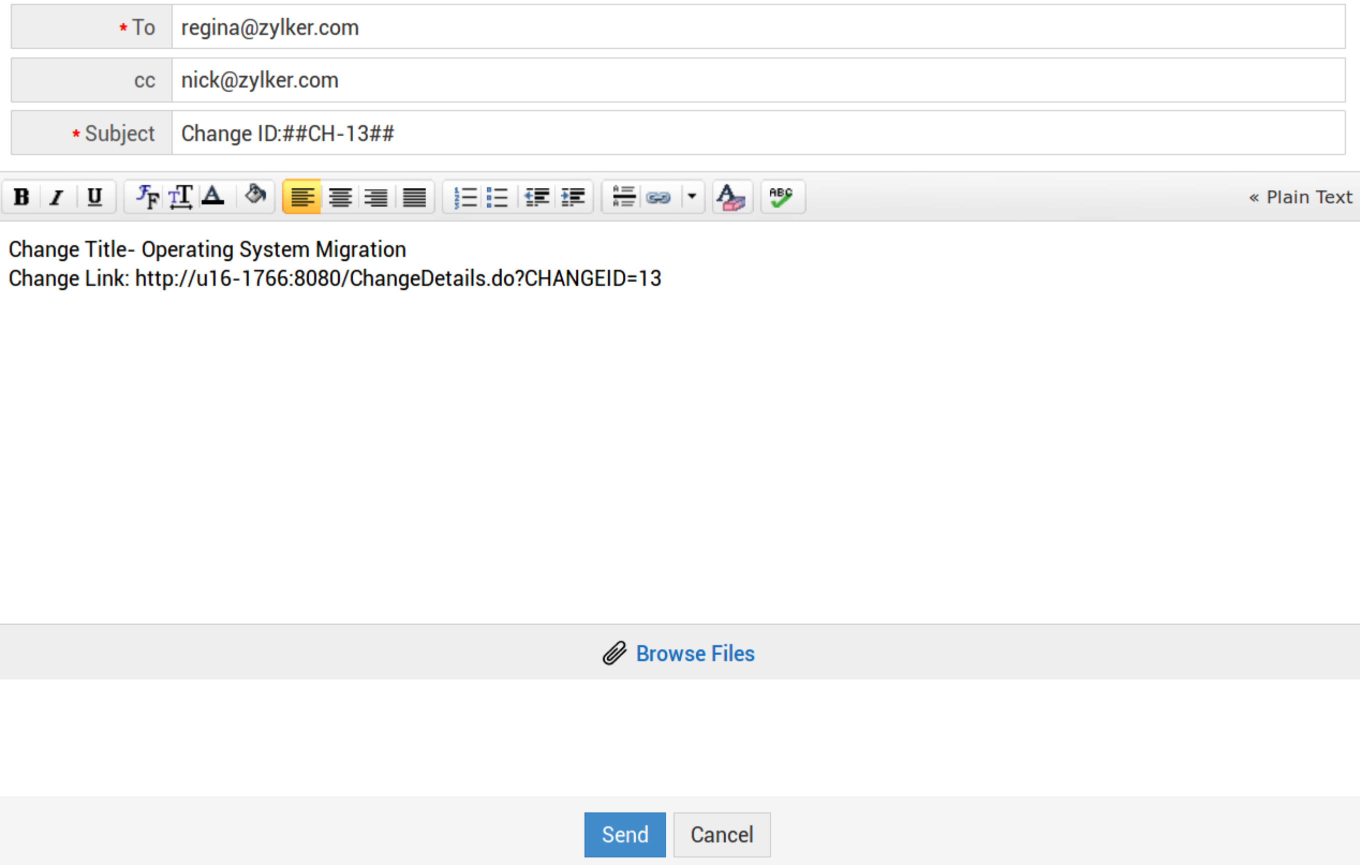
1. Click **Add New** menu (available in Actions Menu bar) and select **Reminder** option. This pops up the Reminders window. Specify a suitable summary for your reminder
2. Select the reminder **Date** and **Time** by using the calendar icon.
3. To be reminded of the task in advance, set the time using the **Email me before** combo box.
4. The **change ID** will be shown in non-editable mode
5. Click **Add** button to add the reminder. You can see the reminder getting listed in the **My Reminder(s)** under **Quick Actions** dropdown



Sending Notifications

To dispatch change-related notifications to users:
Go to the change details page, click **Actions** and select **Send Notifications**.
Fill out the notification as shown in the screenshot below and click **Send**.

Note that you must not edit the delimiter (##CH-13## in the below screenshot) in the **Subject for the notification to append to the Conversations.**



Change Conversations

Users involved in a change can now converse with each other through emails and stay aware of all the conversations that take place within the change. All notifications of a change are bundled under **Conversations** from where you can reply to and forward notifications. This tab accomodates system notifications, user emails, user replies to change notifications from external mail clients.

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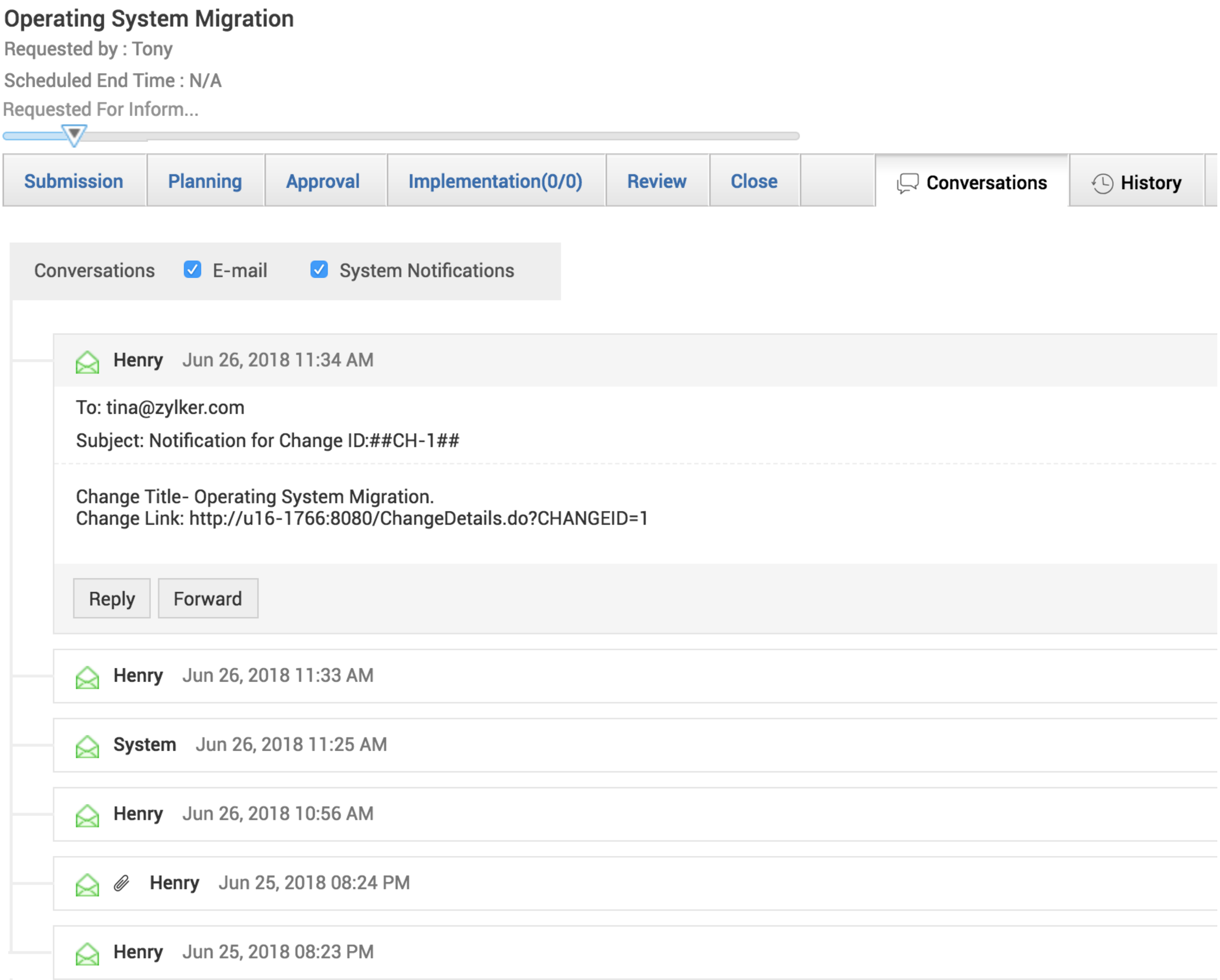

Operating System Migration
Requested by : Tony
Scheduled End Time : N/A
Requested For Inform...
Submission
Planning
Approval
Implementation(0/0)
Review
Close
Conversations
History
Conversations
E-mail
System Notifications
Henry Jun 26, 2018 11:34 AM
To: tina@zylker.com
Subject: Notification for Change ID:##CH-1##
Change Title- Operating System Migration.
Change Link: http://u16-1766:8080/ChangeDetails.do?CHANGEID=1
Reply
Forward
Henry Jun 26, 2018 11:33 AM
System Jun 26, 2018 11:25 AM
Henry Jun 26, 2018 10:56 AM
Henry Jun 25, 2018 08:24 PM
Henry Jun 25, 2018 08:23 PM

Multiple Projects <-> Change Association

You can now associate multiple projects as child entities with a change or associate a single project as its parent entity. For instance, let's assume a scenario where two or three projects are created because of a change. Ideally, all of them needs to be mapped for better tracking and management. With this feature, this is possible as you can now associate all these projects with the change as child entities. Similarly, for a project that was solely responsible for the creation of a change, it can be associated as a parent entity for the change.

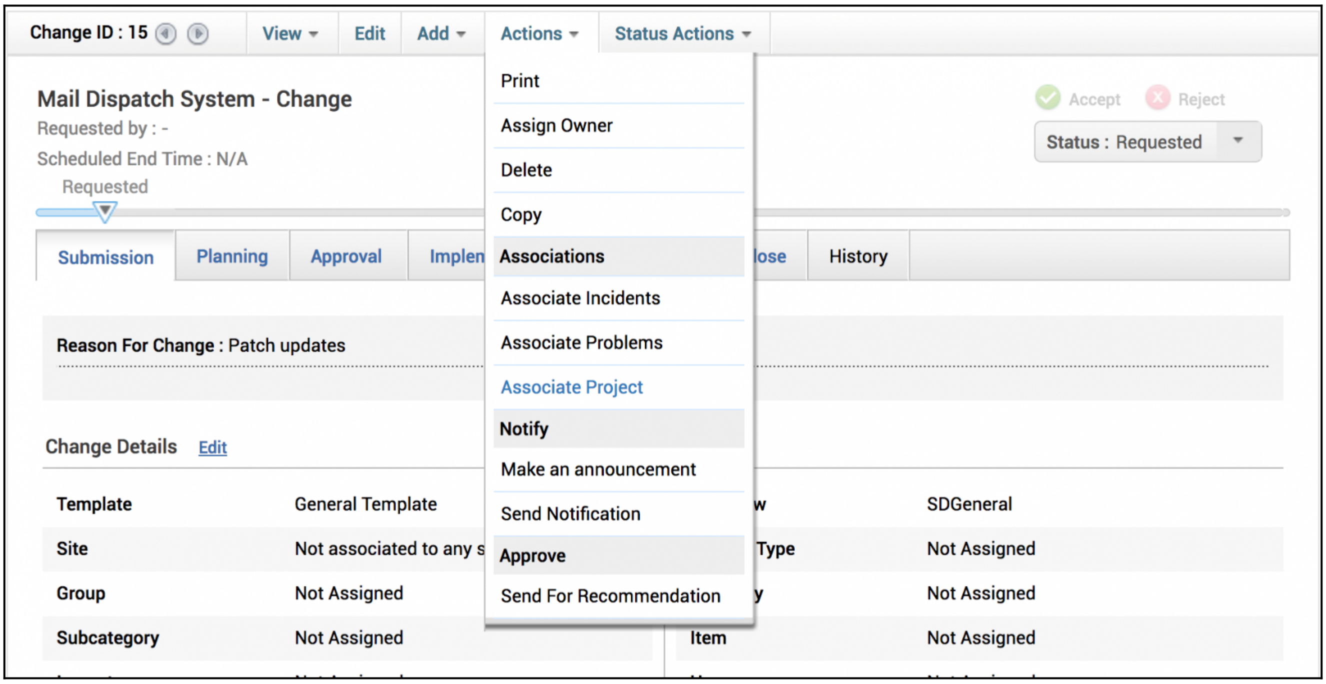
Who can perform Association/Dissociation?

Users with edit permission for a change can only perform child/parent entity association or dissociation on that change.
Users can only associate/dissociate projects that they have edit permission for.

Associating project as parent entity with a change.

When a project is responsible for the creation of a change, then it can be associated as the change's parent entity.

- Head to the particular change where you want to perform the association.
- Click on the Actions menu at the top and click **Associate Project**.



- Projects will be listed. Select the project you want to associate and click **Associate**. The associated project will be made the parent entity of the change.

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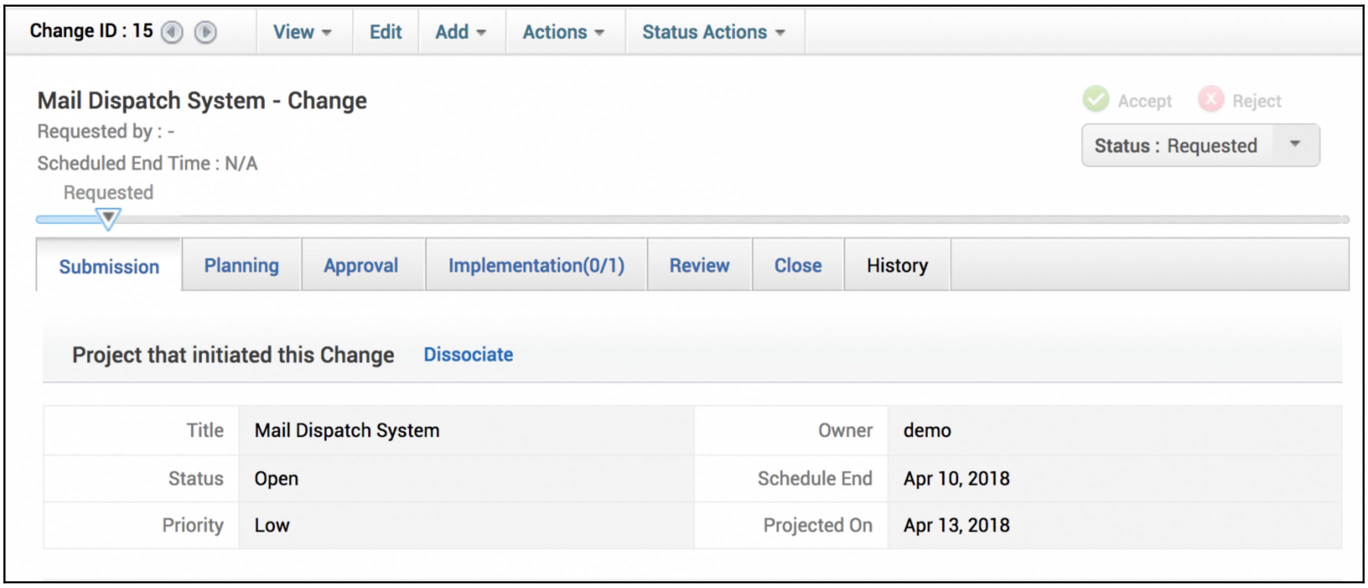
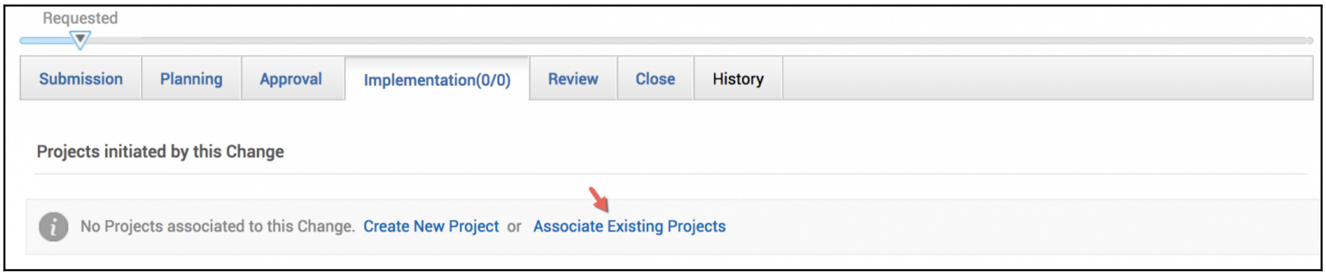


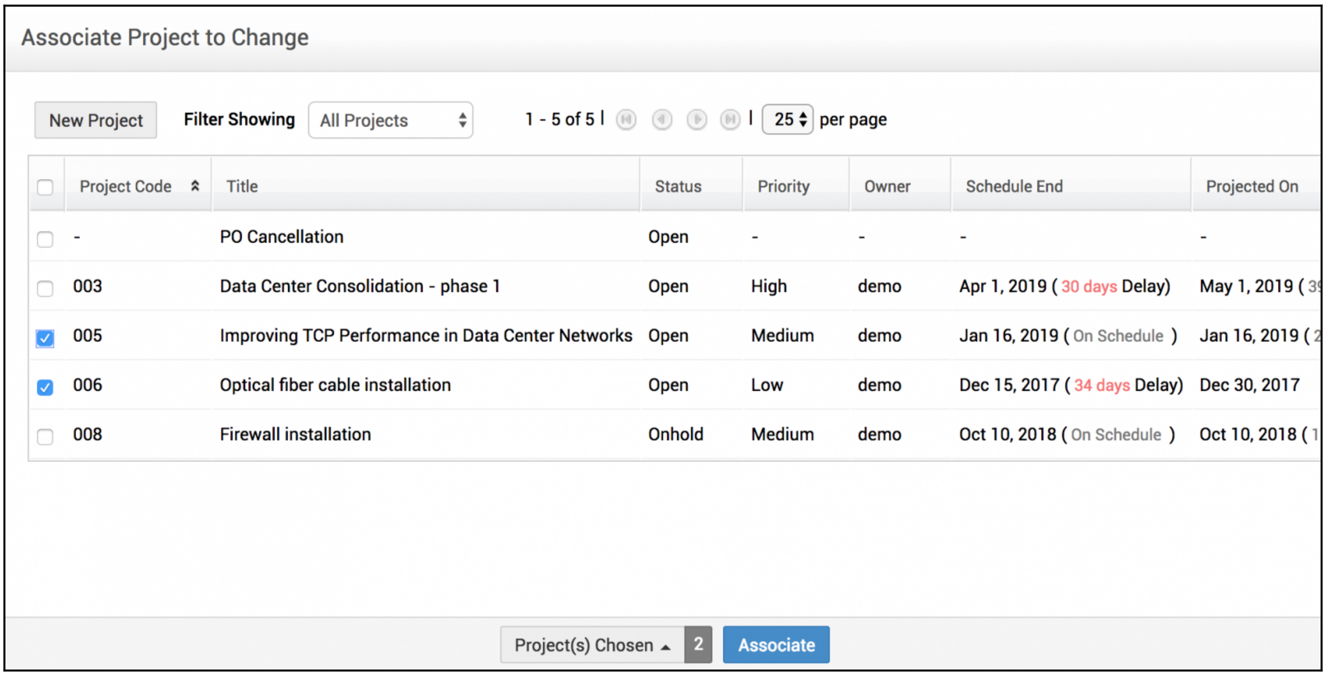
Associating multiple projects with a change

When multiple projects are created because of a change, you can associate those projects as child entities to that change from the **Implementation** stage of a change.
To associate projects with a change,

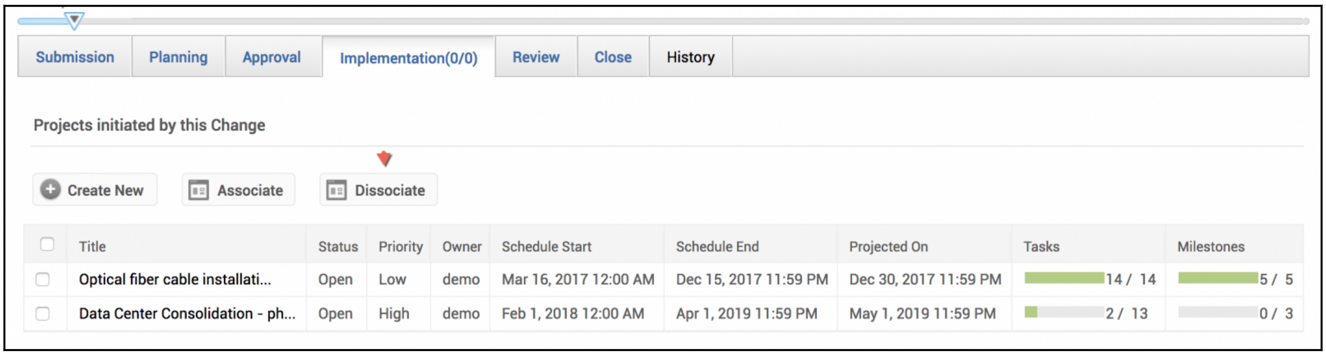
- Head to **Changes**.
- Click on the change to which you want to associate the projects.
- Under the **Implementation** >> **Projects initiated by this Change** section, click **Associate existing projects**.



- List of projects will be displayed. Select the ones you want and click **associate**.



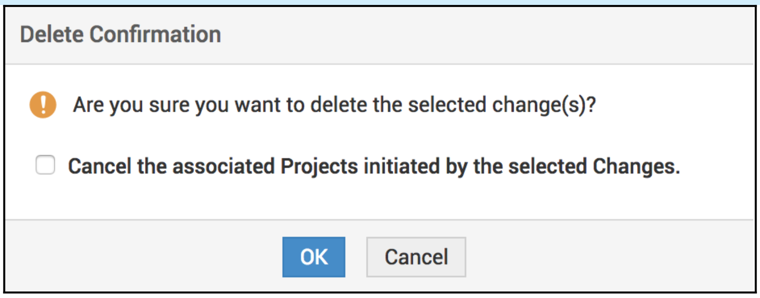
The projects will be associated.



- If you want to remove the project associations use the **Dissociate** option.
- You can also choose to add new project and associate from that page itself. Use **Add new project** option to do that.

Note: A maximum of 25 project child entities can only be associated with a change.

If a change that initiated multiple projects is deleted, then an option to cancel all the projects (child entities) will be shown before deletion of the change. Refer below image.



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Notify Project owners on Association/ Dissociation

Project owners can be notified when changes are associated/ dissociated with their projects. They can also be notified if a change initiated by their project is closed/canceled/deleted. These actions can be done from under **Admin** >> **Notification Rules** >> **Change**.

Use the various notification options as required. Use Customize template to modify the notification content.

Email Project owner when a Project is associated to Change	Customize template
Email Project owner when a Project is dissociated from Change	Customize template
Email Project owner when the Change initiated by Project is closed/canceled	Customize template
Email Project owner when the Change initiated by Project is deleted	Customize template

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Publish announcements

Announcements help technicians publish important information regarding the change. This information can also be displayed to the users. For example, let’s say, downtime has been scheduled for a given Change, and you want it displayed to the technicians and users involved, then this can be done using announcements.

To make an announcement,

1. Click Actions drop down --> select Make an announcement option. This opens the Announcements pop-up.
2. Specify a title for the announcement in the Announcement Title text field. This is a mandatory field.
3. Specify the detailed description about the announcement in the Announcement Content.
4. Specify the date and time to Show this announcement between these dates from the calendar button. If this field is not entered the announcement will be displayed in the home tab for ever.
5. Select Show to Requester check box to make this announcement visible in the self-service portal.
6. Select the check box to Send this announcement as mail.
7. Save the changes.

To view announcements, go to **Announcements** section under **Home** tab, and click on the respective announcement.

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Viewing stage-status comments

When technicians move Change from one status to another (eg: from requested to submitted for authorization status) within a change stage, or from one stage to another, they will be prompted to enter comments, stating reason for the status change. These comments are known as Status Comments and they can be viewed from Status Comments section available under each and every change stage.
To view status comments,

1. Scroll down to Status Comments section.
2. Click View link.

Both **Status History and Status Comments** indicate/keep track of Change Status/Stage movement.

Print change

To print a change,

1. From change list view, click the **Title of the change** you would like to print
2. Select **Actions** menu --> click **Print** .
3. The **print preview page of the change** opens up displaying the change details.
4. The **default printer** associated with your workstation will be invoked.
5. Set the required options and **click OK.**

Change list view

Using the **Change List View** you can,

- View Changes based on **default filters**
- Have **Different Views** of the available Changes
- **Customize** the columns in the list view
- Perform operations like **edit, bulk delete and bulk assign Changes** to technicians.

View Changes based on default filters

- **Filter drop-down menu:** The Filter drop-down menu consists of default filter list which classifies changes into eight categories namely, **My Open Changes, My Closed Changes, My Approved Changes, My Unapproved Changes, All Changes, Open Changes, Closed Changes** and **Unassigned Changes,** where changes with My mean Changes in which the technician is directly involved
- **Searching Changes based on Change ID:** View the details of a change instantly by entering the Change ID in the search box (available to the left of Change List View) and click **Go** button.
- **New Change**: Create new changes instantly using **New Change** button.
- **Actions drop-down menu:** Perform operations to bulk **Edit Requests, Delete Requests, Pick up Requests, Close Requests, Merge Requests** and **Link Requests.**
- **Column-wise Search:** Perform column-wise search for specific Requesters, Departments, Sites and so on.
- Click **Add** button to add the reminder. You can see the reminder getting listed in the **My Reminder(s)** under **Quick Actions** dropdown

Different Views of the available Changes

- Changes in the List View can be viewed using two different views: **List View & Calendar View**
- **List View** is the **default option**
- To change to **Calendar View**, click on **Calendar View Icon** (available beside **Change Filter Drop Down** menu)
- Calendar View can be further tuned using **Week and Month icons** respectively

Customize Columns in the list view

- Click on **Columns Customizer** Icon
- **Columns pop up box** opens up
- **Choose Columns** that have to appear on Change List View
- **Order them** using Up & Down Arrows
- **Save it**

Perform operations like edit, pick up, bulk delete and bulk assign Changes to technicians

- **Editing Change:** Click Edit Icon besides respective Change that needs to be edited
- **Pick up Changes:** Technicians can assign the Change to themselves using Pick Up button
- **Bulk Delete:** Select all Changes and click Delete button

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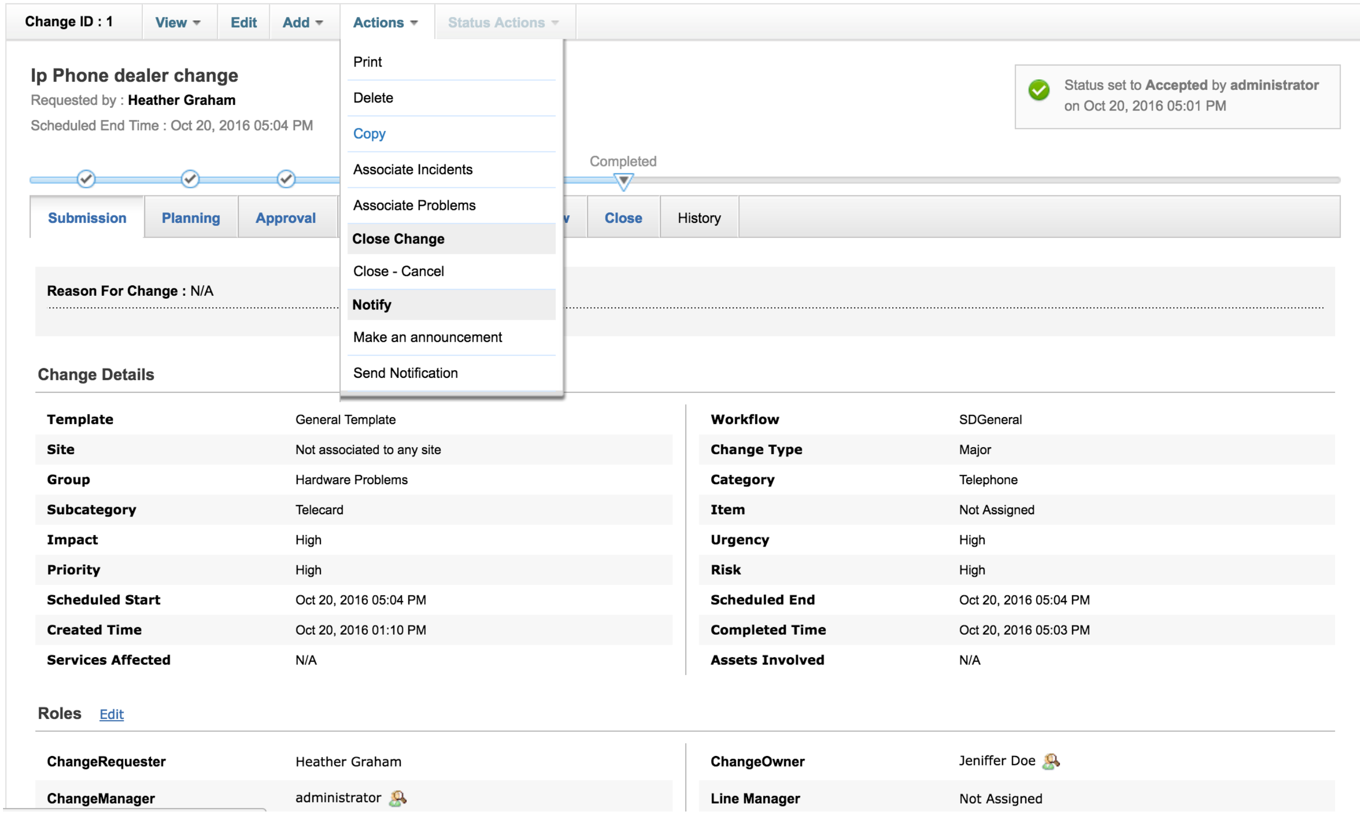
- **Bulk Assign**
  1. Select all Changes
  2. Choose Technician from Select Technician drop down (below Calendar View icon)
  3. Click Assign (right beside drop down).

While picking up/ assigning Changes, the technician involved will be assigned **the role of Change Owner** with rights to the entire Change

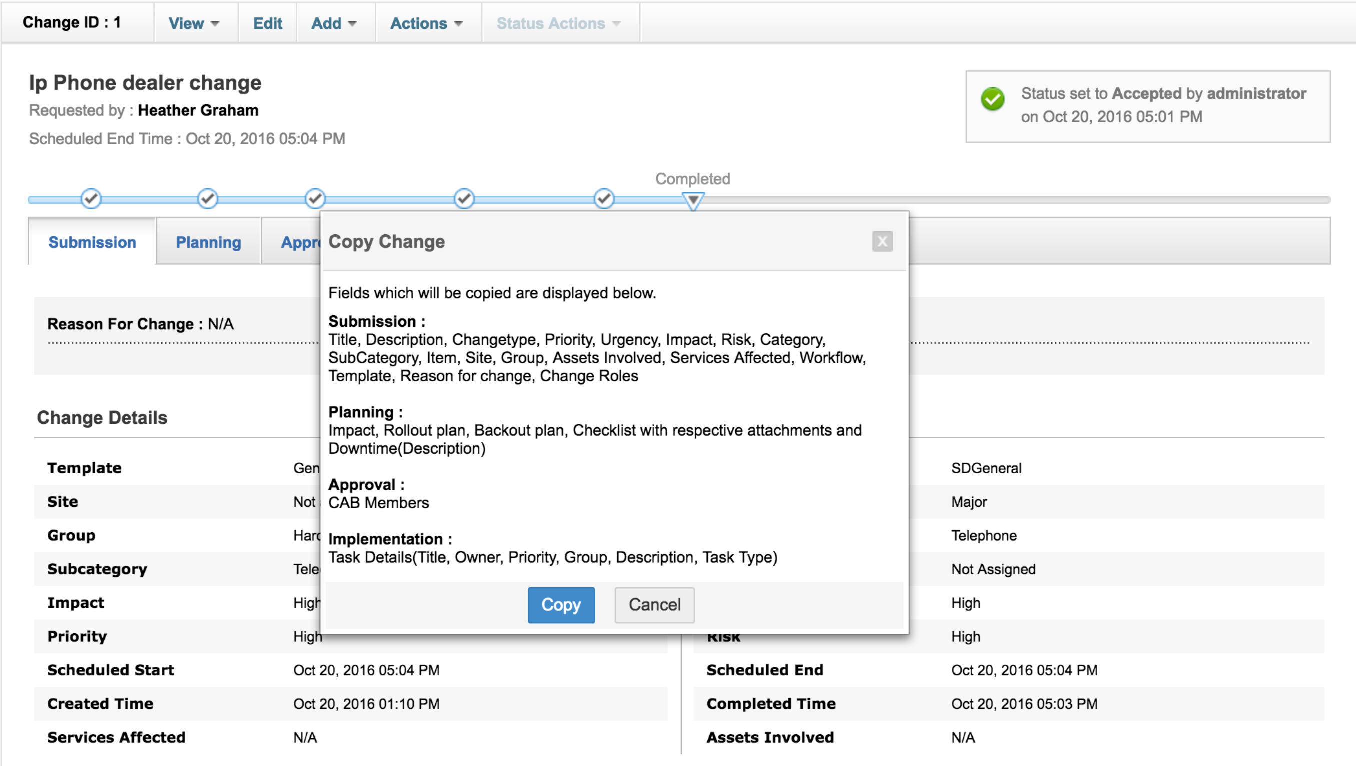
Copy change

Consider the scenario , when a software (like SDP, SAP) needs to be upgraded to a newer version, we will have to create a change and perform the upgrade operations in test environment. While upgrading the production setup , we need to create a change similar to the change created for test environment . The **COPY** option under the actions menu can be used to create the change for production setup.
To copy the Change,

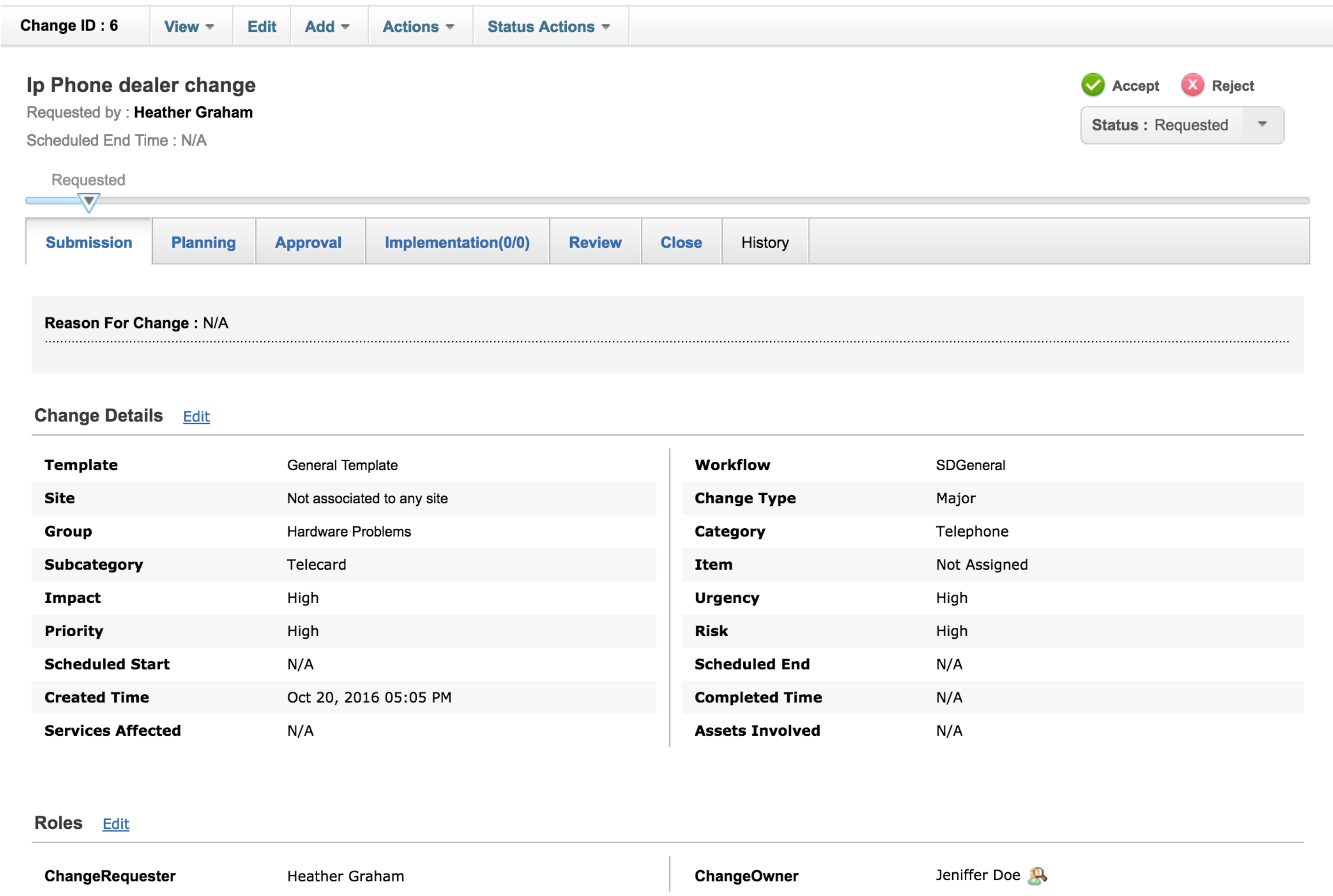
- Log in to the ServiceDeskPlus.
- Click on the **Changes** module.
- Select the Change you want to copy.
- Click **Actions**" menu and select Copy.

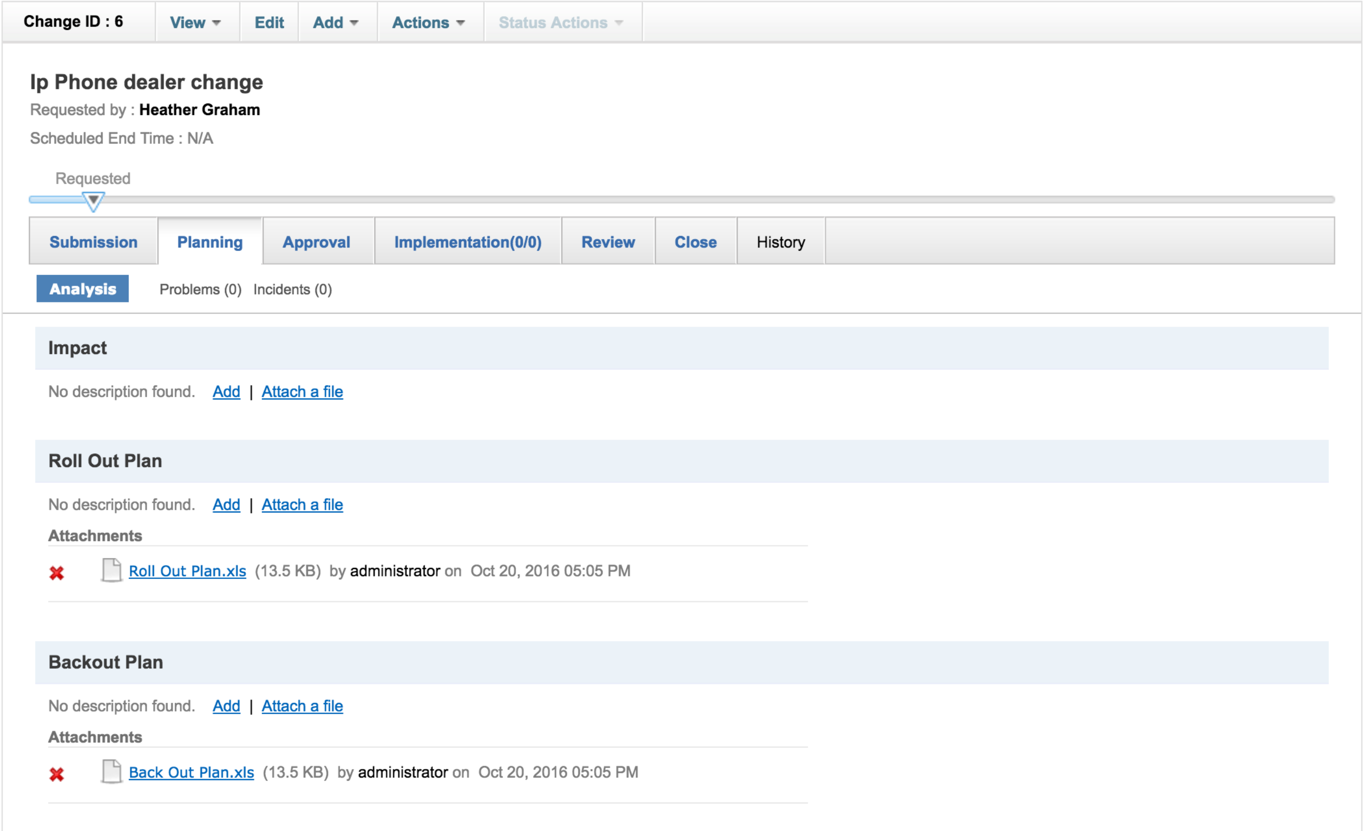


- Click "**Copy**". The change details will be copied.



- Once the change details are copied it will take you to the new change with the the necessary details copied.





Note: "Copy" option will be only visible to the technicians with the 'Create change' permission.

The fields that will be copied are as follows:

Stages	**Fileds that are copied**
Submission	Title, Description, Changetype, Priority, Urgency, Impact, Risk, Category, SubCategory, Item, Site, Group, Assets Involved, Services Affected, Workflow, Template, Reason for change, Change Roles
Planning	Impact, Rollout plan, Backout plan, Checklist with respective attachments and Downtime(Description)
Approval	CAB Members
Implementation	Task Details(Title, Owner, Priority, Group, Description, Task Type)

Note: Time/Cost related fields are not copied during the copy change.

Change History

The change from which the copy was made can be viewed in the history menu.

Click on the **History** menu to view the change history.

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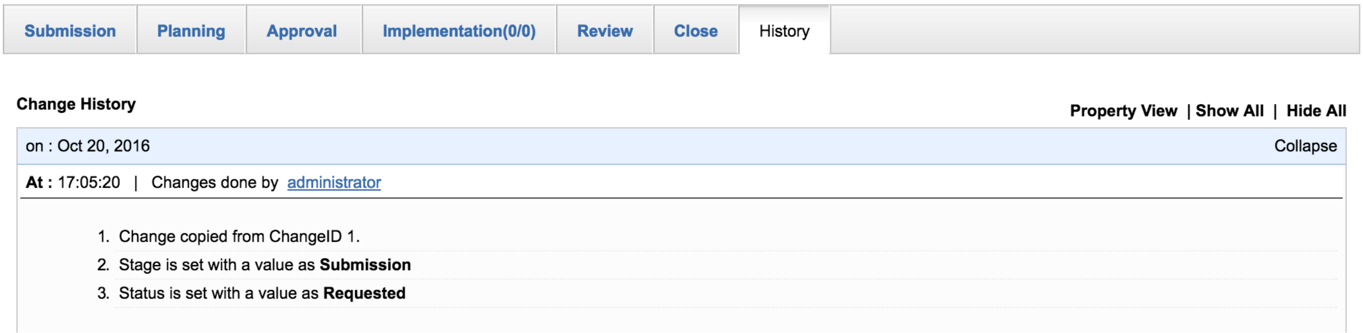

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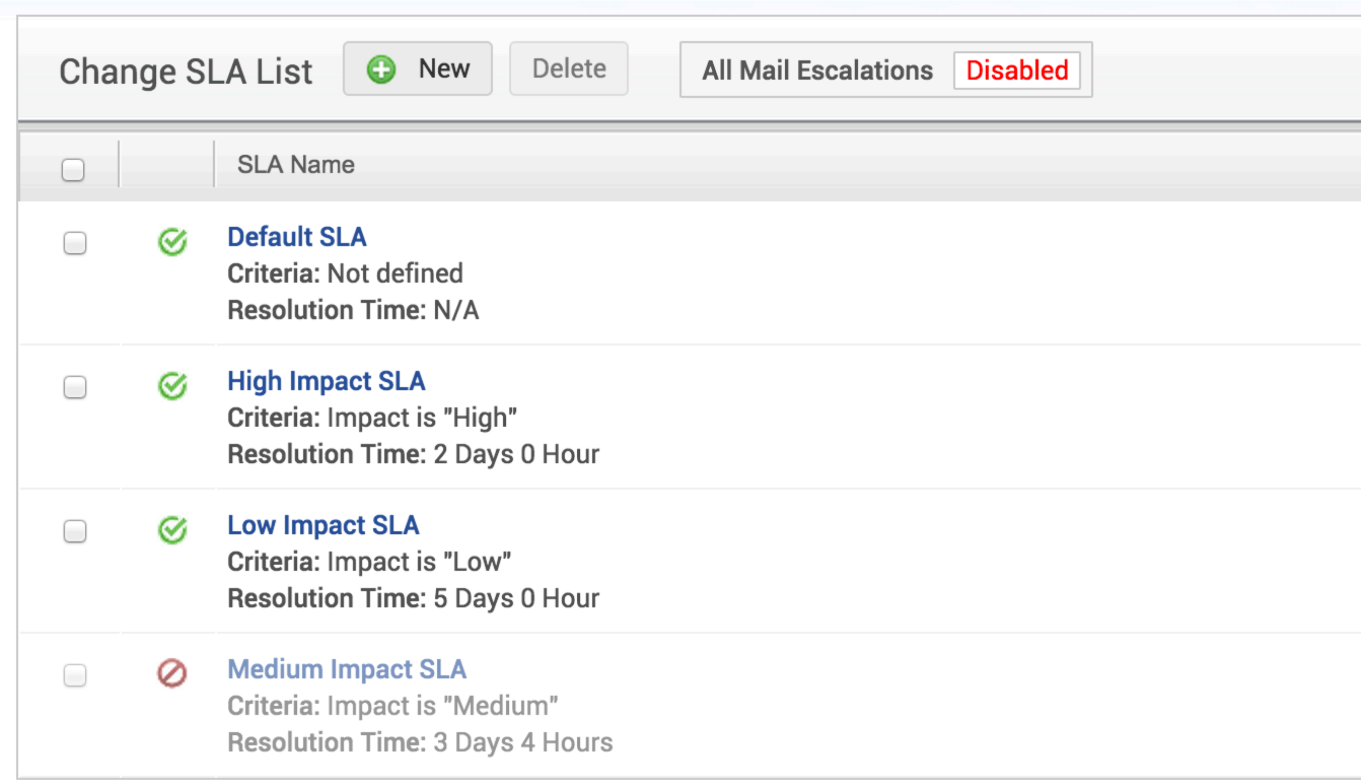
Change SLA

Service Level Agreements define the time within which a Change Request needs to be resolved. SLAs are applied automatically during '**Add/Update**' of Change Requests based on certain criteria defined. Change SLA will be executed based on the '**Scheduled Start**' and' **Scheduled End**' time of the Change Request.

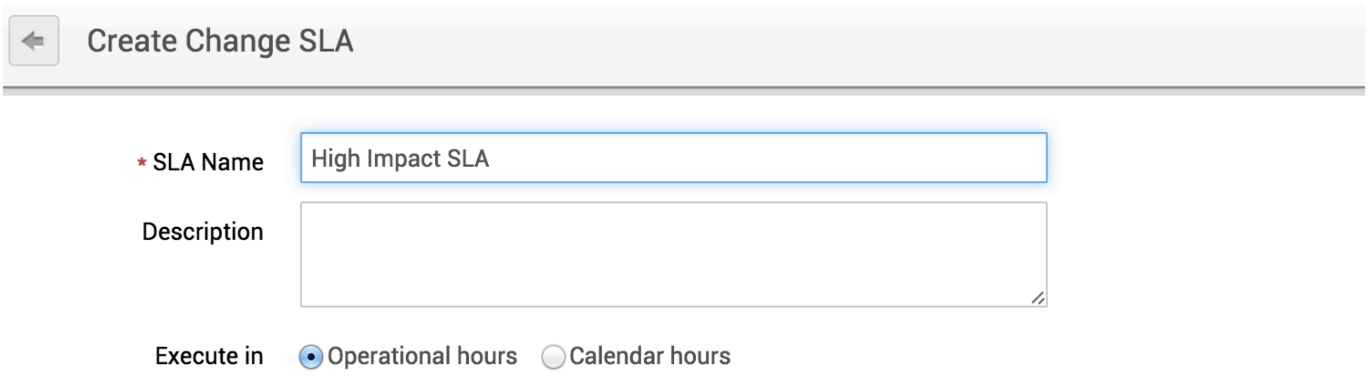
1.To create a new change SLA , click Admin>>Change SLA>>New



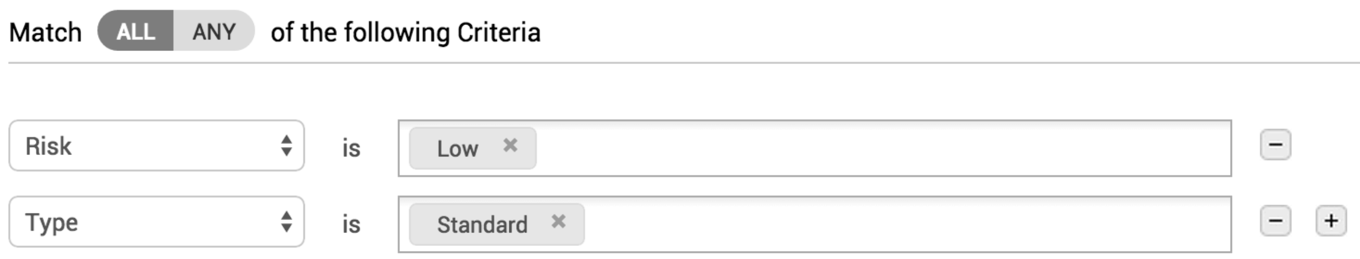
2.In Change SLA List view, choose '**Enabled/Disabled**' in '**All Mail Escalations**', if all mail escalations are to be enabled/disabled .

3.On clicking '**New**', the '**Create Change SLA**' window appears. Enter an unique name for the SLA and provide a description about the SLA, if required.

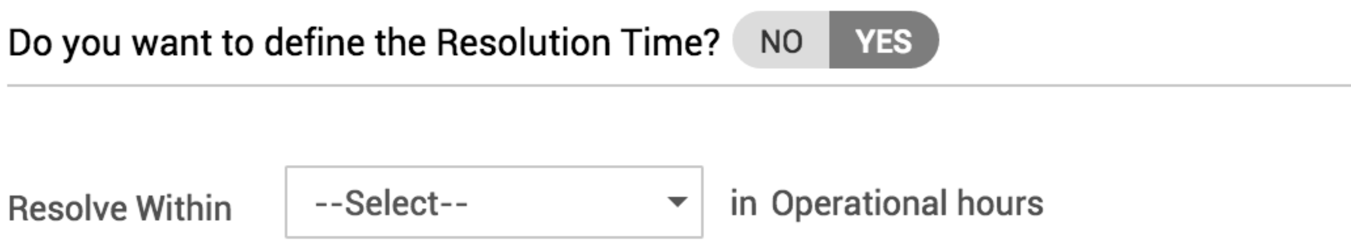
4.Select '**Operational hours**' radio button,if the change is to be resolved with respect to the working hours. Select '**Calendar hours**' radio button if the Change is to be resolved irrespective of the working hours.



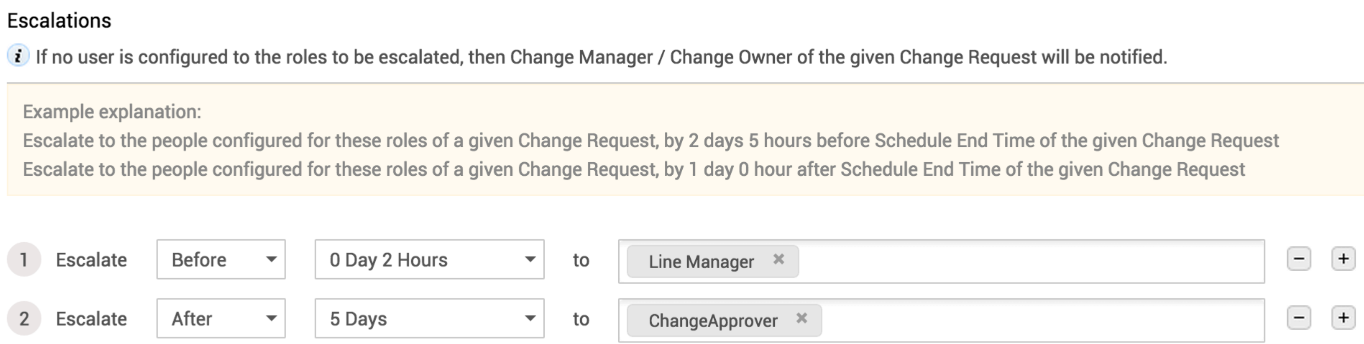
5.In '**Match All/Any of the following criteria**' , select the required column field and the corresponding condition as listed. More than one criteria can be set or removed by clicking on '+/-'.



6.Define the resolution time by choosing '**Yes**' in the switch button. Select the number of operational hours and days within which the '**Change**' has to be resolved. Select '**No**' if resolution time is not required.



7. If **Yes** is chosen for '**Do you want to define the resolution time?',** then the escalations are defined by '**Before/After**' the '**Scheduled End**' time. Enter the days/hours and the '**Change Roles**' to whom the escalation is to be sent.



8. If **No** is chosen for '**Do you want to define the Resolution Time?**' then the escalations are defined by the percentage of time span between '**Scheduled Start**' and '**Scheduled End**' time. Choose the **percentage** (Say, 75%) at which the change request has to be escalated and the '**Change Roles**' to whom the **escalation notification** is to be sent.

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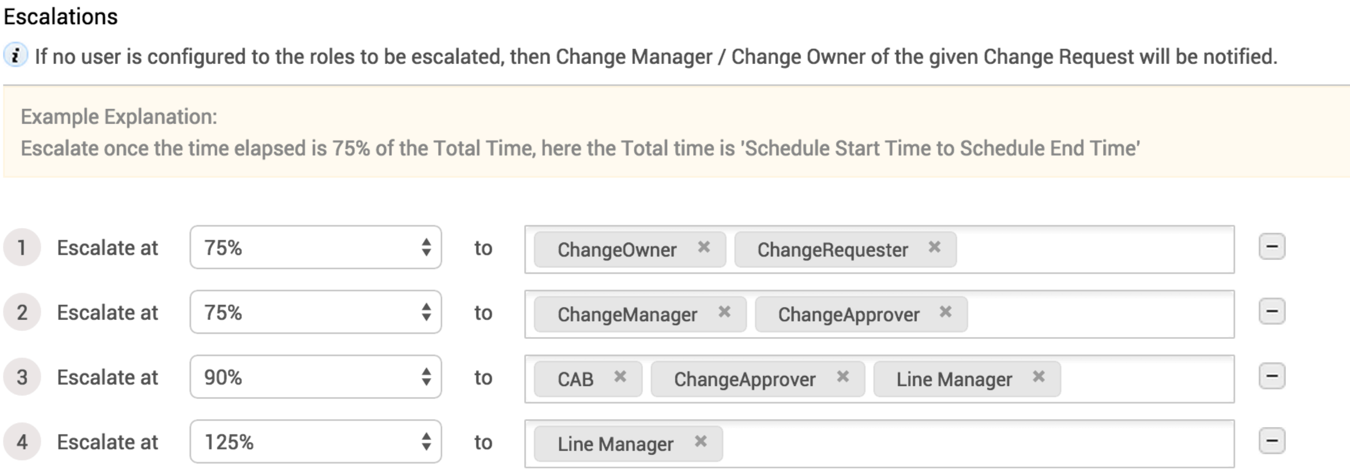


9.In Change SLA list, click on the '**Enable/Disable**' option in order to enable/disable the SLA. If you want to delete some of the SLAs, select the required SLAs and click '**Delete**'.
Click the '**Save**' button to save the SLA and return to the list view. Click the '**Save and Add New**' button to save the SLA and add another SLA.

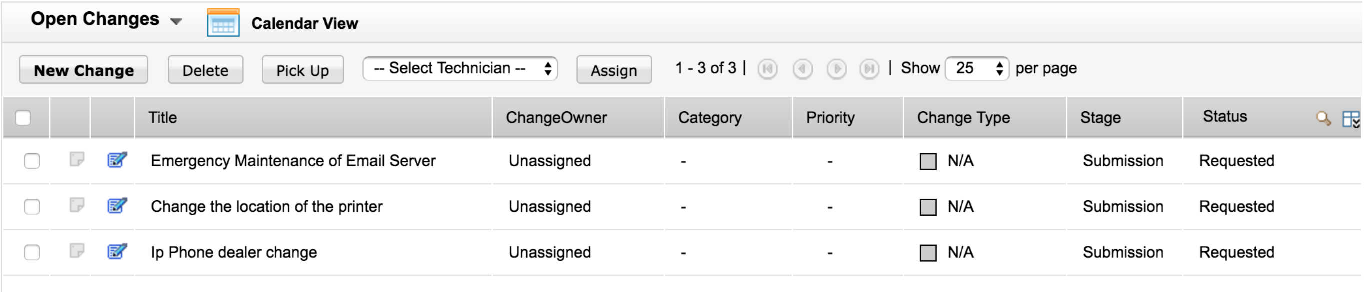
NOTE:
A change SLA can be deleted by selecting the required SLAs and clicking 'Delete' .If that particular SLA is already in use ,ie.,if the SLA has been matched with a 'Change', then that SLA appears with  . On opening such SLA's, a checkbox 'Not for further usage' can be seen. Enabling the checkbox will prevent further usage of the SLA. Disabling the checkbox will bring back the SLA into place.

Change calendar view

The change home page shows two types of views, List View and Calendar View. The list view shows the list of all changes to be made. And the Calendar View shows the changes with start & end schedule time marked in different colors based on the type.
To view the schedule,

1. Log into ServiceDesk Plus using your user name and password.
2. Click the Changes tab in the header pane. This opens the change list view page by default as shown below.

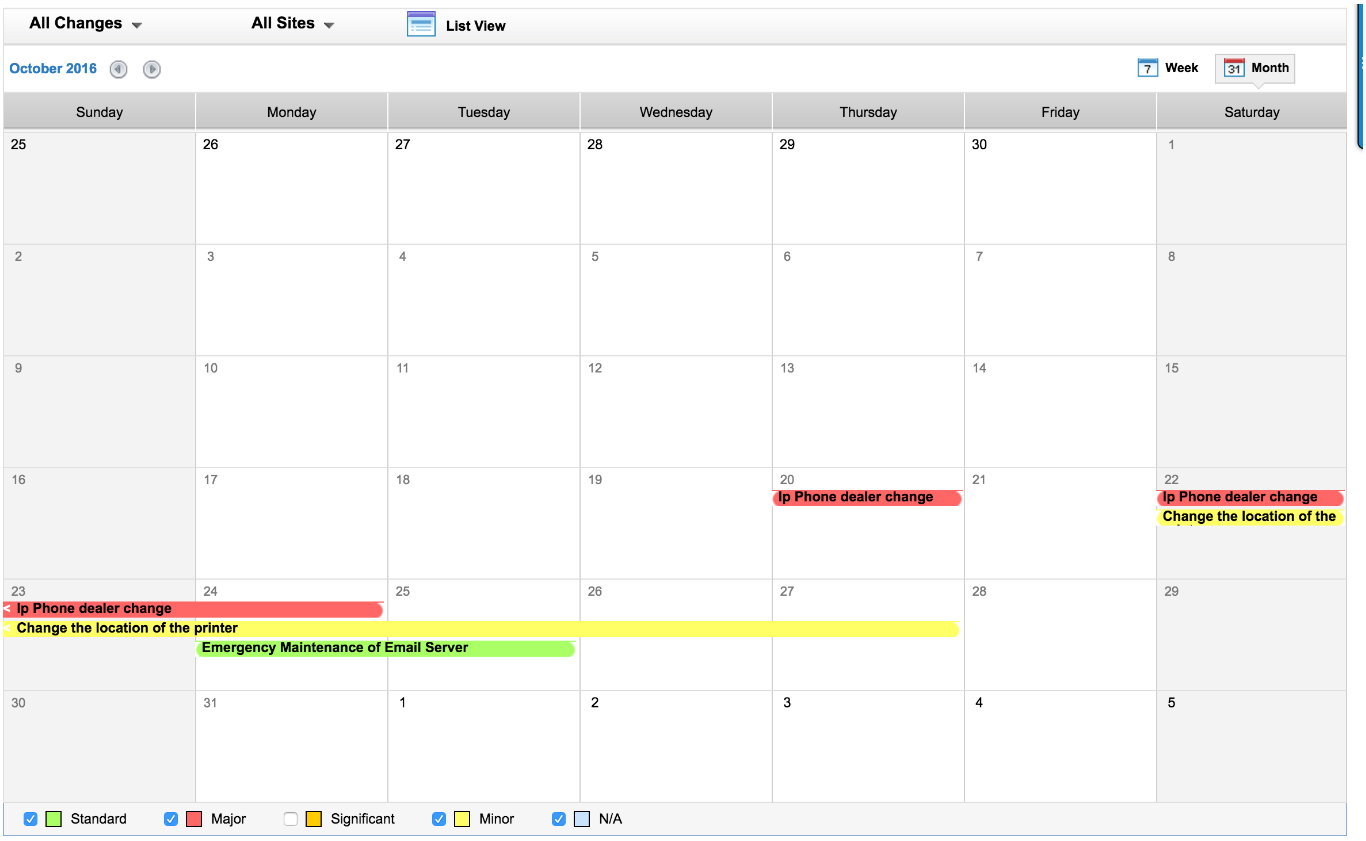
List View



Forward Schedule of Change (Calendar View)

1. Click the Calendar View tab next to the list view tab in the home page. This opens the calendar view of change as shown below.

To display the changes in the Calendar View, the changes should have the scheduled start time and end time.



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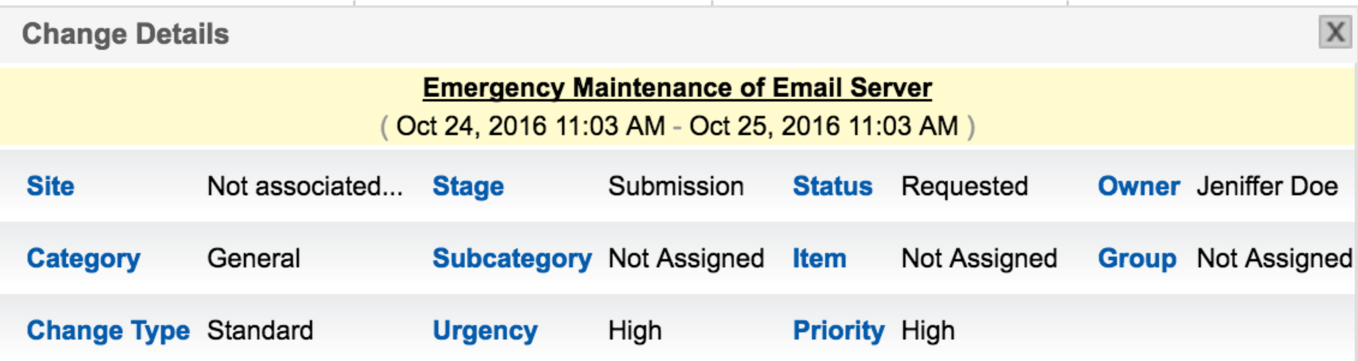
- The Calendar View displays all the scheduled changes for the entire month. Click the forward arrow to go to the next month. Click the backward arrow to go to the previous month.
- You can choose the type of change from the Filter Showing combo box. You can view the Open Changes, Approved Open Changes, All Changes and Completed Changes.
- If Sites is configured in the application, then the Site drop down appears. list of sites associated to the logged in technician appears. Here, the logged in technician can view the sites to which he is associated and the changes raised for a specific site.
- A thick strip will be running across the scheduled start date and end date of the change. The outward curve (Change regarding at the beginning of the strip indicates the start date. And the inward curve) Change regarding at the end of the strip indicates the end date.
- The color of the strip depends on the type of the change. Say standard, major,minor and so on.
- At the bottom of the page you have all the four change types with one N/A type displayed along with the check boxes. For ex: If you wish to view only the standard changes for the month in the calendar view, then select the Standard check box and de-select the other change types. If you wish to view all the change types then select all the change type by enabling the check box.
- The backward arrow in the strip Change Regarding Building. indicates the previous week continuation of the change.
- And the forward arrow in the strip indicates that the change will be continued for the next week.
- On clicking at any part of the strip you will be able to view the change details page.



In the change details page,

- If there are any tasks associated with the change then the task status bar will also be displayed.
- If all the tasks are completed then the status bar would be in green color.
- Out of two tasks, if one task is complete and the other task is incomplete then the status bar would show half green color.
- You will be able to view the number of tasks completed / the total number of tasks. Say 1tasks completed out of 2 tasks.
- You will also be able to see the Status of the task and owner at the bottom of the page. If the status is completed then the bullet point would be in green color. If the status of the task is incomplete then the bullet point would be in red color.

- The calendar can show only three changes in a particular date. If there are more than three changes in a date, then the calendar will show the extra more changes in the text form as +n more as shown below.

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- Clicking the + n more text link, will list all the displayed changes in the calendar, plus the extra more changes in the left hand side of the page as shown below. They can also be viewed by clicking the dates of the marked changes in the calendar. Say by clicking the date 22 you will be able to view the list.

- A calendar on the top left hand side of the page, shows the current date marked in a box. All the changes in the current month will be underlined and bold. On clicking any of the underlined date will list all the scheduled change for the particular date below the calendar.

- Click the Week link at the Top of the page to view the weekly change schedule as shown below. Click the forward arrow to view next week change schedules. Click the backward arrow to view the previous week change schedules.

Change history

Apart from Status History (under View menu) and Status Comments (under each & every Change Stage), technicians are also provided with Change History tab that keeps track of every single event that happens within the Change.

To view Change History,

1. Select History Tab (within the Change)
2. Click Show All button
3. History will be displayed day-wise
4. Proceedings of a particular day alone can also be viewed using Expand/Collapse buttons (present at the right extreme)
5. Property View allows technicians to view Change History based on Change Attributes like Technician, Title, Created Time, Scheduled End Time etc.,
6. You can alternate between Day View & Property View using the respective links

Change Workflow related FAQs

- Who can change the Stage at any point of time?
- Who can edit Roles at any stage?
- Who can approve the Approval stage?
- What is the scope of SDChangeManager?
- What is the scope of users having System Role: edit permissions?
- Regarding Change List/Calendar view
- Reports
- When is the completed time of change logged?
- What if user is not associated to the site, but he/she plays role in the change?
- How can I change the status of a change?
- What are the operations work based on other module's permission?
- When worklog can be added?
- On what basis is the user list generated while users are being assigned with change roles
- How does the pre approval change mechanism work?
- What are the points to be noted for Non Login View?
- How can I configure workflow for my custom status?
- Editing Site field and Selecting Change Owner?
- When new Change ticket is created, change manager doesn't receive an email about the new request.
- How to create a change with the Status to go straight to Planning in Progress
- How can I bypass the CAB section? In other words, how can I set the ticket as pre-approved once created?

1. Who can change the Change Stage at any point of time?
If the logged-in technician is the **assigned CM** (Change Manager) or **CO** (Change Owner) of the given change, then he/she can edit the RFC (Request for Change) Form Fields including Stage/Status at any given time. However remember that a **SDChangeManager** too has rights to edit stage/status of change and can do so incase a **Change Manager/Change Owner** has not been exclusively assigned for the given change.
2. Who can edit Change Roles at any given time?
If logged-in technician is the **assigned CM** (Change Manager) or **CO** (Change Owner) of the given change, then he/she can edit (or reassign) roles at any stage. However remember that a **SDChangeManager** too can edit the change roles at any given stage and can do so incase a **Change Manager/Change Owner** has not been exclusively assigned for the change.
3. Who can approve the change in the Change Approval stage?
Technician should possess the **Change Manager or Change Approver** role for the given change in order to approve it in the approval stage. **Non technicians** (users) too can be assigned with the **Change Approver** role.
4. What is the scope of SDChangeManager?
SDChangeManager is the one with **absolute control over the entire change module**. A role designated to supervise the entire change module, **SDChangeManger** can also operate on all changes (or) can choose to work only on Changes that do not have exclusive **Change Manager/Change Owner.**

5. What about users with System Role: edit permissions? What rights will they have?

- **Users with SDAdmin Role** (or) **Users with Change Module Edit Permissions** can edit RFC (Request for Change) form fields. (**note**: this editing will not be possible once change moves away from the Submission Stage)
- They will be allowed to **edit the fields of the stage the change is currently in** and will also have the rights to **move change from one status to another.**

These users **will not have the rights to move change from one stage to another.**
6. Regarding Change List/Calendar view
In Change List view /Calendar View:

- **Closed Change**s and **My Closed Changes** views will list only the **Close-Completed** changes alone. **Close-Cancelled** changes will be listed under **All Changes** view.
- **My XXX Views** e.g '**My Open Changes**' will list out **only the Changes** in which the user has been assigned with a role to play e.g CAB in those 'Changes'
  Approved changes will list changes only those changes that have undergone **Approval - Approved** status.

7. Regarding Change related Reports:
Completed Changes report will list only the **close-completed** changes alone.
8. When is the completed time of change logged?
Completed Time is logged in two cases: **close-completed** and **close-canceled.**
9. What if user is not associated to the site, but he/she plays role in the change?
Site restricted technicians can view their **assigned changes** even though they are not asociated to the site.(Due to the **SystemRole**: Technicians allowed to view **Assigned to him (OR) All in associated sites** options)
10. How can I change the status of a change?
Following menus can be used to change the status of a change:

- a. **Status drop down menu** - status(es) associated with a given change stage will be listed here from which the technicians can choose desired status
- b. **Status Actions drop down menu**- action name of all status(es) in a given change stage will be shown. If action name is not assigned to a status, then status name will be displayed.
  Action Name of a status denotes the action technicians can perform using a given status. For example: Status **Accepted** is denoted using the Action Name **Accept** using which technicians can move the change from one stage to another.

11. What are the operations work based on other module's permission?
Following operations are allowed without stage scope restriction but module based scope permissions i.e Edit Requests, Edit Problem.

- a. Associate Incidents
- b. Associate Problems.

12. When worklog can be added?
Worklog can be added at any point of time irrespective of whatever stage the Change is in, but the concerned technician should have **Edit Change** or **Edit Implementation Stage** permissions..
13.On what basis is the user list generated while users are being assigned with change roles?
User listing happens as per **Site Configurations**:

- a. Change role defined as **Technician only**, will list users based on the **site of a change**.

- b. Change role defined as **ALL** , will list all users based on the sites associated to **loggedin tech**.

14. How does the pre approval change mechanism work?

Pre approved logic:

- Pre approved changes skip the approval process alone i.e if the change workflow is defined to go through the approval stage, it will be bypassed automatically.

15. What are the points to be noted for Non Login View?

- a. All data will be in **viewable mode only** except **Notes, Notification, Status Action and Close stage**. (availability of these options depends on the user's scope in a given change)
- b. Task/Worklog section will not be shown under Implementation tab.

16. How can I configure workflow for my custom status?

A custom status which has **'Action Name'** defined will be listed in **change workflow configuration section** where user can configure workflow for the custom status.

17. Editing Site field and Selecting Change Owner?

After editing site field from **Submission tab**, a **page refresh** is required to list site based technicians.(under **Change Roles** section)

18.When new Change ticket is created, change manager doesn't receive an email about the new request.

Do the following to solve this:

- Configure **status** such that Requested status (**Submission==>Requested)** notifies **Change Manager** about the request (To configure status, go to **Admin**==>**Problem/ChangeManagement**==>**Stage/Status** wizard)
- While creating a change ticket, configure **Change Manager** role and submit the ticket. (other wise choose **default change managers** here: **Admin==>Helpdesk==>Category** : click **edit button** and choose change managers for respective categories)

19. How to create a change with the Status to go straight to Planning in Progress

Preconfigure the change template such that the change begins with **Planning/Planning in Progress** as the intial stage/status (To preconfigure change template, go to **Admin==>Problem/ChangeManagment==>Change Template**)

20. How can I bypass the CAB section? In other words, how can I set the ticket as pre-approved once created?

Preapproved changes will by pass the CAB section.

- The change type needs to be configured as **pre-approved** (**Admin==>Problem/ChangeManagment==>Change Types** and check Pre Approved checkbox while configuring the Change Type).
- For e.g By default the **Standard Change Type** is set as **Preapproved change**. Therefore when a change is created with **change type as Standard** then this change ticket will be a preapproved one and won't have a CAB section at all.

Project management

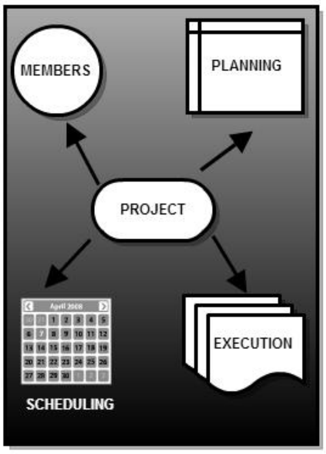
Project management - the discipline of planning, organizing, and controlling resources to achieve specific goals is now a part of ServiceDesk Plus. Using project management you can create projects: a temporary endeavor to achieve certain objective/change (within a specific time period) beneficial to your organization.
Effective management of resources like time, budget, manpower and the quality of work, is the **primary goal** of project management.
Features:

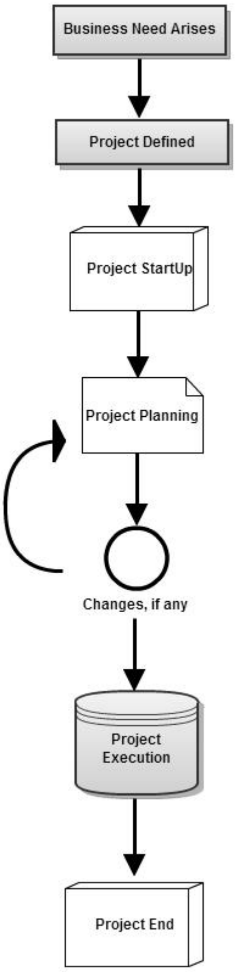
- Milestones: These help you plan the project, decide its various stages, and also serve as landmarks that identify how close a project is to completion.
- Tasks: Entities that decide the Work Breakdown Structure (WBS) of the project. They are a part of Milestones.
- Task Relationship: Decide parent/dependent tasks, connect tasks that are similar, by establishing Task Relationship.
- Flexibility in Swapping Member Roles: Ability to switch/change "member roles" anytime allows administrators to focus on Milestones/Tasks requiring immediate attention, thus speeding up the project by focusing on grey areas.
- Gantt View: Chart presenting a bird's eye view of the project: a standpoint from where not only the entire project can be viewed but also can be reconfigured based on the approaching deadline.
- Timesheet: Log for tracking time spent on tasks involved in the project. It helps administrators take necessary steps based on the project's progress rate.
- Comments: Comments that enable members/administrators to share their views on each other's tasks for the betterment of the project.
- Project Overview Map: Map presenting 'a clear picture' of the entire project.

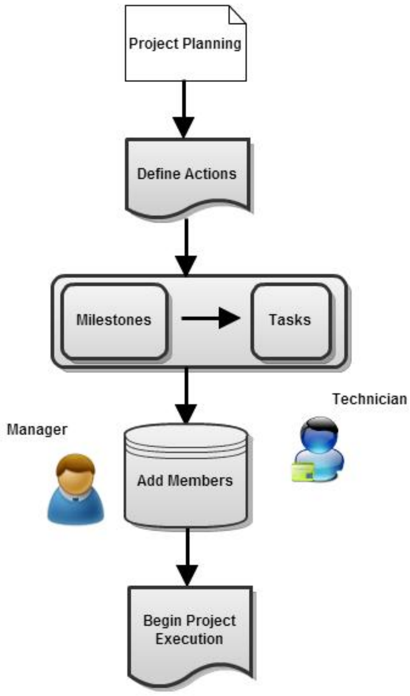
Projects created within the Projects Module can also be:

- **Associated with Change** using 'Associate Change' option

Project Management Workflow


MEMBERS
PLANNING
PROJECT
SCHEDULING
EXECUTION


Business Need Arises
Project Defined
Project StartUp
Project Planning
Changes, if any
Project Execution
Project End


Project Planning
Define Actions
Milestones
Tasks
Manager
Technician
Add Members
Begin Project Execution

Working with projects

Learn how to create, edit, delete, and associate change with projects under this section.

Contents

- Creating Projects
- Creating Projects from a Template
- Scheduling Projects
- Editing Projects
- Deleting Projects
- Project Overview Map

Creating Projects:
There are two ways to accessing a New Project Form in ServiceDesk Plus application,
a. Quick Actions drop down
b. Projects Tab
a. Quick Actions drop-down menu
The Quick Actions drop-down menu is a quick navigator to instantly access the New Project form. Click Quick Actions drop-down menu -> Project under Create New block.
b. Projects Tab

1. Click the Projects tab in the header pane.
2. Click the New Project button to open the New Project form. (Use '**Add New Link**' while creating first Project)
3. Specify the **Project Title, Description** and **Code**
4. Select the **Project** Type, Status and **Priority** from the drop down list.
5. Specify Project **Schedule Start** and **Schedule End** date

Adding more details to the Project:
To evaluate Project against the projected plan, you are provided with the following additional fields:

1. **Actual Start Date** and **Actual End Date** (for recording real-time project completion date).
2. **Projected On Date** (planned date for project completion)
3. **Estimated Hours** and **Actual Hours** (fields recording 'planned and real-time' time taken for the Project).
4. **Estimated Cost** and **Actual Cost** (fields recording 'planned and real-time' expenditure towards the Project).
5. For adding attachments to the Project, click Attach file button in the project's pane.

Creating Projects from a Template
For projects that are frequently repeated, you can create a project template to save time and effort spent on re-creating the project each time from scratch. In project templates, you can add **milestones, tasks,** and even **task dependencies**.
To create a project from a project template, do the following:

1. Click the **Projects** tab in the header pane.

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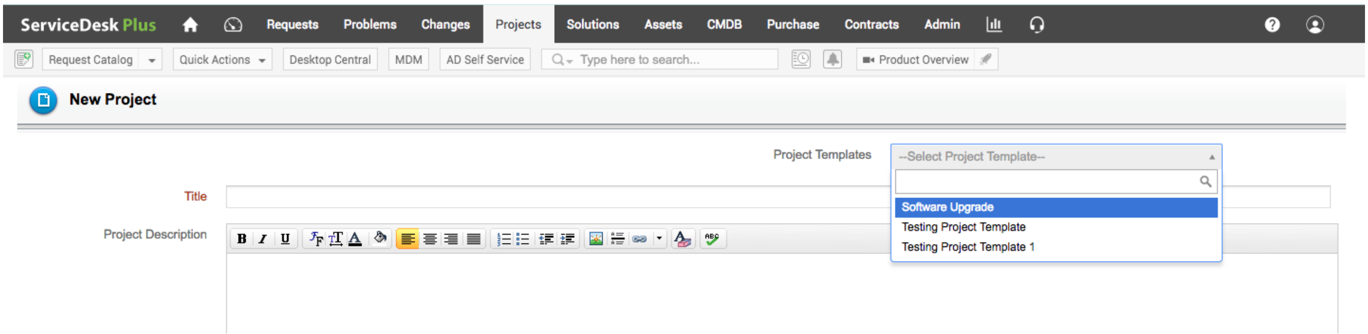
2. Click the New Project button to open the New Project form. (Use '**Add New Link**' while creating first Project)
3. Select from the **Project Templates** on the drop-down list.
4. Fill out the required fileds as defined in the template and save the project.

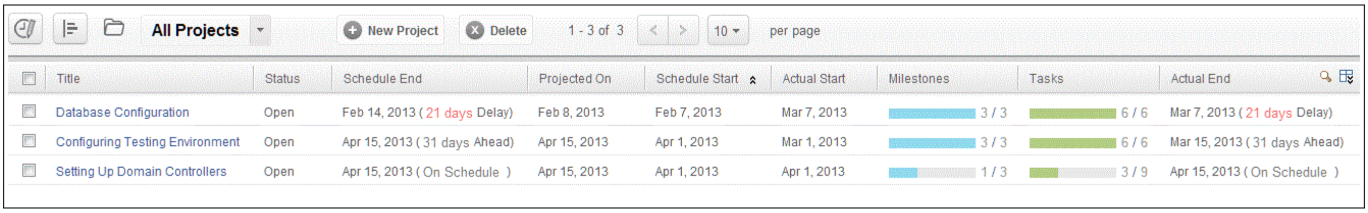


Note: For information on creating project templates, click here.

Scheduling Projects:
Project Scheduling not only helps you schedule the project but also determine whether the project is **'on-schedule', 'delayed' or 'ahead'** by comparing it against real-time completion.
To schedule the project do the following:

1. Configure the **Scheduled Start** and **Scheduled End Date**
2. Fill in the **Actual Start** and **Actual End Date** (upon project completion)
3. Based on **Scheduled/Actual Dates,** project would be considered:

- **On Schedule** if the Scheduled Date and Actual Date are the same.
- **Delayed** if the Project (Actual Date) has past the Scheduled Date. (no of days by which project is delayed gets displayed on the project list view page)
- **Ahead** if the Project (Actual Date) is completed before the Scheduled Date**.** (no of days by which project is ahead gets displayed on the project list view page)



Title	Status	Schedule End	Projected On	Schedule Start	Actual Start	Milestones	Tasks	Actual End
Database Configuration	Open	Feb 14, 2013 (21 days Delay)	Feb 8, 2013	Feb 7, 2013	Mar 7, 2013	3 / 3	6 / 6	Mar 7, 2013 (21 days Delay)
Configuring Testing Environment	Open	Apr 15, 2013 (31 days Ahead)	Apr 15, 2013	Apr 1, 2013	Mar 1, 2013	3 / 3	6 / 6	Mar 15, 2013 (31 days Ahead)
Setting Up Domain Controllers	Open	Apr 15, 2013 (On Schedule)	Apr 15, 2013	Apr 1, 2013	Apr 1, 2013	1 / 3	3 / 9	Apr 15, 2013 (On Schedule)

Editing Projects

- Select the Project in the Project List View page and click on **Edit Icon** in the Project pane.
- Implement the necessary changes and click on **Update Project**

Deleting Projects
Project can be deleted in two ways:
a. Bulk Delete: From **Project List View**, select Project(s) to be deleted, and click on **Delete Icon.**
b. Single Delete: Enter the Project to be deleted - by clicking on Project Title - and click on **Delete Icon**

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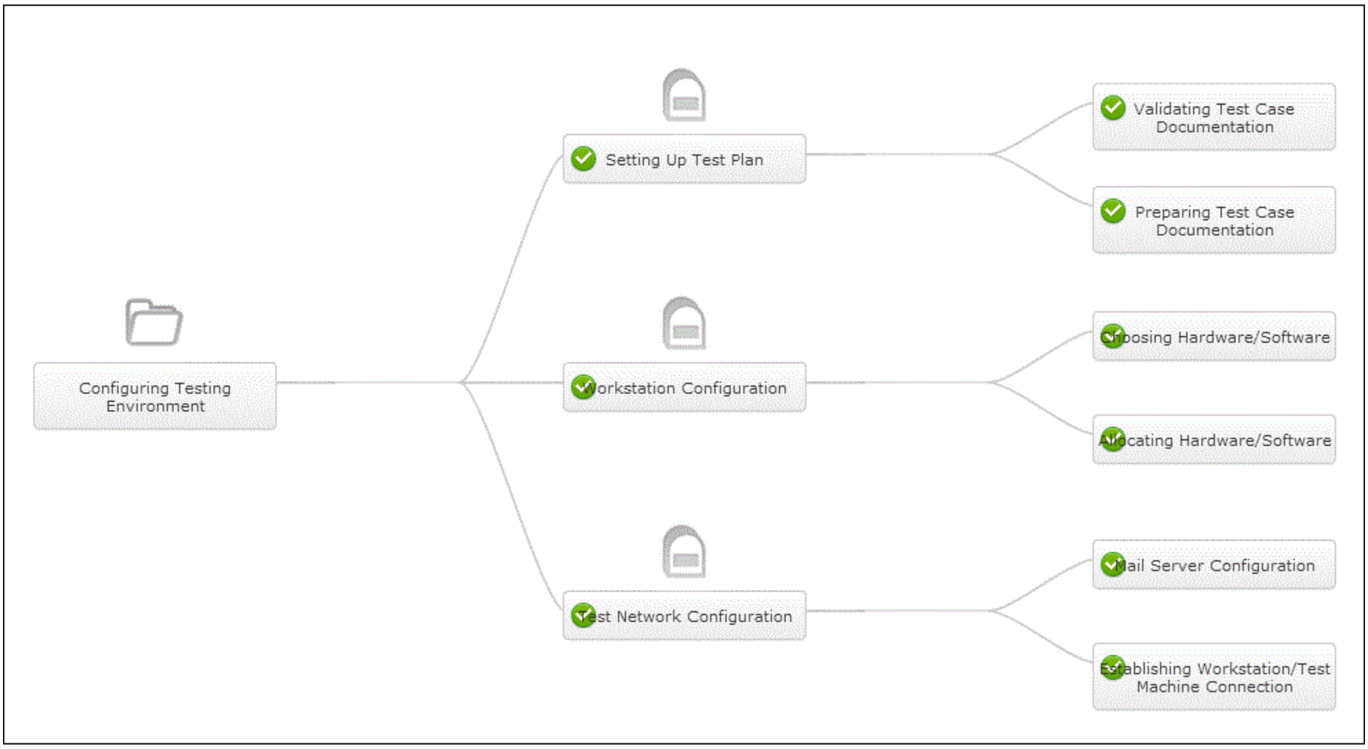
Project Overview Map

Project Overview Map (appearing upon clicking Actions Button within project's pane) provides a bird's eye view of the project. It's a map that walks you through the entire project with its Milestones and Tasks representing clearly the different layers existing within the project.

This map also indicates whether Milestones/Tasks have been completed by means of a Tick Mark .



Milestones

Milestones are critical events which receive special attention within the project management framework. Besides serving as markers that indicate a project’s progress milestones allow you to group Tasks, establish relationship between Tasks, and organize their order. They ensure the project is moving in the right direction.A completion of a milestone is a major step towards completion of the project.

Scenario:

To understand Milestones better let us consider an IT Test Environment SetUp Project:
Superfically speaking, an IT Test Environment Set Up can be split into:

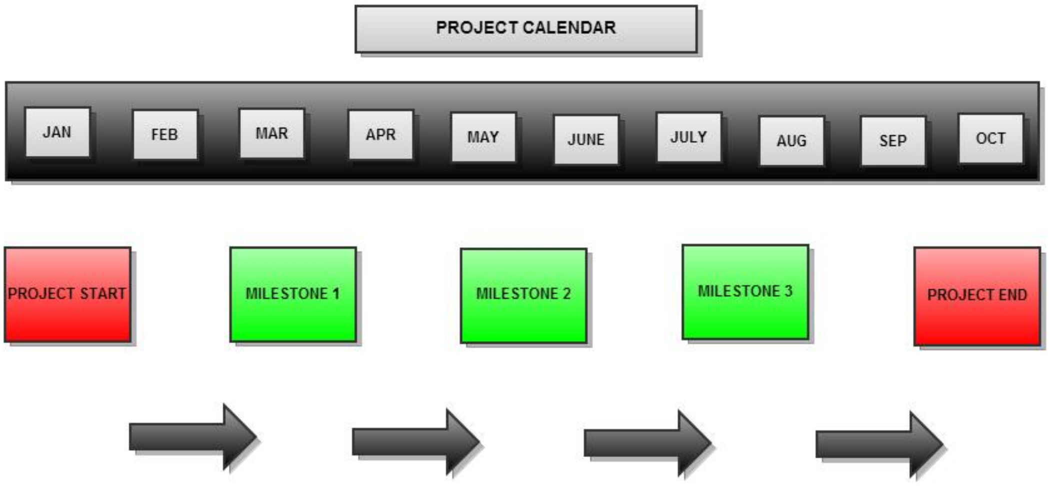
- Database Configuration
- Workstation Configuration
- Test Network Configuration

These major tasks - that outline the entire project - which in turn will **contain several other tasks** are known as **Milestones**.

Advantages:

- Uninterrupted workflow with no delays
- Proper classification of Tasks, their relationships and dependencies.
- Clear presentation of 'who does what, when, and for how long'
- Ensure projects are onschedule.

Milestones - Stepping Stones to Project's Completion


PROJECT CALENDAR
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
SEP
OCT
PROJECT START
MILESTONE 1
MILESTONE 2
MILESTONE 3
PROJECT END

Working with milestones

Adding Milestones is the first step to creating a project. They help outline the entire project and present a clear picture of the innumerable Tasks involved by allowing project members to design the Task Hierarchy and Task Dependency.
In this section you will learn how to: create, edit, and delete Milestones.

Contents

- Creating Milestones
- Scheduling Milestones
- Editing Milestones
- Deleting Milestones

Creating Milestones:

1. Click on Milestones tab in the Projects pane.
2. Click the **Add New Button** to open the New Milestone form. (Use 'Add New Link' while creating the first Milestone)
3. Specify the **Milestone Title** and Milestone Description**.**
4. Select the **Status** and **Priority** from the drop down.
5. Specify Project **Schedule Start** and **Schedule End** date

Adding more details to Milestone:

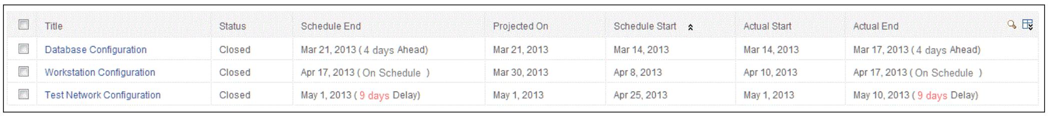
1. **Actual Start Date** and **Actual End Date** (for recording real-time milestone completion date).
2. **Projected On Date** (planned date for milestone completion)
3. **Estimated Hours** and **Actual Hours** (fields recording 'planned and real-time' time taken for the milestone).
4. For adding attachments to the Milestone, click Attach file button in the milestone's pane.

Scheduling Milestones
Milestone Scheduling not only helps you schedule the milestone but also determine whether the milestone is **'on-schedule', 'delayed' or 'ahead'** by comparing it against real-time completion.
To schedule the milestone, do the following.

1. Configure the **Scheduled Start** and **Scheduled End Date**
2. Fill in the **Actual Start** and **Actual End Date** (upon project completion)
3. Based on **Scheduled/Actual Dates,** milestone would be considered:

    On Schedule, if the Scheduled Date **and** Actual Date are the same.
    Delayed if the Project (Actual Date) has passed the Scheduled Date. (no of days by which project is delayed gets displayed on the project list view page)

Ahead if the Project (Actual Date**)** is completed before the **Scheduled Date.** (no of days by which project is ahead gets displayed on the project list view page)



Title	Status	Schedule End	Projected On	Schedule Start	Actual Start	Actual End
Database Configuration	Closed	Mar 21, 2013 (4 days Ahead)	Mar 21, 2013	Mar 14, 2013	Mar 14, 2013	Mar 17, 2013 (4 days Ahead)
Workstation Configuration	Closed	Apr 17, 2013 (On Schedule)	Mar 30, 2013	Apr 8, 2013	Apr 10, 2013	Apr 17, 2013 (On Schedule)
Test Network Configuration	Closed	May 1, 2013 (9 days Delay)	May 1, 2013	Apr 25, 2013	May 1, 2013	May 10, 2013 (9 days Delay)

Editing Milestones

- Select the Milestone from the Milestone List View page and click on **Edit Icon** in the Milestone pane.
- Implement the necessary changes and click on **Update Milestone**

Deleting Milestones

Milestones can be deleted in two ways:

a. Bulk Delete: From Milestone List View, select Milestone to be deleted, and click on Delete Icon.

b. Single Delete: Enter the Milestone to be deleted - by clicking on Milestone - and click on **Delete Icon**

Working with tasks

Contents:

- What are Tasks?
- Configuring Tasks
- Scheduling Tasks
- Editing/Deleting Tasks

What are Tasks?

Task is an activity that is a part of a Project. In other words, Project has multiple phases with Task being a small incident/part of each and every phase. Tasks can be associated with Milestones or can be directly linked to the project. In general, Tasks are the most basic elements that ensure various actions are performed in an orderly manner within the project.

Scenario:

To understand Tasks better let us consider the same IT Test Environment SetUp Project used for Milestones:
IT Test Environment Set Up can be split into 3 major phases - that is, milestones:

- Database Configuration
- Workstation Configuration
- Network Configuration

These Milestones can further be divided into following steps: **determining database purpose**, **organizing required information, dividing information into tables** and so on for database configuration. Likewise workstation and test configuration too would have several steps. These actions that may or may not be a part of Milestone are known as **Tasks**.

Configuring Tasks:

1. Click **T**asks tab in the header pane.
2. Click **Add New Button** to open the **New Task form.** (Use **'Add New Link'** while creating first Task)
3. Specify **Task Title** and **Task Description**.
4. Select Status and **Priority** from the drop down.
5. Specify Task **Scheduled Start** and **Scheduled End** date

Adding more details to Task(s):

To indicate Task's progress and to discuss about ways of bettering it, you are provided with the following fields:

1. **% of completion** that helps denote the extent to which the task has been completed (any value between 1 - 100)
2. **Comments** that lets project members communicate between themselves about the task as well as the project
3. **Additional Cost**, if any, can be recorded in this field.

Scheduling Tasks:

Task Scheduling not only helps you schedule the task but also determine whether the task is **'on-schedule', 'delayed' or 'ahead'** by comparing it against real-time completion.

To schedule the task do the following:

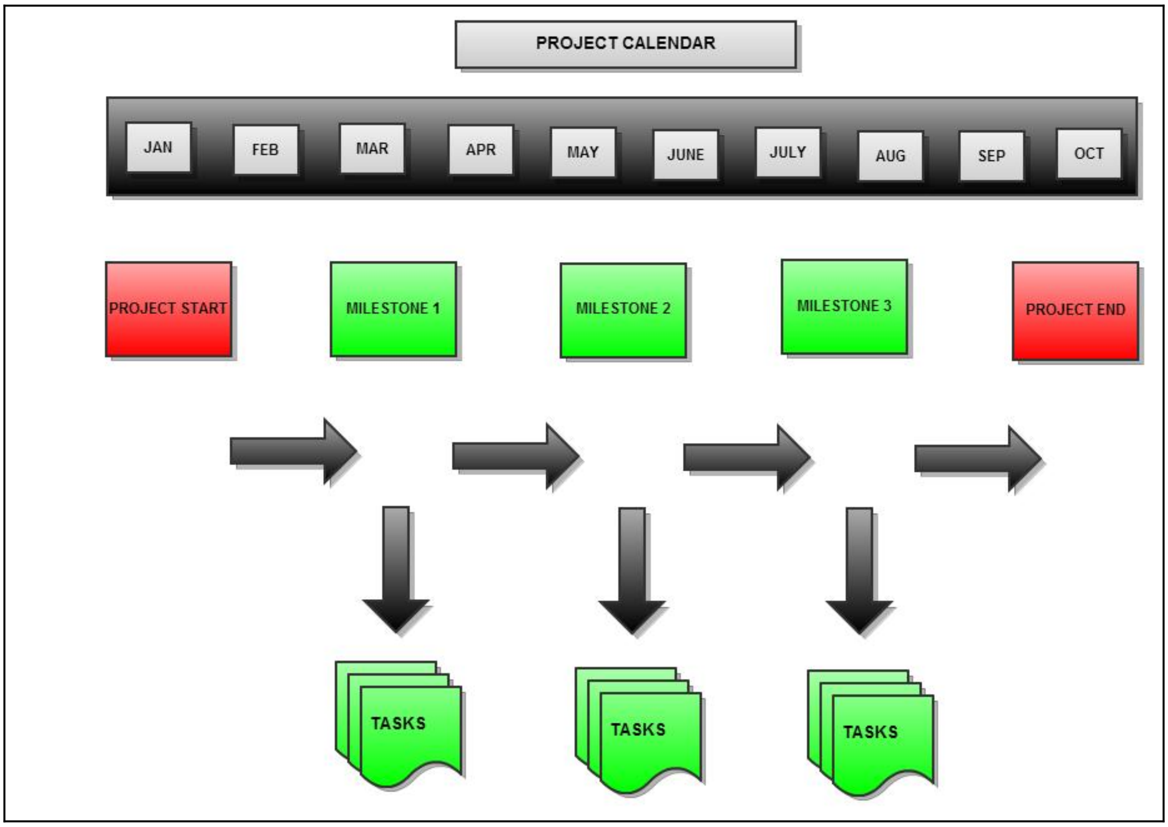
1. Configure the **Scheduled Start** and **Scheduled End** Date
2. Fill in the **Actual Start** and **Actual End** Date (upon project completion)
3. Based on **Scheduled/Actual Dates,** task would be considered:

- **On Schedule** if the **Scheduled Date and Actual Date** are the same.
- **Delayed** if the Task (**Actual Date)** has past the **Scheduled Date**. (**no of days** by which **project is delayed** gets displayed on the **project list view page**)
- **Ahead** if the Task **(Actual Date)** is completed before the **Scheduled Date.** (**no of days** by which **project is ahead** gets displayed on the **project list view page**)

Title	Status	Scheduled Start Time	Scheduled End Time	Actual Start	Actual End
Organizing Data Required	Closed	Mar 7, 2013 12:00 AM	Mar 15, 2013 11:59 PM (3 days Ahead)	Mar 7, 2013 12:00 AM	Mar 12, 2013 11:59 PM
Designing Data Tables	Closed	Apr 8, 2013 12:00 AM	Apr 18, 2013 11:59 PM (On Schedule)	Apr 11, 2013 12:00 AM	Apr 18, 2013 11:59 PM
Configuring Table Relationships	Closed	Apr 12, 2013 12:00 AM	Apr 20, 2013 11:59 PM (5 days Delay)	Apr 15, 2013 12:00 AM	Apr 25, 2013 11:59 PM

Editing/Deleting Tasks:

- Select the **Milestone** from the **Milestone List View** page and click on **Edit Icon** in the **Milestone pane**.
- Implement the necessary changes and click on **Update Milestone**
- **Bulk Delete**: From Milestone List View, select Milestone to be deleted, and click on Delete Icon
- Single Delete: **Enter the Task** to be deleted - by clicking on Task Title - and click on **Delete Icon** in the project's pane.


PROJECT CALENDAR
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
SEP
OCT
PROJECT START
MILESTONE 1
MILESTONE 2
MILESTONE 3
PROJECT END
TASKS
TASKS
TASKS

Task dependency and task order

Contents

- Configuring Task Dependency
- Configuring Task Order
- Viewing Task Dependency in the Project Overview Map and Gantt chart

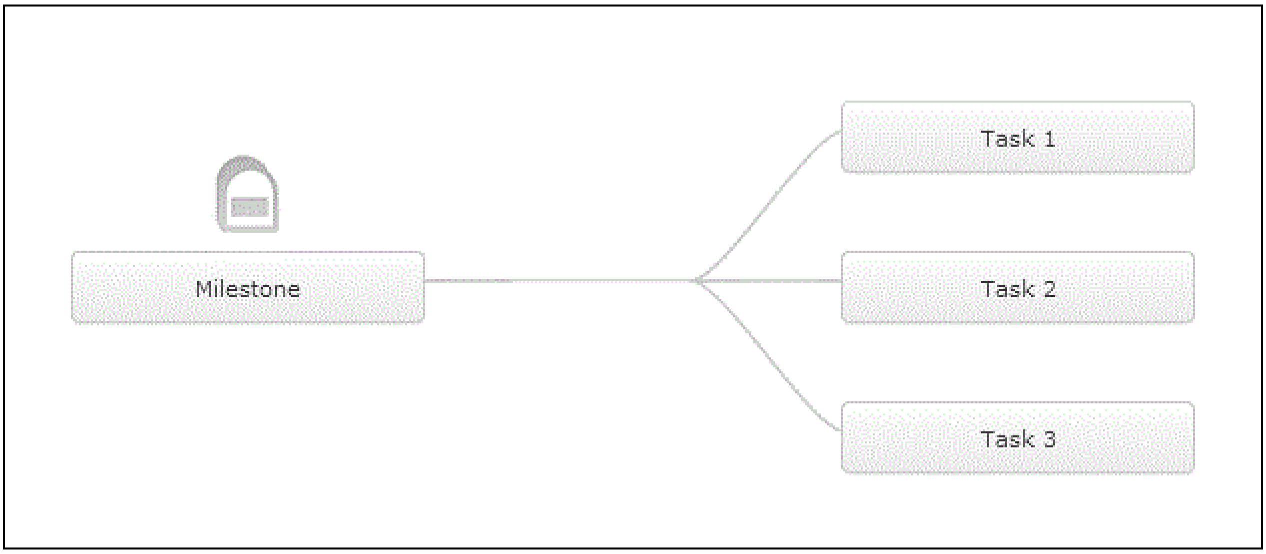
Configuring Task Dependency

In general, Projects are executed in phases, which in turn are achieved via Tasks. The Tasks are accomplished by set deadlines, and must contribute towards Project-related objectives.
In order to define relationships between the tasks and to distinguish parent tasks from child tasks you can avail the option of configuring task dependencies. You can create dependencies only for those Project Tasks that are available within the Milestones.

> It is not possible to create dependencies either for independent project tasks or for tasks across milestones.

To configure **task dependency**, follow the steps mentioned below:

- Click **Dependencies** button.
- Dependency Chart displays all available Tasks.



- To configure Task Dependency, move mouse over a Task.
- **Mouse Hover** opens up **Task Dependency Dialog** box.
- **Task Dependency Dialog box** has two options: **Select Parent** & **Remove** buttons.

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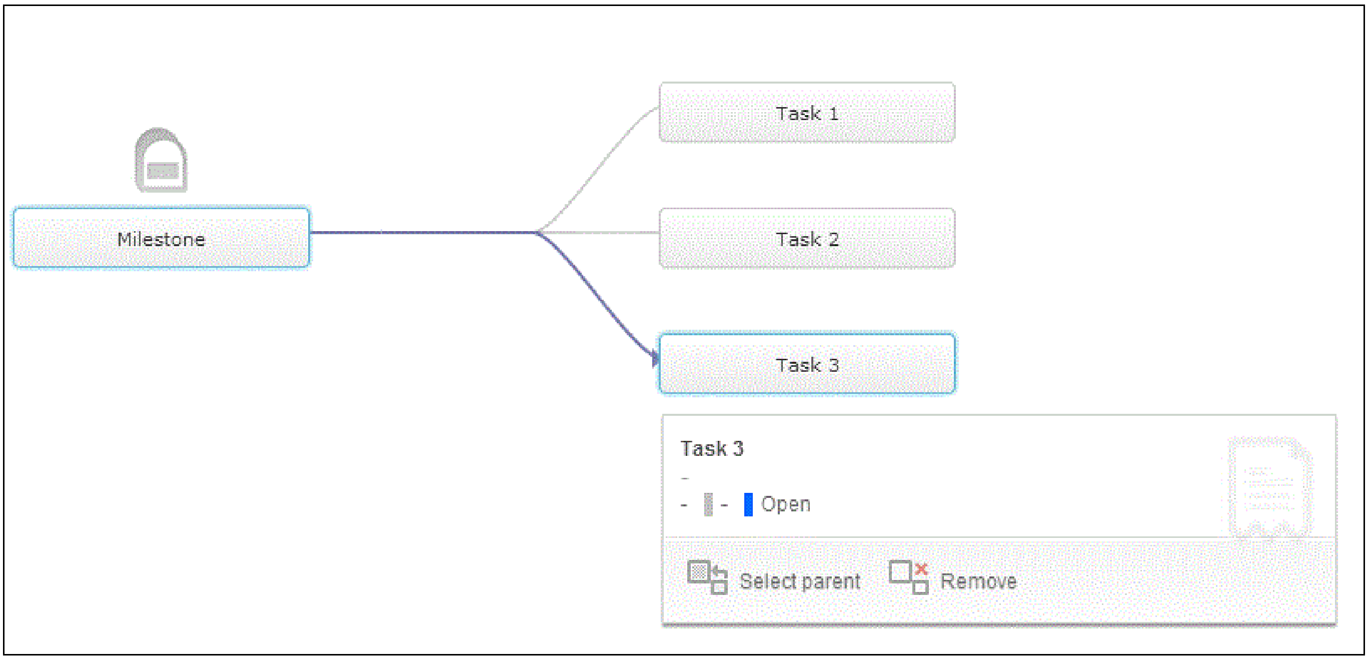
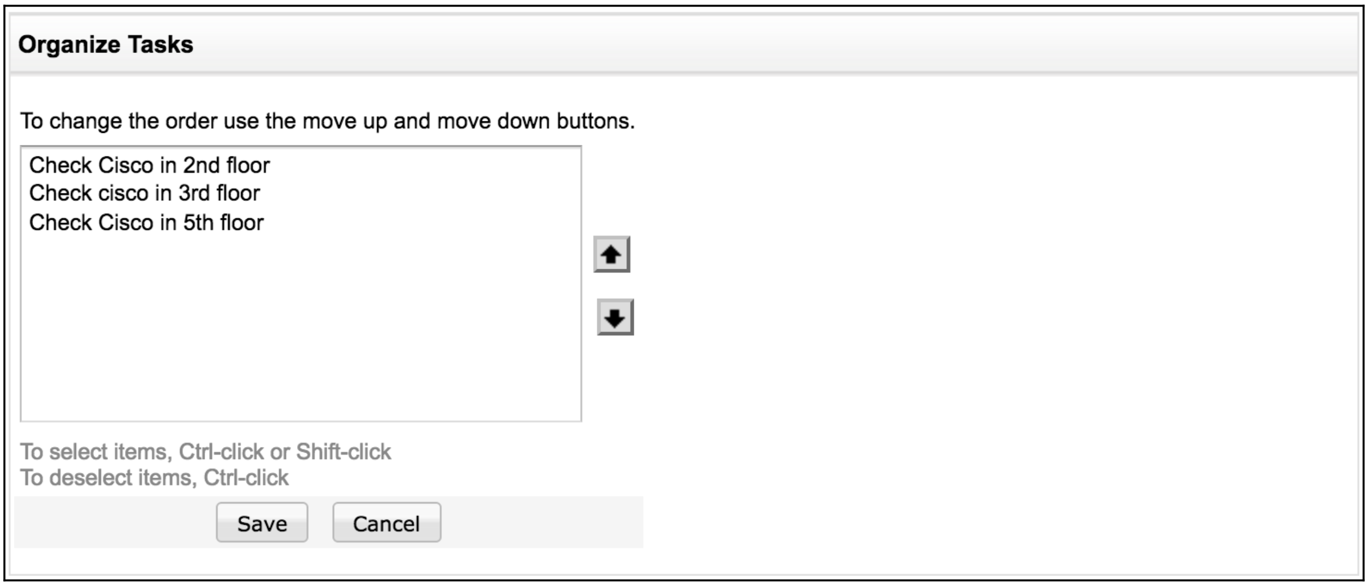


- Click on Select Parent button. All Tasks present would be highlighted from which the Parent Task can be chosen.
- Click Remove button to remove/reconfigure the established relationship.

Configuring Task Order

Task dependency helps decide which task depends on what thus giving a structure to the project. But still it does not give a definite structue in the sense it does not decide the order in which these tasks would be executed. **Task organization/ordering** is very essential for a project's success and this can be **brought about by clicking** on **Organize button.**
To organize tasks follow the steps mentioned below:

- Select Tasks tab.
- Click **Organize** button. The **Organize Tasks** pane opens up.



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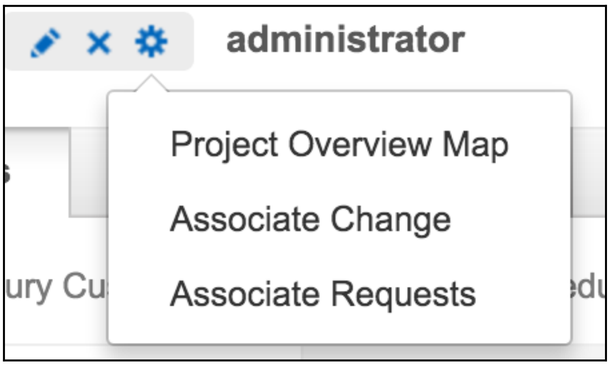
- To reorganize a Task, **Ctrl + Click** (or) **Shift + Click** on the Task.
- Use **'Move Up'** and **'Move Down'** buttons to change Task's position.
- Click on 'Save'.
- To de-select a Task, click Ctrl + Click.

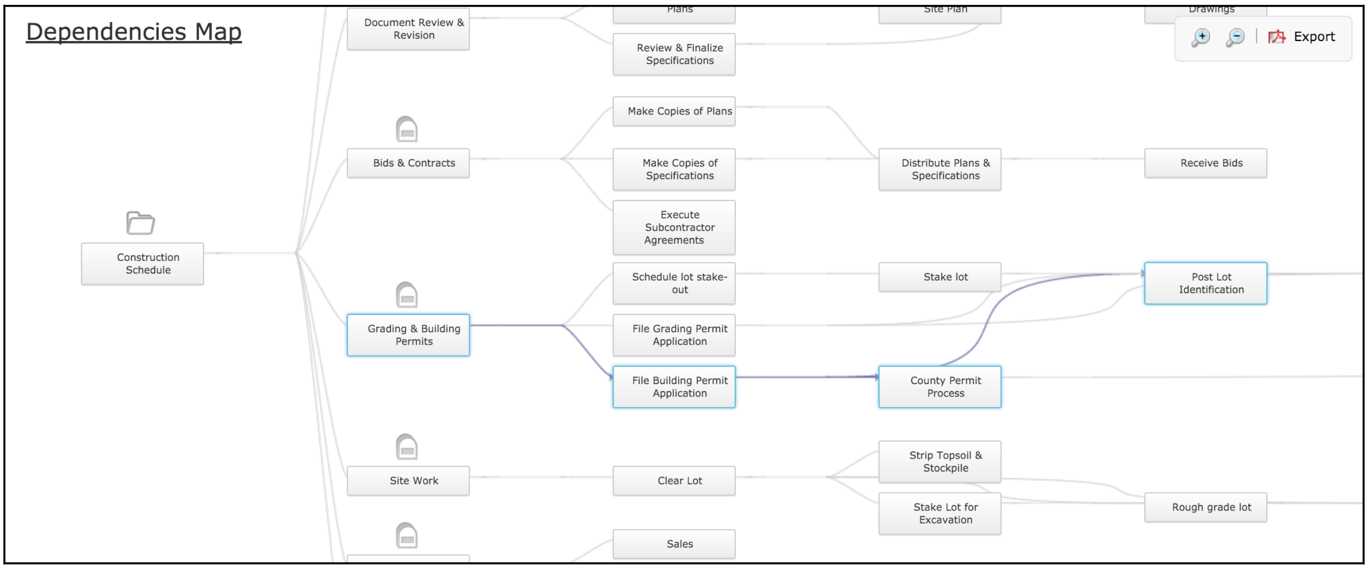
Viewing Task Dependencies in the Project Overview Map and Gantt view

The task dependencies will be displayed in the Project Overview Map.
To view the Project Overview Map,

- Click on the Projects tab,
- Select a project. Click on the actions icon and select Project Overview Map.



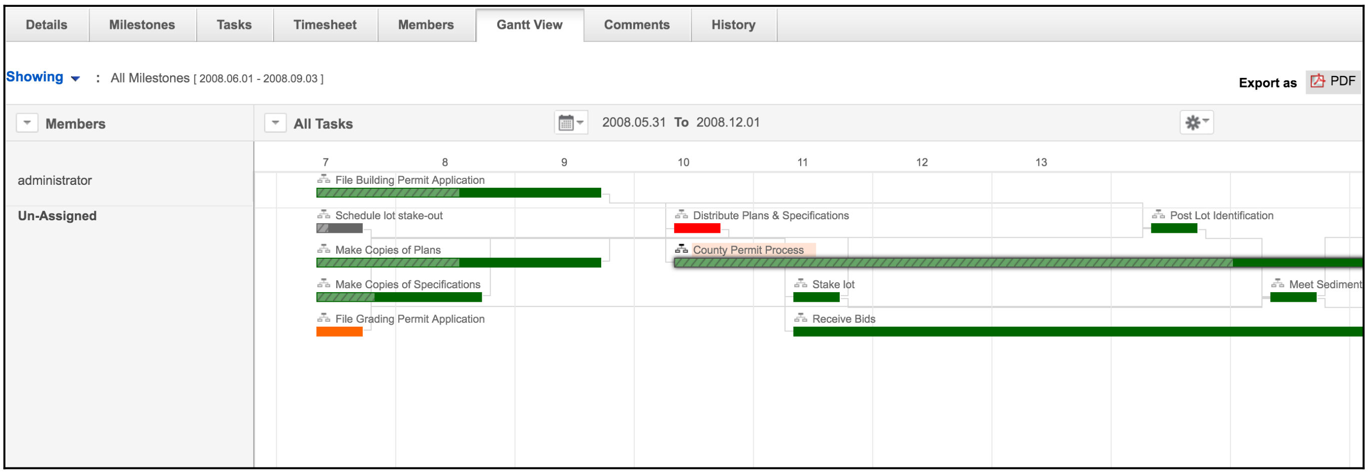
- Hover over the task to find the dependent or the parent task.



To view the task dependencies in the Gantt view,

- Click on the Projects module.
- Click on a project and select **Gantt view**.

The gantt chart with the task dependencies will be displayed.



Project Member Management

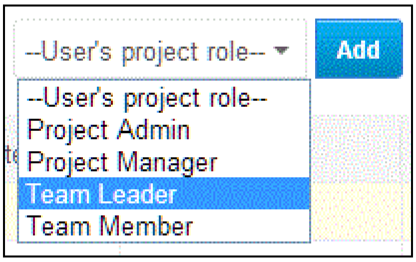
Efficient staff alone does not ensure a project's success. Meticulous planning of project staff; the permissions given to a projectrole; the flexibility in changing project roles and more come into play to ensure the project as a whole turns out to be a success.
To configure the project's staff, that is, to add members to a project, assign roles to project members and establish the project hierarchy click on Members tab.

Contents

[Adding Project Members]
[Changing Member Roles]
[Changing Member Status]
[Deleting Project Members]
[Member Hierarchy Diagram]

Adding Project Member(s)

Click on 'Members' tab. Select 'Add Members' link
Available Technicians'/Users' List already configured in ServiceDesk Plus would be displayed.
Select Project Member(s) (from the available Technician list (OR) add Technicians of your choice).
Select Project Role from Project Role drop-down and click on ADD button.



Changing project members

However well-planned your project might be things are bound to go off-course when there are innumerable Tasks to be executed. To ensure project managers are ready enough to face such incidents they are allowed to 'change project member role' as and when required.
This feature is predominantly used to ensure grey areas of the project get enough attention. That is, let's say a project member has completed his part and is free, yet the project is progressing at a rather slow rate, then this member could be assigned some other role that might help speed up the project.

Speeding up the Project is not the sole objective, you can also use this option just to Change Project Member Role,

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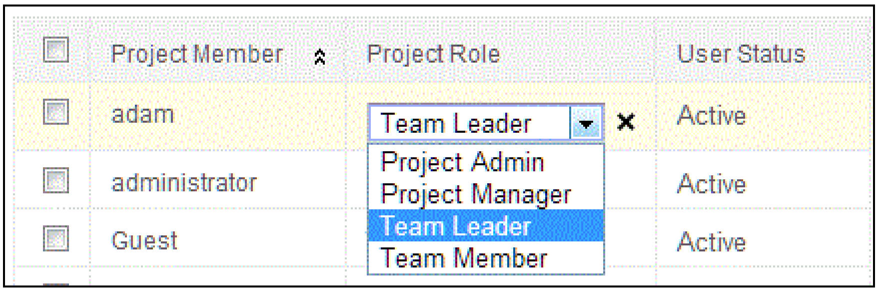
if such a need arises.

- Click on Members tab.
- Click on 'Project Role' of the member whose role is to be changed.
- From Project Role drop-down, select the role to be assigned.

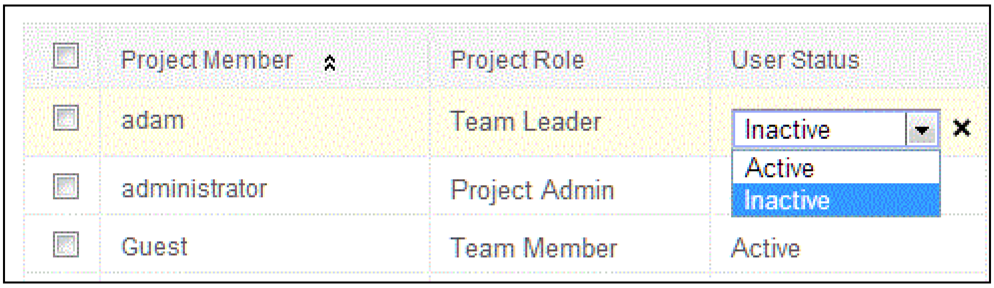


Changing Project Member Status

While creating a Project a number of unforeseen events that might occur should be taken into account. For example: a member falling sick, a member deciding to quit, or a member requesting a role change and so on. Such project members can be kept in the bench by changing their status to Inactive. Milestones and Tasks associated with inactive members can be assigned to other project members. Inactive project members can be reinstated by change their status to active.

- Click on 'Members' tab.
- Click on 'User Status' to be changed.
- Select Inactive to keep Project Member in the bench.
- Select Active to reinstate Project Member.

Note: At a given time, only one role can be assigned to a project member.



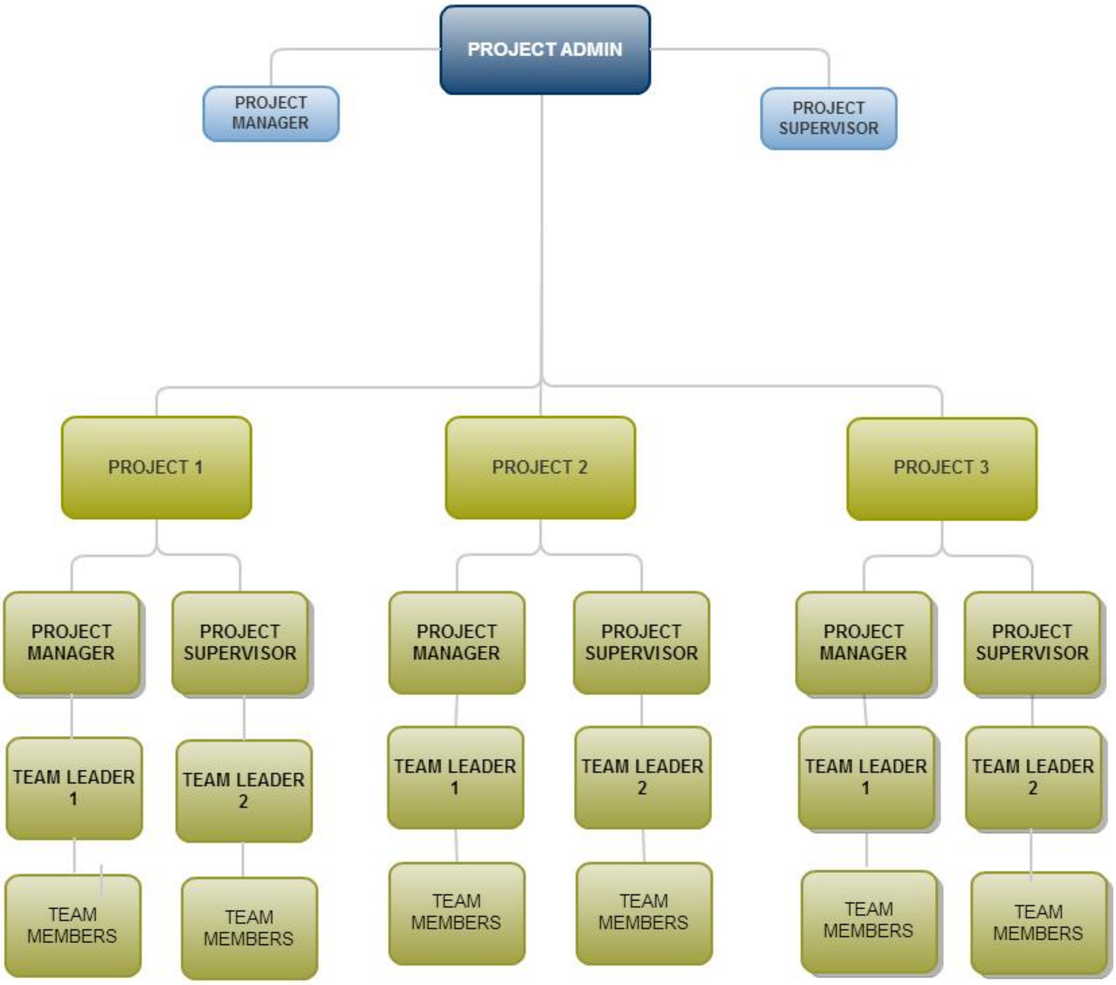
Deleting Project Member(s)

Project Members can be deleted in two ways:

a. Bulk Delete: From Member List View, select Project Members to be deleted, and click on Delete Icon.

b. Single Delete: Select Project Member to be deleted and click on Delete Icon.

Member Hierarchy Diagram Example



Project Templates

Using templates to manage projects is a great way to save time and effort that might otherwise be lost in creating repetitive tasks. It's also an effective way to build consistency between similar projects in terms of sequence of tasks performed or even the type of tasks done. The project template feature allows you to add milestones and associate tasks under each milestone and provide an estimate of the associated cost and time required for the project. Overall, the feature makes it easy and simple to handle repetitive projects, such as creating workspaces for new hires, uploading websites, or upgrading software applications.
The **Project Template** feature enables the SD admin to:

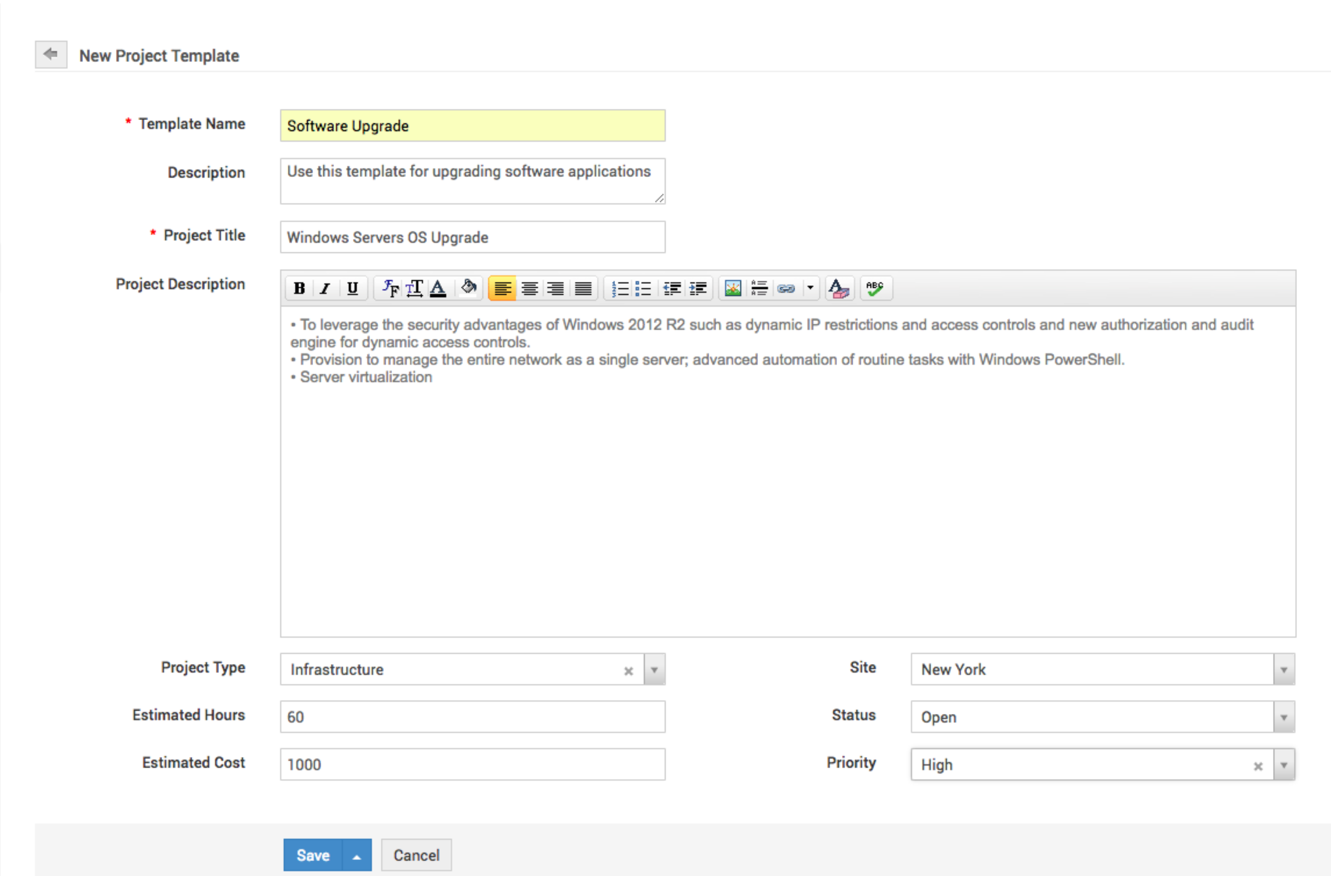
- Create project templates
- Add milestones and project tasks
- Add milestone tasks and define their dependencies

Create project templates

Project templates provide a structure that can be easily replicated across projects in the organization.

Note: Only the SDadmin role has permission to create new project templates.

- Go to **Admin>>Project Templates**
- On the **Project Templates** page, create the desired template.
- Fill out the required fields as shown in the screen shot:



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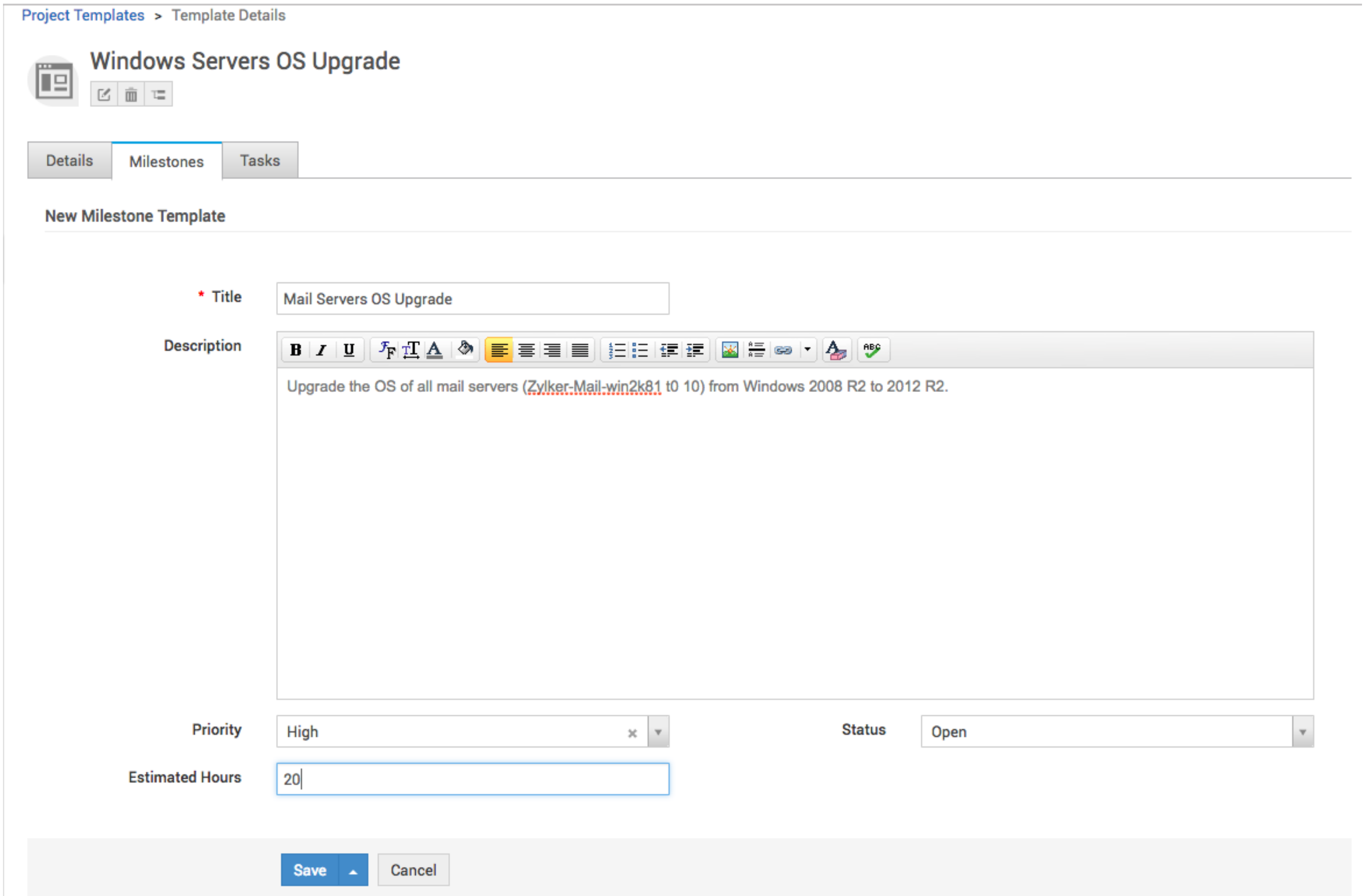
You can also add a milestone or a task to the project or another new project by clicking the drop-up menu on the Save button.

Add milestones and project tasks to the project template

Milestones and tasks make monitoring and management of projects easy and simple. Adding milestones and tasks to projects helps break down a project into manageable chunks. Project managers will also be able to see how close a project is to its completion and also check if the project is on schedule.

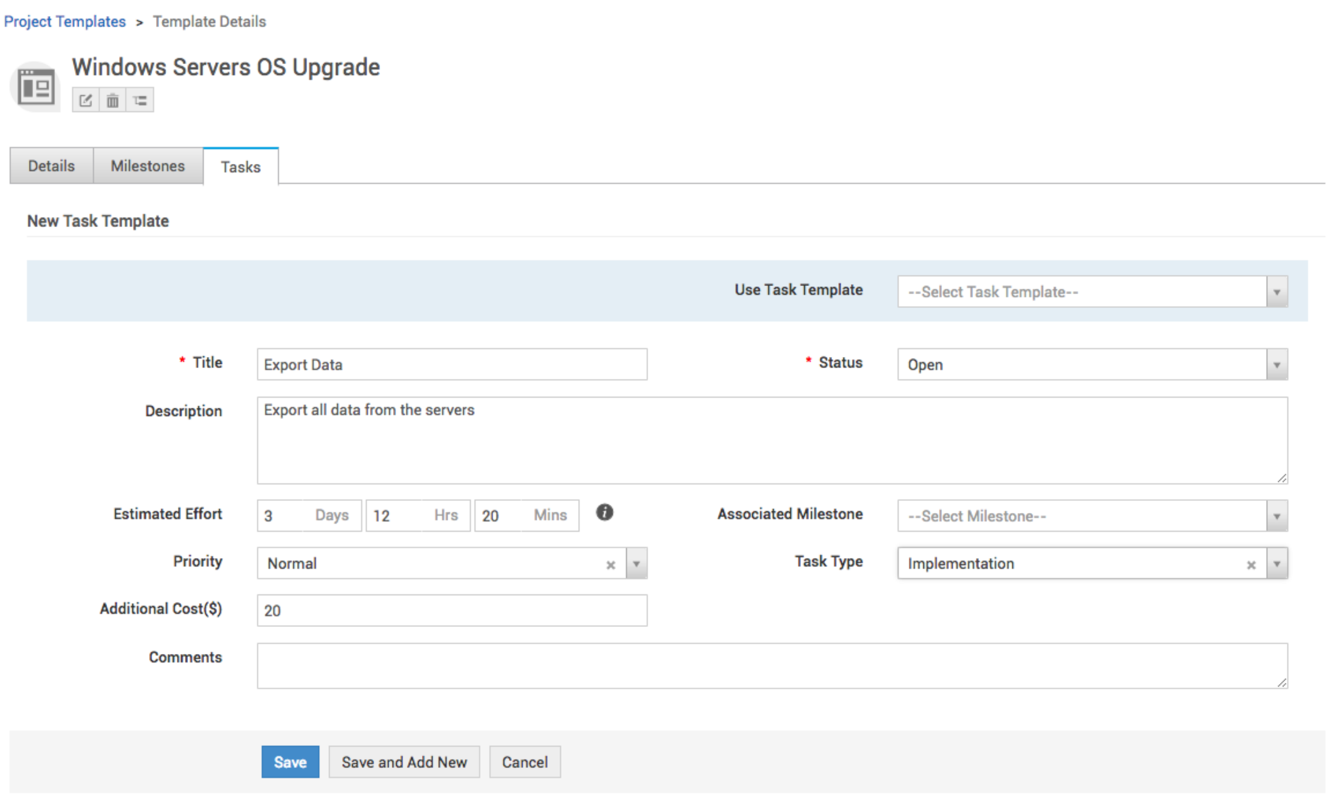
To create milestones, click the newly created project template and click the **Milestones** tab.

Fill out the required fields as shown in the screen shot:



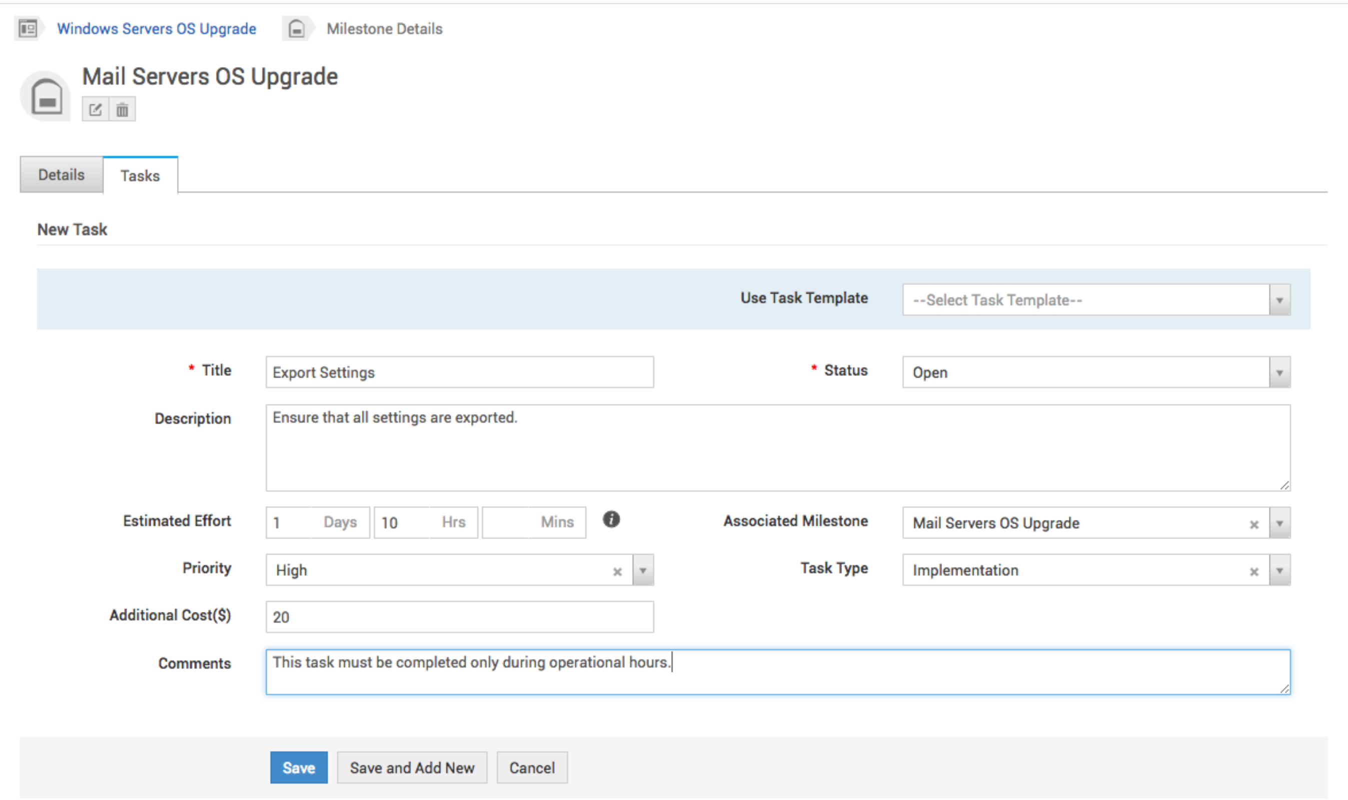
To create project tasks, click the newly created project template and click **Tasks**.

Fill out the fields as shown in the following screenshot to create project tasks.



Add milestone tasks and define their dependencies

You can add tasks to a milestone to organize and track the project efficiently. To add milestone tasks, click the **Tasks** button on the **Milestone Details** page, and then create a new task by filling out the required fields as follows:



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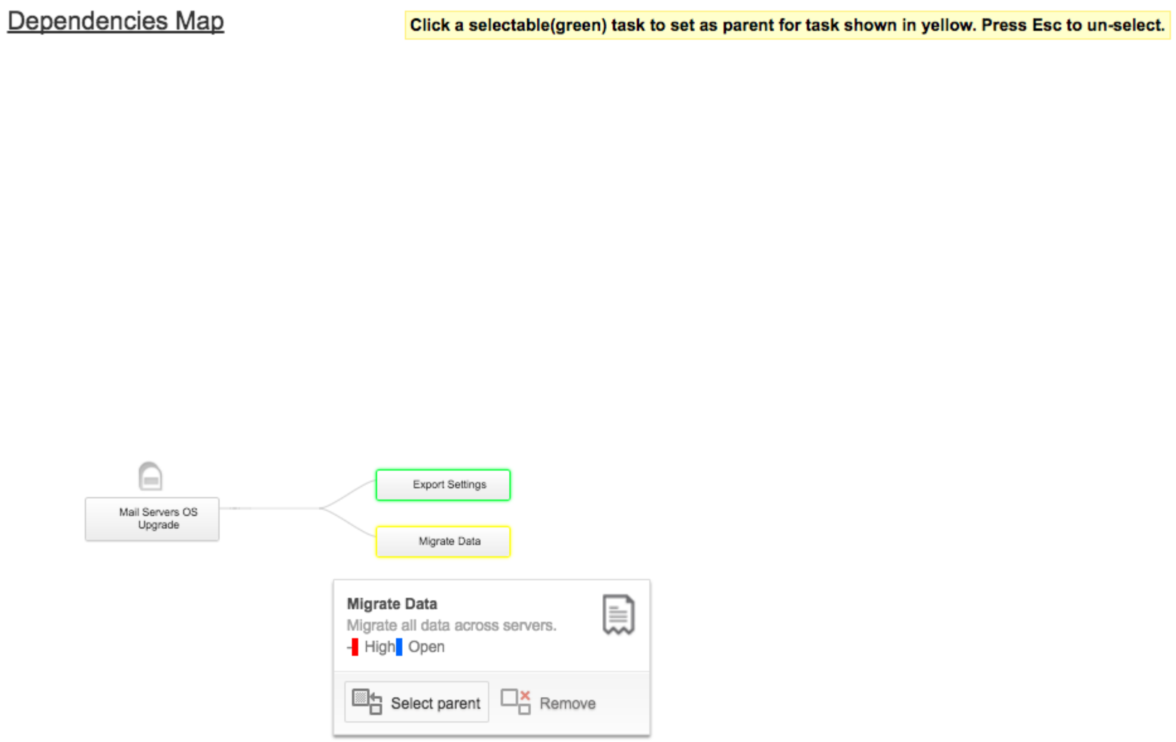
You can add also milestone tasks by clicking the drop-up menu on the Save button on the Milestone page.

Task dependencies help define a clear chain of tasks (workflow) to complete a milestone.

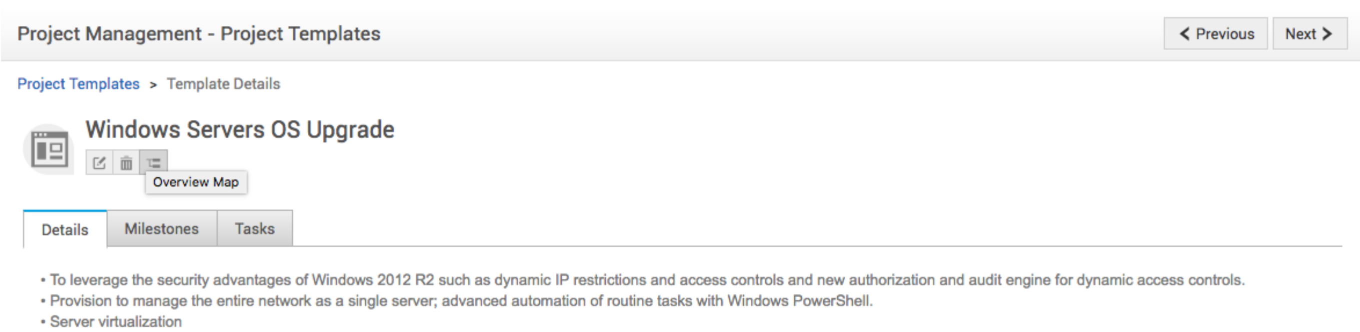
Task dependencies can be defined for only milestone tasks and not project tasks.

To define task dependencies, select a milestone, click the **Tasks** tab, and then click the **Dependencies** button. The dependencies map will be displayed where you can define the parent-child dependancy between the tasks under the milestone. As shown in the following screen shot, place the mouse pointer over a task, which will now be highlighted in green, and then select its parent, which will be highlighted in yellow.



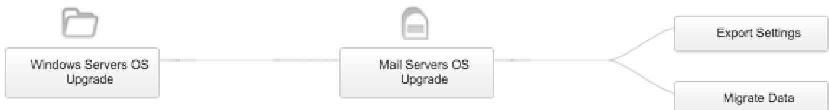
Project template overview

To get an overall picture of any project, along with its milestones and tasks, click displayed below the project title on the **Template Details** page.

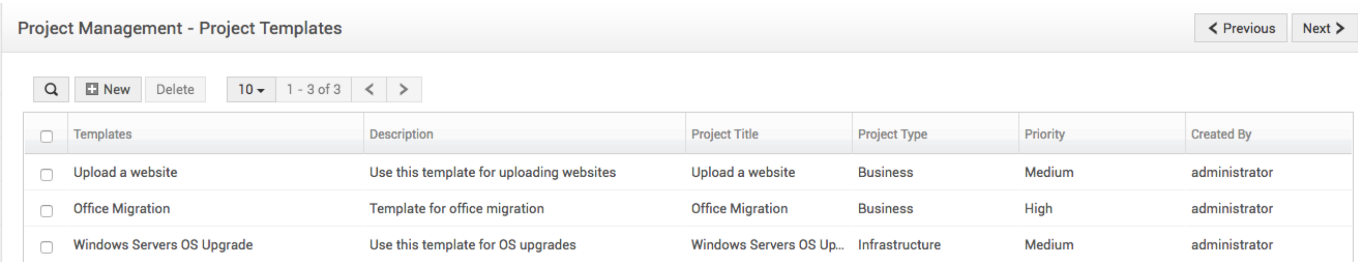


The project overview map displays the various milestones associated with the project, along with the tasks under each milestone, helping you plan the dependencies of the tasks or milestones better.

Dependencies Map



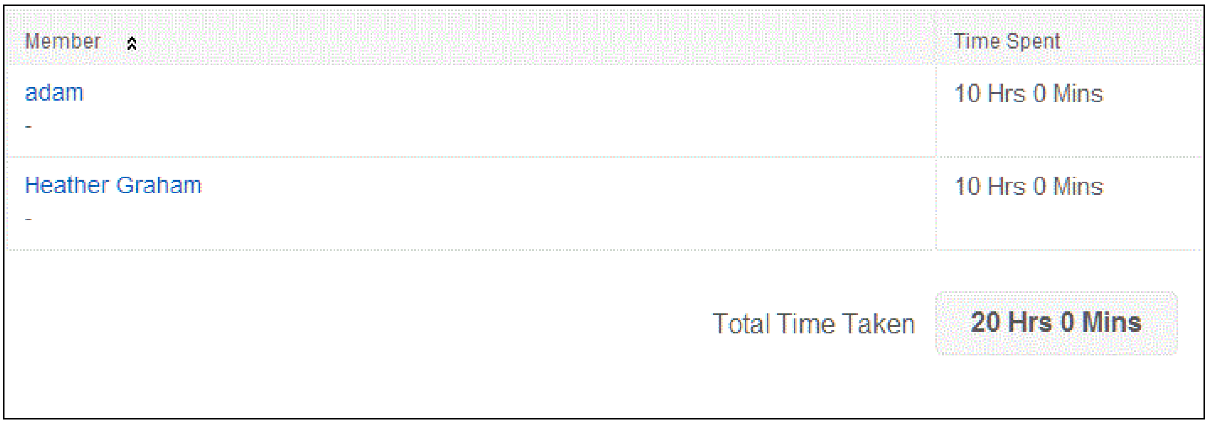
To list all the templates created, click **Project Templates** under **Project Management** under the **Admin** tab. From this list view, you can even delete any of the project templates created. This however does not delete any of the projects created using that template.



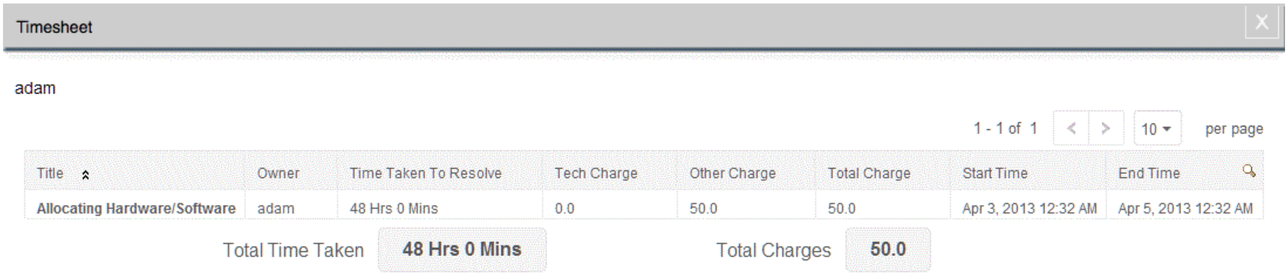
Templates	Description	Project Title	Project Type	Priority	Created By
Upload a website	Use this template for uploading websites	Upload a website	Business	Medium	administrator
Office Migration	Template for office migration	Office Migration	Business	High	administrator
Windows Servers OS Upgrade	Use this template for OS upgrades	Windows Servers OS Up...	Infrastructure	Medium	administrator

Time sheet

Timesheet Tab is a single stop solution for viewing the **total time spent** by project members on **various Tasks of a Project**. And by summing up the total time spent, the Timesheet tab, **also displays the cumulative time spent** by all the **project members on various tasks**.



Note: Timesheet reflects the **technician hours spent** information from the **worklogs** of various Tasks.
It is also possible to view separately the **worklog details of tasks pertaining to a project member . To view these details, click the respective member's name** in the **Timsheet List View.**



Advantages:

- Provides bird's eye view of total time spent on the project
- Aids in preventive maintainence while working on similar projects in the future
- Helps evaluate scheduled project against the real-time project
- Supplements on-schedule project completion

Milestone Timesheet logs time spent on **Tasks belonging to Milestones**, whereas **Project Timesheet** tab logs timespent on **overall Tasks belonging to a Project**.

Comments and history

- What are comments?
- How can comments be added/deleted?
- Mentions
- History tab
- Recent history updates button

What are comments?

Comments allow project members to communicate with each other. High-level authorities can use them to dispatch orders to their subordinates. Above all, the most important aspect of this feature is that it allows members belonging to different ranks share their ideas, discuss what they are doing, and work towards the betterment of the project.

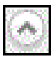
Adding/Deleting comments

1. **Adding:** Click on **Comments Tab**. Type your Comment and Save it
2. **Deleting:** Click on Delete Button to delete a Comment.

Mentions

The comments field is enhanced with '@mentions' and special entity keywords to notify the users and entity owners. Below are a few examples of keywords.
@PROJECT_OWNER --> to notify the project owner.
@TASK_OWNER --> to notify the task owner.
These keywords can be used only if the entity owner is assigned to the respective entities.
For Projects, Milestones and Project Tasks, users with view permission to the entity can be mentioned in a comment. But for other tasks(Request, Problem), all the technicians from the user's site can be mentioned. Users can be mentioned using user id while adding comments through APIs. For example, @[user:4] where 4 is the user id. Users mentioned in the comment will be notified by email (if email id is provided for the user) and through Technician Space notification. In addition, the 'reply' option is provided to keep a track of responses to the comments. The user who has posted the comment can edit/delete the comment. But the entity owner can only delete the comment.

History tab

History tab lets you view all the events that occur within a project. It lets you know 'who does what and at what time'. To access a project's history click on the History tab. It is possible to hide/show a project's history by clicking on the 'show/hide' history button 

Recent history updates button

Recent History Updates Button  present in the projects list view page lists events that occur across various projects present in the projects module, unlike the history tab which presents information pertaining only to a specific project. Project administrators who might own all the projects present in the module benefit greatly from this option.

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Gantt Chart

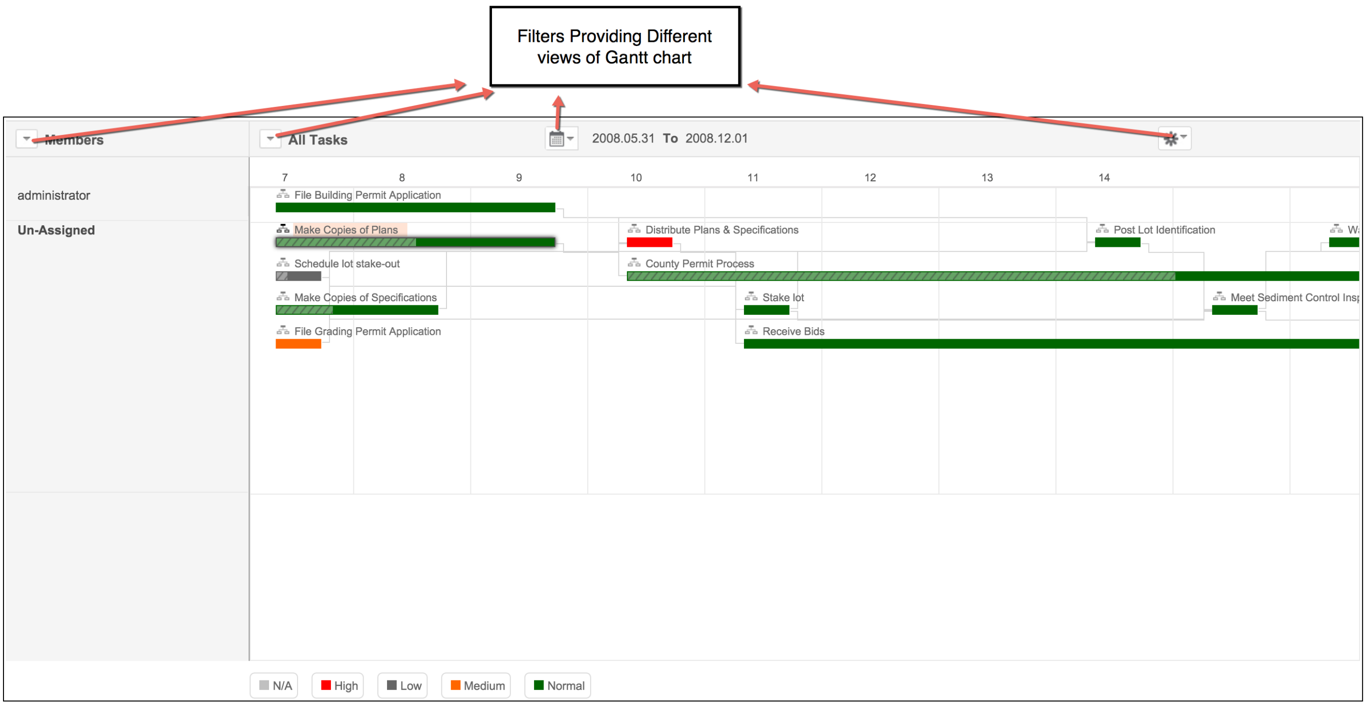
- What is Gantt Chart?
- Viewing and Configuring Gantt View
- Accessing Projects via Gantt Box
- Gantt View Tab and Gantt View Across All Projects Button
- Viewing Task Dependencies in the Gantt View

What is Gantt Chart?

Gantt Chart is a bar chart that illustrates a project schedule. This chart also illustrates project elements - along with their schedule against the project calendar - and summarizes the entire project using the chart. It presents a clear picture of the different phases of the project and also of the various activities that occur in the project's work breakdown structure (WBS). It also shows the task dependencies with their logical relationship [Such as the parent/child task] and the percent completion of the tasks.

Advantages:

- Provides bird's eye view of a project and also serves as a one stop solution for accessing the entire project module with all it projects (provided, the technician is assigned with Project Admin role).
- Effective Resource Management as project constraints like time, manpower and amount of work remaining can be viewed and regulated as per situation demands.
- Rescheduling of Milestones/Tasks and project member role change, if such a need arises, can also done via Gantt Chart.

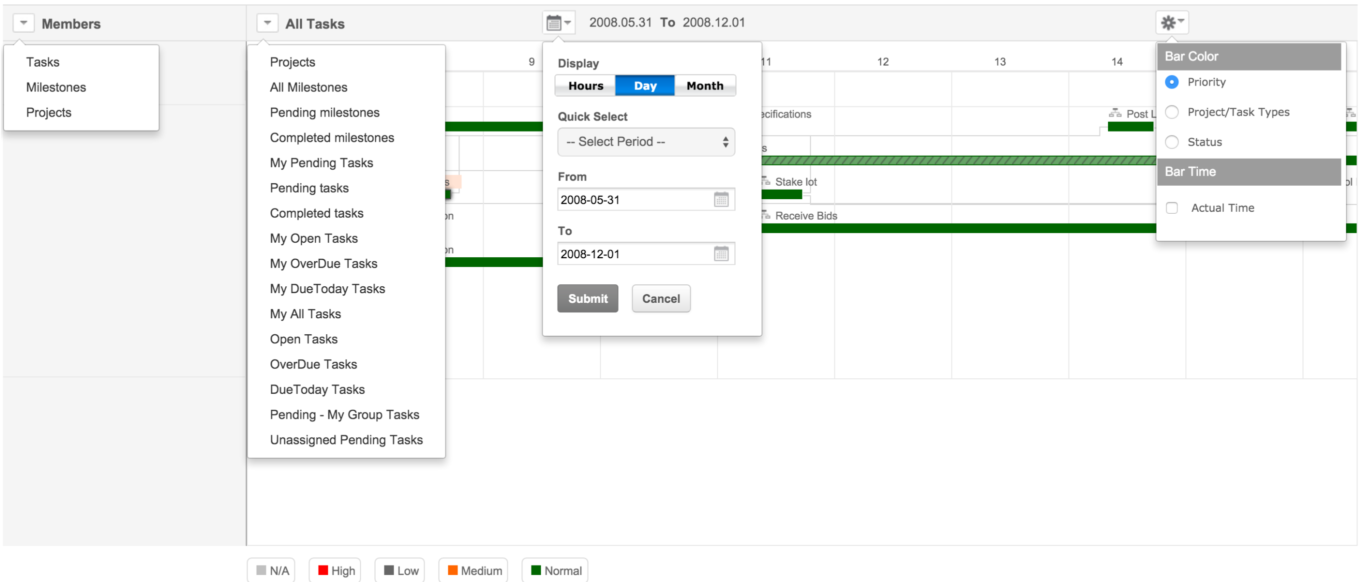


Viewing and Configuring Gantt View:

1. Click on **Gantt View Tab.**
2. Gantt Chart with its default view will get displayed.
3. **Configure Gantt Chart** as per your requirement using

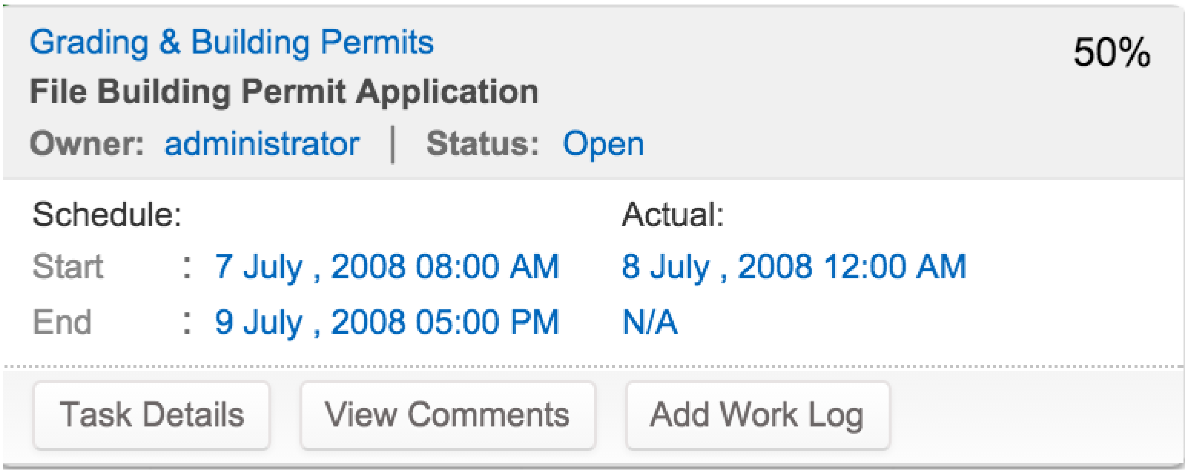
a. Gantt Row Type Filter: Available options are Members, Milestones and Tasks.
b. Gantt Column Type Filter: Available options are Tasks (Open, Closed and All) & Milestones. (Open, Closed and All)
c. Project Calendar Filter: Available options are Hours, Day and Month.
d. More Settings Filter: Available options are Priority, Task Types and Status.

1. Gantt Chart can be modified based on your requirements by selecting the appropriate filters.



Accessing Projects via Gantt Box:
Gantt Box that appears on mouse over a "milestone/task" serves as a window through which the "milestone/task" can be accessed and edited according to the changes taking place within a project. An entire project can be accessed through Gantt Box if the project member has the rights to do so. This quick access enhances the effectiveness of Gantt Chart and is very useful in supervising the project.
Using **Gantt Box** the following can be done:

1. Rescheduling of Milestones (or) Tasks and Changing of Milestone/Task details.
2. Reassigning of Milestones/Tasks to Project Members.
3. Changing of Milestone/Task Status.
4. Adding Worklogs and Comments.



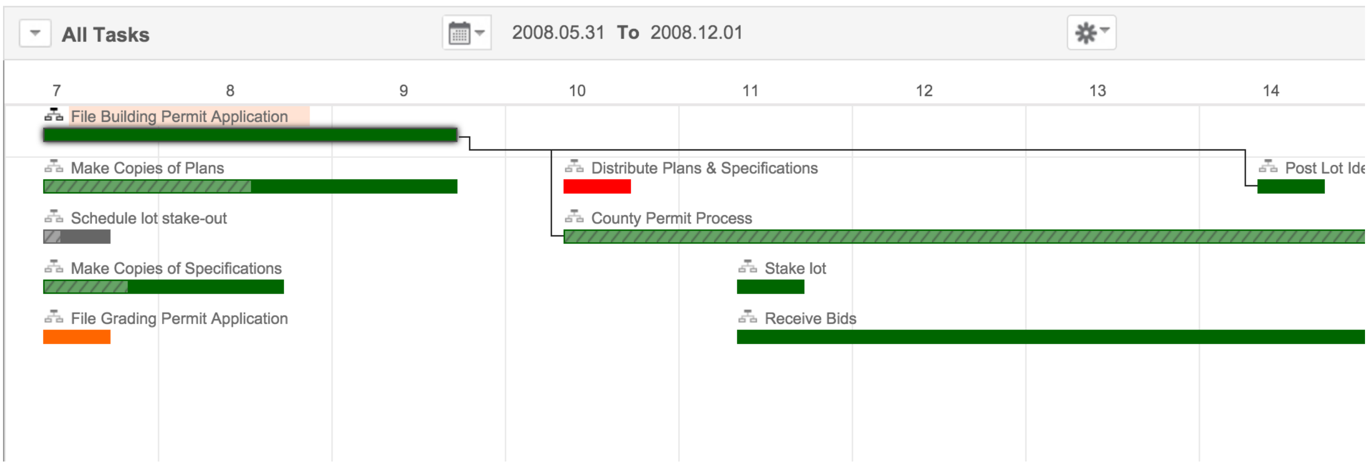
Gantt View Tab and Gantt View Across All Projects Button:
Gantt Chart can be accessed in two different ways:

- By clicking on "**Gantt View**" Tab (in the project's pane) (or) by clicking on "**Gantt View Across All Projects Button**" 
- As the name suggests, the latter presents the gantt view of all projects present in projects module.
- Gantt View Across All Projects Button present in the projects list view page is useful for project administrators.
- Using this button gantt chart can not only be filtered based on milestones and tasks but also based on project names and project status.

Viewing Task Dependencies in the Gantt View.

Gantt view is now equipped with another option where you can view the task dependencies with their logical relationship such as the parent task or the child task.

The task dependency view provides better monitoring of the project/milestone schedule.
To view the dependencies of a task hover over the task, the dependent/child tasks will be linked to the parent task.



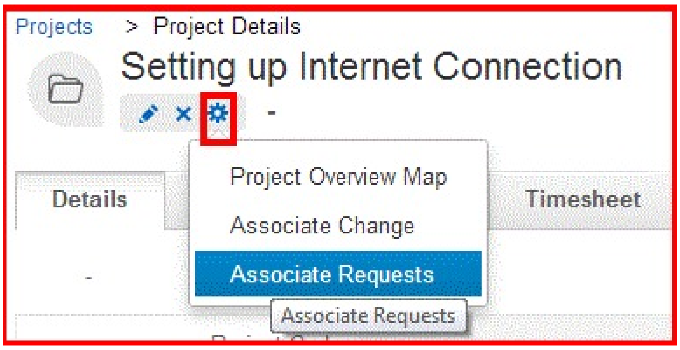
Associate requests to project

You can associate requests to projects and view the associated requests from within a project details page. A project can be associated with multiple requests. Usually requests with similar demands will be associated with a project that successfully addresses some/most of these demands. This sort of association will help establish a successful project-request relationship which is vital for quickly resolving the innumerable requests your helpdesk might have to attend to everyday .
This page explains how you can Associate/Dissociate Requests to/from project and also how the associated requests can be viewed from the respective project's details page.

- Associating Requests to Project
- Viewing Associated Requests
- Dissociating Project from Requests

Associating Requests to Project
To Associate Requests to a Project,

1. Click the **Projects** tab. This opens the Projects List View page.
2. Select the project by clicking on the **project title** to be associated with request(s).
3. Click **Settings** icon (spiked wheel available below the project title) and select **Associate Requests** option.
4. **Associate Request to Project** popup box opens up.
5. **Select Requests** which you wish to associate with the project and click **Associate Requests** button (available above the requests being listed).



Tip: Once a request has been associated to a project, other requests will might follow, can be added directly using the **Associate button** without having to access the **Settings icon** (see image below)

Viewing Associated Requests
To view Requests associated with a project,

1. Click the **Projects** tab. This opens the Projects List View page.
2. Select the project by clicking on the **project title** in order to view requests associated with it.
3. Requests which are **associated** with the project will get listed
4. To view a request in detail, select the same by clicking on the respective **title**

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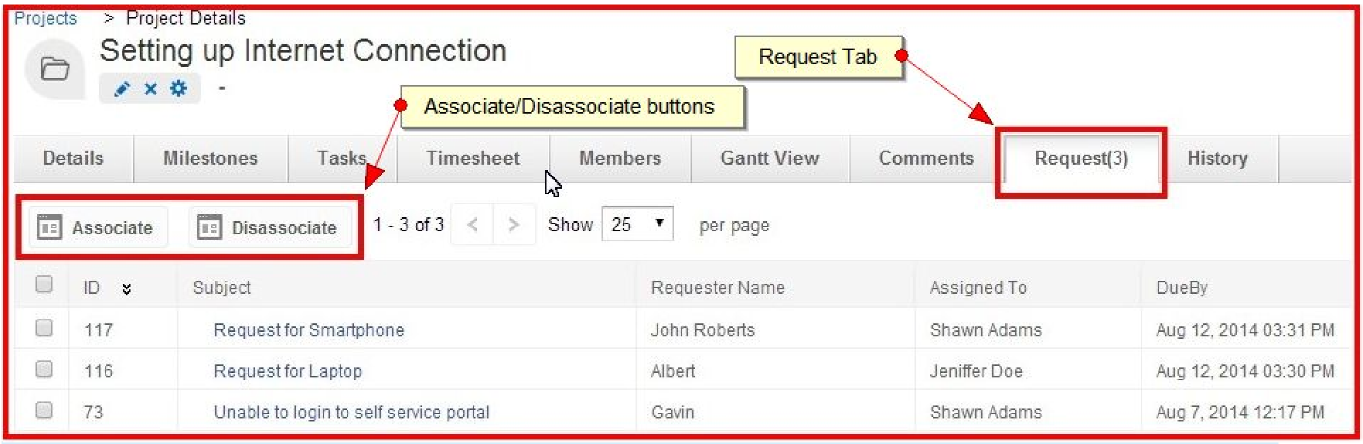


Request tab will be available only if requests are associated with the project

Dissociating Requests from Project

To dissociate requests from a project,

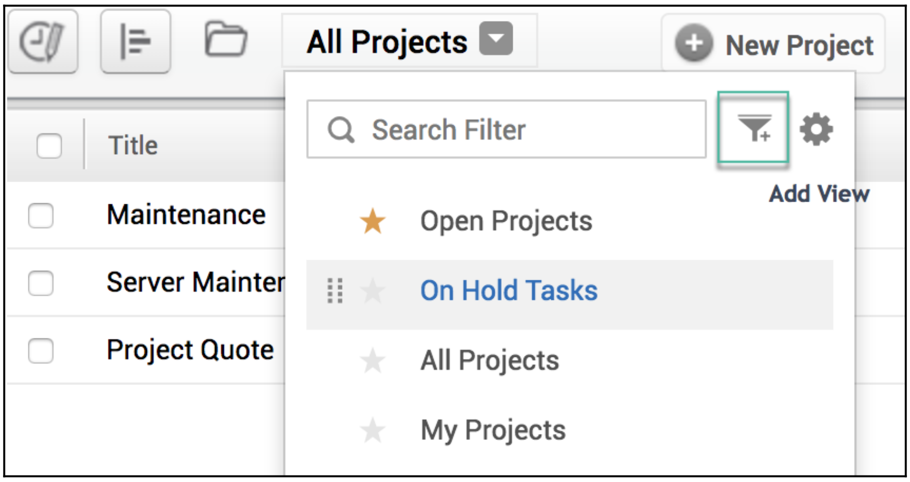
1. Click the **Projects** tab. This opens the Projects List View page.
2. Select the project by clicking on the **project title** in order to dissociate requests from it.
3. Click on the **Requests** tab.
4. Choose requests which you wish to **dissociate** from the project
5. Click **Dissociate** button (available above the list of associated requests)

Projects custom view

In addition to the default project views such as Open Projects, Closed Projects, Pending Projects and My Projects, ServiceDesk Plus introduces **Projects Custom View** which equips the users to add filters as per their requirement. **For eg**, You can customize new views such as "Projects costing more than $1000", "Projects starting today", "High Priority Projects" etc. These views can be configured with filter conditions and can be used in the projects list view. Custom views can be marked as 'favourite' by tapping the icon and the order can also be rearranged by 'drag and drop' icon.

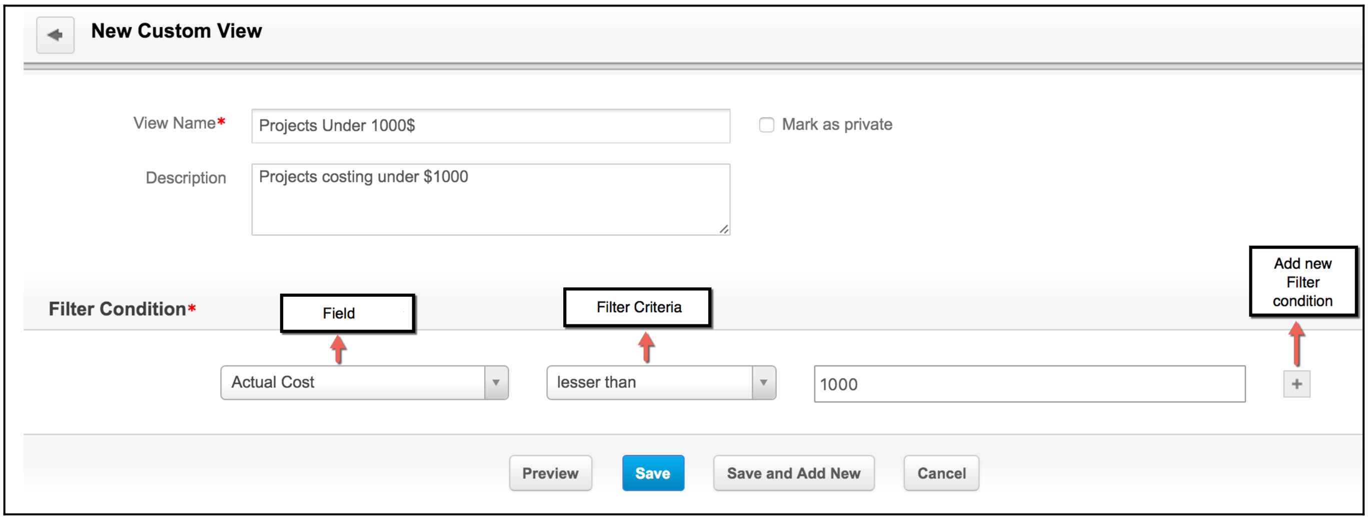
To create custom views,

- Go to the **Projects** module.
- Click on the **Add View icon** in the project filter menu.

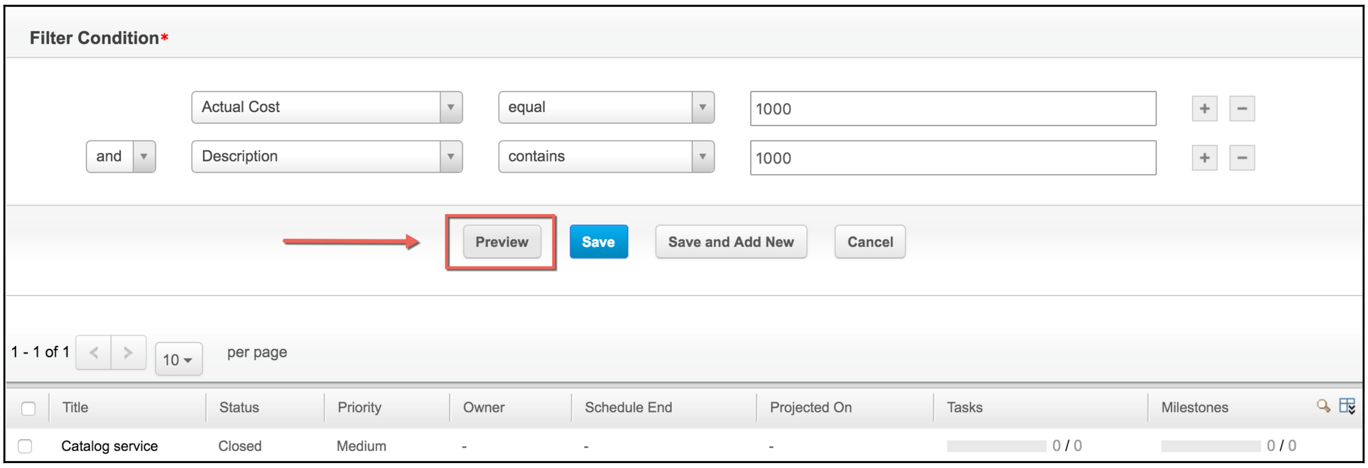


- New Custom View window will appear.
- Enter a Name for the filter.
- Select **Mark as Private** check box if you want that filter to be private.
- Enter the Description.
- Select the matching **Field** and **Filter Criterion**.

For eg, if you select the field as **"Actual Cost**", the Criterion could be "**lesser than**" or "**greater than**" or "**equal to**". If you select field as "**Description**", the criterion could be "**is**", "**is not**", "**starts with**", "**ends with**" etc. You can enter numbers/words or select values in the following field according to the filter condition you have selected.



- Combined filter conditions can also be configured by clicking on the  icon.
- Click on **Preview** to list the projects based on the filter conditions.

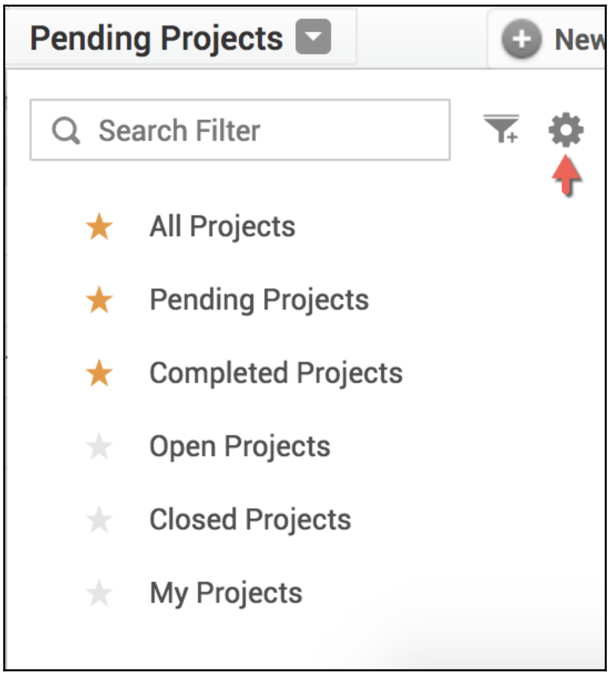


- Click on **Save**.

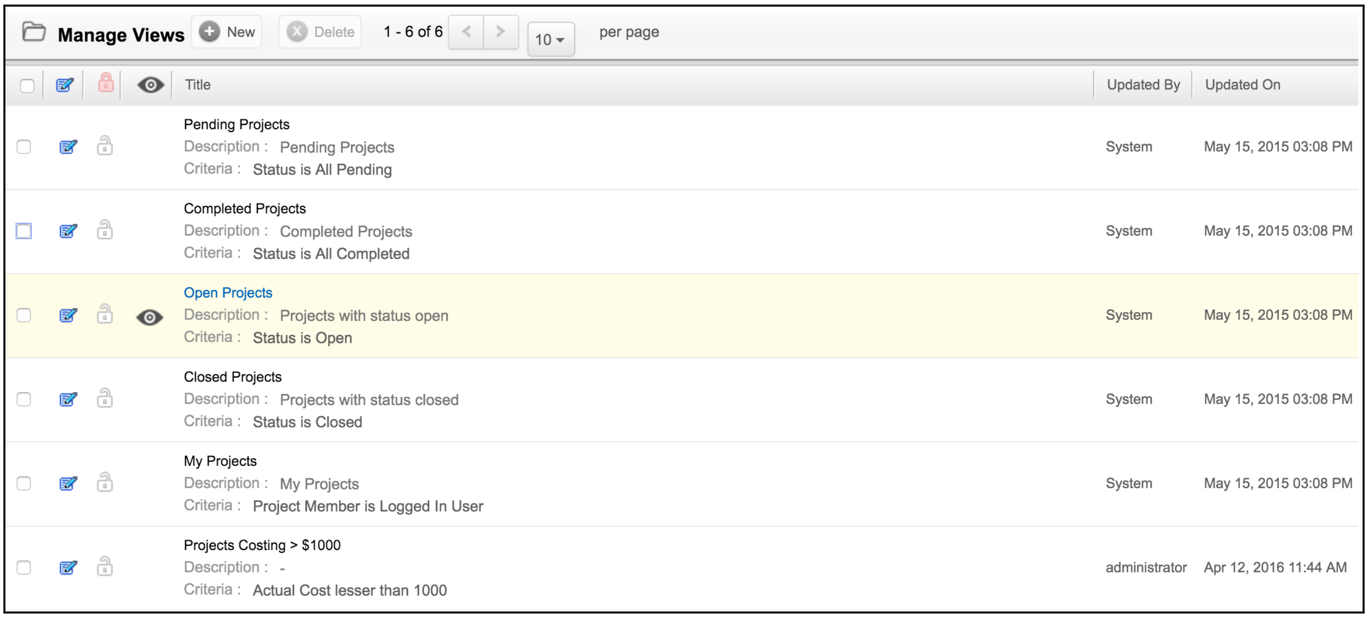
Managing the Projects Custom View

The project custom views can be edited or deleted.
To manage the Projects Custom Views,

- Go to the **Projects** module.
- Click on the **Manage view icon** to open the Manage Views page.



In the **Manage Views** page you can add, edit, delete views and change the privacy settings of the Custom View.



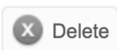
To add new Views,

- Click on  icon at the top of the page to add a new Custom View.

To edit Views,

- Click on the  icon to edit the Custom View.

To delete Views,

- Select a View by clicking on the checkbox and click on  at the top of the page.

To Change Privacy Settings,

- Click on the lock icon in the View to change the privacy settings. Closed lock  indicates private View whereas unclosed lock indicates public View.

To Preview the Custom View,

- Click on the icon to preview the projects under the Custom View.

Filter access based on roles.

Filters will be displayed based on the roles assigned to the users.
For a project admins,

- They can add new filters, edit their own filters and other's filters.
- In the filter drop down all the filters will be shown.

For other project members,

- They can add new filters and edit their own filters.
- In the filter drop down, their own filters and the "public" filters will alone be shown.

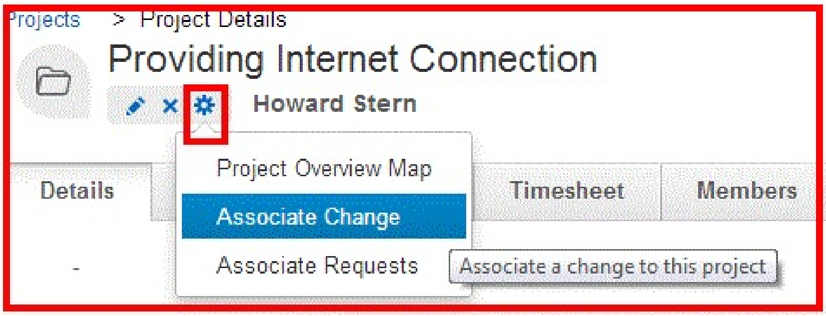
Associate changes to projects

Project can be associated with a change from within a project details page. Just like requests, change management too relies on projects during the implementation phase where a number of projects can be associated/dissociated to/from the change, breaking down the implementation phase into a number of projects which ensure the change gets materialised in accordance with the paperwork available.
This page explains how you can Associate/Dissociate Change to/from project and also how the associated changes can be viewed from the respective project's details page.

- Associating Change to Project
- Viewing Change Details
- Dissociating Change from Project

Associating Change to Project
To associate a change to project,

1. Click the **Projects** tab. This opens the Projects List View page.
2. Select the project by clicking on the **project title** to be associated with the change
3. Click **Settings** icon (spiked wheel available below the project title) and select **Associate Change** option.
4. **Associate Change to Project** popup box opens up.
5. **Select Change** which you wish to associate with the project and click **Associate Change** button (available above the changes being listed).



Viewing Change Details
To view the associated change details,

1. Click the **Projects** tab. This opens the Projects List View page.
2. Select the project by clicking on the **project title** in order to view change associated with it.
3. Click **Settings** icon and select **Change Details** option
4. You will be lead to the respective Change Details page

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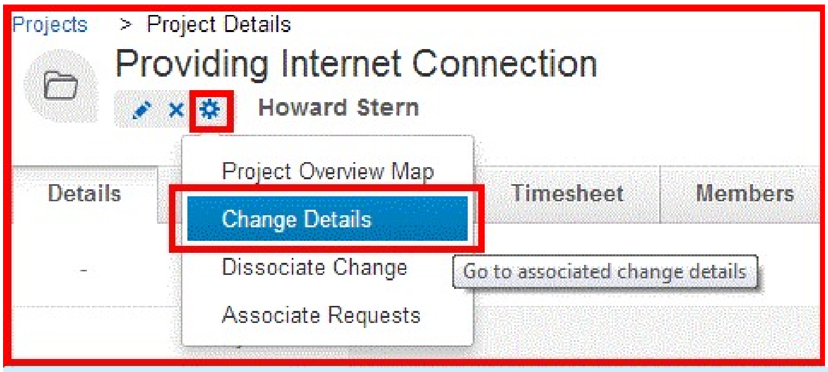
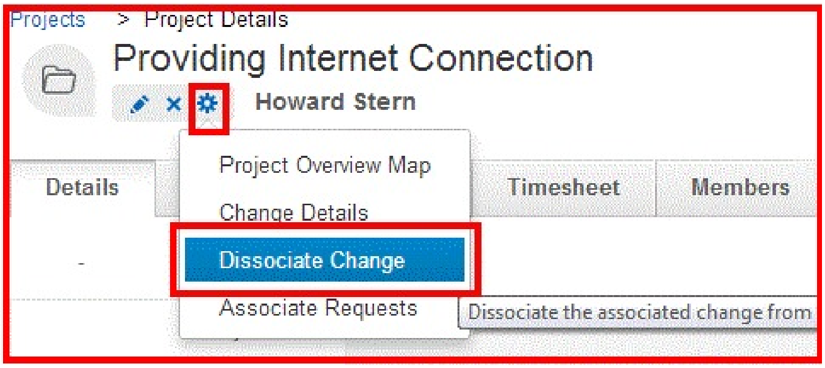


Project can be associated with only one change at a given time.

Dissociating Change from Project

To dissociate change from a project inorder to associate it with another change,

1. Click the **Projects** tab. This opens the Projects List View page.
2. Select the project by clicking on the **project title** in order to dissociate change from it.
3. Click **Settings** icon and select **Dissociate Change** option
4. Okay the warrning message. The change will be successfully dissociated.



Multiple Project <-> Change Association

You can now associate multiple changes as child entities with projects or associate a change as a parent entity for a project. For instance, let's assume a scenario where two or three changes are created because of a project. All of them needs to be mapped for better tracking and management. With this feature, this is possible as you can now associate all these changes as child entities of the project. p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545} Similarly, for a change that was solely responsible for the creation of a project, it can be associated as a parent entity for the change.

Who can perform Association/Dissociation?

Users with edit permission for projects can perform child/parent entity association or dissociation.
Users can only associate / dissociate changes that they have edit permission for.

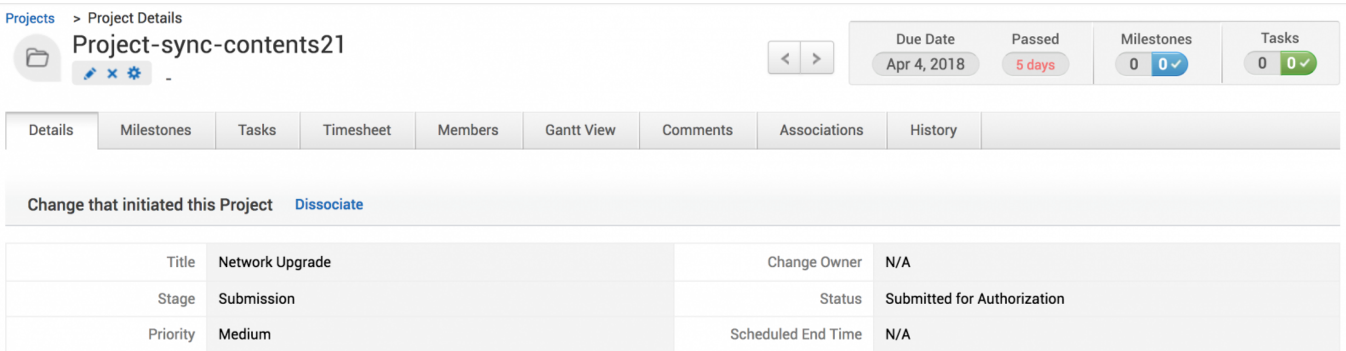
Associating a change as a parent entity to a project

When a change is responsible for the creation of a project, then it can be associated as the project's parent entity.

To do that,

- Head to Projects. Go to the project where you want to perform the association.
- Under the Actions menu , click on **Associate Change**.
- Changes will be listed. Select the one you want to associate as a parent entity and click **Associate**.

The selected change will be made the parent entity of the project.



Associating multiple changes as child entities to a project

When a project is responsible for the creation of two or three changes, you can associate those changes as child entities to the project from the project's details page.
To associate these changes,

- Head to **Projects**.
- Click on a particular project to which you want to associate the changes to.
- Click on the Associations tab and select **Associate existing changes**.

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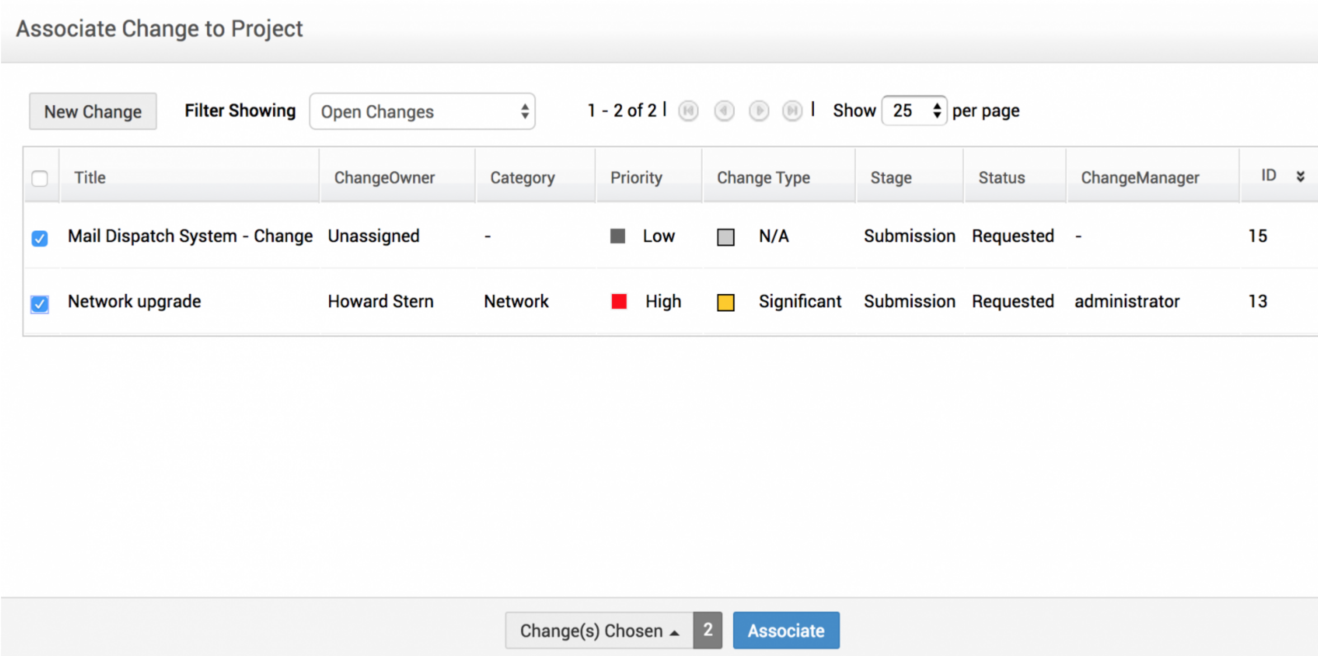
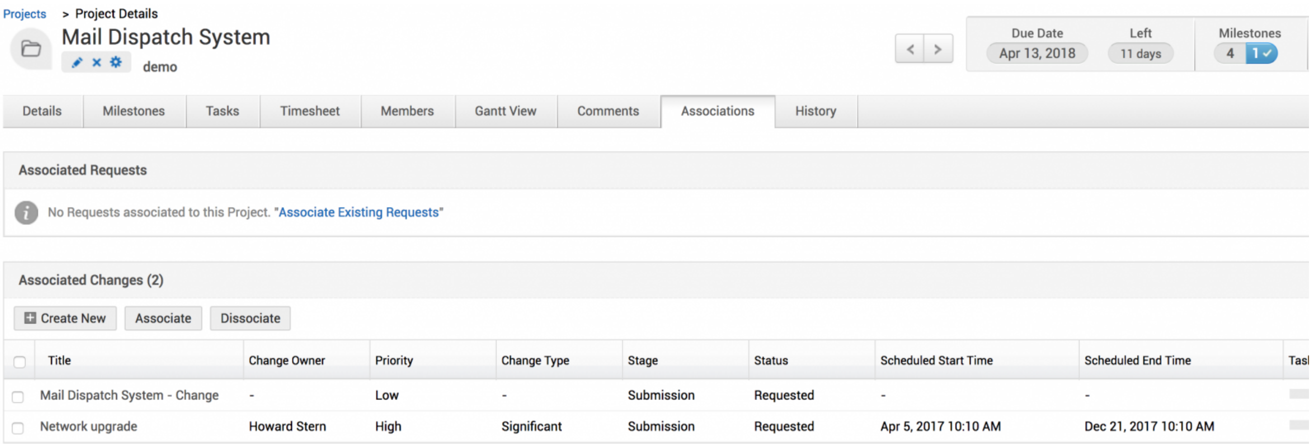
- List of changes will be displayed. Select the changes and click **Associate.**



The changes will be associated with the project.



- You can also add a new change and associate it from that window itself. Use **Add new change** option.
- To remove a change association, use the **Dissociate** option.

Note: A maximum of 25 change child entities can only be associated with a project. If a project that initiated multiple changes is deleted, then an option to cancel all the changes (child entities) will be shown before deletion of the project. Refer image below.

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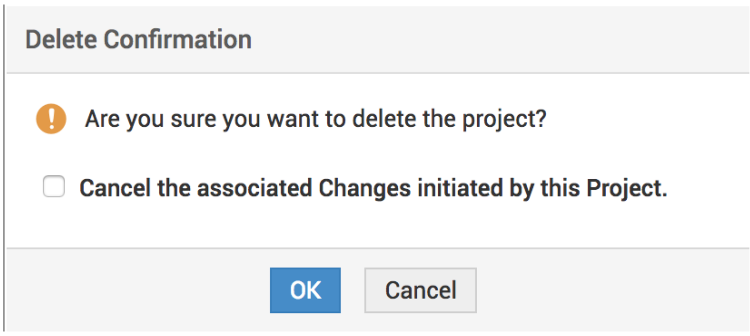


Notifying Change owners on Association/ Dissociation

Change owners can be notified when projects are associated/ dissociated with their change. They can also be notified if a project initiated by their change is closed/canceled/deleted. These actions can be done from under the Notification Rules >> Projects.

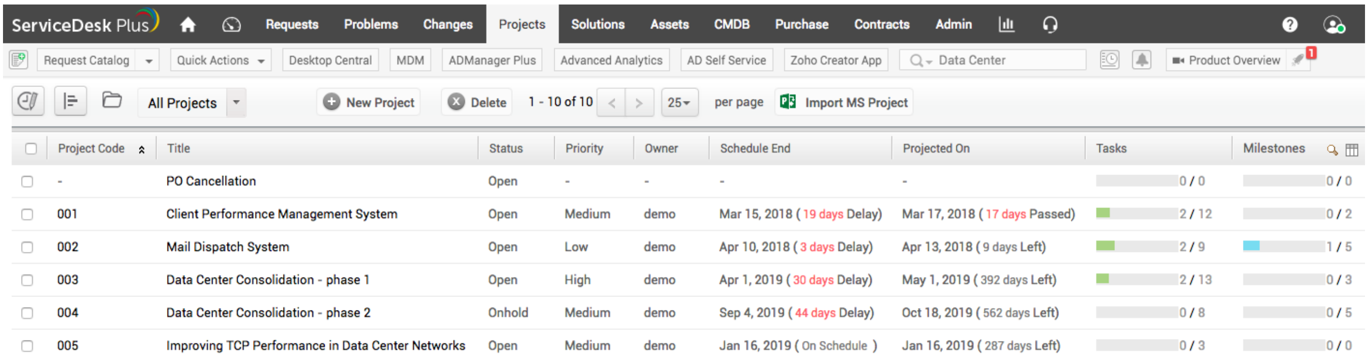
Use the various notification options as required. Use Customize template to modify the notification content.

Search through projects

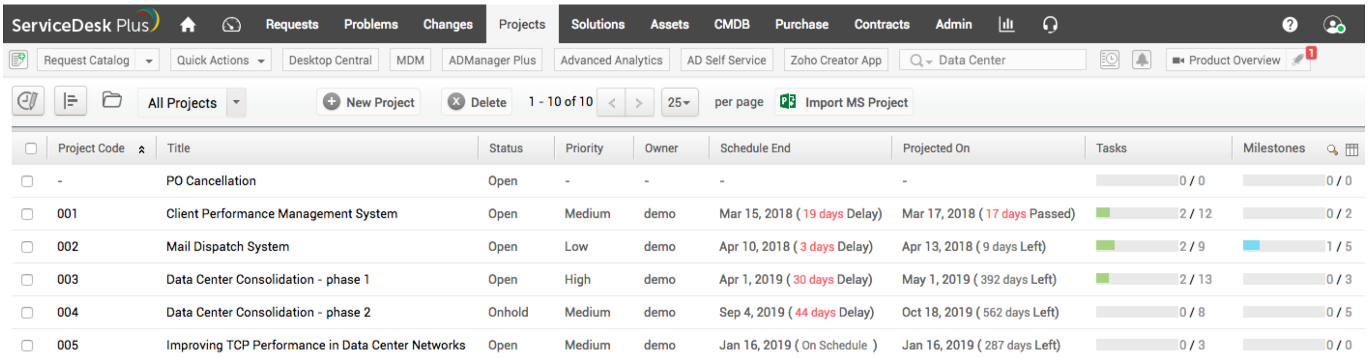
The **Search** feature in Projects allows you to find projects and project-related information in by using two methods:
By Keywords
By Columns

Search by Keywords

If you remember only the name of the project or any team member on the project, you can use the keyword search. This search goes through the values in the **Project ID**, **Requested by**, **Project code**, **Status**, **Project Type**, **Priority**, and **Department** fields and also the comments. In addition, it goes through the titles and descriptions of projects, milestones, and tasks.
Let's say you want to find all projects related to **Data Center**.
Go to **Projects**, type "Data Center" inside the **Search** box in the header, and press **Enter**.

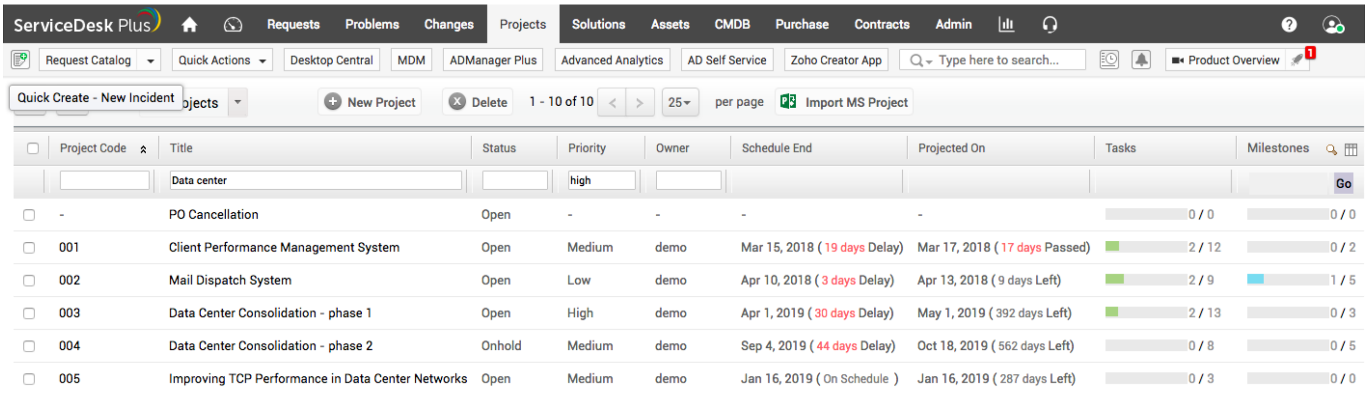


Your search results will be displayed as follows:

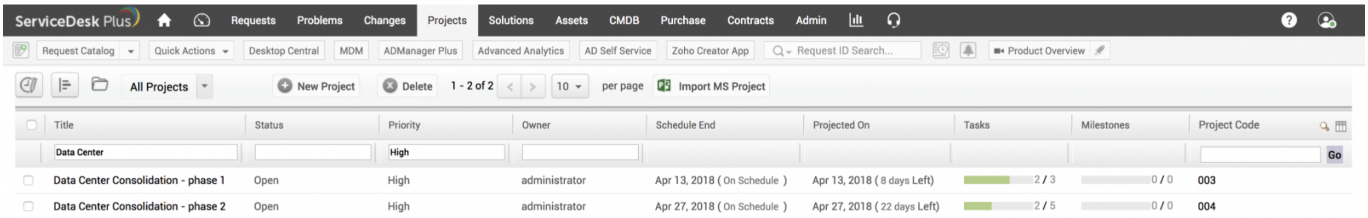


Search by Columns

If you remember a couple of details about the project, you can use the column search. For example, let's say you remember that the data center project was high priority. In that case, go to the **Projects** tab and use the **Search** icon on the right extreme of the page.
When you click the **Search** icon , you'll be able to enter information under the **Project Code**, **Title**, **Status**, **Priority**, and **Owner** and search, as shown in the following screen shot:



Search results for **Data Center** and **High** will be as follows:

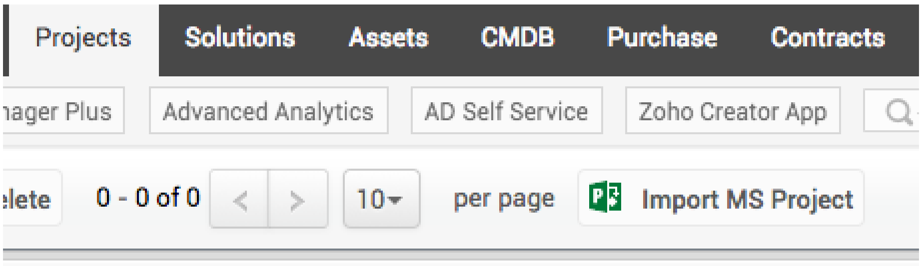


Import MS Projects

Import Projects allow you to import projects created using Microsoft into SDP at ease. Each MS Project can be imported as a single project. It is necessary that the attributes of MS Projects have to be equivalent to those in Service Desk Plus Projects. Hence the attributes in Microsoft have to match with the attributes in SDP.

- Importing MS Projects
- Project Attribute Mapping
- Milestone Attribute Mapping
- Task Attribute Mapping

'Import MS Project' option is available under Projects>>Import MS Project.

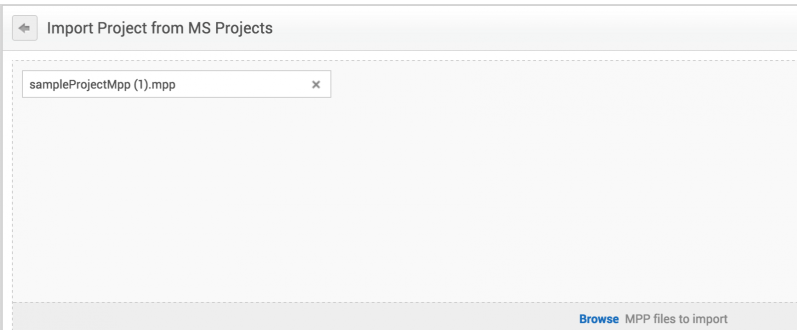


Importing MS Projects

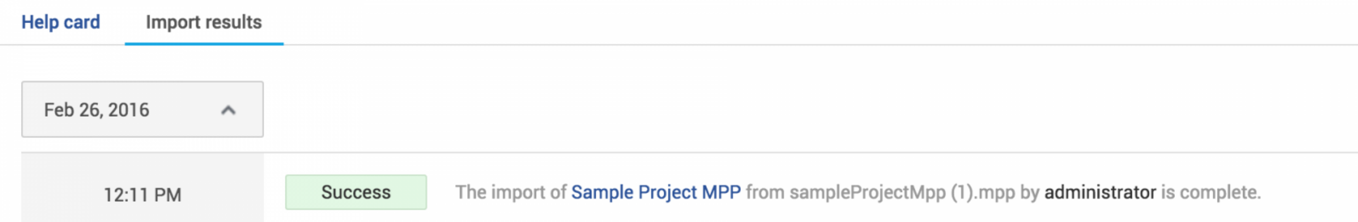
1.Click 'Import MS Project'. Page with 'Browse' option will be displayed.

- On clicking 'Browse', a browse and choose window will appear.
- Select the desired Microsoft project file in MPP format to be imported and click 'ok'.

2.The selected MPP file will be listed as shown below. Click 'Browse' to import more MPP files. The imported MPP file can be deleted from the list by clicking the delete button.



3. The results of the import can be obtained by clicking 'Import results'. If the file has been imported successfully then an immediate success message will be displayed. Detailed results can be viewed under 'Import results'. The successfully imported MS projects can now be viewed in the Project List View.



If the import has failed then an immediate failure message will be displayed. Detailed results along with the errors can be viewed under 'Import results'.

If any imported MS project is deleted from the Projects List View page, then the import results with respect to the imported project will also be deleted.

Importing large files may take time. Please do not proceed with any other action.

Project Attribute Mapping

Project Files under Microsoft will be mapped as Projects in SDP. Each project file has one project and only one project can be imported at a time. The below table lists the various attributes that have to be mapped with respect to SDP projects.

MS Projects	SDP Projects
Title	Title
Subject	Description
Actual Work	Actual Hours
Actual Cost	Actual Cost
Cost	Estimated Cost
Comments	Comments
Start	Scheduled Start
Finish	Scheduled Finish
Actual Start	Actual Start
Actual Finish	Actual Finish
Work	Estimated Hours
Created	Created Time
Status	
At 100% of Completion	Closed
Other Cases	Open
Priority	
Range 0 to 250	Low
Range 251 to 500	Normal
Range 501 to 750	Medium
Range 751 to 1000	High

Milestone Attribute Mapping

The Task List of MS Projects are mapped as Mile Stones in SDP Projects. Each task list is created as a separate milestone. The below table lists the various attributes that have to be mapped with respect to SDP Milestone

MS Projects	SDP Projects
Name of the task	Title

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Deadline	Projected On
Notes	Comments
Start	Scheduled Start
Finish	Scheduled Finish
Actual Start	Actual Start
Actual Finish	Actual Finish
Work	Estimated Hours
Actual Work	Actual Hours
Created	Created Time
Status	
At 100% of Completion	Closed
Other Cases	Open
Priority	
Range 0 to 250	Low
Range 251 to 500	Normal
Range 501 to 750	Medium
Range 751 to 1000	High

Task Attribute Mapping

The Task and Milestone in MS Projects are mapped as Task in SDP Projects. The below table lists the various attributes that have to be mapped with respect to SDP Task.

MS Projects	SDP Projects
Name of the task	Title
Duration	Estimated Effort
Percent Complete	Percentage of completion
Deadline	Remind Before
Notes	Comments
Start	Scheduled Start
Finish	Scheduled Finish
Actual Start	Actual Start
Actual Finish	Actual Finish
Work	Estimated Hours
Actual Work	Actual Hours
Created	Created Time
Status	

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At 100% of Completion	Closed
Other Cases	Open
Priority	
Range 0 to 250	Low
Range 251 to 500	Normal
Range 501 to 750	Medium
Range 751 to 1000	High

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Solutions

The ManageEngine ServiceDesk Plus application provides a facility to record the solutions for the received requests. The recorded solutions function as a knowledge base of solutions. Thus, when you receive a request, refer to the recorded solutions and solve it. This reduces the turnaround time in attending to the requests generated by the requesters and closing the same.
All requesters and technicians who have permissions to view the solutions module can access this section of the application. The ServiceDesk Plus administrator can assign access privileges to the various technicians for the solutions section. This access privilege can vary from just view only privilege to full control privilege. For setting the access privileges to technicians, refer to the Configuring Technicians and Configuring Roles sections. Moreover, new technicians joining the organization can browse through these recorded solutions to have an idea of the frequently resolved problems.
You can access the approved solutions even without logging in to the application, but will be able to view only those solutions that are published in the Self Service Portal. To access the knowledge base directly without having to login to the application, type the URL provided below in the address bar of the browser:
http://<server name>:<port number>/sd/SolutionsHome.sd
where, the <server name> is the name of the server where ServiceDesk Plus is installed and <port number> is the port where the application is running.

Solutions list view

Solution list view page displays the list of all solutions. Click the **Solutions** tab to view the solutions list view page. You can view the solutions with different status levels using filters. Click **All Solutions** to display the list of solution filters. Solution filters are listed below.

- **All Solutions**

  All the solutions excluding expired solution can be viewed in this category.

- **Approved Solutions**

  Approved solutions are listed in this category.

- **Approval Pending Solutions**

  Solutions which are sent for approval are listed in this category.

- **Unapproved Solutions**

  Solutions which are not approved and have to be sent for approval are listed in this category.

- **Rejected Solutions**

  Rejected solutions are listed in this category.

- **Due for Review in Next 30 Days**

  Solutions approaching the review date in the next 30 days are listed in this category.

- **Review Overdue**

  Solutions that have crossed the review date are listed in this category.

- **Solutions Without Review Date**

  Solutions without the review date are listed in this category.

- **Expiring in Next 15 Days**

  Solutions approaching the expiry date in the next 15 days are listed in this category.

- **Solutions Without Expiry Date**

  Solutions without the expiry date are listed in this category.

- **Expired Solutions**

  Expired solutions are listed in this category.

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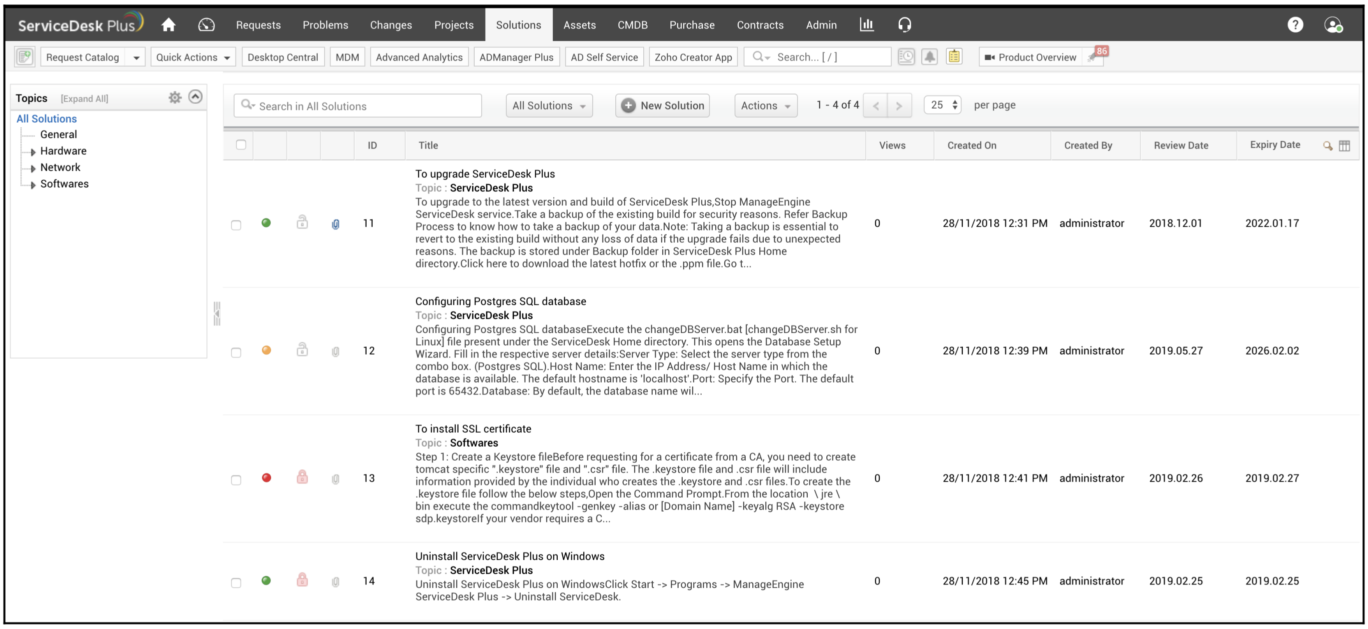
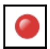
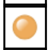
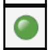


Solutions list view page follows a color-coding scheme to list the approved, unapproved and rejected solutions with the public/private mode.

 - Rejected solutions

 - Unapproved solutions

 - Approved solutions

 - Solutions that are public (available for technicians and requesters/selected user groups)

 - Solutions that are private (available only for technicians)

Actions

This option allows you to perform quick actions from the solutions list view page. Click **Actions** to perform the below-listed actions.

- Approve Solutions
- Reject Solutions
- Delete

Import Solution

You can import knowledge base articles in the form of XLS file into the application.
Click **Actions-->Import Solution**.

Solution Settings

When a solution has approached the **review date**, you can review and move the solution to the below-listed status from the **Solution Settings**.
Click **Actions-->Solution Settings**. A window pops up with the options listed below.

- Move to unapproved
- Mark as expired
- Leave the solution unchanged

Select the desired option and click **Save**.

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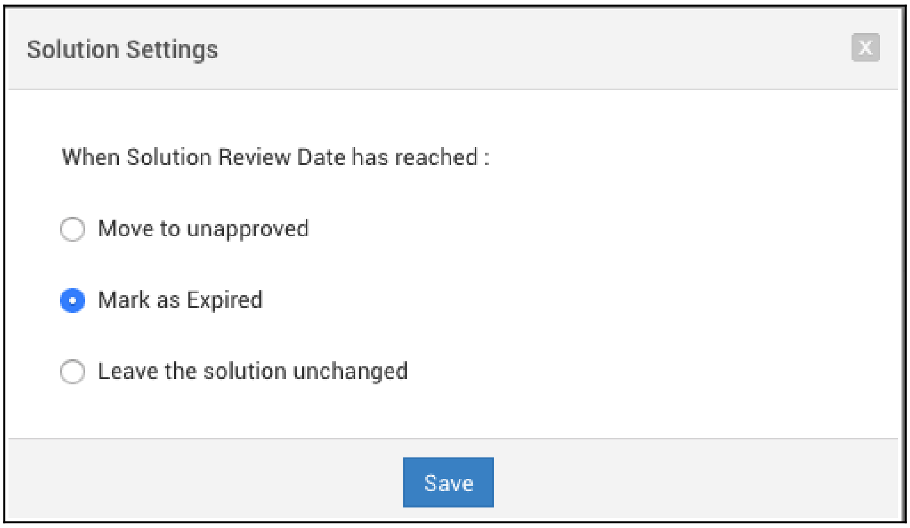

Solution Settings
When Solution Review Date has reached :
Move to unapproved
Mark as Expired
Leave the solution unchanged
Save

Add a New Solution

The Solutions module is a knowledge base that contains the resolutions for known and resolved issues. Solutions can be grouped under topics to access the solutions with ease. In addition, the solutions can be restricted to specific user groups. The requesters under the user group can view the solutions on logging into the application. To add new solutions to the existing knowledge base,

- Click **Solutions** --> **New Solution**.

  (OR)

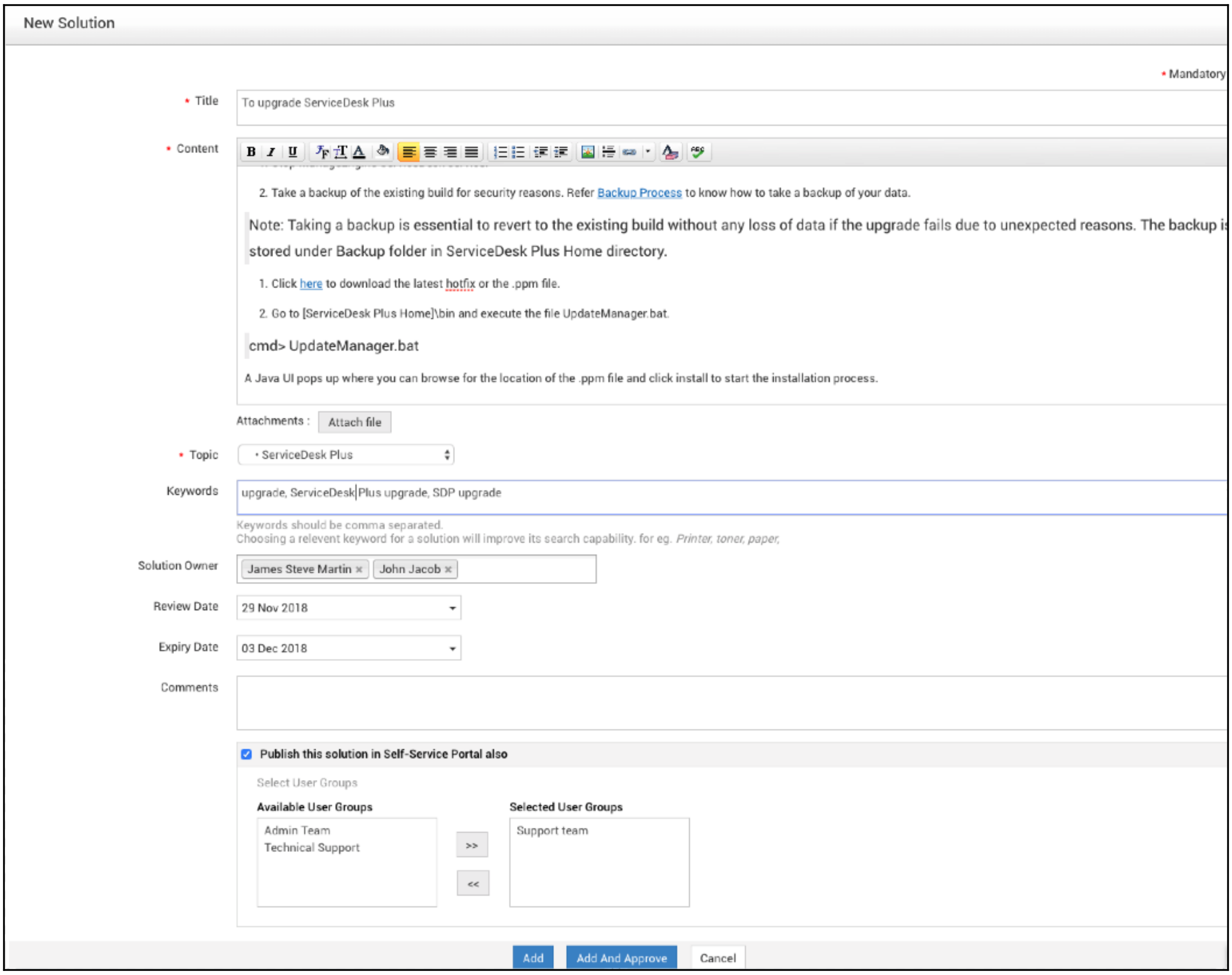
- Click **Quick Actions** and select **Solutions** under the **Create New** section. This opens the **New Solutions** page.
- Enter a **title** for the solution which can be a summary of the solution.
- Enter the resolution in the **Content** field.
- To attach a file that supports the article, click **Attach File** button.
- Click **topic** field and select a topic from the list of available topics and sub-topics.
- Enter the **keywords** to improve the accuracy of your search results. For accurate results, enclose your search term within quotes. While entering multiple keywords, separate them with a comma.
- Select the **Solution Owner,** to review the solution.

  'Technician with edit solution' permission can be a solution owner and you can have ***n*** number of solution owners for a solution.

- Select a **Review Date** by when the solution must be reviewed. Know more
- Select an **Expiry Date.**
- To make this solution available in the **Self-Service Portal**, enable **Publish this solution in Self-Service Portal also** checkbox.

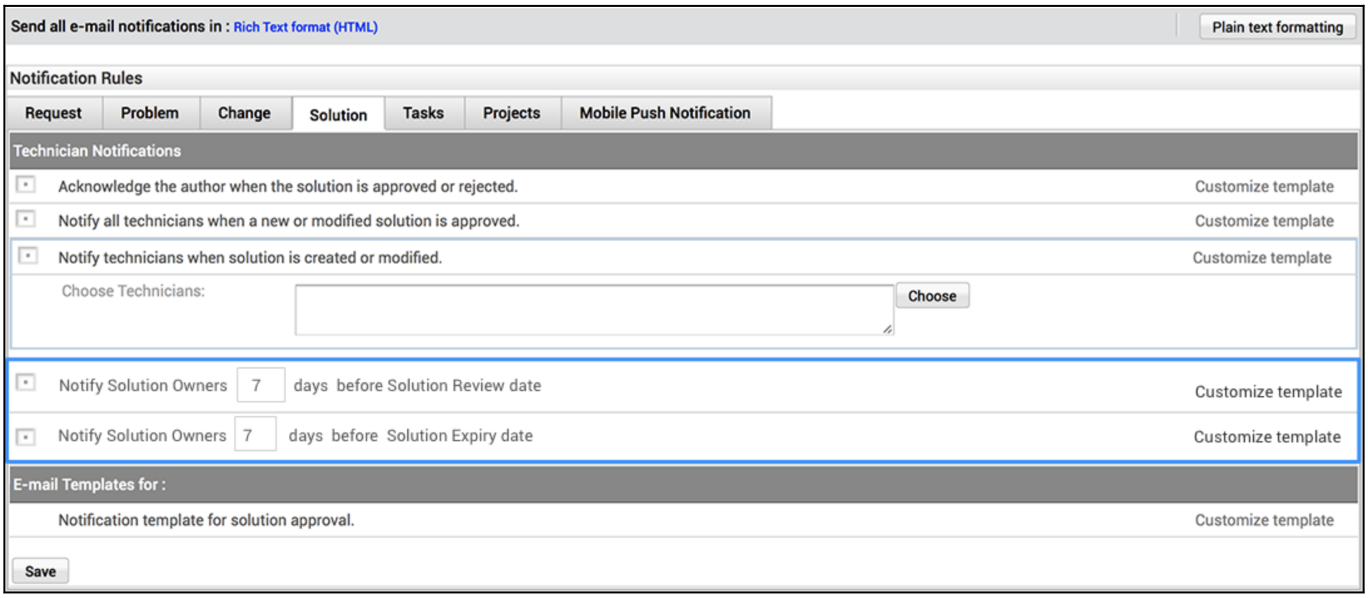
If you have configured **User Groups**, then you can restrict solutions to a specific user group by selecting the user group from the available list, use >> button to move it to the selected user group section. The solution will be available to the user group on logging into the application.

- Click **Add**.



Notifications

Notification Rules can be configured for expiry/review dates under **Admin**-->**Notification Rules**-->**Solution**.



Solution Facts

- When a solution approaches the review date, the technician(Solution owner) assigned will be notified, based on the **Notify Solution owner(s) n days before the solution Review date** configured in the notification rules.
- Solutions created without expiry date will never expire.
- Solution owner reviews a solution article and can extend the review date or mark it as expired.
- Solution owners can change/modify the review/expiry date.
- Expired solutions will not be shown under **Resolution** tab of a request and in Projects module.

View Solution Details

The Solution Details page displays **Solution ID**, **Subject, Type, Category** and **Approval Status** of the solution. You can view **Attached Files** and **Keywords** below the description and other details such as Created By, Created On, Last Updated By, Last Updated On, Type, Views, View Type (whether Public or Private), Status of the solution, Solution Owner, Review Date, and Expiry Date under the **Solution Info**. **History** tab lists the activities on a solution.
To view the details of a solution:

- Click **Solutions** and click **Subject link**/**Solution ID**.

You can **Edit** and **Forward** the solution from the Solution Details page. An administrator can perform **Approval Actions** such as **Submit the solution for approval** to higher authorities and **Approve/Reject solutions**.

You can move from one solution page to another using arrow keys

Actions

- To mark a solution as expired, click **Actions**-->**Mark as Expired**. Expired solutions will be watermarked as **Expired** in the Solution Details page.
- To mark an expired solution as active, click **Actions**-->**Mark as Active**.
- To delete a solution, click **Actions**-->**Delete**.

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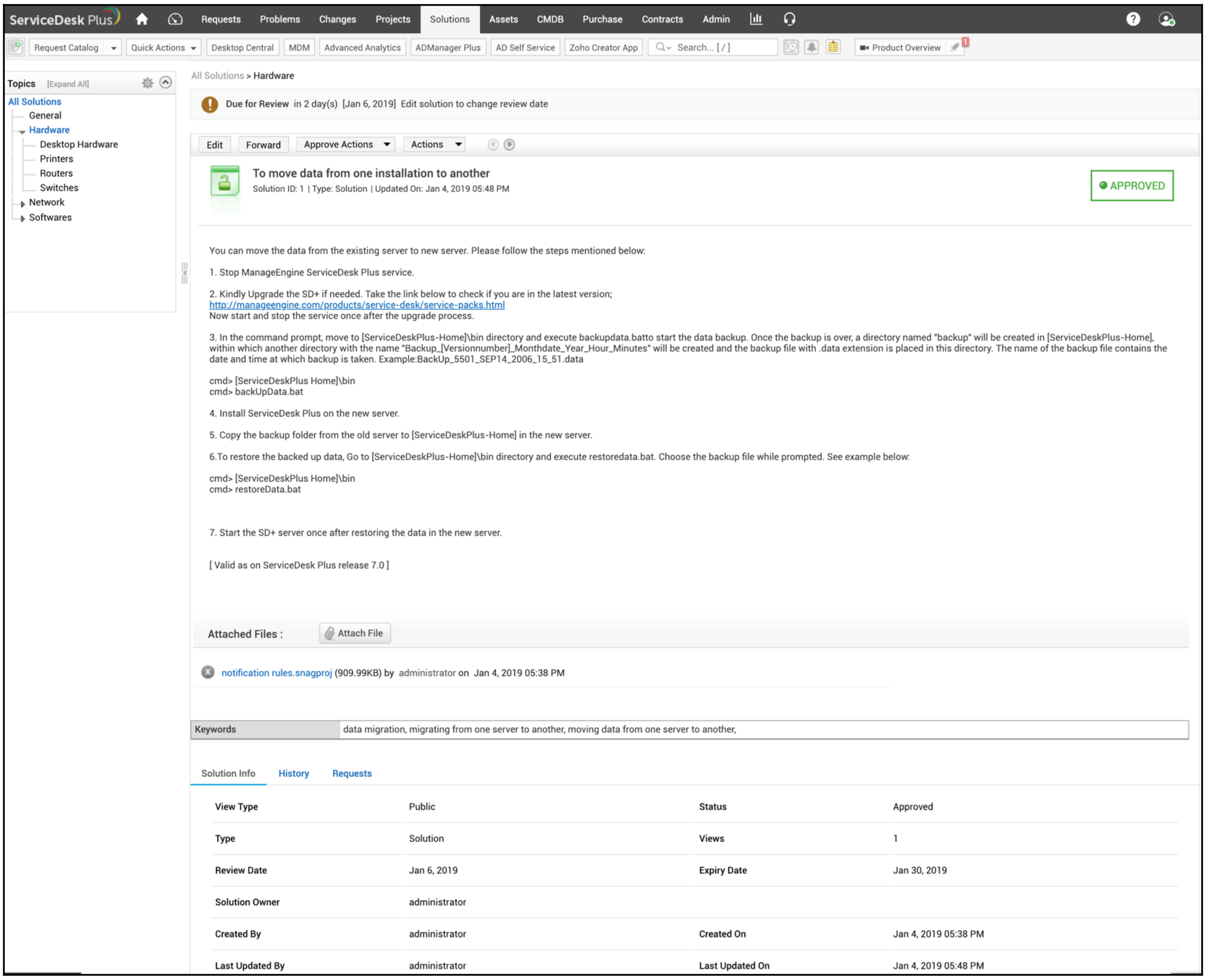
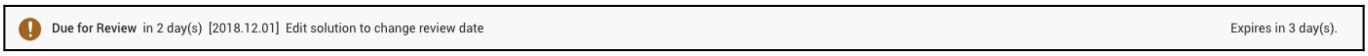


Points to Note

- Solution approval status will be displayed on the upper right of the Solution Details page.
- When a solution is due for review, a notification will be displayed on the top of the page. You can review the solution and extend the review date or mark as expired by clicking **Edit solution to change the review date**.

A sample notification is shown below.



Edit solution

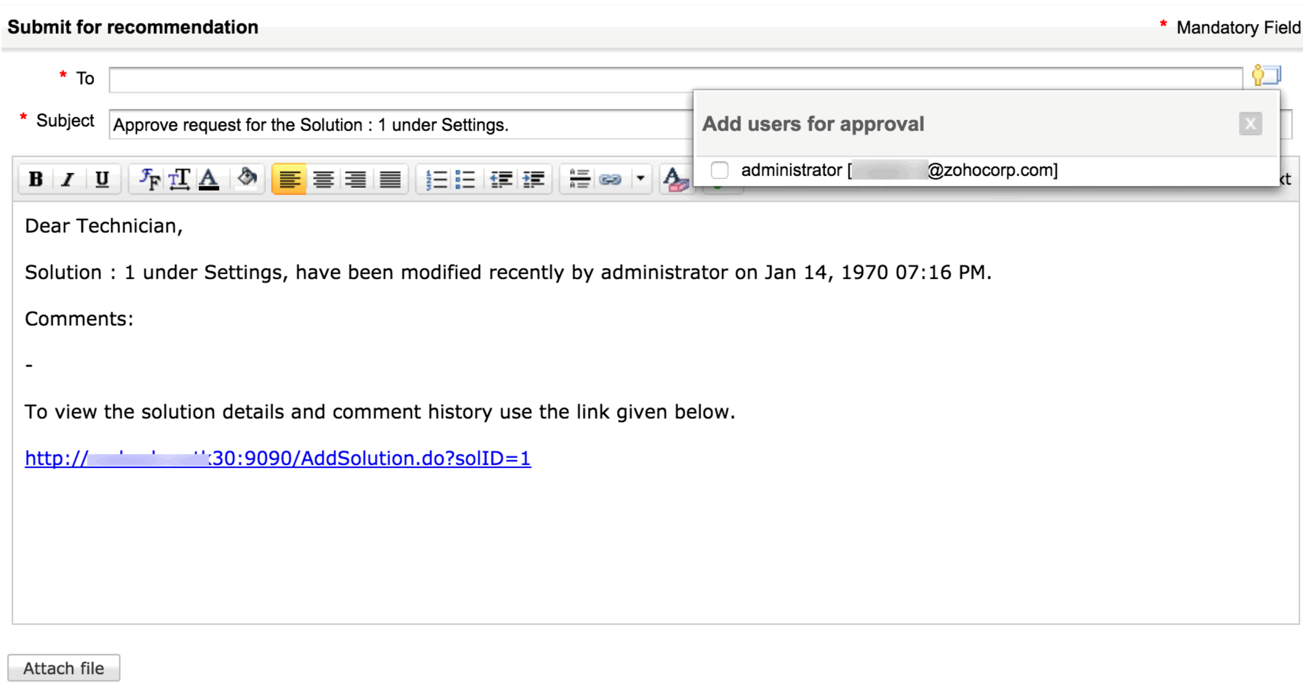
To edit a specific solution,

1. From the solutions list view page, click the Subject link of the solution which you want to edit.
2. Click **Edit** button available on the right hand side of the View Solutions Details page.
3. In **Edit Solutions** page, make the necessary modifications. The title, contents, and the topic under which you wish to place the solution are mandatory fields. You can also add more attachments or delete existing ones.
4. Click **Save button.** If you do not want to save the changes and get back to the solutions listing, click **Cancel**.
5. On saving the solution, the status of the solution shows Unapproved. The solution has to be submitted for approval to the concerned technician. To know more on refer Submit for Approval.

Submit for approval

The newly added solutions have to be approved by the concerned technician, in order to be viewed by the requesters in the self-service portal. To provide access permission to approve solutions refer Configuring Roles. To submit for approval,

1. From the solutions list view page, select Unapproved Solutions from the filter showing combo box. The list of all unapproved solutions gets displayed.
2. Click the subject of the solution which you want to submit for approval. This opens the View Solutions page. The Status is shown as Unapproved below the Solution Id.
3. Select Submit for Approval under the Approve Actions combo box on the right hand side of the page. The Submit for recommendation window pops up.
4. Select the To address by invoking the icon. The **Add users for Approval** pops up as shown below,



- Enable the check box adjacent to the user whom you want to submit the solution for approval.
- The To text field gets filled with the mail id of the corresponding administrator.

5. The Subject and Description is entered as given in Notification Rules email template. If needed you can modify the subject and description content manually, else you can change the same from the Notification Rules email template under Helpdesk.
6. If there are any relevant files to be attached then, click Attach File button.
7. Click Send to submit the solution for approval.

The mail notification is sent to the person who was addressed in the To field of the notification. The mail contains the link to the specific solution which needs approval. On clicking the link, it leads you to the login screen, where on providing the proper credentials, the solution awaiting approval opens. To approve/reject solutions refer Approve/Reject Solutions.

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Approve/reject solution

On submitting the solutions for approval, a mail notification is sent to the concerned technician requesting the approval of the solution along with the solution link. The solution can be either approved or rejected. The approval access permission is given in Configuring Roles.
To approve/reject solution,

1. Click the link to open the solution.
2. Login to the ServiceDesk Plus application using your username and password. This opens the view solution details page of the solution pending for approval. The status of the solution shows Approval Pending on the right hand side of the page.
3. Click Approve Actions combo box -> Approve Solution. This opens the Approve Comments pop up window. Specify any related Comments in the field provided. Click Approve.
4. If you wish to reject the solution then, select Reject Solution under Approve Actions. This opens Reject Comments pop up window. Specify comments, such as reason to reject the solution in the Comments field. Click Reject.

To approve/reject bulk solutions,

1. From the solution list view page, select Unapproved Solutions from the filter showing combo box. Enable the check box adjacent to the solutions which you want to approve/reject.
2. Click Approve Actions combo box -> Approve Solution. This opens the Approve Comments pop up window. Specify any related Comments in the field provided. Click Approve.
3. If you wish to reject the solution then, select Reject Solution under Approve Actions. This opens Reject Comments pop up window. Specify comments, such as reason to reject the solution in the Comments field. Click Reject.

The approved solutions can be viewed by the requesters in the self-service portal. The rejected solutions can be edited and sent for approval to the concerned technician. Thus the solution is not completely deleted from the list.

Delete solutions

To delete a specific solution,

1. From the solutions list view page, click the subject link of the solution which you want to delete.
2. Click the **Delete** button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed with the deletion.

To delete multiple solutions,

1. Select the check box beside the solution to delete.
2. Click Delete button. A dialog box confirming the delete operation appears.
3. Click OK to continue. The solution gets deleted from the list.

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Search for a solution

ManageEngine ServiceDesk Plus allows you to search for solutions using the **Keyword Search** or the **Column-wise Search**.
To perform **keyword search**,

1. Click **Solutions** tab in the header pane.
2. In the Search block, enter a keyword relevant to your solution like laptop or printer.
3. Click **Search Solutions** button or press the **Enter** key in your keyboard. The search results display all the solutions that match the search string.

To perform **column-wise search**,

1. Click the **search** icon at the end of the solution list view headers. This opens the search field just below every column in the list view.
2. Enter the search key in field under the column of your choice. You can enter keywords in more than one column to perform a combined column search.
3. Click **Go**. The search results matching the search string(s) are displayed.

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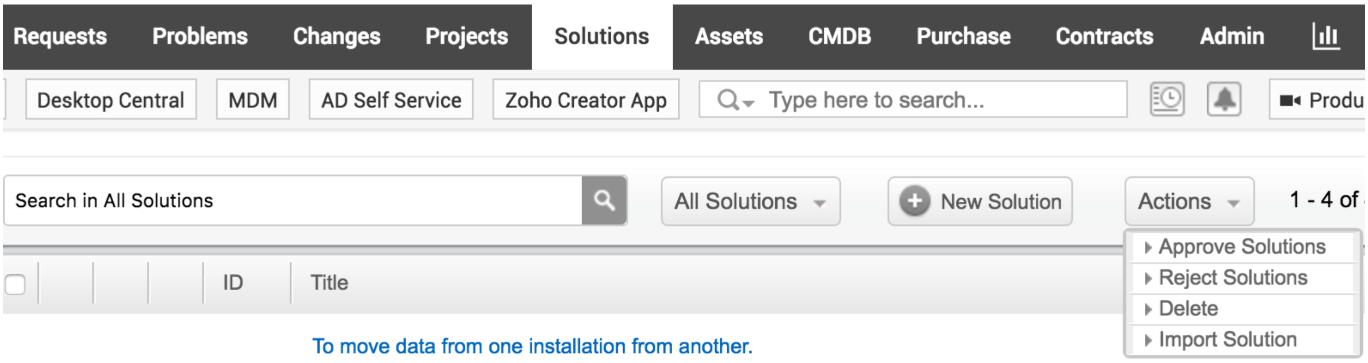
Import solutions from XLS

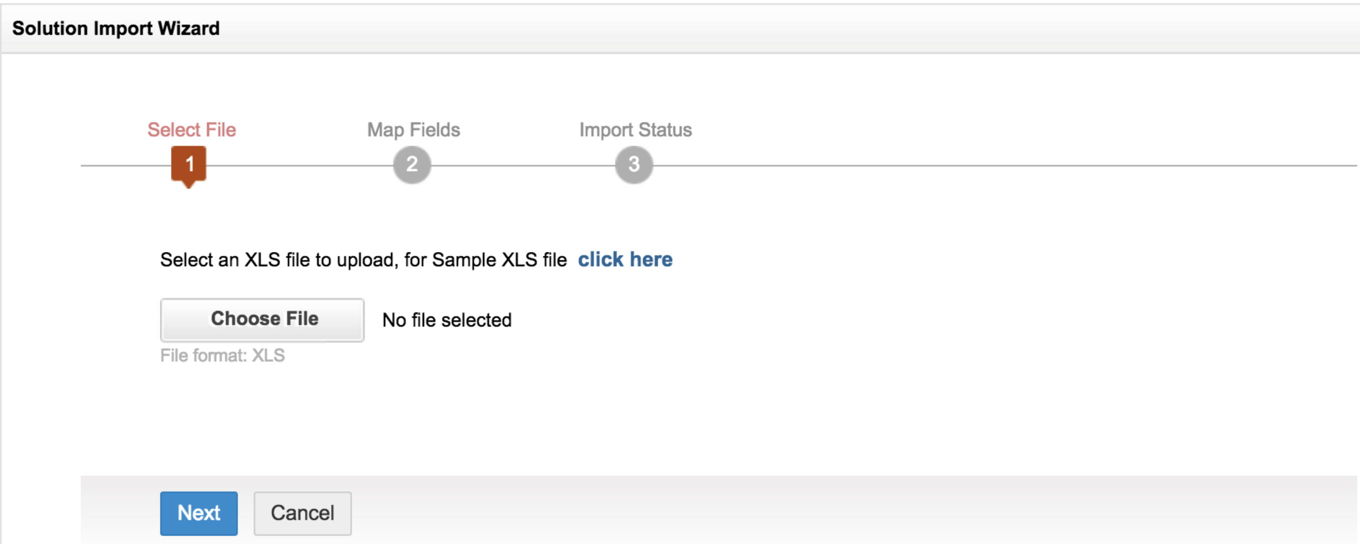
To import solutions from an existing XLS:

1.Click on the **Solutions tab** in the header pane. The list of available solutions get displayed. Click on **Actions.**

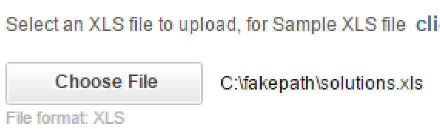
2. On choosing the Actions, a drop down menu showing various options appear. From the available options, choose **Import solution**.



3.A solution Import Wizard showing the three step process appears.

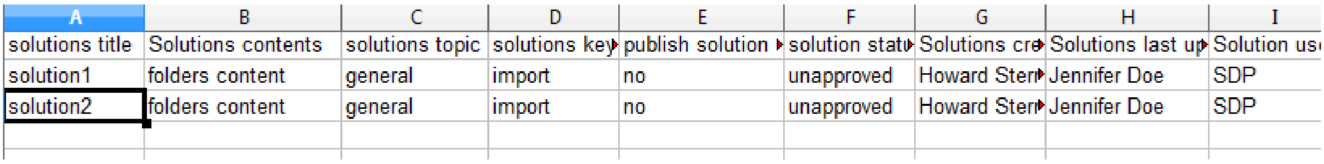


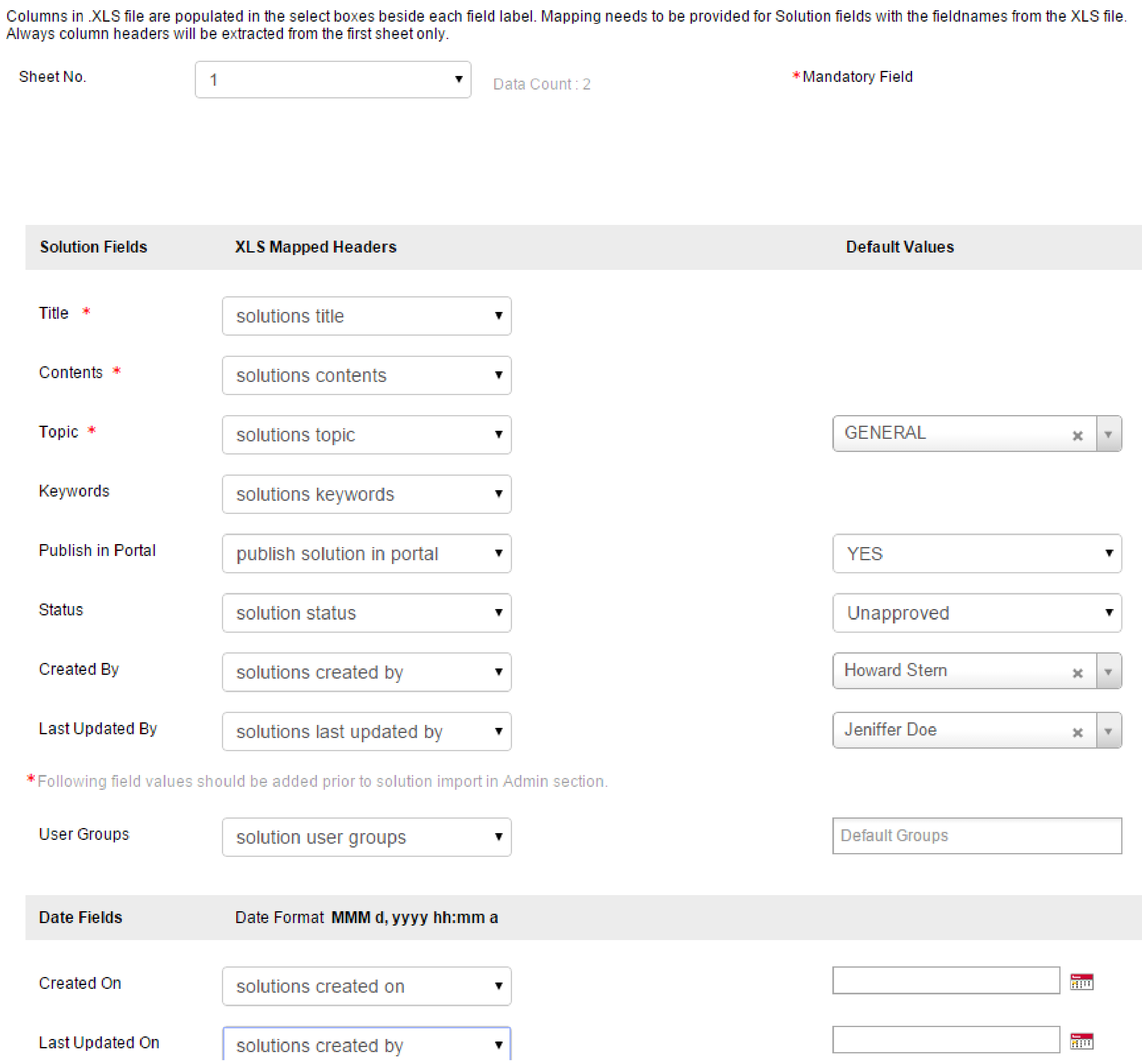
4.In the first step, click on **choose file**. A browse and choose window appears. Select the required .XLS file.click **open.**



5.In the second step, select the required sheet number of the XLS file and then map your existing solution fields to the solution fields mentioned in the Solution Import Wizard.

	Note: Please ensure that the first row contains only the solution fields.The first row should not contain data.





1. Please ensure that all the mandatory fields are entered and all the topics present in the xls are created in the same name in SDP before importing the data. Else choose a default topic. The default topic is applied*only when mentioned or* if there is no topic column or*no value in the topic column of the existing spreadsheet.
2. During import, if the cells holding the date values are formatted as DATE type, then all the DATE formats supported by Excel will be supported by SDP as well.
On the other hand, if the cells holding the date values are non-formatted, then only the date format prescribed by SDP which is "dd MMM yyyy, hh:mm:ss" has to be followed.
*The date values that do not follow the assigned DATE format are not recognized as dates by Excel, which in turn is reflected in SDP as well.
*If the given format is incorrect in either case (formatted or non formatted cells), the current time of import /

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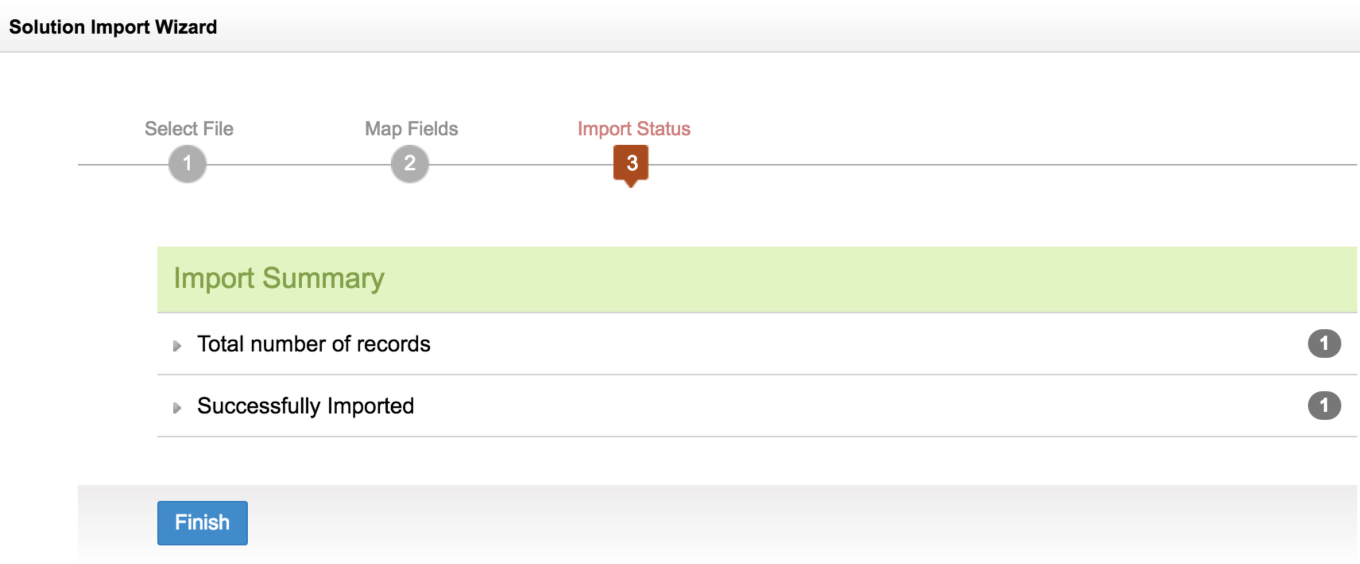
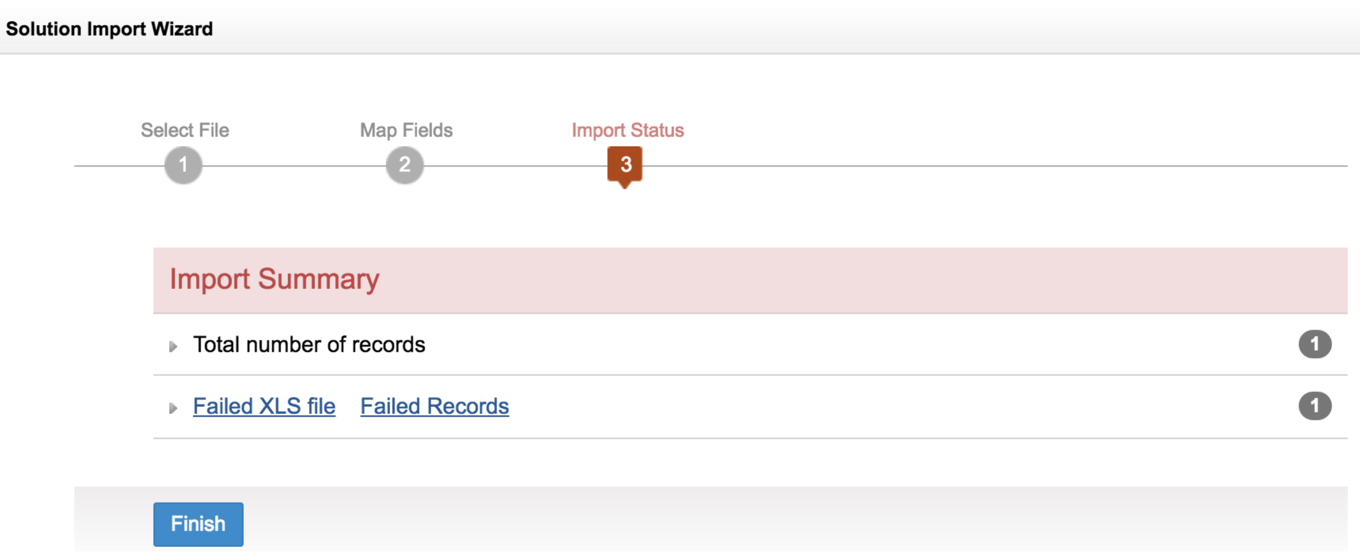
addition will be considered.

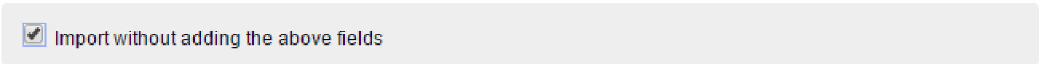
In the third step, the import status can be viewed. If it is successfully imported, click the **finish** button.



If the topic field is not mentioned, then the import will fail and the import summary showing the failed XLS file and records will be shown.



In case of other fields, the values can be skipped and imported, by clicking **Import without adding the above fields**.



Manage topics

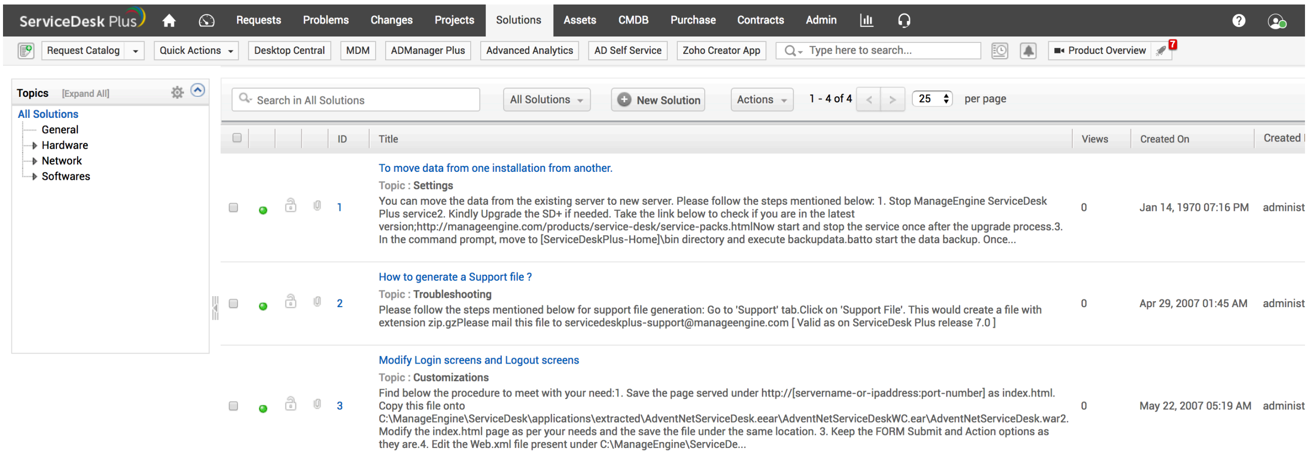
Solutions are generally grouped or categorized into topics (and subtopics) so that they can be managed efficiently. **Example:** Generic Solutions can be grouped under a **Topic** called **General**'. Each topic can in turn contain subtopics under which another set of solutions **specific to that subtopic** will be grouped. **Example:** Solutions belonging to ServiceDesk Plus (Subtopic) application can be grouped under Softwares (Topic).

Manging Topics: You can add new topics, rename an existing topic, and move topics and subtopics to a different parent topic. This provides you the ability to organize your solutions in a logical manner that would meet your organization's needs.

> Topics can be extended to many levels. That is, a subtopic can in turn contain several other subtopics

Click the **Solutions** tab in the header pane.To manage topics

1. Click **Settings** button  of the Topics pane available on the left hand side.
2. **Manage Topics** page opens up on the right hand side..



Manage Topics

Available Topics

Add New Topic

Topic name	Solutions	Actions		
• General	0	Rename	Change Parent	Delete
• Hardware	0	Rename	Change Parent	Delete
• Desktop Hardware	0	Rename	Change Parent	Delete
• Printers	0	Rename	Change Parent	Delete
• Routers	0	Rename	Change Parent	Delete
• Switches	0	Rename	Change Parent	Delete
• Network	0	Rename	Change Parent	Delete
• Internet	0	Rename	Change Parent	Delete
• Softwares	0	Rename	Change Parent	Delete
• ServiceDesk Plus	0	Rename	Change Parent	Delete
• Customizations	1	Rename	Change Parent	Delete
• Settings	1	Rename	Change Parent	Delete
• Troubleshooting	2	Rename	Change Parent	Delete

Add New Topic

To add a new topic,

1. In the **Manage Topics** page, click the **Add New Topic** button. The Add New topic form is displayed just above the available topics list with the **Topic Name** and the list of parent topics as the two fields. If there are no topics available then the **Choose a parent topic** field will have the **/Topic Root** alone.
2. Enter the name of the topic in the **Topic Name** field and choose the parent topic under which you want to place the new topic.

   For example - if you want to add the new topic as a main level topic, choose /Topic Root as the parent topic. Or else, choose any other topic as the parent topic.
3. Click **Add**. The topic is added as subtopic to the parent that you chose and is displayed in the available topics list. A message is displayed stating that the new topic is added successfully.

Rename a Topic

To rename a topic,

1. In the **Manage Topics** page, click the **Rename** link of the topic that you wish to rename. The Rename topic form is opened.
2. Type the new name for the topic in the topic name field.
3. Click **Save**.

The changes made to the topic name are displayed in the available topics list and a message is displayed above the list.

Move a Topic

To move a topic to a different parent,

1. In the **Manage Topics** page, click the **Change Parent** link in the row of the topic that you wish to move. The Change Parent Topic form is displayed. In the **Choose the parent topic** text box, by default, the current parent topic of the topic that is to be moved is selected.
2. Select the new parent topic.
3. Click **Save**. If you do not want to move the topic to a different parent topic, then click **Cancel**.

You cannot move a topic as a subtopic to its current child topic itself.

Delete a Topic:

To delete a topic,

1. In the **Manage Topics** page, click the **Delete** link in the row of the topic that you wish to delete. A confirmation page opens.
2. Click **Confirm** to delete the topic or click **Cancel** to retain the topic. If you click **Confirm**, then the topic is deleted and a message is displayed stating that the topic is deleted.

When a topic is deleted, by default, the solutions present under the topic are also deleted and if there are any subtopics, then these are moved to the **/Topics Root**. You can later choose to move the topics as child topics to other parent topics. But if you want to override the default actions performed during the delete operation, move the subtopics of the topic which you plan to delete, under a different parent topic of your choice. Also, if you do not wish to delete the solutions that are available under the topic to be deleted, then you can move the solutions to other topics. For this, when you click the Delete link and are led to the confirmation page,

1. Select the check box below the first point. This opens the topic list box, and enables you to move the reference of the solutions of the topic to a different parent topic of your choice.
2. Select the parent topic of your choice from the list box.
3. To move the subtopics to a different parent topic, select the check box below the second point in the confirmation page.
4. In the topic list box, select the parent topic of your choice under which the subtopics of the current parent topic that is being deleted can be moved.
5. Click **Confirm**.

This deletes the topic after moving the solutions and subtopics from the deleted topic to the parent topic you selected.

You cannot move a subtopic of the topic that is going to be deleted, as a subtopic to another child topic of the same parent topic which is going to be deleted.

Assets

ManageEngine ServiceDesk Plus helps to manage all your IT and Non-IT assets. ServiceDesk Plus offers a single view to track and manage all your assets with ServiceDesk Plus, you can track and manage ownership of

- IT, Non-IT and Asset Components.
- Software Asset Management

IT & Non-IT Asset Management

ServiceDesk Plus helps you to manage,

- IT assets such as, workstations, switches, routers, printers, and access points
- Non-IT assets such as basic fixtures, furniture, chairs, tables, projectors, and desk phones
- Asset Components such as keyboards, Mouse and even your printer inks.

Software Asset Management

Software License Management
ServiceDesk Plus helps you to manage software licenses installed across the enterprise. You can consolidate and manage all your software licenses from a single screen. ServiceDesk Plus will scan and automatically pickup license keys for Microsoft Windows and Microsoft Word. You can key-in all the licenses purchased earlier and track future purchase of software licenses through the Purchase module.

Software Metering
ServiceDesk Plus helps you to track the usability of the installed software across organization. It gives the count of rarely used, frequently used and occasionally used software.

Software Compliance
ServiceDesk Plus tracks purchased versus installed licenses helping you to ensure software license compliance. The scheduled scan alerts you when an unauthorized software installation is detected, ensuring software compliance on an on-going basis.

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Identifying the Uniqueness of Workstations

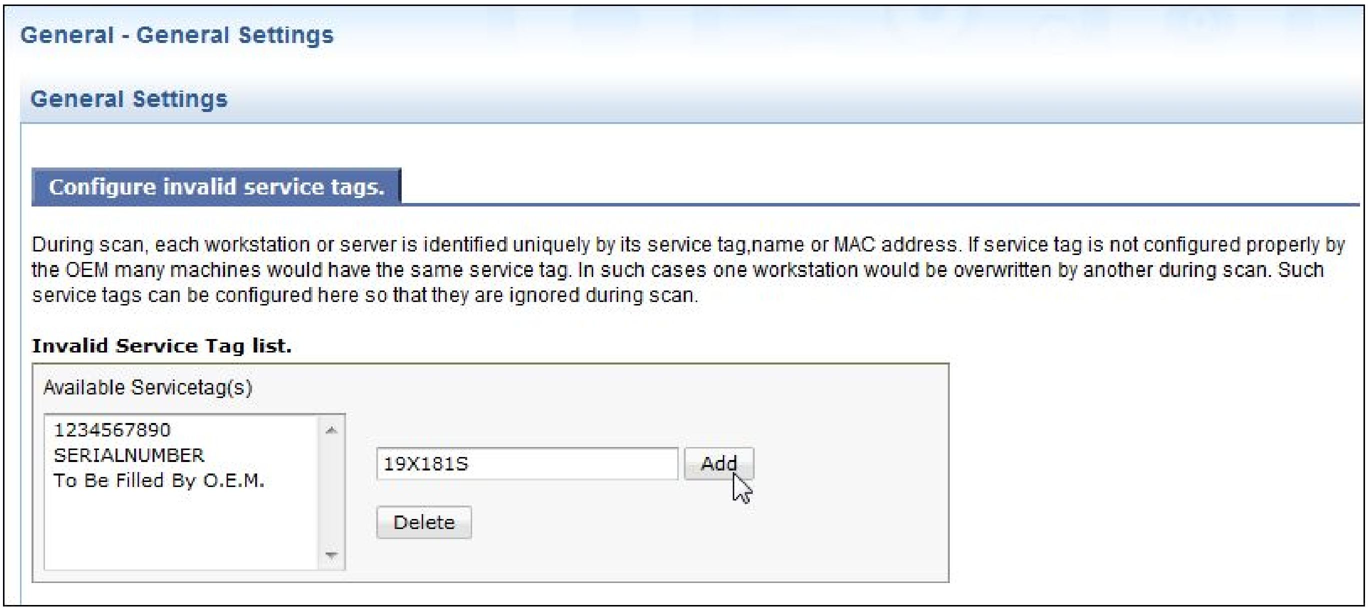
While performing a scan in ServiceDesk Plus, the criteria that helps to identify the uniqueness of the workstations is in the following order,

1. Agent ID (only for Agent based Scan)
2. Service Tag
3. Workstation Name
4. MAC Address

With the help of these criteria, ServiceDesk Plus differentiates between workstations and assumes the Agent ID, Service Tag, MAC Address and Workstation Name to be unique for each workstation. If any criteria match for two workstations, then the workstation details will be overwritten.
The procedure in which the workstations are overwritten for each criteria are explained below,

Service Tag
Consider two workstations, Machine A and Machine B with similar Service Tag as 12345. The names of the workstations are MachineA.domain.com and MachineB.domain.com respectively. Consider that only Machine A has been scanned by the application. Upon scanning Machine B, since the Service Tag is the same, the workstation details of Machine A will be overwritten by that of Machine B.

The Solution: Configuring Invalid Service Tags
If the Service Tag is not configured properly by the OEM, then many machines would have similar Service Tags. In this case one workstation would be overwritten by another during scan. Such service tags can be ignored during scan by adding them under the **Invalid Service Tag list**.
This configuration is under **Admin** tab -> **General Settings** (Under Discovery section).



Workstation Name
In general, while scanning workstations, the application will first look for Service Tag. If the Service Tag is empty the next parameter i.e., the computer name will be considered and workstations will be overwritten accordingly.
Consider the workstation, MachineA.domain.com, is already available in the application. If another machine with

same name is scanned then the details in former workstation (MachineA.domain.com) will be replaced by the latter.

MAC Address

The third criteria which the application looks for while overwriting workstations are the MAC Addresses. Consider a workstation with different name and Service Tag, but with same MAC address as the one already available in the application. On performing a scan, the details of the existing workstation will be replaced by the newly scanned workstation.

The Solution:

In certain environments there are possibilities of MAC address being the same in many machines (VMware or machines connected through VPN). Unique MAC address identification can be enabled or disabled under **Admin** tab -> **General Settings** (Under Discovery section).

Scenarios: When does the machine be renamed with _old

Scenario 1:

When the workstations are swapped in the network.

Consider two workstations, MACHINE-A with service tag ST-1 and MACHINE-B with ST-2. Both the workstations are swapped in the network. On swapping the workstations configurations is, MACHINE-A with ST-2 and MACHINE-B with ST-1. If you scan MACHINE-A, then the workstation MACHINE-B will be overwritten as MACHINE-A and the workstation MACHINE-A will be renamed as MACHINE-A_old. If you scan MACHINE-B again, it will overwrite the MACHINE-A_old as MACHINE-B.

Scenario 2:

The workstation is already discovered with a valid Service Tag but scanned again with a different service tag. In this case ServiceDesk Plus will rename the existing workstation with '_old' and add the machine again with the new Service Tag.

Case 1:

In certain cases, the workstations might be discovered with valid service tag. But during its life cycle, you might change the motherboard of the workstation, thus changing the service tag. In this case, the existing workstation is renamed with _old and the workstation with the new service tag is added again.

Case 2:

The workstation MACHINE-A with service tag ST-1 is already scanned in the network. Another workstation, MACHINE-A with service tag ST-2 is added to the network. If you scan the workstation MACHINE-A again, it will rename the workstation as MACHINE-A_old and will add the newly added workstation as MACHINE-A.

Case 3:
In case of VMware machines, when the host is changed, the Service Tag gets changed too.

Workstations overwritten with _old during Agent Based Scan:
If you have enabled Agent Base Scan, then the Agent ID (a unique ID which is created on all workstations when the agent is installed on them for the first time) will be considered as a unique parameter for fetching the workstation details.
If the agent is deployed through an 'Image', then the same Agent ID will be copied to all the client machines. This in turn, will create duplicate entries for the workstations when scanned and subsequently appends the previous workstation with _old. To overcome this issue, we request you to uninstall the agent completely from the registry and deploy it through AD GPO.

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Configure Asset Depreciation

Most of the products purchased by your organization, wear out and decrease in value, or depreciate, over a period of time. Calculating the depreciation of such products becomes utmost essential while creating the financial report of your organization.

ServiceDesk Plus provides 4 methods to calculate asset depreciation, which can be configured in two levels namely, Product Level and Asset Level.

- **Product Level Depreciation Configuration:**

  The Depreciation Configuration at the product level is generally configured under **Admin** -> **Product**. The depreciation configuration is applicable for all the assets under the product.
- **Asset Level Depreciation Configuration:**

  The Asset Level Depreciation Configuration denotes the depreciation details configured for individual assets.

NOTE:

1. Please note that you can configure depreciation only for assets and components.
2. The Depreciation configuration at the asset level will always override the depreciation configuration at the product level.

Methods of Calculating Depreciation & Terminology

The four methods of calculating the asset depreciation are:

- Declining Balance
- Double Declining Balance
- Straight Line
- Sum of the Years Digit

Before we begin configuring depreciation, there are certain terms related to depreciation calculation:

- **Useful Life:** The period during which an asset is expected to be available for use.
- **Salvage Value:** The estimated selling value of any asset, after it has reached the end of service life, or its value has depreciated substantially. It is the total net worth of any asset after it has exhausted its useful life span.

Product Level Depreciation Configuration

In most cases, the depreciation details at the product level will be configured while adding the product under the Admin module. You can refer the topic Configure Depreciation to know how to configure the depreciation details while adding the product.
If the depreciation details are not configured at the product level, then you can do so from the asset details page.

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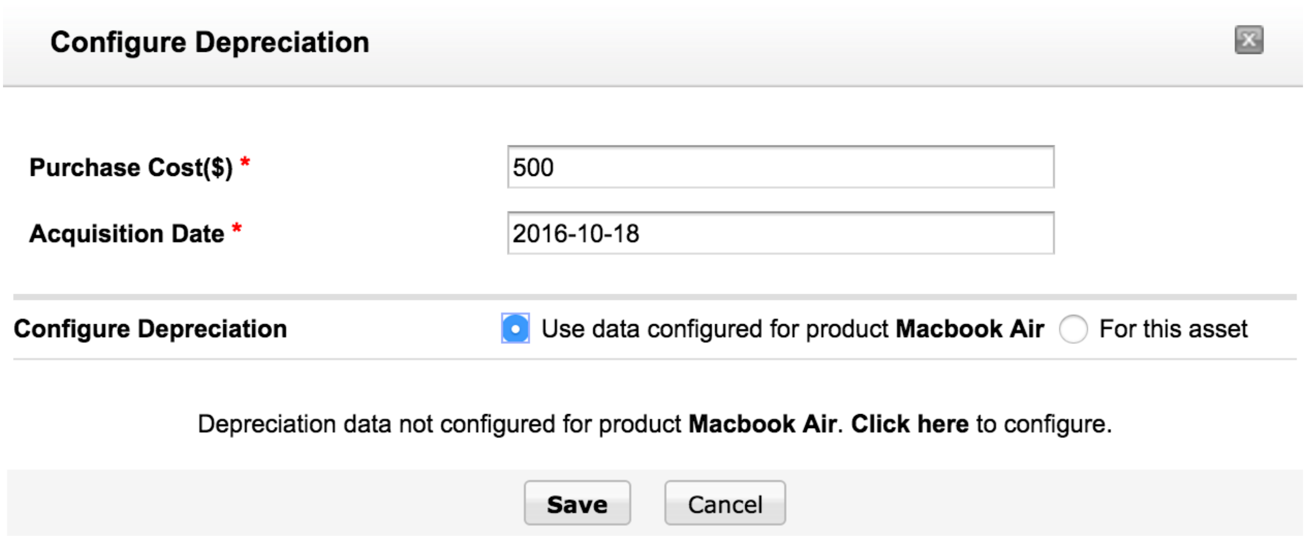

1. Click the **Assets** tab in the header pane.
2. Select any IT Asset, Non-IT Asset or Component. Let's take the example of the IT Asset - Workstation.
3. Select a workstation from the List view.
4. In the details page, click **Actions** drop-down menu and select **Configure Depreciation** option.
5. Specify the **Purchase Cost** and the **Acquisition Date** of the asset.
6. To configure depreciation details at the product level, select **Use data configured for product** radio button.
7. Click **Click here** link to select the Depreciation Method.
8. Choose the **Depreciation Method** from the drop down. If the Depreciation Method is **Declining Balance**, then the **Useful Life** radio button and **Decline Percent** radio button appears. If the depreciation method is **Straight Line**, then the **Useful Life** radio button and **Depreciation Percent** radio button appears.
9. If you have selected **Useful Life** radio button, then specify the **Useful Life** of the product. Alternatively, if you have selected **Decline Percent** or **Depreciation Percent** radio button, then specify the **Decline Percent** or **Depreciation Percent** of the product.
10. Specify the **Salvage Value** of the product.
11. Click **Save** button. The configured depreciation details will be applicable for all the assets with Model Latitude D600.

Asset Level Depreciation Configuration

You can configure the depreciation details at the asset level from the **asset List view**. To configure depreciation for individual assets,

1. Click the **Assets** tab in the header pane.
2. Select any IT Asset, Non-IT Asset or Component. For an example, let’s consider the IT Asset-Workstation.
3. In the List view, select the check box beside the asset to configure depreciation.
4. Click **Actions** drop-down box and select **Configure Depreciation** option. The Configure Depreciation pop-up is displayed.
5. Choose the **Depreciation Method** from the drop down. If the Depreciation Method is **Declining Balance**, then the **Useful Life** radio button and **Decline Percent** radio button appears. If the depreciation method is **Straight Line**, then the **Useful Life** radio button and **Depreciation Percent** radio button appears.

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6. If you have selected **Useful Life** radio button, then specify the **Useful Life** of the product. Alternatively, if you have selected **Decline Percent** or **Depreciation Percent** radio button, then specify the **Decline Percent** or **Depreciation Percent** of the product.
7. Specify the **Salvage Value** of the product.
8. Click **Save** button.

If the depreciation is configured for the selected asset(s), then a dialog box confirming the change in depreciation configuration appears. Click **OK** to proceed. The depreciation details are successfully saved.

Alternatively, you can also configure asset level depreciation while **adding a new asset** and from the **asset details page**. To configure depreciation from the asset details page,

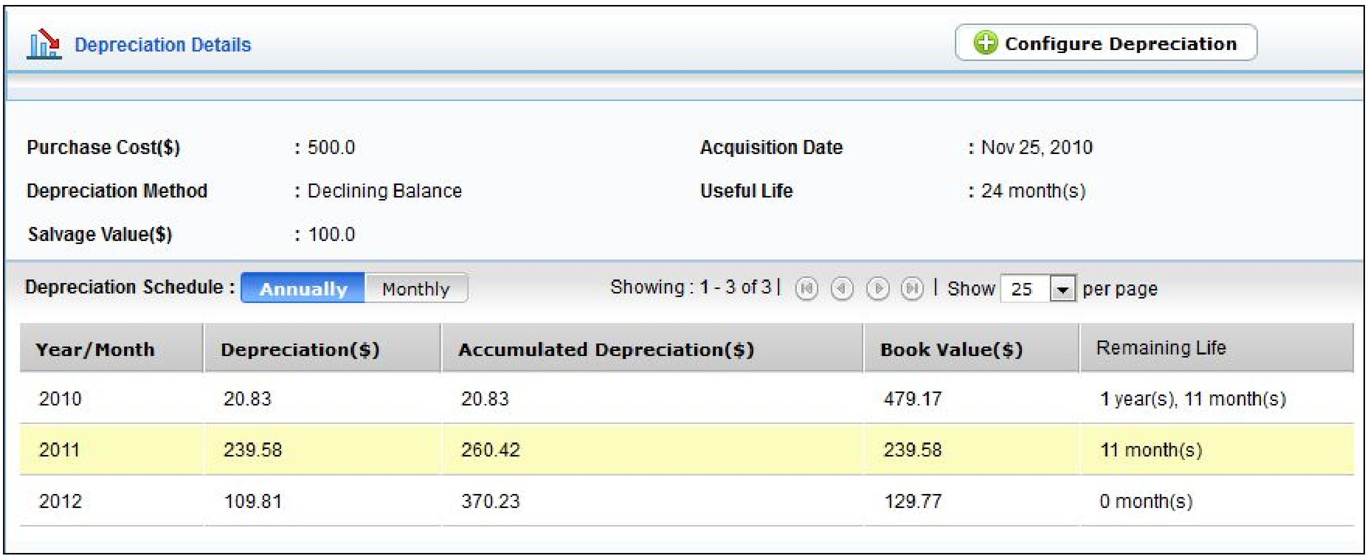
1. Click **Actions** drop-down menu and select **Configure Depreciation** option. The Configure Depreciation pop-up is displayed.
2. Specify the **Purchase Cost** and **Acquisition Date** of the asset, if not mentioned.
3. To configure the depreciation details at the asset level, click **For this asset** radio button.
4. Select the **Depreciation Method** to calculate the depreciation for this asset.
5. Specify the **Useful Life** and **Salvage Value** of the asset.
6. Click **Save** button.

View Depreciation Details

You can view the depreciation details of an asset from the asset details page.

1. From the Asset List view, select the asset to view the details.
2. In the asset details page, click **Costs** tab.

The Depreciation Details block shows information such as the Purchase Cost and Acquisition Date of the asset, the Depreciation Method, the Useful Life and the Salvage Value of the asset. The Depreciation Schedule lists the depreciation details in tabular format and can be viewed either Annually or Monthly.



Year/Month	Depreciation($)	Accumulated Depreciation($)	Book Value($)	Remaining Life
2010	20.83	20.83	479.17	1 year(s), 11 month(s)
2011	239.58	260.42	239.58	11 month(s)
2012	109.81	370.23	129.77	0 month(s)

IT Assets

All IP based assets are discovered under IT assets. The list of possible IT assets are given below,

- Workstations
- Printers
- Switches
- Servers
- Routers
- Access Points

- Add New IT Asset
- Edit IT Asset
- Add IT Assets to Groups
- Assign IT Assets to Department
- Modify State of IT Assets
- Change log-in Credentials for IT Assets
- Bulk Scan of IT Assets
- Delete IT Asset
- Import IT Asset from CSV
- View IT Asset Details
- Copy Resources
- Attach Assets
- Attach Components
- Attach Documents
- Assign Assets to Users/Departments/Assets
- Add New Workstation
- Bulk Scan of Newly Added Workstations
- Chang Workstation as Server
- View Workstation Details
- Print the Workstation Details
- Modify Type
- Add Software
- Delete Workstation

Add New IT Asset

IT Assets other than workstations are configured under IT Assets. To add a new asset,

1. Log in to the ServiceDesk Plus application using your **user name** and **password**. This opens the ManageEngine ServiceDesk plus home page.
2. Click Assets tab in the header pane. This opens the Asset home page.
3. Click Quick Actions drop-down menu and select Asset option. Choose the Product from **Add Asset/Component** dialog box. Click **Save**. The Add New form for the selected product is displayed. (OR)

   Click IT Assets under Assets block on the left side of the page -> Select any one of the listed IT assets link. e.g. Access points, printers etc. This opens the particular IT asset page.
4. Click New button. This opens Add Asset page.
5. Select the Product Name of the asset from the combo box. If required, you can add a new product name by clicking Add New link beside the product name field. This is a mandatory field.
6. Select the Vendor Name from the combo box. If required, you can add a new vendor by clicking the Add New link beside the vendor name text field.
7. Specify the Asset Name in the given text field. This is a mandatory field.
8. Specify the Asset Tag, Asset Serial No, Bar Code and Asset Cost in the corresponding text fields.
9. Specify the Acquisition Date &Expiry Date from the calendar button.
10. Select the Site from the combo box.
11. Specify the Location in the given text field.
12. Specify the Asset State by selecting the current status of the asset from the combo box.

    If the asset is in Use state you need to associate or assign asset to department or user or asset.
    1. Associate the asset to an Asset or to an User or to the Department by selecting any of the two radio button. Say Associate to Asset or Assign User/ or Department. The user names, the department names and the assets can be searched by typing the alphabets and numbers.
    2. If you choose to associate asset to an asset then select the asset name from the Choose Asset combo box. Or if you have chosen to assign to user or the department then select User or Department from the combo box.
    3. If the asset is leased select the check box Asset is Leased. If the asset is leased then specify the From and To date from the calendar button.
13. Click Save button to save the changes. To save and add another asset click Save and add new button.

Note: In the dropdown searchbox, only the top 25 results will be shown for the searched text. Type in more characters to get the exact result. To know how to include email id's, names, loginNames, employee Id's along with the user name in the user dropdown, click here.

Edit IT Asset

To edit the resource details,

1. Click the Assets tab -> select the IT Assets link on the left hand side of the page. This opens the list view page of the IT assets.
2. Click the title of the IT asset to be edited. This opens the Asset details page.
3. Click Edit button on the top right hand side of the page (OR)

   Click the Actions combo box next to the edit resource button -> select the Edit option. This opens the Edit Asset page.
4. Edit the Asset Details block such as Product Name, Asset Name, Tag, Serial No, Bar Code, Vendor Name, Cost, Acquisition Date, Site, Expiry Date, and Location.
5. Modify the Asset State details such as, Current usage status of the assets like In Use, In Repair and so on. For assets in use, you can Re-associate the asset to other asset or Re-Assign it to other **User or Department**.

   Note: The assets, users and the departments can be searched by typing the respective characters in the dropdown searchbox. Enter more characters to get the exact result. To know how to include email id's, names, loginnames, employee id's along with the user name in the user dropdown, click here.
6. Update the changes. You can see the assets details getting updated.

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Add IT Assets to Group

You have two types of groups in ServiceDesk Plus say, Static group and Dynamic. Add to group option in asset list view page is to group bulk of assets. These assets will be grouped under the Static group by default.

To Add IT Assets to group,

1. Log in to ServiceDesk Plus application using your user name and password.
2. Click any of the IT Assets link under the Assets block on the left hand side of the page. Select any one of the listed IT assets link. e.g. Access points, printers etc. This opens the particular IT asset page.
3. Select the assets to be added to the group by enabling the check box. Click Actions button -> Add to Group option. This opens the Add Resource(s) to page.
4. By default you can group assets only to the static group. Either to the Existing static group or New static group can be added.
5. If you would like to group the assets under existing static group then click the corresponding radio button. Select the group name from the combo box.
6. Else, if you would like to add a new static group and group the assets, click New Group radio button. Specify the Group Name and relevant information about the group in the Description field.
7. Click Save button to save the changes.

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Assign IT Assets to Department/Site

Assign IT Asset to Department

1. Click the Assets tab in the header pane. This opens the assets home page.
2. Select the IT Assets title under the Assets block. Select the corresponding IT Asset link say, servers, workstations and so on. This opens the selected Assets list view page.
3. Click on the Asset Name to be assigned to a Department/Site by enabling the check box.
4. Click the Actions menu -> select Assign to Department option from the list. This opens Add Resource(s) to pop-up window.
5. Select the Department Name from the combo box and Save the details.

Assign IT Asset to Site

1. From the Asset list view page, click the Actions menu -> select Assign to Site option from the list. This opens Assign Resource(s) to Site pop-up window.
2. Select the Site name from the combo box.
3. Save the details. Else click Cancel button.

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Modify State of IT Assets

To modify the state of IT Assets,

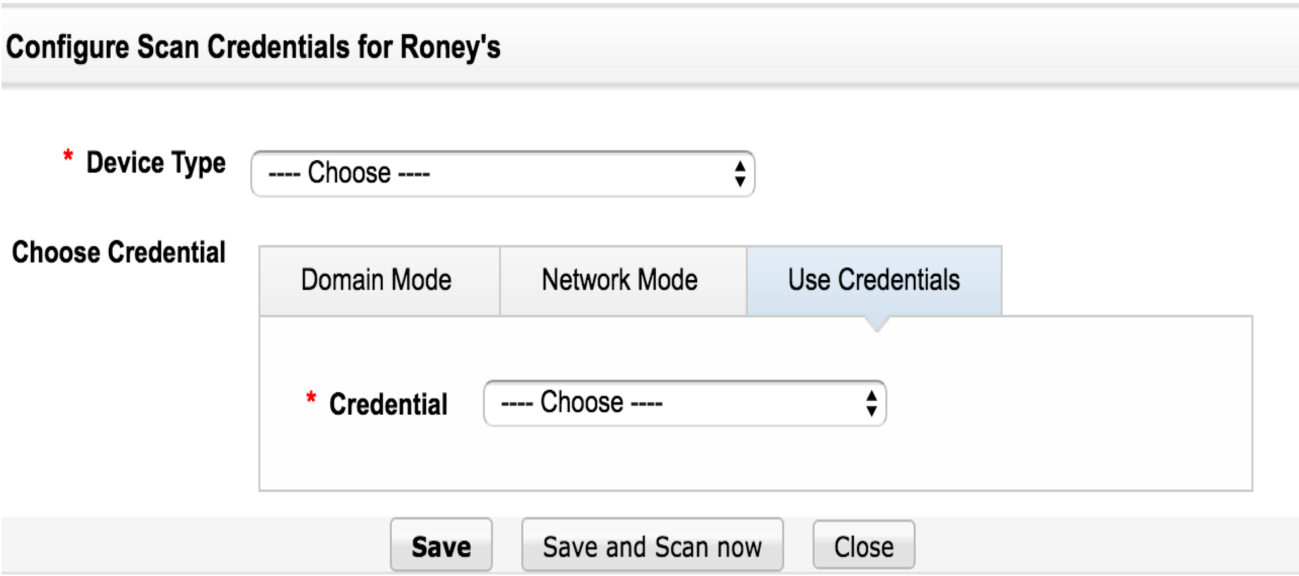
1. Click the Assets tab in the header pane. This opens the assets home page.
2. Select the IT Assets title under the Assets block. Select the specific IT Asset link. This opens the Assets list view page.
3. Select the assets to be modified of their status by enabling the check box. Click the Actions menu and select the Modify State option. This opens the Modify State pop up window.
4. Select the State from the combo box. For ex, In Store, In Use and so on.
5. Save the changes.

Change Scan Credentials for IT Assets

You can change scan credentials for bulk of assets. You can do so using the following options: **Domain Mode** Scan, **Network Mode** Scan & **Credential Mode** Scan.

To change scan credentials,

- Click Assets tab in the header pane. This opens the **Assets Home** page.
- Click IT Assets under Assets block on the left hand side of the page. Select the respective **IT asset link**. e.g. Workstation, Access points, Printers and so on. This opens the corresponding IT asset page.
- Select the **IT Assets** for which the scan credentials have to be changed and click Actions combo box -->Change Scan Credential option. This opens the **corresponding pop-up.**



- Select **Device Type** (available options: Windows OS, Other OS, SNMP Supported Devices and VMWare Devices)
- Choose Scan Mode. Available Options: **Domain Mode, Network Mode (or) Use Credentials**
- **Select Scan Credential from drop down**
- **Save it**

	Scan Using Agent • While scanning Windows Workstations alone, we recommend the use of **Scan Using Agent** option • Ensure Agent has been installed when enabling **Scan Using Agent** checkbox • When **Scan Using Agent checkbox** is selected, the **Choose Credential tabs** will not be available

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Bulk Scan of IT Assets

Scan now option is to scan group or bulk of assets for assets data. Each time when a new asset is added, instead of scanning all the assets, you can scan the newly added assets for resource details.
If you have changed the credentials for the assets or if you want to specify the log-in credentials for an asset then select the Change Credentials option under the actions menu and specify the details. Click Save and Scan now button for scanning the assets.

To scan bulk of IT Assets,

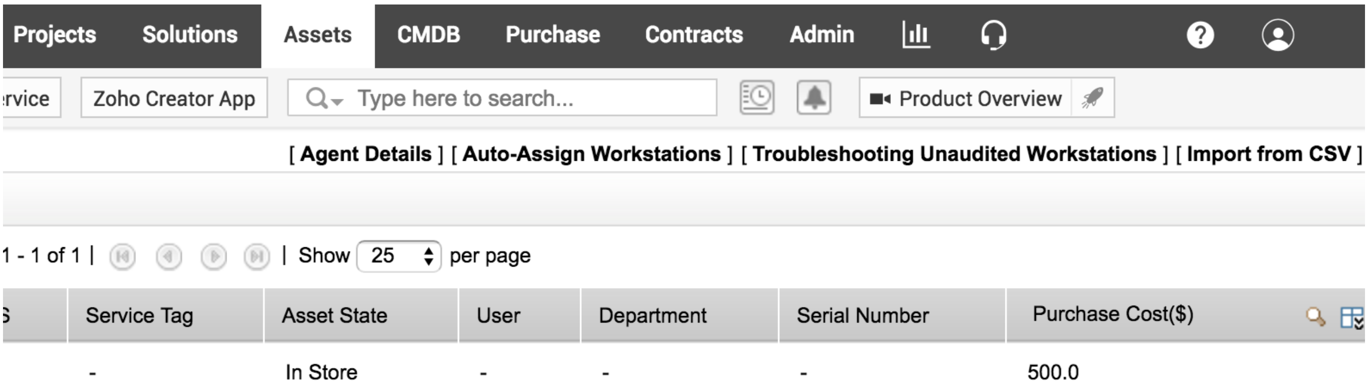
1. Click the Assets tab in the header pane. This opens the assets home page.
2. Select the IT Assets title under the Assets block. Select the specific IT Asset link. This opens the Assets list view page.
3. Select the assets to be scanned by enabling the check box. Click the Actions tab -> select Scan Now option. This opens the Scan wizard page with total number of scanned and failed assets. And you can view the asset details in the Resource details page.

Import IT Assets from CSV file

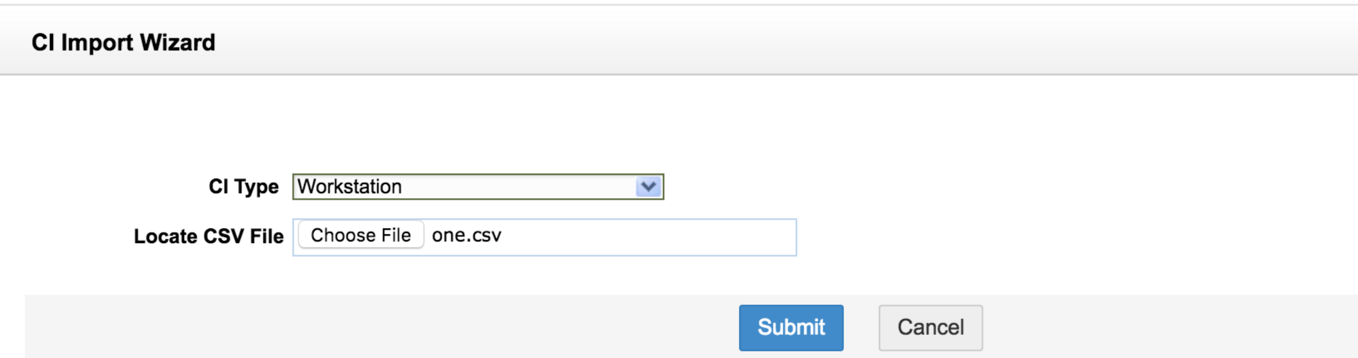
ServiceDesk Plus helps you import your IT Asset details saved in CSV (Comma Separated values) format. If you have the details in XLS format, then open it with Microsoft Excel, save it as a CSV file, and import it.

Steps to Import

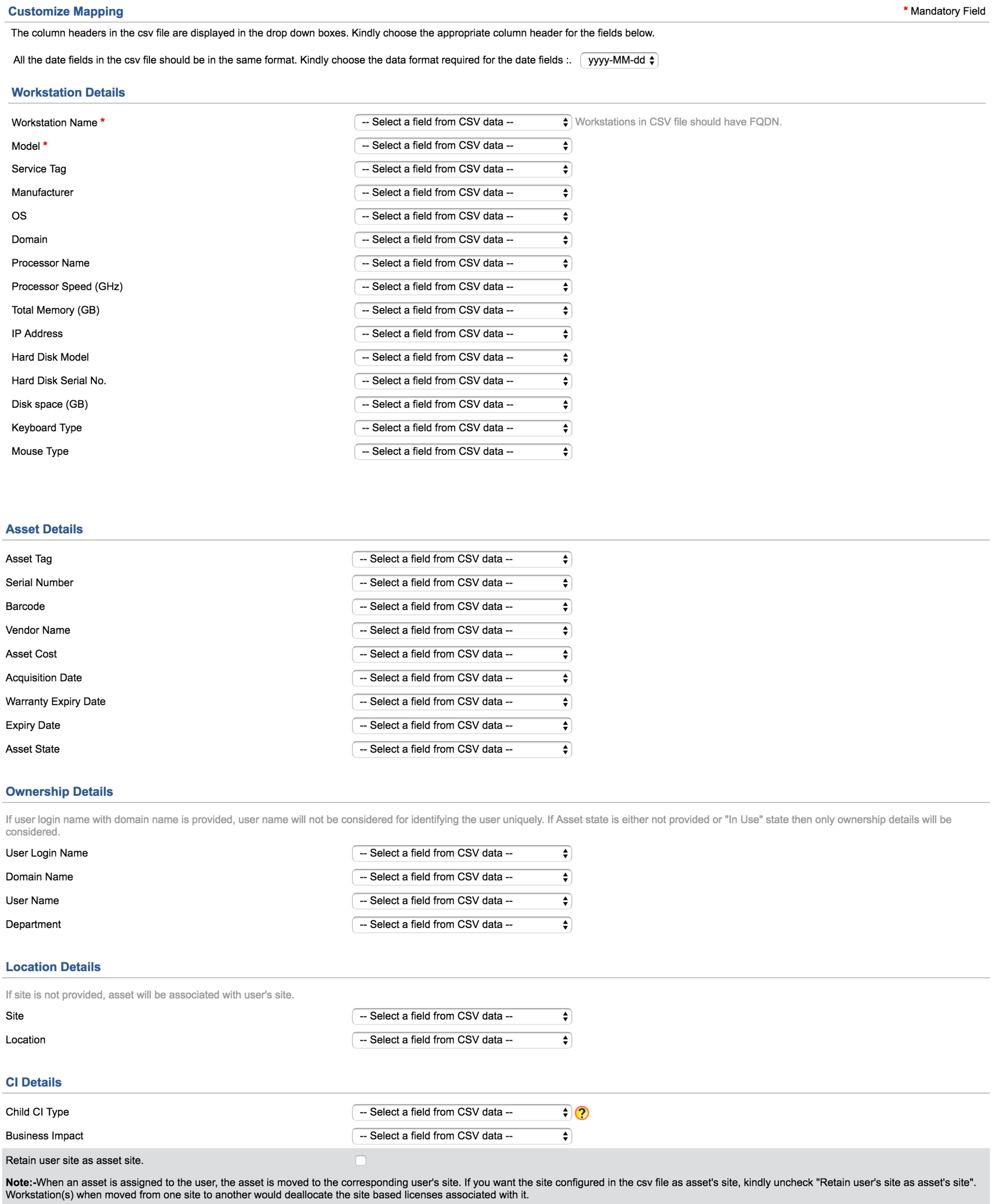
1. Click the **Assets** tab. Click the required **IT Asset** (say, Server) whose details you wish to import.
2. From the Assets List View page displayed, click the Import from CSV link at the top right corner.



3. The **CI Import Wizard** is displayed, where the CI Type field carries the IT Asset (say, Server) chosen in step:1. You can also choose a different IT Asset.



4. Click the **Choose File** button and locate the CSV file. Click **Submit**. The column headers in the uploaded CSV file are displayed in drop down boxes as shown below.



5. Choose a **Date Format**. Remember, all the date fields in the CSV file should be of the same format.
6. Choose the appropriate column headers for the fields displayed. For example, if you have selected the CI Type as Server, specify the Asset Details by selecting from the respective combo boxes. The columns in CSV file are populated in the select boxes beside each field label (Refer the above screenshots).

7. Click **Import** to import the existing data from the CSV file. Once the data is imported, the result is shown with details like the number of records added and overwritten, and the number of records failed to import.

View IT Asset Details

1. Log in to the ServiceDesk Plus application using your **user name** and **password**. This opens the ManageEngine ServiceDesk plus home page.
2. Click Assets tab -> Click IT Asset link on the left hand side of the page. This opens the IT Assets list view page.
3. Click the IT Asset name to view the IT Assets details. By default Resource Info tab details are displayed.

View Resource Info Details

Resource Info tab displays the Resource Details such as, Resource Name, Tag, Bar Code, Serial No Region, Cost, Acquisition Date and many other details are displayed.

View Relationships

The Relationship tab shows the default relationships of the asset with other assets. If you are have configured CMDB in the application, then the relationship map is displayed. Refer Defining CI Relationship to know more on configuring the relationships between assets.

On clicking the tab -> click the Add Relationship button on the top right hand side of the page.

Connection Relationship

1. Click the Connection Relationship option from the list. This opens the Connection Relationship page.
2. To connect the assets to other assets select the Assets radio button.
   1. Select the assets to be connected from the Asset List.
   2. Move the selected asset to the Connected Assets list using the >> button.
   3. Save the details. You can see the connected assets under the Connected to Assets block.
3. To connect the assets to the Business Services select the corresponding radio button.
   1. Select the business services from the list to be connected to the assets such as, Email, Internet Access and so on.
   2. Move the selected assets from the Business Service list to the Connected Services list using the >> button.
   3. Save the changes. You can see the connected business services under the Business Services block.

Usage Relationship

1. Click the Usage Relationship option from the list. This opens the Usage Relationship page.
2. Select the Assign the asset to User/Department radio button to associate the asset to the user/department.
   1. Select the User from the combo box.
   2. Select the Department to be associated from the combo box.
   3. If the Asset is Leased then select the corresponding check box.
   4. Save the changes. (Or)

3. Select the Associate to Asset radio button to assign the asset to the asset.
    1. Choose Asset to be associated from the combo box.
    2. Save the details.

Container Relationship

1. Click the Container Relationship option from the list. This opens the Container Relationship page.
2. Select the Components radio button to associate the components to the user. Select the type of components to be displayed in the list by selecting it from the choose product combo box.
3. Select the components from the Components List and move it to the Attached components list using >> button.
4. Save the details.

View History of IT Asset

Click the History tab to view the IT Asset history. This gives the complete IT - Assets Resource Ownership History on date and State of the components.

Request Details

On clicking the Request Details page you will be able to view all the requests raised for the asset.
On clicking the request title you can view the details of the request, requester details, Assets belonging to the user, Time elapsed to solve the request, resolution for the request and history of the request
Also you can send reply for the request or forward the request to the technician. You can Search associated problem and change or add new problem or change to the request.

View Contracts of the IT Asset

Click Contracts tab to view the contracts attached to the IT Asset. This gives the complete details about the contract such as, vendor name, support details, contract rules, expiry date, cost and other rules.

View Costs

1. Click the Costs tab to view the costs associated to the IT Asset.
2. Click Add Cost button at the right side of the page to add cost to the IT Asset.
3. Select the Cost Factor from the combo box. For ex. Service Cost. This is a mandatory field.
4. Specify the description about the cost in the Description field. Say if the cost factor is service cost you can specify important information about the service cost.
5. Specify the Amount in $ in the Amount field. This is a mandatory field.
6. Select the Date from the calendar button. This is mandatory field.
7. Click Add Cost button to add the cost. You can see the cost added to the IT Asset shown in the Other Costs list view page.

Copy Resource

Using Copy Resource option you can make multiple copies of the resource and its details. On making multiple copies of the resource, it becomes easier for the technician to add bulk of similar assets. The technician need not manually enter all the resource details for each resource. The new copies of the resource will be assigned with new asset name and rest of the details is retailed as is.
Example: If you have ten printers of the same configurations in your organization, then in this case, enter the configurations for one printer and save it. Then copy the same printer for ten times and add its configurations to other printers.

To make multiple copies of the Resources,

1. Click the Assets tab in the header pane. This opens the assets home page.
2. Click IT Assets under Assets block on the left hand side of the page. Select the respective IT assets link. e.g. Access points, Printers and so on. This opens the corresponding IT asset page.
3. Click the **Title** of the assets to be duplicated. This opens the Asset details page.
4. **Click the Actions menu on the right hand side of the page. Select Copy Resource option.** This opens the Copy Resource dialog pops up.
5. Specify the Number of Copies to be made for the resource in the given text field.
6. Copy the resource. You can see the list of resource copies listed in the list view.

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Attach Assets

To attach assets to the IT Assets,

1. Click the Assets tab in the header pane. This opens the assets home page.
2. Select the IT Assets link under the Assets block on the left hand side of the page. Select the corresponding IT Asset link say, Printers, Access Points and so on. This opens the Asset list view page.
3. Click the title of the asset to be attached with an asset. This opens the asset details page.
4. Click the Actions combo box -> select the Attach Asset option from the list. This opens the Attach Asset pop up window.
5. If you would like to display the list of all assets or filter specific asset then select the assets to be displayed from the List combo box. Ex: Printer, Access Points and so on. Also select the type of asset such as asset in store, in use and so on from the of type combo box.
6. You have two columns, such as Asset list and Attached Assets list. You have to select the assets to be attached from the assets list and move it to the attached assets list using the >> button. To remove the assets from the attached assets list use the << button.

   Example:

   If you would like to attach a printer to a workstation then select the list of assets to be attached from the assets list and move it to the attached assets list.
7. Save the changes. If you would like to detach all the attached assets then select the Detach All option.

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Attach Components

To attach components to an asset,

1. Click the Assets tab in the header pane; this opens the assets home page.
2. Select the IT Assets link under the Assets block on the left hand side of the page. Select the corresponding IT Asset link say, Printers, Access Points and so on. This opens the IT asset list view page.
3. Click the Title of the asset to be attached with a component. This opens the asset details page.
4. Click the Actions combo box -> select the Attach Component option from the list. This opens the Attach Component pop up window.
5. If you would like to display the list of all components or filter specific components then select the components to be displayed from the List combo box. Ex: keyboard, mouse and so on. Also select the type of component such as component in store, in use and so on from the of type combo box.
6. You have two columns, such as Component list and Attached Components list. You have to select the components to be attached from the components list and move it to the attached components list using the >> button. To remove the component from the attached component list use the << button.

Example:
If you would like to attach a keyboard and a mouse to a workstation then select the list of components to be attached from the component list and move it to the attached component list.

7. Save the changes. If you would like to detach all the attached components then select the Detach All option.

Attach Documents

To attach documents,

1. Click the Assets tab in the header pane. This opens the Asset home page.
2. Select IT Assets link under the **Assets** block on the left hand side of the page. Select the corresponding IT Assets say, Printers, Routers and so on. This opens the IT asset list view page.
3. Click the Asset Name of the asset to which the document needs to be attached. This opens the Asset details page.
4. Click the Actions combo box on the top right hand side of the page -> select the Attach Documents option. This opens the Attach File pop up window.
5. Choose the file to be attached by clicking the Browse button. The maximum size of the attached file can be 10 MB.
6. Click Attach File. The attached document will be listed in Asset details page under Attached Documents. The attached file can be deleted by clicking the delete icon  beside file name.

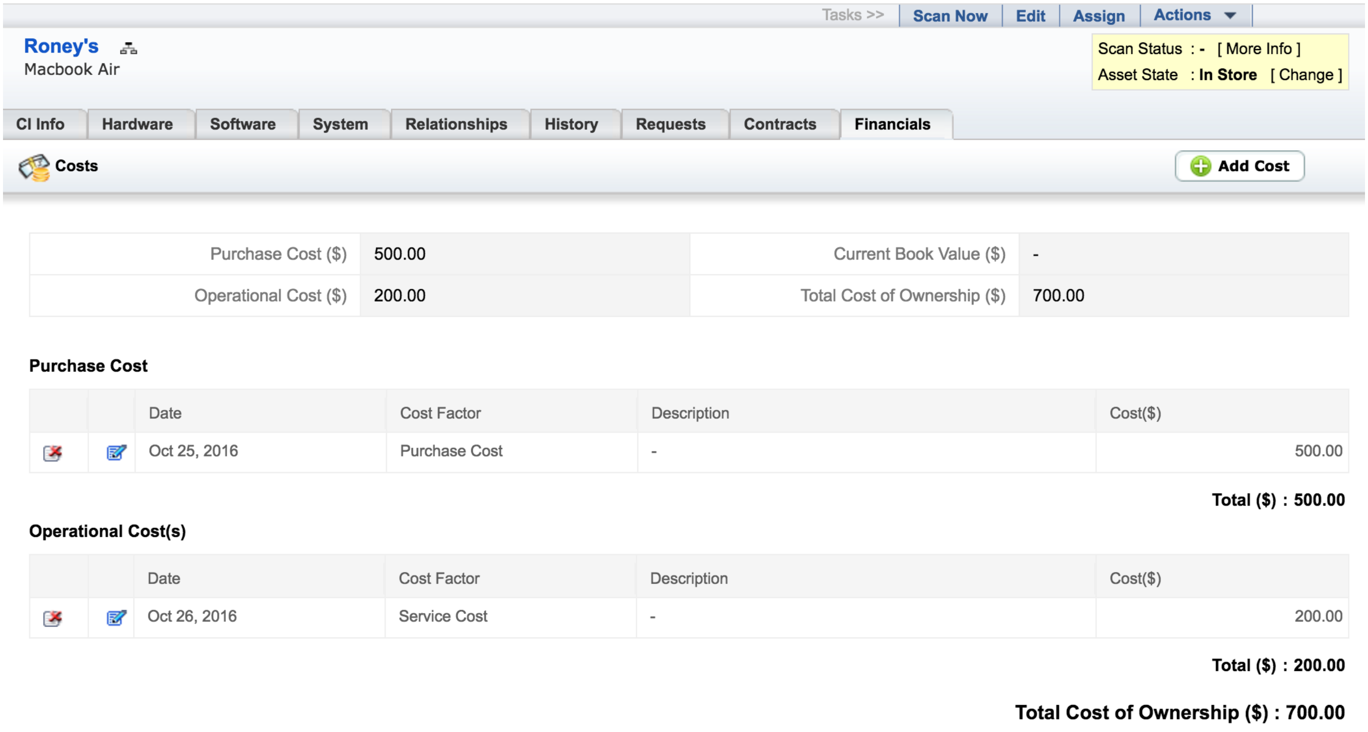
Assets Financials

Financials Tab in the Assets details page enables you to View, Add cost for a particular asset. You can also configure depreciation for assets in this module.

Cost View

The Purchase cost, Operational cost, Component cost, Disposal cost, Current book value and Total cost of ownership will be listed in the Financials page of an asset.

- To view the asset costs, Select the particular asset.
- Click on the Financials menu in the asset window.

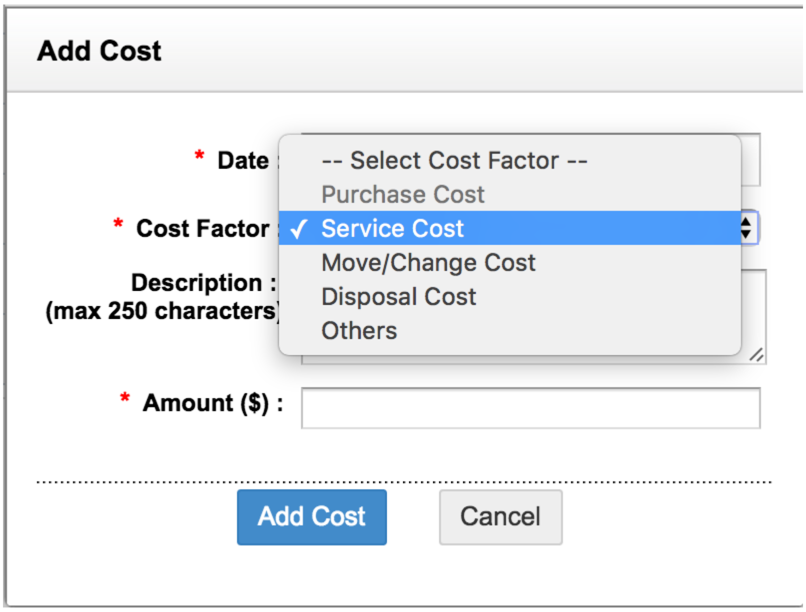


Note	• Purchase cost, Operational cost, Component cost and Disposal cost can be added, edited and deleted.

Add Cost:

You can also add cost to an asset by clicking on the Add Cost button.

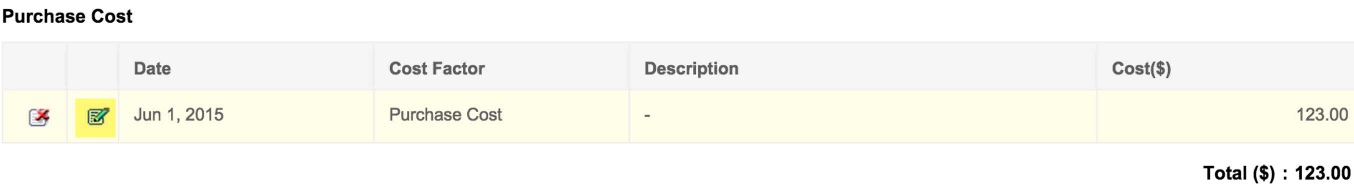
- To add cost click on the Add costbutton.
- Select a date and choose a cost factor.
- Enter the description and the cost.
- Click on add cost to add the cost



Edit Cost:

Edit cost enables you to update the cost of an asset.
To edit the cost,

- Click on the edit icon on the particular cost.

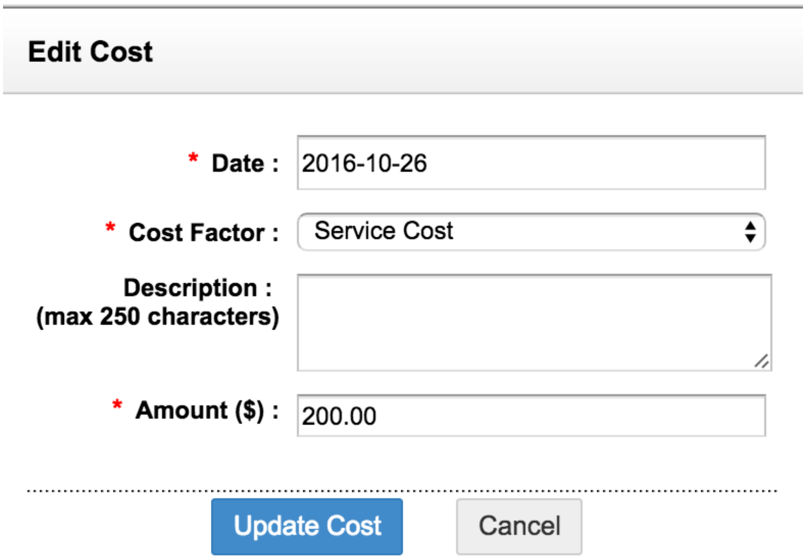


Purchase Cost

		Date	Cost Factor	Description	Cost($)
		Jun 1, 2015	Purchase Cost	-	123.00

Total ($) : 123.00

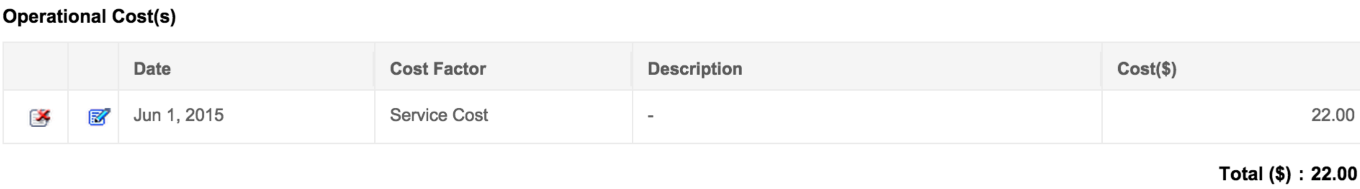
- Edit the values and click on Update cost.

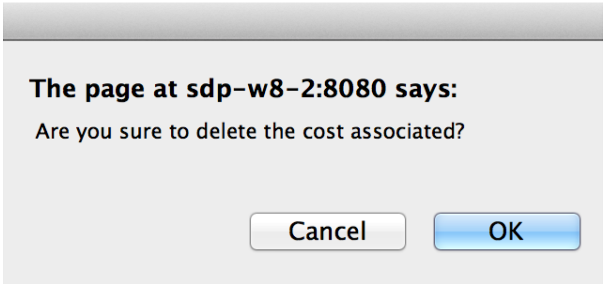


Delete Cost:

- You can delete a particular cost for an asset by clicking on the delete icon present before the particular cost.

- Click on "OK" to confirm deletion.

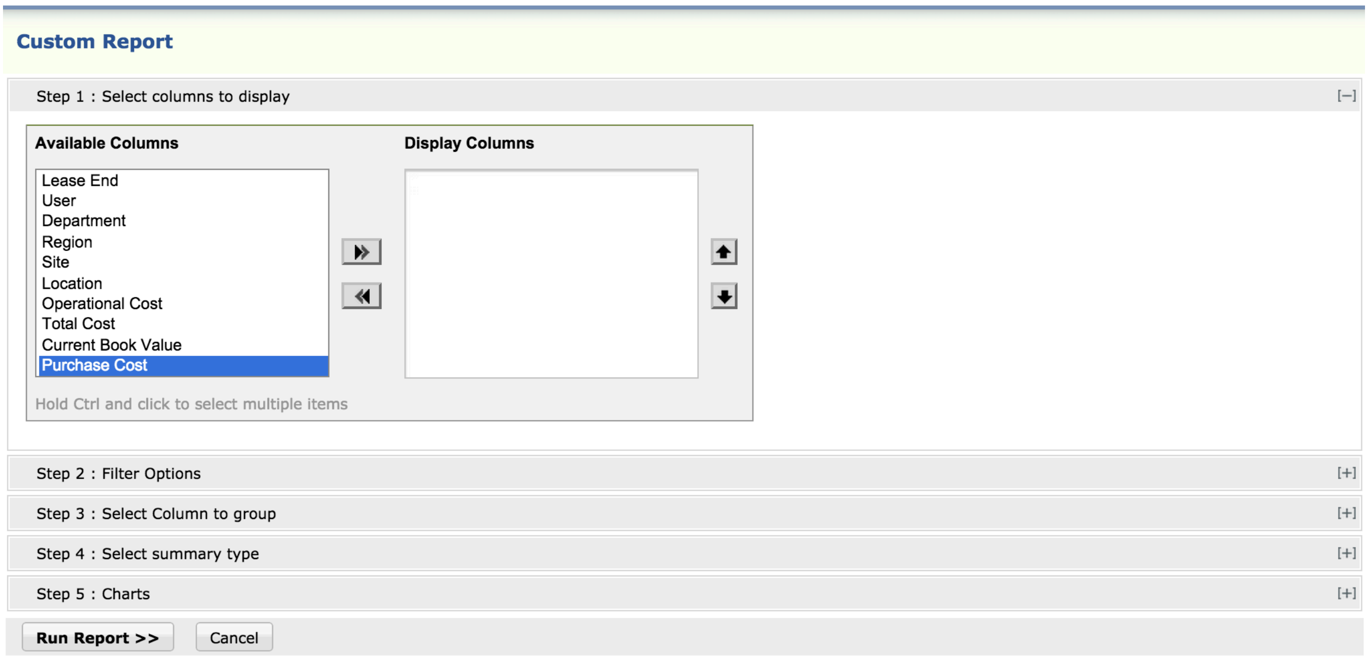


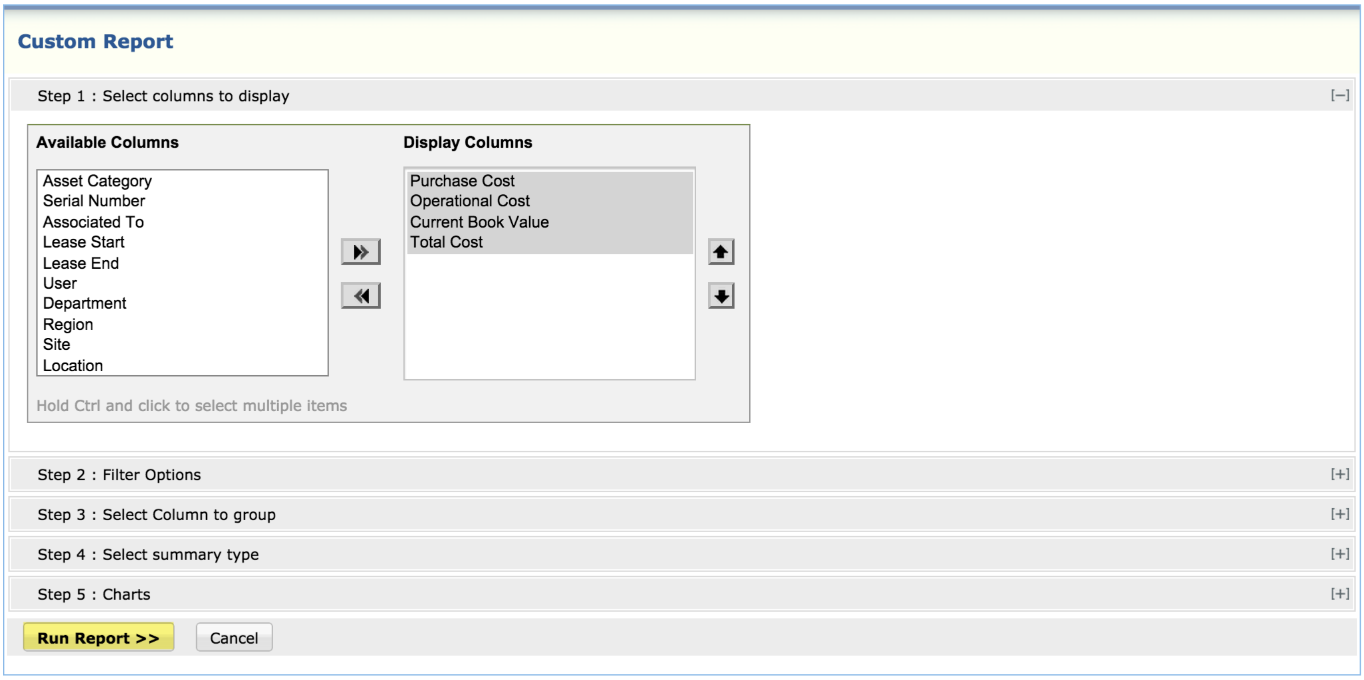


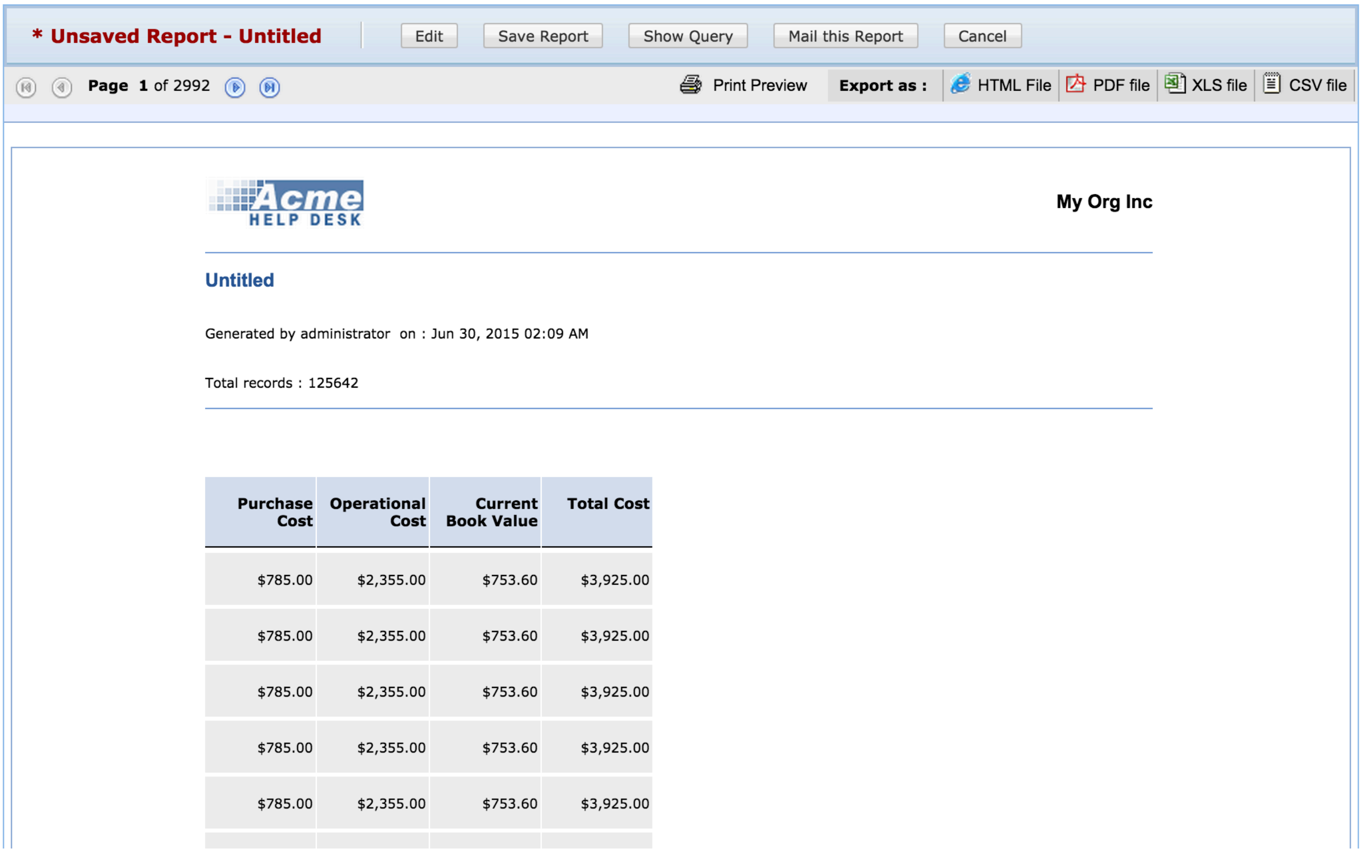
Cost Details in Report:

The cost details can be generated in the reports.

- To add cost details in the custom report, add specific cost details such as Purchase cost, Operational cost, Total cost, Current book value from the Available columns and run report.







To add cost details in the **Summary report**, add "cost details" from the available sub reports and generate report.

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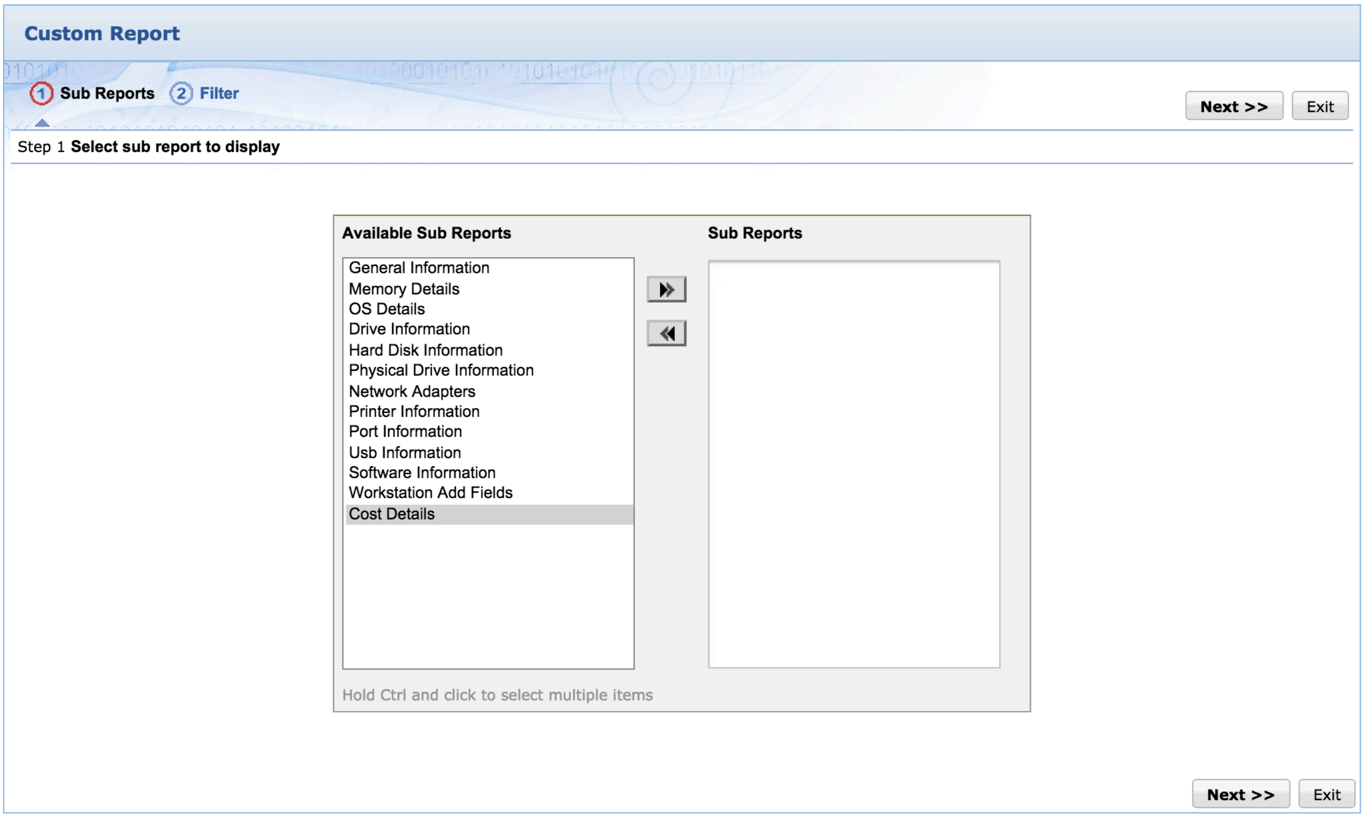
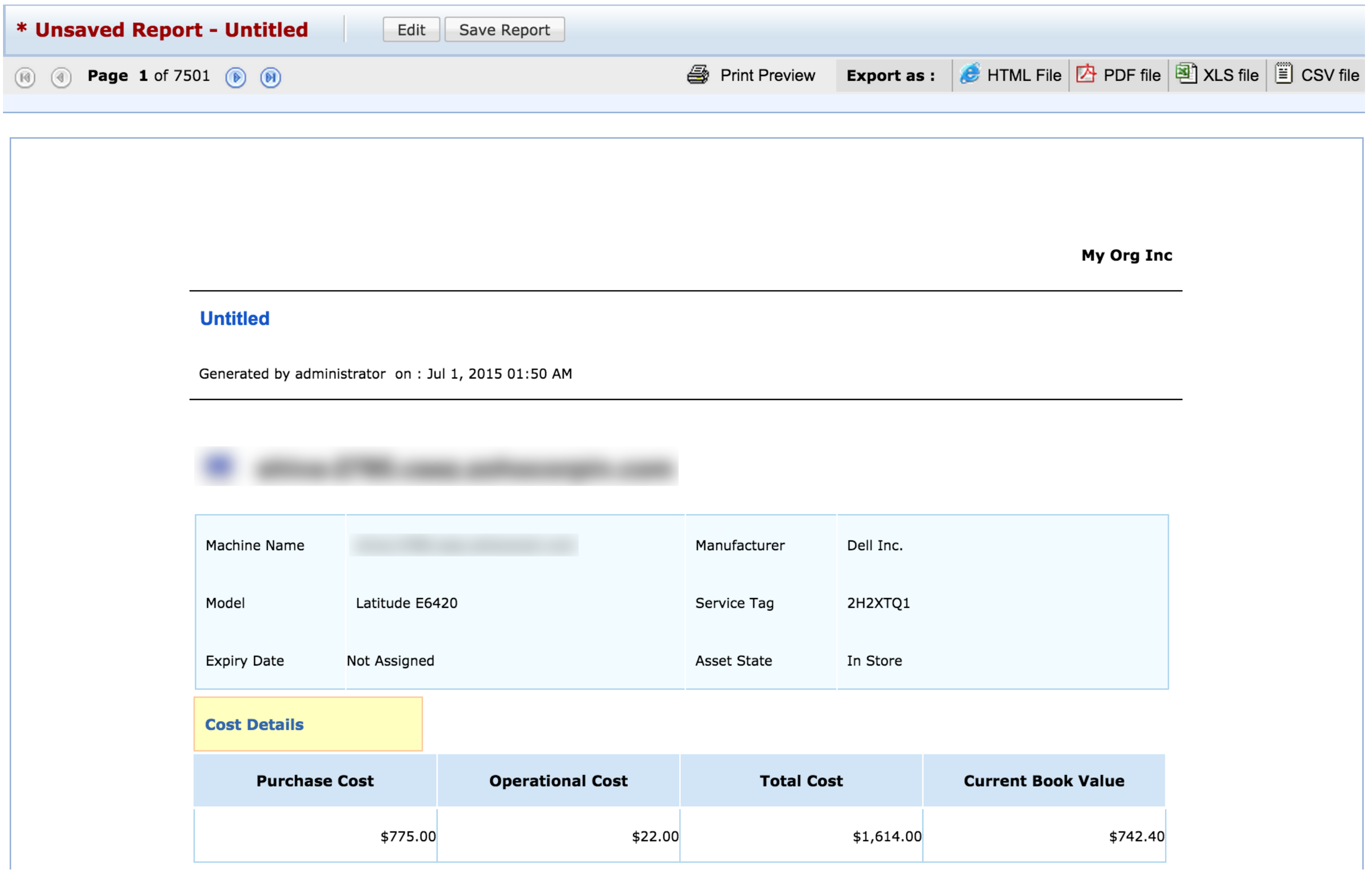
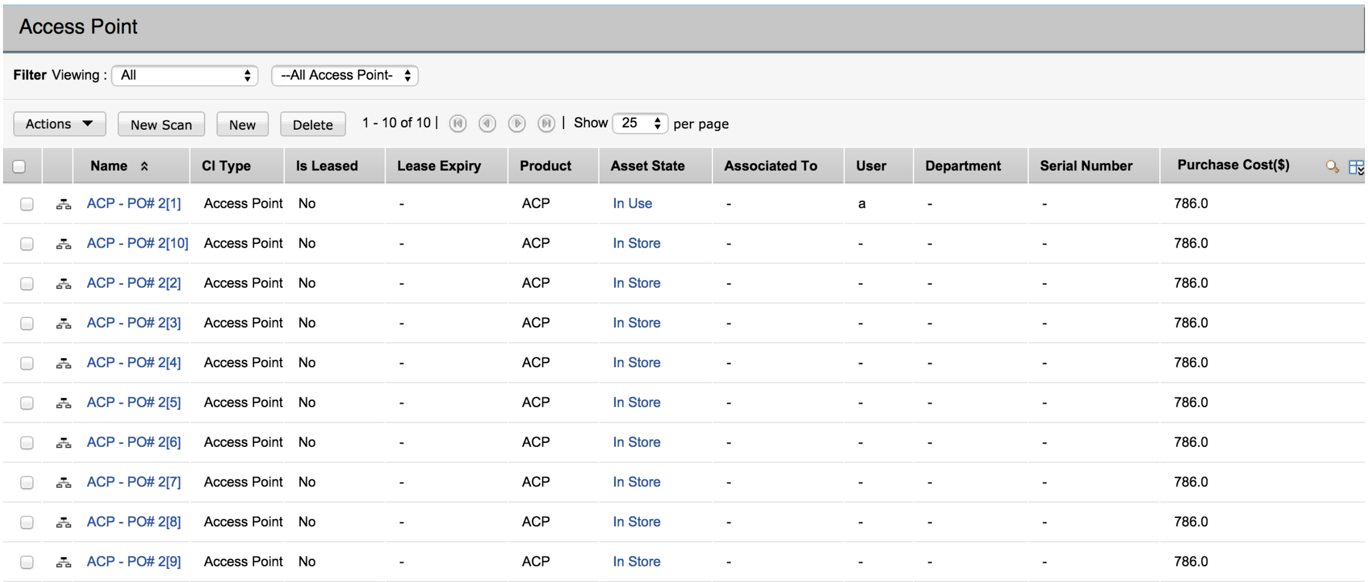




Cost Details in Asset list view.

Cost Details of an asset can also be viewed in the asset list view. Purchase cost of an asset is by default present in the list view. Operational Cost and Current book value can be added to the list view.

- Click on Columns icon in the right side.
- Select Operational Cost and Current book value and click save.

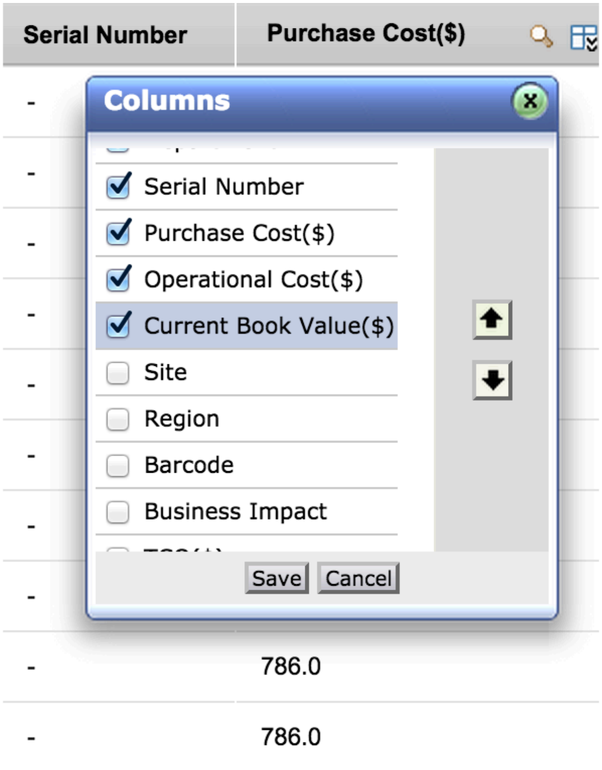


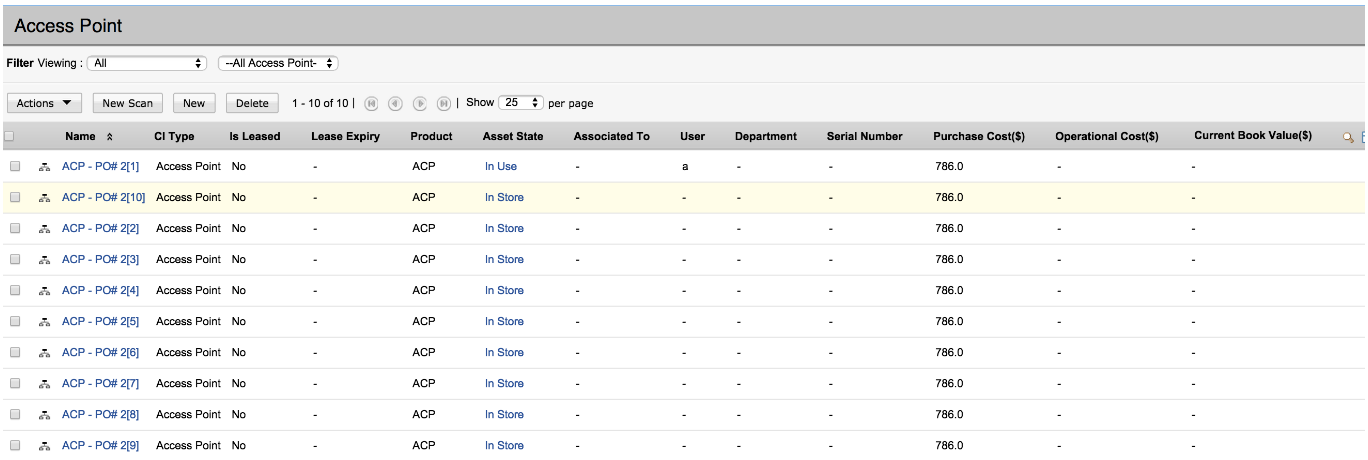
Access Point

Filter Viewing : All --All Access Point-

Actions New Scan New Delete 1 - 10 of 10 | Show 25 per page

Name	CI Type	Is Leased	Lease Expiry	Product	Asset State	Associated To	User	Department	Serial Number	Purchase Cost($)
ACP - PO# 2[1]	Access Point	No	-	ACP	In Use	-	a	-	-	786.0
ACP - PO# 2[10]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0
ACP - PO# 2[2]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0
ACP - PO# 2[3]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0
ACP - PO# 2[4]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0
ACP - PO# 2[5]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0
ACP - PO# 2[6]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0
ACP - PO# 2[7]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0
ACP - PO# 2[8]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0
ACP - PO# 2[9]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0




Access Point

Filter Viewing : All | --All Access Point-

Actions | New Scan | New | Delete | 1 - 10 of 10 | Show 25 per page

	Name	CI Type	Is Leased	Lease Expiry	Product	Asset State	Associated To	User	Department	Serial Number	Purchase Cost($)	Operational Cost($)	Current Book Value($)
	ACP - PO# 2[1]	Access Point	No	-	ACP	In Use	-	a	-	-	786.0	-	-
	ACP - PO# 2[10]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0	-	-
	ACP - PO# 2[2]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0	-	-
	ACP - PO# 2[3]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0	-	-
	ACP - PO# 2[4]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0	-	-
	ACP - PO# 2[5]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0	-	-
	ACP - PO# 2[6]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0	-	-
	ACP - PO# 2[7]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0	-	-
	ACP - PO# 2[8]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0	-	-
	ACP - PO# 2[9]	Access Point	No	-	ACP	In Store	-	-	-	-	786.0	-	-

Assign IT Assets to Users/Departments/Assets

1. Click the Assets tab in the header pane. This opens the assets home page.
2. Select the IT Assets title under the Assets block. Select the specific IT Asset link. This opens the selected Assets list view page.
3. Click the Asset Name to be assigned a user/department/asset. This opens the Asset details page.
4. Click the Assign sub-tab on the right-hand side of the page. This opens the Assign/Associate page.
5. If you would like to assign the asset to user or department then, select Assign User and or Department radio button. Or if you would like to associate with an asset then select Associate to Asset radio button.

Assign User and or Department

1. On selecting this radio button, select the Username and Department name from the combo box. The Usernames and the **Department** names can be searched by typing the respective usernames and departments in the drop-down search box.
2. If the asset is leased then enable the Asset is Leased check box and specify the From and To date of the lease.

Associate to Asset

1. On selecting this radio button, Choose the Asset to be associated from the combo box. The assets can be searched by typing the respective asset names in the drop-down search box.
2. Save the details.

   Note: In the drop-down search box, only the top 25 results will be shown for the searched text. Type in more characters to get the exact result. To know how to include email id's, names, login names, employee id's along with the username in the user drop-down, click here.

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Add New Workstation

1. Log in to the ServiceDesk Plus application using your **user name** and **password**. This opens the ManageEngine ServiceDesk plus home page.
2. Click Assets tab in the header pane. This opens the asset home page.
3. Click IT Asset link under the resource block on the left hand side of the page. Select the corresponding assets say, Printers, Routers and so on. This opens the Asset list view page. Click New button. (OR)
Click Quick **Actions** drop-down menu and select Workstation option. The **Add New Workstation** page is displayed.

Computer Details

4. Specify the Name of the computer in the name text field and select the Model of the workstation from the combo box. This is a mandatory field. Ex: Latitude D620.
5. Specify the Service Tag & Manufacturer of the workstation in the given text field.
6. Specify the Processor Count, Processor Info, Clock Speed and Manufacturer of the processor in the given text fields.
7. Specify the RAM and Virtual Memory in (MB) the given text fields.
8. Also specify the Name and Service Pack of the operating system in the corresponding fields.

Resource Info Details

9. Specify the resource info details such as, Resource Tag, Resource Serial No, Bar Code & Location in the given text fields.
10. Select the Site and Vendor Name of the workstation from the combo box.
11. Select the Acquisition Date, Expiry Date & Warranty Expiry Date from the calendar button.

Asset State Details

12. Select the status of the asset from the Asset State combo box. Ex: In Store, In Use and so on.

Network Adapter Details

13. Specify the network adapter details such as, Network IP Address, MAC Address, NIC, Network, DNS Server name & Default Gateway in the given text field.
14. Select the Domain name from the combo box.
15. If you would like to enable DHCP then select the check box.

Input/Output Devices Details

16. Also specify the input/output devices details of the workstation. Specify the Monitor Type, Mouse Type, Keyboard Type & their corresponding manufacturers in the respective fields.
17. Save the details. If you would like to Save and Add New workstation then click the corresponding button.

Bulk Scan of newly Added Workstation

Using this option you can scan a new workstation added to the domain for its hardware and software details. This is very useful when you have to scan a single or a set of newly added workstations. In such case you don't have to scan the entire domain for adding the workstations to the network.

To Scan New Workstation,

1. Click the Assets tab in the header pane -> click the Workstations link under the Assets tab on the left side of the page. This opens Workstations list view page.
2. Click the New Scan button. This opens the Scan Configuration page.
3. Specify the Name/IP of the workstation. This is a mandatory field.
4. Select the log-in credentials for the workstation by selecting either of the two radio buttons. Say Global or Local credentials. By default Global Credentials option will be selected.

Global Credentials

1. Select the Scan type from the combo box. Say Domain mode or Network mode.
2. Select the Domain/Network name from the combo box. This is a mandatory field.
3. Specify the Login Name and Password for the selected domain.

Local Credentials

1. Specify the local Login Name and Password.
2. Select the Protocol to connect it to the workstation by enabling either of the two radio buttons. Say SSH or Telnet.
3. If you would like to scan software in Linux workstation then select the corresponding check box.
4. Click Scan to scan the workstation. Else click Cancel.

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Change Workstation as Server

You can change workstation as server,

1. Click the Assets tab in the header pane. This opens the assets home page.
2. Click IT Assets under Assets block on the left hand side of the page. Click the Workstations link. This opens the workstations list view page.
3. Select the workstations name to be changed as server by enabling the check box.
4. Click the Actions menu and select the Change as Server option. The Modify Device Type window pops up.
5. Select the Type of the server from the combo box.
6. Save the details.

View Workstation Details

1. Log in to the ServiceDesk Plus application using your **user name** and **password**. This opens the ManageEngine ServiceDesk plus home page.
2. Click Assets tab -> Click Workstation link under IT Assets title on the left hand side of the page. This opens the workstations list view page.
3. Click the workstation name to view the workstations details. By default Resource Info tab details are displayed.

View Resource Info Details

Resource Info tab displays the Resource Details & Workstation Details. Resource details such as Resource Name, Tag, Bar Code, Serial No etc. Workstation details such as Computer Name, OS version, Service pack, Processor details, memory information and many other details are displayed.

View Hardware Details

Click Hardware tab to view the complete Hardware details of the workstation. The hardware tab is broadly divided in to four major blocks such as Workstation Details block, Network Details, Discs and Drive Details, Printer Details and Other Details.
Under the workstation block you can view computer system, operating system, processor, memory and installed memory details. Under network block you can view the network adapter's details. Under disks and drives block you can view the hard disks, logical drives and physical drives details. The printer details can be viewed under the printer details block. Under other details block you can view the keyboard, mouse, monitor, multimedia, ports, USB controller's details.

View Software Details

Click Software tab to view the software details of the workstation. This opens the software details page with the list of all installed software�s in the workstation. By default the list of All Software will be displayed.
Select the corresponding filter option from the Filter Viewing combo box. There are different status levels of the software, such as Excluded, Managed, Prohibited, Freeware, Shareware and Unidentified. You can select any of these status levels and filter the software�s listed.
Click on the software title to view the software details such as, number of licensed installations, number of unlicensed installations and number of Purchased licenses.
If there is any license violations a warning message is displayed saying: License Violation. Software installations are more than purchased licenses.

View Relationships

The Relationship tab shows the default relationships of the asset with other assets. If you are have configured CMDB in the application, then the relationship map is displayed. Refer Defining CI Relationship to know more on configuring the relationships between assets.
On clicking the tab -> click the Add Relationship button on the top right hand side of the page.

Connection Relationship

1. Click the Connection Relationship option from the list. This opens the Connection Relationship page.

2. To connect the assets to other assets select the Assets radio button.
    1. Select the assets to be connected from the Asset List.
    2. Move the selected asset to the Connected Assets list using the >> button.
    3. Save the details. You can see the connected assets under the Connected to Assets block.
3. To connect the assets to the Business Services select the corresponding radio button.
    1. Select the business services from the list to be connected to the assets such as, Email, Internet Access and so on.
    2. Move the selected assets from the Business Service list to the Connected Services list using the >> button.
    3. Save the changes. You can see the connected business services under the Business Services block.

Usage Relationship

1. Click the Usage Relationship option from the list. This opens the Usage Relationship page.
2. Select the Assign the asset to User/Department radio button to associate the asset to the user/department.
    1. Select the User from the combo box.
    2. Select the Department to be associated from the combo box.
    3. If the Asset is Leased then select the corresponding check box.
    4. Save the changes. (Or)
3. Select the Associate to Asset radio button to assign the asset to the asset.
    1. Choose Asset to be associated from the combo box.
    2. Save the details.

Container Relationship

1. Click the Container Relationship option from the list. This opens the Container Relationship page.
2. Select the Components radio button to associate the components to the user. Select the type of components to be displayed in the list by selecting it from the choose product combo box.
3. Select the components from the Components List and move it to the Attached components list using >> button.
4. Save the details.

View History of workstation

Click the History tab to view the workstation history. This gives the complete Workstation Scan History and Resource Ownership History on date.

Request Details

On clicking the Request Details page you will be able to view all the requests raised for the asset.
On clicking the request title you can view the details of the request, requester details, Assets belonging to the user, Time elapsed to solve the request, resolution for the request and history of the request
Also you can send reply for the request or forward the request to the technician. You can Search associated problem and change or add new problem or change to the request.

View Contracts of the workstation

Click Contracts tab to view the contracts attached to the workstation. This gives the complete details about the contract such as, vendor name, support details, contract rules, expiry date, cost and other rules.

View Costs

1. Click the Costs tab to view the costs associated to the workstation.
2. Click Add Cost button to add cost to the workstation.
3. Select the Cost Factor from the combo box. For ex. Service Cost. This is a mandatory field.
4. Specify the description about the cost in the description field. Say if the cost factor is service cost you can specify important information about the service cost.
5. Specify the Amount in $ in the Amount field. This is a mandatory field.
6. Select the Date from the calendar button.
7. Click Add Cost button to add the cost. You can see the cost added to the workstation shown in the Other Costs list view page.

Print the Workstation Details

You can view the preview of the workstation details in printable format.

To view the Preview of Workstation Details,

1. Click the Assets tab in the header pane. This opens the assets home page.
2. Click IT Assets under Assets block on the left hand side of the page. Select the Workstations link. This opens the workstation details page.
3. Click the Workstation Name to view the preview of the workstation details. This opens the Workstation details page.
4. **Click the Actions menu on the right hand side of the page. Select Print Preview option.** This opens the Resource Details pop up window. You can view the complete resource details, workstation details, network details, disks & drives details, printer details, other details, software details, installed service packs details, resources attached details, workstations scan history details, resource ownership history details, contracts details & costs details.

Modify Type

To Modify Device type,

1. Click the Assets tab in the header pane. This opens the assets home page.
2. Click IT Assets under Assets block on the left hand side of the page. Select the Workstations link. This opens the workstation list view page.
3. Click the Workstation Name to be modified of the device type. This opens the Workstation details page.
4. **Click the Actions menu on the right hand side of the page. Select Modify Type option.** This opens the modify device type pop up window.
5. Select the device type from the Modify Type combo box.
6. Save the details.

Reconcile IT Assets

The Reconcile option is to merge two resources and delete one of the resources. This is essential when the assets received from a Purchase Order are associated to Departments or Groups, and on performing a domain scan or a network scan, these assets are duplicated.
Say, "LD400 - PO # 2[10]" is the workstation purchased and has been renamed as "SDP-dept". On performing a scan, both the workstations (LD400 - PO # 2[10] and SDP-dept) appear in the List View. To avoid duplication, you can reconcile the workstations, where LD400 - PO # 2[10] is deleted and SDP-dept is retained. The reconcile option can be performed from either the PO details page or from the asset list view page.

To reconcile from the asset list view page,

1. Click the Assets tab in the header pane.
2. Click IT Assets under the Assets block.
3. Select any of the IT asset, say workstation. From workstation list view, enable the check box beside the two workstations to reconcile.
4. Click Actions drop down -> Reconcile option. Click OK to proceed with the reconcile operation.

NOTE: Please note that if both the assets are received via Purchase Order, then the assets cannot be reconciled.

Add Software

Using this option you can add software to a workstation.

To add Software to the workstation,

1. Click the Assets tab in the header pane. This opens the assets home page.
2. Click IT Assets under Assets block on the left hand side of the page. Select the Workstations link. This opens the workstation list view page.
3. Click the Workstation Name. This opens the Workstation details page.
4. **Click the Actions menu on the right hand side of the page. Select Add Software option.** This opens the Add Software pop up window.
5. Select the software from the list to be added to the workstation. You can select multiple software to be added to the workstation using ctrl or shift keys.
6. Save the details. Else Close the pop-up window.

Delete Workstation

1. Click Assets tab -> Click IT Asset link on the left hand side of the page. This opens the IT Assets list view page.
2. From the Workstations view list page, select workstations to be deleted by enabling the check box.
3. Click Delete button to delete the selected workstations. You can see the selected workstation deleted from the list.

Delete IT Asset

To delete assets,

1. Click Assets tab -> Click IT Asset link under the assets block on the left hand side of the page. This opens the IT Assets list view page.
2. From the assets list view page, select assets to be deleted by enabling the check box.
3. Click Delete button to delete the selected assets. You can see the selected assets deleted from the list.

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Configuring additional user fields

If searching a user by the username alone does not provide unique results, you can include more fields such as email, employee Id's, names and login names by modifying the global configuration table.
For modifying the global configuration table,

- Using the command prompt, Go to the product installation location.
- Find pgsql folder.
- Open bin folder.
- Execute the command, "psql -U postgres -p 65433".
- Connect to the assetexplorer database by executing the command, "c assetexplorer"(By default the product database name would be "assetexplorer".).
- Execute the command, "update gobalconfig set paramvalue = 'name,email,employeeId,loginName' where category = 'UserSearchOptions';".
- Changing the order of the parameters will change the order in the search box as well.

For databases in mssql and mysql servers,

- Execute this command "update gobalconfig set paramvalue = 'name,email,employeeId,loginName' where category = 'UserSearchOptions';" by connecting to the product database.By default the product database name would be "assetexplorer".

Non IT Assets

All non IP based assets are grouped under Non - IT assets. The list of all possible non-it assets are given below,

- Projectors
- Scanners
- Tables
- Chairs
- Telephones

- Add Non-IT Asset
- Edit Non-It Asset
- Add Non-It Asset to Group
- Assign bulk Non-It Asset to Department/Site
- Modify the State of Non-It Assets
- View Non-It Asset Details
- Assign Non-It Asset to Users and/or Department
- Copy Resource
- Attach Assets
- Attach Components
- Attach Documents
- Import Non-IT Assets from CSV file
- Delete Non-It Asset

Add Non-IT Asset

1. Click Assets tab -> Click Quick Actions on the top left hand side of the page -> Click Asset option from the drop down menu. This opens Add Asset page. (OR)

   Click Non-IT Assets under assets on the left side of the page -> select any one of the listed Non-IT assets link. E.g. Projectors, Scanners. This opens the particular Non-IT asset page.
2. Click New button. This opens Add Asset page.
3. Select the Product Name of the asset from the combo box. If required, you can add a new product name by clicking Add New link beside the product name field. This is a mandatory field.
4. Select the Vendor Name from the combo box. If required, you can add a new vendor by clicking the Add New link beside the vendor name text field.
5. Specify the Asset Name in the given text field. This is a mandatory field.
6. Specify the Asset Tag, Asset Serial No, Bar Code, Asset Cost in $ in the corresponding text fields.
7. Specify the Acquisition Date & Expiry Date from the calendar button.
8. Select the Site from the combo box.
9. Specify the Location in the given text field.
10. Specify the Asset State by selecting the current status of the asset from the combo box.

    If the asset is in Use state you need to associate or assign asset to department or user or asset.
    1. Allocate the asset to an Asset or to a User or to the Department by selecting any of the two radio button. Say Associate to Asset or Assign User/ or Department.
    2. If you choose to associate asset to an asset then select the asset name from the Choose Asset combo box. Or if you have chosen to assign to user or the department then select User or Department from the combo box.
    3. If the asset is leased select the check box Asset is Leased. If the asset is leased then specify the From and To date from the calendar button.
11. Click Save button to save the changes. To save and add another asset click Save and add new button.

Edit Non-IT Assets

To edit the non-it assets details,

1. Click the Assets tab -> select the Non-IT Assets link on the left hand side of the page. This opens the list view page of the IT assets.
2. Click the title of the Non-IT asset to be edited. This opens the Asset details page.
3. Click Edit button on the top right hand side of the page (OR)

   Click the Actions combo box next to the edit resource button -> select the Edit option. This opens the Edit Asset page.
4. Edit the Asset Details block such as Product Name, Asset Name, Tag, Serial No, Bar Code, Vendor Name, Cost, Acquisition Date, Expiry Date, and Location.
5. Modify the Asset State details such as, Current usage status of the assets like In Use, In Repair and so on. Then the Associate the asset to User or Department details or Assign to User or Department details.
6. Update the changes. You can see the assets details getting updated.

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Add Non-IT Assets to Group

You have two types of groups in ServiceDesk Plus say, Static group and Dynamic. Add to group option in Non-IT asset list view page is to group bulk of Non-IT assets. These assets will be grouped under the Static group by default.

To Add Non-IT Assets to group,

1. Click any of the Non-IT Assets link under the assets block on the left hand side of the page. This opens the Non-IT assets list view page.
2. Select the Non-IT assets to be added to the group by enabling the check box. This opens the Add Resource(s) to page.
3. By default you can group Non-IT assets only to the static group. Either to the Existing static group or New static group can be added.
4. If you would like to group the Non-IT assets under existing static group then click the corresponding radio button. Select the group name from the combo box.
5. Else, if you would like to add a new static group and group the Non-IT assets, click New Group radio button. Specify the Group Name and relevant information about the group in the Description field.
6. Click Save button to save the changes.

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Assign Bulk Non-IT Assets to Department/Site

1. Click the Assets tab in the header pane. This opens the assets home page.
2. Select the Non-IT Assets title under the assets block. Select the specific Non- IT Asset link. This opens the Assets list view page.

Assign Bulk of Assets to Department

1. Click the Non-IT assets to be assigned to a Department by enabling the check boxes. Click Actions menu -> select Assign to Department option. This opens Assign Resources to pop-up window.
2. Select the Department Name from the combo box.
3. Save the details.

Assign Bulk of Assets to Site

1. Click the Non-IT assets to be assigned to a Site by enabling the check boxes. Click Actions menu -> select Assign to Site option. This opens Assign Resources to pop-up window.
2. Select the Site Name from the combo box.
3. Save the details.

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Modify the State of Non-IT Assets

To modify the state of Non-IT Assets,

1. Click Assets tab -> Click Non-IT Asset link on the left hand side of the page. This opens the Non-IT Assets list view page.
2. From the Assets list view page, select the asset to be modified by enabling the check box beside the asset title.
3. Click the Actions combo box -> select the Modify State option. (OR)

   From the Asset details page, click the Change link beside the Resource State on the right hand side of the page. This opens the Modify State page.
4. Select the Modify State from the combo box. Ex: In Use, In Store and so on.
5. Save the changes.

View Non-IT Asset Details

1. Log in to the ServiceDesk Plus application using your **user name** and **password**. This opens the ManageEngine ServiceDesk plus home page.
2. Click Assets tab -> Click Non-IT Assets link under on the left hand side of the page. This opens the Non-IT Assets list view page.
3. Click the Non-IT Asset name to view the Non-IT Assets details. By default Resource Info tab details are displayed.

View Resource Info Details

Resource Info tab displays the Resource Details such as, Resource Name, Tag, Bar Code, Serial No Region, Cost, Acquisition Date and many other details are displayed.

View History of Non-IT Assets

Click the History tab to view the Non-IT Assets history. This gives the complete Non-IT Assets Resource Ownership History on date and State of the Non-IT Assets.

Request Details

On clicking the Request Details page you will be able to view all the requests raised for the Non-IT Asset.
On clicking the request title you can view the details of the request, requester details, Assets belonging to the user, Time elapsed to solve the request, resolution for the request and history of the request
Also you can send reply for the request or forward the request to the technician. You can Search associated problem and change or add new problem or change to the request.

Contracts Details

Click Contracts tab to view the contracts attached to the Non-IT Assets. This gives the complete details about the contract such as, vendor name, support details, contract rules, expiry date, cost and other rules.

Costs Details

1. Click the Costs tab to view the costs associated to the Non-IT Assets.
2. Click Add Cost button to add cost to the Non-IT Assets.
3. Select the Cost Factor from the combo box. For ex. Service Cost, Purchase Cost etc. This is a mandatory field.
4. Specify the description about the cost in the Description field. Say if the cost factor is service cost you can specify important information about the service cost.
5. Specify the Amount in $ in the Amount field. This is a mandatory field.
6. Select the Date from the calendar button. This is mandatory field.
7. Click Add Cost button to add the cost. You can see the cost added to the Non-IT Assets shown in the Other Costs list view page.

Assign Non-IT Assets to Users and/or Department

To assign assets to asset/users/departments,

1. Click the Assets tab -> select the Non-IT Assets link on the left hand side of the page. This opens the list view page of the Non-IT assets.
2. Click the title of the Non-IT asset to be assigned to users or departments. This opens the Asset details page.
3. Click Assign button. This opens the Assign/Associate page.
4. Select the Assign the asset to User/Department radio button to associate it to the user/department.
    1. Select the User from the combo box.
    2. Select the Department to be associated from the combo box.
    3. If the Asset is Leased then select the corresponding check box.
    4. Save the changes.
5. Else select the Associate to Asset radio button to associate to the asset.
    1. Choose Asset to be associated from the combo box.
    2. Save the details.

Once you save the details the page is refreshed with a message saying 'Owner assigned successfully for this resource'.

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Copy Resource

Using Copy Resource option you can make multiple copies of the resource and its details. On making multiple copies of the resource, it becomes easier for the technician to add bulk of similar assets. The technician need not manually enter all the resource details for each resource. The new copies of the resource will be assigned with new asset name and rest of the details is retailed as is.

To make multiple copies of a Resource,

1. Click the Assets tab in the header pane. This opens the assets home page.
2. Click Non-IT Assets under assets block on the left hand side of the page. Select the respective Non-IT assets link. e.g. Projectors, Scanners and so on. This opens the corresponding Non-IT asset page.
3. Click the **Title** of the assets to be duplicated. This opens the Asset details page.
4. **Click the Actions menu on the right hand side of the page. Select Copy Resource option.** The Copy Resource dialog pops up.
5. Specify the **Number of Copies to be made for the resource** in the given numeric field.
6. Click Copy to make the copies of the Non -IT asset. The new copies of the Non-IT asset will be assigned with new asset name that will uniquely identify them. The rest of the information is retained as is. If required, you can also edit the resource details.

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Attach Assets

To attach non-it assets to the IT Assets,

1. Click the Assets tab -> select the Non - IT Assets link on the left hand side of the page. This opens the list view page of the Non-IT assets.
2. Click the title of the Non-IT asset to be attached to other assets. This opens the Asset details page.
3. Click the Actions combo box on the top right hand side of the page -> select the Attach Asset option. This opens the Attach Asset page.
4. You have two columns, such as Asset list and Attached assets list. You have to select the assets to be attached from the assets list and move it to the attached list using the >> button. To remove the asset from the attached asset list use the << button.

Example: If you would like to attach a scanner to a list of workstations then select the list of workstations from the asset list and move it to the attached asset list.

6. Save the changes. If you would like to detach all the attached assets then select the Detach All option.

If you would like to display the list of all assets or a specific asset in the organization such as Linux workstations, Laptops D620 etc., then in this case select the assets to be displayed from the List combo box. Also select the type of asset such as assets in store, in use and so on from the of type combo box.

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Attach Components

To attach component to an Non -IT asset,

1. Click the Assets tab in the header pane; this opens the assets home page -> select Non-IT Assets under assets block on the left hand side of the page. Click the specific Non - IT asset link. This opens the Non-IT assets list view page.
2. Click the title of the Non-IT asset to be attached with an component. This opens the Non-IT asset details page.
3. Click the Actions combo box and --> select the Attach Component option from the list. This opens the Attach Component pop up window.
4. If you would like to display the list of all components or filter specific components then select the components to be displayed from the List combo box. Ex: keyboard, mouse and so on. Also select the type of component such as component in store, in use and so on from the of type combo box.
5. You have two columns, such as Component list and Attached Components list. Select the components to be attached from the components list and move it to the attached components list using the >> button. To remove the component from the attached component list use the << button.

    Example: If you would like to attach a keyboard and a mouse to a workstation then select the list of components to be attached from the component list and move it to the attached component list.

7. Save the changes. If you would like to detach all the attached components then select the Detach All option.

Attach Documents

To attach documents to an Non-IT Asset,

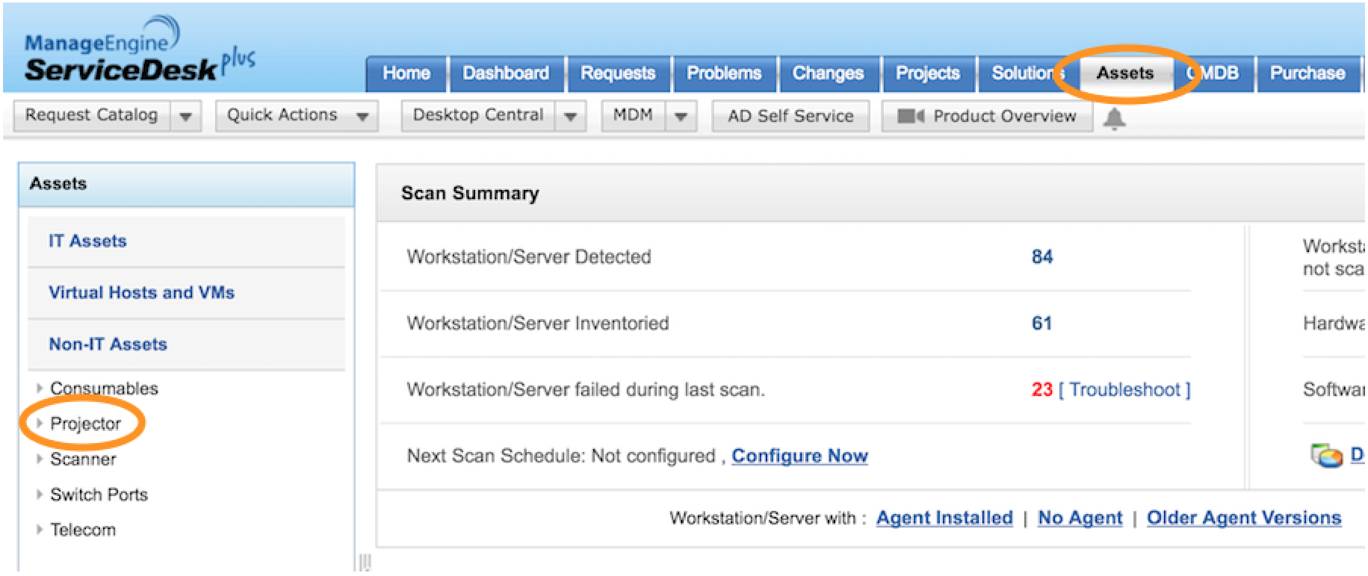
1. Click the Assets tab -> select the Non-IT Assets link under the assets block on the left hand side of the page. This opens the IT asset list view page.
2. Click the title of the Non-IT asset to be attached to other assets. This opens the Asset details page.
3. Click the Actions combo box on the top right hand side of the page -> select the Attach Documents option. This opens the Attach File pop up window.
4. Choose the file to be attached by clicking the Browse button. The maximum size of the attached file can be 10 MB.
5. Click Attach File. The attached document will be listed in Asset details page under Attached Documents. The attached file can be deleted by clicking the delete icon beside file name.

Import Non-IT Assets from CSV file

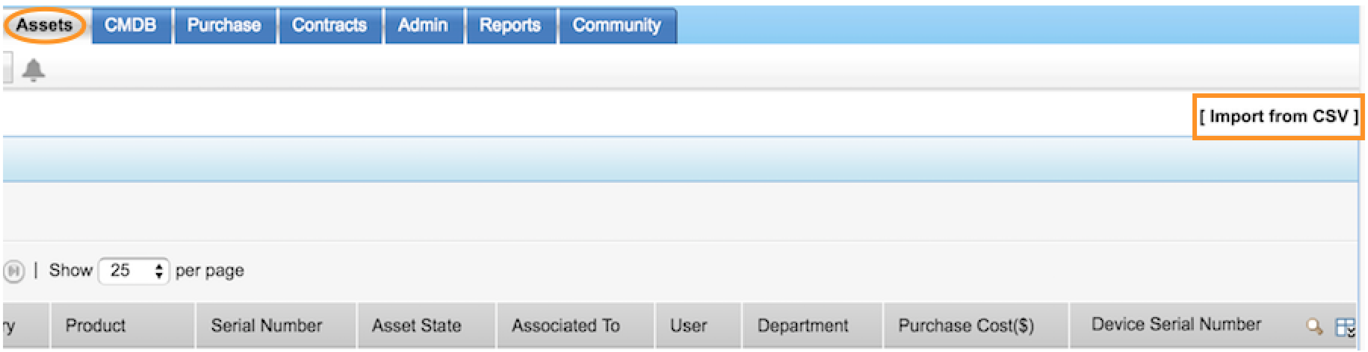
ServiceDesk Plus helps you import your Non-IT Asset details saved in CSV (Comma Separated values) format. If you have the details in XLS format, then open it with Microsoft Excel, save it as a CSV file, and import it.

Steps to Import

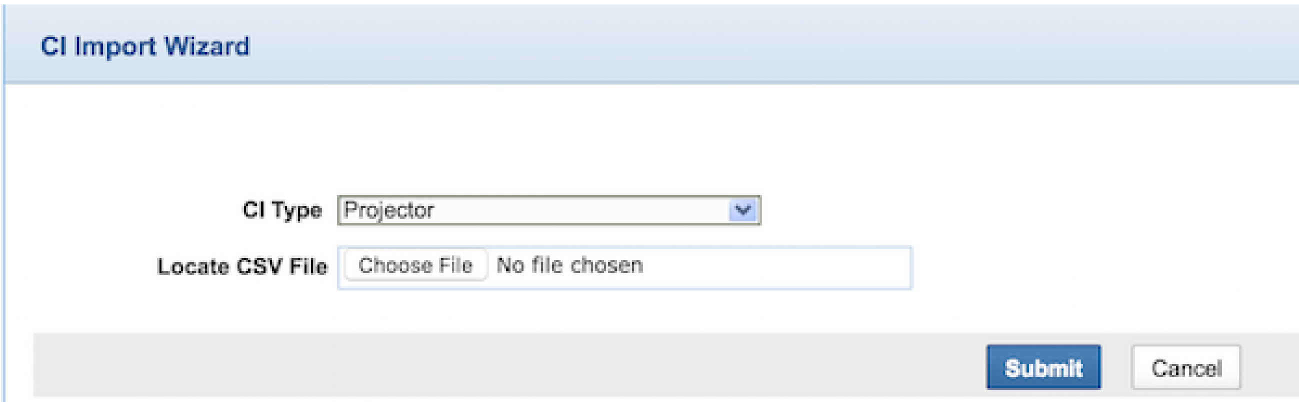
1. Click the **Assets** tab. Click the required **Non-IT Asset** (say, Projector) whose details you wish to import.



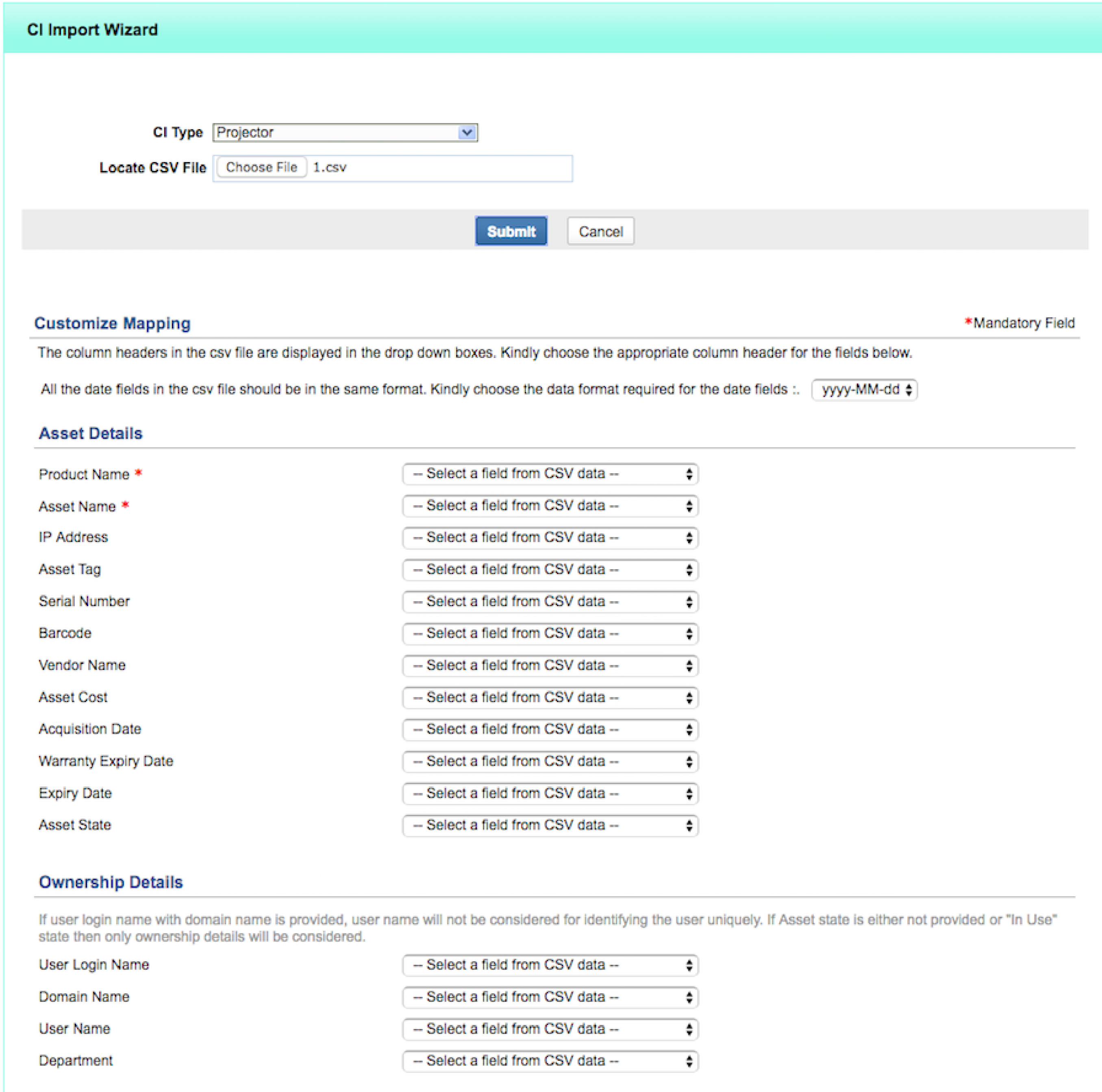
2. From the Assets List View page displayed, click the Import from CSV link at the top right corner.

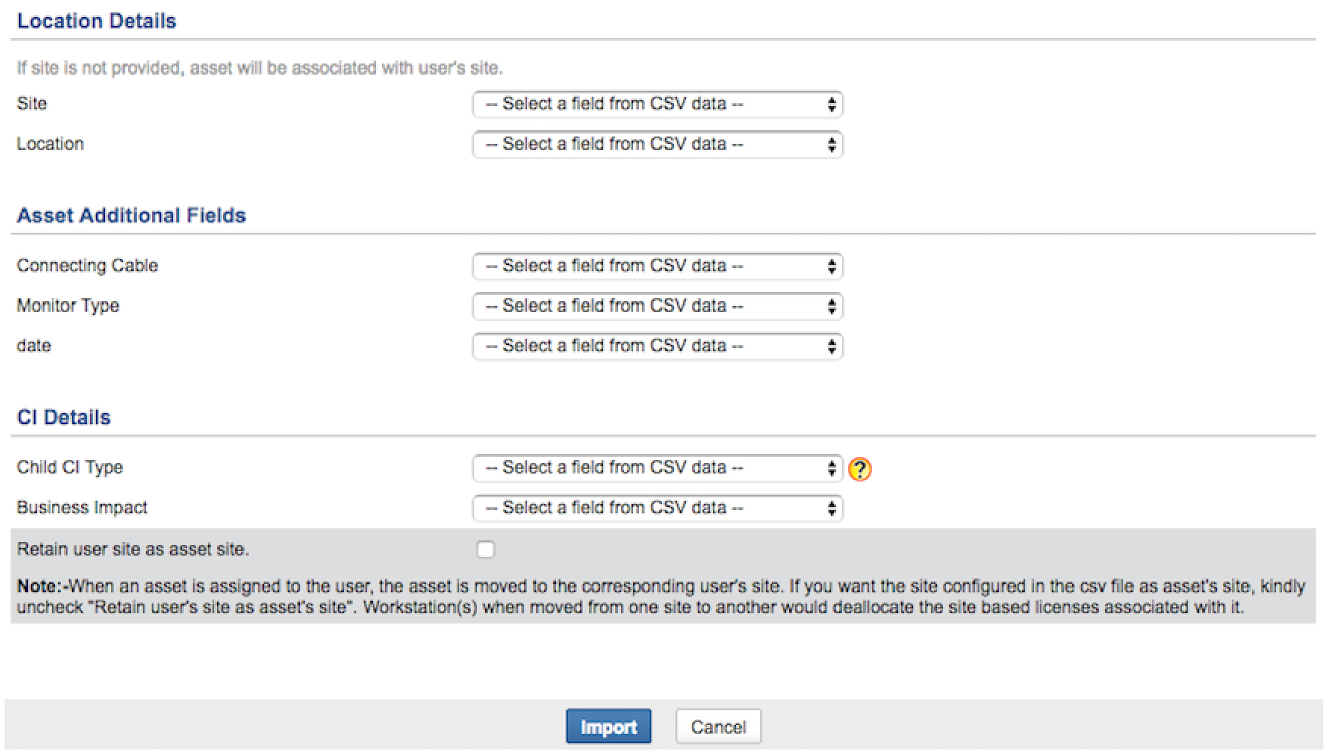


3. The **CI Import Wizard** is displayed, where the CI Type field carries the Non-IT Asset (say, Projector) chosen in step:1. You can also choose a different Non-IT Asset.



4. Click the **Choose File** button and locate the CSV file. Click **Submit**. The column headers in the uploaded CSV file are displayed in drop down boxes as shown below.





5. Choose a **Date Format**. Remember, all the date fields in the CSV file should be of the same format.
6. Choose the appropriate column headers for the fields displayed. For example, if you have selected the CI Type as Projector, specify the Asset Details by selecting from the respective combo boxes. The columns in CSV file are populated in the select boxes beside each field label (Refer the above screenshots).

7. Click **Import** to import the existing data from the CSV file. Once the data is imported, the result is shown with details like the number of records added and overwritten, and the number of records failed to import.

Delete Non-IT Asset

1. Click Assets tab on the header pane. This opens the Asset home page.
2. Click Non-IT Assets link under assets block on the left hand side of the page. This opens the Non-IT Assets list view page.
3. Enable the check box beside the assets to be deleted. Click Delete button.
4. A confirmation dialog appears. Click OK to continue. You can see the selected assets deleted from the list.

Asset Component

A part of the asset (ie. associated with the asset) which does not stand alone are grouped under Components. The list of all possible components are given below,

- Keyboard
- Mouse

- Add New Component
- Add Components to Group
- Delete Components
- View Component Details
- Edit Component
- Associate Asset to Component
- Copy Resource
- Attach Documents

Add New Component

1. Log in to the ServiceDesk Plus application using your **user name** and **password**. This opens the ManageEngine ServiceDesk plus home page.
2. Click Quick Actions link on the top left hand side of the page -> Click Asset option from the drop down menu. This opens Add Asset page. (OR)

   Click Asset Components under Assets on the left side of the page -> select any one of the listed IT assets components link. E.g. Keyboards etc. This opens the particular Asset Component page.
3. Click New button. This opens Add Asset page.
4. Select the Product Name from the combo box. If required, you can add a new product name by clicking Add New link beside the product name field. This is a mandatory field.
5. Select the Vendor Name from the combo box. If required, you can add a new vendor by clicking the Add New link beside the vendor name text field.
6. Specify the Asset Name in the given text field. This is a mandatory field.
7. Specify the Asset Tag, Asset Serial No, Bar Code, Asset Cost in $ in the corresponding text fields.
8. Specify the Acquisition Date & Expiry Date from the calendar button.
9. Select the Site from the combo box.
10. Specify the Location in the given text field.
11. Specify the Asset State by selecting the current status of the asset from the combo box.

    If the asset is in Use state you need to associate or assign asset to department or user or asset.
    1. Allocate the asset to an Asset or to a User or to the Department by selecting any of the two radio button. Say Associate to Asset or Assign User/ or Department.
    2. If you choose to associate asset to an asset then select the asset name from the Choose Asset combo box. Or if you have chosen to assign to user or the department then select User or Department from the combo box.
    3. If the asset is leased select the check box Asset is Leased. If the asset is leased then specify the From and To date from the calendar button.
12. Click Save button to save the changes. To save and add another asset click Save and add new button.

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Add Components to Group

You have two types of groups in ServiceDesk Plus say, Static group and Dynamic. Add to group option in component list view page is to group bulk of components. These components will be grouped under the Static group by default.

To add components to group,

1. Click any of the Components link under the Assets block on the left hand side of the page. This opens the components list view page.
2. Select the components to be added to the group by enabling the check box. This opens the Add Resource(s) to page.
3. By default you can group components only to the static group. Either to the Existing static group or New static group can be added.
4. If you would like to group the components under existing static group then click the corresponding radio button. Select the group name from the combo box.
5. Else, if you would like to add a new static group and group the components, click New Group radio button. Specify the Group Name and relevant information about the group in the Description field.
6. Click Save button to save the changes.

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Delete Components

1. Click Assets tab -> Click Asset Components link under assets block on the left hand side of the page. This opens the components list view page.
2. From the components list view page, select assets to be deleted by enabling the check box.
3. Click Delete button to delete the selected assets. You can see the selected assets deleted from the list.

View Component Details

1. Click Assets tab -> Click Components link under on the left hand side of the page. This opens the components list view page.
2. Click the components name to view the components details. By default Resource Info tab details are displayed.

View Resource Info Details

Resource Info tab displays the Resource Details such as, Resource Name, Tag, Bar Code, Serial No Region, Cost, Acquisition Date and many other details are displayed.

View History of Components

Click the History tab to view the components history. This gives the complete components Resource Ownership History on date and State of the components.

Request Details

On clicking the Request Details page you will be able to view all the requests raised for the Component.
On clicking the request title you can view the details of the request, requester details, Assets belonging to the user, Time elapsed to solve the request, resolution for the request and history of the request
Also you can send reply for the request or forward the request to the technician. You can Search associated problem and change or add new problem or change to the request.

Contracts Details

Click Contracts tab to view the contracts attached to the components. This gives the complete details about the contract such as, vendor name, support details, contract rules, expiry date, cost and other rules.

Costs Details

1. Click the Costs tab to view the costs associated to the components.
2. Click Add Cost button to add cost to the components.
3. Select the Cost Factor from the combo box. For ex. Service Cost. This is a mandatory field.
4. Specify the description about the cost in the Description field. Say if the cost factor is service cost you can specify important information about the service cost.
5. Specify the Amount in $ in the Amount field. This is a mandatory field.
6. Select the Date from the calendar button. This is mandatory field.
7. Click Add Cost button to add the cost. You can see the cost added to the components shown in the Other Costs list view page.

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Associate Asset to Component

To associate an asset to a component,

1. Click the Assets tab in the header pane. This opens the Asset home page.
2. Select the Asset Components link under the assets block on the left hand side of the page. This opens the asset components list view page.
3. Click the title of the component to be associated with an asset. This opens the component details page.
4. From the components details page, click Associate tab on the top right hand side of the page. This opens the Associate to Assets pop up window.
5. Select the Asset to be associated from the Choose Asset combo box.
6. Save the details. Component associated to an asset can be viewed under the relationships tab of the selected asset details page.

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Copy Resource

Using Copy Resource option you can make multiple copies of the component and its details. On making multiple copies of the resource, it becomes easier for the technician to add bulk of similar components. The technician need not manually enter all the components details for each component. The new copies of the component will be assigned with new component name and rest of the details is retailed as is.
Example: If you have twenty keyboards of the same configurations in your organization, then in this case, enter the configurations of one keyboard and save it. Then copy the same keyboard for twenty times and add its configurations to other keyboards.

To make multiple copies of the resource,

1. Click the Assets tab, this opens the asset home page -> select the Asset Components link on the left hand side of the page.
2. From the list view page of the Asset Components -> click the title of the asset component to be duplicated. This opens the asset components details page.
3. Click the Actions combo box -> select the Copy Resource option. The Copy Resource dialog pops up.
4. Specify the Number of Copies to be made for the resource in the given text field.
5. Copy the resource. You can see the list of resource copies listed in the list view.

Edit Component

To edit the component details,

1. Click the Assets tab -> select the Asset Components under assets block on the left hand side of the page. This opens the list view page of the asset components.
2. Click the title of the Asset Components to be edited. This opens the Asset details page.
3. Click Edit button on the top right hand side of the page.
4. Modify the component details in the Edit form such as, Product Name, Asset Name, Asset Tag, Asset Serial No., Bar Code, Vendor Name, Purchase Cost, Acquisition Date and Expiry Date
5. Modify the Asset State details such as, Current usage status of the assets like In Use, In Repair and so on. Then the Associate the asset to User or Department details or Assign to User or Department details.
6. Update the changes. You can see the components details getting updated.

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Attach Documents

To attach documents to a component,

1. Click the Assets tab -> select the Assets Components link under the assets block on the left hand side of the page. This opens the IT asset list view page.
2. Click the title of the component to be attached to other assets. This opens the Asset details page.
3. Click the Actions combo box on the top right hand side of the page -> select the Attach Documents option. This opens the Attach File pop up window.
4. Choose the file to be attached by clicking the Browse button. The maximum size of the attached file can be 10 MB.
5. Click Attach File. The attached document will be listed in Asset details page under Attached Documents. The attached file can be deleted by clicking the delete icon beside file name.

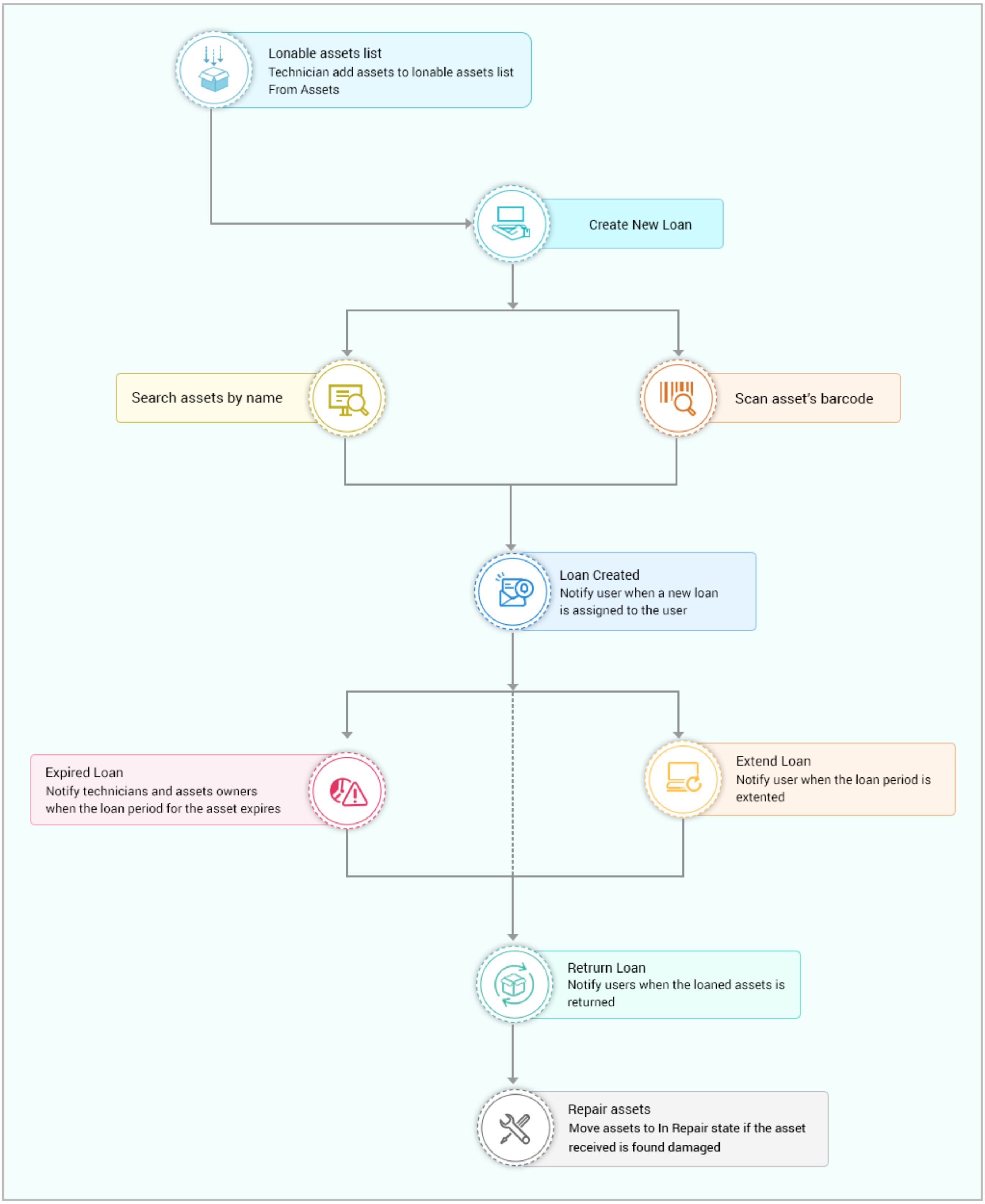
Introduction

Asset Lease is now termed as **Asset Loan**. Asset Loan is enhanced with augmented functionality which helps technicians to lend assets and manage them in a systematic way. This feature provides the below-listed functionalities.

- To mark assets which can be loaned.
- To loan and return assets in bulk.
- Seperate list view for loan expired assets. p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545}
- Notifications can be triggered when assets are loaned, assets are returned from loans, extending loans and expired loans.
- p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545} Assets can be added under New Loan/Return Loan sections by scanning asset's barcode or by searching the asset.

Asset loan has four sections:
Loan registry
Loaned assets
Loanable assets
Loan expired assets

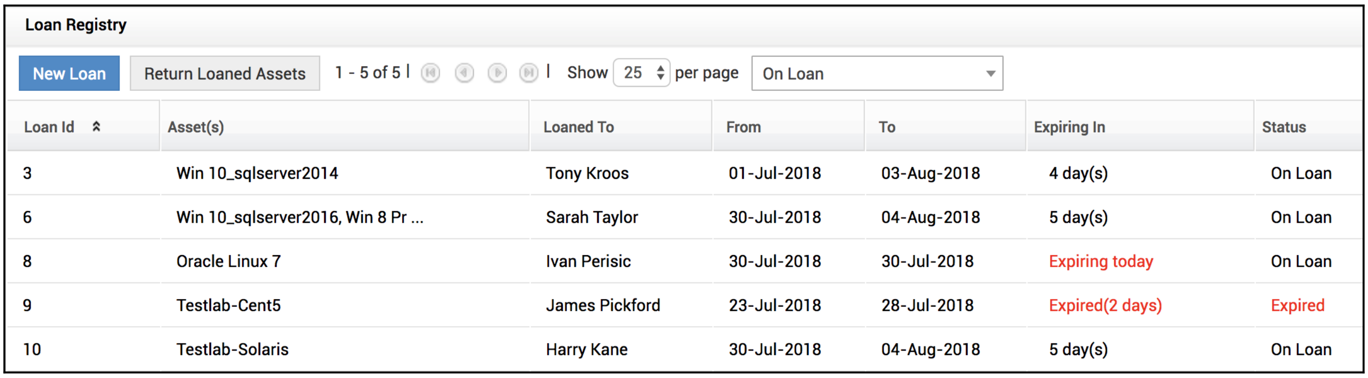
Workflow of the Asset Loan feature is shown below.


Lonable assets list
Technician add assets to lonable assets list
From Assets
Create New Loan
Search assets by name
Scan asset's barcode
Loan Created
Notify user when a new loan
is assigned to the user
Expired Loan
Notify technicians and assets owners
when the loan period for the asset expires
Extend Loan
Notify user when the loan period is
extented
Retrurn Loan
Notify users when the loaned assets is
returned
Repair assets
Move assets to In Repair state if the asset
received is found damaged

Loan registry

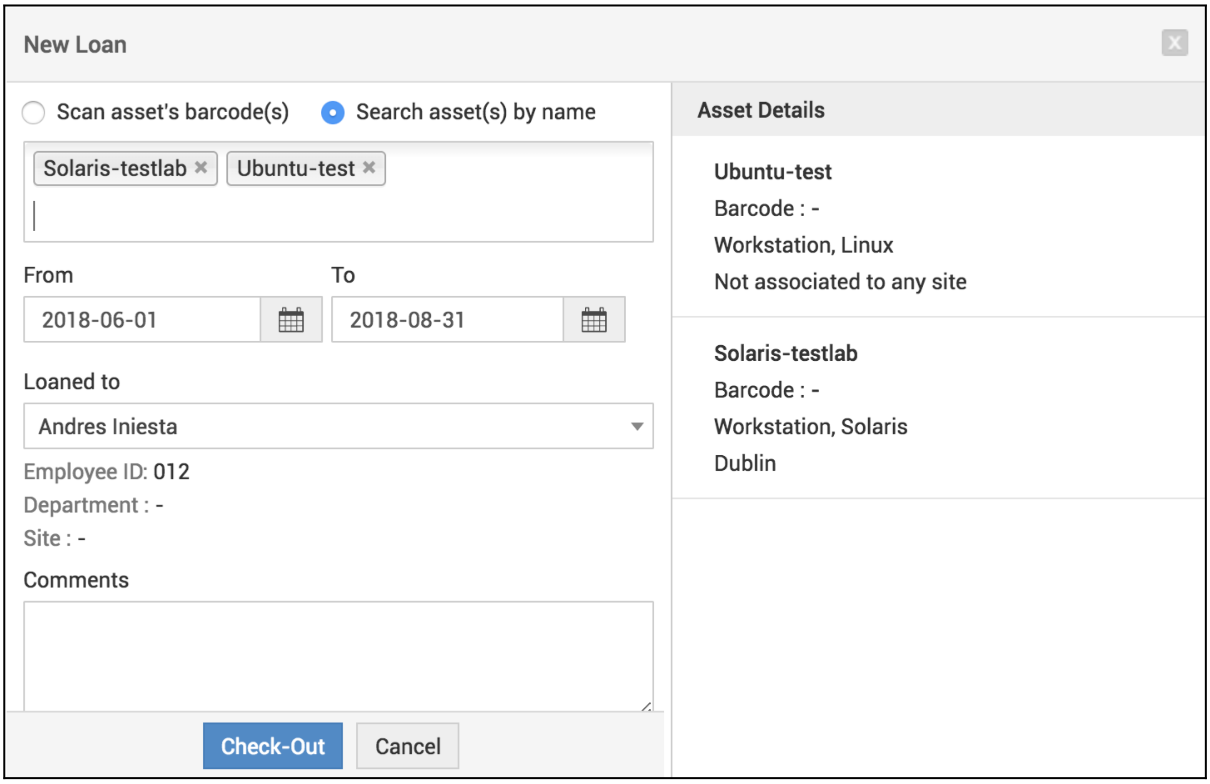
From Loan Registry you can create a new loan, return a loan, and view all loans.
Click on **Assets**--> **Asset loan**--> **Loan Registry** which displays the Loan Registry page**.**
Asset loan is categorized into three statuses.

- **On Loan** - Assets which are on loan.
- **Expired** - Loaned assets that have exceeded the return due date.
- **Closed** - When a loaned asset is returned, the status will be considered as closed.



Loan Id	Asset(s)	Loaned To	From	To	Expiring In	Status
3	Win 10_sqlserver2014	Tony Kroos	01-Jul-2018	03-Aug-2018	4 day(s)	On Loan
6	Win 10_sqlserver2016, Win 8 Pr ...	Sarah Taylor	30-Jul-2018	04-Aug-2018	5 day(s)	On Loan
8	Oracle Linux 7	Ivan Perisic	30-Jul-2018	30-Jul-2018	Expiring today	On Loan
9	Testlab-Cent5	James Pickford	23-Jul-2018	28-Jul-2018	Expired(2 days)	Expired
10	Testlab-Solaris	Harry Kane	30-Jul-2018	04-Aug-2018	5 day(s)	On Loan

Click on **New Loan** to create a loan and **Return Loaned Assets** to return the loaned assets.
Assets can be added under New Loan/Return Loan sections by scanning asset's barcode or by searching the asset.
A loan may contain a single asset or multiple assets.



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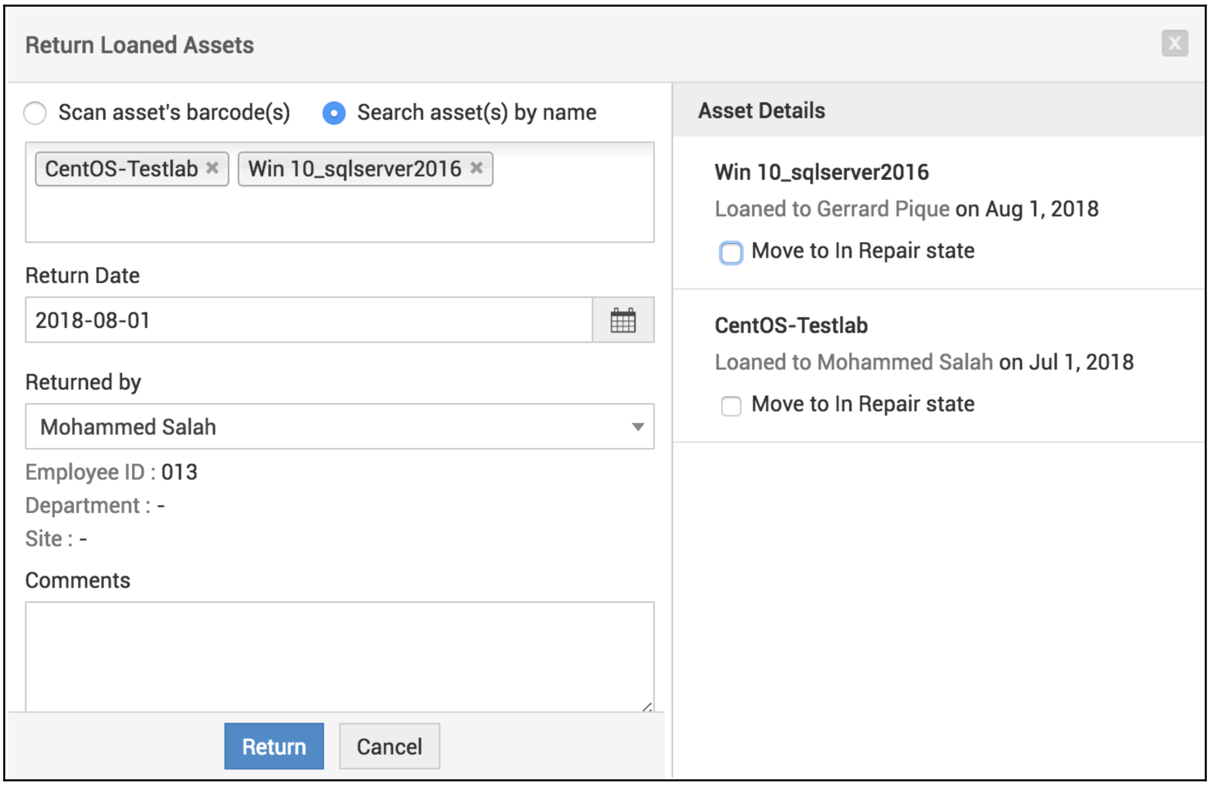
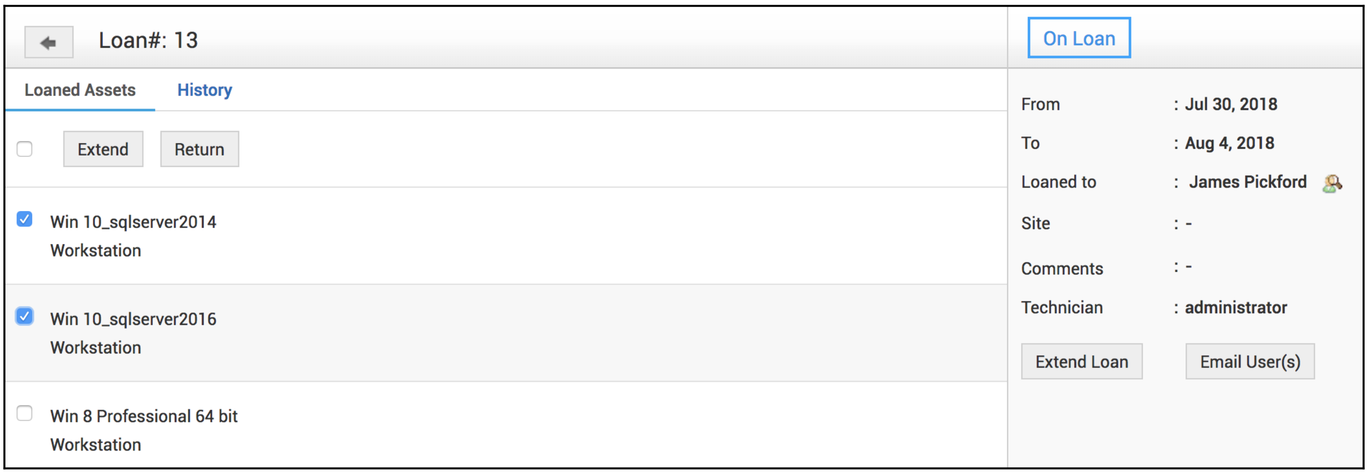


Clicking on a loan from the Loan Registry provides an option to extend or return a loan. There are two options to extend a loan.
Extend: To extend the duration for a particular asset that is on a loan.
Extend Loan: To extend the duration for a particular loan that includes multiple assets.



Email User(s) option helps you send notifications to users.

Notifications

Notification rules can be configured under **Admin**>>**Notification Rules**>>**Asset** to notify the users when the below operations are performed.

- When a new loan is assigned.

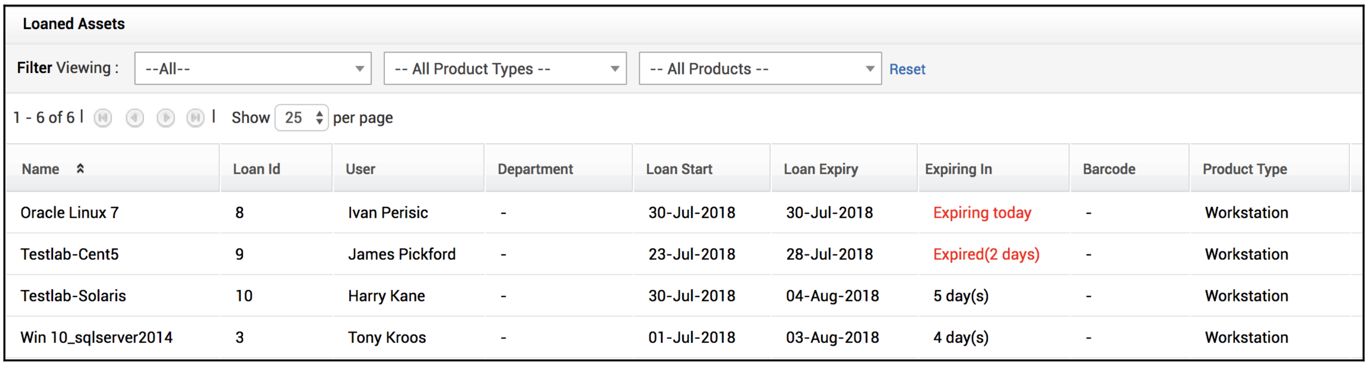
- When a loaned asset is returned.
- When the loan period of an asset is extended.
- To notify technicians and asset owners when the loan period for the asset expires.

Loaned assets

This page displays the list of all loaned assets.

Click on **Assets**--> **Asset loan** --> **Loaned assets** to navigate to the Loaned Assets page.

Loaned assets can be filtered based on the product types, products, and sites.



Name	Loan Id	User	Department	Loan Start	Loan Expiry	Expiring In	Barcode	Product Type
Oracle Linux 7	8	Ivan Perisic	-	30-Jul-2018	30-Jul-2018	Expiring today	-	Workstation
Testlab-Cent5	9	James Pickford	-	23-Jul-2018	28-Jul-2018	Expired(2 days)	-	Workstation
Testlab-Solaris	10	Harry Kane	-	30-Jul-2018	04-Aug-2018	5 day(s)	-	Workstation
Win 10_sqlserver2014	3	Tony Kroos	-	01-Jul-2018	03-Aug-2018	4 day(s)	-	Workstation

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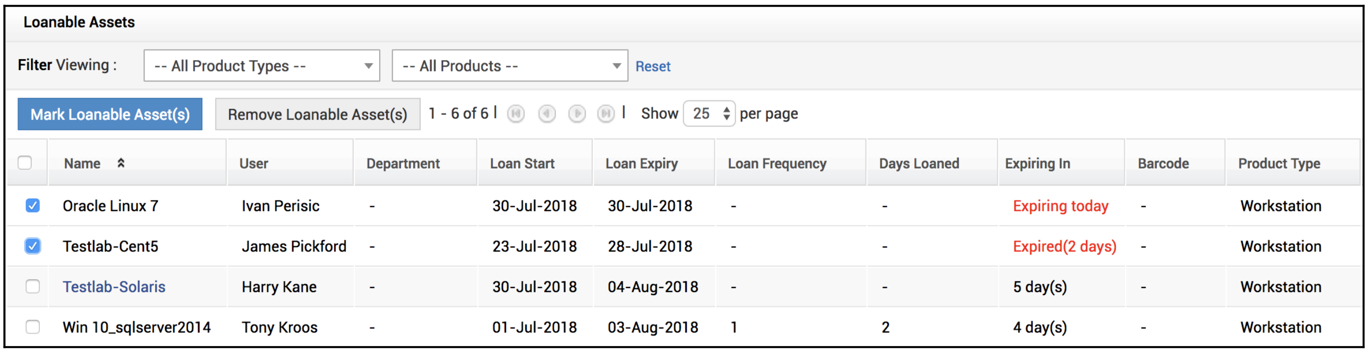
Loanable assets

This page displays a list of assets that can be loaned.
Click on **Assets**--> **Asset loan**--> **Loanable assets** to navigate to the Loanable Assets page.
To add an asset to the **Loanable assets** list, click on **Mark Loanable Asset(s)**. A window pops up with the list of assets that can be selected and added to the list**.**
To remove an asset from the **Loanable assets** list, select the assets and click on **Remove Loanable Asset(s)**.

Note: This does not mean the assets which are not in this list cannot be loaned. You can also add assets to this list and loan those assets.


Loanable Assets

Filter Viewing : -- All Product Types -- | -- All Products -- | Reset

Mark Loanable Asset(s) | Remove Loanable Asset(s) | 1 - 6 of 6 | Show 25 per page

Name	User	Department	Loan Start	Loan Expiry	Loan Frequency	Days Loaned	Expiring In	Barcode	Product Type
Oracle Linux 7	Ivan Perisic	-	30-Jul-2018	30-Jul-2018	-	-	Expiring today	-	Workstation
Testlab-Cent5	James Pickford	-	23-Jul-2018	28-Jul-2018	-	-	Expired(2 days)	-	Workstation
Testlab-Solaris	Harry Kane	-	30-Jul-2018	04-Aug-2018	-	-	5 day(s)	-	Workstation
Win 10_sqlserver2014	Tony Kroos	-	01-Jul-2018	03-Aug-2018	1	2	4 day(s)	-	Workstation

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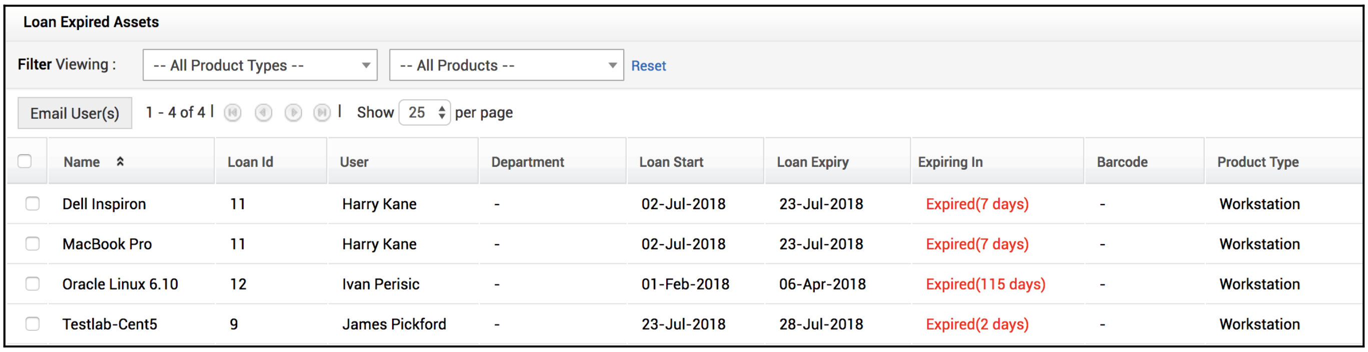
Loan expired assets

List of assets for which the loan period has expired will appear here.
Click on **Assets**--> **Asset loan**--> **Loan expired assets** to navigate to the Loan Expired Assets page.
Loan expired assets can also be filtered based on the product types, products, and sites.
Email User(s) option helps you send notifications to users informing them of the expired asset loan.


Loan Expired Assets

Filter Viewing : -- All Product Types -- | -- All Products -- | Reset

Email User(s) | 1 - 4 of 4 | Show 25 per page

Name	Loan Id	User	Department	Loan Start	Loan Expiry	Expiring In	Barcode	Product Type
Dell Inspiron	11	Harry Kane	-	02-Jul-2018	23-Jul-2018	Expired(7 days)	-	Workstation
MacBook Pro	11	Harry Kane	-	02-Jul-2018	23-Jul-2018	Expired(7 days)	-	Workstation
Oracle Linux 6.10	12	Ivan Perisic	-	01-Feb-2018	06-Apr-2018	Expired(115 days)	-	Workstation
Testlab-Cent5	9	James Pickford	-	23-Jul-2018	28-Jul-2018	Expired(2 days)	-	Workstation

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Groups

ManageEngine ServiceDesk Plus helps you to organize assets by grouping them based on certain asset properties. Grouping assets gives a more fine-grained control over the assets, enabling you to manage them effectively. Say, for instance, when you are getting ready for migration, you will be able to pinpoint assets with 256MB RAM that need upgrade before rolling out Windows Vista.

There are two types of asset grouping in ServiceDesk Plus.

- Static Group: Lets you group assets as per your wish.
- Dynamic Group: Groups assets based on certain criteria like Product Type, Department, OS, Manufacturer and so on.

- Create New Group
- Remove Assets from a Group
- Edit and Delete Group

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Create Asset - Groups

To access Groups in ServiceDesk Plus,

1. Click Assets tab in the header pane.
2. Click Groups in Assets block on the left hand side of the page.
3. Click New Group link. The Create Group form is displayed.

Alternatively, you can access the Create Group form from Quick Actions link on the top left side of the page. Select New Group under Assets-Groups.

Creating a Group

1. Specify a name for the group in Group Name text field. This is a mandatory field.
2. Specify relevant information about the group in the Description field.
3. Select the Group Type by enabling anyone of the radio button.

- Static Group: Grouping assets as per your wish. By default, this option is enabled.

- Dynamic Group: Grouping assets based on certain criteria.

- Click Save button to save the group. The Edit Group page is displayed and based on the selected Group Type, you can either pick assets from the existing list or you can define criteria to group assets.

Adding Assets to Static Group

1. In Pick resources to add block, select the filter criteria from Showing drop-down list. For instance, the filtered criteria are All Assets in state In Use. This will list all assets with asset state as In Use.
2. If your asset list is lengthy, then you can conduct a search for assets by specify the Search criteria.
3. From the list of assets under Pick resources to add block, select the check box beside the asset to add to this group.
4. Click Add button. A message confirming the number of items added to the group is displayed along with a View button.
5. Click View button to view the assets in the group.

NOTE: To delete assets from a static group, refer Removing Assets from Static Group.

Adding Assets to Dynamic Group

1. In Dynamic Group Criteria's block, you can define the criteria and condition to filter assets according to specific asset properties. The Criteria drop-down lists criteria based on Resources like product type, vendor, department, etc. and Workstation Criteria such as model, OS, Processor Type, IP Address and so on.
2. Select the Criteria and the Condition from the drop-down list.
3. Click Choose button to select the resource or workstation based on the selected criteria. Click OK. The selected criteria and condition is displayed.

Say, for instance, you have selected the criteria as "Product Type" and conditions as "is". On clicking choose button you will get the list of all product types such as, access points, scanners, keyboard, printers and so on.

4. If you have defined more than one criteria, then select any one of the Match Criteria radio buttons i.e., Match ALL of the following (AND) or Match ANY of the following (OR).
5. Click Save & View Group button to save the defined criteria and view resources in the group.

Remove Assets from Static Group

You can remove assets from a static group but you cannot remove resources from a dynamic group. Removing assets from the static group can be performed in two ways,

1. From the list view page of the Static Group, or
2. While editing Static Group.

Remove Assets from the Static Group list view page
To remove assets from the list view page of the Static Group,

1. Click Assets tab in the header pane.
2. Click Groups in Assets block on the left hand side of the page.
3. Click Manage Group link.
4. From the Manage Group window, click the static group. The list of assets grouped to the selected static group is displayed.
5. Select the check box beside the asset name to remove from this static group.
6. Click Remove from Group button. The selected assets are removed from the list.

Remove assets while editing a static group
To remove assets from the static group while editing,

1. Click Assets tab in the header pane.
2. Click Groups in Assets block on the left hand side of the page.
3. Click Manage Group link.
4. From the Manage Group window, click edit link beside the static group.
5. In Resources in group block, select the check box beside the resource name to remove from the static group.
6. Click Remove button. The selected assets are removed from the list.

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Editing and Deleting Groups

Editing Groups

1. Log in to ServiceDesk Plus application using your Username and Password.
2. Click the Assets tab in the header pane.
3. Click Groups in Resources block on the left hand side of the page.
4. Click Manage Groups link.
5. From Manage Group window, click Edit link beside the group to edit. The Edit Group page is displayed.
6. If you are editing Static Group, then you can either add assets to the group or you can remove existing assets from the group. For Dynamic Group, select the criteria and conditions from the drop-down list.
7. If you want to change the name of the group, then select Edit button beside Group block in Edit Group page.
8. Edit the Group Name and Description. The Group Type is in non-editable text.
9. Click Save button.

Deleting Groups

1. Log in to ServiceDesk Plus application using your Username and Password.
2. Click the Assets tab in the header pane.
3. Click Groups in Resources block on the left hand side of the page.
4. Click Manage Groups link.
5. From the Manage Group window, click the corresponding Delete link to be deleted on the right hand side of the page.
6. A pop up window pops up to get your confirmation on the delete operation. Click OK to proceed. You can see the group deleted from the list.

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Discovery - Scan Workstations and Other Network Devices

With ServiceDesk Plus you can scan all your windows domain, networks part of your enterprise, Linux, MAC, Solaris, AIX machines and IP based IT assets. Also, you can set up audits for scheduling periodic scanning and regular cleanup, scan assets in remote locations and perform individual scan for newly added workstations.

Please note that, only technicians with administrator privilege can perform and configure a Scan.

ServiceDesk Plus currently supports scanning for the following OS - Linux, Solaris, MAC, IBM-AIX and IP devices - Printers, Routers, Switches and Access Points.

Scanning Mechanisms

- Windows Domain Scan
  Scans all the Windows Workstations and Servers that are,

1. part of Windows domain
2. scanned using Active Directory, and
3. part of Windows workgroup

You can also scan workstations using an Agent or Agentless mode (scans machines using WMI).

- Network Scan
  Scan workstations and devices that are part of your network range. Network Scan supports,

1. OS workstations like, Linux, MAC, Solaris, IBM-AIX machines
2. Windows workgroup (workstations that are not part of any domain controller).
3. IP devices like Printer, Router, Switches and Access Points.

- Schedule Scan
  Schedule scan at periodic intervals to scan domains and networks that are part of your enterprise. Also, you can set re-scanning intervals to discover newly added workstations.

- Scanning machines outside a domain/network
  Scan Windows Workstations and Servers outside a domain/network using Standalone Workstation Audit or by installing an Agent in the remote machine. Both these methods involve script installed in the remote workstations which scans and pushes the inventory details to the SDP server.

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- Workstations/Device Scan
  Use this option to scan an individual or newly added machines in your network. Machines like Windows, Linux, Solaris, IBM-AIX, MAC and IP devices like Printers, Routers, Switches and Access Points are currently supported.

- Distributed Asset Scan

  For all your remotely located workstations that cannot be accessed by the Central SDP server, a Remote AE server is installed in each location which scans the workstation information, and pushes the data to the Central server either manually or automatically.

Scan Windows machine

ServiceDesk Plus provides you various options to scan your Windows machines. You can scan machines that are part of a domain, network, workgroup, and even schedule to scan the windows machines. Apart from this, you can scan remotely located Windows machines and workstations that are manually entered in the application.

Scanning Mechanisms

- Types of Scan
- Modes of Scan

Types of Scan

The list below shows the different methods through which a Windows machine can be scanned:-

- Windows Domain Scan

Scans all the Windows Workstations and Servers that are,

1. part of Windows domain
2. scanned using Active Directory, and
3. part of Windows workgroup

By default, when you start the application for the first time, the Windows domain in the network is automatically discovered.

- Network Scan
  Windows workstation that are part of a network can be scanned using the Network Scan. The communication protocol and login credentials for windows workstations are given below,

1. Communication Protocol: WMI or Agent
2. Login Credentials: Credentials of the domain controller

- Scanning machines outside a domain/network
  The Windows workstations/servers that are not part of a domain or network are scanned using Standalone Workstation Audit or by installing an Agent in the remote machine. The remote workstations are scanned using a script and the inventory details are pushed to the SDP Server.
- Workstation/Device Scan
  Scan your newly added windows machines by specifying the workstation/device credentials.

Modes of Scan

- Agent Mode
  Agent based scanning involves an agent to be deployed in Windows workstations through Active Directory or Windows Domain Scan deployed manually or from the ServiceDesk Plus Application. The Agent mode is easy to deploy, more secure and provides easy access for remote control.

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Scanning Prerequisites

For a successful discovery, the target workstation should be ping-able from the ServiceDesk Plus server using the name which the ServiceDesk Plus discovers. In case of Non-English Operating System, **TCP port 7** has to be opened in the firewall.

In ServiceDesk Plus, the scanning for Windows Workstation is done using the Agent or Agentless mode. While Agentless scans inventories using **WMI** (**Windows Management Instrumentation**) and does not involve any client side software installed in the host, the Agent is an instance of a software, installed in the host to scan inventories and access them remotely.

Windows Management Instrumentation (**WMI**) is an interface which allow management information to be shared between management applications so that the data from any source can be accessed in a common way.

The accessibility of the data using WMI is been controlled by the **RPC** and **DCOM** settings.

RPC (Remote Procedure Call)

RPC (**Remote Procedure Call**) dynamic port allocation instructs the RPC program to use a particular random port **above 1024** and the static TCP ports **135** and **445**. Customers using firewalls may want to control the ports which RPC is using so that their firewall router can be configured to forward only these Transmission Control Protocol (TCP) ports.

Opening of all these ports above **1024** might not be feasible. However, you can restrict the usage of these random port to some specific ports (say **5000**, **5001**, **5002**) by adding manually into the **Registry Editor** for **REG_MULTI_SZ** value. Once these ports are been added in the registry, you have to open the TCP ports including 135 and 445.

In case of **Windows Firewall**, the Remote Administration for the administrators in each workstation has to be enabled.

DCOM (Distributed Component Object Model)

WMI has default impersonation, authentication, and authentication service (NTLM or Kerberos) settings that the target computer requires. For this, ensure that the correct DCOM (Distributed Component Object Model) settings and WMI namespace security settings are enabled for the connection. You can configure DCOM settings for WMI using the DCOM Config utility (**DCOMCnfg.exe**) found in **Administrative Tools** in **Control Panel**. This utility

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exposes the settings that enable certain users to connect to the computer remotely through DCOM. Members of the Administrators group are allowed to remotely connect to the computer by default. With this utility you can set the security to start, access, and configure the WMI service.

Configuring RPC and DCOM settings

Setting up the RPC and DCOM settings in each target workstation are not so easy. You can run the scripts provided here to set the default RPC and DCOM settings required by WMI.

A. For Windows Firewall and DCOM option

1. Download the file **scan_setup.txt**
2. Copy the file as "scan_setup.vbs" in the target workstation.
3. Execute the script using Cscript from command prompt as follows:
   DIR_OF_SCRIPT_FILE> CSCRIPT scan_setup.vbs
4. Restart the Workstation.

NOTE: This script can also be configured as Logon Script in the Domain Controller, to configure Firewall for all computers in the domain.

B. For Configuring your Router/Firewall (**To restrict WMI ports**)

As mentioned above one random port will be chosen by the OS above 1024 for WMI requests. This range can be minimized by modifying the System Registry. Given below is the procedure to modify the registry using a script.

1. Download the file **wmi_port_setup.txt**
2. Copy the file as "wmi_port_setup.vbs" in the target workstation.
3. Edit the script and specify the range of port that will be opened in the Firewall for WMI.
4. Execute the script using Cscript from command prompt as follows:
   DIR_OF_SCRIPT_FILE> CSCRIPT wmi_port_setup.vbs
5. Restart the Workstation.
6. Open the Ports configured using the script in the Firewall.

Credentials library - Repository for scan credentials

- About Credentials Library
- Supported Credential Types and Protocols
- Configuring Scan Credentials - using Credentials Library
- Configuring Scan Credentials: from Network Scan (or) Windows/Device Scan Page

---

About Credentials Library

Credentials Library houses various scan credentials technicians use for **monitoring/scanning assets like workstations, servers, printers etc**. Apart from serving as a **repository for storing scan credentials**, this library allows technicians to configure (as well as edit) **new scan credentials** (for example, SCCM) as and when required. **All scan credentials associated with ServiceDesk Plus** will be stored in this library.

Supported Credential Types and Protocols

Credential Types	Purpose
Windows Scan Credentials	Scanning Windows Workstations/Servers
Unix Scan Credentials	Scanning Unix Workstations/Servers
Device Scan Credentials	Scanning devices like printer,router etc.
VMware Device Specific Scan Credentials	Scanning VMware devices
Remote Access Credentials	Establishing remote connection with workstations

Configuring Scan Credentials - using Credentials Library

To configure Scan Credentials:

- **Login to ServiceDesk Plus** using your credentials
- Select **Admin** tab --> **Discovery** block --> **Credentials Library**
- Click on **Add New Credential** link (available at the top-right corner).
- **New Credential Pop-Up** Opens up as shown below:

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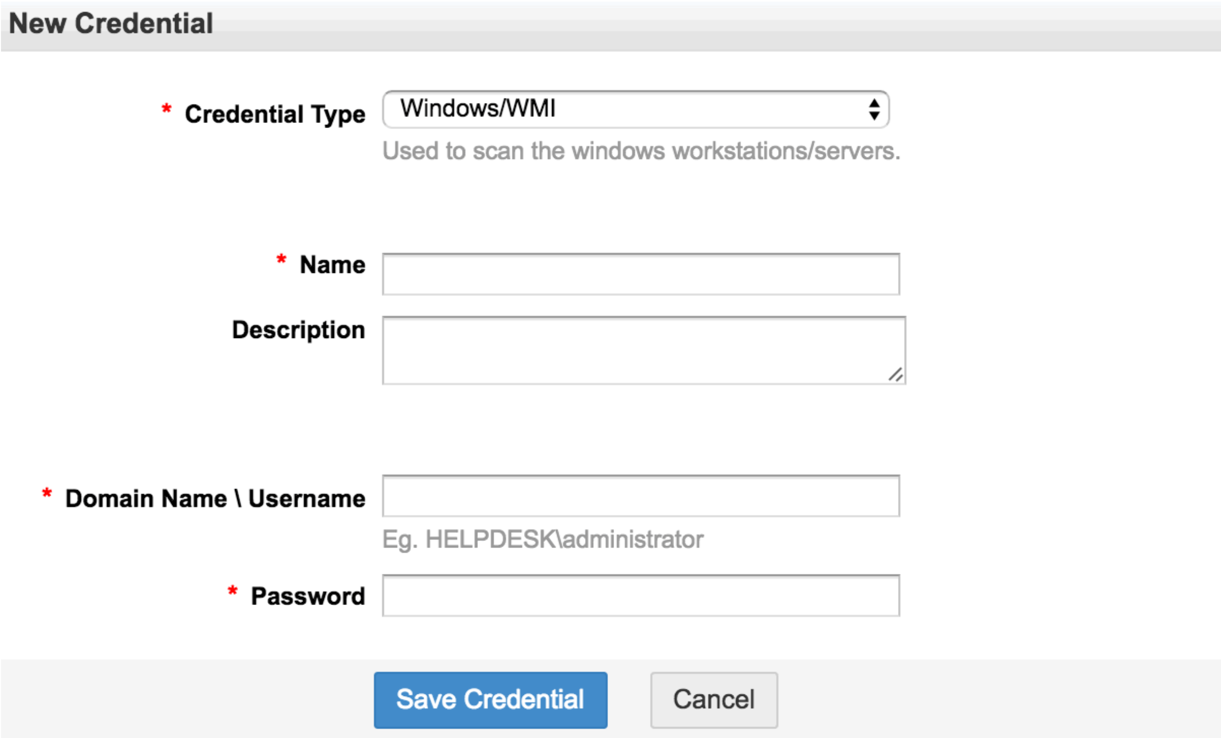
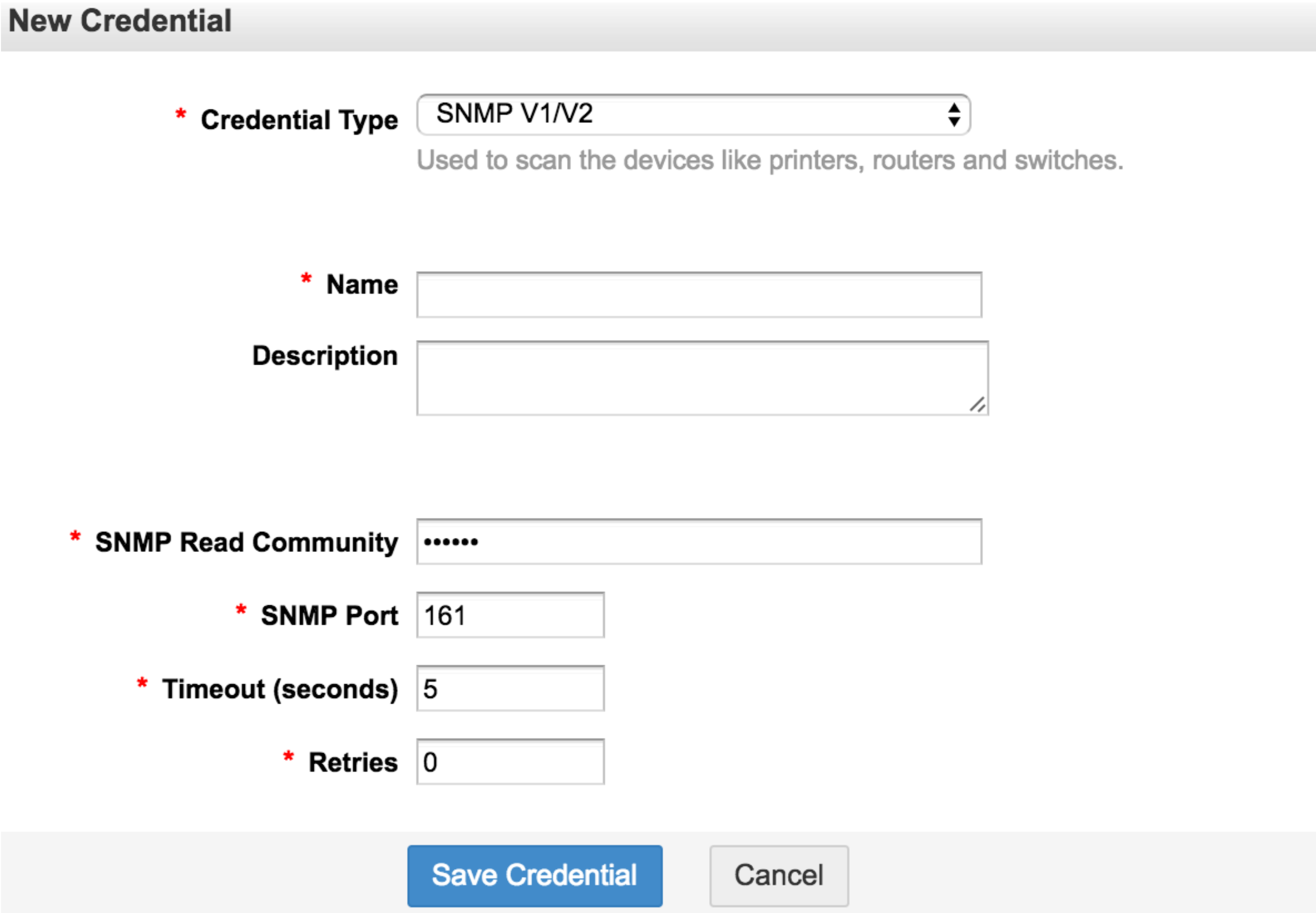


- Select **Credential Type** (Windows WMI, Telnet/SSH Protocol, SNMP V1/V2, VMWare (OR) Remote Control)
- Provide a suitable **Name and Description.**
- Enter the **Username and Password.**
- In case of **Telnet/SSH** credentials specify the following:

- **Protocol** - Telnet/SSH
- **Port Number** - Set at 22 by default.
- **Public or Private Key** based authentication.

- In case of **SNMP V1/V2** credentials specify the following:

- **SNMP Read Community** - Password.
- **SNMP Port Number** - It is set at 161 by default.
- **Timeout** (Indicates the time after which connection would be terminated) - It is set at "5" secs by default which can be changed.
- **Retries** (Indicates the number of attempts that can be made before Timeout happens) - It is set at "0" by default which can be changed.



- In case of **SNMP V3** credentials specify the following:
  - Enter the Username and Context Name.

Authorization and Encryption Protocols:

- Choose Either MD5 or SHA for Authorization Protocol and DES or AES-128 for Encryption Protocol.
- Once the corresponding protocol type is selected, enter the Authorization password.
- Once the Encryption protocol is selected, enter the Encryption password.
- Enter the SNMP Port Number - It is set at 161 by default.

Timeout (Indicates the time after which the connection would be terminated) - It is set at "5" secs by default which can be changed.

Retries (Indicates the no. of attempts that can be made before the timeout happens) - It is set at "0" by default which can be changed.

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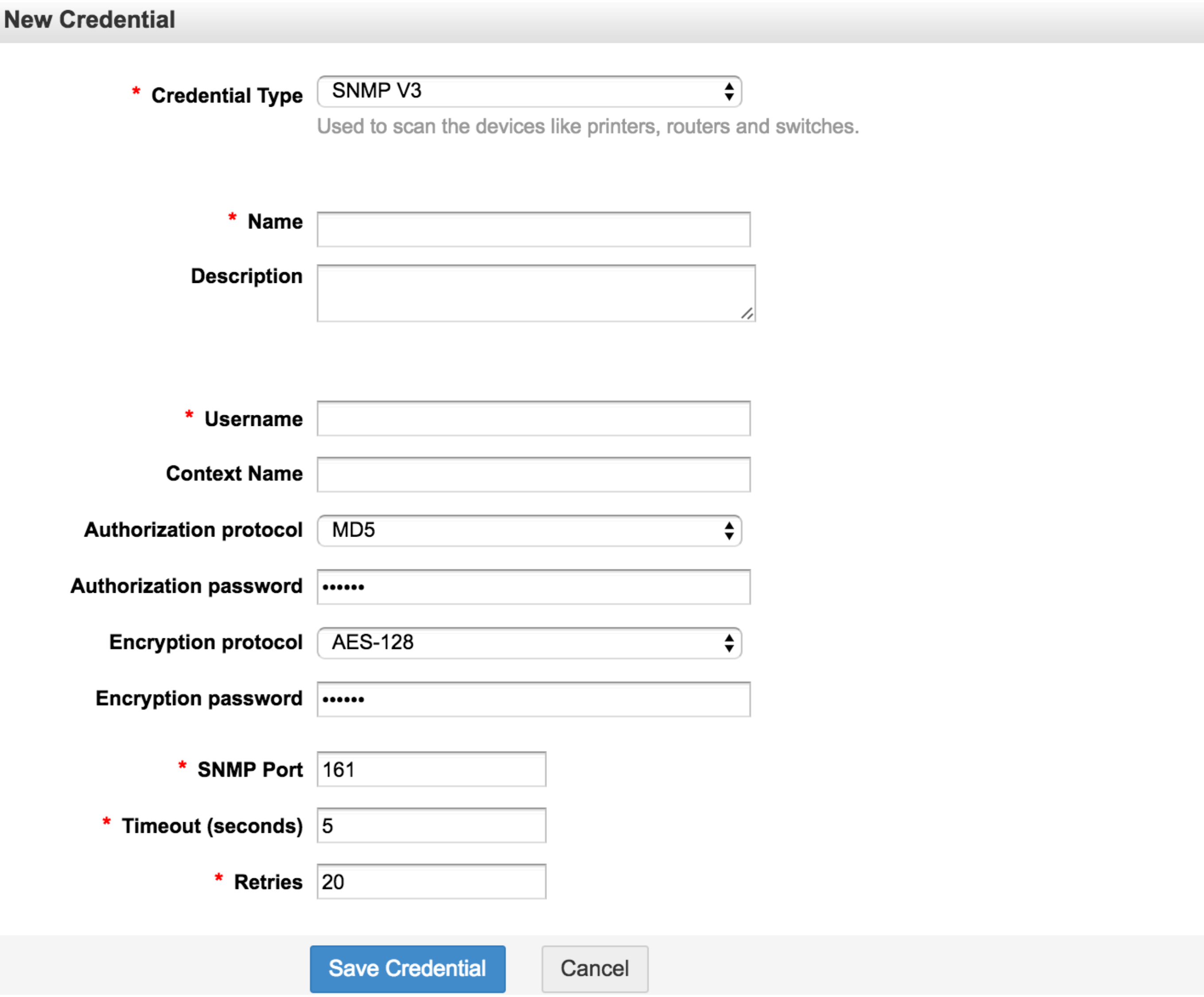

- In case of **VMWare** credentials specify the following:

- **HTTPS Port** - Set at 443 by default.
- **Timeout** (Indicates the time after which connection would be terminated) - Set at 60 secs by default.

- In case of **Remote Control Credentials** specify the following:

- Specify anyone of the following: **Domain (or) Username (or) Password**
- **Save the Credentials.**

Remote Control Credentials need to be specified while establishing Remote Control with client machines.

Credentials configured using Credentials Library will be available for use under: **Network Scan** and **Workstation Scan** as well.

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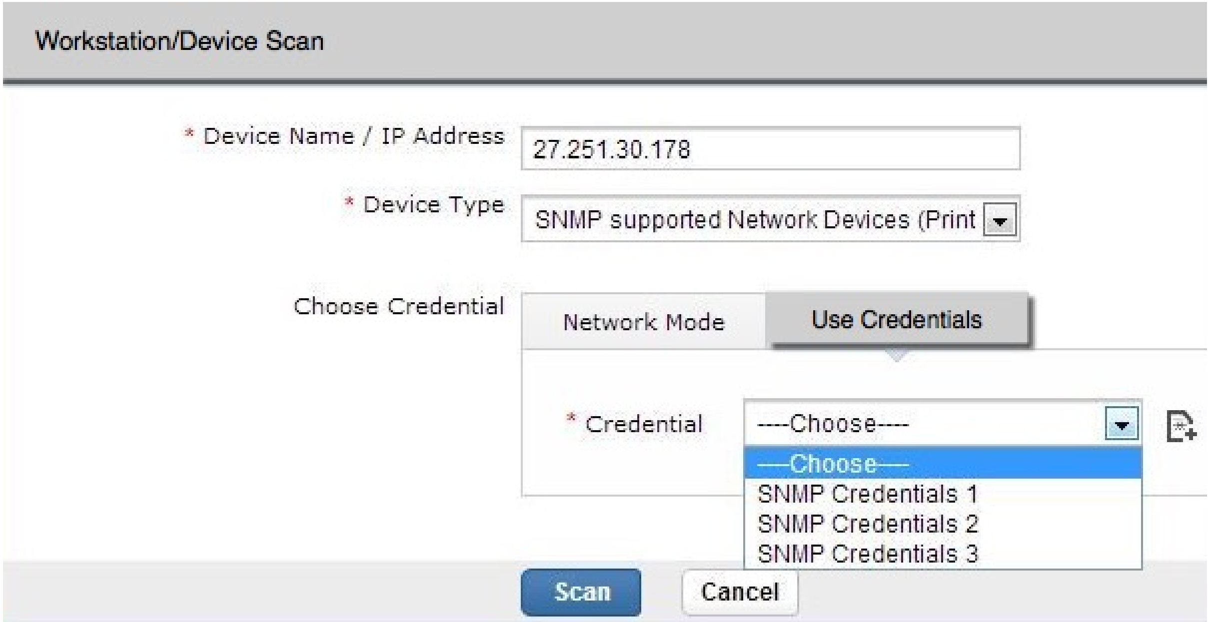
Encryption Protocol can be configured only after the Authorization Protocol is configured. These two protocol configurations are not mandatory.

Configuring Scan Credentials: from Network Scan (or) Windows/Device Scan

- Configuring Scan Credentials - Network Scan Page
- Configuring Scan Credentials - Workstation/Device Scan Page



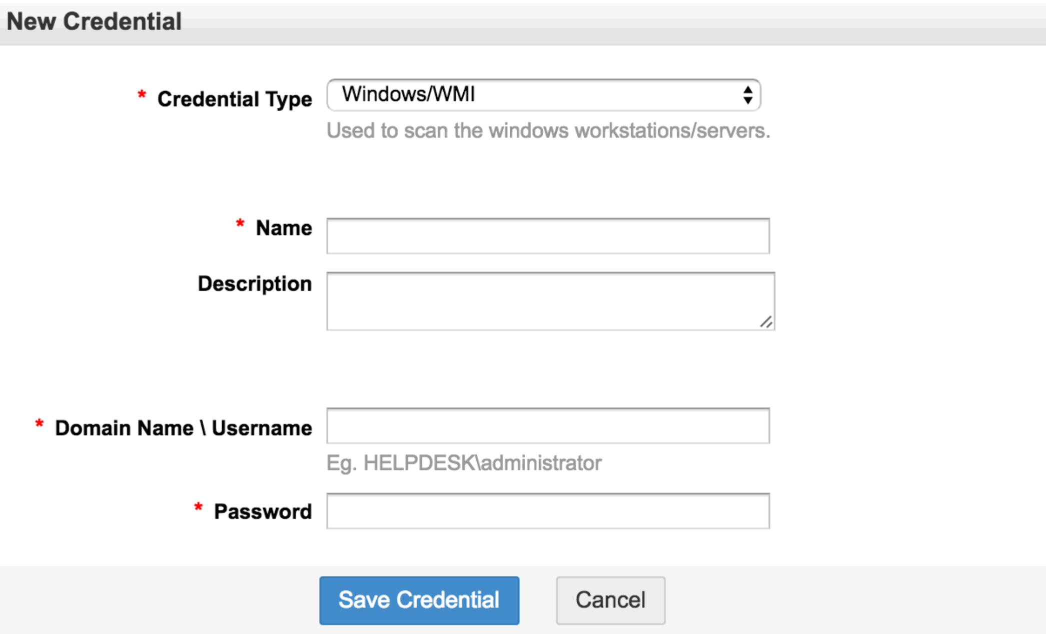
Scan Credentials being configured from Network Scan (on left) and Workstation Scan (on right) pages.

Configuring Scan Credentials for Windows WMI

Windows WMI credentials are used to scan Windows workstations and servers.

To configure Windows WMI scan credentials,

- Login to **ServiceDesk Plus** using your credentials
- Select **Admin** tab --> **Discovery** block --> **Credentials Library**.
- Click on **Add New Credential** link (available at the top-right corner).
- **New Credential Pop-Up** opens up as shown below:



- Select **Credential Type** (Windows WMI)
- Provide a suitable **Name and Description.**
- Enter the **Username and Password.**
- Click **Save Credential.**

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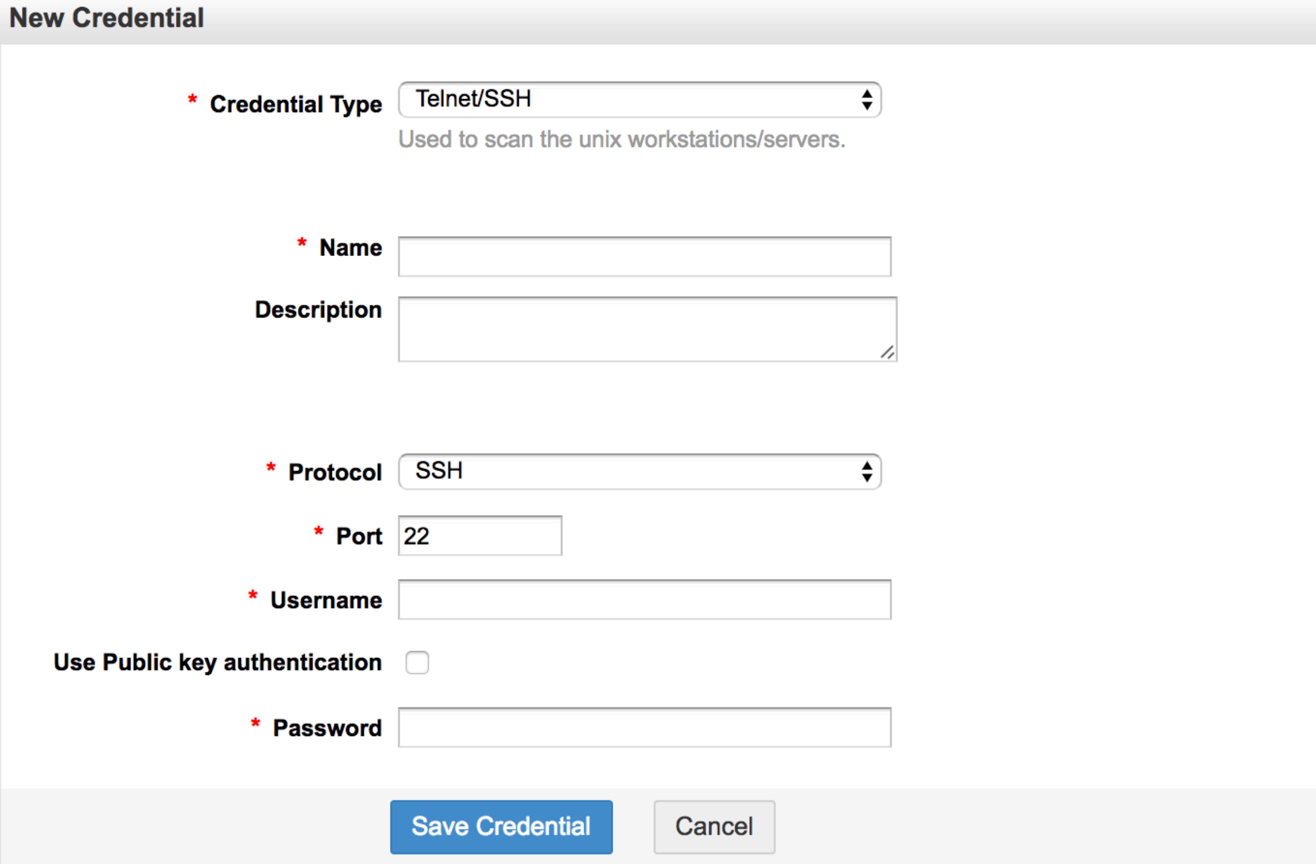
Configuring Telnet/SSH credentials

Telnet/SSH scan credentials are used for scanning Linux, Mac, Solaris, AIX and HPUX.
To configure Telnet/SSH credentials,

- **Login to ServiceDesk Plus** using your credentials.
- Select **Admin** tab --> **Discovery** block --> **Credentials Library**.
- Click on **Add New Credential** link (available at the top-right corner).
- **New Credential Pop-Up** Opens up.

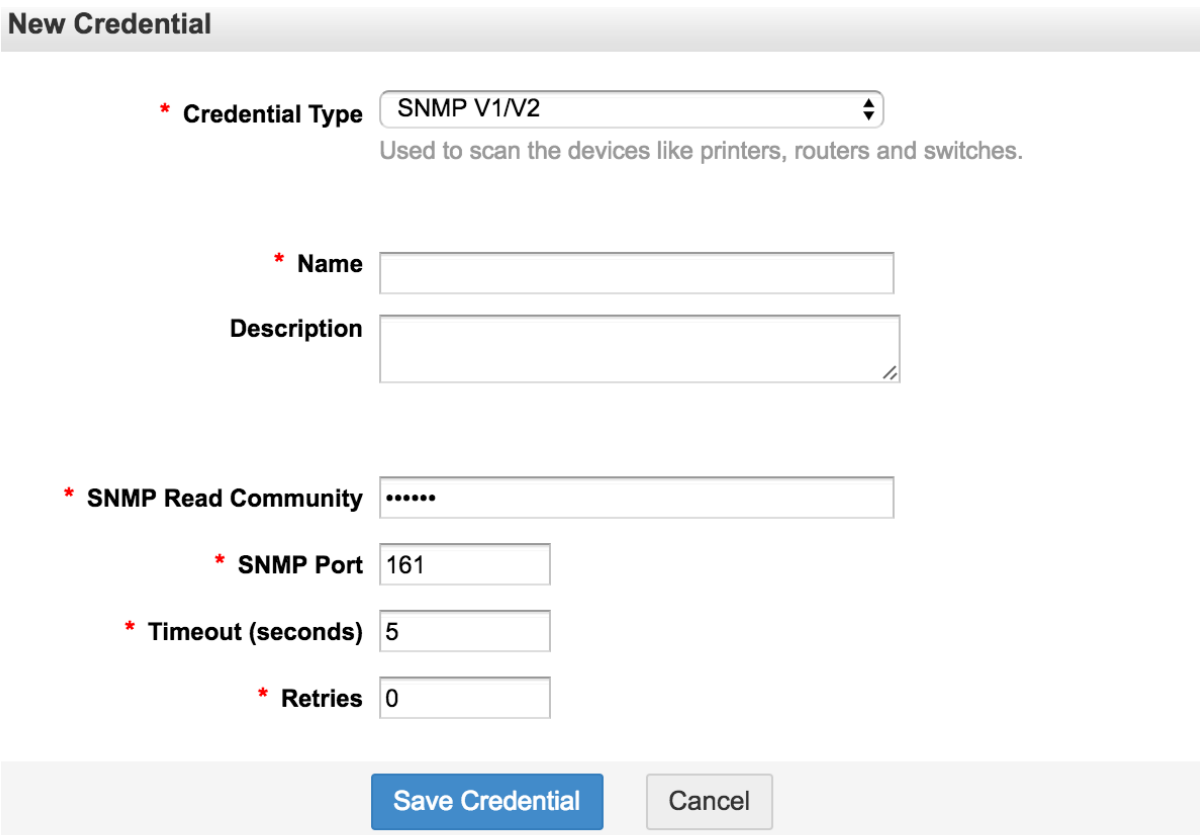


- Select the **Protocol** - Telnet/SSH.
- Enter the **Port Number** - Set at 22 by default.
- Enter the **Username**.
- Enable **Public or Private Key** based authentication.
- Enter the **Password**.

Configuring SNMP V1/V2 credentials

SNMP V1/V2 credentials are used for scanning network devices like, printers, routers, and switches.
To configure SNMP V1/V2 credentials,

- **Login to ServiceDesk Plus** using your credentials.
- Select **Admin** tab --> **Discovery** block --> **Credentials Library**.
- Click on **Add New Credential** link (available at the top-right corner). A **New Credential Pop-Up** Opens up.



- Select **SNMP V1/V2** in the credential type.
- Enter **Name** and **Description**.
- Enter the **SNMP Read Community** password.
- Enter the **SNMP Port Number** - It is set at 161 by default.
- Set the **Timeout** (Indicates the time after which connection would be terminated) - It is set at "5" secs by default which can be changed.
- Set the count for **Retries** (Indicates the number of attempts that can be made before Timeout happens) - It is set at "0" by default which can be changed.

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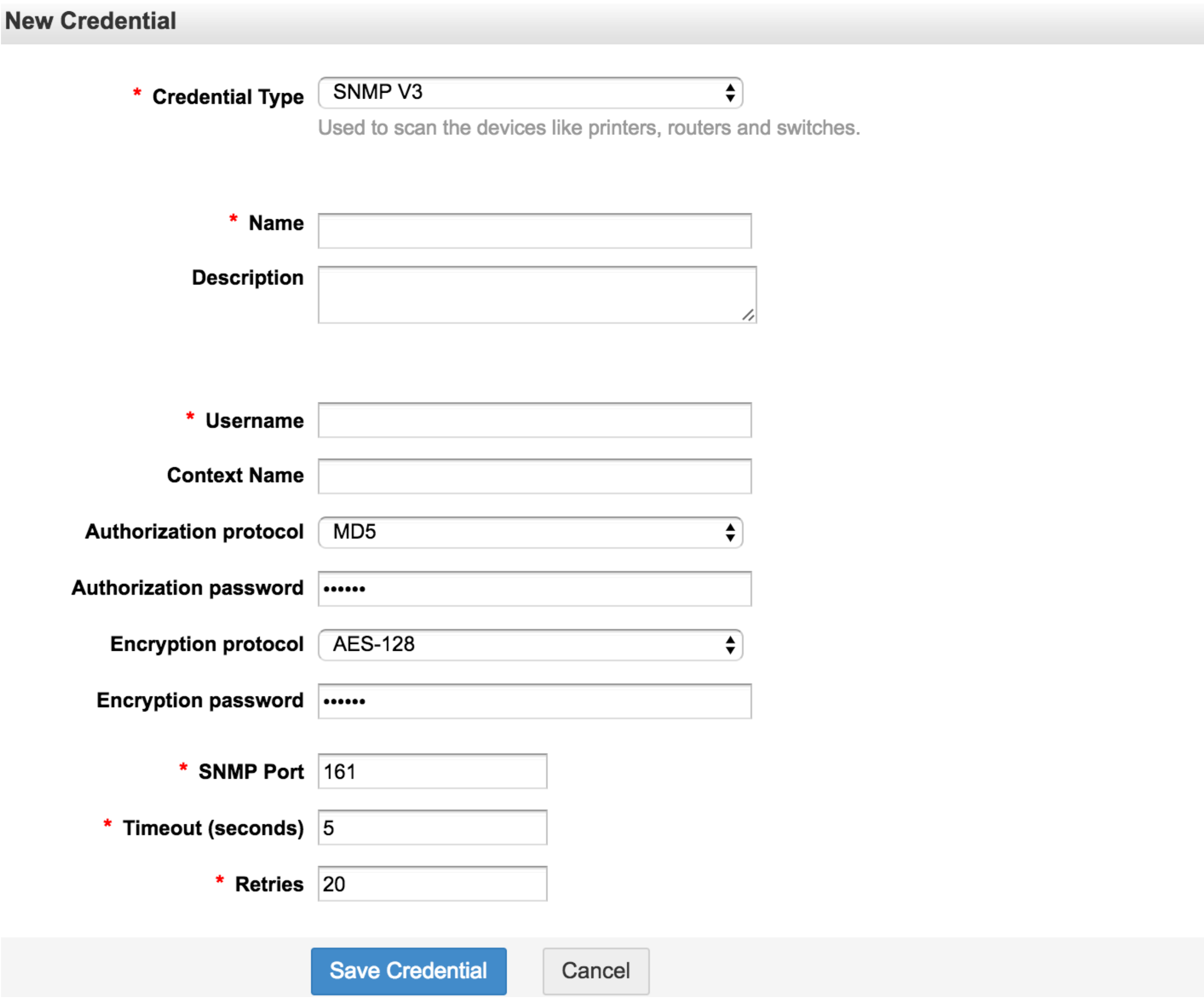
For configuring SNMP V3 credentials

SNMP V3 credentials are used for scanning network devices like, printers, routers, and switches.
To configure SNMP V3 credentials,

- **Login to ServiceDesk Plus** using your credentials.
- Select **Admin** tab --> **Discovery** block --> **Credentials Library**.
- Click on **Add New Credential** link (available at the top-right corner). A **New Credential Pop-Up** Opens up.



- Select the Credential Type as **SNMP V3**.

Authorization and Encryption Protocols:

- Choose Either MD5 or SHA for Authorization Protocol and DES or AES-128 for Encryption Protocol.
- Once the corresponding protocol type is selected, enter the Authorization password.
- Once the Encryption protocol is selected, enter the Encryption password.
- Enter the SNMP Port Number - It is set at 161 by default.

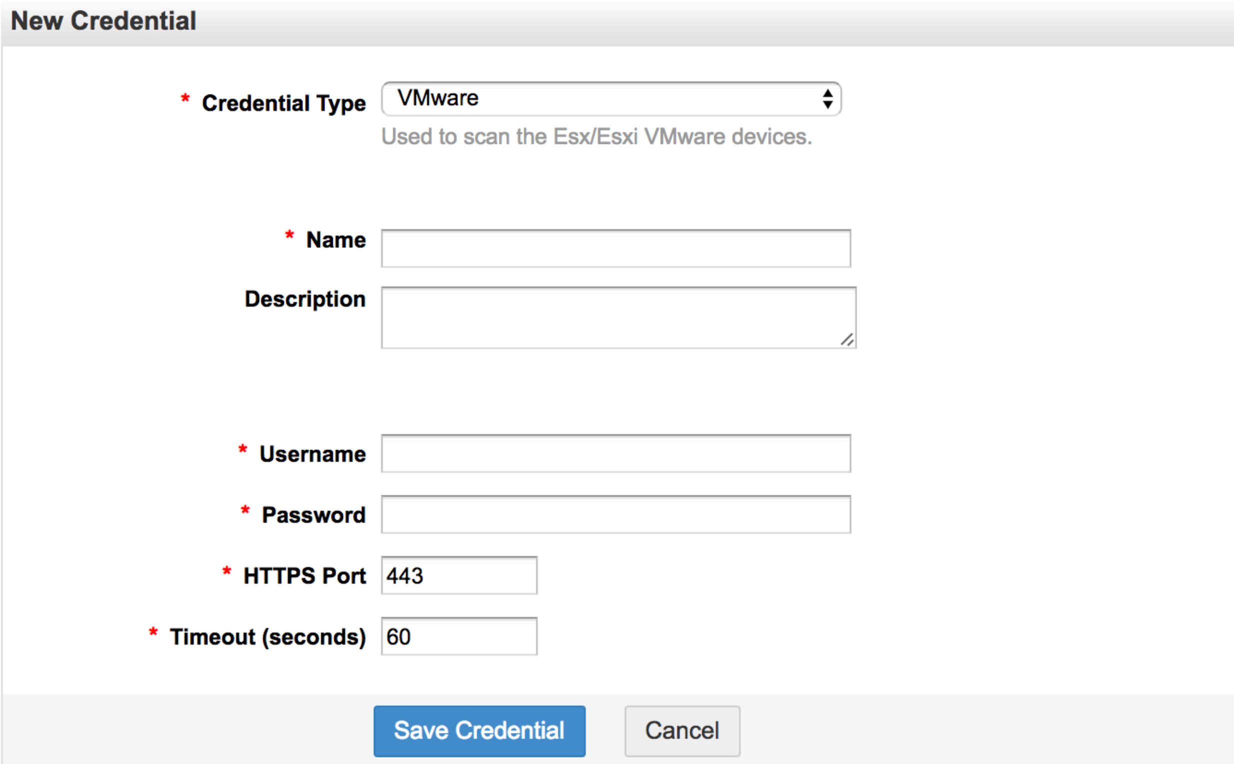
- Set the **Timeout** (Indicates the time after which the connection would be terminated) - It is set at "5" secs by default which can be changed.
- Set the **Retries** count (Indicates the no. of attempts that can be made before the timeout happens) - It is set at

"0" by default which can be changed.

Configuring VMWare scan credentials

VMWare scan credentials are used for scanning VMWare hosts.
To configure VMWare scan credentials,

- **Login to ServiceDesk Plus** using your credentials.
- Select **Admin** tab --> **Discovery** block --> **Credentials Library**.
- Click on **Add New Credential** link (available at the top-right corner).
- **New Credential Pop-Up** Opens up.



- Select the Credential Type as **VMWare**.
- Enter **Name** and **Description**.
- Enter a **Username** and **Password**.
- **Enter the HTTPS Port** Number - It is set at 443 by default.
- Set the **Timeout** (Indicates the time after which connection would be terminated) - It is set at 60 secs by default.

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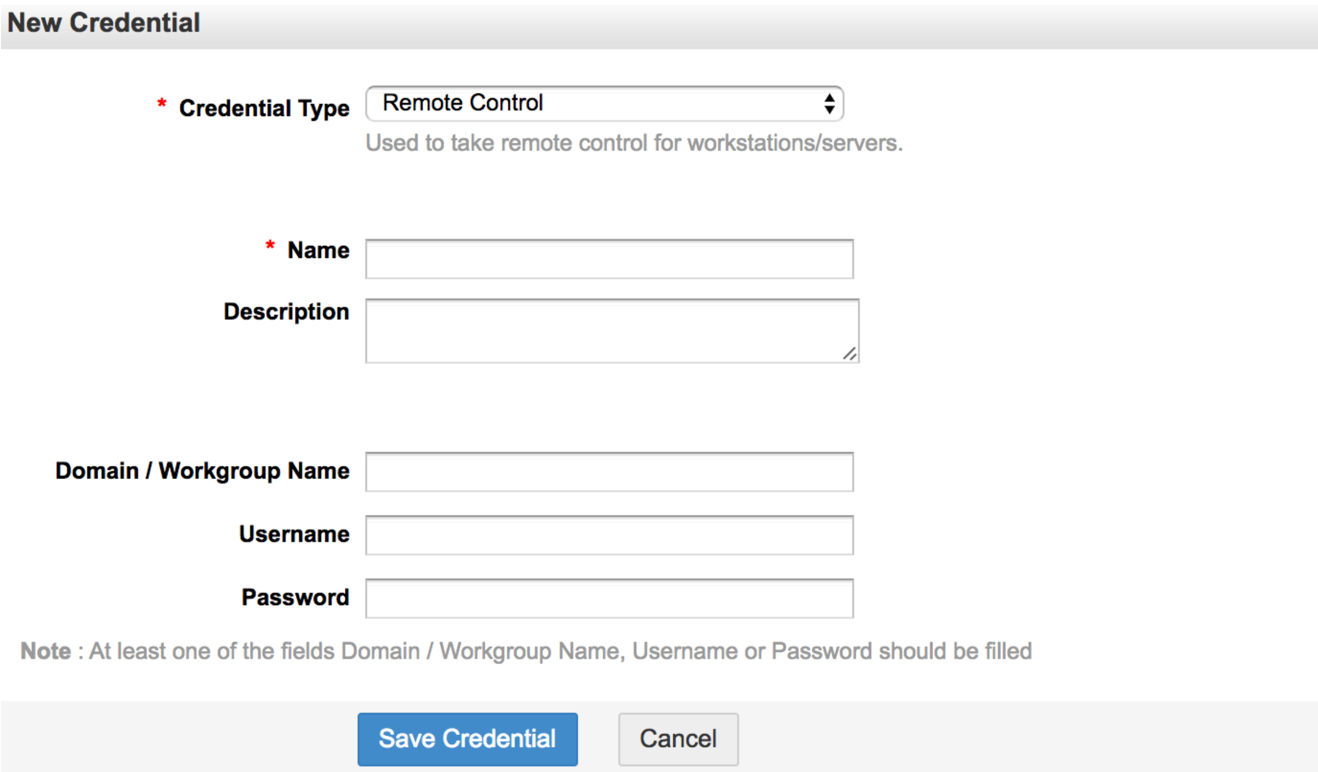
Configuring Remote Control scan credentials

Remote Control scan credentials are used for taking remote sessions of windows workstations.
To configure scan credentials for Remote Control,

- **Login to ServiceDesk Plus** using your credentials.
- Select **Admin** tab --> **Discovery** block --> **Credentials Library**.
- Click on **Add New Credential** link (available at the top-right corner). A **New Credential Pop-Up** Opens up.



- Select the **Credential Type** as Remote Control.
- Enter **Name** and **Description**.
- Specify anyone of the following: Domain (or) Username (or) Password.
- **Save** the Credentials.

> - Remote Control Credentials need to be specified while establishing Remote Control connection with client machines.

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Agent mode

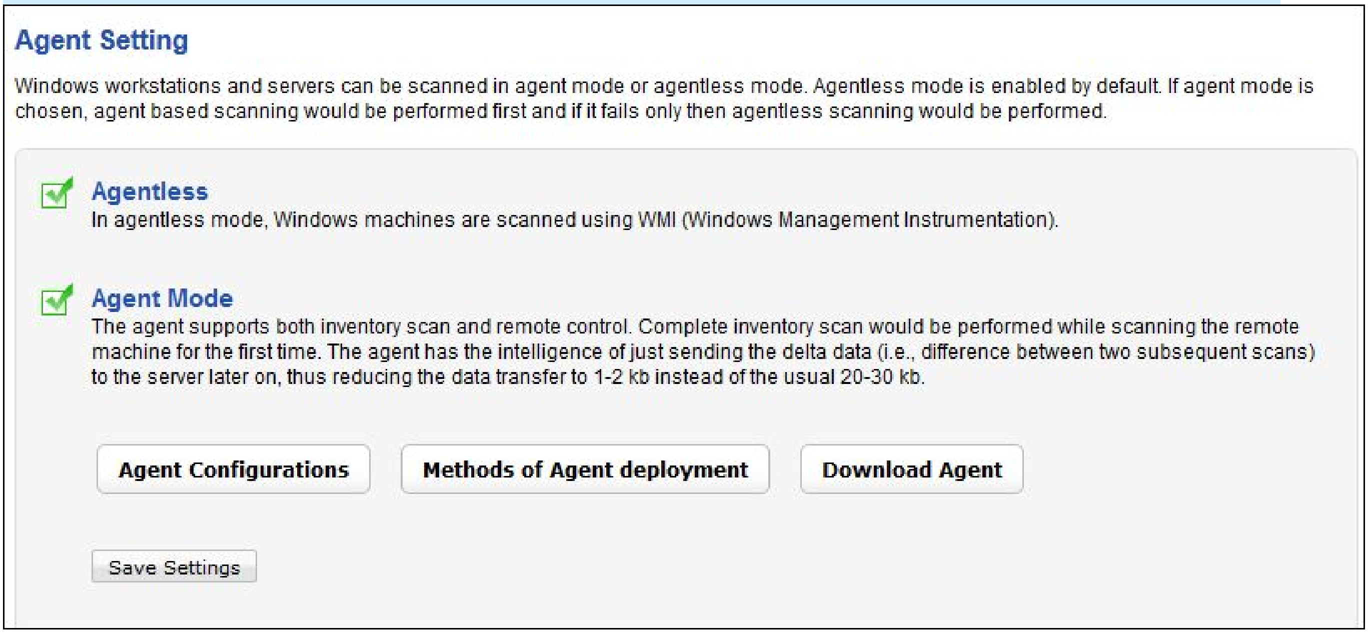
For a widespread organization with a complex network infrastructure, the Agent-based scanning is most effective and provides easy deployment, more security, and low bandwidth.
The application provides an agent, which can be deployed in the network workstations through various methods. [Refer Methods of Agent Deployment]. Once the agent is deployed in the network workstations, it scans all the workstations and provides easy access for remote assistance.
The following topics are discussed in this section:-

- Agent Settings
- Agent Configuration in ServiceDesk Plus application
- Delta Scan
- Automatic Delta Scan
- Pros and Cons of Agent mode

Agent Settings

Choose to scan all your Windows workstations in both, Agent and Agentless mode by selecting the corresponding option from Agent Settings under the Admin tab. If you have enabled Agentless mode, the Windows workstation and servers are scanned using WMI. If you have enabled both the modes, the agent-based scanning is performed and if that fails, the agentless scanning is performed.

1. Windows is the only Supported Platform for Agent.
2. The Ports used in Agent-based Scanning are TCP 9000.



Agent Configurations

For a successful scan, the agent should communicate with the ServiceDesk Plus server. The server details are configured under **Agent Configurations**. By default, the server in which the application is installed is populated as the server details.

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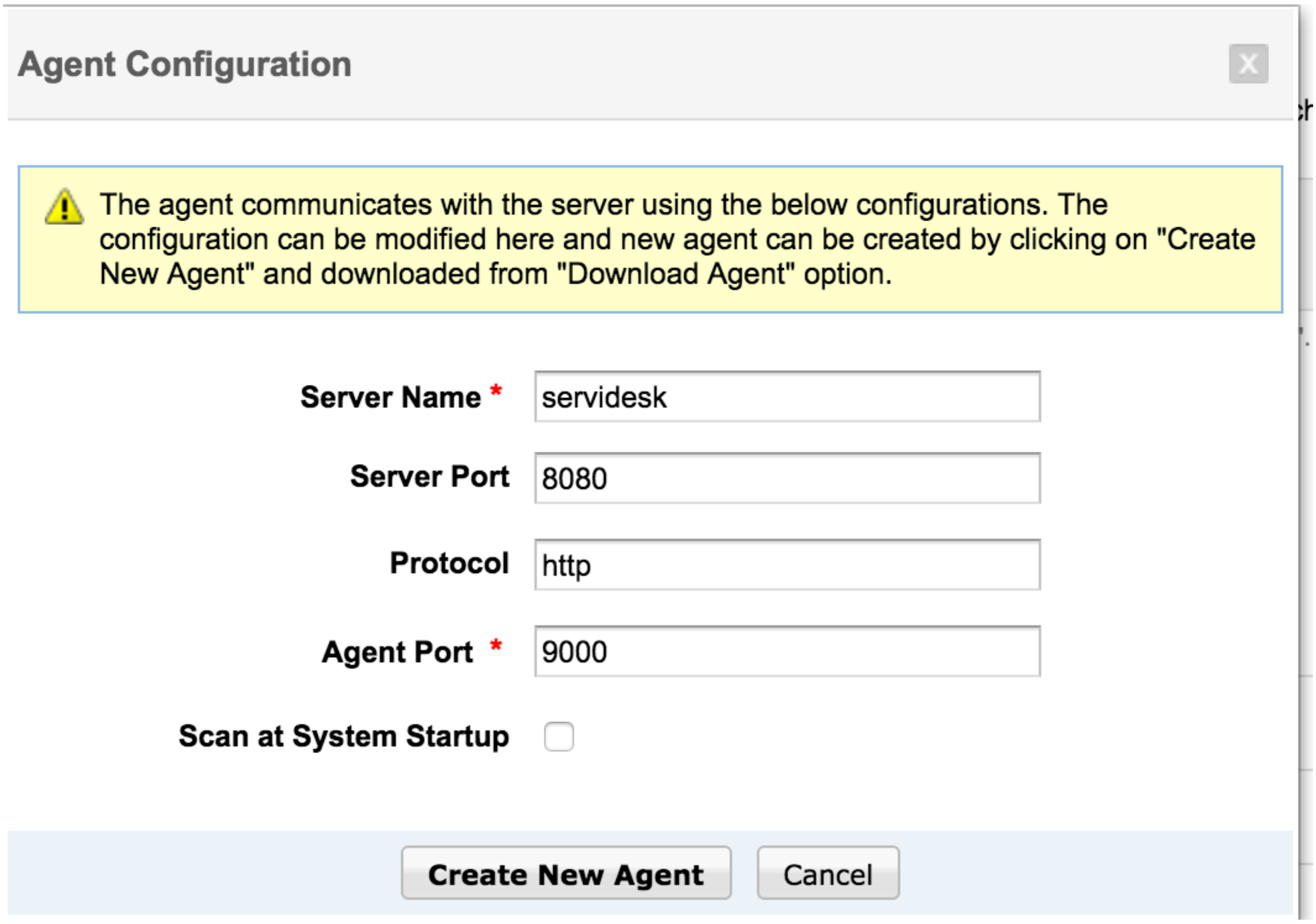

You can modify these configurations to create your own Agent Configurations.

- Server Name: The server name or IP address of the computer where ServiceDesk Plus is installed. The agent residing in the client computers communicates with the ServiceDesk Plus server using this Server Name/IP address.
- Server Port: The port configured for the application.
- Protocol: The protocol used to communicate with the server.
- Agent Port: The port number of the agent.
- Scan at System Startup: On enabling this option, the agent scans the workstation on every startup.

Click Create New Agent button. Clicking on Cancel takes you to the agent settings page.

NOTE:
1.
You can also modify the configurations to create your own Agent Configurations.
2.
If the agent is installed in all the Windows machines and if any of the below circumstances occurs, the agent details can be updated using a script.
    1.
ServiceDesk Plus application is moved from one server to another or if the AE port or protocol (HTTP or HTTPS) has been changed.
    2.
If agent port needs to be changed in all the machines or enable/disable scanning on system startup.
This script can be run as a login script in the Active Directory or manually in each machine to update the configurations in the agent. While executing the script, the parameters should be in the format "-servername <AE server name> -port <AE port> -protocol <http or https >".

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Delta Scan

While performing a scan (Domain scan or Scheduling a scan) through Agent or Agentless mode, some amount of data is obtained in the ServiceDesk Plus Server. The data obtained in the AE Server through an Agent scan is comparatively minimal to that of Agentless. The agent transfers only the changes ("delta") that occur between two subsequent scans to the server, and automatically strips out any unchanged data, thus reducing the data transfer to 1 - 2kb instead of the usual 20 - 30kb.

Automatic Delta Scan

ServiceDesk Plus agent identifies the hardware/software changes in the client machine and notifies the application server to initiate a scan. Hardware/software changes are detected every 30 minutes and notification is sent to the server, after which the automatic delta scan is triggered by the server.

Pros and Cons of Agent Mode

Agent-based scan Pros:

1. Only one port is required during the scan, which can be configured under Admin -> Agent settings -> Agent Configuration -> Agent Port.
2. Performs the scan on system boot up and pushes the data to AE application.
3. The data transfer in agent scan is very minimal compared to agentless scan and even less when compared to delta scan (difference in data between two subsequent scans is fetched).
4. Quick access to the remote machine on performing Remote Control.
5. Easy to deploy agent through active directory.
6. Dependencies over DCOM and RPC settings are eliminated.
7. Once the agent is installed in all the machines, you can scan those machines from Linux server.

Agent-based scan Cons:

The agent should be upgraded if the version is changed. This can be performed from the Active Directory.

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Methods of agent deployment

If you have enabled Agent Mode, you can deploy the agent in the Windows machine through any of the methods given below,

Agent Deployment Methods
ServiceDesk Plus installed in Windows server:

1. Import from Active Directory logon script
2. Manual Installation of Agent
3. Installing Agent through PsExec utility

ServiceDesk Plus installed in Non-Windows server:

1. Import from Active Directory logon script
2. Manual Installation of Agent
3. Installing Agent through PsExec utility
4. Configuring Agent details using Orca editor

ServiceDesk Plus installed in Windows server:
If ServiceDesk Plus is installed in a Windows server, then you can deploy the agent using the following methods,

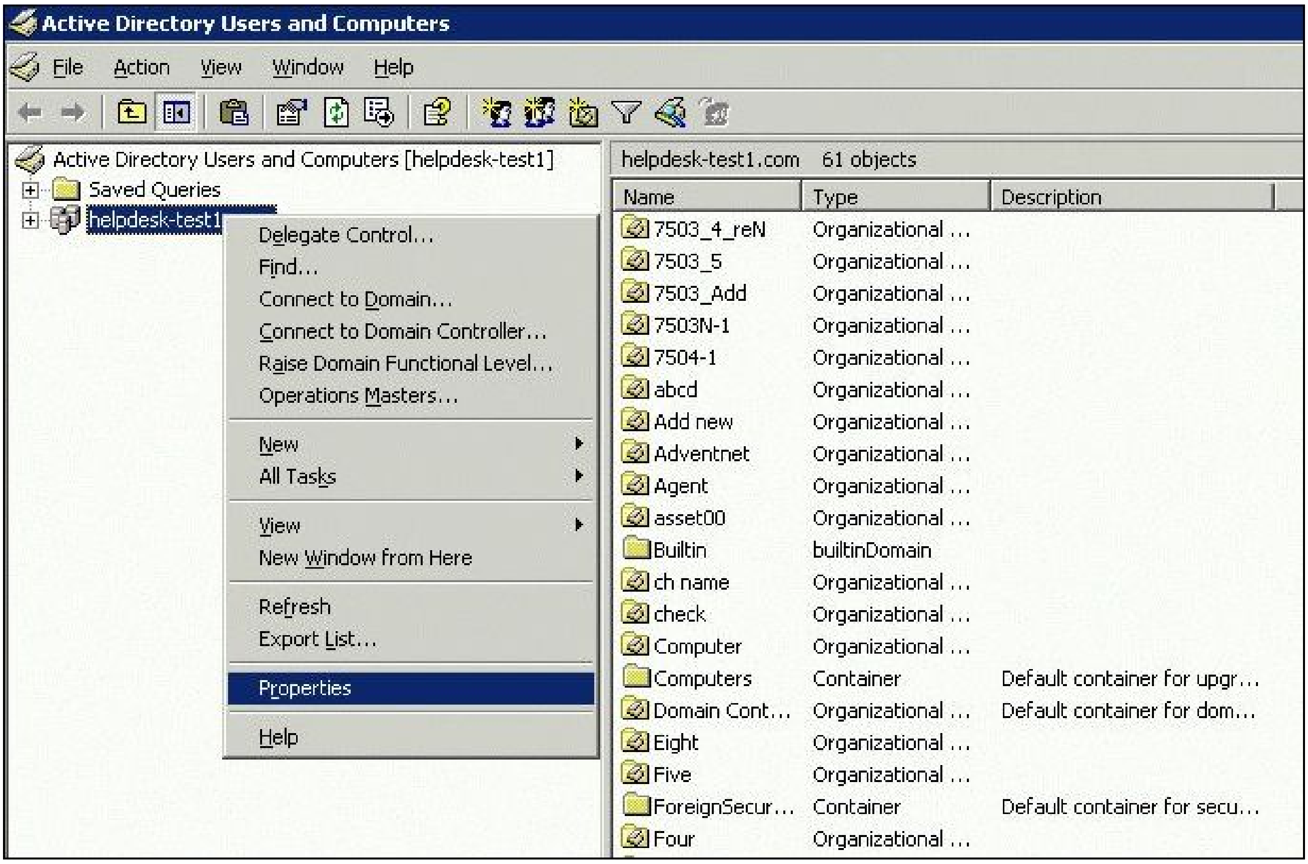
1. Import from Active Directory logon script
2. Manual Installation of Agent
3. Installing Agent through PsExec utility

Method #1: Import from Active Directory logon script
An instant method to push the agent in all the Windows machine within a domain is through Active Directory logon script. Instead of providing permission to all the scanned workstations for file transfer, the agent is installed once the user logs into the machine. In addition, the agent can be deployed to all the newly added workstations automatically on scheduling an AD Import.
To install the agent from Active Directory,

1. Create a network share like, \MyServerMyShare
2. When the client computer starts the agent is automatically installed.
3. Quit the Active Directory Users and Computer Window.
4. Close the Group Policy Window and click Ok.
5. Specify the Script parameters as msi file name with path (eg. \MyServerMyShareManageEngineServiceDesk PlusAgent.msi) and click Ok.
6. In the new Logon Properties window click on Add. Now Browse and select the script "\MyServerMyShareInstallAgent.vbs". The script should be accessible by the target workstations.
7. In the new window go to the User Configuration -> Windows settings -> scripts -> double click Logon.
8. Right click on the newly created GPO and click on Edit option.
9. Type a name for the new GPO say, AGENT DOWNLOAD and click Ok. The GPO is added to the existing list.
10. Right click on the name of domain or the Organizational unit for which you would like to configure the script.

Click Create and Link a GPO Here... option.

11. Select Group Policy tab, and click Open (New) button. The Group Policy Management window pops up.
12. **I**n the console tree, right click on your domain, and select Properties.
13. In your Domain controller, click **Start -> Administrative Tools -> Active Directory Users and Computers.**
14. Save the agent and the script in the network share.
15. Click Download Agent and run the agent.msi file.

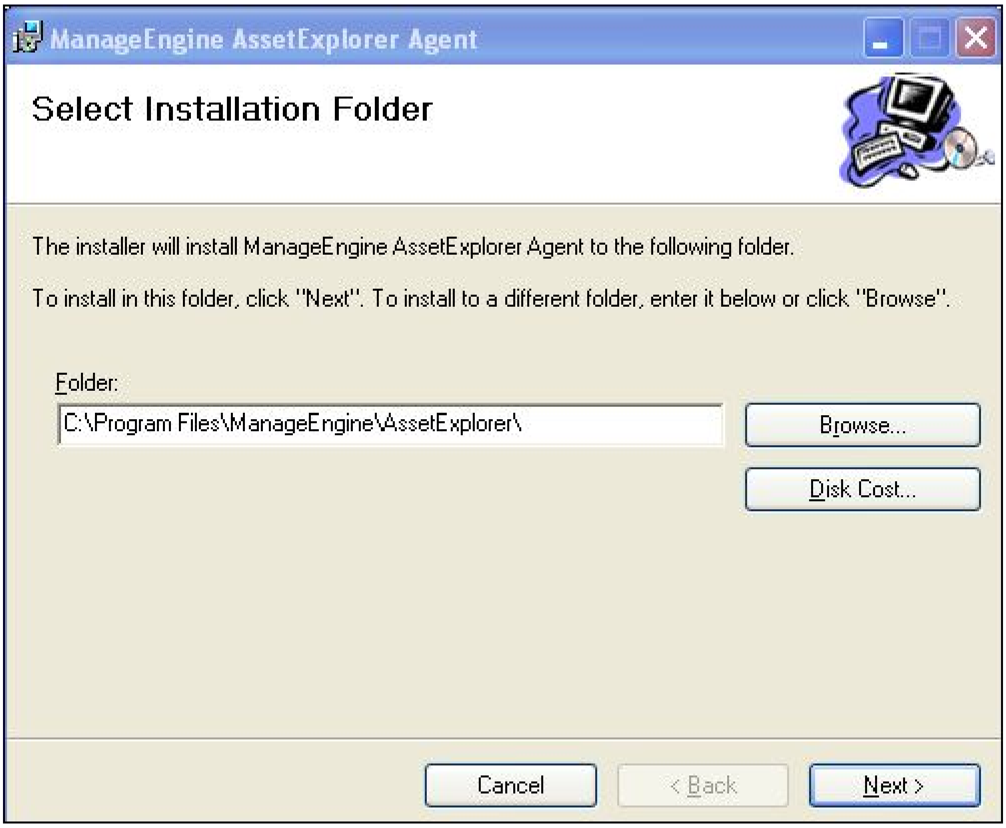


Note	1. The agent can be deployed to all the Windows Workstations and Servers within the domain. 2. The agent is deployed when the user logs into the machine.

Method #2: Manual Installation of Agent

To download and install the agent as a service.

1. Click on Download Agent button.
2. Choose the Installation folder name under which the Agent needs to be installed. By default, the folder name is specified as *C:ManageEngineServiceDesk Plus* directory.
3. Click Next >.
4. Run the ManageEngineServiceDesk PlusAgent.msi file. The ManageEngine Asset Explorer Agent Setup Wizard appears.



If you want to change the installation directory, then, click the **Browse** button beside the directory path. From the file chooser window, choose the directory of your choice and click Ok. Click Next >.
You also have an option to enable scan whenever the system starts up. Click Next to install the agent.
The next step is Agent Configurations, if you have not yet configured the agent, you can specify the server details and agent settings. Click Next >.
Method #3: Installing Agent through PsExec Utility
You can install agents through PsExec utility in Windows Workgroup.

1. Download the PsTools.
2. psexec.exe @<file name> -u <domain nameuser name> -p <password> msiexec /i <msi file name>
3. Execute the command as given below, to install the agent on each computer listed in the file.
4. From the command prompt, go to the directory where the PsTools is installed.
5. Install the software in one of the Windows machine.

For example:
psexec.exe @ComputersList.txt -u WORKGROUPadministrator -p password msiexec /i "\ae-test1msiManageEngineServiceDesk PlusAgent.msi"
ServiceDesk Plus installed in Non-Windows server:
If ServiceDesk Plus is installed in a Non - Windows server say, Linux, you can still use the Agent Mode to scan Windows machines. But, you can neither configure the Agent details from Agent Settings page nor install and upgrade the agent from the Linux server.
Some of the methods through which you can configure and deploy the agents are,
Importing from Active Directory logon script
Installing Agent through PsExec utility

Method #1: Import from Active Directory logon script
To deploy the agent through Active Directory, use the logon script and provide additional parameters as given

below,
<agent with directory name> <server protocol> <server ip> <server name> <server port> <agent port>
For example:
\servershareManageEngineServiceDesk PlusAgent.msi http 192.168.112.153 servicedesk 8080 9000
On entering the additional parameters, follow the steps as in Active Directory logon script.
Method #2: Installing Agent through PsExec Utility
You can install agents through PsExec utility in Windows Workgroup.

1. Download the PsTools.
2. Execute the command as given below, to install the agent on each computer listed in the file.
3. psexec.exe @ComputersList.txt -u administrator -p Zoho123SDP msiexec /i <msi file name> SERVERIP=<server ip address> SERVERNAME=<servername> PROTOCOL=<http or https> PORT=<port no> AGENTPORT=<agent port> SCANATBOOT=<0 or 1>
4. From the command prompt, go to the directory where the PsTools is installed.
5. Install the software in one of the Windows machine.

For example:
psexec.exe @ComputersList.txt -u WORKGROUPadministrator -p password msiexec /i "\Linux_Agent.msi" SERVERIP=199.1.1.1 SERVERNAME=servicedesk PROTOCOL=http PORT=8080 AGENTPORT=9000 SCANATBOOT=1

Configuring Agent details using Orca editor

To configure the agent details, you need to modify the .msi file using Orca editor and then proceed with the installation. Once the parameters are configured, you can install the agent using Active Directory logon script or through PsExec utility.

1. Download the Orca editor.
2. Enter the property as SERVERNAME and value as the name of the ServiceDesk Plus server. Also, provide the following details,
3. In the right panel, right-click and select Add Row option.
4. Click Property table.
5. Right-click the .msi file and select Edit with Orca option. The Orca editor window pops-up, listing all the tables on the left hand side.
6. Download the agent from ServiceDesk Plus server and copy it to the Windows machine having the Orca editor.Install the editor in one of the Windows machine.

PROPERTY	VALUE
SERVERIP	IP Address of the ServiceDesk Plus Server
PORT	Port No. of the ServiceDesk Plus Server
PROTOCOL	Protocol used by the server, whether it is http or https.
AGENTPORT	Port No. of the Agent. This port should be open in the Windows machine to install the agent

Save the provided details. Close the editor and proceed with the installation.

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Script to Install Agent

To install agent with the share path given as argument,

```
On Error Resume Next
Set WSHShell = WScript.CreateObject("WScript.Shell")
argCount = WScript.Arguments.Count
if (argCount>5) then
    ' Get Location and arguments of the script
    msiFile = WSCript.Arguments.Item(0)
    PROTOCOL = WSCript.Arguments.Item(1)
    SERVERIP = WSCript.Arguments.Item(2)
    SERVERNAME = WSCript.Arguments.Item(3)
    PORT = WSCript.Arguments.Item(4)
    AGENTPORT = WSCript.Arguments.Item(5)
    wshshell.Run "msiexec.exe /i """&msiFile&""" ENABLESILENT=yes REBOOT=ReallySuppress
PROTOCOL="&PROTOCOL&" SERVERIP="&SERVERIP&" SERVERNAME="&SERVERNAME&" PORT="&PORT&"
AGENTPORT="&AGENTPORT&" /qn",0,True
end if
```

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Uninstall the agent

You can manually uninstall the agent from Add/Remove Programs or from the ServiceDesk Plus application. If you are unable to uninstall the agent from the Control Panel then follow the steps below,

1. Click Workstations link from the Assets block.
2. From the Workstation list view page, click on Agent Details link. By default, the workstations for which the agent is not installed is listed.
3. Select the options either Agent with older version or Agent installed Workstations from the Filter drop down.
4. Select the check box beside the workstations to un-install the agent.
5. Click Un-install button. The agent is removed from the selected workstations.

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Scan Linux, Solaris, MAC, and AIX machines

Apart from scanning Windows machines, ServiceDesk Plus scans workstations/servers of other Operating Systems such as Linux, Solaris, MAC, and IBM-AIX.
There are two methods, through which these machines can be scanned in ServiceDesk Plus application,

- Network Scan - Scan workstations/servers that are part of your network.
- Workstation/Device Scan - Scan your newly added machines by specifying the workstation credentials.

Ports and Credentials to perform scan for these machines are,

Communication Protocol	Login Credentials	Port
Telnet	Telnet Credentials	23
SSH (Secure Shell)	SSH Credentials	22

Click here to know more on ports used for scan.

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Scan VMWare hosts

ServiceDesk Plus scans the VMHost machines in your network and also determines the VMs that are running on these hosts. Apart from this, the scan would also discover the complete hardware details of the VMHost and the relationships between the VMHost and the VMs.
There are two methods through which these machines can be scanned in ServiceDesk Plus application,

- Network Scan - Scans the VMHosts that are part of your network.
- Workstation/Device Scan - Scan the VM Host machine by specifying the HTTPS credentials.

Ports and Credentials to perform scan for these machines are,

Communication Protocol	Login Credentials	Port
VMWare vSphere web services API	HTTPS Username and Password	443 (default)

Click here to know more on ports used for scan.

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Scan printers, routers, switches, and access points

ServiceDesk Plus currently supports the scanning of IP devices namely, Printers, Routers, Switches, Firewall, IP Phones, Network Hubs, and Access Points.
There are two methods through which these devices can be scanned in the application,

- Network Scan - Scans devices that are part of your network.
- Workstation/Device Scan - Scan your newly added devices by specifying their credentials.

Ports and Credentials to perform device scan

Communication Protocol	Login Credentials	Port	Service Performed
SNMP (Simple Network Management Protocol)	SNMP Credentials	161	Fetches and Identifies the IP devices.
SSH (Secure Shell)	SSH Credentials	22	Fetches additional information on Routers and Switches.

Click here to know more on ports used for the scan.

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Windows domain scan

You can configure and scan all the available Windows Workstations and Servers in your domain network using ManageEngine ServiceDesk Plus. When you set up the ServiceDesk Plus application and start it for the first time, the application automatically discovers all the available Windows domain in your network.

To discover workstations in a domain,

- Select a Domain and enter the domain controller and login credentials for the domain controller.
- Select the Organizational Units (OUs) from the list.
- The workstations in the OUs are retrieved, enumerated, and scanned (ten workstations are scanned simultaneously)
- The machines in the specified domain then is Pinged.
- If the machine responds to the ping, scan the inventories (hardware/software information) in the machine using Agent or Agentless mode.

The Windows Domain Scan page can be access in two ways,

a. Quick Actions drop down

b. Admin Tab

Quick Actions drop down

The Quick Actions drop down is a quick navigator to instantly access the Domain List page.

Admin Tab

1. Click Admin tab in the header pane to open the configuration wizard page.
2. Click Windows Domain Scan under the Discovery block. The Domain list view page opens where you can add, edit, delete and scan a domain.

Add a New Domain

If you find that there are some domains that are missing in the list, then you can add those domains manually.

1. Click Add New Domain link.
2. Enter the Domain Name. The name should be unique to identify the domain and is a mandatory field. Say, Acme.
3. If you want the domains to be displayed in the login screen when Active directory Authentication is enabled, select the check box beside Public Domain. Else un-check the Public Domain check box to list the domain as Private Domain.
4. Enter the Domain Controller name for the Active Directory Server. The organizational units are listed only if the domain controller name is provided.
5. Specify the Login Credentials for the domain controller in Username and Password fields.
6. If you wish to add any **description** for the domain, enter it in the Description text box.
7. Click **Save**. The domain is listed in the domain list view page.

Click Save and Scan now button to save and scan the domain immediately. Clicking on Cancel button takes you back to the list view.

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Note	For the workstation scan to execute successfully the following things need to be true: a. WMI should be enabled in the workstation where the Asset Explorer server is running. b. COM/DCOM service should be switched on in all the workstations belonging to the windows domain.

Scanning a Domain

1. Click Scan Domain icon of the domain to be scanned from the Domain list view page.
2. Choose the Organizational Units for which you want to import the workstations by enabling the check box.
3. Select the Site to associate the scanned workstations from the Choose Site option. This option is available only if the sites is specified
4. Click Start Scanning button to start the scanning process.

You will get the complete report of the scan listing the total number of scanned workstations, successful scanned workstations and the number of failed workstation list.

Editing a Domain

1. Click Edit icon beside the **Domain Name** you wish to edit.
2. In the **Edit Domain** form, you can modify the name of the domain, login name, password, and description of the domain.
3. Click **Save** to save the changes performed. Click Save and Scan now button to save and scan the domain immediately. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Deleting a Domain

1. Click Delete icon beside the **Domain Name** you wish to delete. A dialog box confirming the delete operation appears.
2. Click **OK** to proceed with the deletion. The domain gets deleted from the list. If you do not wish to delete the domain, then click **Cancel**.

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Network scan

Discover networks part of your organization and scan them at regular intervals using Network Scan. Apart from scanning various operating systems like Windows, Linux, MAC, Solaris and AIX workstations network scan also allows for scanning of SNMP devices and VMware machines.
Network Scan page can be accessed in two different ways:
a. Using Quick Actions Menu
b. Using Admin Tab
Quick Actions Menu
Quick Actions drop down menu is a quick navigator to instantly access Network Scan page. From Quick Actions drop down select Network Scan option available under **Scan** block.

Admin Tab

1. Click Admin tab in the header pane to open the configuration wizard page.
2. Click Network Scan under **Discovery** block. The Network list view page opens where you can add, edit, delete and scan a network.

Adding a Network

1. Click Add New Network link . (present at the right corner)
2. Decide **Scan Range**: you can either scan the **Entire Network** or mention a **specific IP Address Range** for scanning.
3. Enter Network Address.
   - To scan Entire Network, IP address should be mentioned as 192.168.27.0
   - To scan part of a Network, IP address range should be mentioned as follows: 192.168.27.0 - 192.168.27.30
4. Provide a **suitable description**.
5. Specify **Network Scan Credentials** for scanning different subnets of your network
6. Click **Save** (or) **Save and Scan now** to scan network immediately.

Network Scan Credentials

These credentials let administrators refine network scan based on **Operating Systems, SNMP devices or VMWare machines** being used. Network scan page contains four different credentials for scanning various subnets involved in the network.
Note: Scan Credentials can also be configured from Credentials Library page and can be later associated with **Network Scan**.

Configure Scan Credentials for a Network

- **Use Existing Scan Credentials**
- **Configure New Scan Credentials**

Using Existing Scan Credentials:

1. **Select Network** to which **Scan Credentials** are to be added from **Network List View**.
2. Select **Scan Credentials** from **Select Credential Drop Downs.**
3. Following Scan Credentials can be **selected** for a given network

- Scan Credentials for **Windows** machines

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- Scan Credentials for **Linux, MAC, Solaris and AIX** machines
- Scan Credentials for **SNMP Devices**
- Scan Credentials for **VMWare Devices**

- Click **Save** (or) **Save and Scan now** (for immediate scanning of network)

Configure New Scan Credentials:
Select Network to which **Scan Credentials** are to be added.
For adding **New Scan Credentials**, do the following:
Select **Add New Credential** Icon (besides respective Scan Credential to be configured).
Add New Credential Pop-Up will be displayed.
If you're configuring **Windows Scan Credentials** specify the following:

Specify **Name** and **Description**
Enter **Username** and **Password**
Domain Name/Username &
Password

If you're configuring **Linux, MAC, Solaris and AIX Scan Credentials.** specify the following:

Specify **Name** and **Description**
Protocol - Telnet/SSH
Port Number - 22 by default
Username and **Password**
Public or Private Key based authentication

If you're configuring **SNMP Device Scan Credentials,** specify the following:

Specify **Name** and **Description**
SNMP Read Community Password
SNMP Port Number - 161 by default
Timeout (time after which connection would be terminated) - 5 secs by default
Retries (no. of attempts that can be made before Timeout happens) - 0 by default

If you're **VMWare Device Scan Credentials** specify the following:

Specify **Name** and **Description**
Specify **Username** and **Password**
HTTPS Port - 443 by default
Timeout (time after which connection would be terminated) - 60 secs by default
Click **Save** (or) **Save and Scan now** (for immediate scanning).

Having Multiple Scan Credentials

Administrators can configure **Multiple Scan Credentials** at a stretch using **Add Another Credential** Icon that appears **on-hover** select credential drop downs.
Adding Multiple Scan Credentials:
1.
Click on **Add Another Credential** button (appearing onhover **Select Credential** dropdown)
2.
Select the **Credential** (you can add all Credentials available under **Select Credential dropdown** using Add Another Credential button)
Note: You can also delete Scan Credentials added by mistake by clicking on **Remove** button.

Scanning the Network

1. From Network List View page, click Scan Network icon .
2. If your organization is distributed across various sites, select the Site to which the workstations/devices are associated.

3. Click Start Scanning. Once scanned, you will get the complete report on the success and failed workstations of the scan.

Edit Network

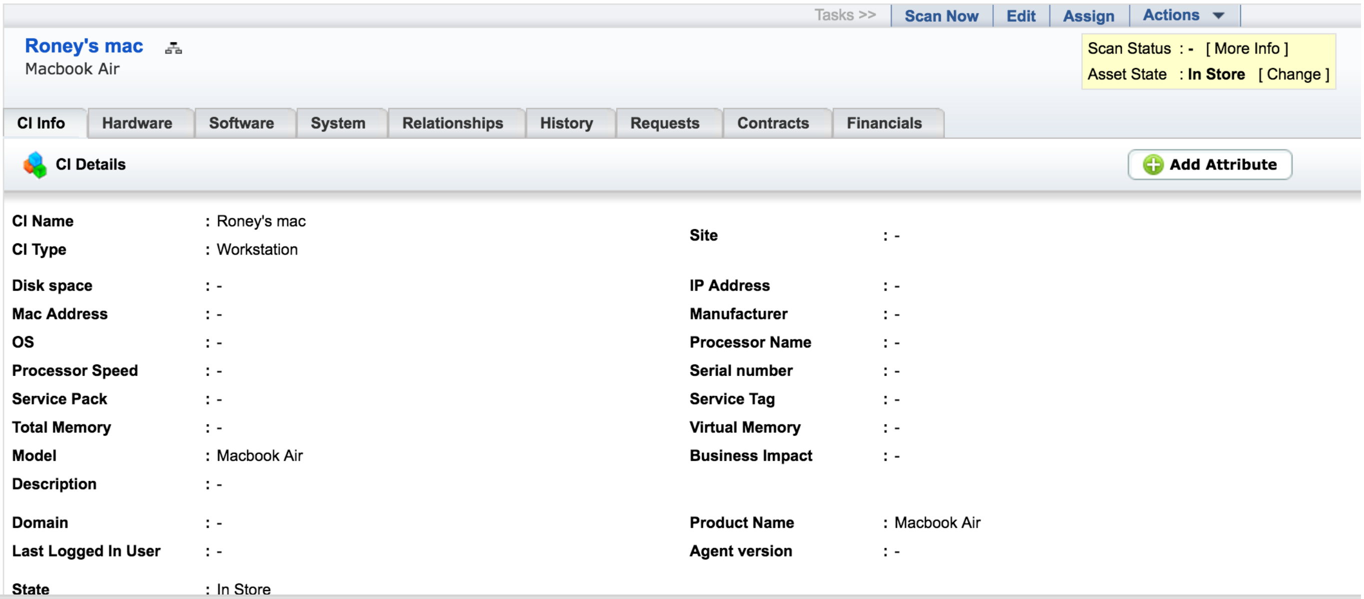
1. From the Network List View page, click Edit icon of the network to be edited.
2. Edit the network details and Save the changes. Click Save and Scan now, to save and scan the workstations in the specified range

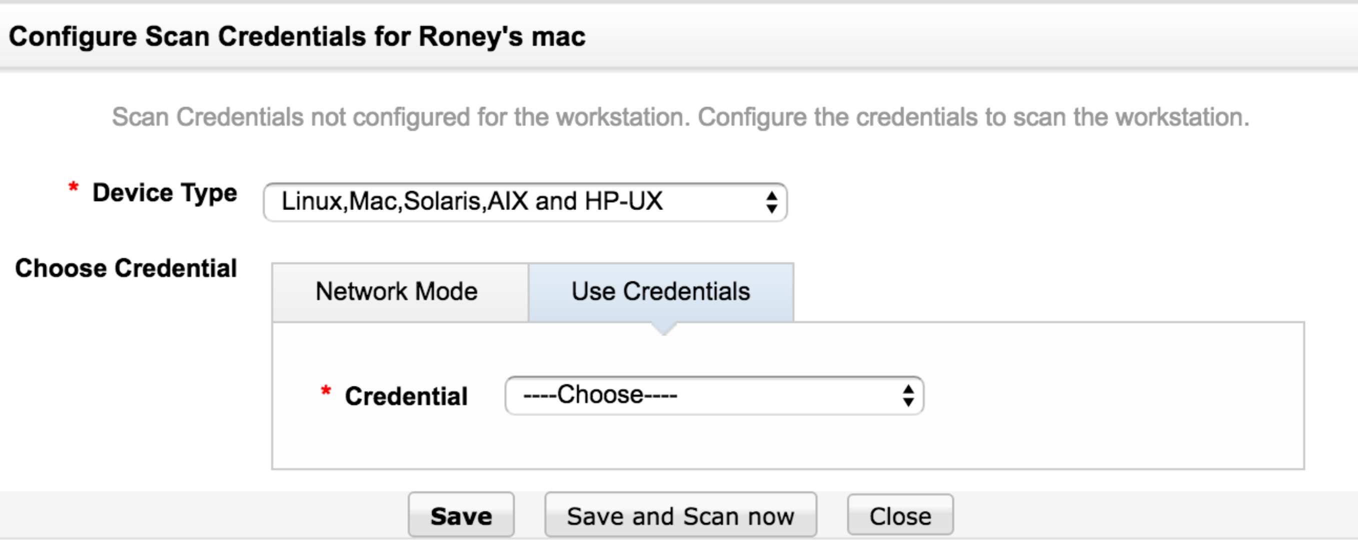
Delete Network

1. From the Network List View page, select Network you want to delete.
2. Click on Delete button. A confirmation message on the delete operation appears. Click OK to continue. The network will be deleted from the list.

Workstation/device scan

If a new workstation/device is added in your network, and you wish to scan only the newly added workstation instead of the entire network, you can specify the workstation/device credentials and scan.
You can scan workstations/devices using **Domain Mode** or **Network Mode** or by just configuring **Scan Credentials**.
Scanning Workstation(s)/Device(s) Individually





1. Log into **ServiceDesk Plus** using your credentials
2. Click **Assets** Tab --> Choose **Workstation/Device** link (from IT Assets block)
3. Select **Workstation/Device** from **Asset ListView**
4. Click **Scan Now** button
5. **Configure Scan Credentials** box opens up
6. Specify **Device Type**, **Scan Mode** and the **Scan Credentials**
7. Click **Save** (or) **Save and Scan Now** (for immediate scanning)

Selecting Device Type

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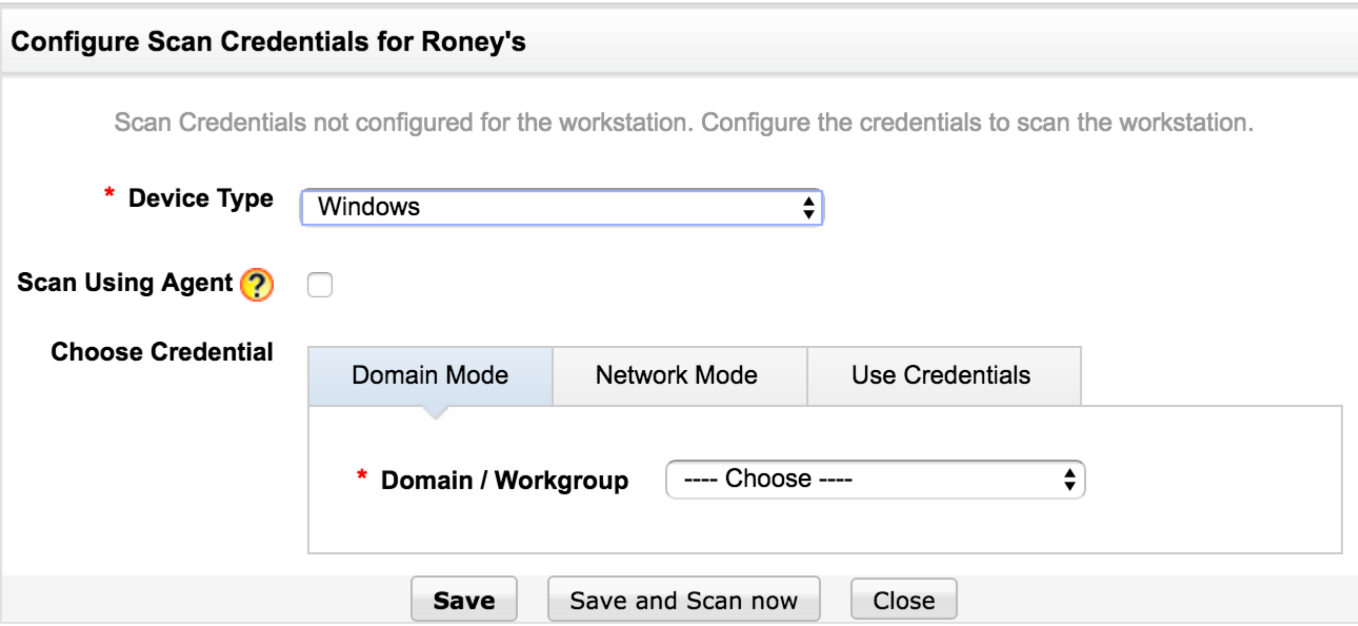
The following **Workstations/Devices** can be scanned:

- Windows Machines
- Linux, Mac, Solaris and AIX Machines
- SNMP Supported Network Devices (Printer, Router, Switch etc.,)
- VMWare Devices

Selecting Scan Mode and Scan Credentials

1. Select **Scan Mode** (Domain Mode, Network Mode or Use Credentials)
2. Select **Device Type** (Workstations, SNMP and VMWare devices)
3. For **Domain Mode**, select the **desired Domain/Workgroup** from the available list
4. For **Network Mode**, select the **desired Network** from the available list
5. To **Use Credentials**, select the **desired Credentials** from the available list
6. Click **Save and Scan Now**



Windows Agent Based Scanning

While scanning windows machines we recommend the usage of windows agent for scanning purpose. To deploy windows agent do the following:

1. Select **Scan Using Agent** checkbox
2. Click **Save** (or) **Save and Scan now** (for immediate scanning)

	Note: In case of Windows Agent hasn't been configured already, do the following: • Click **Question Mark Icon** besides **Scan Using Agent checkbox** and you'll be navigated to **Windows Agent Configuration** page • **Deploy Agent** as suggested in the page and select it while **configuring Scan Credentials** • •

Scanning machines outside a domain/network

The workstations and servers that are not part of any domain/network are scanned using **Standalone Audit** or by installing the **Agent** in the remote machines. Both the methods involve a script being installed on the remote workstations which scans and pushes the inventory details to the SDP server.
Method #1: Standalone Audit

Scanning remote machines involve two simple steps,

1. Download the script from ServiceDesk Plus application.
2. Execute the script in the remote machines. On executing the script, the data is pushed to the server.
3. If the server is not reachable from the remote machine, an XML file is generated in the same folder from where the script is executed.
4. **Import** the XML file from the ServiceDesk Plus application. You can see the stand alone workstation details in the list view.

Accessing Standalone Audit configuration

1. Click **Quick Actions** drop-down menu and select standalone audit link.
2. The **Scanning Workstations through Scrip** window pops up.

NOTE: Please note that the scripts are different for **Windows**, **Linux** and **MAC** machines. Click the appropriate tabs to download the script.

1. Click the Click to Download link 

to download the script. Save the file as **ae_scan.vbs** for Windows machines. In case of Linux and MAC machines, save the file as **ae_scan_linux.sh** and **ae_scan_mac.sh** respectively.
2. Open the command prompt. Change the directory to the folder where the script is saved and execute the following command.

For Windows:
CSCRIPT ae_scan.vbs
For Linux:
sh ae_scan_linux.sh
For MAC:
sh ae_scan_mac.sh

1. Executing the script will push the data to the AE server. If the server is not reachable from the remote machine, an XML file is generated in the same folder.
2. Locate and import the XML file from the application.
3. Click **Submit** button. On importing the XML file, the stand alone workstation is scanned and gets listed in the Workstation list view page.

NOTE:
For Windows Machines:
The **ae_scan.vbs** file can be configured as a logon script in the active directory with script parameter as "**-**

SilentMode".This will scan the target workstations upon user login and push the scanned inventory data to the ServiceDesk Plus Server.

For Linux Machines:

The **ae_scan_linux.sh** file can be configured in **crontab** or as a **start-up script**, so that the machines are scanned in a periodic manner and the data are pushed to the server. The data is pushed to the SDP server using **curl** which has to be installed on the Linux machine.

For MAC Machines:

The **ae_scan_mac.sh** file can be configured in **crontab** or as a **start-up script**, so that the machines are scanned in a periodic manner and the data are pushed to the server. The data is pushed to the SDP server using **curl** which has to be installed on the MAC machine.

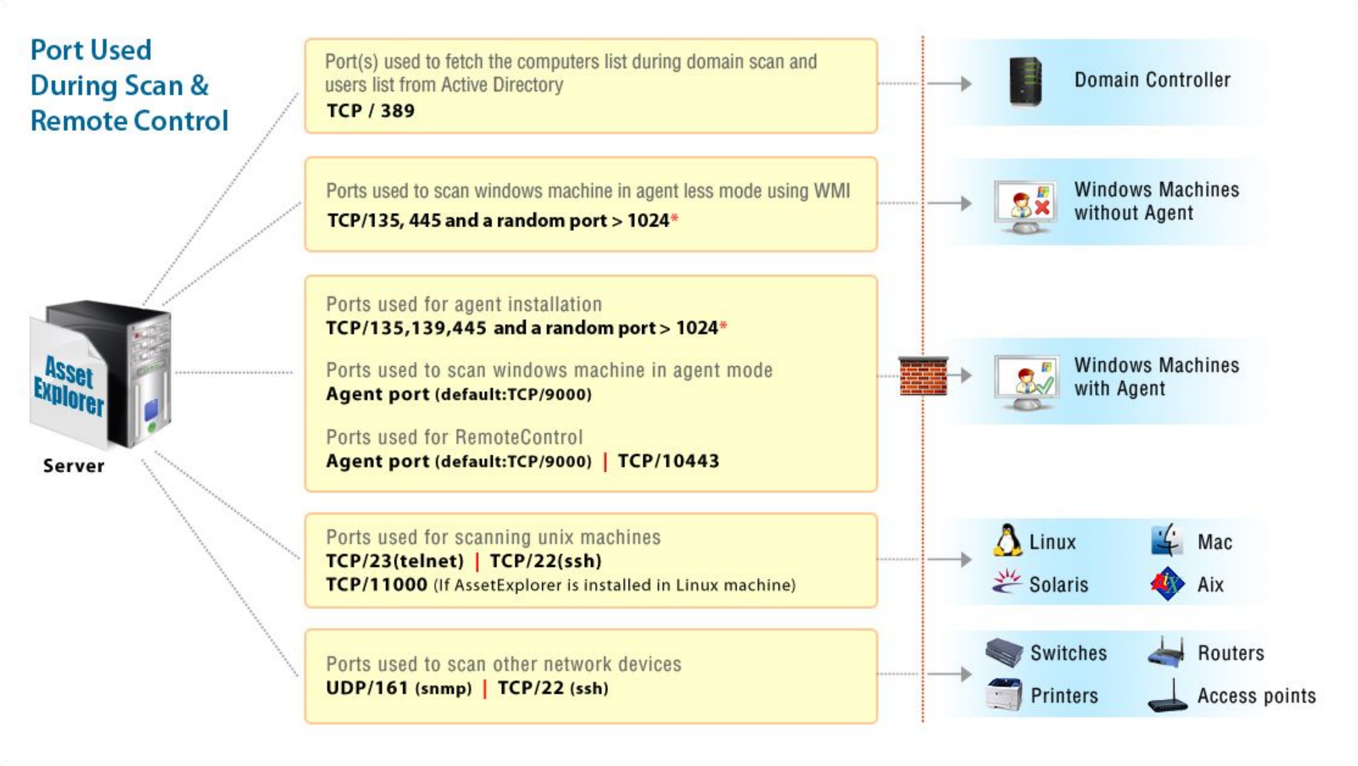
Method #2: Installing Agent in the remote machine

The Windows workstations/servers that are not part of the domain/network can also be scanned using the Agent. The steps involved to scan machines outside a domain/network,

1. Install the agent in the remote machines with "Scan on system startup" option enabled.
2. Make sure your ServiceDesk Plus server is on a public IP to accomplish this process.
3. Restart the remote machine. The system is scanned and the xml is pushed to the ServiceDesk Plus server.

Ports used during Scan

The various ports used during the scan and remote control is illustrated with the help of a diagram below,



* The range of the random port can be minimized. Click here to know how to restrict random ports.

Note:

1. The ports - ICMP echo and ICMP echo reply, should be allowed in the firewall as it is used to ping the target machines.
2. If the target machine has non English OS, then port TCP/7 should be added in the exception list of the firewall.

Scan WAN environment

For a Wide Area Network (WAN) such as an organization distributed across various geographical locations, two methods of scanning mechanism can be put to practice

- Distributed Asset Scan
  This method involves a Remote AE server to be installed in each geographical location to scan and maintains all the workstations, and user information of the respective sites. The data from the Remote AE Server is pushed to the Central AE Server either manually or by scheduling the data periodically.
- Open the Firewall ports between the sites.
- To know more on this section refer Ports used for scan.

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Schedule scan

With Schedule Scan, you can schedule the scans of your domain/network, enable regular cleanup of scanned information and set re-scanning interval for scanning workstation.
To access the schedule scan configuration page,

1. Click the Admin tab in the header pane to open the configuration wizard page.
2. Click **Audit Settings** under Discovery block. The Schedule Scan form opens.

Enabling Schedule Scan
Select the Enable Scheduled Scan check box to schedule regular scanning of the workstations. Select any of the 5 radio buttons below:

- Scan Once

  Select the date on which you want to scan your network using the calendar icon. And set the time to scan on the chosen date.
- Daily Scan

  Select the time (hours and minutes) from the combo box to scan workstations on a daily basis. Then select the date from the calendar button to schedule scans.
- Weekly Scan

  In the weekly scan option, you can also choose to schedule a daily scan. Select Everyday check box to enable scan on all the days of the week. Or, select the check box beside a particular day of the week. Then set the time (hours and minutes) of the scan to start the scanning process on the selected day of the week.
- Monthly Scan

  In the monthly scan option select the check box Every Month to scan every month throughout the year. Or, you can also choose the months you want to scan by selecting the check box beside the name of the months.

  Also, you can choose to schedule a weekly scan by enabling the radio button Day and select the scanning day of the week from the drop down. Or, select Date radio button and select the date from the drop down.

  Finally select the time (hours and minutes) of the scan.
- Periodic Scan

  You can enter a random period of time to repeat the scan. Enter the number in the field provided. The scan will be performed on every specified nth day. Where n is the number you enter in the field. The default value is 7th day.

Scan History Clean up
You can enable regular cleanup of the scanned information, by selecting the Enable Scan History Clean up check box and specifying the number of days after which the scanned history information should be deleted.
NOTE: We suggest you to clean up the scanned history periodically to enhance ServiceDesk Plus performance.

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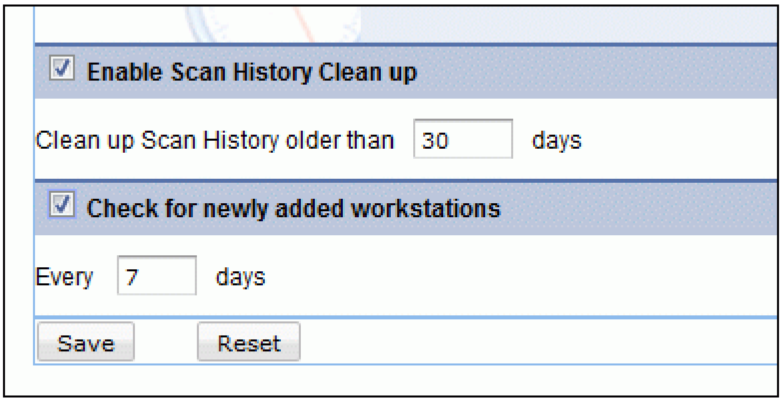


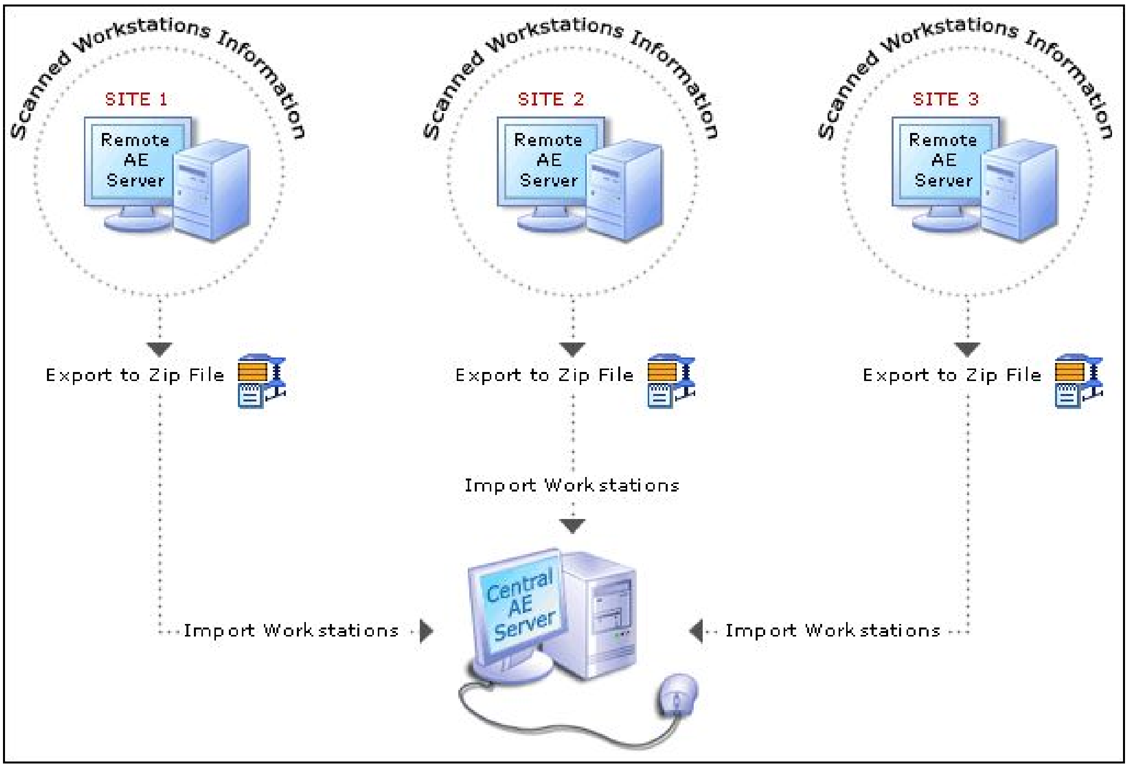
Checking for Newly Added workstations

You can also check for newly added workstations by performing a re-scan of your domain/network. For this you need to select Check for newly added workstations check box and enter the number of days when the periodic re-scanning of your domain/network should be performed.

Click Save, to save the details. Click Reset button to reorganize the settings.

Distributed Asset Scan

In a wide spread organization distributed across various sites, the ServiceDesk Plus server may not be able to access all the assets in sites. Hence, a Remote AE server is installed in each site which scans and maintains all the workstations, and user information of the respective sites. The data from the Remote AE Server is pushed to the ServiceDesk Plus Server either manually or by scheduling the data periodically.
Since there is a constant need to update the users and workstation information in the ServiceDesk Plus Server, you can automate the process by specifying the central server details in the remote server thereby synchronizing the two servers.



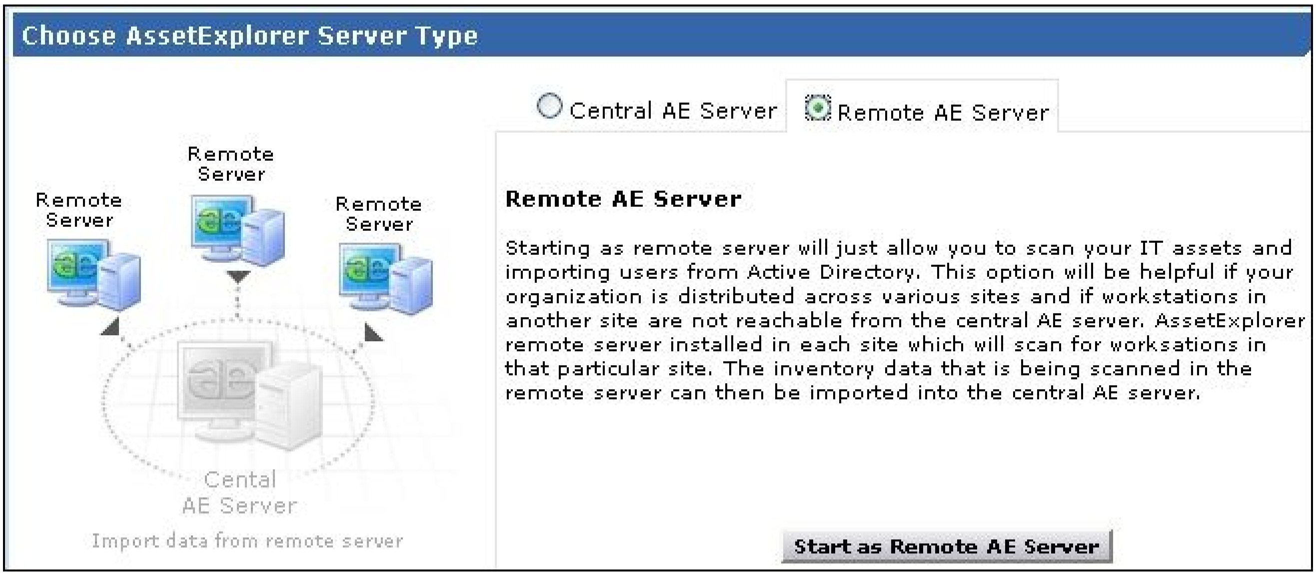
Methods to perform Distributed Asset Scan
Manual

1. Extract the data in a zip format from the Remote AE server and export it to the SDP server.
2. Import this zip file into the SDP Server.

Auto Synchronization

1. Configure the SDP Server details in Central Server Settings.
2. Select Export and Push data to Central Server now button. The data is automatically pushed to the SDP server provided the server is reachable.

Asset Scan in Remote AE Server
The scanned information in the Remote AE Server can be updated periodically either manually or automatically to the SDP Server.
Installing the Remote AE Server
You can install AssetExplorer as a Remote Server by choosing the server type as Remote AE Server on starting the application for the first time. The application gets started as the Remote AE Server.



Accessing the Configuration

1. Click the Admin tab in the header pane.
2. Click Distributed Asset Scan under the Discovery block.

Methods to export the data
The data can be exported manually or pushed automatically in the SDP Server.
Manual

1. Click on Export Data to export the asset data into a zip file.
2. A confirmation message appears. Click Ok to proceed.
3. If the data has been generated successfully, an Export Data box pops up.
4. Click on the link to download the zip.
5. Send the zip file to the central server location through E-mail or through some storage device.

Auto Synchronization
If the central server is reachable, configure the details of the SDP Server by clicking on Central Server Settings.

- Server Name: Enter the Server Name or IP Address of the SDP Server.
- Server Port: The port where the SDP Server is installed.
- Server Protocol: The protocol to connect the SDP server and the remote server. Say, Http, Https
- Site: Site where the Remote AE Server is installed. The site specified must be configured in the SDP server so that the assets and users is associated to the appropriate site.
- Username & Password: Credentials of the SDP Server.
- Domain Name: Specify Domain Name if Active Directory authentication is enabled in SDP Server.

The Central Server may be connected through a proxy server. In this case,

- Enable Is connected through Proxy Server check box.
- Proxy Server Name: The Server Name or IP Address of the Proxy server.
- Proxy Server Port: The port of the proxy server.

- Proxy Username & Password: Credentials of the Proxy Server.

On configuring the Central Server Settings, you can export and push the data to central server automatically by clicking on Export and Push Data to Central Server Now button. The executed date, status of the operation and related comments is displayed in the List View.
Schedule Pushing of data to SDP Server
You can schedule to push the data from the remote AE server to the SDP Server at periodic intervals.

1. Click on Schedule to synchronize data with Central Server link.
2. Select Enable radio button.
3. Select the number of days after which the data should be pushed to the central server.
4. Select the date from the calendar icon to start the process. Also select the Time in hours and minutes from the drop down.
5. If there is a failure in pushing the data to the central server, you can send a Notify to the technician. Specify the email address in the text provided.

Importing data into SDP Server
Accessing the Configuration

1. Click the Admin tab in the header pane.
2. Click on Distributed Asset Scan icon  under Discovery block.
3. Click Browse and locate the zip file of the scanned assets.
4. Select the Site of the remote server from the drop down.
5. Click Import button to import the data. On importing the data successfully you get a success message.

Hyper V Discovery

AssetExplorer scans the Hyper V servers in your network and also determines the VMs that are running on these hosts. Apart from this, the scan would also discover the complete hardware details of the VM and the relationships between the VM and the Hyper V servers.

Methods of scanning:

Hyper V servers can be discovered through the following scans using Agent mode scan.

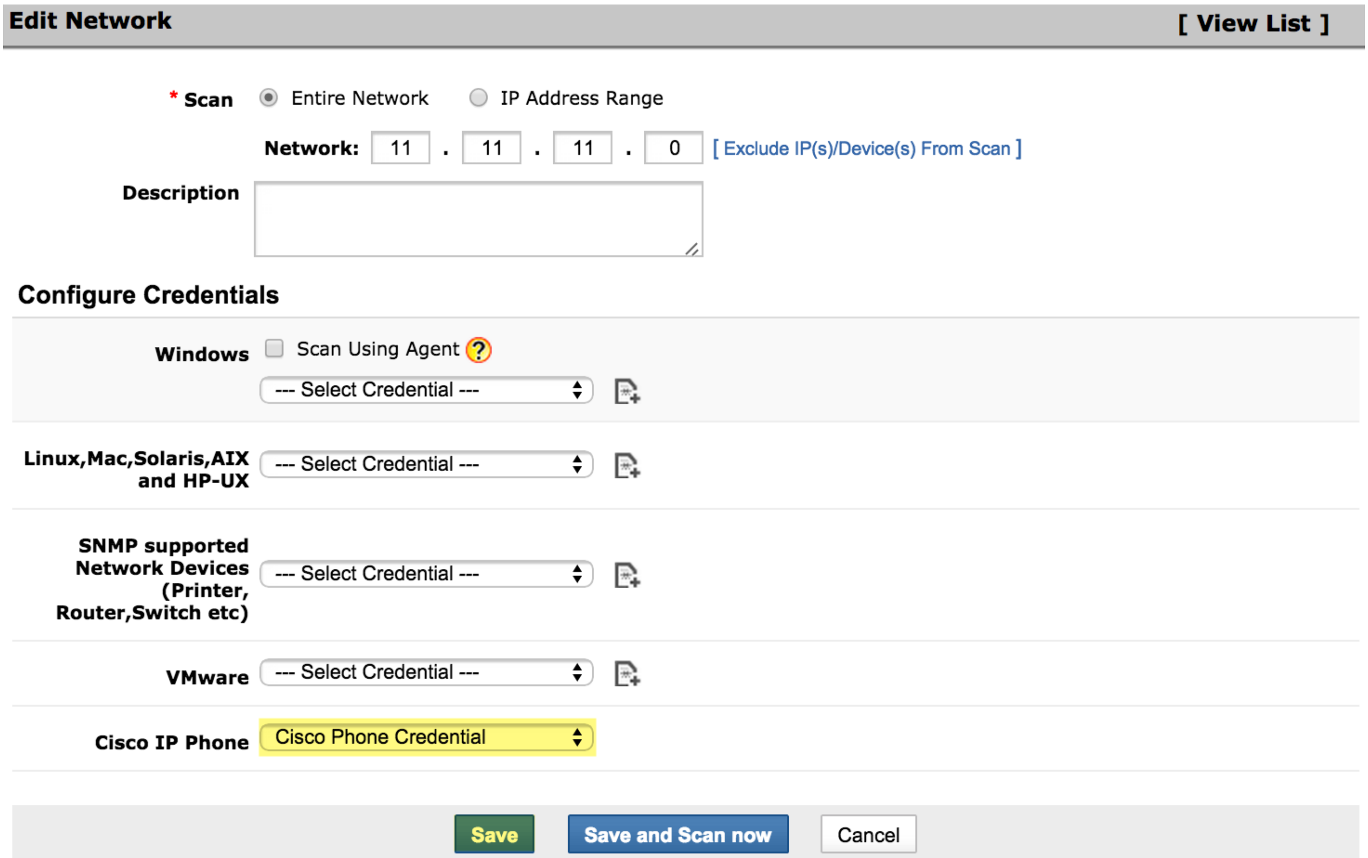
- Network scan.
- Workstation scan.
- Scheduled scan.
- Windows domain scan.

Note: Select "Windows" device type to discover Hyper V during the scan. Hyper V discovery can only be done using Agent mode scan.

Cisco IP phone discovery

AssetExplorer lets you to discover Cisco IP phones during scan. Cisco IP phone discovery can be done using the default credential set for Cisco IP phone.
To Discover Cisco IP phones in the scan (Network Scan),

- Click on the **Admin** module.
- Click **Network Scan** under the Discovery block.
- Click on the edit icon on the network you want to scan.
- Select Cisco Phone credential.
- Click on **Save** and Scan.



Note: The Cisco Phone credential is set by default and can not be deleted.

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Server identification

Server identification is a process of identifying whether a scanned device is a server or a workstation from the obtained scan data.

Criteria

Server Identification works on some criterias. Servers are differentiated from the workstations using these criterias. Criterias are as follows,

Servers are identified if the OS name from the scanned data has the following values:

- Windows (R) Server
- Windows Server
- VMware
- Solaris

Servers are identified if the Service tag from the scanned data has the following values:

- VMware

Note: If the devices are manually changed to a particular asset type(Workstation) then the server identification logic won't apply to such devices.

Exclude IP/device

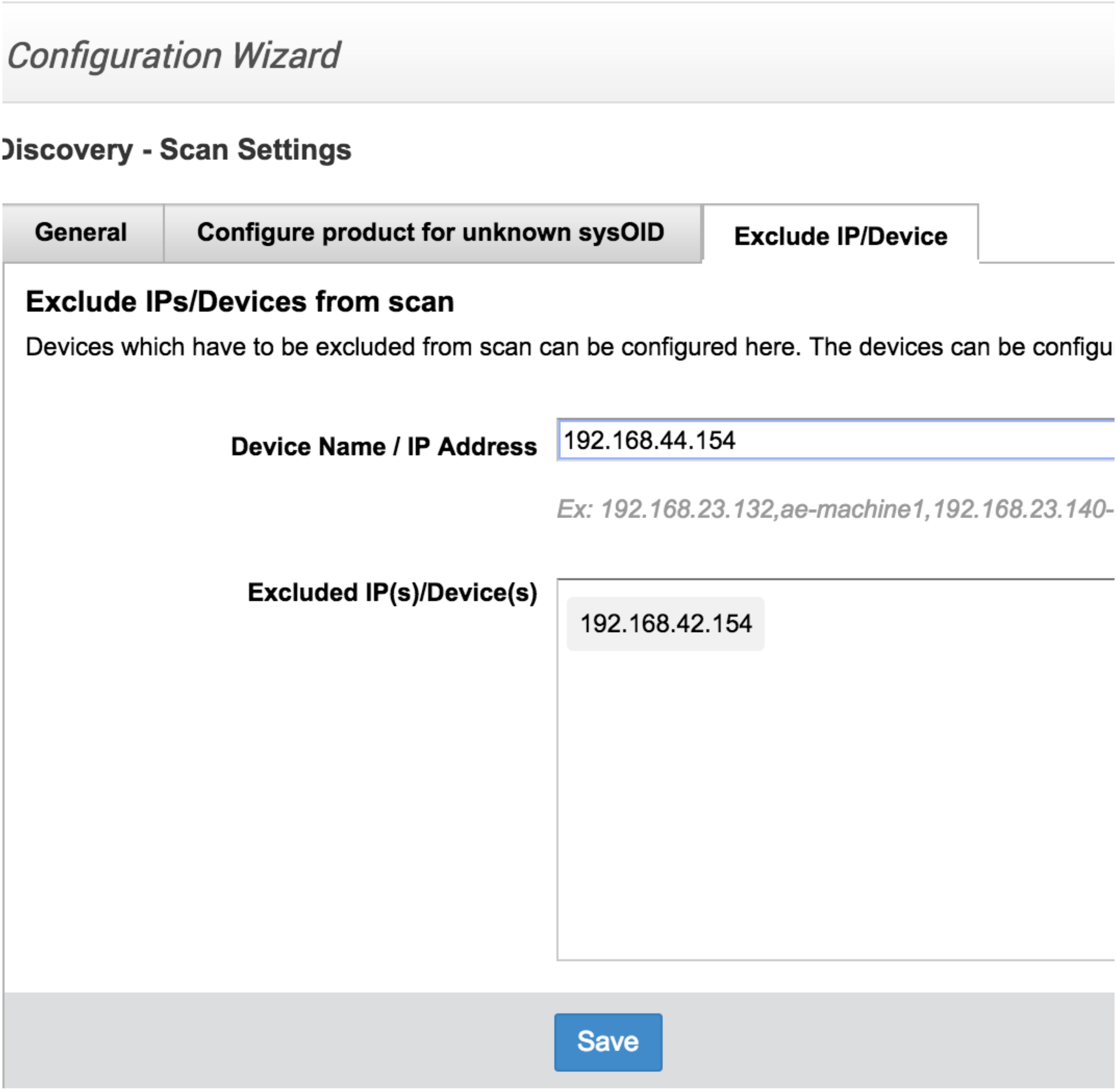
Exclude unwanted assets from being scanned during various scans by adding them to the **excluded devices list.**

Exclude Devices/IP using Scan Settings

To exclude a device/IP from the scan using the scan settings,

- Click on the **Scan settings** under the **Discovery** block from the **Admin** module.
- Select "**Exclude Device/IP**".
- Enter the Device name or the IP address/ IP range. The IP Address/IP range or Device Name just added will appear under **Excluded IP(s)/Device(s) list**

Click on **Save**.



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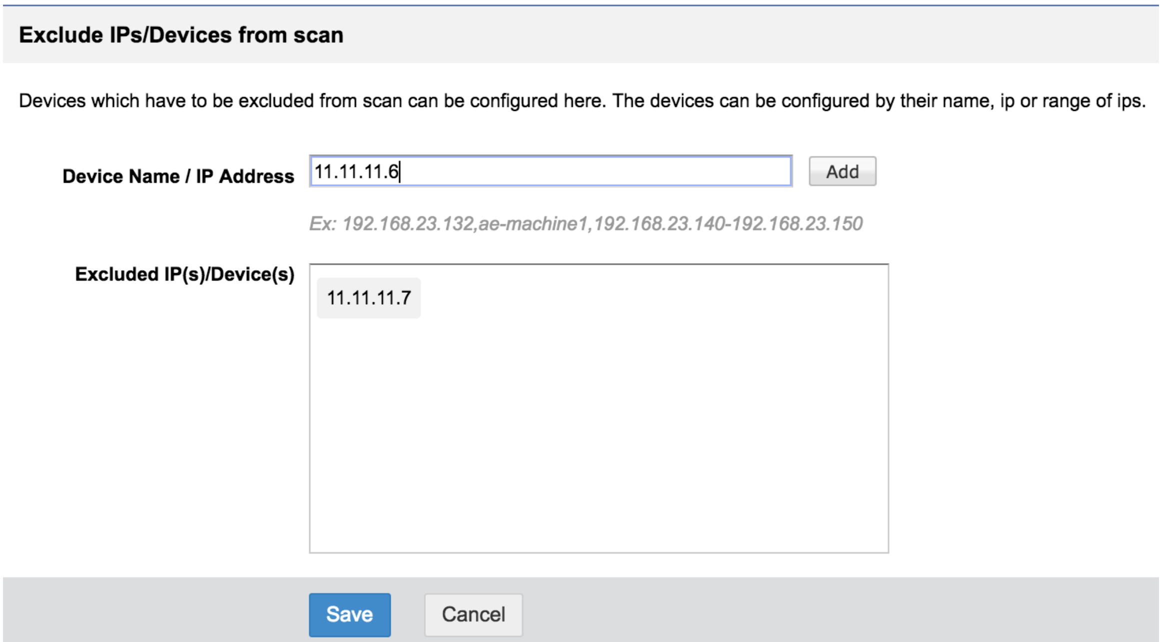
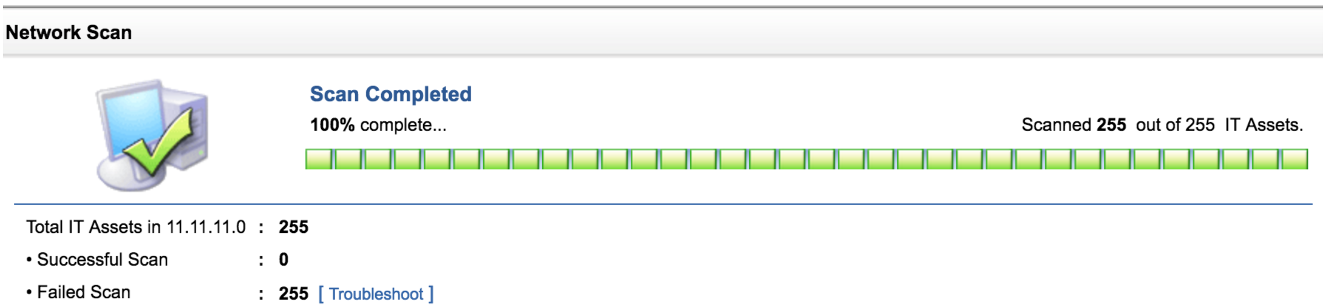
Note: Exclusion will not happen if devices are added from remote AE server and also while importing scanned xml's manually.

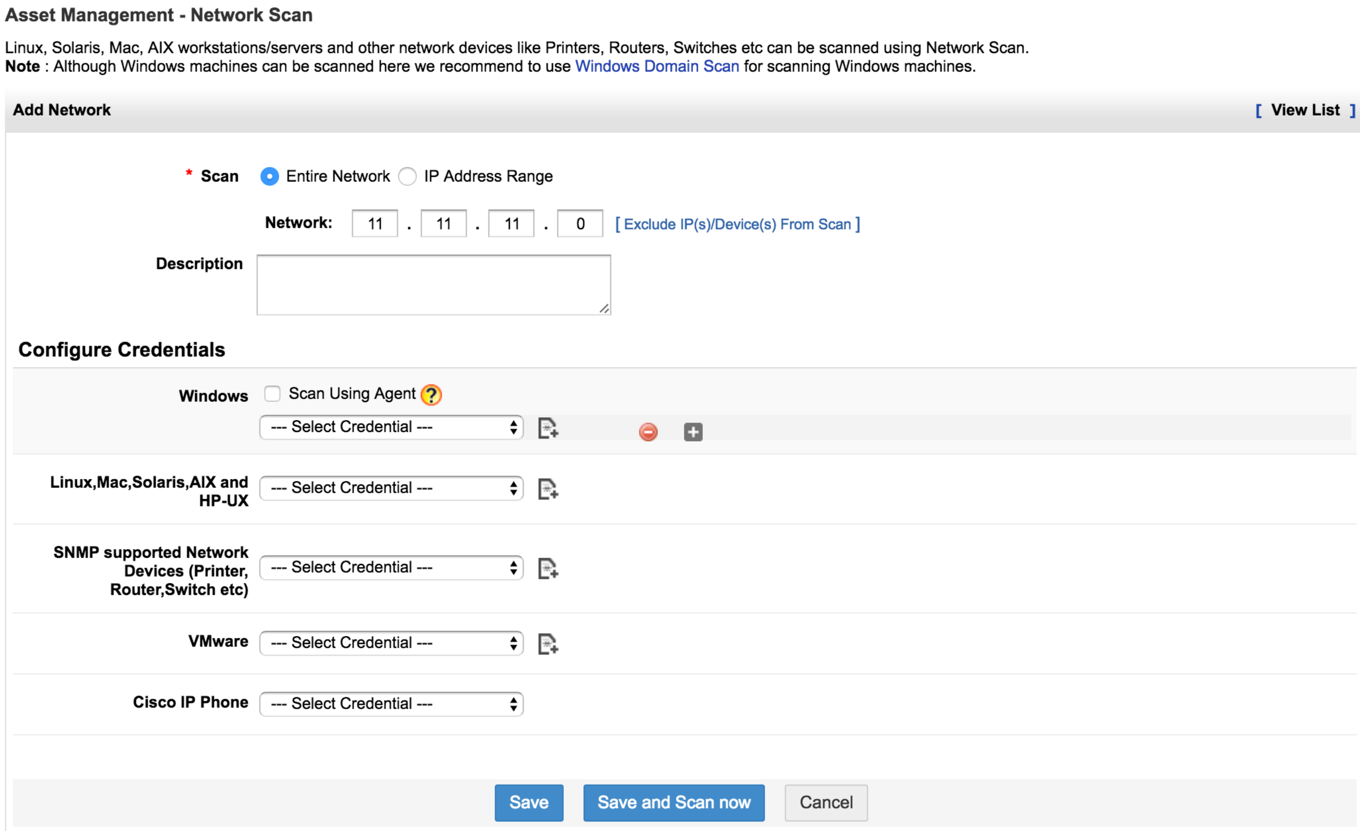
Exclude Device/IP from a specific scan.

To exclude device from a specific scan, i.e Network scan,

- Click on "**Exclude IP (s)/Device(s) From Scan**".
- Enter Device Name or IP Address/Range.
- Click on **Save**. The selected Devices will be excluded from the scan.
- Click on **View details** to view the excluded devices/IPs.





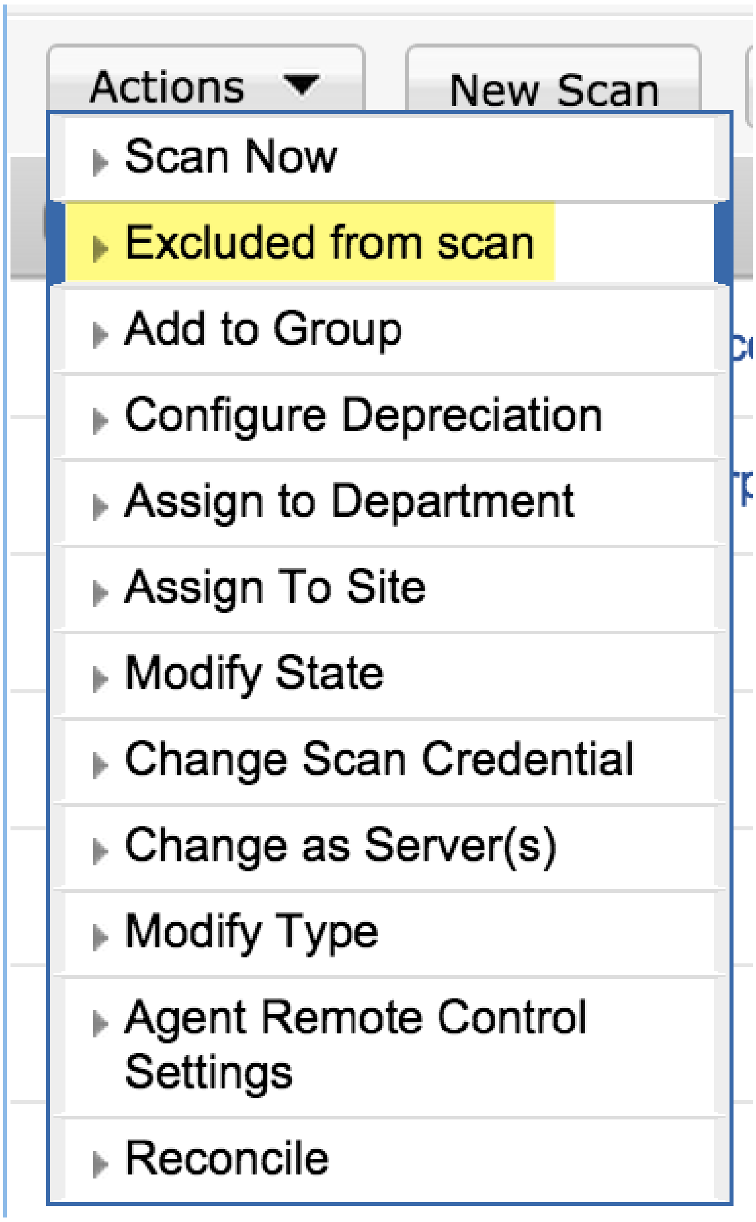


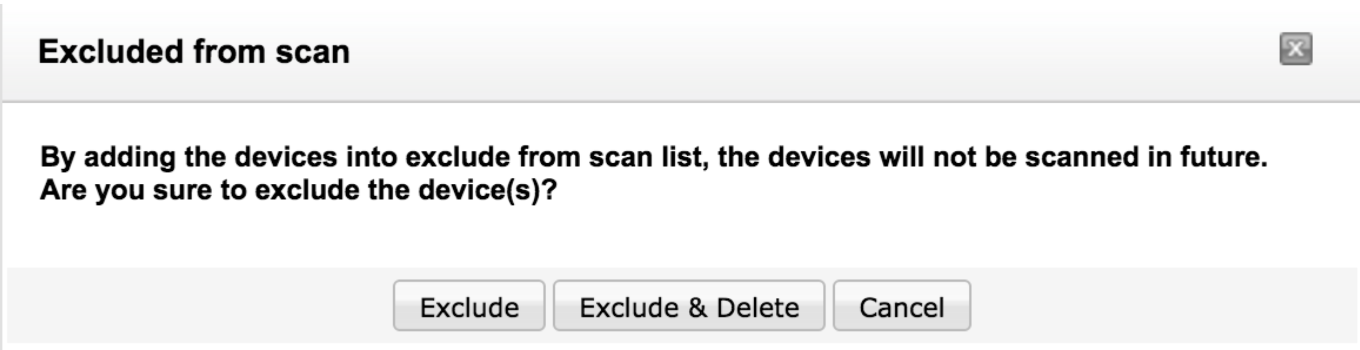
Exclude IT assets from scans (From Asset Listview)

You can also exclude different IT assets from the scan in the asset listview itself.
To exclude IT assets from the scan,

- Select an asset type.
- Select the assets you want to exclude from the scan.
- Click on **Actions** and then select excluded from scan.
- Click on **Exclude/Exclude & delete**.

The selected assets will be excluded from future scans.





Note: Clicking on **Exclude** will exclude the asset from future scans whereas clicking on **Exclude & Delete** will remove assets from the asset list itself.

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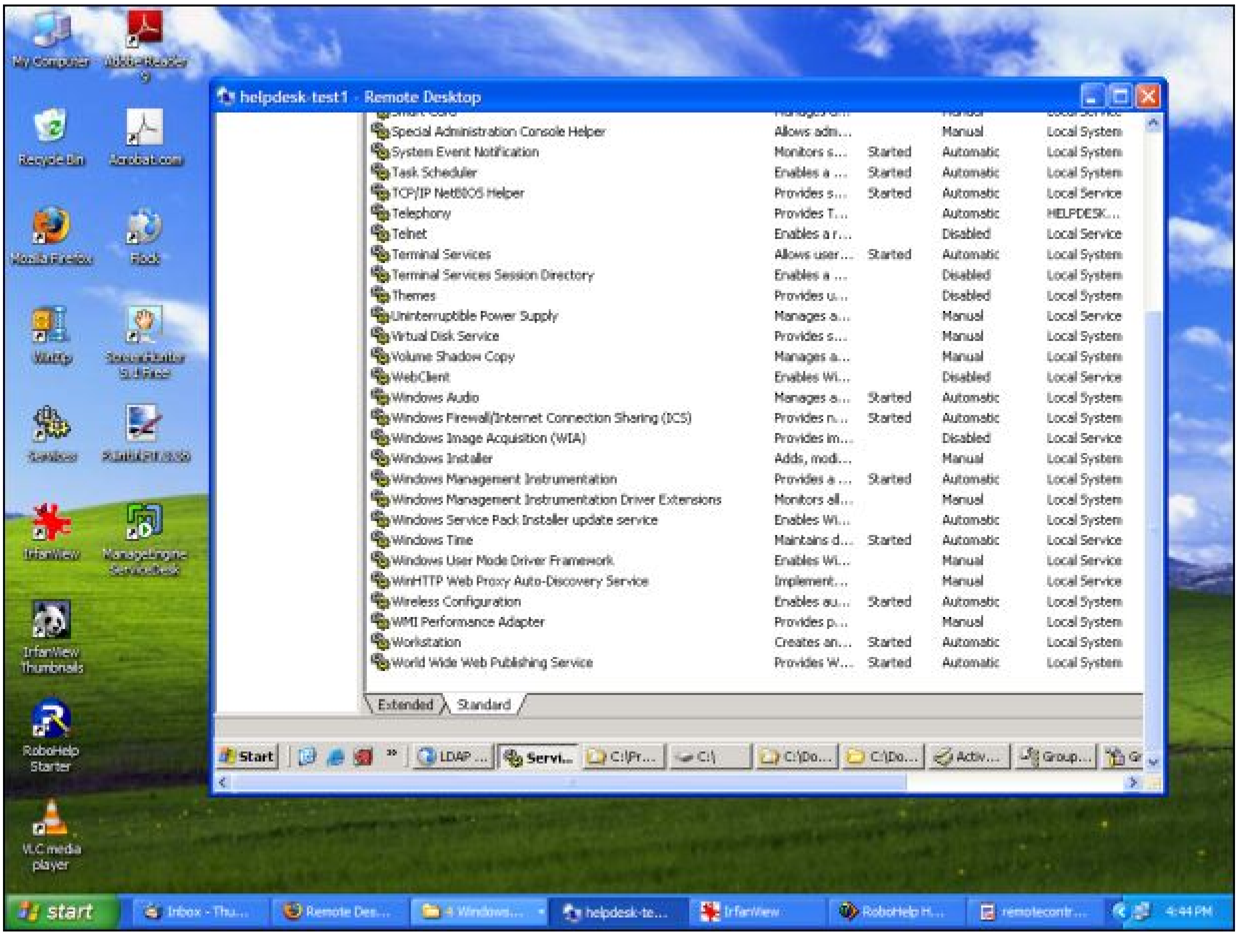
Remote desktop sharing

Certain tickets raised in AssetExplorer application may require technicians to access machines in remote locations. Say for instance, a SAP related issue in New York requires immediate attention and your support team is located in California. Likewise, when a request is raised via phone call, it would be great if your technician can access the requesters machine from his desk to resolve the issue instantly.
That is where Remote Desktop Sharing comes into play ! Instead of launching a whole bunch of different softwares to access remote machines, AssetExplorer Remote Desktop Sharing helps you to access all your scanned workstations and resolve issue in no time.



Browsers compatible for accessing remote desktop

- InternetExplorer (version 5.5 and above)
- Firefox

Accessing Remote Control

1. Click the Asset tab in the header pane.
2. From the Resources block, select Workstations under IT assets. The list of all the workstations is displayed.
3. Select the workstation you wish to gain remote access.
4. From the workstation details page, click on Remote Control tab.

Note	Please note that the credentials should be configured before selecting the remote control tab. If the credentials are not configured then the log-in credentials window pops up.

5. Click Save and Remote Control. The connection is established between the server and the remote machine.

The Remote Control can be accessed in Agent mode. So if you are launching Remote Control for the first time on an Agentless mode, you need to install the agent. To push the agent to remote machine from Active Directory click here.

Installing the Agent and starting the Service

Once the agent is installed, the remote workstation can be accessed. The ports to install and start the agent as service in WMI are TCP 135, 445 and one random port greater than 1024. The ports used in agent based scanning is TCP 9000. The service starts with the name ManageEngine AssetExplorer-RemoteControl.

Note	You can verify the installation of the agent by check the files under the directory C:ProgramFilesManageEngineAssetExplorer of the remote machine.

Installing ActiveX Viewer in the browser

On starting the service in the remote machine, the ActiveX viewer is installed in the client machine, which connects the remote machines as add on to the browser. In Firefox 2 browser, the viewer is installed each time the remote control button is selected.

Meeting

The Meeting is established between the remote machine and the client machine (this may or may not be server machine) from which you try to connect the remote machine. The port TCP/ 10443 should be opened in the firewall between the remote machine and the client machine for this communication.

Disconnect Remote Control

When you close the pop up window of Remote Control, the service running in the target computer will be stopped using WMI.

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Remote control tools

This feature helps you employ different remote desktop software within AssetExplorer. By default, there are four remote control tools configured in the application. Out of the four, the Windows Remote Desktop tool is available by default on all the Windows machines while the Agent tool is available in the product, by default. The remaining remote control tools should be installed in the machine from which the remote control is initiated (client machine).

NOTE: Remote Control is performed from the machine you are currently accessing (client machine) and not from the AssetExplorer host server.

To configure the Remote Control Tools,

1. Click **Admin** tab in the header pane.
2. Click **Remote Control Tools** under **Discovery**.

Add a Remote Control Tool

You can integrate any number of remote control tools with AssetExplorer. In order to take the remote, the client machine must be Windows or MAC Operating System (OS).

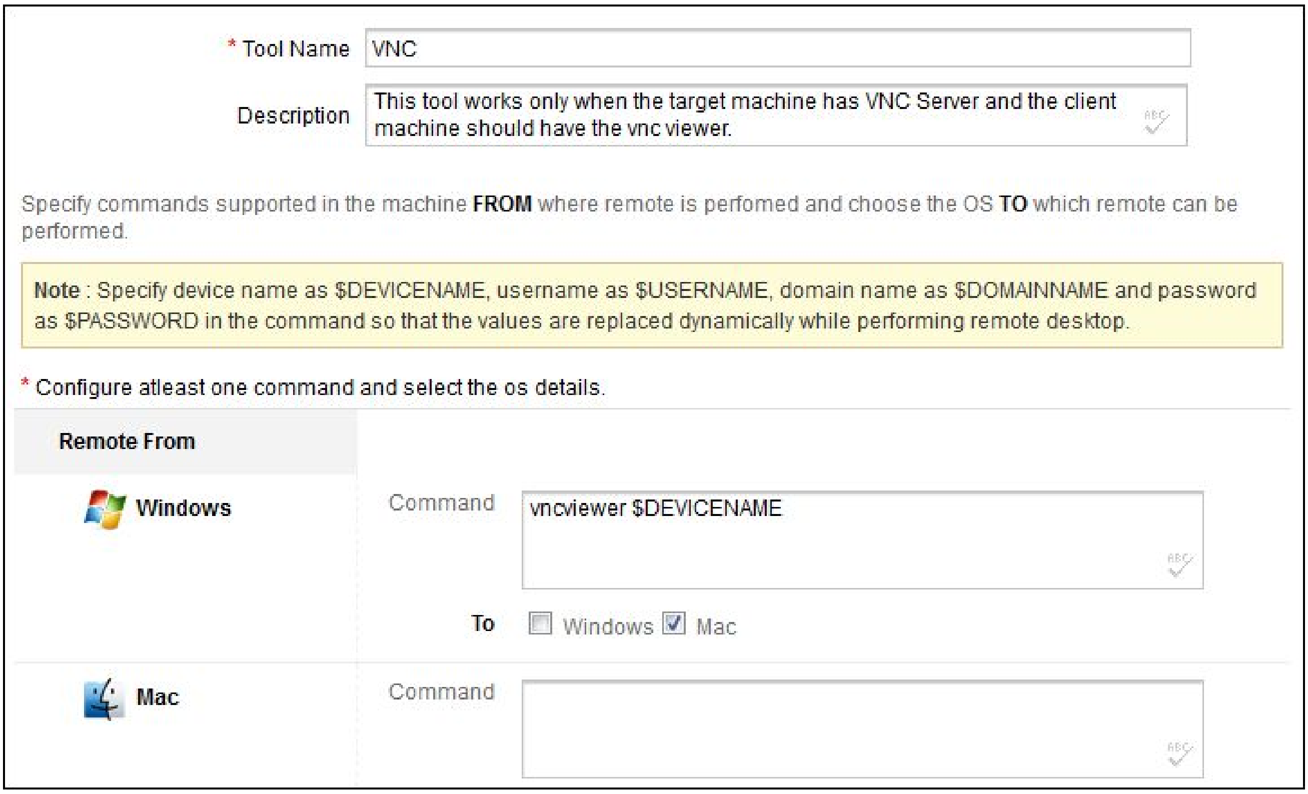
NOTE: Each remote control tool has a set of commands to initiate the remote control process to the user machine. These commands differ for Windows and MAC OS. The commands for the Windows OS should be specified in the environment variable path, while the commands for MAC OS should be specified in the required path.

To add new Remote Control Tool,

1. Click the **Add New** link.
2. In the **Remote Control Tool** popup, enter the name of the remote control tool in the **Tool Name** field. For example: TeamViewer, LogMeIn. This field is mandatory.
3. Specify a brief **Description** about the remote control tool.
4. Enter the command to initiate the remote control process beside the OS of the client machine. The command will run in the client machine using the Java applet. Refer the prerequisites to know how to enable the Java plugin for Windows and MAC OS.

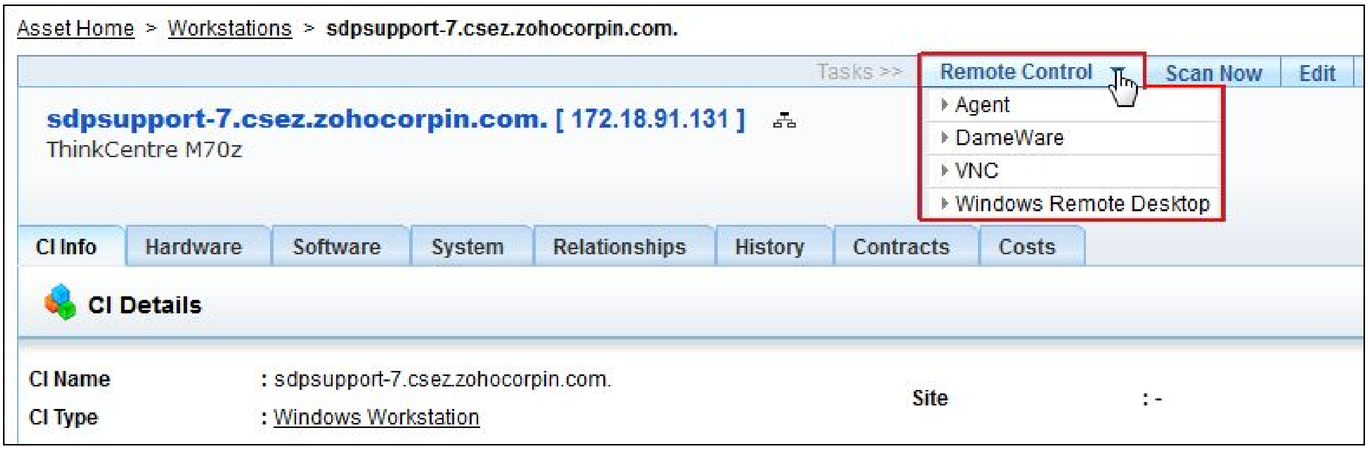
NOTE: The command is different for each OS. Make sure you have entered the right command beside the OS.

1. Enable the check box beside the OS of the user machine. For example: If the client machine is running on Windows and the user machine on MAC, then enter the remote control commands for Windows OS and enable the check box beside MAC.



2. Click the **Save** button.

The configured Remote Control tools are listed as options under the **Remote Control** drop down menu in the details page of a workstation/server. You can choose to perform remote control from any of the tools. Refer Remote Desktop Sharing via Agent to know more about performing remote control through the Agent.



The Remote Control tool list depends on the OS on the client and user machine. If the OS is other than Windows or MAC, then the Remote Control option will not be available.

Edit a Remote Control Tool

1. From the Remote Control Tools List view page, click the **edit** icon beside the remote control tool to edit.
2. In the Remote Control Tool popup, you can modify the Tool Name, Description and the commands beside the OS.
3. Click the **Save** button.

Delete a Remote Control Tool

1. From the Remote Control Tools List view page, click the **delete** icon beside the remote control tool to delete.
2. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed. The remote control tool is deleted from the list.

Prerequisites to enable the Java plugin

On Windows

Internet Explorer

1. Click **Tools** -> **Internet Options**.
2. Select the **Security** tab and select **Custom Level** button.
3. Scroll down to **Scripting of Java applets**.
4. Make sure the **Enable** radio button is selected.
5. Click **OK** to save your preference.

Mozilla Firefox

1. Start Mozilla Firefox or restart if its already running in the system.
2. In the **Menu** bar, select **Tools** -> **Add-ons**.
3. In the Add-ons Manager window, select **Plugins**.
4. Click **Java (TM) Platform** plugin and select the **Enable** button beside it.

Google Chrome

1. Click the wrench icon and select **Settings**.
2. Scroll down and click **Show advanced settings...** link.
3. Under **Privacy**, click the **Content settings...** button.
4. Search for Plug-ins and select **Disable individual plug-ins..** link to check if Java is enabled.
5. Click the **Enable** link.

NOTE: If you find the Disable link, then Java is already enabled.

On MAC

Apple supplies its own version of Java. Use the Software Update feature (available on the Apple menu) to check if you have the most up-to-date version of Java. The Java plug-in is automatically enabled by updating the software.

Web remote

Web remote is an inbuilt tool to facilitate remote sessions on client machines (Windows machines). You can use Web Remote from ServiceDesk Plus application with zero installation (Without Java, Flash, ActiveX, or other plugins) in the client's machine. It will function as a separate service running on a default port 8083 which can be changed. Since it is a HTML5 browser based utility, remote to Windows machine can be perfomed from any OS/device. Web Remote also features the session capture and replay option.
Note: Web Remote feature is currently available for windows machines only, as it runs on windows desktop connection (mstsc.exe).
Quick Links

- Prerequisites for taking Web Remote sessions
- Enabling Web Remote and Configuring Web Remote Settings
- Initiating Web Remote sessions from Asset module
- Initiating Web Remote sessions from Requests module

- Web Remote History

Prerequisites for taking Web Remote sessions

- RDP (Remote Desktop Protocol) client service should be active in the client's machine.
- Make sure to keep the port number 3389 open as it is the default port on which the RDP runs.
- If the RDP runs on a different port, you can change it in the admin page.
- Enable remote connections on your machine by selecting "**Allow remote connections to this computer**" option under Control Panel >> All Control Panel Items >> System Properties >> Remote >> Remote Desktop.

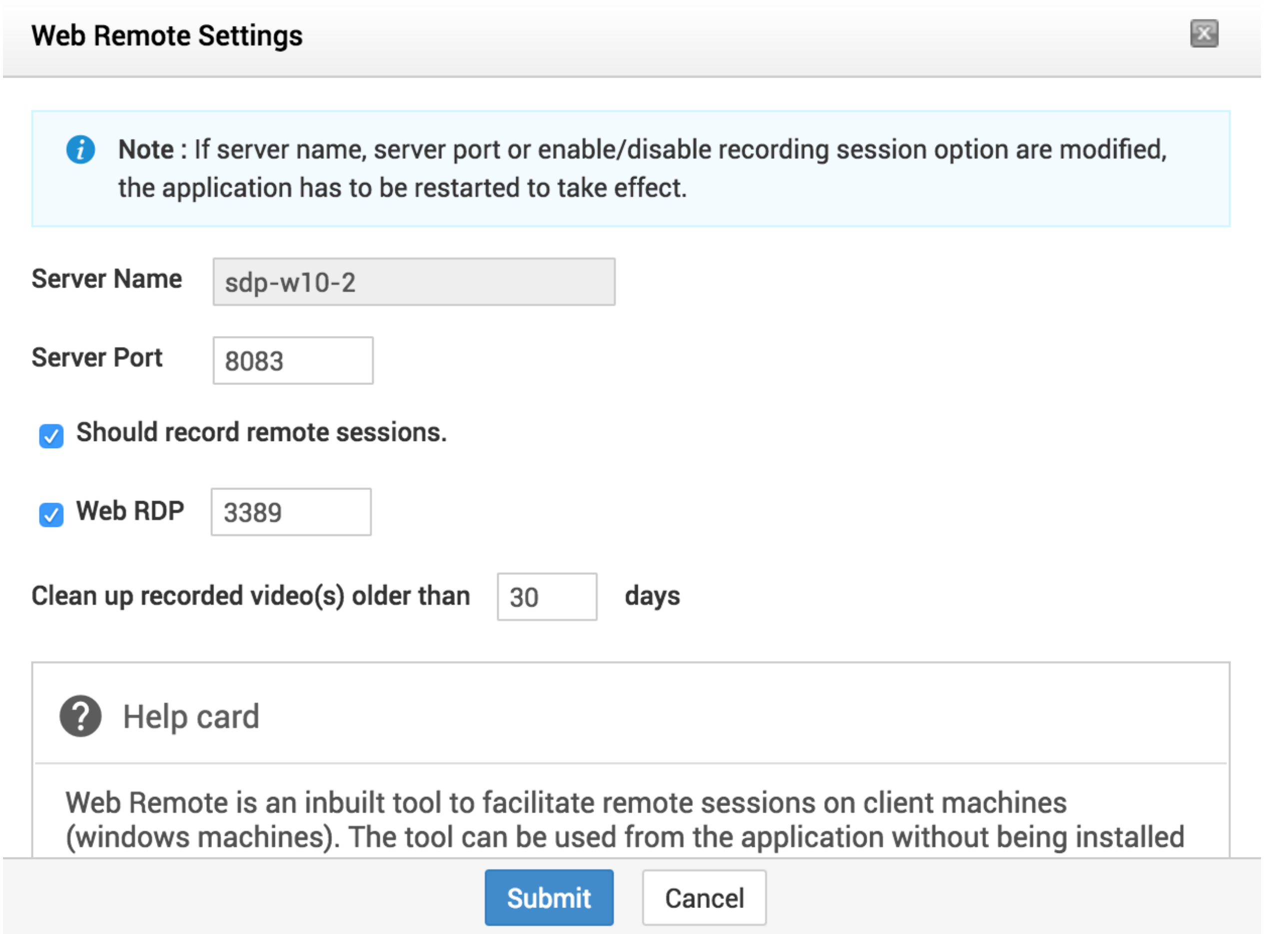
Enabling Web Remote and Configuring Web Remote Settings

You can configure Web Remote settings or enable web remote functionality by accessing Admin >> Remote Control Tools >> Web Remote.

- Click on **Web Remote** to open up the settings page.
- Server Name will be auto populated. Hence it cannot be changed
- Enter a Server Port Number. By default the Server Port is set at 8083. This can be changed. If the given Server Port number is occupied while initiating Web Remote, the system will try to occupy the next 25 ports.If none of the ports are available then Web Remote won't function.
- You can choose whether to record your Web Remote sessions by enabling or disabling the "Should record remote sessions" option.
- Enter the Web RDP port number. It is set at 3389 by default.
- You can choose to clean up the recorded session videos after a particluar time frame. Use the "**Clean up recorded video(s) olden than-- days**" to set the time frame.

The recorded videos will be saved in the following path: <AE_HOME>webremoterecordedfiles directory.

Note: It is mandatory to restart your application after making any changes to **Server Port** or enabling/disabling "**Should record remote session**" option.

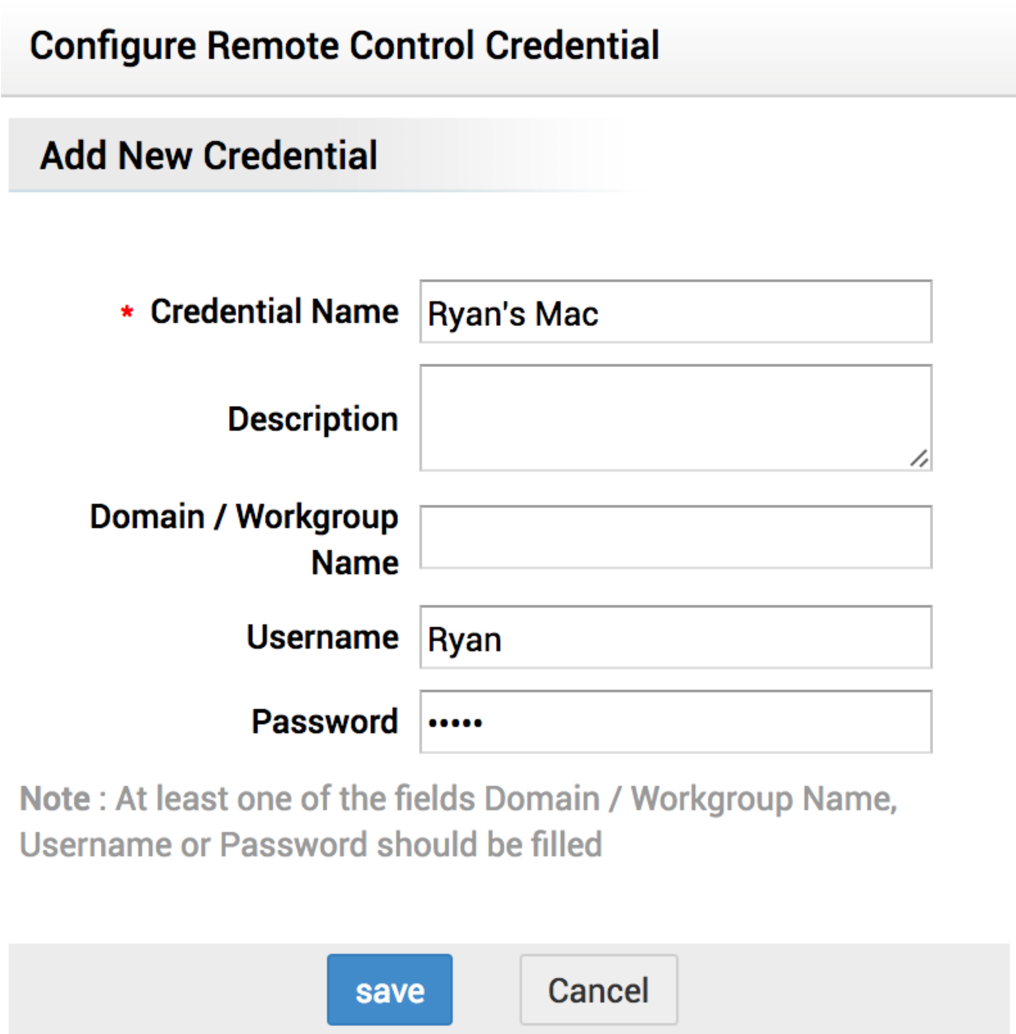


- Click **Submit** to save the Web Remote Settings.

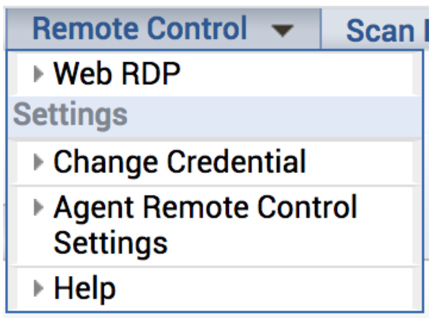
Initiating Web Remote sessions from Asset module

To take web remote sessions from the assets module,

- Click on the assets module.
- Click on Workstations under Assets > IT Assets from the left pane. Click on a particular workstation for which you want to take the remote session.
- Make sure to configure the remote control credential for the workstation.
- To configure the remote control credential, click on Change Credential and click on  and configure the credential.



- Once you have configured the remote control credential for the particular workstation, click on Web RDP under Remote Control menu.



- The Web Remote will be activated. The shortcut keys and the close session icon will be displayed on the top right corner of the screen.

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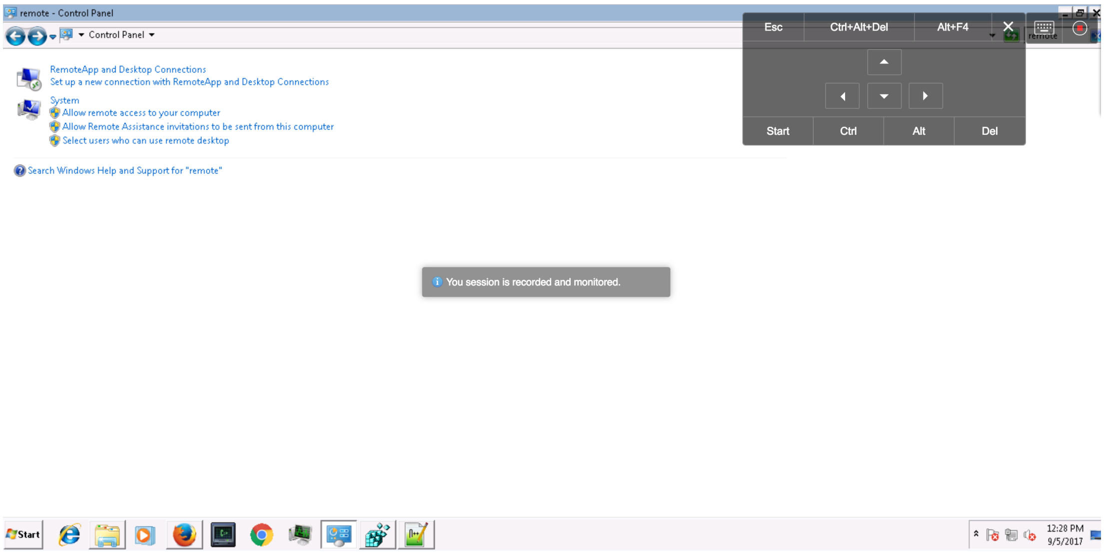
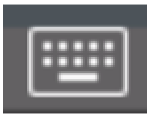
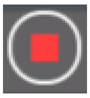


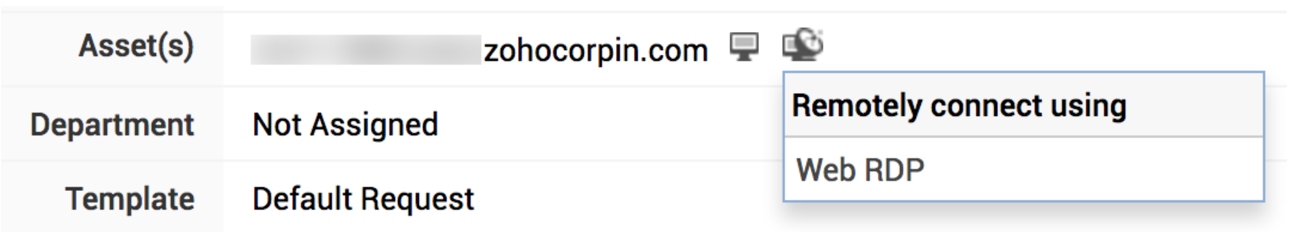
- Click on the keyboard icon  to hide the short cut keys.
- Click on the close icon  to end the remote session.

  Note: Entering a comment before taking a remote session is mandatory.

Initiating Web Remote sessions from Requests module

Web Remote sessions can be initiated from Request module as well. If a request has an associated asset, then web remote sessions can be initiated from the request details page itself.
Steps to initiate Web Remote sessions from Reqests:

- Go to the Requests Module.
- Select a request that has an asset (workstation) associated to it.
- In the request details page, click on the remote icon and select Web RDP.



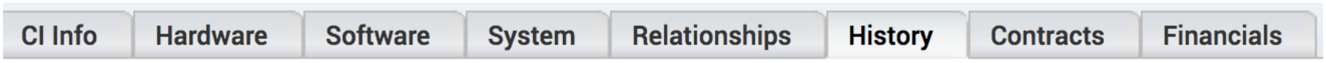
The web remote session will be initiated.

Note: Entering a comment before taking a remote session is mandatory.

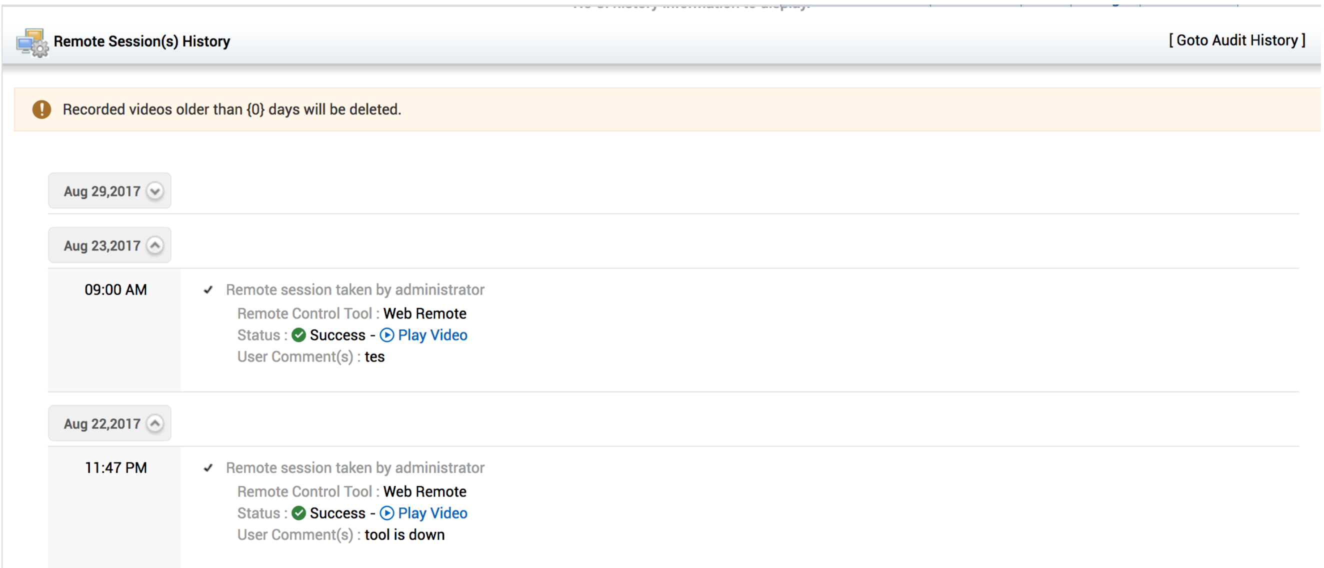
Web Remote History

Remote session history of the workstation will be stored under the history tab. If the session was recorded, then the video will be saved alongside.

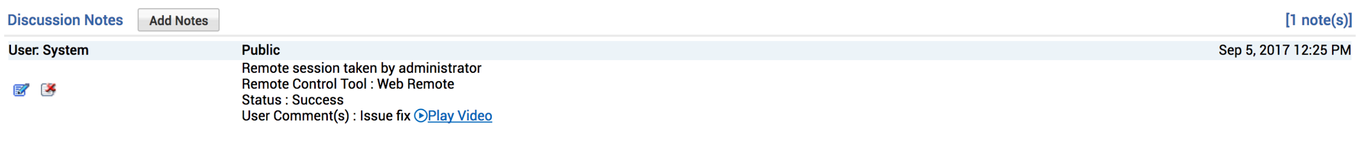
- Click on the history tab in the assets details page.



- The series of remote history for the workstation will be shown.
- Click on Play Video to view the recorded sessions.



The session history will also be captured under the requests (If a request has a workstation association which involved in a web remote session) notes section.



Limitations of Web Remote

Following are the limitations of Web Remote functionality:

- Web Remote is not supported in Windows 10 machines.
- Web Remote won't work if you have enabled Network Level Authentication for Remote desktop connection under Control Panel >> All Control Panel Items >> System Properties >> Remote >> Remote Desktop in your machine.

However these limitations will be fixed once we move to JRE1.8.

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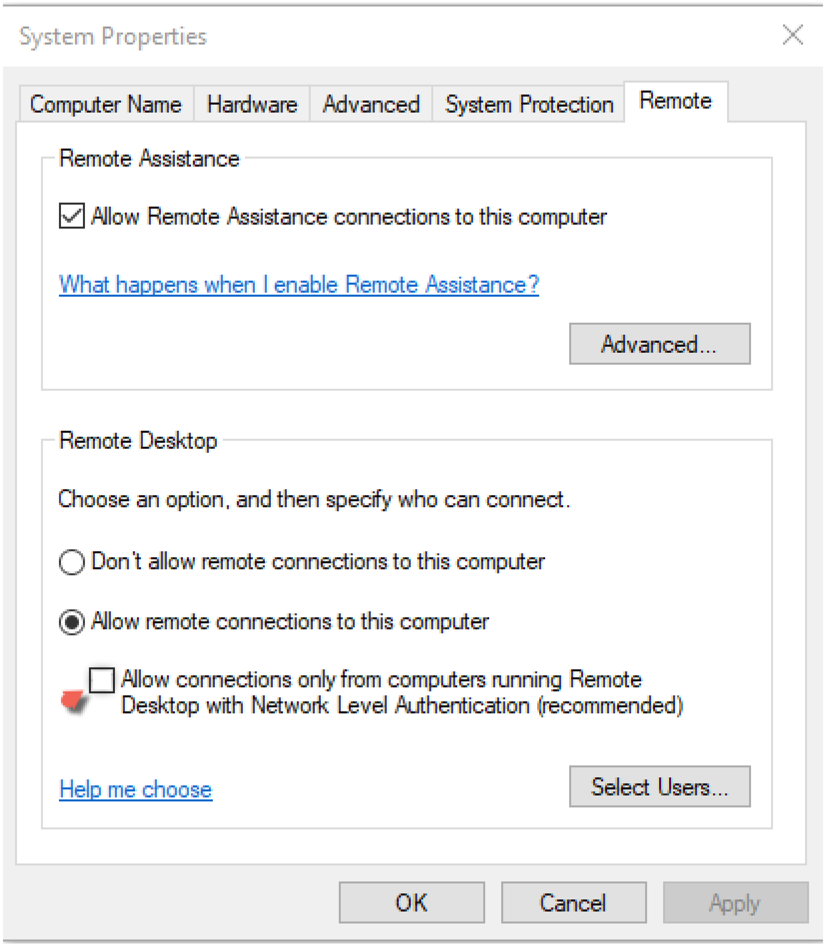
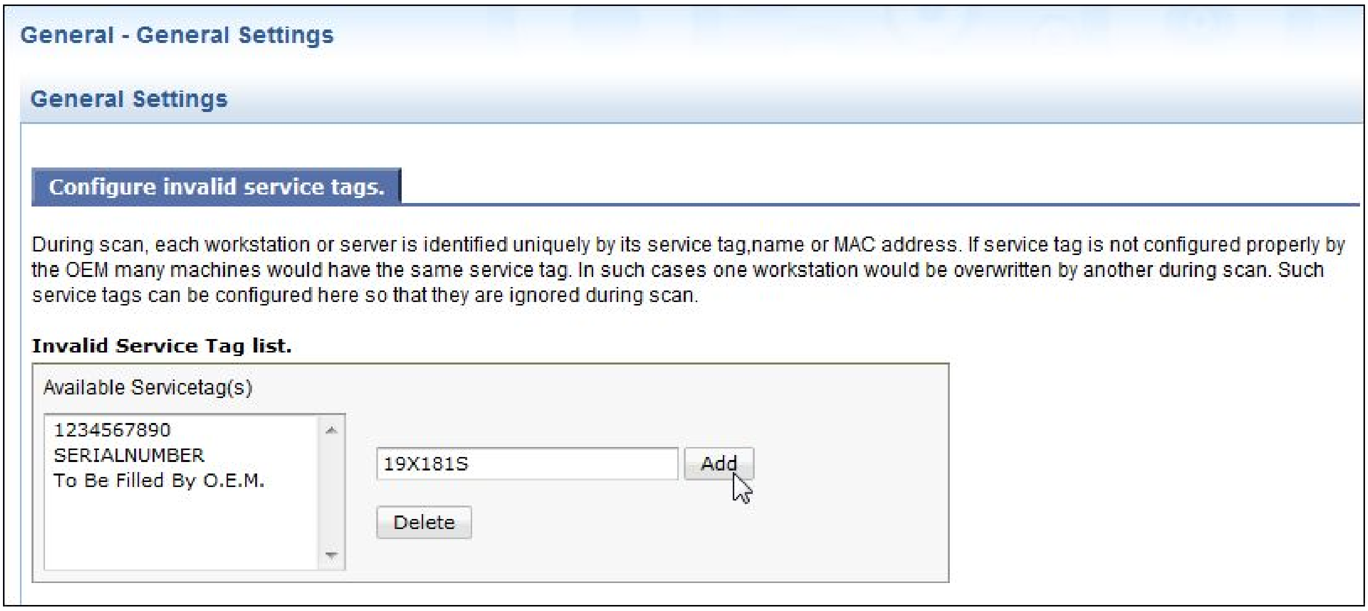

System Properties
Computer Name
Hardware
Advanced
System Protection
Remote
Remote Assistance
Allow Remote Assistance connections to this computer
What happens when I enable Remote Assistance?
Advanced...
Remote Desktop
Choose an option, and then specify who can connect.
Don't allow remote connections to this computer
Allow remote connections to this computer
Allow connections only from computers running Remote Desktop with Network Level Authentication (recommended)
Help me choose
Select Users...
OK
Cancel
Apply

General settings

In General Settings, you can configure Invalid Service Tags, provide option for MAC address identification during scan, and for OIDs with unknown type; option to specify the product type and product name.

Configure Invalid Service Tags

While performing a scan, the Workstations and Servers are uniquely identified based on its Service Tags, Name and MAC address. So when the service tags are not incorrectly configured by the OEM, many machines would result in similar service tags. In such cases, if a scan is performed, one workstation details would be overwritten by the other. To avoid this, you can add the service tag under Invalid Service Tag list such that, the workstations with the service tag is ignored during a scan.



- **Enable/Disable MAC address identification during scan**

Machines connected through VPN or VMware have similar MAC address. So while performing a scan in similar network environment, one machine is overwritten by the other. Hence you can uniquely identify the MAC address by enabling/disabling the radio button.

- WMI timeout

By default, if the windows machine are scanned using WMI, the connection timeout is set to 2 minutes. If this checkbox is disabled, there will not be connection timeout.

- Scan software in Linux,Solaris and AIX machines

By enabling this checkbox, software details present in Linux, Solaris and AIX machines will be scanned while disabling will prevent scanning software in these machines.

- Disable Ping

By default, machines can be pinged despite any background process. Enable this checkbox, to prevent pinging during scan, remote control and AD user import.

- Schedule based Software Compliance Calculation

By enabling this checkbox, Software Compliance can be calculated by scheduling them at required time intervals. By default, the schedule is set to 30 minutes. If this checkbox is not enabled, then the Software Compliance will be

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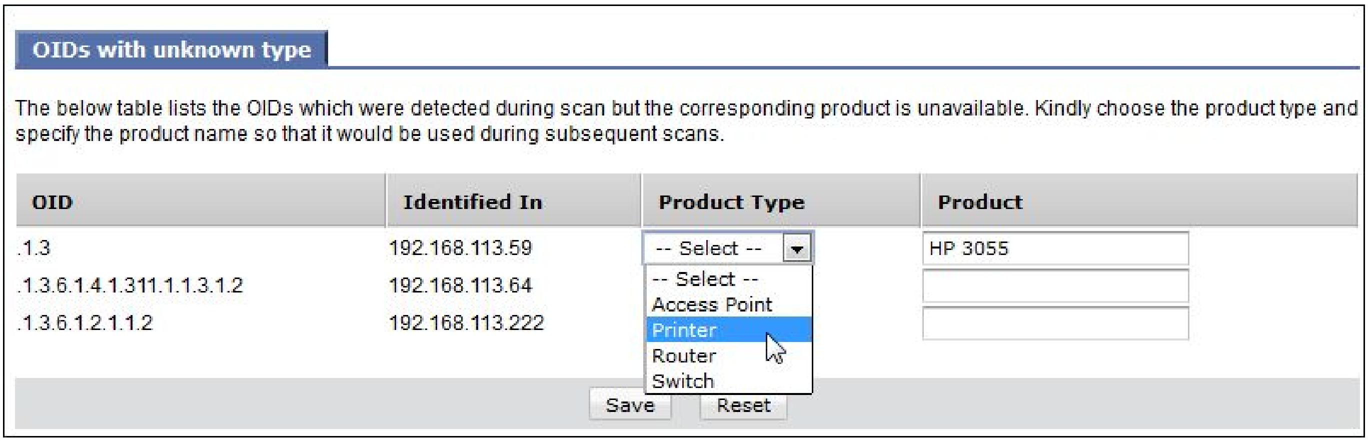
calculated instantly with the scan process.

Note: During the scheduled calculation process, scan will not be performed.

OIDs with Unknown Type

While performing a scan, the routers, switches, printers and access point in the network generate an OID which uniquely denotes the assets. If the OID of the asset is not available in the database, a new entry is populated from where you can choose the product type and specify the product name.



```
'Script to Configure Scan Settings for ManageEngine ServiceDeskPlus (or) ManageEngine AssetExplorer
'===================================================================================================================

'WARNING:
'********
'    This script Edits Windows Registry to configure the Settings required for scanning through WMI
'    It is highly recomended to test the script in a Test Computer before rolling it across a Network


'Section 1: To Configure Basic Remote DCOM Settings
'=======================================================
'    a. ENABLE Remote DCOM
'    b. DCOM Authentication Level set as DEFAULT
'    c. DCOM Impersonation Level as IMPERSONATE
Set WSHShell = WScript.CreateObject("WScript.Shell")
'To Enable Remote DCOM in the computer
WshShell.RegWrite "HKLMSOFTWAREMicrosoftOleEnableDCOM","Y","REG_SZ"
'To Enable Remote DCOM via HTTP in the computer
WshShell.RegWrite "HKLMSOFTWAREMicrosoftOleEnableDCOMHTTP","Y","REG_SZ"
'To Set Authentication Leval as Default
WshShell.RegWrite "HKLMSOFTWAREMicrosoftOleLegacyAuthenticationLevel",0,"REG_DWORD"
'To Set Impersonation level as Impersonate
WshShell.RegWrite "HKLMSOFTWAREMicrosoftOleLegacyImpersonationLevel",3,"REG_DWORD"

'Section 2: To Configure Windows XP (SP2) Settings
'======================================================
'    a. DISABLE Simple File Sharing
'    b. ENABLE RemoteAdmin in Firewall for Standard and Current Profile
'       (RemoteAdmin will take care of Ports required by WMI for scanning)

'To Configure Windows XP
Set objWMIService = GetObject("winmgmts:{impersonationLevel=impersonate}!\.rootcimv2")
Set colServiceList = objWMIService.ExecQuery("Select * from Win32_OperatingSystem")
For Each objService in colServiceList
   osName = objService.Caption
Next
Set colServiceList = objWMIService.ExecQuery("Select * from Win32_Service where Name = 'SharedAccess'")
For Each objService in colServiceList
   State=objService.State
Next
'To configure only for Windows XP Workstations
if osName="Microsoft Windows XP Professional" Then
   'To Disable Simple File Sharing Security
   WshShell.RegWrite "HKLMSYSTEMCurrentControlSetControlLsaforceguest",0,"REG_DWORD"
   if State="Running" Then
         'To Enable Remote Admin in Firewall
```

```
        Set objFirewall = CreateObject("HNetCfg.FwMgr")
    'For Current Profile
        Set objPolicy = objFirewall.LocalPolicy.CurrentProfile
        Set objAdminSettings = objPolicy.RemoteAdminSettings
        objAdminSettings.Enabled = TRUE

    'For Standard Profile
        set objPolicyStdProfile = objFirewall.LocalPolicy.GetProfileByType(1)
        Set objAdminSettingsStdProfile = objPolicy.RemoteAdminSettings
        objAdminSettingsStdProfile.Enabled = TRUE
  end If
end If
```

Script to Configure Reply Ports For WMI

```
'========================================
' Product: ManageEngine ServiceDeskPlus (or) ManageEngine AssetExplorer

'WARNING:
'********
'    This script edits Windows Registry to configure the Settings needed for Scanning
'    It is highly recomended to test the script in a Test Computer before rolling it across a Network

'NOTE:
'*****
' This segment defines the range of ports that will be set in the Registry.
' To Customize the range, configure the same below. However it is recomended to have minimum of 3 ports in the range.
startPort = 5000
endPort = 5002

'Other definitions used in the script.
Const HKEY_LOCAL_MACHINE = &H80000002
strComputer = "."
strKeyPath = "SOFTWAREMicrosoftRpcInternet"
strValueName1 = "Ports"
strValue = startPort & "-" & endPort
arrStringValues = Array(strValue)
strValueName2 = "PortsInternetAvailable"
strValueName3 = "UseInternetPorts"

'Connection to Local Registry
Set oReg=GetObject("winmgmts:{impersonationLevel=impersonate}!\" & strComputer & "rootdefault:StdRegProv")

'Creates the Registry Key "HKEY_LOCAL_MACHINESOFTWAREMicrosoftRpcInternet"
oReg.CreateKey HKEY_LOCAL_MACHINE,strKeyPath

'Writes the Values in Registry ==> Ports: 5000-5002
oReg.SetMultiStringValue HKEY_LOCAL_MACHINE,strKeyPath,strValueName1,arrStringValues

'Writes the Values in Registry ==> PortsInternetAvailable: Y
oReg.SetStringValue HKEY_LOCAL_MACHINE,strKeyPath,strValueName2,"Y"

'Writes the Values in Registry ==> UseInternetPorts: Y
oReg.SetStringValue HKEY_LOCAL_MACHINE,strKeyPath,strValueName3,"Y"
```

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Software Asset Management

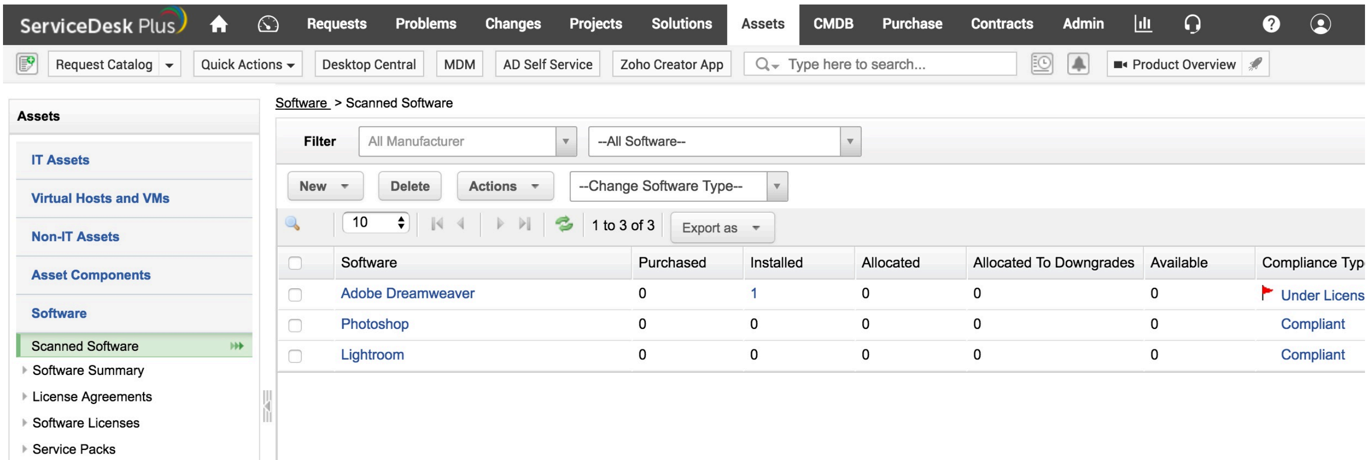
Software applications have become crucial assets that play a vital role in the performance of a business. But tracking, organizing and maintaining the software information becomes a tough challenge if your organization does not follow effective strategy to reduce security risk and ensure license compliant.

Software Asset Management (SAM) enables you to keep track of your software so that you know exactly what you have, where it is running and what you require. With SAM, you can reduce the cost and risk of software vendor audits, eliminate security threats caused by unauthorized software, minimize cost on unnecessary software and optimizes the use of existing software.

Software Asset Management in ServiceDesk Plus allows you to perform regular audits on workstations, track the usage frequency of the software, checks for software compliance through reports and audits, and eliminates the use of unauthorized software.

Scanned Software

Scanned software page displays the list of software(s) installed in the workstations associated with a given site. This information obtained during workstation scanning assists you in analyzing the software(s) being used in your organization and in turn helps you to monitor them effectively. Monitoring a software involves: viewing the software's usage (no. of installations a software has and the no. of users using it), viewing the licenses allocated to a software (for checking software compliance), changing a software's details as per your requirements (example: change a software to type 'prohibited' to prevent your organization users from using it) and more.



The actions which can be performed from this page are listed below:

1. **Filter Software based on Sites:** Software list being displayed can be filtered based on the Sites available in your organization
2. **Filter Software based on Manufacturer:** Software list being displayed can be filtered based on the Software Manufacturers as well
3. **Filter Software based on Software Type**: Software list being displayed can be filtered based on the Software Types (Managed, Freeware, Sharewre etc.,) as well
4. **Filter Software based on Software Compliance**: Software list being displayed can be filtered based on the following license compliance types: under licensed, over licensed and compliant
5. **Edit Software-related Details:** A software's details can be edited using **Actions** dropdown

Calculate Software Compliance:
The Software Compliance Calculation**,** by default is done every 30 minutes. It can be scheduled at regular time intervals by enabling the 'Schedule based Software Compliance Calculation' checkbox available under Admin >> Discovery >> Scan settings. It can also be calculated instantly by clicking 'Calculate software compliance' option available under Scanned Software.

On clicking 'Calculate software compliance', a pop-up containing the list of software will be displayed. Select the required software whose compliance needs to be calculated immediately and click 'Calculate'.
Note: Scan and Software compliance calculation will not be done at the same time.

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You can change **software's category**, **software's manufacturer, group software(s) belonging to same manufacturers** (using **software suites)** and **modify a software's CI Type** using the **Actions** dropdown.

- **Change Software Category**: To change a software's category

Select the Software from Software List View
Click **Actions** dropdown and Select **Change Category**
Choose Category as per requirements and
Click **Save**

- **Change Software Manufacturer**: To change a software's manufacturer
  Select the Software from Software List View
  Click **Actions** dropdown and Select **Change Manufacturer**
  Choose Manufacturer
  Click **Save**
- **Add Software to Suite**: To add a software to software suite
  Select the Software from Software List View
  Click **Actions** dropdown and Select **Change Manufacturer**
  Click **Add to suite** --> **Select Software Suite** (from available options)
  Click Add to suite
- **Modify Software's CI Type:**

Select the Software from Software List View
Click **Actions** dropdown and Select **Modify CI Type**
Choose the required CI Type and
Click Save
Please note: Every action stated under **edit software related details** can also be **performed in bulk** by selecting a **group of software(s)** and selecting the respective option from **Actions** dropdown.

1. **Change Software Type:** To change Software Type

Select Software from Software List View
Click **Change Software Type** dropdown
Select **Software Type**
Okay the warning message
Note: Change Software Type too can be performed in bulk.

1. **View Other Significant Software Related Details:** From Software List View Page (or) Software Summary Page you can also:

Check for the **number of purchased licenses, allocated licenses, available licenses** and the **compliance type** (that is, whether the software is over-licensed, under-licensed or complaint). This information is not just displayed as data but serve as links which direct you the to the respective software's details page. You can also check for licenses **Allocated to Downgrades** from Software List View page.
Click **Software's Usage** through **Frequently Used, Rarely Used** and **Occasionally Used** columns
Check for the **number of Purchased CAL** through **Purchased CAL column** for softwares using CAL licensing
Note: By default, column fields **Frequently Used, Rarely Used, Occasionally Used** and **Purchased CAL** will not be available and to include them you have to **click the dropdown button** - and then select the desired

options - **that appears when the pointer is onhover the various column headers**

Remember:

- Software(s) which failed workstation scan can be added manually by clicking **New dropdown** --> **Software.** View Add New Software for more details.
- You can also add Software Suites to group software(s) belonging to the same manufacturer. View Add New Software Suite for more details.

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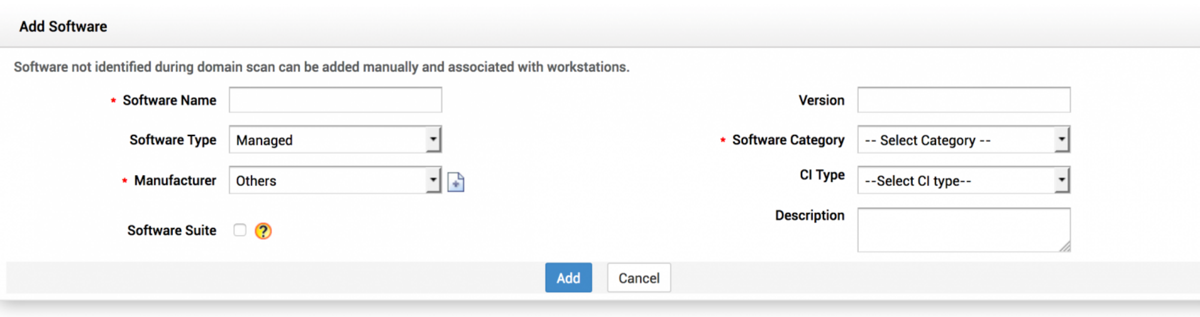
Adding Software

At times, the discovery processes available within **ServiceDesk Plus** may not detect some software applications. To manually add these undetected software, go to **Admin**>>**Assets**>>**Scanned Software**
Click **New**, fill out the displayed form, and click **Add**.



Software Suite allows you to group multiple software applications.

Adding Software Suite

After scanning, software applications detected across workstations will be listed. Individual components of a software application may be listed in different workstations. You can group them under a common suite to set up suite licensing.

Suite licensing

Suite licensing allows you to easily track multiple components of a software suite, like Office 365, deployed on different workstations. You can do this by grouping the software suite components installed in different workstations under a common name and apply volume license to the same. You can thus avoid License Violation. You can also use this when certain software and their versions (for example, Adobe) are detected as individual software.

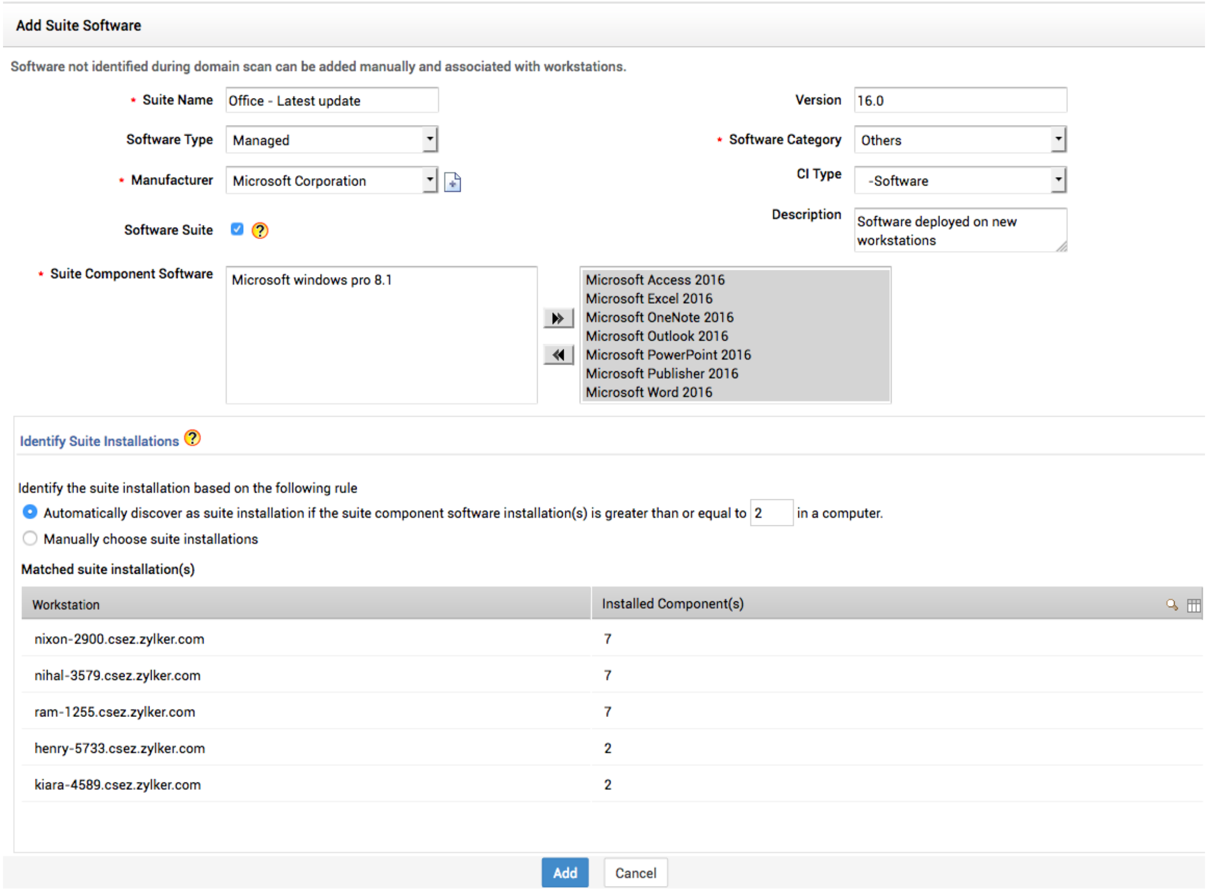
Upgrade/Downgrade License

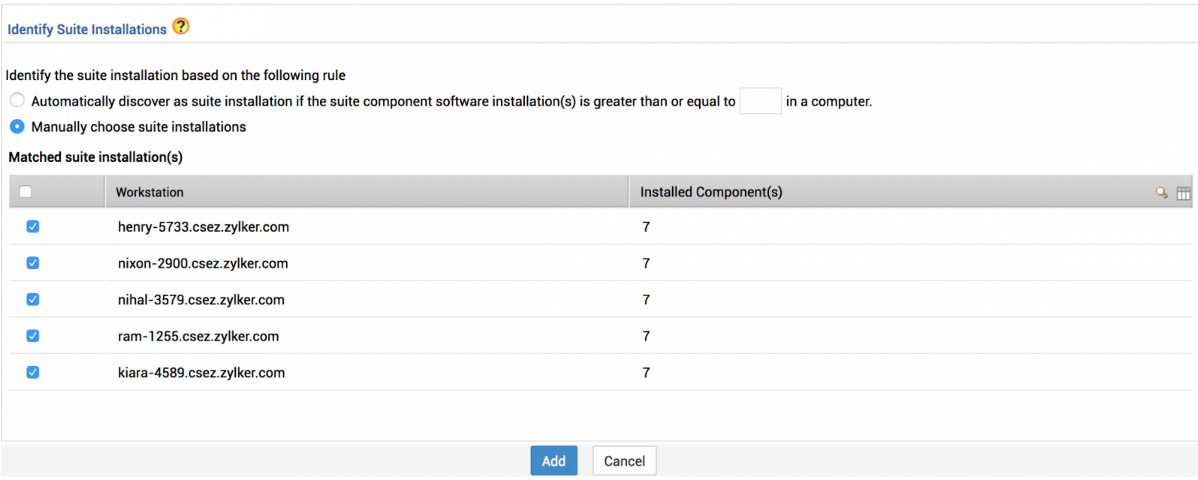
When the purchased license supports higher or lower versions of the software to be installed on the same workstation, you can mark those licenses as **Upgrade** or **Downgrade license** in ServiceDesk Plus.

To add a new software suite, go to **Admin**>>**Assets**>>**Scanned Software**.
Click **New**, select **Software Suite,** fill out the displayed form as discussed in the following table, and click **Add**. .

Field name	Explanation
Suite Name	Provide a unique name to the suite.
Version	Enter a common version for all its software components.
Software Type	Select **Managed Software** (licensed software). Only this type software can be added.
Software Category Manufacturer CI Type	Select values from corresponding drop-downs.
Software Suite	Enable this option.

Description	Enter any additional information about the suite.
Suite Component Software	Select the components to be added. Make sure the component versions are identical.
Identify Suite Installations	Automatically discover as suite installation: Specify the least number of selected components that must be present in a workstation for it to be discovered. Manually choose suite installations: Workstations that have at least one suite component will be listed.



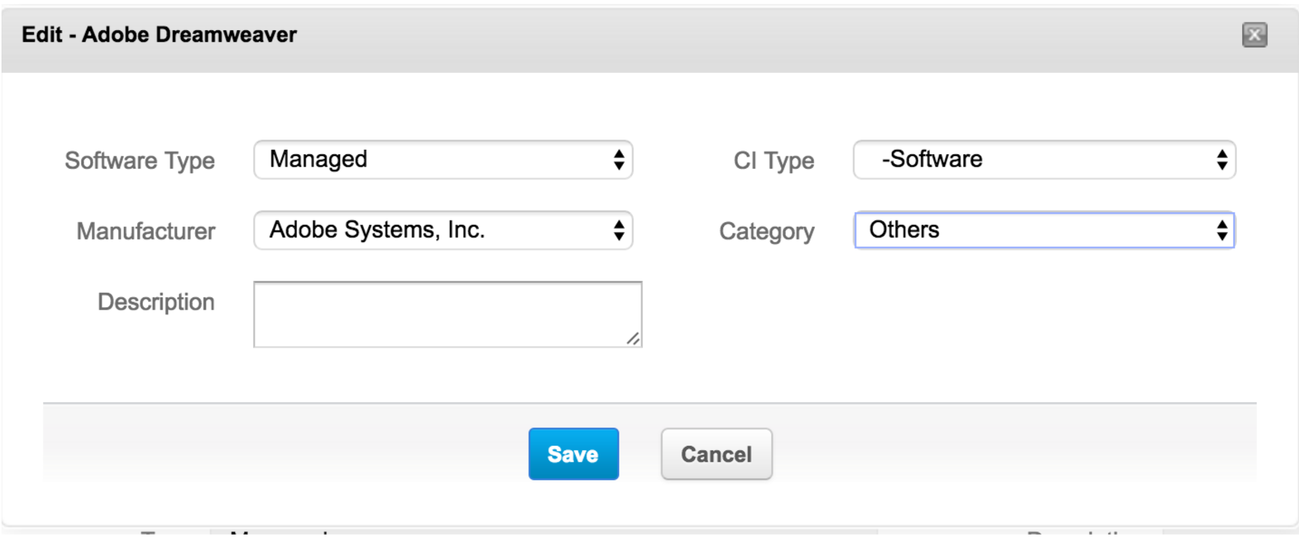


You can add suite in the software details page using **Software Suite** option.

Editing Software Details

To edit software related information like software type, software category, CI type etc., from **software details page**, do the following:

1. Select Software from **Scanned Software page** by clicking on it
2. The **software details page** of the selected software will open up
3. Click the **Edit** button [available besides **Actions** dropdown] of the software details page
4. **Edit software details popup** will open up as shown below



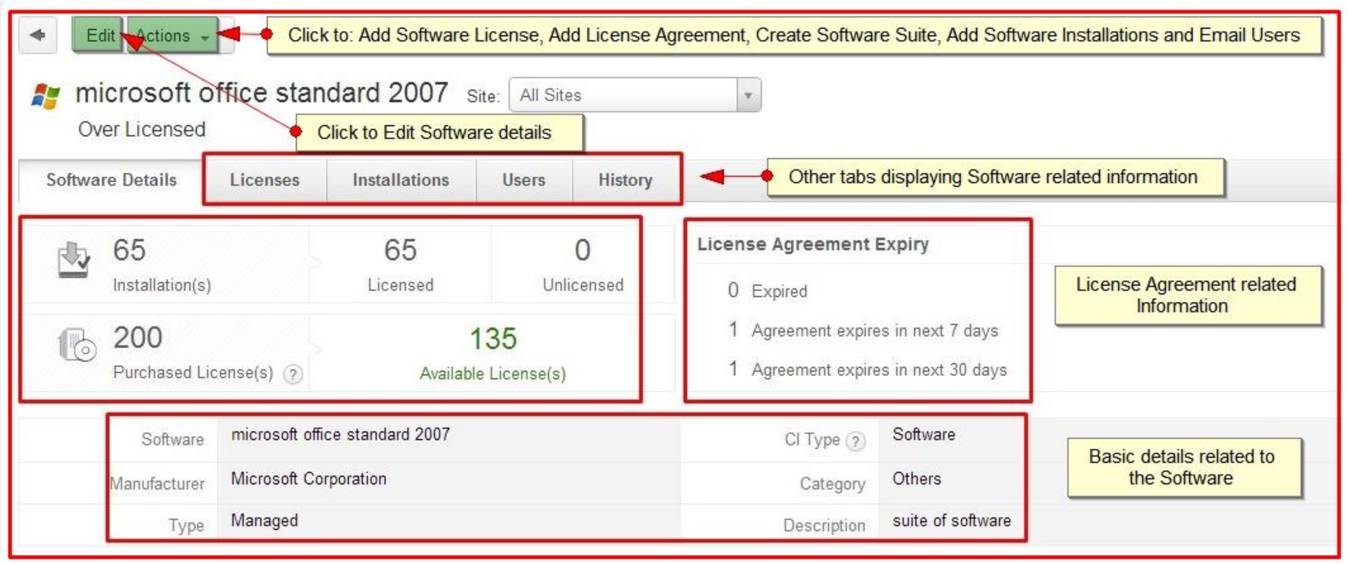
1. Edit details as per your requirements and **click Save**

	Note: • **Software's Details** can also be edited from **software list view page** by choosing the **desired software** --> clicking **Actions dropdown** --> and **editing its details** • **Software's Details** can also be accessed from the **software licenses page** (by **selecting the respective license** --> and clicking on the **software name** from the license details page)

Viewing Software Details

The software details page gives you information related to the software by:

- **displaying the number of purchsed license(s)** associated with the software
- **displaying the number of installations** of the software
- **displaying the number of users** using the software
- **displaying license agreement expiry details** (if the associated license is bound by a license agreement)



Software details page has **5 tabs** with **software details tab** (selected by default) displaying vital information needed for monitoring the software like **Unlicensed Installations** and **License Agreement Expiry** and so on. Other available tabs are listed below:

- **Licenses:** Here you can view license(s) associated with software along with various other details like licensing type, number of available licenses, total number of licenses and more depending the license chosen [see: License Types]. You can also add/delete new licenses and allocate these licenses to unlicensed workstations from this page by clicking **Actions** dropdown and --> selecting **New** --> **Standard/Upgrade** License.[for more information on adding licenses, see: Adding Software License]
- **Installations:** This tab lists workstations which have been installed with the software. Information like total number of installations, number of licensed and unlicensed installations can also be viewed from this page and the licenses can be allocated accordingly [see Allocating Licenses]. You can also add more instances of the software [that is, add more installations] by clicking on **Add Software Installations** button. It is also possible for you to **send mails** [to the users of the software] regarding the software installation and can also **deallocate licenses** [from the licensed installations] from this tab.
- **Users:** This tab lists users associated with workstations that have been installed with the software. This list can be filtered based on **licensed users** as well as **unlicensed users**. Here too you are provided with the option of allocating license [see Allocating License] and sending emails to the users of the software.
- **History:** This tab records the software's history and provides you with information like the day/time period within which: **a set of software installations/uninstallations** happened using which you can analyze the software's usage.

NOTE	• Software Details can be filtered as per the Sites available in your organization. • Suite Software will be represented by Suite Icon in the list view page, which when clicked will display the software(s) available in the suite.

Allocate License [from Software Details Page]

You can allocate licenses to the unlicensed software installations from **Installations tab** (or) **Licenses tab** of the Software Details page as follows:

- From Installations tab [or]
- From Licenses tab [or]
- From Users tab

From Installations tab
Software details page will display the number of unlicensed installations (if any) which when clicked will lead you to Installations tab from where you can allocate the available license by doing the following:

1. Click Allocate License button
2. Select the license which you wish to allocate to the software
3. Click Allocate License button

From Licenses tab
You can also allocate licenses to the unlicensed software installations (if any) from the licenses tab by doing the following:

1. Click Allocate Licenses button
2. Select **Allocate license if license key matches** (or) **Allocate license based on license availability** based on your requirements
3. Click Allocate License button

From Users tab
You can also allocate licenses to the unlicensed users (if any) from the users tab by doing the following:

1. Click All Users dropdown and select Unlicensed Users
2. Select the listed unlicensed users and
3. Click Allocate License button

Note:
- Software Licenses can also be allocated (as well as added) from the respective software's license details page

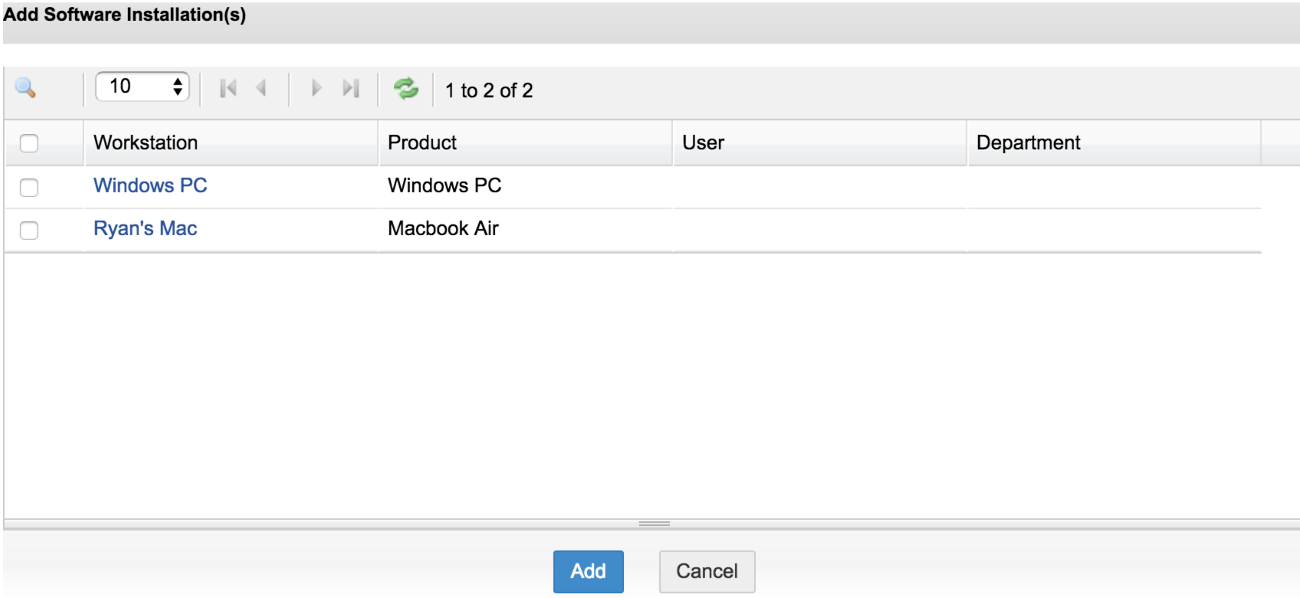
Create Software Suite [from Software Details page]

You can also create software suite from within a software details page [apart from using **New --> Software Suite** option from **Scanned Software** page] in order to group softwares belonging to the same manufacturer by following the steps mentioned below:

- **Select softwares** which will be a part of the software suite
- Click **Add**

Add Software Installations

To add instances of the software installation to various workstations being included in your organization, follow the steps mentioned below:

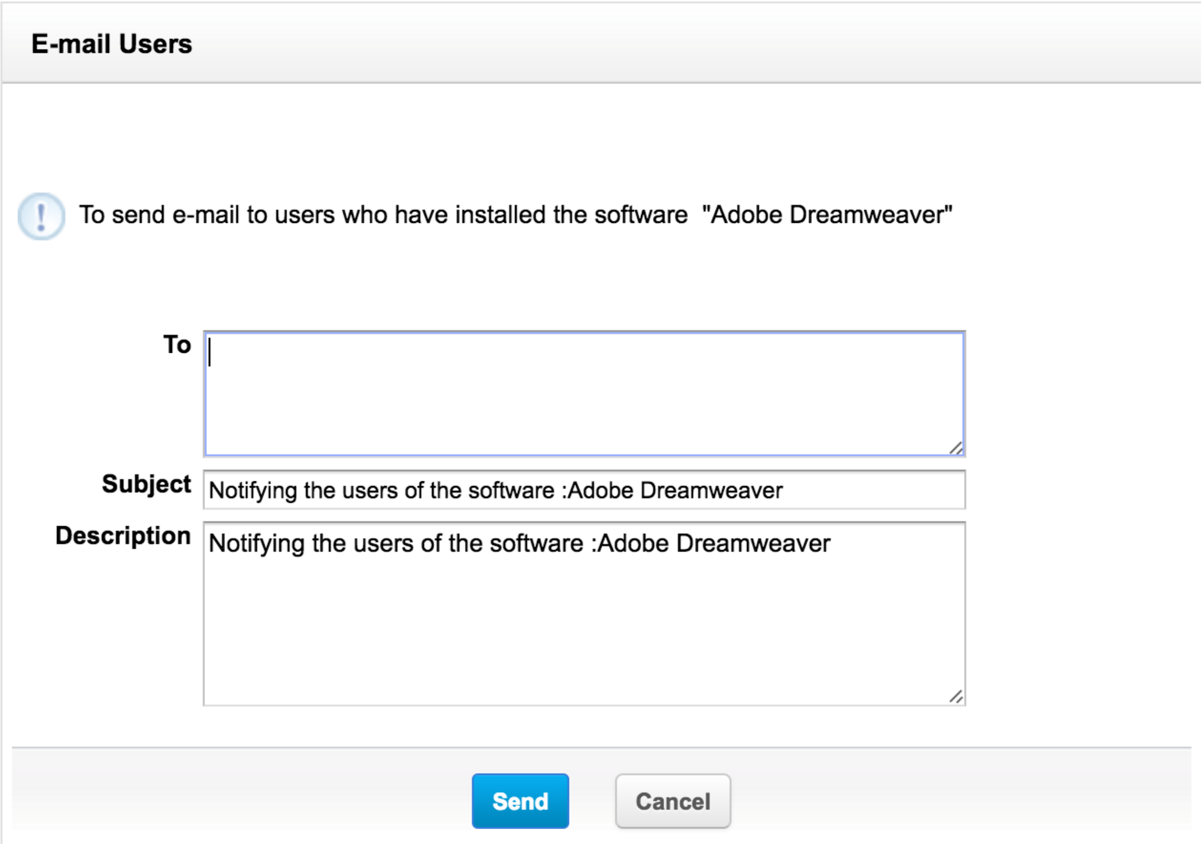


- **Select workstations** which are to be installed with the software
- Click **Add**

	Note: • Software Installations can also be added from **Installations tab** using **Add Software(s) Installations** button

E-mail Users

To send software-related notifications to users, follow the steps mentioned below:



1. Click **Actions** dropdown and select **E-mail Users** option
2. Specify **e-mail addresss, subject and description** for the mail as shown below
3. Click **Send**

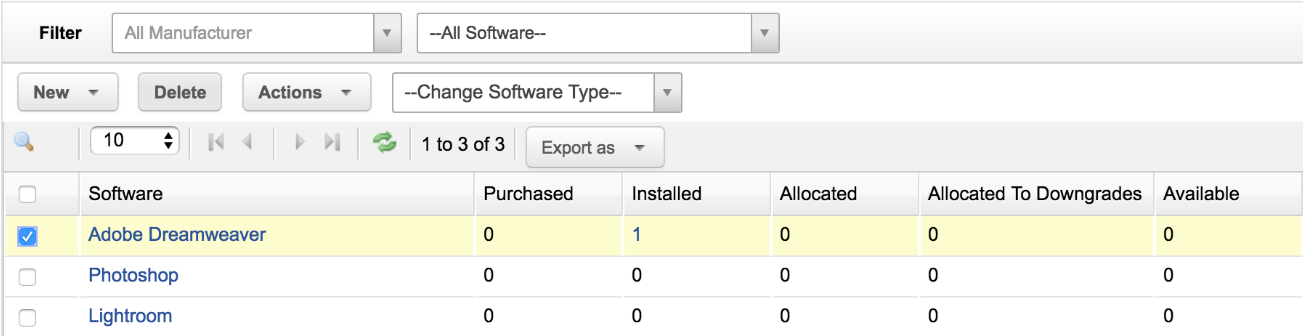
Note:

- Software-related maild can also be sent from **Users** tab as well as **Installation** tab using the respective **Send Mail** buttons

Delete Software

Do the following to delete a software from Software List View page (Scanned Software page):

1. Select **Software** from the **Software List View** page
2. Click the Delete button.

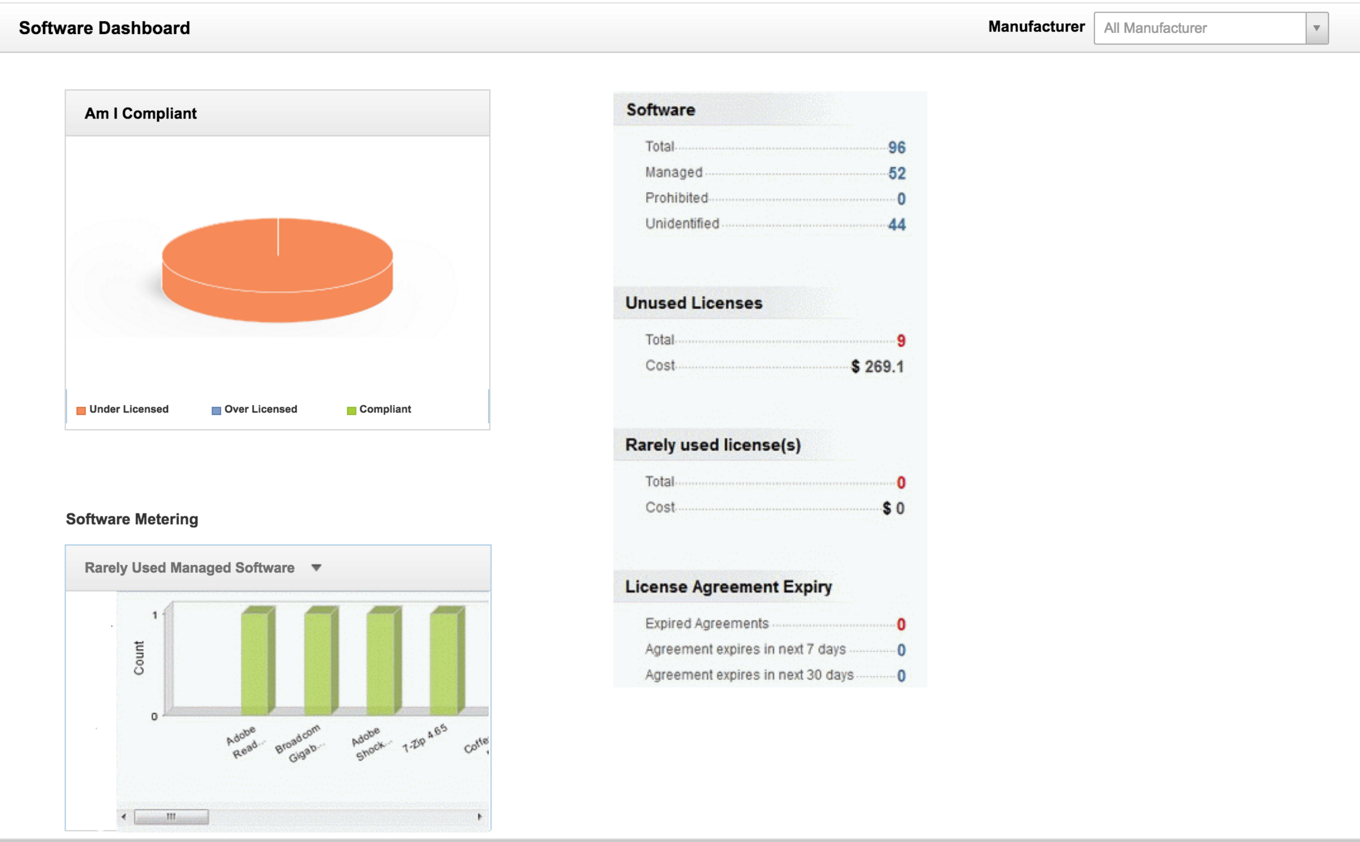


3. Okay the warning message
4. Software will get deleted from the list

Software Summary

ServiceDesk Plus scans your network and automatically discovers all software available in the workstations. From the Software Dashboard, Asset Managers can

- Group the software according to the Manufacturers and the Site in which they are associated.
- Easily ensure compliance by keeping a check on the list of compliant, under licensed and over licensed software.
- Facilitate easy access to view the total number of software that are unused, rarely used, managed, prohibited and unidentified for the selected Manufacturer and Site.
- View the number of expired license agreement, agreement to be expired in the next 7 days and agreement to expire in the next 30 days.
- Software Metering - tracks the usage of software in each workstation.

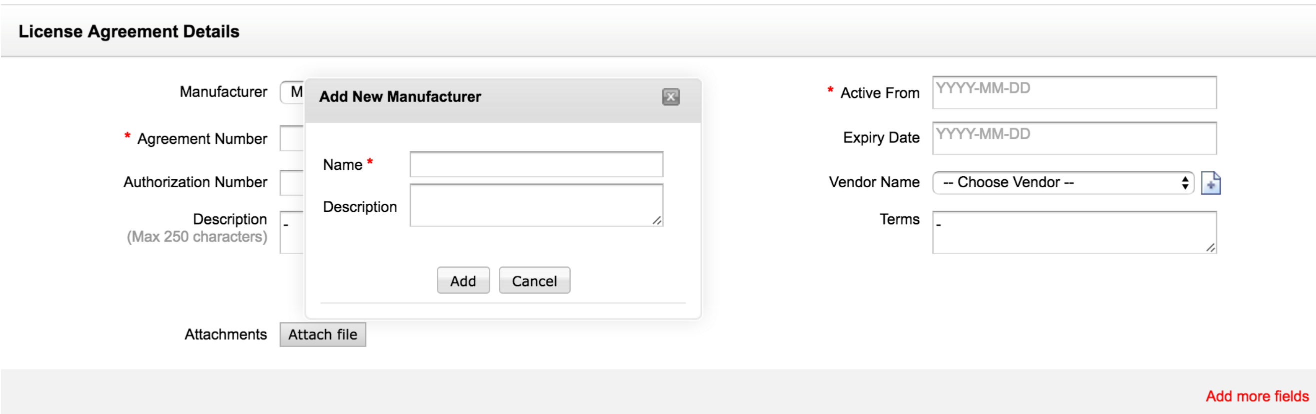


License Agreement

Software License Agreement is a contract between the software vendor and the purchaser. Software companies often make special contracts, such as contract for support and warranty with large businesses. Also, the license agreement consists of the acquisition date, expiry date, terms and conditions on how to implement the software in the organization. These documents are called as the End User License Agreement (EULA).
ManageEngine ServiceDesk Plus provides an option to maintain the license agreements in the database by adding the license agreement in the application. Also you can associate the license agreement with the software licenses.

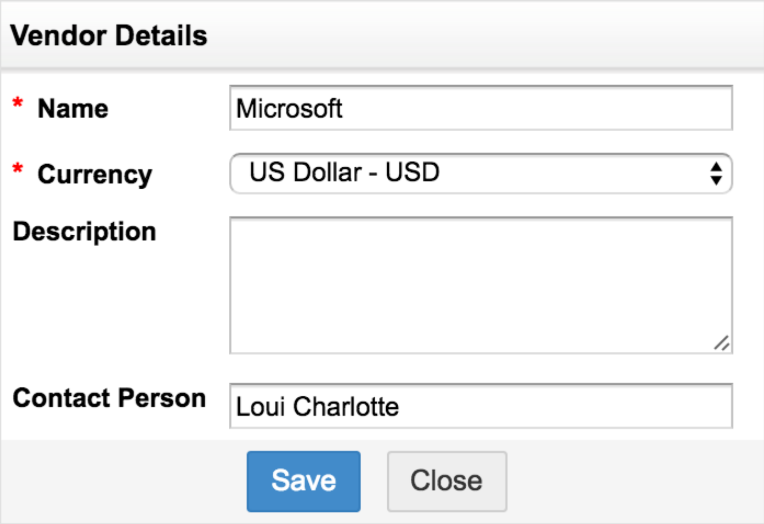
Add New License Agreements

- Click Assets -> License Agreement under Assets block. The available license agreement is listed.
- Click Add New button.
- Select the Manufacturer of the software for which the license agreement is created from the drop down.
- If the manufacturer is unavailable in the list, select the **add new** icon . Enter the Manufacturer and Description in the pop up.



- Specify the Agreement Number and Authorization Number. The Agreement Number is a mandatory.
- Select the Acquisition Date and Expiry Date of the software using the calendar icon.
- Select the Vendor from whom the software was purchased from the drop down.

  If the vendor detail is unavailable in the list, select the Add New icon and enter the Vendor Name, Description and name of the Contact Person.



- Specify the Description and Terms for the license agreement.
- If required, you can also attach relevant documents to the agreement. Click Attach File button. Browse through the file and click Attach file.
- You can add additional license agreement fields directly from this form by clicking Add More Fields.
- You can choose the type from Single-line, multi-line, pick list, numeric and date/time fields. Enter the Label and Default Value (for single-line and multi-line) to be displayed in the form.
- Specify the Purchase and Invoice Details such as, Purchase Order Number, Purchase Order Name, the date of purchase of the software in the respective fields.
- Also, enter the Invoice Number, Invoice Date from the calendar icon and the Total Cost of the software.
- You can either associate the license with an existing software license (provided there are unassociated license available for the selected manufacturer) or add a new software license and associate the agreement.
- Associate existing license to agreement
    - Click Associate to Existing License button.
    - From the Associate Existing License pop up window, choose the Site and Software from the filter drop down.
    - Enable the check box beside the license to be associated with the license agreement.
    - Click Associate to agreement button. The selected licenses is associated and listed below the Purchase Software License block.
- Add New License and Associate
- You can instantly add a software license and associate it to the license agreement.
    - Click Add New License and associate button.
    - From the pop up window, select the Software, License Type, License Options, Installations Allowed, License Key and the Cost ($) from the drop down. The License Type, License Options and Installations Allowed are mandatory fields.

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    - You can add licenses for other software by clicking the Add icon and repeat the steps as above.
    - Click Associate to agreement button. The license is associated and listed below the Purchase Software License block.

- You can notify users before the license agreement expires by selecting the users to be notified from the Users List. Click >> button to move the selected user to Notified User List block.
- Select the Days before which the selected users should be notified of the license agreement expiry. If you have selected the users to be notified of the license expiry then this field is mandatory.
- Click Save.

Note:

License Agreements can also be added from the respective software's details page by clicking on **Actions dropdown** and selecting **Add License Agreement** option

Edit and Delete License Agreement

You can modify and delete the existing license agreement from the application.

Edit License Agreement

1. Select Assets tab -> License Agreement under Assets block. The list of available license agreement is displayed.
2. Select the Agreement Number to be edited.
3. From the License Agreement details page, click Actions -> Edit Agreement option.

   The Edit License Agreement form appears with details populated while creating the license agreement. The Manufacturer field is non-editable.
4. Modify the details and Save the changes.

Delete License Agreement

1. Select Software -> License Agreement under Assets block. The list of available license agreement is displayed.
2. Enable the check box beside the Agreement Number to be deleted.
3. Click the Delete button. The agreement is deleted from the list.

Print the License Agreement

You can preview and print the entire license agreement details using Print Preview option.

To print the license agreement,

1. Click Assets tab -> License Agreement under **Assets** block. The list of available license agreement is displayed.
2. Select the Agreement Number link of the license agreement to print.
3. From the License Agreement details page, click Actions -> Print Preview option. The license agreement details appear in a printable form in a pop up window.
4. Click CTRL + p keys to print the contract details.
5. Set the required options and click OK.

Software License

ServiceDesk Plus helps you to manage software licenses installed across the enterprise. You can consolidate and manage all your software licenses from a single screen. You can key-in all the licenses purchased earlier and track future purchase of software licenses through the Purchase module.

Software License can be added in the following ways:

- By accessing **Quick Actions** menu --> and selecting **Software Licenses**
- By accessing **Assets** module --> and selecting **Software Licenses**

A software license can be:

- **Upgraded** so that the latest version of the software can be run using the same license
- **Downgraded** so that the prior versions of the software can be run using the same license

Sections listed below will help you understand software licenses better:

- Adding Software License
- Allocating Software License
- Upgrading Software License
- Downgrading Software License
- Deleting Software License

Add Software License

1. Click Add New drop-down --> and select **Standard License**
2. **Add Software License** form opens up. Fill in the required details as specified below
3. **Select Manufacturer** of the software
4. Select the **Managed Software from the drop-down** for which the license is to be provided [in case the software is in **Unmanaged Category**, it can be **Changed as Managed** by clicking on icon]
5. Select **License Type** (trial license, enterprise license, client access license etc.,) from the available list [OR] add new license type using the **Add New License Type** icon and fill in the details accordingly [default license types and their respective details]
6. Select **Vendor Name** from the available list [OR] if vendor has to be added newly in the application, then use on **Add New Vendor** icon
7. Select the date of purchase of the software license from the calendar button in Acquisition Date field.
8. Select the Expiry Date of the software license from the calendar icon.
9. Specify the cost of the software license in Purchase Cost field.
10. Select the department for which the software was purchased in Purchased for drop-down list.
11. If you have configured Sites, select the site name to which the software license belongs, from **Allocated to Site** drop down.
12. Provide suitable **description** for the license
13. Click **Save** button

NOTE	• Please remember that the license being added can also be provided with downgrade/upgrade rights [see downgrade license as well as upgrade license for more information] • Also remember that you can add license to a software and upgrade the same from its details page by clicking **Actions** dropdown --> **Add Software License** --> selecting **Standard License** (or) **Upgrade License** option and specifying the necessary details.accordingly.

License types and their respective details

1. Individual Licenses or OEM (Original Equipment Manufacturers) Licenses

- Select the License Option as either Full Package Product (FPP) or Others from the drop down.
- Enter the License Key (s) for the software in the given text box. The license keys values should be in comma-separated values format. Say XBVJD, YCCYR, 7DF28, JH2PX, MYT7M.
- Save the details. The license is listed in the software license list view page.

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Note: Option to provide the number of licenses will be available for Concurrent, Trail, and Volume type alone.

2. Volume License/Trial License

- Mention the Number of licenses required for the selected product.
- Specify the number of Installations allowed per license.
- Specify the License Keys in the given text field. Say XBVJD, YCCYR, 7DF28, JH2PX, MYT7M.
- Save the details. The license is listed in the software license list view page.

3. Enterprise License (Perpetual and Subscription)

- Mention the Number of licenses required for the selected product.
- Specify the number of Installations allowed per license.
- Specify the License Keys in the given text field. Say XBVJD, YCCYR, 7DF28, JH2PX, MYT7M.
- Save the details. The license is listed in the software license list view page.

4. Client Access License (CAL)

The Client Access License consists of the following License Options,

- Per Seat-Device/ Per Seat-User: License given to each unique user/device to avail the server software product. The number of CALs is equal to the number of devices/users accessing the server software.
- Per Server: License given to each server. The number of devices accessing the server simultaneously is limited and is primarily recommended for servers that require limited access.
- Per Processor: Connect unlimited users/workstations to the server product.
- Per Mailbox: License for each mailbox using Exchange Server.

Select the License Option from the combo box.

If **Per Seat-Device** is selected, then the following details should be provided:

- Enter the required Number of CALs.
- Specify the License Keys in the given text field. Say XBVJD, YCCYR, 7DF28, JH2PX, MYT7M.
- If there is any additional information required, then the same can be specified under Additional Information block.
- You can select the workstations that can access the software from Choose CAL Installation block.

  Select the workstation by either choosing the client software from Filter by or from Departments drop down. You can also search for the workstation on entering the name in Search field and selecting Go button. The list of server/workstations is displayed. Select the workstations. Click >> button to move to CAL Installation box.

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Note: The number of workstations selected should be lesser than or equal to the specified number of CALs.

- Save the details. The license is listed in the software license list view page.

If **Per Server** is selected, then the following details should be provided:

- Specify the details similar as in Per-Device.
- Associate the specified number of CALs to the server selected from Associate to Server drop-down list.
- Save the details. The license gets listed on the software license list view page

If **Per-Processor** is selected, then the following details should be provided:

- Specify the Number of Processor (s) that supports the ability to connect unlimited users/workstations in the given field. Since unlimited users/workstations can connect to the server software product the CAL Installation block is not available.
- Specify the details as configured above.
- Save the details. The license is listed in software license list view page.

5. Named User License/Concurrent User License

- Select License Option as either Full Package Product (FPP) or Others from the drop down
- Specify no. of users allowed (for **Concurrent User License** only)
- Specify License Keys in the given text field. Say XBVJD, YCCYR, 7DF28, JH2PX, MYT7M.
- Save the details. The license is listed in the software license list view page.

6. Node Locked User License

- Select License Option as either Full Package Product (FPP) or Others from the drop down
- Specify workstation configurations Host ID and Operating System (OS)
- Specify License Keys in the given text field. Say XBVJD, YCCYR, 7DF28, JH2PX, MYT7M.
- Save the details. The license is listed in the software license list view page.

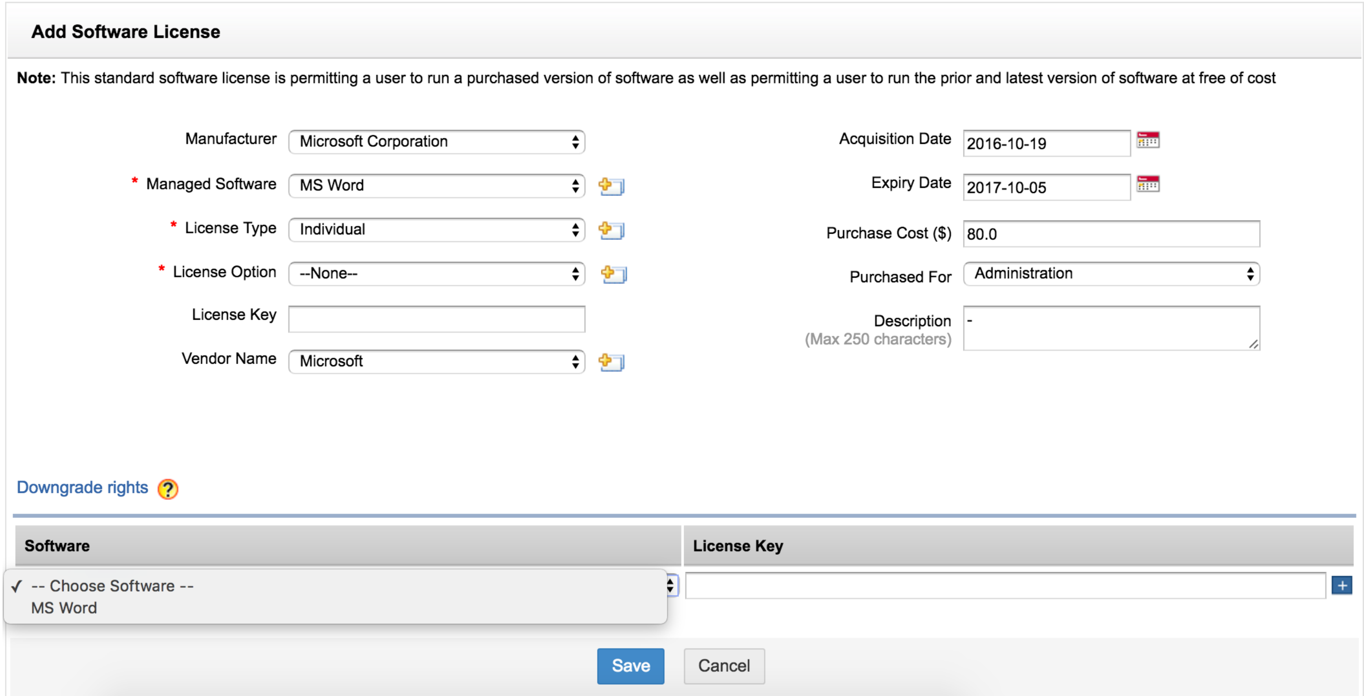
Downgrade Software License

You can also provide downgrade rights to a software license so that the same license can be used for licensing: prior versions of the software being added (or) other software(s) belonging to the same suite.

Follow the steps mentioned below to provide downgrade rights to a software license.

Note: Steps have been written assuming you've filled the software license form [see: creating software license to understand how a license form is filled] and are about to provide the license with downgrade rights.

Under **Downgrade Rights** section:



1. **Select Sotware** [prior version of the software being added (or) other software(s) belonging to the same manufacturer] from dropdown
2. Provide **License Key** and click **Add** button
3. **Save** the license

Note:

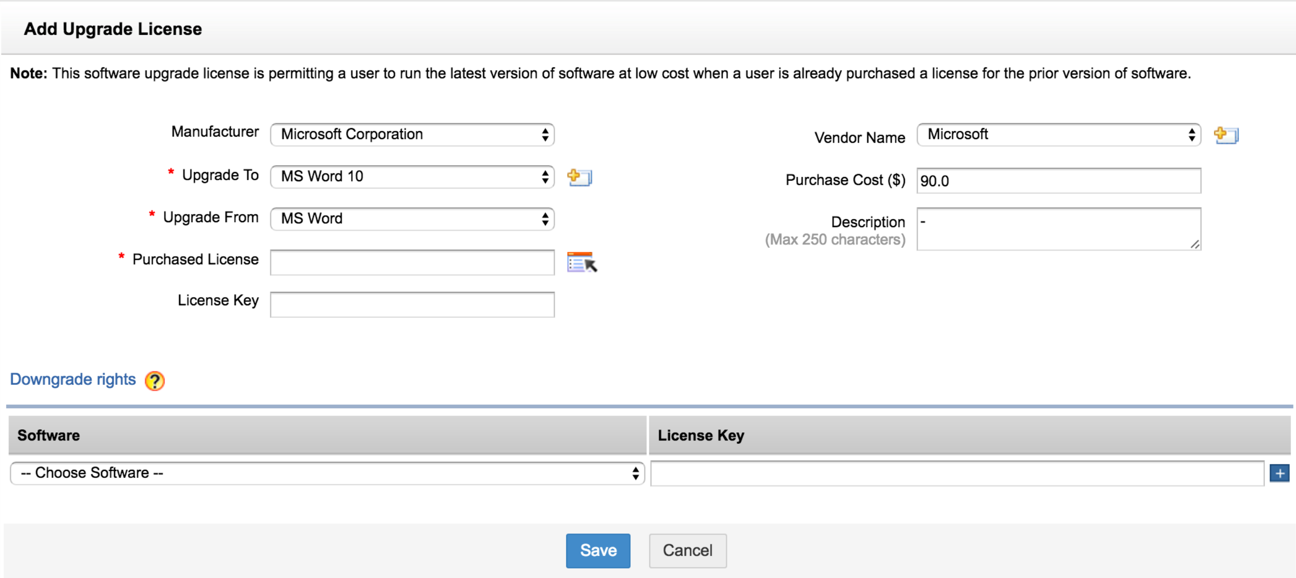
- Multiple software(s) (belonging to the same manufacturer) too can be bound by a single software license with downgrade rights
- Downgrade rights can be provided to software licenses not only when they are being added but also while editing them [see editing software license for more details]

Upgrade Software License

You can also update an existing software license so that it runs the latest version of the licensed software.

Follow the steps mentioned below to upgrade a software license.

1. Click **Add New** dropdown --> and select **Upgrade License** option
2. **Add Upgrade License** page opens up
3. **Select Software License** which is to be updated using **Upgrade From** dropdown
4. **Select Software License** using which the exisiting Software License will be updated from the **Upgrade To** dropdown
5. Upload the existing **purchased license** using upload purchased license icon.



6. Specify **License Key** and provide **Vendor Name**
7. Specify the **license purchase cost**
8. Provide **description** specifying reason behind license upgrade
9. Click **Save**

Note:
- Software license being upgraded will be converted into a downgrade license

View Software License

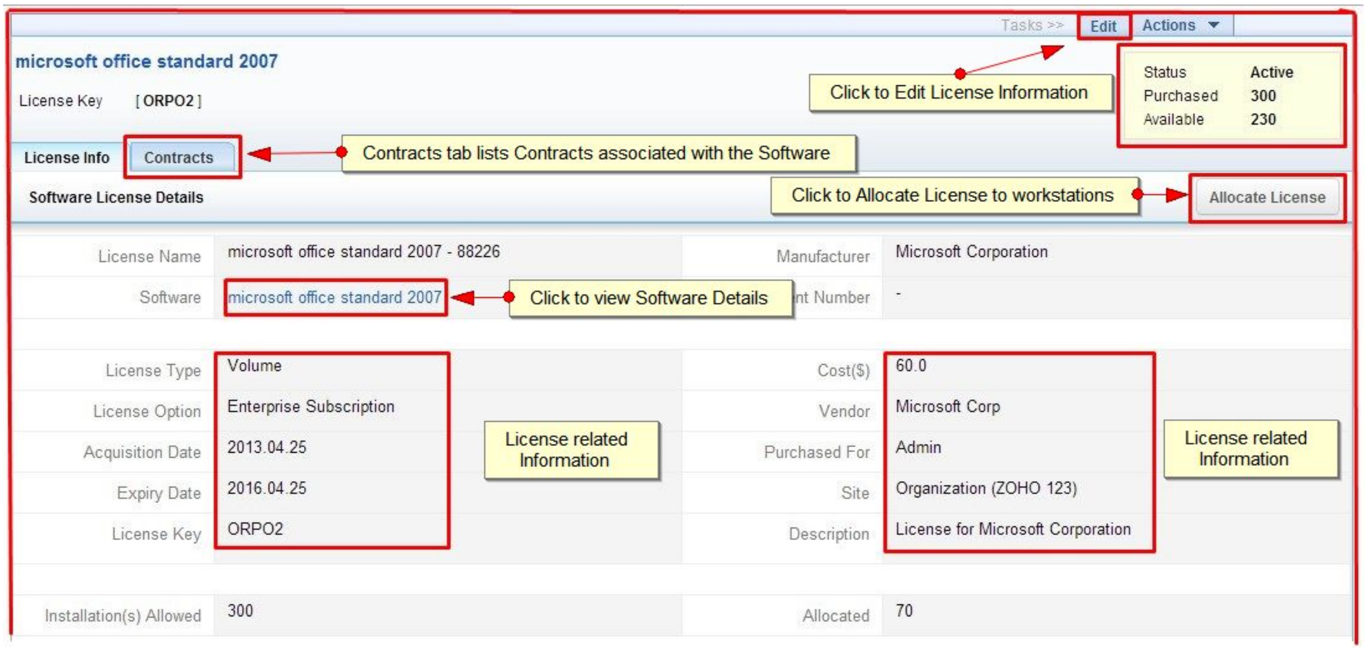
Software license details page (which opens when the respective **License** is clicked from **Software Licenses list view**) contains:

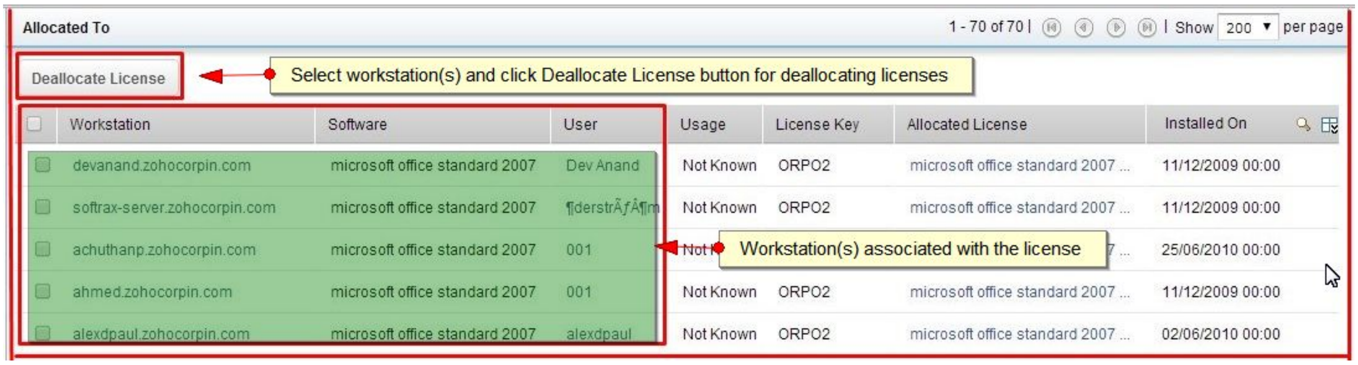
- **License related information** like license type, license key, license acquisition and expiry date
- **List of workstations** associated with the license
- **Allocate License** and **Deallocate License buttons** that let you allocate/deallocate licenses respectively [see allocating and dealllocating license]
- **Edit button** which lets you to edit the license related details [see editing licenses]
- **Actions dropdown** which let you attach license related documents [see attaching documents]

To view **software license** details,

1. Select **Software License** (**example:** license for Microsoft Office Standard 2007 etc.,) from **Software Licenses list view** by clicking on it
2. Software Details page which opens up will contain **2 different tabs**: **License Info** (selected by default) and **Contracts**
   License Info: this tab displays all the license related info and various actions like **license allocation/deallocation**, **editing license related details** and **attaching license-related documents** can be performed here
   Contracts: this tab displays contracts associated with the software. These are contracts added using Contracts tab. [see ~~**adding contracts for more details**~~]

Software License Details Page





Allocating Software License

In case there are any **unlicensed installations** (workstations) available, the same can be licensed from the **software license details page** itself by doing the following:

1. Click **Allocate License** button available at the right hand side of the **Software License Details** page [see **image** above]
2. **Allocate licenses to unlicensed installations** popup opens up listing all the unlicensed workstations
3. **Select workstations** and click **Allocate License** button
4. License will be allocated to the workstations

Deallocating Software License

You can also deallocate license associated with workstatons by doing the following:

1. **Select workstations** from the **list of licensed workstations** (available at the bottom of the page)
2. Click **Deallocate License** button
3. Okay the **warning message**
4. **License will be removed** from the selected workstations

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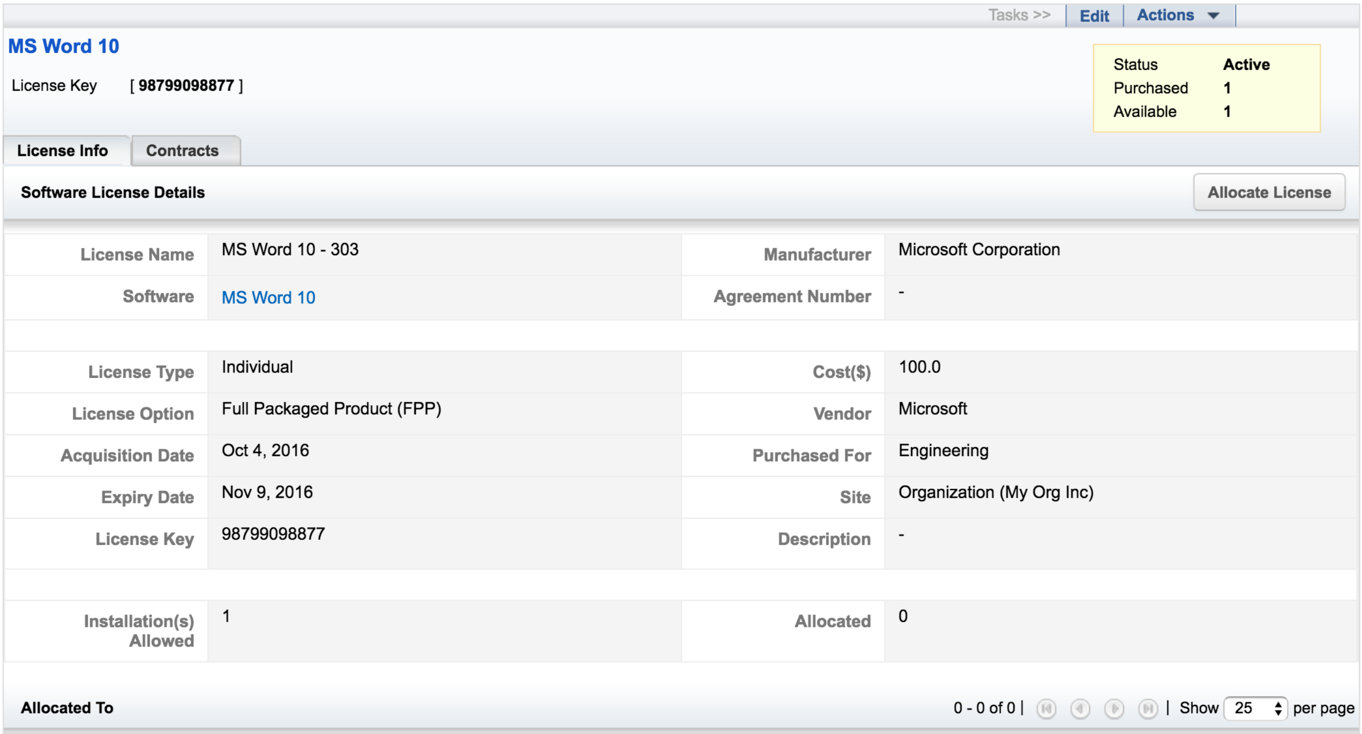
Edit Software License

1. Select **Software License** from **Software Licenses list view** page
2. Click **Edit** button (available besides **Actions dropdown** at the **top right corner** of license details page)
3. **Modify license details** as per your requirements
4. Click **Save** button



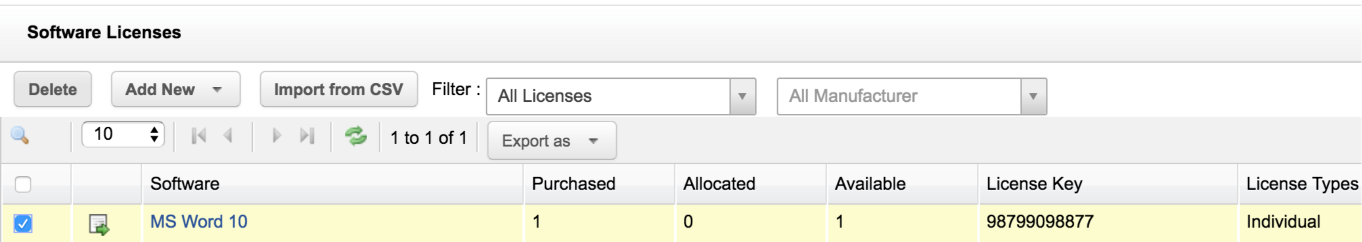
Note:

- **Software License** can also be accessed from the respective **software details page** (by clicking **license tab** --> and selecting the **respective license**)

Delete Software License

1. Select **Software License** from **Software Licenses list view** page

Click **Delete** button (available at the **top** of **Software Licenses** list view page)



Note:

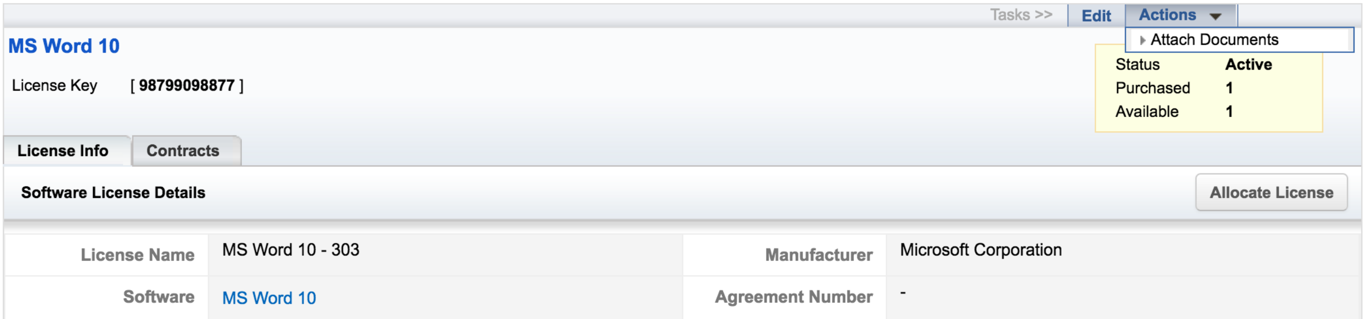
- Make sure the license you are about to delete is no longer associated with any workstation because license(s) in use can be deleted only after they are dissociated from the respective workstations.

Attach Documents

To attach software license related documents,

1. Select the respective **Software License**
2. **Software License Details page** will be displayed
3. Click Actions dropdown (available close to **Edit** button at the **top right corner)**
4. Select **Attach Documents** option
5. Select **Attachment** and click **Attach file** button
6. The attachment will get uploaded and will be available under **Attached Documents** section (available below the **licensed list of workstations**)

Note: The maximum size of the attached file can be **10 MB**.



Service Packs

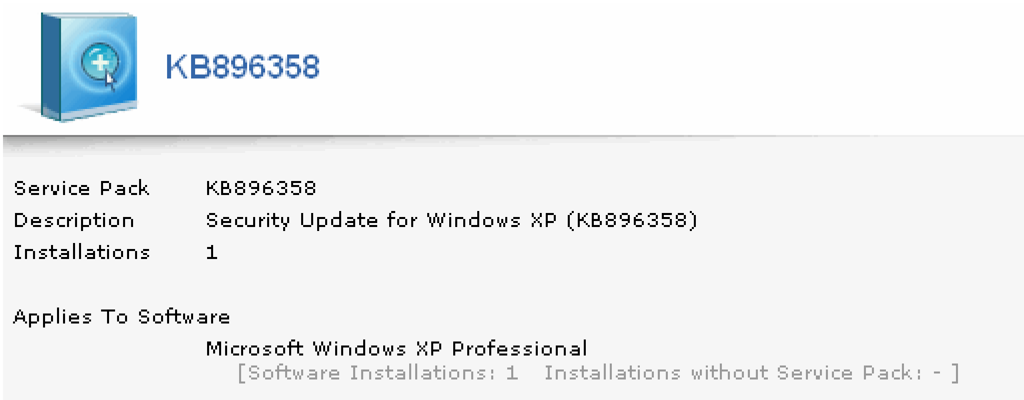
ServiceDesk Plus helps in tracking all the service packs such as, hotfix, security update, installer etc on scanning the workstations.

To view the Service Pack details,

1. Click the Assets tab in the header pane. This opens the assets home page.
2. Click Software title under Assets block. Click Service Packs link. This opens the service packs list view page.
3. Click the service pack name to view the service pack details. This opens the service pack details page.

In the service pack details page, you get the complete details about the service pack with number of installations and installation without service packs. It also provides information on the number of software the service pack applies to.

Example: If the service pack Security Update for Windows XP is applicable for Microsoft Windows XP Professional and Microsoft Windows 2000 Professional then this software list would be displayed before the service pack installations list.



Service Pack Installations

Under this block you get the list of all service pack installations with the Workstation name, User name, Installed On and Installed By details.

Software Installations without Service Packs

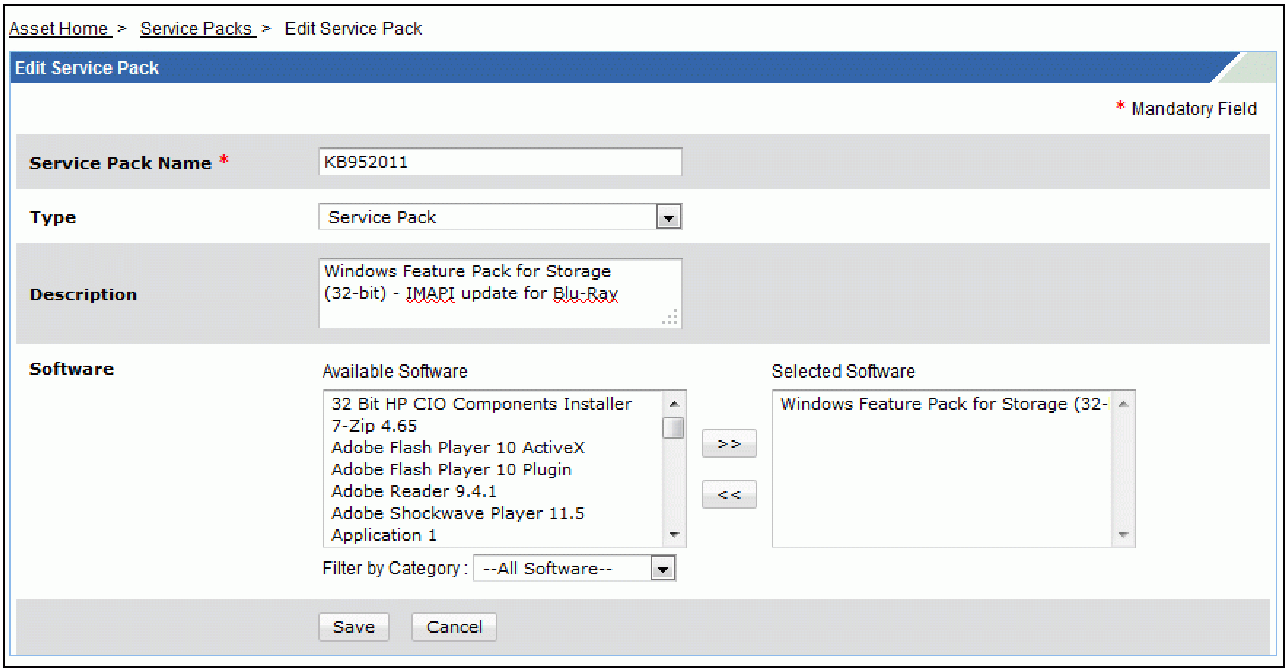
Under this block you get the list of all software installations without the service packs with the Workstation name, User name, Software and Usage details.

Edit and Delete Service Packs

ServiceDesk Plus gives you an option to modify and delete the existing Service Packs.

Edit Service Packs

1. Click Software title -> Service Packs link under Assets block. The service pack list view page opens.
2. Select the Service Pack name to be edited from the list.
3. From the Service Pack details page, click the Edit button. This opens the Edit Service Pack page.



Modify the Service Pack Name, Type and Description of the service pack. Also, you can add software or service packs to the existing service pack list. To add to the list, select from the available list of software and move to the selected software using >> buttons.

6. Save the changes.

Delete Service Packs

1. Click Software title -> Service Packs link under Assets block. The service pack list view page opens.
2. Enable the check box beside the Service Packs to be deleted from the list.
3. Click Delete button. A confirmation message appears.
4. Click OK to continue. The Service Pack is deleted from the list.

Change Software Category

Using this option, you can change the existing category of the software. Say, from Graphics software to Multimedia software so on.

1. Click the Software -> Scanned Software under **Assets** block. All the scanned software is listed.
2. Enable the check box beside the software to change the software category.
3. Click **Actions drop-down menu** and select Change Category option. The Change Software Category to dialog box pops up.
4. Select the software category from the list, say Accounting, Development.
5. Save the changes. The category for the selected software is changed.

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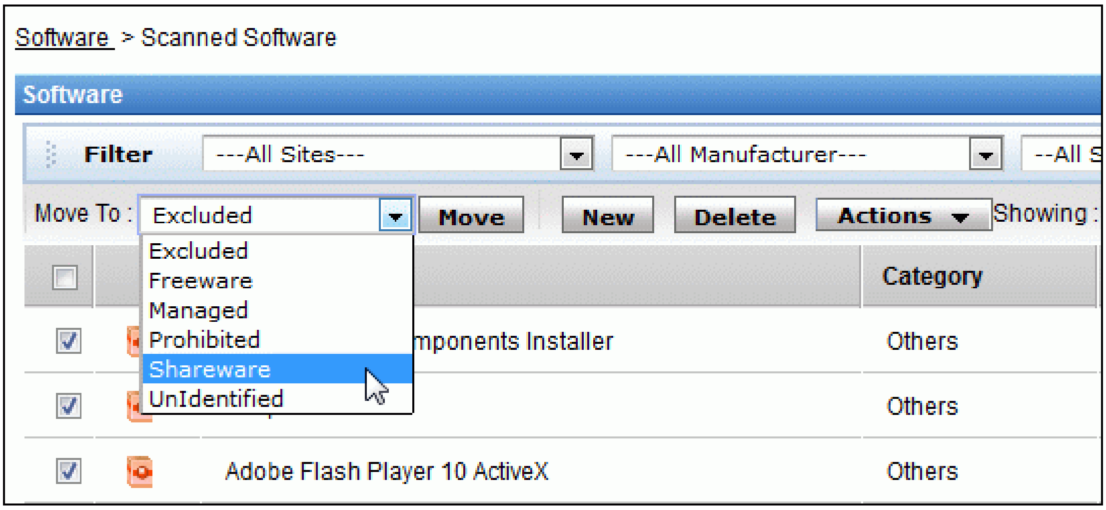
Change Software Type

Using this option, you can change the existing type of the software, say, from Shareware to Managed. You can change the software type either from the software list view page or from the software details page.

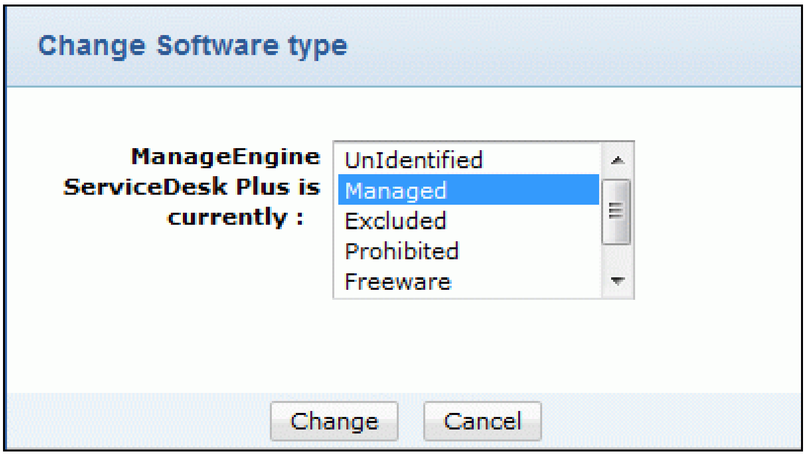
Change Software Type from Software List View
From the software list view page, you can change the software type for bulk software instantly and with ease.

1. Select Software -> Scanned Software link from the **Assets** block. All the scanned software is listed.
2. Enable the check box beside the software to change the software type.
3. Choose the Software Type from the drop down and click Move button. The software type for the selected software is changed.



Change Software Type from the Software Details page
Change the software type for individual software using this option,

1. From the Software list view page, select the software name. The software details page opens.
2. Click the Actions tab -> Change software type option. The change software type window pops up.



3. Select any one of the listed software type. Say Managed.
4. Click Change button to change the software type. The software type changes to managed in the software details page.

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Move Software

Using this option you can move the current software category to a different one. Ex: If the current software type is Excluded then you can move the type to Managed.

To change Software Type,

1. Click the Assets tab in the header pane. This opens the Assets home page
2. Click Software title under **Assets** block. Click the Scanned Software link. This opens the software list view page.
3. Select the corresponding filter option from the Filter Viewing combo box. By default, the list of All Softwares will be listed.
4. Select the respective Move To software filter option from the combo box. Select the software to be moved from the list by enabling the checkbox.
5. Click Move button to move the selected software to the specified category.

[OR]

1. From the Software list view page, click the software name to change software type. This opens the Software details page.
2. Click the Actions tab and select Change Software type option from the list.
3. Select the Software type from the list and click Change button to change the software type.

Alternatively, you also have an option to change the software type by clicking the **Change** link in the Software details page.

Associate Software Minor Versions

ManageEngine ServiceDesk Plus allows you to group minor versions of the software under major version.

For e.g. a company buys AdobePhotoshop 7.0 with 4 licenses. The license is applicable for both 7.1 and 7.2 versions and vice versa. In this case 7.0 is the major version and 7.1 and 7.2 are the minor versions. The licenses purchased are the same for all the three versions.
If Adobephotoshop 7.0 is installed in two different machines and 7.1 & 7.2 is installed in other two different machines. On scanning for Adobe Photoshop software before grouping, the ServiceDesk Plus shows the list as different single entries. The purchased licenses for the software would be as' 4 ' for the version 7.0 and ' 0 ' purchases for other versions (7.1 & 7.2).

Using associate minor versions option you can group 7.1 & 7.2 minor versions under 7.0 major version. This shows the software list to be a single entry with the number of purchased licenses and installations. Thus helps you in avoiding individual entry for each version of the software. And also helps in easier management of the installed software for the asset manager.

1. Click the Assets tab in the header pane to open assets home page.
2. Click Software title under **Assets** block. Click Scanned Software link.
3. From the software list view page, click the software name to open the software details page.
4. Click the Actions tab -> select Associate Minor Versions option. The Associate minor versions page opens.
5. Select the managed software (licensed) to be grouped of minor versions from the list. Click >> button to move the selected managed software to the Version Group list. By moving the selected managed software under Version Group, all the minor versions will be associated with the major version.
6. Click Save button. You can see all the added minor versions getting displayed in the software details page under the title Software - All Versions.

Barcode: Purpose and Introduction

Consider a scenario when a new set of assets are purchased to a company. The asset details need to be updated in the ServiceDesk Plus application, which can be done through several ways such as manually adding the assets through add asset page, or through scanning/CSV import, or through API. All of which can be done only when the assets are established/installed/named in the environment. With the introduction of the Barcode feature you can now add the newly procured asset details to the ServiceDesk Plus application by scanning the vendor barcodes or by generating new barcodes and associating them with the assets so that one can track the assets right after they enter the environment.

Quick Links: Barcode Generation

- **Adding new assets using vendor's barcode(s).**
- **Adding new assets by generating own barcode(s).**
- **Barcode generation for existing assets.**

Additional information

- **Avoiding reconciliation during asset inventory.**
- **History**.
- **Label property, printer and browser configurations.**

Accessing the Barcode feature

The **Barcode** feature can be found in the left side column of the Assets module.
To access Barcode feature,

- Login to Servicedesk Plus.
- Click on the **Assets** module.
- Find **Barcode** in the left side column.

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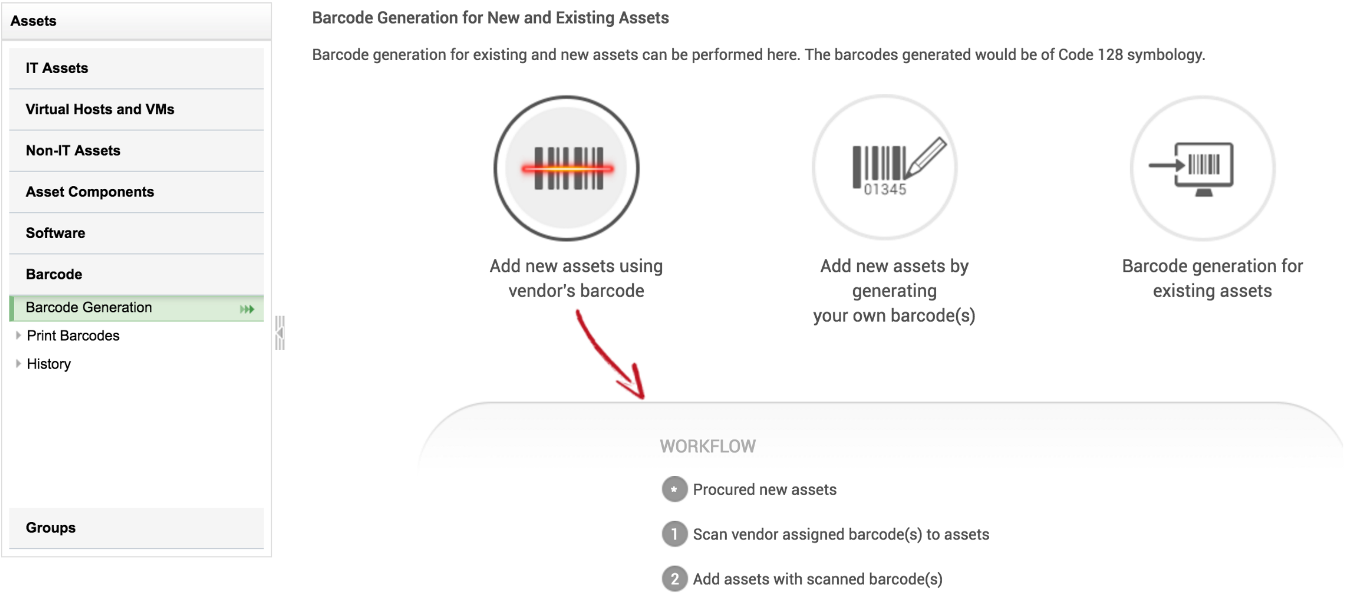

Assets
IT Assets
Virtual Hosts and VMs
Non-IT Assets
Asset Components
Software
Barcode
Barcode Generation
Print Barcodes
History
Groups
Barcode Generation for New and Existing Assets
Barcode generation for existing and new assets can be performed here. The barcodes generated would be of Code 128 symbology.
01345
Add new assets using vendor's barcode
Add new assets by generating your own barcode(s)
Barcode generation for existing assets
WORKFLOW
Procured new assets
1 Scan vendor assigned barcode(s) to assets
2 Add assets with scanned barcode(s)

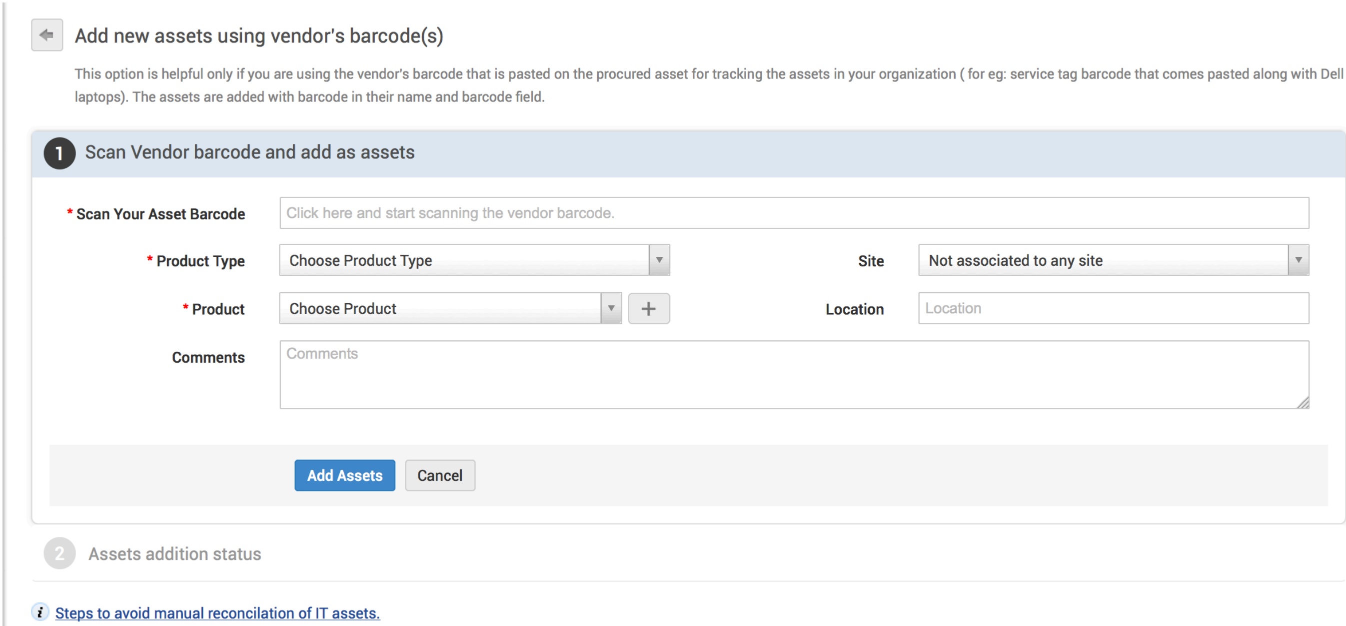
Barcode Main Page

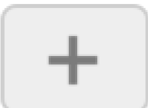
Adding new assets by using the Vendor's Barcode(s)

Various Assets such as workstations, routers, printers etc can be added to the ServiceDesk Plus by scanning the vendor's barcode(s) that come along with the assets.
For eg, You can add assets by scanning the Service Tag barcodes that come along with dell laptops.

To add assets by scanning the Vendor's barcode,

- Click on the **barcode generation** under the **Barcode**.
- Click on  ["Add new assets using vendor's barcode"] icon. It will take you to a new page.



- Click inside the "**Scan Your Asset Barcode**" field and start scanning your asset's vendor barcodes.
- The Barcodes of the scanned assets will be listed.
- Choose a Product Type and the Product.
- Click on the  icon to add new Product.
- Select Site to associate the scanned assets.
- Enter the Location of the asset.
- Type in the comments and click "**Add Assets**".

Note	• The scanned barcode will be saved as the asset's name.

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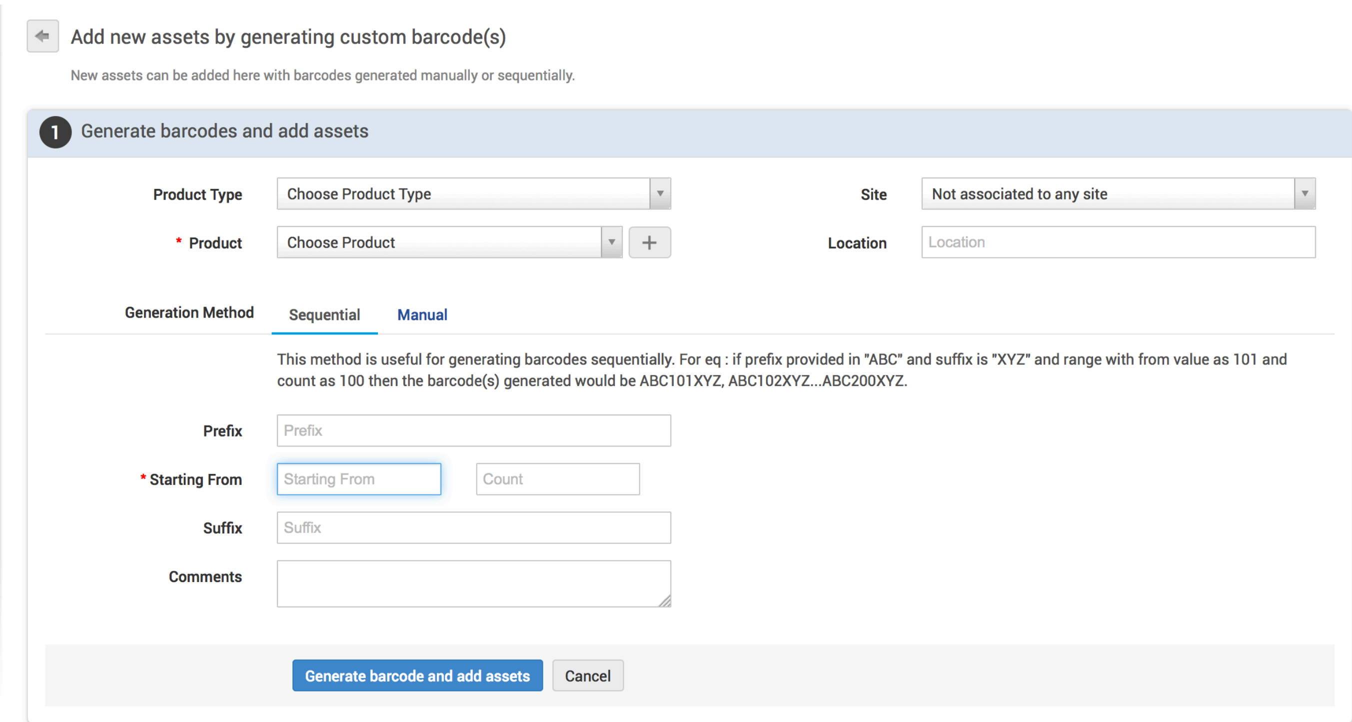
Adding new assets by generating your own barcode(s).

Assets can be added by generating custom barcodes as well. Use this to generate your own barcodes(s) for the assets you are adding.

To add assets by generating your own barcode(s),

- Click on **Barcode Generation** under the **Barcode**.
- Click on 

["Add new assets by generating your own barcode"] icon. It will take you to a new page.



- Select the Product type and the Product.
- Click on the  icon to add new Product.
- Select the Site to be associated with the asset.
- Enter the Location.

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- Choose a Barcode Generation Method.

Barcode Generation Methods

The barcodes can be generated either **Sequentially** or **Manually**.

Sequential Method

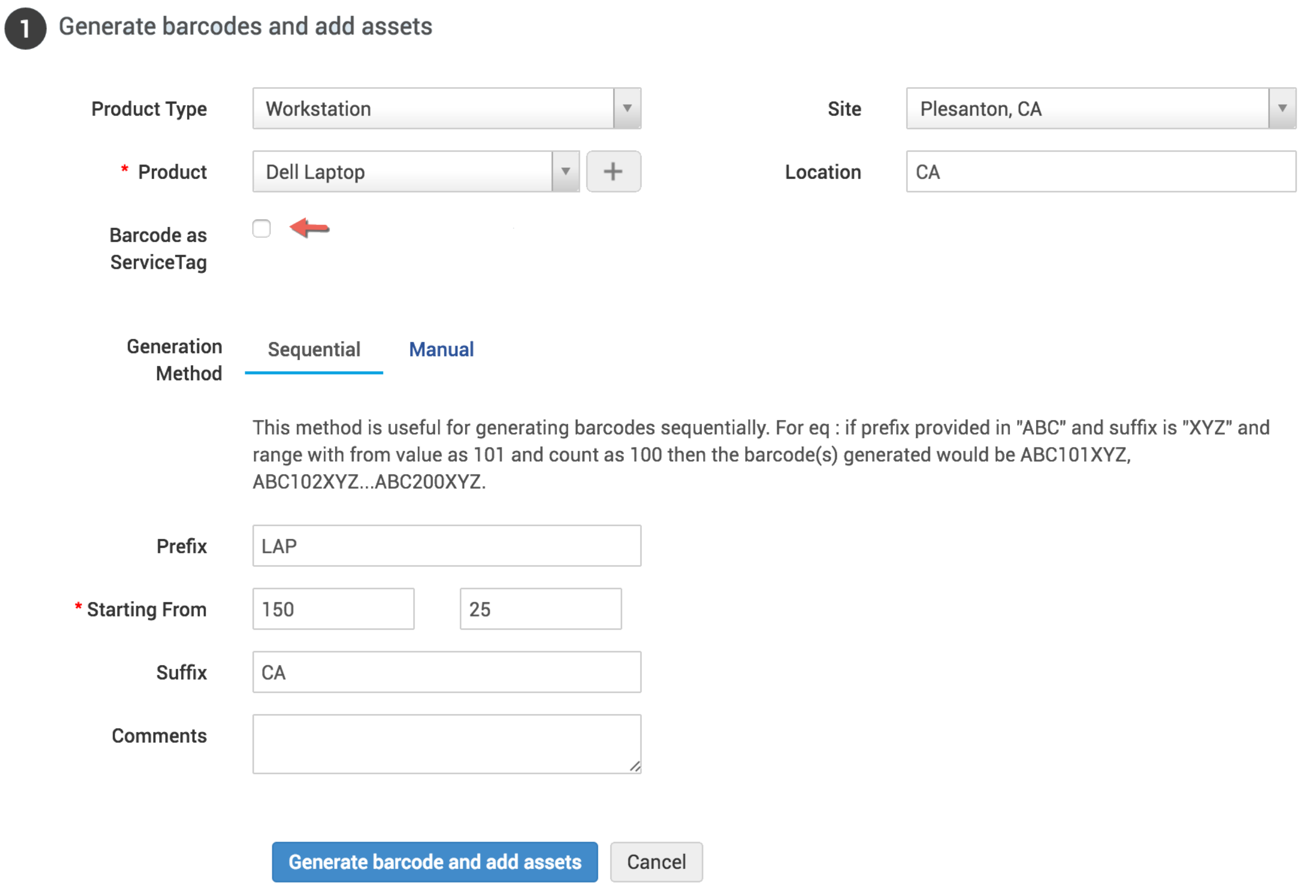
Select the Sequential Method to generate barcodes sequentially by giving a "Starting From" value and the assets count.
For eg, Say if you have 25 new Laptops and need barcodes from the number 150, then enter the "Starting From" value as **150** and the count as **25.** Enter the Prefix and Suffix to be added with the barcode for eg. Prefix as LAP and Suffix as CA. The generated Barcode will be as follows LAP150CA, LAP151CA..LAP174CA.

Note	• The count will be automatically incremented based on the product type selected. **For eg**, if you have added 25 workstations from the count 1, the next time you add workstation the count will start from 26.

To generate barcode sequentially,

- Select **Sequential** in the Barcode generation method.

- Add Product Type and Product. Click on  icon to add product details.
- Enter the "Prefix" and "Suffix".
- Enter the "Starting From" value and the assets count.

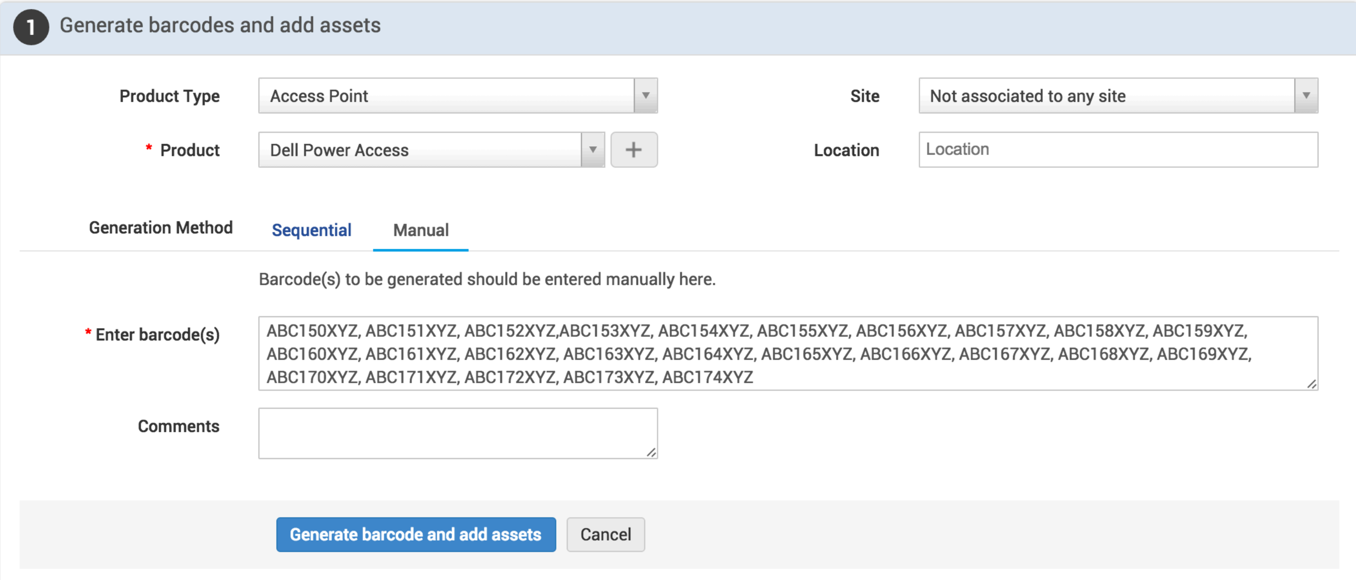


Note	• Select the "**Barcode as Service Tag**" check box to populate the generated barcode value in the service tag field as well.

Manual Method

To generate barcodes manually,

- Select **Manual** in the Barcode generation method.
- Enter the Barcodes manually (Use commas to seperate the barcodes).



- Enter comments if needed and click **Generate barcodes and add assets**.
- Barcodes will be generated and the Assets will be added successfully.

Note	• To know more about configuring Label Property, Printer and Browser settings Click Here.

Barcode Generation for existing Assets.

This option can be used to generate barcodes for existing assets.

Usage Tip: Before generating the barcode for existing assets, make sure the assets do not have any values assigned to them in the barcode field.
To generate Barcode for existing assets,

- Click on **Barcode generation** under the **Barcode**.
- Click on  [Barcode generation for existing assets] icon. You will be taken to a new page.
- Select the Product type and the site associated to those assets.
- Select the Generation method (Sequential/Using Asset Data).

Sequential Method

Use this method to generate barcodes sequentially by giving a "Starting From" value and the assets count.
For eg, Say if you have 25 new Laptops and need barcodes from the number 150, Enter the Starting From value as **150** and the count as **25.** Enter the Prefix and Suffix to be added with the barcode for eg. Prefix as LAP and Suffix as CA. The generated Barcode will be as follows LAP150CA, LAP151CA..LAP174CA.

Note	• The count will be automatically incremented based on the product type selected. **For eg**, if you have added 25 workstations from the count 1, the next time you add workstation the count will start from 26.

- Enter the "Prefix", "Suffix" and the "Starting From" value and the count of the assets.
- Enter comments if any and click on **Generate barcodes and associate to assets**.

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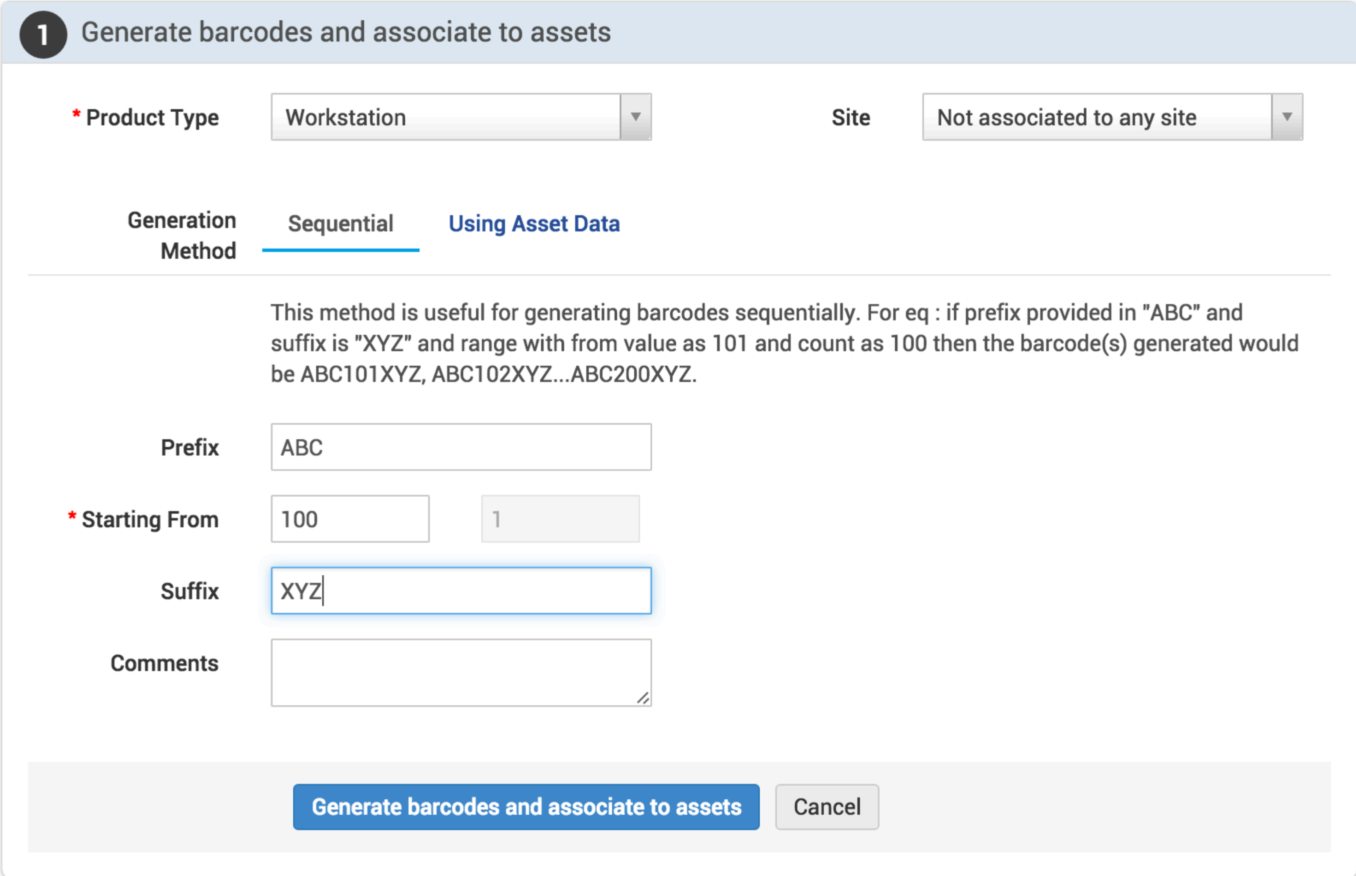
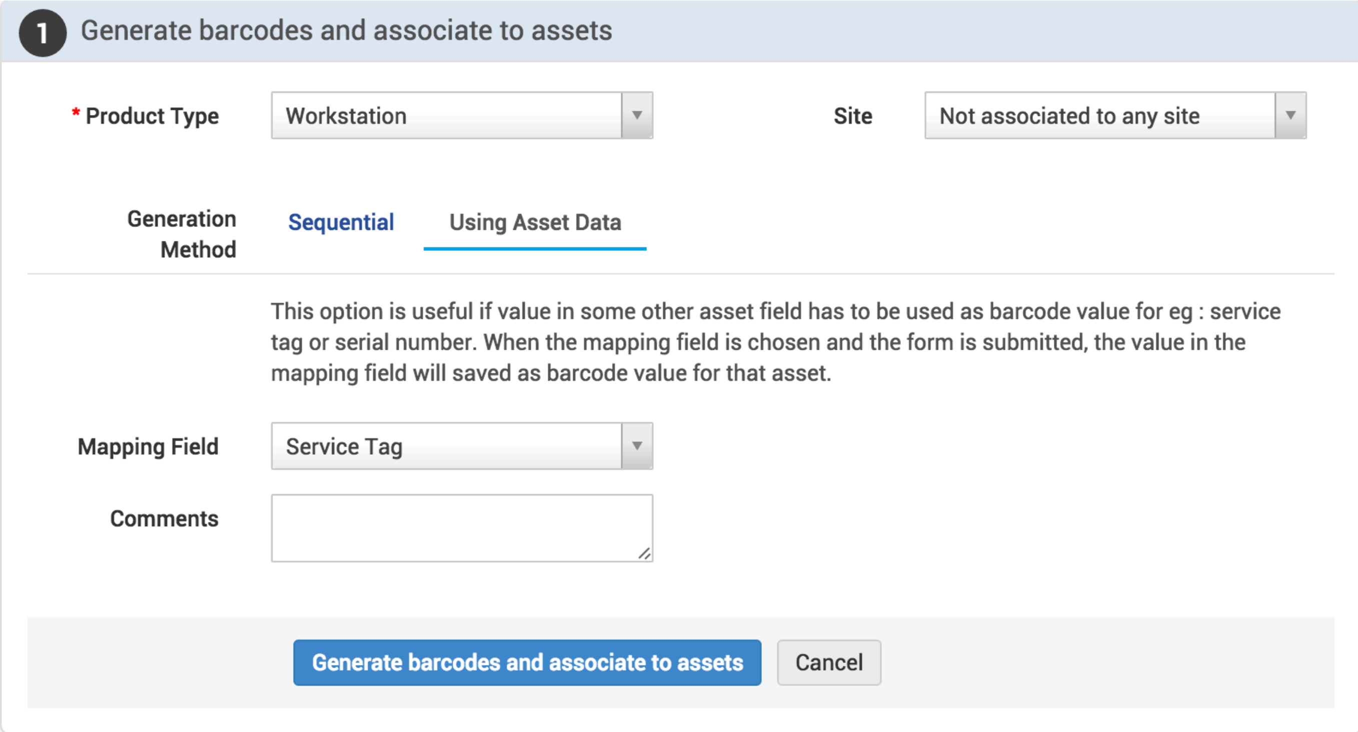
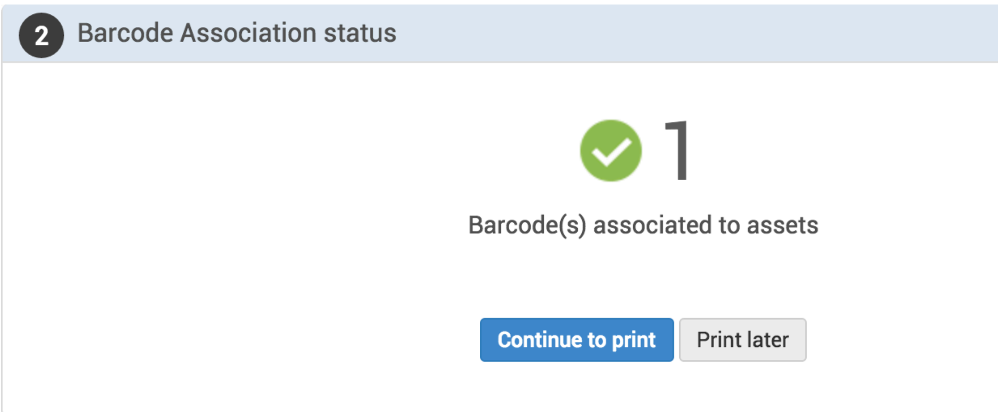


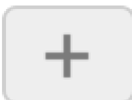
Generating Barcode Using Asset Data

Use this method when you are using the Service tag/Serial number as the barcode value.

- Select the Mapping Field and choose value such as service tag, asset tag, service number etc.
- The selected Mapping Field value will be saved as the barcode for that asset.
- Enter Comments if any and click on **Generate barcodes and associate to assets**.





- Once the barcodes are generated and the associated to the assets, Click on Continue to print.
- Select an existing label property or add a new one by clicking on the  icon.
- Click on **Print.**
- **Download** the Mapping document which maps the barcodes with the assets.

Asset	Barcode	Location		Owner		Contact	
martin-0345	LAP0045NY	-	New York	-	Chris Martin	-	7568

Note	• Use **Print later** to print the barcodes later. You can find the unprinted barcodes under the **Unprinted Barcodes** section in the **Print barcodes menu.** • Use **Test Print** to print the first row of the barcode label.

Avoiding Reconciliation during asset inventory.

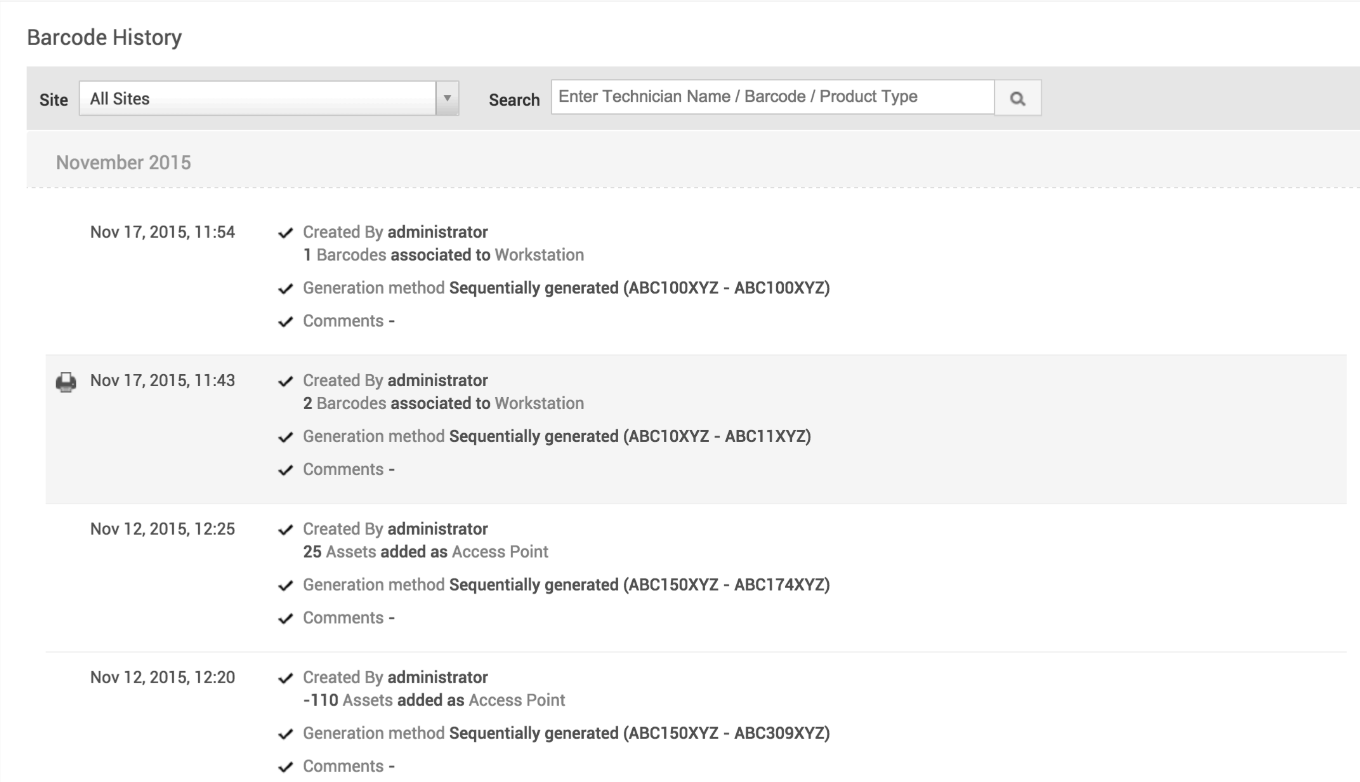
The IT assets added with (scanned/generated) barcode(s) have barcode(s) as their name. These assets are given a new name while they are put into use in the network. When these assets are scanned for inventory, they are detected by their new names and added resulting in duplication of assets. These assets have to reconciled from the list view later. Please follow the below steps to avoid such manual reconciliations.

- Before putting a device to use, search for the device in AE/SDP.
- From the details page of that asset, click on "**Edit**".
- Edit the name field from barcode value to DNS name (for eg: from LAP000101 to mark.abc.com).
- Then scan the device for inventory. Now the name obtained through scan and the device in AE/SDP would match avoiding any reconciliation.

History

History option lets you to view the barcode generation history for the assets. The barcodes can be searched by using the filters such as Sites, barcodes, technician name and the product type.
To access the History,

- Click on History under **Barcode**.



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Print Barcodes

This option can be used to just print barcodes. Both manual and sequential methods can be used to generate barcodes. Use this to print barcodes that are aleady existing but are worn out or faded. Unprinted barcodes can also be found here and printed.
To use this options,

- Click on **Print Barcodes** under the **Barcode** Menu.
- Select the method for barcode generation(Manual/Sequential).
- Select a label property or add a new one.
- Click on **Print**.
- Click on **Unprinted Barcodes** to find Unprinted barcodes (Barcodes which were saved as "**Print later**" can be found here).

Note	• To know more about configuring Label Property, Printer and Browser settings Click Here.

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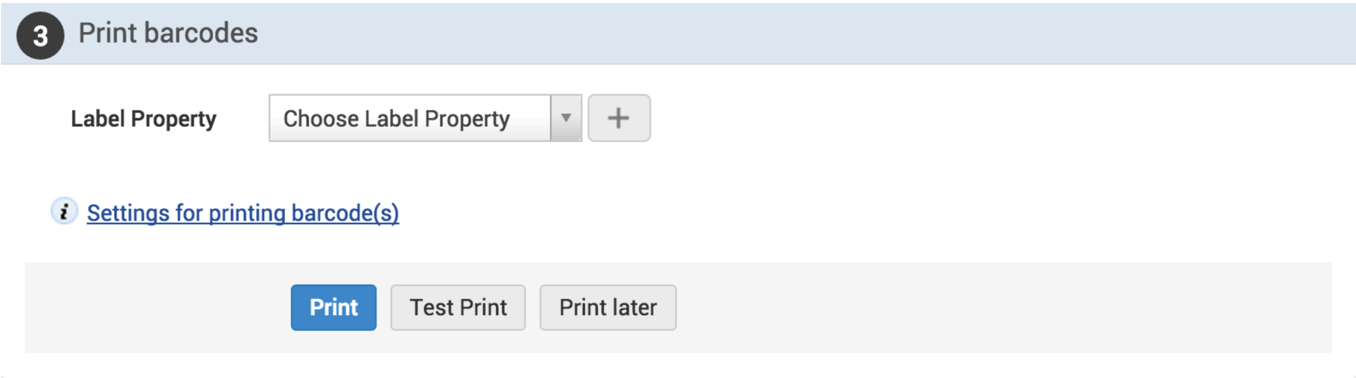
Label Property Settings and Browser Configurations.

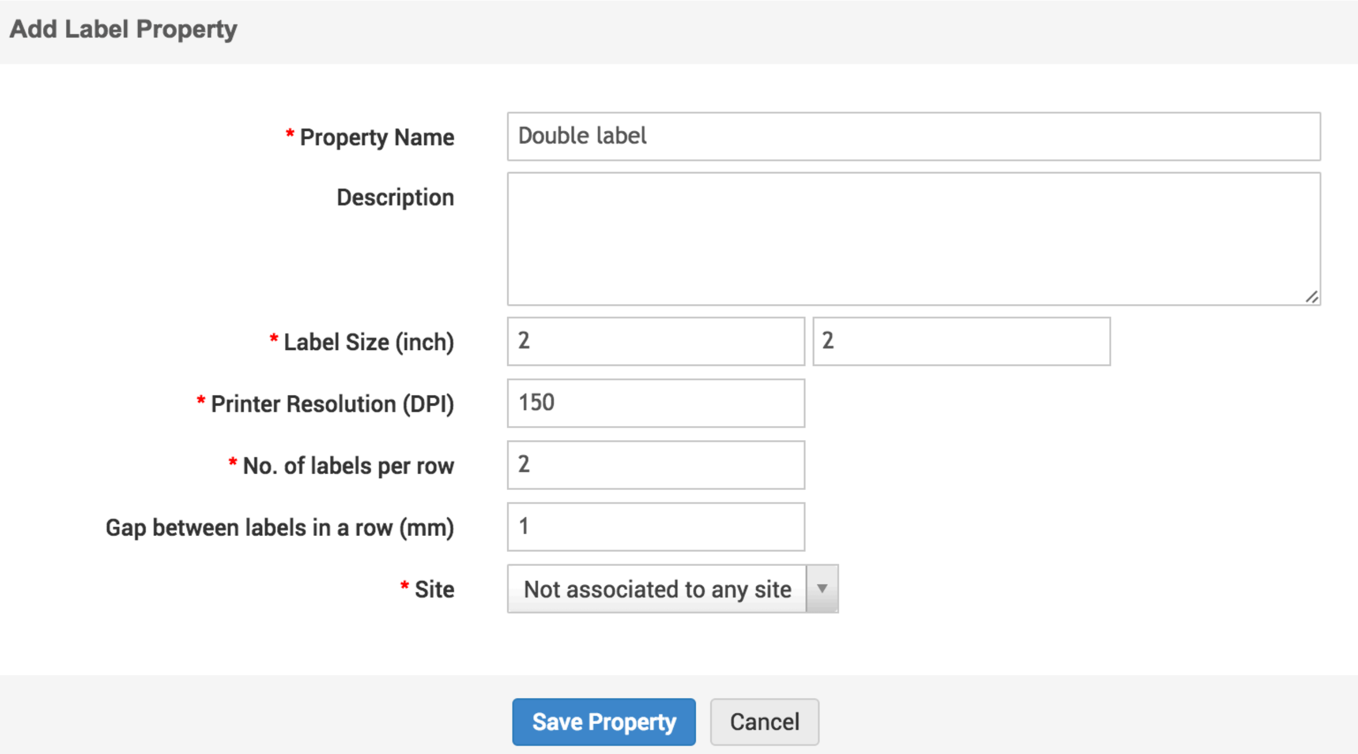
Contents

- Configuring Label Property.
- Printer and Browser Configuration.

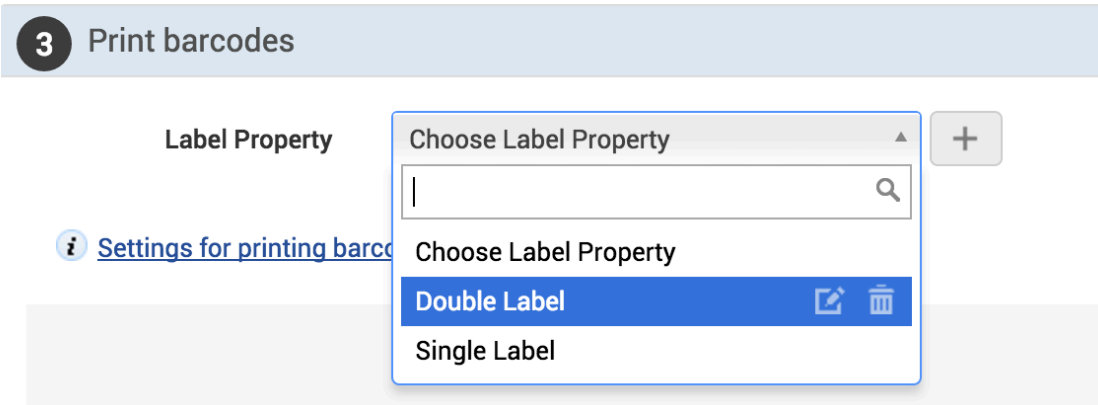
Choosing/Configuring Label Property for the barcode printing.



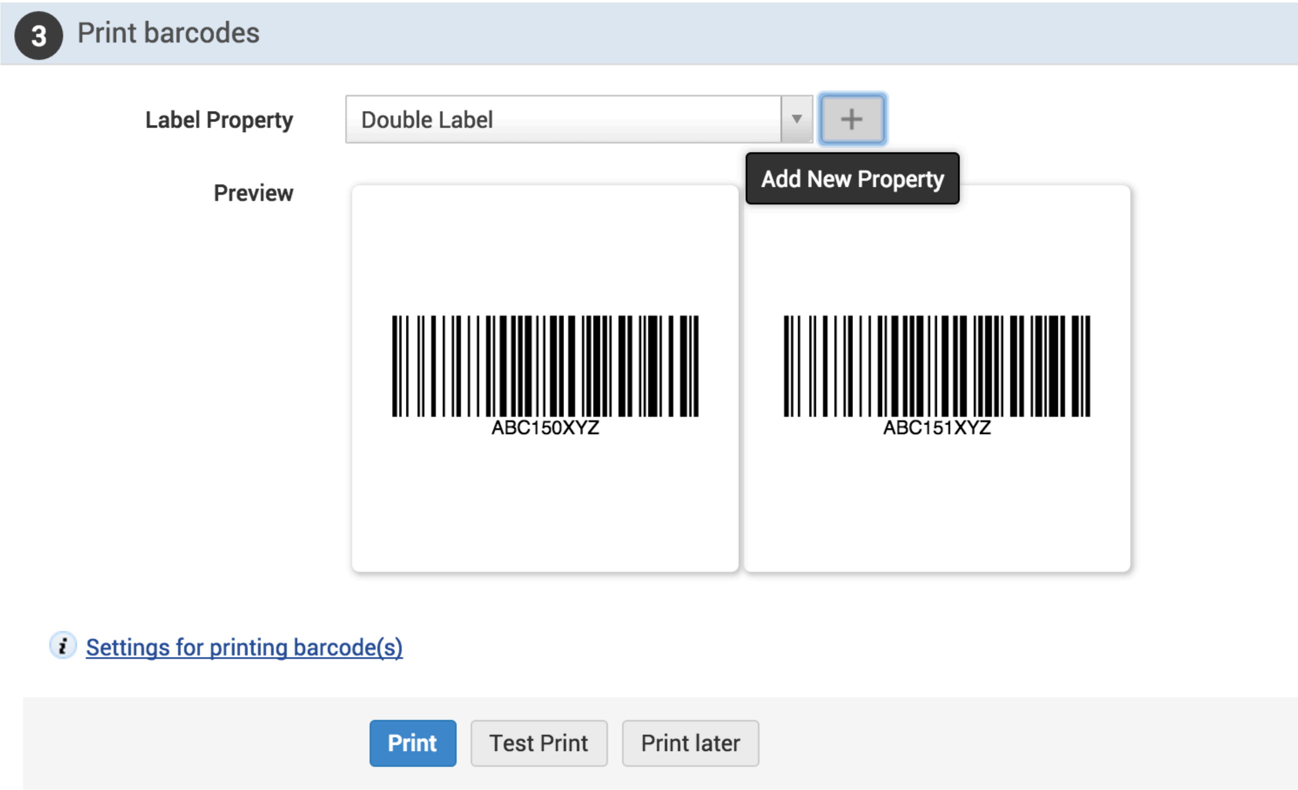
- Click on + icon to add label property.
- Enter the Label Property details in the new window.
- Enter Property Name, Description, the Label Size in inch, Printer Resolution, No of labels per row and the gap between Labels(mm).
- Select **Site** to associate the property.



- Click on **Save Property**.
- Select the label property you just added.



- The label preview will be displayed.



Note	• Due to some third party browser restrictions and for better clarity in the printed labels, it is recommended to limit the characters in the barcode to 8-10 while printing on an 1 inch label. • The label property is site specific and can be accessed by technicians only from that site. • Please note that only Code 128 symbology is supported.

Printer Settings and Browser configurations for Barcode Generation

Browser Settings:

Step 1: Navigate to File menu --> Page setup --> Margins and Headers/Footers.

Step 2: Change the Top, Left, Right and the Bottom Margins to 0.0.

Step 3: Change all the Headers and Footers to "--blank--".

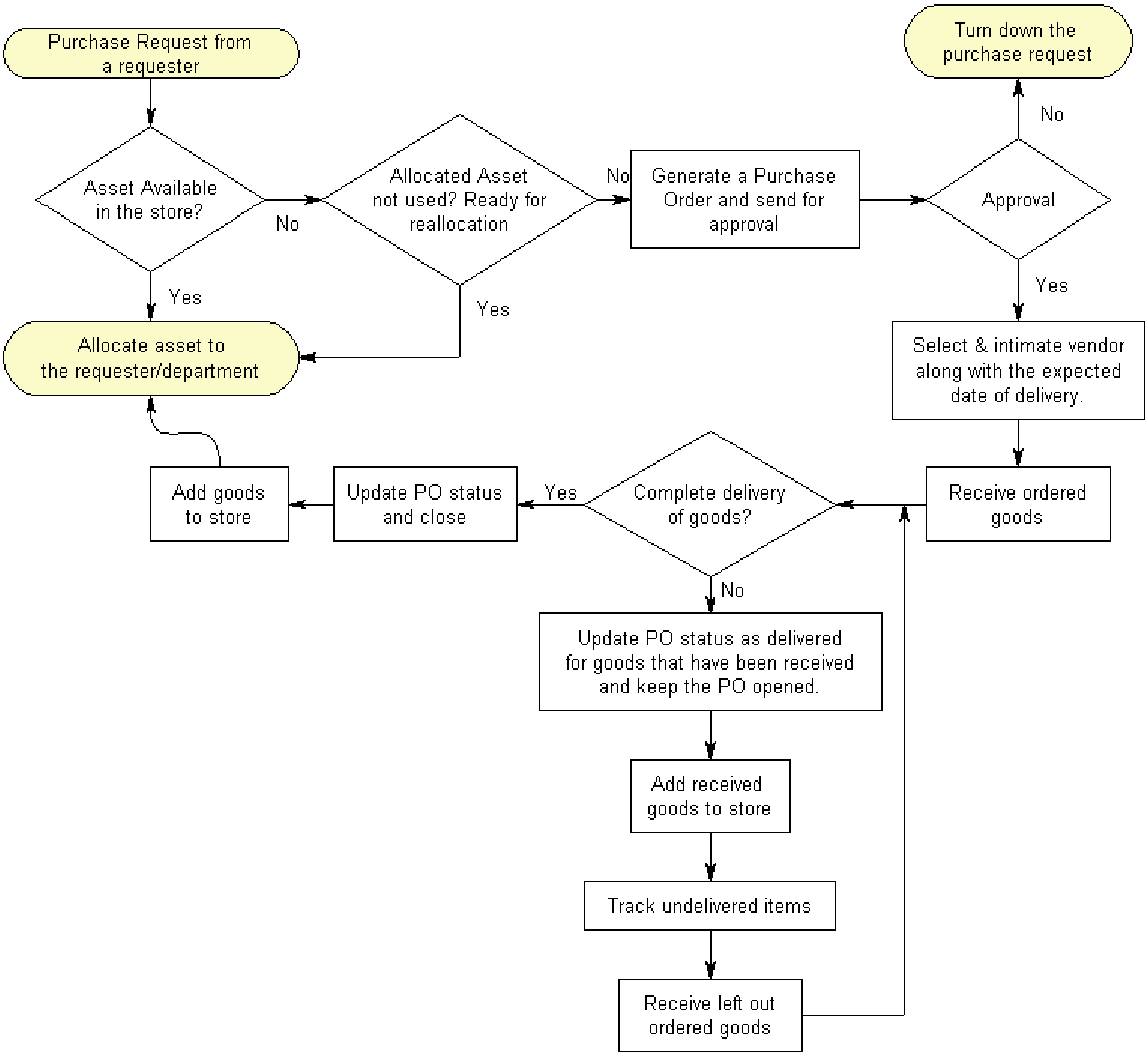
Printer Settings:

Step 1:Navigate to Control Panel --> Hardware and Sound --> Devices and Printers --> Right click on barcode label printer --> Printing preferences --> Set height as label height.

Step 2:Navigate to Control Panel --> Hardware and Sound --> Devices and Printers --> Right click on barcode label printer --> Printer properties --> Printer Settings --> Choose Always use drivers settings under Override Application Default Settings section.

Purchase

The Purchase module streamlines the procurement of required components and allows you to add them as unassigned assets. The Purchase module is tightly integrated with the Inventory. You can configure the vendor-related information and the products supplied by those vendors and their price quotes in ServiceDesk Plus. This information helps in making the choice of vendors while generating the Purchase Order (PO) by comparing the pricing of each vendor. The purchase process starts with a purchase request and is completed when the requested component or item has been purchased and reaches the requester of the purchase request. Below is the workflow that details the various steps involved in a purchase process.



To reach the purchase module, log in to the ServiceDesk Plus application using your user name and password and click the **Purchase** tab in the header pane.

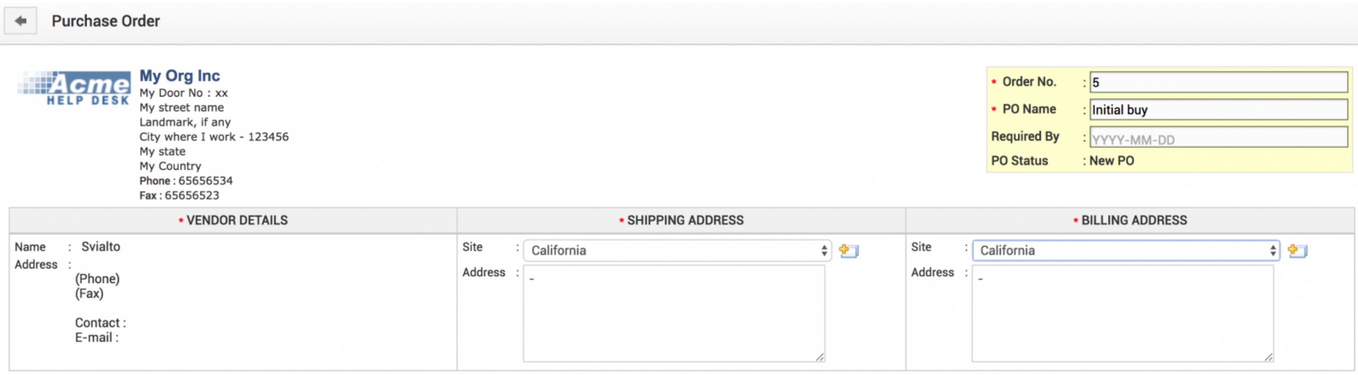
Create New Purchase Order

- Go to **Purchase** and click **New Purchase Order**

OR

- Go to **Quick Actions**>>Create New>>**Purchase Order**.
- Fill out the purchase order and vendor details as displayed in the screen capture below.

You can select a vendor from the drop-down or use  icon to add a new vendor.



- Select the purchase item category as Assets, Services, or Others [category items].
- In the **Assets** category, select the product type before you select the item. When you select the product type, all products (of the selected product type) associated to the selected vendor will be listed in the drop-down from which you can select one. You can also create a new product using **Create new Product button.**
- You can directly select a service from the drop-down (services associated to the selected vendor will be listed) or create a new one using the **Create new Service** button.
- When you select an item in Assets or Services category, the item's attributes such as Part No., Price, and Tax Rate will be displayed in editable fields
- For other category items, you have to type the item and fill out its attribute values.
- Specify the item quantity.

Note that you can enter a decimal quantity for services and other category items, but not for assets.

- Amount and Total will be generated for the items' price, tax rate, and quantity that you entered.

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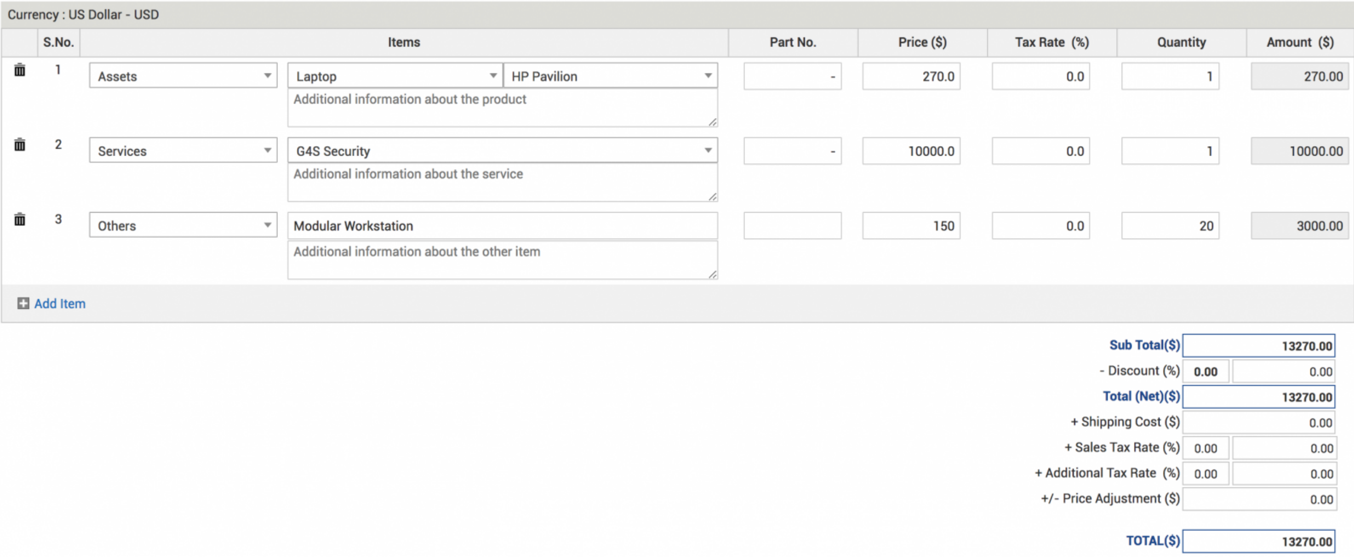


- **Exchange Rate** will be specified when the vendor's currency is not the base currency.
- In the general information block, select the **Cost Center** and the **GL Code**.
- Enter any extra information in **Remarks** and specify any terms for the PO in the respective field.
- Click icon, select approvers for the PO, and click **Add**.
- **Attach files, if any**.
- Specify the **company's Signing Authority and click** Save Purchase Order**.**

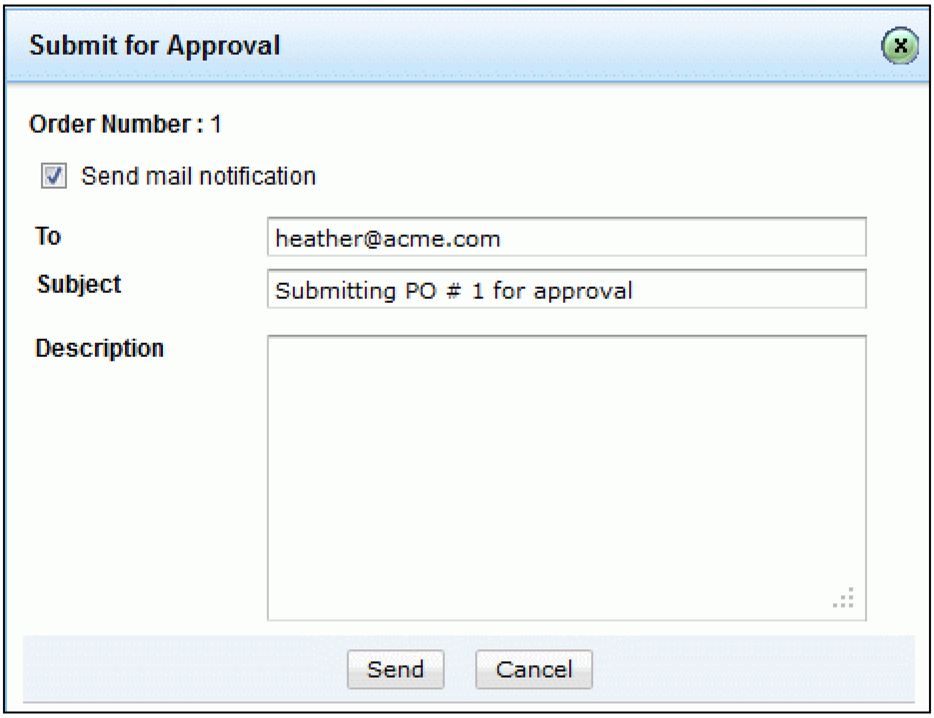
PO Approval Process

Once the Purchase Order is created, the PO should be submitted for Approval to the concern authority. The approval process is initiated by sending a request for approval to the concerned authority and depending on their decision the PO is approved or rejected.

- The technician/requester approving the purchase order should be assigned with the Purchase Order Approver role.
- While creating a purchase order the approver should be selected from the approver's list to send for approval.
- If the approver is not selected or if there are no approver in the list, a warning message appears while submitting the PO for approval.
- Once the request is submitted for approval the status of the PO changes to PO Pending Approval.

Submit PO for Approval

1. Click the **Purchase** tab in the header pane to open the PO List View page.
2. Select the Open POs to be submitted for approval using the Filter drop down. Click the PO name link.
3. From the PO details page, click Actions tab -> Submit for Approval option. The Submit for Approval dialog pops up.
4. Enable Send Mail Notification check box, if you wish to send a mail to the approver regarding the PO Approval.
5. The To field is pre populated with the email address of the approvers. If required, you can modify the subject content manually.
6. Type in the message text for mail notification in the Description field.
7. Click Send. The mail notification is sent to the user addressed in the To field of the notification.



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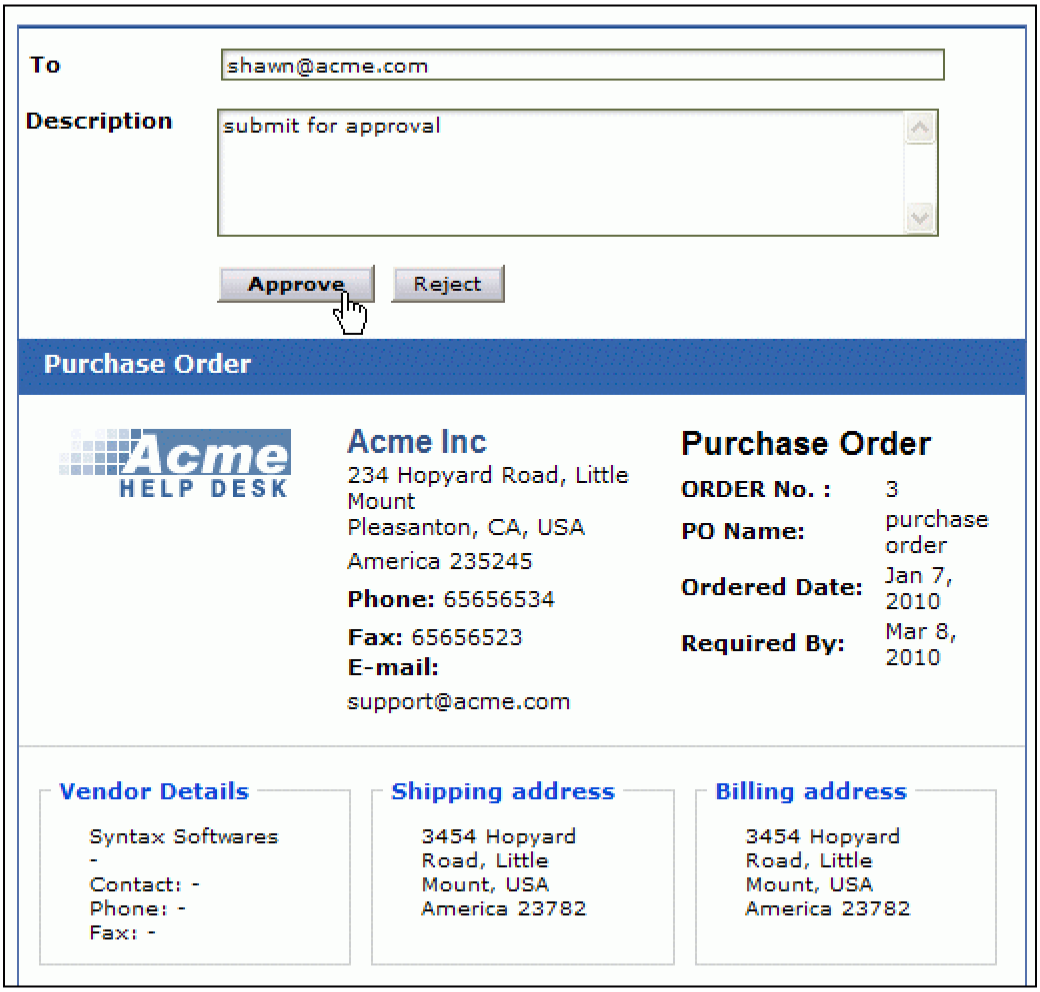
Approve / Reject PO

Once the PO is submitted for approval, a mail is sent to the user addressed in the To field. The email contains the link to the PO requiring approval. Clicking the link displays the PO awaiting approval. The user can also approve/reject the PO directly from the application.



Approve/Reject PO from the application

If you have the permission to approve/reject a Purchase Order,

1. Login to the ServiceDesk Plus application with your login credentials.
2. Click the Purchase tab in the header pane.
3. Select the POs Pending for Approval using the Filter drop down. Click the PO name link.
4. From the PO details page, click Actions tab -> Approve/Reject option. You can send an email notification to the PO owner regarding your decision.

The approved Purchase Order is grouped under the status Approved POs while all the rejected Purchase Orders is grouped under Rejected POs status. The Rejected POs can be deleted completely from the system or can be edited and sent for approval again.

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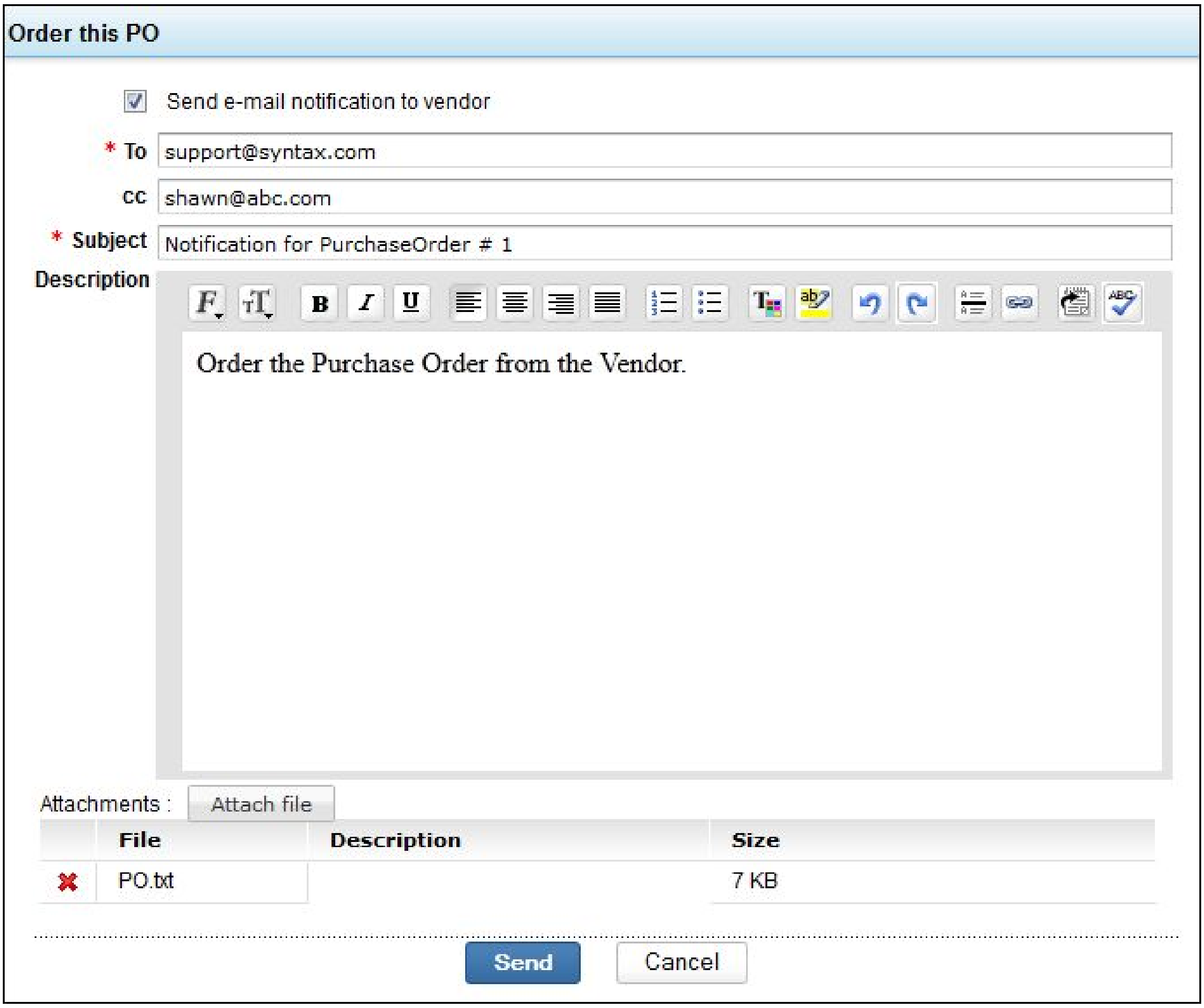
Order PO from Vendor

Once the Purchase Order is approved by the concern personnel, you need to order the items from the vendor.

1. Click the Purchase tab in the header pane to open the PO List View page.
2. Select Approved POs from the Filter drop down. Click the PO name link.
3. From the PO details page, click Actions tab -> Order this PO option. The Order this PO dialog pops up.



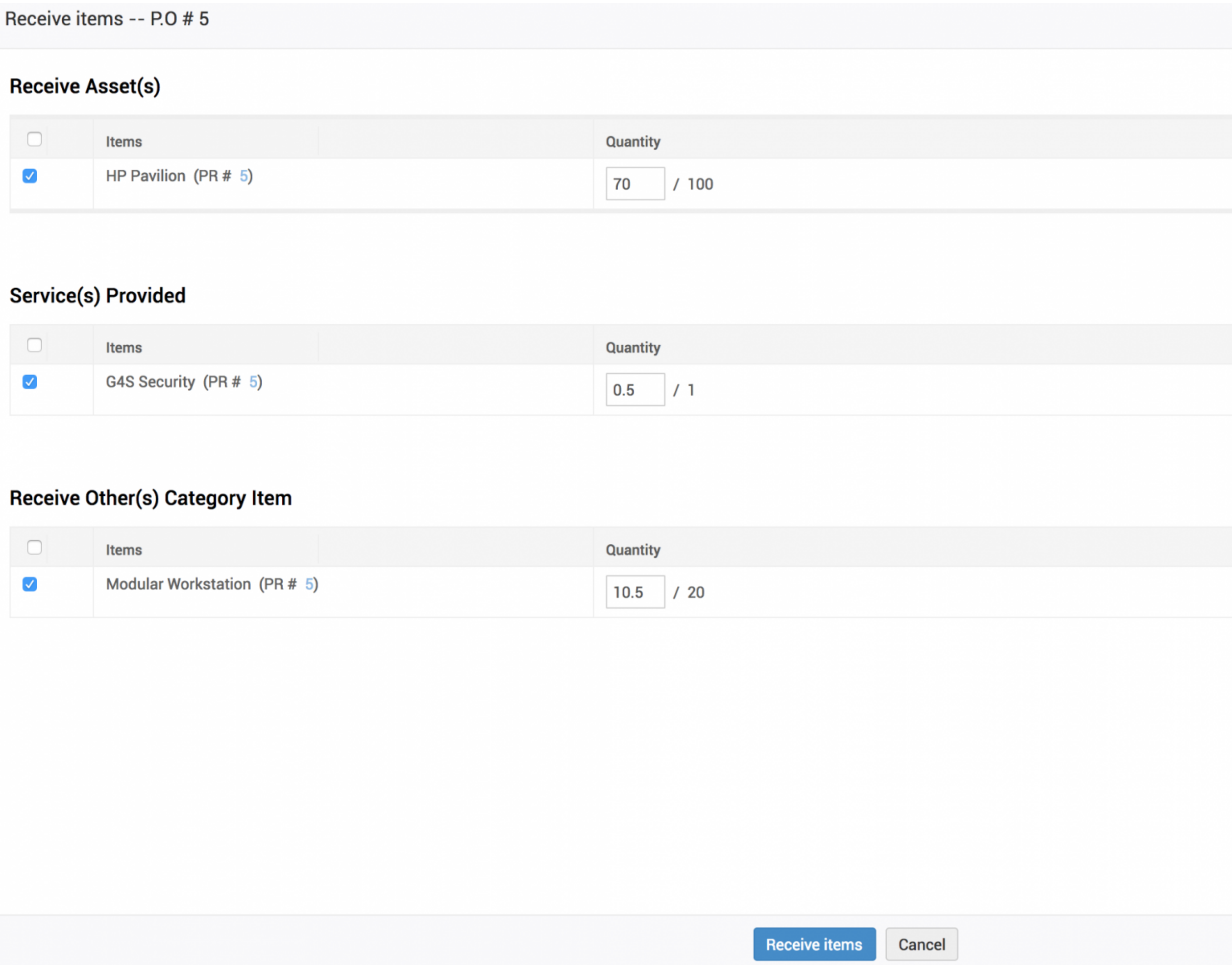
4. Enable Send Mail Notification check box, if you wish to send a mail to the vendor regarding ordering of items.
5. Enter the Email address of the Vendor in the To field. You also have an option to CC this mail.
6. If required, you can modify the Subject content manually and type in the message text for mail notification in the Description field.
7. Click Attach file button to attach relevant files to the Order.
8. Click Send. The status of the PO is changed to 'Ordered'.

Receive PO Items

The Approved PO is sent to the vendor to acquire the ordered assets, services, and other category items. The vendor can dispatch the items either completely or partially, providing a receipt in both cases.
ServiceDesk Plus has the ability to change the status of the PO accordingly, i.e., when the items are received partially, the PO Status is automatically changed to Partially Received and on receiving all the items, the PO Status changes to Items Received.
To mark partially or completely receive items,

1. Click the Purchase tab in the header pane to open the PO List View page.
2. Select Ordered POs from the Filter drop down. Click the PO name link.
3. Click Actions and select Receive Items.
4. On the displayed page, select the items and their quantities received.

You can enter the quantity in decimal only for services and other category items.



4. Click Receive items button. The PO form is updated with the Received Quantity value and the status is moved

to Partially Received POs.

S.No.	Items	Part No.	Price ($)	Tax Rate (%)	Quantity		Amount ($)
					Ordered	Received	
1	HP Pavilion	-	270.00	0.00	100	70	27000.00
2	Modular Workstation	-	150.00	0.00	20	10.5	3000.00
3	G4S Security	-	10000.00	0.00	1	0.5	10000.00

Sub Total ($)	40000.0
- Discount($)	0.0
Total (Net)($)	40000.0
+ Shipping Cost ($)	0.0
+ Sales Tax ($)	0.0
+ Additional Tax ($)	0.0
Price Adjustment ($)	0.0
TOTAL($)	40000.0

Received items of the category Assets (except items of the **Consumable** product type, refer Product Type) will be automatically added as assets .

Associate Assets

1. From the Purchase Order details page, click Actions>>Associated Assets. All the received assets for the PO are displayed.
2. Enable the check box beside the asset to associate the asset to a group. Click Actions drop down -> Add to Group. The Add Resource (s) to dialog pops up.
3. Select the group from the existing list of groups or enable the radio button beside New Group, to add a new group. The asset gets associated to the corresponding group.

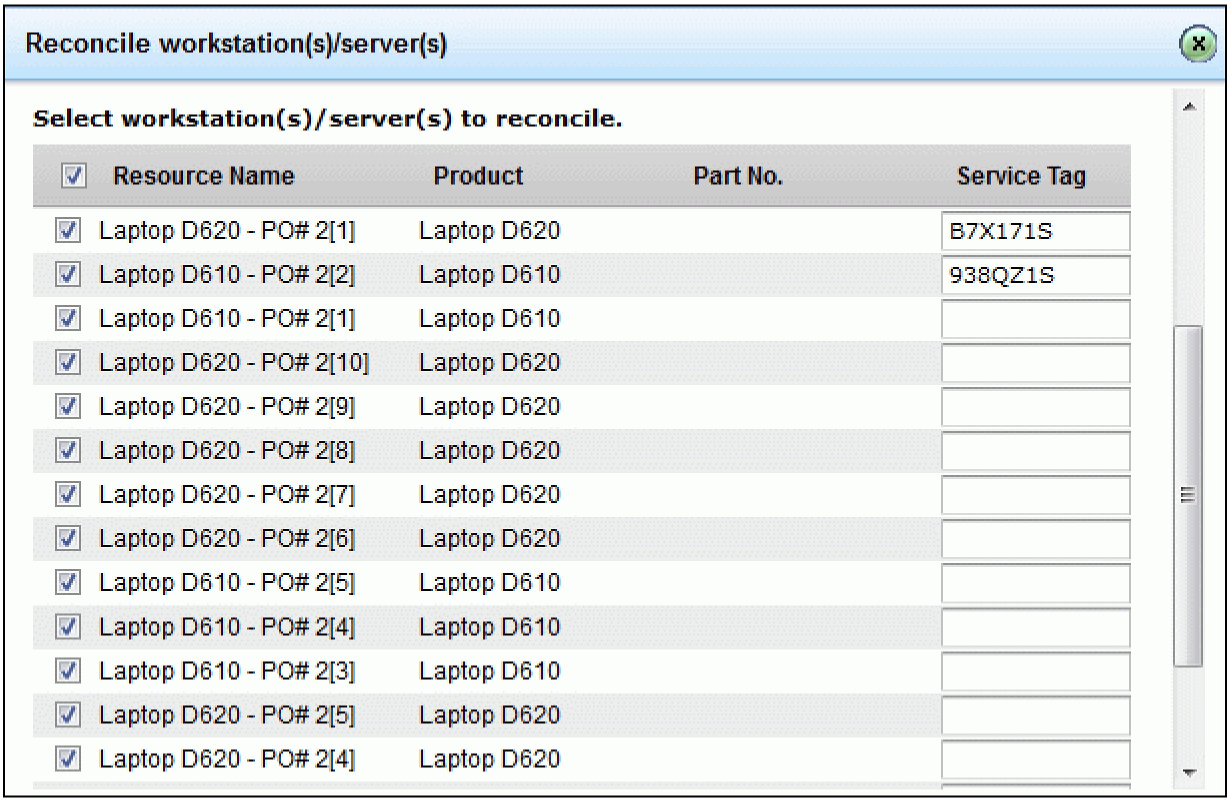
Reconcile PO Items

Once the resources are received from Purchase Order, the resources are associated to Department or Groups. But on performing domain scan or network scan, the associated IT assets get duplicated.
Say, "LD400 - PO # 2[10]" is the workstation purchased and has been renamed as "AE-dept". On performing a scan, both the workstations appear in the List View. To avoid this you can reconcile the assets from either the PO details page or from the asset list view page.

Note	1. Items with the Product Type as Consumables are not added to the assets and hence cannot be reconciled. 2. The scanned workstations can be reconciled only once. 3. You cannot reconcile workstations from the same purchase order.

To reconcile assets from the purchase order details page,

1. Click the Purchase tab in the header pane to open the Purchase Order list view page.
2. Click the PO# name link of the purchase order for which the items needs to be reconciled. You can also use the Filter drop down to sort and select the PO.
3. From the purchase order details page, click Actions -> Reconcile option. The Reconcile Workstation(s)/Server(s) pop up.



Resource Name	Product	Part No.	Service Tag
Laptop D620 - PO# 2[1]	Laptop D620		B7X171S
Laptop D610 - PO# 2[2]	Laptop D610		938QZ1S
Laptop D610 - PO# 2[1]	Laptop D610		
Laptop D620 - PO# 2[10]	Laptop D620		
Laptop D620 - PO# 2[9]	Laptop D620		
Laptop D620 - PO# 2[8]	Laptop D620		
Laptop D620 - PO# 2[7]	Laptop D620		
Laptop D620 - PO# 2[6]	Laptop D620		
Laptop D610 - PO# 2[5]	Laptop D610		
Laptop D610 - PO# 2[4]	Laptop D610		
Laptop D610 - PO# 2[3]	Laptop D610		
Laptop D620 - PO# 2[5]	Laptop D620		
Laptop D620 - PO# 2[4]	Laptop D620		

1. In case of workstations and servers, select the check box beside the resource name and enter the Service Tag of the scanned workstation/server.
2. Click Reconcile button. The data in the purchased workstation is copied to the scanned workstation copied. On

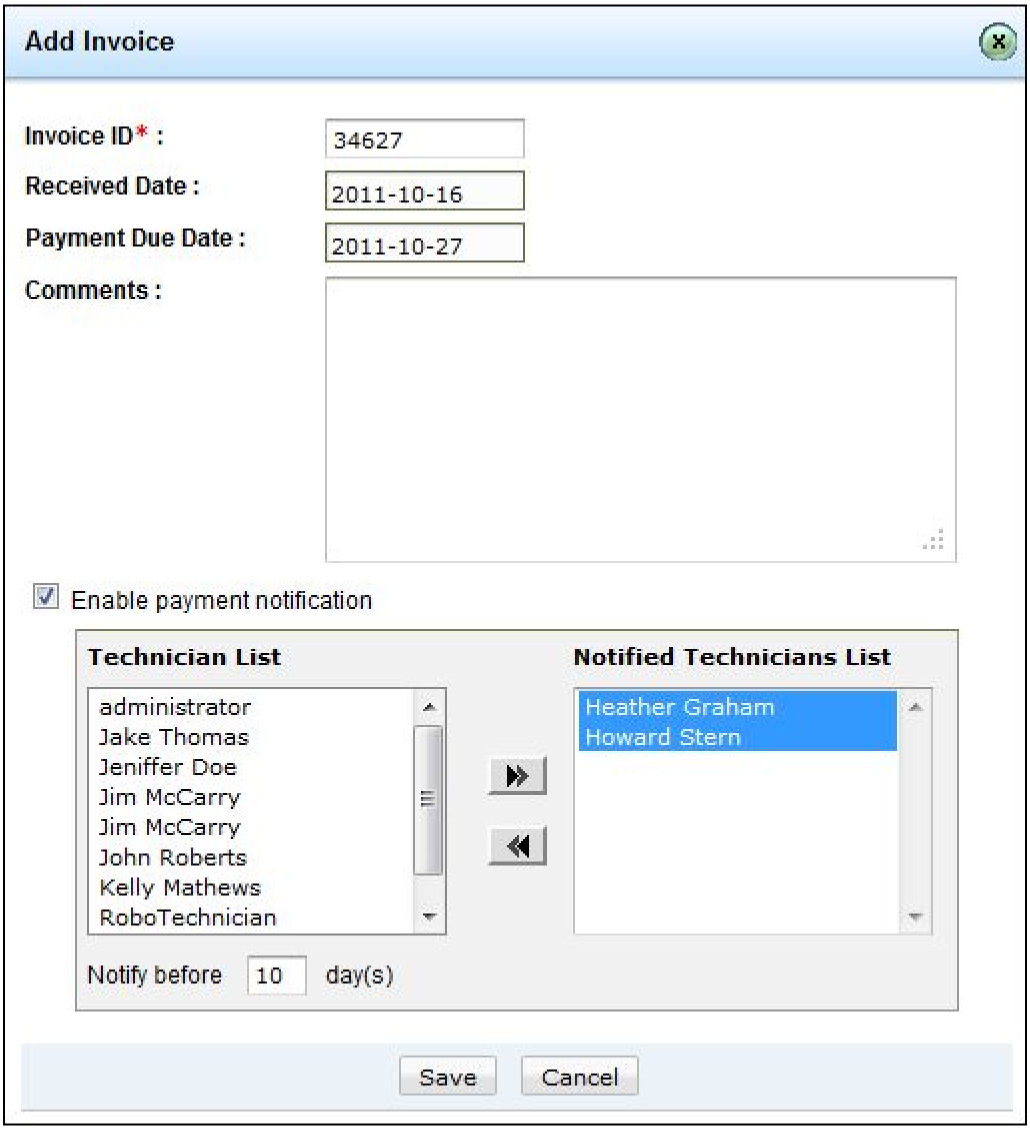
reconciling, the purchased workstation is deleted.

Add Invoice details and Notification

Once the PO is approved by the concern personnel, the Invoice and Payment options get populated in the Actions tab. On receiving the Invoice from the Vendor, you can add the Invoice details and also sent a notification to the concern technicians.

Add Invoice

1. Click the Purchase tab in the header pane to open the purchase list view page.
2. Click the PO Name link of the Purchase Order to add an Invoice.
3. From the PO details page, click Actions drop-down menu -> Add Invoice option. The Add Invoice dialog pops up.



4. Enter the Invoice ID. This field is mandatory.
5. Select the Receive Date and the Payment Due Date from the calendar.
6. If required, enter the relevant comments from regarding the Invoice in the Comments field.

7. You can also enable payment notification to the technicians by enabling the check box.
8. Select the technicians from the list for payment notification. Click >> button.
9. Enter the Days before which the notification should be sent to the selected technicians.
10. Click Save.

Receive Invoice

Once the Invoice is received from the Vendor, you can notify the same to the PO approvers.

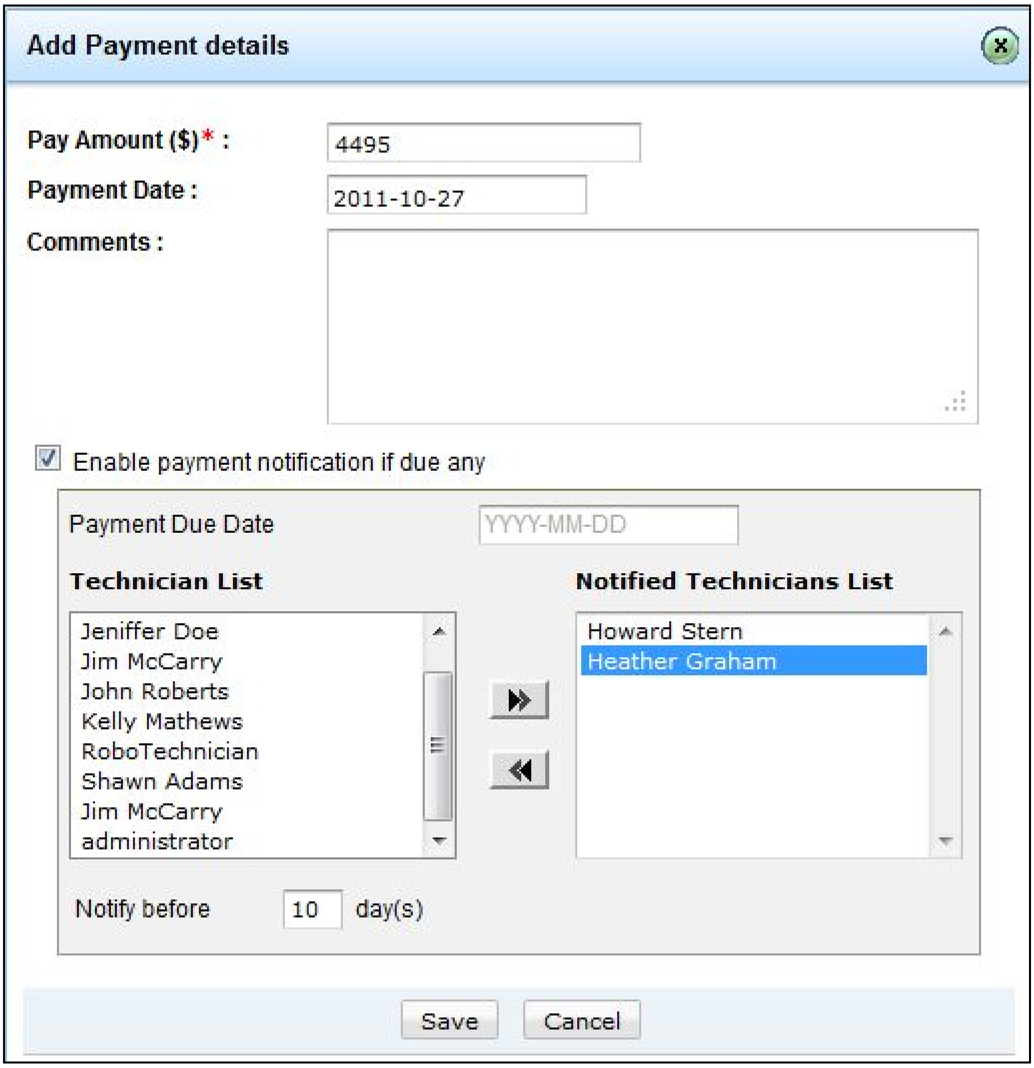
1. Click Actions drop down -> Receive Invoice option. The Receive Invoice dialog pops up.
2. Enable Send Mail Notification check box.
3. Enter the email address in the To field.
4. If required, you can modify the Subject content manually and type in the message text for mail notification in the Description field.
5. Click Send. The status of the PO changes to Invoice Received.

The Invoice details such as the Invoice ID, Received Date, Payment Due Date and Created by can be viewed in the PO details page under Invoice and Payment tab.

Add Payment details and Notification

Once you receive the Invoice from the Vendor, you can proceed with the payment process and notify the approvers that the payment is done.

Add Payment Details

- Click the Purchase tab in the header pane to open the purchase list view page.
- Click the PO Name link of the Purchase Order to add an Invoice.
- From the PO details page, click Actions drop-down menu -> Add Payment option. The Add Payment details dialog pops up.
- 

- Enter the Pay Amount ($). This field is mandatory.
- Select the Date of Payment from the calendar.
- If required, enter relevant comments in the Comments field.
- You can also enable notification if there are any dues in the payment by enabling the checkbox.
- Select the Payment Due Date from the calendar icon.

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- Select the technicians from the list for payment notification. Click >> button.
- Enter the Days before which the notification should be sent to the selected technicians.
- Click Save.

Payment Done

- Once the payment is done, you can notify the same to the PO approvers.
- Click Actions drop-down menu -> Payment Done option. The Payment Done dialog pops up.
- Enable Send Mail Notification check box.
- Enter the email address in the To field.
- If required, you can modify the Subject content manually and type in the message text for mail notification in the Description field.
- Click Send. The status of the PO changes to Payment Done.
- The Payment details such as the Payment Date, Amount Paid, Payment Due Date (if any) and Created by can be viewed in the PO details page under Invoice and Payment tab.

E-mail PO Owner

By default, the logged in technician creating the Purchase Order is the PO owner. You can send email notifications to the owner regarding the progress of the Purchase Order using this option.

To send an Email to the owner,

1. Click on the Purchase tab in the header pane to open the Purchase Order List View page.
2. Click the PO # name link. You can use the Filter drop down to sort and select the Purchase orders.
3. From the Purchase Order details page, click Actions tab -> E-mail the Owner option. A Send E-mail notification window opens with the owner's email ID in the To field. The subject reads as "Notification for Purchase Order" with the notification number. Say, Notification for Purchase Order # 1.
4. To notify the contents of the email to any other person other than the owner, specify the Email ID in the Cc field.
5. To attach any file to the mail, select Attach file link.
    1. Click Browse button to choose a file.
    2. Select the file and click Attach file button to attach the files. You can see the file attached with the file size.

       Note: Files up to the file size of 10 MB can be attached.
6. Enter the email content in the Description area.
7. Click Send button to send the mail. This displays a message showing that the Notification has been sent successfully.
8. Close the window.

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Email Vendor

Once the purchase items are ordered from the vendor, you can send e-mail notifications to the vendor regarding the progress of the items received i.e., if the organization has received the items partially or completely.

To e-mail the vendor,

1. Click the Purchase tab in the header pane to open the purchase order list view page.
2. Click the PO # Name link. You can use the Filter drop down to sort and select the PO.
3. From the purchase order details page, click the Actions tab -> select E-mail the Vendor option. The Send E-mail notification window opens.
4. Enter the vendor address in the To field. You can also notify the contents of the e-mail to more than one person by entering their email address in the CC field.
5. By default, the Subject reads as "Notification for Purchase Order" with the notification number. Say, Notification for Purchase Order # 1.
6. Enter the e-mail content in the Description area.
7. To attach any attachment to the mail select Attach file link.
   1. Click Browse button to choose a file.
   2. Select the file and click Attach file button. You can see the file attached with the file size.

      Note: Files up to the file size of 10 MB can be attached.

6. Click Send button to send the mail. This displays a message showing that the Notification has been sent successfully.
7. Close the window.

Edit Purchase Order

From the PO List View page, select the **PO# Name** link to view the PO details page.
Click **Actions** tab -> **Edit Purchase Order** option. The PO form opens in an editable form with the values populated while creating the Purchase Order. Modify and save the changes.
Re-approval of the PO is required on adding or deleting items and also on editing the following fields on the PO.

- Item name
- Price
- Tax Rate
- Quantity

Note:

- Status of an approved PO changes to **Pending Approval** once it is edited.
- After the items are partially or fully received, the user is not allowed to edit the fields **Product Type, Product,** or **Service** or delete items on the PO.

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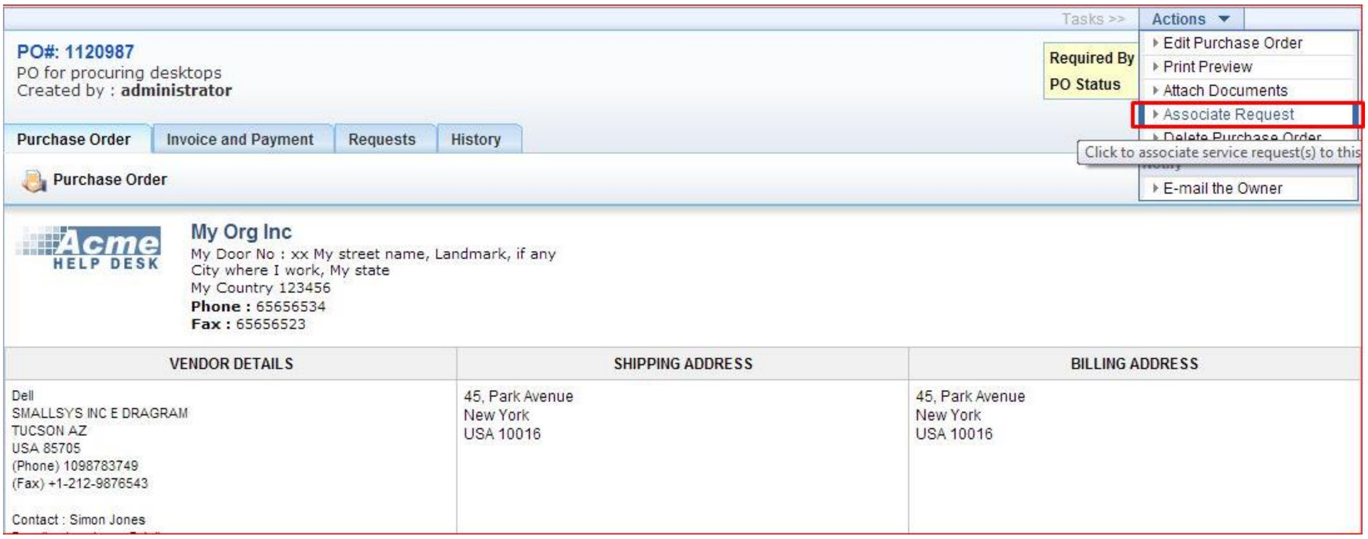
Associating Service Requests with Purchase Order

Purchase Order-Service Request association offers authority dealing with the organization's purchases a clear picture of the service request in demand by providing them with vital information like the priority, urgency, impact etc., of the service request based on which the purchase order cycle (that usually involves quote enquiry, bidding negotiations, finalizing a vendor, delivery of goods etc.,) can be formulated and executed as per the requester's needs.This association ensures service requests do not go into an indefinite 'onhold status' by keeping requesters/technicians and the purchase department well-informed about the progress of purchase orders and service requests accordingly.

- Associating Purchase Order with Service Requests
- View Service Requests Associated with Purchase Order
- Detaching Service Requests from Purchase Order

Associating Purchase Order with Service Requests

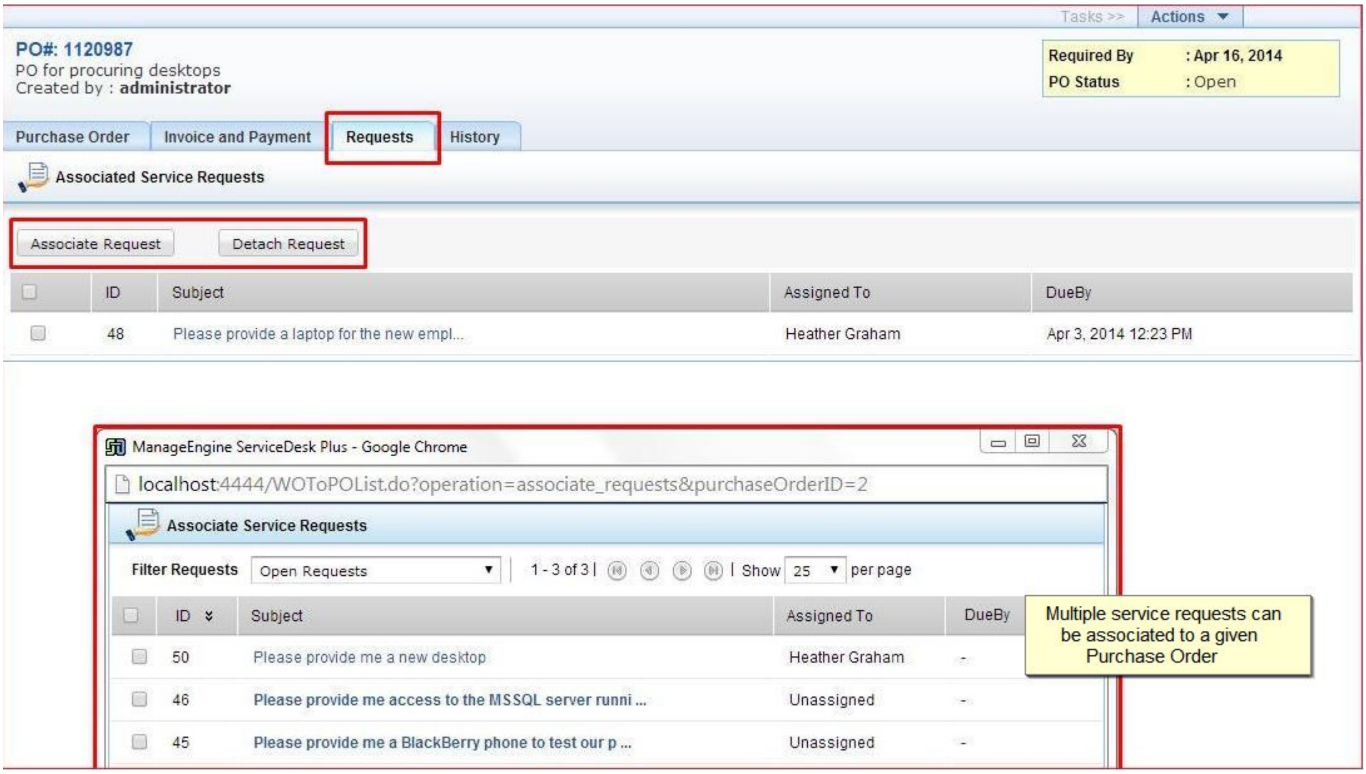
To associate purchase order to service request,



1. Click the Purchase tab in the header pane. This opens the purchase order list view page.
2. Select the **Purchase Order** to be associated with service requests by clicking on the respective **purchase order number** (or) **purchase order name**
3. From the **Actions dropdown** (available at the right extreme of PO details section) select **Associate Request** option
4. **Associate Service Requests** popup box will open listing all the **available service requests**
5. Select the **service request to be associated** with the purchase order
6. Click **Associate Request** button

View Service Requests Associated with Purchase Order

To view details of service requests associated with a purchase order,



1. Click the Purchase tab in the header pane. This opens the purchase order list view page.
2. Select the **Purchase Order** by clicking on the respective **purchase order number** (or) **purchase order name**
3. In the purchase details page, click on **Requests** tab
4. **Service Requests associated with the Purchase Order** will be displayed under this section
5. Click the **subject of the request** that you want to view
6. Request details will be displayed in a pop-up window in **print preview** mode

Detaching Service Requests from Purchase Order

To detach service requests associated with the purchase order, do the following:

1. Click Purchase tab in the header pane. This opens the purchase order list view page.
2. Select **Purchase Order** >> Click **Requests** tab
3. Select **service request to be detached** from the purchase order
4. Click **Detach Request** button

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Print the Purchase Order

You can preview and print the entire Purchase Order details using Print Preview option.

To print a Purchase Order,

1. Click the Purchases tab in the header pane to open the purchase list view page.
2. Click the PO # Name link of the purchase order you wish to print. You can use the Filter drop down to sort and select the PO.
3. From the Purchase Order details page, click Actions tab -> Print Preview option. The Purchase Order details are displayed in a printable format.
4. Click Print option or Ctrl +p to print the Purchase Order details.
5. Set the required options and click Ok.

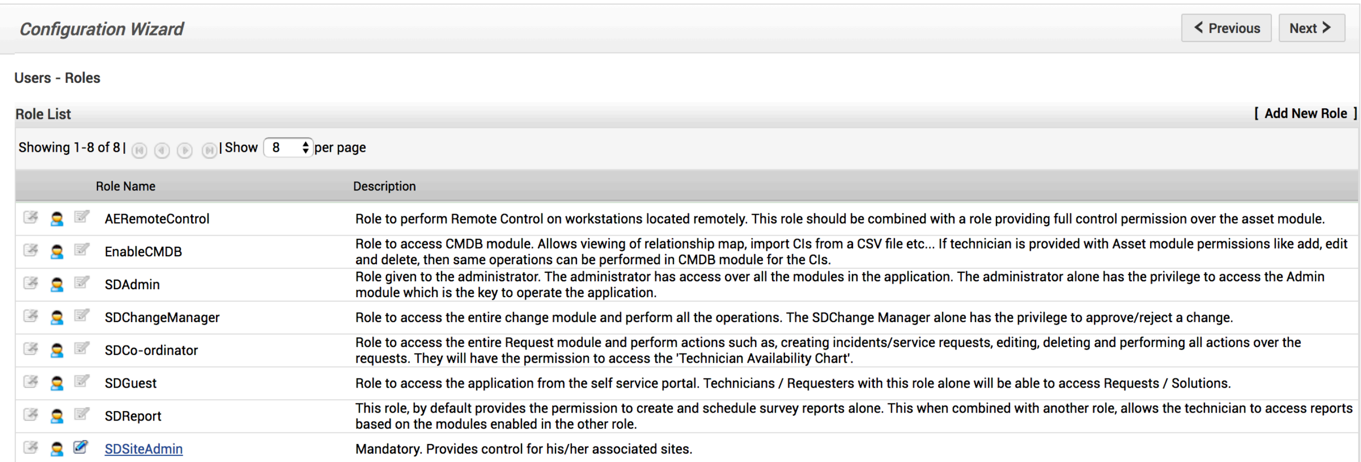
PO Cancellation Process

The Purchase Order Cancellation process lets you cancel the PO that you have created earlier. The PO can be canceled before receiving the PO either partially or fully. Technicians with SDA Admin permission, Purchase owners and technicians with cancelation permission can cancel the Purchase Order.

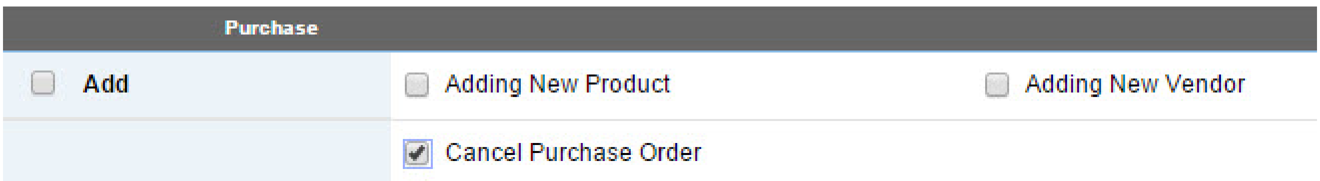
Enabling Cancel PO Permission

To give Cancel PO permission,

- Click on the **Admin** tab in the header pane.
- Click on **Roles** under the Users section.
- Click on **Add new role** button at the top right side of the Configuration wizard page.

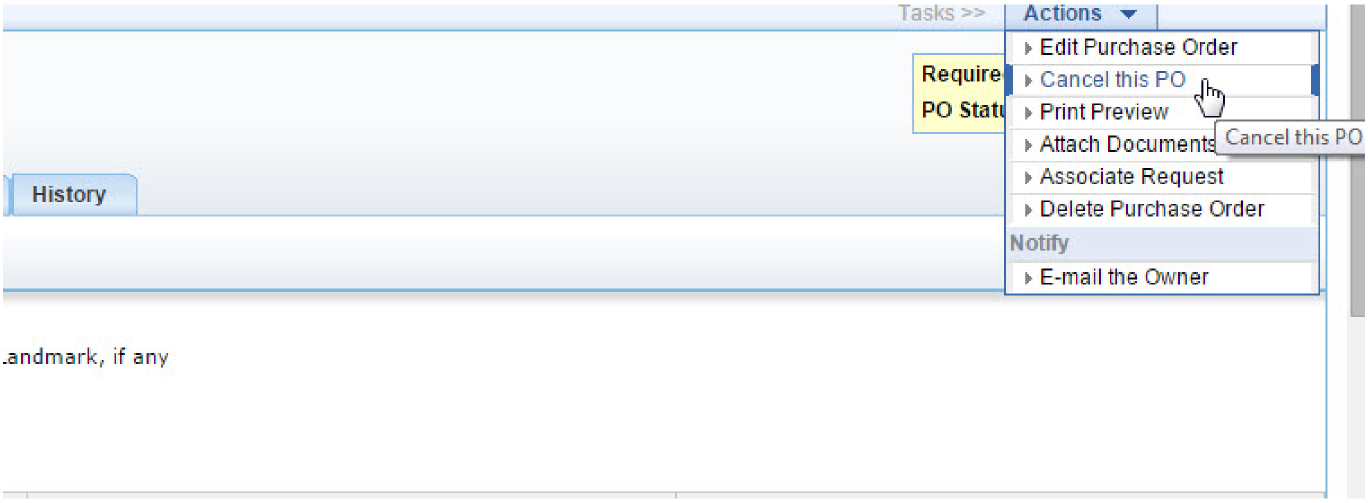


- Enable the **Cancel Purchase Order** radio button under the Purchase section.

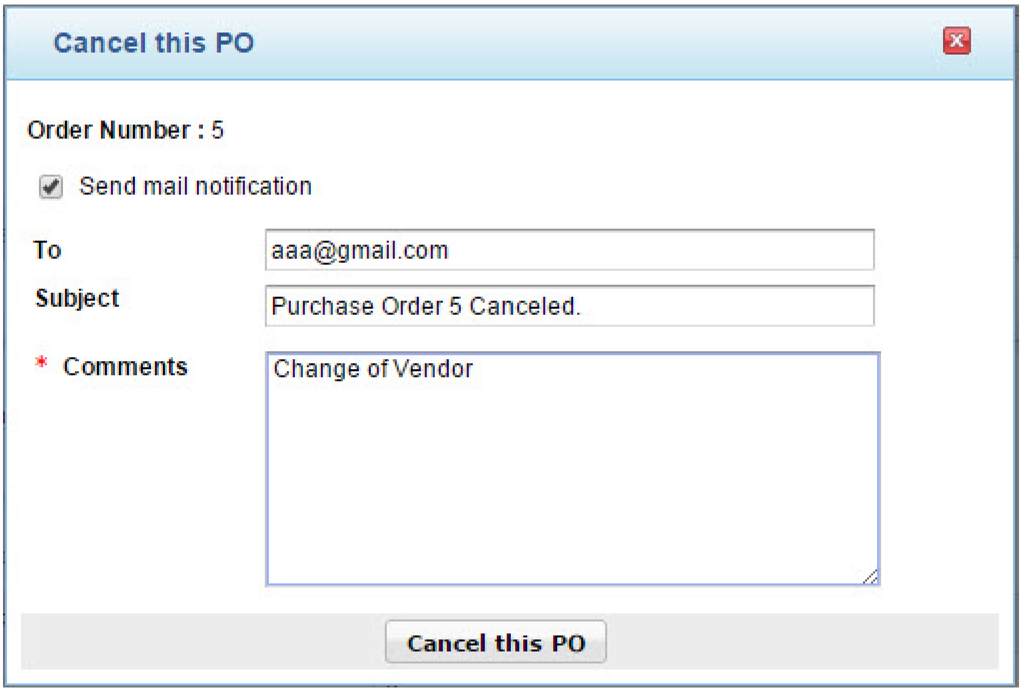


Canceling PO

- Click the **Purchase** tab in the header pane to open the PO List View page.
- Click on the PO you wish to cancel.
- Click on the **Actions** Menu on the top of the PO Details Page.
- Click on **Cancel this PO** from the drop-down list under **Actions** Menu.



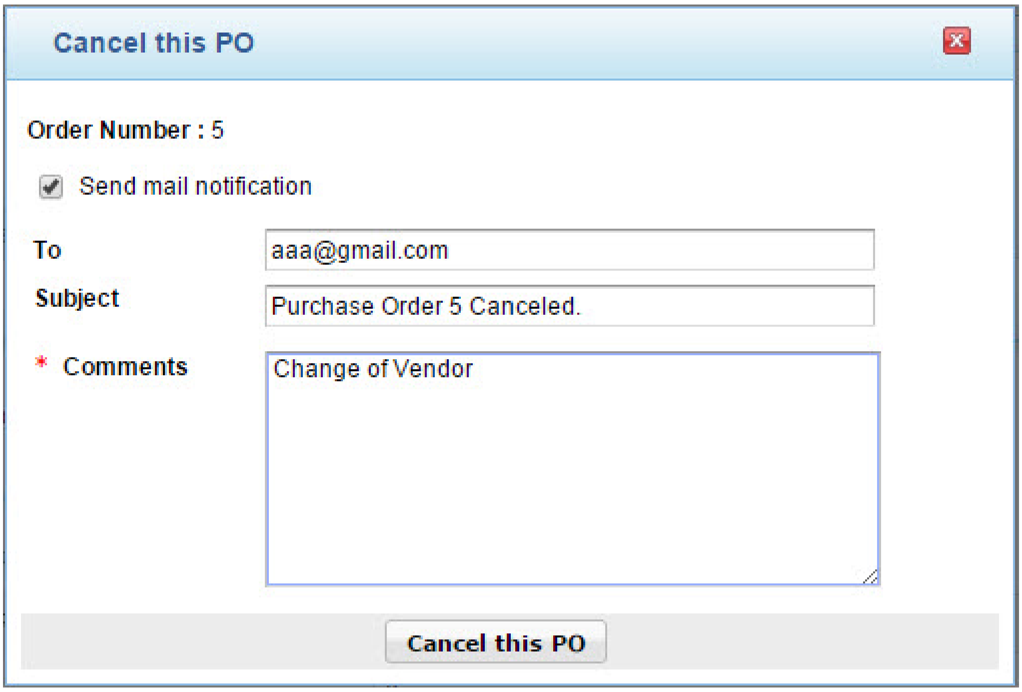
- A window will pop up where you can add comments and enable email notifications to the approvers.
- After you have added the comments or enabled email notification, click on **Cancel this PO**. The PO will be canceled.



Note	• The PO can be canceled while in the Open status, Pending approval status, Approved status, Rejected status and the Ordered status. • Once the PO is either partially or fully received the PO cannot be canceled. • The canceled PO can be viewed by clicking on the Canceled Button on the Flow diagram. • Further information about that cancelation can be viewed by either hovering your cursor over the canceled PO in that list or by checking the History tab in the PO details page.

Email Notification

An automatic email notification can be enabled so that when a PO gets canceled, the owner, the approved approver and the current stage approver will be notified of the cancellation. This can be done by enabling the radio button present in the cancelation window box that pops up when you click **Cancel this PO** from under the **Actions** Menu.



Note	• The notifications will be sent only to the approved approvers of the previous stage and the approvers of the current stage. • If the PO is associated with any other request then the notification will also be sent to that particular technician associated with that request.

Customizing Email Notification

To Customize the email notification,

1. Click on the **Admin** tab from the header pane.
2. Click on **Notification rules** under the section Purchase and Contract Management to go to Configuration wizard.
3. Click on **Purchase** Menu in the Configuration wizard.
4. Customize email notifications by enabling or disabling the radio buttons.
5. Click on **Customize template** to customize the email template that will be sent for the notification.

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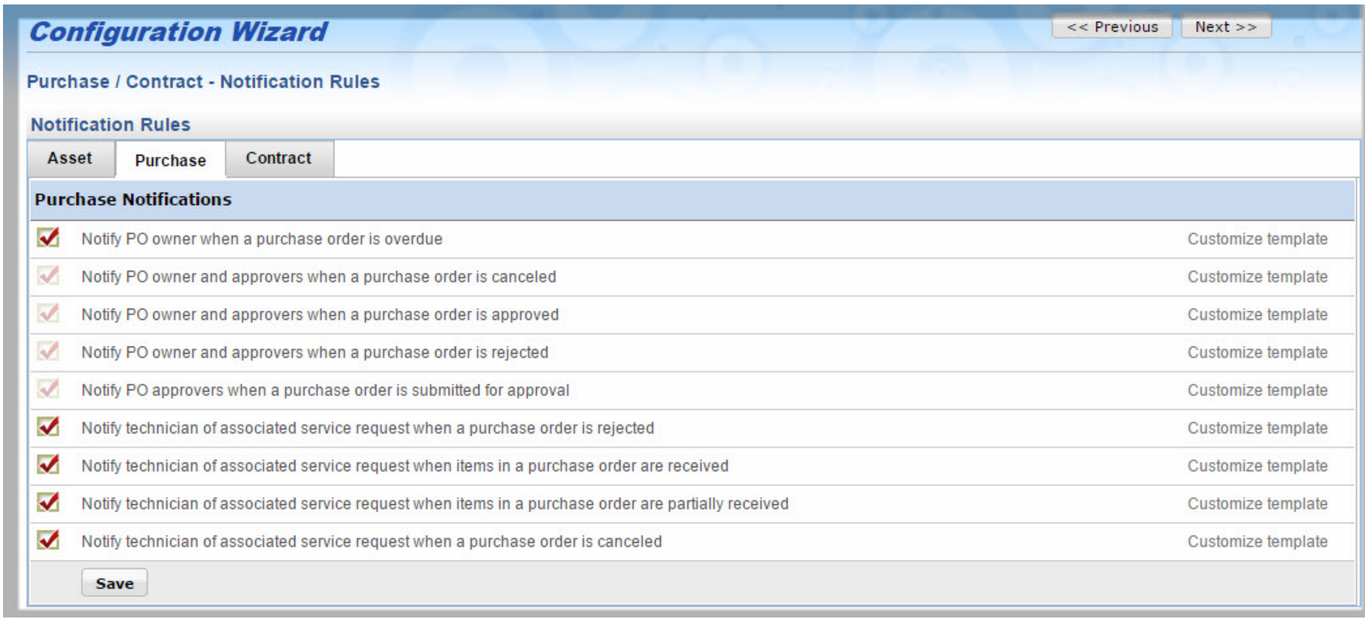
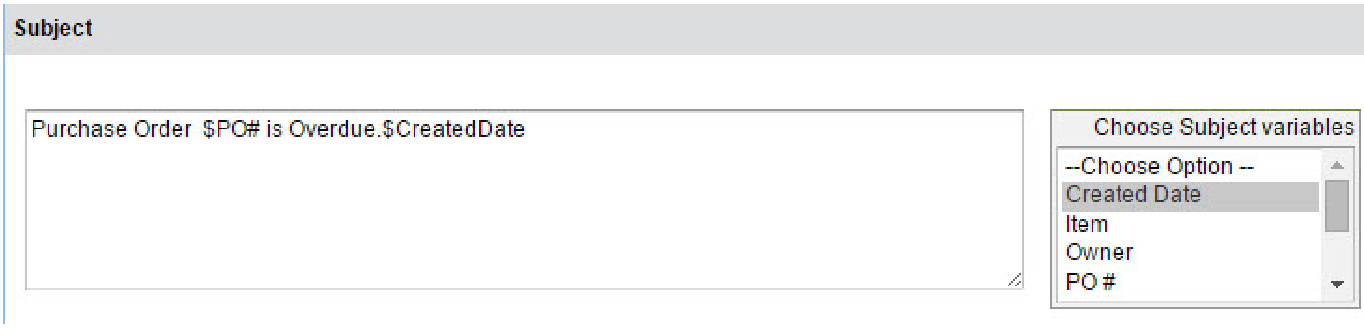


To add subject variables,

- Select and click on a subject variable listed on the right side under Choose subject variables.
- For eg, If you want to add "Created date", click on "Created date" from Choose subject variables it will get added to your subject.



To add Content variables,

- Select and click on a content variable listed on the right side under Choose content variables.
- For eg, If you want to add "Owner", click on "Owner" from under the Choose content variable it will get added to your content.

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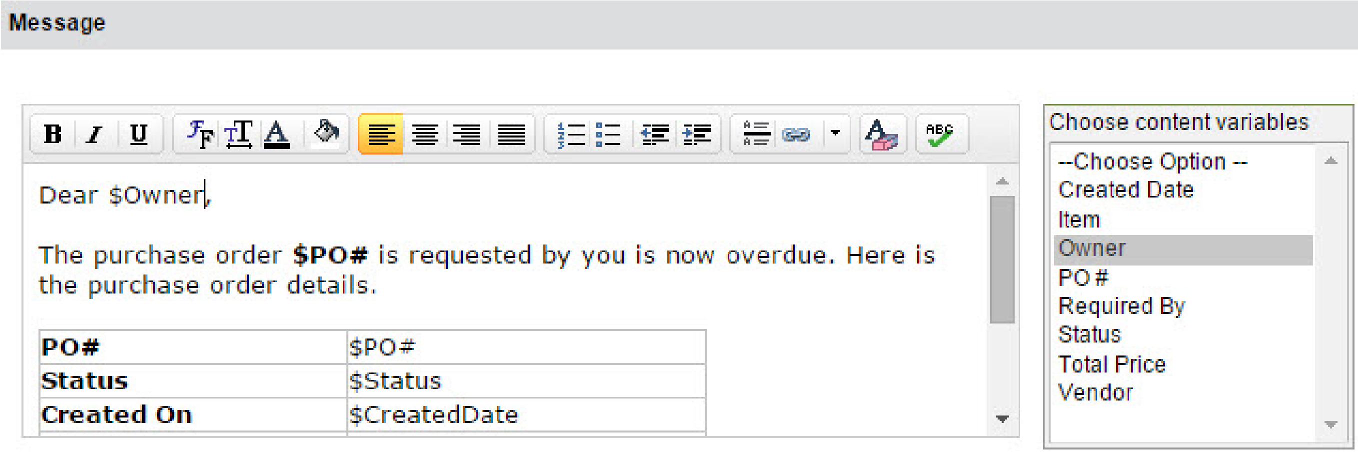
Message
Dear $Owner,
The purchase order $PO# is requested by you is now overdue. Here is the purchase order details.
PO# $PO#
Status $Status
Created On $CreatedDate
Choose content variables
--Choose Option --
Created Date
Item
Owner
PO #
Required By
Status
Total Price
Vendor

Delete Purchase Order

You can delete a Purchase Order either from the List View or from the PO details page.

Delete PO from List View

Delete bulk Purchase Orders using this option.

1. Enable the check box beside the Purchase Order to delete. You may use the Filter drop down to sort and select the PO to delete.
2. Click Delete button. A confirmation message appears.
3. Click OK to proceed. The PO is deleted from the list.

Delete PO from details page

Individual Purchase Order can be deleted using this option,

1. Select the PO Name link of the Purchase Order to delete. You may also use the Filter drop down to sort and select the PO to delete.
2. From the PO details page, click Actions tab -> Delete Purchase Order option.
3. A confirmation message appears. Click OK to proceed. The PO is deleted from the list.

Close Purchase Order

ManageEngine ServiceDesk Plus provides an option to Close PO manually on receiving all the items and the invoice, or after making the payment.

To close a Purchase Order,

1. Click the Purchase tab in the header pane to open the purchase list view page.
2. Click the PO Name link of the Purchase Order to close. You can use the Filter drop down to sort and select the PO.
3. From the PO details page, click Actions drop down -> Close PO option. The Close PO dialog pops up.
4. Enable Send Mail Notification check box.
5. By default, the email address of the technician is displayed in the To field.
6. If required, you can modify the Subject content manually and type in the message text for mail notification in the Description field.
7. Click Send button. The status of the purchase order is changed to Closed.

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View Purchase Order based on Filters

1. Log in to ServiceDesk Plus application using your user name and password.
2. Click on Purchase tab in the header pane. This brings up the Purchase Orders list view page. By default the status of the Purchase Order will be 'All POs'.
3. Select the corresponding filter option from the Filter Showing combo box. You can view purchase orders with different status levels using filters. They are,

- All POs
- All Purchase Orders irrespective of the status will be listed. This is the default status on opening the purchase order list view.
- Open POs

  The newly added Purchase Order will fall under this category. These POs are not submitted for approval.
- POs Pending Approval

  The Purchase Orders which are submitted and waiting for approval from the purchase order approvers will be listed under this category.
- Approved POs

  All the Purchase Orders which are approved but the purchase items are not yet received will be listed under this category.
- Rejected POs

  All the Purchase Orders rejected by the purchase order approver gets listed under this category.
- Ordered POs

  Lists all the POs for which the items have been ordered by the vendor.
- Partially Received POs

  Purchase Orders, which are partly received from the vendor, will be listed under this category.
- Received POs

  Lists the POs for which the items have been completely received.
- Invoice Received POs

  Lists all the POs for which the invoice is received from the vendor.
- Payment Done POs

  Lists all the POs for which the payment is done.
- Closed POs

  The Purchase Order gets listed under this category when the purchased items are fully received from the

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vendor.

- Overdue POs

  Purchase orders not delivered and have exceeded the delivery date will be listed under this category.
- POs due in next 7 days

  Outstanding Purchase Orders, expiring in next 7 days will be listed under this category.
- POs due in next 30 days

  Outstanding Purchase Orders, expiring in next 30 days will be listed under this category.
- Searched POs

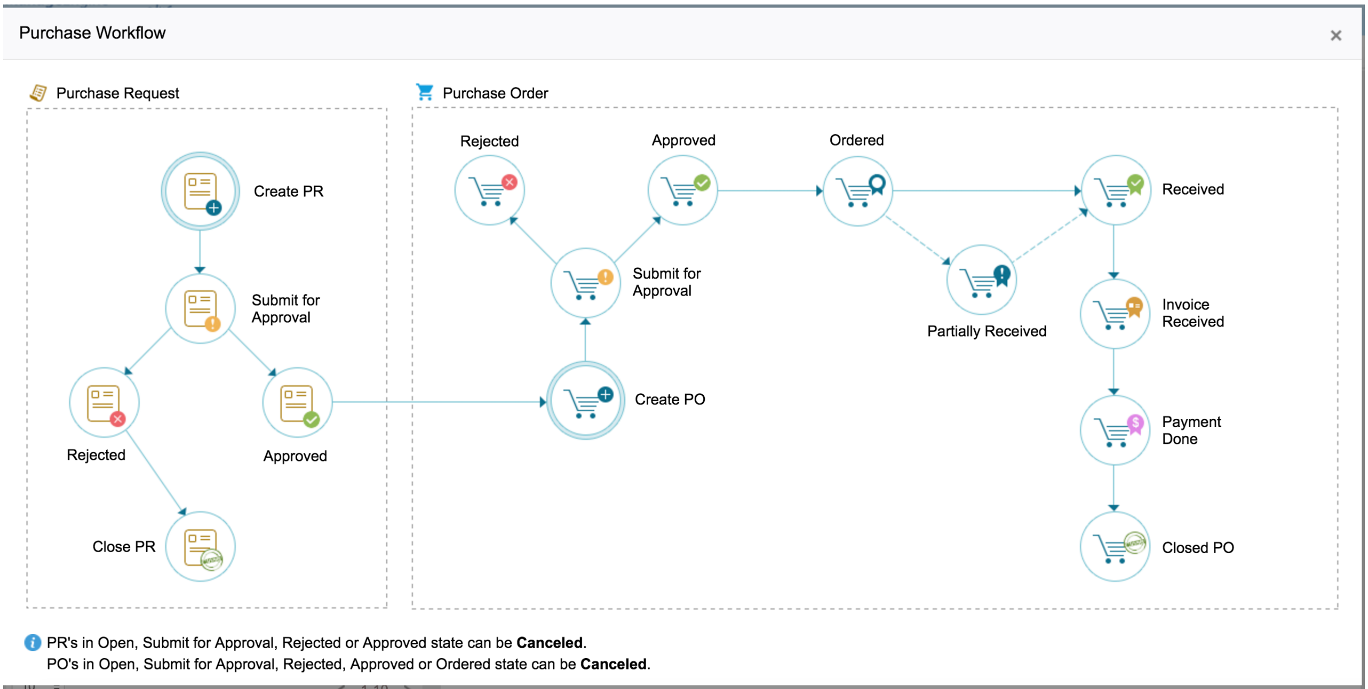
  While searching for the Purchase Order under Search, the list of Searched POs will fall under this category.

Purchase Request - Purpose and Introduction

Purchase Requests serve as a record in documenting the organization's approval process of a purchase proposal prior to the issuance of a purchase order. This is also intended to authenticate the procurement team of an organization to issue Purchase Order to the vendors. For eg, When a requirement arises in an organization, it normally reaches the Admin/Technician as a Service Request who will then send the Service Request for the approval process to the management of the organization. On occassion of the unavailability of the purchase items, which can be assets, services, or other items, the Admin/Technician will create a Purchase Order for the vendor. With the new Purchase Request feature the Admin/Technician will be able to create a Purchase Requests based on the Service Requests they receive and also attach various quotes for the requested items. It also enables the Admin/Technician to associate the Service Requests to a Purchase Request. Once the Purchase Requests are approved, Purchase Orders can also be created from them.

Purchase Workflow - an overview

- The general overview of the Purchase Workflow can be seen by clicking on icon.
- Requests can be created, submitted for approval, rejected, approved, closed from this Workflow by clicking on the respective icons.



Quick Links:

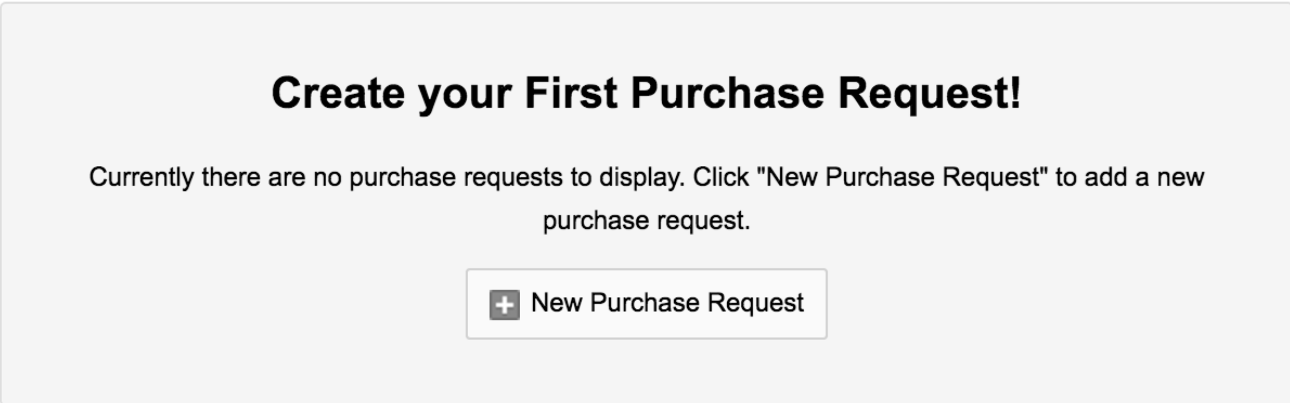
- Accessing and Using the feature
- Creating Purchase Requests from Service Requests
- Associating Service Requests to Purchase Requests
- Creating Purchase Order from Purchase Request

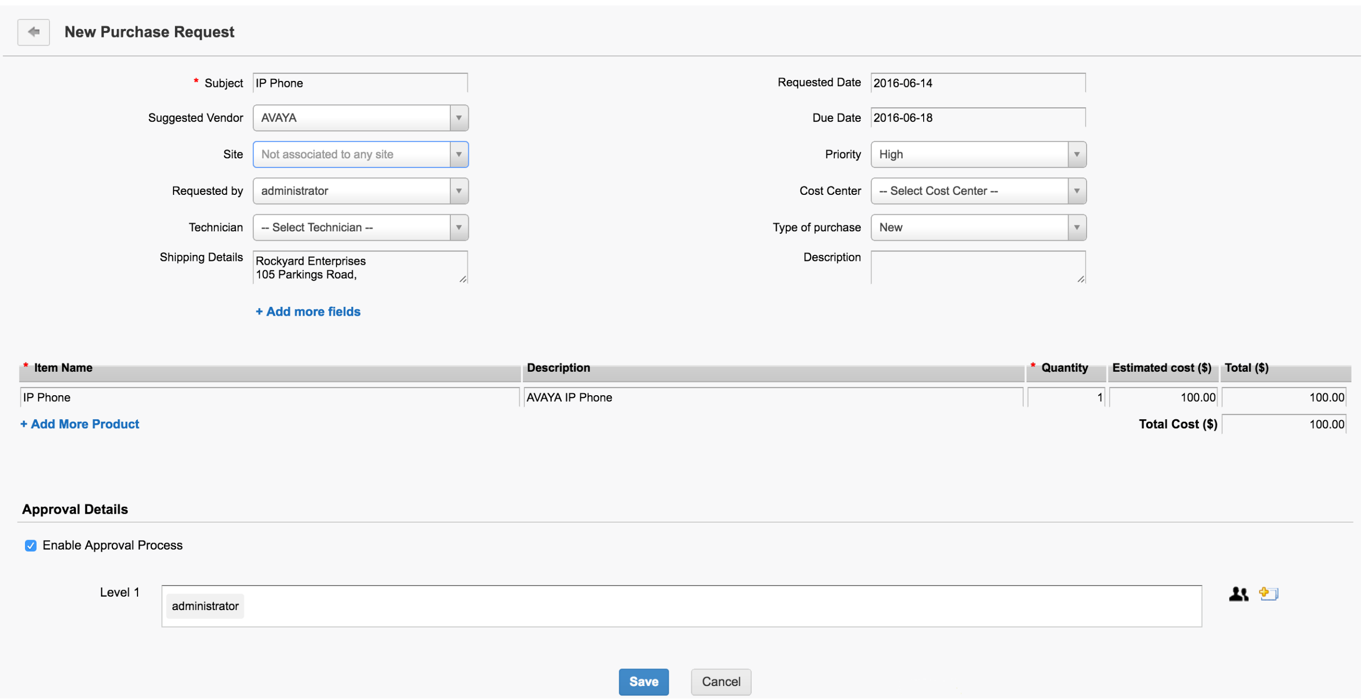
- [Using the filters and other options in the Purchase Request page.]
- [Purchase Request Notification settings]

Accessing and Using the feature

This feature can be accessed from the Purchase module of the ServiceDesk Plus.

- Log in to the ServiceDesk Plus application.
- Click on the **Purchase** tab.
- Click on **New Purchase Request** if it's the first time or click on the icon on top left of the Purchase Request list view. This will take you to the Purchase Request details page.





- Enter the Purchase Request details such as the "Subject", "Suggested Vendor", "Requested Date", "Due Date", "Site", "Priority", "Cost Center", "Shipping Address" etc.
- If you want to add more fields, click on "**Add more fields**".
- Enter the Item Name, Description and the Estimated Cost details.

Note

- **Add more fields** option will be displayed only for technicians with SDAdmin permission.

Approval Process

Purchase Request approvers and approval levels can be set for the Purchase Request to make sure the Purchase Requests are approved by the management.
To configure the Approval Details,

- Click on the **Enable Approval Process** check box.
- Select approvers by clicking on the icon.
- You can add more approval levels by clicking on the icon.
- Click on **Save.**
- The created Purchase Requests will be listed in the Purchase Request list view.
- Click on the **Purchase** module to view the list.
- Current status info of the requests can be seen by hovering over the request in the Purchase Request list view.

Attaching the quotes

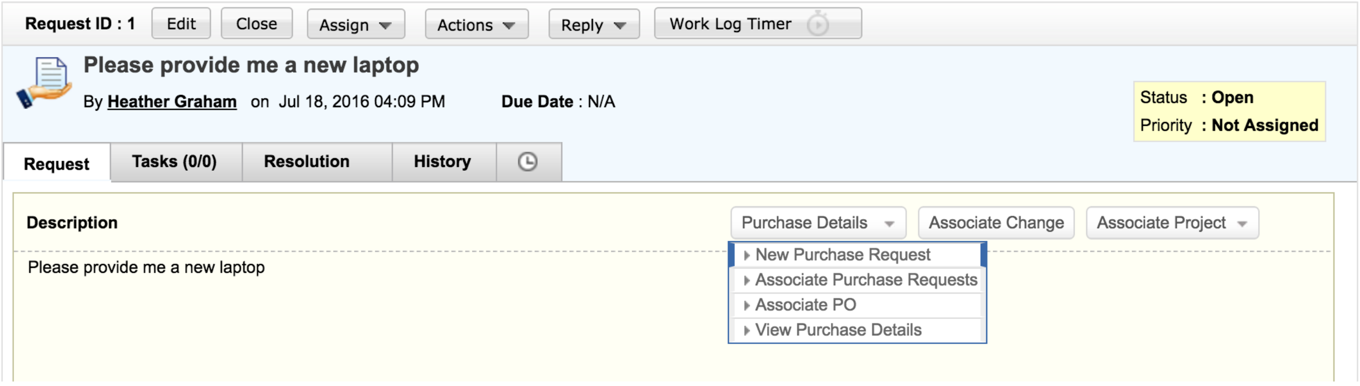
Different quotes for the requested assets can be attached to a Purchase Request by using the **Attachment** option.
To attach quotes,

- Click on the **Attach Files** option in the attachments section.
- Select the file and click **Open**.

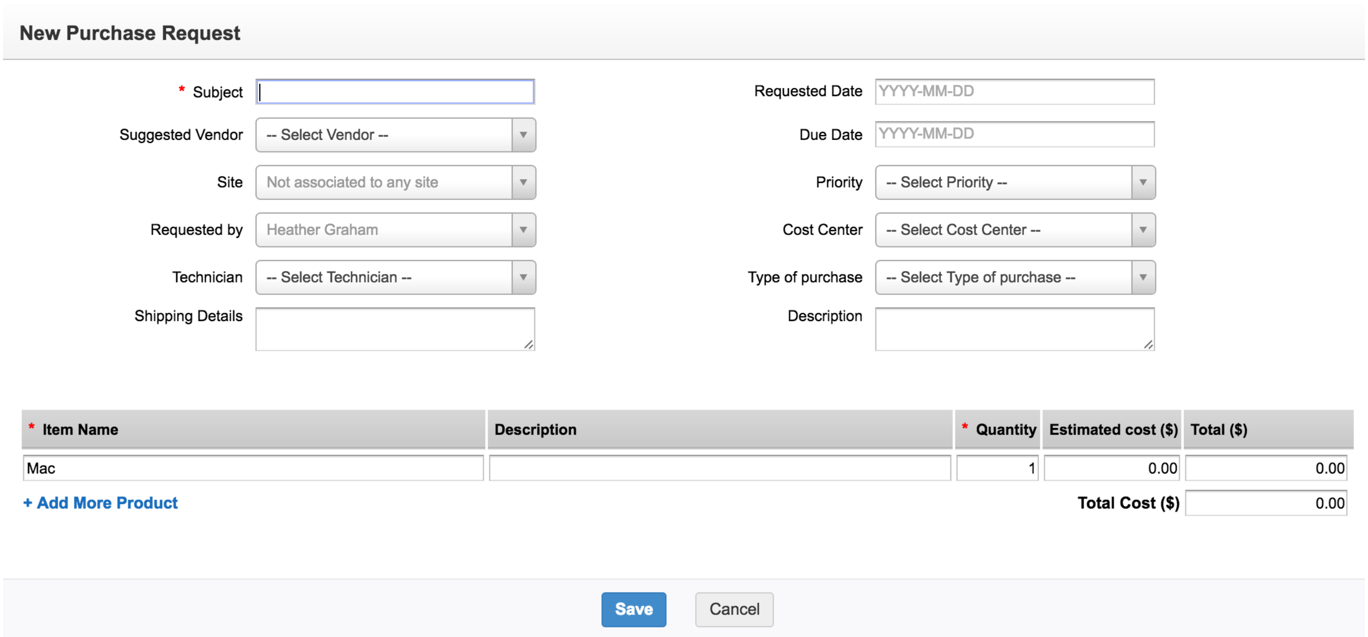
Creating Purchase Requests from Service Requests

You can create a purchase request for any item (asset, service, or other category item) from within a service request raised for the item.
Go to **Requests** and select a service request.

- In the Request details page, click **Purchase Details** menu and select **New Purchase Request**.



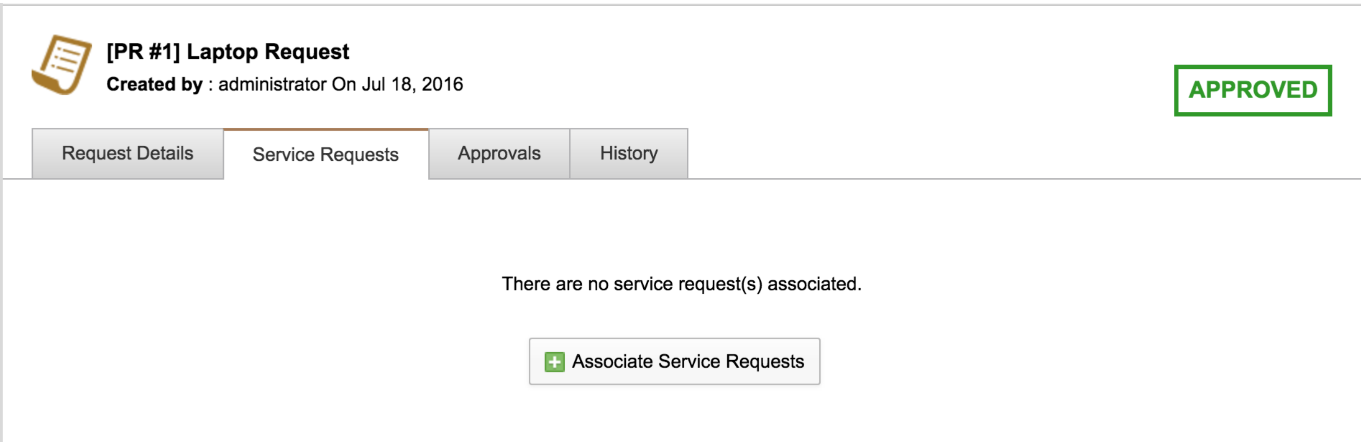
- Fill out the missing details in the displayed form and click **Save**.

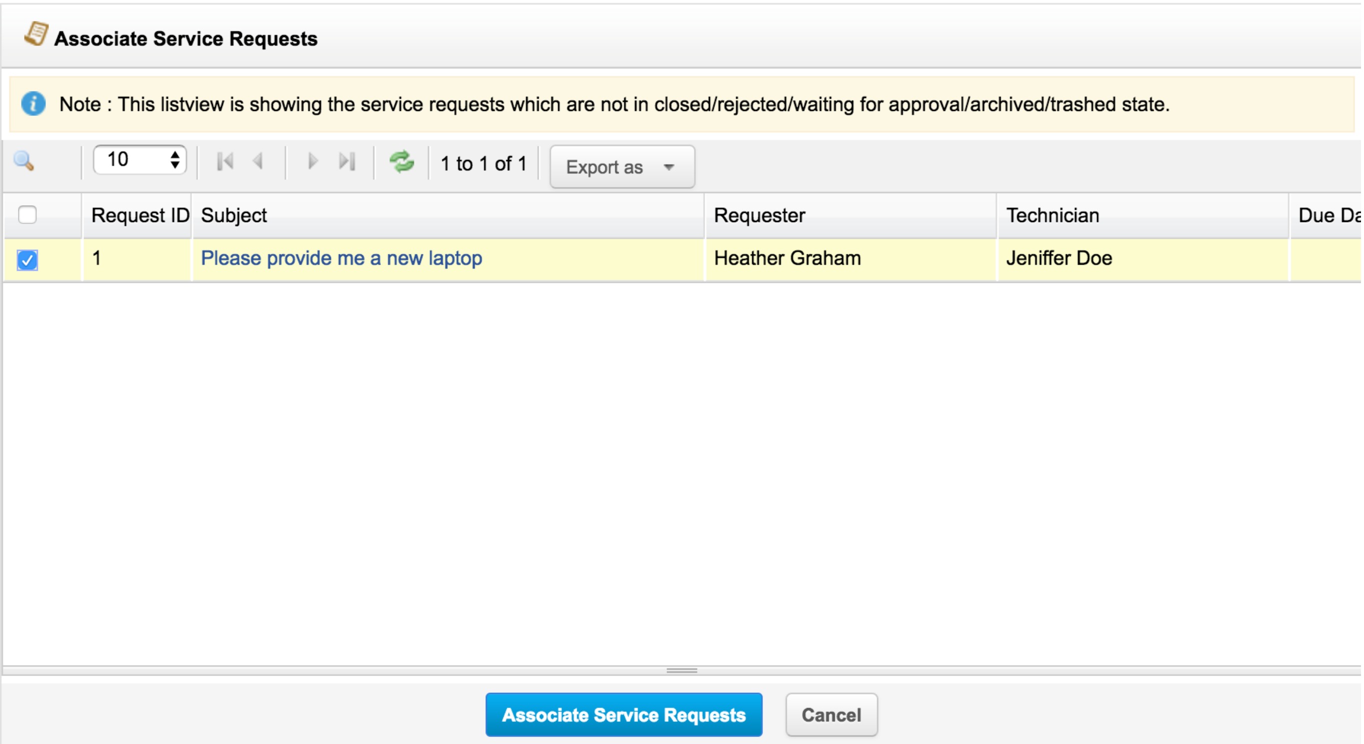


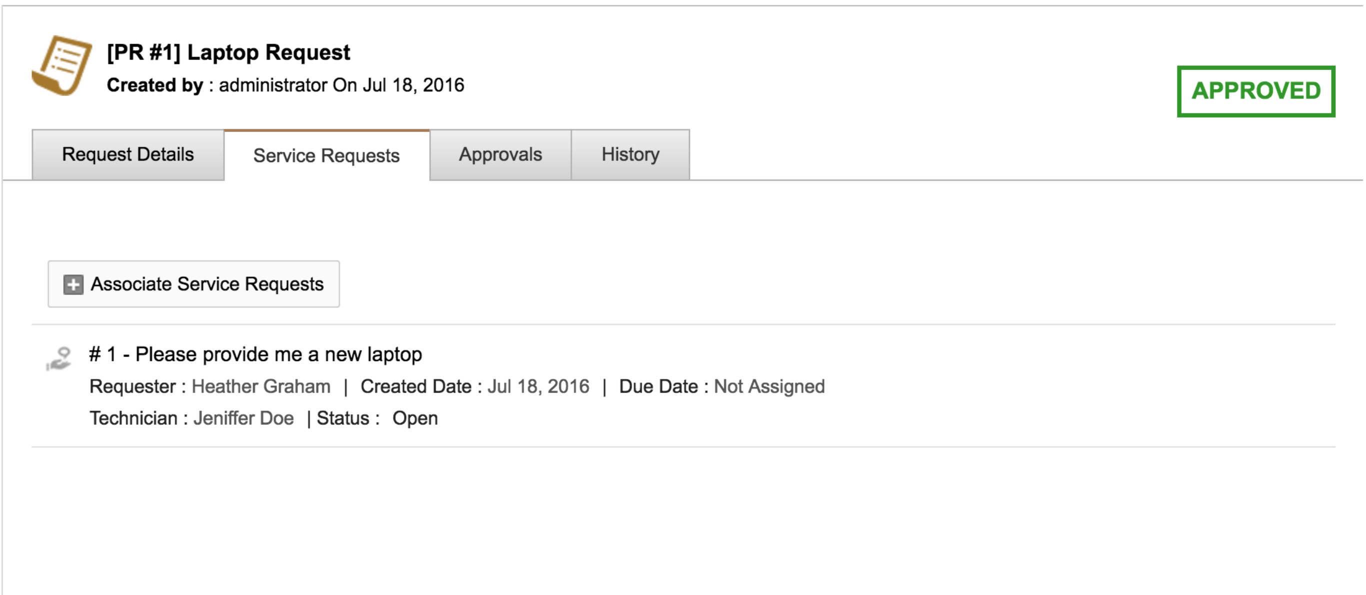
Associating Service Requests to Purchase Requests

When multiple service requests are raised for the same items (asset, service, or other category item) from a vendor, you can associate all the service requests to a single purchase request.

- Go to **Purchase**.
- Select a purchase request and click **Sevice Requests**.
- Click **Associate Service Requests**. If you have similar service requests (items' vendors will be checked first, followed by the items themselves), they will be listed.
- Select the service request(s) you want to associate and click **Associate Service Requests**.







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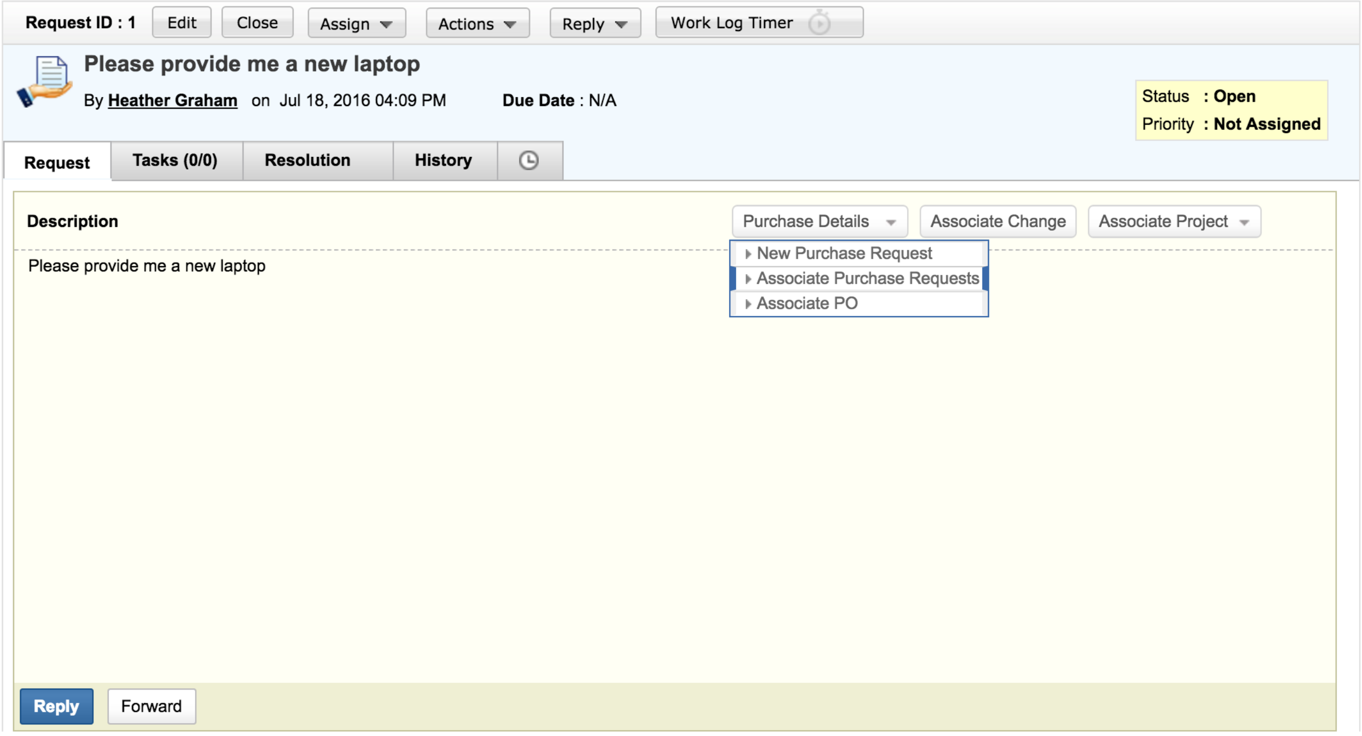
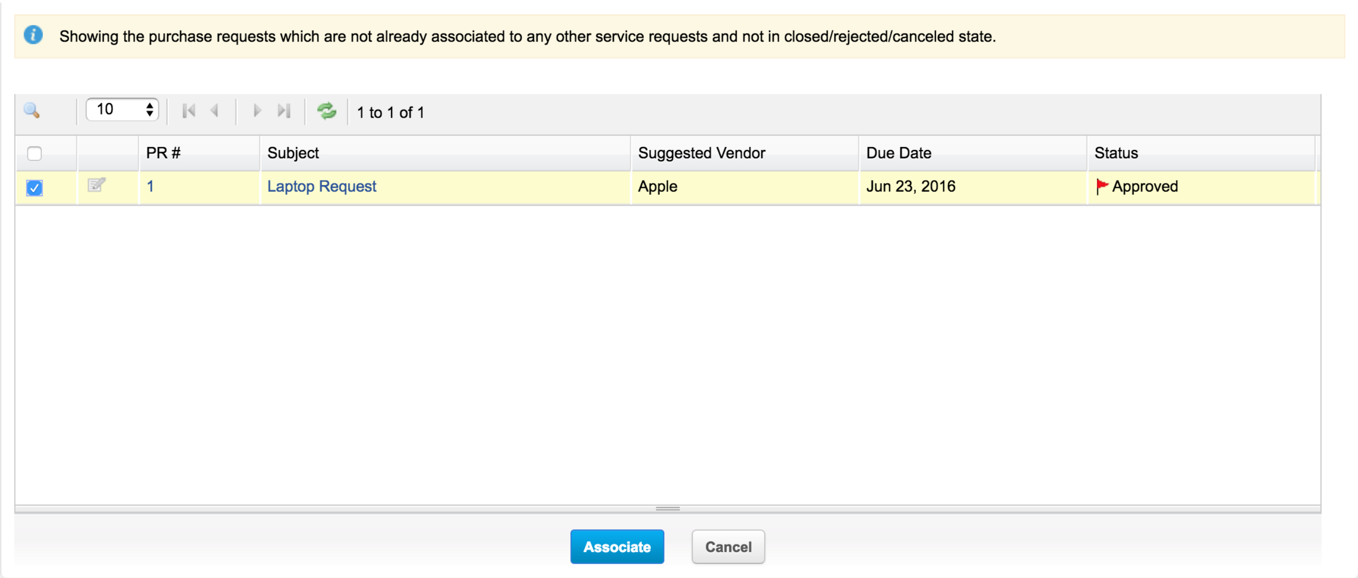
You can do a purchase-service requests association in the request page as well.

- Go to **Requests** and select a service request.
- Click Purchase Details menu and select Associate Purchase Requests.



- Select the purchase request(s) and click **Associate**.



Creating Purchase Order from Purchase Request

You can create a purchase order for your purchase request from within the purchase request details page.

- Go to **Purchase**.

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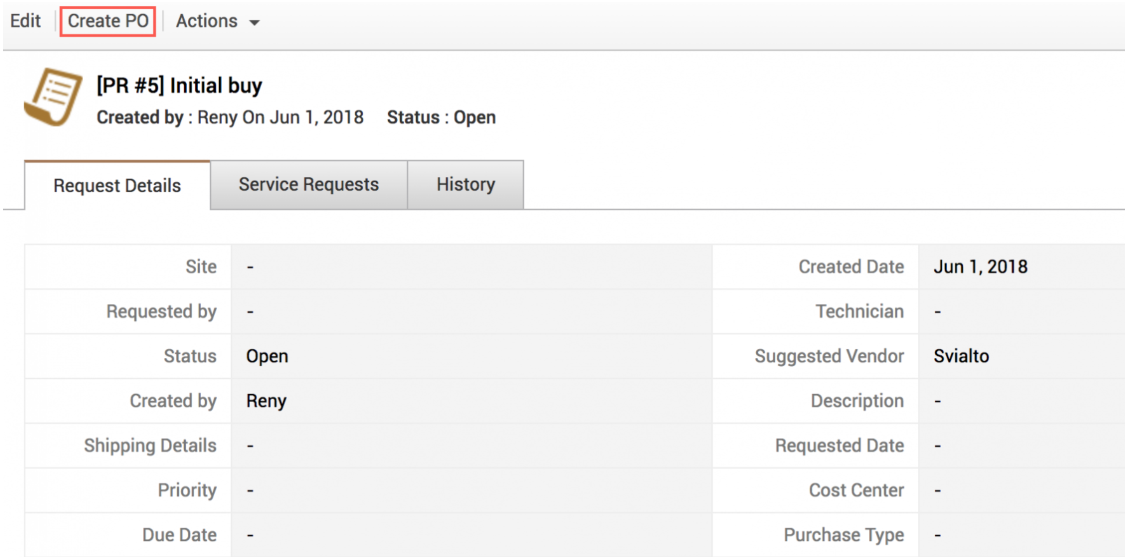
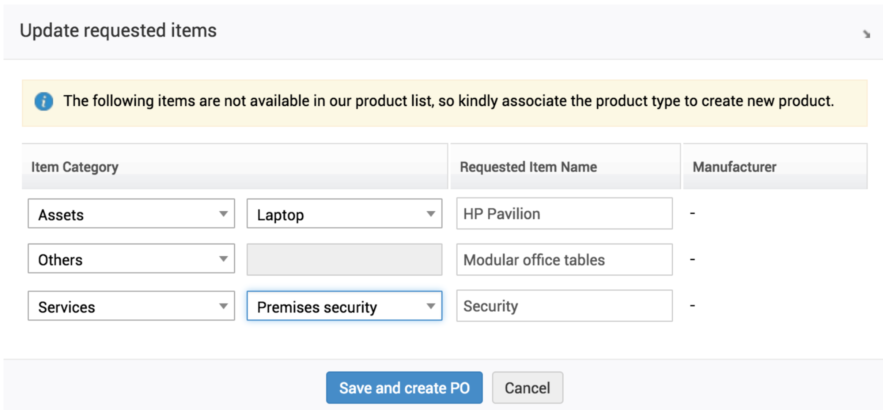
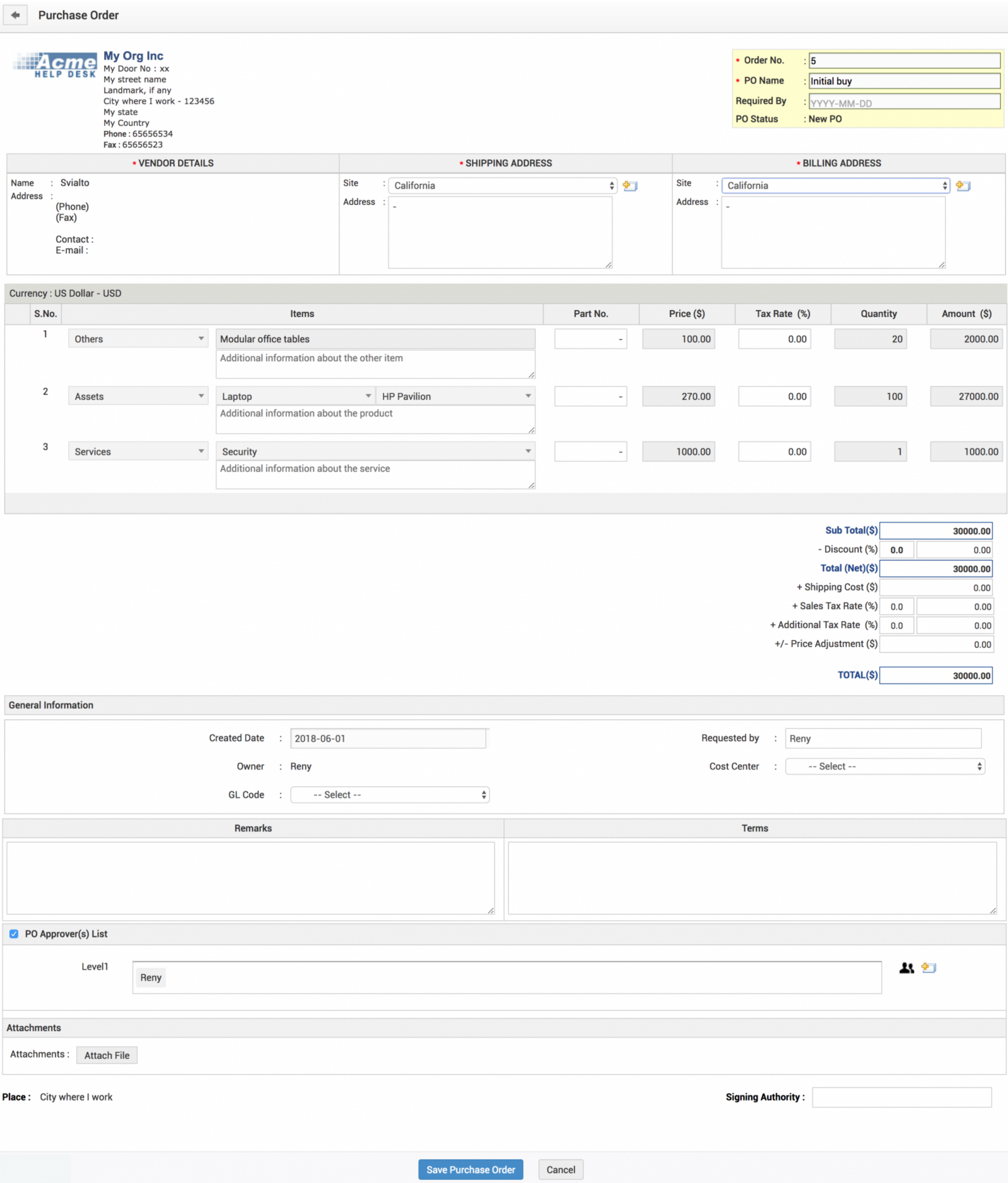
- Click a purchase request from the list view.



- Click **Create PO**.
- On the displayed window, map the purchase request items to corresponding categories and sub-categories (only for asset and service) and click **Save and create PO**.

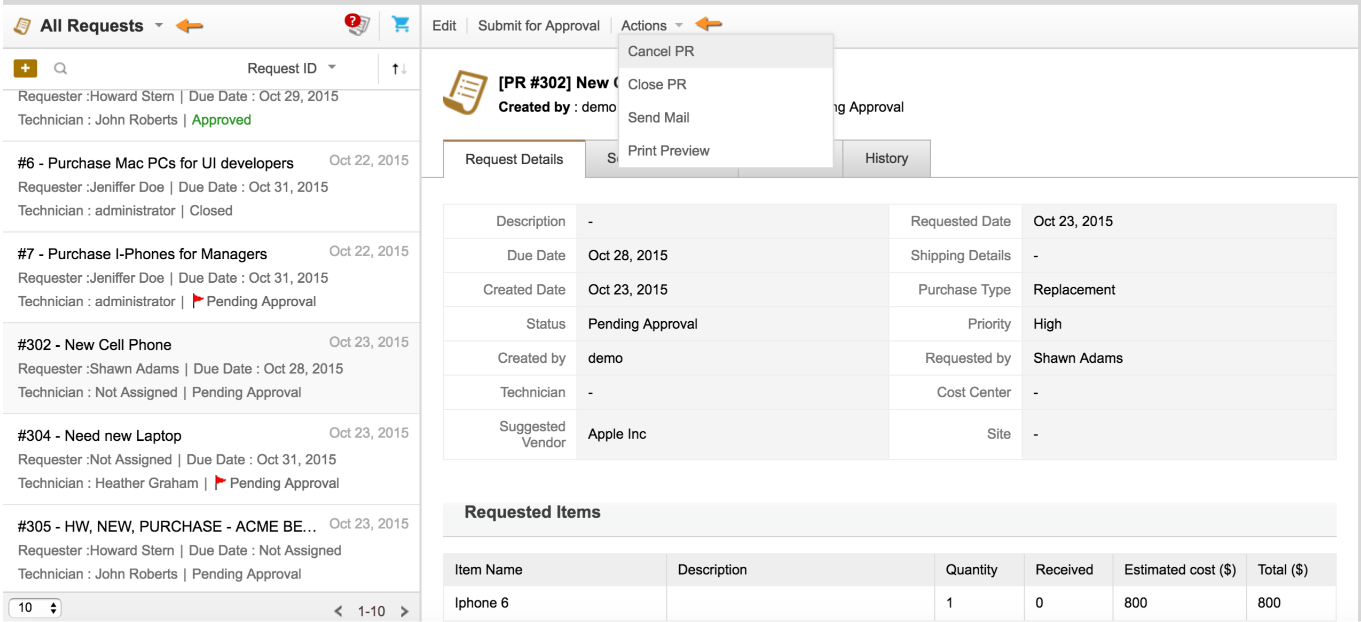


- Fill out the details such as PO name, vendor details, and shippping and billing addresses in the purchase order form.
- You can edit all fields except **Price** and **Quantity** fields.
- To enable the PO approval process, select PO Approver's List checkbox. Then, clcik icon, select the approvers, and click **Add**.
- Use icon to add more approval levels.
- Add attachments, if any and click **Save Purchase Order.**



Using the filters and other options in the Purchase Request page.

Purchase Request page comes with various utility tools such as quick action menus, request status snippet, filters, sort field options etc.

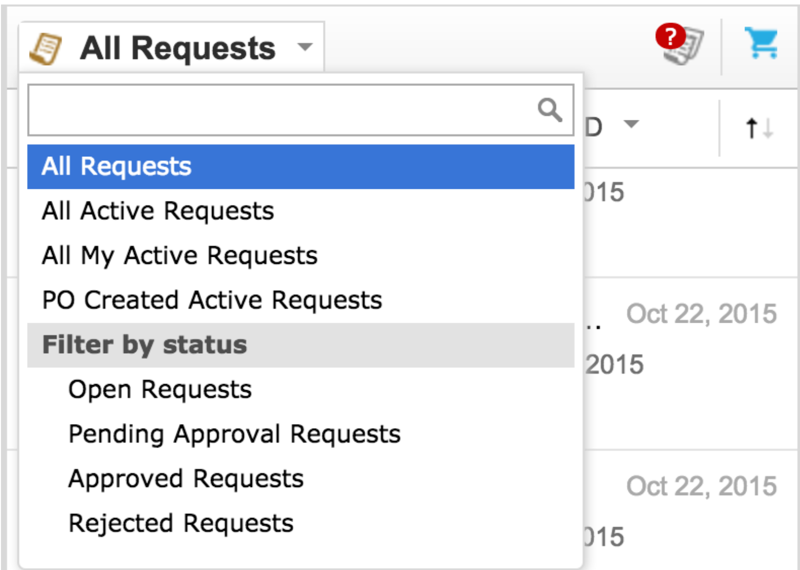


Using the Header menus.

- **Actions** menu lets you to approve a PR, cancel a PR, mail a PR, close a PR and print preview a PR provided you have the permission for it.
- Use the **Edit** option to edit or update a PR.
- Use the **Submit for Approval** option to submit the PR for approval.

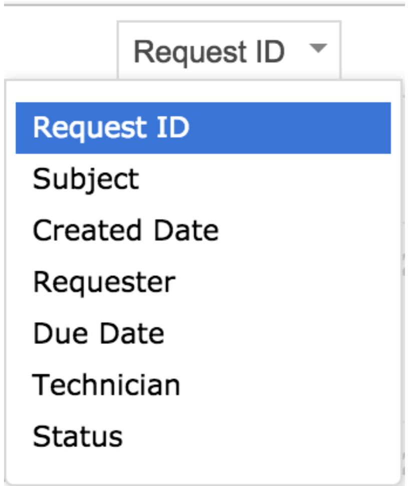
Using the filters and sort field option.

- You can select the suitable filter such as "All Requests", "Approved Requests" etc to be displayed in the PR list view page.



Sorting the requests.

- Select the field to be used in the sorting order of the requests.



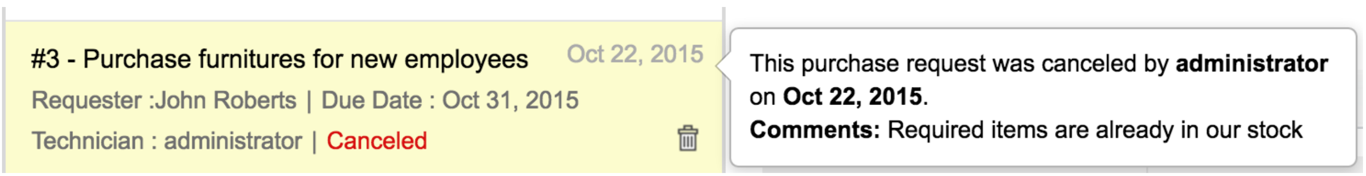
- Use the icon to sort the order of the requests i.e ascending or descending.

Switching over to the Purchase Order page.

- Use the icon to swictch to the Purchase Order Page.

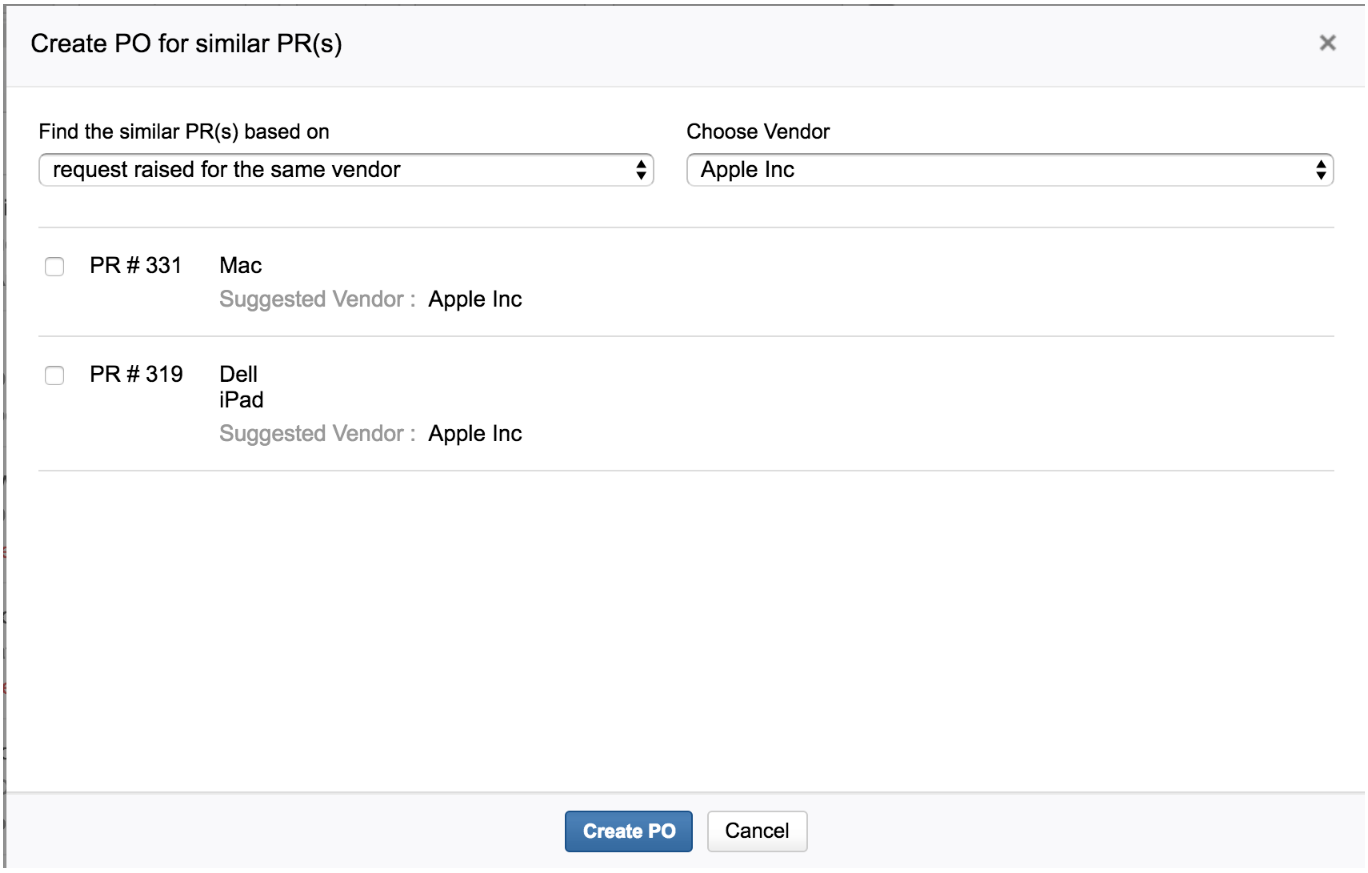
Request Status snippet.

- The current status of the request will be displayed in the snippet. Hover over the request to view the status of the snippet.



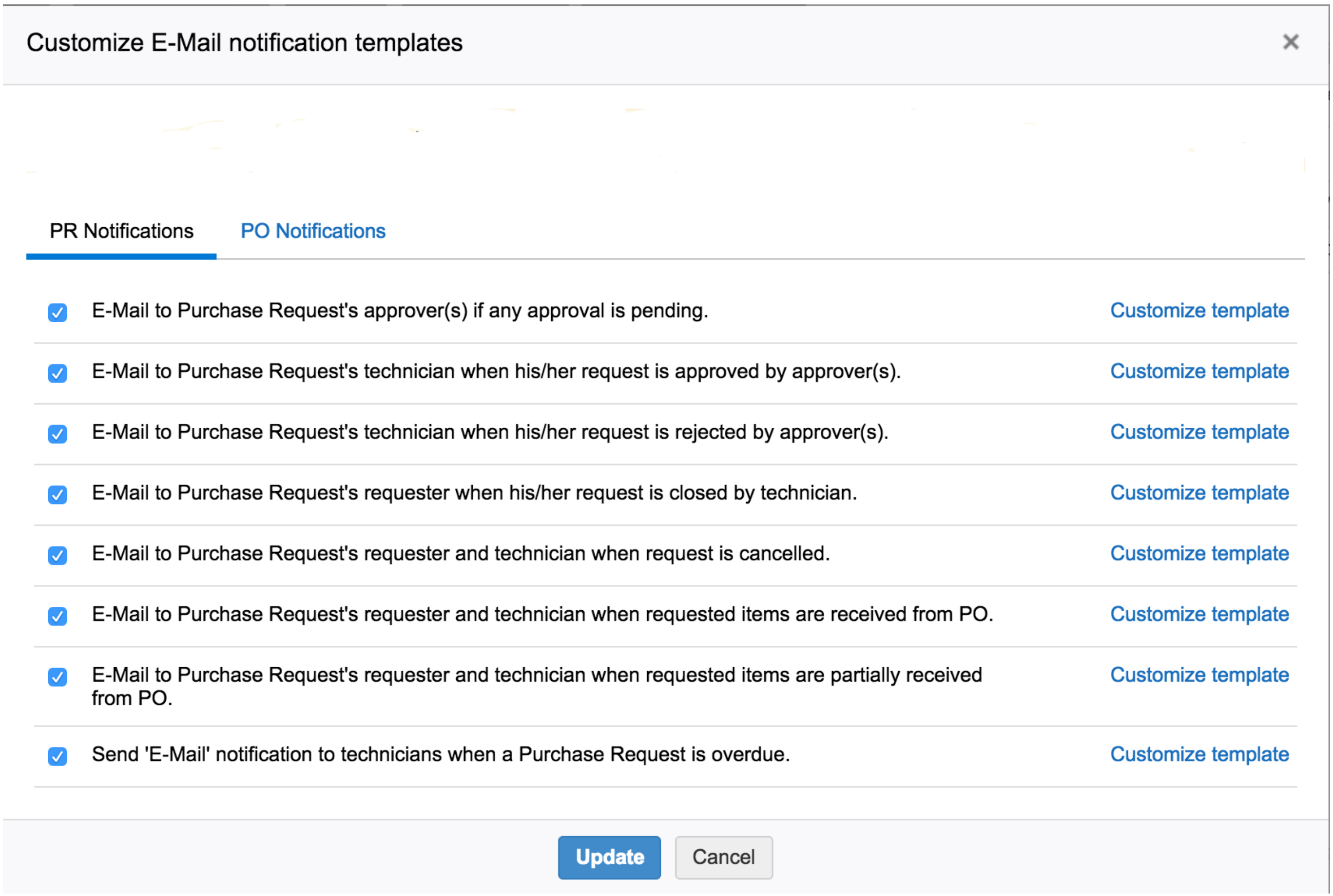
Creating a Purchase Order for similar Purchase Requests

- If there are similar Purchase Requests to create a P.O it can be found by clicking on
- The similar Purchase Requests can also be searched by using the filter option provided.
- Select Purchase Requests and click on **Create PO.**



Purchase Request Notification settings.

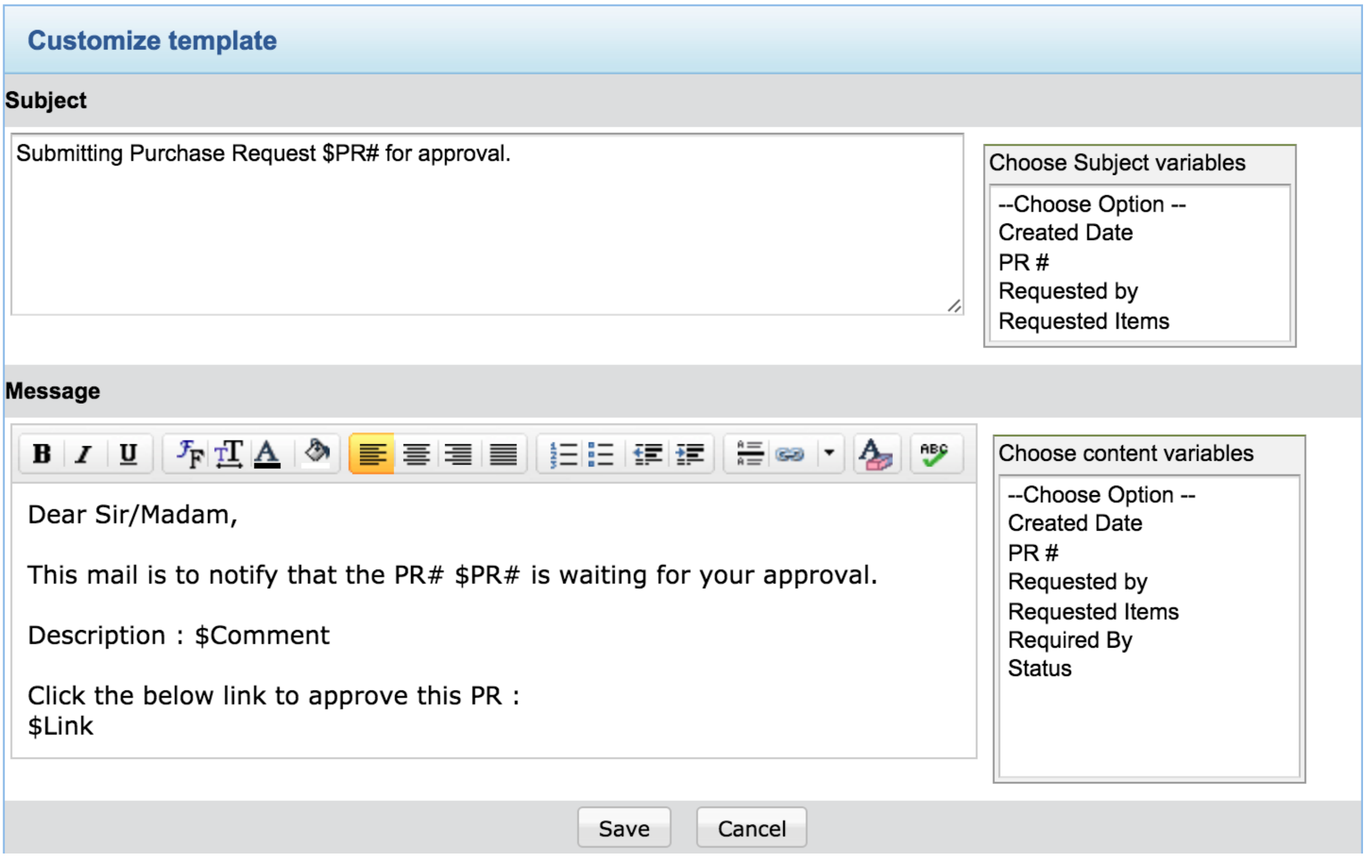
You can configure the notifications to be sent to the technicians, approvers, requesters at various stages of the Purchase Request process by clicking on the Purchase Request Notifications settings icon  on the top.



Customizing the E- Mail notification content

The content in the notification mail can be customized. To customize content of the email,

- Click on Customize template.
- Type in the new content.
- You can choose the subject variables such as "Requested items", "PR" etc and the content variables such as "Status" "PR Link" etc by clicking on them.



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Searching in Purchase

You can search for purchase orders (POs) with the search in purchase option of ServiceDesk Plus application.

To search for POs,

1. Log in to the ServiceDesk Plus application using your user name and password.
2. In the left side, in the **search** block, choose **Purchase** from the **Search in** combo box. If you are in the purchase section, then by default, purchase is selected.
3. In the **Enter Keyword** field, type in your search string.
4. Click **Go** or press the **Enter** key in your keyboard. The search results display all the purchase orders that match the search string.

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Viewing a Purchase Order

To view purchase orders,

1. Log in to the ServiceDesk Plus application using your user name and password.
2. Click the **Purchase** tab in the header pane. This displays the list of All **POs**, by default. If you want to see a PO that is in any other state, then you need to choose corresponding state from the Filter Showing combo box.
3. From the list of POs, click the **PO Name** link of the PO that you wish to view.

The **View Purchase Order** displays the PO details in the same way as in create PO form. The PO header has the name of your organization, logo, and the mailing address. The Order No, PO Name, Required By date and the status can be viewed at the right hand side of the header.

Next, consists of the details about the vendor, such as the vendor's name, address, phone number, fax, and the name of the contact person at the vendor location. Adjacent to this is the billing address and shipping address to which the invoice needs to sent and the assets needs to be delivered respectively.

Finally, the items are listed along with the cost calculations. The item table lists the item name, part no, price ($) per quantity, quantity ordered, and the total cost for the quantity ordered. Below this table, the cost details for shipping and sales tax are displayed and the final total cost of the PO is also displayed.

The General Information consists of, the Created Date, Owner of the PO, PO requested by, the cost center and the GL Code.

If there were any remarks provided for the PO while creating it, they are displayed at the bottom, along with the terms of the PO, attachments and the PO Approver(s) List. The footer consists of the signing authority and Place.

In case of closed POs in the view PO details page, you can also view the received items beside the ordered no of items in the Item List block.

Contracts

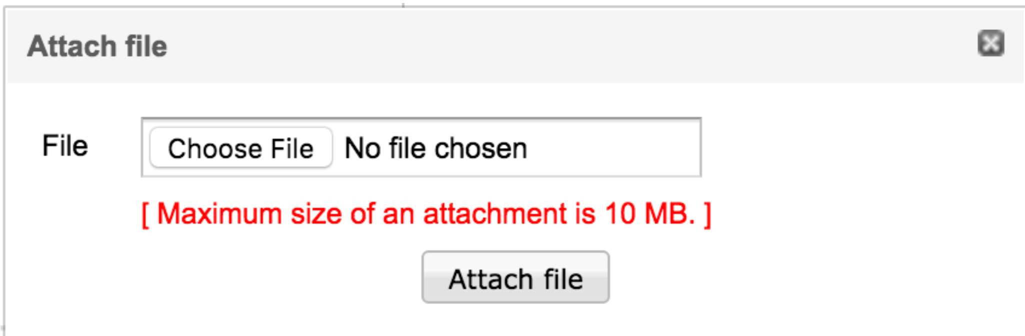
Every organization would maintain an annual maintenance contract with third-party vendors to maintain its infrastructure and function without any major downtime due to bad maintenance of the assets owned by it. ManageEngine ServiceDesk Plus gives you a provision to track such contract details, its date of commencement, and date of expiry, alert you with a reminder in advance about the expiry of the contract, the cost incurred for the purchase and renewal of the contract, the kind of maintenance support provided by the third party vendor, and the third party vendor name with whom the contract has been signed. Any other related documents to the contract can also be maintained along with these details as attachments to the contract. To open the contracts module, log in to the ServiceDesk Plus application using your user name and password and click the **Contracts** tab in the header pane.

Create New Contract

To create a new contract for an asset,

1. Click the Contract tab in the header pane. This opens the contracts list view page.
2. Click the New Contract button in the contract index page. (OR)

   Click Quick Actions drop-down menu --> click Contracts option under Create New. This opens the Add Contract form. This form has three major sections namely,**Contract Details**, **Contract Rules**, and **Notification Rules**.
3. Specify a name for the contract in the **Contract Name** field. This is a mandatory field.
4. Enter a relevant Description for the contract in the respective text field.
5. Select the M**aintenance Vendor from the combo box listing all the vendor names available. This is a mandatory field.** If the vendor is not listed, then click Add New Vendor button beside the combo box.
6. Specify the name of the vendor in the given field. This is a mandatory field.
   - Click Save. The added vendor is selected and is displayed in the combo box. If you do not wish to add a new vendor, then click Close.
   - Specify the Contact Person in the given field.
     - Enter a brief description about the vendor in the respective field.
7. In the **Support** field below it, enter the details regarding the kind of support that will be provided by the vendor to you.
8. You can add files that are related to the contract and are necessary to be maintained and referred to along with the contract information. Click Attach File button. The Attach File window pops up as shown below,



- Click the **Browse** button to open the file selector window.
- Select the file that you wish to add and click the **Attach File** button. The selected file is added and is displayed in the same window just below the file selection field. ***The total size of the attachments should not exceed 10 MB.***
- The attached file gets listed along with the File name and the size. The file can be deleted by clicking the Delete icon beside the file name.
- In the **Contract Rules** section, you need to choose the assets that are to be maintained under this contract

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and mention the maintenance period and maintenance cost. Select the Assets that are covered under the contracts from the Maintained Assets list.

- To add more resources to the list, click Select Resources for this contract link. This opens Select Resources page.
  - Specify the Resource Name or Product Type or Product in the search field.
  - Click Search button to get the result. Select the required resources by enabling the check box.
  - Click Add Items button to add the selected items.
  - Click View Resources>> button to view the selected resources.
  - Click Add Resources to Contract button to add resources to the Maintained Assets list.
  - Click Remove Selected Resources icon to remove selected resources from the list.
- The **Active period** of the contract is a mandatory field where you need to enter the **From** and **To** date of the contract period. Choose the dates from the calendar.
- Enter the maintenance cost in terms of $ in the **Maintenance Cost** field.
- To notify users before the contract expires, select **Enable Notification** check box. Here you need to select the technician who should be notified about the contract expiry.
  - Select the users from the **User List** column. Click **>>** button to move the users to **Notified User List** column.
    - If you want to notify users whose E-mail ID is not entered in ServiceDesk Plus, then you can specify the Email IDs of the users in the field provided for the same.
    - Specify the number of days before which the notification should be sent to the selected users. You can add multiple contract notifications by clicking the icon.
- Click **Save**.

View Contract Details

To view a contract and its details,

1. Log in to the ServiceDesk Plus application using your user name and password.
2. Click the **Contracts** tab in the header pane. By default, the list of Open Contracts is displayed.
3. Select the status of the contract you wish to view using the Filter Showing combo box.
4. Click the **Contract Name** link that you wish to view. This opens the View contract page.

The **Contract ID** is a unique ID given to the contract during the time of its creation. This is system generated and is used to identify and track the contract uniquely. The contract details are grouped under three major heads: **Contract Details**, **Contract Rules**, and **Notification Rules**. Based on the entries made in the contract during the time of its creation, the details will be displayed in the respective section.

In the **Contract Rules** block, the assets that are maintained under the current contract are displayed. These assets are hyperlink to display their respective details. Click any of the asset names to open the **Edit Asset** form. Here you can edit the required information and update the same. To know more on editing assets, refer to the Editing Asset Details section.

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Edit and Delete Contract

Edit Contract

To edit a contract,

1. Log in to the ServiceDesk Plus application using your user name and password or using admin login.
2. Click the **Contracts** tab in the header pane. By default, the list of Open Contracts is displayed.
3. Select the status of the contract you wish to edit using the Filter Showing combo box.
4. Click the **Contract Name** link that you wish to edit. This opens the View Contract page.
5. Click the Edit button on the right hand side of the page. (OR)

   Click Actions combo box - > Edit Contract option. This opens the Edit Contract form.
6. The existing details of the contract are displayed. As the contract ID is a system generated ID, it is not available in the edit contract form. You can edit all the other details.
7. Once you are done with editing, click Save. If you entered wrong information and want to know what the initial values were, then instead of Save, click **Reset**.

Delete Contract

To delete contract,

1. Log in to the ServiceDesk Plus application using your user name and password or using admin login.
2. Click the **Contracts** tab in the header pane. By default, the list of Open Contracts is displayed.
3. Select the status of the contract you wish to delete using the Filter Showing combo box.
4. Click Delete on enabling the check box beside the contract.
5. A pop up window confirming the delete operation appears. Click OK to proceed. The contract will be deleted from the list.

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View Contract Owner Details

By default, the owner of a contract is the person who enters the contract details into the application.

To view the owner details,

1. Log in to the ServiceDesk Plus application using your user name and password or using admin login.
2. Click the **Contracts** tab in the header pane. By default, the list of Open Contracts is displayed.
3. Click the Contract Name link to view the contract owner details. This opens the View Contract details page.
4. Click Actions combo box - > View Owner Details option. A pop up window containing the owner details such as, name, employee id, designation, contact information appears.
5. Click **Close** to close the pop-up.

Renew a Contract

To renew a contract,

1. Log in to the ServiceDesk Plus application using your user name and password or using admin login.
2. Click the **Contracts** tab in the header pane. By default, the list of Open contracts is displayed. Select the status of the contract which you wish to renew using the Filter Showing combo box.
3. Click the **Contract Name** link that you wish to renew. This opens the View Contract page.
4. Click Actions combo box -> Renew Contract option. The **Renew Contract** form is displayed with the contract rules of the original contract. As the contract ID is a system generated ID, it is not available in the renew contract form. The contract name is appended with the word renewed. You can edit the name but ensure that the contract name is unique and does not have the old name.
5. Enter the Description for the contract.
6. Choose the maintenance vendor from the combo box. If the vendor is not listed, then click Add new link beside the combo box. The Vendor Details page pops up. Specify the name of the vendor, description, and the contact person name in the pop-up window. Save the changes.
7. If you have any information on the type of support, enter the same in the Support text area.
8. If there are any documents that you wish to attach to the contract, click the Attach File button. The Attach File window pops up.
   1. Click the **Browse** button to open the file selector window.
   2. Select the file that you wish to add and click the **Attach File** button. The selected file is added and gets listed along with the File Name and size. If you wish to delete any of the file then click the delete icon beside the file. ***The total size of the attachments should not exceed 10 MB.***
9. Select the Assets that are covered under the contracts from the Maintained Assets list. To add more resources to the list,
   1. Click Select Resources link. This opens Select Resources page.
   2. Specify the Resource Name or Product Type or Product in the Search field.
   3. Click Search button to get the result.
   4. Select the required resources by enabling the check box.
   5. Click Add Items button to add the selected items.
   6. Click View Resources>> button to view the selected resources.
   7. Click Add Resources to Contract button to add resources to the Maintained Assets list.
10. The **Active period** of the contract is a mandatory field where you need to enter the **From** and **To** date of the contract period. Choose the dates from the calendar that can be invoked by clicking the icon.
11. Enter the maintenance cost in terms of $ in the **Maintenance Cost** field.
12. Select Enable Notification option by enabling the check box. On enabling you get the User list & Notified User list. To notify users regarding contract expiry select the user from the User list and click forward >> button to move the user to the Notified User List. Specify the days before which the information has to be notified in the Notify before field.
13. Select the check box Disable all notifications for the old contract, to disable notifications of the old contract.

14. Click Save.

Print the Contract

To print a contract,

1. Log in to the ServiceDesk Plus application using your user name and password or using admin login.
2. Click the **Contracts** tab in the header pane. By default, the list of **Open** Contracts is displayed.
3. Select the corresponding filter option from the Filter Showing combo box.
4. Click the **Contract Name** that you wish to print. This opens the view contract page.
5. Click Actions combo box -> click **Print Preview option**. The contract details are displayed in a printable format in a pop-up window.
6. Click the Print option to print the contract details.
7. Set the required options and click OK.

Email the Contract Owner

By default, the owner of a contract is the person who enters the contract details into the application.

To send an e-mail to the owner,

1. Log in to the ServiceDesk Plus application using your user name and password or using admin login.
2. Click the **Contracts** tab in the header pane. By default, the list of **Open** Contracts is displayed in the contract list view page.
3. Click the **Contract Name link of the contract you wish to e-mail the owner. This opens the view contract page.**
4. Click Actions combo box -> E-mail the Owner option. A **Send Notification** window opens with the owner's e-mail ID in the **To** field. The subject reads as **Notification for Contract ID <number>**.
5. If you wish to notify about the contents of the e-mail to anyone else also, then enter their e-mail ID in the CC field.
6. Enter the e-mail content in the **Description** area.
7. Click **Send**. A message is displayed saying that the e-mail has been sent successfully.
8. Click **Close**.

Email Vendor

To notify the vendor,

1. Log in to the ServiceDesk Plus application using your user name and password or using admin login.
2. Click the **Contracts** tab in the header pane. By default, the list of **Open** contracts is displayed in the contract list view page.
3. Click the **Contract Name link of the contract you wish to notify the vendor. This opens the View Contract** page.
4. Click Actions combo box - > click E-mail **the Vendor option**. A **Send Notification** window opens with the vendor's e-mail ID in the **To** field. The subject reads as **Notification for Contract ID <number>**.
5. If you want to send the same notification to anyone else, then add their e-mail ID in the CC field.
6. Enter the e-mail content in the **Description** area.
7. Click **Send**. A message is displayed saying that the e-mail has been sent successfully.
8. Click **Close**.

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Search for a Contract

You can search for contracts with the Search in contracts option of the ServiceDesk Plus application.

To search for a contract,

1. Log in to the ServiceDesk Plus application using your user name and password or using admin login.
2. In the **search** block on the left hand side of the page, choose **Contract** from the **Search in** combo box. If you are in contracts section, then by default, contract is selected.
3. In the **Enter Keyword** field, type in your search string.
4. Click **Go** or press the **Enter** key in your keyboard. The search result displays all contracts that match the search string.

You can search for contracts based on the contract name, asset names added in the contract, and owner of the contract.

View Contracts based on Filters

1. Click Contracts Tab. This brings up the Contracts view list page. By default, the list of Open Contracts will be displayed.
2. Select the corresponding filter option from the Filter Showing combo box. You can view the contracts with different status levels using filters. They are,

- Open Contracts

  Contracts which are active and yet to get expired comes under this category.
- All Expired Contracts

  All the expired contracts will be listed under this category.
- Contracts expired in last 30 days

  Contracts which expired in the last 30 days gets listed under this category
- Contracts expiring in next 7 days

  Contracts, which will be expiring in next 7 days, will b listed under this category.
- Contracts expiring in next 30 days

  Contracts, which will be expiring in next 30 days, will be listed under this category.

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Configuration Management Database (CMDB)

Configuration Management Database (CMDB) is a centralized repository that stores relevant information about all the significant entities in your IT environment. The entities, termed as **Configuration Items (CIs)** constitutes of Hardware, the installed Software Applications, Documents, Business Services and People that are part of your IT system. Unlike the asset database that comprises of a bunch of CIs, the CMDB is designed to support a vast IT structure where the interrelation between the CIs are maintained and supported successfully.

Each CI within the CMDB is grouped under specific CI Types, and is represented with **Attributes** and **Relationships**. Attributes are data elements which describe the characteristics of CIs under a CI Type. For instance, the attributes for CI Type Server would be Model, Service Tag, Processor Name and so on. Relationships denote the link between two CIs that identifies the dependency or connection between them.

The CMDB in ServiceDesk Plus, keeps a track of all the pending requests, problems and change raised for the CI Type - Assets, Business and IT Services. Any impact cause by the malfunctioning of these CIs on other CIs can be identified using the Relationship Map, and specific measures can be adapted to minimize the effect. The CMDB, thus, functions as an effective decision making tool by playing a critical role in **Impact Analysis** and **Root Cause Determination**.

Before you begin populating the CIs into the CMDB, you need to configure the CMDB configurations (Configuration Item Types and Relationship Types) in the Admin tab.

Click on the image below to look at the default CI types of ServiceDesk Plus and it's classification.

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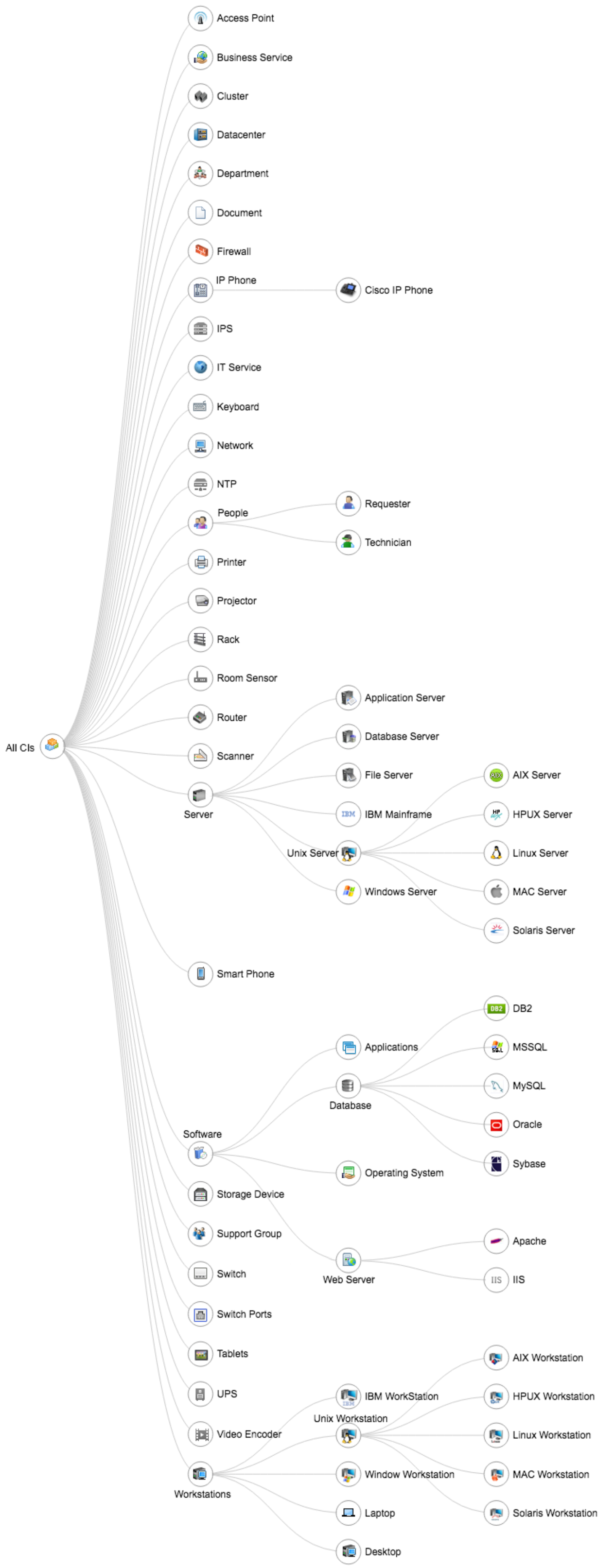
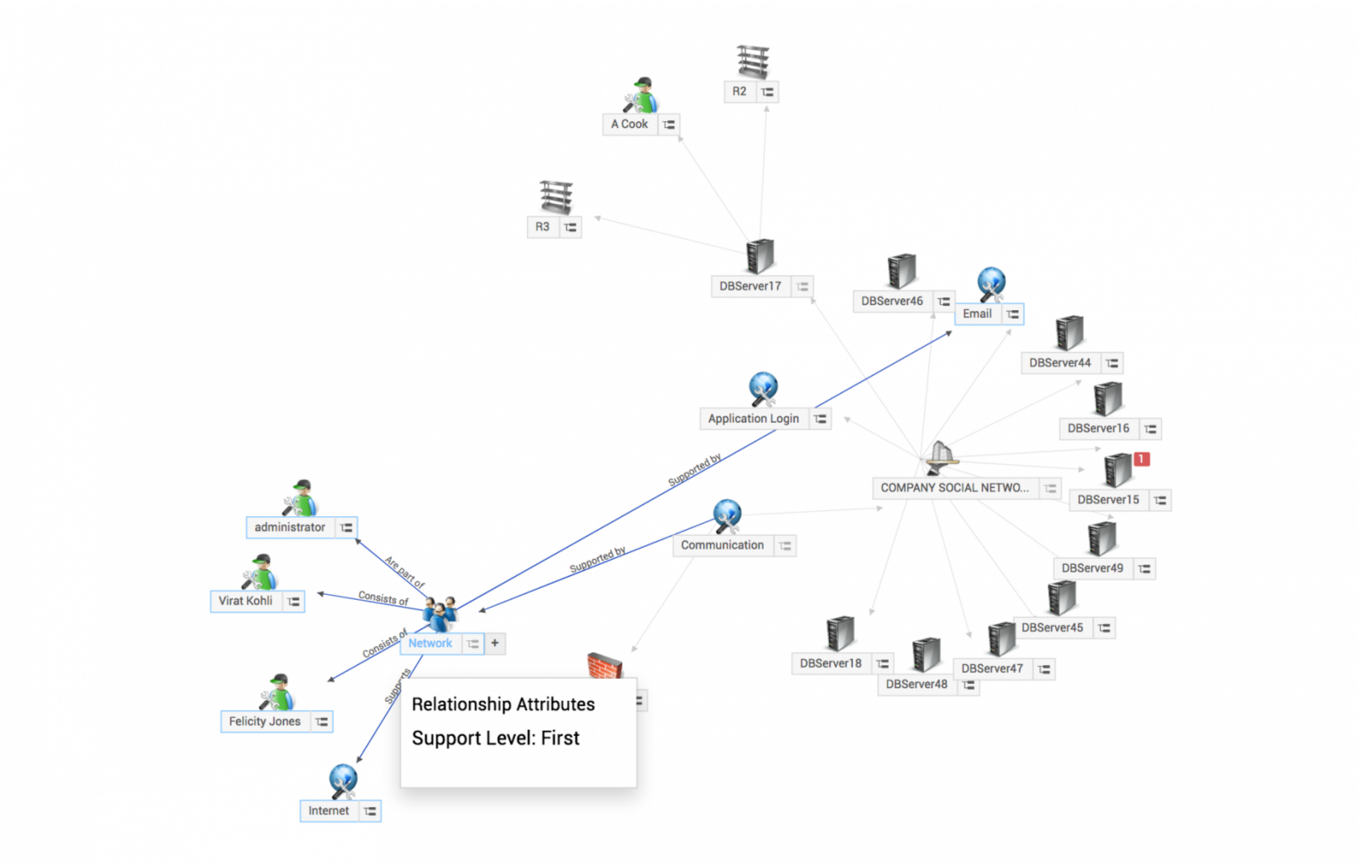


All CIs
Access Point
Business Service
Cluster
Datacenter
Department
Document
Firewall
IP Phone
Cisco IP Phone
IPS
IT Service
Keyboard
Network
NTP
People
Requester
Technician
Printer
Projector
Rack
Room Sensor
Router
Scanner
Server
Application Server
Database Server
File Server
IBM Mainframe
Unix Server
Windows Server
AIX Server
HPUX Server
Linux Server
MAC Server
Solaris Server
Smart Phone
Software
Applications
Database
DB2
MSSQL
MySQL
Oracle
Sybase
Operating System
Web Server
Apache
IIS
Storage Device
Support Group
Switch
Switch Ports
Tablets
UPS
Video Encoder
Workstations
IBM WorkStation
Unix Workstation
Window Workstation
Laptop
Desktop
AIX Workstation
HPUX Workstation
Linux Workstation
MAC Workstation
Solaris Workstation

Below is a sample of how the CI relationship map looks like in ServiceDesk Plus.



CMDB - Admin Configurations

The **Configuration Management Database (CMDB)** module can be accessed by the administrator, and technicians with **CMDB Role**. If you are the administrator or technician having access permission to the CMDB module, then before you go ahead configuring the CIs and their relationships, you need to configure the following Admin configurations,

- Configuration Item Types (CI Types) - Categorize your CIs under specific CI Types.
- Relationship Types - Configure the nature of relationships set between different CIs.

Configuration Item Types (CI Types)

Configuration Item Types (CI Types) denote the broad classification of different entities, under which, the Configuration Items (CIs) are categorized. Any organization specific entity can be considered as a CI Type, such as Business Services, Workstations, Servers, Documents and even the People working for your organization.
Each CI Type can be defined with specific Attributes and Relationships that are unique for the CIs classified under them.
In case your CI Type structure is granulated and possess various types, then you can further drill it down to Sub Types. For instance, the CI Type-Server may possess various sub types such as File Server, Application Server, Database Servers and so on.

To access the Configuration Item Types List view,

1. Click Admin tab in the header pane.
2. In the **Asset Management** block, click Configuration Item Types. The Configuration Item Types List view is displayed.

From this page, you can add CI Types, create new CIs for a CI Type, view CIs under a CI Type, and also view the relationship map with the default relationship attributes.
Topics discussed under this section:

- Representation of Icons in the CI Type List view
- Adding CI Type
- Attributes
  - Setting Attributes for CI Type
  - Using Drag and Drop Field
  - Editing & Deleting Attributes
- Setting default Relationships
  - Adding Relationships
  - Adding Relationship Attributes
  - Viewing Relationship Map
  - Editing & Deleting Relationship

Representation of Icons in the CI Type List View

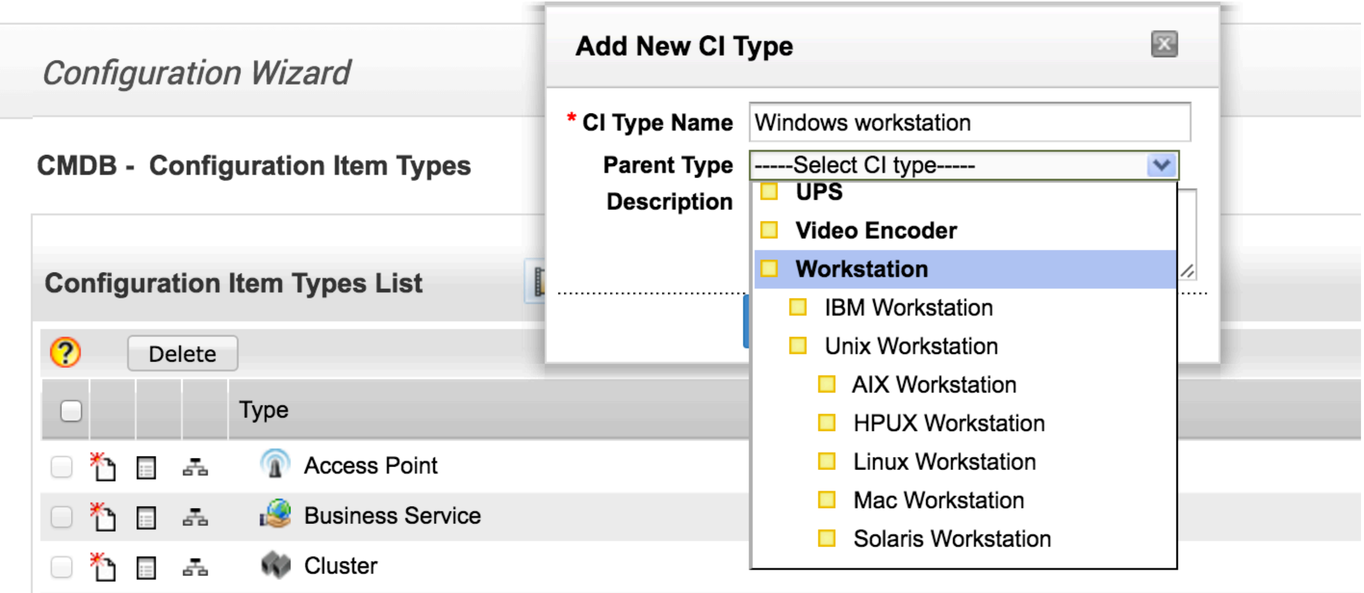
- - To create a new CI under a CI Type. Clicking this icon takes you to the Add New CI form.
- - To view CIs under a CI Type.
- - To view the relationship map for a CI Type. The relationship map holds the default relationships configured for the CI Type.

Adding CI Type

To add CI Type from the Configuration Item Types list view page,

1. Click Add New CI Type link. The Add New CI Type form pops-up.
2. Enter a Name for the CI Type. For example, Workstations, Business Services, Department. This field is mandatory.
3. If the structure of the CI Type is granulated, then you can further drill it into Sub Types. For instance, the CI Type-Workstation can be further drilled down into Sub Types like IBM Workstation, Unix Workstation and Windows Workstations.

   If the entered CI Type name is a sub type, then select the Parent Type from the drop down.



4. Enter brief Description about the CI Type in the field provided.
5. Click Save button.

The page navigates to the Edit Configuration Item Type with the CI Type name, Parent Type and Description pre-populated with the specified values.

6. Choose an Icon to depict this CI Type in the list view. By default, an icon is uploaded for the CI Type. To upload a different icon, click Change link. Click Browse to select the image and click Import Image button.

NOTE: The support formats to import images are jpg, gif and png.

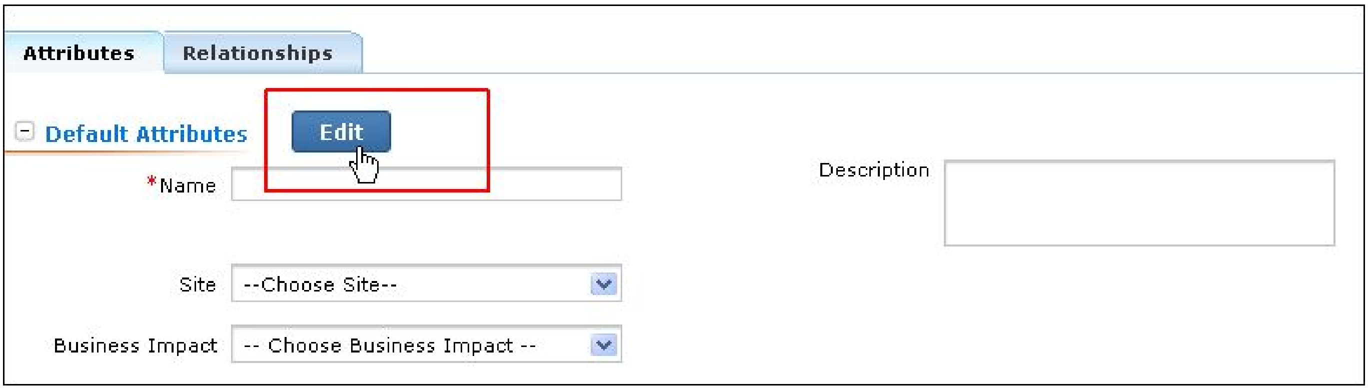
7. Most of the CIs populated in the CMDB may be assets or components, such as Workstations, Servers, Access Points, Keyboards and so on. These CIs can be tracked as assets in the asset database.

To track CIs under a CI Type as an IT or Non-IT assets/components in the Asset module, enable Track as asset check box. Select the Category and asset Type from the drop down.
NOTE: The Track as asset option is available only for the parent CI Type.

Attributes
Attributes are data elements that describe the characteristics of the CI Type. For instance, the attributes for the CI Type-Workstation could include Model, Service Tag, IP Address, Processor Speed and so on. By default, the form displays the Attributes tab.

Setting Attributes for CI Type

You can set two types of attributes for a CI Type namely, Default Attributes and Attributes Specific to CI Type. Default Attributes are common to all the CI Types, such as Name, Site, Department and so on. To add a default attribute, click Edit button. [Refer Using Drag and Drop Fields topic to know more on configuring default attributes].



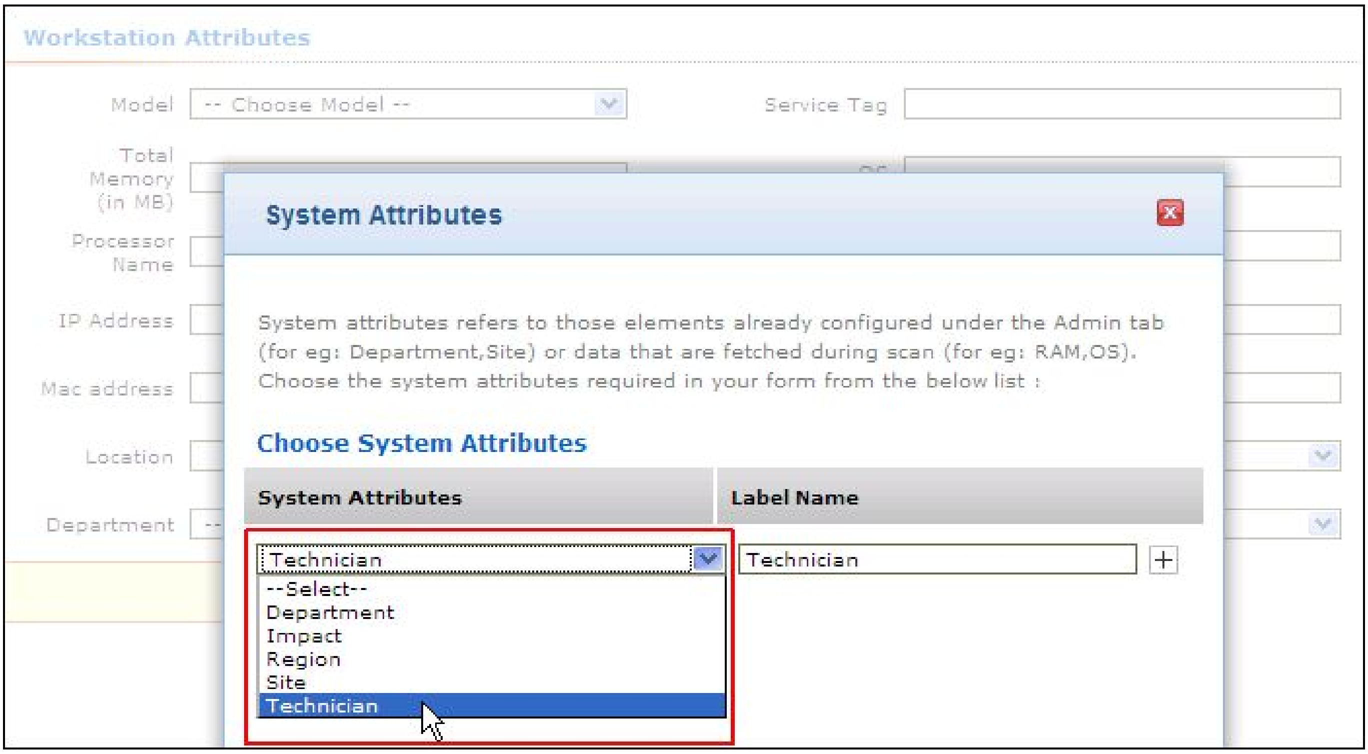
CI Type Specific Attributes provide more information on a particular CI Type. The attributes for the CI Type-Workstation can be considered as the attributes specific to the CI Type. The attributes, default attributes and CI Type specific attributes, are configured using the Drag and Drop fields.

Using the Drag and Drop Fields

The Drag and Drop Field section consists of different customizable fields such as, Single line, Multi line, Pick List, Numeric and Date fields. Apart from these customized fields, System Attributes (entities configured in the Admin tab or data fetched during scan) can also be set as attributes for the CI Type.

Adding System Attributes

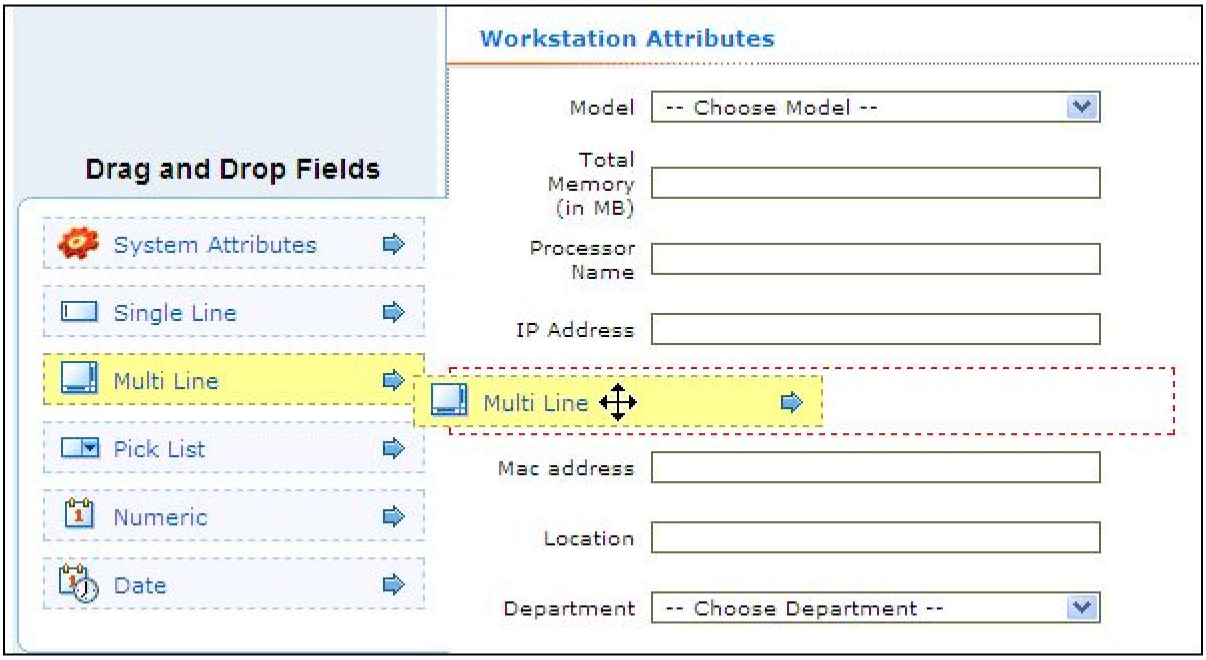
1. Drag the System Attribute field in the form. The System Attributes form opens.
2. Choose the System Attributes from the drop down. You can enter a different name for the system attribute in Label Name field.



2. Click icon to add another system attribute.
3. Click Add button to add the system attribute(s) in the form.
4. Click Save.

Adding Customizing Fields
To add the other customized fields,

1. Drag and drop the field (Single Line, Multi Line, Pick List, Numeric or Date field) in the CI Type attribute form.



2. The Add Attribute form pops up where you need to enter the Attribute Name and Description. In the case of Pick List fields, enter the options to add to the list.
3. Click Save. The customizable field is added in the form.

You can re-arrange fields in the form by dragging the fields and placing it over the highlighted area.

NOTE:

1. Newly added Product Type with Type field as Assets or Components will be considered as CI Type and populated automatically in the CI Type List view.
2. You cannot create a sub type for the CI Type - People. Instead you can create sub types for Requesters and Technicians.
3. The sub types inherit the Attributes and Relationships from the parent CI Type. Apart from this, attributes and relationships can also be configured for sub type.

Editing CI Attributes
To edit a customized attribute,

1. Click the Edit icon beside the field to modify. The Edit Attribute form pops up with the values pre-filled while adding the attribute.
2. Modify the Attribute Name and Description field.

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3. Click Save. The form is populated with the newly added changes.

Deleting CI Attributes
You can remove unwanted attributes from the CI Type form. To delete a customized attribute,

1. Click the Delete icon beside the field. A dialog box confirming the delete operation appears.
2. Click OK to proceed. The field is removed from the form and is added to system attributes list.

WARNING: Deleting a CI Type attribute will remove the attribute from the form. You may lose the data configured for the attribute in the CI form.

Setting Default Relationships
You can establish default relationships between the newly added CI Type and other CI Types from the Relationships tab. For instance, the relationship set for the CI Type Workstation can be,

Workstation	Runs	Software
(Newly added CI Type)	(Relationship Type)	(CI Type)

the inverse of this relationship type will be automatically added for CI Type - Software as,

Software	Runs on	Workstation
(CI Type)	(Relationship Type)	(CI Type)

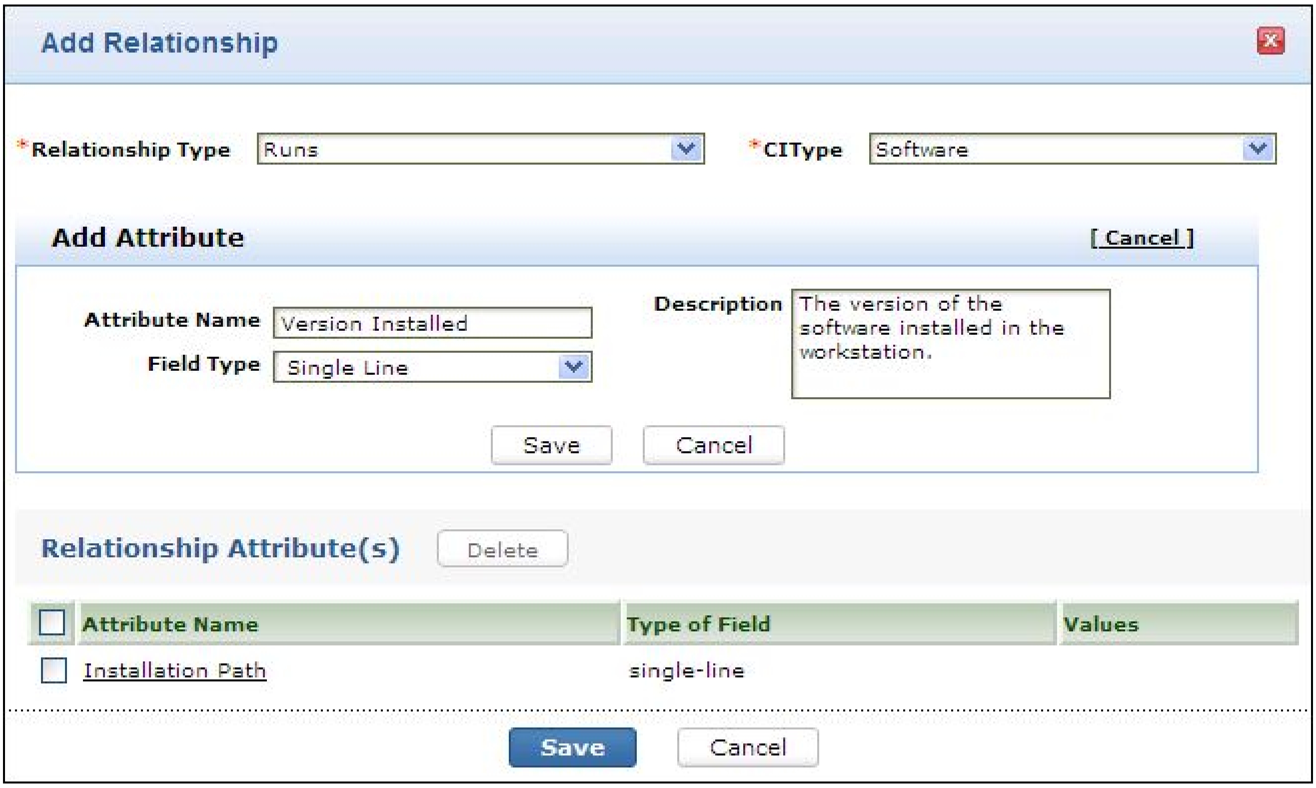
Setting default relationships provides feasibility while adding relationship between the CIs categorized under the CI Type. For a sub type, the parent CI Type relationships are adapted, apart from which new relationships can also be created. Using the Relationship Map, the relationship configured with other CI Types can be viewed, and the map can be exported or printed.

Adding Relationships
To establish a relationship between two CI Types,

1. Click Relationships tab in Edit Configuration Item Type form.
2. Click Add button. The Add Relationship form pops up.
3. Select the nature of the relationship between the CI Type and another CI Types from Relationship Type drop down.
4. Select the CI Type to which the relationship is established. Both the Relationship Type and CI Type are mandatory fields.
5. Click Save. The attributes associated to the relationship can be set.

Adding Relationship Attributes
Relationship Attributes provides more information on the relationship between the CI Types. For instance, the relationship attributes between the CI Type Workstation and Software can be, the Version of the software installed, the Installation path, Installed on, service pack details and so on.
To add relationship attributes,

1. Click Add Relationship Attribute button.
2. Enter the Attribute Name. Say, Version Installed.
3. Select the Field Type from the drop-down. The field type can be either Single Line, Multi Line, Pick List, Numeric or date field.
4. Enter brief Description about the relationship attribute in the field provided.
5. Click Save. The attribute is added to the relationship attribute list.



To delete a relationship attribute,

1. Enable the check box beside the Attribute Name in the Add Relationship form.
2. Click Delete button. A dialog box confirming the delete operation appears.
3. Click OK to proceed. The relationship attribute is deleted from the list.

Relationship Map

The default relationships configured with other CI Types are viewed in the Relationship Map. Click Relationship Map icon to view the map.

Editing Default Relationships

To edit a CI Type relationship,

1. Click the edit icon beside the CI Type relationship to edit. The Edit Relationship Type form pops up pre-filled with values configured while adding the relationship.
2. Modify the Relationship Type and CI Type. Both the fields are mandatory.
3. Even while editing, you can add new relationship attributes or edit the existing relationship attributes by clicking on the Attribute Name link.

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4. Click Save.

Deleting Default Relationships

To delete a CI Type relationship,

1. Click the delete icon beside the CI Type relationship. A dialog box confirming the delete operation appears.
2. Click OK to proceed. The relationship is deleted from the CI Type relationship list.

WARNING: Deleting a CI Type relationship will remove the relationship from the relationship map.

Relationship Types

Relationship Types denotes the nature of relationship between a CI and another CI. It shows how the CIs are interconnected and interdependent with other CIs. The Relationship Type is expressed twice, one as Relationship Type and the other as Inverse Relationship Type. Some of the examples of relationship types are Runs::Runs On, Sends data to::Receives data from, Located In::Houses and so on.
Let's take a look at an example with the Relationship Type as Runs::Runs On. The relationship between a server and application is expressed as Server1 Runs Application1, while the relationship between the application and server is automatically expressed with the inverse relationship type, Application1 Runs On Server1.
Using relationship types, CI Type relationships can be set from Admin -> CI Type and from the CI form. For establishing relationship using the Relationship Types, refer Relationships under CI Types.

To access the Relationship Type configuration wizard,

1. Click the Admin tab in the header pane.
2. Click Relationship Types under the **Asset Management** block. The Relationship Types List view opens,displaying the default relationship types. From this page, you can add a new relationship type, edit relationship type and perform bulk delete of relationship types.

Adding New Relationship Type

1. Click Add New Relationship Type link.
2. In the Add New Relationship Type form, enter the Relationship Type and the Inverse Relationship Type. For example, Runs::Runs On. Both fields are mandatory.
3. Enter brief Description about the nature of the relationship type in the field provided.
4. Click Save. The relationship type is saved and displayed in the list view. To cancel the operation and return to the list view, click Cancel.

Editing Relationship Type

1. In the Relationship Types List view, select the relationship type to edit. The Edit Relationship type form opens with the fields pre-filled with values entered while adding the relationship type.
2. Modify the field values for Relationship Types, Inverse Relationship Type and Description.
3. Click Save. The changes are saved and displayed in the list view. If you do not want to edit the relationship type, then click Cancel.

NOTE: The following default relationship types cannot be edited, Depends On::Used By, Uses::Used By, Runs::Runs On, Connected to::Connected to and Includes:: Member of.

Deleting Relationship Type

To delete the newly added relationship types from the list view,

1. Enable the check box beside the Relationship type to delete.
2. Click the Delete button. A dialog box confirming the delete operation appears.

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3. Click OK to proceed. The relationship type(s) is deleted from the list view.

NOTE: Please note that the pre-configured relationship types cannot be deleted.

Populate CIs in CMDB

The CMDB, when catered to the IT environment, functions as a decision making tool, impact and root cause analyzer. But, by populating a large amount of data, your CMDB may turn complex, causing a loss in structure and information, thereby making its analysis less effective.
So how can you build an efficient CMDB without turning it complex? ServiceDesk Plus gives you a step-by-step process to identify the essential CIs and populate them in your CMDB.

Steps to populate CIs in CMDB
To set up a less complicated CMDB design, strategize on your CI List and their supported attributes and relationships. Given below are 3 easy steps through which you can effectively populate CIs in your CMDB.

Step #1: Narrow down the CI List
The first step is to identify the business critical CIs as per your organizations environment. Next, group them in appropriate CI Types. Each CI Type holds its own attributes and relationships that are defined with key stakeholders from the Service Catalog Management, Change Management and the likes.
Some of the entities that can contribute to your CI list are,

- Business Service
- Hardware (IT and Non IT assets, components)
- Software (which are installed in the server/workstation like applications, operating systems, database)
- Department
- Documents (license agreement, contract, lease agreement)=
- Users and Support Groups

NOTE: Please note that not all software are considered as CIs. The software which are installed in the server/workstation, and group under a CI Type are alone considered as Configuration Items (CIs).

Step #2: Populate the Configuration Items
After the CI List is strategized and confirmed, you need to populate the Configuration Items (CIs). ManageEngine ServiceDesk Plus gives you various ways through which you can effectively populate CIs into your CMDB.

Populate Workstation/Devices

- Windows Domain Scan
- Network Scan

Populate Users/Technicians

- Importing from Active Directory (for Windows machine)
- Importing from LDAP

Populate other CIs such as IT services, Business Services, Department

- Importing CIs from CSV file
- Manual Addition of CIs

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NOTE: Make sure that the CI information in your CMDB is updated from time-to-time.

Step #3: Create the Information Model

The overall information model is complete only when the relationships between the CIs are defined. While populating Configuration Items using any of the methods in Step 2, the inter-dependencies between the CIs are identified and established. The relationships can be viewed from the Relationship Map which helps in impact and root cause analysis.

Import CIs from CSV file

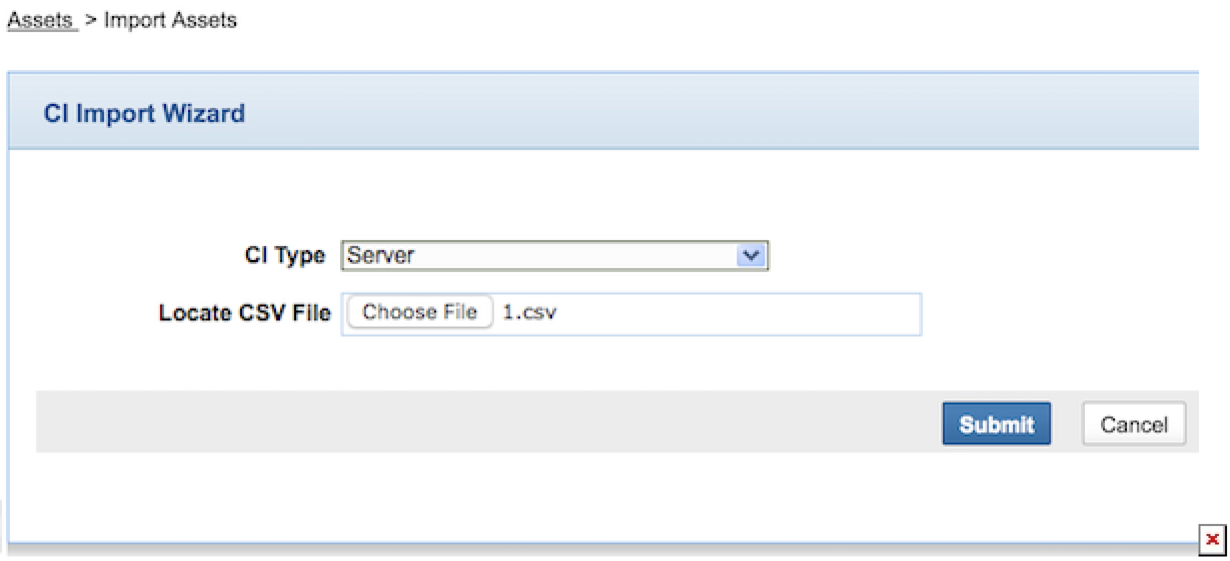
You can import Configuration Items (CIs) recorded in a CSV file using the "Import CIs from CSV File" option. This easy-to-use import option in ServiceDesk Plus allows you to import the CI information from the existing database, as well as from other applications.

Steps to Import

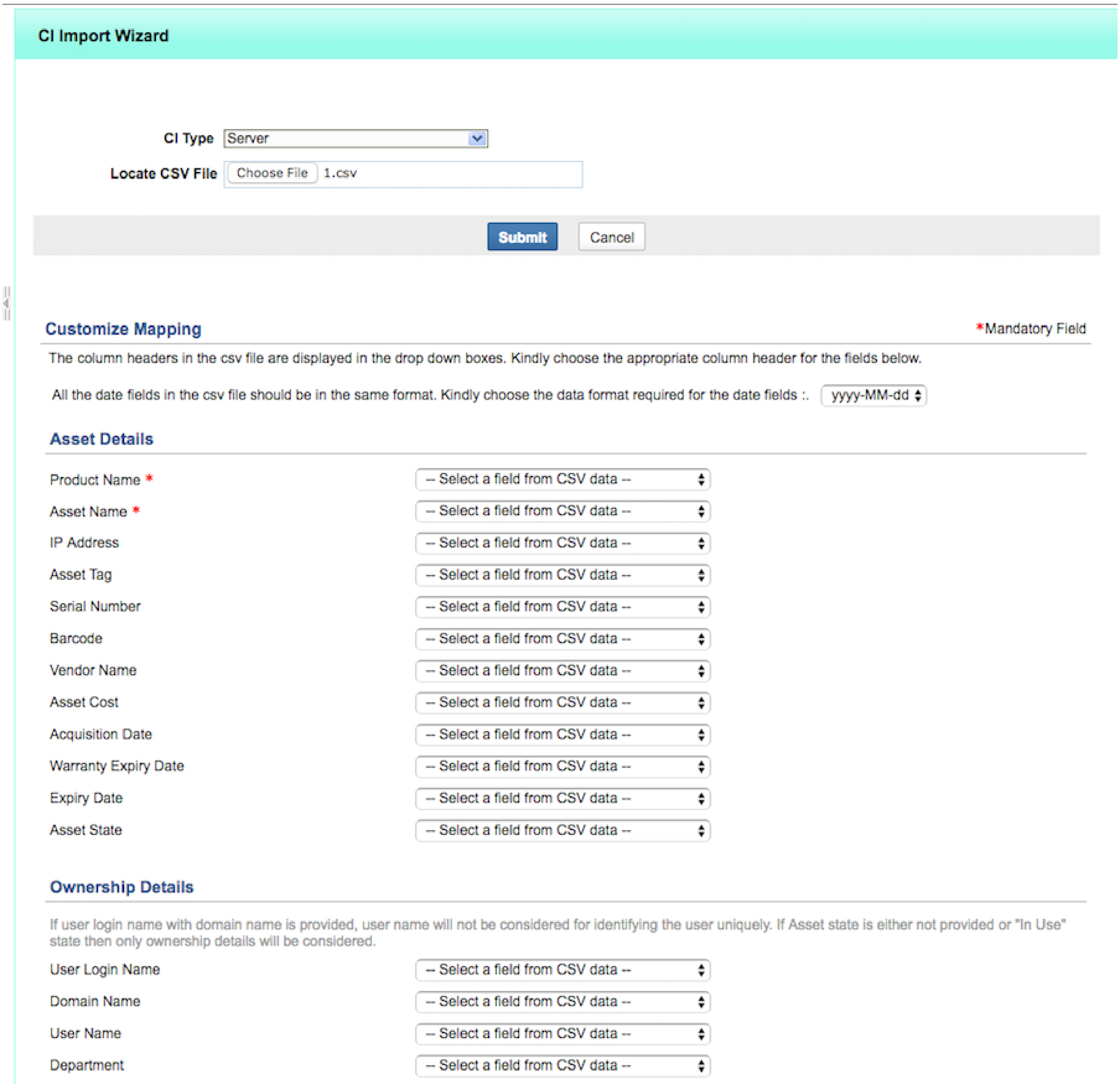
1. Click **CMDB** tab in the header pane. The page displays all availabe CIs.
2. Click **Import >> CIs from CSV** option. The **CI Import Wizard** is displayed.

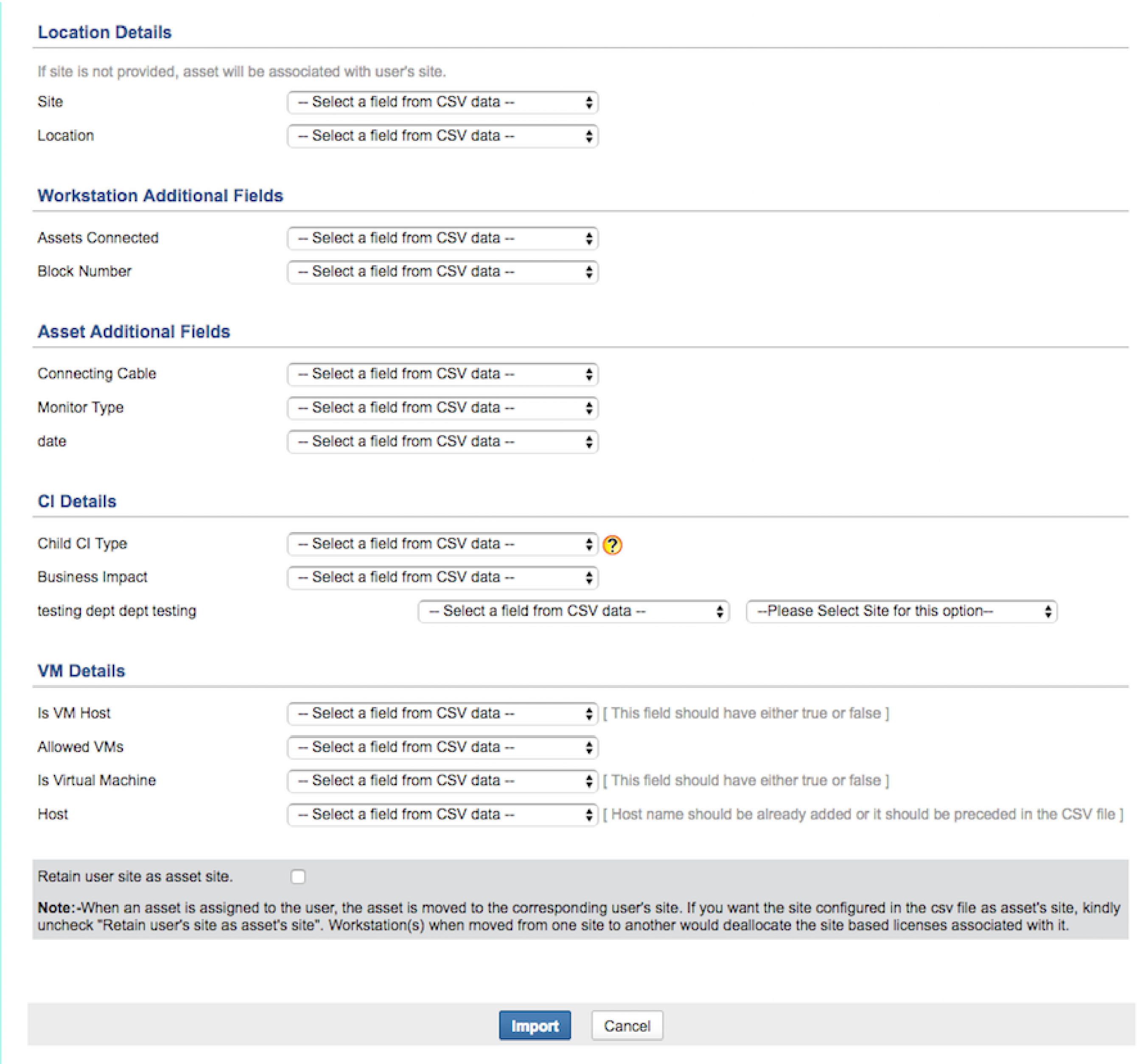
Locate CSV file:

3. Select the **CI Type** (say, Server) for which the CIs should be imported.
4. Click the **Choose File** button to locate the CSV file.
5. Click **Submit**.



6. The column headers in the uploaded CSV file are displayed in drop down boxes as shown below.


CI Import Wizard
CI Type
Server
Locate CSV File
Choose File
1.csv
Submit
Cancel
Customize Mapping
*Mandatory Field
The column headers in the csv file are displayed in the drop down boxes. Kindly choose the appropriate column header for the fields below.
All the date fields in the csv file should be in the same format. Kindly choose the data format required for the date fields :.
yyyy-MM-dd
Asset Details
Product Name *
Asset Name *
IP Address
Asset Tag
Serial Number
Barcode
Vendor Name
Asset Cost
Acquisition Date
Warranty Expiry Date
Expiry Date
Asset State
-- Select a field from CSV data --
Ownership Details
If user login name with domain name is provided, user name will not be considered for identifying the user uniquely. If Asset state is either not provided or "In Use" state then only ownership details will be considered.
User Login Name
Domain Name
User Name
Department
-- Select a field from CSV data --



Customize Mapping:

7. Select the date format to represent all the date fields. Remember, all the date fields in the CSV file should be of the same format.
8. Choose the appropriate column headers for the fields displayed. For example, if you have selected the CI Type as Server, specify the Asset Details by selecting from the respective combo boxes. The columns in CSV file are populated in the select boxes beside each field label (Refer the above screenshots).
9. Click **Import** button. The details of the CIs from CSV are imported.

On completion, the result is shown with details like the number of records added and overwritten, and the number of records failed to import.

Notes:

i) If the CI Type chosen is a parent and if a CI row in the CSV file corresponds to sub CI Type, then the same can be mapped during customize mapping.
ii) The sub CI Type specified in the CSV file should already be configured in the application.

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iii) If existing CIs are imported again under a different CI Type, then the CIs are grouped under the new CI Type.
iv) If there are any failure records while importing the CIs, do not re-import the same CSV file. Instead, download the "FailedCIsList.csv" file available in the Imported Result page, correct the errors and then import to avoid duplicate CIs.

Import CI Relationships from XLS file

CI Relationships

CI Relationships are the relationships between CIs that differentiate CMDB from Asset database, thus constituting a major part of your CMDB. A CMDB without relationships constitutes a bunch of CIs in a single database, fetched through scan, or import process, or by manual addition. The relationships on the other hand, allow the users accessing the CMDB, to understand the inter-dependencies between the CIs. So, in case of a failure, the impact caused on another CI can be easily identified.

The XLS File

The CI relationships can be imported from a XLS file to add relationship between the CIs. The CI relationships are specified in a XLS file and then uploaded. Once the CIs relationships are recorded in a XLS file, then you can import the same using "**CI Relationships from XLS**" option.

XLS File format:

The XLS file is read line-by-line and the relationships given are added to the database.

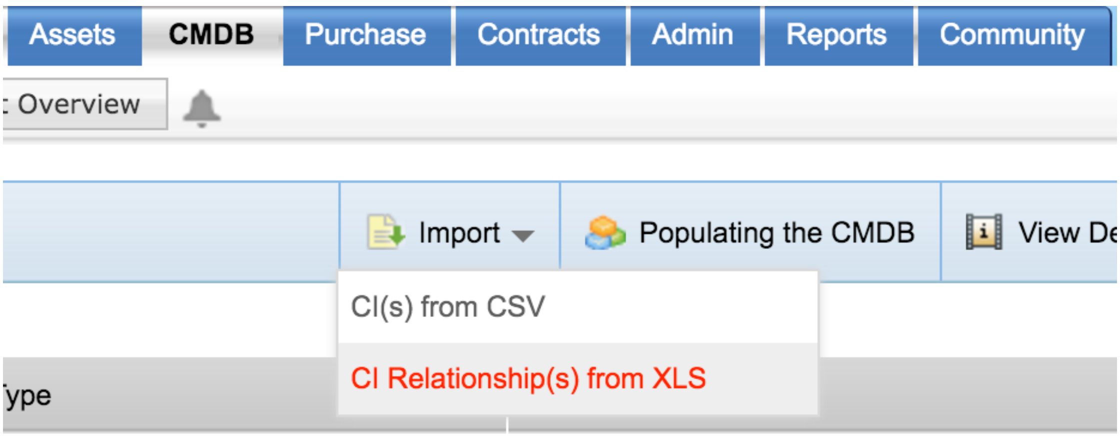
Name of CI1	Relationship	Name of CI2

Example:

Server1	Connected	Printer1
Router1	Used by	Server1
Server1	Runs	MySql

Steps to Import CI Relationships from XLS file

1. Click **CMDB** tab in the header pane. By default, the CIs under Business Service are displayed.
2. Click "**Import -> Import CI Relationship(s) from XLS**".



3. The **Import CI Relationships from XLS** wizard is displayed.

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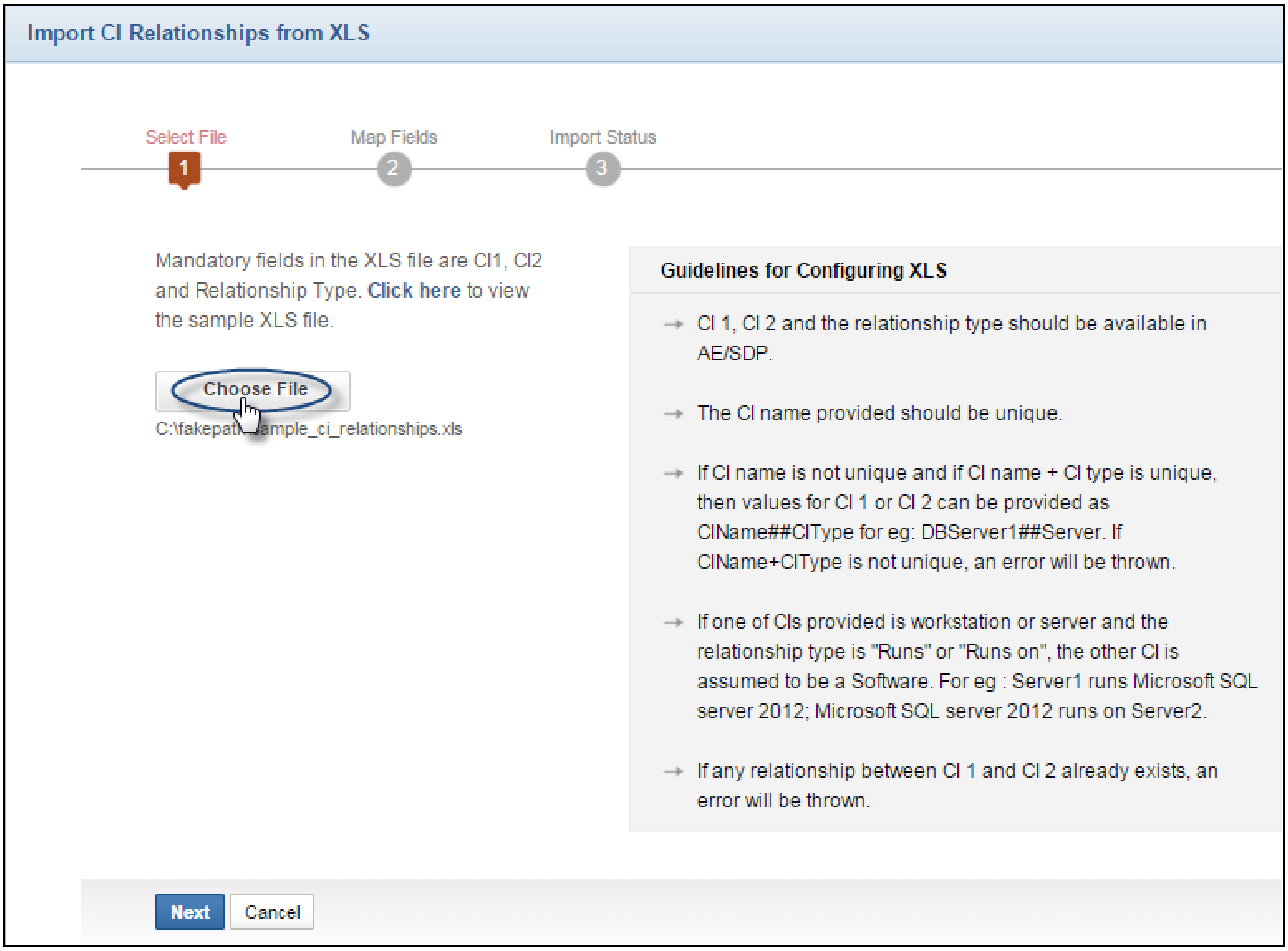
Step #1: Locate XLS file

1. From the **Import CI Relationships from XLS** wizard, click the **Choose File** button to select the XLS file.
2. Locate the XLS file by using the file chooser window and click **Open**. The path to the file appears automatically below the **Choose File** button.
3. Click **Next**.

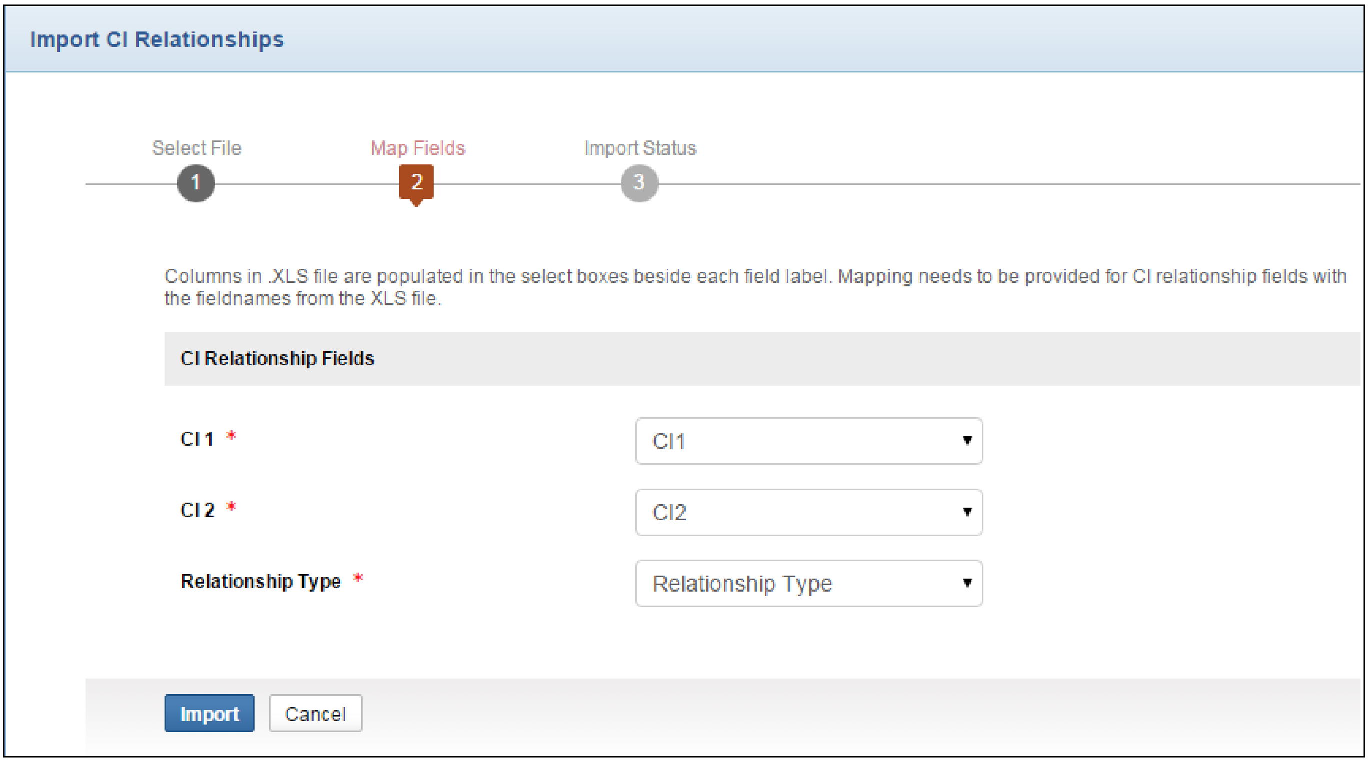


Note: You can view the sample XLS file by clicking the **Click Here** link. The guidelines for configuring the XLS file are listed beside the **Choose File** button.

Step #2: Map Fields

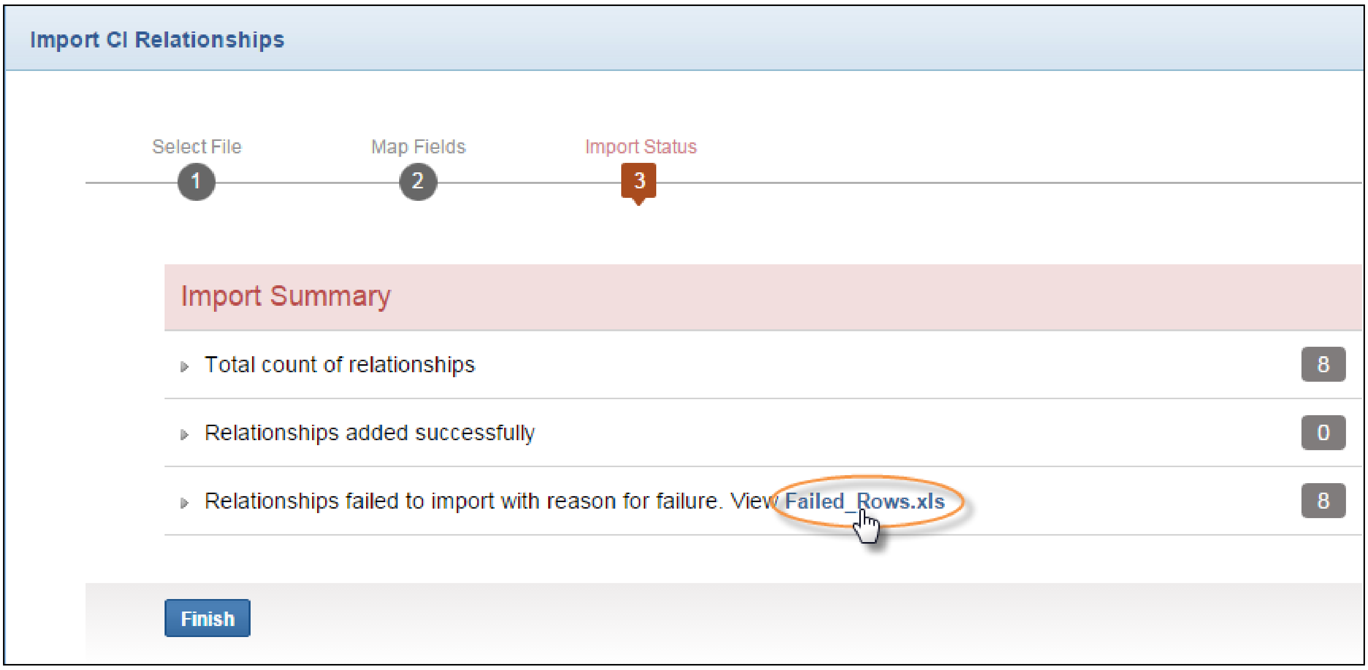
The columns in XLS file are populated in the select boxes beside each field label. Mapping needs to be provided for CI relationship fields with the fieldnames from the XLS file. Map the CI Relationship Fields.

1. Choose values for **CI1**, **CI2** and **Relationship Type**.
2. Click **Import**. The details of the CI relationships are imported from the XLS file.



Step #3: Import Status

1. On clicking the **Import** button in the previous wizard, the **Import Summary** is displayed along with the details shown in the below screenshot.
2. Click the **Failed_Rows.xls** link to view the list of CI relationships that have failed to import. The relevant error descriptions, i.e., the reasons for the failure, are also listed in the XLS file.
3. Click **Finish**.



Error XLS Description:

If an entry fails, error is reported to the user and all the other entries are processed. Is is assumed that all the CIs in the XLS already exist. In the case of IT assets, the user can specify the CI name as a simple Host name and FQDN is not required. Only the first sheet in the xls file is considered. The errors are generated in XLS format as given below:

Name of CI1	Relationship	Name of CI2	Description of the error

The **File name** will be *Failed_Rows.xls*. The file is stored in '*/bin/Attachments/CMDB/<user_id>/*'. Only the latest files uploaded are stored and the older files are deleted, whenever new files are uploaded.
While importing the CI relationships for the first time, the header fields are asked from the user and stored in database, so that user doesn't have to give the header fields on the subsequent imports.
Once the import is done, an entry is made in the system log, titled **Import CI Relationships** that contains the count of success and failed imports.

CMDB List View

The **Configuration Items** (CIs) under each CI Type can be viewed in the **CMDB List** view. If you have not populated your CIs into the CMDB, then you can follow the steps given in the document Populating CIs in CMDB.

NOTE: If you are not the administrator, then you would require **Enable CMDB** role to access the CMDB module.

Click **CMDB** tab in the header pane. The page navigates to view the Configuration Items (CIs) under the CI Type - Business Services, by default. To view all the CIs in the CMDB irrespective of the CI Type, click **All CIs** link. The CIs are listed with the Name, the CI Type and the Site to which they belong.

From the CMDB List view, you can perform various actions such as,

- View CIs under each CI Type
- Add CIs under a CI Type
- Modify CI Type for the CIs
- View Relationship Map
- Bulk delete of CIs

View CIs under a CI Type

You can view CIs under a specific CI Type by selecting the CI Type from the Configuration Items block. Click icon to view Sub CI Type. To view the Sub CI Types of all the CI Types, click icon.

While viewing the CIs under a CI Type, the list view columns display the CI attributes that were configured while adding the CI Type. For instance, the CI Type - Workstation would have attributes like Model, Service Tag, Service Pack, IP Address and so on. While viewing the CIs under CI Type - Workstation, the configured attributes would be listed in the list view column.

If you are viewing the list view column of a child CI Type, say Windows Workstation or Unix Workstation, then the list view column would display the CI attributes configured for the parent CI Type as well as the attributes configured for the child CI Type.

Note	1. While viewing CIs under a parent CI Type, the CIs under its Sub CI Type are also listed. 2. The attributes in the column list view for Sub CI Type comprises of the parent CI Type attributes and the sub CI Type attribute.

Add a CI under a CI Type

To add a CI under a CI Type,

1. Select the CI Type from the Configuration Items block.
2. Click New button and enter the CI details in the Add New form.

   The Add New form consists of the attributes configured while adding the CI Type. In case of Sub CI Types, the attributes configured while adding the Sub CI Type and the parent CI Type is displayed.

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Edit the CI Type for a CI

You can modify the CI Type for a CI. An Actions drop-down button is available in the List view for CIs that are also tracked in the asset module, such as Keyboard, Access Points, Servers and so on. If you wish to track CIs under a specific CI Type in the asset module also, then enable Track as asset option while configuring the CI Type.
From the Actions drop-down, you can modify a CI Type for a CI. To do so,

1. Enable the check box beside the CI name.
2. Click Actions drop-down, select Modify CI Type option. The Modify CI Type dialog pops-up.
3. Select the CI Type from the drop-down.
4. Click Save.

View Relationship Map

Relationship Map gives a consolidated view of the relationship between the CIs. To view the relationship map of a CI, click View Relationship Map icon beside the CI. The Relationship Map opens in a new window.

Delete CIs

To delete CIs from the CMDB List View

1. Select the CI Type under which the CIs should be deleted (OR) Click View All CIs to view all the CIs irrespective of the CI Type.
2. Enable the check box beside the CI to delete.
3. Click Delete button. A confirmation dialog appears.
4. Click OK to proceed. The selected CIs are deleted from the list.

NOTE: In delete operation, the related financial and history details of the CI is deleted.

Defining CI Relationships

CI Relationships form a major part of your CMDB, as it is the relationships between the CIs that differentiate the CMDB from the Asset database. A CMDB without relationships constitutes a bunch of CIs in a single database; fetched through scan or import process, or by manual addition. But with relationships, the users accessing CMDB can understand the inter-dependencies between the CIs, and in the case of a failure, the impact caused on another CI can be identified.
NOTE: To make your CMDB structure less complex, consider the relationships you will require in your CMDB and ensure to use the right relationship type to define the nature of relationship.

Topics discussed under this section:

- Defining Relationships
- Access Relationships Tab
- View Relationships from the Relationship Tab
- Add Relationship from the Relationship Tab
- Delete Relationship

Defining Relationships

In order to define the CI relationships in your CMDB, three piece of information is required.

1. The CI for which the relationship is created
2. The Type of Relationship denoting the inter-dependencies between the CIs, and
3. The dependent CI.

For example, consider a sentence like "ServiceDeskServer Depends on CentOS2Server". Here, ServiceDeskServer is the CI for which the relationship is created, Depends on denotes the nature of relationship, and CentOS2Server forms the dependent CI.

Access Relationships Tab

Each CI in ManageEngine ServiceDesk Plus is represented with Attributes and Relationships. The Attributes are data elements that describe the characteristics of the CIs. The Relationships, on the other hand, help in understanding the inter-dependencies between the CIs. The relationships between the CIs can be defined from the relationships tab.

To access the Relationships tab of a CI,

1. Click CMBD tab in the header pane.
2. Select the CI Type from the Configuration Items block. Say, Workstation. Else, select All CIs link to view all the

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CIs irrespective of the CI Type.

3. Select the CI Name link to view the CI details.
4. From the CI details page, click Relationships sub-tab.

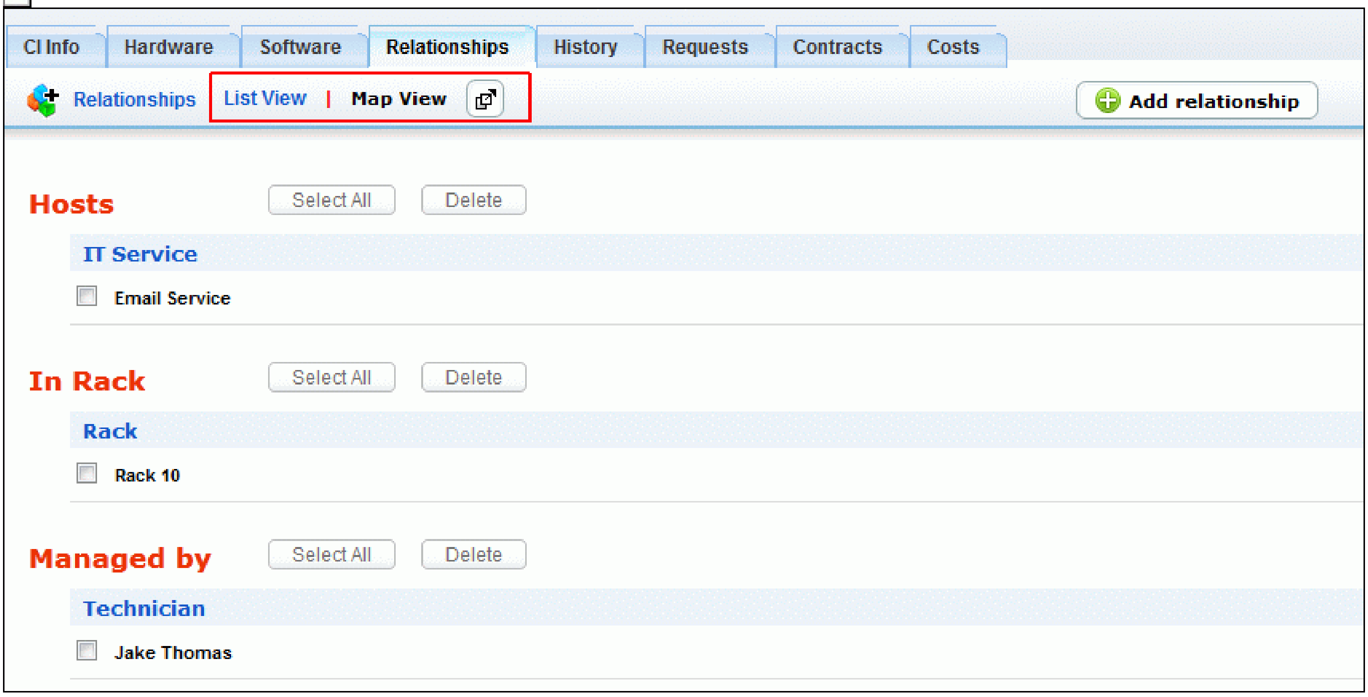
View Relationships from the Relationships tab

The relationship between the CIs is viewed in the Relationship tab. From the Relationship tab, you can

- View the Relationships in Map View and List View
- Access the full screen of the Relationship Map
- Zoom in and Zoom out the relationships linked in the map
- Add Relationships

By default, the relationship editor is shown in Map View. To access the full screen view of the relationships, click **view relationship map** icon. Use the **Zoom in** and **Zoom out** icon to view particular magnifying levels of the CI relationship. Click **Reset** icon to reset the relationship map to the default view instantly.

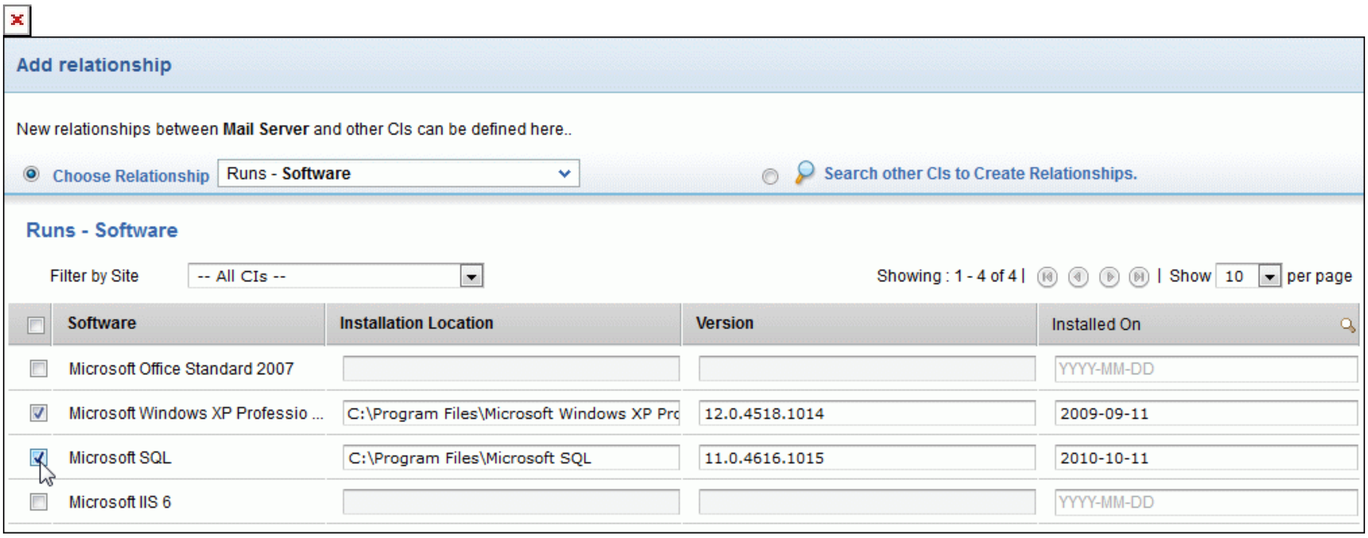
The List View groups the CIs according to the Relationship Type. You can delete relationships from the List View.



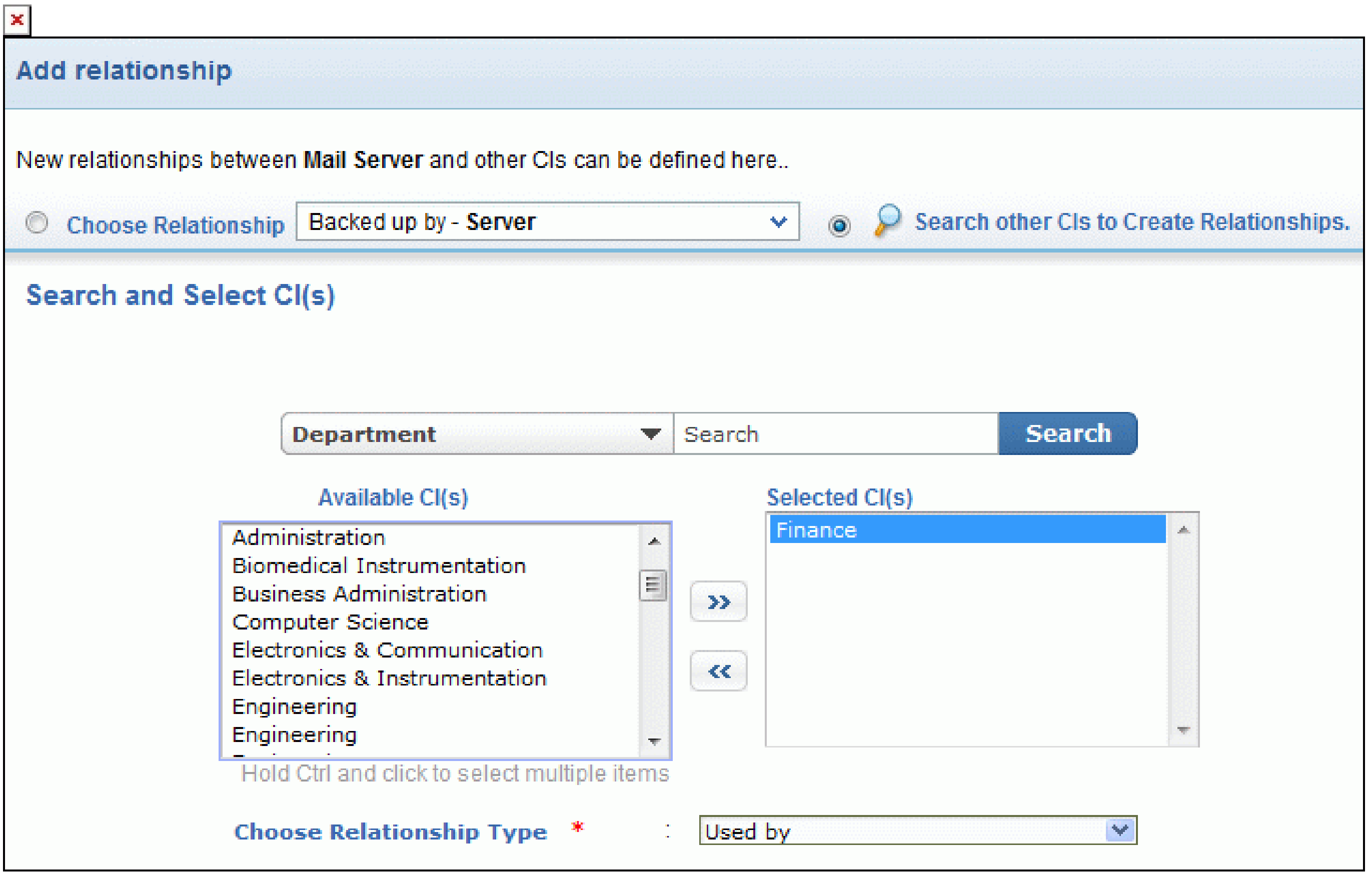
Add Relationship from the Relationship tab

To add relationships from the relationship tabs,

1. Click Add relationship button. The Add relationship window pops up.
2. The default relationships configured for the CI Type "Server" is listed in the Choose Relationship drop-down. Select the relationship from the drop-down, say, "Runs - Software". The CIs under the CI Type "Software" are listed along with the configured relationship attributes.



1. If you would like to create relationships with other CIs, enable Search other CIs to Create Relationships radio button.
2. By default, the CIs available in the CMDB are listed in the Available CI(s) column. If the CI list is excessive in length, then you can conduct a search for the CI by entering the search string. Click Search button. The search result is displayed in the Available CI(s) column.
3. You can also view CIs under a specific CI Type. Select the CI Type from the drop-down, say, Department. The CIs available for the CI Type Department are listed under Available CI(s) column. You can also conduct a search operation if the CI list under a CI Type is excessive in length. Say, for the CI Type Department, the entered search string is "Finance". On clicking Search button, "Finance" appears in the Available CI(s) column.



1. Select the CI(s) from the Available CI(s) column. Click Move Right >> button to move the selected CI(s) to the Selected CI(s) column.

2. Select the nature of relationship between the CIs from Choose Relationship Type drop down.
3. Click Add. The relationship is added in the relationship map.

Delete Relationship

To delete a relationship from the relationship map,

1. Click List View link. The relationships between the CIs are listed according to the relationship type.
2. Enable the check box beside the CI to delete. If you wish to delete all the CIs under a specific relationship type, click Select All button.
3. Click Delete button. The selected CIs are deleted from the relationship map.

NOTE: Please note that you cannot delete a relationship from the Relationship Map.

Relationship Map

The **Relationship Map** is uniquely designed to provide the ability to understand the dependencies between the CIs. The relationships between the CIs are discovered automatically while populating the CIs into the CMDB. You can also manually add the relationship between the CIs from the Relationship Map.
The Relationship Map shows the number of pending requests, problems and changes raised for the Assets, Business, and IT Services. You can view the pending requests, problems, and changes directly from the relationship map.
Using the Relationship Map, you can analyze the impact caused by the CI on a business service and identify the root cause of the impact, thus establishing appropriate measures to gradually eliminate the perpetual issues faced by your organization.

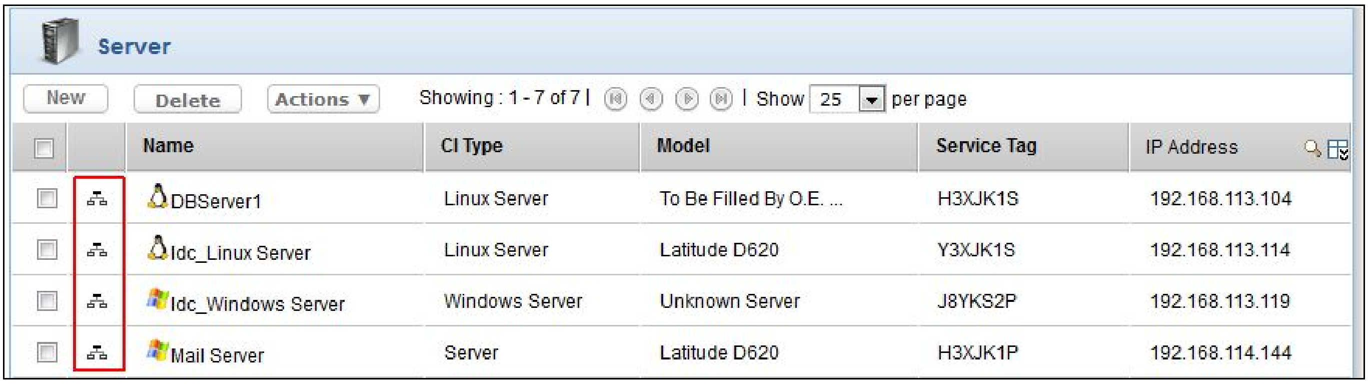
This section has the following contents,

- Accessing Relationship Map
  - From CI List View
  - From CI Details Page
- Using Relationship Map
  - Create Relationship Maps
  - View CI Details
  - View Pending Requests, Problems, and Changes
  - View Relationship Attributes
  - Add Relationship to an existing map

Accessing the Relationship Map
In ManageEngine ServiceDesk Plus, all the CIs are represented with a Relationship Map icon to have a quick view of the relationships between the CIs. You can find this relationship map icon in the CI ListView and in the CI details page.

From CI List View

1. Click CMDB tab in the header pane.
2. Select the CI Type from the Configuration Items block to view the list of CIs. Else, select All CIs link to view all the CIs irrespective of the CI Type.
3. To launch the relationship map in a new window, click the Relationship Map icon beside the CI in the CI ListView.



From CI Details page

1. Click CMDB tab in the header pane.
2. Select the CI Type from the Configuration Items block. Else, select All CIs link to view all the CIs irrespective of the CI Type.
3. Click the CI Name link to view the CI details.
4. In the CI details page, click the Relationship Map icon to launch the Relationship Map in a new window.

Using the Relationship Map

From the Relationship Map, you can perform the following operations;

- Create relationships instantly using the Add relationship option.
- View CI details of the CIs.
- View the **pending requests, problems, and changes** raised for Assets, Business, and IT Services.
- Add Relationships between the CIs.
- View Relationship Attributes configured for the CIs.

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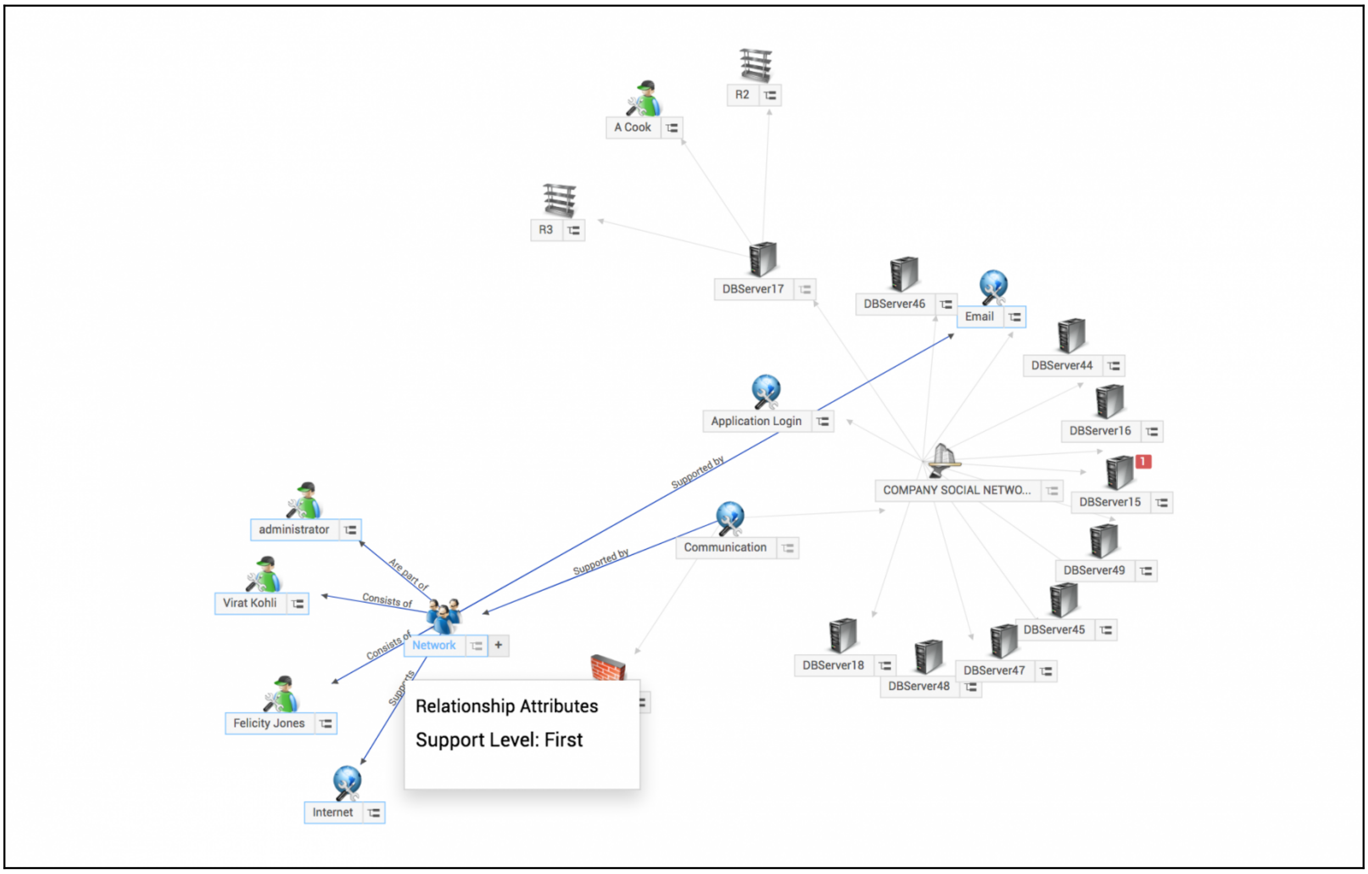
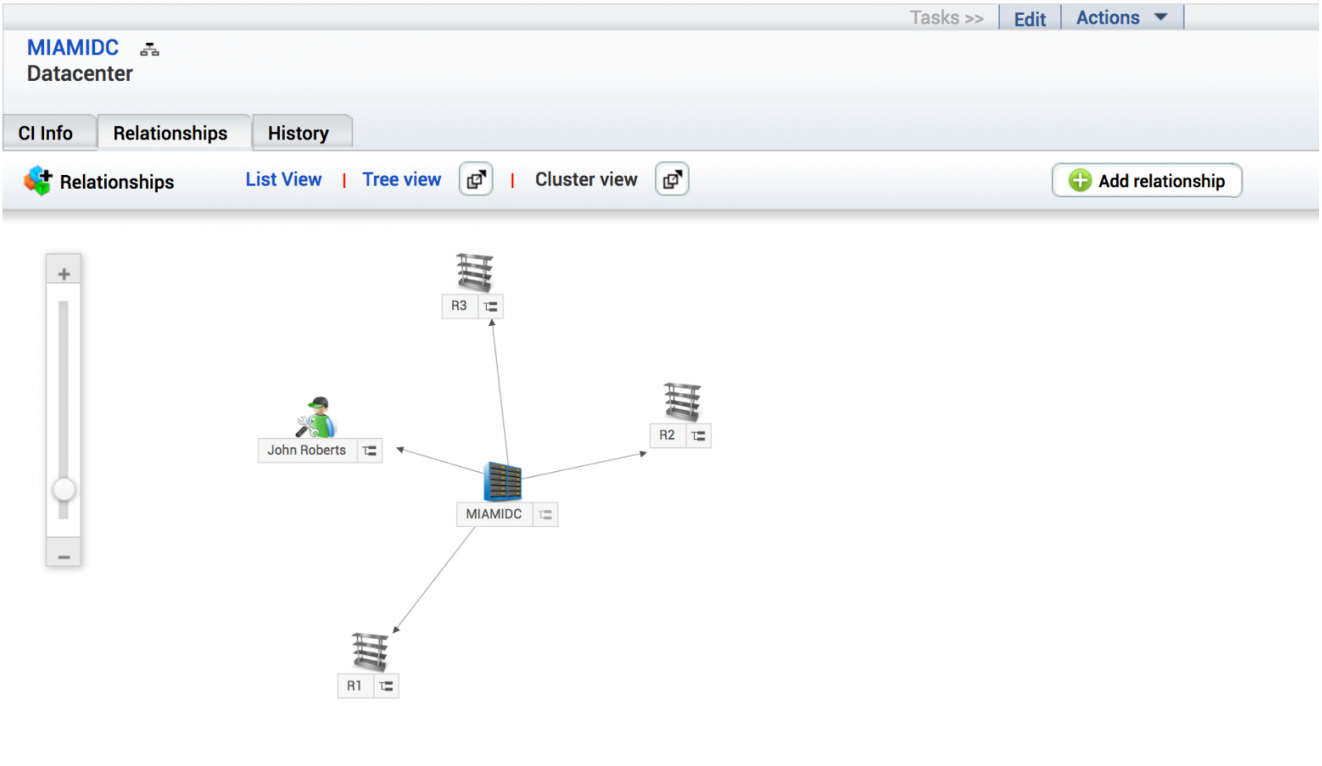


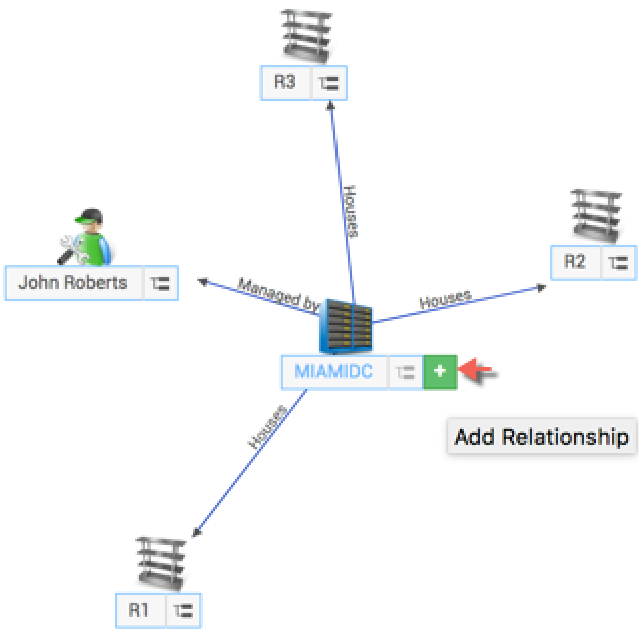
Creating a relationship map

Create a relationship between CIs in an instant. You can either create relationships for the existing CIs or create dependencies between new CIs using this option. Three relationship map types are available namely list view, tree view, and cluster view. The cluster view is chosen by default.

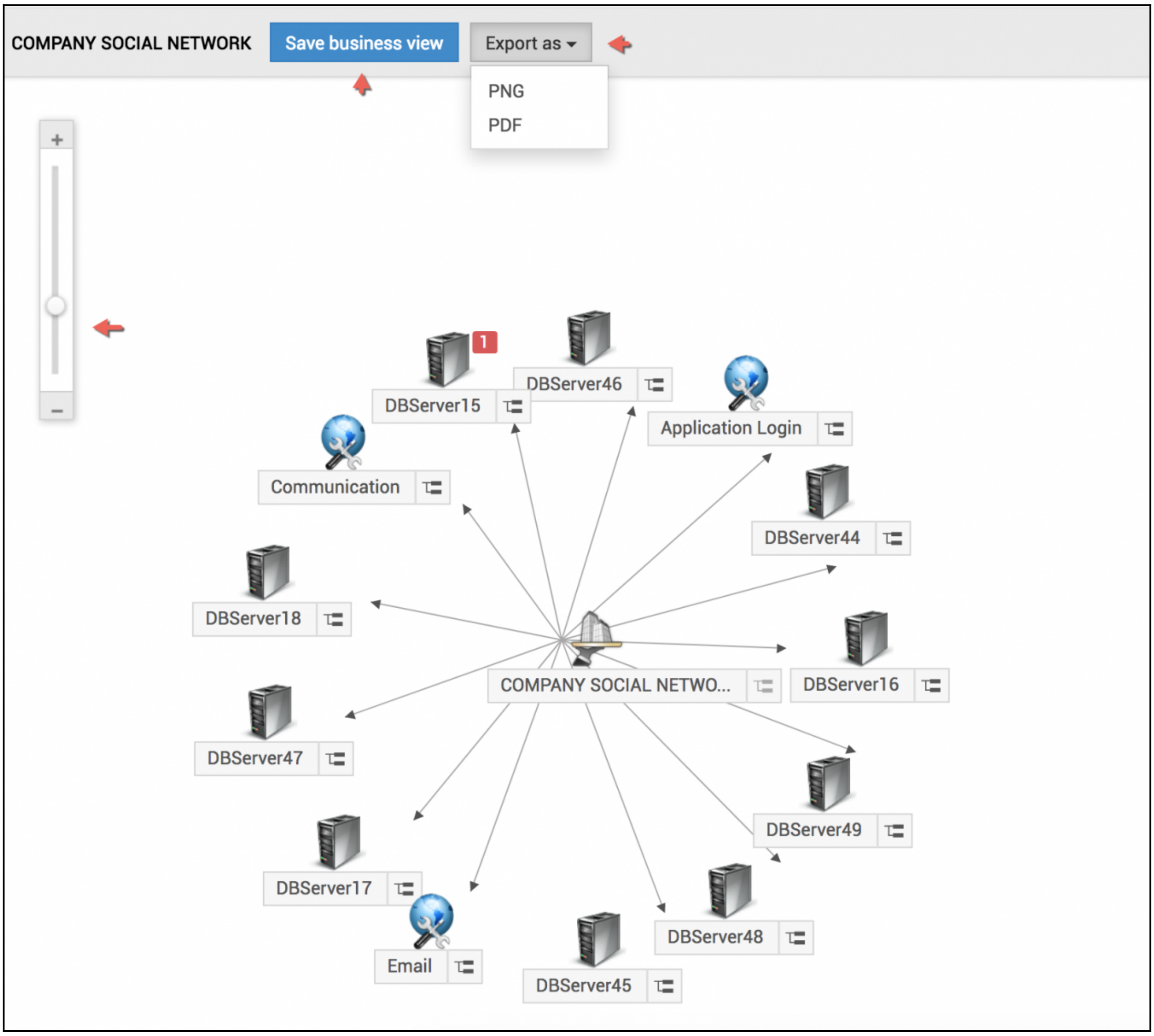
- Head to CMDB.
- Select a particular CI for which you want to add a relationship map.
- Click on the Relationships tab.
- Relationship map generator will be loaded at the bottom.



- Click to pop out the relationship generator in a new page.
- Add relationships to the base CI by clicking on the + icon that appears while hovering the mouse over the CI.



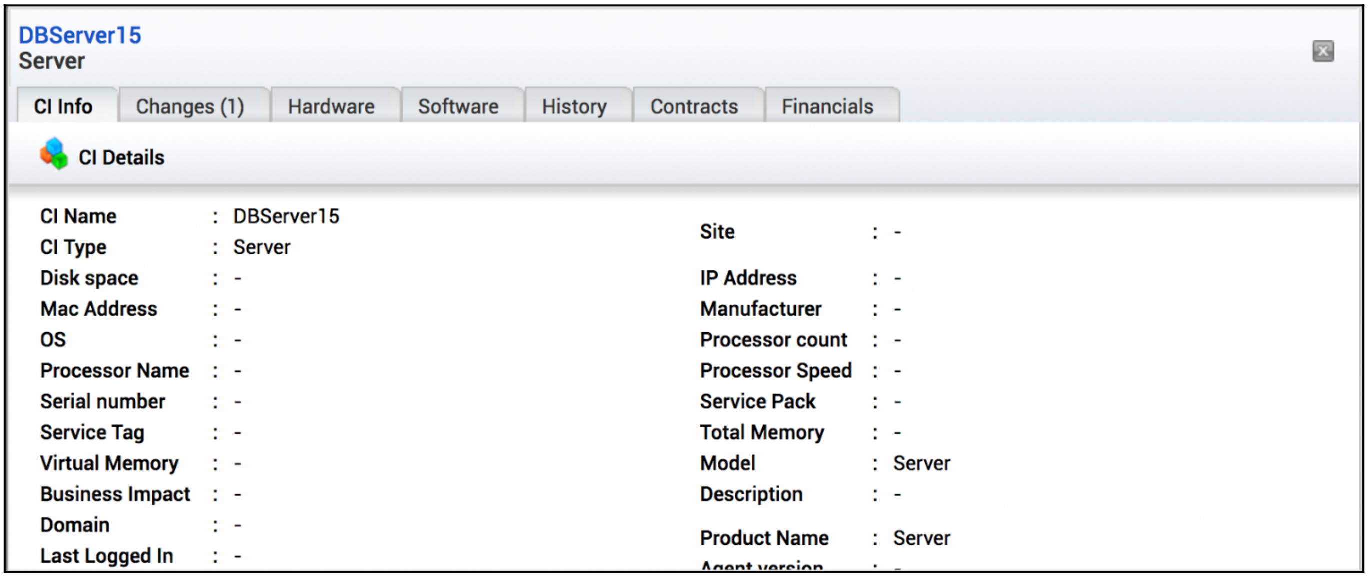
- Choose CIs and relationship type. You can use the CI search drop-down to pin down the right CI.
- Click save. CIs will be added to the base CI. Drag and drop the CIs as per your convenience to accommodate more relationships.
- The Zoom in and Zoom out options allows you to have a better view of the relationship map.
- If you want to view the relationship map in business view, use the Save business view option at the top.
- You can export the saved relationship maps from business views in PDF and PNG formats.



View CI Details

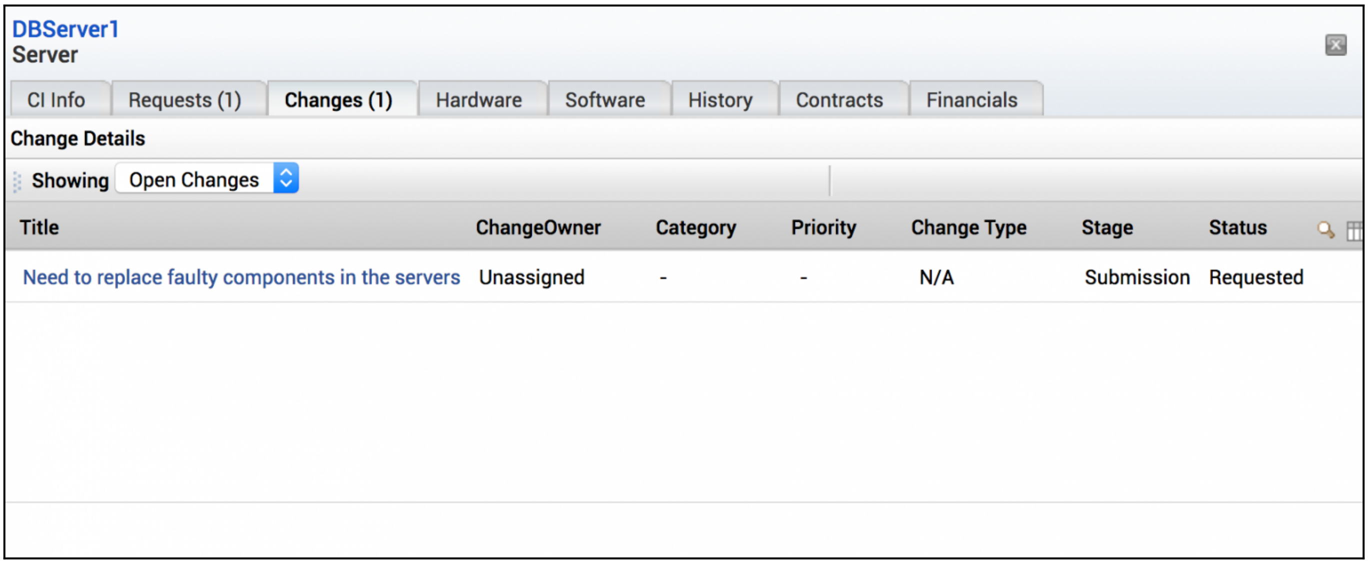
While viewing the Relationship Map, you can also view the details of a CI. To view the CI details,

1. Click on a CI. The CI details pops-up.



View Pending Requests, Problems, and Changes related to CIs

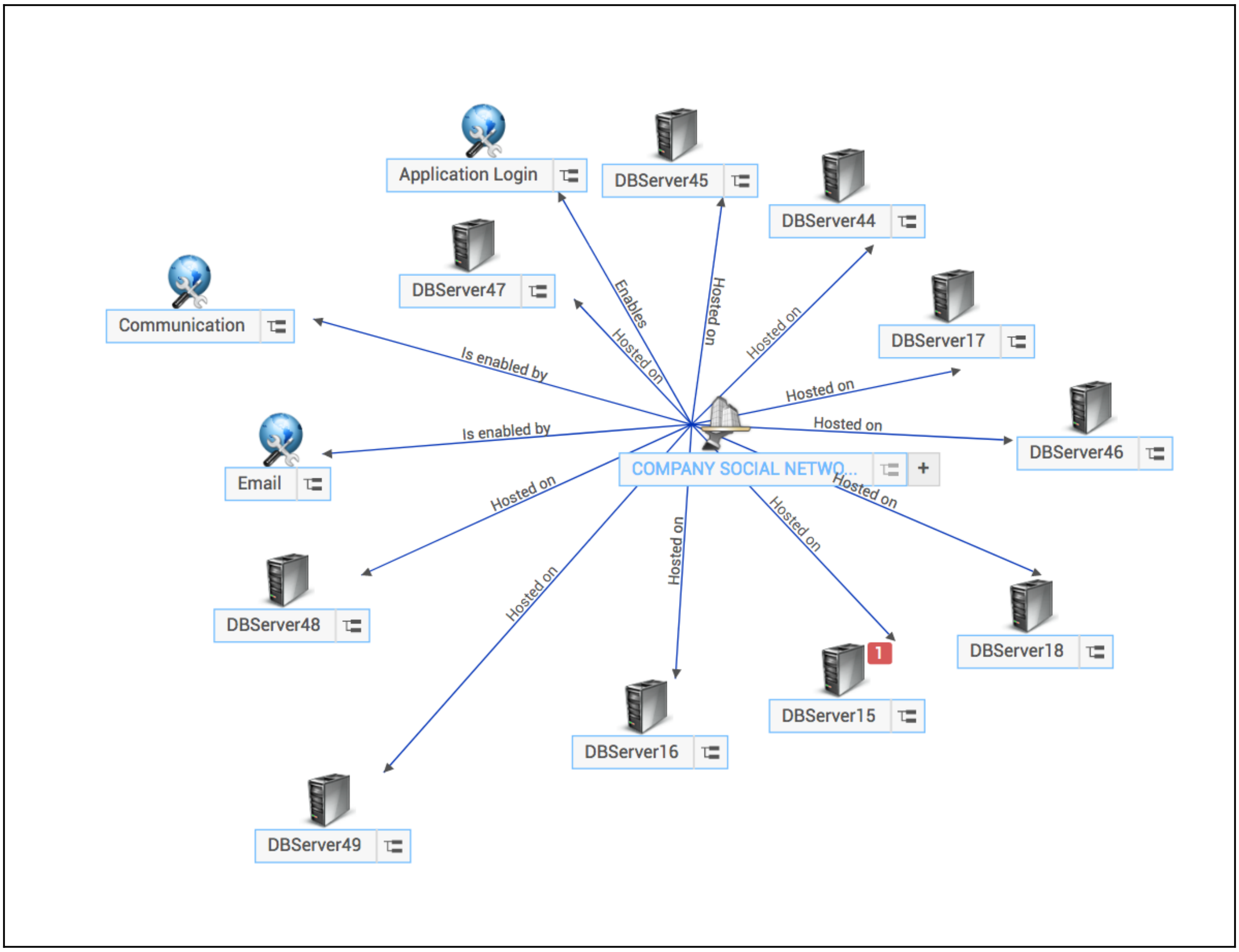
The CMDB in ServiceDesk Plus keeps a track of all the pending requests, problems, and change raised for the CI Type - Assets, Business, and IT Services. To identify if a request, problem or change is raised for the CI, the CI is denoted with a warning icon. Click on a CI to view pending requests, problem and changes raised for the CI.



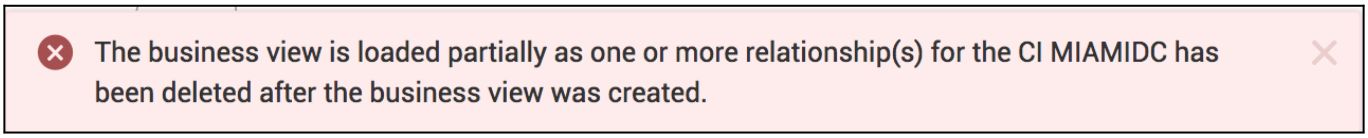
View Relationship Attributes

Relationship Attributes provide additional information on the relationship between the CIs. Say, for instance, if a server runs a software application, then details such as the Installation Path, Version, Installed On and so on can be configured as relationship attributes.

The Relationship Attributes are configured while setting the default Relationships for a CI Type. To view these relationship attributes on the relationship map, move the mouse pointer over the CI.

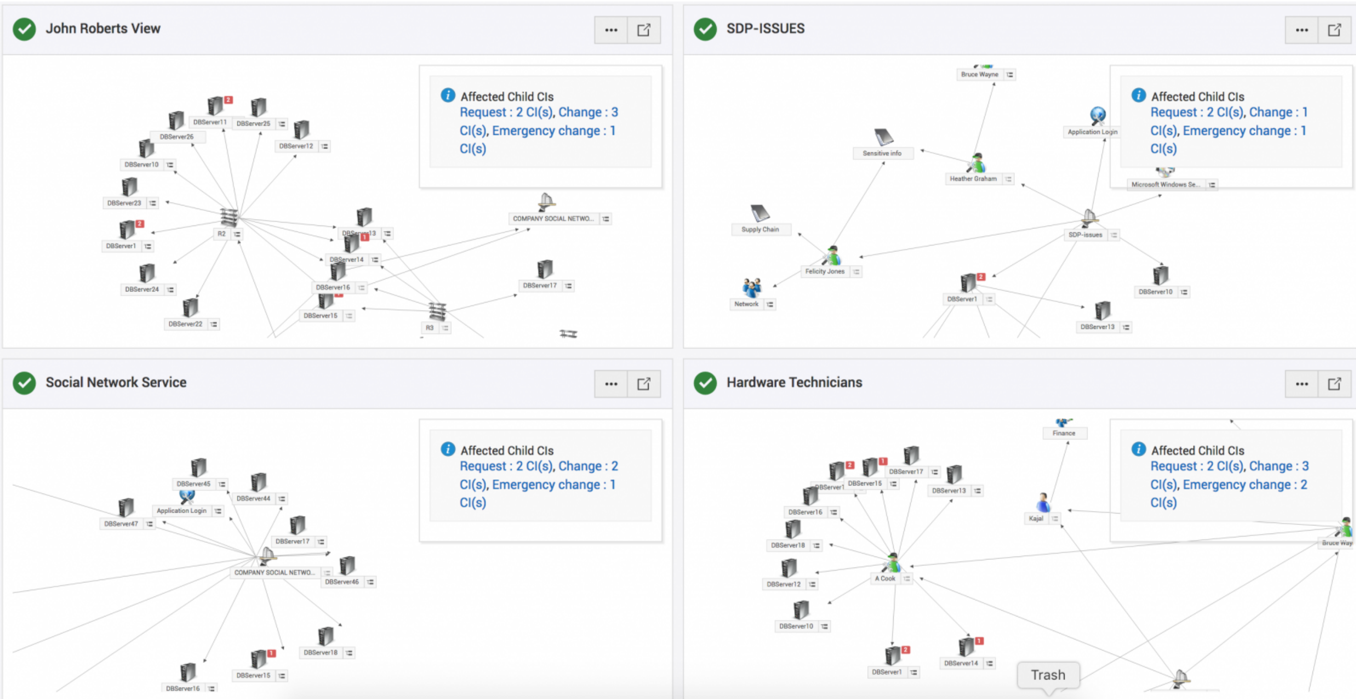


NOTE: The Relationship Attributes can be viewed only if the attributes are configured for the relationship.
If anyone of the CIs associated with the base CI gets deleted after creating a relationship map, then a warning message will be displayed when you open a relationship map.



Business Views

Business views allow you to view and manage saved relationship maps from one place. It helps you to monitor and analyze the latest trends of a business/IT service and it's associated CIs, along with their critical data such as associated requests, changes, and problems, at a glance. You can also export these business views in PDF or PNG format.
Business views come in cards layout and a listview layout.
Cards layout displays multiple relationship maps (up to 4) of Services/CIs on a single page. The cards can be reordered as per priority. Affected Child CIs are marked with a red notification mark next to them. Click on it to access the affected CIs.



List view organizes the business views in a list and can display up to 250 business views on a page.

Creating a Business View

You can create a business view in two ways. One way is to create a business view from the CMDB landing page by using the **New Business View** option. The other way to create a business view is from the relationship map of a CI.

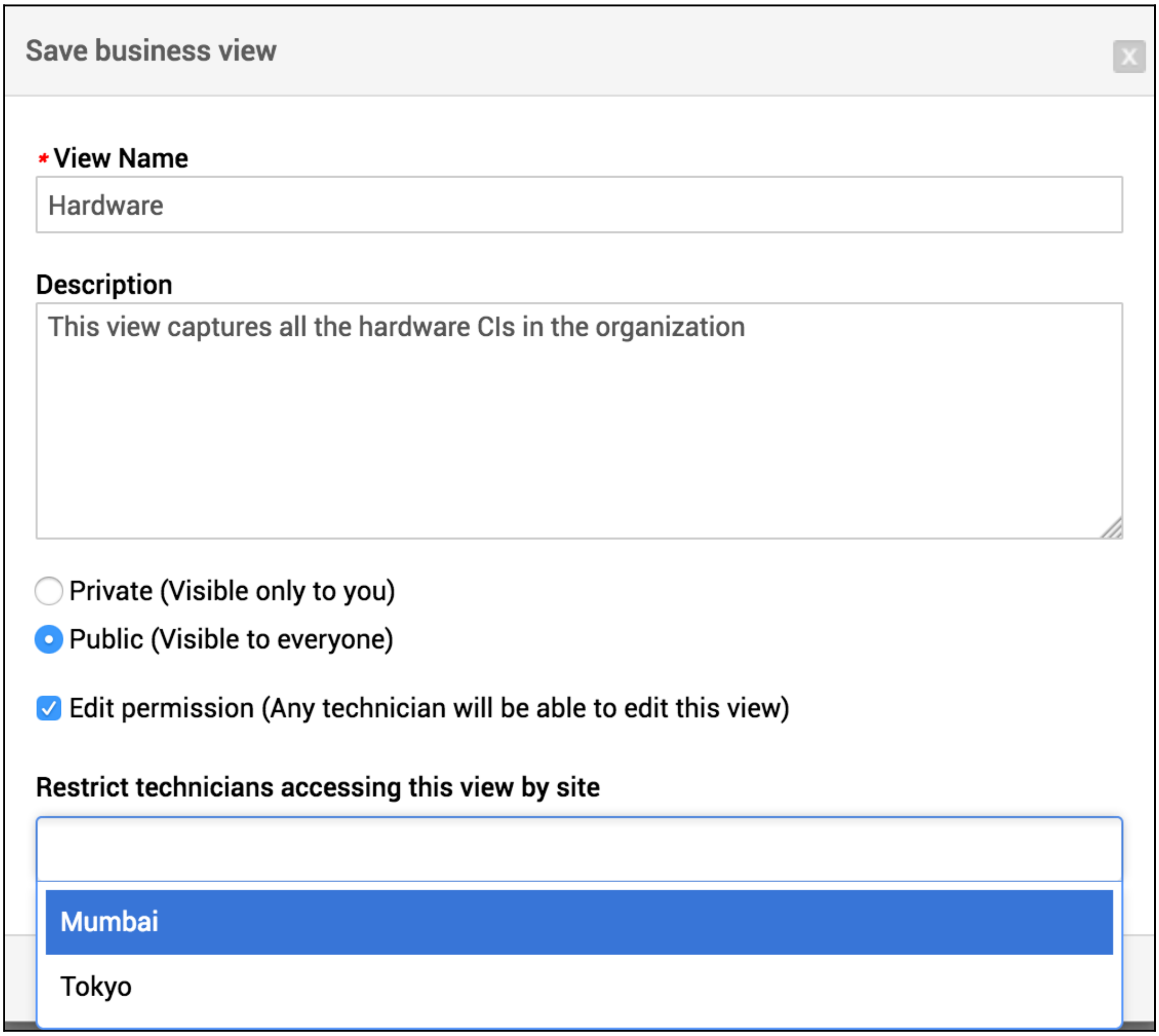
To create a Business View from CMDB landing page,

- Head to CMDB.
- Click on New Business View.
- Select a Service or CI from the drop-down.

Please note if a Service or CI has associated CIs, then a relationship map with all the CIs mapped to the base CI will be displayed when you click New Business View.

Otherwise,

- A relationship map console will be opened with a base of the Service/CI you have selected.
- Click on  to add a new relationship with other CIs.
- Drag and drop the Service or CIs to accommodate more relationships.
- Use the Zoom in and Zoom out controls for better visibility or flexibility.
- Once the relationship map is created, click Save business view.
- Enter a Name and Description for the business view.
- Select the accessibility of the business view by choosing between the public and private options.
- If you choose Public view, you will get an option to provide edit permissions to technicians who can view it. Enable the Edit permission checkbox to give edit permissions to all technicians.



- You will also get an option to restrict technicians by sites. This way you can have control over who views the business views even in if ther are in Public view.

Note: Only SD admins can create a business view in Public view.

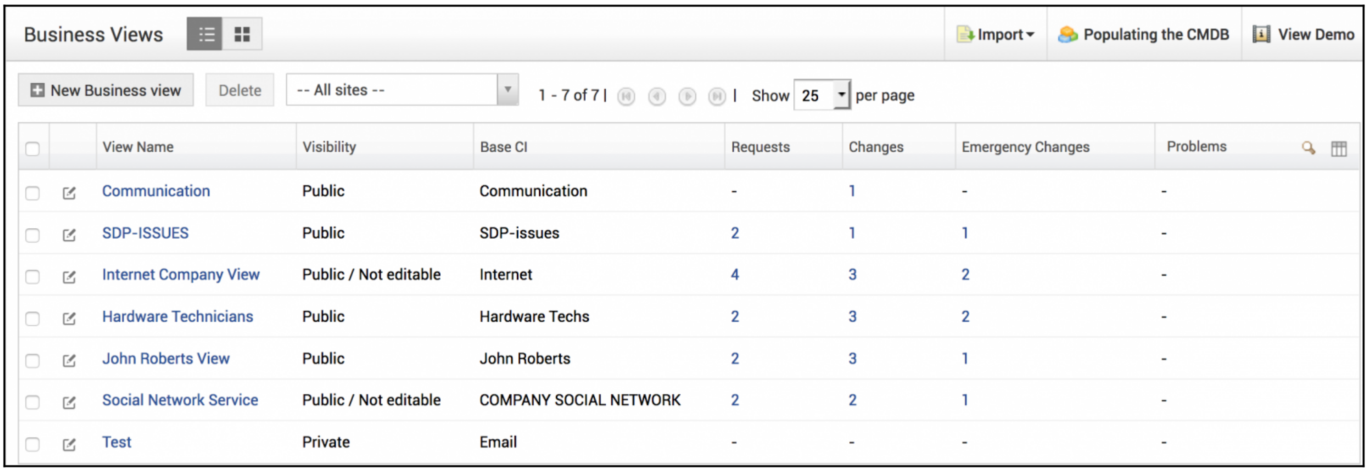
- Click Save.

To create a business view from a relationship tab,

- Go to Assets.
- Select an IT asset. In the list view that appears, click on the map icon. It will take you to the relationships tab.
- The relationship map will be displayed for that particular CI.
- Click on Save business view at the top.
- Enter a Name and Description for the business view.
- Select the accessibility of the business view by choosing between the public and private options.
- Click Save.

Business View list view

From the business view list view, you can add, edit, and delete business views.


Business Views | Import | Populating the CMDB | View Demo

New Business view | Delete | -- All sites -- | 1 - 7 of 7 | Show 25 per page

View Name	Visibility	Base CI	Requests	Changes	Emergency Changes	Problems
Communication	Public	Communication	-	1	-	-
SDP-ISSUES	Public	SDP-issues	2	1	1	-
Internet Company View	Public / Not editable	Internet	4	3	2	-
Hardware Technicians	Public	Hardware Techs	2	3	2	-
John Roberts View	Public	John Roberts	2	3	1	-
Social Network Service	Public / Not editable	COMPANY SOCIAL NETWORK	2	2	1	-
Test	Private	Email	-	-	-	-

- To add a new business view, select a Service or CI from the drop-down. Add Relationships as mentioned above.
- To delete a business view, select the business you want to delete from the list view and hit Delete.
- To edit or change the accessibility option for a business view click on the edit icon.
- Use the Sites filter at the top to display business views based on sites.
- Use the columns at the top right to add or delete columns from the list view.
- Use the search option to narrow down a particular business view you want to view.
- Click on a business view to see the relationship map in detail. Hovering over the nodes will show you the asset attributes of the particular CI.
- Get a detailed view of the relationship map by clicking on the more information tab. This tab holds base CI details, base CI request details, other associated CIs request details, and the CI distribution list which displays the count of CIs based on their types.

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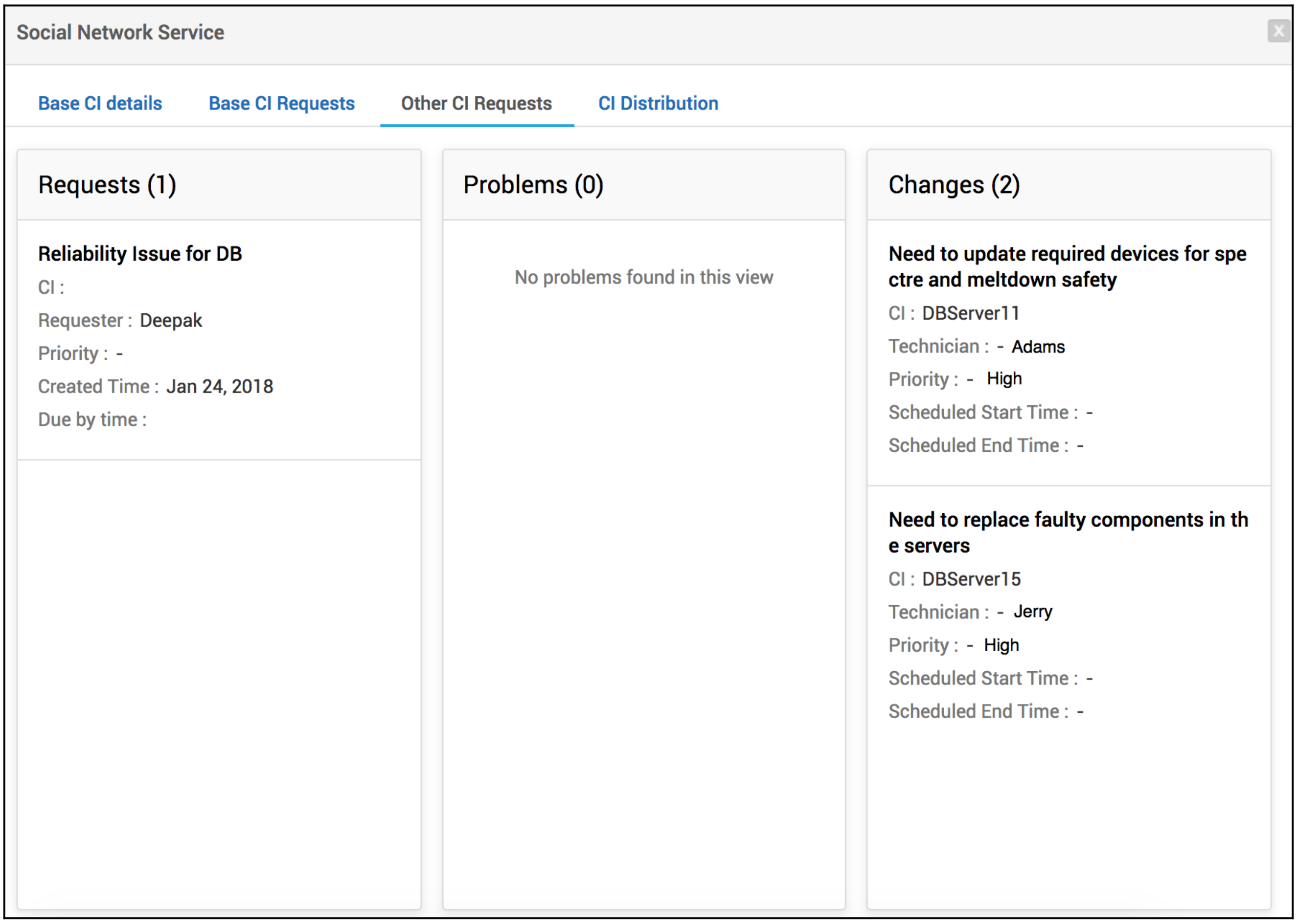


- You can also export the business views in PDF or PNG formats.
- Click on 'Export as' option at the top to export the business view.

Admin Configurations

When you login to the application, for the first time, with the login credentials of an administrator, the Configuration Wizard page is displayed. The Configuration Wizard page in the Admin tab lists the settings of all the modules. You need to configure the setting for each module to make ServiceDesk Plus available for real time functioning.

To access the Admin Configurations,

1. Login to ServiceDesk Plus using the Username and Password of an admin user.
2. Click the Admin tab in the header pane.

The various configurations are grouped under the following major heads:

- Helpdesk Configuration
- Organization Details
- User Management
- Problem/Change Management
- Discovery
- Asset Management
- Software Management
- Purchase/Contract Management
- Project Management
- User Survey
- General Settings

Each of these configurations is explained in detail in the following sections.

Helpdesk Customizer

The Helpdesk Customizer lets you configure the helpdesk settings before the request module is opened for real time functioning of fetching the customer support mails and tracking the same.

Customizing the Request Form

The new request form is highly customizable and can be configured to suit the needs of your organization. You can add your own values to be set for the Category, Priority, Level, and Mode of the request. By default, these configurations will have some values. You can delete them and add new values, or you can edit them to suit your needs. If you want to set the priority of a request automatically, you can do so using the Priority Matrix. The Priority Matrix enables to determine the priority of a request based on the Impact and Urgency.

Apart from this, you can also add your own custom fields for the new request form. Using the custom fields, you can collect organization specific information for getting a better and clearer idea about the reported issue. The custom fields are of three types: Text field, Numeric field and Date/Time field.

A variety of templates can be configured and stored in ServiceDesk Plus. You can customize templates for frequently raised Incidents, common Resolutions, repeated Tasks and repetitive response to requests. Incident Templates enables you to customize individual forms for the most frequently raised request like, printer problem or mail fetching problem. The fields can be pre-filled with values so that an incident request can be raised instantly.

Finally, through Service Catalog, you can portrait the wide range of services offered by your IT department to the end-users. Users can easily browse through the services, raise requests instantly and monitor their status thereon.

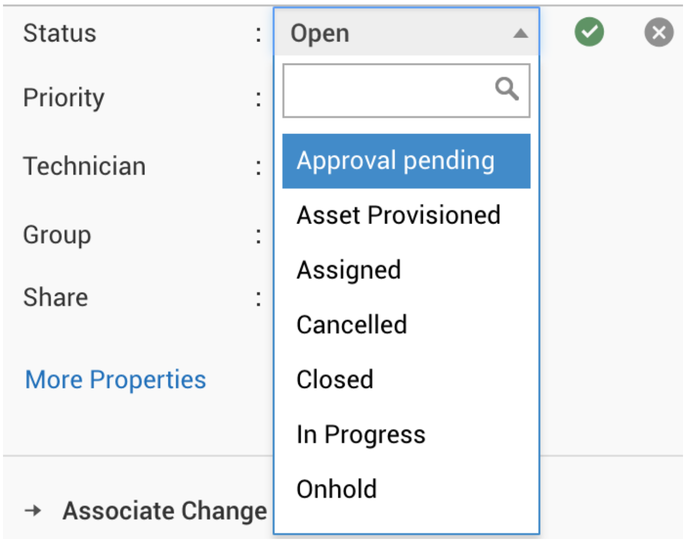
Request Life Cycle

Request Life Cycle in ServiceDesk Plus allows admins to formulate a request resolution process with built-in guidance for the help desk technician. Through a simple drag and drop process, the SDAdmin can create a visual process builder and define the resolution process. You can create, discuss, and rework the process drafts before publishing the life cycle.
Request Life Cycle Overview: Video

Define life cycles for processes specific to your organization and associate with incident or service templates. For example, you can define a life cycle for any asset request and associate it with service templates configured for laptop, mobile phones, or any hardware requests.

You can associate one life cycle with multiple templates, but you can associate a template with only one life cycle.

A life cycle ensures efficient process adherence; you can establish a directional flow, minimize the scope for human errors, and provide privileged (role-based) access to status transitions.
Using the Request Life Cycle feature, you can provide adequate guidance to the technician to resolve the assigned requests. When a life cycle is configured to a request template, only the next possible transitions and the allowed status/es will be available for the technician to choose from.
In the absence of a life cycle, as shown in Fig. 1, the technician can choose any status, which could lead to incorrect customer notifications on the request status. That is, for a request that is temporarily put on hold, if the technician chooses Closed, instead of Onhold, the customer might receive an incorrect (closed) notification for the request logged.



On the other hand, using the life cycle, admins can control the status/es (Fig. 2) that a technician can choose from, ensuring status accuracy and correct customer communication. Moreover, admins can also configure the next possible transitions for each status. This will provide the much-needed guidance for the technician, and you can ensure process adherence and reduce any scope for process violation.

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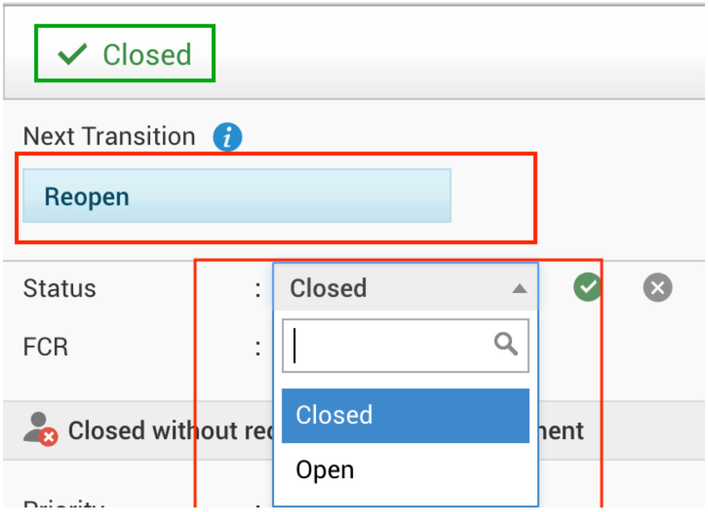


To know more about configuring the life cycle, you can sequentially go through this document or click appropriate sections from the following links:

Request Life Cycle Terminology

Configuring Request Life Cycle

Life Cycle Status Modifications

Linear and Graphical Views

Editing a Life Cycle

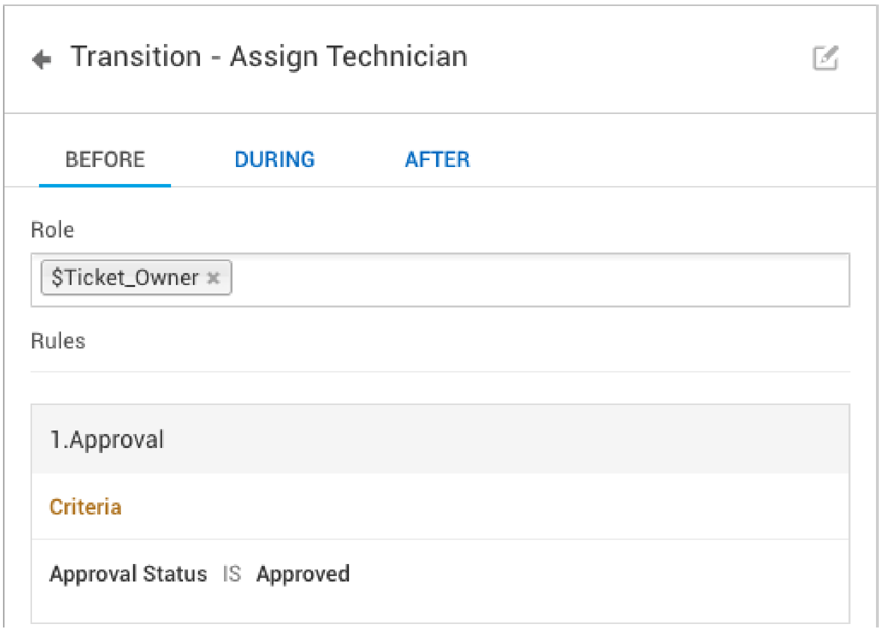
Request Life Cycle List View

Request Life Cycle: Summary

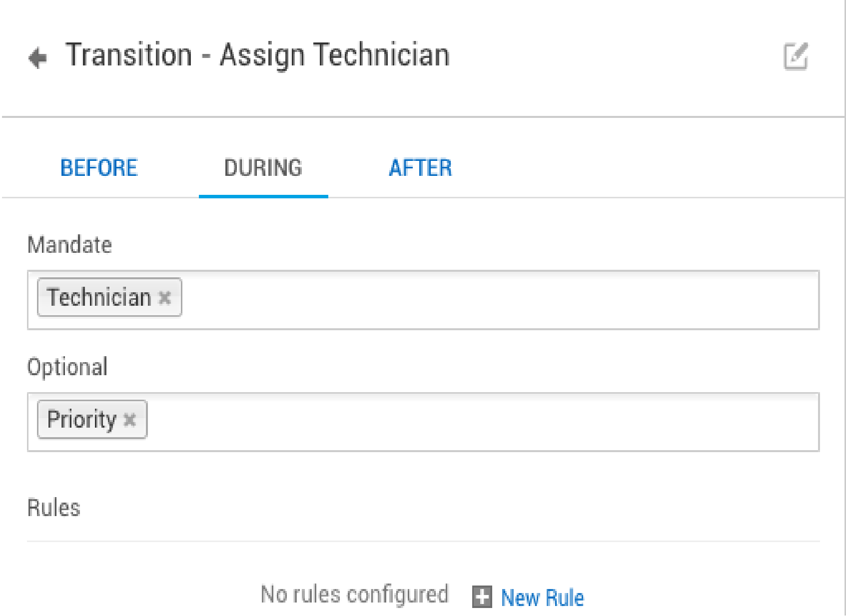
Request Life Cycle Terminology

Before you configure the request life cycle, familiarize yourself with the following terms:
Status is the actual state of the incoming request. For example, all logged in requests are in the **Open** status while all requests that are waiting for updates will be in the **On-Hold** status. The life cycle includes Stop-Timer status/es as well.
You can configure these statuses under **Admin>>Help Desk Customizer>>Status**.
Transition refers to the actual movement of the request from one state to another. A transition is further divided into Before, During, and After. Under each phase, you can configure various settings to control the status movement of the request and also configure specific settings such as provide privileged access, customize notifications, mandate fields, and execute rules on the fulfillment of specified criteria.
You can also configure various actions under each transition. For example, you can execute scripts for specific actions, negate the process, or send notifications. These are transition actions.

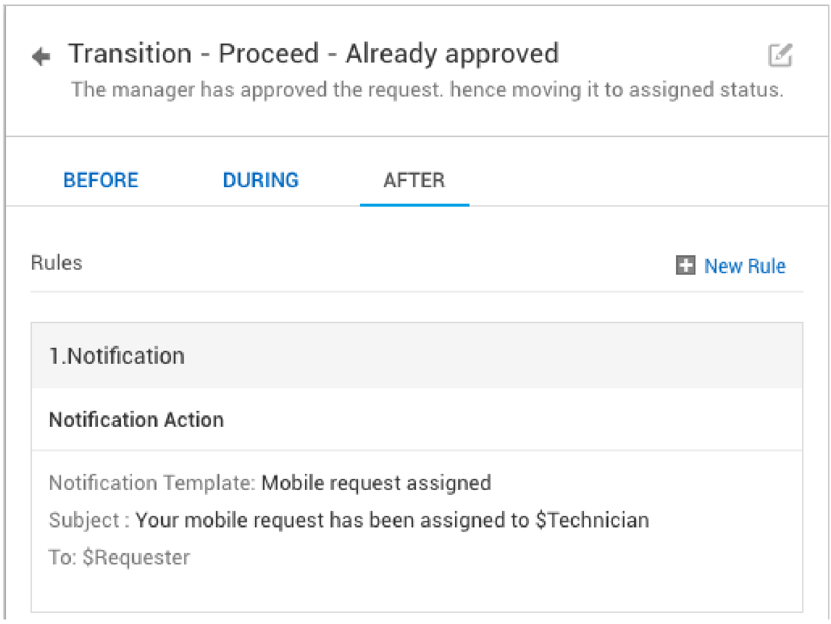
Start/End Block: These are representative of the initial or the final phase of the request. They are not status/es; they can be connected to active statuses such as Open/Assigned or Completed/Closed. During request creation, only the status/es connected to the start block will be shown in the Request Details page to the technician.
Before: This refers to the phase before a transition occurs and the request can move into a status. This phase has two configuration settings, roles and rules. Under roles, you can restrict transition access to specific technicians. For example, if only the assigned technician/s can move the request into the In-Progress status, you can select the roles ($Ticket_owner or $Group_members) accordingly. Under such a configuration, you'll make the transition visible only to a specific technician or to the technicians in the specified support group. Under **rules**, you define the criteria for the request to move into the status. The criteria defines whether the transition will be shown to the technician. For example, you can define the Approval Status criteria as Approved. That is, only if the Approval Status of the request is **approved**, the next transition, say **Assigned** is shown in the Request Details page to the technician.



During: This refers to the phase when the request is moving into a specific status. These configurations have two parts, **mandatory fields** and **rules**. While the request is about to move into the status, you can mandate certain fields. For example, you can mandate the technician field for the request to move into the Assigned status, or the Resolution field for the request to move into the Resolved status.That is, as long as the request stays in the status, the mandatory fields cannot be left empty. Rules can be configured to check for certain criteria and negate the action. To define actions when the criteria is met, you can use custom scripts. Note that these custom scripts can be used to execute any action except status update, because the script is already triggered due to a status change. You can add a maximum of 10 rules. To execute all the rules (on criteria match) in sequence, turn on cascade execution. If the cascade execution is NOT turned on, the rule execution breaks after the first match of the rule.



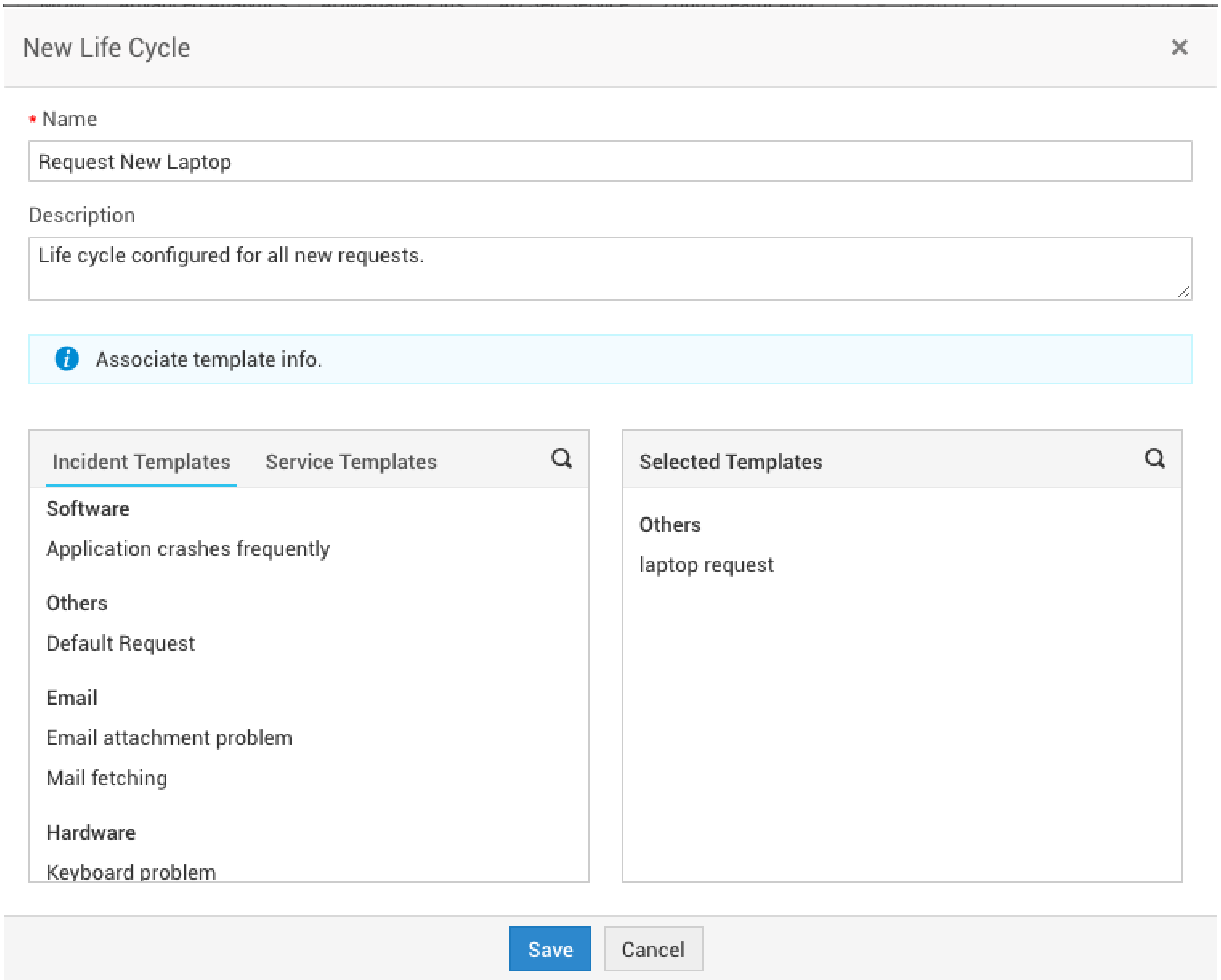
After: This refers to the phase when the request has moved to a status. Here you configure rules to check for criteria and accordingly define actions using custom scripts. You can also configure notifications for the stakeholders. New notification templates can also be configured and sent to all organizational roles and other stakeholders, such as $on_behalf_of_user or $ticketowner. For example, when a request from a VIP user or a high-priority request is assigned to a technician, a unique request assignment notification can be configured to be sent.



Configuring Request Life Cycle

Go to **Admin>>Helpdesk Customizer>>Request Life Cycle.**

Click **New**, provide a name and description for the life cycle, associate the relevant templates, and **Save** as shown below:



The life cycle will appear prepopulated with various nodes (status) and transitions. You can either work with these or undo all of them and create new status/es and transitions on the life cycle canvas. Use the zoom slider on the left to increase or decrease the size of the canvas. You can also move the life cycle around the canvas by using the hand tool cursor.

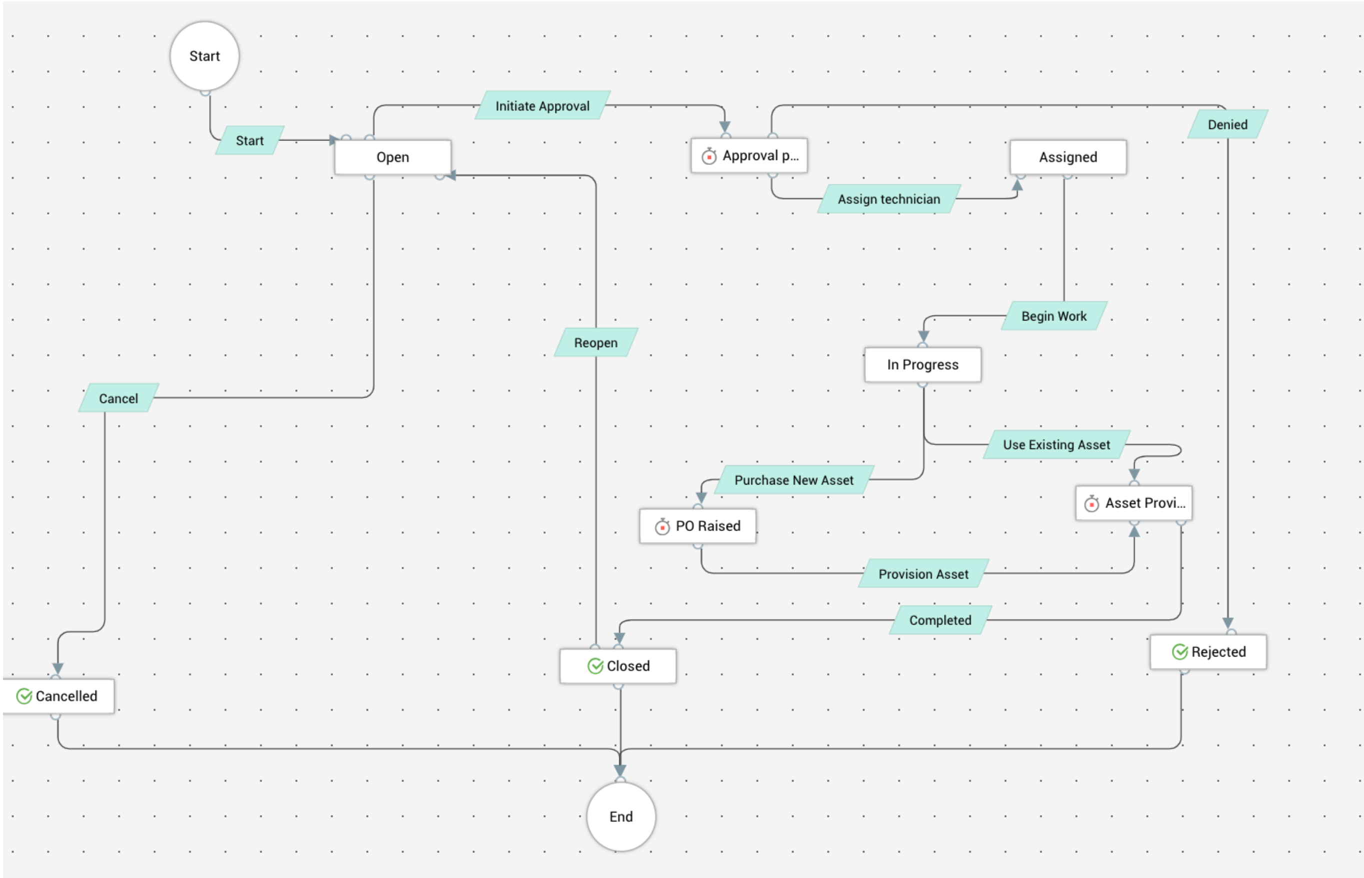
To add a status to the life cycle, drag it from the right panel. To connect two status/es by a transition, hover over a status, click the plus sign and drag it up to the next status. Click the button that appears on the connector to provide the transition name, description, and help content that will be displayed on the **Request Details** page.

The request life cycle begins at the **Start** block and completes at the **End** block. When the request is created, only status/es connected to the Start are displayed to the user. Similarly, the request flow is considered to be closed only when the request reaches a status connected to the **End** block. Ensure that the default statuses configured in the associated templates are connected to the Start node in the life cycle. For example, if the status in the associated template is Open, make sure that the status you connect to the Start node in the life cycle is also Open.

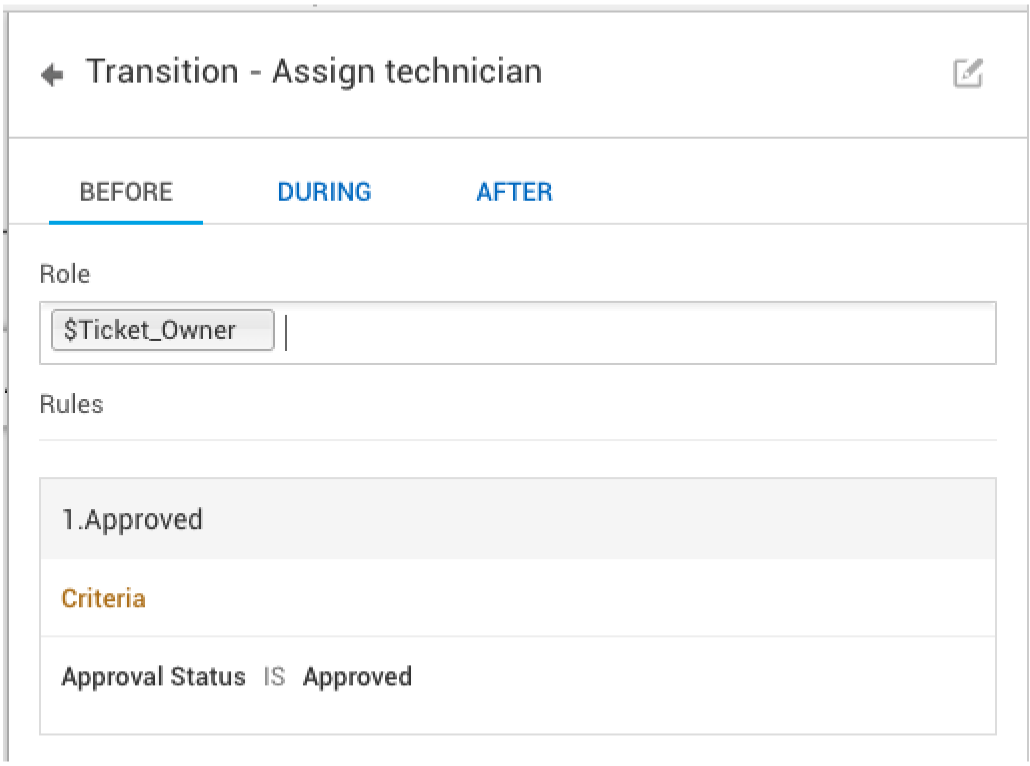
Let us configure a sample life cycle for one of the most commonly raised requests in any organization; the request for a laptop. This life cycle can be associated to service request templates already configured for desktops, mobile phones, and other hardware requests.

The request resolution process for this request will contain the following statuses: **Open**, **Approval**, **Assigned**, **In Progress**, **Asset Provisioning/PO Raised** (if the asset is not available already), and **Closed/Rejected/Cancelled**. Note that the status movement of the request may not necessarily be linear. For example, an open request can be cancelled or even rejected. Similarly a closed request can also be reopened.

The processes that happen between status/es are configured under a transition.
All transitions, except the Open status transition, will contain three phases to be configured: Before, During, and After. Note that it is not mandatory to configure all the transitions or their phases. You can choose to configure just one transition or just one phase of a transition to suit your requirements. However, for the request to move from one status to another, you must configure the transitions. Transition Actions can be configured per your requirements, and it is not mandatory for each transition to have transition actions configured. In the absence of transition configurations, the request will remain in the same status.
The following screenshot displays the life cycle for a laptop request:



For the sample life cycle, let's look at the configurations set up for the **Assign Technician** transition. Firstly, you can make the transition visible only to the ticket owner. In that case, under **Before>Roles**, choose **$TicketOwner**. For the request to move into this status, you can choose the Approval Criteria as Approved.



Then, when the request moves into **Assigned** status, you can mandate the Group and Technician. These might appear as a pop-up to the technician working on the request. In parallel, you can also check if the request was raised by a VIP user and send out an alert the technician and group details collected in this phase. To define the rule, configure criteria as if VIP user is true, then execute a script to send out an alert to the concerned technician or technician group.

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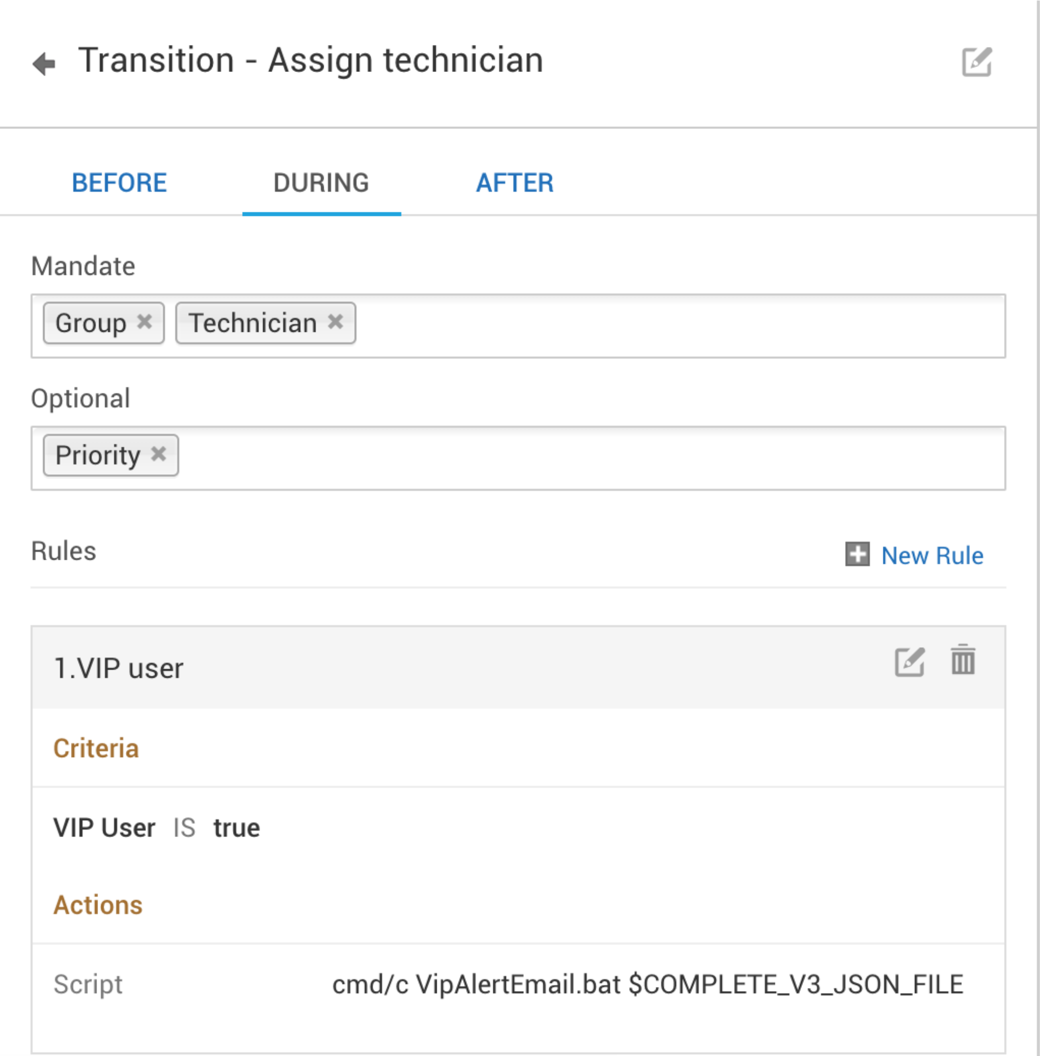

Finally, when the request has moved into the Assigned status, you can configure actions based on certain criteria, and importantly send out custom email notifications for each transition action to the ticket owner, the admin, or the support group. Here, you can create new notification templates as well. For example, you can send out custom notifications to technicians about the category of the requests assigned to them, including any additional details from the ticket.

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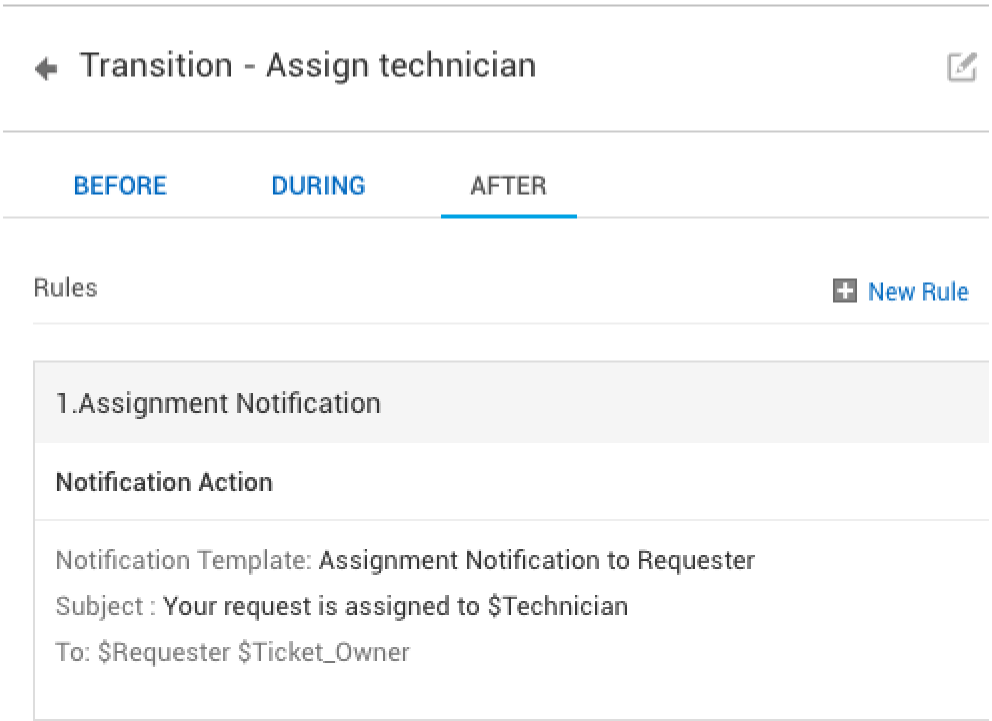


Mandatory fields and dependancy requests completion rules configured under **Request Closing Rules** will not be applied for requests that have a life cycle associated. These must be configured under the respective transitions inside life cycle.

Notification Configurations

Under the **After** phase of any transition, you can configure notifications to be sent to the following predefined roles:

- **$CC_Users**
- **$Dependent_Requests_Owners**
- **$Editor**
- **$Ticket_Owner**
- **$Task_Owners**
- **$Shared_Technicians**
- **$Shared_Requesters**
- **$Requester**
- **$On_Behalf_of_User**
- **$Linked_To_Request_Owner**
- **$Linked_Requests_Owners**
- **$Group_Members**

Skipped Transition Configurations

Mandatory fields under the During transitions are skipped in the following scenarios for templates associated with a life cycle:

1. Request addition by email
2. Conversion of incidents to service requests and vice versa
3. Preventive maintenance tasks
4. Requests import from XLS
5. Splitting conversations into new requests

For some user operations such as converting incidents to service requests or vice versa and system operations such as automated closures, SLA escalations, and preventive maintainance tasks, the Before transition configurations are skipped.

Save and Publish Life Cycle

After you configure all the transition settings across all statuses, you can save the life cycle as a draft to work on it at a later point time, or publish it right away. Note that life cycle configurations will be saved only when the **Save Draft** button is clicked.

To edit an already published life cycle, click the Save Draft button and continue modifying the life cycle per your requirements.

Only published life cycles can be applied to the Request Resolution process.

Life Cycle Status Modifications

Request life cycle configurations for status modifications take precedence over all other configurations and rules, including business rules.

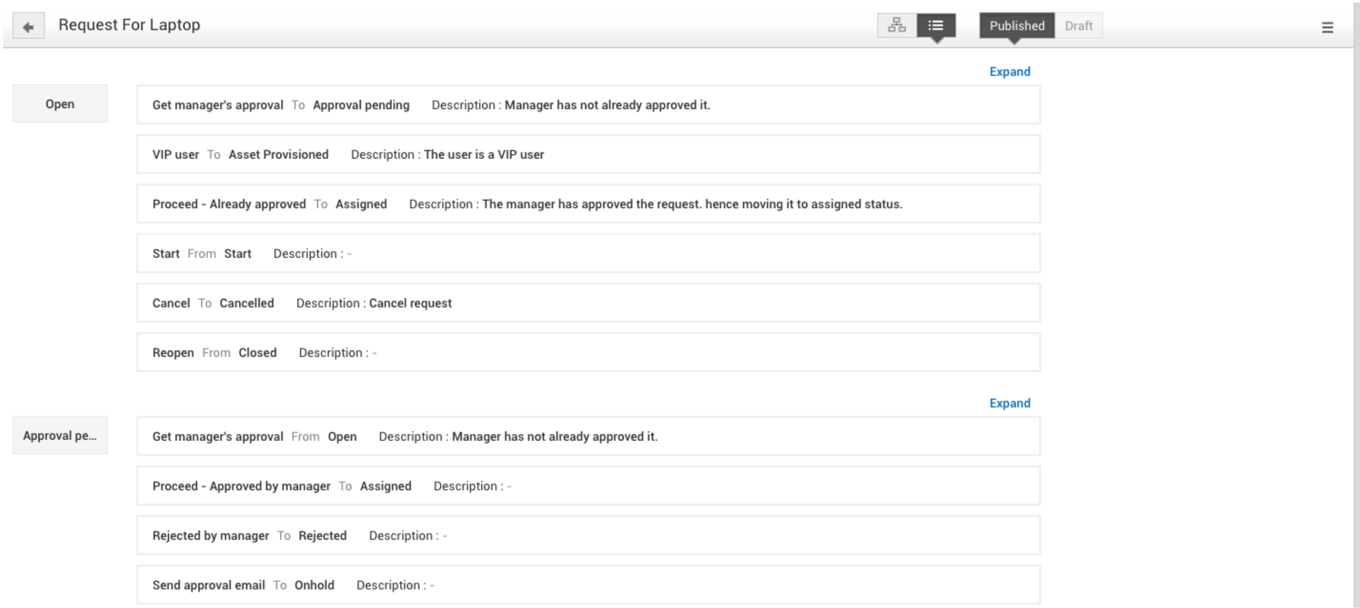
In the following scenarios, operations configured to be performed on the requests will be stopped:

1. No transitions are configured for the current status to move to the target status.
2. Before conditions (role and rule) are not met.
3. When a negate condition is configured.
4. When the configured Field and Form rules affect the template status.
5. If the system changed status is in conflict with the life cycle.
6. External actions such as custom triggers, custom menu, or API calls from other integrated applications do not comply with the life cycle.

Linear and Graphical Views

You can toggle between the Graphical and Linear view of the request life cycle. The linear view provides at a glance expandable views of all the transitions and their configurations, categorized by status.

The following screenshot captures the Open status transition configuration for the Request for Laptop life cycle (discussed above).

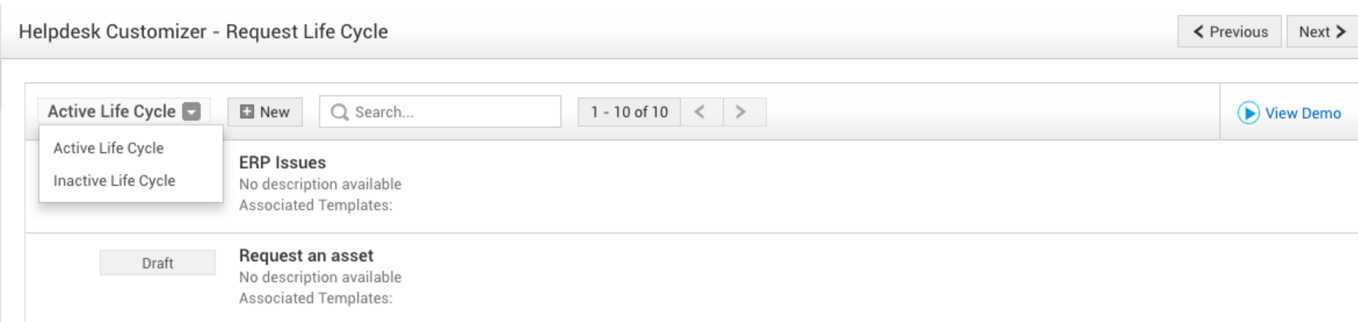


Editing a Life Cycle

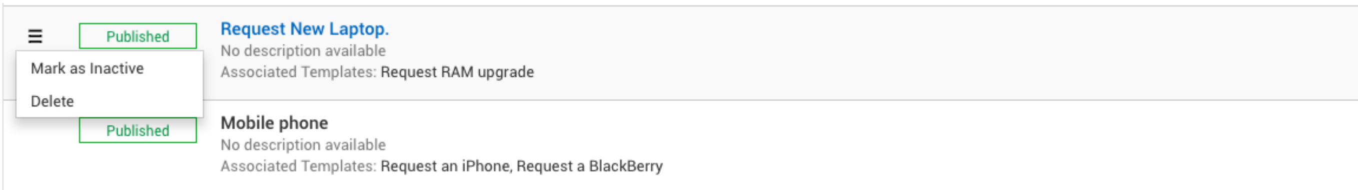
While configuring the life cycle, if you want to modify its name or associate new templates or modify the associations, click the edit button in the upper half of the right panel.

Request Life Cycle List View

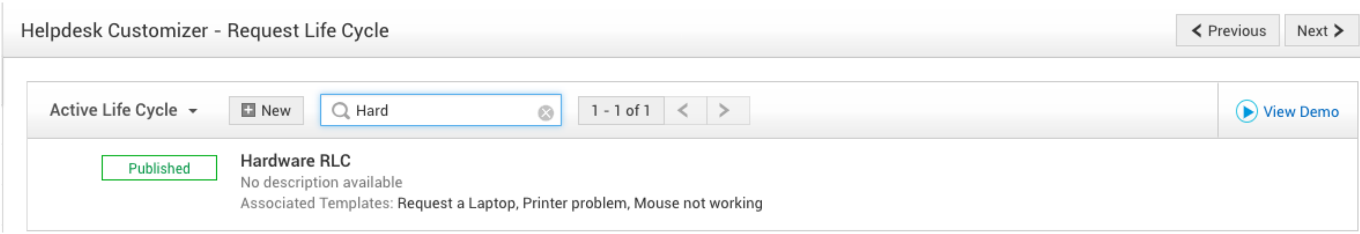
On the list view page, you can choose to list either the Active Life Cycle or Inactive Life Cycle.



To delete a life cycle, click the hamburger button next to the life cycle. Using this button, you can also make a published life cycle inactive. Making published life cycle inactive will dissociate all the requests linked to this life cycle.



To find any life cycle using its name or the associated template, use the search field. Type out the first few letters of the life cycle in the field; the matching results will be listed below.



Request Life Cycle: Summary

The Request Life Cycle feature in ServiceDesk Plus is a drag-and-drop life cycle builder that can be effectively used to provide guidance to the technicians.

A transition refers to the path between two statuses, and each transition is further divided into Before, During, and After phases with individual configurations.

Restrict the visibility of the transition to specific Role or Group by configuring Roles in the Before transition.

Define when the transition can be invoked by configuring Rules in the Before transition.

Collect relevant and just in time data by configuring mandatory and optional fields in the During phase.

Check the transition's validity and negate it, if necessary, by configuring Rules and Script execution in the During phase.

Enable actions over third-party applications by configuring script execution in the After phase.

Notify relevant stakeholders by configuring email notifications in the After phase.

Category

The requests can be categorised/grouped using the following attributes: Categories, Sub-categories and Items. Category form the topmost level in grouping of requests with subcategory and item serving as sublevels for the defined Category.
For example: A request to install Adobe Photoshop can be put under the request Category as Software, Sub-Category as Adobe Photoshop and Item to be Versions 5.0,6.0 and so on. Similarly, if there is a problem in the functioning of the mouse, then it can categorized under the Category as Hardware, Sub-Category to be mouse and Item to be scroll button not working.
Depending on the need, you can create various such categories, sub-categories and items using this option. These categories,sub-categories and items will be listed under the respective drop-down menus available in the **New Request** form.

To configure/access the Category option,

1. Log in to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click **Admin** tab in the header pane.
3. Under the Helpdesk Customizer block, click **Category**. This opens the Helpdesk - **Category** page where you can categorize the incoming requests in to category, sub-category and item.

- Creating New Category
- Creating New SubCategory
- Creating New Item

Create New Category

1. Click New Category button. This displays the category form.
2. Specify the Category Name in the given text field. For ex. Software. This is the only mandatory field.
3. Specify relevant information about the newly created category in the Description field.
4. Select the technician to be assigned for the newly created category from the Assign To Technician combo box. All the issues related to this category will be assigned to the selected technician.
5. Select **Change Manager** from the available list [optional]. Doing so will enable you to autoassign Change Requests (belonging to the category being created) to the selected Change Manager.
6. Click Save button to save the details. You can see the category getting listed in the category list view below the form.
7. Click Save And Sub Category button to save the details and add a sub-category to the category.

Create New Sub-Category

1. Click New Sub Category button in the category list page to add a sub-category to the category. Or alternatively click add **sub-category icon** beside the category title in the list view . This displays the **sub-category form.**

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2. Specify the Sub Category name in the given text field. For ex. AdobePhotoshop. This is a mandatory field.
3. Specify relevant information about the newly created sub category in the Description field.
4. Select the Category (from the combo box) to which this subcategory woul belong. For ex. Software. This is a mandatory field.
5. Click Save button to save the values. You can see the sub-category getting listed under the selected category.

Create New Item

1. Click New Item button in the category list page to add an item to the sub-category. Or alternatively click **add new item ico**n beside the sub-category title from the **respective Category page**. This opens the **New Item form**.
2. Specify the Item name in the given text field. For ex. versions. This is a mandatory field.
3. Specify relevant information about the newly created item in the Description field.
4. Select the Sub Category to which the Item would belong. For ex. software. This is a mandatory field.
5. Click Save button to save the details.

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Editing and Deleting Category

- Editing and Deleting Category
- Editing and Deleting Subcategory
- Editing and Deleting Item

Editing Category

1. Click the **Edit** icon beside the category name in the **Category List** page. This opens the edit category form.
2. Edit the details and save the changes.

Deleting Category

1. From the **Category List** page, select the categories to be deleted by enabling the check box.
2. Click **Delete** button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed. The Category will be deleted from the list.

NOTE: If the category is greyed instead of getting deleted, then the category is being used by a module. Greying of category indicates that the category value will not be available for further usage. To bring the category value back to usage, click the **edit** icon beside the greyed out category and deselect **Category not for further usage** check box. If a category is greyed, then its sub-categories and items are also greyed.

Editing Sub-Category

1. Click the title of the category to which the subcategory to be edited belongs. This opens the sub-category details page.
2. Click **Edit** icon. This opens the edit sub-category form.
3. Edit the details and save the changes.

Deleting Sub-Category

1. Click the corresponding sub-category from the list. You can view the list of sub-categories for the category.
2. Select the sub-category from the list by enabling the check box.
3. Click Delete button to delete the selected sub-category. A dialog box confirming the delete operation appears.
4. Click **OK** to proceed. The Sub-category will be deleted from the list.

NOTE: If the sub-category is greyed instead of getting deleted, then the sub-category is being used by a module. Greying of sub-category indicates that the sub-category value will not be available for further usage. To bring the sub-category value back to usage, click the **edit** icon beside the greyed out sub-category and deselect **Subcategory not for further usage** check box. If a sub-category is greyed, then its items are also greyed.

Editing Item

1. Click the title of the sub-category to which the Item to be deleted belongs. This open the item details page.

2. Click the **Edit** icon . This opens the edit item form.
3. Edit the details and save the changes.

Deleting Item

1. Click the corresponding item from the list. You can view the list of items for the category.
2. Select the item from the list by enabling the check box.
3. Click Delete button to delete the selected item. A dialog box confirming the delete operation appears.
4. Click **OK** to proceed. The item will be deleted from the list.

NOTE: If the item is greyed instead of getting deleted, then the item is being used by a module. Greying of an item indicates that the item value will not be available for further usage. To bring the item value back to usage, click the **edit** icon beside the greyed out item and deselect **Item not for further usage** check box.

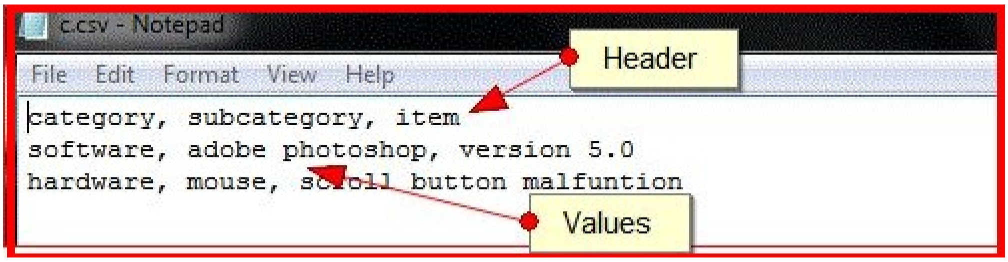
Import Categories through CSV file

You can also choose to import Categories (Subcategories and Items) that will help categorize the incoming requests through a CSV file.

- Creating and Uploading the CSV file
- Mapping Fields
- Checking Import Summary

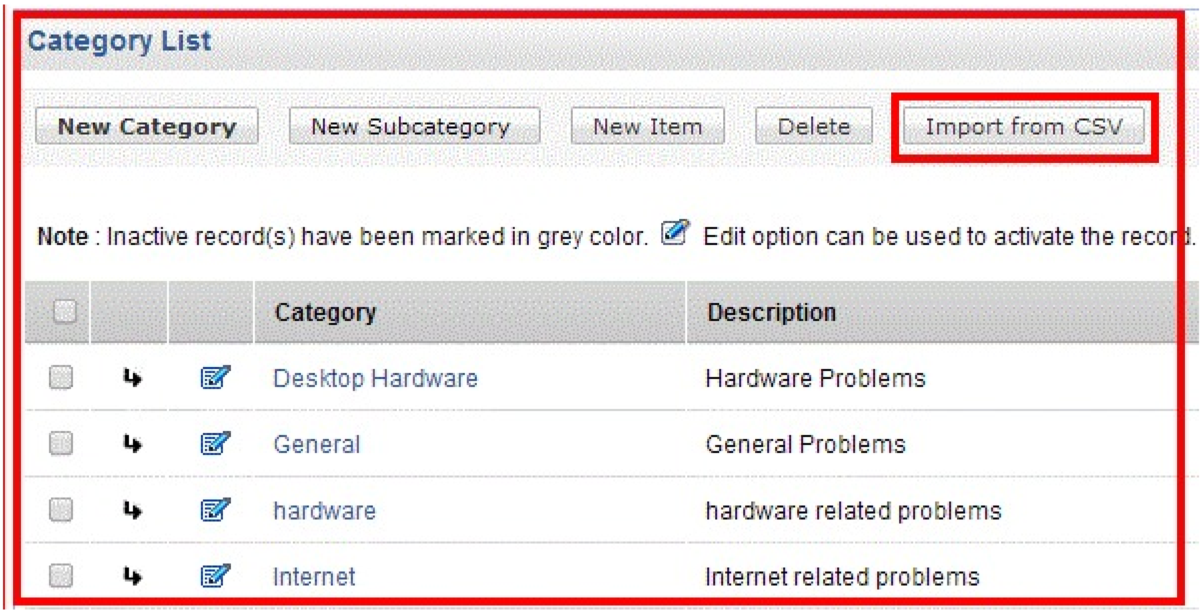
Creating and Uploading the CSV file

The CSV file you create should follow the format as shown in the image:



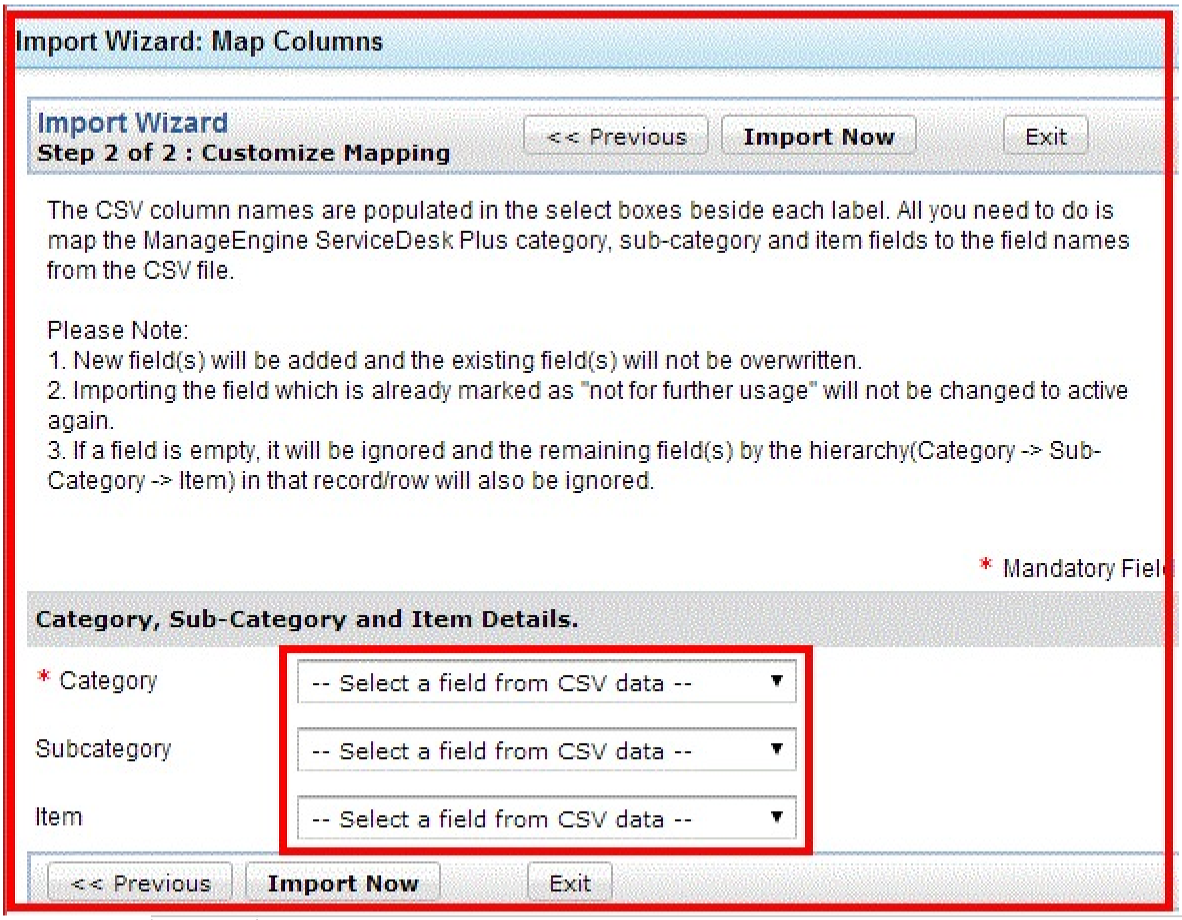
Uploading the CSV file

1. Click **Import from CSV** button from the Category List View page
2. Click **Choose File** button from **Import Wizard** pop up
3. Locate the file and open it
4. Click **Next** button



Mapping Fields

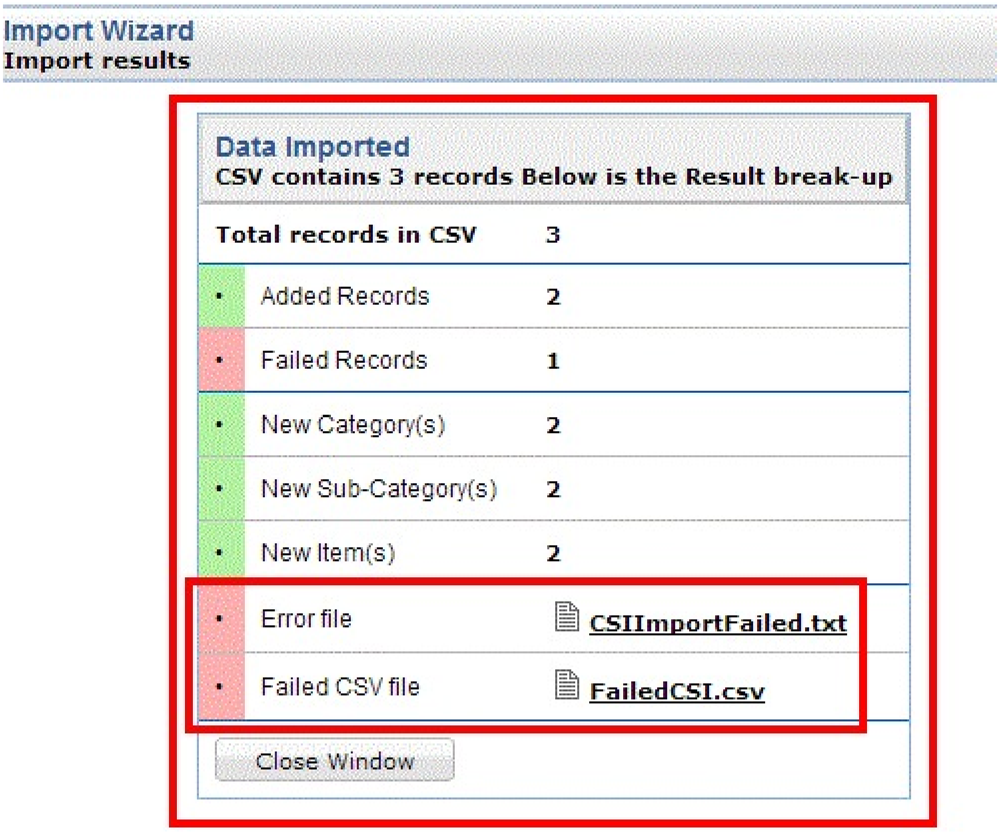
5. Next step is to map the fields available in CSV file with the **Category, Subcategory** and **Item** fields of the ServiceDesk Plus application



Note: "Category" is a mandatory field and has to be mapped during import

6. After mapping the fields, click **Import Now** button

Checking Import Summary

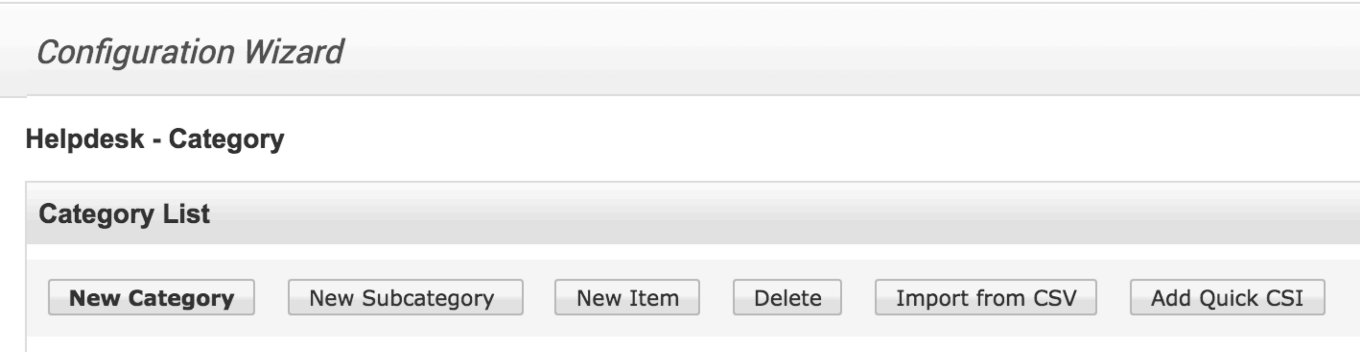


7. Import Summary will display the status of import. And in case of failure the reason will be pointed out through **downloadable Error file** (see image). The **failed CSV file** will also be available in downloadable format (see image) so that the mistakes done can be corrected after which the file can be reloaded again.

Note: Fields not mapped/selected (Subcategory or Item) will not be imported.

Add Quick Category, Sub-category and Item

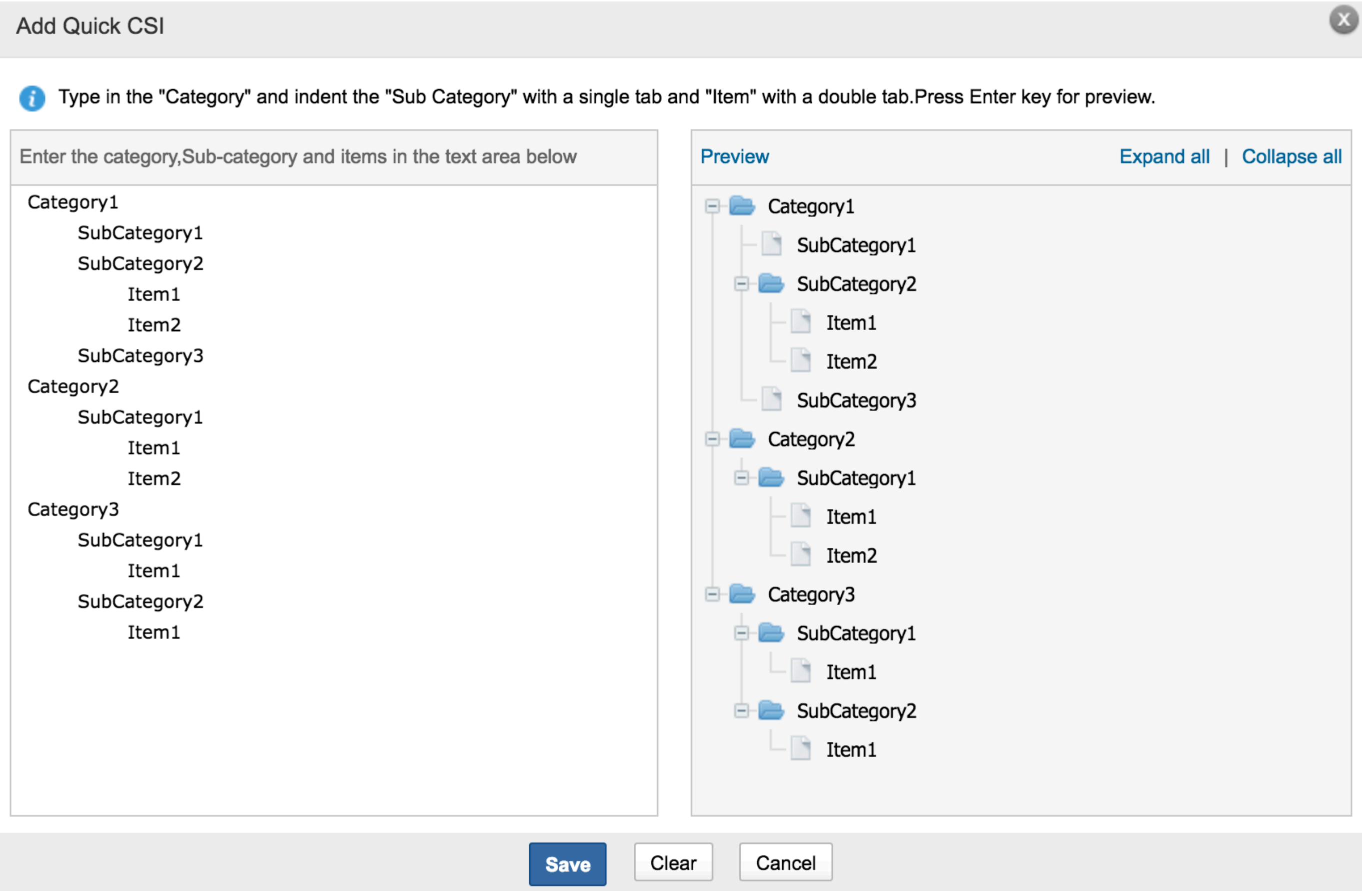
'**Add Quick CSI**' option allows you to add new Categories, Sub-categories and Items at an instant, instead of adding them using individual 'New' option . This option proves to reduce time consumption when large number of categories or subcategories or items have to be added. This option is available under Admin>> Helpdesk>> Category >> Add Quick CSI.



To bulk add Category, Sub-Category and Item :
1. Click 'Add Quick CSI' from the Category List window. The 'Add Quick CSI' window will be displayed with text area to enter the CSI and the preview screen to get a view of the CSI entered.

Note

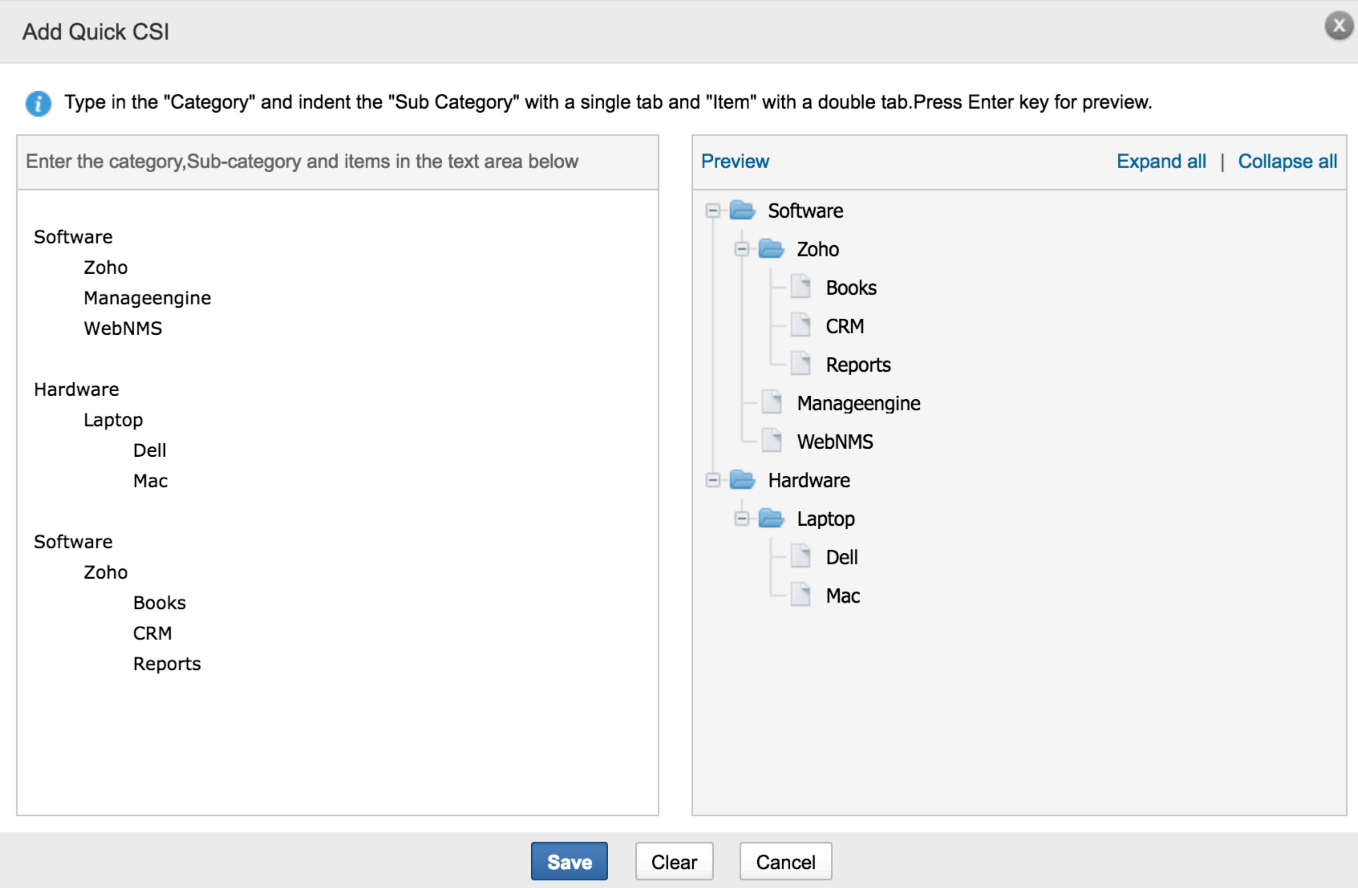
- In the text area of the pop-up window, text entered with no tabs will be considered as Category.
- Text entered with single tab will be taken as Sub-category, while text entered with two tabs will be taken as Item.



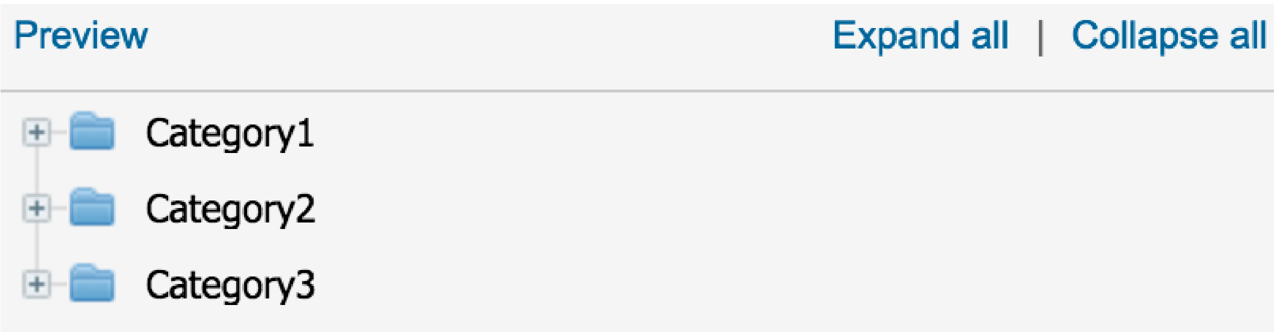
2.Press 'enter' after typing the CSI to preview the details.

- **Save:** Clicking 'Save' will save the Category, Sub-category and Item in the text area.
- **Clear:** Clicking 'Clear' will reset the text area.
- **Cancel:** Clicking 'Cancel' will close the 'Add Quick CSI' window.

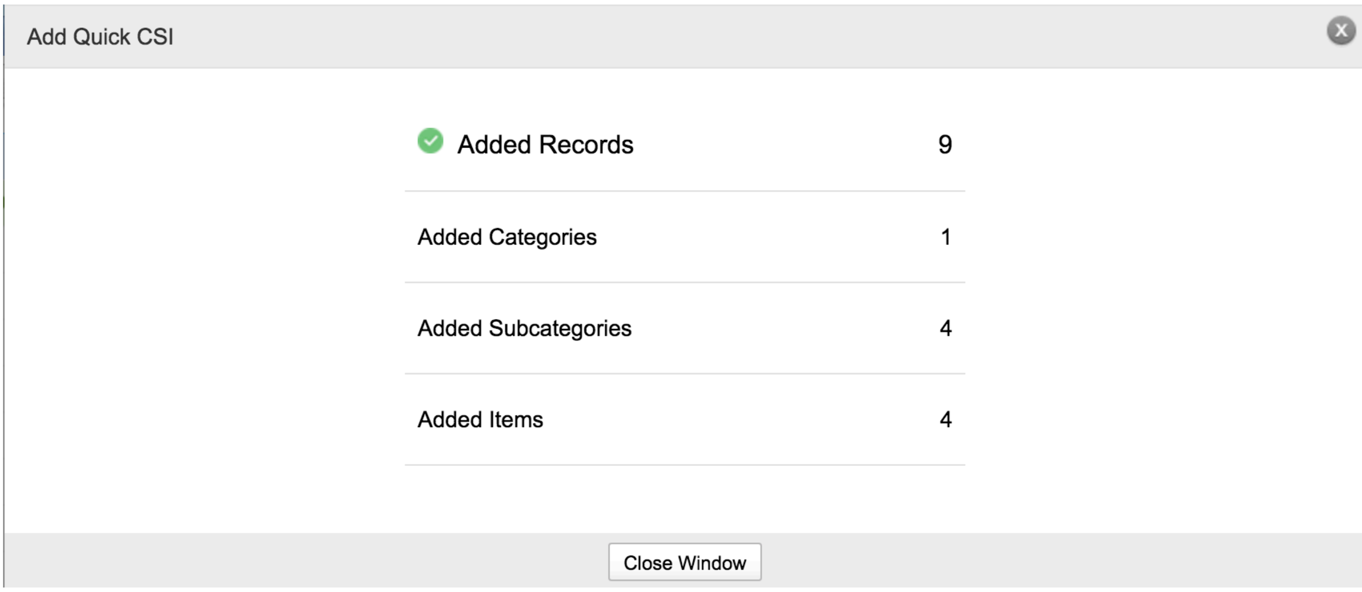
Following is a sample and preview of the added Category, Sub-category and Items.



- **Preview:** A preview will be displayed when 'Enter' is pressed or when preview link is clicked.
- **Expand all** : Expands the tree displaying all the Categories, Sub categories and Items in the preview section.
- **Collapse all**: Shrinks the tree displaying only the Categories in the preview section.



3. After clicking 'Save', the result window showing the total number of added records and added Categories, Sub-categories and Items will be displayed. Clicking 'Close Window' will take you back to the category list window.



Note

- Provide an unique name for the Category. If same names are provided for two or more categories, the preview will display that corresponding category only once.
- Category, Sub category and Items entered in the text area are not case sensitive

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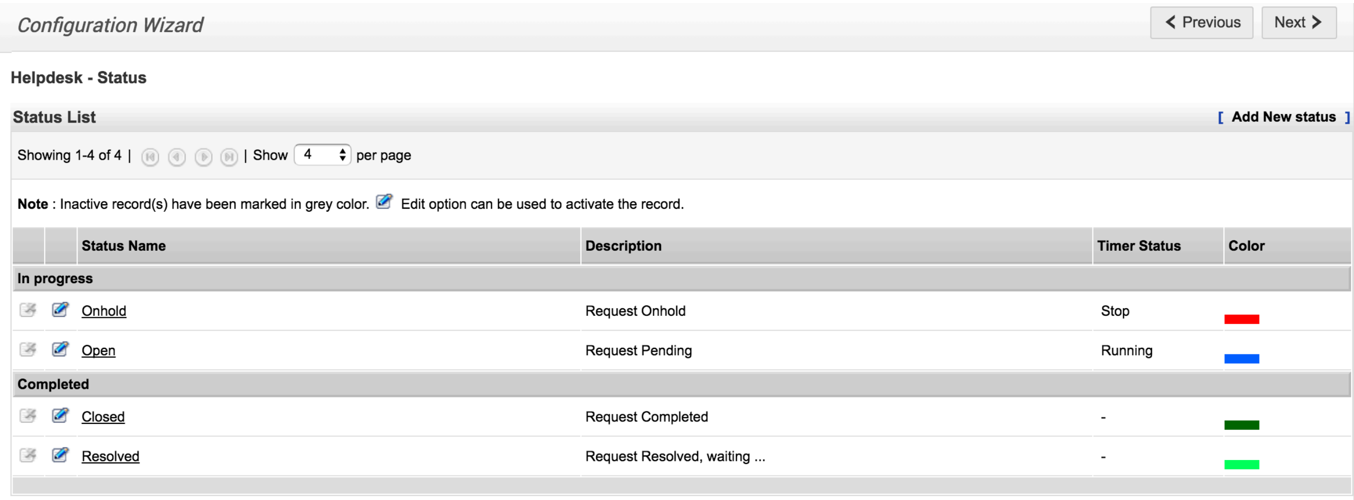
Status

Status is way of indicating a request's progress. The value assigned to it (Open, Closed, Onhold or Resolved etc.,) depends upon a number of factors ranging from requester's acknowledgement of the services offered to the availability of the technician who has been assigned with the request. To precisely indicate the request's progress, ServiceDesk Plus allows administrators to configure Status of two types: In Progress Status (and) Completed Status.

- **In Progress Status:** Indicates 'Request Timer ON (running)' period during which the request is being worked out by the technicians.
- **Completed Status**: Indicates 'Request OFF(stopped)' period by which the request would have been completed.



To open the status configuration page,

1. Click **Admin** tab in the header pane.
2. From the Helpdesk **Customizer** block, click **Status**. The Status List page will be displayed. You can add, edit, or delete various request status from this page.

- Adding 'In Progress" Status
- Adding "Completed" Status
- Editing any Status
- Deleting any Status

Adding "In Progress" Status

To add request timer ON "In Progres" status,

- Click the **Add New Status** link (available at the right corner)
- **Enter a unique status name to identify the status in the Name field.**
- Select the **Status Type**: In Progress (or) Completed [**In Progress** in this case]
- Choose the **Color** for representing the Status
- Click **Save** (or) **Save and Add New** [in case you wish to add another Status]

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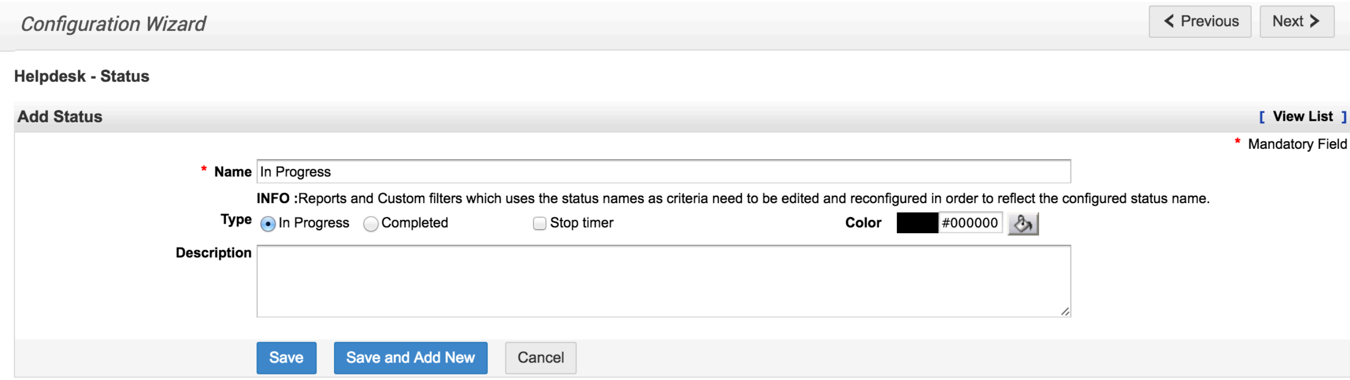
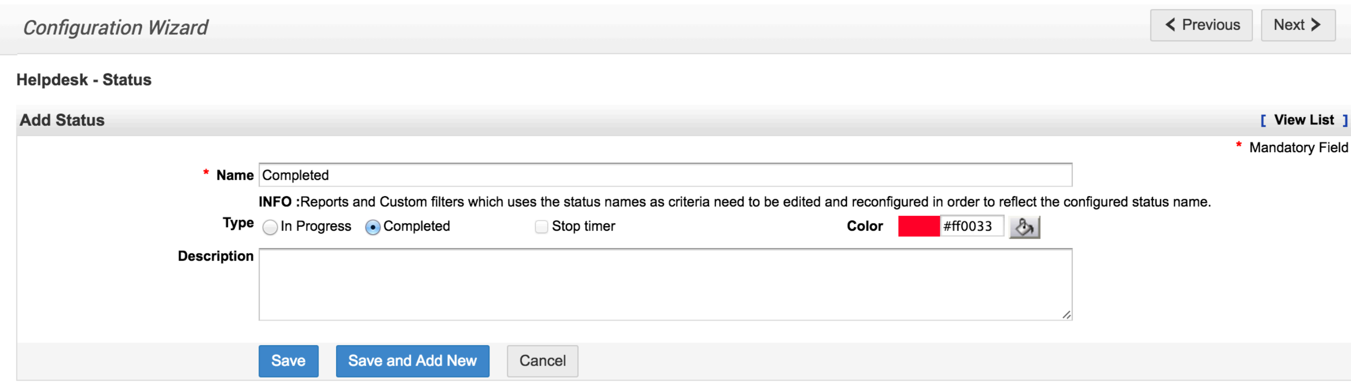


Note: On Hold is the **only default "In Progress" status** that will have 'Request Timer OFF'. This is to prevent any unintentional inactivity on technician's part - like waiting for requester approval - from violating the SLA. More such status can be added in case you require them.

Adding "Completed" Status

To add a request timer OFF "Completed" Status,

- Click the **Add New Status** link (available at the right corner)
- **Enter a unique status name to identify the status in the Name field.**
- Select the **Status Type**: In Progress (or) Completed [**Completed** in this case]
- Choose the **Color** for representing the Status
- Click **Save** (or) **Save and Add New** [in case you wish to add another Status]



Editing any Status

- Click the edit icon beside the status name you wish to edit.
- Edit the details as per your requirements.
- Click Save.

Note: Remember that you cannot **change the characteristics associated with a status** (that is, change it from **In Progress to Completed** or vice versa) while editing it. But other details can be changed. And the Stop timer can be **activated/deactivated** in case you are editing an "In Progress" status.

Deleting any Status

- Click the delete icon beside the status name you wish to edit.
- Edit the details as per your requirements.
- Okay the warning message. The status will be deleted.

Note: If the status is greyed instead of getting deleted, then it means that the status is being used by a module. Greying indicates that the status value will not be available for further usage. To bring the status value back to usage, click the edit icon beside the greyed out status and deselect **Status not for further usage** check box.

Note:

- Status available by default (Open, Onhold, Resolved and Closed) cannot be deleted. .
- Request Timer calculates the time consumed for the request and helps technicians keep track of and adhere to Service Level Agreements.
- Request Timer can be accessed from request details page (click **Actions** dropdown --> **Start**/**Stop** Timer)

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Level

Request level is a measure to indicate the complexity of a request. For example, if the received request just has some information and does not require any action to be taken, then it can be classified as Level 1. If there is a minor level action, such as providing the requester some tips to resolve the issue, then it can be classified as Level 2, and so on. To open the request level configuration page

1. Login to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Helpdesk **Customizer** block, click **Level**. The Level List page will be displayed. You can add, edit, or delete the request levels.

Adding Level

To add a request level,

1. In the **Level List** page, click **Add New Level** link at the top right corner.
2. In the **Add - Level** form, enter the level **Name**. If you want, you can enter the level **Description** also. Please note that you cannot add two levels with the same name. Each level name should be unique.
3. Click **Save**. The new level gets added to the already existing list.

If you want to add more than one level, then instead of clicking Save, click **Save and add new** button. This adds the new level and reopens the Add Level form.

At any point, if you decide not to add the new level, then click **Cancel** to get back to the level list. Clicking the **View List** link on the top right corner of the Add Level form will also take you to the level list view.

Editing Level

To edit an existing level

1. In the **Level List** page, click the edit icon beside the level name that you want to edit.
2. In the **Update - Level** form, you can edit the name and description of the level.
3. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Even while editing a level, if you wish to add new level, then click **Save and add new** button instead of clicking Save button after making the changes.

Deleting Level

1. In the **Level List** page, select the check box beside the level name to delete.
2. Click **Delete** button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed with the deletion. If you do not want to delete the level, then click **Cancel**.

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NOTE: If the level is greyed instead of getting deleted, then the level is being used by a module. Greying of level indicates that the level value will not be available for further usage. To bring the level value back to usage, click the edit icon beside the greyed out level and deselect **Level not for further usage** check box.

Mode

There are different modes of submitting a request to the IT help desk team. ServiceDesk Plus provides you the option of submitting the request through an online form. Instead, a requester can call up the IT help desk agent and inform him/her regarding an issue faced, where the help desk agent will ensure to log the details discussed over the phone call through the web-based form. The other mode by which you can submit a request is by sending a mail to the IT help desk team. The IT help desk will then log the details of the mail through the web-based form in the ServiceDesk Plus application. If there are other methods of reporting a request to the IT help desk team in your organization, you can add the corresponding mode. To open the mode configuration page

1. Login to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Helpdesk **Customizer** block, click **Mode**.The Mode List page will be displayed. You can add, edit, or delete the request mode.

Add a Mode

To add a request mode

1. In the **Mode List** page, click **Add New Mode** link at the top right corner.
2. In the **Add Mode** form, enter the **Mode Name**. If you want, you can enter the mode **Description** also. Please note that each **Mode Name** needs to be unique.
3. Click **Save**. The new mode gets added to the already existing list.

If you want to add more than one mode, then instead of clicking Save, click **Save and add new** button. This adds the new mode and reopens the add mode form.

At any point, if you decide not to add the new mode, then click **Cancel** to get back to the mode list. Clicking the **View List** link on the top right corner of the add mode form will also take you to the mode list view.

Edit a Mode

To edit an existing mode

1. In the **Mode List** page, click the edit icon beside the mode name that you wish to edit.
2. In the **Edit Mode** form, you can modify the name and description of the mode.
3. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Even while editing a mode, if you wish to add new mode, then click **Save and add new** button instead of clicking Save button after making the changes.

Delete Mode

1. In the **Mode List** page, select the check box beside the mode name to delete.

2. Click Delete button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed with the deletion. If you do not want to delete the mode, then click **Cancel**.

NOTE: If the mode is greyed instead of getting deleted, then the mode is being used by a module. Greying indicates that the mode value will not be available for further usage. To bring the mode value back to usage, click the edit icon beside the greyed out mode and deselect **Mode not for further usage** check box.

Impact

Impact is a measure of the business criticality of an Incident or a Problem. Impact is often measured by the number of people or systems affected. By default you have four Impact details listed in the list view.

To open the impact configuration page,

1. Log in to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Helpdesk **Customizer** block, click **Impact**. This opens the Impact page from where you can add, edit and delete the impact.

Add an Impact

1. Click New Impact link on the top right hand side of the page. This opens the Add impact details page.
2. Specify the Name of the impact in the given text field.
3. Specify the detailsabout the impact in the given Description field.
4. Save the changes.
5. Click the **Save and add new** button to save the Impact and add another Impact.

Edit an Impact
To edit an existing impact,

1. In the Impact **List** page, click the edit icon beside the impact name that you wish to edit.
2. In the **Edit Impact** form, edit the fields you want to change.
3. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Even while editing an impact, if you wish to add a new impact, then click **Save and add new** button instead of clicking Save button after making the changes.

Delete Impact

1. From the Impact **List** page, select the check box beside the impact name that you want to delete.
2. Click Delete button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed with the deletion. The impact gets deleted from the available list. If you do not wish to delete the impact, then click **Cancel**.

NOTE: If the impact is greyed instead of getting deleted, then the impact is being used by a module. Greying indicates that the impact value will not be available for further usage. To bring the impact value back to usage, click the edit icon beside the greyed out impact and deselect **Impact Details not for further usage** check box.

Urgency

Urgency is about the necessary speed of solving an incident of a certain impact. To open the urgency configuration page,

1. Log in to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Helpdesk Customizer block, click **Urgency**. This opens the Urgency page. By default you have four Urgency details listed in this page.

Add New Urgency

1. Click New Urgency link on the right hand side of the page. This opens the Add urgency details page.
2. Specify the Name of the Urgency in the given text field. This is a mandatory field.
3. Specify the urgency details in the Description field.
4. Save the changes.
5. Click the **Save and add new** button to save the urgency and add another urgency.

Edit Urgency

To edit an existing urgency,

1. In the Urgency **List** page, click the edit icon beside the urgency name that you wish to edit.
2. In the **Edit Urgency** form, edit the fields you want to change.
3. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Even while editing a urgency, if you wish to add a new urgency, then click **Save and add new** button instead of clicking Save button after making the changes.

Delete Urgency

1. From the Urgency **List** page, select the check box beside the urgency name that you want to delete.
2. Click Delete button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed with the deletion. The urgency gets deleted from the available list. If you do not wish to delete the urgency, then click **Cancel**.

NOTE: If the urgency is greyed instead of getting deleted, then the urgency is being used by a module. Greying indicates that the urgency value will not be available for further usage. To bring the urgency value back to usage, click the edit icon beside the greyed out urgency and deselect **Urgency not for further usage** check box.

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Priority

Priority of a request defines the intensity or importance of the request received by the IT help desk team. To open the request priority configuration page

1. Login to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Helpdesk Customizer block, click **Priority**. This opens the Priority page where you can add, edit, or delete the request priorities.

Add a Priority

To add a request priority,

1. In the **Priority List** page, click the **Add New Priority** link at the top right corner. This opens the Add Priority form.
2. Enter the priority name in the **Name text field. The provided name has to be unique and cannot be duplicated. This is a** mandatory field.
3. If required, select the Color code to identify the priority by invoking the icon . The selected color has to be unique for every priority specified.
4. You can enter a short description about the priority in the **Description** field. This can help in understanding the kind of priority associated with the name mentioned in the Name field.
5. Click Save. The new priority is added to the already existing list. At any point you wish to cancel the operation that you are performing, click **Cancel**. If you want to add more than one priority then, click **Save and add new** button. This adds the new priority and reopens the add priority form.

	Note: The priority name along with its color code can be view in the request list view page provided the priority check box is enabled in the column chooser.

Edit a Priority

To edit an existing priority

1. In the **Priority List** page, click the edit icon beside the priority name that you wish to edit.
2. In the **Edit Priority** form, edit the fields you want to change.
3. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Even while editing a priority, if you wish to add a new priority, then click **Save and add new** button instead of clicking Save button after making the changes.

Delete Priority

1. From the **Priority List** page, enable the check box beside the priority name that you wish to delete.
2. Click Delete button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed with the deletion. The priority gets deleted from the available list. If you do not wish to

delete the priority, then click **Cancel**.

NOTE: If the priority is greyed instead of getting deleted, then the priority is being used by a module. Greying indicates that the priority value will not be available for further usage. To bring the priority value back to usage, click the edit icon beside the greyed out priority and deselect **Priority not for further usage** check box.

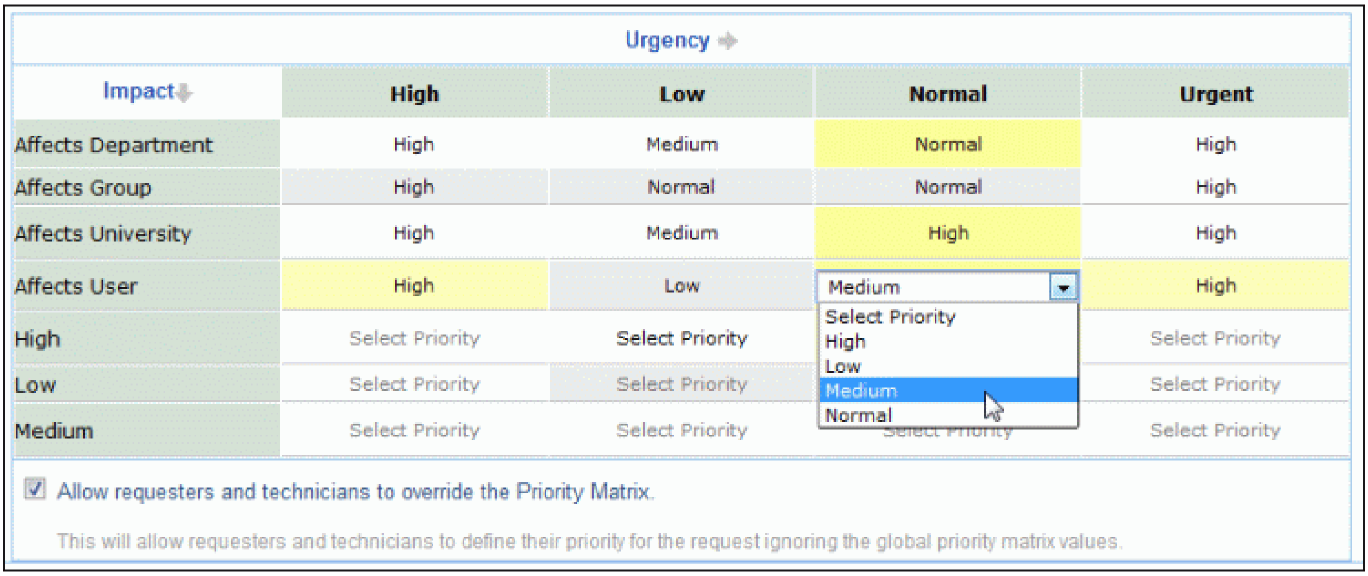
Priority Matrix

The priority matrix helps you determine the Priority automatically based on Impact and Urgency of a request. Impact is listed in the y-axis, and Urgency list in the x-axis of the matrix. Priority Matrix requires a one-time configuration by the Administrator.

Once you set the Priority for specific Impact and Urgency in the priority matrix, when a requester selects a similar impact and urgency combination in the new request form, then the priority of the request will be determined based on the matrix.

To set up Priority Matrix,

1. Login to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Helpdesk **Customizer** block, click **Priority Matrix**. The page displays priority matrix with impact list in the y-axis and the urgency list in the x-axis.
4. From the Priority Matrix page, click the priority link against specific urgency and impact, this opens the drop down box.



6. Select the corresponding priority from the list. The priority will be set for the particular **Impact and Urgency** combination.

Example	**In priority matrix : If Impact** is *Affects Business* and **Urgency** is *High* then **Priority** should be *High*. **Result in request form :** If requester/technician selects *Affects Business* for impact and *high* for urgency in the request then, the priority field gets filled automatically and displays as *high*.

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Request Type

Request Type is the type of request sent by the requester such as an incident or request for any information. ServiceDesk Plus gives you the provision of configuring your request type other than the default options. This is essential while creating a new request under the request module.

1. Login to ServiceDesk Plus application using the username and password of the admin user.
2. Click the **Admin** tab in the header pane.
3. In the Helpdesk **Customizer** block, click **Request Type**.

Add a Request Type

To add a new request type,

1. Click the **Add Request Type** link on the right hand side corner of the Request Type list page. This opens the Add Request Type form.
2. Specify the name of the request type such as, Incident, Request for Information in the Name text field. This is mandatory field.
3. Enter a brief description about the type of requests which fall under the category in the Description text field.
4. Click **Save**, to save and return to the list view page. Click **Save and Add New** to save and create another request type.

Edit a Request Type

1. **From the Request Type list page, click the edit icon beside the request type which you want to edit. This opens the Update- Incident page.**
2. **Modify the changes in Name and Description text field.**
3. **Click Save to save the changes. You can also Save and add a new request type by clicking Save and Add New.**

Delete Request Type

1. From the Request Type list page, select the check box beside the request type to delete.
2. Click **Delete** button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed. The request type gets deleted from the list.

NOTE: If the request type is greyed instead of getting deleted, then the request type is being used by a module. Greying indicates that the request type will not be available for further usage. To bring the request type back to usage, click the edit icon beside the greyed out priority and deselect **Request Type not for further usage** check box.

Request Closure Code

Request Closure Code denotes the reason behind closing a request, whether the request was closed successfully, unsuccessfully, cancelled and so on. Using the request closure code, the administrator is able to comprehend the purpose of closing the request by the technician. In addition, comments can be provided to give a detailed explanation for closing the requests. The configured request closure code list appears while closing the request, and the data entered is viewed in the request details page.

To access the Request Closure Code list page,

1. Click Admin tab in the header pane to open the Configuration Wizard page.
2. In the Helpdesk **Customizer** block, click Request Closure Code. The available request closure code is displayed. From this page you can add, edit and delete a closure code.

Add New Closure Code

1. Click Add New Closure Code link.
2. Specify a unique Name for the request closure code. The name is a mandatory field.
3. Provide a brief Description about the request closure code.
4. Click Save to save the request closure code and return to the list view.

To add more than one request closure code, click Save and Add New button. This adds the new closure code and reopens the Add Request Closure Code form.
Click Cancel to exit the add request closure code form and return to the list view. Clicking the **View List** link on the top right corner of the add request closure code form also take you to the Closure Code list view.

Edit a Request Closure Code

1. In the Request Closure Code list view page, click the edit icon beside the closure code name to edit. The Update form is displayed.
2. Modify the Name and Description.
3. Click Save, to save the request closure code and return to the list view.

Even while editing a closure code, if you wish to add a new request closure code, click **Save and Add New** button. This updates the request closure code and reopens the Add Request Closure Code form.
Click Cancel to exit the add request closure code form and return to the list view. Clicking the **View List** link on the top right corner of the add request closure code form also take you to the Closure Code list view.

Delete Request Closure Code

1. From the Request Closure Code list view, enable the check box beside the closure code to delete.
2. Click Delete button. A dialog box confirming the delete operation appears.
3. Click OK to continue. The request closure code is deleted from the list.

If the request closure code is used in a request, the closure code is not deleted, instead it is grayed (made inactive) and will not be available for further usage.

To bring the request closure code back to the active state,

1. Click the edit icon beside the inactive request closure code. The update form is displayed.
2. De-select the Request Closure Code not for further usage check box.

3. Click Save. The request closure code is save and will be available for further usage.

Click Save and Add New, to save and add another request closure code. Click Cancel to exit the add request closure code form and return to the list view.

Request Closing Rules

Request closing rules can be used to select the mandatory fields to be filled in by the technicians while closing the requests. You can also use it to confirm user acknowledgment to the technician and close requests either manually or automatically.

To preset the request closing rules,

1. Log in to the ServiceDesk Plus application using the username and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Helpdesk **Customizer** block, click **Request Closing Rules**. This opens the Request Closing Rules page.
4. Select the mandatory fields for closing the request from the list by enabling the checkbox.

Confirm User Acknowledgement
On closing the request, the resolution is acknowledged by the requester through the mail (if the option is enabled in Notification Rules). If you want to prompt a confirmation message to the technician asking if the user has acknowledged the resolution then enable Yes, prompt a message radio button, else enable No, don't prompt a message radio button.

Request Closing Process

Manual Closing

1. If you would like to close the request manually select the Manual radio button.
2. Save the changes. On resolving the request each time you have to close the request manually.

Automatic Close

1. Select the Automated Close radio button to close the request automatically.

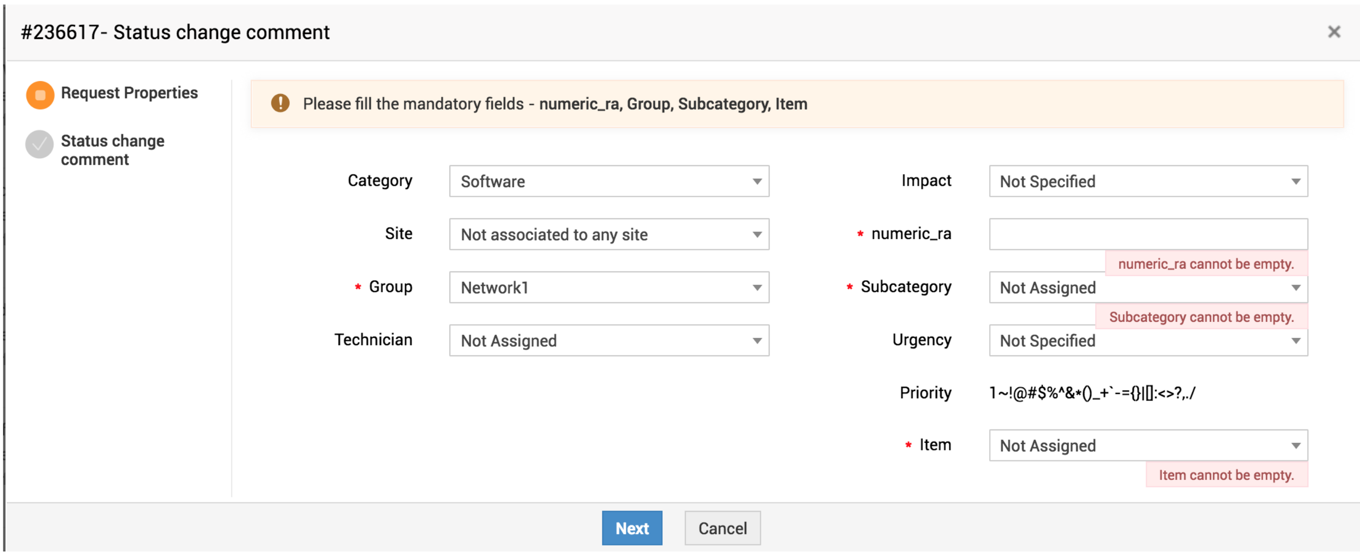
In the automatic mode,

- An email is sent to the requester when the Request is put in the **Resolved** state
- The Requester can Close the Request with the close link given or Re-open the Request by replying to the mail.
- If the Requester takes no action the Request will be closed after the number of days specified in the combo box.

2. Select the close resolved request after n number of days from the combo box. After the selected number of days, the resolved requests will be closed automatically if the requester does not take any action.
3. Save the details.

Request Closing Wizard

Guide technicians using Request Closing Wizard to fill out the missed mandatory fields while closing a request. This will come handy when a technician closes a request without filling out the mandatory field configured in closing rules(Admin >> Request Closing Rules) such as Resolution, category/sub-category etc. The technician will be shown a prompt with the missed out fields marked. The technician can fill out those fields and close the request from there itself.



Close requests automatically if approval is denied.

Enabling this option will automatically close a request when approval is denied for the request - i.e, if the approval status of a request is changed to the "Denied" state. Normally the admin/technician has to manually delete a request when approval is denied for the request, however with this option that need is eliminated. With this, you can:

1. Configure the time after which a request should be closed once approval is denied. Use the days and hours drop-down to configure it.

2. Select an appropriate Request Closure Code.

3. Add Request Closure Comments and Resolution, if any, in the given fields.

4. Configure what should be done with the pending tasks that are associated with the request - for e.g. you can configure the status of the pending tasks to be changed to "Closed", "Resolved" or to some custom completed status, else you can configure to delete those tasks when approval is denied.

Note: Request will be automatically closed only if it’s approval status is changed to the "Denied" status.

Incident - Additional Fields

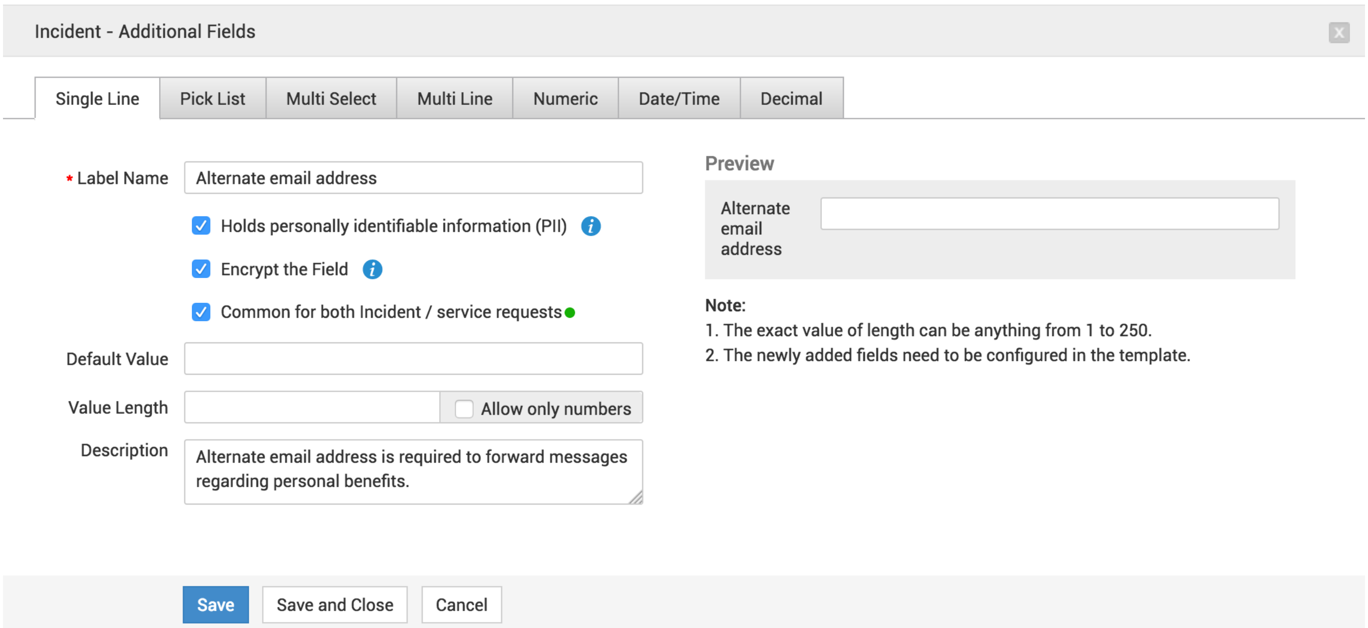
Incident - Additional Fields helps you configure additional fields to be displayed in incident templates to collect any extra information on reported incidents in addition to the preset fields.

Adding a New Field

Click **Add Field**. Pick from the following seven field types per your requirements.

Field style	Description	Example
Single line	A simple, short phrase, such as a name or seating location.	Name
Pick list/Radio (You can always interchange them by editing the fields)	A list of items, such as available devices or hardware.	List of available asset types
Multi select/Checkbox (You can always interchange them by editing the fields)	For selectable values within a list, such as various software applications available.	List of software installed
Multi line	To describe an issue or to add comments.	Comments
Numeric	For numbers.	1111
Date/Time	To specify time and date in a defined format such as May 1, 2019.	May 1, 2016
Decimal	To specify cost or a ratio.	21.11(Cost in Dollars)

After selecting the field type, fill out the displayed form as shown in the screenshot below and click **Save**.



You can add a maximum of 25 answer choices using Radio/Checkbox field types. Use Pick

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list/Multi field types to add more answer choices.

You can add a maximum of 90 fields.

You will have to configure the new fields in incident templates.

Home Page Actions

Use **Edit** icon to edit the additional field.
Select an additional field and click **Delete** to remove the field.

TOP

Incident Template

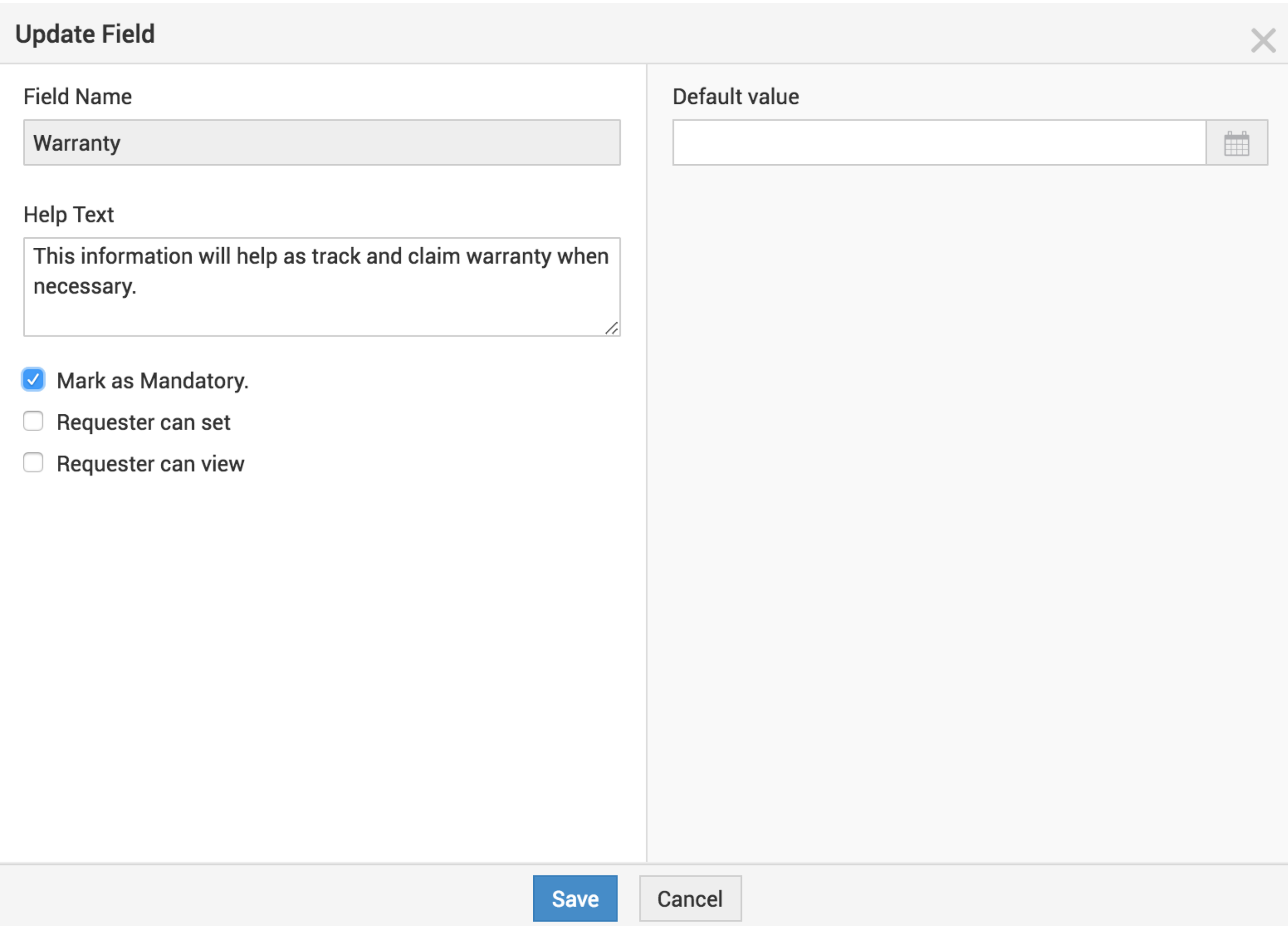
Customize request templates to include information necessary to quickly resolve frequent requests, such as password resets, printer issues, or incorrect mail fetching.

Adding a New Template

Go to **Admin**>>**Helpdesk Customizer**>>**Incident Template**>>**Add New Template**.
Provide a name to your template and enter the description i**n Comments.** The template, by default, is selected for technicians.
Fill out the displayed fields with the required information.
Besides the default fields, you can add available and custom fields to the template.

Adding Available Fields

Under **Available Fields**, select a field and drag it to the canvas.
Click **Edit** icon to add the field properties.



When you mandate Item, **Category** and **Subcategory** will be mandated as well. Also, when you mandate **Impact Details**, **Impact** will be automatically mandated.

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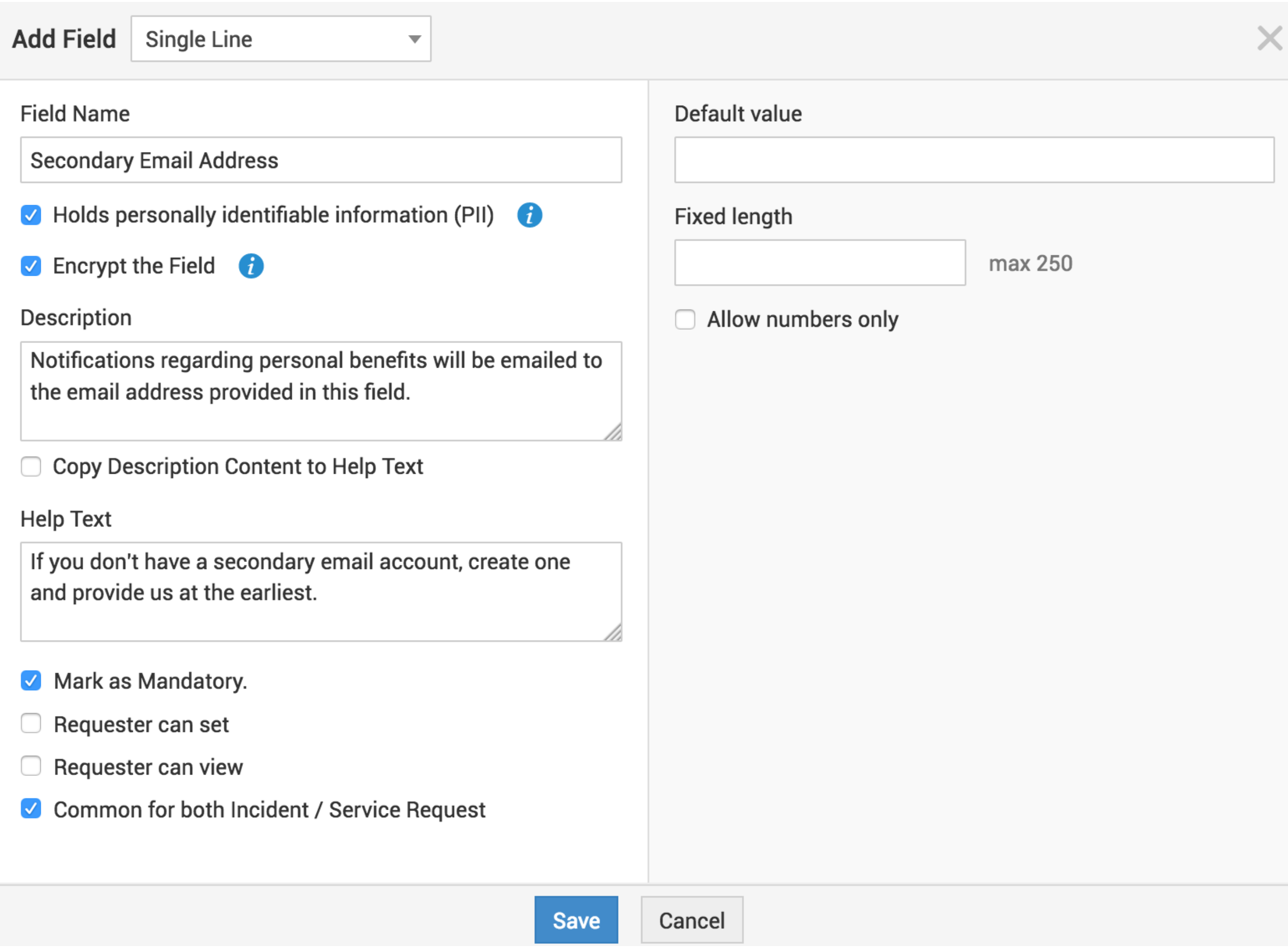
Adding Custom Fields

- Click **New Field** in the left pane and drag a field type to the canvas.
- Enter the field name and description.
- You can mark fields of some types as personally identifiable information.
- You can also encrypt certain fields that hold confidential information about the user or the organization.
- You can select the additional field to be common for both incident and service requests.
- Set other field properties such as default value and character length and click **Save**.

Sample custom field



Additional fields you add in a template will appear in all templates and in the same name. You can edit or delete them in **Admin>>Helpdesk Customizer>>Incident - Additional Fields** or under **Service Catalog - Additional fields** if the field is common to both incident and service templates.

Pick from the following 7 field styles, per your requirement.

Field style	Description	Example

Single line	A simple, short phrase.	Name/seating location
Pick list/Radio	A list of items.	List of available asset types
Multi select/Check box	For selectable values within a list.	List of software applications installed
Multi line	To describe an issue or comment on it.	Any extra info.
Numeric	For numbers.	1111
Date/Time	To specify time and date in a defined format such as May 1, 2019.	May 1, 2016
Decimal	To specify cost or ratio.	21.11(Cost in Dollars)

Editing Fields

Hover over the field, click Edit icon, and modify the properties.

Removing Fields

Use **Delete** icon beside the field. Deleted fields will be listed under **Available Fields** in the left pane.

You cannot delete **Requester Details**, **Subject**, **Description**, **and Status**.

Designing Field Layout

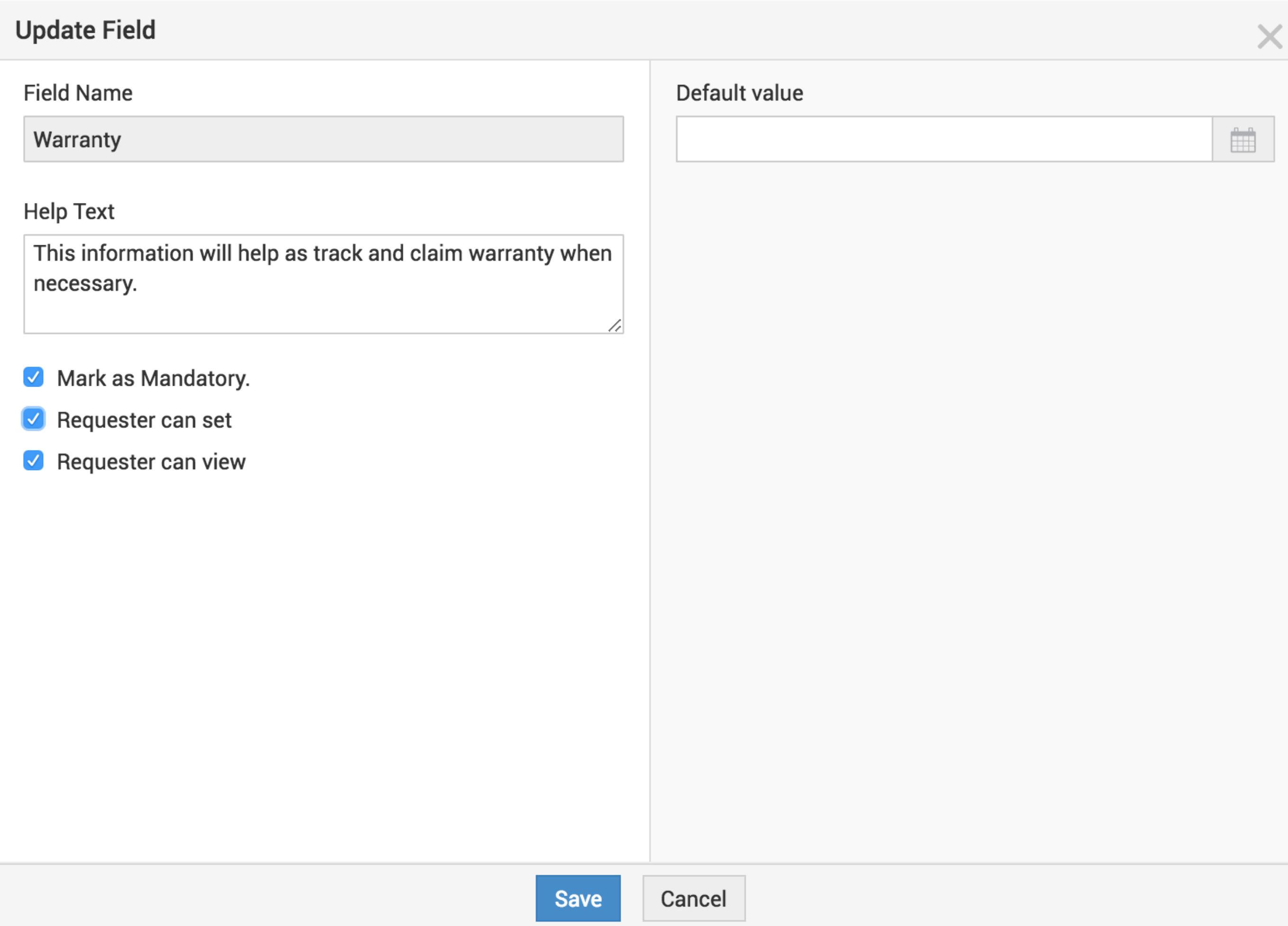
Use sections to group fields.
Click **New Field**, select a section type, and drag it to the canvas.
Click **Edit** icon beside the section, enter a name, and provide help message.
Add relevant fields into the section.
Drag and place the template fields as required.

Associating Support Groups to Template

You can restrict the template to be used by select support group technicians.
Select support groups from the **Available Support Groups** and move them to the **Selected Support Groups**.

Extending the Template Usage to Requesters

To allow the requesters to use a template, click **Show to Requester** at the bottom of the form. Once you enable it, available user groups will be displayed (if you've configured them), from which you can select the groups to use the template.
Edit individual fields and choose whether requesters can view and/or edit those fields.



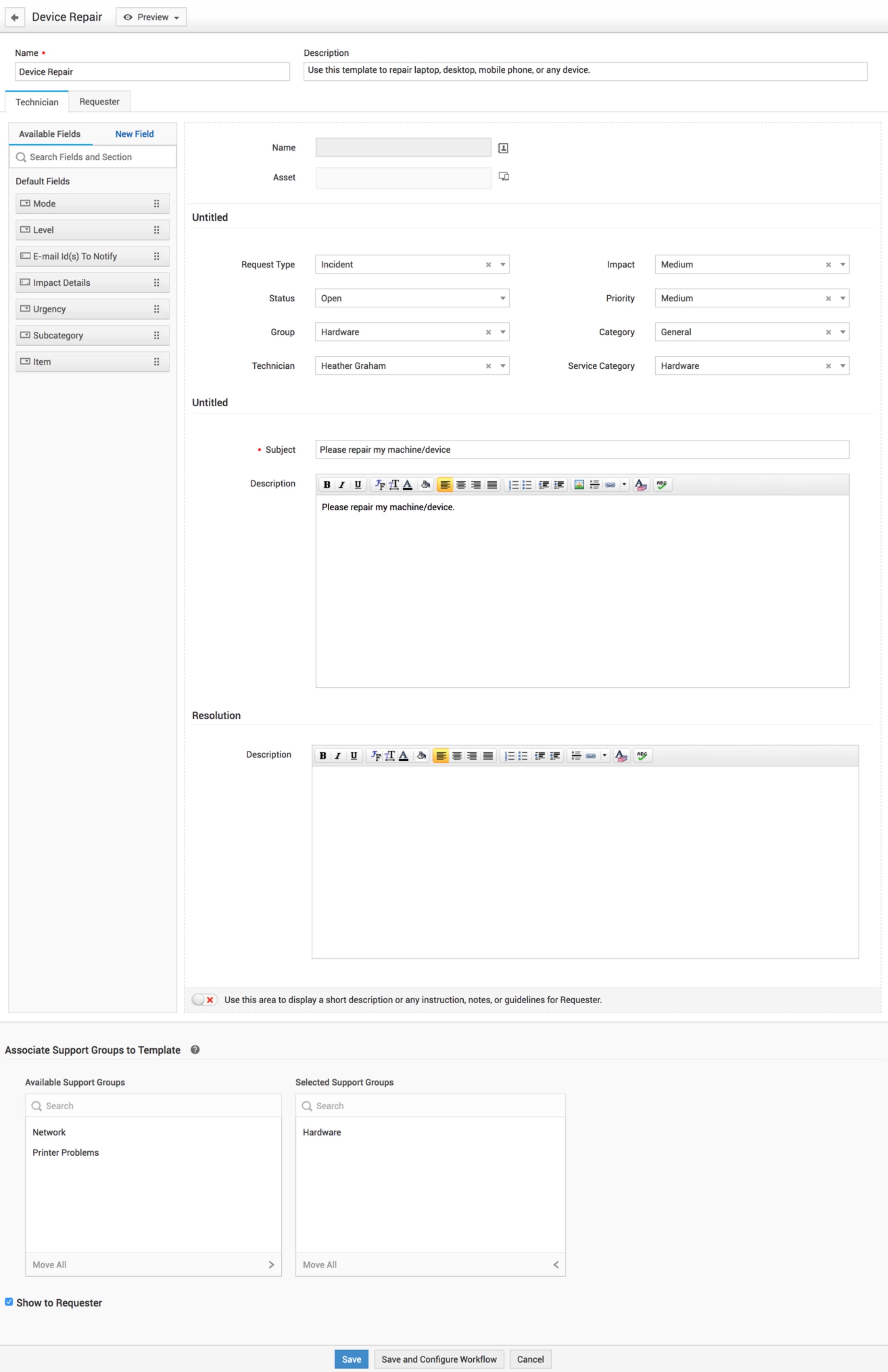
Only the fields selected for the *requester to set* will be displayed in the requester template.

Fields selected for the *requester to view* will be displayed only in the request details page.

Configuring the Template for Requesters

Click Requesters, add the default fields to the template, and fill them out.
Click Save and Configure Workflow.

Sample Template


Device Repair
Preview
Name
Device Repair
Description
Use this template to repair laptop, desktop, mobile phone, or any device.
Technician
Requester
Available Fields
New Field
Search Fields and Section
Default Fields
Mode
Level
E-mail Id(s) To Notify
Impact Details
Urgency
Subcategory
Item
Name
Asset
Untitled
Request Type
Incident
Impact
Medium
Status
Open
Priority
Medium
Group
Hardware
Category
General
Technician
Heather Graham
Service Category
Hardware
Untitled
Subject
Please repair my machine/device
Description
Please repair my machine/device.
Resolution
Description
Use this area to display a short description or any instruction, notes, or guidelines for Requester.
Associate Support Groups to Template
Available Support Groups
Search
Network
Printer Problems
Move All
Selected Support Groups
Search
Hardware
Move All
Show to Requester
Save
Save and Configure Workflow
Cancel

Workflow

Under this tab, you can configure approval and task trigger settings, add, organize, delete, and configure dependencies for tasks.

Configuring Approval

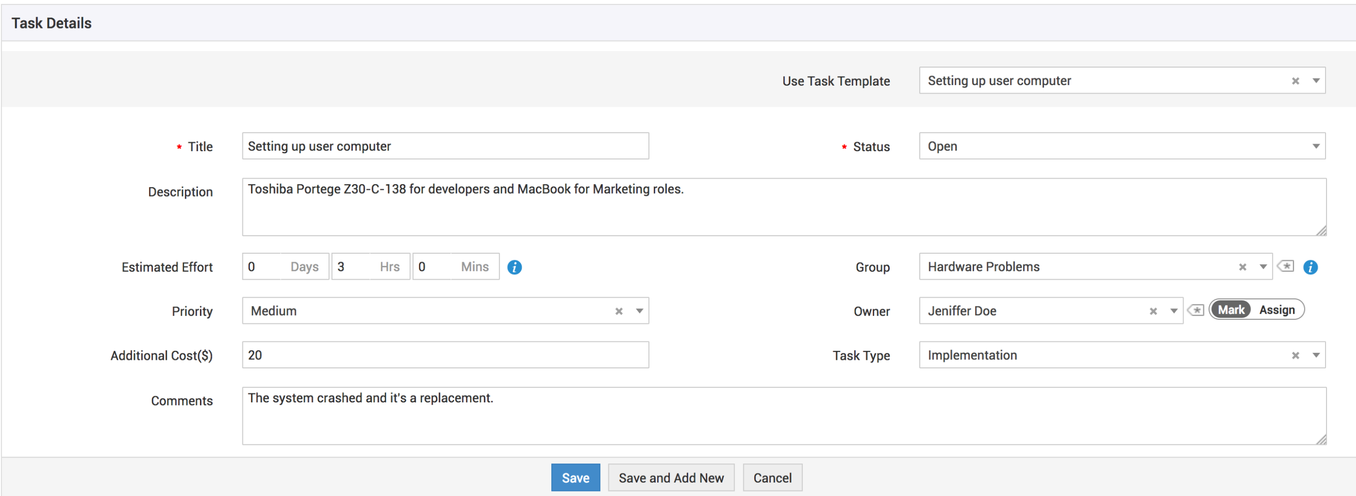
Select if all or any approver has to approve the request.

Setting Task Trigger

You can set the tasks to be automatically triggered when a request is either created or approved. Otherwise, you can set the tasks to be manually triggered.

Adding Tasks

Click **New**, select a template, fill out the task details, and click **Save** as shown in the screenshot below.



Field and Form Rules

You can further define actions to be executed on a request under select conditions by using field and form rules. Learn more about configuring field and form rules here.

You can use different previews for technicians and requesters.

Home Page Actions

Click a template to edit its fields, approval configurations, tasks, task trigger settings, and field and form rules.

If you delete a template that's currently used by a request, the template will be greyed out indicating no further usage. To revert the template's usage, click the template and disable **Template not for further usage** at the upper-right corner of the details page.

Use **Reorder** to organize templates (service templates will also be listed). Either drag a template to a select location or enter the position in the order.

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Resolution Template

Resolution templates can be created to handle repeated requests with the same solution. The solutions of frequently raised requests, such as printer configuration can be made into a Resolution Template. Thus the technicians need not type the same resolution repeatedly for the request raised.

To open the configuration page for resolution template,

1. Login to ServiceDesk Plus application with the username and password of an admin user.
2. Click the Admin tab in the header pane.
3. In the Helpdesk **Customizer** block, click Resolution Template to open the Resolution Template list page.

Add New Template

1. Click New Template button to open the Add-Resolution Template form.
2. Specify a unique name for the template in the Name text field.
3. Enter the resolution in the Description text field. Both the Name and Description are mandatory fields.
4. You can mark this template as inactive by enabling the check box beside Mark as InActive. The inactive template is marked in grey and does not get listed in the resolution template drop-down while resolving a request.
5. Click Save. To save and add another resolution template, click Save and Add New.

Edit a Resolution Template

1. In the Resolution Template list page, click on the Edit icon beside the template you wish to edit.
2. In the Edit Resolution Template form, modify the required changes mentioned while adding the resolution.
3. Click Update. Even while editing, if you wish to add a new resolution template, then click Update **and add new** button. At any point you wish to cancel the operation that you are performing, click **Cancel**.

Delete Resolution Template

1. In the Resolution Template list page, select the check box beside the template you wish to delete.
2. Click the Delete button. A confirmation message appears. Click Ok to continue. The resolution template gets deleted from the list.

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Reply Template

While replying to requests, technicians tend to type the same response repeatedly to many requests. With Reply Template, technicians can create templates for the repetitive response to requests, thus saving time and easing their work.

To open the configuration page for reply template,

1. Login to ServiceDesk Plus application with the username and password of an admin user.
2. Click the Admin tab in the header pane.
3. In the Helpdesk Customizer block, click Reply Template to open the Reply Template list page.

Add a Reply Template

1. Click New Template button to open the Add Reply Template form.
2. Specify a unique name for the template in the Template Name text field.
3. Enter the content of the template in the Description text field. Both the Name and Description are mandatory fields
4. You can mark this template as inactive by enabling the check box beside Mark this template INACTIVE. The inactive template is marked in grey and does not get listed in the reply template drop-down while replying to requests.
5. Click Save. To save and add another resolution template, click Save and Add New.

Edit a Reply Template

1. In the Reply Template list page, click on the Edit icon beside the template you wish to edit.
2. In the Edit Reply Template form, modify the required changes mentioned while adding the Reply.
3. Click Update. Even while editing, if you wish to add a new Reply template, then click Update **and add new** button. At any point you wish to cancel the operation that you are performing, click **Cancel**.

Delete Reply Template

1. In the Reply Template list page, select the check box beside the template you wish to delete.
2. Click the Delete button. A confirmation message appears.
3. Click OK to continue. The reply template gets deleted from the list.

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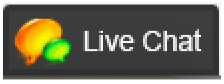
Configure Live Chat

The Live Chat feature in ServiceDesk Plus facilitates easy interaction between requesters and technicians. Technicians can chat among themselves as well. Requesters can use this feature to have their simple issues resolved without raising a request by email or phone or through the self-service portal. Upon the closure of a requester chat, technicians will now be able to select a request template and create a request from right there. To make Live Chat available for requesters and technicians, the SD admin must configure **Chat Settings** in **Helpdesk Customizer** under the **Admin** tab.

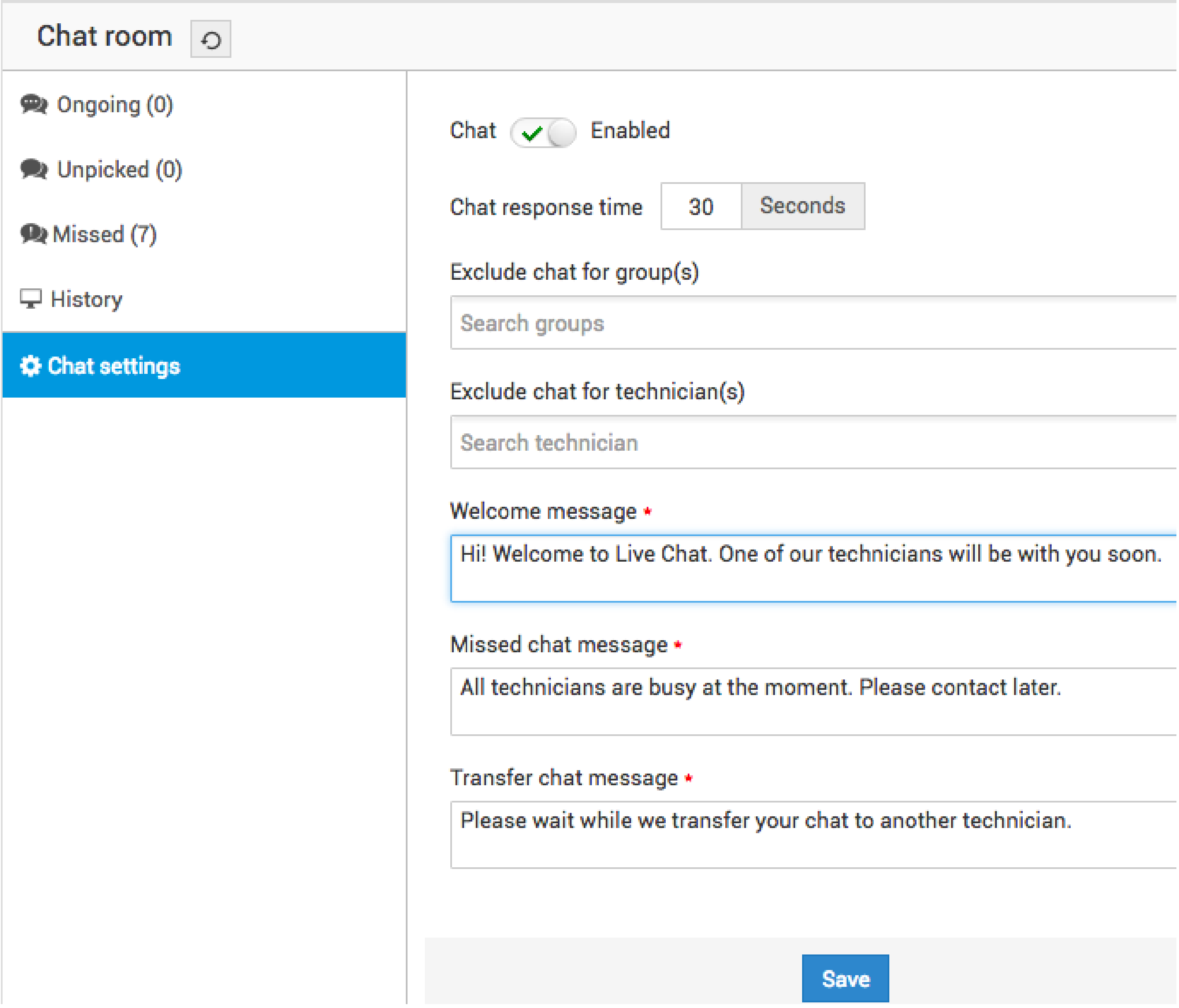
To begin a chat conversation with a technician, a requester must click the **Live Chat** button on the lower-right corner of their home page.



Configuring Live Chat

- Go to **Admin**>>**Helpdesk Customizer**>>**Chat settings**.

- On the displayed page, click **Chat settings** and fill out the various fields as shown in the following screenshot:



Creating a Request while closing a requester chat session.

Create new requests right from a chat window. When a requester chat session is closed, technicians will get an option to create a request along with an option to select request templates. This can be enabled by the enabling the "Create request automatically when a chat is closed" option.

Exclude groups, sites, and technicians

You can improve resource utilization and requester support by excluding certain technicians, groups, and sites from responding to chat requests. For example, if there are various levels of technicians handling requests based on complexity, you can preclude senior technician groups from responding to chats.

Technician chat window

When a technician receives a chat request, they will need to pick the request within the stipulated chat response time, which is configured on the **Chat settings** page. The following screenshot shows technician's chat window when a new chat arrives.

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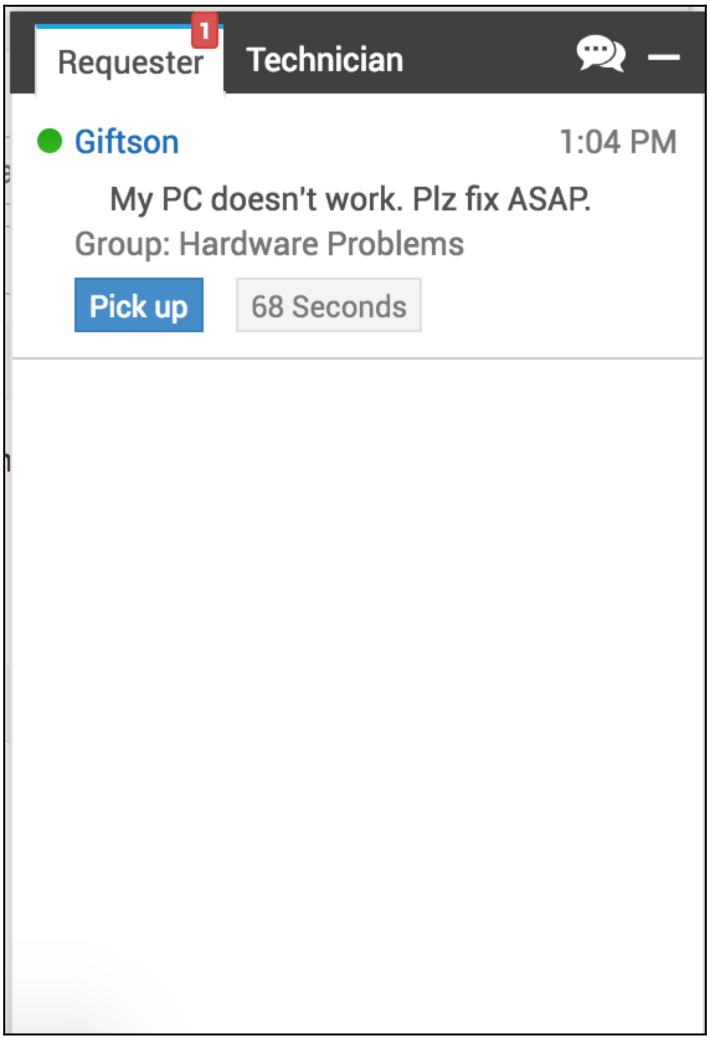
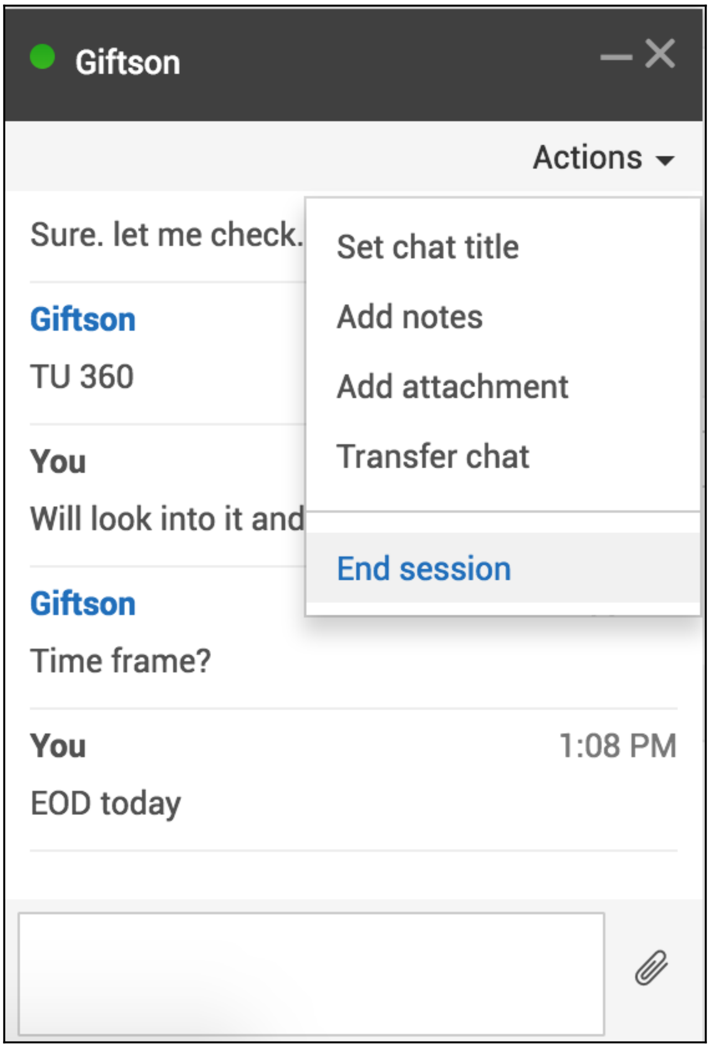
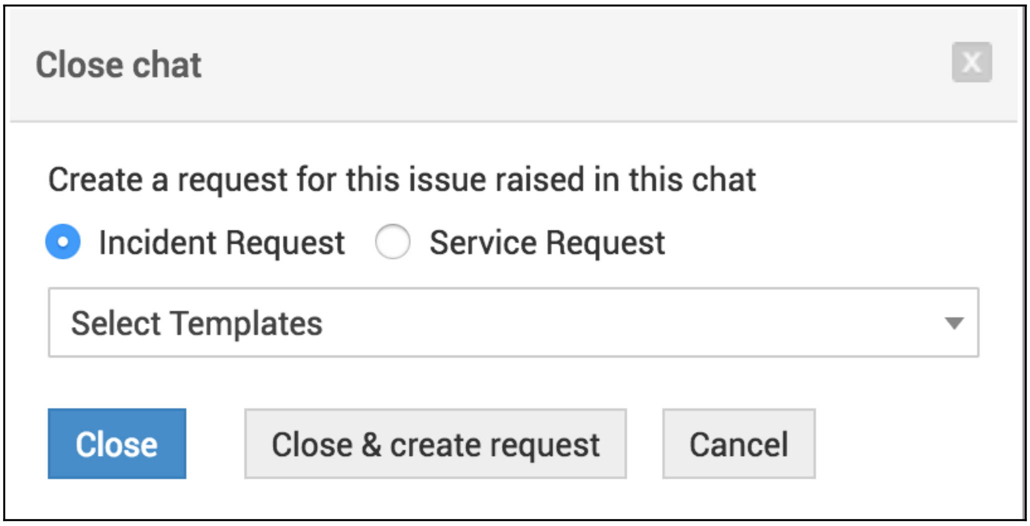


When the technician accepts the chat request, the **Actions** button on the top-right corner of the chat window becomes available. Using this button, the technician can set a title to the conversation, add notes, add attachments, transfer the chat to another technician, or even end the session.



Clicking on **End Session** will provide you with an option to create a request along with a request template. Select the request type and template and click **Close and create** request.



If you choose to create a request, you will be taken to the request details page with the requester details and template populated for you.

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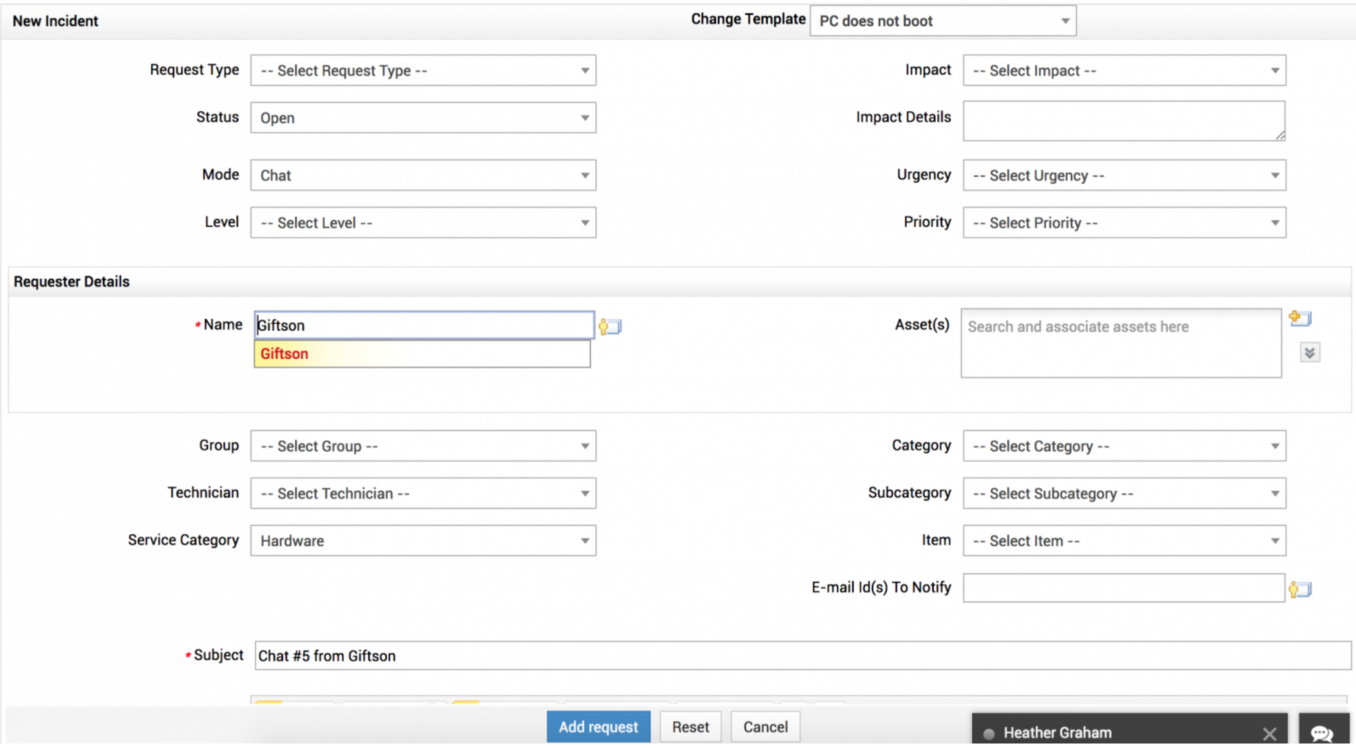
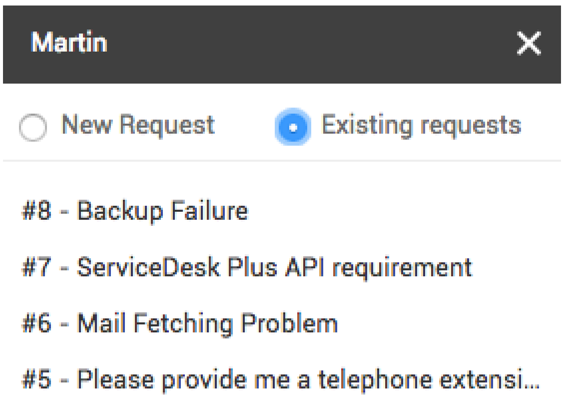


Note: A technician can have only 3 active chat windows at any given point in time.

Requester chat window

When a requester initiates a chat conversation, the predefined Welcome Message is displayed in the chat window. The requester can start a new request or select from the requester's existing open requests. Selecting a support group from the drop-down ensures effective and quicker resolution of the chat request.



After the technician accepts the chat request, the attachment icon becomes available for the request. In case the technician does not pick up the request within the stipulated time, it becomes a missed chat, and the requester's window displays the predefined Missed Chat message.

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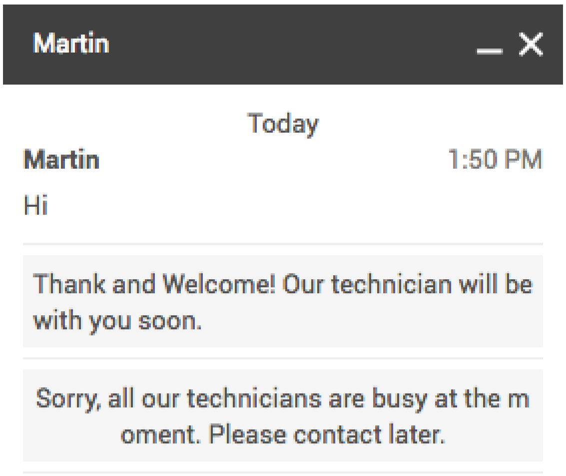
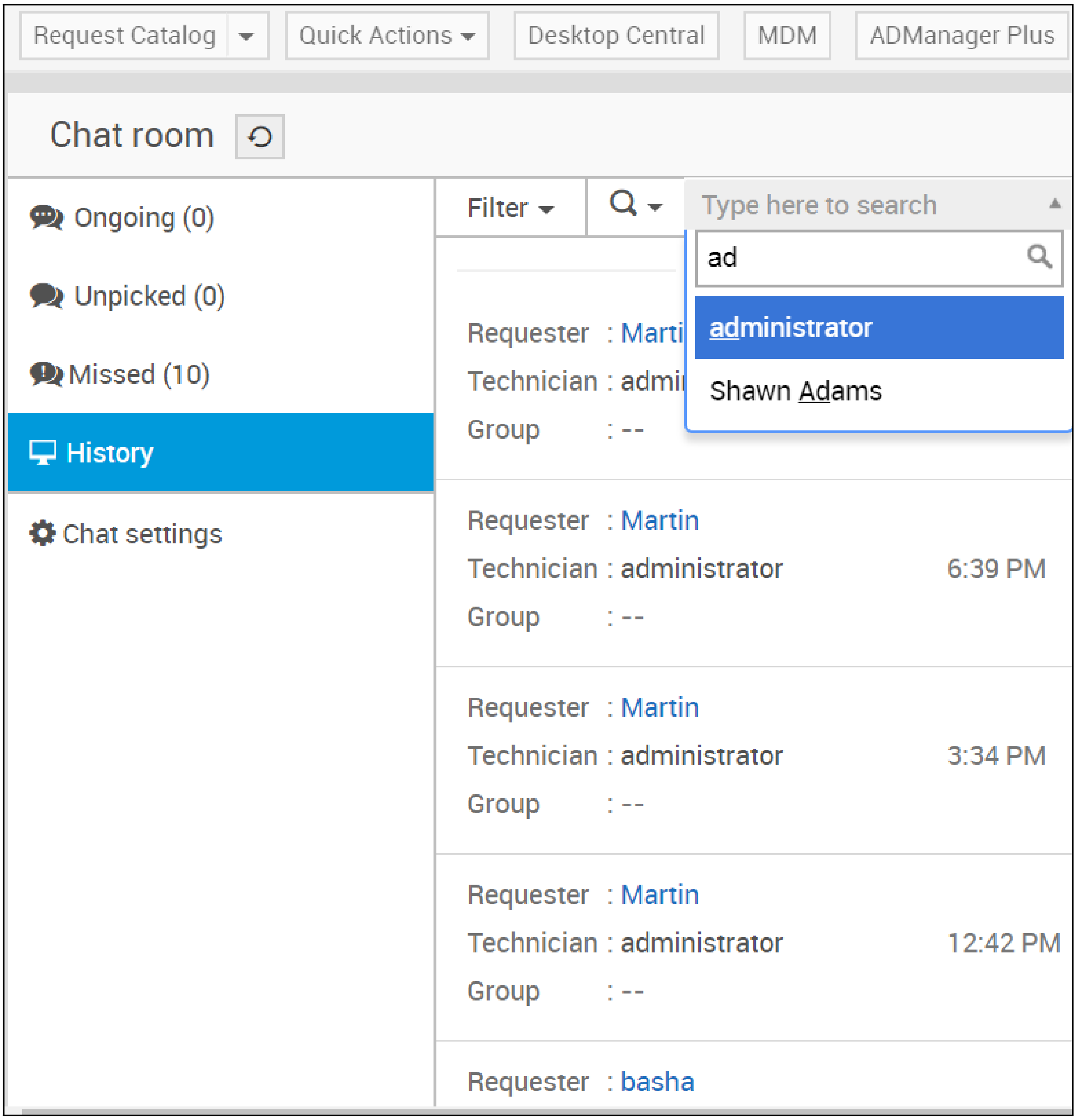


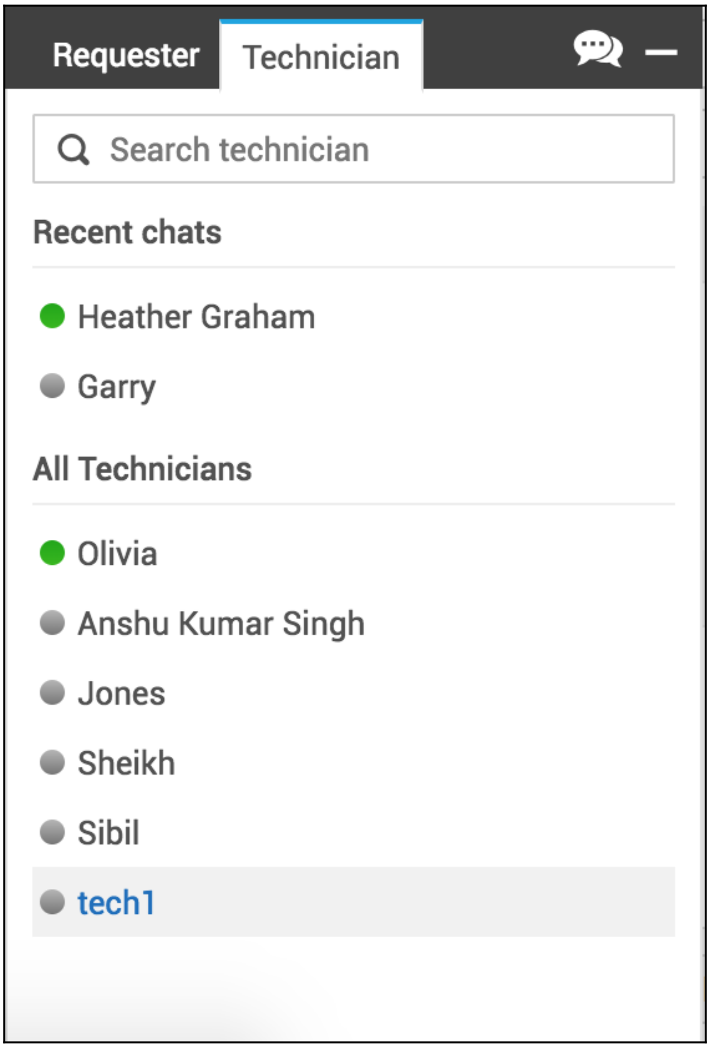
Chat History

The **History** button in the left pane displays the details of all chats. This information can be viewed only by the SDAdmin. If you are looking for a specific chat, you can either manually scroll through history or use the **Search** button.
The search option helps narrow down and refine your results by time, requester, technician, group, and even phrases.



Technicians chat

Apart from the requester to technician chat, technicians can also chat among themselves using the ServiceDesk Plus chat. Two tabs are provided in the chat window; one for the requester chat and another one for the technician chat. Recent chats will be displayed at the top of the list. Technicians can be searched using the search option at the top. If technician A had missed a chat from technician B then technician A would have a notification mark next to the technician B's name in the chat window.



p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545}

Custom Triggers

The Custom Triggers feature, as the name indicates, helps customize automatic workflows for different types of user requests. Using this feature, the SD admin can automate several processes, such as setting up multiple approval stages, sending customized email notifications, creating a new request based on resources field information, and setting up integration with third-party applications.

Triggering the defined workflow

An action is triggered for new requests that match the conditions you specify. These conditions refer to the values that certain fields in the request must hold, and are checked when a request is created, updated, created and updated, approved, rejected, approved or rejected and when a new reply is received for the request.
Custom Trigger is executed when a request is duplicated/copied, when an incident request is converted to a service request and when a new request is created through preventive maintenance tasks (scheduled requests).
For new requests, when the custom trigger is executed with empty criteria, the resulting script output may/may not update the request fields (based on the script input). If those request fields are updated, it ignores the 'update request' custom triggers. For modified requests, when the latest value of the modified fields matches the custom trigger criteria, then the custom trigger is executed.

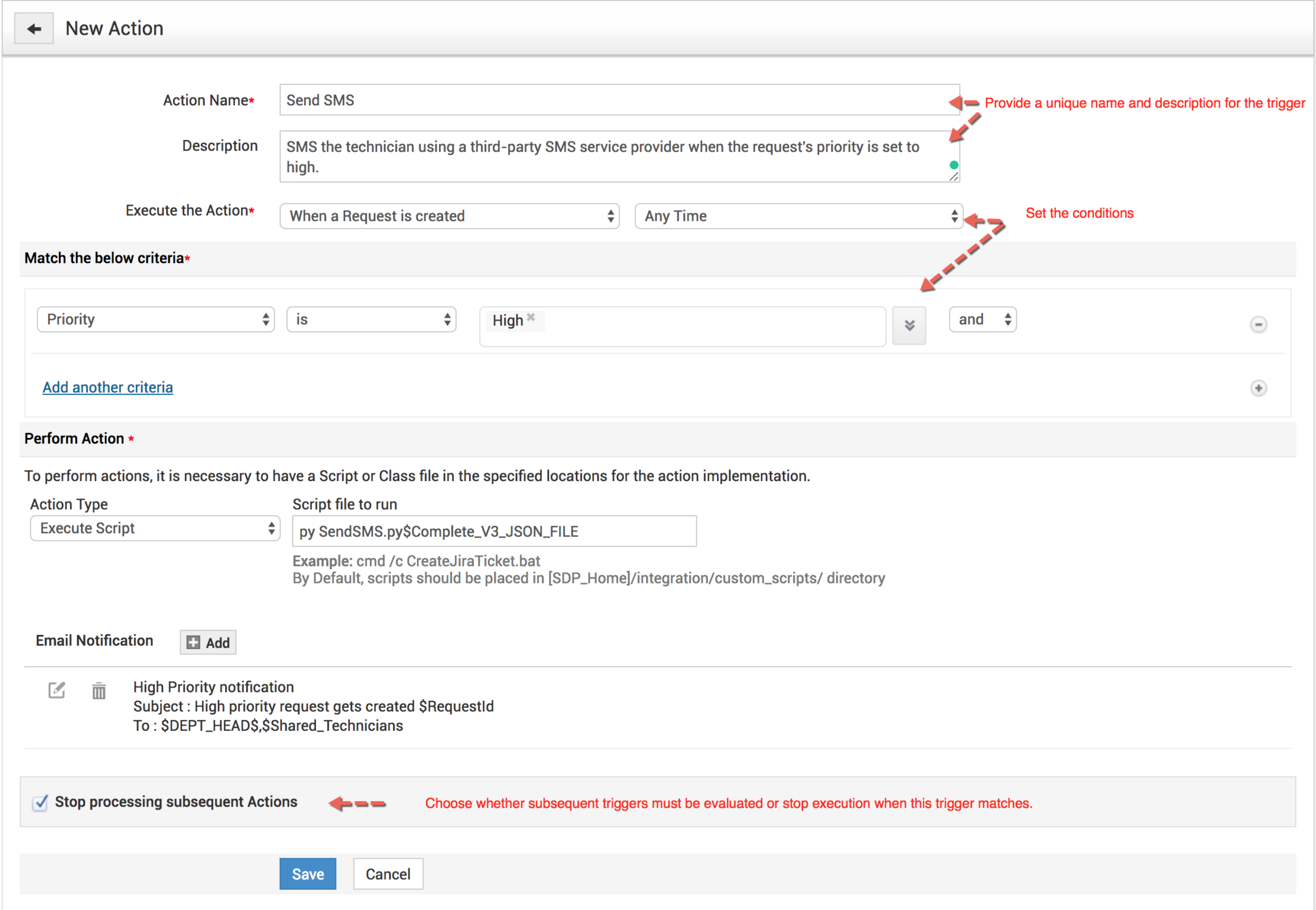
> Note: 'Mandatory field mark' can be removed from 'Match the below criteria' section by executing the below query in the database.
>
> update globalconfig set paramvalue = 'true' where category='CUSTOM_TRIGGER' and parameter='IS_EMPTY_CRIT_ALLOWED';

This document briefly discusses how to set up a workflow using custom triggers.

Configuring Custom Triggers

- Go to **Admin>>Custom Triggers**
- On the page that opens, the SD admin can add a new action, enable or disable an action, edit an action, or delete an action.

The admin can also define the sequence of the order in which the actions must be applied to a request.
The following screenshot describes the process to add a new action.

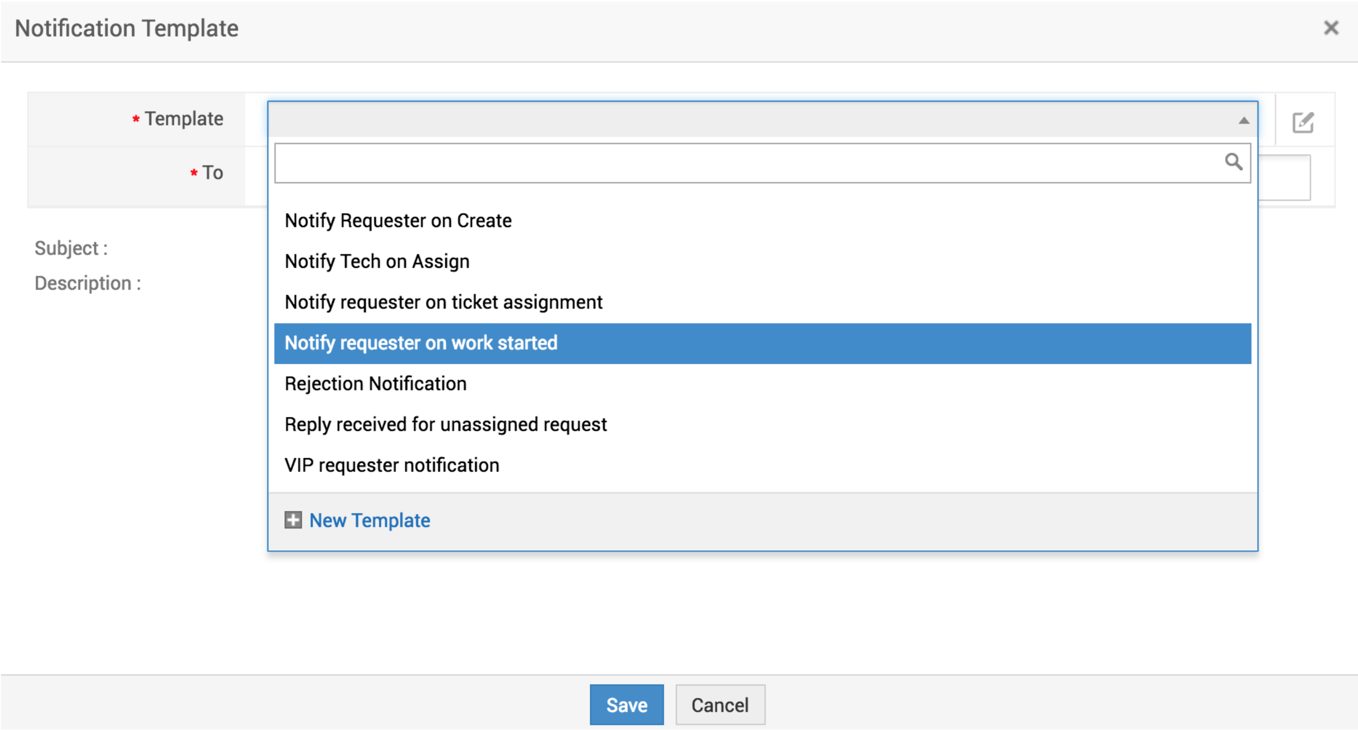


Email Notification

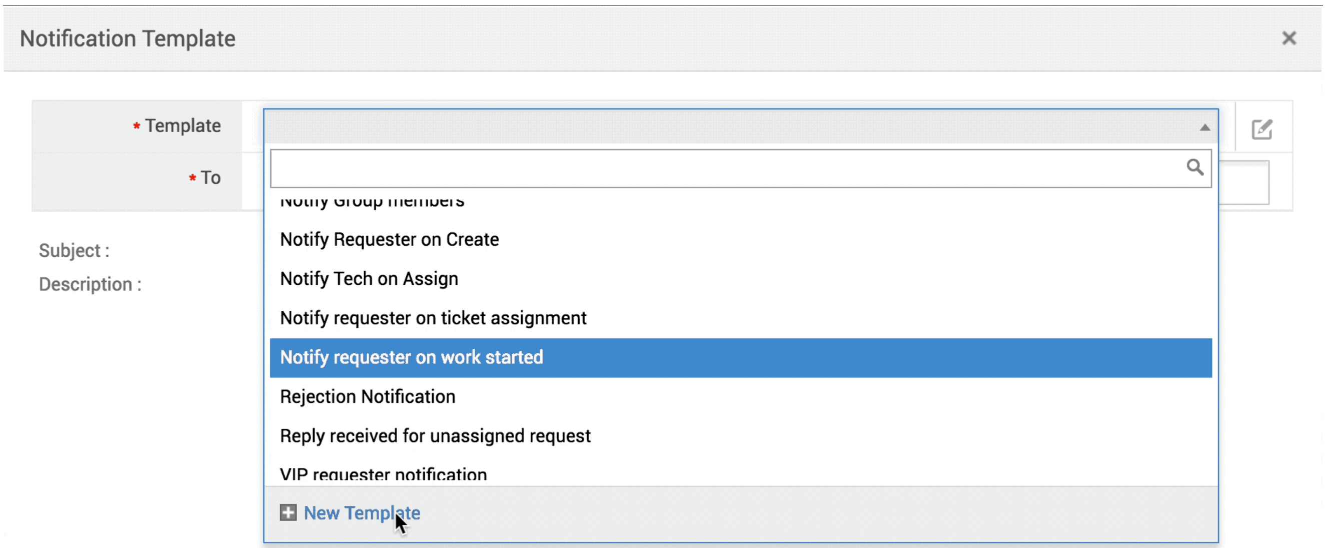
Email notification allows you to notify users about important events in a request's cycle. You can notify technicians about high priority or important requests right when it is being created or notify requesters after their tickets get assigned to technicians. You can create new templates for these email notifications and save them. These saved templates will be listed under the email notification template window.

- Set criteria and click Add icon next to Email Notification.
- Email notification template window is opened.
- Choose a template (Templates which you have already created will be listed here) and select users you want to notify by using the variables / placeholders / organization roles.
- Supported placeholders are as follows li.li1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545} ol.ol1 {list-style-type: decimal}
  - $Requester
  - $Ticket_Owner
  - $Group_Members
  - $On_Behalf_Of_Users
  - $Editor
  - $CC_Users
  - $Shared_Requesters

- $Shared_Technicians
- $Task_Owners
- $Linked_To_Request_Owner
- $Linked_Requests_Owners
- $Dependent_Requests_Owners



- You can also create a new template from that window itself. Click **New Template** button for that.



- Click Save.

Configuring Actions

Let's consider the script, py SendSMS.py $COMPLETE_V3_JSON_FILE, which is configured for sending an SMS each time a request arrives with "Group" set to "network" and "Priority" set to "High." The supported input arguments for this script are:

- $COMPLETE_V3_JSON_FILE: Complete request data will be saved to a JSON file temporarily and the file path will be passed as a string object

  Note:
  When a request is updated, the difference between the previous data and updated data will be available in this file.

- All the request parameters listed here can be passed as arguments.

By default, the scripts will run from the [SDP_Home]/integration/custom_scripts/ directory. The languages supported include Python, VBScript, PowerShell, Batch, and so on.

Writing Custom Scripts

You have to program the actions to be performed, in a script file. By default, the following request operations are supported:

- Adding notes to a request
- Updating a request
- Conditional approvals for requests

Follow the steps described in the document given below to program the required actions effectively.

- Writing Custom Script files (A sample Python file)

Related documents:

Use cases of Custom Triggers | FAQs | Request Custom Menu | Change Custom Triggers | Field and Form Rules

Support:
If you have any questions about Custom Triggers, please post it in our community forum.

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With Custom Triggers, SD admins can automate the following tasks:

- Create tasks (Sample Python script)
- Update a request based on certain field values (Sample Python script)
- Notify technicians and users by email (Sample Python script, sample PowerShell script)
- Notify technicians and users by SMS (Sample Python script)
- Include fields that are not available in the Notification Templates for email/SMS notifications
- Set up various stages of approvals for service requests (Sample script)
- Create multiple incident/service requests based on resource fields information (Sample Python script, sample PowerShell script,)
- Create an incident ticket in a parallel ServiceDesk Plus instance (Sample Python script)
- Create a change request on request creation.
- Delete requests created by Preventive Maintenance Task on configured holidays
- Create Downtime schedule in OpManager from a Change Request (Sample Python script)
- Create Downtime schedule in AppManager from a Change Request (Sample Python script)
- Integrate ServiceDesk Plus with Slack (Sample Python script)

- Access third-party applications for tasks such as issue tracker integration, active directory account creation, and new mail account creation.

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1. When does the $COMPLETE_JSON_FILE file get created? Does it happen always? I can’t find it in the SDP_Homeintegrationcustom_scriptsrequest folder.

Yes, a file is created each time $COMPLETE_JSON_FILE is passed as an argument to the script. However, after the script is executed, the file is deleted. If you want to use this file, include instructions in the script to copy the file to a different location.

2. According to instructions, the $COMPLETE_JSON_FILE file should be in the SDP_Homeintegrationcustom_scriptsrequestfolder. But that folder never gets created in that location.

If the folder is not created in the location or if $COMPLETE_JSON_FILE is always empty, it could be due to a privilege issue. Ensure that there are sufficient permissions to create a file in the mentioned location.

3. $complete_json_file is always empty, and I have sufficient privileges. What could be the problem?

Check the casing of the file you’ve used. Always use $COMPLETE_JSON_FILE and not $complete_json_file because all parameters are case-sensitive.

4. Does $COMPLETE_JSON_FILE include request additional fields?

Yes, $COMPLETE_JSON_FILE includes request additional fields values.

5. Can the request additional fields be sent as an argument to the custom script?

No, a request additional field cannot be sent as an argument to the custom script. However, the $COMPLETE_JSON_FILE will have additional field values, which can be used.

6. I would like to trigger an action whenever the requester replies to the ticket or when a note gets added to the ticket. Is it possible using Custom Triggers?

No, as of now, a new conversation/reply to the ticket or adding a note to the ticket is not considered as a request-edit. So, an action cannot be triggered when a requester replies to a ticket.

7. I am not sure if the script is executed. I do not see any logs added to the System Log Viewer. Where can I check to see whether my script has run?

Go to the History tab in the request. You may find the following entries:

Action by <technician> on <date_and_time_of_execution>
Action menu "Action Executed is :<your_action_name>" invoked
Action by <technician> on <date_and_time_of_execution>
Action Executed is :<your_action_name>
Message: <message_given_in_the_script>

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To debug your script, you can add the script to the Custom Menu and invoke it to see if it’s working, rather than waiting for a request to trigger the action. After making the necessary changes to the script, delete the custom menu and add it as an action to custom triggers.

8.The message on the History tab says, "JobExecution failedin ExternalActionJobExecutor: java.util.concurrent.ExecutionException: java.io.IOException:Cannot run program “py”". How do I solve this?

This exception occurs when Python is not installed in the server. So, install Python in the ServiceDesk Plus server and set its path in the Environment Variables of your server.

Writing a custom script - V1 API

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You will need a working knowledge of:

- JavaScript Object Notation (JSON)
- Python

A custom action script file is generally structured as follows:

1. Import required packages
2. Get input arguments
3. Implement the logic
4. Return JSON

Import required packages

Listed below are the most frequently used packages along with their usage:

Package Usage
Sys Fetches the input arguments
json Manipulates JSON data
requests Makes API calls
datetime Transforms time from millisec to the required date format

Get input arguments

The arguments for the script file can be fetched using sys.argv[index] where index starts from 1 to number of arguments passed.

When the argument passed is $COMPLETE_JSON_FILE (the path to the file containing the request JSON), the JSON file can be read using the following snippet:

file_Path = sys.argv[1]

with open(file_Path) **as** data_file:
data = json.load(data_file)

Implement the logic

The following snippet is for making an API call:

with requests.Session() **as** s:
url = '*api_url*'
r = s.post(url,verify=True, data=*post_data*,headers=*headers*)

Construct the api_url, post_data and headers as required.

The following snippet is to transform time from millisec to required date format:

date = datetime.datetime.fromtimestamp(int(millisec)/1e3).strftime('%d %b %Y, %H:%M:%S')

Construct return JSON

A sample JSON such as {"key":"value"} can be constructed a follows:

json = {}
json["key"] = "value"
print(json)

A sample JSON array such as [{"key":"value"}] can be constructed a follows:

json = {}
json["key"] = "value"
result = []
result.append(json)
print(result)

Some operations can be performed using the JSON returned from the script. Learn about the operations performed using return JSON here.

Following is an example that shows the construction of a JSON that updates a request's additional fields JIRA_ISSUE_ID & JIRA_ISSUE_URL and adds a note about it.

jiraissueid = responseobj['id']
jiraissueurl = responseobj['self']

updateReqArray={}
updateReqArray['JIRA_ISSUE_ID']=jiraissueid
updateReqArray['JIRA_ISSUE_URL']=jiraissueurl

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```
updateFieldsJson={"INPUT_DATA":[]}
updateFieldsJson['INPUT_DATA'].append(updateReqArray)
updateFieldsJson["OPERATIONNAME"]="EDIT_REQUEST"

note={}
note["notestext"] = "Jira Request Created with ID: "+jiraissueid+"</br> Issue Link:  "+jiraissueurl

noteObject={}
noteObject["notes"]=note

addNoteJson={}
addNoteJson['INPUT_DATA']=[]
addNoteJson['INPUT_DATA'].append(noteObject)
addNoteJson["OPERATIONNAME"]="ADD_NOTE"

resultjson={}
resultjson["result"] = "success"
resultjson["message"] = "A Jira Request has been Created. Note with the Issue ID and URL has been added."
resultjson["operation"] = []
resultjson["operation"].append(updateFieldsJson)
resultjson["operation"].append(addNoteJson)

#Returning the JSON
print(resultjson)
```

Input Parameters

Request parameters and all API parameters can be passed as arguments to script files. Note that arguments cannot be passed to class files.

The following table lists the supported arguments.

Parameter	Returns Request Property
$WORKORDERID	Request ID
$REQUESTER	Name of the requester
$CREATEDBY	Name of the technician who created the ticket on requester's behalf
$CREATEDTIME	Time at which the request was created (Millisec)
$DUEBYTIME	Due by time (Millisec)
$RESPONSEDUEBYTIME	Response due by time (Millisec)
$RESPONDEDTIME	Time at which the request was responded to (Millisec)
$RESOLVEDTIME	Time at which the request was resolved (Millisec)
$COMPLETEDTIME	Time at which the request was closed (Millisec)
$SHORTDESCRIPTION	Shortened description

$TIMESPENTONREQ   Time spent on request (Hours and minutes)
$SUBJECT   Subject
$REQUESTTEMPLATE   Request template using which the corresponding request was created (String)
$MODE   Mode (String)
$SLA   Service Level Agreement (String)
$ASSET   Asset (String)
$DEPARTMENT   Department (String)
$EDITORID   The user ID of the Editor of the Service Request (Long)
$EDITING_STATUS   The editing status of the Service Request (Long)
$IS_CATALOG_TEMPLATE   Denotes whether the request is created using service catalog or incident catalog (Boolean)
$SITE   Site (String)
$ISVIPUSER   Indicates whether the user is a VIP or not (Yes or no)
$SERVICE   Service category (String)
$CATEGORY   Category (String)
$SUBCATEGORY   Subcategory (String)
$ITEM   Item (String)
$TECHNICIAN   Name of the Technician assigned
$TECHNICIAN_LOGINNAME   Login name of the logged in technician
$STATUS   Status (String)
$PRIORITY   Priority (String)
$LEVEL   Level (String)
$IMPACT   Impact (String)
$URGENCY   Urgency (String)
$IMPACTDETAILS   Impact Details
$REQUESTTYPE   Type of the Request
$APPROVAL_STATUS   The Approval status of the request (String)
$CLOSURECODE   Reason for closing a request (String)
$CLOSURECOMMENTS   Explanation for closing the request
$FCR   First Call Resolution (Boolean)
$YETTOREPLYCOUNT   A count of the number of replies to which the technician has not yet replied
$GROUP   Group (String)
$DESCRIPTION   Full description
$LOGIN_NAME   Login name through which the request was raised
$LOGGEDIN_USER_NAME   Display name of the user who raised the request

Other supported parameters

$DIFF_JSON ---> When a request is updated, the difference in the previous data and updated data will be passed as JSON string.
$COMPLETE_JSON_FILE ---> Complete request object and the difference object will be saved to a JSON file and the file path will be passed as string. E.g. (SDP_Homeintegrationcustom_scriptsrequest12_1426143538036.JSON).

$COMPLETE_JSON structure

```
{
  "request": {
    "WORKORDERID": "17",
    "REQUESTER": "Annie",
    "CREATEDBY": "Heather Graham",
    "CREATEDTIME": "1477984359352",
    "DUEBYTIME": "1477991559352",
    "RESPONSEDUEBYTIME": "1477991559052",
    "RESPONDEDTIME": "0",
    "RESOLVEDTIME": "0",
    "COMPLETEDTIME": "0",
    "SHORTDESCRIPTION": "Please create a user account for the new joinee and provide the requested resources.",
    "TIMESPENTONREQ": "0hrs 0min",
    "SUBJECT": "New hire request form",
    "REQUESTTEMPLATE": "New Hire",
    "MODE": "Web Form",
    "SLA": "Medium SLA",
    "ASSET": "iPhone 6 - PO# Apple_iPhone_43[52], MacBook Pro",
    "IS_CATALOG_TEMPLATE": "false",
    "SITE": "Zoho Corp - Chennai",
    "ISVIPUSER": "No",
    "SERVICE": "User Management",
    "CATEGORY": "User Administration",
    "TECHNICIAN": "Shawn Adams",
    "TECHNICIAN_LOGINNAME": "shawn.adams",
    "STATUS": "Open",
    "PRIORITY": "Medium",
    "LEVEL": "Tier 1",
    "IMPACT": "Medium",
    "URGENCY": "Normal",
    "REQUESTTYPE": "New Joinee Request",
    "FCR": "false",
    "INTERESTEDPARTY": "hradmin1@org.com,hradmin2@org.com",
    "GROUP": "HR group",
    "DESCRIPTION": "Please create a user account for the new joinee and provide the requested resources.",
    "Languages Known": [
      "Java",
      "Python",
      "SQL"
    ],
    "Job Type": "Software Developer Engineer",
    "Qualification": "B. Tech Computer Science",
    "Address": "My Door No : xx,rnMy street name,rnCity I live in.rnPostal code",
    "Expected DOJ": "15 Nov 2016, 08:00:00",
    "New Joinee Name": "John William",
    "Years of Experience": "2.0",
```

```
    "LOGIN_NAME": "heather.graham",
    "LOGGEDIN_USER_NAME": "Heather Graham"
  }
}
```


$DIFF_JSON structure


```
{
  "diff": {
    "DUEBYTIME": {
      "OLD": "1476961659524",
      "NEW": "1476940059524"
    },
    "MODE": {
      "OLD": "E-Mail",
      "NEW": "Phone Call"
    },
    "SLA": {
      "OLD": "Low SLA",
      "NEW": "Medium SLA"
    },
    "SERVICE": {
      "OLD": "",
      "NEW": "Data Management"
    },
    "CATEGORY": {
      "OLD": "Desktop Hardware",
      "NEW": "General"
    },
    "TECHNICIAN": {
      "OLD": "Howard Stern",
      "NEW": "Jeniffer Doe"
    },
    "PRIORITY": {
      "OLD": "Low",
      "NEW": "Medium"
    },
    "LEVEL": {
      "OLD": "",
      "NEW": "Tier 2"
    },
    "IMPACT": {
      "OLD": "Low",
      "NEW": "Medium"
    },
    "URGENCY": {
```

```
      "OLD": "Low",
      "NEW": "Normal"
    },
    "REQUESTTYPE": {
      "OLD": "Incident",
      "NEW": "Request For Information"
    },
    "GROUP": {
      "OLD": "Network",
      "NEW": "Printer Problems"
    }
  }
}
```


Whenever a request is edited, the DIFF_JSON is produced which can be used to devise workflows based on fields changes.

$COMPLETE_JSON_FILE

$COMPLETE_JSON_FILE denotes the file path of the file that has both the $COMPLETE_JSON and $DIFF_JSON together in a single JSON. Instead of passing too many parameters to the class/script, the file path can be passed and the script can open the file and access the required values.

The file is created temporarily and is deleted after the script is executed.

The temporary JSON file is created in SDP_Homeintegrationcustom_scriptsrequest directory, file name being <requestid_timestamp>.json.

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Writing a custom script - V3 API

You need working knowledge of:

- JSON
- Python

Custom Script File Structure

1. Import required packages
2. Get input arguments
3. Implement the logic
4. Return JSON

Frequently Used Packages

Package	Usage
Sys	Fetches the input arguments
json	Manipulates JSON data
requests	Makes API calls
datetime	Transforms time from milliseconds to the required date format

Getting Input Arguments

The script file arguments can be fetched using sys.argv[index] where index starts from 1 to the number of arguments passed.
When the argument passed is $COMPLETE_V3_JSON_FILE (the path to the file containing the request and Diff JSON), the JSON file can be read using the following snippet:
file_Path = sys.argv[1]
with open(file_Path) **as** data_file:
data = json.load(data_file)

Implementing the Logic

Snippet to make API call:
with requests.Session() **as** s:
url = '*api_url*'
r = s.post(url,verify=True, data=*post_data*,headers=*headers*)

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Construct the api_url, post_data and headers as required.
Snippet to transform time from millisec to required date format:
date = datetime.datetime.fromtimestamp(int(millisec)/1e3).strftime('%d %b %Y, %H:%M:%S')

Constructing Return JSON

A sample JSON such as {"key":"value"} construction:
json = {}
json["key"] = "value"
print(json)

A sample JSON array such as [{"key":"value"}] construction:
json = {}
json["key"] = "value"
result = []
result.append(json)
print(result)

Some operations can be performed using the JSON returned from the script. Learn about the operations performed using return JSON here.

Following is an example that shows the construction of a JSON that updates a request's additional fields JIRA_ISSUE_ID & JIRA_ISSUE_URL and adds a note about it.

Update a request's additional fields

```
import requests
import sys
import json,os
resultjson={}
resultjson["operation"] = []
resultjson["result"]="success"
message = "Sample Python script for update request"
resultjson["message"]=message
operationJson={"INPUT_DATA":[]}
operationJson["OPERATIONNAME"]="UPDATE"
operationJson["FORMAT"]="V3"
updateReqArray_field={}
updateReqArray_field['udf_sline_2101']="123"
updateReqArray_field['udf_sline_1803']="abcd"
updateReqArray={}
updateReqArray['udf_fields']=updateReqArray_field
updateReq={}
```

```
updateReq['request']=updateReqArray
operationJson['INPUT_DATA'].append(updateReq)
resultjson['operation'].append(operationJson)
print(resultjson)
```

Adding a note

```
import sys
import json

resultjson={}

message = "Sample Python script for adding note using v3 API"
resultjson["operation"] = []
resultjson["result"]="success"
operationJson={"INPUT_DATA":[]}
operationJson["OPERATIONNAME"]="ADD_NOTE"
operationJson["FORMAT"]="V3"

requestNoteDetails={}
requestNoteDetails['description']="Jira Request Created"
requestNoteDetails['show_to_requester']="false"
requestNoteDetails['notify_technician']="true"
requestNoteDetails['mark_first_response']="false"
requestNoteDetails['add_to_linked_requests']="true"
requestNote={}
requestNote['request_note']=requestNoteDetails

resultjson["message"]=message
operationJson['INPUT_DATA'].append(requestNote)
resultjson['operation'].append(operationJson)

print(resultjson)
```

Parameter supported—$COMPLETE_V3_JSON_FILE

$COMPLETE_V3_JSON_FILE denotes the path of a file that has complete request details, previous and updated field values in the JSON format. The file is temporary and it will be automatically deleted after the script is executed. The temporary JSON file is created in SDP_Homeintegrationcustom_scriptsrequest directory, file name being <requestid_timestamp>.json.

$COMPLETE_V3_JSON_FILE structure

```
{
  "request": {
    <all request properties in V3 format>
```

```
  },
  "diff": {
    "old": {
      "request": {
        "priority": {
          "id": "4",
          "name": "High"
        },
        "urgency": {
          "id": "3",
          "name": "Normal"
        },
        "impact_details": "High impact for servers"
      }
    },
    "new": {
      "request": {
        "priority": {
          "id": "1",
          "name": "Low"
        },
        "urgency": {
          "id": "4",
          "name": "Low"
        },
        "impact_details": "Low impact for servers"
      }
    }
  },
  "LOGIN_NAME": "administrator",
  "LOGGEDIN_USER_TYPE": "Technician",
  "LOGGEDIN_USER_NAME": "administrator",
  "OPERATION_TYPE": "add"
}
```


Input provided to $COMPLETE_V3_JSON_FILE temp file

Input is in JSON. Here the **request** key contains all the request fields in V3 API format except for resolution, first_response_due_by_time, due_by_time, and sla.

Additional information given in the input file

1. LOGIN_NAME
2. LOGGEDIN_USER_NAME
3. LOGIN_USER_ID
4. LOGGEDIN_USER_TYPE
5. OPERATION_TYPE

Output JSON format for custom scripts

The script for requests file should return a JSON which has the success/failure status and a message which will be displayed in the history tab of the request.
General format:

```
{
  "result": "success",
  "message": "Message"
}
```

Result denotes the success/failure status of the action.

Message is the information to be displayed in the request's history tab.

The server script must write the output JSON (if any) to the same temp file that is provided to the script. You must not invoke external API calls to update the same request because this will not allow the updated values to be carried forward to the cascading business rules.

$COMPLETE_V3_JSON_FILE

$COMPLETE_V3_JSON_FILE denotes the file path of the file that has both the COMPLETE_JSON and DIFF_JSON together in a single JSON. Instead of passing too many parameters to the class/script, the file path can be passed and the script can open the file and access the required values.

The file is created temporarily and is deleted after the script is executed.

The temporary JSON file is created in SDP_Homeintegrationcustom_scriptsrequest directory, file name being <requestid_timestamp>.json.

Output JSON format for Custom Scripts

The document provides information on the JSON format that needs to be returned from a custom script.

General format

The class/script for requests file should return a JSON which has the success/failure status and a message which will be displayed in the history tab of the request. The JSON has the following format:

```
{
"result":"success",
"message":"Message"
}
```

* Result denotes the success/failure status of the action.
* Message is the information to be displayed in the request's history tab.

Operations Supported

Some operations can also be performed using the return JSON. The JSON structure to invoke the operations is as follows:

```
 {
  "message": "Message",
  "result": "success",
  "operation": [
    {
      "OPERATIONNAME": "operation_1",
      "INPUT_DATA": [
        {

        }
      ]
    },
    {
      "OPERATIONNAME": "operation_2",
      "INPUT_DATA": [
        {

        }
      ]
    }
  ]
}
```

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Some of the operations supported for custom triggers are as follows:

```
* EDIT_REQUEST
* ADD_NOTE
* ADD_APPROVAL_STAGE
* ADD_APPROVAL
* SET_APPROVAL_STAGE
* SET_APPROVAL
```

EDIT_REQUEST JSON

Updates the mentioned fields in the request.


```
{
  "message": "Request Updated Successfully",
  "result": "success",
  "operation": [
    {
      "OPERATIONNAME": "EDIT_REQUEST",
      "INPUT_DATA": [
        {
          "Asset": "sdp-mac-2",
          "Technician": "Heather Graham",
          "RequestTempate": "New Hire",
          "Job Type": "Developer",
          "Experience": "3 years"
        }
      ]
    }
  ]
}
```


All the input parameters listed here can be updated this way.

ADD_NOTE JSON

Adds a note to the request.


```
{
  "result": "success",
  "message": "Note Added Successfully",
  "operation": [
    {
      "OPERATIONNAME": "ADD_NOTE",
      "INPUT_DATA": [
        {
```

```
        "notes": {
          "notesText": "Sample Text"
        }
      }
    ]
  }
 ]
}
```

ADD_APPROVAL_STAGE JSON

Adds new approvers for mentioned stages, in addition to the existing set of approvers.

Triggering the approval for the first stage is controlled by the send_immediately parameter. When set to true, the approval request will be sent immediately. When set to false, the user has to send the approval request manually.


```
{
 "message": "Sample Python script for adding new approvers for all stages, in addition to the existing approvers",
 "result": "success",
 "operation": [
   {
    "OPERATIONNAME": "ADD_APPROVAL_STAGE",
    "send_immediately": "true",
    "INPUT_DATA": [
      {
       "StageOne": [
         "Sampleuser.1@xyz.com",
         "Sampleuser.2@xyz.com"
       ]
      },
      {
       "StageTwo": [
         "Sampleuser.3@xyz.com",
         "Sampleuser.4@xyz.com"
       ]
      },
      {
       "StageThree": [
         "Sampleuser.5@xyz.com",
         "Sampleuser.6@xyz.com"
       ]
      },
      {
       "StageFour": [
         "Sampleuser.7@xyz.com",
         "Sampleuser.8@xyz.com"
       ]
```

```
      },
      {
        "StageFive": [
          "Sampleuser.9@xyz.com",
          "Sampleuser.10@xyz.com"
        ]
      }
    ]
  }
 ]
}
```

ADD_APPROVAL JSON

Adds new approver for the current stage, in addition to the existing set of approvers.

Triggering the approval for this stage is controlled by the send_immediately parameter. When set to true, the approval request will be sent immediately. When set to false, the user has to send the approval request manually.

```
{
  "message": "Sample Python script for adding new approvers in current stage, in addition to the existing approvers",
  "result": "success",
  "operation": [
    {
      "OPERATIONNAME": "ADD_APPROVAL",
      "send_immediately": "true",
      "INPUT_DATA": [
        "Sampleuser.1@xyz.com",
        "Sampleuser.3@xyz.com",
        "Sampleuser.5@xyz.com"
      ]
    }
  ]
}
```

SET_APPROVAL_STAGE JSON

Removes the existing set of approvers in the mentioned stages before adding new approvers. The approvers who have already approved will not be removed from the approvers list.

Triggering the approval for the first stage is controlled by the send_immediately parameter. When set to true, the approval request will be sent immediately. When set to false, the user has to send the approval request manually.

```
{
  "message": "Sample Python script for adding new approvers for all stages, in addition to the existing approvers",
```

```
  "result": "success",
  "operation": [
    {
      "OPERATIONNAME": "SET_APPROVAL_STAGE",
      "send_immediately": "true",
      "INPUT_DATA": [
        {
          "StageOne": [
            "Sampleuser.1@xyz.com",
            "Sampleuser.2@xyz.com"
          ]
        },
        {
          "StageTwo": [
            "Sampleuser.3@xyz.com",
            "Sampleuser.4@xyz.com"
          ]
        },
        {
          "StageThree": [
            "Sampleuser.5@xyz.com",
            "Sampleuser.6@xyz.com"
          ]
        },
        {
          "StageFour": [
            "Sampleuser.7@xyz.com",
            "Sampleuser.8@xyz.com"
          ]
        },
        {
          "StageFive": [
            "Sampleuser.9@xyz.com",
            "Sampleuser.10@xyz.com"
          ]
        }
      ]
    }
  ]
}
```


SET_APPROVAL JSON

Removes the existing set of approvers in the current stage and adds new approvers. The approvers who have already approved will not be removed from the approvers list.

Triggering the approval for this stage is controlled by the send_immediately parameter. When set to true, the

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approval request will be sent immediately. When set to false, the user has to send the approval request manually.


```
{
  "message": "Sample Python script for adding new approvers in current stage, in addition to the existing approvers",
  "result": "success",
  "operation": [
    {
      "OPERATIONNAME": "SET_APPROVAL",
      "send_immediately": "true",
      "INPUT_DATA": [
        "Sampleuser.1@xyz.com",
        "Sampleuser.3@xyz.com",
        "Sampleuser.5@xyz.com"
      ]
    }
  ]
}
```

p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545}

What follows is a sample Python file for your reference.

#The script file creates a JIRA ticket when a request is created with Request Type as 'Bug' and Impact as 'High'. The request ID, subject, description, due by time and priority of the request is passed to the JIRA for the ticket creation. Upon successful creation of the JIRA ticket, the JIRA ticket ID and ticket URL is fetched from the response to be added as a note in the ServiceDesk Plus request. The custom fields 'JIRA_ISSUE_ID' and 'JIRA_ISSUE_URL' are also updated with corresponding values.

#Requirements - Requests module to be installed

```
#To be set up by the user: url,jirausername, jirapassword, Jira_Server, Port_Number
#Command - 'py CreateJiraTicket.py $COMPLETE_JSON_FILE'
import requests
import sys
import json
import datetime
#To open and access the json file
file_Path = sys.argv[1]
with open(file_Path) as data_file:

data = json.load(data_file)
#Getting required values
request_obj = data['request']
workorderid = request_obj['WORKORDERID']
subject = request_obj['SUBJECT']
desc = request_obj['SHORTDESCRIPTION']
priority = request_obj['PRIORITY']
duebytime = request_obj['DUEBYTIME']
#Tranform time from millisec to date format
duebydate = datetime.datetime.fromtimestamp(int(duebytime) / 1e3).strftime('%d %b %Y, %H:%M:%S')
```

#Creating the json object to be provided as input for the API call

```
jsonData ='''{
   "fields": {
   "summary": "'''+subject+'''",
   "description": "'''+desc+'''",
      "issuetype": {
         "name": "BUG"
      },
      "project": {
         "key": "ServiceDesk Plus issues"
      },
      "duedate": "'''+duebydate+'''",
```

```
        "priority": {
            "name": "''+priority+''"
        },
        "customfield_10003": "''+workorderid+''"
    }
}'''

jirausername = 'jirausername'
jirapassword = 'jirapassword'

string = username + ":" + password
stringbytes = bytes(string,"utf-8")

base64string = base64.b64encode(stringbytes)
base64string = base64string.decode("utf-8")
```

#Specifying the HTTP headers necessary for submitting the API call

```
headers = ''' {
        "X-Version" : "1",
        'Content-Type':'application/json',
        "Accept" : "application/json",
        "Authorization" : "Basic " + base64string
    }'''
```

#Constructing the url for the API call and submitting that to Jira server

```
with requests.Session() as s:
    url = "[Jira_Server]:[Port_Number]/rest/api/2/issue/"
    r = s.post(url,verify=True, data=jsonData,headers=headers)

#If the call returns success, create a note and update custom fields
if(r.status_code == 202):
responseobj=r.json()

jiraissueid = responseobj['id']
jiraissueurl = responseobj['self']

note={}
note["notestext"] = "Jira Request Created with ID: "+jiraissueid+"</br> Issue Link:  "+jiraissueurl

noteObject={}
noteObject["notes"]=note
```

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```
addNoteJson={}
addNoteJson['INPUT_DATA']=[]
addNoteJson['INPUT_DATA'].append(noteObject)
addNoteJson["OPERATIONNAME"]="ADD_NOTE"

updateReqArray={}
updateReqArray['JIRA_ISSUE_ID']=jiraissueid
updateReqArray['JIRA_ISSUE_URL']=jiraissueurl

updateFieldsJson={"INPUT_DATA":[]}
updateFieldsJson['INPUT_DATA'].append(updateReqArray)
updateFieldsJson["OPERATIONNAME"]="EDIT_REQUEST"

resultjson={}
resultjson["result"] = "success"
resultjson["message"] = "A Jira Request has been Created. Note with the Issue ID and URL has been added."
resultjson["operation"] = []
resultjson["operation"].append(addNoteJson)
resultjson["operation"].append(updateFieldsJson)
```

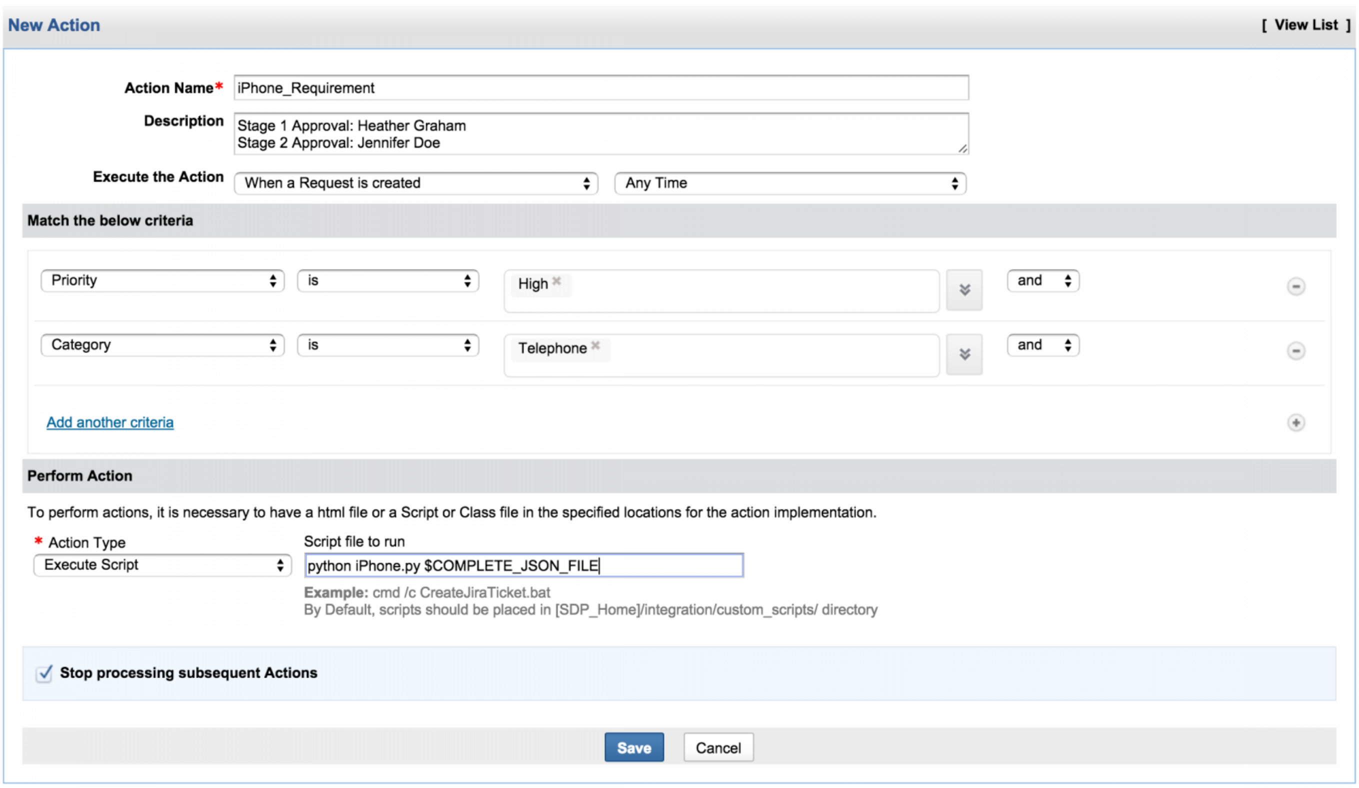
#Returning the JSON

```
print(resultjson)
else:
print("Problem submitting request")
  print(r.json())
```

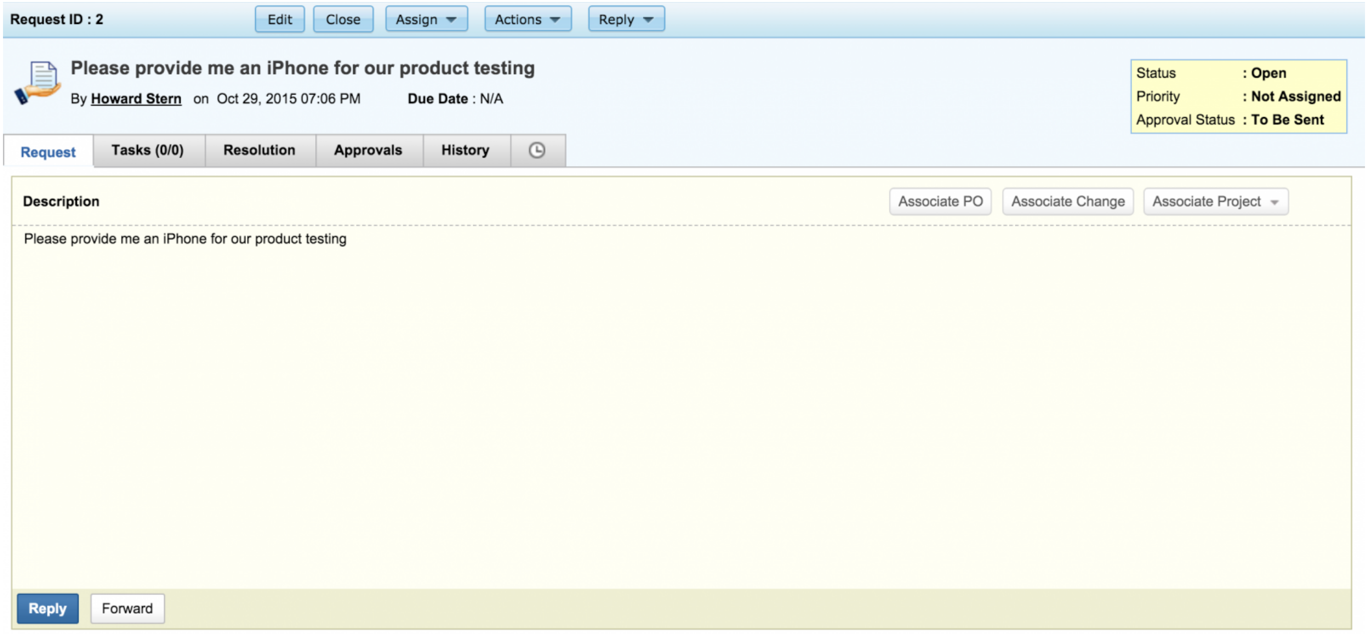
Sample approval scenario for approvals through custom triggers

For an organisation with large number of employees, approval process can be a really tedious one. Let us consider a scenario where you need an iPhone for testing and it requires the approval of your senior manager. Senior managers may differ from team to team and they might not know why he/she requires an iPhone for testing. Only his immediate mentor/manager might know the actual purpose behind the request. So there are chances that the senior manager might not approve your request or take time to approve the request. In such cases, it will be better if the approval managers for the respective teams can be configured well in advance and if there are multiple stages for approval.ie; the immediate manager/mentor can be assigned for STAGE 1 APPROVAL and the senior manager can be assigned for STAGE 2 APPROVAL etc. Earlier, if someone had to approve the request, he/she had to click on 'Actions' tab and choose 'Submit for Approval' everytime. Instead of such situation, one can configure the approvers for a particular situation well in advance and the corresponding script/class file for such situations will be triggered automatically when the 'set criteria' matches the given situation.

With Custom Trigger, you can automatically trigger the required script file or custom class file for configuring the approvers and automatically notify them through mail.This document will give a clear idea on triggering class/script file for the above sample situation.



If the criteria set in the 'iPhone_requirement' matches the request raised, ie; if the priority and category matches, then the corresponding script/class file 'python iPhone.py' will be triggered automatically. On opening such requests, one can automatically view the 'Approvals' tab, even though 'Submit for Approval' is not selected.



Following is the JSON Format for adding approvals through 'custom trigger':

SETTING APPROVALS FOR DIFFERENT STAGES:

```
{
  "operation": [
    {
      "INPUT_DATA": [
        {
          "StageOne": [
            "Sampleuser.1@xyz.com",
            "Sampleuser.2@xyz.com"
          ]
        },
        {
          "StageTwo": [
            "Sampleuser.3@xyz.com",
            "Sampleuser.4@xyz.com"
          ]
        },
        {
          "StageThree": [
            "Sampleuser.5@xyz.com",
```

```
                "Sampleuser.6@xyz.com"
            ]
        },
        {
            "StageFour": [
                "Sampleuser.7@xyz.com",
                "Sampleuser.8@xyz.com"
            ]
        },
        {
            "StageFive": [
                "Sampleuser.9@xyz.com",
                "Sampleuser.10@xyz.com"
            ]
        }
    ],
    "OPERATIONNAME": "ADD_APPROVAL_STAGE"
  }
 ],
 "message": "Sample Python script for adding approvers",
 "result": "success"
}
```


SETTING APPROVALS FOR THE CURRENT STAGE:


```
{
"operation": [
{
"INPUT_DATA": [
"Sampleuser.1@xyz.com",
"Sampleuser.3@xyz.com",
"Sampleuser.5@xyz.com"
],
"OPERATIONNAME": "ADD_APPROVAL"
}
],
"message": "Sample Python script for adding approvals in current stage",
"result": "success"
}
```


The following will be displayed on clicking 'Approvals' tab.

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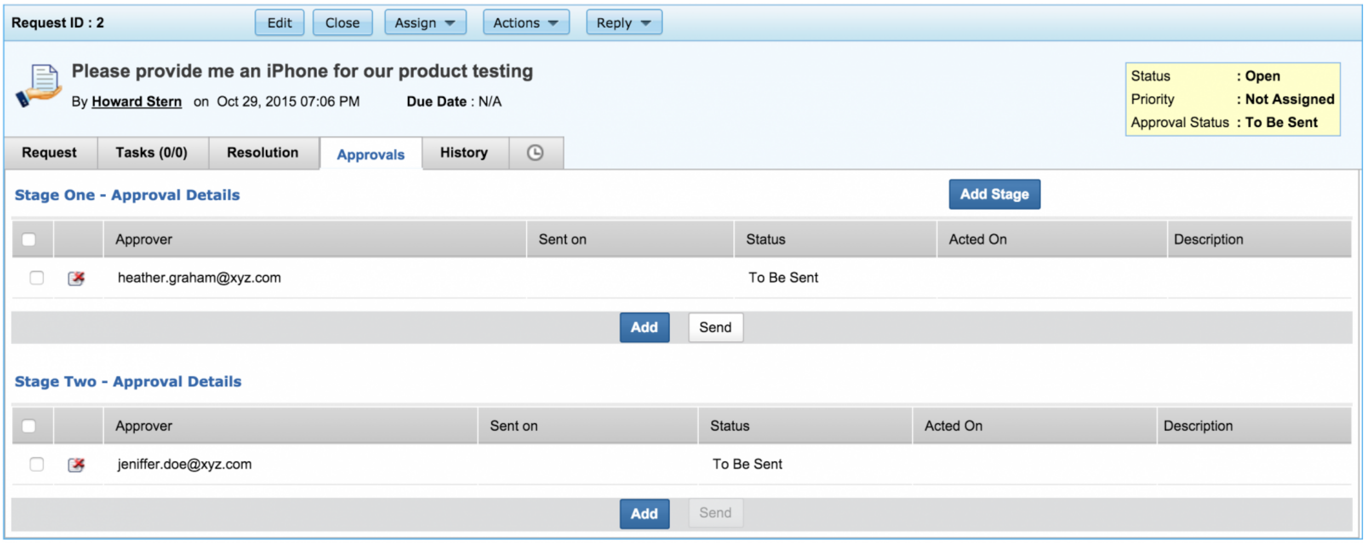
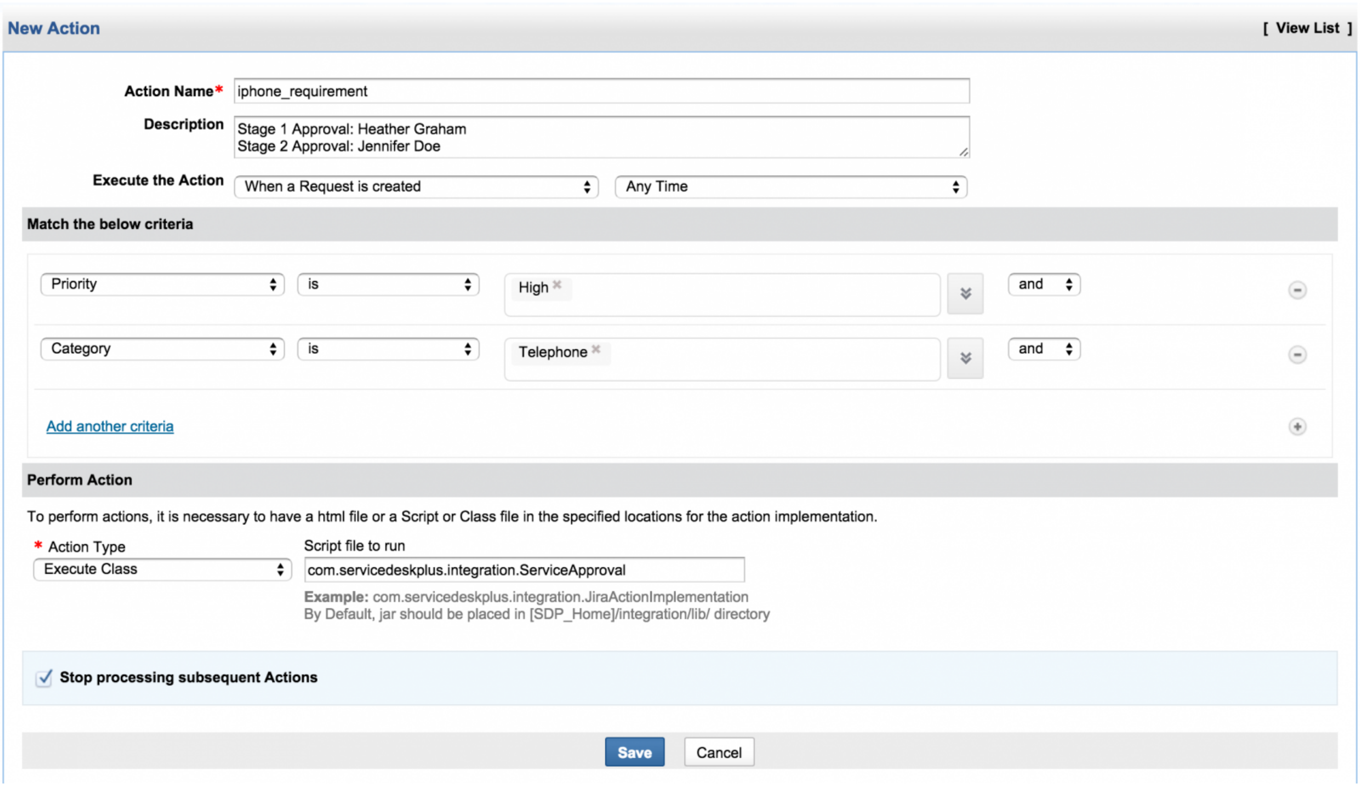


Click here to view a sample Python script for 'Adding approvers'

If the action is to be executed via class file:



Click here to view a Sample Class file to add approvers

Some Incident requests might require the approval of immediate managers. Eg: When requests related to server are raised, it might require the notice of the manager and need his approval.In such cases, the 'action' and its criteria can be set in advance and the approver can be notified automatically through trigger.

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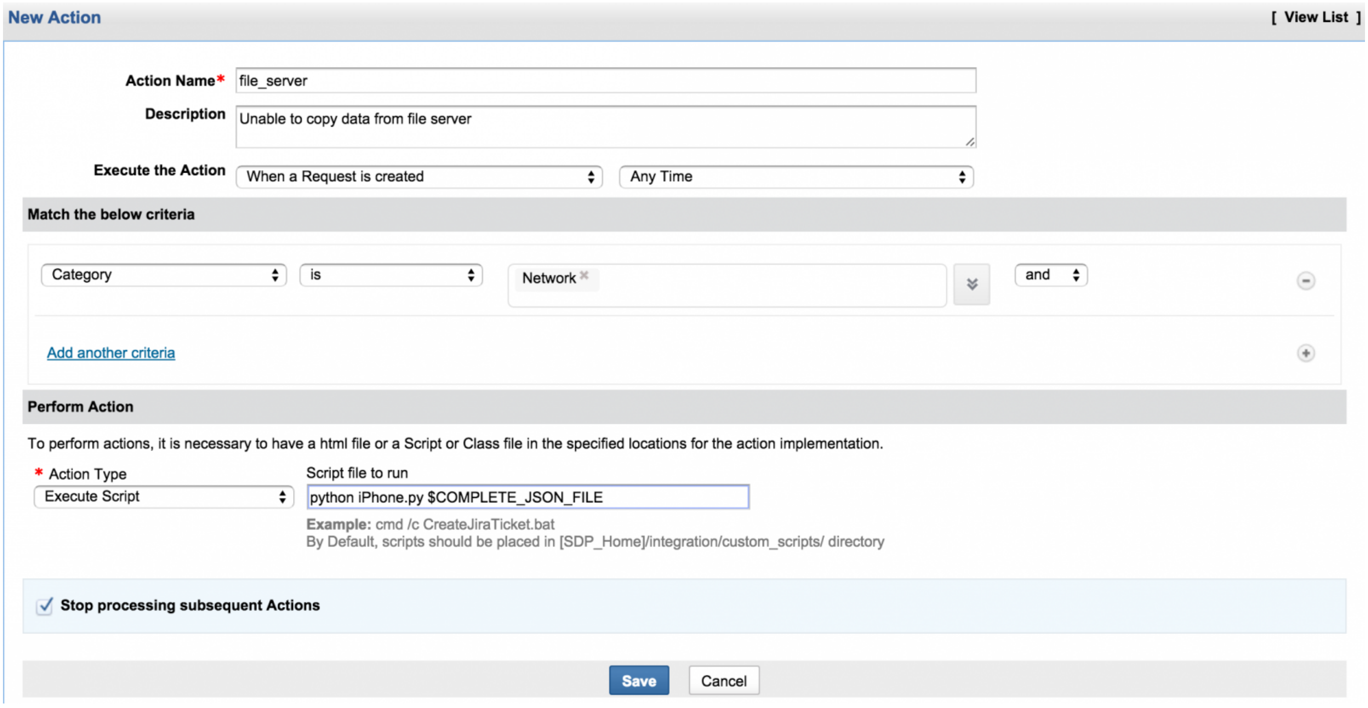
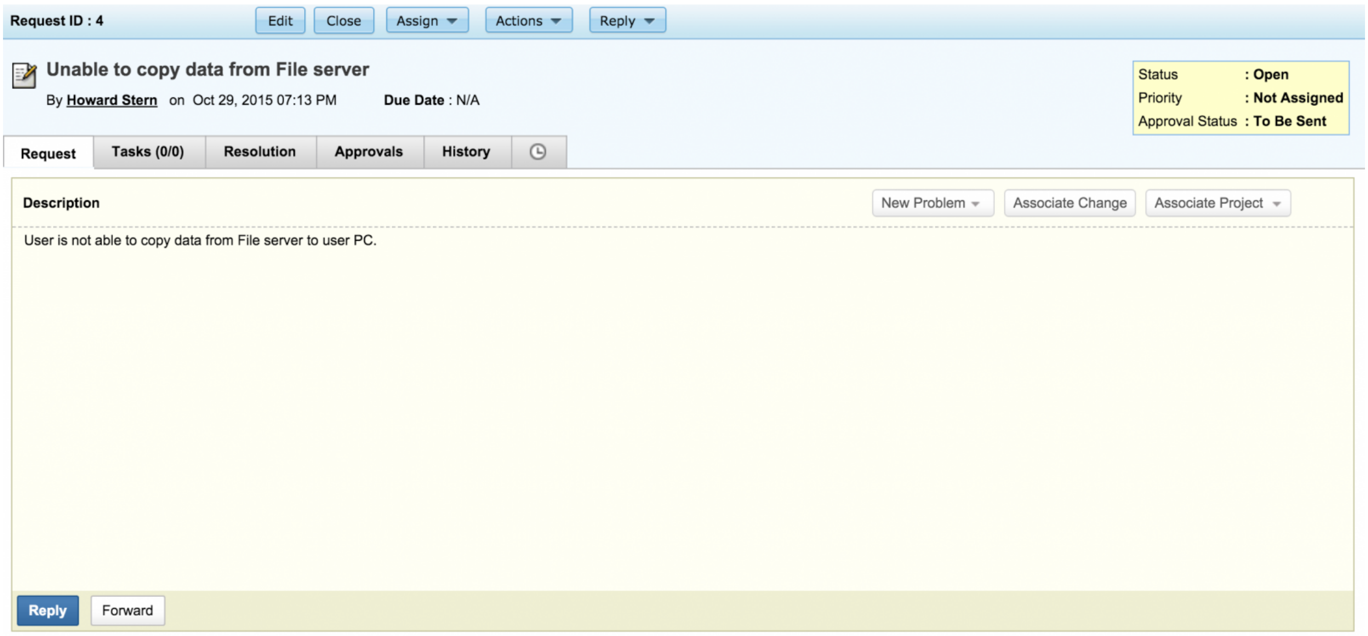
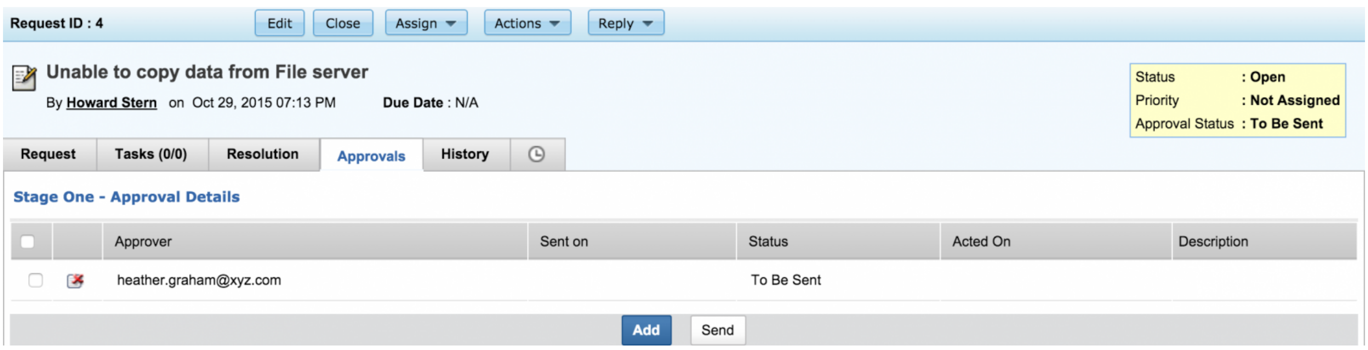


Note: The same script file used for service request can be used here. The Incident request will take only one stage from the script.



For an Incident request, only one stage will be available and the approver can be added or deleted.



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Set Approvers:

If an approver has already been added to a stage and if there arises a situation where the approver has to be replaced, then the script file for set approver can be custom triggered instead of replacing approvers manually. Sample script file for set approvers and set approver stage can be viewed by clicking on the links.

SAMPLE SCRIPT FILE FOR ADDING APPROVERS THROUGH CUSTOM TRIGGER

```
import sys
import json
import urllib

file_Path = sys.argv[1]

with open(file_Path) as data_file:
data = json.load(data_file)
requestObj = data['request']

detailsJSON1={}
detailsJSON1['requester']=requestObj['REQUESTER']



resultjson={}
resultjson["operation"] = []
resultjson["result"]="success"
message = "Sample Python script for adding approvers"
resultjson["message"]=message

operationJson={"INPUT_DATA":[]}
operationJson["OPERATIONNAME"]="ADD_APPROVAL_STAGE"
approvalArray={}
approvalArray1={}
approvalArray2={}



if "Howard" in detailsJSON1['requester']:

approvalObject="heather.graham@xyz.com"
approvalArray={"StageOne":[]}
approvalArray['StageOne'].append(approvalObject);
operationJson['INPUT_DATA'].append(approvalArray)

approvalObject1="jeniffer.doe@xyz.com"
```

```
approvalArray1={"StageTwo":[]}
approvalArray1['StageTwo'].append(approvalObject1);
operationJson['INPUT_DATA'].append(approvalArray1)



else:
if "Jeniffer" in detailsJSON1['requester'] :
approvalObject="howard.stern@xyz.com"
approvalArray={"StageOne":[]}
approvalArray['StageOne'].append(approvalObject);
operationJson['INPUT_DATA'].append(approvalArray)

approvalObject1="heather.graham@xyz.com"
approvalArray1={"StageTwo":[]}
approvalArray1['StageTwo'].append(approvalObject1);
operationJson['INPUT_DATA'].append(approvalArray1)



else:
if "John" in detailsJSON1['requester'] :
approvalObject="howard.stern@xyz.com"
approvalArray={"StageOne":[]}
approvalArray['StageOne'].append(approvalObject);
operationJson['INPUT_DATA'].append(approvalArray)

approvalObject1="heather.graham@xyz.com"
approvalArray1={"StageTwo":[]}
approvalArray1['StageTwo'].append(approvalObject1);
operationJson['INPUT_DATA'].append(approvalArray1)

approvalObject2="jeniffer.doe@xyz.com"
approvalArray2={"StageThree":[]}
approvalArray2['StageThree'].append(approvalObject2);
operationJson['INPUT_DATA'].append(approvalArray2)

resultjson['operation'].append(operationJson)

print(resultjson)
```

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SAMPLE SCRIPT FILE FOR SETTING APPROVERS THROUGH CUSTOM TRIGGER

```
import sys
import json
import urllib

file_Path = sys.argv[1]

with open(file_Path) as data_file:
    data = json.load(data_file)
requestObj = data['request']

detailsJSON1={}
detailsJSON1['requester']=requestObj['REQUESTER']
detailsJSON1['subject']=requestObj['SUBJECT']
detailsJSON1['description']=requestObj['SHORTDESCRIPTION']
detailsJSON1['priority']=requestObj['PRIORITY']
detailsJSON1['status']=requestObj['STATUS']



resultjson={}
resultjson["operation"] = []
resultjson["result"]="success"
message = "Sample Python script for set_approval"
resultjson["message"]=message

operationJson={"INPUT_DATA":[]}
operationJson["OPERATIONNAME"]="SET_APPROVAL"
notesArray={}
notesArray1={}
notesArray2={}



noteObject41="sampleuser1@sdplinmail.com"
noteObject42="sampleuser2@sdplinmail.com"

operationJson['INPUT_DATA'].append(noteObject41);
```

```
operationJson['INPUT_DATA'].append(noteObject42);
resultjson['operation'].append(operationJson)

print(resultjson)
```

SAMPLE SCRIPT FILE FOR SETTING APPROVER STAGE THROUGH CUSTOM TRIGGER

```
import sys
import json
import urllib

file_Path = sys.argv[1]

with open(file_Path) as data_file:
    data = json.load(data_file)
requestObj = data['request']

detailsJSON1={}
detailsJSON1['requester']=requestObj['REQUESTER']
detailsJSON1['subject']=requestObj['SUBJECT']
detailsJSON1['description']=requestObj['SHORTDESCRIPTION']
detailsJSON1['priority']=requestObj['PRIORITY']
detailsJSON1['status']=requestObj['STATUS']



resultjson={}
resultjson["operation"] = []
resultjson["result"]="success"
message = "Sample Python script for set_approval_stage"
resultjson["message"]=message

operationJson={"INPUT_DATA":[]}
operationJson["OPERATIONNAME"]="SET_APPROVAL_STAGE"
operationJson["send_immediately"]="true"
notesArray={}
notesArray1={}
notesArray2={}



if "swetha" in detailsJSON1['requester']:
        noteObject="sampleuser1@sdplinmail.com"
        notesArray={"StageOne":[]}
        notesArray['StageOne'].append(noteObject);
```

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```
        operationJson['INPUT_DATA'].append(notesArray)

        noteObject1="sampleuser2@sdplinmail.com"

        notesArray1={"StageTwo":[]}
        notesArray1['StageTwo'].append(noteObject1);
        operationJson['INPUT_DATA'].append(notesArray1)

        noteObject2="sampleuser3@zohocorp.com"
        notesArray2={"StageThree":[]}
        notesArray2['StageThree'].append(noteObject2);
        operationJson['INPUT_DATA'].append(notesArray2)

else:
        if "Howard" in detailsJSON1['requester'] :
                noteObject="sampleuser1@sdplinmail.com"

                notesArray={"StageOne":[]}
                notesArray['StageOne'].append(noteObject);
                operationJson['INPUT_DATA'].append(notesArray)

                noteObject1="sampleuser1@sdplinmail.com"

                notesArray1={"StageTwo":[]}
                notesArray1['StageTwo'].append(noteObject1);
                operationJson['INPUT_DATA'].append(notesArray1)

                noteObject2="sampleuser1@sdplinmail.com"

                notesArray2={"StageThree":[]}
                notesArray2['StageThree'].append(noteObject2);
                operationJson['INPUT_DATA'].append(notesArray2)



        else:
                if "John" in detailsJSON1['requester'] :
                        noteObject="sampleuser1@sdplinmail.com"
```

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```
        notesArray={"StageOne":[]}
        notesArray['StageOne'].append(noteObject);
        operationJson['INPUT_DATA'].append(notesArray)

        noteObject1="sampleuser1@sdplinmail.com"

        notesArray1={"StageTwo":[]}
        notesArray1['StageTwo'].append(noteObject1);
        operationJson['INPUT_DATA'].append(notesArray1)

        noteObject2="sampleuser1@sdplinmail.com"

        notesArray2={"StageThree":[]}
        notesArray2['StageThree'].append(noteObject2);
        operationJson['INPUT_DATA'].append(notesArray2)



resultjson['operation'].append(operationJson)

print(resultjson)
```

Request Custom Menu

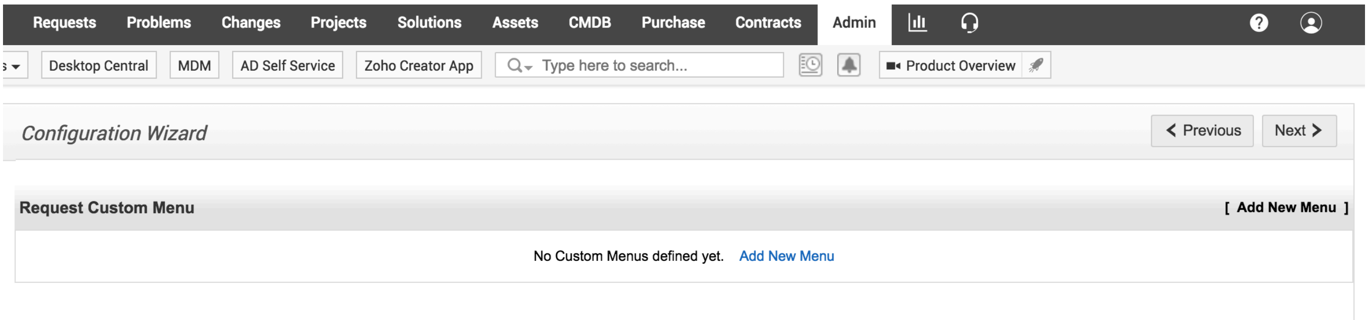
Using Request Custom Menu, you can customize the **Actions** menu of the **Requests** page with the use of your own script. You can create different action menus and associate custom classes or script files with the menus to execute the relevant actions. The menus created here get listed under the **Actions** menu in the **Requests Details** page.

The following topics are discussed in this document:

- Add New Menu
- View List

Add New Menu

1. Click the **Admin** tab in the header pane.
2. Click **Request Custom Menu** under the **Helpdesk Customizer** block. The **Request Custom Menu List View** page is shown. From here, you will be able to add, edit, enable/disable and delete the custom menus.
3. To add a new request custom menu, click **Add New Menu** at the right corner of the **Request Custom Menu List View**.



1. The **New Menu** form is shown.

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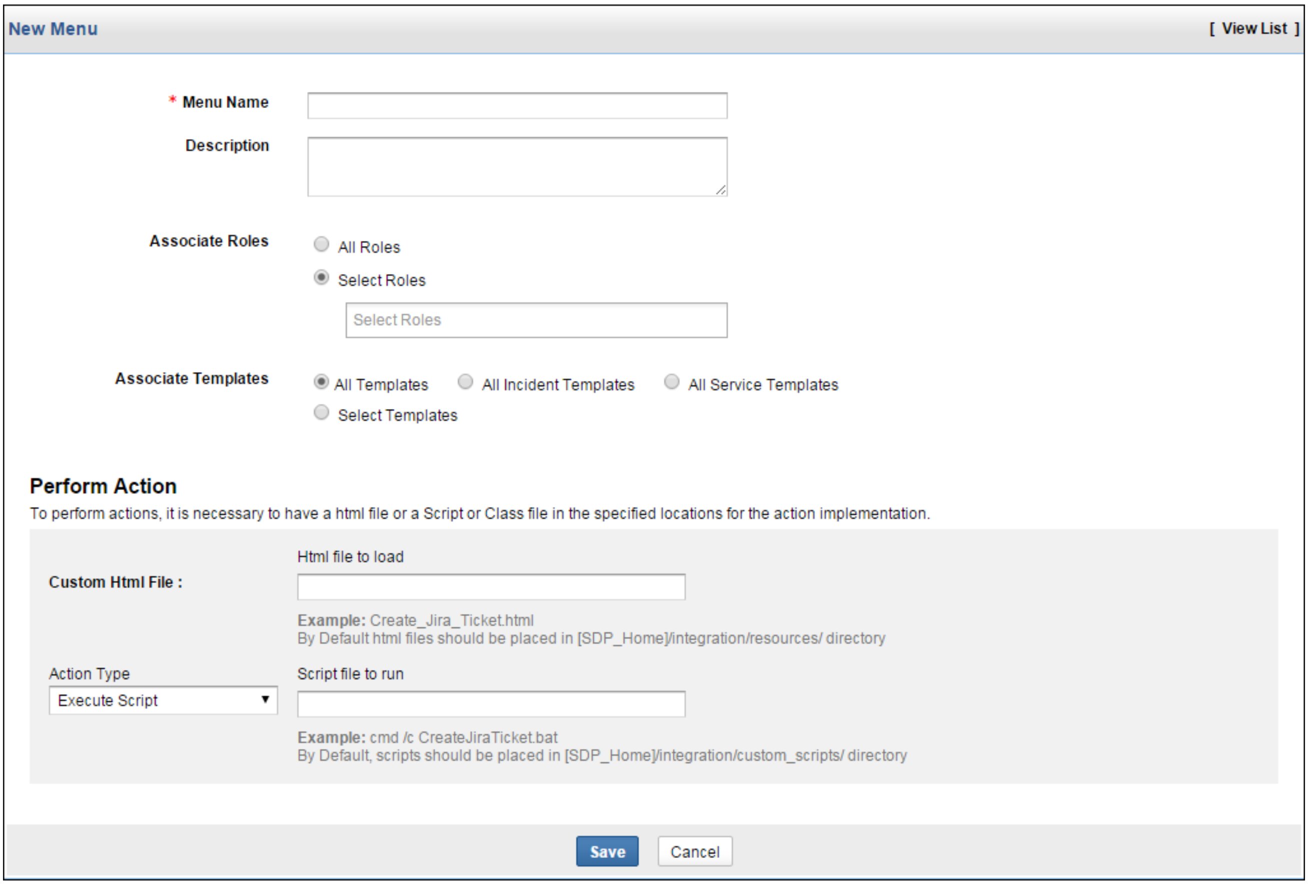
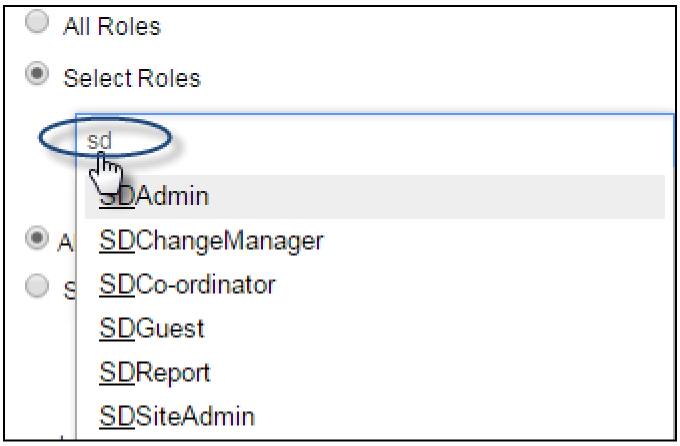


- Provide the following details:

Basic Details:

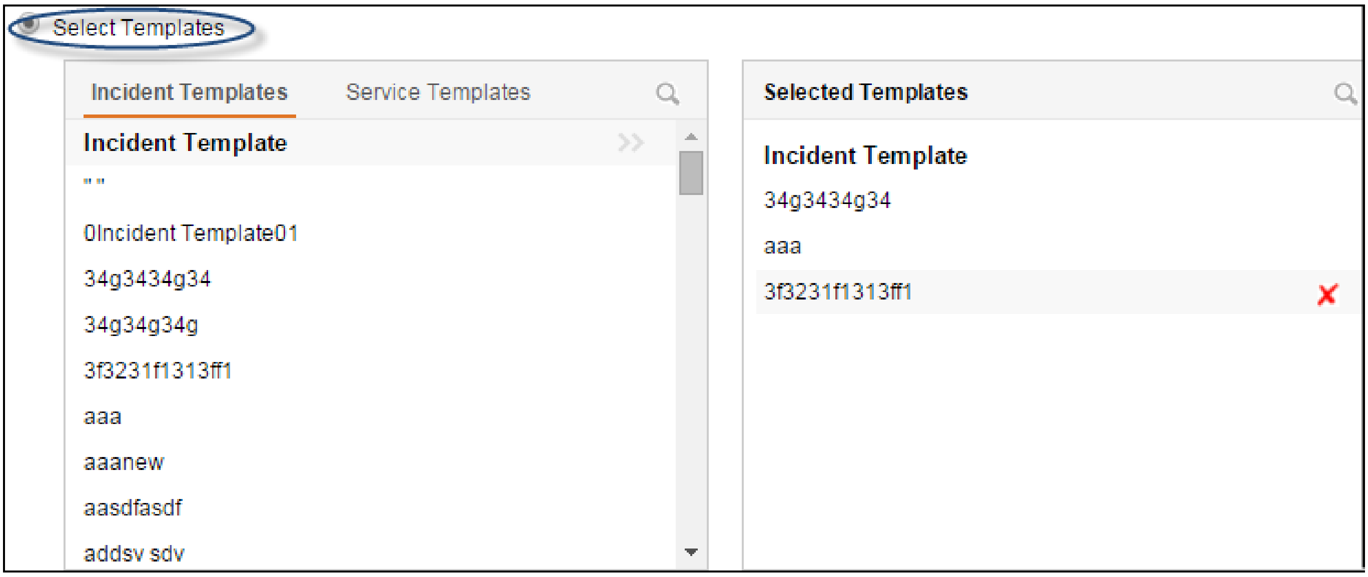
- **[Mandatory] Menu Name**: Specify a unique name for the menu being created. (The menu name will be displayed under the **Actions** menu in the Requests Details page).
- **Associate Templates**: Choose any one among the following templates to associate: '**All Templates**', '**All Incident Templates**, '**All Service Templates**', or '**Select Templates**'.

- **Associate Roles**: Decide Technician roles that will get access to this menu. You can choose either of the below option



- **Select Roles:** Select the required roles by typing the role (e.g., *SDAdmin, SDGuest,* etc.,) name in the available textbox, as shown below:
- **All Roles**: Simply choose this option.
- **Description**: Describe the menu indicating its purpose.

- **Select Templates:** If you choose this, the below options will be shown. Choose either Incident Templates or Service Templates. Then, move the required template options from left to the right panel (Selected Templates), as shown below:



Perform Action:

To perform an action, it is necessary to have a **HTML** file, or a **Script** file, or a **Class** file, in the specified location for the action implementation. You can perform the below actions:

- **Custom HTML File**:
  - To load a Custom HTML file when menu is invoked, you need to place that file in the *[SDP_Home]/Integration/resources/* directory. Only the files with **htt/htx/htm/html/htmls** extensions are supported for invocation. Also, dependency files like, JavaScript and CSS have to be placed in the same location.

    Example: *Create_Jira_Ticket.html*
- **Action Type - Execute Class**:
  - **Action Type - Execute Script**:
  - To execute a class, you need to specify the **Executor class** in the field provided. You need to manually place the required **Class/Jar** file to the *[SDP_Home]/integration/lib directory.*

    Example: *com.servicedeskplus.integration.JiraActionImplementation*

To execute a script, you need to specify the Name and Path of the script file in the field provided. By default, the scripts will run from the [SDP_Home]/integration/custom_scripts/ directory. You need to manually place the required Script file to the directory.

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Example: *cmd /c CreateJiraTicket.bat*

You can also pass arguments for **Custom Script/Class**. All API parameters are supported as arguments.

Examples:

For Script: *cmd / c Index.bat $SUBJECT $PRIORITY $STATUS*

For Class: *com.servicedeskplus.integration.JiraActionImplementation*

Other Parameters Supported:
$COMPLETE_JSON_FILE ---> Complete Request Object will be saved to a JSON file and the file path will be passed as String Object.
JSON File Path:

(SDP_Homeintegrationcustom_scriptsrequest12_1426143538036.json)
$HTML_DATA_JSON_FILE ---> Ajax call request "**data**" parameter will be saved to a JSON file along with menu name, request json and xml file path, and the file path will be passed as String Object. Used with Custom Html File.

Example: *(SDP_Homeintegrationcustom_scriptsrequest12_1426143538036.json)*
$HANDSHAKE_KEY ---> Handshake key will be passed as String Object.

1. Click **Save**.

Now, the menu is created and can be viewed under the **Actions** menu in Requests Details page.

TOP

View List

You can access this option, while adding a new menu. You can do the following from here:

Enabling/Disabling a Menu:

1. Click the icon beside a menu to disable it.
2. Click the icon beside a menu to enable it.

Editing a Menu:

1. From the Request Custom Menu List View, click the **Edit** icon beside the menu you wish to edit.
2. Modify the required details.
3. Click **Save** to save the changes performed.

Deleting a Menu:

1. From the Request Custom Menu List View, click the **Delete** icon beside the menu you wish to delete. A confirmation window pops up.
2. Click **OK** to proceed with the deletion. The menu is removed from the list.
3. If you do not want to delete the menu, then click **Cancel**.

TOP

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Field and Form Rules for Request Templates

This document guides you through the process of defining rules that can be executed on a Request form. Field and form rules are executed during the following conditions: after a request form is loaded, when some field in the form is changed and before a request form is submitted. The rules can be disabled or enabled, wherein the disabled rules will not be applied.

Types of Events Supported in Field & Form Rules

The following three types of events are supported:
On Form Load: This allows the rules to be executed when the request form is loaded. The rules defined on this event should contain at least one executable action. The actions will be executed after checking criteria; if no criteria is defined, the actions will be executed directly.
On Field Change: This allows the rules to be executed, when there is a change in the field value. The rules defined on this event should contain at least one executable action. The actions will be executed after checking criteria; if no criteria is defined, the actions will be executed directly. The rule will be applied on change of the field value mentioned in the rule.
On Form Submit: This allows the rules to be executed on submission of the request form. Here, "*Execute Script*" is the only action allowed for the event. The rules defined on this event should contain a valid script. The script will be executed after checking criteria; if no criteria is defined, the script will be executed directly.

Types of Users

The rules can be applied to **Requesters** or **Technicians** or **All users**. However, the rules that are applied to Requesters only will not be applied to Technicians, and vice versa.

Execution of Rules

The rules can be executed on creating a new request, or on editing an existing request, or on both of the operations.

Types of Actions Supported in Field & Form Rules

Show Fields : This action ***shows the*** fields in the request form, on which the action is applied.
Hide Fields : This action ***hides*** the fields in the request form, on which the action is applied.
Enable Fields : This action ***enables*** the fields in the request form, on which the action is applied. As a result, the user will be able to edit those fields.
Disable Fields : This action ***disables*** the fields in the request form, on which the action is applied. As a result, the user will not be able to edit those fields.
Mandate Fields : This action ***makes*** the fields mandatory in the request form, on which the action is applied. As a result, the user will not be able to submit the form without filling values for those fields.
Non-Mandate Fields : This action ***removes*** the mandatory properties of the fields in the request form, on which the action is applied. As a result, the user will be able to submit form without filling values for those fields.
Execute Script : This action ***executes*** the script in the request form. The script should be a **valid JavaScript code**; otherwise it will not be executed. Some methods are supported as default methods in script execution, for example, to hide Category and Level fields you can call the below method with an array of fields as: *$CS.hideField(["CATEGORY","LEVEL"]);*

Copying Rules To Another Template

You can copy one or more rules from one template to another, using copy rule action provided in **Actions** menu. While copying the rule, if a particular field does not exists in the other request template, then that field will not be copied. Also, if for a rule, no criterion/action can be copied, then that rule will not be copied.

Removing Fields from Request Form

Removing fields from a template automatically removes those fields from the rules defined in that template as well. After deleting the fields, if for some rule no criterion/action is left out, then that rule will also be deleted.

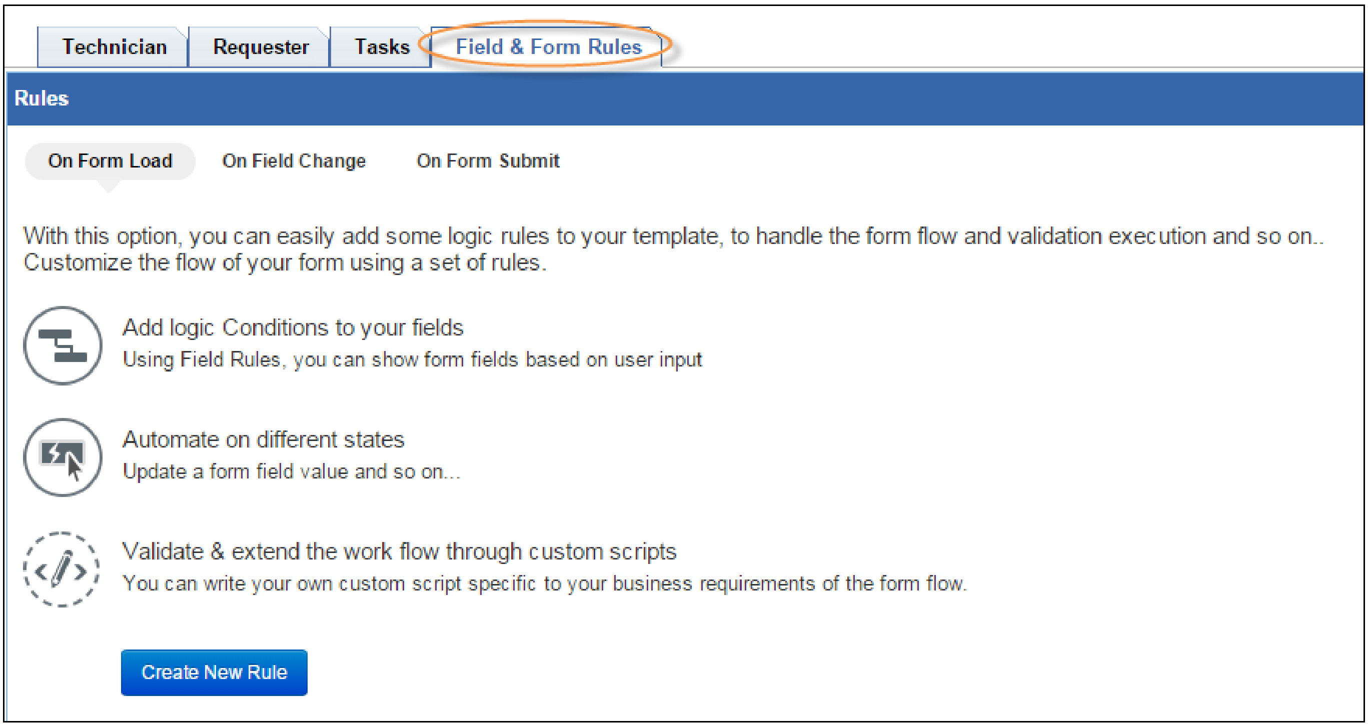
Top

Operations performed on Rules

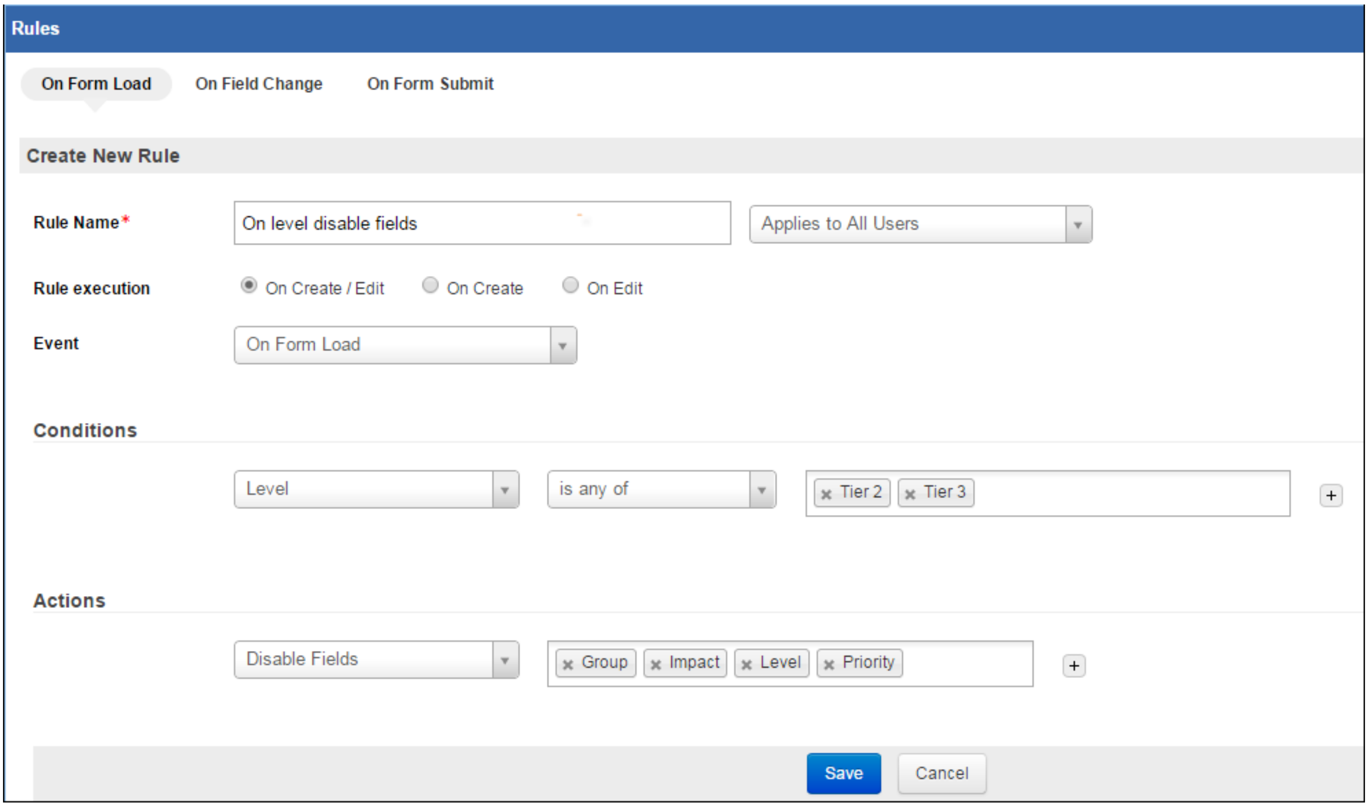
- Creating a Rule
- Editing/Deleting a Rule
- Bulk Actions
- Use Cases for Field & Form Rules

Creating a New Rule

1. Log in to ServiceDesk Plus application using the user name and password of an **Admin** user.
2. Click the **Admin** tab in the header pane.
3. From the **Helpdesk Customizer** menu click **Incident Templates**.
4. Click the **Default Request** under the **Incident Template List.**
5. Access the **Field and Form Rules** tab. The **Rules** wizard is shown. From here, you can create a rule for any of the below events:
    - On Form Load
    - On Field Change
    - On Form Submit



1. Click the **Create New Rule** button. The **Create New Rule** form is shown.



1. Fill-in the following details:

i. **Rule Name**: Enter an appropriate name for the rule.
ii. **Applies to**: Choose if the rule needs to be applied to **All Users,** or **Technicians,** or **Requesters**. (See this)
iii. **Rule Execution**: Choose when to execute the rule; **On Create / Edit,** or **On Create,** or **On Edit**.
iv. Event: Select the event for which the rule needs to be executed:
"On Form Load":
a. **Conditions**: Choose a condition to be checked while executing the rule. You can add a single condition, or

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multiple conditions by clicking the icon.
Condition Format:

<Select Field>

<Select Criteria>

< Select Value>

Example:

Level

is any of

Tier2 Tier3
b. Actions: Choose an action to be performed while executing the rule. You can add a single action, or multiple actions by clicking the icon.
Action Format:

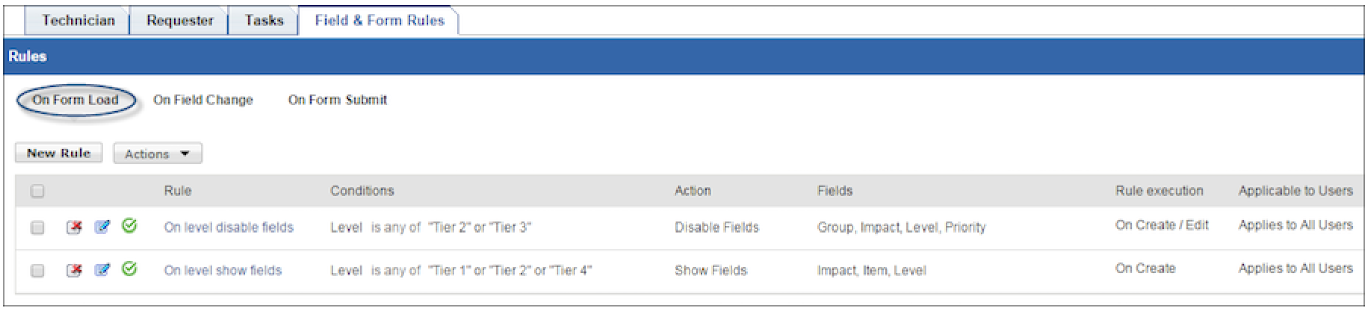
<Select Action>

<Select Field>

Example:
Disable Fields

Group Impact Level Priority

c. Click **Save**. The created rule can be viewed from the **Rules List View** under **On Form Load.**



"On Field Change":
a. **Conditions**: Choose a condition to be checked while executing the rule. You can add a single condition, or multiple conditions by clicking the icon.
Condition Format:

<Select Field>

<Select Criteria>

< Select Value>

Example:

Technician

is not

administrator

b. Actions: Choose an action to be performed while executing the rule. You can add a single action, or multiple actions by clicking the icon.
Action Format:

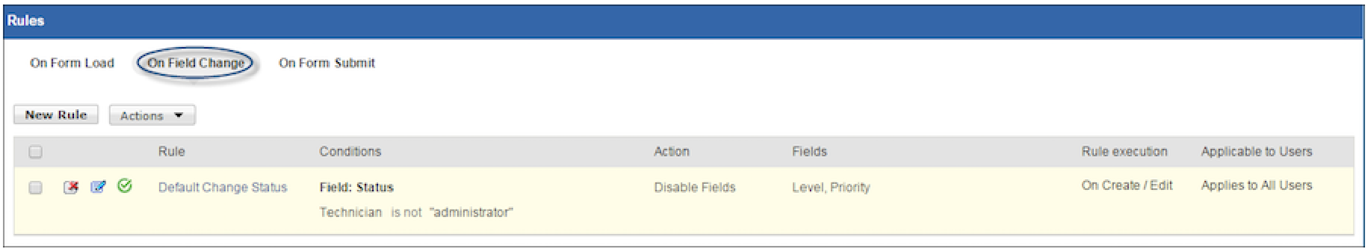
<Select Action>

<Select Field>

Example:
Disable Fields

Priority Level

c. Click **Save**. The created rule can be viewed from the **Rules ListView** under **On Field Change.**



"On Form Submit":

1. **Conditions**: Choose a condition to be checked while executing the rule. You can add a single condition, or multiple conditions by clicking the icon.
   Condition Format:

   <Select Field>

   <Select Criteria>

   < Select Value>

   Example:

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Request Type

is not

Incident

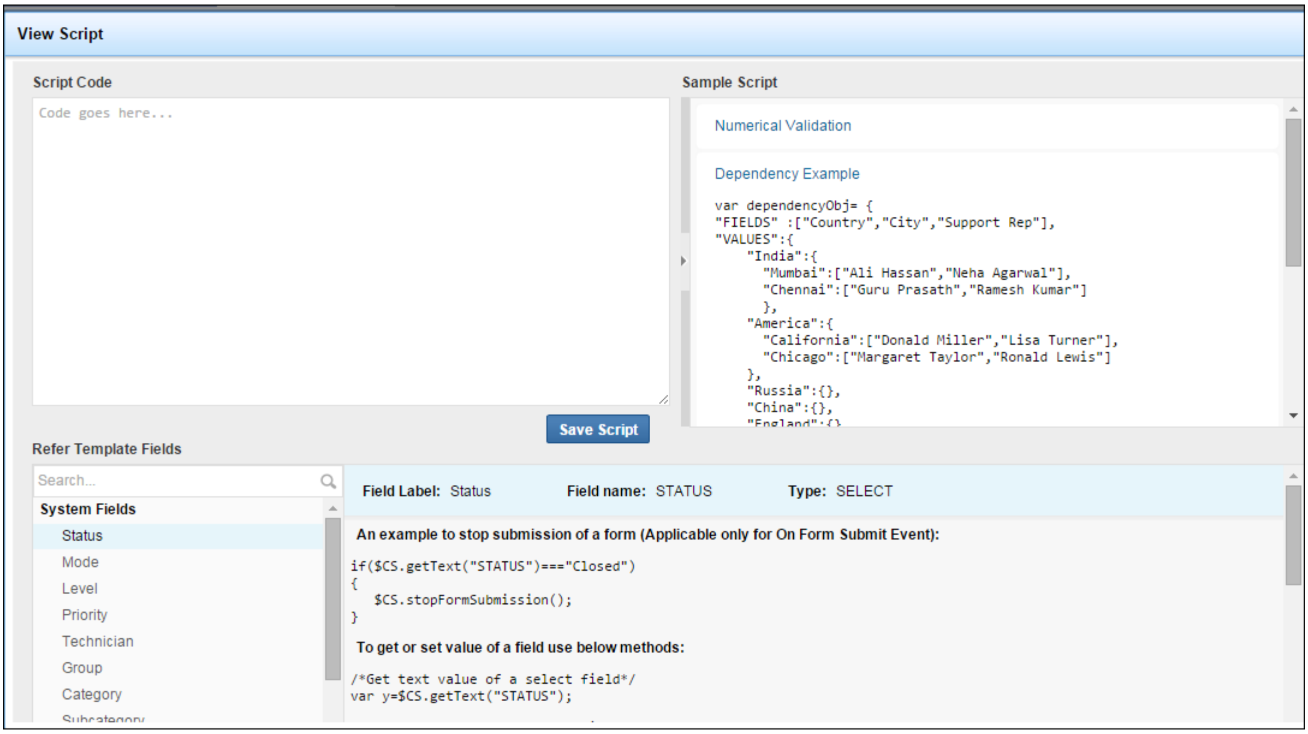
and

Category

is any of

Internet Network

2. **Actions**: Only **Execute script** action is allowed for this event. You need to **Write Custom Script**. Click the link to **View Script**. You can view the **Sample Script** at the right side. Write your **Script Code** in the left panel and **Save** it.



3. Click **Save**. The created rule can be viewed from the **Rules List View** under **On Submit Form.**

Editing/Deleting a Rule

1. Go to the Rule List Wizard under any of the required events: **On Form Load, On Field Change,** or **On Form Submit.**

2. **Editing**: Click the icon against the required **Rule**. Make the required changes in the **Edit Rule** form and **Save** the changes.
3. **Deleting**: Click the icon against the required **Rule**. Say **OK** in the confirmation window displayed. The rule is removed from the Rule List.

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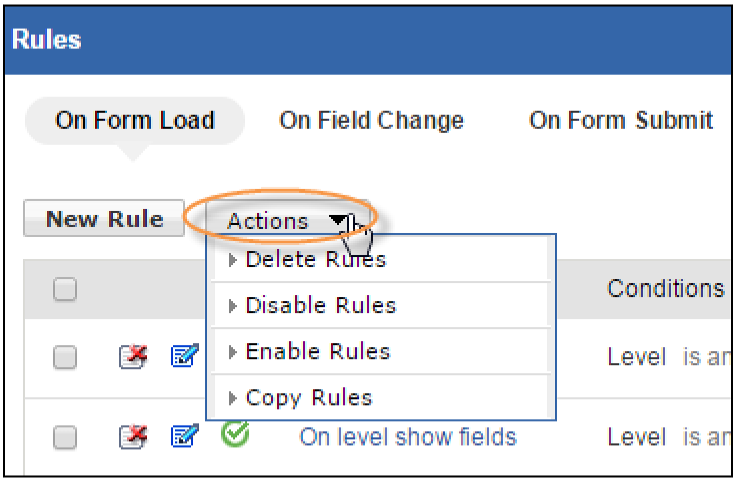
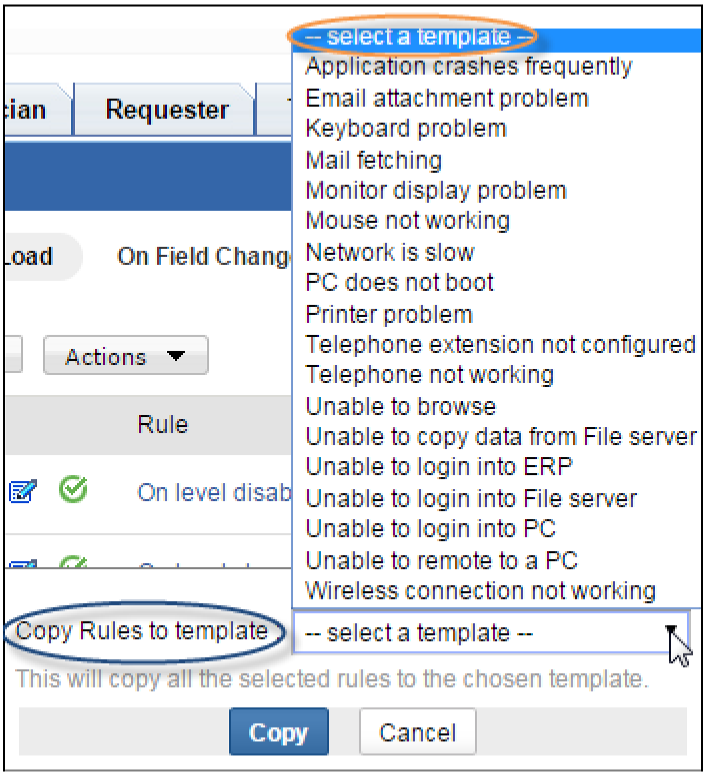
Bulk Actions

You can perform certain bulk actions on the rules. Follow the steps below:

1. Go to the Rule List Wizard under any of the required events: **On Form Load, On Field Change,** or **On Form Submit.**
2. Mouse hover the **Actions** menu to view the bulk actions.



1. **Delete Rules**: Select the check boxes of the rules you wish to delete. Click **DeleteRules** under **Actions**. Say **OK** in the confirmation window displayed. The selected rules will be removed from the Rule List.
2. **Disable/Enable Rules**: Select the check boxes of the rules you wish to disable/enable. Click **Disable/Enable Rules** under **Actions**. The disabled/enabled rules will be marked with and icons, respectively.
3. **Copy Rules**: You can copy rules from one template to another. Select the check boxes of the rules you wish to copy. Click **Copy Rules** under **Actions**. A window pops up. Choose the required templat from the available list and click **Copy**. Now, all the selected rules will be copied to the chosen template.



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Use Cases for Field & Form Rules

A more clear understanding of the field & form rules can be acheived by using real time use cases. Click here to view the document that explains the use cases in detail.

Field & Form Rules - Use Cases

The purpose of this document is to bring out a clear understanding of field and form rules by using real time scenario. The sections that follow walk you through the step-by-step procedure of configuring the use cases, along with relevant screenshots.

List of Use Cases

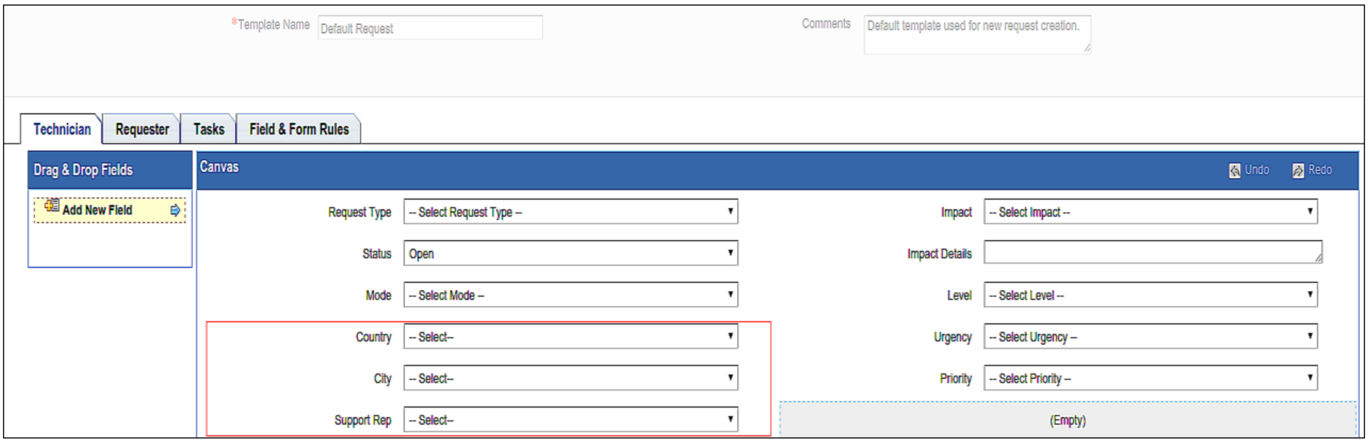
- Add dependency among additional PickList fields
  - Applicable to all users type and executes on both edit and create request operations.
- On Form Load event example
  - Applicable to requester and executes on create request operation
  - Applicable to technician and executes on edit request operation
- On Field Change event example
  - Applicable to all users and executes on both create and edit operations
  - Applicable to technicians and executes on both create and edit operations
- On Form Submit event example
  - Applicable to all users and executes on edit request operation.

Case I: Add dependency among PickList fields

Scenario:

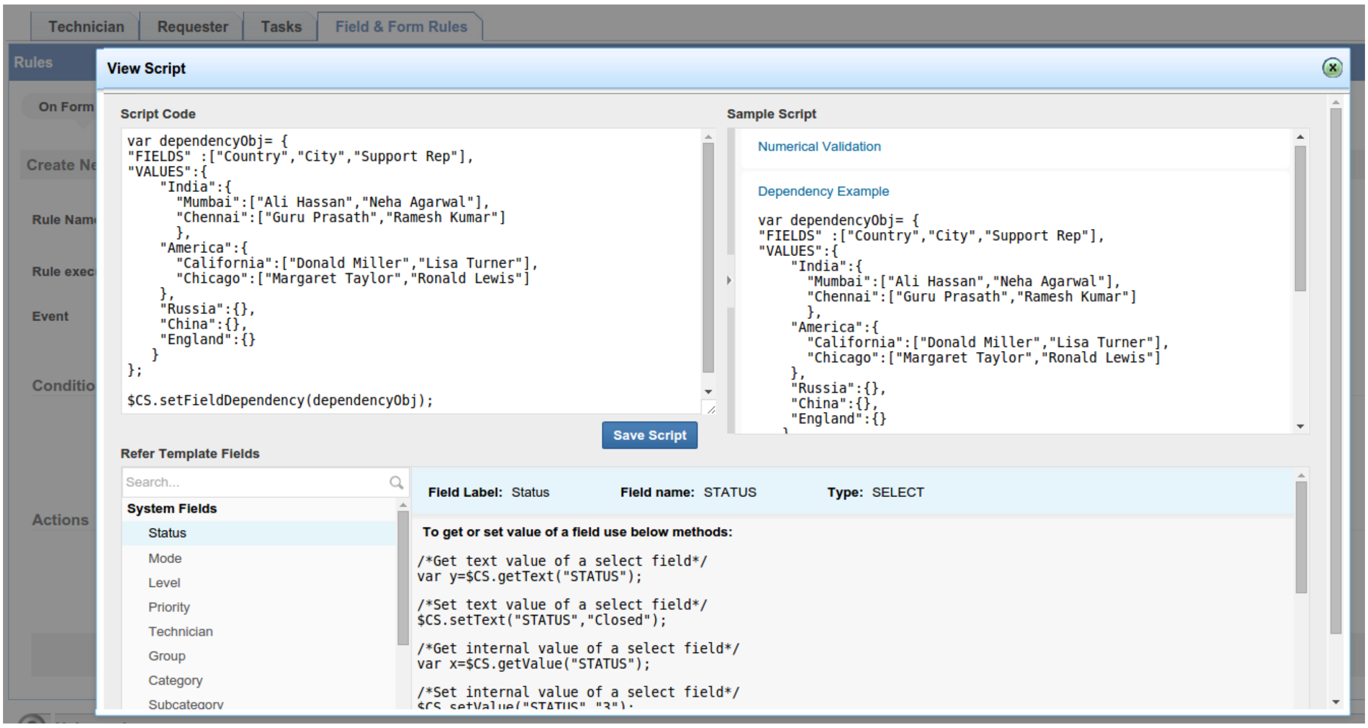
- Creating Country-City-Support Rep dependency.
- When we choose **Country**, **City** field should automatically populate with **available cities of that country.**
- When we choose **City**, **Support Rep** field should automatically populate with **available Support Rep in that City.**

Step 1:
To handle the above use case, first we need to include **fields (Country, City and Support Rep) with appropriate values** in Incident Additional Fields and then add those field to any template (say, *Default Template*), as shown in the below image:

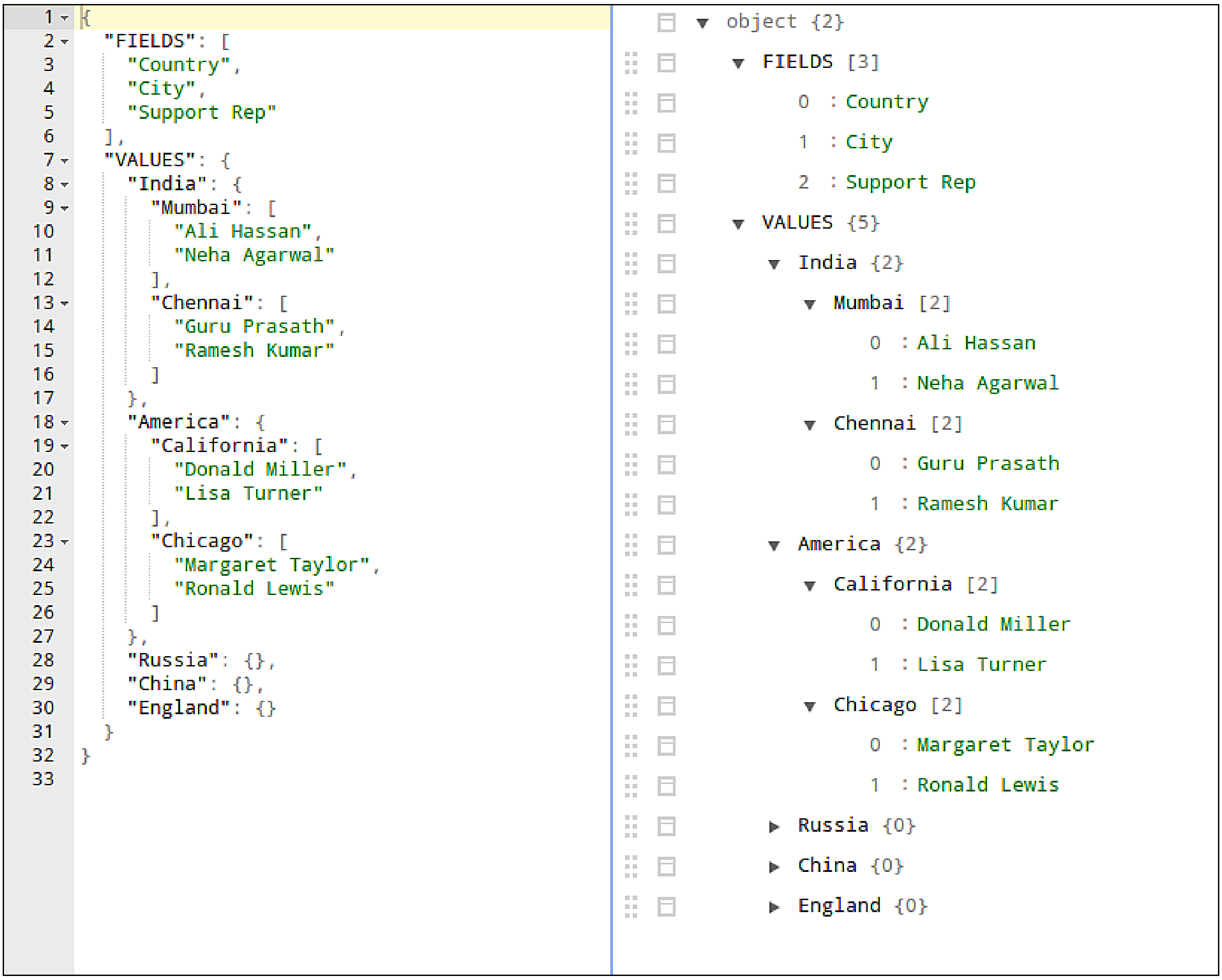


Step 2:

- Create a new rule under "**On Form Load**" event.
- As the dependency is being creating under "**On Form Load**" event, it gets created only when the form is loaded.
- Choose "**Applies to All Users**", so that the dependency will be applied to all users (**Technician as well as Requester**).
- Choose Rule Execution as "**On Create/Edit**", so that the dependency will be created on both request create and edit pages.
- Conditions can be left as empty, since we want the rule to be applied without any conditions (since dependency is applicable in all scenarios).
- Under **Actions**, select the action as "**Execute Script**" and this will provide a link as "**Write Custom Script**".
- Click "**Write Custom Script**" and this opens a script editor pop up.
- Go to **Dependency Example** under **Sample Script**. Copy the complete code (you can skip comments), paste it to the Script Code area and save the script.



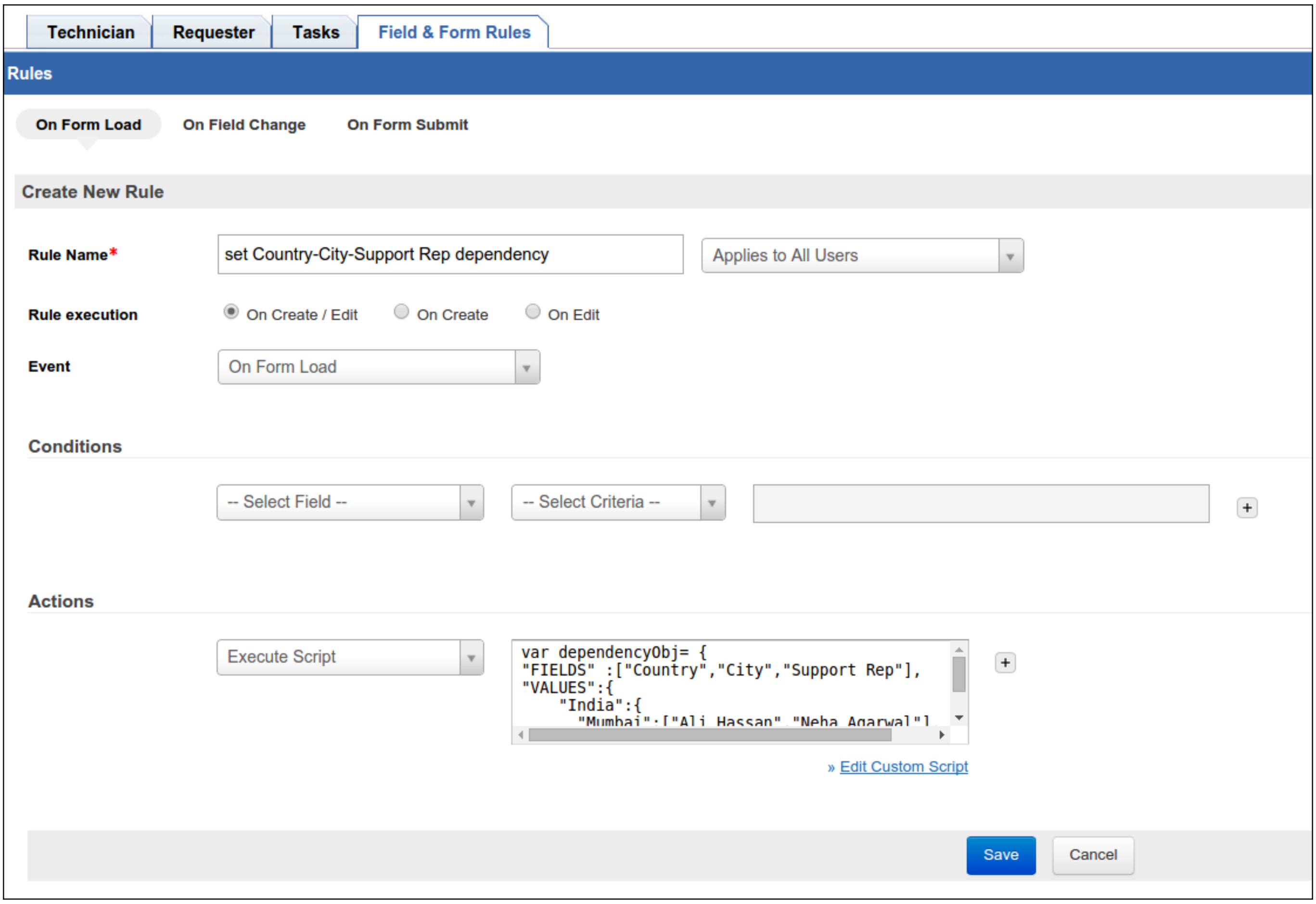
The Format for dependency object is explained in the below screenshot:



Here, the dependency should contain a **FIELDS** array and a **VALUES** object, where the FIELDS array should contain the fields for which the dependency should be created and where the (i)th element in the array should be depended on (i-1)th element, and so on..

Example: The **City** field options depend on value of **Country** and the **Support Rep** field options depend on value of the **City** field.

The **VALUES** object should contain field values, as shown in the below image. (**NOTE**: All the field labels and values are case sensitive)



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Case II : On Form Load Event example

a) Applicable to requester and executes on request creation:

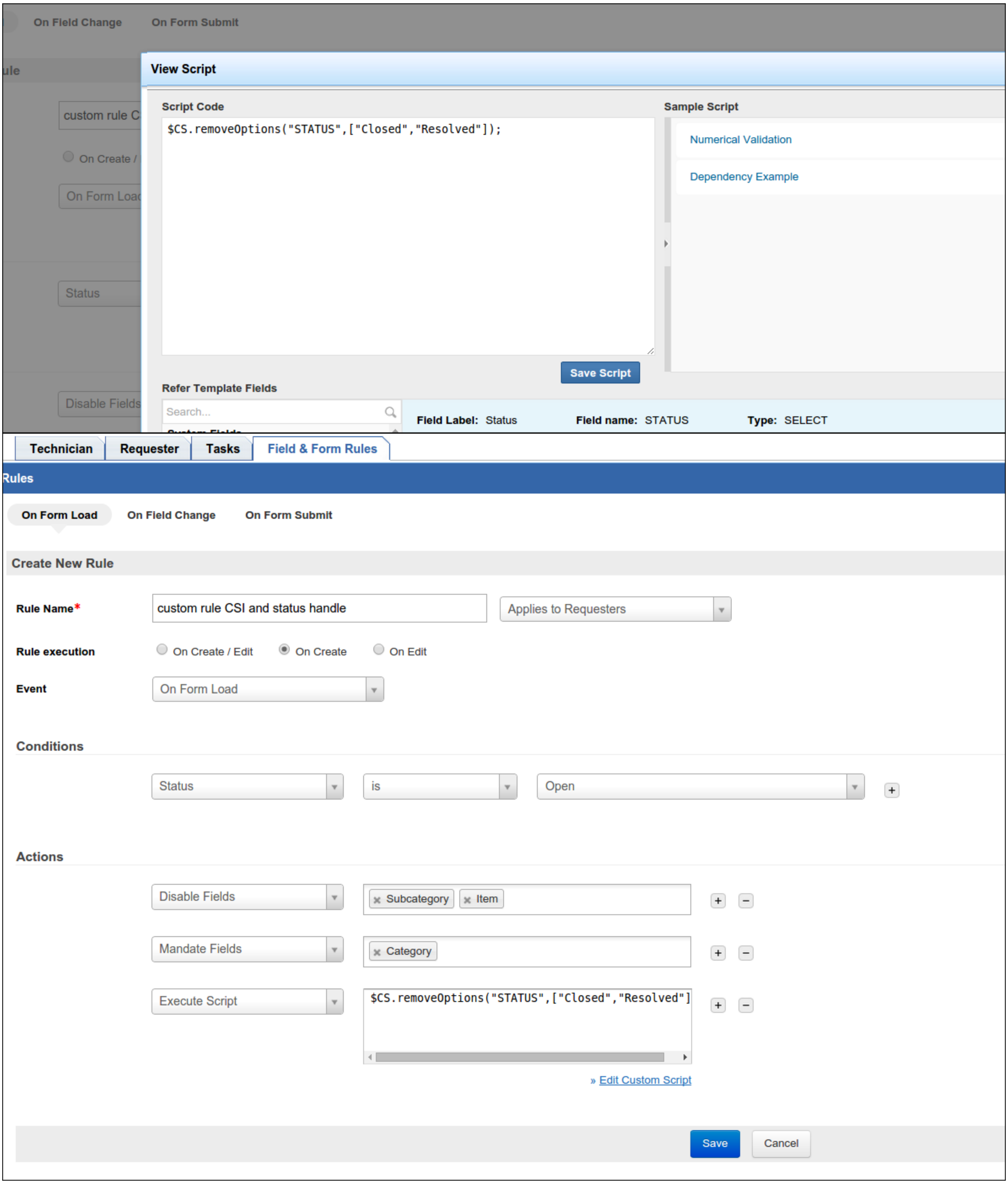
Scenario:

- Remove "**Resolved**" and "**Closed**" statuses from the **Status** Field when the Status is **open**.
- Disable the **Subcategory** and **Item** fields.
- Mandate the **Category** field.

Steps:

- Create a new rule under "**On Form Load**" event with name (say, "*custom rule CSI and status handle*").
- Set Rule Execution as "**On Create**".
- Set as "**Applies to Requesters**".
- Under **Conditions**, add a condition as **Status is Open**.
- Under **Actions**, add an action as **Disable Fields**: Subcategory, **Item**.
- Add another action as **Mandate Field**: Category.
- Add another action as **Execute Script** and add script code to remove the "**Closed**" and "**Resolved**" options from the **Status** field.

- Remove the "**Resolved**" and "**Closed**" statuses from the Status field using **Custom Script**, as shown in the below image.



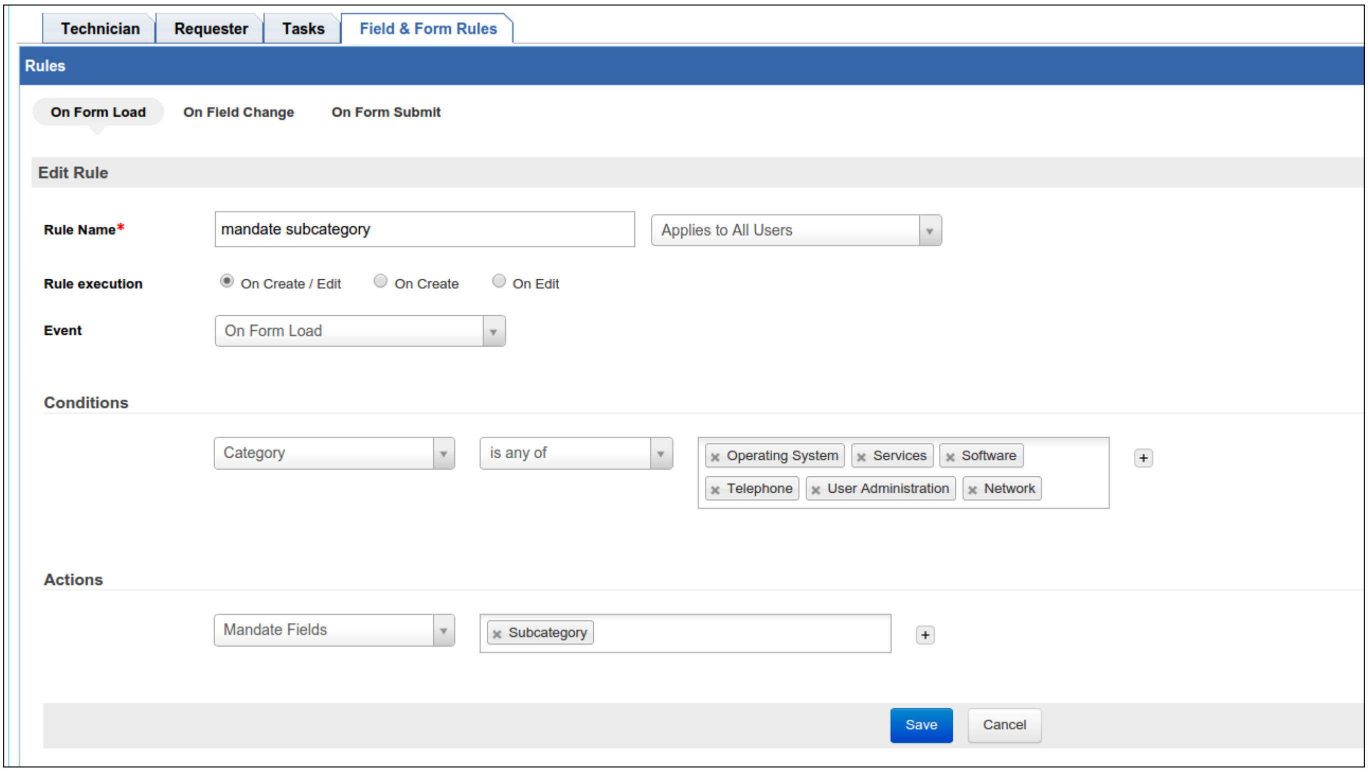
b) Applicable to technician and executes on editing request:

Scenario:

Mandate **Subcategory**, if the category is any of Network, or Operating System, or Services, or Software, or Telephone. or User Administration.

Steps:

- Create a new rule under "**On Form Load event**" (say, *mandate subcategory*).
- Set as "**Applies To Technicians**".
- Set Rule Execution as "**On Edit**".
- Under **Conditions**, add a condition as Category is any of "Network" or "Operating System" or "Services" or "Software" or "Telephone" or "User Administration".
- Under **Actions**, add an action as **Mandate Field**: Subcategory.



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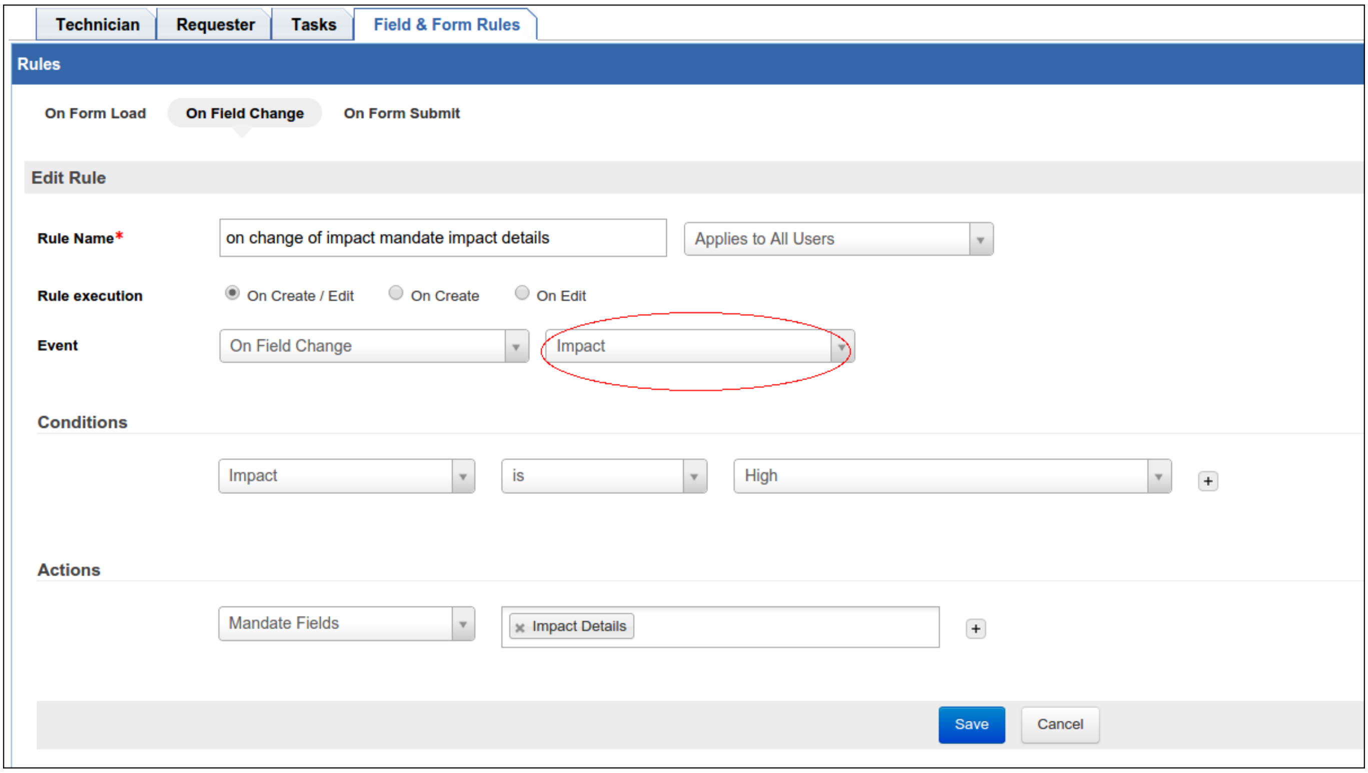
Case III : On Field Change Event example

a) Applicable to All Users and On Create/Edit as Execution Operations:

Scenario:
On change of **Impact** field, mandate the **Impact Details** Field.
Steps:

- Create a new rule under "**On Field Change**" event (say, "*on change of impact mandate impact details*") .
- Select "**Applicable to All Users**".
- Select "**On Create / Edit**".
- Select the **Field** as "**Impact**", as shown in the below image:
- Under **Conditions**, add a condition as **Impact is High**.
- Under **Actions**, add an action as **Mandate Field**: Impact Details
- Save the Rule.



b) Applicable to Technicians and On Create/Edit as Execution Operation:

Scenario:

If **Level** selected is **Tier 4,** mandate the **Priority** and **Impact** fields.

Steps:

- Create a new rule under "**On Field Change**" event (say, "*Tier 4 Level*") .
- Select "**Applies to Technicians**".
- Set Rule Execution as "**On Create / Edit**".
- Select **Field** as "**Level**".
- Under **Conditions**, add a condition as **Level is Tier 4**.
- Under **Actions**, add an action as **Mandate Fields Priority, Impact**.
- Save the Rule.

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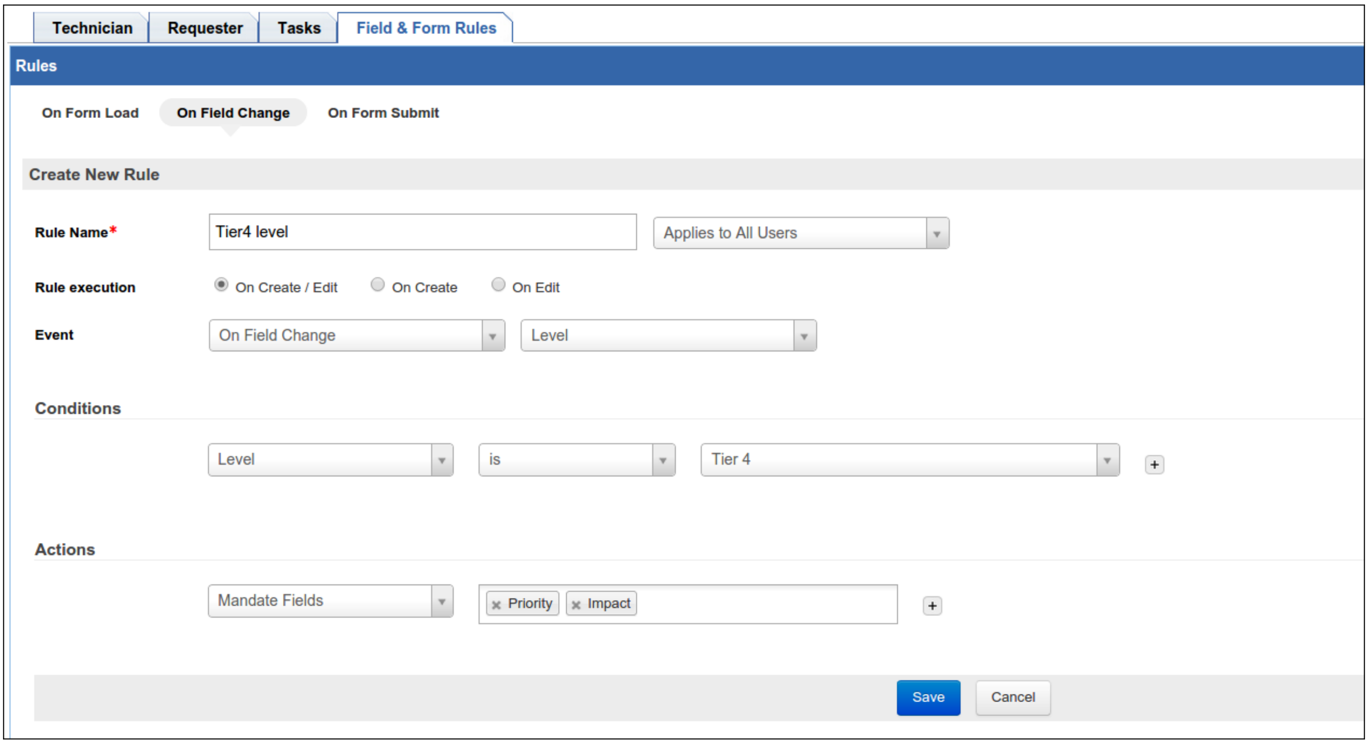

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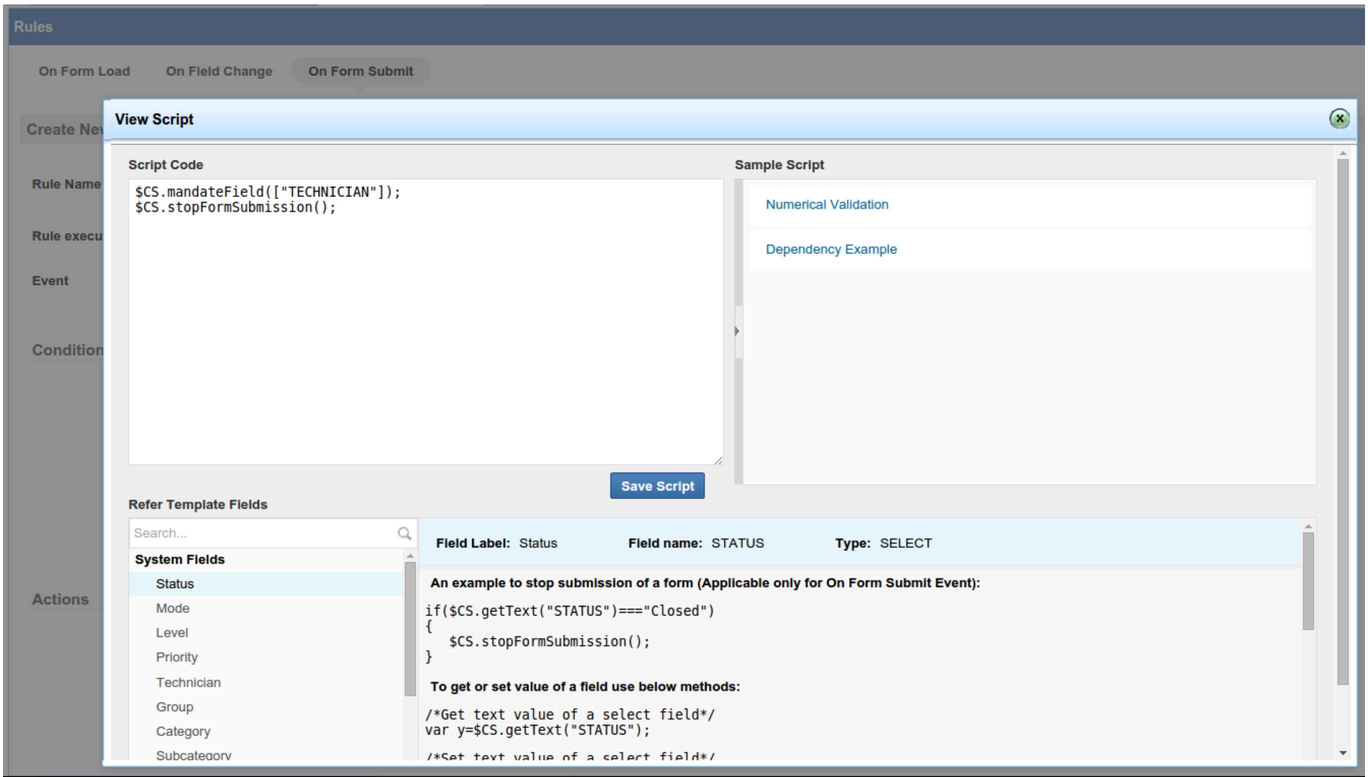
Case IV : On Form Submit Event example

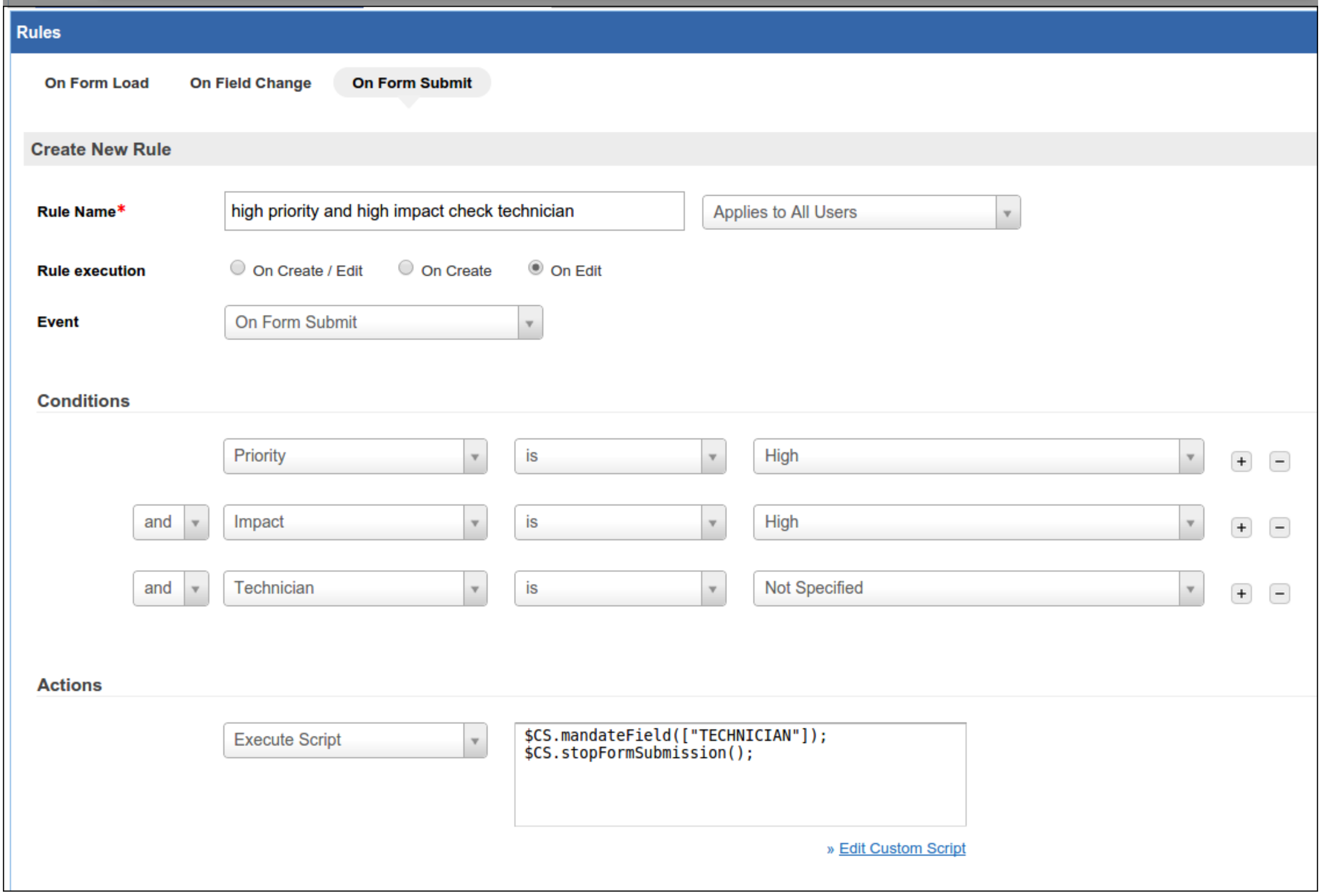
Scenario:

- If **Priority** and **Impact** are **High** and Technician is not allocated/available, then stop the form (request) submission and mandate the **Technician** field.
- Applicable to all users and for edit request operation.

Steps:

- Create a new rule under "**On Form Submit**" event (say, "*high priority and high impact check technician*")
- Set as "**Applies to All Users**".
- Set Rule Execution as "**On Create/Edit**".
- Under **Conditions**, add the conditions: **Priority is High**, **Impact is High** and **Technician is Not Specified**.
- Under **Actions**, open the script editor pop up by clicking the "**Write custom script**" link.
- Write a script to mandate the **Technician** field and stop the form submission, as shown in the below image.
- Save the script and the rule.





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Field And Form Rules - Supported JavaScript Functions

We have added **jQuery** and **$CS** in the global scope, allowing the user to write code by using jQuery (v 1.8.3) and the $CS library.

You cannot use $ to access elements that use **jQuery**.

JavaScript Functions in the $CS Library

Requirement	Function	Examples	Remarks

Get Field Values	$CS.getValue(field)	• var statusId=$CS.getValue("STATUS");
		• var subject= $CS.getValue("SUBJECT");
		• var created_date=$CS.getValue("CREATEDDATE"); //This will return a JavaScript Date Object
		• var additional_hardware=$CS.getValue("RES_3_QUS_3"); //For checkbox type resource fields returns an array of selected resources
			To retain the existing checked resources, store them in an array and add resources to it. Then, set the resource field by using this updated array.

Get Requester Field Values	$CS.getValue(field.attribute)	• var email_id=$CS.getValue("REQUESTER.EMAILID"); • var department=$CS.getValue("REQUESTER.DEPARTMENT"); • var job_title=$CS.getValue("REQUESTER.JOBTITLE"); • var mobile_number=$CS.getValue("REQUESTER.MOBILE"); • var phone =$CS.getValue("REQUESTER.CONTACTNUMBER"); • var requester=$CS.getValue("REQUESTER"); • var employeeID=$CS.getValue("REQUESTER.EMPLOYEEID"); • var site=$CS.getValue("REQUESTER.SITE"); • var is_vipuser=$CS.getValue("REQUESTER.ISVIPUSER"); • var user_name=$CS.getValue("REQUESTER.USERNAME"); • var userID=$CS.getValue("REQUESTER.USERID"); • var login_name=$CS.getValue("REQUESTER.LOGINNAME"); • var domain=$CS.getValue("REQUESTER.DOMAINNAME");	
Set a Field Value	$CS.setValue(field,value)	• $CS.setValue("STATUS","1"); • $CS.setValue("SUBJECT","test request"); • $CS.setValue("UDF_DATE1", new Date()); • $CS.setValue("RES_3_QUS_3", ["CD RW", "External Harddisk" , "Optical Mouse"]); //Will replace the existing resources with the provided input.	
Get Text	$CS.getText(field)	var status=$CS.getText("STATUS"); var impactdetail=$CS.getText("IMPACTDETAILS");	
Set Text	$CS.setText(field,text)	$CS.setText("STATUS","Open");	
Add Options	$CS.addOptions(field,options)	$CS.addOptions("STATUS",["Open","Closed"]);	Ensure that they are Pick Type fields and an array.
Remove Options	$CS.removeOptions(field,options)	$CS.removeOptions("STATUS",["Open","Closed"]);	Same as above.

Remove all options	CS.removeAllOptions(fields)	$CS.removeAllOptions(["STATUS"]); // If all options of status field is removed, new request creation will not work. Since every request should have a status.
		$CS.removeAllOptions(["STATUS","PRIORITY"]);
			Same as above.

Enable Fields	$CS.enableField(fields)	$CS.enableField(["LEVEL","PRIORITY","URGENCY"]);	
Disable Fields	$CS.disableField(fields)	$CS.disableField(["LEVEL","PRIORITY","URGENCY"]);	
Hide Fields	$CS.hideField(fields)	$CS.hideField(["LEVEL","PRIORITY","URGENCY"]);	
Show Fields	$CS.showField(fields)	$CS.showField(["LEVEL","PRIORITY","URGENCY"])	
Mandate Fields	$CS.mandateField(fields)	$CS.mandateField(["LEVEL","PRIORITY","URGENCY"]);	
Make Fields Optional	$CS.nonMandateField(fields)	$CS.nonMandateField(["LEVEL","PRIORITY","URGENCY"]);	

Stop Form Submission	$CS.stopFormSubmission()	var status=$CS.getText("STATUS");
		if(status==="Closed"){
		$CS.stopFormSubmission();
		}	

Find Login Status of Requester	$CS.isRequester()		
Check for Technician Login	$CS.isTechnician()		
Find User Role	$CS.hasRole(role)	$CS.hasRole("SDAdmin");	
Find Logged-in User ID	$CS.getLoggedInUserName()	var userName= $CS.getLoggedInUserName();	

Set Field Dependency Object	$CS.setFieldDependency(dependencyObject)	var dependencyObj= {
		'FIELDS': [
		'Country',
		'City',
		'Support Rep'
		],
		'VALUES': {
		'India': {
		'Mumbai': [
		'Ali Hassan',
		'Neha Agarwal'
		],
		'Chennai': [
		'Guru Prasath',
		'Ramesh Kumar'
		]
		},
		'America': {
		'California': [
		'Donald Miller',
		'Lisa Turner'
		],
		'Chicago': [
		'Margaret Taylor',
		'Ronald Lewis'
		]
		},
		'Russia': {}
		}
		};
		$CS.setFieldDependency(dependencyObj);
			Here, the same function works for both two-field and three-field dependencies.
			
			This method is used to create dependency among additional fields only. The format for dependeny object should be as follows: The order of dependent fields should be provided in FIELDS array from right to left i.e. fields in FIELDS array at second position should be dependent on the field in the first position. In addition, options in VALUES should be in the array format for the right most field, whereas options in VALUES should be in the JSON Object format for all other fields. Provide correct casing for field's label and option's label. Otherwise, the dependency will not work properly. Please refer above example for dependency object format.

Set Tasks	$CS.setTasks(tasksArray)	$CS.setTasks(["templateTask1","templateTask2","templateTask3"]);	
Unset Tasks	$CS.unSetTasks(tasksArray)	$CS.unSetTasks(["templateTask1","templateTask2","templateTask3"]);	
Add Description	$CS.setDescription(description)	$CS.setDescription("Application crashes / hangs frequently in user environment causing instability for the system.");	
Get Description	$CS.getDescription()	var descriptionContent=$CS.getDescription();	
Disable Options	$CS.disableOptions(fieldId,options)	$CS.disableOptions("STATUS",["Open","Closed"]);	
Enable Options	$CS.enableOptions(fieldId,options)	$CS.enableOptions("STATUS",["Open","Closed"]);	
Check Field Visibility	$CS.isVisible(field)	var isPriorityFieldVisiable=$CS.isVisible("PRIORITY");	
Check Resource Edit Status	$CS.isEnabled(field)	$CS.isEnabled("PRIORITY");	
Check Mandatory Status	$CS.isMandated(field).	$CS.isMandated("PRIORITY");	

Errors during script execution will be displayed in the console.

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Task Template

Certain tasks need to be repeated by the technicians for different users and scenarios. With Task Template, repeated tasks can be pre-defined thus saving time on creating and assigning tasks to the technicians. Task Template can be applied while adding a task to a request, problem, and change.
To open the configuration page for a task template,

1. Click the Admin tab in the header pane.
2. In the **Helpdesk Customizer** block, Click Task Template. The list of available task templates is displayed.

Add Task Template

1. Click New Template button to open the Add-Task Template form.
2. Specify a unique name for the task in Template Name text field.
3. Specify the Title of the task in the field. The Template Name and Title are mandatory fields.
4. Enter a brief Description of the task template in the field provided.
5. Select the group to assign the task from Groups drop-down list.
6. The list of technicians associated to the selected Group is listed in Owner combo box. Select the Owner of the task.
7. Select the Status of the task, say Open or Closed, from the drop-down list.
8. Specify relevant comments for handling the tasks in the Comments text field.
9. You can mark the template as inactive on selecting the checkbox beside Mark Template as Inactive. The inactive template is marked in grey and does not get listed in the Add task form while adding tasks to requests, problem or change.
10. Click Save. To save and add another task, click Save and Add New.

Edit a Template

1. In the task template list view page, click on the Edit icon beside the template you wish to edit.
2. In the Edit-Task Template form, modify the changes mentioned while adding the task template.
3. Click Update. While editing, if you wish to add a new Task Template click Update and Add New button. At any point, if you wish to cancel the operation you are performing, click Cancel.

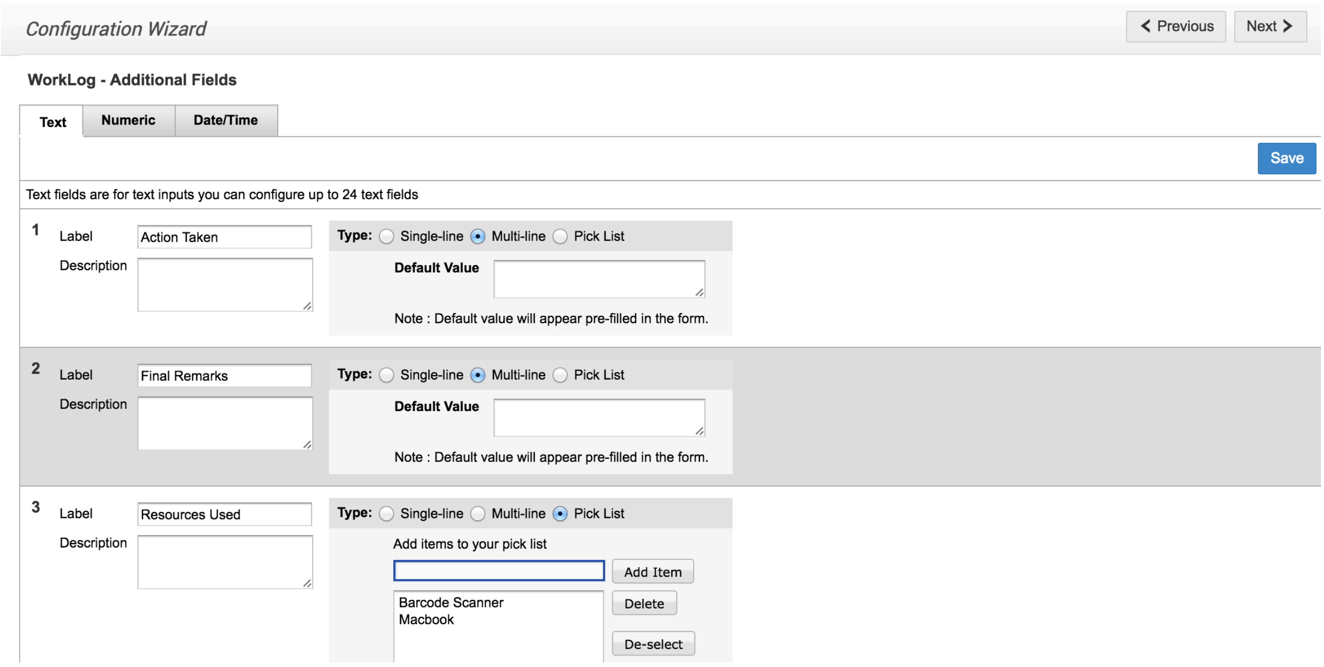
Delete Template

1. In the task template list view page, select the check box beside the template you wish to delete.
2. Click the Delete button. A confirmation message appears.
3. Click OK to continue. The task template is deleted from the list.

Worklog Additional Fields

Additional work log fields can be configured in the worklog form using the **Worklog Additional Fields** option. With this option new fields such as text fields, numeric fields and date/time fields can be added on top of the already existing default fields. To add these additional fields to the worklog form,

- Click on the **Admin** tab.
- Select **Worklog- Additional Fields** under the **Helpdesk** block.
- Worklog- Additional field configuration wizard page opens up.

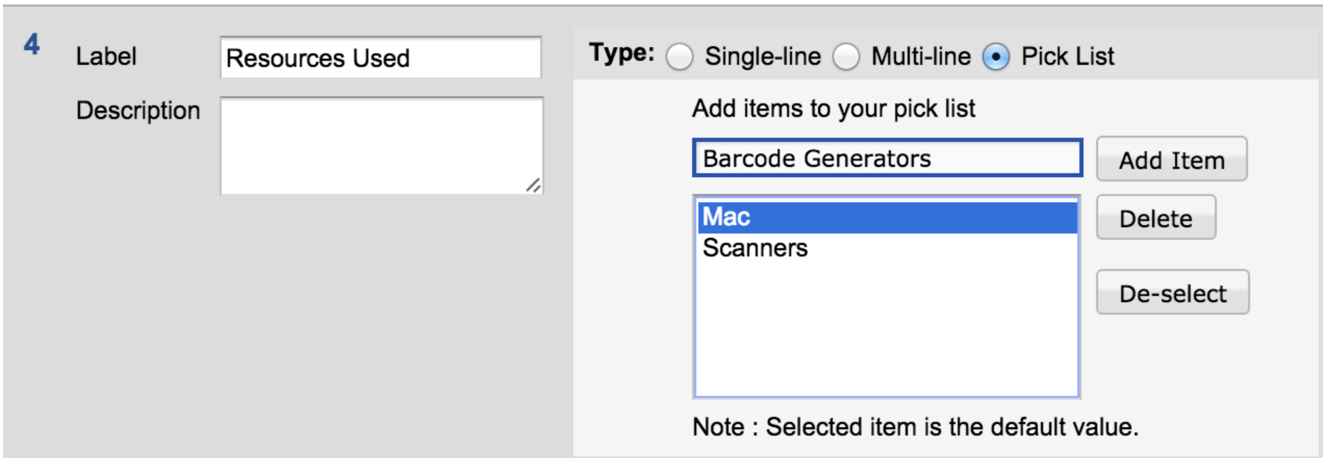


- Here you can choose to add text fields, numeric fields and date/time fields by clicking on the relevant tab

To add a **Text** field,

- Select **Text** in the in the tab.

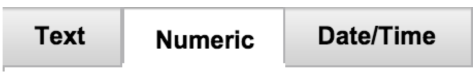
- Enter a label and a description for the field.
- Select a field type. It can be Single-line/Multi-line/Pick list type.
- Add default values for Single-line and Multi-line.
- For Pick list, add items to the pick list by typing the values and clicking **Add Item**.



- The highlighted item would be the default value in the field.
- Click **Save**.
- A maximum of 24 additional Text fields can be configured.

To add **Numeric** fields,

- Click on **Numeric** in the tab.



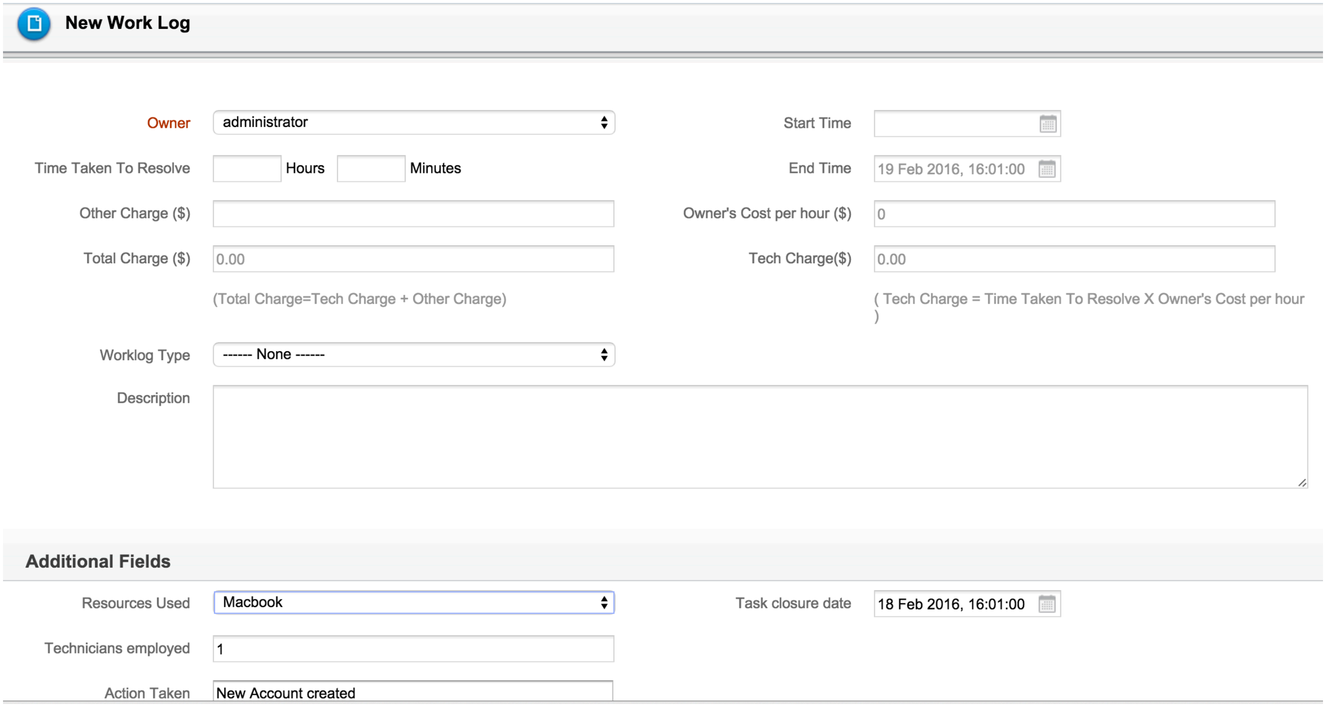
- Enter a label and description.
- Click Save.
- A maximum of 8 additional Numeric additional fields can be configured.

To add **Date/Time** fields,

- Click on **Date/Time** in the tab.

- Enter a label and a description.
- Click **Save**.
- A maximum of 8 additional Date/Time fields can be configured.

These additional fields will be displayed in the worklog form under tasks in **Requests** module.

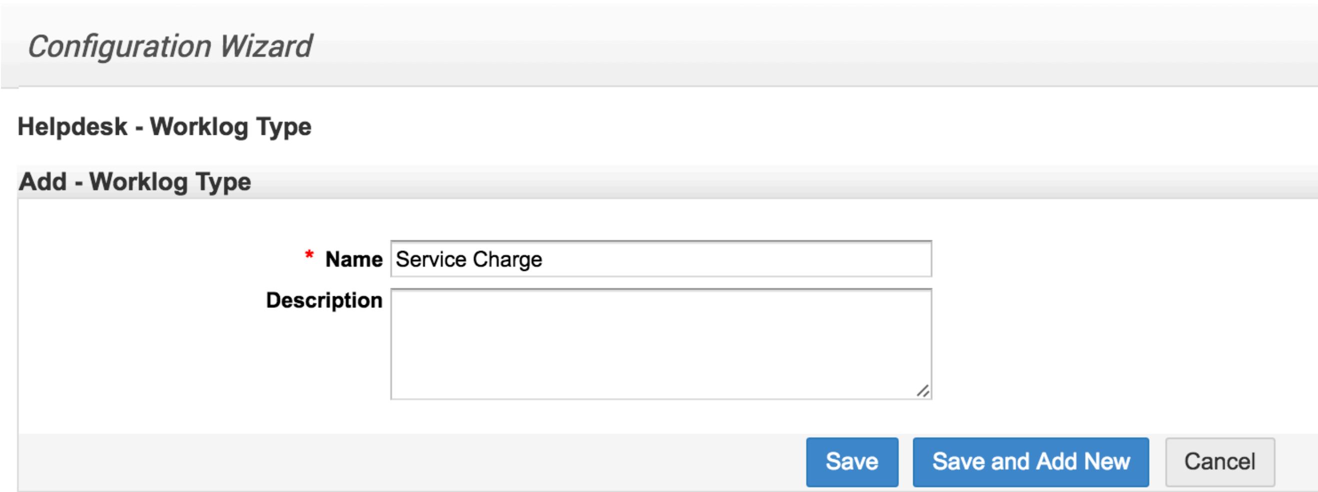


Worklog Type

New Worklog type can be configured with this option. Worklog Type is essential while creating a new work log.

To add a new worklog type,

- Click on the **Admin** tab.
- Click on **Worklog Type** under the Helpdesk block.
- Click on **Add Worklog type** in the Configuration wizard page.
- Enter a Name and a Description.



- Click on **Save**.
- Click on **Save and Add new** to save and add a new one.

Delete WorkLog Type

- From the **WorkLog Type List** enable the check box adjacent to the worklog type which you want to delete.
- Click **Delete** button. A confirmation message for the delete operation pops up.
- Click **Ok** to proceed. The worklog type gets deleted from the list.

Task Closing Rules

Task closing rules help administrators mandate task-related fields which they consider as significant for the task. When task closing rules have been setup, the technicians working on the task will have to adhere to these rules; else an error message will be displayed prompting them to fill the mandatory fields.
Example: If you have setup Worklog as mandatory field, the technicians will be able to complete tasks only after filling in the Worklog details.

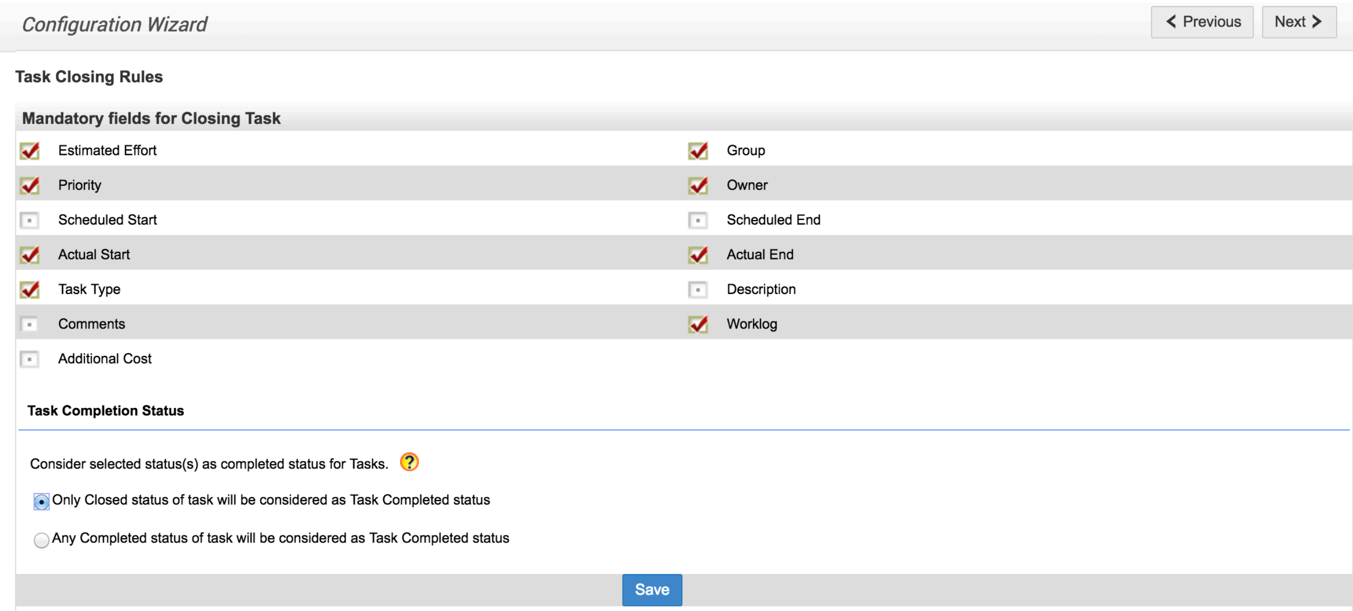
- Selecting Mandatory Fields
- Selecting Task Completion Status

Selecting Mandatory Fields

1. Click the **Admin** tab in the header pane.
2. From the **Helpdesk** block, select the **Task Closing Rules** option.This opens Task Closing Rules page.
3. Choose **Task Fields** which you wish to **mandate** by selecting the **corrosponding checkboxes**
4. **Save** them

Selecting Task Completion Status
While configuring Task Closing Rules, you are also provided with the option of **selecting the status** which will represent **Task Completion.**
You will be provided **two options** to choose from:

- **Only Closed status of task will be considered as Task Completed status:** Option selected by default. This follow the normal procedure of closing a task when its status is changed to **'close'**.
- **Any Completed status of task will be considered as Task Completed status:** Select this option will mean that a task will be closed when its status is changed to any **completed status** like **resolved, completed, closed** etc., (see: Status for more info on completed Status)


Configuration Wizard
Previous
Next
Task Closing Rules
Mandatory fields for Closing Task
Estimated Effort
Group
Priority
Owner
Scheduled Start
Scheduled End
Actual Start
Actual End
Task Type
Description
Comments
Worklog
Additional Cost
Task Completion Status
Consider selected status(s) as completed status for Tasks.
Only Closed status of task will be considered as Task Completed status
Any Completed status of task will be considered as Task Completed status
Save

<

Task Types

Task Types allow categorization of similar Tasks. For example, Tasks related to troubleshooting of various kinds can be grouped under Task Type "Troubleshooting". Such Task Categorization helps you to create Request, Problem, Change & Project specific task types for categorizing tasks as and when they are created.

1. Login to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Helpdesk Customizer block, Click **Task Types**. The resulting page displays the available list of Task Types. You can add, edit, or delete Task Types.

Add a Task Type

To add a Task Type,

1. In the **Task Type List View** page, click the **Add New Task Type** link at the top right corner. This opens the Add New Task Type form.
2. Enter the task type name in the **Name text field. The provided name has to be unique and cannot be duplicated. This is a** mandatory field.
3. If required, select the Color code to identify the task type by invoking the icon . The selected color has to be unique for every task type specified.
4. You can enter a short description about the task type in the **Description** field.
5. At any point, while creating or after, if you wish to disable task type, check **Inactive** checkbox.
6. Click Save. The new task type is added to the already existing list. At any point you wish to cancel the operation that you are performing, click **Cancel**. If you want to add more than one task type then, click **Save and add new** button. This adds the new priority and reopens the add task type form.

Edit a Task Type

To edit an existing task type

1. In the **Task Type List** page, click the edit icon beside the task type name that you wish to edit.
2. In the **Edit Task Type** form, edit the fields you want to change.
3. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Even while editing a task type, if you wish to add a new priority, then click **Save and add new** button instead of clicking Save button after making the changes.

Delete Task Type

1. From the **Task Type List** page, enable the check box beside the task type name that you wish to delete.
2. Click Delete button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed with the deletion. The task type gets deleted from the available list. If you do not wish to delete the task type, then click **Cancel**.

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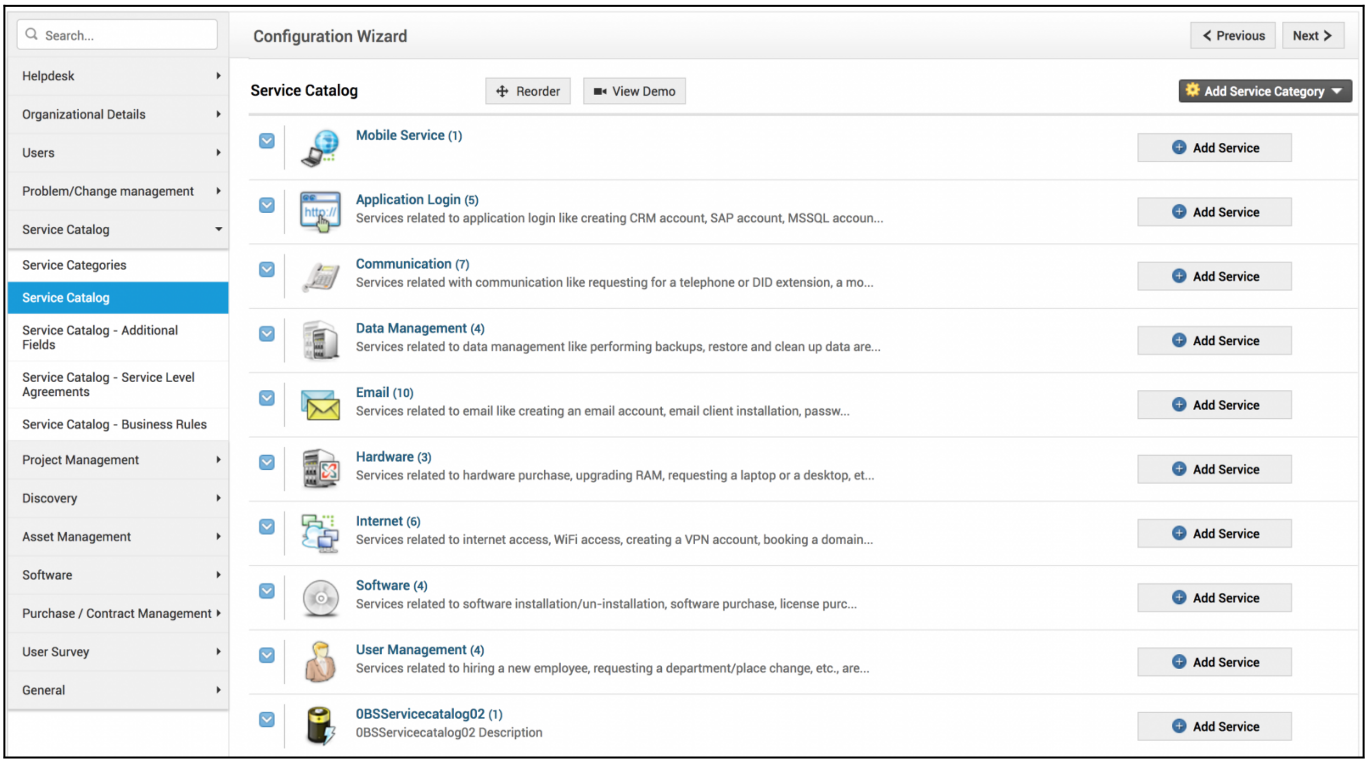
Service Catalog

Enterprises today seek for an approach to enhance and streamline the communication between IT and end-users. While the IT department has services and the users have needs, the manner in which the services must be exposed to the users is a crucial task. This is where Service Catalog in ManageEngine ServiceDesk Plus plays a vital role in your organization.
Service Catalog is where you can portrait the wide range of services offered by your IT department to the end-users. Some of the most common day-to-day IT services required by the users are, installation, relocation, internet access, email access, virus protection, provision of hardware and software, mail server, account management and so on. With the simplicity and clarity through which the services are exposed in ServiceDesk Plus allows users to easily browse through the services, raise requests instantly and monitor their status thereon.

To access the service catalog configuration wizard page,

1. Click the Admin tab in the header pane to open the configuration wizard page.
2. Click Service Catalog under **Service Catalog** block. The Service Catalog page opens listing the service categories available in the application.



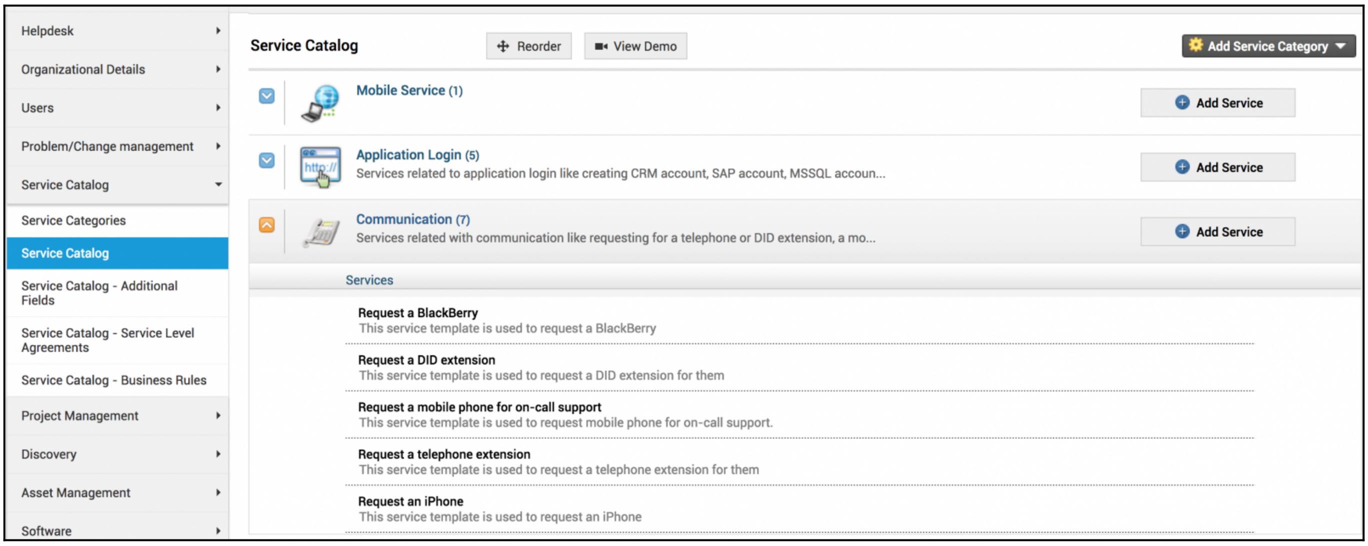
From this page, you can add new service category, manage the service items and also add services under each category. The number of services available is specified under each service category.

Getting Started
To start off with configuring your personalized Service Catalog, you need to first define Service Categories. Service Categories holds the classified group of service items and can be configured from the Manage drop down. You can get to the 'add service category form' by clicking the **Add Service Category** button. The configured Service Categories are displayed in the list view with an icon to depict its uniqueness.
From the Manage drop-down, you can also configure the Additional Fields and Service Level Agreement for the

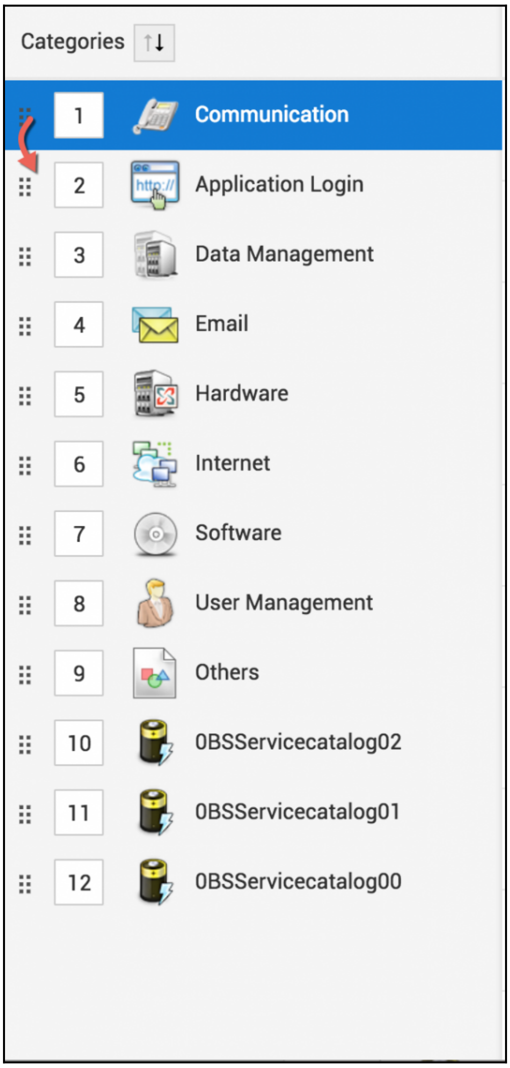
service requests. If the default parameters in the template do not contain key information that is relevant to your organization, then the same can be configured from the Additional Fields. Using Service Level Agreements, your help desk team effectiveness and efficiency can be determined.
Service Requests for a service category is configured using the Add Service button beside the category. The list of services under a service category can be viewed using the drop-down icon beside them, and on hovering over the services, the delete, edit and disable icons appear. Using these icons, the preferred operations can be performed.

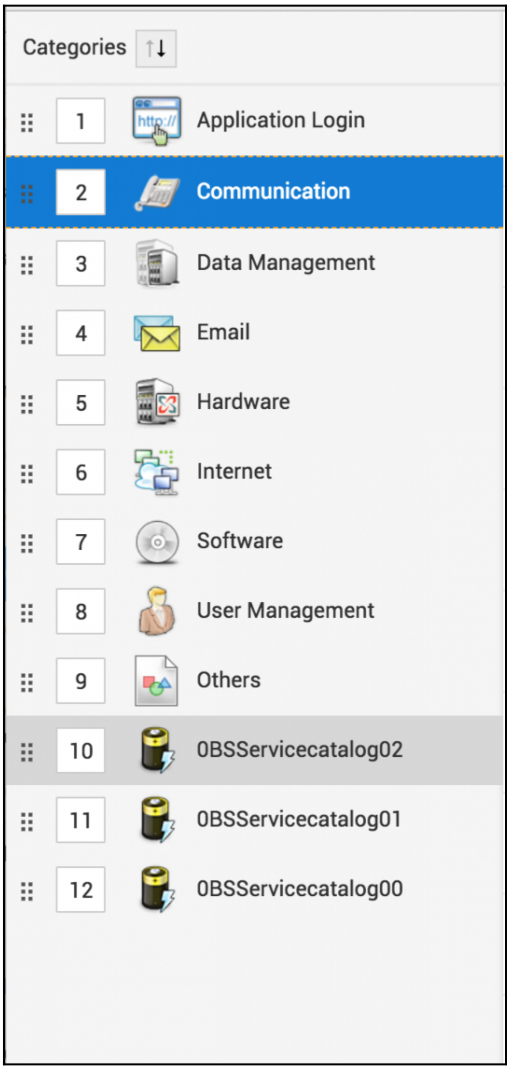
Representation of icons in Service Catalog list view screen,
- icon to delete a service item.
- icon to edit a service item.
- icon to disable a service item.
- icon to enable a service item.

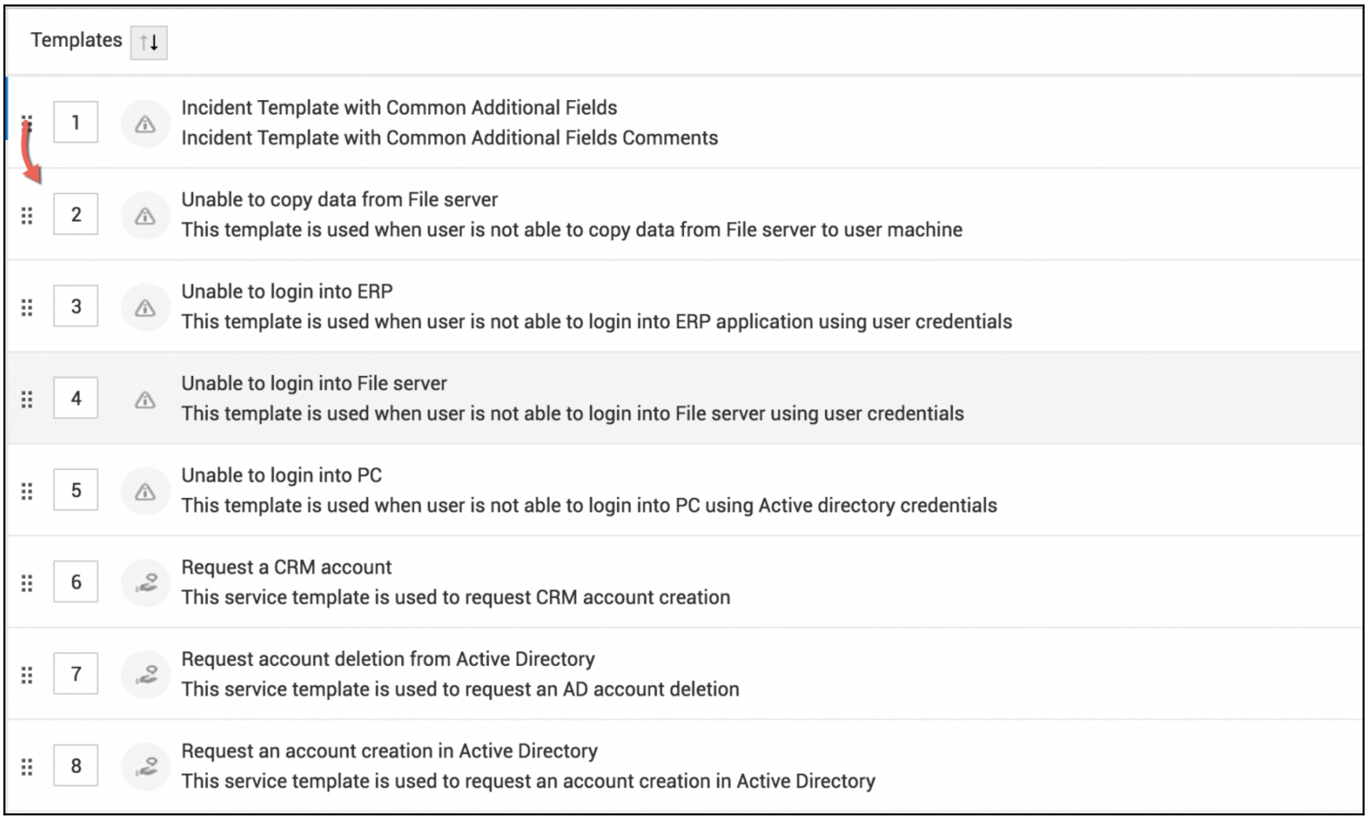
The configured service items are listed in the Service Catalog drop-down menu. With Service Catalog, services are easily accessed, facilitating users to browse for services, submit requests for IT services and monitor their status. Click **Service Catalog** drop-down menu to view the **Template Categories** and the **Template List**.



Reordering templates: You can now easily reorder the templates under each category or the categories themselves by using the Reorder option at the top.
Drag and drop the items where you want them to be. The below image shows how it's done.







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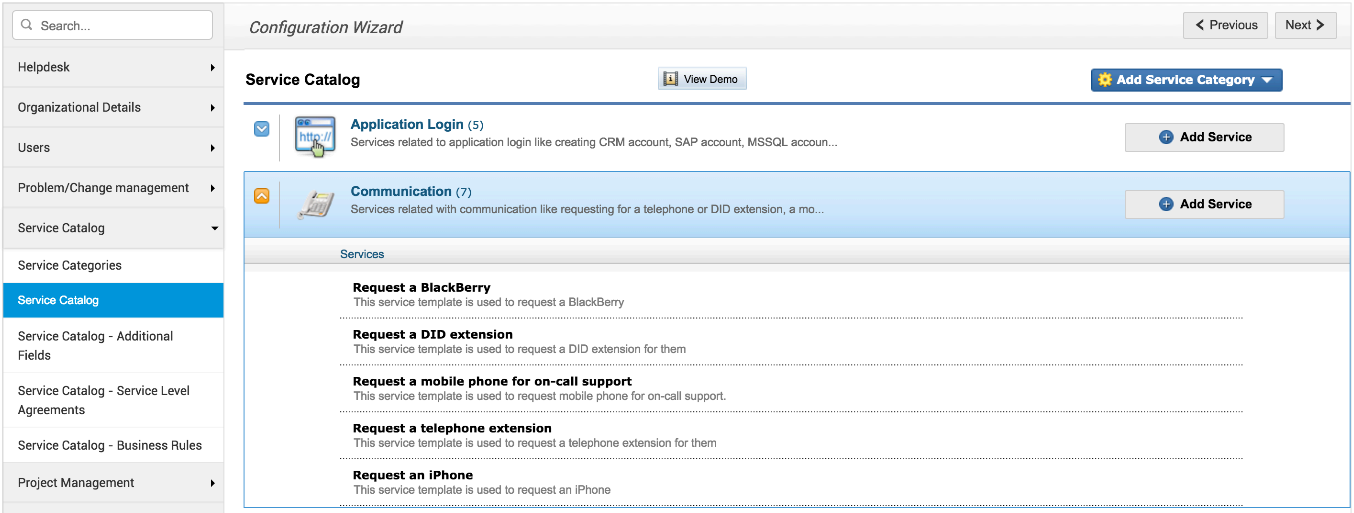
Service Catalog - Service Categories

Service Category is a comprehensive list of **IT Services** and the **Business Services** provided by the IT department to the end-users. Each service category has a classified group of service items which are exposed to user groups who are approved to access it.

To access the Service Category configuration page,

1. Click Admin module in the header pane. The configuration wizard page opens.
2. Click Service Catalog icon  under Helpdesk block.
3. From the Service Catalog configuration wizard page, click Manage drop down and select Service Categories option.



The Service Categories list view page lists all the IT Services and the Business Services. You can add, edit and delete a service category from this page. Apart from this, an instant means to get to the add service category form is by clicking the Add Service Category drop-down menu in the Service Catalog configuration wizard page

Adding Service Category

1. Click Add Service Category drop-down menu. You can add either an IT Service Category or Business Service Category. Select the appropriate option to view the add form.
2. Specify a Name for the Service Category. This field is mandatory.
3. Enter a brief Description about the IT service details in the field provided.
4. Set an Icon for the service category. You can choose the icon from the icon set or upload an icon. The Icon set consists of the icons available in the application, by default. To upload an icon, click Upload an icon link and browse through the icons.
5. Click Save to save the details and return to the list view. Click Cancel to return to the list view.

NOTE:

1. The default fields in the form such as, **Service Support Hours**, **Business Criticality**, **Department**, **Incident Restoration Target**, **Availability Target**, **Cost**, **Managed By** and **Business Impact** are configured while adding the Configuration Item Types. If you want to add or remove any of these fields then you can do so under **Admin** tab -> **Configuration Item Types**.
2. The newly added Service Category (either IT Service Category or Business Service Category) are listed as CIs in CMDB module.

Editing a Service Category

1. From the Service Category list view page, click on the edit icon beside the service category to edit. The Service Category page opens.
2. All the fields in the form are editable. Modify the necessary fields.
3. Click Save to save the details and return to the list view. Even while editing a service category you can add a new service category by selecting Save and Add New button. Click Cancel to return to the list view.

Deleting a Service Category

1. From the Service Category list view page, enable the check box beside the service categories to delete.
2. Click Delete button. A dialog box confirming the delete operation appears.
3. Click OK to continue. The service category is deleted from the list.

NOTE: If the service category is greyed instead of getting deleted, then the service category is being used by a module. Greying indicates that the service category will not be available for further usage. To bring a service category back to usage, click the **edit** icon beside the greyed out service category and deselect **Service not for further usage** check box.

Copying Service Templates

You can copy templates from the Service List to the Incident List and vice versa. The following steps are to be kept in mind while doing so.

1. Click on the 'Copy Template' tab in the Service Category list view page.
2. This will open a pop-up with a few options. The 'Copy Template from' option lists all the exisitng Service Templates. Choose the template you want to copy.
3. Now, choose the 'Template Type'. You can choose 'Service Template' if you want to copy the template within Service Category itself. If you want to copy the template to Incident template section, choose 'Incident Template.'
4. If 'Service Template' is chosen, select the 'Service Category' within which you want the template to be copied.
5. Use the 'Copy as' option to name your template.
6. Choose the number of copies you require. The maximum limit is set at 5.
7. Click on 'Copy' to copy the template. Click on 'Copy and edit' to edit the template after copying. In either case, the template is copied. Note: When copied from Service to Incident Workflow, resource(s) will be discarded.

You can follow the same procedure from the Incident Template page to copy templates from Incident List to Service category List.

Field and form rules will be copied only if the template is duplicated into the same type - service to service template.

Search Templates

You can use the search bar within 'Service Category' page to easily locate the templates within Service Category. Fill the search box and the results for your search will immediately be displayed.

Service Catalog - Additional Fields

While customizing the service request form, you may want to capture additional details about the service apart from the preset fields. The **Service Catalog - Additional Fields** is where you can configure additional fields for the service requests. You can configure additional fields for all the service requests (irrespective of the service category) or for service requests of specific service category. The different types of fields are, **Text** fields, **Numeric** fields, **Date / Time** fields and **Decimal** fields.

To add additional fields,

1. Click Admin tab in the header pane.
2. Click Service Catalog-Additional Fields from Service Catalog.
3. From the configuration wizard page, click **'Add Field'**.
4. Select the Service Category for which the additional field should appear. The common additional fields for Incident and Service requests can be viewed below the header pane. Click 'View List' to view the entire list.

Text Additional fields
If the additional fields are for alphabets and alphanumeric characters, then use the Text Additional Fields. You can add up to 24 Text fields in the New Incident form.

1. By default, the Text tab is selected. Specify the Label for the Additional field.
2. Specify any relevant information about the additional field in the Description text field.
3. You have 3 types of text field namely, **Single-line**, **Multi-line** and **Pick List** (drop-down menu).
   - **Single-line:** A Single-line text field is for text which can be accommodated in a single line. You can specify the **exact value of length** that should be entered for the field. The exact value of length can be anything from 1 to 250. Your text field can also be configured to support only numbers. For that, select **Allow only numbers** check box.
   - **Multi-line:** The Multi-line text field is for text which requires a lengthy description.
   - **Pick List (drop-down menu):** The Pick List or drop-down menu allows you to add a list of items from which you can select. To add the items, enter the value in the highlighted text field. Click **Add Item**. The value is added to the list. To delete an item, select the item and click the **Delete** button.
4. You can also specify the **Default Value** to appear in the new incident form.
5. Click **Save** button to save the settings.

Numeric Additional fields
If the additional fields are for only numeric characters, then use the Numeric Additional Fields. You can add up to 8 Numeric fields in the New Incident form.

1. Click the Numeric tab.
2. Specify the Label for the additional field.
3. Specify any relevant information about the additional fields in the Description text field.

4. You can specify the exact value of length for the numeric field in **Exact Value Length**. The exact value of length can be anything from 1 to 19.
5. Save the settings.

Date / Time Additional fields

If the additional fields are for data and time, then use the Date / Time Additional Fields. You can add up to 8 Date / Time fields in the New Incident form.

1. Click the Date/Time tab.
2. Specify the Label for the additional field.
3. Specify any relevant information about the additional fields in the Description text fields.
4. Click Save to save the settings.

Decimal Additional fields

If the additional fields are for Decimal characters, then use the Decimal Additional Fields. You can add up to 8 Decimal fields in the New Incident form.

1. Click the **Decimal** tab.
2. Specify the Label for the additional field.
3. Specify any relevant information about the additional fields in the Description text fields.
4. Click Save to save the settings. Note that while specifying the decimal value, the allowed length of digits for the integer part should be less than or equal to 13, and the allowed length of digits after the decimal is 2. If the value exceeds, then the value would be truncated and saved.

Note

Additional fields cannot be created with same names as that of Incident / Service Catalog Common Fields.

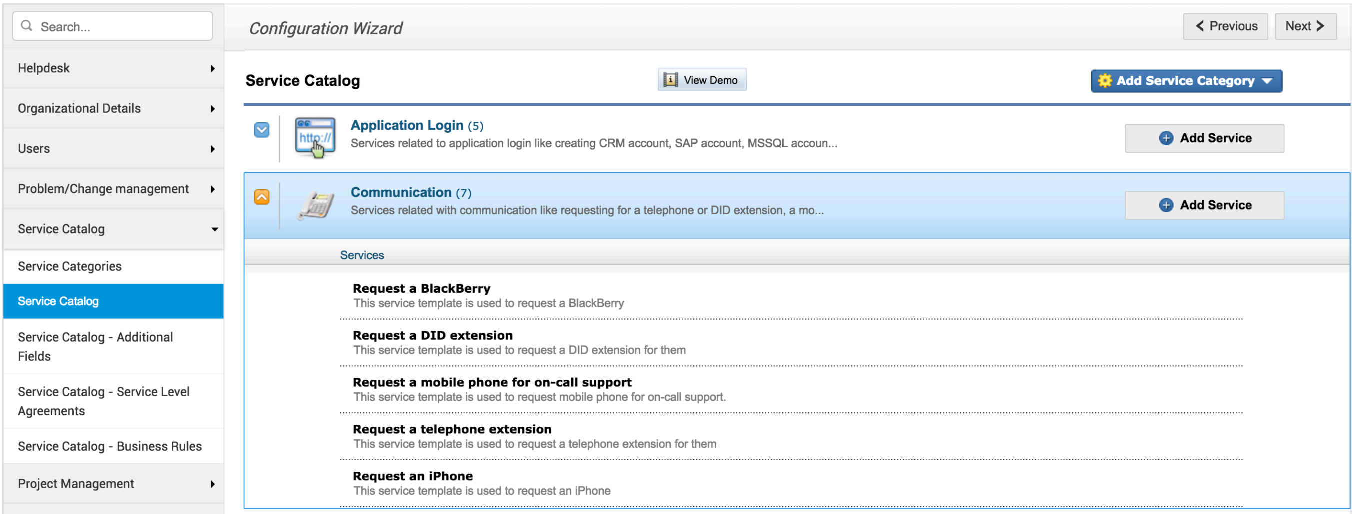
These additional fields will appear in the Service Fields section of the new service form. To delete the user-defined fields, instead of adding the label names, delete the existing label names you wish to remove from the fields of the form and click **Save**.

Service Catalog - Service Level Agreement

Service Level Agreement evaluates the efficiency, effectiveness and responsiveness of the help desk team. The services created in the application can be exclusively assigned with specific SLAs thereby setting a due by date for the service requests. Escalation rules can also be set if the request is not attended and resolved within the specified time.

To access the SLA configuration wizard page,

1. Click Admin tab in the header pane. The configuration wizard page opens.
2. Click Service Catalog icon  under Helpdesk block.
3. From the Service Catalog configuration wizard page, click Manage drop down and select Service Level Agreements option. The SLA List page appears from where you can add, edit and delete a SLA.



Adding SLA

1. Click Add New SLA link. The SLA form has three blocks of information, namely SLA Details, SLA Rules, and Escalations.
2. The SLA details consist of the SLA name and description.
   1. SLA Name uniquely identifies the SLA. It is a mandatory field.
   2. You can provide a brief explanation of the SLA in the Description field.
3. SLA Rules is where you need to set the Agreed Upon Time (due by time) for the service request. Enter the agreed upon time in terms of days, hours and minutes. If the service request should be fulfilled irrespective of the working hours and holidays, then enable Should be fulfilled irrespective of the operational hours check box.
4. **Response Time/Resolution Time:** You can use this option to set the first response time/resolution time limit for a request. Use the days, hours and minutes fields to fix a time limit within which the first response/resolution should be made for a request.
5. **Escalation**: Select an escalation level and an alternative technician to escalate the request, if the first response time/resolution time limit is exceeded. Choose an escalation time limit by setting either the escalate before time/days or escalate after time/days for both the response time and resolution time.

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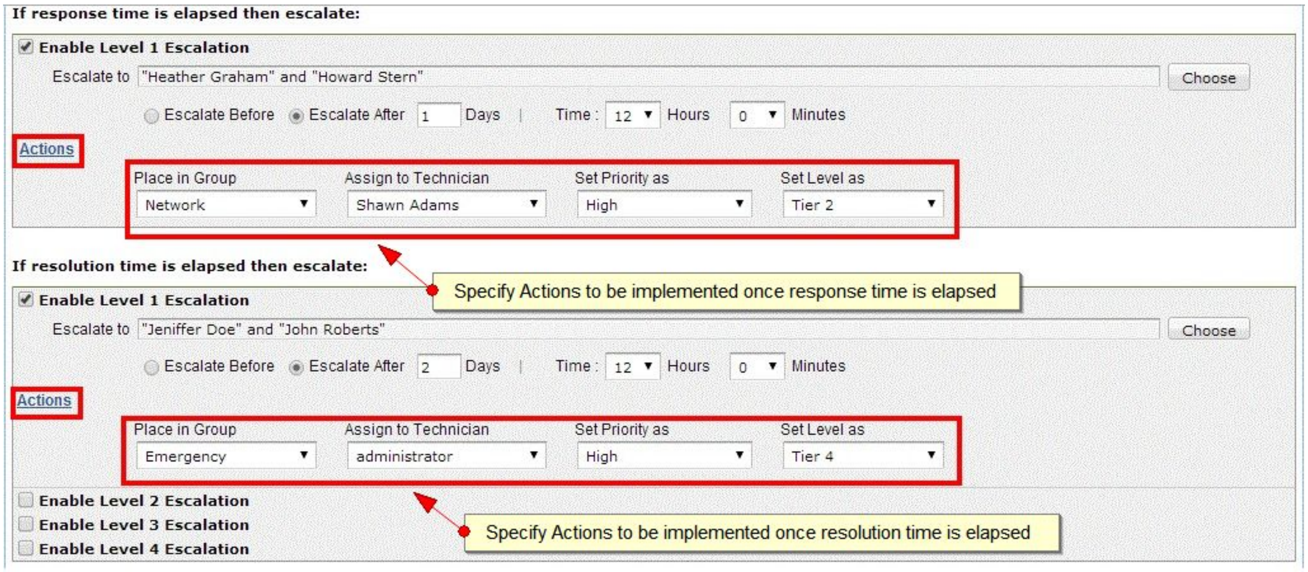
6. You can choose to escalate before or after the SLA violation.If you wish to escalate the request before the SLA violation, click Escalate Before option. This informs the technician about the impending of the violation. Specify the number of days before the SLA violation in the text box. You can also specify the time of escalation.
7. Click Escalate After option to escalate after the violation. Specify the number of days after the SLA violation has occurred in the text box. You can also specify the time of escalation.
8. Similarly, there are four levels of escalation when the resolution time is violated.
9. **Actions:** Actions helps to automatically categorize a request and assign it to a group and a specific technician during escalation.

   For eg, During a escalation you can select the request to be assigned to a group that has the sepcific technicians to supervise the request. Select the group from the group drop down, select the technicians from the technician drop down.



   Note: In the group drop down, the default support groups will be listed. Similarly in the technicians drop down, technicians who are not associated to any sites will be listed. Since its a requester based operation, escalation will be assigned to the groups that are associated to the requesters site.

   If both the group and technician mentioned are available for the particular site, then it will check for the availability of the technician under the group and the request will be assigned to the technician. If the mentioned group is not available, then the request will be assigned to the mentioned technician.

   New Priority and new Level can be assigned as well.
10. Click the Save button to save the SLA and return to the list view.

Click the Save and Add New button to save the SLA and add another SLA. Click View List to view the SLA list view page. To return to the Service Catalog configuration wizard page, click Go Back.

Editing SLA

1. From the Service Category list view page, click edit icon beside the SLA name to edit. The edit SLA page opens.
2. The fields, SLA details, SLA rules and escalations are editable. Modify the necessary details.
3. Click Save button to save the SLA and return to the list view. Even while editing, you can add a another SLA on clicking Save and Add New instead of the Save button. Clicking on Cancel takes you to the list view.

Deleting SLA

1. Enable the check box beside the SLA to delete.
2. Click the Delete button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed with the deletion. If you do not want to delete the SLA, then click **Cancel**.

NOTE: If the SLA is greyed instead of getting deleted, then the SLA is being used by a service request. Greying indicates that the SLA will not be available for further usage. To bring the SLA back to usage, click the edit icon beside the greyed out SLA and deselect **SLA not for further usage** check box.

Service Catalog - Service Items

The day-to-day IT services such as installation, relocation, internet access, email access, virus protection, provision of hardware and software, mail server and so on are configured under this section. The service items are classified and grouped under Service Categories, which are displayed in the Home page.
The Service Request form consists of a drag and drop template that should be configured in order to meet the end-user requirement. If the service involves the need of any resources, then the same can be configured under the Resource Info block. Furthermore, you can configure multiple stages of Approvals, set Service Level Agreement and assign Tasks for individual service request.

To configure Service Items,

1. Click the Admin tab in the header pane to open the configuration wizard page.
2. Click Service Catalog icon under Helpdesk block. The Service Catalog page opens listing the service categories available in the application.
3. Click Add Service button beside a service category to add service under it. The Add Service Item form opens to display three tabs namely, Form Designer, Workflow and Requester View. By default, the form Designer is displayed.

This following are explained under this section.

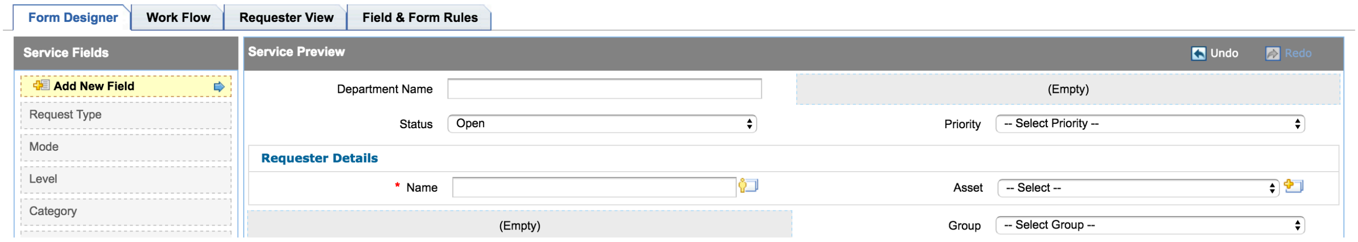
- Configuring Form Designer
    - Configuring Resource Information
    - Show to Requester option
- Configuring Workflow
    - Approver Details
    - SLA
    - Adding Tasks to service requests
    - Template Action
- Requester View
- Enabling/Disabling Service Item
- Editing Service Item
- Deleting Service Item

Configuring Form Designer
To add services under a service category,

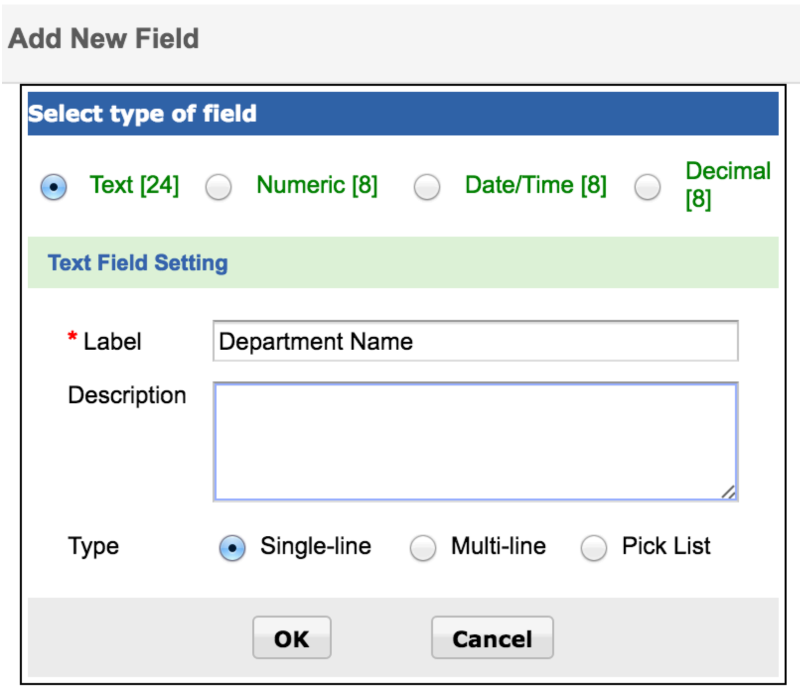
1. Click Add Service button beside the service category. The service request for Technician View appears consisting of the Header, Service Fields and Service Preview.

- **Header**: The header consists of the Service **Name and Description.**
- **Service Field**: The service fields consist of the list of available parameters and an option to add new fields for the service item.
- Service Preview: The service preview decides the form look and consists of drag and drop template area, the Undo and Redo options, **Resource Info** block and **Show to Requester** check box. With the template, individual forms can be customized for each service by dragging the available service fields into the service preview form, remove fields from the form, set the field property and also rearrange fields in the form.

2. To add a new field in the form, drag Add New Field option in the service preview form. Place the field only in the yellow highlighted area of the form.



   1. An Add New Field pop up appears where you can select the type of field to be added in the canvas. The field can be text, numeric or Date/Time field.



   2. Specify a unique Label in the field provided. This field is mandatory. Also, enter the significance of the field in the Description text field.
   3. For Text field, select the field type from Single-line, Multi-line or Pick-list. Enable any one of the radio button.
   4. Click Ok to add the field in the canvas with the above specifications.

4. The newly added fields are common for all the service items under a service category. Alternatively, you can also add new fields in Additional Field. From this section, you can also edit and delete the additional fields.
5. Similarly, you can drag the Service fields onto the service preview form. If required, the fields in the service

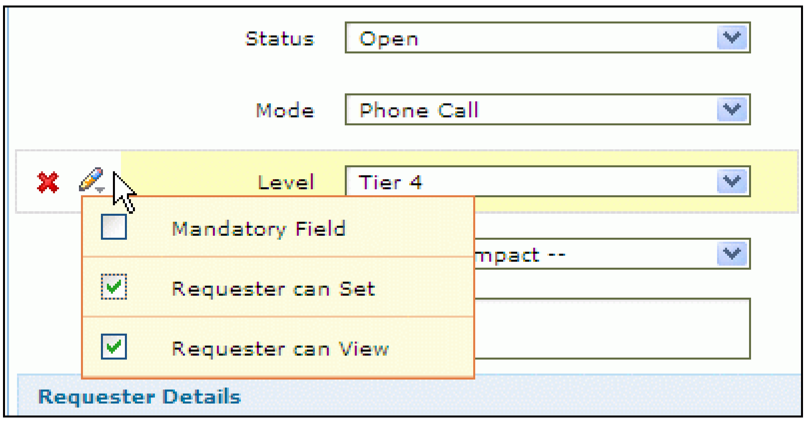
preview form can be rearranged by dragging the field and placing it over the yellow highlighted area.

6. While raising a service request, the IT team would be well assisted if all the required information is provided in the form. But usually that may not be the case. The service request may be raised with half-filled information and may require a user to edit and provide the remaining details.

   The **Editor**, mostly a requester, can be configured for a service request by dragging the Editor Field onto the service preview. When this service request is raised with the Editor Field filled, the status of the request is automatically moved to **On Hold**. The **On Hold** status states that the service request is waiting for further update from the editor. Refer the topic Service Request Editor to know more about the Editor field.
7. While rearranging the fields, if you want to Undo/Redo a change, click the corresponding button.
8. You can also add or select the default values to appear in the form.
9. To customize and remove undesirable fields in the form, hover over the field, the Edit Field Properties icon and the Remove Field icon appears.
   1. Click Edit Field Properties icon . A drop down containing the following options appears,

- Mandatory Fields: Enabling this option sets the field as mandatory.
- Requester can set: Enabling this option allows the users to edit the field, i.e., they can enter or select values for the field while raising a new service request. Enabling this option automatically enables 'requester can view' check box.
- Requester can view: Enabling this option alone allows users to view the field in the service request form but they cannot enter values for the field while raising a service request.

   2. Click Remove Field icon to remove the fields from the service preview form. The fields detached from the form are listed in the Service Fields block.



NOTE	1. If the Item field is marked as mandatory then the corresponding Category and Sub category will be automatically marked as mandatory. Similarly, if the Impact details are marked as mandatory then the Impact field will also be marked as mandatory. 2. The fields such as Requester Details, Subject and Site do not have Edit Field Properties icon and hence these fields can only be re-arranged. 3. Fields such as Status, Description, Requester Details, Site and Subject do not have Remove Field icon.

8. Save the service before proceeding to the Resources block.

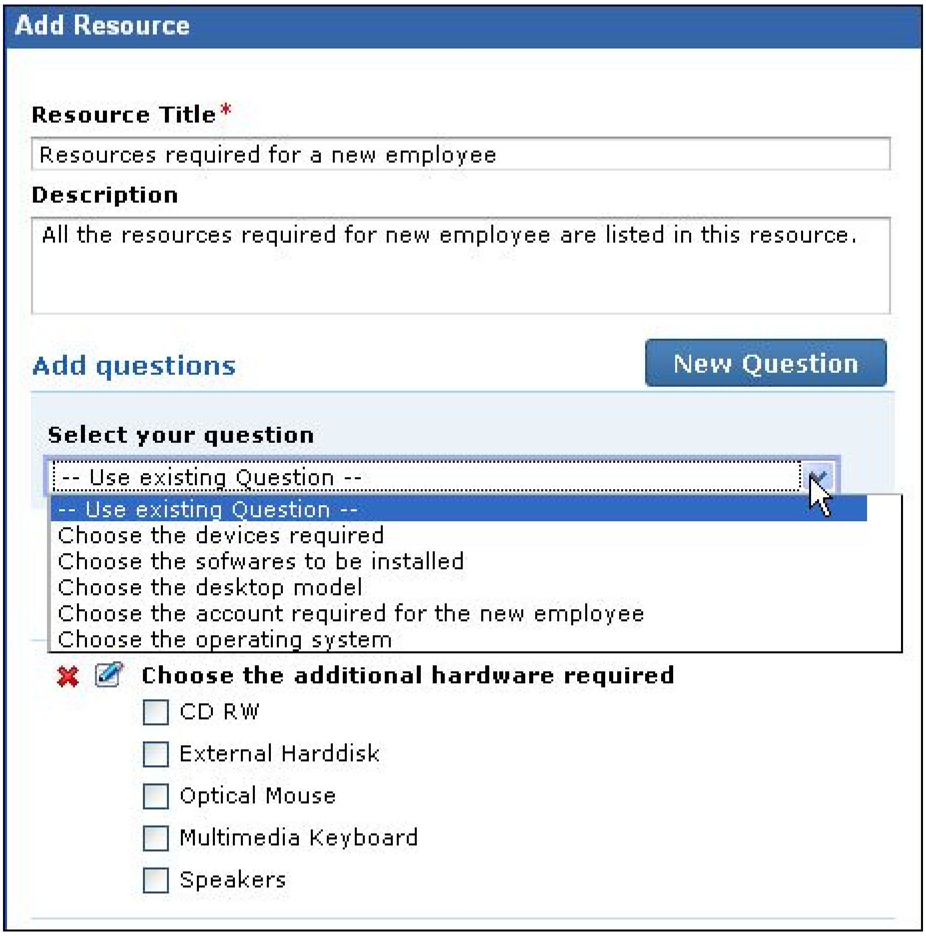
Configuring Resource Information

If the service involves any resources then you can mention them under the Resource Info block. The process of adding resources involves a series of questions, and the resources can be displayed in either of the following formats - check box, drop down, plain text or with simple yes/no.
Take the case of a new employee joining your organization. The resources provided to the new employee would be, providing a desktop/laptop, installing the necessary software, provision of any additional hardware resource, communication device, entry into application logins like Active Directory, VPN, Email, Payroll, CRM and so on. These resources are entered under Resource Info block of the service request.
To add resources,

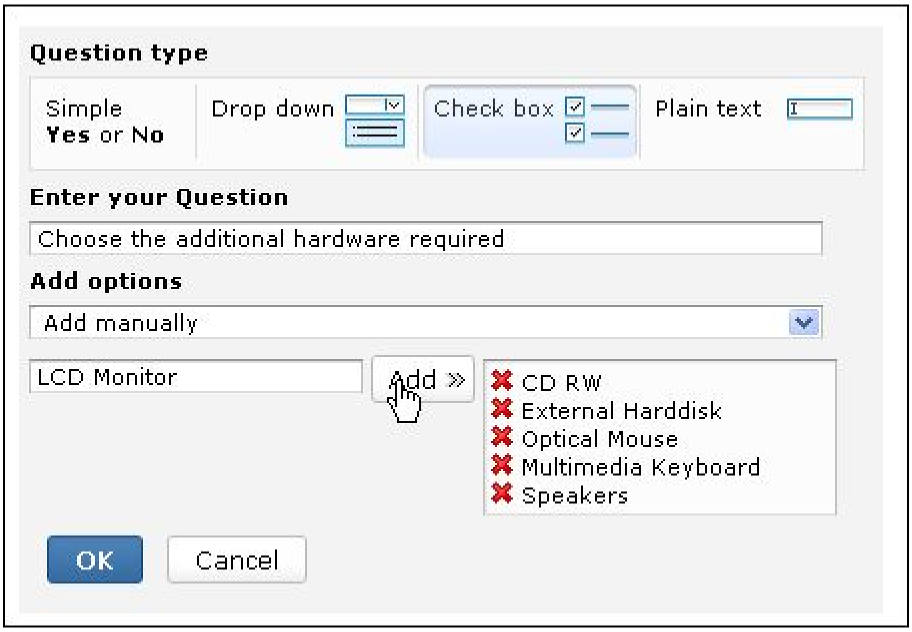
1. Click Add Resource button in the Resource Info block.
2. In the Add Resource pop up, specify the Resource Title and a brief Description on the purpose for adding this resource. The Resource Title is a mandatory field.
3. Next, you can either choose to select the question from the existing question list or create a new question.

   Selecting from existing question list:

   To select a question from the existing question list, use the Select your question drop down.

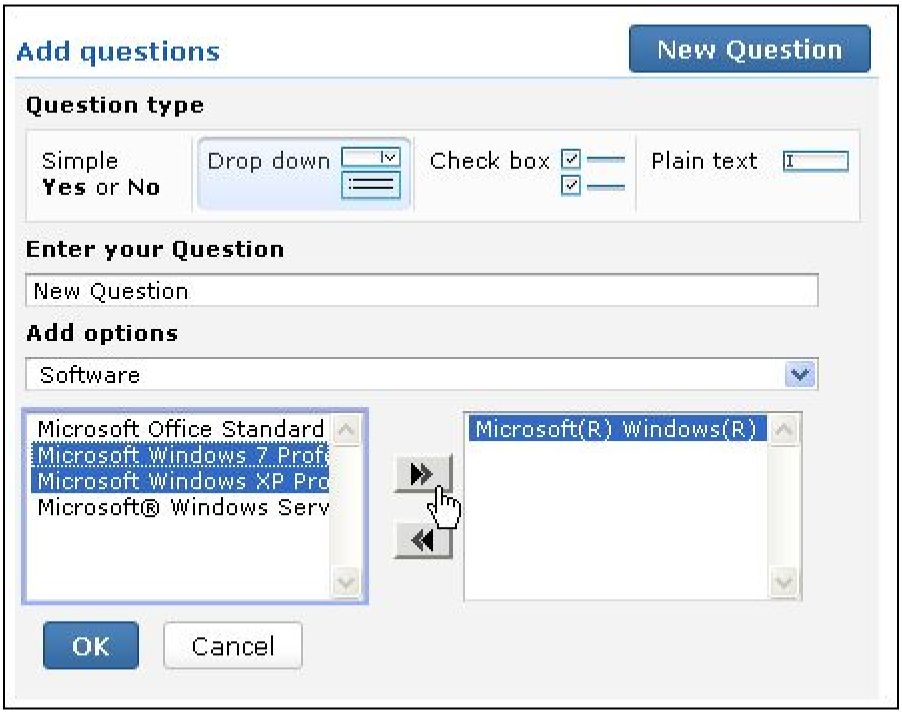


Select a question from the list, say "Choose the additional hardware required". The question is displayed along with an edit and delete icon. If you wish to add another additional hardware to the list, click on the edit icon . Enter your option and add it to the existing list as shown below. Click Ok to save the question.



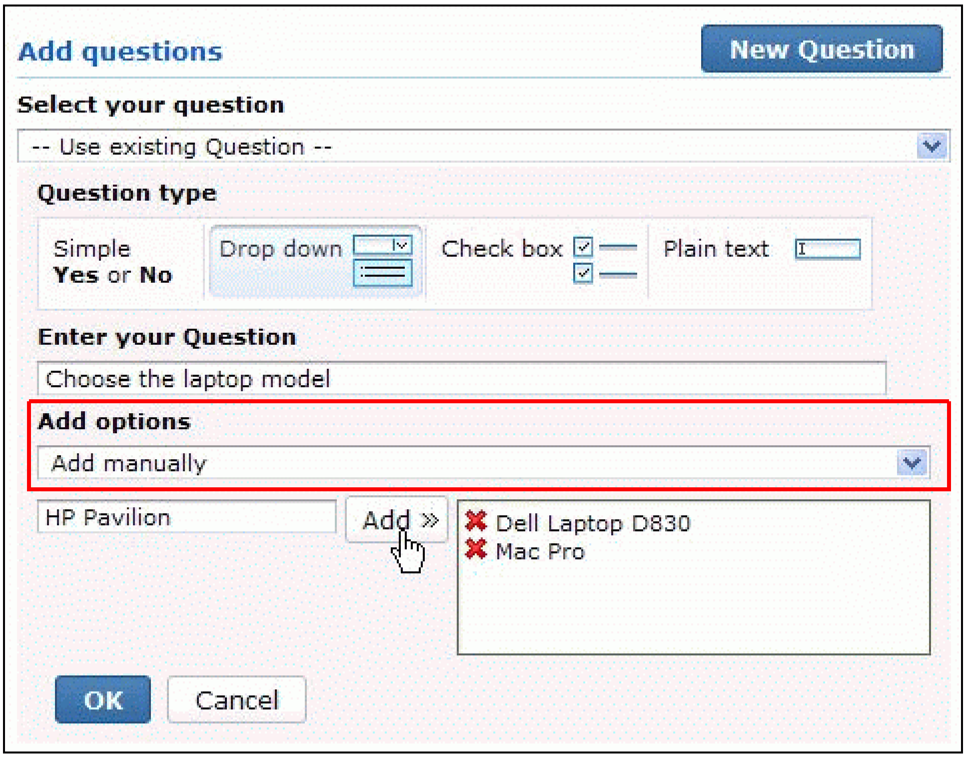
Adding New Question:
If your desired question is not in the existing question list, then you can add a new question by clicking New Question button. Enter your Question and select the question format from the options provided. The question can be displayed either in a simple yes or no format, drop down, check box or as a plain text.

If you have selected the Question Type as check box or drop down, then the Add Options appears, listing all the product types configured in the application. Selecting a product type lists all the products (configured in the application) under that product type.
For instance, if the selected product type is "Software", then all the managed software available in the application is listed. If the selected product type is "Workstation", then the workstations configured and scanned in the application are listed.



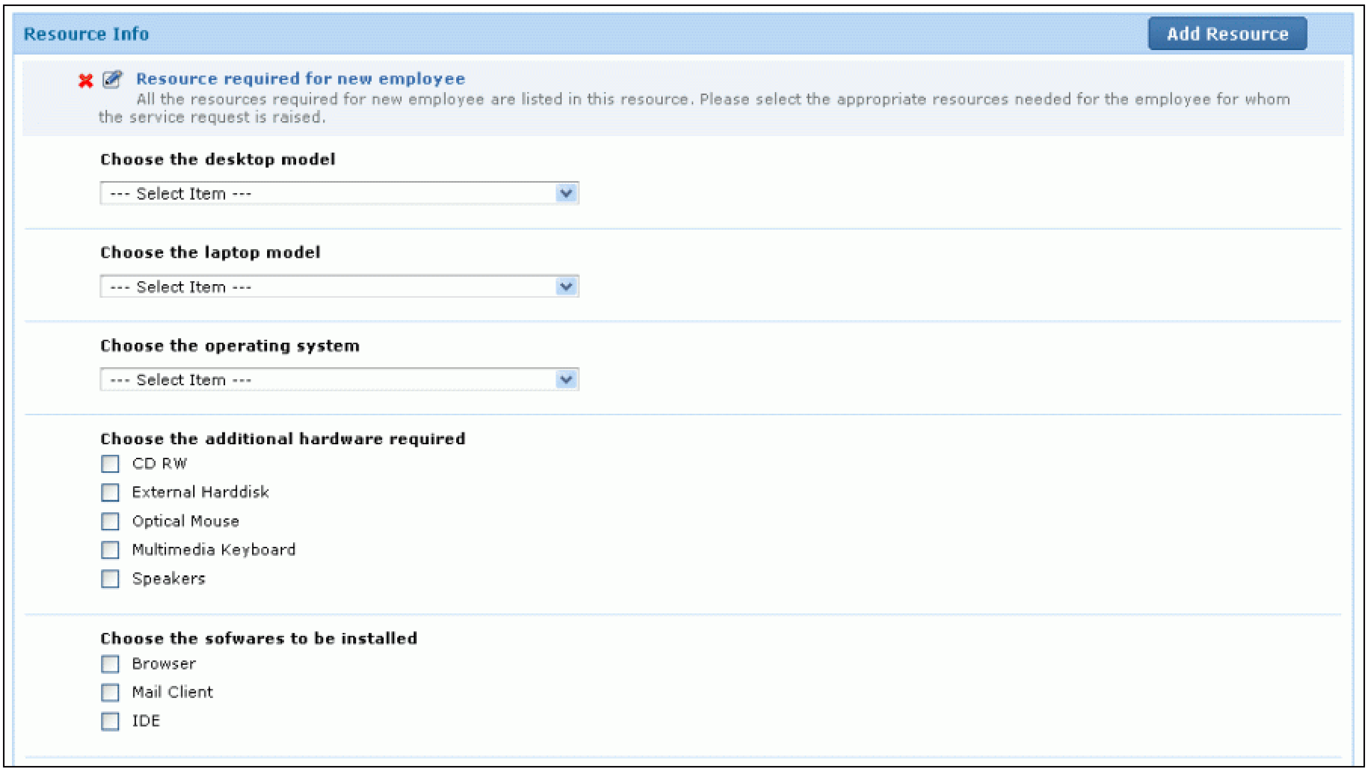
Select the assets/software to be displayed in the question by clicking >> (move right) button as shown in the image. Click Ok to save the question.

Manual addition of Resources:
Apart from resources in the application, you can manually add resources that are not configured in the application. To add resources manually in the application, select Add manually from Add options drop-down. Enter the resource in the text field as shown in the image.



In this case the resource is "HP Pavilion" and click Add >> to make the resource available in the question. Click Ok to save the question. To add another question, click New Question and follow the process as above.

4. Click Save to save the resource information. The questions are displayed in the Resource Info block of the service preview form from where you can also edit or delete the added resources.



Show to Requester

To make the service request accessible in the requester's login, select Show to Requesters check box. If User Groups are configured in the application, then you can select specific user groups to whom the service request should be made available too. Selecting the user groups makes a clear indication of the end users who can subscribe to the services.

Say for instance, if a service request should be shown to the requesters in the Sales department, then, configure the user group by selecting the "Department" as "Sales" under Admin -> User Management -> User Groups. Once the user group is configured, enable "Show to Requester" check box in the service item form and select the user group as "Sales User Group". To know more on configuring user groups, refer User Groups.

Click Save to save the details. Click Save and Configure Workflow button, to configure the service request workflow.

Work Flow

The Work Flow tab consists of options to select the approvers, map Service Level Agreement and assign Tasks for individual service requests.

Approver Details

Certain service request raised in the application requires approvals from the concerned users to go ahead with the request. The approvers can be technicians or requesters with the permission to Approve Service Requests, and should possess an email address in the application. You can configure up to 5 stages of approvals for a service request. Each stage may possess one or more approvers.

Select the Approvers for the service request using the icon . The approver(s) can also be the department head to which the requester belongs provided the approver has the permission to approve service requests.

On selecting the approver, the appropriate notifications have to be selected.

- Send approval notification automatically when a service request is raised - Enable this check box to send an approval notification to the concerned authority each time a service request is raised. If you have configured multiple stages of approvals, then the notification is sent to the next consecutive stage only on approval from the previous stage.
- All configured approvers have to approve the Service Request - Enabling this check box makes it mandatory for all the configured approvers to approve the service request. If anyone of the approver (at any stage) rejects the service request, then the request does not proceed to the next stage.

NOTE: If you have selected more than one approver in a stage, then all the approvers in that stage should approve the request.

- Do not assign technician before Service Request is approved - This option is enabled only on selecting "Send approval notification automatically when a service request is raised" check box. On selecting this option, a technician is assigned to a service request only when the service request is approved by the concern authority.

SLA

Each service request created in the application is assigned with a specific SLA to set the due by date. Select the SLA for the service request from the drop down. You can also add new SLAs using Add New SLA link.

Adding Tasks to Service Requests
You can add tasks to a service request if the request involves multiple technician work.
To add Tasks to service requests,

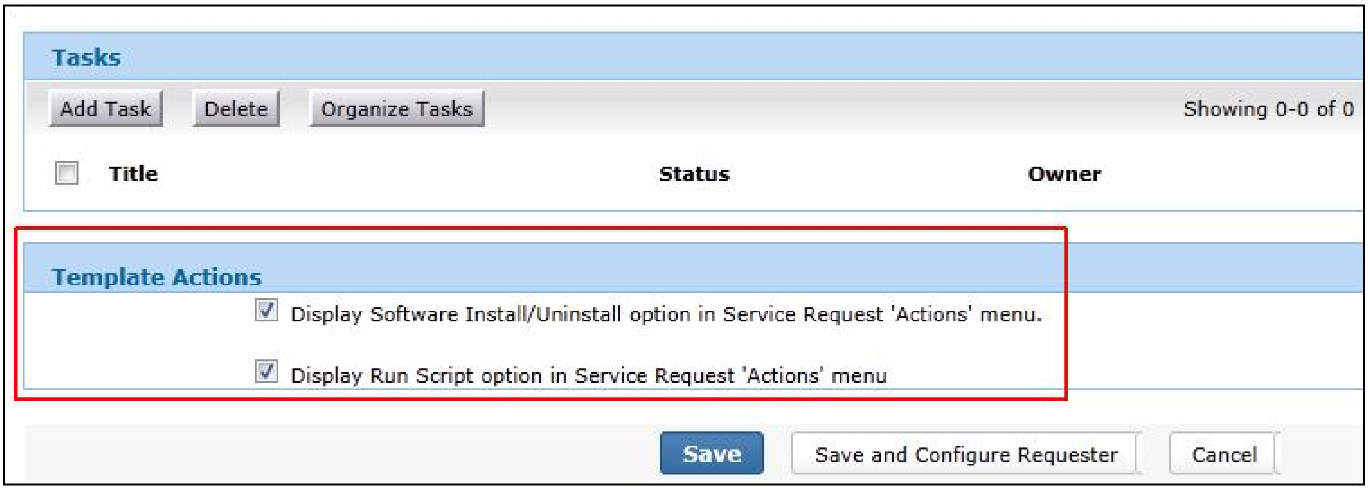
1. Click the Tasks tab -> click Add Task button from the tasks list view page.
2. In the Add Task form, specify the Title of the task. The Title is a mandatory field.
3. Specify relevant information about the tasks in the Description field.
4. Select the Group to which task has to be assigned. Select the Technician of the task from the combo box. Tasks can be assigned either:

- to a Group alone,
- to a Group and a specific Technician in the group,
- to a Technician alone without selecting the group,
- to no Group and no Technician.

5. If there are multiple tasks for a service request, the implementation of one task may be dependent on the completion of another. In this case, the dependencies on tasks can be captured by clicking on the relevant tasks under Task Dependency block.
6. Select the Status of the task from the drop down.
7. Specify any relevant comment about the task in the Comments field.
8. Click Save to save the details. Click Save and Add New, to save the details and open another Add Task form. Click Cancel to go back to the tasks list view.

You can also organize tasks from the list view to suit your desired priority. Click Organize Tasks button and change the order of the tasks using the up and down buttons.
The tasks for a service request are automatically created and assigned to the configured technician each time the service request is raised.

Template Action
If the service request involves installing/uninstalling software or executing scripts, then the same can be performed from the centralized server through Desktop Central Integration. The Desktop Central activities are performed with the aid of a Desktop Central Agent that should be installed in the Windows workstation.
To avail this functionality, configure the Server Name and Port number of the Desktop Central server in SDP application. Since all service requests do not require Desktop Central operations, this activity is limited by providing a **Template Action** check box in each service item form. This functionality is attainable only when Desktop Central 7.0 and above is integrated with SDP. Refer Desktop Central Integration to know more.



Click Save to save the details. Click Save and Configure Requester button, to configure service request form for requesters.

Requester View

The "Requester View" tab is available in the service form only if the requesters have permission to view the service request. Click the Requester View tab to view the requester preview of the service request.
The service form is similar to the technician preview except,

- The header section is grayed indicating that its non-editable,
- The service fields has limited parameters and the option to add new field is unavailable
- Parameters such as Mode, Request Type, Level, Impact, Impact Details and Urgency are unavailable for the requester preview.
- The Edit Field Properties option is absent for the fields.

You can drag the available service fields onto the service preview form. Place the field only in the yellow highlighted area of the form. You can also rearrange the existing fields in a similar manner. In addition, you can also set default values for the fields to appear while raising the service request.

Click Save to save the configured details. Click Cancel to exit the form.

Disabling/Enabling Services

By default, a newly added service is enabled in the list view. To disable a service,

1. Click the icon beside the service category to list the services under them.
2. Hover over the service to disable. Click disable service icon . The service is grayed and will not be listed along with the existing services in the home page.

To enable a service.

1. Click the icon beside the service category to list the services under them.
2. Hover over the service to enable. Click enable service icon . The service is enabled and is listed along with the existing services in the home page.

Editing Services

To edit a service under a service category,

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1. Click the icon beside the service category to list the services under them.
2. Hover over the service item to edit. Click the **edit** icon . The service form for a technician opens where you can add new fields, rearrange the existing fields and edit the default values.
3. Click Save to save the configurations. Similarly, you can edit all the remaining tabs from the service catalog page.

Click Save and Configure Requester button, to configure service request form for requesters. To add tasks, click Save and Add Tasks.

Deleting Services

To delete services under a service category,

1. Click the icon beside the service category to list the services under them.
2. Hover over the service item to delete. Click the delete icon . A confirmation dialog appears.
3. Click OK to proceed. The service item is deleted from the list.

For Information on configuring Field and form rules click here.

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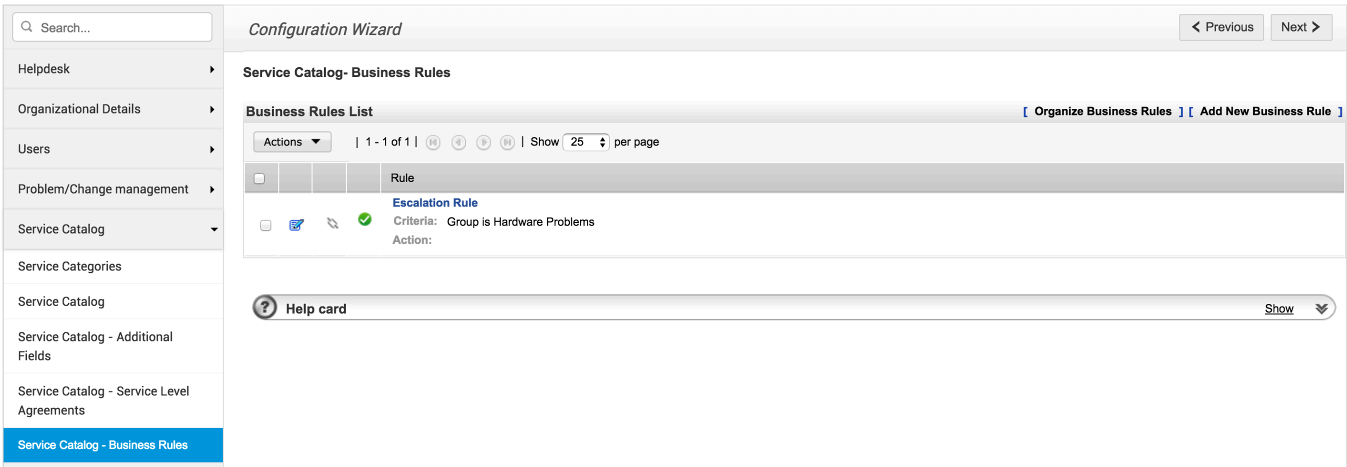
Service Catalog - Business Rules

The helpdesk can also define business rules exclusively for Service Requests as well. Just like business rules of Incident Requests, these rules enable them to organize the incoming requests (via web form and e-mail) and perform actions such as delivering them to groups, assigning status and other request parameters. These business rules can be applied to a request: when it is **created** (and) **edited** or **both**. They can also choose to notify a select group of technicians through mail/sms whenever a particular business rule is executed by configuring **Notifications** section of business rules for Service Requests as per their requirements.

To access Business Rules configuration page for Service Requests,

1. Click Admin tab in the header pane. The configuration wizard page opens.
2. Click Service Catalog icon  under Helpdesk block.
3. From the Service Catalog configuration wizard page, click Manage drop down and select Business Rules option. The **Business Rules** page appears from where you can add, edit and delete a business rule.



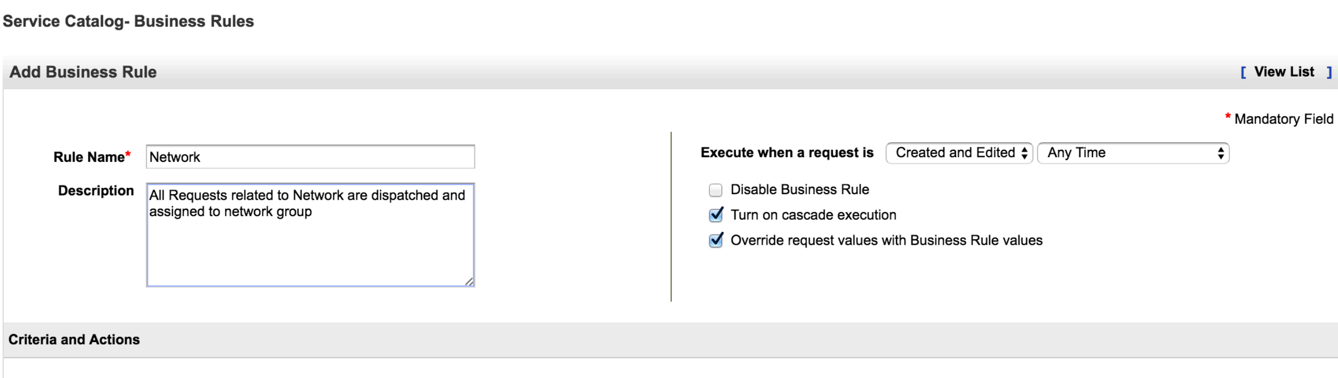
Check below links to understand how to: **add, edit, delete and organize** service request related business rules

- Adding Business Rules
- Editing Business Rules
- Deleting Business Rules
- Organizing Business Rules

Adding Business Rules

1. Click Add New Business Rule link (available at the top right corner of the page).
2. The **Add Business Rule** form consists of three blocks to be configured namely, Business Rule Details, Criteria and Actions and Notification.

Business Rule Details
The details of the Business Rule are exclusively for the newly added business rule.



1. Specify a unique Rule Name in the given text field. It is a mandatory field.
2. The Site selected in Business Rules for drop down box is displayed in non-editable text.
3. Provide the content to describe the business rule in the Description text field.
4. Business Rule can be executed on a request when it is created via web form (or received via email), edited or both on choosing the options from Execute when a request is drop-down list. By default, the 'Created' option is selected.
5. You can disable a Business Rule by selecting Disable Business Rule check box. On disabling a Business Rule, the rule will not get executed on any new or edited request. The disabled business rule will be marked in grey in the list view.
6. By default, the execution of the business rule will stop once a rule is applied on a request. To continue execution of successive business rules even after a business rule is applied on a request, select Turn on Cascade Execution check box.
7. By default, when a business rule is applied, the request values will be changed with the values in the business rule only if the request value is empty. If the request value is not empty, the business rule value will not be applied. To override the request values with the values in the business rule enable Override request values with Business Rule values.

   Example: If the Priority in a request is set to 'High' and the Actions Set in the business rule is 'Set Priority to Low', then the priority is automatically set to 'Low' when the business rule is applied.

	Note: Bulk actions such as delete, disable/enable business rules, turn on/off cascade execution can be performed on a business rule by selecting the check box beside the business rule and click Actions drop down button. To turn on/off cascade execution to a business rule from the list view, click the icon beside the business rule. A confirmation message appears. Click Ok to continue. The icon will be grayed if the cascade execution is discontinued.

Criteria and Actions

Under this block, define the rules and criteria that need to be satisfied by the incoming request.

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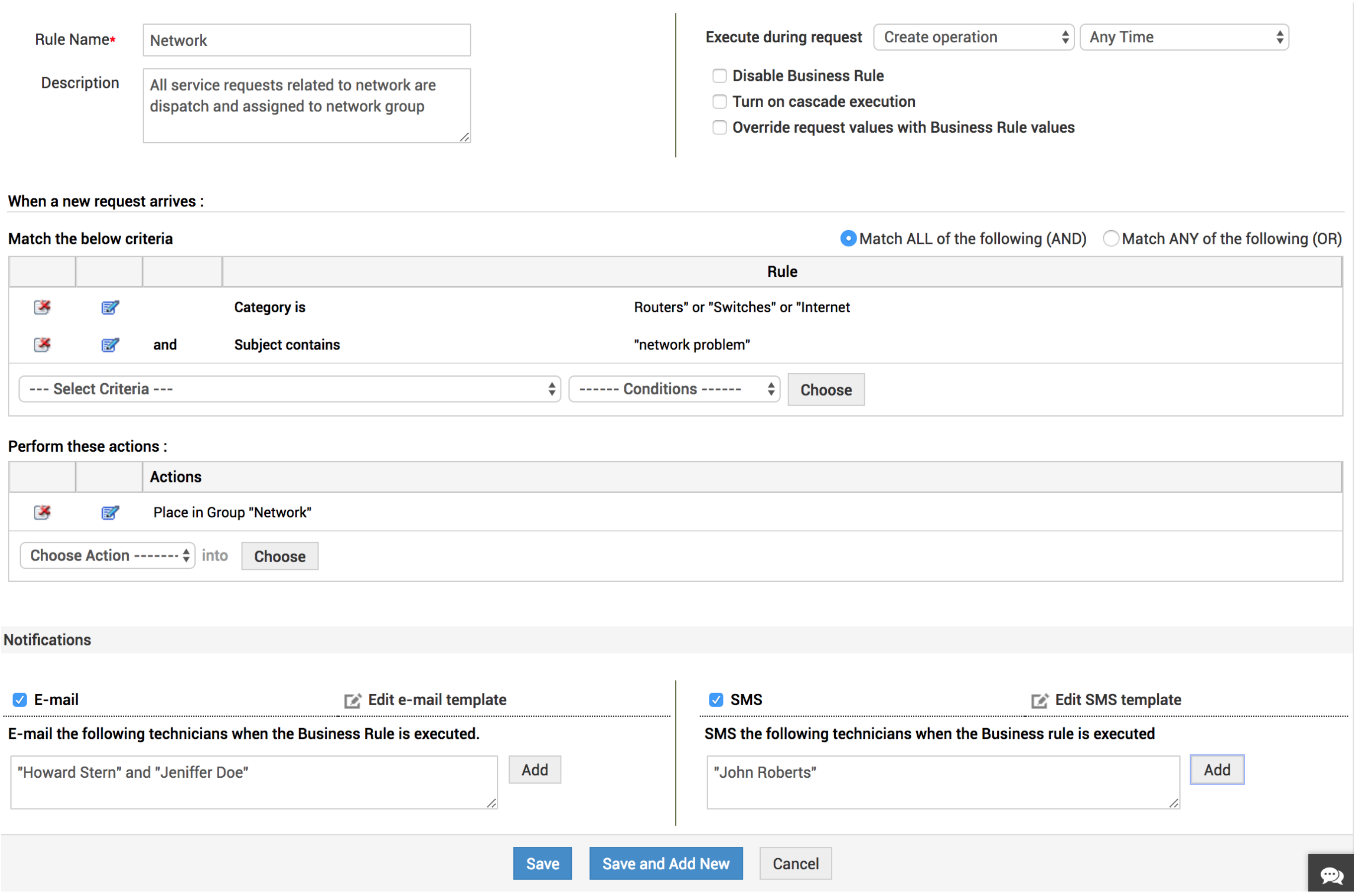

1. Select the Criteria and Condition from the respective drop-down list, and then the individual values that need to be matched by clicking the Choose button. The values from the database for those particular parent criteria that you chose from the drop down list opens. Choose the values you want and click OK.

   Example: If you want to match the requester name John, then select Requester Name in the Select Criteria drop down box. Now select the condition is or is not from the drop down list. The list varies for each criterion. Click Choose button to open the list of requesters in a pop-up window. Select the requester name from the list and click OK. For multiple selection, press Shift or Ctrl key while selecting the names. The selected names appears in the text box just beside the choose button.
2. Click Add to Rules to add the defined rule to the rules table.
3. By default, the radio button Match ALL of the following is selected. If you do not want all of them to be checked but if it is enough if any one of the rules are matched, then select the radio button Match ANY of the following.
4. After defining the rules, you need to define the actions that need to be performed on the request matching the criteria. Choose the action from the Choose Action drop down list.
5. Click Choose button to select the values for the chosen action.

   Example: If the action you had chosen was to Place in Group, then click the Choose button to display the list of groups available in the corresponding site. Select the group to which the request has to be placed and click Ok.

Business rules now allows you to execute scripts. To learn more about script execution, click here.

1. Click Add to add the action in the actions table.

Notification
You can send Email and SMS notification to technicians once a business rule is applied.
Caution: Configure Mail Server Settings before enabling Notification.
To enable Email notification,

- Select the check box beside Email. Click Add to select the list of technicians from Select Assign to Technicians pop up window. Click OK to add the technicians.

To enable SMS notification,

- Select the check box beside SMS. Click Add to select the list of technicians from Select Assign to Technicians pop up window. Click Ok to add the technicians.

To edit the Email Template,

- Click Edit Email Template link to open the email template form. Make the required changes in the Subject and Message text field. Click Ok.

Click **Save**. If you want to add more than one business rule, then click **Save and Add New.** At any point, if you do not wish to add the business rule and would like to get back to the business rules list from the add business rule form, click **Cancel**.

Editing Business Rules

To edit an existing business rule,

1. In the **Business Rules List** page, click the edit icon beside the **Business Rule Name** that you wish to edit.
2. In the **Edit Business Rule** form, you can modify all the fields mentioned in the add business rule form.
3. To edit the Match the below criteria set, click the edit icon beside the individual criteria. The respective selection window is opened in a separate pop-up. You can choose more values or remove a few values by de-selecting them.
4. You can also delete criteria completely. To delete criteria, click the delete icon beside the individual

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criteria.

5. In the actions to be performed, you can add new actions, edit or delete the existing actions.
6. Click **Save** to save the changes performed. At any point you wish to cancel the operation that you are performing, click **Cancel**. Even while editing a business rule, if you wish to add another new business rule, then click **Save and Add New** button.

Delete Business Rule

1. From the **Business Rule List** page, enable the check box beside the **Rule Name** you wish to delete.
2. Click Actions drop down button, and select the Delete option. A confirmation dialog opens.
3. Click **OK** to proceed with the deletion. If you do not wish to delete the business rule, then click **Cancel**.

Organize Business Rules

Organizing the business rules decide the order in which the rule is applied on the incoming request. You can organize the business rule to appear in a particular order in the list view,

1. Select the site for which you wish to rearrange the order of the business rule from the Business Rules for combo box.
2. Click Organize Business Rules link at the top right hand corner of the Business Rules List view page. A pop-up window opens displaying the list of available business rules in the order that is appearing in the list view.
3. Select a business rule, and click Move up or Move Down button beside the list.
4. Click Save.

Organization Details

Organization Details lets you configure the details of your organization such as, geographic region in which your organization is located, the list of branches, working hours, holiday list and departments. If you have multiple branches across the globe, this information is essential in setting the due date of the requests.
Apart from this, you can set the Incoming and Outgoing E-mail Settings, define Rules to Automate the tickets and define Service Level Agreements to set the due date for the requests.
You can also set certain rules to alert technicians after the completion of a task using Notification Rules. You can set notification rules for the Requests, Problems, Changes and Solutions module.

Organization Details Configurations
The following are the Organization Details configurations,

- Organization Details

  Set the details about your organization such as the Name, Logo, Address and Contact Information. This information is displayed in the Purchase Order form.
- Mail Server Settings

  Set the Incoming and Outgoing E-mail Sever Settings, configure Spam Filter and option to parse your e-mail tickets using E-mail Command.
- Regions

  Configure the various geographic locations of your organization.
- Sites

  Configure the various branches in each region.
- Operational hours

  Set the working hours of the organization. This is essential in calculating the due date for the request.
- Holidays

  Set the holidays during which your firm would remain closed. The holiday list is exclusive of the weekly holidays.
- Departments

  Configure the various departments in your organization. The department is essential while adding requesters and technicians since each requester or technician will be associated to a particular department of the organization.
- Business Rules

  Define rules to automate the incoming request (via web form and e-mail) and perform actions such as delivering them to groups, assigning status and other request parameters.

- Service Level Agreements

  Define rules based on requester, department or priority, to set the due date for the incoming incident requests.

- Notification Rules

  Set rules to alert technicians after the completion of a task.

- Preventive Maintenance Tasks

  Schedule periodic tasks, such as changing the printer toner or performing a service shutdown, for regular maintenance.

Configure Organization Details

You can configure your organization's details in the ServiceDesk Plus application. This information will be used in various cases. To configure your organization's details

1. Login to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Organizational Details block, click **Organization Details** and the Organization details form is displayed.
4. Enter the **Name** of your organization. You cannot leave the name field empty. The other fields can be empty. But if you have the required information, then enter them as explained in the following steps.
5. The **description** field can contain information about what your organization specializes.
6. The next block collects the **address** of your organization. Enter the address details in the relevant fields, such as address, city, postal code, state, and country.
7. If you have a common contact e-mail ID, then enter the same in the E-mail ID field.
8. Enter the phone and fax number, and the URL of your company's web site.
9. You can import the company logo and use that in places where the organization details are being used.
    1. Click **Import Image** button beside the Company **Logo field**.
    2. Click the **Browse** button and choose the image file from the file chooser window and click **Open**.
    3. Click **Import**.
10. By default, the **Use this image** check box is enabled. If you do not wish to use this image, then disable the check box.
11. Click **Save**.

At a later time, if you wish to edit the information that you entered now, you can do so by following the same procedure explained above.

Organization Roles

Purpose and Introduction

Configuring the Organization roles helps in enabling the role based approval process for the service requests. Once the organization roles are configured and the users are associated with it, the role based approval can be configured from the service templates. These organization roles can be created by using the four cards representing four role types i.e Organizational Roles, Site Roles, Regional Roles and Departmental Roles. Organizational roles include roles that are specific to the organization as a whole i.e, roles such as CEO, CFO, COO will come under this Role Type. Site Roles are based on the sites the organization is split into. Roles such as Site Admin, Site Manager etc will come under this Role Type. Departmental Roles comprises of roles based on the various departments an organization may have. Roles such as Department Head, Department Manager etc will come under this Role Type. Regional Roles consists of roles based on the regions the organization is spread across. Roles such as Regional Incharge, Regional Head etc will come under this Role Type.

Quick links

- Creating Roles and Associating Users
- Managing the Roles
- Using Import XLS
- Configuring Role Based Approval

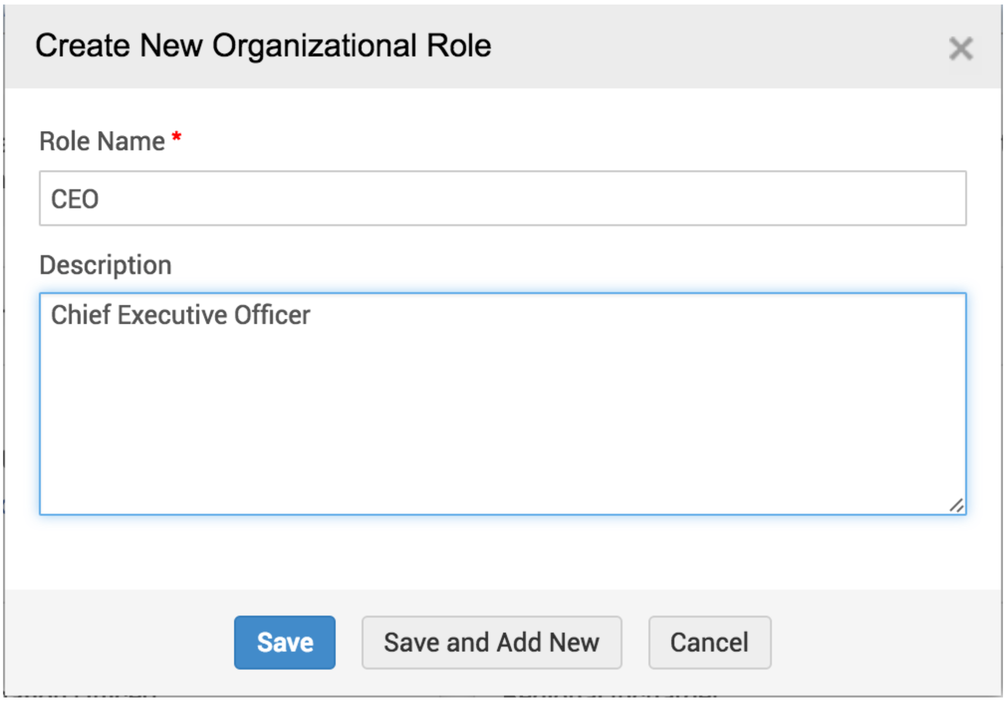
Creating Roles and Associating Users.

The roles can be created by clicking on the add new role icon present in all the four cards.

Adding a New Role

- Click on add new role icon in the respective card such as Organizational roles card/Regional Roles card.

  For eg, For Organizational roles such as the CEO/COO, click the plus icon in the Organizational Roles card.
- Enter the **Role Name** and the **Description**.
- Click **Save**. Same applies for the other three Role types.
- You can use **Save and Add New** option to save the role and create a new one. Same applies for the other three Role types.



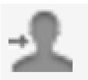
Note

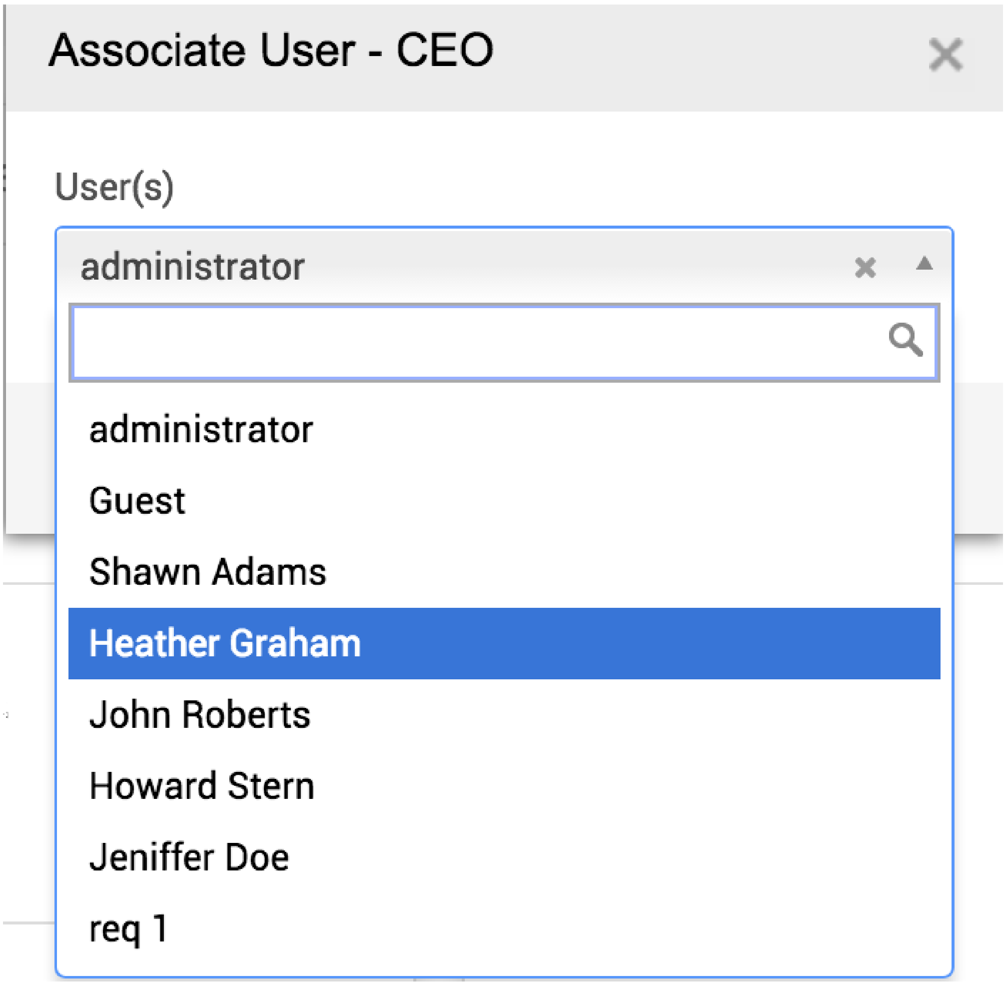
- The Role Name is mandatory.
- Character length for a Role name should not exceed 48. For Description it should not exceed 250.

Associating Users to the Roles

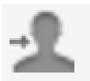
Associating users to Organizational Roles,

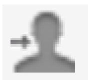
Assigning users to Organizational Roles is slightly different from assigning roles to the other Role Types. Since Organizational Roles are limited to one user per role, the roles tend to be unique across the organization without multiple profiles across department, region or sites unlike the other roles.

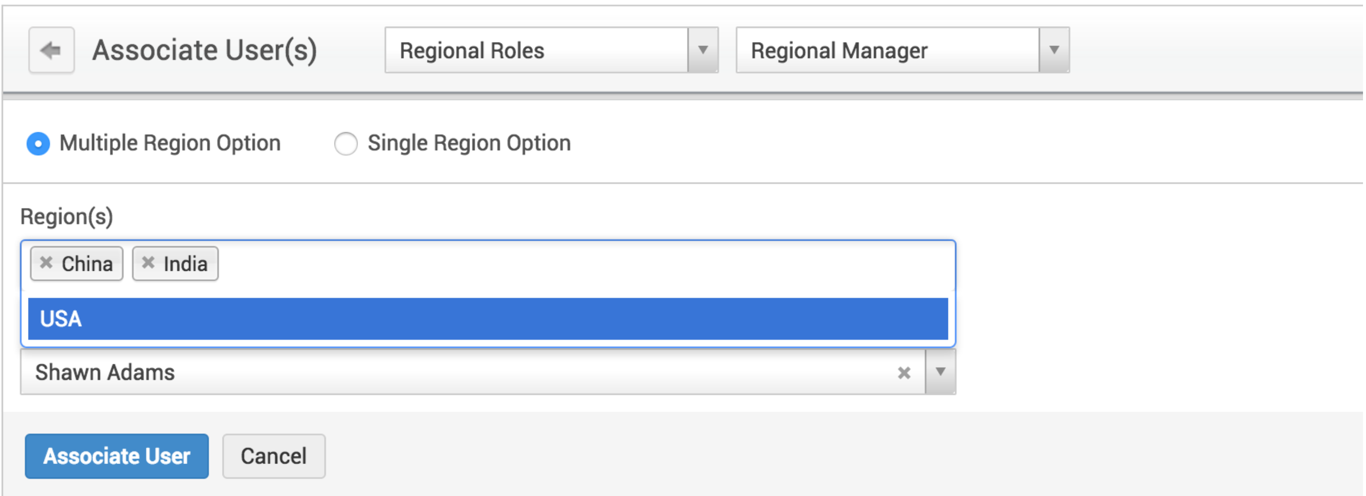
- Click on  in the cards.
- Select an user and click on **Associate User**.
- The users can be searched by using the user drop down menu.



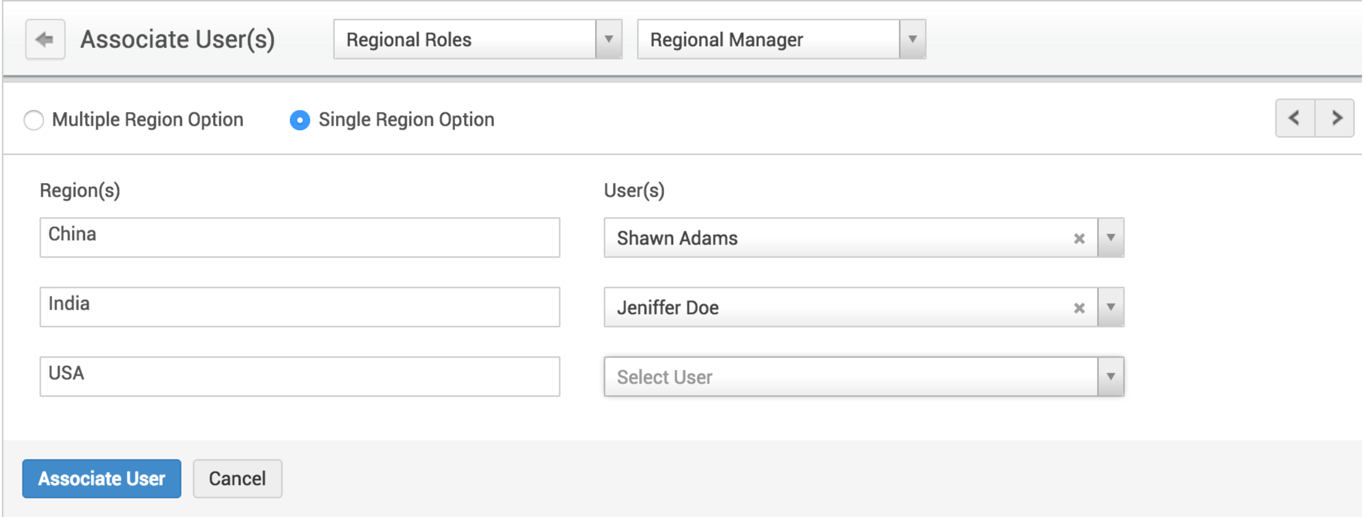
Associating users to Departmental/Regional/Site Roles,

- Click on  in the respective role.

  For e.g. To associate users for Regional Manager role, click on  in the Regional Manager role present in the Regional Roles card.
- If you want to assign multiple regions to an user, select Multiple Region Option.



- Select the User and multiple Regions.
- Click on **Associate User**.
- If you want to assign user to a specific Region, select Single Region Option.



- Assign an User for the Regions individually.
- Click on **Associate User**.

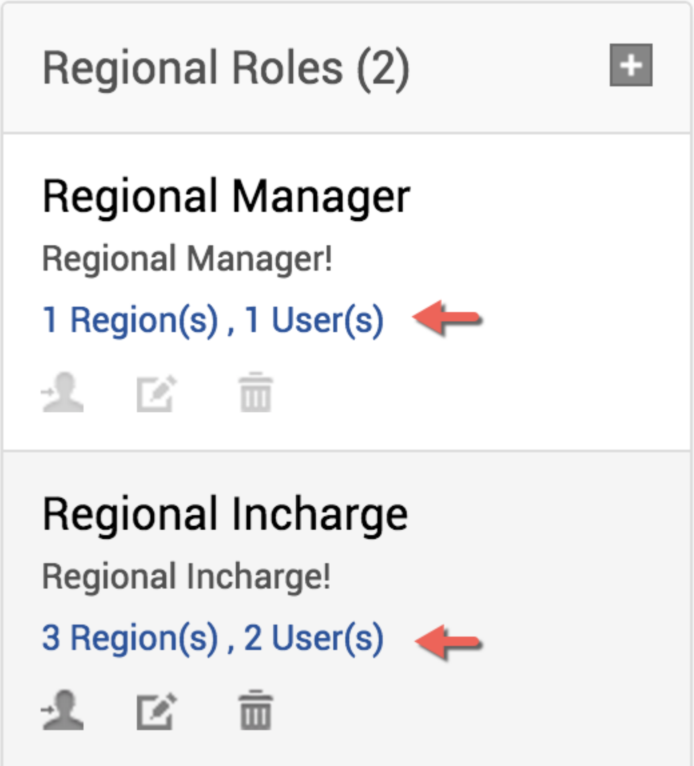
Note

- Regions/Departments/Sites and Users can be searched in the corresponding fields.
- Use a "," followed by the search text to search the users using their email address and also to search sites/regions associated to the departments.

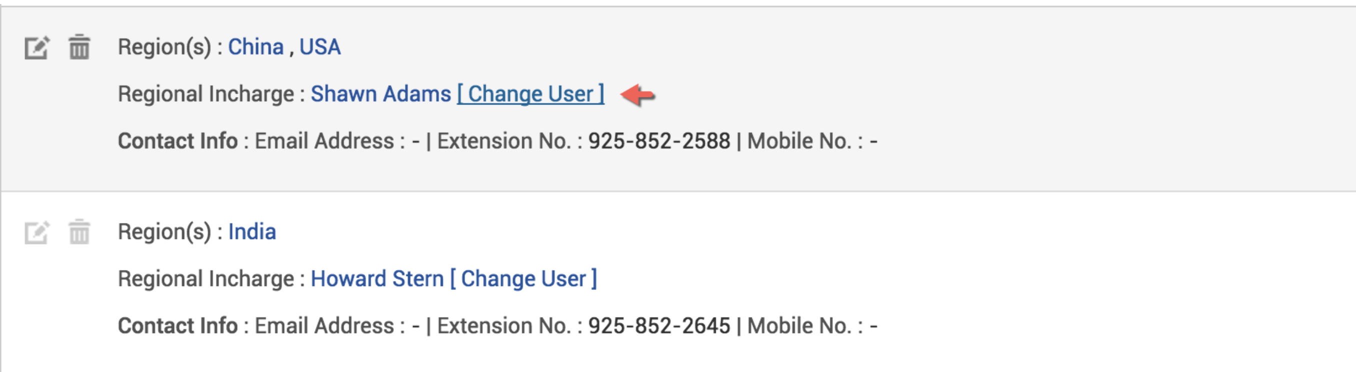
Managing the Roles.

The roles created can be edited or deleted. The users can be changed as well.

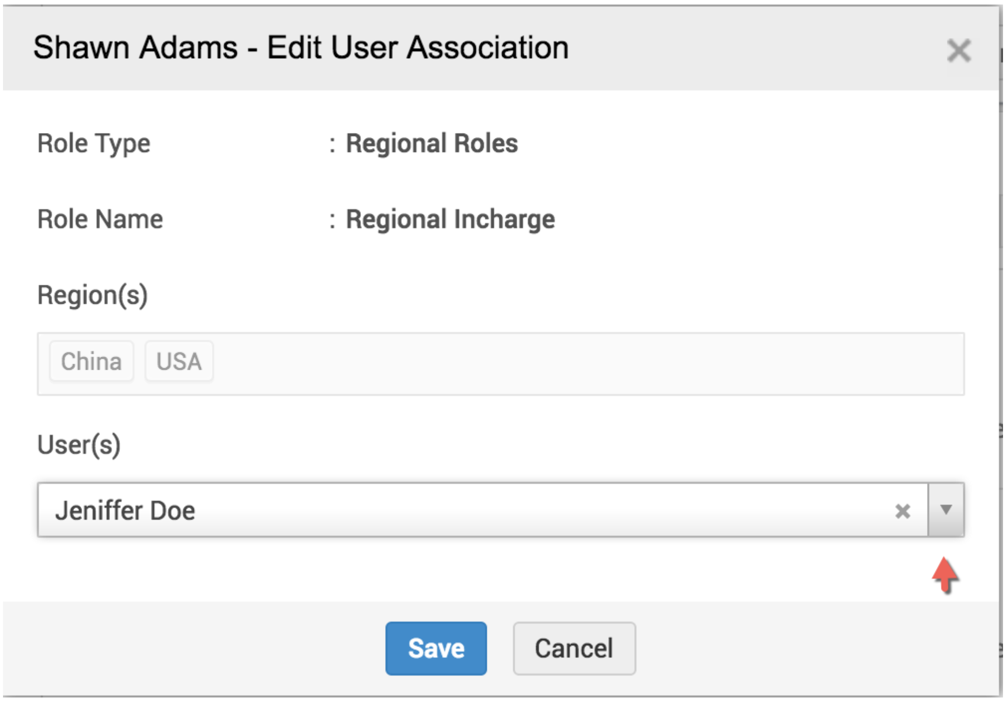
- Use  present in the role cards to edit the user association.
- You can add/remove regions, departments and sites using this option.
- Similarly use  to delete a role.
- To remove/change an user associated with a role, click on the association list.



- Select **Change user** in the respective role.



- Select a new user and click **Save**.



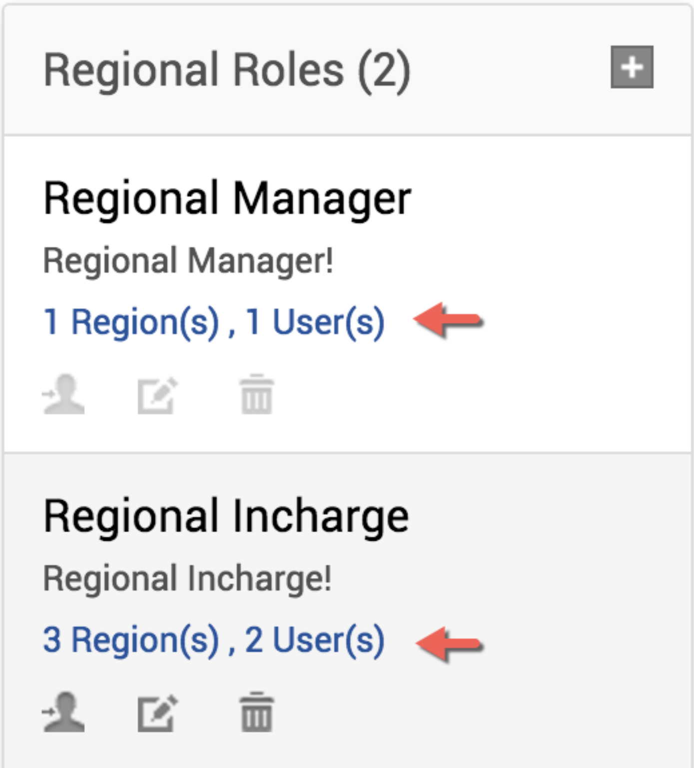
Note

- If you delete a Role, all the user associations will get deleted as well.
- All the created roles will be listed in the respective cards. The roles/users can be edited from that list as well.

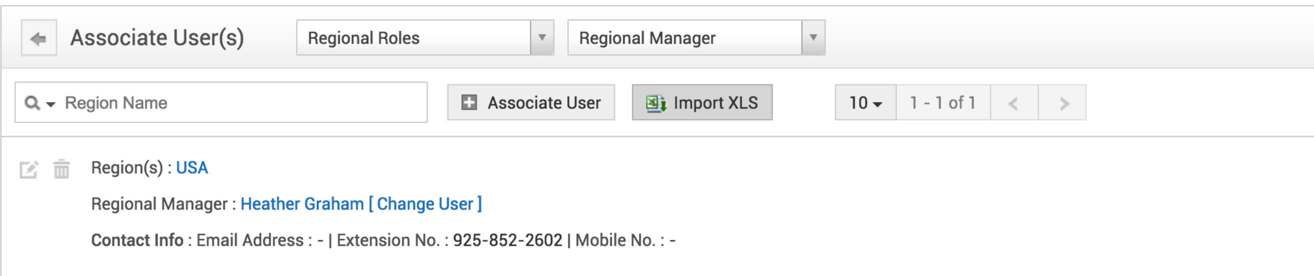
Using Import XLS

You can use the Import XLS option to import the roles and users from the excel sheet. Once the role names and users are imported from the excel sheet, field mapping can be done using the map fields option.
To import XLS,

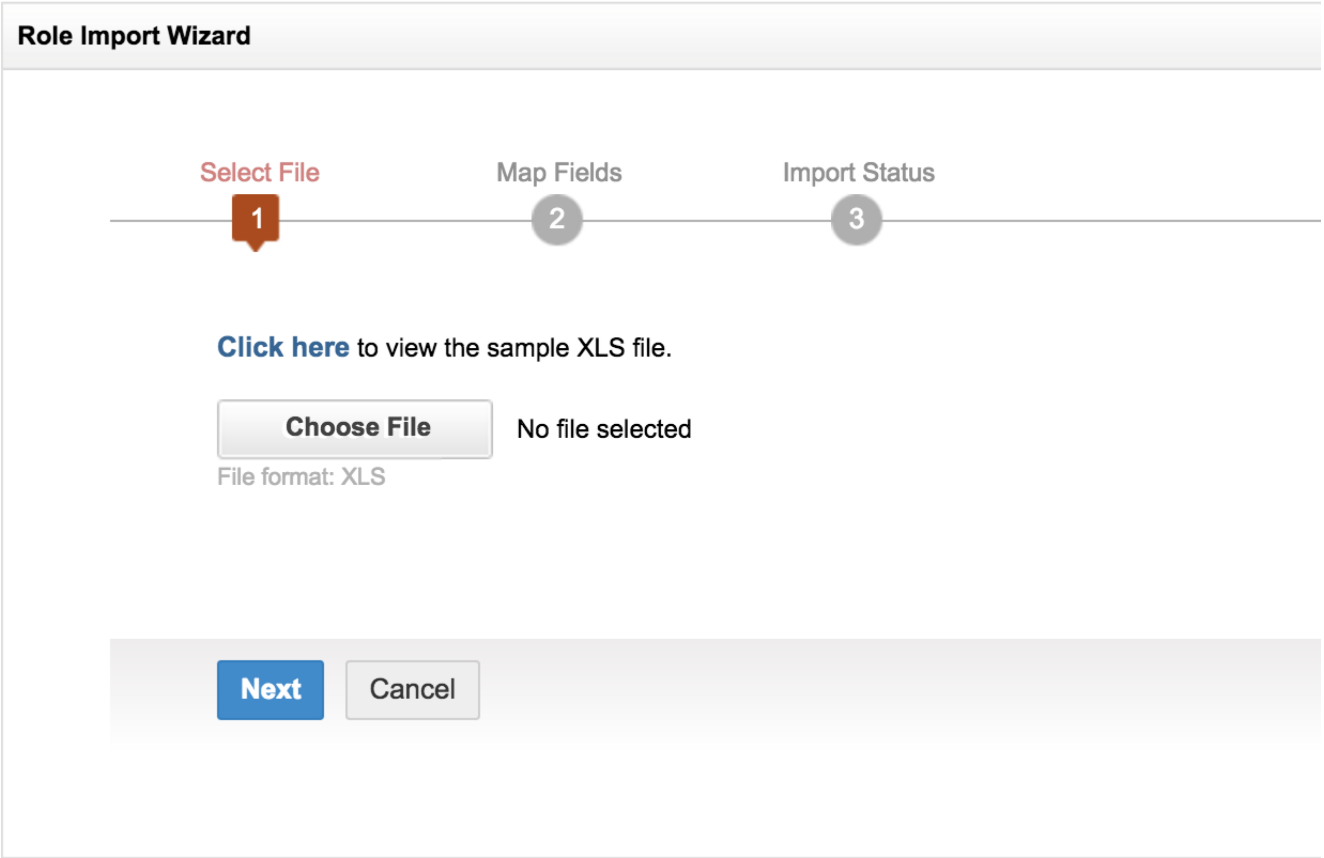
- Click on the association list in any of the cards.



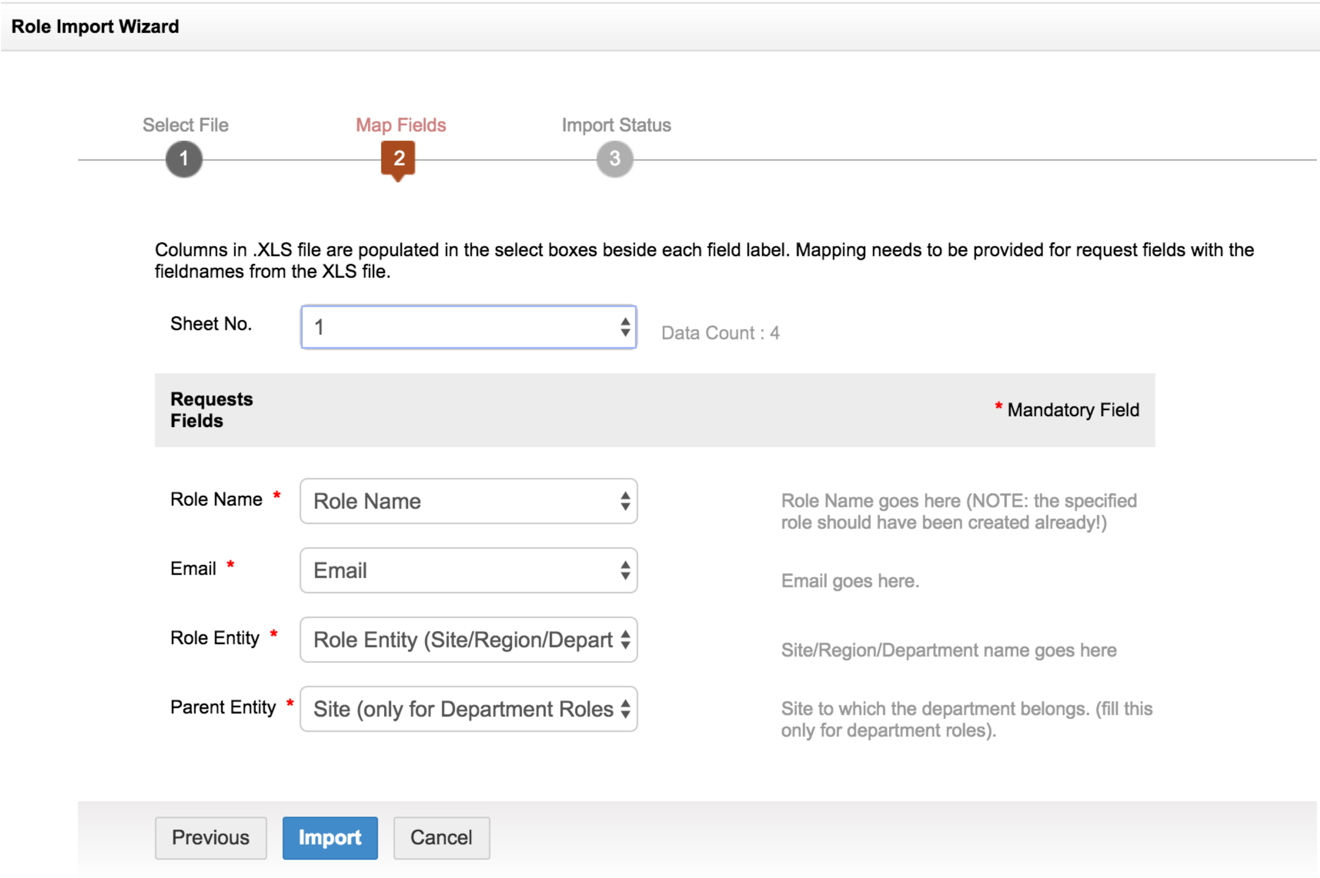
- Click on **Import XLS** option.



- Click on **Choose File** to select the excel file from your system. Download and use the sample file to use the same format.



- Once the import is done, the columns in the xls file will be populated in the select boxes beside each field label such as "Email", "Role name", "Role entity" and "Parent entity".

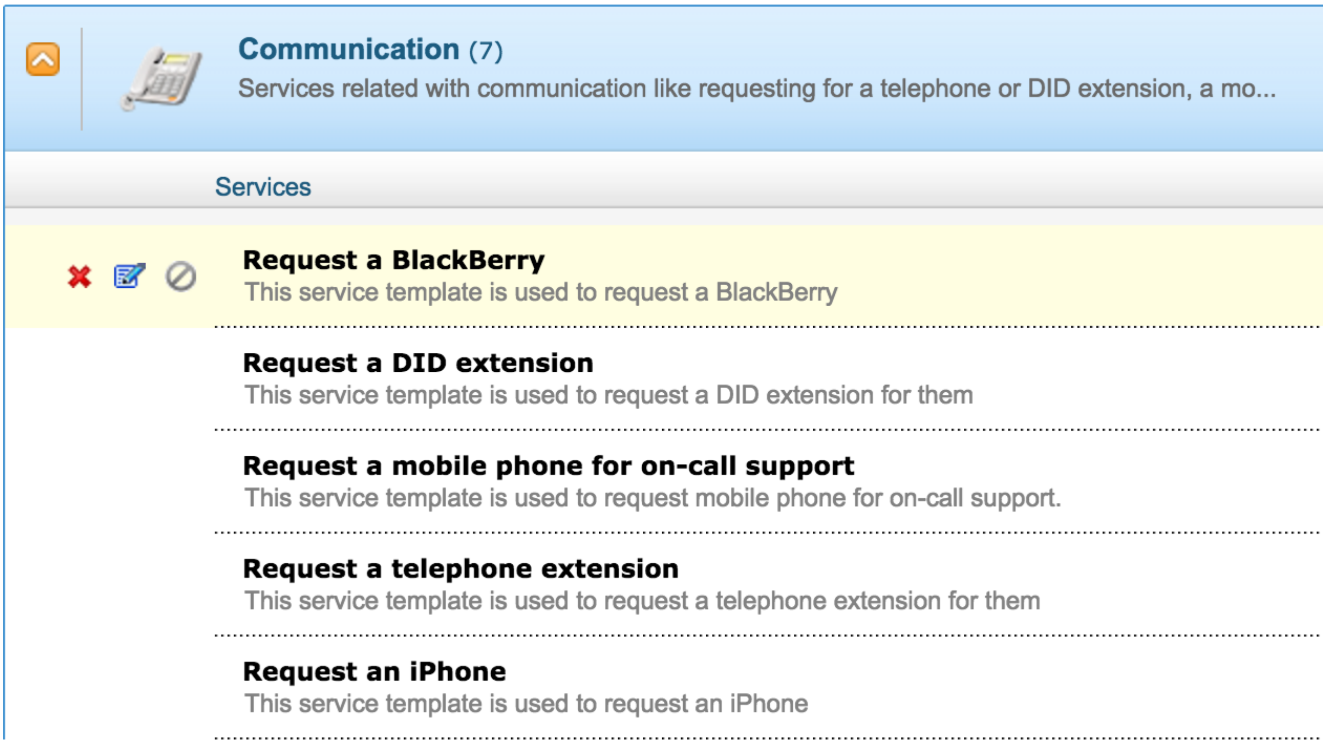


- Map the column names with the respective request fields. For e.g if the column1 contains the role name, choose column1 in the Role name request field.
- Click on **Import**. The import will be completed.
- Click on **Finish**.

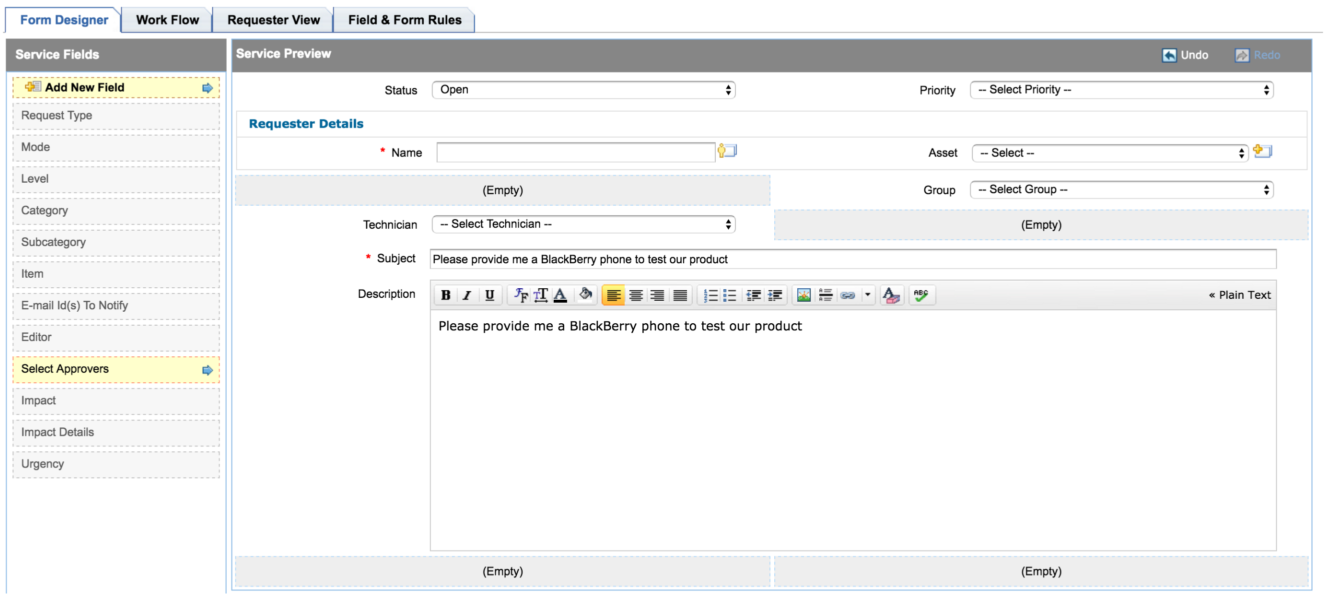
Configuring Role Based Approval

Once the organization roles are configured and the users are associated with it, the role based approvers can be configured through the service templates.
For e.g. In a service template in the communications service category, role based approvers can be set upfront so that the all the service requests pertaining to that service will be directed to the approver(s) you have selected.
To configure the role based approval,

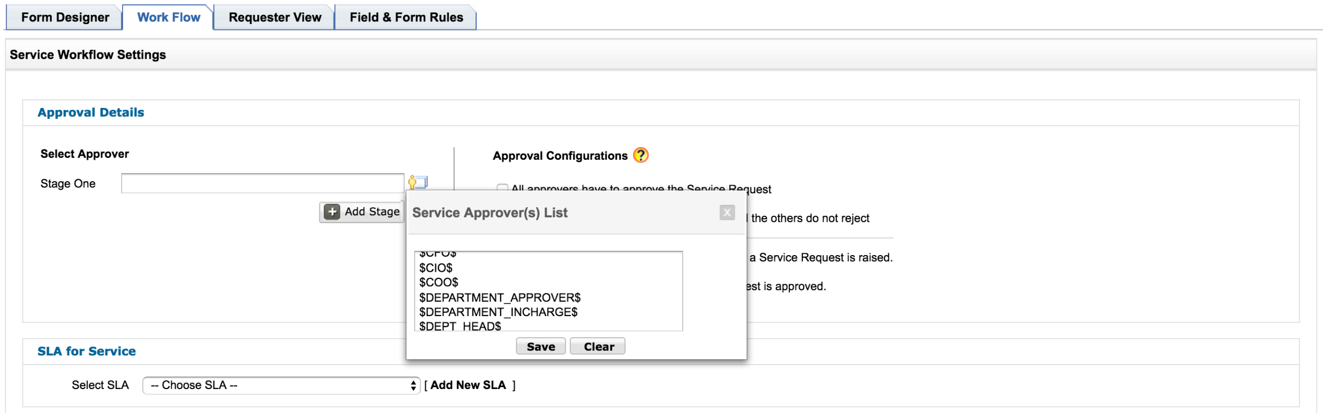
- Go to the service catalog from the admin module.
- Choose a service category and click on the edit icon in the service template for which you want to configure role based approval.



- The service template form opens up. If you want the requesters to select their approvers, drag and drop the "Select Approvers" field into the template from the Form Designer tab.



- Click on the "Work Flow" tab, from there you can add approvers for the service template by clicking on the select service approvers icon.



- Click on **Save**.

Mail Server Settings

Configure incoming and outgoing email settings so that your requesters and technicians can send and receive emails.

Go to **Admin>>Organization Details>>Mail Server Settings**.

On this page, we'll discuss how to configure the following:

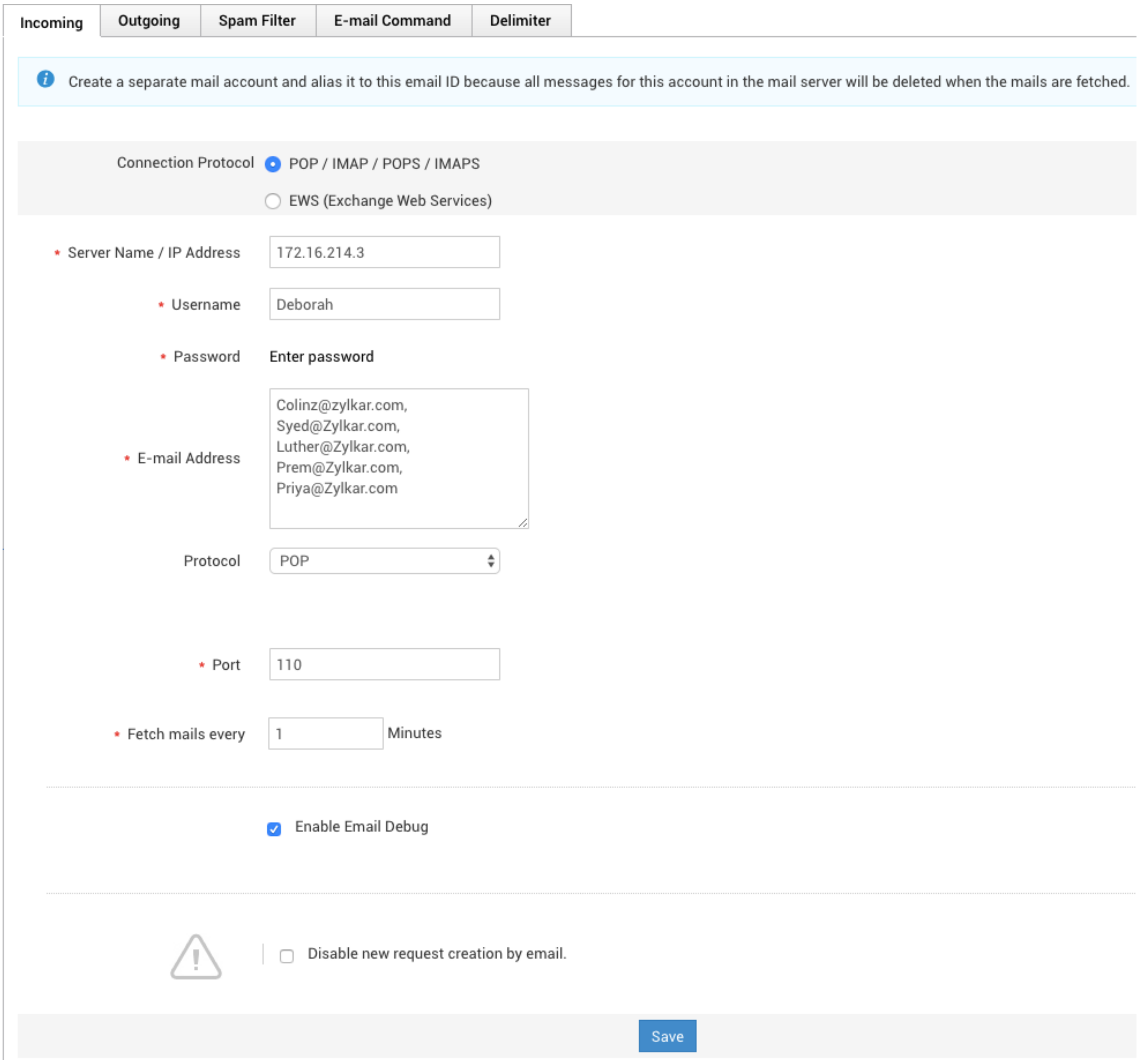
Incoming Mail Settings
Outgoing Mail Settings
Spam Filter
Email Command
Delimiter

Incoming Mail Settings

Select whether to use the Exchange Web Services (EWS) or POP, IMAP, POPS, or IMAPS to connect to the external mail server.

Then, proceed with the configuration as shown below:

When you choose POP, IMAP, POPS, or IMAPS as the connection protocol:



Fill out the displayed fields using the pointers given below:

Field	Explanation
Server Name/IP Address	Provide the server address from which the mails should be fetched
User Name and Password	Specify the server credentials.
E-mail Address	Email address/es from which service requests must be fetched.
Protocol	Select the connection protocol.
Port	Specify the port number.
Fetch mails every	Provide the time interval within which mails have to be fetched.
Disable new request creation by email	Select this option if you want to restrict request creation to non-email sources. Also specify, if any, the allowed email IDs and domains from which request can be created by email.

When you choose EWS as the connection protocol:

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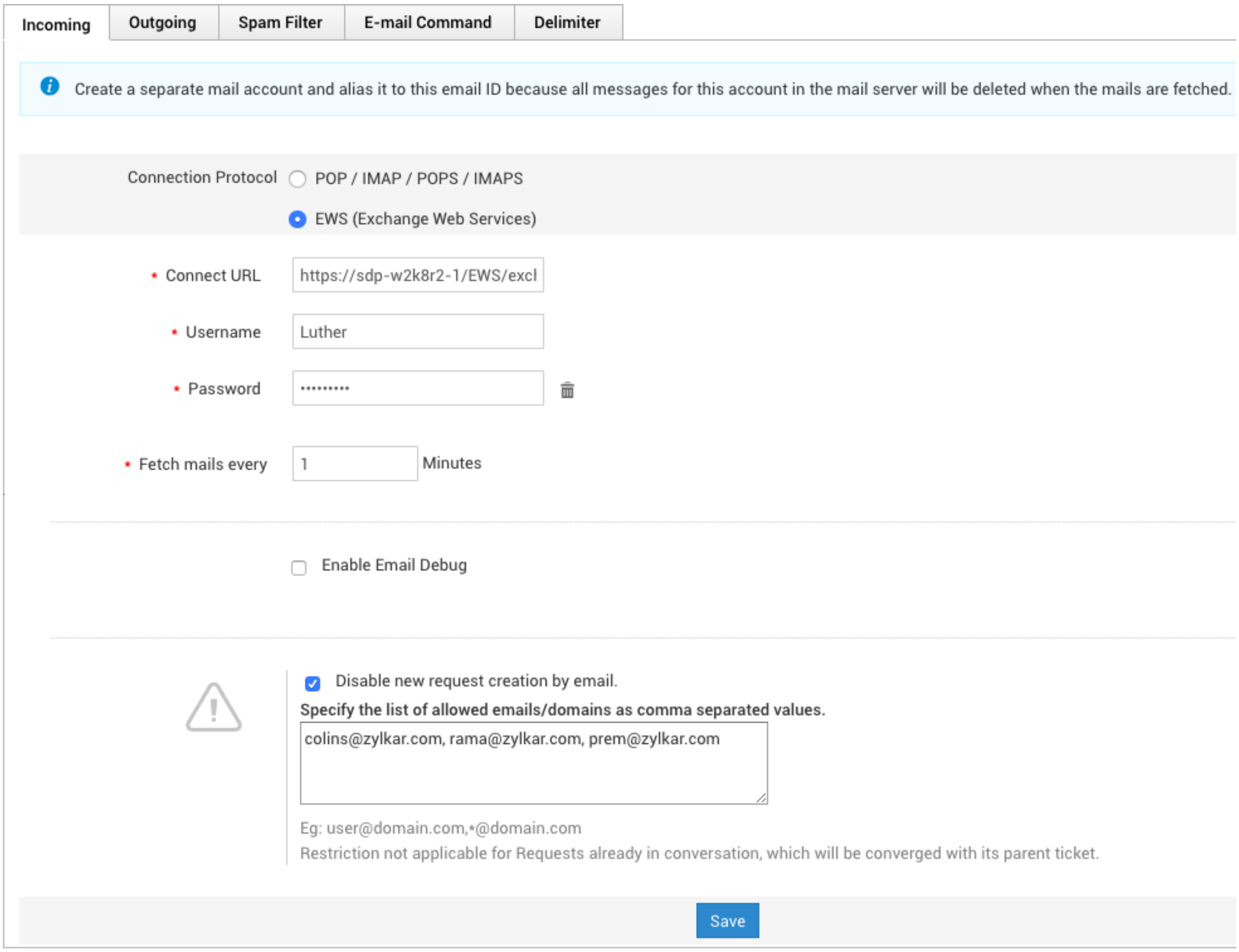


Fill out the displayed fields using the pointers given below:

Field	**Explanation**
Connect URL	Provide the URL to connect to the server.
Username and Password	Specify the server credentials.
Fetch mail every	Provide the time interval within which mails have to be fetched.
Disable new request creation by email	Select this option if you want to restrict request creation to non-email sources. Also specify, if any, the allowed email IDs and domains from which request can be created by email.

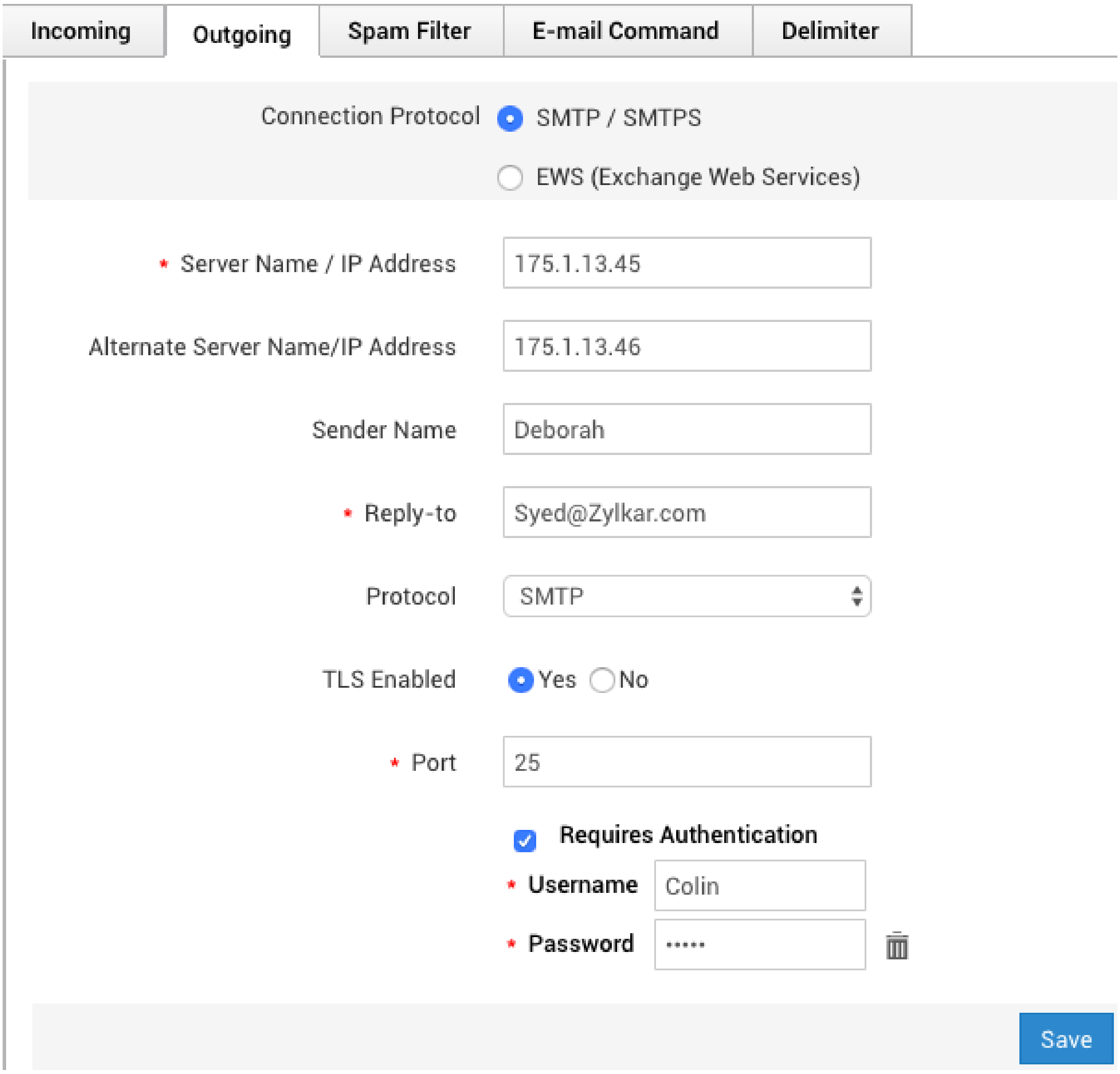
To make any changes to the settings, pause the mail fetching process.

The EWS connection protocol is supported only for Windows machines.

Outgoing Mail Settings

Select whether to use the Exchange Web Services (EWS) or SMTP or SMTPS to connect to the external server. Then, proceed with the configuration as shown below.

When you choose POP, IMAP, POPS, or IMAPS as the connection protocol:



Fill out the displayed fields using the pointers given below:

Field	Explanation
Server Name/IP Address	Specify the server through which all mails must be sent.
Alternate Server Name/IP Address	Provide the backup server details, if available.
Sender's Name	Specify the sender name (appears in the sender email)
Reply-to Address	Address for all replies; same as the value in the Email Address field of the incoming server.
TLS Enabled	Select whether TLS must be enabled.
Port	Specify the port number.
Requires Authentication	If you select authentication for security purposes, provide the necessary login credentials.

When you choose EWS as the connection protocol:

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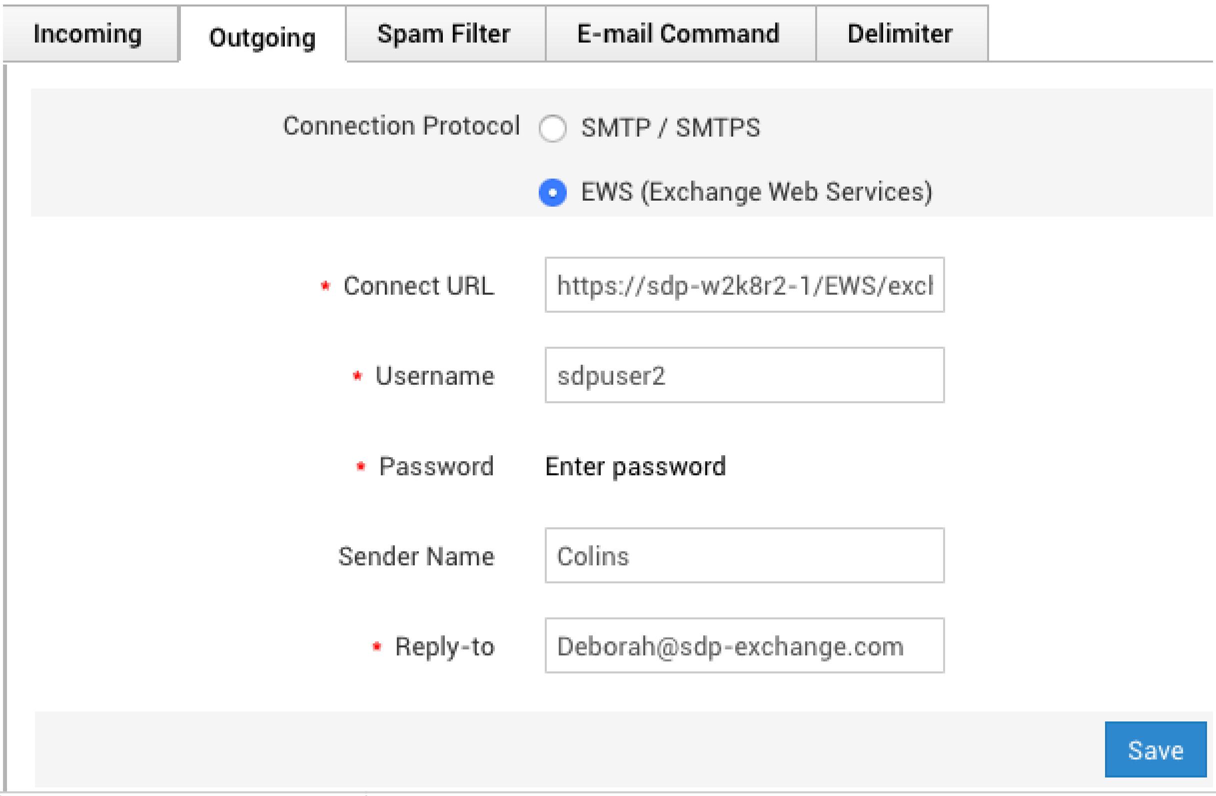
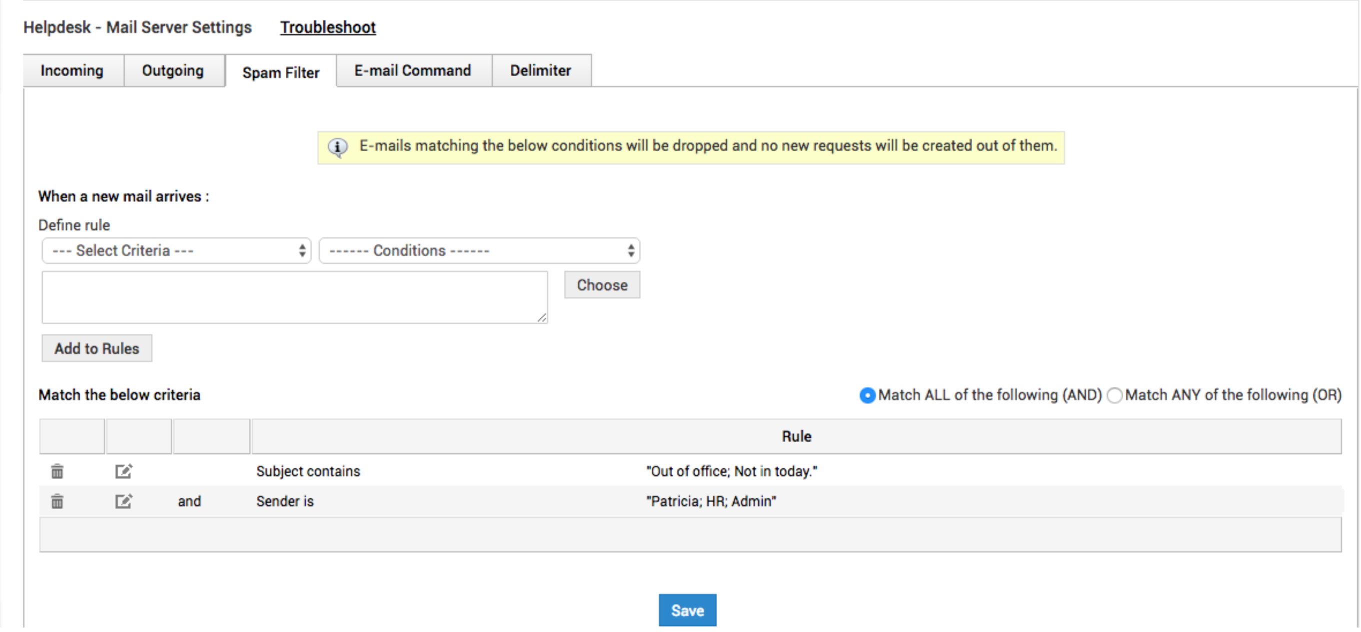


Field	Explanation
Connect URL	Specify the server through which all mails must be sent.
Username and Password	Specify the server's credentials.
Sender's Name	Specify the sender name (appears in the sender email)
Reply-to	Address for all replies.

The EWS connection protocol is supported only for Windows machines.

Spam Filter

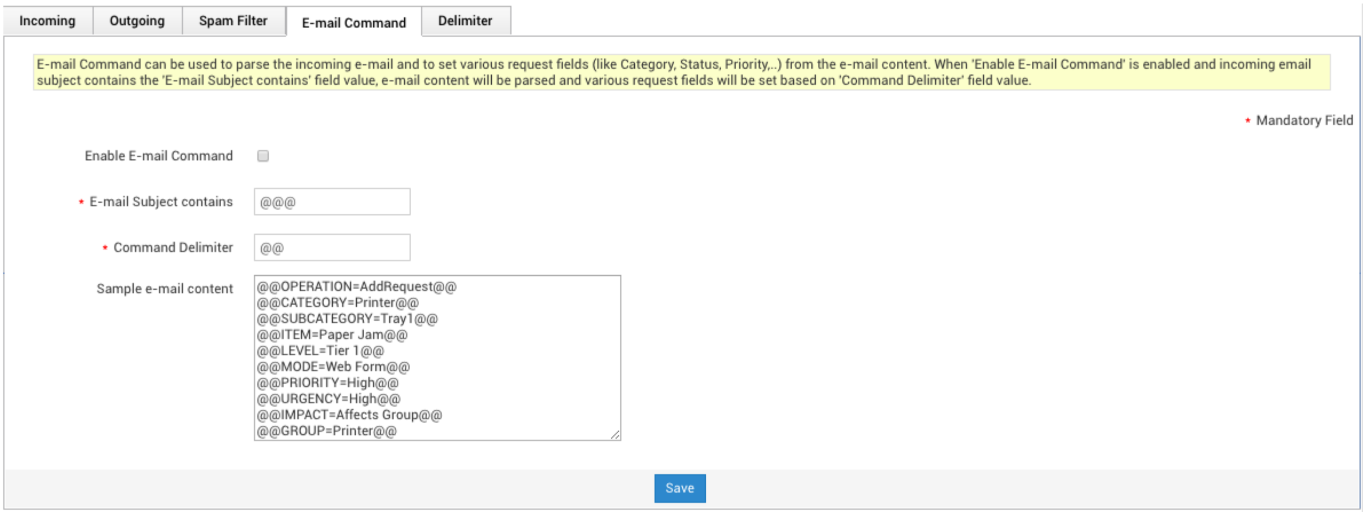
Define filter criteria to block any unnecessary or spam messages from entering the application. Mails that fulfill the criteria you have defined are dropped, and no requests are created from them.
Configure the Spam Filter as shown below:



To mark out all spam messages, ensure that you define the rule clearly with choose if the rule must match ALL conditions or any one of the specified conditions.
Under **Define rule**, select the criteria from the drop-down and select the condition.
Click the **Choose** button to add comma separted entries to the filter conditions. Say, the Subject field can contain Out of office or Not in today.
Click **Add to Rules** and **Save**.

Email Command

The Email Command in ServiceDesk Plus parses through all incoming emails, extracts the required data, and automates request-related actions such as adding/creating, editing, updating, and picking up requests.
Define request delimiters under Email Command to parse all incoming emails, update the required request fields or perform various operations automatically. Note that only emails from authorized users (with login permissions) will be parsed.
Configure Email Command using the following pointers:



Field	**Explanation**
Enable Email Command	Select this option to activate email parsing.
Email Subject Contains	Enter the exact parsing identifier; emails that do not have this string under their subject will NOT be parsed.

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Command Delimiter	Specify a special character, say $, that will enclose the field/operation and the parser action required. For example, if the request must be assigned request high priority, the email content will be as follows: **$Priority=High$** To add a new request, the email content will contain: **$Operation=AddRequest$**

Field Parsing Rules

Fields specified in the email, but absent in the application will not be parsed. If the email specifies more than one value for any field, only the last value will be considered. Other values will be discarded.
If the requester name is not specified in the email, the email sender will be considered as the requester.

Operational Strings

For various request-related operations, use the following strings, enclosed within the specified command delimiter, in the email content:

Action	**Operational String**
Create a new request	Operation=AddRequest
Edit or update a request*	Operation=EditRequest
Close a request*	Operation=CloseRequest
Pick up/assign a request*	Operation=PickupRequest

*The email must contain the Request ID for the operation to be performed.
Emails with Request ID in the subject line, but with no operational strings in the email body will not create new requests. Also, Request ID in the email description takes precedence over the Request ID in the subject line.

Request operations: Roles and Permissions

All update information, including images and attachments, will be added only under the history tab, and not under conversations.
Emails from users with only requester/technician permissions will be parsed only for fields that were available to the user while creating the request. Actions such as picking up, updating, or closure of requests will be based on the permissions available to the requester.
The following fields, depending on user permissions, can be parsed:

Level	Mode
Priority	Urgency
Impact	ImpactDetails
Category	SubCategory
Item	Group
Technician	TechnicianEmail

Requester	RequesterEmail
RequestID	RequestTemplate
RequestType	Status
Site	Asset
Resolution	Additional Field Label

The admin can change the fields that are available to the technician or requester in the default template under **Admin>>RequestTemplates**

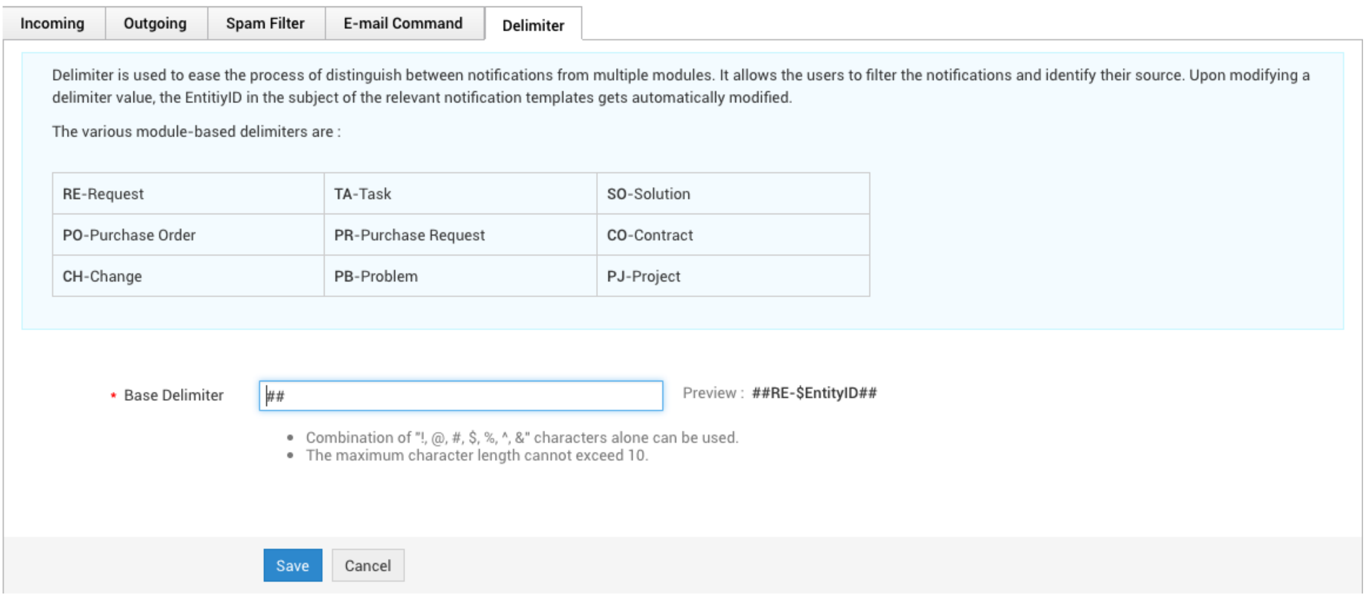
Delimiter

To distinguish and filter notifications by module, you can configure delimiters. For example, RE can refer to the request module or PO can refer to the Purchase module. In ServiceDesk Plus, the module-based limiters are as follows:

RE-Request	TA-Task	SO-Solution
PO-Purchase Order	PR-Purchase Request	CO-Contract
CH-Change	PB-Problem	PJ-Project

Requests from emails are either added as new requests or conversations. For an email to be added as a conversation, the Request ID and the Parent ID of the delimiter must be the same in the subject line of the notification.

The default base delimiter is ##, which can be modified per user requirement. Note that the allowed special characters for the base delimiter are !, @, #, $, %, ^, &. And, the maximum character limit is 10.



If the mail server runs in a secured protocol, generate and install a self-signed certificate to establish a connection between ServiceDesk Plus and the mail servers. Learn more here.

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Regions

Organizations can have various branches to handle various specialized activities. Such branches can be located at different regions and data from each of these branches need to be maintained in the same place. You can configure the various locations of your branches in the ServiceDesk Plus application.

To open the organization regions configuration page,

1. Login to the ServiceDesk Plus application using user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Organizational Details block, click Regions. The next page displays the available list of regions. You can add, edit, or delete regions.

Add a Region
To add a new region,

1. Click **Add New Region** link available at the top right corner of the Region **list** page.
2. In the **Add Region** form, enter the **Region Name**. It is mandatory field.
3. Specify brief description about the core activities taking place in the branch in the Description text field.
4. Click **Save to save and return to the list view. Click Save and Add New a to save and add a new region.** At any point, if you do not wish to add the region and would like to get back to the location list, click **Cancel**.

Edit a Region
To edit an already existing region,

1. In the **Region List** page, click the edit icon beside the **Region Name** that you wish to edit.
2. In the **Edit Region** form, modify the Region name and its Description.
3. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**. Even while editing a region, if you wish to add another new region, then click **Save and add new** button.

Delete Region

1. In the **Region List** page, click the delete icon beside the **Region Name** that you wish to delete. A confirmation dialog appears.
2. Click **OK** to proceed with the deletion. If you do not want to delete the region, then click **Cancel**.

On deleting a region, the corresponding sites and attributes such as groups, SLA, business rules, holidays and so on is also deleted. If the Region is specified in a module, then the region cannot be deleted from the list.

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Sites

If your organization has various regional offices across the globe, then these offices are configured as **Sites** in ServiceDesk Plus. The purpose of configuring Sites is to maintain a single ServiceDesk Plus installation irrespective of the location, working hours and IT operations executed in the sites. By configuring Sites, you can restrict technicians from viewing requests, problems, changes and assets of certain sites, organize your IT operations across sites and enable prompt handling of requests raised from different sites.
When you get started with ServiceDesk Plus configurations, the Operational Hours, Holidays, Departments, Business Rules and Service Level Agreements configured is considered as the **Default Settings**. So while adding sites, you have options to either copy these default settings, refer the default settings, or configure separate settings for the site.

Example:
The options - Refer Default Settings and Custom Settings - can be explained better with an example.
Let's say your head office is in New York, USA and you also have offices in Boston, Washington and Tokyo. The IT operations in the USA region are handled by technicians located in Boston. And the IT operations in Japan are handled by technicians in Tokyo. Assume the office in Tokyo works 6 days a week, while the office in USA region works 5 days a week. The Departments, Business Rules and Service Level Agreements are similar for all the sites. And, you have configured the default settings to suit the USA region.
In ServiceDesk Plus, the offices in New York, Boston, Washington and Tokyo are configured as sites. Since the default settings suit the USA region, you can **Refer the Default Settings** for the sites - New York, Boston and Washington. When you refer a default setting, the site will not have separate site based configurations i.e., these sites will not be listed in the drop down menu while viewing the settings.
Since the site Tokyo works 6 days a week, you need to customize the operational hours for the site by selecting **Custom Settings** beside operational hours. The site will be listed in Operational Hours for drop-down box and you can customize the operational hours for the site.

NOTE: Technicians with administrator privilege can add sites in ServiceDesk Plus. The Site Admin has the privilege to view and edit his/her site details. They cannot add nor delete sites in ServiceDesk Plus.

To access the Sites configuration page,

1. Login to ServiceDesk Plus application using the username and password of the admin user.
2. Click Admin tab in the header pane.
3. In the Organizational Details block, click Sites.

Note: **The administrator has the privilege to Add/Edit/Delete a site. The Site Admin can only View/Edit/Delete the sites to which he is associated from the Site List page.**

Add Site

1. In the Site List view page, click Add New Site link on the right hand side corner. The Add New Site form opens.
2. Enter the Site Name in the text field provided. It is mandatory field.
3. Enter brief information in the Description field about what your organization does in the above mentioned site.
4. Select the Region and the Time Zone of the site from the combo box. The specified time zone is essential to calculate the operational hours for the site. Hence, any request raised in the site can be resolved

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within its operational hours.

5. Specify the Address of the organization along with City, Postal Code, State and Country.
6. Enter the Contact Information such as E-mail Id, Phone no, Fax no and the Web URL of your organization.
7. Enable any of the following related settings,
    - Refer Default Settings: The site follows the default settings configured in ServiceDesk Plus. Any change made under the default settings is also applied to the site.

Let’s take the same example of the 3 offices in the USA region. Since the default settings are configured to suit the USA region, you just need to refer the default settings to the 3 sites.

- Copy Default Settings:A separate copy of the default settings is maintained for the site. With this separate site based configuration, you can alter the name of the default settings like the Department - IT Services can be renamed as IT operations in the site configuration. Or you can add additional holidays, business rules, technicians, support groups and service level agreements for the site alone.

NOTE: Any change made in the default settings, say a new holiday is added in the default list, then the same is reflected in copy default settings.

- Custom Settings:The site with this setting will neither follow the default setting nor maintain a separate copy of the default setting. You need to customize the configurations for the site.

Taking the above example about the office in Tokyo that operates 6 days a week unlike the default operational hours that operates 5 days a week. While adding the site, select Custom Settings beside Operational Hours, after which, you can configure the working days for the site -Tokyo in Operational Hours.

1. Click **Save** button to save the site details and return to the list view. Click **Save and add new** button to save and add another site. If you wish to cancel the operation then click Cancel.

Edit Site

1. From the site list page, click the edit icon beside the site which you wish to edit. The Edit Site page opens with the existing details.
2. You can modify all the fields in this page.
3. Click Save to save the modified changes and return to the list view.

Even while editing a site, if you wish to add a new site, click Save and Add New button. This updates the site and reopens the Add Site form.

Delete Site
If the site is being used by a module, the site cannot be deleted. In turn, the site is grayed (marked inactive) to avoid the further usage of the site. If the site is associated to a Requester, Asset, Request Template or Preventive Maintenance task, then you have an option to associate a different site to these parameters.
To delete a site,

1. Select the site you wish to delete by enabling the check box.
2. Click Actions drop down -> Delete Site(s) option. A confirmation dialog appears.

3. Click OK to proceed.
4. If the Site is associated to a requester, asset, request template or a preventive maintenance task, Change Site association pop up appears listing the parameters to which the site is associated.
5. To associate these parameters to a different site, select the site from the drop down. By default, not associate to any site is populated.
6. Click Associate. The parameters are associated to the newly selected site. The site to be deleted is marked inactive and will not be populated wherever site is specified.

To bring the site back to active state,

1. Click the **edit** icon beside the site name.
2. From the edit site page, disable Site not for further usage check box.
3. Click Save to save the site details and return to the list view.

If the site is not used by any module, the site is removed from the site list view.

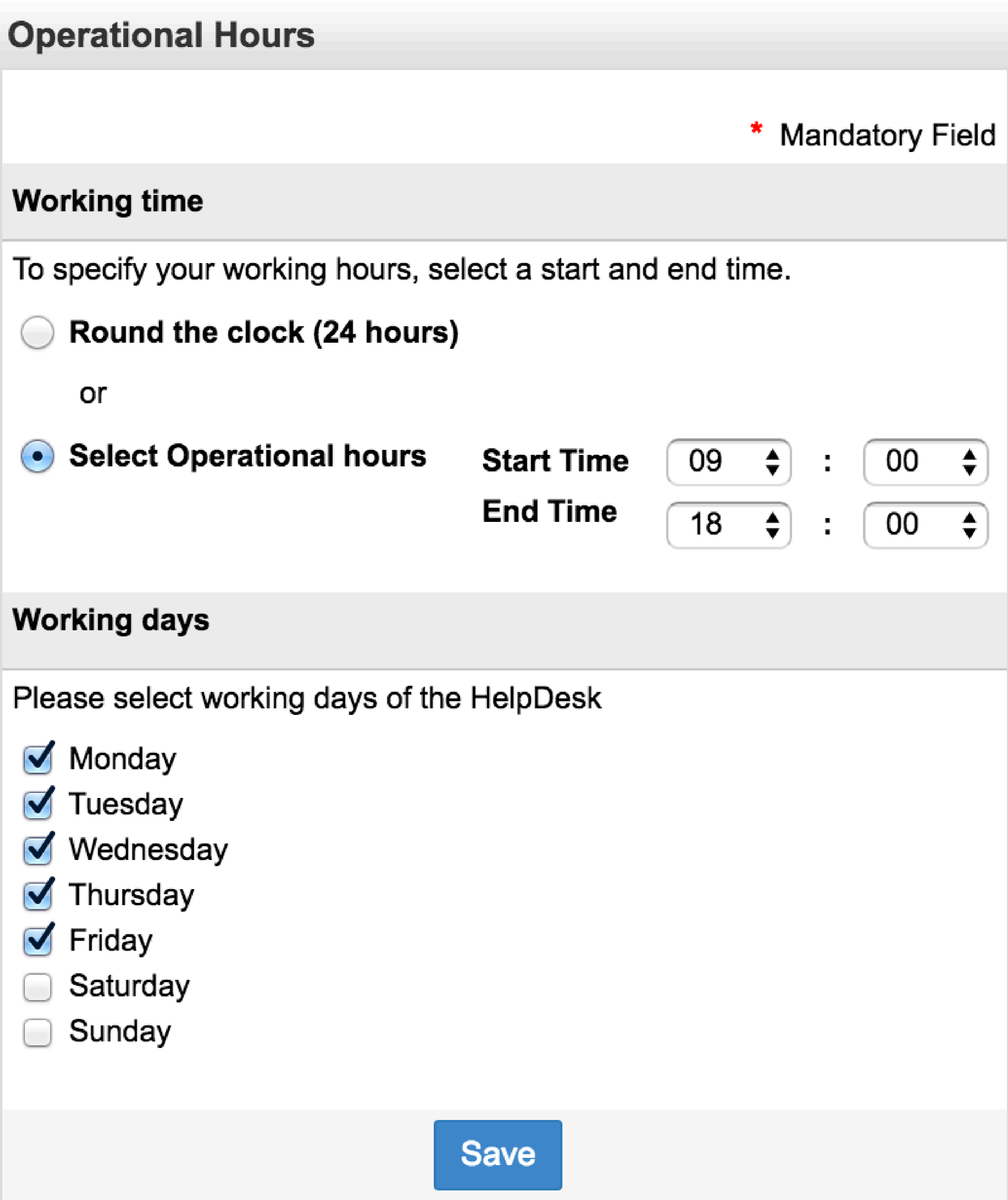
Auto change of site from inactive to active state:
a. Succeeding an Active Directory import, the grayed out site is automatically changed to the active state.
b. On performing a CSV Import of Users and assets.
c. Adding and Editing requesters associated to the inactive site through API.
d. Editing an inactive site through API.

Inactive sites will not be auto activated for the following scenarios:
a. Creating requests through E-mail Command for an inactive site.
b. Creating and Editing Requests, Asset, Technician for an inactive site through API.

Operational Hours

You can set the operational hours of your organization situated in various sites. The operational hours for a site depend on the time zone configured for that site. The operational hours that you configure is used while calculating the request due by date and time. To set the organization's operational hours,

1. Login to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Organizational Details block, click **Operational Hours**. The **Operational Hours** form is displayed as shown below,



4. Select the site from the Operational hours for comb box. By default, the Operational hours for combo box will display Default Settings.

	Note: The Site Admin can set the operational hours for the sites to which he is associated. The sites can be selected from the Operational Hours for combo box. The Operational hours for combo box will appear if the site is configured in Admin- Sites.

5. If your organization works round the clock, then select Round the clock (24 hours) radio button. If you do not work round the clock then, select the radio button beside Select Operational Hours. Specify the working hours of your organization by selecting the Start Time and the End Time from the drop down boxes.
6. Now, select the days that your organization works by selecting the check boxes provided beside the days of the week.
7. Click **Save**.

You can also view the operational hours of a site by selecting the site from Operational Hours for combo box.
If you have already set the operational hours and wish to modify the same, you still need to follow the same procedure as specified above. But in this case, when you click **Operational Hours** from the **Admin Home** page, it will open the **Operational Hours** form with the details that have been set earlier. You can make the necessary modifications and then click **Save**.

Holidays

You can set the holidays of your organization that is situated in various sites using the **Holidays** option available in the **Admin** page. This has the list of holidays during which the firm would remain closed and is exclusive of the weekly holiday when the firm does not function. You can also set repeated holidays such as, New Years Day, to an organization in a site. Thus by doing so, you need not manually add the holiday every year in the Holidays option. The holiday list along with the operational hours will be used for calculating the expected completion time of a service request, depending on the priority or SLA applicable to that request. To open the holiday configuration page,

1. Login to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Organizational Details block, click Holidays. This displays the Default Settings of the available list of holidays. You can add, view, edit, or delete holidays for a particular site.

Note: The Site Admin can add and view the holidays to the site which he is associated. To view the holidays in a particular site, select the site from the Holidays for combo box.
If the sites are not configured then the Holidays for combo box will not appear. To configure the sites refer Sites under Organizational Details block.

Add a Holiday

To add holidays in a site,

1. Select the site for which you want to add the holiday from the Holidays for combo box. If the sites is not selected then the holidays gets added under Default Settings.
2. Click **Add New Holiday** link available at the top right corner of the **holiday list** page. This opens the Add New holiday form.
3. Select the Date on which you want to add the holiday by invoking the calendar icon . This is mandatory field.
4. Enter a brief description of the significance of the holiday in the Description text field.
5. If the holiday occurs every year such as, 25th December (Christmas), then enable Check if this is recurring holiday check box. This will automatically add the holiday every year for the site.
6. Click **Save**. If you do not wish to add the holiday and would like to get back to the holiday list, click Cancel.

Edit a Holiday

1. Select the site for which you want to edit the holiday from the Holidays for combo box. This lists out the holidays for the corresponding site.
2. Click the edit icon beside the holiday **Date** that you wish to edit.
3. Modify the date and the description of the holiday, and enable/disable the 'check if this is recurring holiday' check box in the **Edit Holiday** form.
4. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Delete Holiday

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1. Select the site for which you want to delete the holiday from the Holidays for combo box. This lists outs the holidays in that site.
2. Enable the check box beside the holiday **Date which you want to delete from the holiday list page.**
3. Click the Delete button on the left hand side of the page. A dialog box confirming the delete operation appears.
4. Click **OK** to proceed with the deletion. If you do not want to delete the holiday, then click **Cancel**.

Departments

There can be various departments in an organization which can be situated in different sites, and each of these departments has a group of employees managed by a Department Head. In ServiceDesk Plus you can add, edit, or delete the various departments of your organization. These departments are essential while adding requesters and technicians since each requester or technician will be associated to a particular department of the organization.
To open the department configurations,

1. Login to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Organizational Details block, click **Departments**. This displays the available list of departments. You can add, edit, or delete departments.

	Note: The Site Admin can configure the department in the sites which he/she is associated. The list of departments associated to the site can be viewed by selecting the sites from the Departments for combo box. The Department for combo box will appear if the site is configured in Admin- Sites.

Add Department
To add a department for an organization in a site,

1. Select the site for which you want to add the department from the Departments for combo box. By default, the department gets added under Default Settings.
2. Click **Add New Department** link available at the top right corner of the D**epartment list** page. This opens the Add Department form.
3. Enter the **Department Name in the text field**. This is mandatory field.
4. Provide a brief Description about the department in the text field provided.
5. The Department Head manages the department and plays a vital role in approving the service request. To select the Department Head, click the icon . The Requester List window pops up. Click on the name of the requester to select the department head.
6. Click **Save**. At any point, if you do not wish to add the department and would like to get back to the department list from the add department form, click **Cancel**.

Edit Department
To edit an existing department,

1. Select the site for which you want to edit the department from the Departments for combo box. This lists out the available departments corresponding to the site.
2. Click the edit icon beside the **Department Name** that you wish to edit. This opens the **Edit Department** form.
3. Modify the department name and its description.
4. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Delete Departments

1. Select the site for which you want to edit the department from the Departments for combo box.
2. Enable the check box beside the department name which you wish to delete from the department list page.
3. Click Delete button. A dialog box confirming the delete operation appears.
4. Click **OK** to proceed with the deletion. If you do not want to delete the department, then click **Cancel**.

Business Rules

You can define Business Rules for various sites of your organization. Business Rules enable you to organize the incoming requests (via web form and e-mail) and perform actions such as delivering them to groups, assigning status and other request parameters. Business Rule can be applied to a request when it is created (or received), edited or both. Notification can also be sent to the technicians once the Business Rule is executed.
To open the Business Rule configurations page,

1. Login to the ServiceDesk Plus application with admin username and password.
2. Click the **Admin** tab in the header pane.
3. In the **Organizational Details** block, click **Business Rule**. The resulting page displays the available list of business rules under the Default Settings. You can add, edit, delete or organize business rules of a particular site.

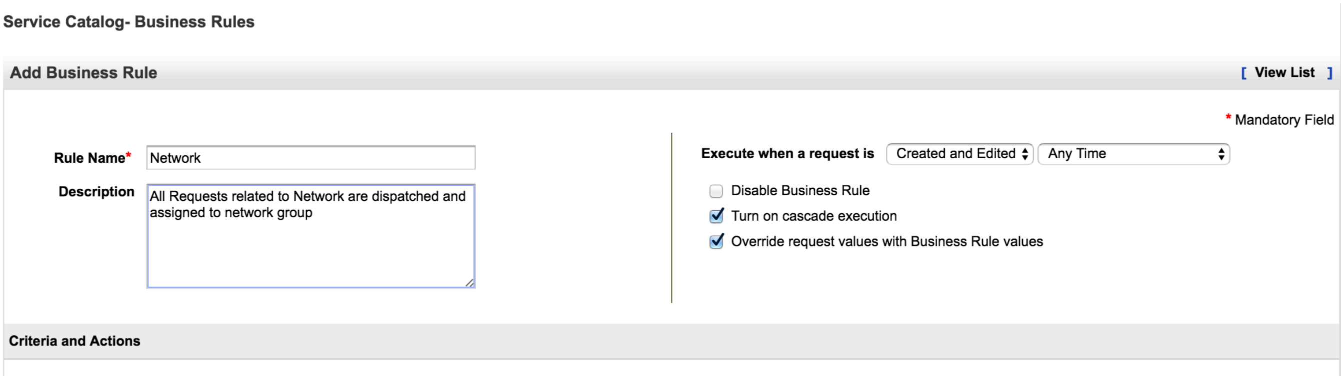
> **Note**: The Site Admin can add and view the business rules to the site which he is associated. To view the business rules of a site, select the site from the Business Rules for combo box. If the sites are not configured then the Business Rules for combo box will not appear. To configure the sites refer Sites under Organizational Details block.

Add a Business Rule

To add a Business Rule,

1. Click **Add New Business Rule** link available at the top right corner of the **Business Rules List** page.
2. The Add Business Rule form consists of three blocks to be configured namely, Business Rule Details, Criteria and Actions and Notification.

Business Rule Details
The details of the Business Rule are exclusively for the newly added business rule.



1. Specify a unique Rule Name in the given text field. It is a mandatory field.
2. The Site selected in Business Rules for drop down box is displayed in non-editable text.
3. Provide the content to describe the business rule in the Description text field.
4. Business Rule can be executed on a request when it is created via web form (or received via email), edited or both on choosing the options from Execute when a request is drop-down list. By default, the 'Created' option is selected.
5. You can disable a Business Rule by selecting Disable Business Rule check box. On disabling a Business Rule,

the rule will not get executed on any new or edited request. The disabled business rule will be marked in grey in the list view.

6. By default, the execution of the business rule will stop once a rule is applied on a request. To continue execution of successive business rules even after a business rule is applied on a request, select Turn on Cascade Execution check box.
7. By default, when a business rule is applied, the request values will be changed with the values in the business rule only if the request value is empty. If the request value is not empty, the business rule value will not be applied. To override the request values with the values in the business rule enable Override request values with Business Rule values.

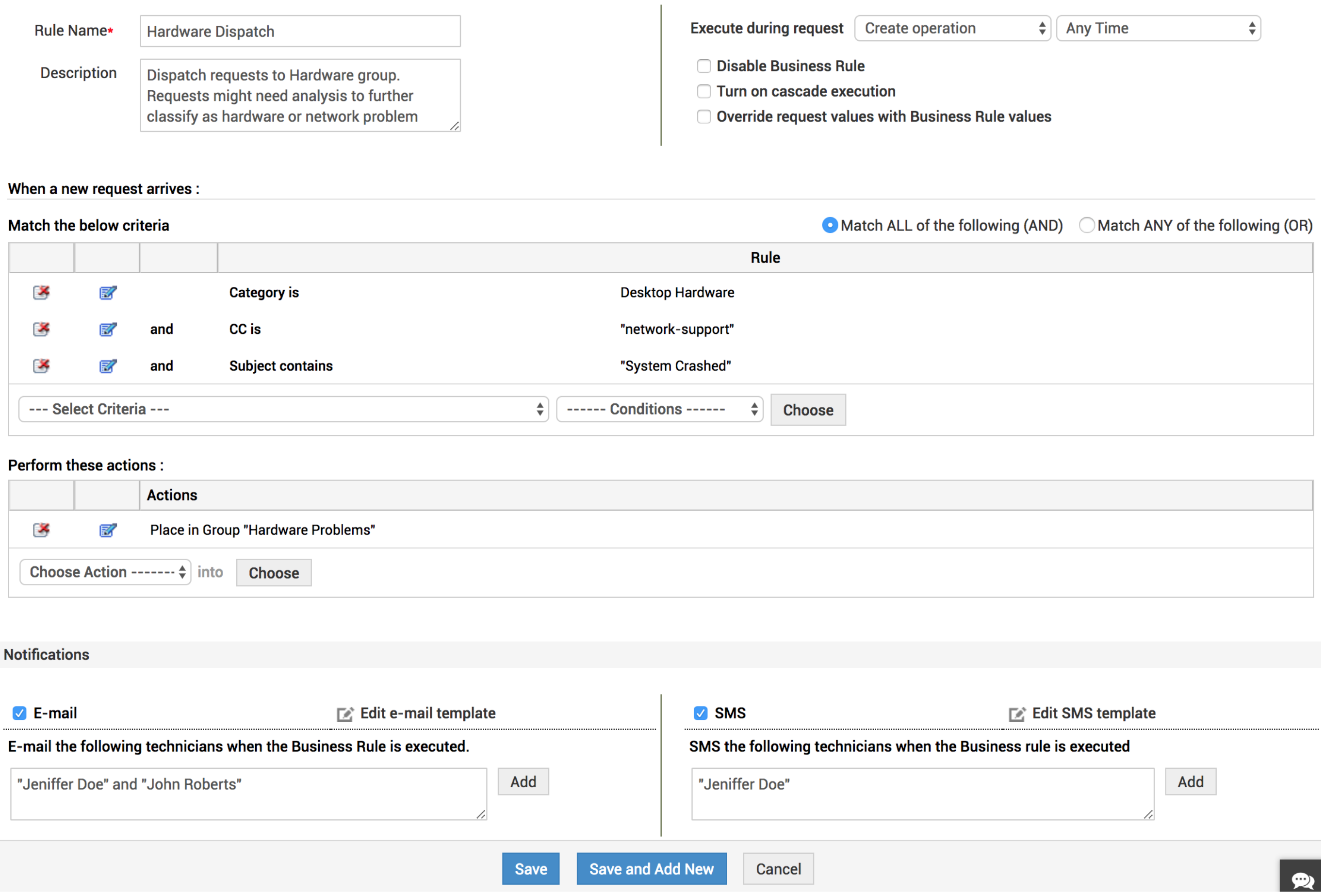
   Example: If the Priority in a request is set to 'High' and the Actions Set in the business rule is 'Set Priority to Low', then the priority is automatically set to 'Low' when the business rule is applied.

Note: Bulk actions such as delete, disable/enable business rules, turn on/off cascade execution can be performed on a business rule by selecting the check box beside the business rule and click Actions drop down button.

To turn on/off cascade execution to a business rule from the list view, click the icon beside the business rule. A confirmation message appears. Click Ok to continue. The icon will be grayed if the cascade execution is discontinued.

Criteria and Actions

Under this block, define the rules and criteria that need to be satisfied by the incoming request.



1. Select the Criteria and Condition from the respective drop-down list, and then the individual values that need to be matched by clicking the Choose button. The values from the database for those particular parent criteria

that you chose from the drop down list opens. Choose the values you want and click OK.

Example: If you want to match the requester name John, then select Requester Name in the Select Criteria drop down box. Now select the condition is or is not from the drop down list. The list varies for each criterion. Click Choose button to open the list of requesters in a pop-up window. Select the requester name from the list and click OK. For multiple selection, press Shift or Ctrl key while selecting the names. The selected names appears in the text box just beside the choose button.

2. Click Add to Rules to add the defined rule to the rules table.
3. By default, the radio button Match ALL of the following is selected. If you do not want all of them to be checked but if it is enough if any one of the rules are matched, then select the radio button Match ANY of the following.
4. After defining the rules, you need to define the actions that need to be performed on the request matching the criteria. Choose the action from the Choose Action drop down list.
5. Click Choose button to select the values for the chosen action.

Example: If the action you had chosen was to Place in Group, then click the Choose button to display the list of groups available in the corresponding site. Select the group to which the request has to be placed and click Ok.

Business rules now allows you to execute scripts. To learn more about script execution, click here.

1. Click Add to add the action in the actions table.

Notification
You can send Email and SMS notification to technicians once a business rule is applied.
Caution: Configure Mail Server Settings before enabling Notification.
To enable Email notification,

- Select the check box beside Email. Click Add to select the list of technicians from Select Assign to Technicians pop up window. Click OK to add the technicians.

To enable SMS notification,

- Select the check box beside SMS. Click Add to select the list of technicians from Select Assign to Technicians pop up window. Click Ok to add the technicians.

To edit the Email Template,

- Click Edit Email Template link to open the email template form. Make the required changes in the Subject and Message text field. Click Ok.

Click **Save**. If you want to add more than one business rule, then click **Save and Add New.** At any point, if you do not wish to add the business rule and would like to get back to the business rules list from the add business rule form, click **Cancel**.

Edit a Business Rule

To edit an existing business rule,

1. In the **Business Rules List** page, click the edit icon beside the **Business Rule Name** that you wish to edit.
2. In the **Edit Business Rule** form, you can modify all the fields mentioned in the add business rule form.
3. To edit the Match the below criteria set, click the edit icon beside the individual criteria. The respective selection window is opened in a separate pop-up. You can choose more values or remove a few values by de-selecting them.
4. You can also delete criteria completely. To delete criteria, click the delete icon beside the individual criteria.
5. In the actions to be performed, you can add new actions, edit or delete the existing actions.
6. Click **Save** to save the changes performed. At any point you wish to cancel the operation that you are performing, click **Cancel**. Even while editing a business rule, if you wish to add another new business rule, then click **Save and Add New** button.

Delete Business Rule

1. From the **Business Rule List** page, enable the check box beside the **Rule Name** you wish to delete.
2. Click Actions drop down button, and select the Delete option. A confirmation dialog opens.
3. Click **OK** to proceed with the deletion. If you do not wish to delete the business rule, then click **Cancel**.

Organize Business Rules

Organizing the business rules decide the order in which the rule is applied on the incoming request. You can organize the business rule to appear in a particular order in the list view,

1. Select the site for which you wish to rearrange the order of the business rule from the Business Rules for combo box.
2. Click Organize Business Rules link at the top tight hand corner of the Business Rules List view page. A pop-up window opens displaying the list of available business rules in the order that is appearing in the list view.
3. Select a business rule, and click Move up or Move Down button beside the list.

4. Click Save.

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Business Rules - Execute Script action

With **Execute Script** action in business rules, you can validate requests and update field values to automate request workflows. You can use scripts for validation of requests that involve complex conditions, requests that use third-party application inputs, and for validations based on service template resources.
You can execute business rule scripts on requests incoming through browser, API, mobile, and mail.

Use cases:

- ### Update request fields based on field values in a different module or an application.

A user logs a service request for an asset.
In this case, you can write a script to automatically check the asset availability, then allocate it to the request, and update the asset status in the **Asset** module.

- ### Stop a request operation at any point in time.

You can simply define what's not allowed for a requester or a technician, whether it's data modification or the operation itself in any given stage of the request processing.
A user logs a service request for a new laptop. During this request processing, you can use Business Rules script execution in the following cases:

- After the approver approves the request, technician or requester should not be able to change the request's input.
- The technician shouldn't be allowed to change the request status to **Waiting for Purchase** unless the request is approved.
- When the technician delivers the item to the requester, the technician should only be allowed to change the request status as **Resolved** and not **Closed**. Only the requester should be allowed to close the request after verifying the received item.

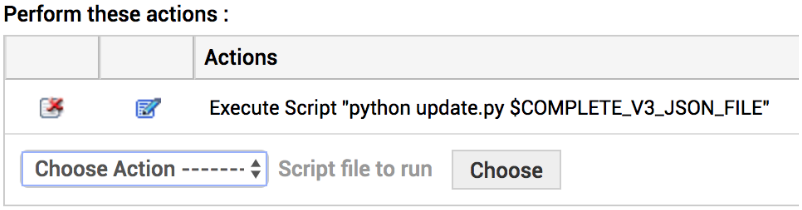
- ### Stop a request from creation itself.

To prevent request duplication when the same requester raises a request for the same category, sub-category, and item.

To add a command in a business rule

- Go to **Actions**, select **Execute Script** and click **Choose**.
- On the displayed page, enter the command to execute the script file and click **Save**.

Sample command:



In the above screenshot, **update.py** is a script file (to validate and update field values) and **python update.py $COMPLETE_V3_JSON_FILE** is the command configured to execute the script.

Parameter supported—$COMPLETE_V3_JSON_FILE

$COMPLETE_V3_JSON_FILE denotes the path of a file that has complete request details, previous and updated field values in the JSON format. The file is temporary and it will be automatically deleted after the script is executed. The temporary JSON file is created in SDP_Homeintegrationcustom_scriptsrequest directory, file name being <requestid_timestamp>.json.

$COMPLETE_V3_JSON_FILE structure

```
{
  "request": {
    <all request properties in V3 format>
  },
  "diff": {
    "old": {
      "request": {
        "priority": {
          "id": "4",
          "name": "High"
        },
        "urgency": {
          "id": "3",
          "name": "Normal"
        },
        "impact_details": "High impact for servers"
      }
    },
    "new": {
      "request": {
        "priority": {
          "id": "1",
          "name": "Low"
        },
        "urgency": {
          "id": "4",
          "name": "Low"
        },
```

```
        "impact_details": "Low impact for servers"
      }
    }
  },
  "LOGIN_NAME": "administrator",
  "LOGGEDIN_USER_TYPE": "Technician",
  "LOGGEDIN_USER_NAME": "administrator",
  "OPERATION_TYPE": "add"
}
```

Input provided to $COMPLETE_V3_JSON_FILE temp file

Input is in JSON. Here the **request** key contains all the request fields in V3 API format except for resolution, first_response_due_by_time, due_by_time, and sla.

Additional information given in the input file

a. LOGIN_NAME
b. LOGGEDIN_USER_NAME
c. LOGIN_USER_ID
d. LOGGEDIN_USER_TYPE
e. OPERATION_TYPE

Output JSON format for custom scripts

The script for requests file should return a JSON which has the success/failure status and a message which will be displayed in the history tab of the request.
General format:

```
{

  "result": "success",

  "message": "Message"

}
```

- Result denotes the success/failure status of the action.
- Message is the information to be displayed in the request's history tab.

The server script must write the output JSON (if any) to the same temp file that is provided to the script. You must not invoke external API calls to update the same request because this will not allow the updated values to be carried forward to the cascading business rules.

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Operations Supported

You can perform **Update** and **Negate** operations using the JSON return.

Example for Update operation


```
{
  "result": "success",
  "message": "Sample Python script",
  "operation": [
    {
      "OPERATION_NAME": "UPDATE",
      "INPUT_DATA": [
        {
          "request": {
            "urgency": {
              "name": "High"
            },
            "group": {
              "name": "Network"
            },
            "priority": {
              "name": "High"
            }
          }
        }
      ]
    }
  ]
}
```


Fields that can be Updated

email_ids to notify	created_time	assets
udf_fields	service_category	category
subcategory	item	group
status	priority	mode
level	impact	urgency
impact_details	request_type	technician
	resources	is_fcr

Example for Negate operation

```
{
  "result": "success",
  "operation": [
    {
      "OPERATION_NAME": "NEGATE",
      "REASON": "Negate Reason"
    }
  ]
}
```


Click here to view the sample script for the below use case:

Technician mustn't be allowed to change the request status to **Waiting For Purchase** unless the request is approved.

To learn more about writing a custom script, click here.

Writing a Custom Script Using Python

You need working knowledge of:

- JSON
- Python

Custom Script File Structure

1. Import required packages
2. Get input arguments
3. Implement the logic
4. Return JSON

Frequently Used Packages

Package	Usage
Sys	Fetches the input arguments
json	Manipulates JSON data
requests	Makes API calls
datetime	Transforms time from milliseconds to the required date format

Getting Input Arguments

The script file arguments can be fetched using sys.argv[index] where index starts from 1 to the number of arguments passed.
When the argument passed is $COMPLETE_V3_JSON_FILE (the path to the file containing the request JSON), the JSON file can be read using the following snippet:
file_Path = sys.argv[1]
with open(file_Path) **as** data_file:
data = json.load(data_file)

Implementing the Logic

Snippet to make API call:
with requests.Session() **as** s:
url = '*api_url*'
r = s.post(url,verify=True, data=*post_data*,headers=*headers*)

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Construct the api_url, post_data and headers as required.
Snippet to transform time from millisec to required date format:
date = datetime.datetime.fromtimestamp(int(millisec)/1e3).strftime('%d %b %Y, %H:%M:%S')

Constructing Return JSON

A sample JSON such as {"key":"value"} construction:

json = {}
json["key"] = "value"
print(json)

A sample JSON array such as [{"key":"value"}] construction:

json = {}
json["key"] = "value"
result = []
result.append(json)
print(result)

<<Sample Scripts>>

Use Case

Technician mustn't be allowed to change the request status to **Waiting For Purchase** unless the request is approved.

Below are the list of Packages used in the script

```
import sys, requests

import json,os

import datetime


################ Method Definition Starts #############


# ------------------ Function to parse input from Request JSON file-------------------
---


def read_file(file_Path, key=None):

    with open(file_Path) as data_file:

        data = json.load(data_file)

    if key==None:

        return data

    else:

        dataObj = data[key]

        return dataObj



#----------- Function to get diff json old value FOR V3 Format -------------------

# Will return old value present in the diff json


def getValueFromDiffJSON_V3(diffJSON,key):


    try:

        if key in diffJSON['old']:

            if(isinstance(diffJSON['old'][key],dict)):
```

```
                return diffJSON['old'][key]['name']

            else:

                return diffJSON['old'][key]

        else:

                print("No value present in Diff JSON")

    except:

        print("Unexpected error in parsing diff json"+diffJSON)


#------------ Constructing the Json Object for updating the request.---------


# data is Json that will have the Field Name/Value that needs to be updated in the
request

# data = {"LEVEL":"TIER 1","PRIORITY":"High","IMPACT":"High"}

# Need to pass the data to actionPlugin_constructReqJSON to vet the full json

# UPDATE,Negate are supporting for V3.


def
actionPlugin_UpdateRequest(data,OperationName="EDIT_REQUEST",module=None,additionalPar
ams=""):

     if module is not None:

         temp={}

         temp[module]=json.loads(data)

         tempString=json.dumps(temp)

         data=tempString

     json_data = '''{

         "INPUT_DATA": [''' + data +    '''],

         "OPERATIONNAME": "''' + OperationName + '''",

        ''' + additionalParams + '''

     },'''

     return json_data


#------------ Constructing the Json for default return functionality.---------
```

```
# Use a combination of above two functions to construct the data parameter

# data = actionPlugin_AddNote("Ticket has been created in JIRA and information
populated in SDP")


def actionPlugin_constructReqJSON(data, message="Request Updated Successfully"):

     json_data = '''{

              "message":"''' +message + '''",

              "result":"success",

              "operation":[''' + data + ''']

              }'''

     return json_data



################ Method Definition ends #############



# File containing request details will be stored as json object and the file path will
be passed as argument to the script replacing the $COMPLETE_JSON_FILE argument

file_Path = sys.argv[1]

# Load the json content which contains request details (Changed)

requestObj = read_file(file_Path,'request')

diffObj = read_file(file_Path,'diff')

status=requestObj['status']['name']

appr_status=requestObj['approval_status']['name']



if  appr_status!=None and appr_status!="Approved" and status=="Waiting For Purchase":


     #Constructing the Json Object for updating the request.


    #The following is a Sample of the JSON structure for Updating a Request.

     '''{

         "result": "success",

         "operation": [
```

```
        {

             "OPERATIONNAME": "NEGATE",

            "REASON": "Negate Reason"

             }

        ]

        }'''


     message = "Cannot change the request status to "+status+" unless the request is
approved"

     #Creating the Json that will have the Field Name/Value that needs to be updated
in the request

     updatejson =
actionPlugin_UpdateRequest("","NEGATE",additionalParams='''"REASON":"'''+message+'''"'
'')

     returnJson = actionPlugin_constructReqJSON(updatejson,message)

     #Returning the Constructed Json Object

     print(returnJson)


elif  appr_status!=None and appr_status=="Pending Approval":


    #The following is a Sample of the JSON structure for Updating a Request.


     '''{

       "result": "success",

       "message": "Sample Python script",

       "operation": [

         {

           "OPERATIONNAME": "UPDATE",

           "INPUT_DATA": [

             {

               "request": {

                 "urgency": {

                   "name": "High"
```

```
                 },

                 "group": {

                   "name": "Network"

                 },

                 "priority": {

                   "name": "High"

                 }

               }

             }

           ]

         }

       ]

     }'''


     message = "Set priority to High when approval status is Pending approval"

     #Creating the Json that will have the Field Name/Value that needs to be updated
in the request.

     updatejson =
actionPlugin_UpdateRequest('''{"priority":{"name":"High"}}''',"UPDATE","request")

     returnJson = actionPlugin_constructReqJSON(updatejson,message)

     #Returning the Constructed Json Object.

     print(returnJson)


else :

     print("No changes found") # This message will be printed in the History if not of
the Conditions in the Script was matched.
```

Service Level Agreements

You can have Service Level Agreements (SLAs) defined for intra-organization service provided by the IT help desk team. These SLAs help evaluating the efficiency, effectiveness, and responsiveness of your help desk team. The SLAs can be defined for each individual, or departments, or workstations in a site. The priority for an incoming request is automatically set if the request is governed by an SLA rule. Also, if the request is not attended and resolved within the time specifications of the SLA, then you can set the escalation rules.

To open the SLA configurations page,

1. Login to the ServiceDesk Plus application with admin username and password.
2. Click the **Admin** tab in the header pane.
3. In the Organizational Details block, click **Service Level Agreement**. The SLA list page opens. You can add, edit, or delete SLAs.
4. By default, all SLA based mail escalations will be enabled. If you wish to disable the escalation click Disable Escalation button.
5. By default, there are four SLAs set namely, High, Medium, Normal, Low SLAs. You can also add more SLAs to the list.

Note: The Site Admin can configure the SLA for the sites to which he is associated by selecting the site from the Service Level Agreement for combo box. The list of all SLAs corresponding to the selected site gets displayed. If the sites are not configured then the Service Level Agreement combo box will not appear. To configure the sites refer Admin- Sites.

Add a Service Level Agreement

To add an SLA,

1. Select the site to which you want to add the SLA from the Service Level Agreement for combo box. By default, the 'Default Settings' option is selected.
2. Click **Add New SLA** link at the top right corner of the **SLA list** page.
3. In the Add New SLA form, specify the SLA Name in the text field provided. It is a mandatory field.
4. The Site selected in Service Level Agreement for drop down box is displayed in non-editable text.
5. If required, you can provide a corresponding D**escription** for the SLA.

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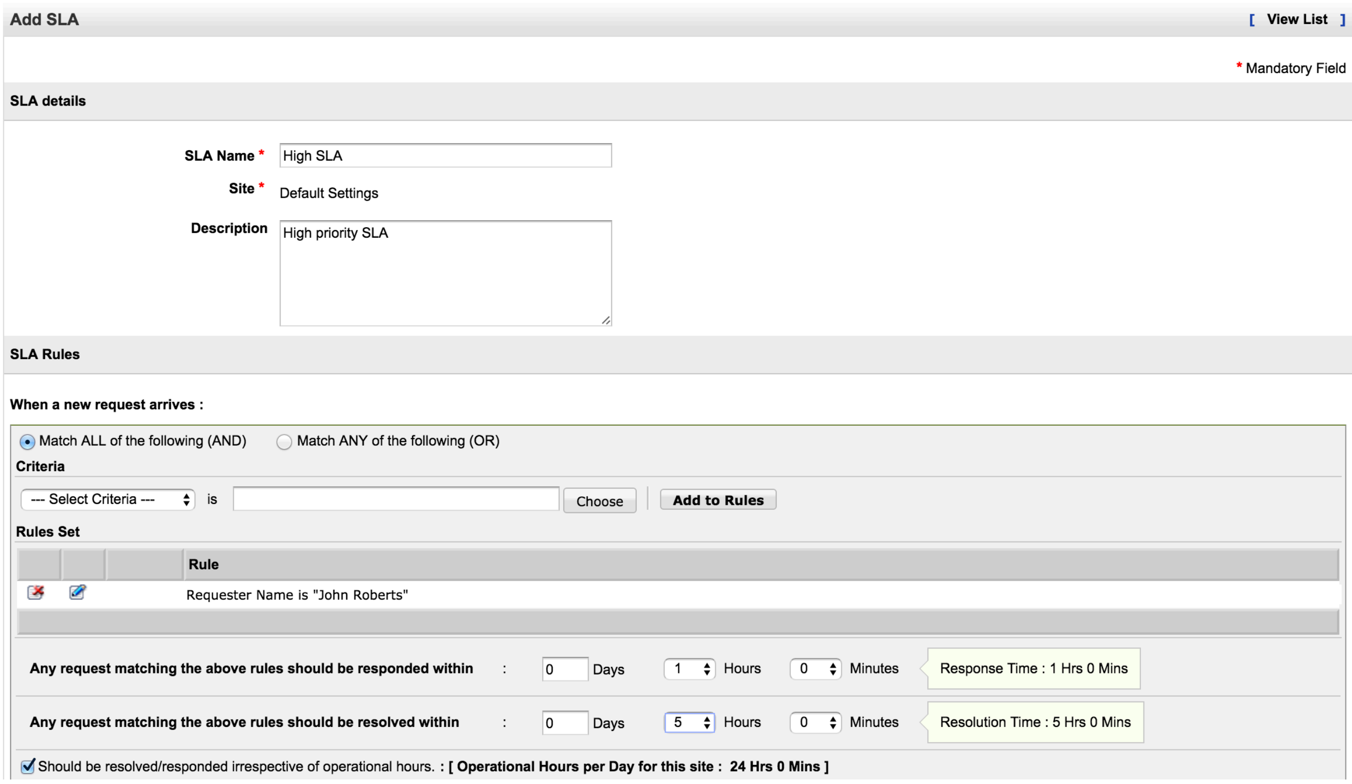

6. In the SLA rules block, set the rules and criteria for the SLA. By default, the radio button Match ALL of the following is selected. If you do not want all of them to be checked but if it is enough if any one of the rules are matched, then select the radio button Match ANY of the following.
7. Select the Criteria and Condition from the respective text box, and then choose the individual values that need to be matched by clicking on the choose button. The values from the database for those particular parent criteria that you chose from the drop down list opens. Choose the values you want and click OK.

   Example: If you want to match the requester name John, then select Requester Name in the combo box. Now click Choose button, to open the list of requesters in a pop-up window. Select the requester name from the list and click Select. For multiple selection, press Shift or Ctrl key while selecting the names. The selected names will appear in the text field just before the choose button.
8. Click Add to Rules to add the defined rule to the Rules Set.
9. Set the Response Time and the Resolution Time in terms of days, hours and minutes.

   Note: The Response Time is the initial response sent out by the technician to the requester for a request. Automatic replies from Service Desk Plus will not be counted as a response. The specified response time should be less that the resolution time.
10. If you want this duration to override the operational hours, the select the check box beside Should be resolved irrespective of operational hours. By selecting this, you will be overriding the operational hours of your organization and the due by time will be calculated from the creation time without taking into consideration the holidays and operational hours.
11. The request can be escalated to other technicians when the request is not responded or resolved within the

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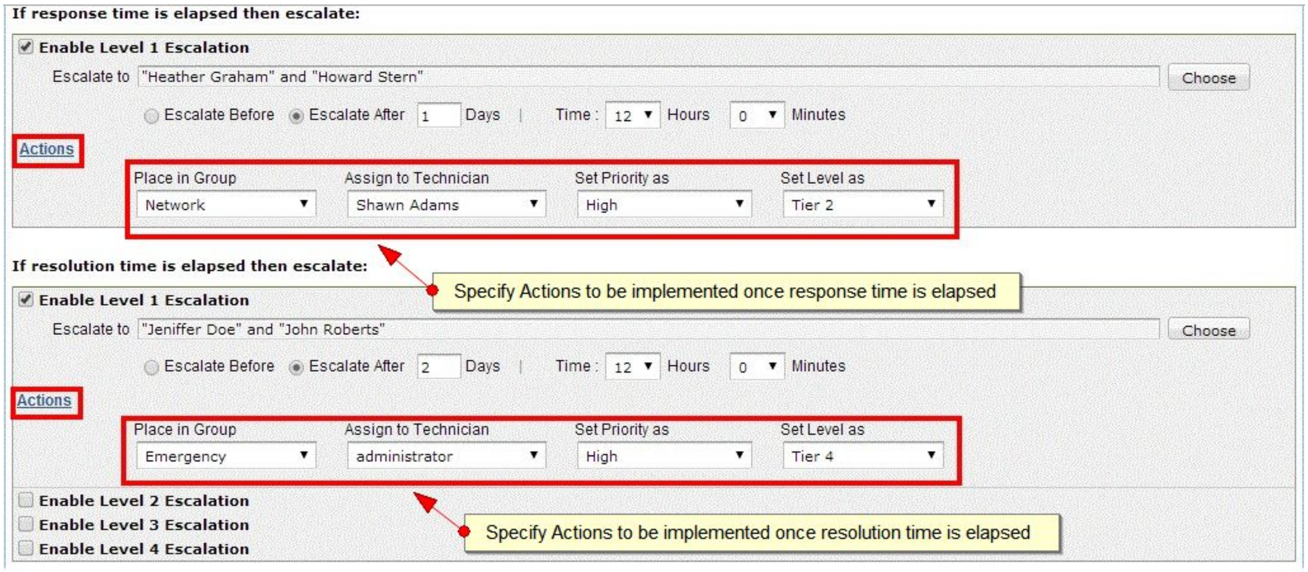
specified time. There are two blocks of escalations, one for the Response Time and the other for the Resolution Time.



Response Time:
There is only one level of escalation if the response time elapses.

1. To enable escalation, select the check box beside Enable Level 1 notification.
2. Click Choose button to choose the technicians to whom the SLA violation should be escalated.
3. You can choose to escalate before the violation or after the violation.If you wish to escalate the request before the SLA violation then click Escalate Before option. Specify the number of days before the SLA violation is about to happen in the text box. This is to escalate to the technician about the onset of the violation. You can also specify the time of escalation.
4. Similarly, click Escalate After option to escalate after the violation. Specify the number of days after the SLA violation has occurred in the text box. You can also specify the time of escalation.
5. You can also choose to specify **Actions** that should be taken once the request has **elapsed the response time**. To do so click **Actions** link and choose the actions based on your requirements. You can specify the following:

Assign **new technician group** to the escalated request
Assign **new technician** to the escalated request
Assign **new priority** to the escalated request
Set **new level** to the escalated request
Resolution Time:
There are 4 levels of escalation if the specified resolution time elapses.

1. To enable escalation, select the check box beside Enable Level 1 notification.
2. Click Choose button to choose the technicians to whom the SLA violation should be escalated.
3. You can choose to escalate before the violation or after the violation.If you wish to escalate the request before

the SLA violation then click Escalate Before option. Specify the number of days before the SLA violation is about to happen in the text box. This is to escalate to the technician about the onset of the violation. You can also specify the time of escalation.

4. Similarly, click Escalate After option to escalate after the violation. Specify the number of days after the SLA violation has occurred in the text box. You can also specify the time of escalation.
5. Here too, you can choose to specify **Actions** that should be taken once the request has elapsed the response time. To do so click **Actions** link and choose the actions based on your requirements. You can specify the following:

Assign **new technician group** to the escalated request
Assign **new technician** to the escalated request
Assign **new priority** to the escalated request
Set **new level** to the escalated request

Note: You can configure **different set of actions** for all the **4 escalation levels** associated with the resolution time.

9. Click the Save button to save the SLA and return to the list view. If you want to add more than one SLA, then click **Save and Add New.**

At any point, if you do not wish to add the SLA and would like to get back to the SLA list from the add SLA form, click **Cancel**. Clicking the **View List** link on the top right corner of the add SLA form will also take you to the SLA list view.

Edit a Service Level Agreement
To edit an existing SLA,

1. Select the site of the SLA you wish to edit from the Service Level Agreement for combo box. The list of all the SLA corresponding to that site is displayed.
2. Click the edit icon beside the **SLA Name.**
3. In the **Edit SLA** form, you can modify all the fields mentioned in the add SLA form.
4. Click **Save** to save the changes. At any point you wish to cancel the operation that you are performing, click **Cancel**. Even while editing an SLA, if you wish to add another new SLA, then click **Save and Add New** button.

Delete Service Level Agreement

1. Select the site of the SLA you wish to delete from the Service Level Agreement for combo box. The list of SLA corresponding to the site gets displayed.
2. Enable the check box beside the SLA. Click the Delete button. A confirmation dialog appears.
3. Click **OK** to proceed with the deletion. If you do not want to delete the SLA, then click **Cancel**.

Organize Service Level Agreements
Organizing the SLAs decide the order in which the SLA is applied on the incoming request. You can organize the SLA to appear in a particular order in the list view,

1. Select the site for which you wish to rearrange the order of the SLAfrom the Service Level Agreement for combo box.

2. Click Organize SLA link available above the list of SLAs in the SLA List view. A pop-up window is opened with the list of available SLAs in the order that is appearing the list view.
3. Select an SLA, and click Move up or Move Down button beside the list.
4. Click Save.

Notification Rules

You can set notification rules for all modules. To set the notification rules, select the relevant check boxes beside each of the statements listed and click save. You can also customize the email template of the notification rules if required. You can achieve this by clicking the **Customize template** link beside the required statement.
The **Message Template** settings are shown, where you can edit the notification subject and message by adding or deleting variables in the required block.

You can select a few Technicians, whom you wish to notify as soon as a new request is created. To do this select the either of the following check boxes:

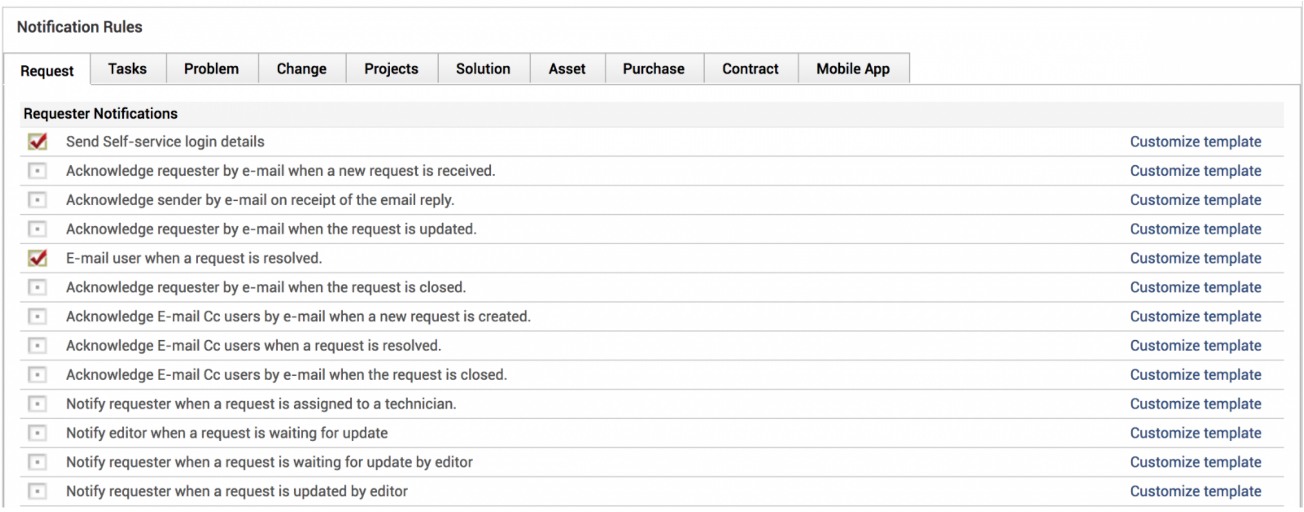
- Notify technician(s) by email when a new request is created.
- Notify technician(s) by sms when a new request is created.

Note:
For all modules, notifications will not be sent to the logged in Technician.

- Say, for notification like, "Alert Technician by Email when a request is assigned.", if a Technician picks up a request then a notification will not be sent to the Technician.
- Similarly, for notifications like "Alert the following technicians by email when a new request is created", notifications will not be sent to the logged in Technician if he is included in the notify list.

Steps to set Notification rules

1. Log in to the ServiceDesk Plus application using the username and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. Under the **Organizational Details** block, click **Notification Rules**. The below wizard is displayed:



4. By default, all notifications are sent in **Rich text formatting**. Click the **Plain Text format** button to convert all the notifications into Plain text format.
5. Click the appropriate tabs to configure for Request, Problem, Change, Solution, Tasks, Projects and Mobile Push Notification modules.
6. To enable or disable any of the notification rules, select or de-select the check box beside each of the rules.

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To receive push notifications in the IOS Application installed on your device, configure the **mobile push notification** module accordingly.
[Note: If proxy servers are used in the organization, then make sure that the proxy settings are configured. To configure the proxy settings, click here].

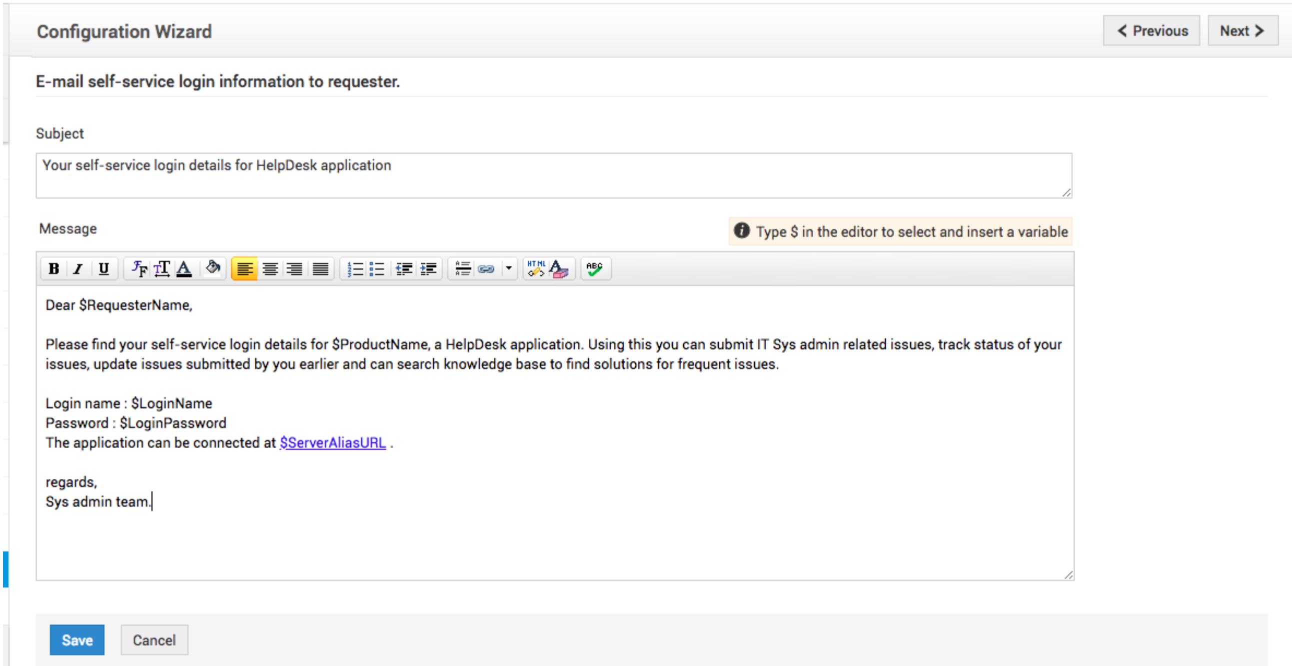
7. For certain notifications, you need to select the technicians who need to be notified when a new request is created.

- Click **Choose** button.
- Select the Technicians from the list of Technicians is displayed in a pop-up window.
- For multiple selections, press **Shift or Ctrl key** and then select the Technicians.
- Click **OK**.
- The selected technicians get listed in the text box beside the **Choose technician(s)** button.
- Click **Save**.

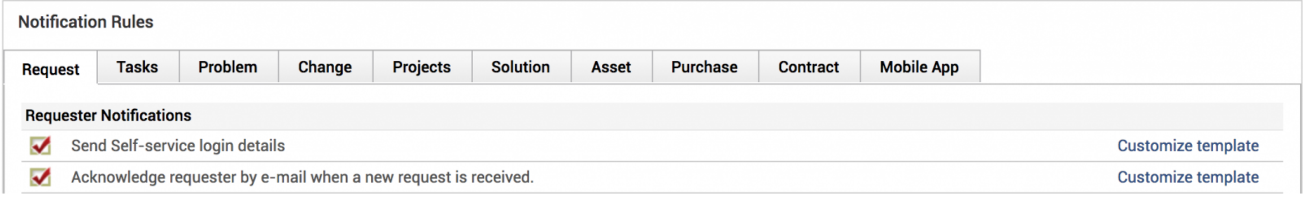
Steps to Customize the Message Template

You can customize the message template for each of the notifications.

1. Click Customize Template link beside the notification for which you wish to modify the content that is being sent. Within the notification message, type $ for a list all variable data that can be captured.

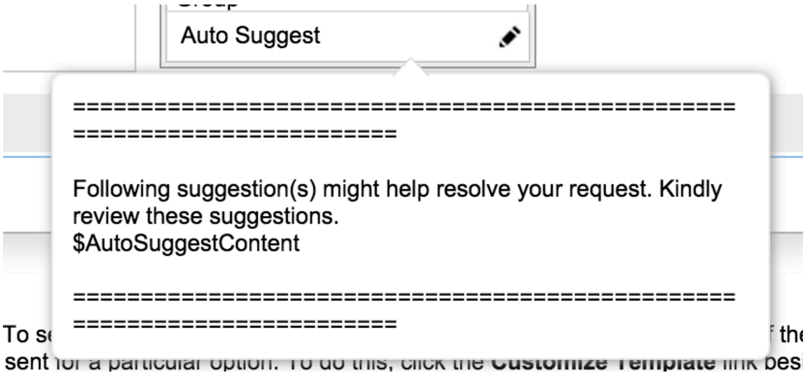


2. When a new request is created by the requester, an acknowledgment mail will be sent to the requester with top 3 announcements and solutions related to that request.
3. To configure the message to be sent in the acknowledgment mail, click **Request** tab under **Notification Rules**.
   In the Requester Notifications, select the check box to **Acknowledge requester by e-mail when a new request is received**. The message to be sent can be entered by clicking **Customize template.**

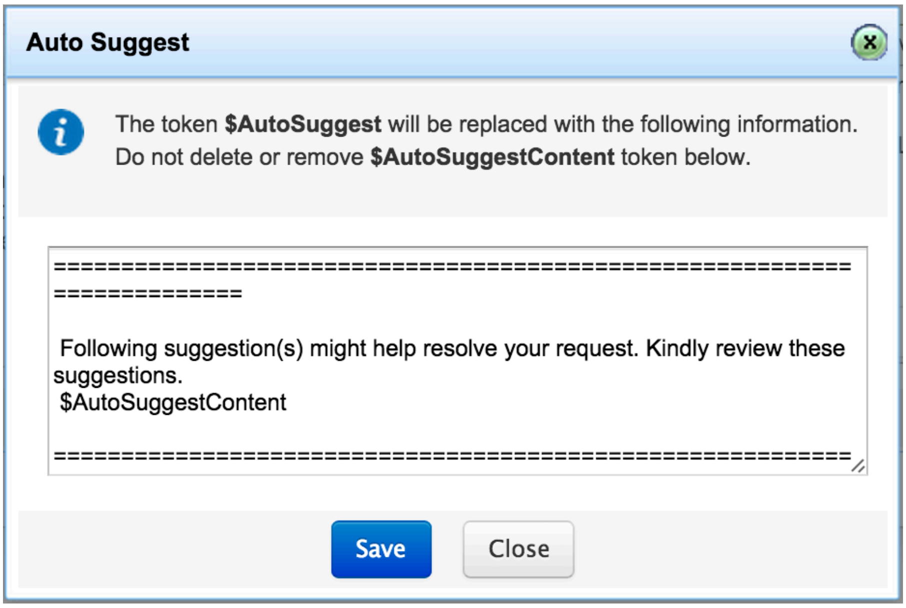


On clicking Customize Template, the Message field appears. Choose Auto Suggest from the list of content variables available.

On hovering over the AutoSuggest field, the default text displayed in place of $AutoSuggest will be displayed.



To edit the message, click on the edit icon present next to Auto Suggest.The following dialogue box appears. Enter the required text and click Save.



Junk Mail Notification

Junk Notification Filters prevents unwanted acknowledgments or notifications being sent to requesters/technicians when an information mail reaches the help desk. These mails are not requests and do not require any action to be taken.

Say, acknowledgment email like Out of Office replies, notifications that bounce back when the mail destination is not reachable (because of a wrong mail address) can be stopped from being acknowledged or notified.

To define a Junk Mail Notification,

1. Click **Edit Criteria** link.
2. Define a rule by selecting the criteria and condition from the drop down combo list.
3. Click **Choose**.
4. Enter the value in the field provided. Click **Save**.

5. Click **Add to Rule**.
6. You can either match all of the following (AND) or match any of the following (OR) criteria. Select an appropriate radio button.
7. Click **Save**.

You can also edit or delete the criteria by clicking the appropriate icon.

Preventive Maintenance Tasks

You can create a Preventive Maintenance Task for regular maintenance such as changing the printer toner every month or perform a regular service shutdown. Creating a preventive maintenance is a two-step process

- Creating a Task Template
- Task Scheduling

To schedule a preventive maintenance task,

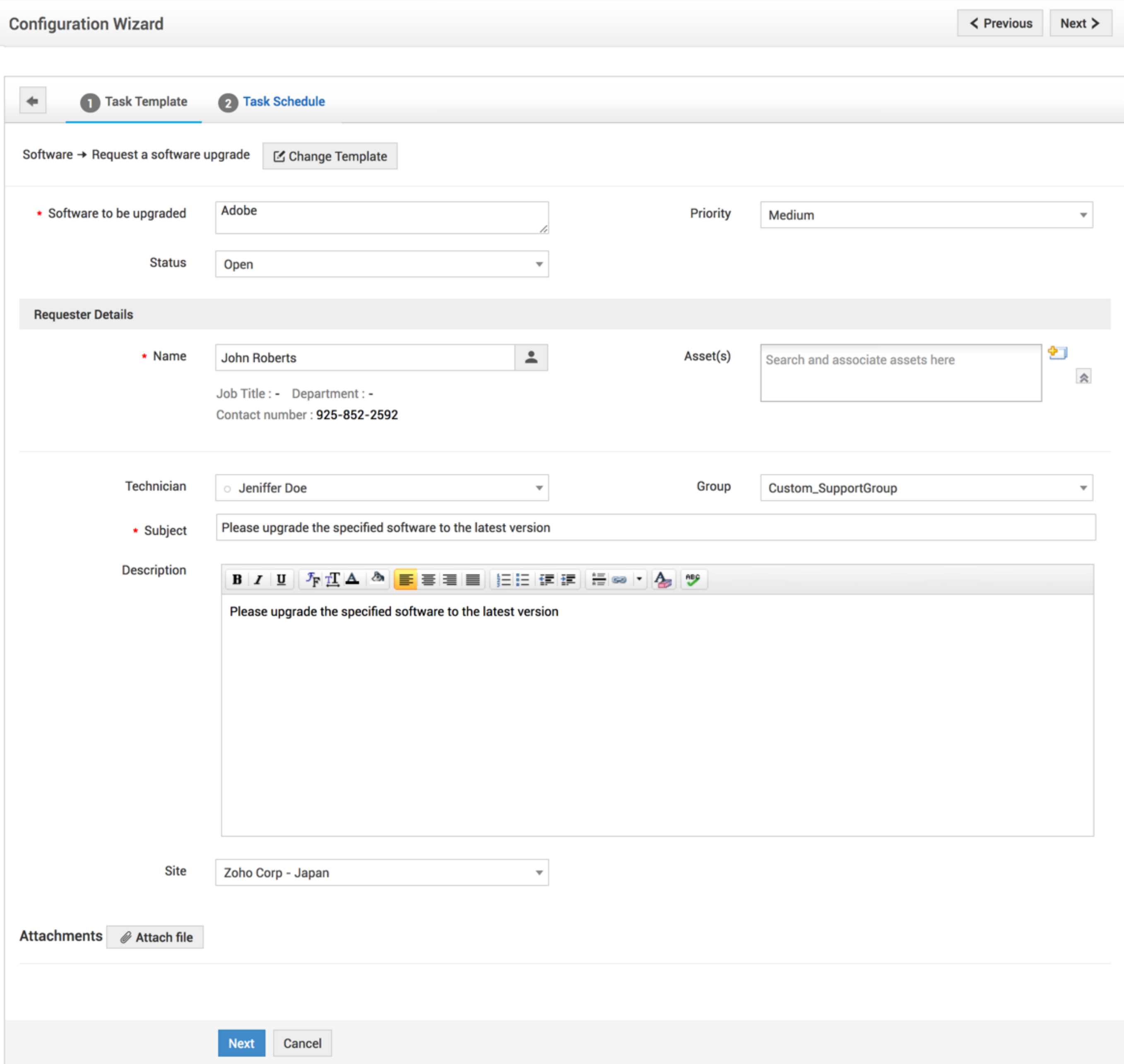
1. Click the **Admin** tab in the header pane.
2. In the **Organizational Details** block, click Preventive Maintenance Tasks. This opens the Request Maintenance Tasks page.
3. Click Add New PM Task link. This opens Add Preventive Maintenance Task page.

Create a Task Template

1. For creating a task template, click on **Select Template** and choose a template from template categories. *Both service and request templates will be listed under the categories.
2. Select the Status of the request, the Mode of request submission, Level, and Priority of the request from the drop-down box.
3. Also, select the Impact, Impact Details, and Urgency of the request from the corresponding drop-down box.
4. In the Requester Details block, specify the Requesters Name, Contact Number, Job Title and Department of the requester.
5. You can select the requester from the list of users configured in the application.
6. Click requester lookup icon beside the requester name field. The Requester List window pops up.
7. To select a requester from the list, click the hyperlinked requester Name. The requester name and details associated with the requester are populated in the requester details block
8. If the requester list is huge, then click on the Alphabets at the top of the page to view only a selected group of requesters.
   - Also, you have an option to edit the requester details directly from this page. Click the edit icon beside the requester name to perform the edit operation.
   - In addition, add new requester directly by clicking the Add Requester button from the requester list page.
   - If you are aware of any requesters details such as name, login name, department, email and so on, then conduct a column-wise search using the search icon .
   - Conduct an instant search for the requester by entering the search string in Search Requester List field and click Go.
9. The assets associated with the requester are populated in the Asset drop down. Select the Asset from the drop down. If the issue is caused by a network resource such as a router or an access point, then click the icon and select the asset.

   In the **Select Assets** pop-up window, you can filter the assets by selecting the **Type of assets** such as access point, routers, workstation and so on, from the drop-down. Selecting **All Assets** from drop-down menu lists all the assets available in the application, irrespective of the asset type.

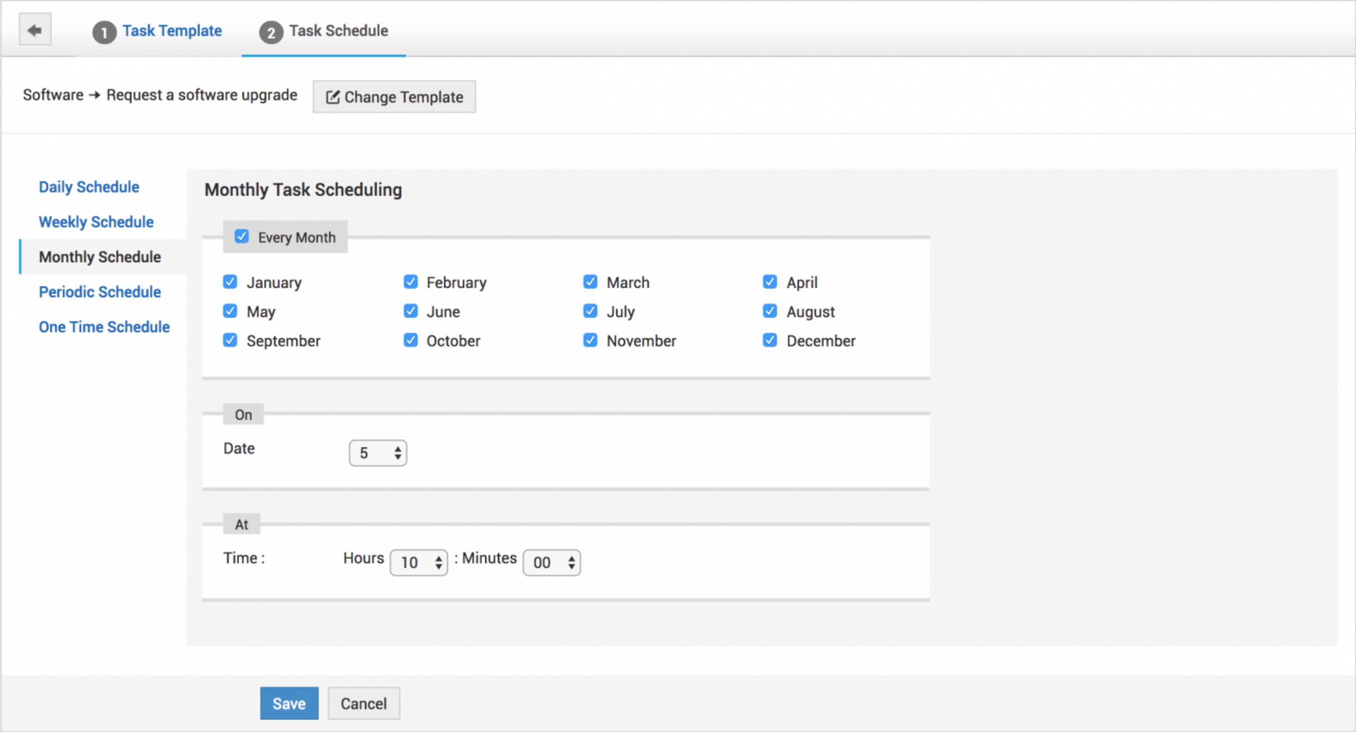
10. By default, if the location of the requester is configured in the application, then the same is populated in the Site field. In certain scenarios, the requester may raise a request from one site to a problem on another site. In this case, the site in which the issue persists should be selected.
11. On selecting the site, the groups corresponding to the site gets populated under the Group field. The request is routed to the particular group by selecting the Group name from the drop down.
12. On selecting the Group, technicians associated with the Group alone are listed in the Technician drop-down list. Select a Technician to handle the request from the drop down.
13. Select the Service Category which is affected by the incident from the drop down.
14. Select the relevant category under which the request is classified from the Category drop-down box.
15. Also, select the relevant Sub-Category and Item from the drop-down box.
16. Specify the subject line to be displayed while sending the request in the Subject text field. The subject line is displayed as the request's title and is a mandatory field.
17. Provide a detailed description with any other associated details relevant to the request in the **Description** text box.
18. To attach a file to the task template click Attach File button to attach files.
19. Click Next>> button for Task Scheduling.



Note: You can change the template by click on the Change Template button at the top of the configuration wizard.

Task Scheduling

To schedule a task, select the time frame from the listed options:



Daily Schedule: To run a daily maintenance task, click Daily Schedule radio button.

1. Select the Time at which the maintenance task should be scheduled from the combo box.
2. Select the Date on when the maintenance task should be scheduled from the Calendar button.
3. Save the details.

Weekly Schedule: To run a weekly maintenance task, click Weekly Schedule radio button.

1. Select the day of the week by enabling the corresponding checkbox beside the day of the week.
2. Else if you wish to schedule on all days of the week, then click the Everyday check box.
3. Select the Timeframe to schedule the task from the combo box.
4. Save the details.

Monthly Schedule: To run a monthly maintenance task, click Monthly Schedule radio button.

1. Select the month to run the task by enabling the checkbox beside Every Month.
2. Select the Date on when the task should be scheduled from the combo box.
3. Select the Time at which the task should be scheduled from the combo box.
4. Save the details

Periodic Schedule: To run a periodic maintenance task, click Periodic schedule radio button.

1. Specify the day (s) in the given text field to schedule the maintenance task. i.e after every specified nth day, the maintenance task will be executed.
2. Save the details.

One Time Schedule: To run a one-time maintenance task, click One Time Scheduling radio button.

1. Select the Date & Time on when the maintenance task should be executed.
2. Save the details.

For Example:
If you wish to schedule a monthly task to change the printer cartridges,

1. Select Monthly Schedule radio button.
2. Select the checkbox every month.
3. Choose the date from the combo box. Ex: 3rd of every month.
4. Select the time from the combo box. Ex: 1500 hrs.
5. Save this schedule. A task to change cartridge will be sent to you every month on 3rd at 1500 hrs. helping you to complete the regular maintenance task in advance without any request sent from the users.

SMS Notification Settings

SMS Notification Settings allows you to notify or alert the Technicians through SMS. This way, the Technician can be notified on the go when the following is triggered:

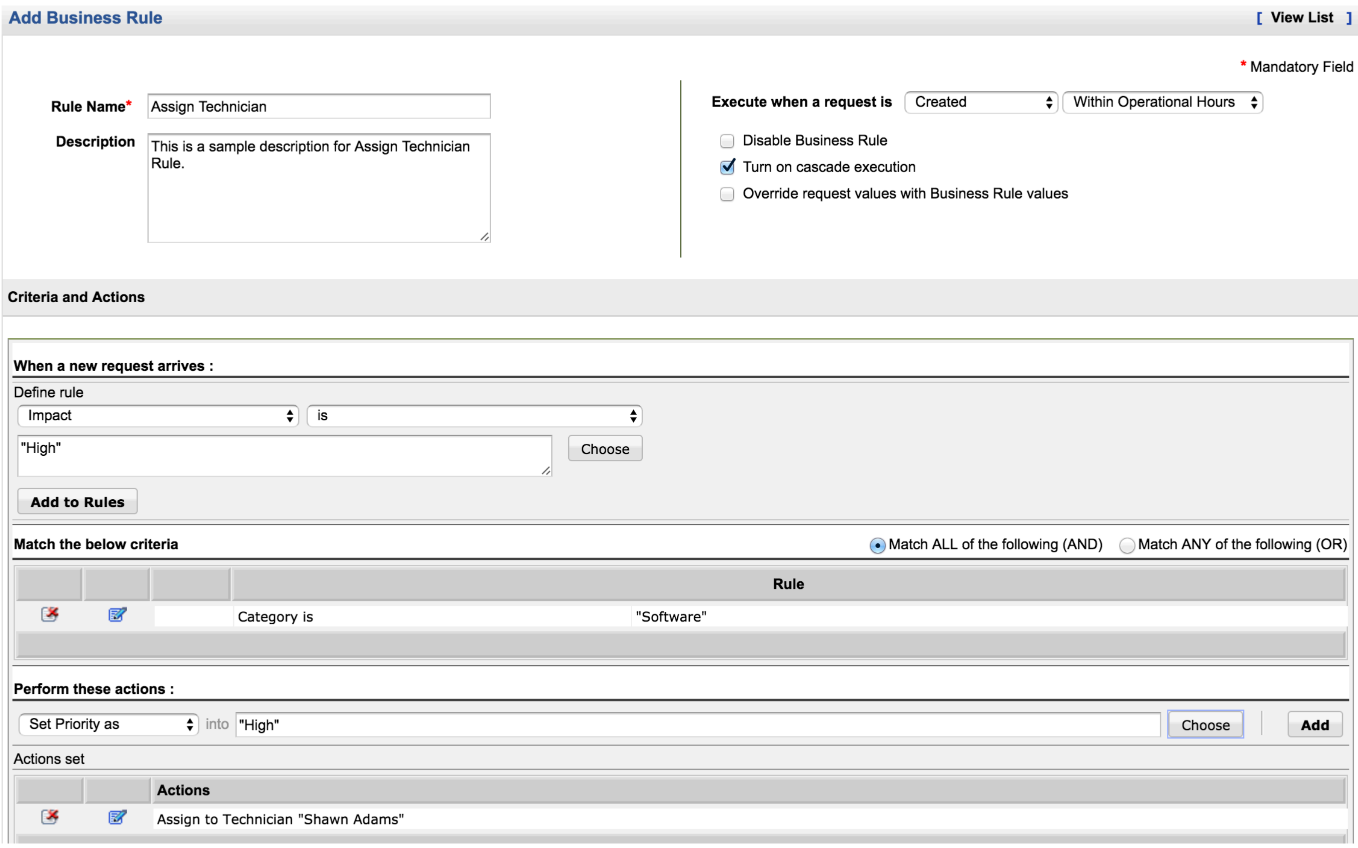
- Business Rule
- Notification Rule

Business Rules and Notification Rules:

The SMS notification will be sent only if the Business Rules and Notification rules are configured accordingly. The SMS can be sent at particular instances when the rules are satisfied. These rules can be set according to the Administrator's needs.

Business Rule Notification:

The Administrator has to configure the Business Rules accordingly, so as to trigger Notifications to be sent as SMS to the Technicans. For e.g, When a new Request is created with 'Category' as 'Software' and Impact is 'High', then Priority will be set as 'high' and Shawn Adams will be assigned as Technician to solve the Request. This Business Rule will be executed when the Request is created within operational hours.



In the 'Notifications' section, enable 'SMS' and mention the name of the Technician to be notified when that

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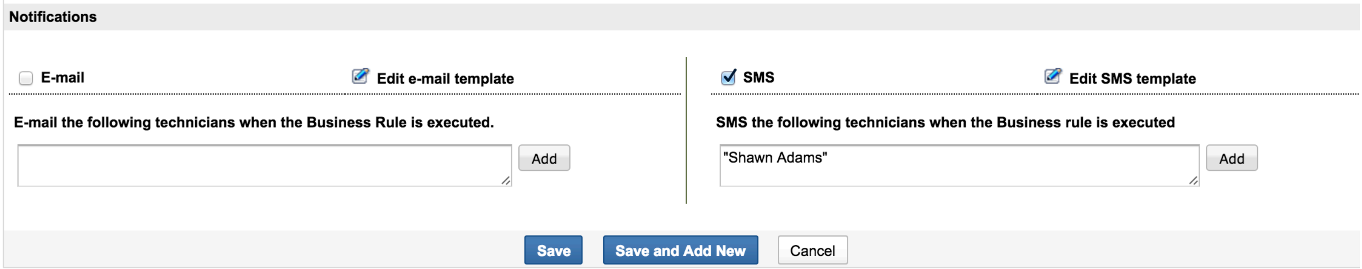
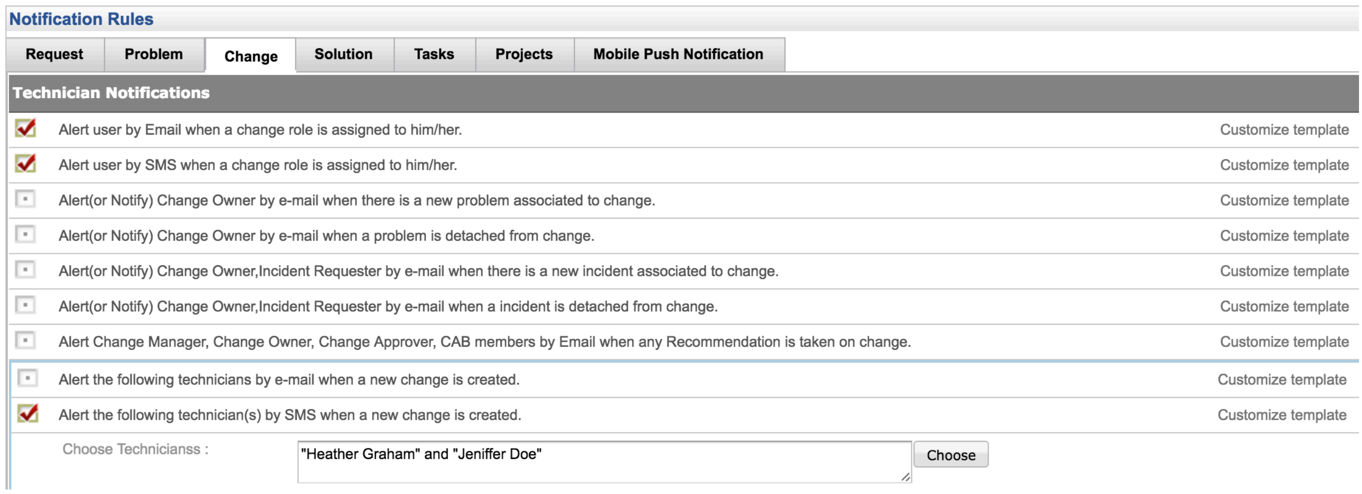
particular configured Business Rule is executed. Click 'Add' to add the Technician to that Business Rule and click 'Save' to save the details, else 'Save and Add New' to save the current details and add a new Business Rule.



Notification Rules:

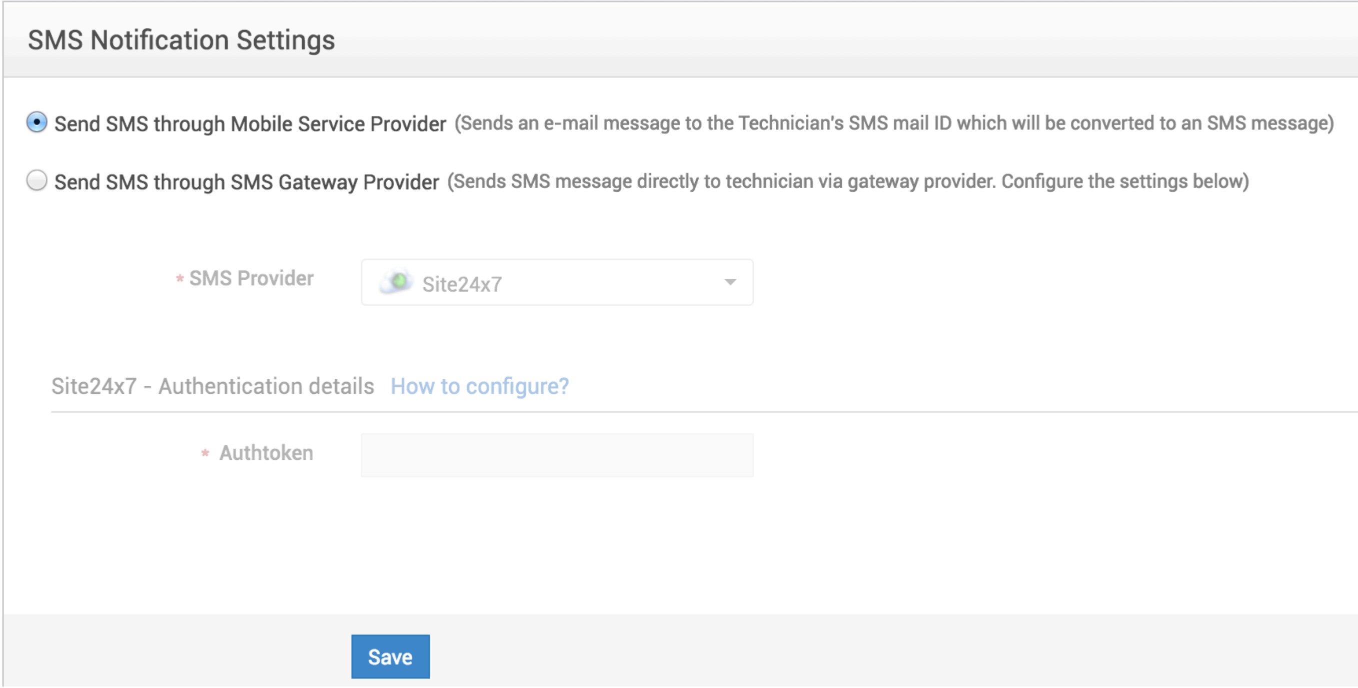
In Notification Rules, enable the checkbox 'Alert Technician by SMS when a request is assigned and 'Alert . This will ensure that the Technician is alerted by SMS when a request/change/problem is created/assigned to him.
Eg: Enable the following checkboxes for a 'Change' if Notifications have to be sent as SMS when a 'Change' is assigned/created :

- Alert the following technician(s) by SMS when a new request is created.
- Alert technician by SMS when a request is assigned.



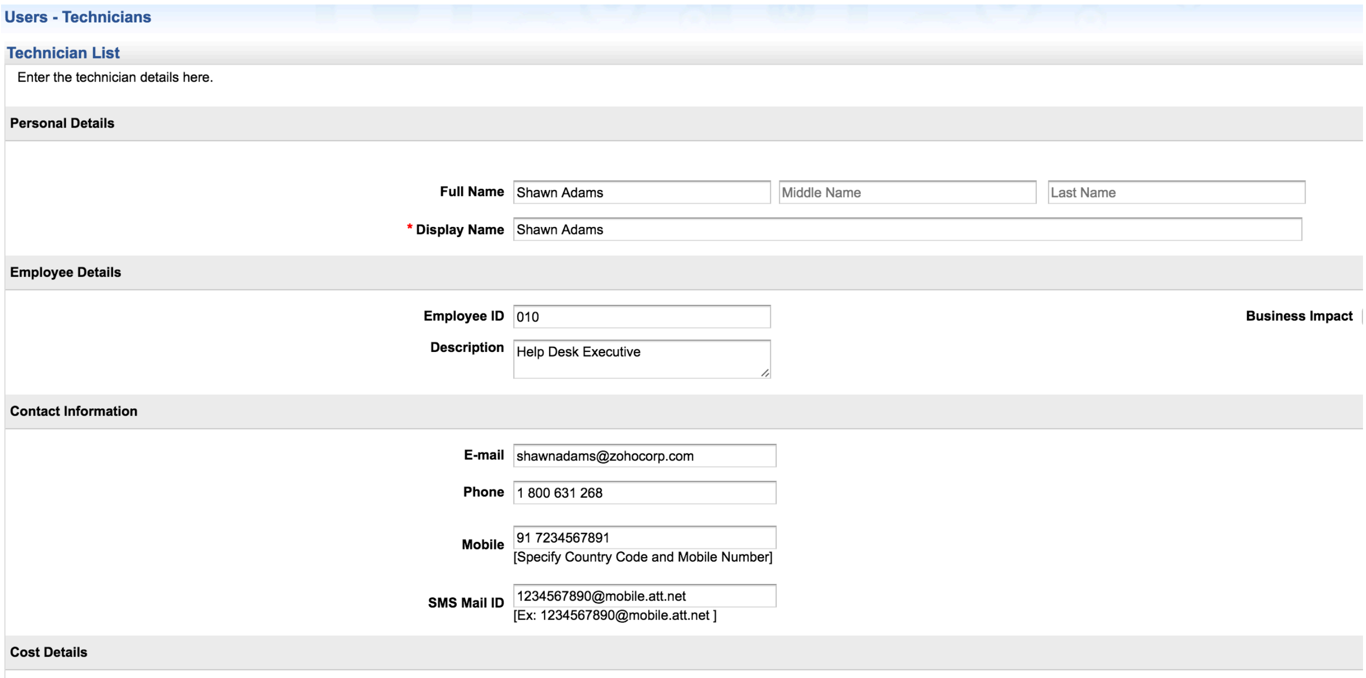
The SMS Notification Settings is available under Admin>> Organization Details>> SMS Notification Settings. The SMS can be sent in two ways:

- Mobile Service Provider
- SMS Gateway Provider



Mobile Service Provider:

Each Technician will be provided with a SMS mail ID by the Mobile Service Provider. The SMS will be sent as e-mail to the respective SMS mail IDs, which will be delivered as SMS to the Technicians. Enter all the details and specify the SMS Mail ID of the Technician in Admin >>Users>> Technicians>> Technician List.



SMS Gateway Provider :

Enter the Mobile number to which the SMS must be sent under Admin >>Users>> Technicians>> Technician List. Make sure that the country code is specified before the mobile number.

Each Technician will be notified directly through SMS to his configured mobile number. User can choose from one of the three SMS Providers.

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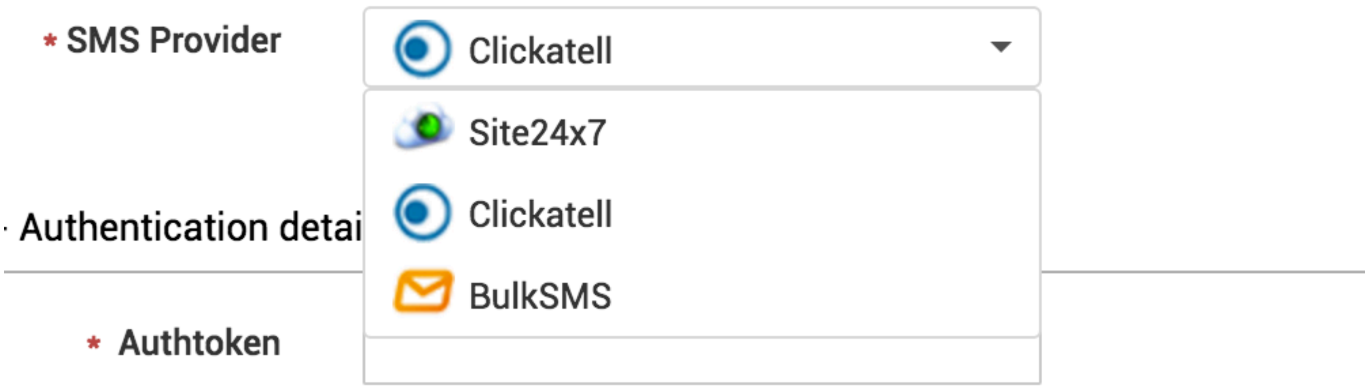
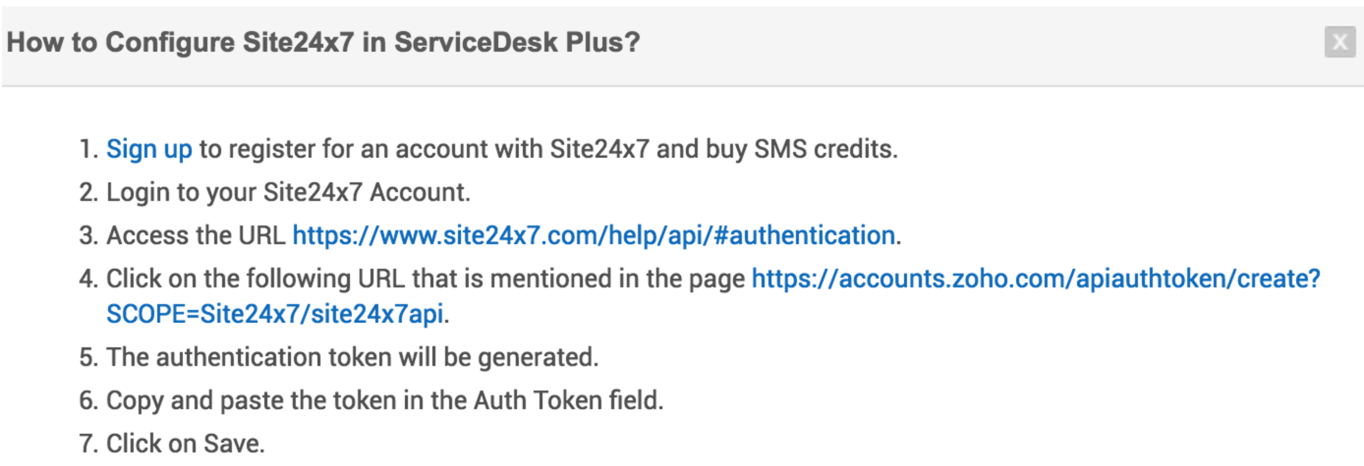
- Site24x7
- Clickatell
- BulkSMS



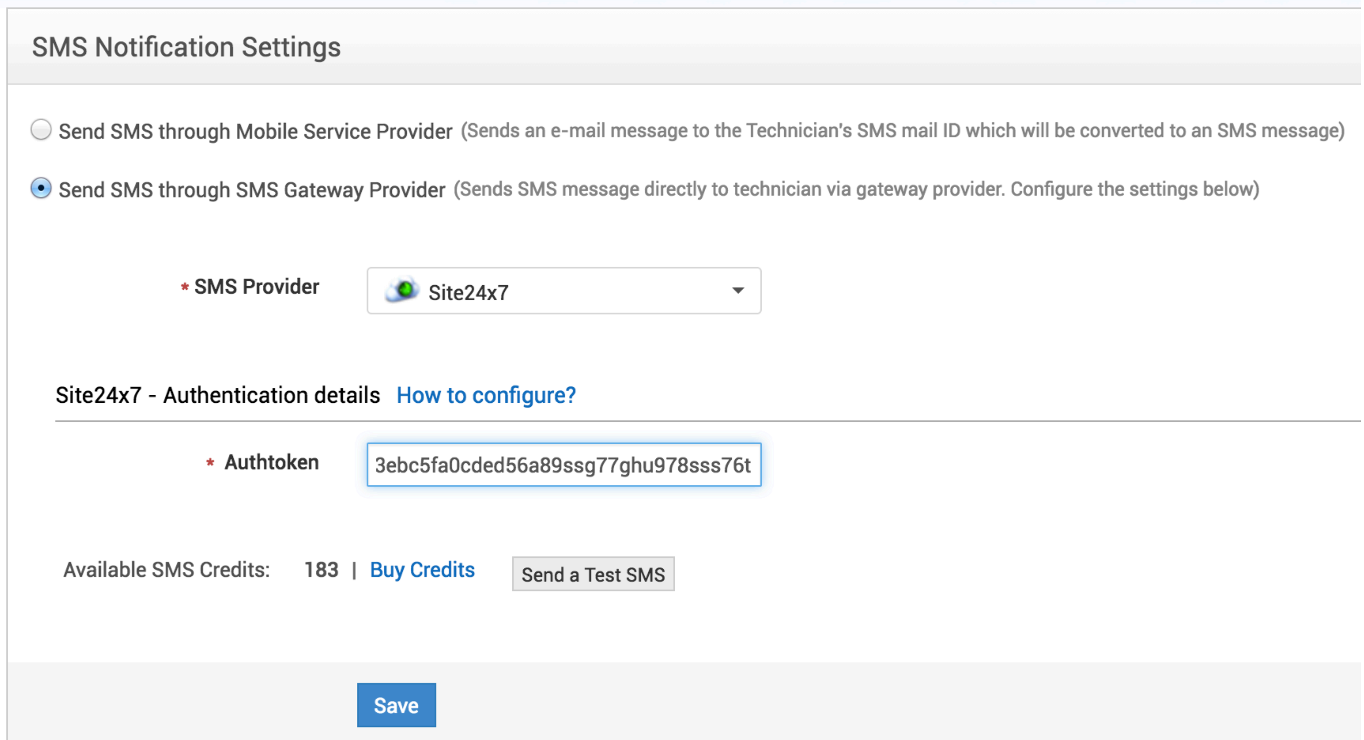
Authentication Details:

While Site 24x7 and Clickatell requires Authtoken as authentication details, BulkSMS requires an username and password for the same.
Click **'How to configure?'** to view step-by-step details for using that particular SMS Provider.

After signing-up and configuring the details, paste the Authtoken generated in the space provided. The user needs to buy credits in order to send SMS to the Technician.

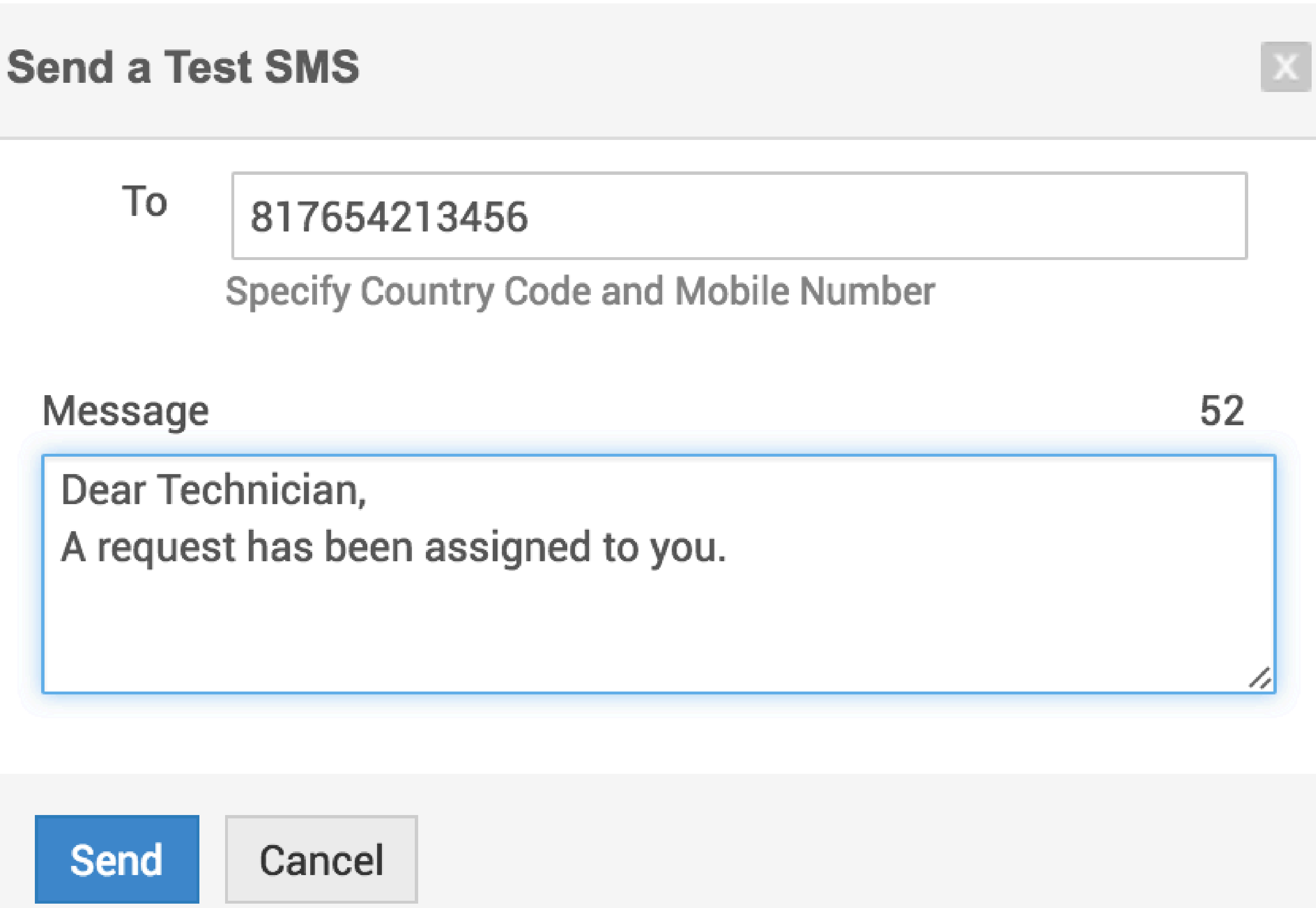


Available SMS Credits: This shows the credits in hand, after sending an SMS to alert the Technician. Thus the Administrator can be aware of the available credits and buy them when the credits are less.

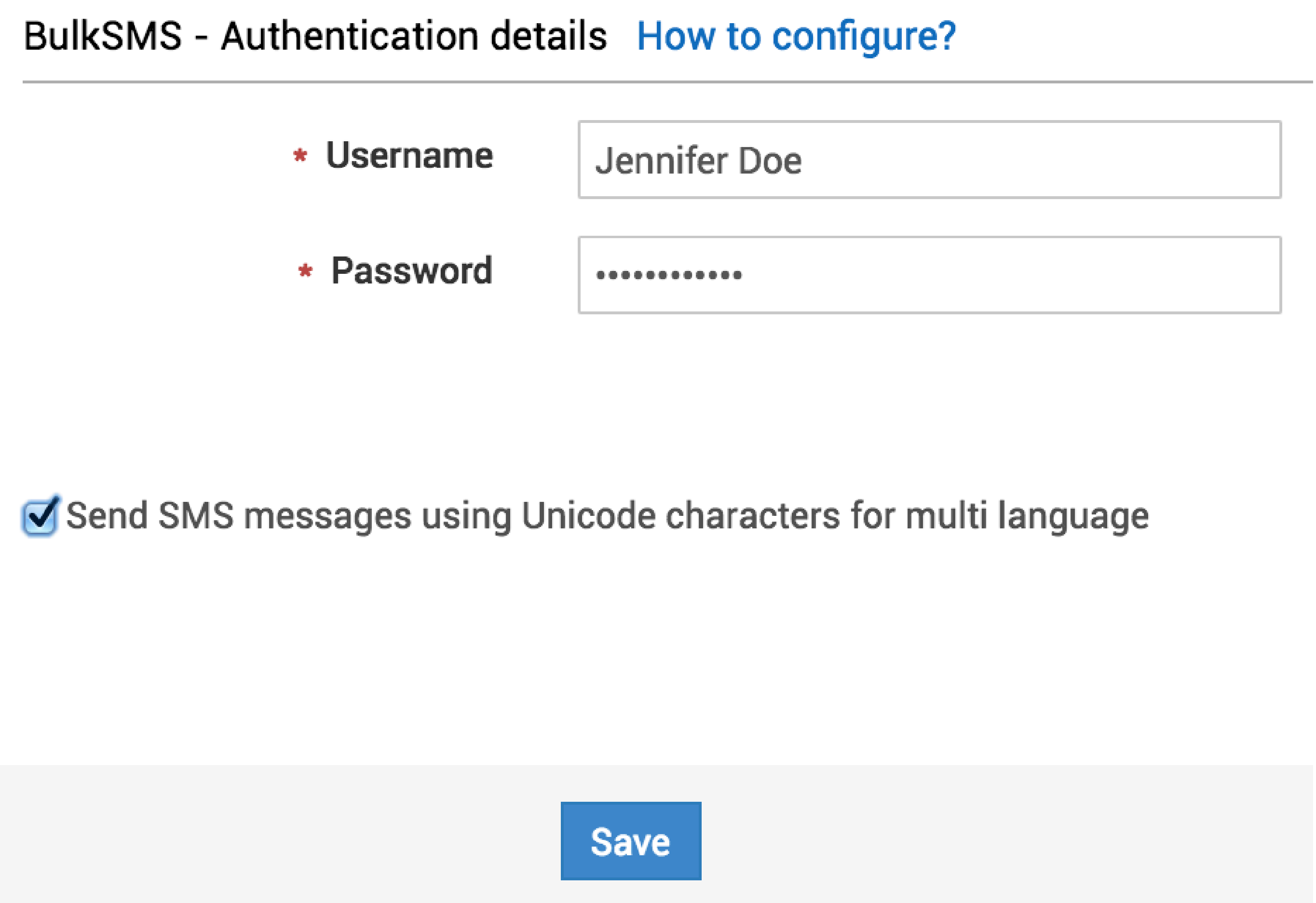


Buy Credits: When the Available credits are less (less than 10 credits), the Administrator can purchase credits from the respective provider and continue with sending notifications as SMS.

Send a Test SMS: After configuring, a test SMS can be sent to check if the SMS is sent as per its behavior.



Send SMS messages using Unicode characters for multi language: Enable 'Send SMS messages using Unicode characters for multi language' if the SMS messages need to be sent using Unicode characters for multi language. Note that SMS will be sent as junk characters for multi-languages if this checkbox is disabled. This option is unavailable for Site24x7.



Users

For making ServiceDesk Plus available and usable for all your users, you need to add Requesters and Technicians. The user information can be imported, if located in Active Directory or LDAP server, or can be manually added in the application. Each user accessing the help desk tool is assigned with Roles to execute specific tasks in the application. This enables the requesters to login to the Self-Service Portal to check the status of the requests reported by them, submit requests, and search the Knowledge Base online.

Support Groups enables you to classify your technicians into various support teams. This facilitates the incoming requests to be categorized and assigned to the specific group respectively.

With Technician Auto Assign, you don't have to rely on Business Rules to assign technicians to requests. The Technician Auto assign follows the Round Robin or Load Balancing methods, and based on the availability of the technicians, the requests are assigned.

Apart from this, the User Management block consists of **User - Additional Fields** which help you add additional fields in the requester and technician form. And User Groups to restrict certain users to view service items, solutions, announcements and request template.

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Roles

Each technician accessing the help desk tool will have a set of permissions to execute specific tasks in the application. These access permissions are termed as Roles in ServiceDesk Plus. Roles are defined based on the various modules in the application.
The Administrator has the privilege to create multiple roles and assign it to technicians based on the requirement. You can also view the list of technicians assigned to a particular role from the Role List View page.

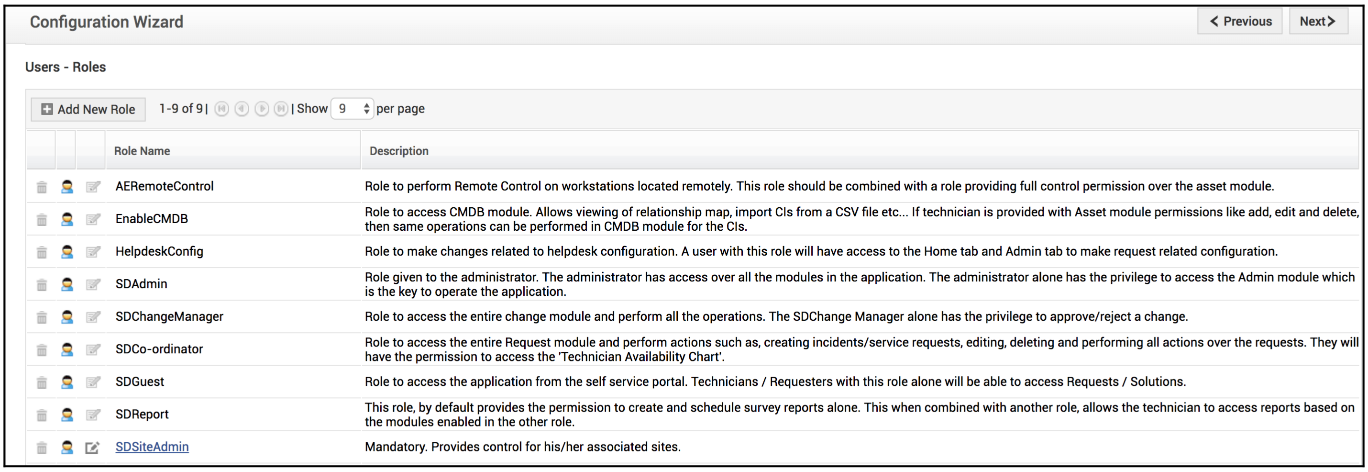
Please note that Roles can be assigned to technicians alone. The Roles for requesters are pre-defined and hence cannot be configured.

To access the Roles Configuration Wizard:

1. Click the **Admin** tab in the header pane.
2. In Users block, click **Roles**. The role list view page is displayed.

Role List View page

The Roles List View page displays the list of default roles available in the application. You can perform actions such as, adding roles, editing and deleting roles and viewing technicians assigned to a role.



The list of technicians assigned to a particular role can be viewed from the Role List View page by clicking View Technicians configured with this role icon. This makes it feasible for the administrator to assign access permissions to technicians. To know more about viewing technicians assigned to a role, refer Viewing Technicians assigned to a Role.

Default Roles
The default roles (also known as System Roles) are pre-defined. The roles and their description is given in the tabular column below,

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Roles	Description
AERemote Control	Role to perform Remote Control on workstations located remotely. This role should be combined with a role providing full control permission over the assets module.
Enable CMDB	Role to access the CMDB module. If a technician is provided with this role alone, then he would be able to view the Assets and the CMDB module. Apart from viewing the relationship map in the CMDB module, he would be able to **Import CIs from a CSV file**. If the technician is provided add, edit and delete permissions over the Assets module, then the same operations can be performed in the CMDB module for the CIs. To add attributes and relationships, the technician should be provided with add and edit permission over the assets module. Technician, without SDAdmin role, would not be able to set up the Configuration Item Types and Relationship Types in the Admin module.
SDAdmin	The role given to the administrator. The administrator has access to all the modules in the application. The administrator alone has the privilege to access the Admin module which is the key to operate the application.
SDChange Manager	Role to access the entire Change module and perform operations such as adding change, editing, deleting and assigning change to technicians. The SDChange Manager alone has the privilege to approve/reject a change. The Dashboard display widgets related to Change module such as Change by Type, Approved Changes and Unapproved Changes. Technicians with this role can also view only their schedule in Schedule calendar.
SDCo-ordinator	Role to access the entire Request module and perform actions such as creating incident/service requests, editing, deleting and performing all the actions over the requests. The Dashboard display widgets related to Requests module such as Requests by Technicians, Open Requests by Priority, SLA Violation by Priority, Unassigned and Open Requests, SLA Violated requests and Requests Approaching SLA Violation. Technicians with this role can also view the Technician Availability Chart.
SDGuest	Role to access the application from the self-service portal. Technicians/Requesters with this role can only add requests and view solutions.
SDReport	This role, by default, provides permission to create and schedule survey reports alone. This role when combined with another role, allows the technician to access reports based on the modules enabled in the other role.
SDSiteAdmin	If Sites are configured in the application, the SDSite Admin role provides full control permission over his/her associated sites. The Site Administrator can configure all the Admin configurations pertaining to his/her site alone.
HelpdeskConfig	Role to make changes related to helpdesk configuration. A user with this role will have access to the Home tab and Admin tab to make request related configuration. They can also perform actions under the Approvals and Tasks tab and view Announcements. **Note**: "My Summary" tab will be restricted to this user.

Note: The above eight default roles cannot be deleted. However, SDSiteAdmin Role can be edited to suit your organization's needs.

Contents

- Add a Role
- Edit a Role

- Viewing Technicians Assigned to a Role
- Delete a Role

Add a Role

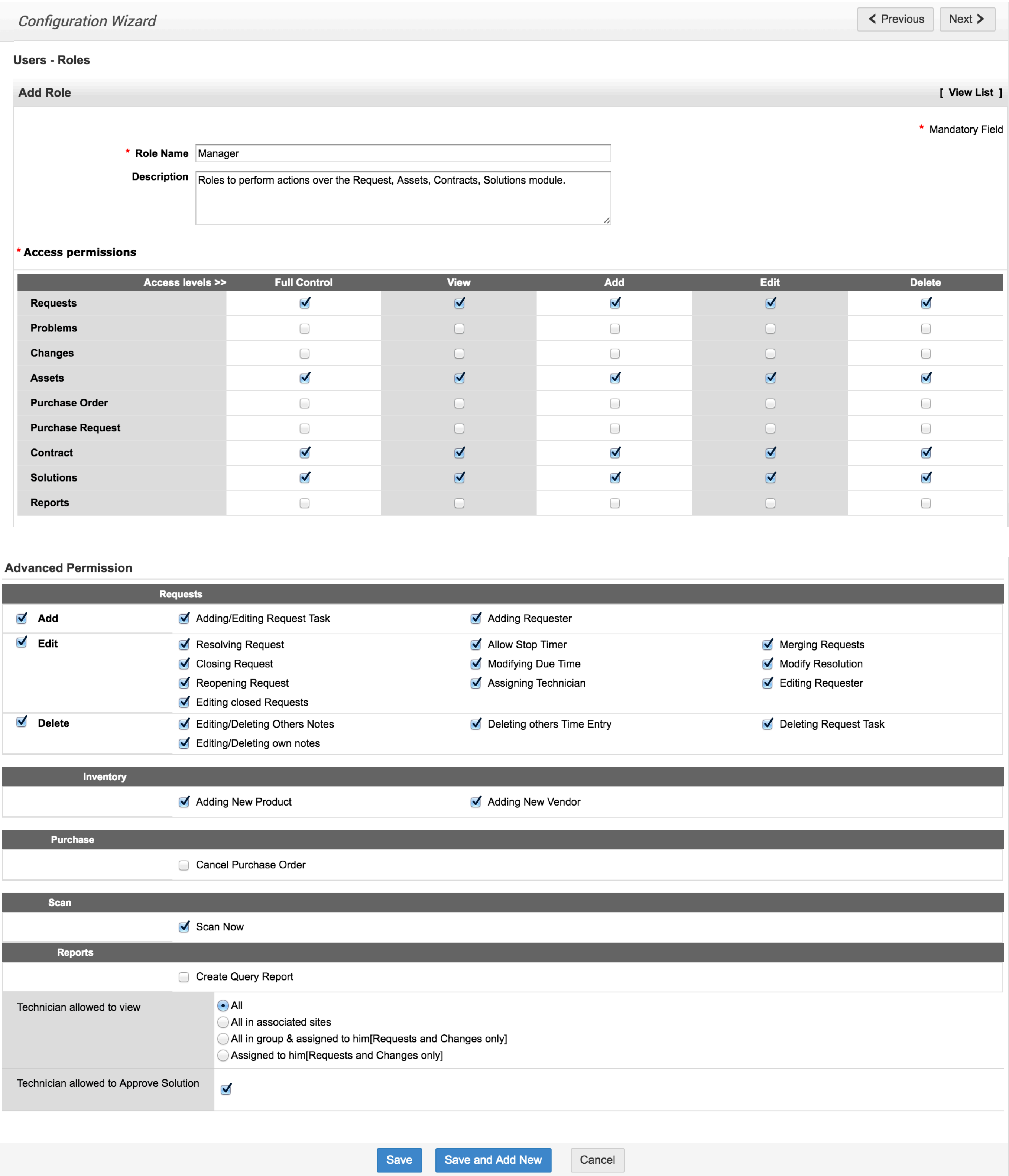
To add a role,

1. Click the **Add New Role** link.
2. In the Add Role form, enter a unique name for the role in **Role Name field**. The Role Name is a mandatory field.
3. Enter a brief description of the role in the Description field.
4. Set the A**ccess Permissions** for the role by selecting the check boxes beside the access levels defined for each module of the application.

Access Permissions
The following are the access permissions for the eight modules in the application:

Access Permissions	Description
View	View permission enables the technician to only view the selected module. They cannot perform any further operation.
Add	Add permission allows the technician to perform Add operation for the selected module. On selecting the Add option for a module, the View permission check box is automatically enabled. Note: If you have selected Add checkbox for request module, then the Add option under Advanced Permission - Request module is automatically enabled. Similarly, if Add checkbox is selected for the purchase module, then the Add option under Advanced Permission - Purchase module is also enabled.
Edit	Edit permission enables the technician to perform Edit operation for the selected module. The technician cannot perform Add or Delete operation. However, on selecting the Edit option for a module, the View permission check box is automatically enabled. Note: If you have selected Edit checkbox for request module, then the Edit option under Advanced Permission - Request module is automatically enabled. Similarly, if Edit checkbox is selected for the asset module, then the Edit option under Advanced Permission - Assets module is also enabled.
Delete	Delete permission allows the technician to perform Delete operation for the selected module. The technician cannot perform Add nor Edit operation. However, on selecting the Delete option for a module, the View permission check box is automatically enabled. **Note**: If you have selected Delete checkbox for request module, then the Delete option under Advanced Permission - Request module is automatically enabled.
Full Control	Selecting full control check box for a module automatically enables View, Add, Edit and Delete checkbox for that module. Full control allows the technician with full access over the selected module. If the selected module has Advanced Permissions, then those options are enabled automatically. Note: If an action is disabled in Advanced Permission, say, Adding Requesters under Request module, then Full Control permission for request module gets automatically disabled.

Example: If you wish to provide full control permissions over the requests, assets, contract and solutions module, then select the Full Control check box beside these modules. This will automatically enable all the operations of the corresponding modules.



5. The access permissions for modules Requests, Purchase and Assets are further categorized and defined under Advanced Permission.

Request FGA (Fine Grained Authorization):
Set the advanced permission for Add, Edit and Delete operations by enabling any of the following check boxes.

Advanced Permissions	Description
Adding/Editing Request Task	Permission to Add/Edit the request tasks.
Adding Requesters	Permission to add new requesters on the fly while creating a new requests/problem/change. Adding requesters without this permission pops up an error message stating "Requester Does not Exist".
Resolving Request	Permission to change a request status to Resolved.
Disabling Stop Timer	Permission to change the status of a request to On hold.
Merging Requests	Permission to merge two or more requests.
Closing Request	Permission to change the status of a request to Closed.
Modifying Due Time	Permission to change the Due By Time and also the First Response Time of a request.
Modify Resolution	Permission to add/edit a resolution for a request.
Re-opening Request	Permission to change the status of the request to Open from the previous state.
Assigning Technicians	Permission to assign/reassign requests to technicians.
Editing Requester	Permission to edit the requester's name while viewing the request.
Deleting Others Notes	Permission to edit/delete notes added by other users/technicians. If the option is disabled, then the technician can delete the notes added by him/her.
Deleting Others Time Entry	Permission to delete the Work Order details entered by other technicians. If the option is disabled, then the technician can only edit/delete his/her Work Order Entry.
Deleting Request Task	Permission to delete the request tasks of a request.

Scan FGA (Fine Grained Authorization):

Advanced Permissions	Description
Scan Now	Permission to scan workstations from the workstation details page.

Purchase FGA (Fine Grained Authorization):

Advanced Permissions	Description
Adding New Product	Permission to add new products while creating a purchase order.
Adding New Vendor	Permission to add new vendors while creating a purchase order.

Note: For instance, if all actions under Advanced Permission Request - Edit are disabled, then the technician is allowed other edit permissions such as editing the request type, status, mode, level, urgency, priority, impact and category of the request.

6. You can also choose to restrict technicians from viewing the requests, problems, changes, and assets in the application. To do this, select the corresponding radio button in Technicians allowed to view,

- **All:** The technician can view the requests, problems, changes, and assets for all the configured sites.
- **All in associated Site:** The technician can view the requests, problem, changes, and assets for his/her associated sites alone. To associate sites with a technician refer Technician.
- **All in Group & assigned to him [Requests only]:** The technician can view only the requests assigned to his/her associated group, and also the requests that are assigned to him/her.
- **Assigned to him [Requests only]:** The technician can view only the requests assigned to him/her alone.

  Example: A site has two groups, say Group1 and Group2. Adam is a technician associated to Group1 with the privilege to view requests All in group & assigned to him. Adam can view all the requests in Group1and the requests assigned to him. He has the privilege to re-assign the requests to other technicians in his associated sites but once this is executed, the request will not be visible to Adam.

  NOTE: Please note that the technician has permission to view Requests, Problems, Changes and Assets only if the **View** permission for these modules is enabled under **Access Permissions**.

7. You can also provide permission to approve solutions by enabling the checkbox beside Technician allowed to Approve solution. The technician assigned with this role will be able to approve solutions.
8. Click the **Save button. The role is displayed in the list view page.** If you want to add another role, click **Save and Add New** button.

At any point, if you decide not to add the new role, then click **Cancel** to get back to the role list. Click **View List** link to go back to the role list view page.

Edit a Role

To edit an existing role,

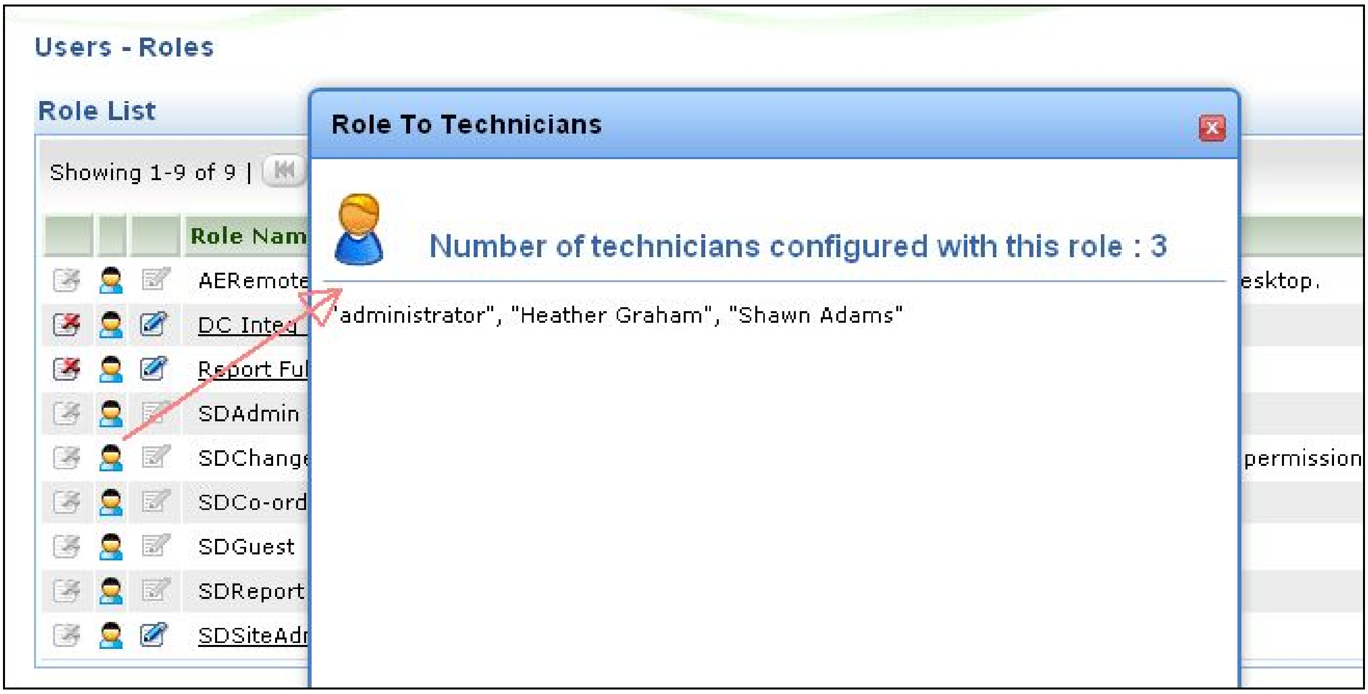
1. In the **Role List** page, click the **edit** icon beside the role name that you want to edit.
2. In the Edit Role form, you can modify the name of the role, description, and the permissions associated with the role.
3. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

While editing a role, if you wish to add a new role, then click **Save and add new** button.

Viewing Technicians Assigned to a Role

To view technicians assigned to a role,

1. In the Role List page, click View Technicians configured with this Role icon .
2. The Role to Technicians pop up appears listing the number of technicians configured with this role. The names of the technicians are also displayed.



Deleting Role

1. In the **Role List** page, click the delete icon  beside the role name that you want to delete. A dialog box confirming the delete operation appears.
2. Click **OK** to proceed with the deletion. If you do not want to delete the role, then click **Cancel**.
3. If technicians are assigned with the role, then the **Technician List** is displayed in a popup window.
4. You can notify the technician by selecting the technician and clicking **Send Notification** check box. The e-mail address of the technician appears in the **To** field. You can add **CC** recipients for this notification if required. Enter the **Subject** and **Description**. Click **OK**. The notification is sent to the technician.

User - Additional Fields

While adding new requester or technician, you might want to record additional information about the users apart from the preset fields. The **User - Additional Fields** lets you configure any number of additional fields that would appear in requester or technician forms, or common fields for both requester and technician.

To access **User - Additional Fields** configuration wizard,

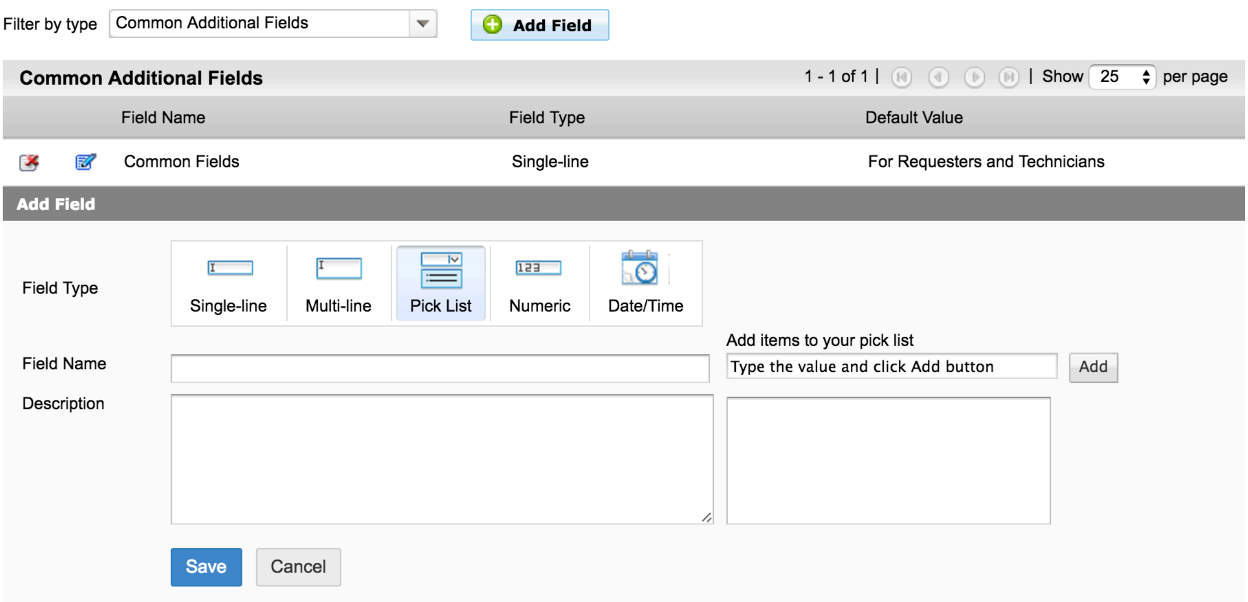
1. Login to the ServiceDesk Plus application using the **user name** and **password** of a ServiceDesk Plus administrator.
2. Click the **Admin** tab in the header pane.
3. In the Users block, click **User - Additional Fields**.

By default, the User - Additional Field list view displays the list of **Common Additional Fields** that are configured in the application. To view the Requester Additional Fields list, select **Requester Additional Fields** option from **Filter by Type** drop-down menu. Similarly, if you want to view the Technician Additional Field list, select **Technician Additional Field** option.

Adding Custom Fields
Say for instance, you want to configure additional fields that should appear in the requester as well as the technician forms i.e., Common Additional Fields. To add the custom fields,

1. In **Filter by type** drop-down menu, select **Common Additional Fields** option. The list of Common Additional Fields configured in the application is displayed.
2. Click **Add Field** button.
3. In the Add Field form, select the type of field. The Field Type is **Text**, **Numeric** and **Date/Time** Fields. The **Text** Fields are of 3 types namely,
   - **Single-line Text Fields:** A Single-line text field allows you to add just a text field.
   - **Multi-line Text Field:** The Multi-line text field allows you to add a text box where a lengthy description can be added
   - **Pick List Fields:** A Pick List allows you to add a list menu from which you can select.

     To add items for the pick list, enter the value in the text filed and click Add Item. The value will get added to the list below. To select the default selected value of the list, click on the value in the list.



4. Enter a unique name for the additional field in the **Field Name** text field.
5. If you have selected Single-line or Multi-line text fields, then you can enter **Default Value**. The default value is displayed in the new requester/technician form and can be edited, if required.

NOTE: Please note that you cannot enter default values for Date/Time fields.

6. Enter brief description about the field in the **Description** text field.
7. Click **Save** button. The additional fields appear in the List view of the selected Filter by type.

NOTE: If you want to add additional fields for requester, then select **Requester Additional Fields** option from **Filter by type** drop-down menu, and follow the steps given above. Similarly, if you want to add additional fields for technician, then select **Technician Additional Fields** option.

Editing Custom Fields

1. In the User - Additional Fields List view, select the filter type under which you want to edit the additional fields.
2. Click **Edit** icon beside the Field Name to edit. The Add Field form is displayed with values filled while adding the field.
3. **Edit** the fields in the form.
4. Click **Update** button.

Deleting Custom Fields

1. In the User - Additional Fields List view, select the filter type under which you want to delete the additional fields.
2. Click **Delete** icon beside the Field Name. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed. The additional field is deleted from the list.

NOTE: Please note that while deleting the additional fields, the value entered in the new requester or technician form will be lost.

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Requesters

You can add, edit, remove, or merge requesters from ServiceDesk Plus application and also provide them with login permissions to access the self-service portal.
To open the Requester configuration page:

1. Log in to the ServiceDesk Plus application with the **user name** and **password** of a ServiceDesk Plus administrator.
2. Click the **Admin** tab in the header pane.
3. From the Users block, click **Requesters**. The **Requester List** page is displayed with the available list of Requesters. You can add, edit, or delete Requesters from here.

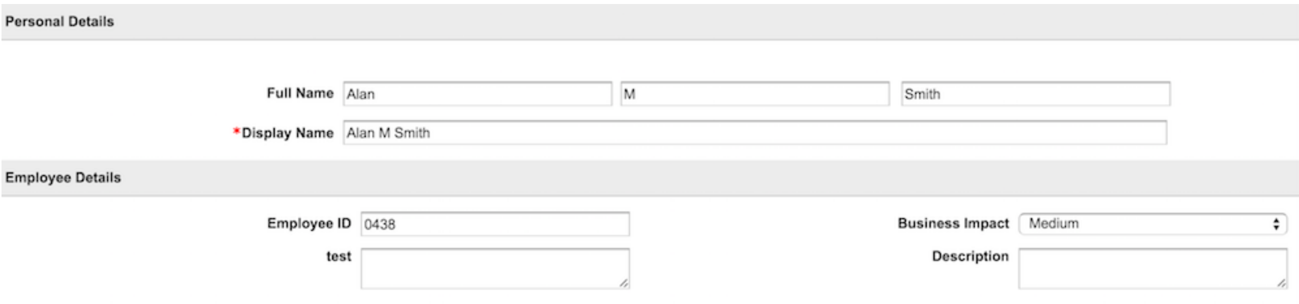
Add Requester

There are three ways through which you can add Requesters in the application

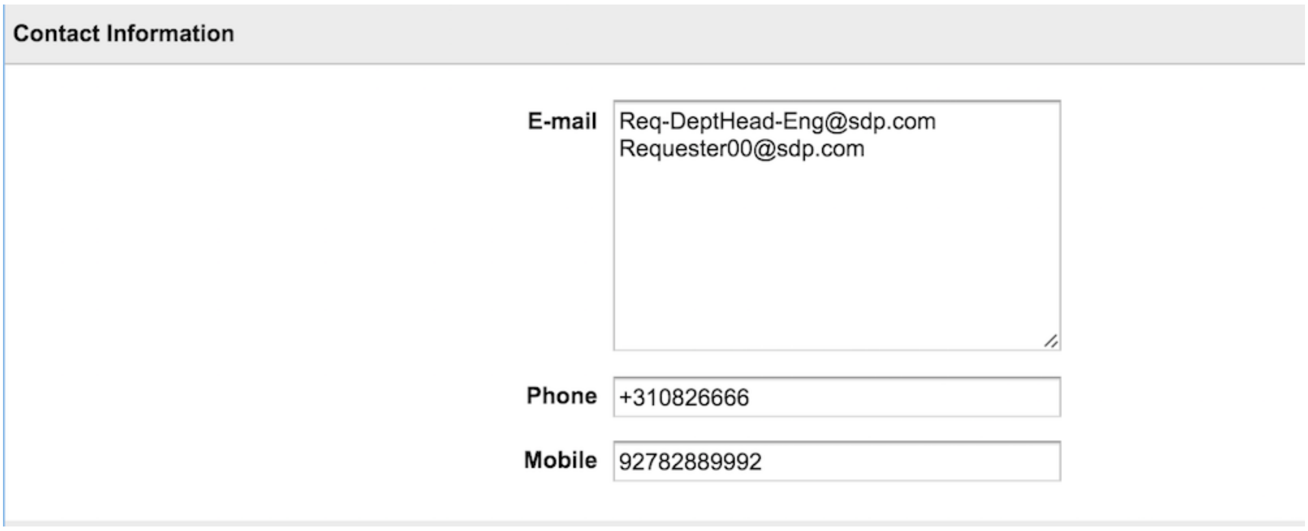
- Add New Requester from the application
- Importing Requesters from Active Directory
- Import from CSV

Adding Requesters from the application

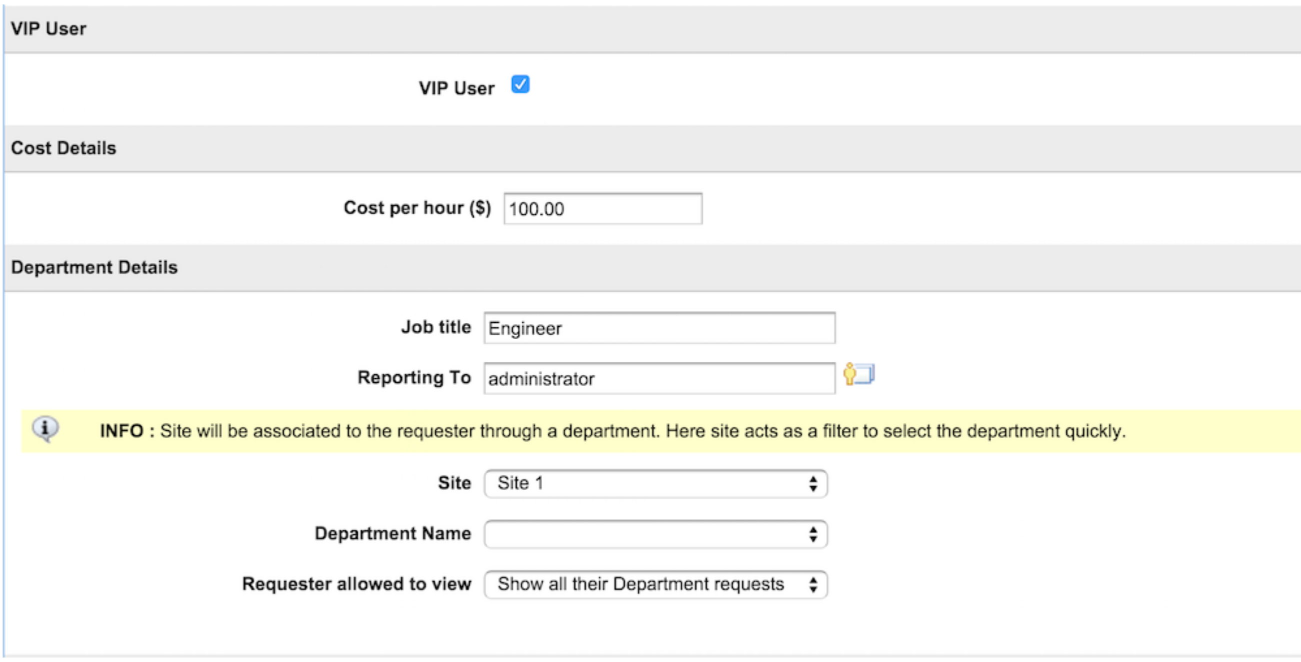
1. Click **Add New Requester** link from the **Requester List** page. This displays the **Add New Requester** form.



2. In the **Personal Details** block, enter the **Full Name** (includes the **First Name, Middle Name** and **Last Name)** of the Requester. The **Display Name** field gets filled-in automatically as you type the Full Name. You can also edit the Display Name, if required.
3. In the **Employee Details** block, specify the **Employee ID**, **Test** and **Description.** Choose the **Business Impact** (High, Low, Medium).



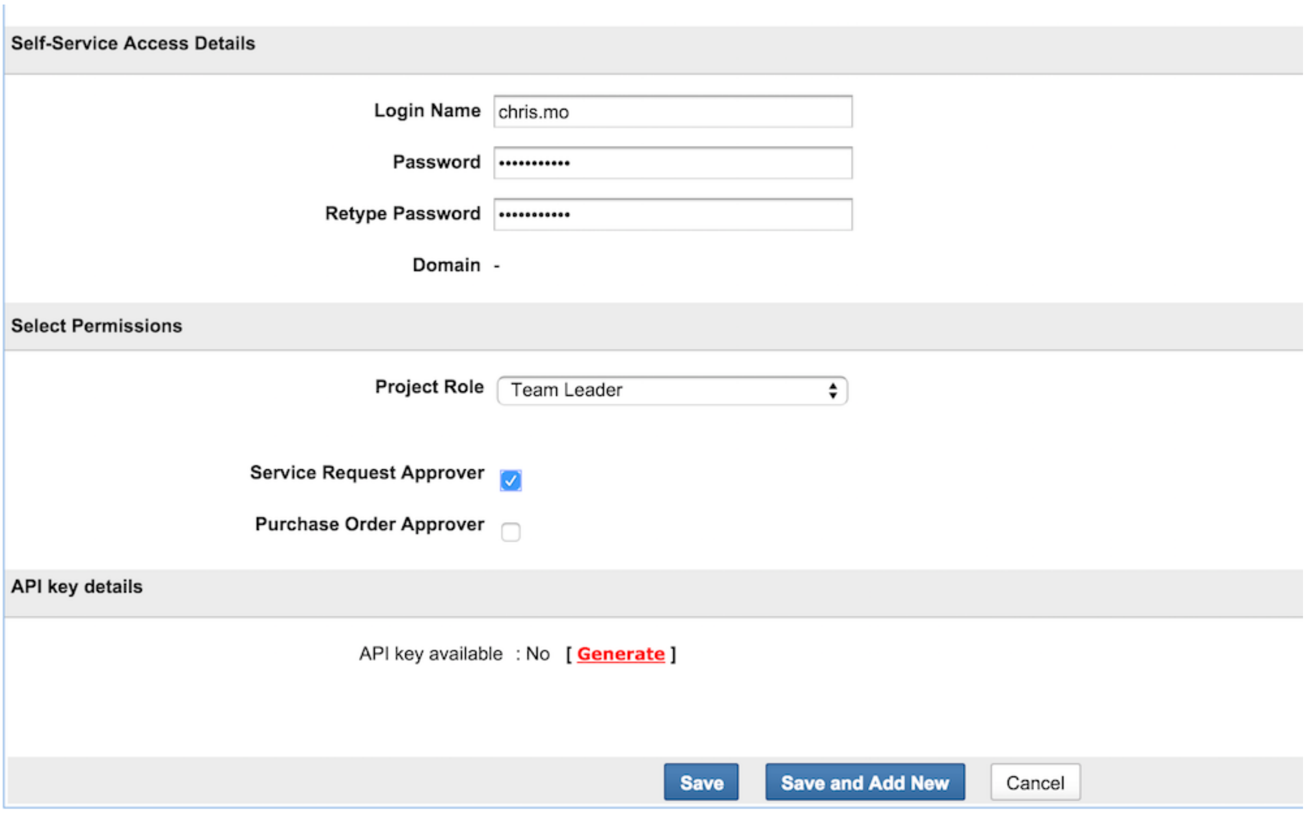
4. In the **Contact Information** block, enter a valid **E-mail ID**.
   More than one E-mail IDs belonging to the same Requester can also be added. Enter the different E-mail ID's of the Requester and click **Save.**
   Note: The multiple E-mail ID's can be entered by using comma(,) or entering a new line or by creating a separation using blank space. After configuring, a request sent from any of those E-mail ID's will have the same Requester name.They will not be considered as a new Requester. The first E-mail ID entered will be considered as the primary E-mail ID. The other E-mail ID's will be taken as secondary E-mail ID's.
   If the Requester has a **Phone** and a **Mobile** number, you can enter the same in the space provided for entering these values.



5. A Requester can be marked as a Very Important Person and be differentiated from a normal Requester ,with the help of **VIP user** option. To mark a new Requester as a VIP, click the check box marked as **VIP user**. Now any request sent from the Requester marked as VIP ,will appear with the following symbol in the Details page and Requesters List View.The service level agreements and Business rules can be configured accordingly, when a Requester is marked as a VIP and reports can be generated.
6. Enter the **Cost per hour ($)** value.
7. Specify the **Department Details.** Enter the **Job title** and in **Reporting to** field enter the name of the

Requester to whom should the new Requester report. You can also choose from the existing Requesters by clicking the icon. Choose the **Site** and the corresponding **Department Name** to which the Requester belongs from the respective combo boxes.

The Requester has the following options: to view only his requests, or to view all his department requests, or all the requests in the site to which he is associated. Select the options from the **Requester allowed to view** combo box.



8. In the **Self-Service Access Details** block, enter the **Login Name** and **Password, if you wish to provide self-service access to the Requester**. Enter the password again in the Re-type Password field.
9. If the Requester is associated to a domain then select the **Domain** from the drop down list.
10. If the Requester is to be associated to projects then select **Project Role** from project role drop down list.
11. Certain Requesters can also approve **Purchase Order** in an organization. Upon enabling the check box adjacent to Purchase Order Approvers, a link is sent to the Requester to accept or reject the PO. Also, set the Approver Limit within which the Requester can approve the PO.
12. You can also provide Requester with the privilege to approve Service Requests raised in the application. Enable the check box beside Service Request Approver.
13. Click **Save**. If you want to add more than one Requester then, click **Save and add new** button.

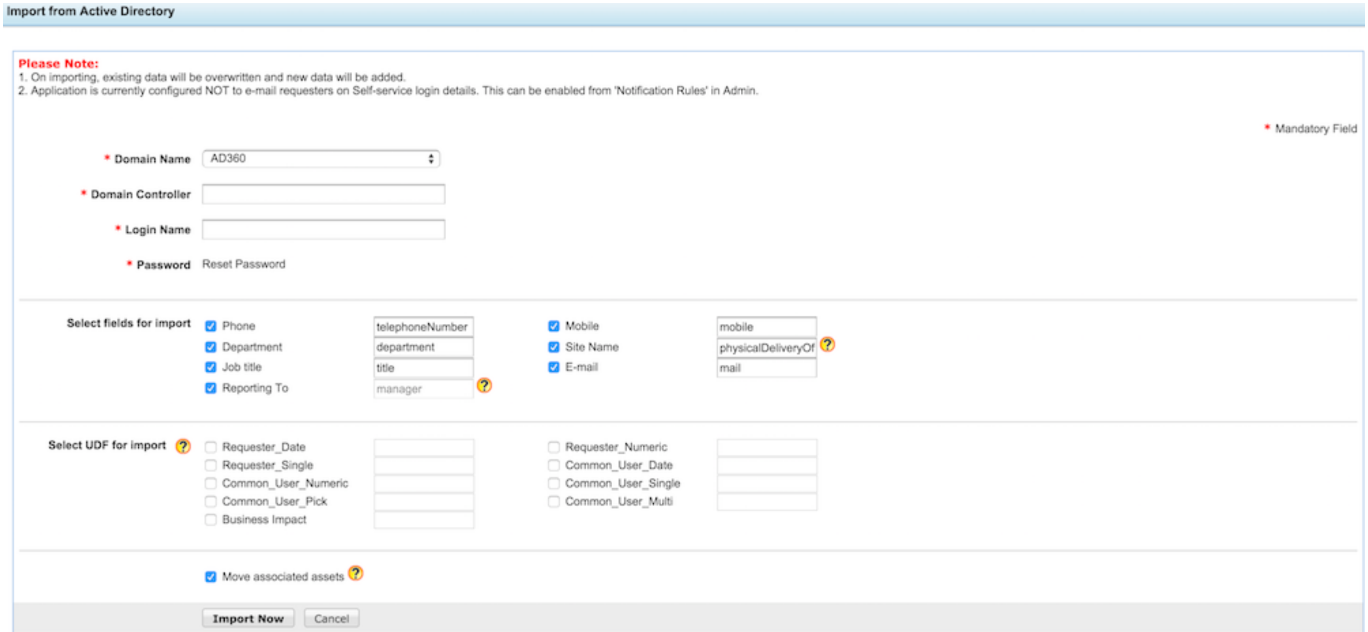
At any point if, you decide not to add the new Requester, then click **Cancel** to get back to the Requester list. Clicking the **View List** link on the top right corner of the add Requester form will also take you to the Requester list view.

Import Requesters from Active Directory

You can also import Requesters from an active directory.
Note:

1. On importing, existing data will be overwritten and new data will be added.

2. If the application is configured NOT to e-mail Requesters on Self-service login details, then you can enable the option under "**Admin ->'Notification Rules**".

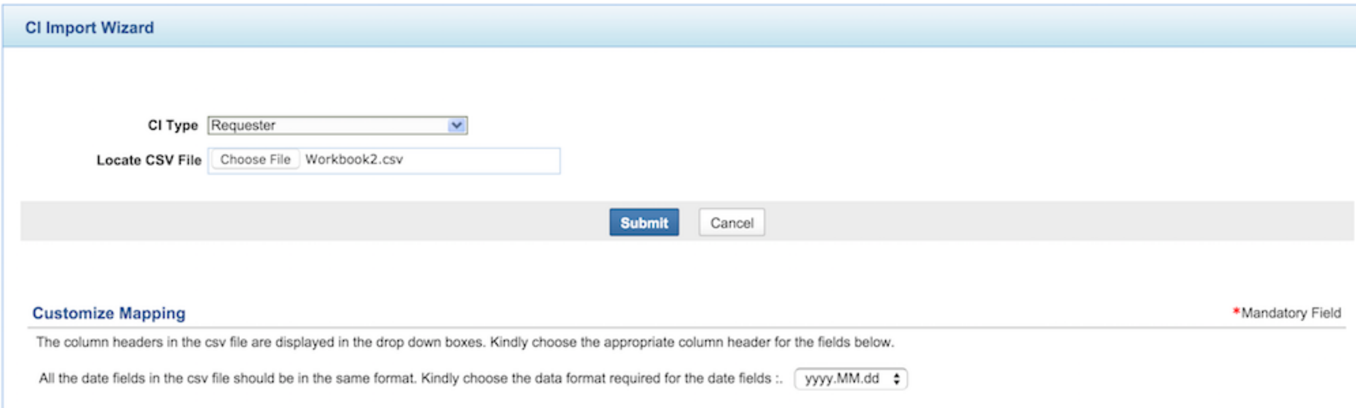


To import Requesters from active directory:

1. Click **Import from Active Directory** link in the **Requester List** page. The Import From Active Directory window pops up.
2. From the list of domains that are listed in the **Domain Name** combo box, select the domain name in which the active directory from which you wish to import is installed. If the other details such as **Domain Controller** name, **Login Name**, and P**assword** have already been entered in the Domain scan page, then that will be populated automatically. Else, enter the relevant details.
3. **Select fields for import** from the active directory by enabling the check box. The fields name configured in Active Directory can be specified beside the corresponding text fields. The unselected fields are not imported.
4. **Select UDF for import** from the active directory by enabling the check box. This is to import Requester additional fields based on Active Directory mapping fields. Upon importing, fields will update only the Requester additional fields, and will not update technician additional fields.
5. Click **Import Now**. The import wizard displays the various Organizational Units (OUs) available in that domain. Choose the specific OU from which you wish to import users by selecting the check box beside it.
6. Click **Start Importing**. Once the import is complete, the data on how many records were added, how many overwritten, and how many failed to import will be displayed.

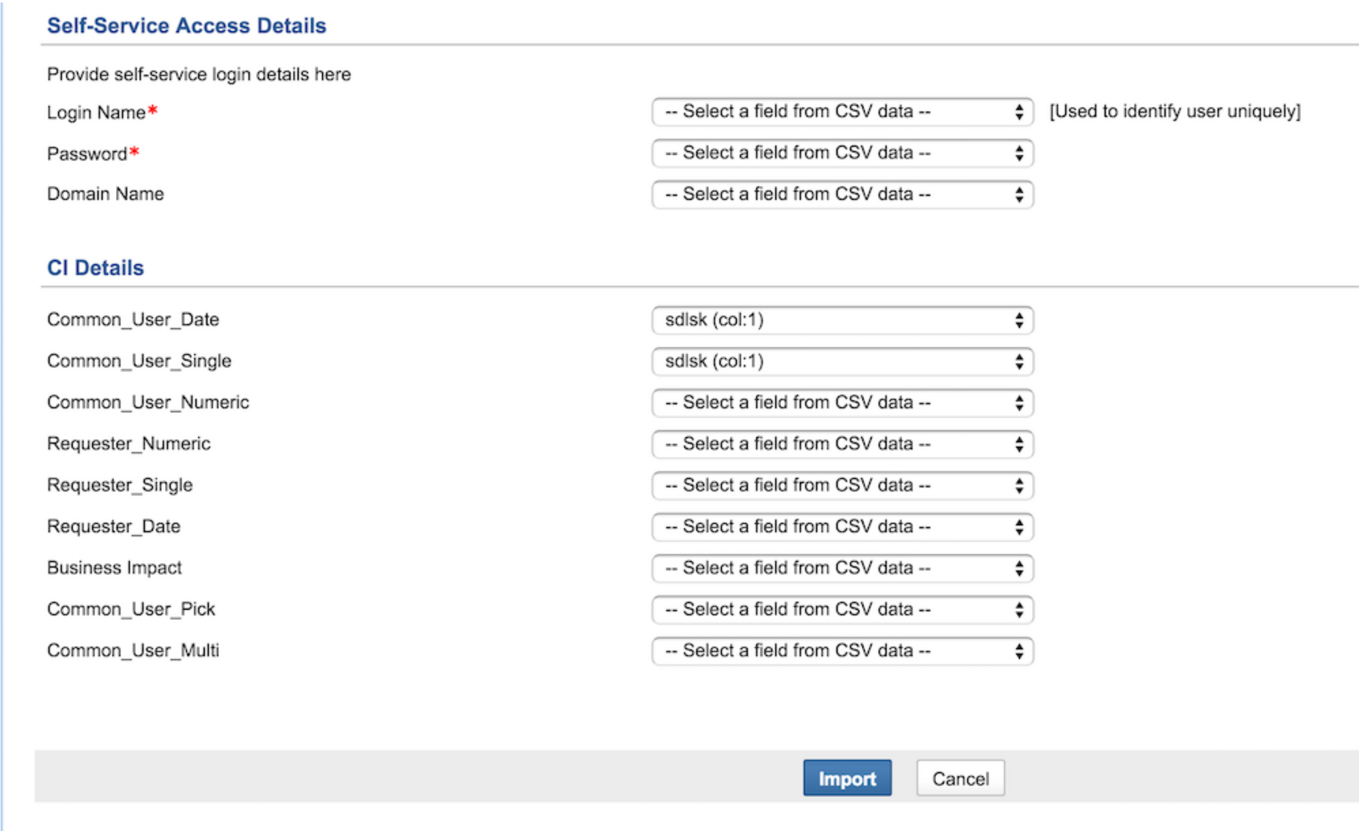
Import Requester from CSV (Comma Separated Values) Files

You can also add Requesters by importing from CSV files. To import Requesters from CSV file:



Step 1: Locate the CSV file:

1. Click **Import from CSV** link in the **Requester List** page. The Import Wizard opens in a pop-up window.
2. Click the **Choose File** button in the wizard.
3. Select the CSV file in the file chooser window and click **Open**.
4. Click **Submit**.



Step 2: Customize Mapping:

1. The column headers in the csv file are displayed in the drop down boxes. Choose the appropriate column header for the fields displayed.
2. Choose the **Date Format**. All the date fields in the csv file should be in the same format. Choose the format required for the date fields.

Step 3: Import:

1. Click **Import** button. The values from the CSV file will be imported to the Requester details. Once the import

is complete, the data on how many records were added, how many overwritten, and how many failed to import.

Note:
1. Login name column will be the identifier for Requesters. No two Requesters can have the same login name. Hence the existence of a Requester will be checked based on the login name value.
So, if by mistake there was any mismatch of fields during mapping, and a new import of CSV is performed, the records will be updated based on the login name value. If there were any records that did not have any login name at all or there was mismatch in the login name itself, then duplicate entries will be created. In these cases, delete such entries from the Requester list and import again or manually edit the information available.
2. While Importing users using CSV, the existing user information is overwritten based on two criteria - Username and Domain, and the Email id. If the Domain is not specified for a user and on performing a new import of CSV, the user information will be overwritten but the Domain will remain null even if the field is specified.

Viewing Requester Details

To view the details of a Requester, click the name of the Requester. While viewing the details of the Requester, you have options to

- Edit the details of the Requester
- Change the Requester as technician
- Associate Workstations to the Requester
- View requests raised by the Requester, and
- Attach any documents related to the Requester.

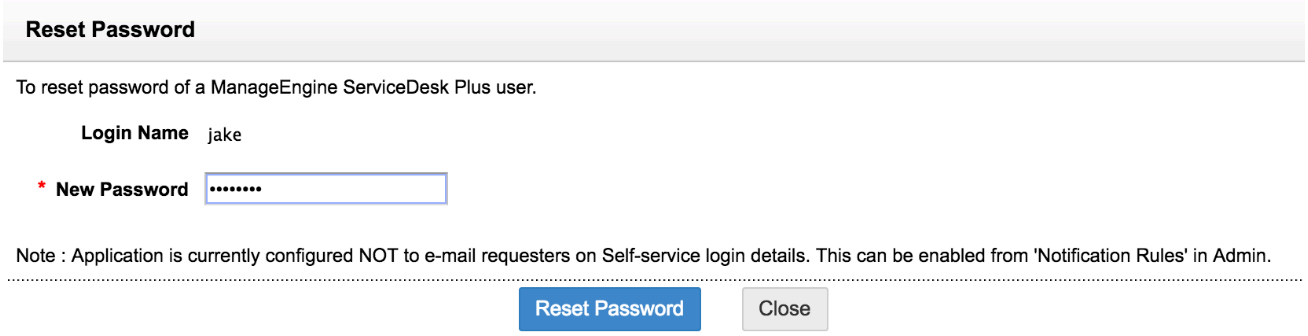
Editing Requester details

To edit the Requester details,

1. In the Requester details page, click **Edit** button. The **Edit Requester** form is displayed.
2. You can modify all the fields displayed. You can also change the login name of the Requester.
3. Click **Save**. If you do not wish to modify any of the details, click **Cancel**.

Resetting Requester Password
You can change the Requester's password while editing the Requester details.

1. To change the password of the Requester, click the **Reset Password** link. The reset password window is opened.



2. Below the Login Name display, enter the New Password in the text field.
3. Click **Reset Password**. If you do not wish to change the password, click **Close** instead of **Reset Password**.

Change Requester to Technician

You can change a Requester to technician without having to delete the Requester information and recreate the same as a technician. To change Requester to technician,

1. In the Requester details page, click Change as Technician option. The page refreshes to display the edit technician form.
2. Change the roles assigned to the Requester from SDGuest to any other role that you wish to provide the technician.
3. Enter any other details that you wish to enter including the Cost per hour and so on.
4. Click Save. If you do not wish to change the Requester to technician, click **Cancel** instead of **Save**.

If you want to continue adding technician after converting a Requester to technician, then instead of clicking Save, click **Save and add new** button. This saves the technician details and reopens the add technician form after displaying a success message for changing the Requester to technician.

Associate Workstation to Requester

You can also associate a workstation with the Requester. To associate a workstation with the Requester

1. Click **Associate Workstation** option. The associate workstation window is opened.
2. In the **Associate Workstation** pop-up, select the workstations that you wish to associate with the Requester from the **Workstation List** and move them to the **Associated Workstations** list by clicking the >> button. To dissociate workstations, select the respective workstations in the **Associated Workstations** list and click the << button. If you wish to dissociate all the workstations, then click **Dissociate All**.
3. After associating the required workstations, click **Save Changes**.
4. A message is displayed. Click the **Close** button.

View Requests

While viewing the Requester details, you can view all the open requests raised by the Requester. Click **View Requests** option. The page redirects you to the Requests module where the list of all **Open Requests** raised by the Requester is displayed.

Deleting Requesters

1. In the **Requester List** page, enable the check box beside the Requesters to delete.
2. Click **Actions** drop-down menu -> Delete User(s) option. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed with the deletion. If you do not want to delete the Requester, then click **Cancel**.

Viewing deleted users

SDAdmins can view and anonymize the users (both requesters and technicians), who are deleted from the application until the present. Anonymization will be possible only if the privacy settings are enabled. As you anonymize a user to a random name, the user's PII, marked to be deleted during anonymization in privacy settings, will be removed from the application as well.
In the requester list view page, select the filter **Deleted users**.
Select users to anonymize and click **Anonymize users**.
Enter random names for the users and click Anonymize users.

To search Requesters

1. In request list view, click on the alphabet with which the name of the Requester starts. This lists the Requesters whose name starts with that alphabet.
2. If you are unsure of the starting letter, then you can type the name (first name or the last name, which ever you know) or email ID or any other parameter that will identify the Requester in the field beside the Search Requester List. This lists the Requesters whose details matches the search string that you entered.

You can also search Requesters from the Search available on the left menu in the other pages of the application. From the Search in combo box, select Requesters and type your search string in the Enter Keyword text field. Click Go or press Enter. The Requester names that match the search string are listed in a separate pop-up window. Another option to search Requesters will be using the column-wise search option. To perform a column-wise search

1. Click the **search** icon at the end of the Requester list view headers. This opens the search field just below every column that is visible in the list view.
2. Enter the search key in field under the column of your choice.
3. Click Go. The search results matching the search string(s) are displayed.

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Merging requesters

The user merge functionality will help you detect duplicated requester accounts (with the same login name or email address) in different domains and merge them into single accounts. It also helps you avoid confusion in identifying the correct users.
Following are the probable causes of duplication:

- The same user is fetched from more than one domain during user import
- Servers are moved from Windows to Linux
- When Active Directory users send emails to the help desk, new (or duplicated) accounts will be created

As for the accounts duplicated by other ways rather than login name or email address, you can manually locate them and then merge.
You can merge completely distinct accounts as well.

> In the duplicated accounts merge process, attribute values of the selected accounts will also be merged. However, when you merge accounts without criteria (or distinct accounts), attribute values of the selected accounts will not be merged; instead, the parent account's attribute values will be retained. The only exception is the email address of the child account(s), which will be copied to the parent account.

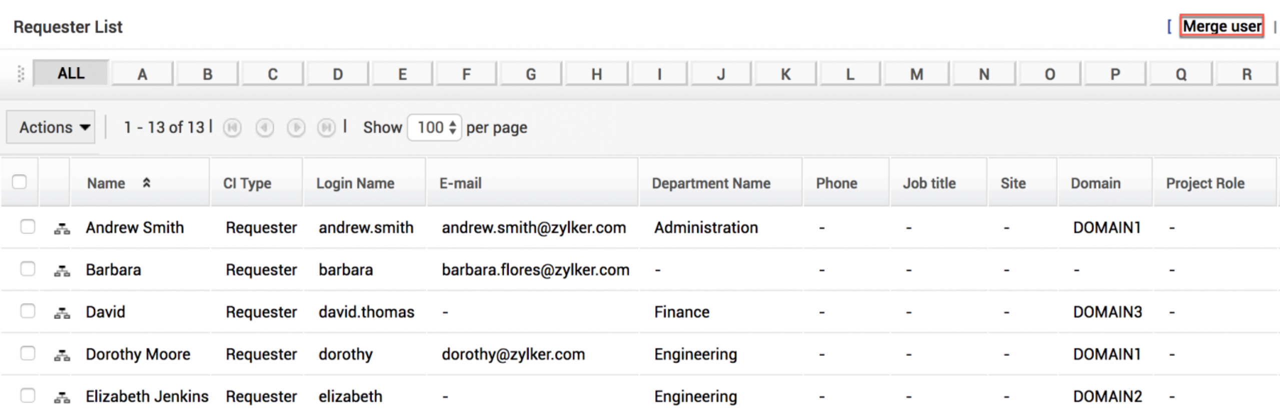
> Perform the merge operation during non-operational hours since it's a memory-intensive process.

Merge process

During the merge process, you will select a parent account to which you want to merge other accounts. The other accounts will be recognized as child accounts. After merging these child accounts to the parent account, all associations of the child accounts across product modules will be transferred to the parent account.

Merging duplicated accounts

- On the requester list page, click **Merge user**.



Name	CI Type	Login Name	E-mail	Department Name	Phone	Job title	Site	Domain	Project Role
Andrew Smith	Requester	andrew.smith	andrew.smith@zylker.com	Administration	-	-	-	DOMAIN1	-
Barbara	Requester	barbara	barbara.flores@zylker.com	-	-	-	-	-	-
David	Requester	david.thomas	-	Finance	-	-	-	DOMAIN3	-
Dorothy Moore	Requester	dorothy	dorothy@zylker.com	Engineering	-	-	-	DOMAIN1	-
Elizabeth Jenkins	Requester	elizabeth	-	Engineering	-	-	-	DOMAIN2	-

- Before you merge the requesters, **you might want** to take a look at how attribute values for the selected accounts will be merged. Click **Merge workflow on the user merge page**.

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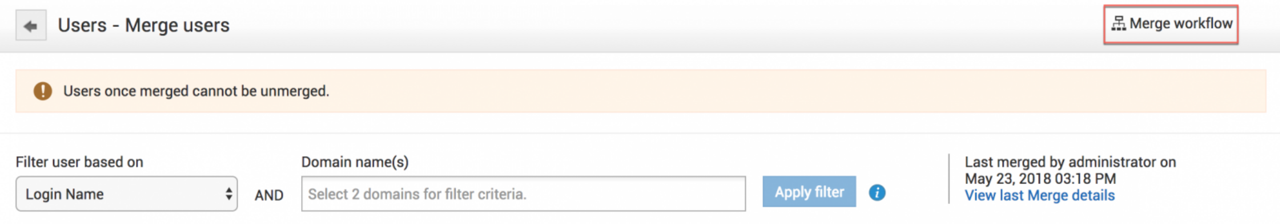
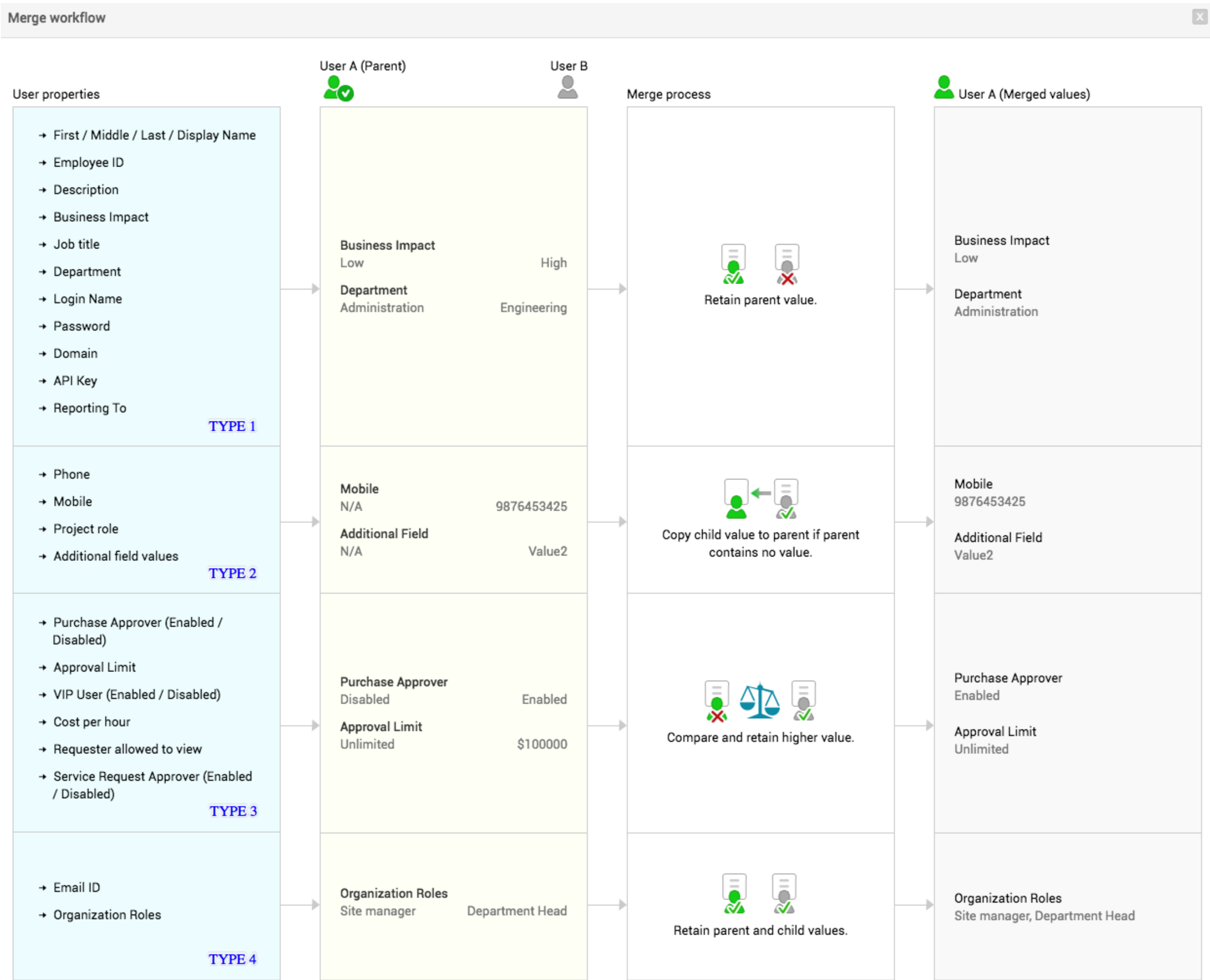


Following is the merge workflow screenshot that illustrates different types of attribute value merge.



Let's look at some examples for each type of attribute value merge.

Attribute merge type	**Example attribute**	**Attribute value retained after merging**
1	Department	Parent account's department will remain unchanged.
2	Phone	If no phone number is added to the parent account, the phone number in the child account will be copied to the parent.
3	Approval Limit	Approval limits of the parent and the child accounts are compared and higher approval limit is retained.

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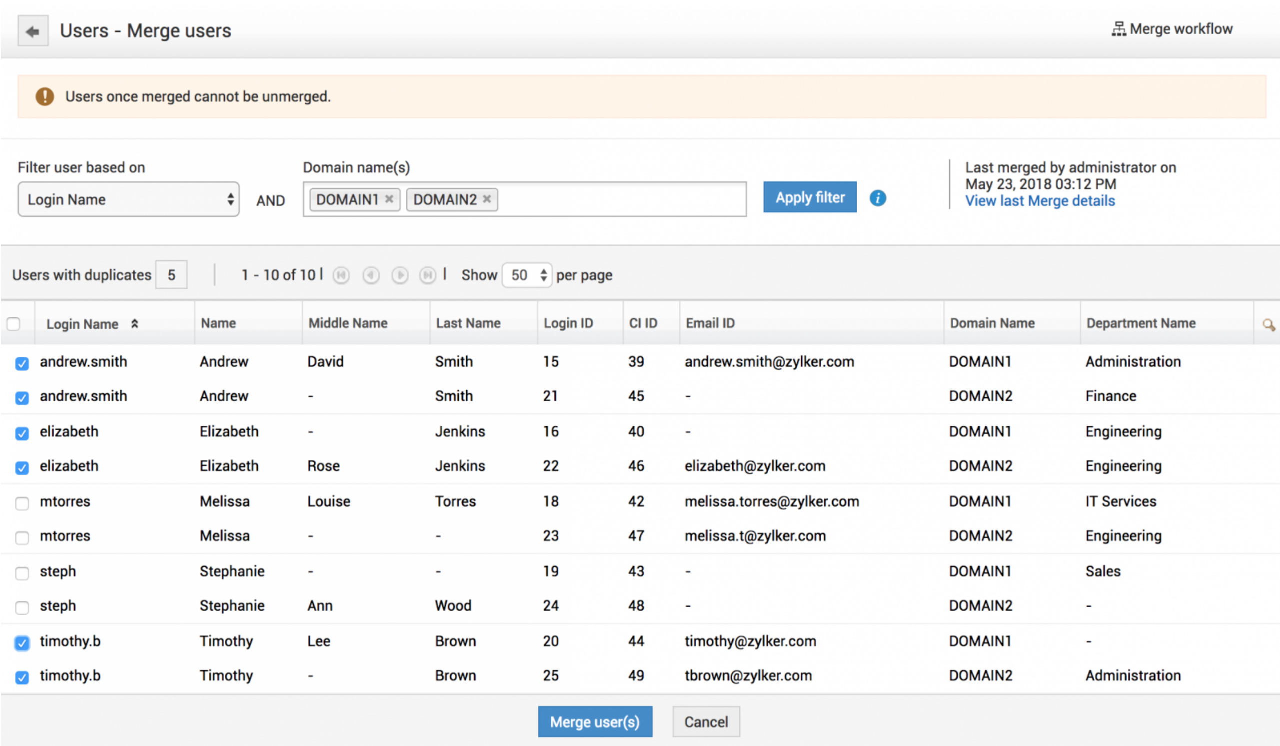
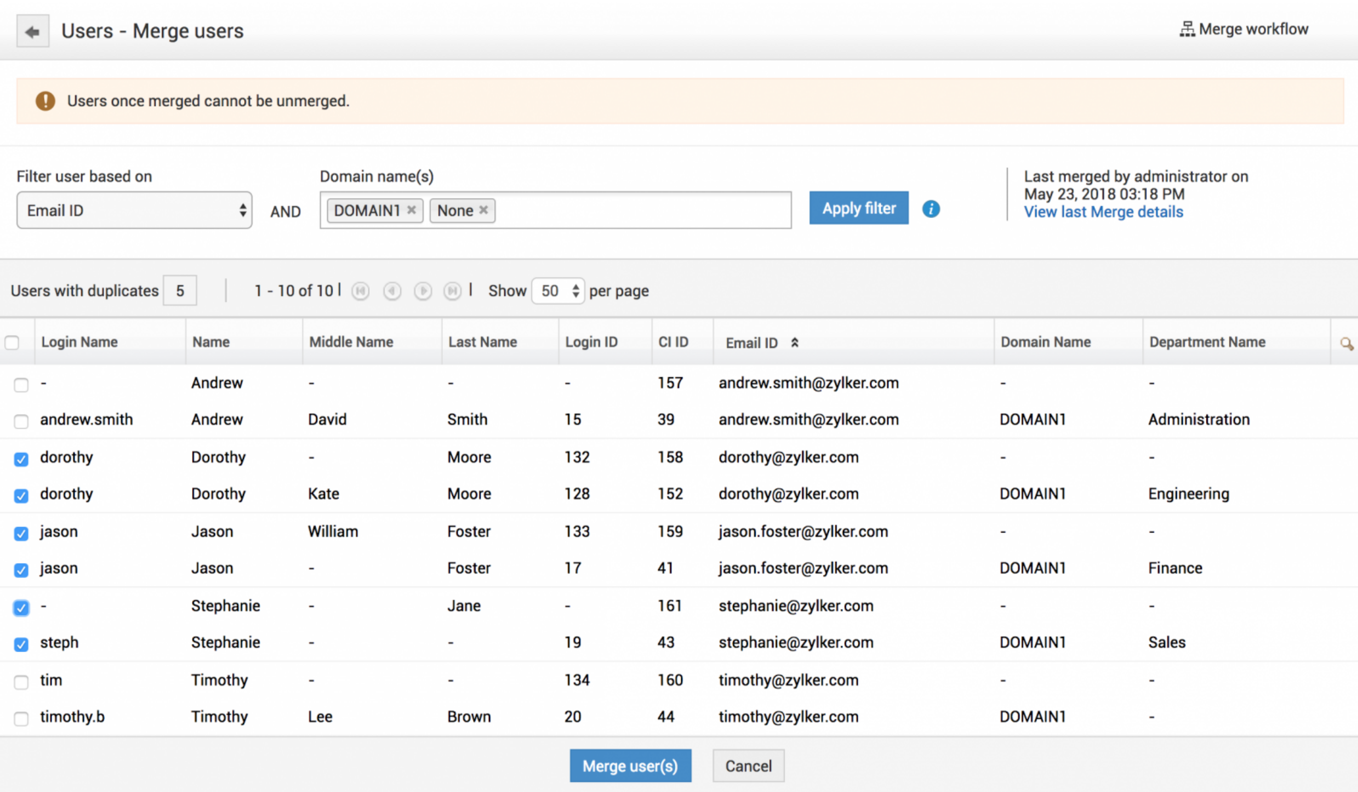
4	Primary and Secondary email addresses	• When the parent account has no primary email address, then the child account's primary and secondary email addresses will be copied to the parent's primary and secondary email addresses respectively. • When the parent account has a primary email address, then both primary and secondary email addresses of the child account will be moved to the parent's secondary email address.

- Select the criteria to identify the duplicated accounts as **Login Name** or **Email Address**.
- Enter the user domains (two at a time) or a domain and none (no domain).
- Click **Apply filter. The** uniquely duplicated accounts appear in pairs. Note that the duplication is across the selected pair of domains and not within the same domain.
- Select the pairs to be merged and click Merge user(s).

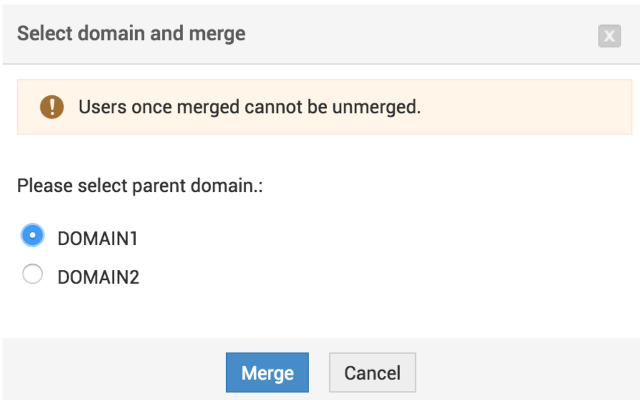
Example for duplicated users from two domains and with the same login name.



Example for duplicated users, where one user is from a domain, and the other user is not associated to any domain. They have the same email address.

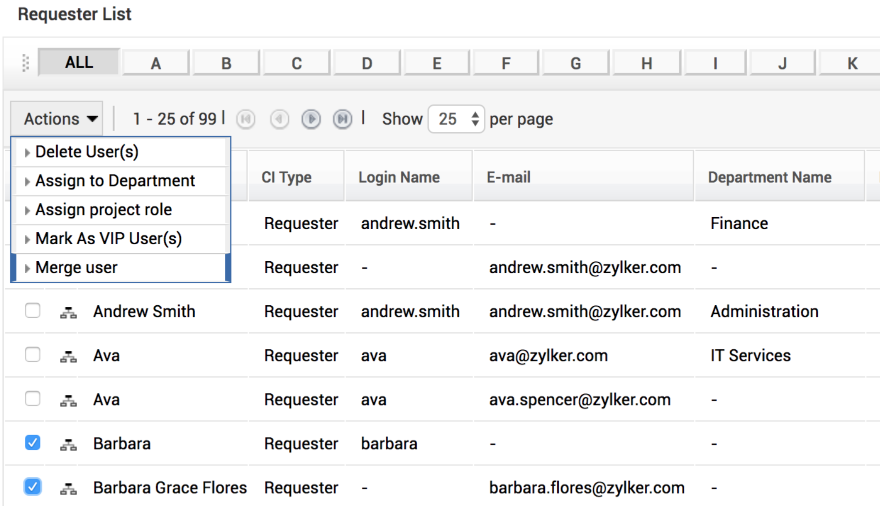


- Select the parent domain (the user accounts that belong to the parent domain will be the parent accounts in all merged user pairs.) and click **Merge**. The merge process will be initiated.

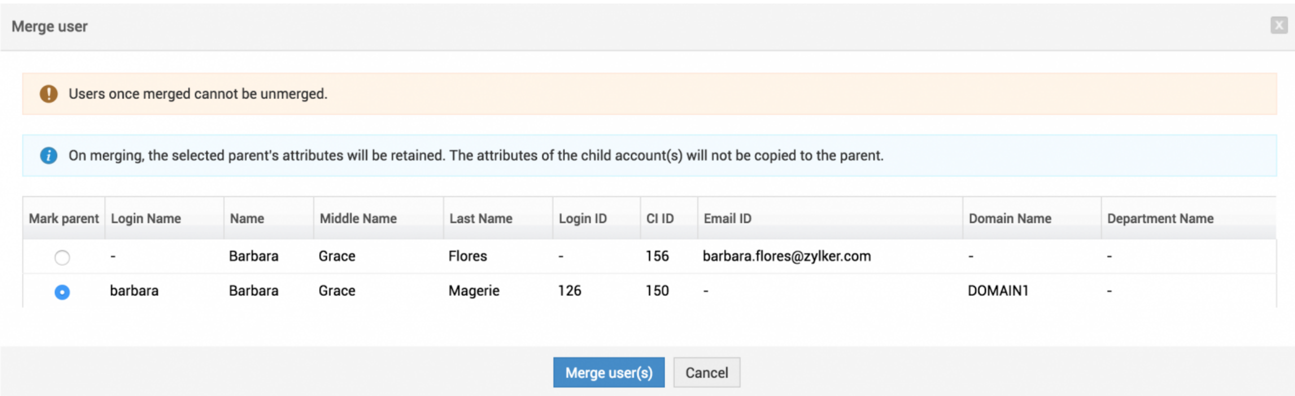


Merging distinct accounts

- On the requester list page, select the users to be merged.
- Click **Merge user** from **the Actions** drop-down menu.



- The selected users will be listed as shown below.



- Select the parent user and click **Merge user(s).** The merge process will be initiated.

Following are common to both merge types:

- All SDAdmins will receive a notification when the merge process is when it's completed.
- There will be no transfer of associations from the child account(s) to the parent in any user-based criteria for Business Rules, SLAs, Custom Views, Reports and Advanced Search.

When a merge process is underway, you cannot initiate a second merge.

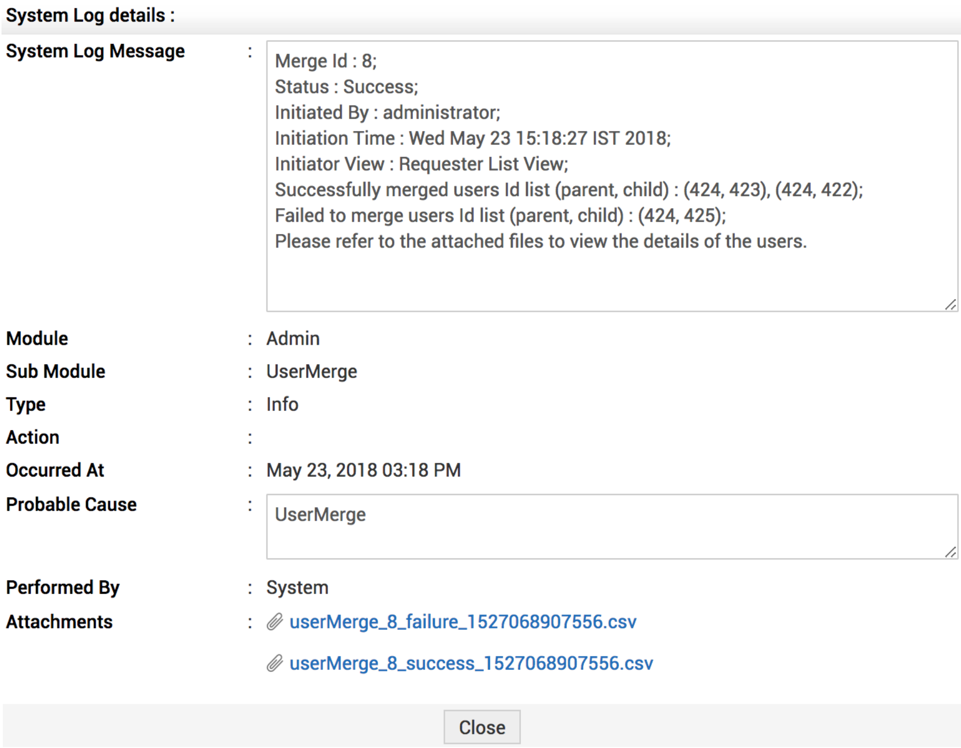
Viewing merge process summary

- Click the technician space notification icon on the header pane.

OR

- Go to **Community** tab >> **System Log Viewer**.

Attachment files in the system log details have the list of account pairs that are successfully merged or failed.



Requester List View Customization

To customize the Requester list view

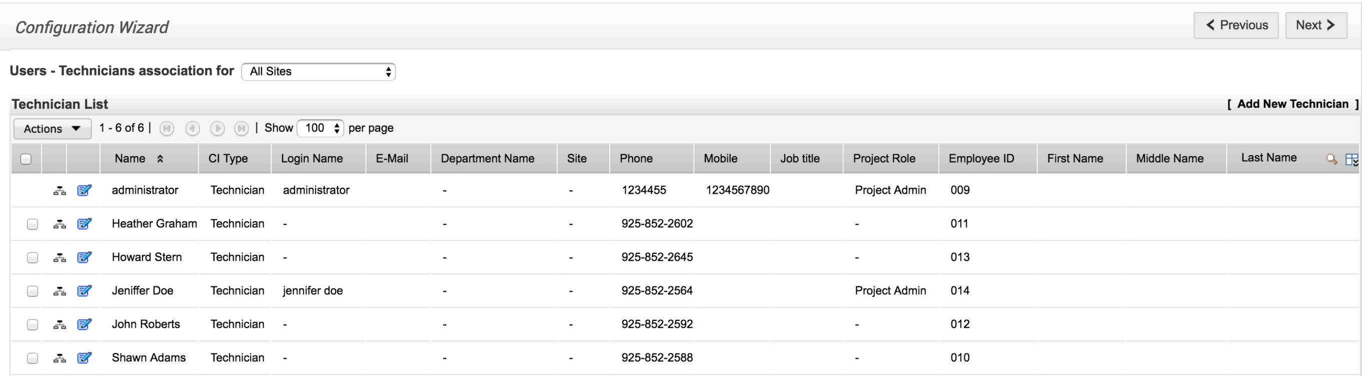
1. Click the **column edit** icon available at the corner of the Requester list headers. This opens the available columns that can be displayed in the list view. All those that are visible currently, will have the check box beside them selected.
2. To remove a column, disable the check box beside the column name.
3. To add a column to the list view, enable the check box beside the column name.
4. To change the column order, click the up and down arrow after selecting the column that you wish to move.
5. Click Save.

This will add only those columns which you have chosen in the list view. You can also sort the list view based on columns. To sort Requester list by column, click the column header. Clicking it once will sort it in ascending order. Clicking twice will sort the column in descending order.

Technicians

The IT help desk team comprises of Technicians who are responsible for handling requests, raised by the employees of the organization. Each Technician in the help desk team is assigned with Roles to perform specific tasks in the application. If your organization is spread across multiple sites, then you can associate sites to the Technicians. The site association restricts the Technician's access to other site information.
Apart from this, you can also assign Technicians to specific Technician Groups. Grouping Technicians facilitates the incoming requests to be categorized and assigned to the specific group respectively.
To access **Technician** configuration wizard,

1. Login to ServiceDesk Plus application using the **Username** and **Password** of a ServiceDesk Plus administrator.
2. Click the **Admin** tab in the header pane.
3. From the Users block click **Technicians**. The Technician List view is displayed, where you can add, edit, and delete Technicians.



NOTE:

1. If multiple sites (with **Related Settings** as *Copy default settings* or *custom settings*) are configured in the application, then a **Technicians association for** drop-drown box is displayed in the Technicians List view.
2. If you are logged in as a **Site Administrator**, then you have the privilege to add, edit and delete Technicians associated to your sites.

Topics discussed under this section:

- Adding Technicians
- Editing Technicians
  - Changing Password
  - Adding/Removing Login Permissions
- Associating/Dissociating Workstations to Technicians
- Changing Technicians as Requesters
- Associating Technicians to Site
- Dissociating Technicians to Site
- Deleting Technicians

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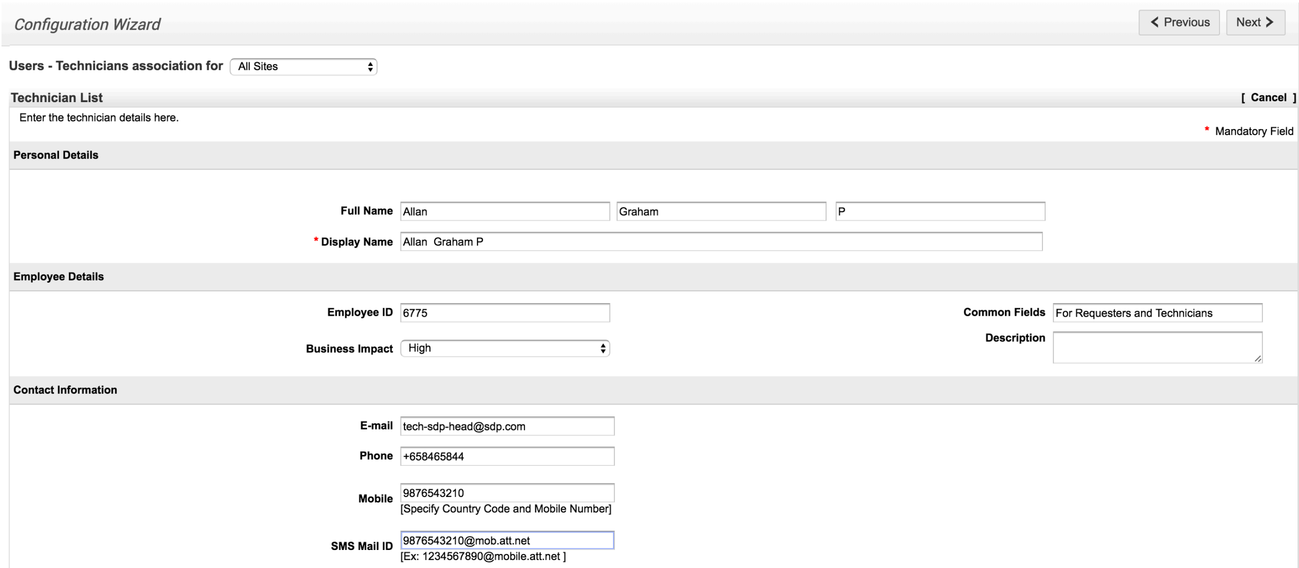
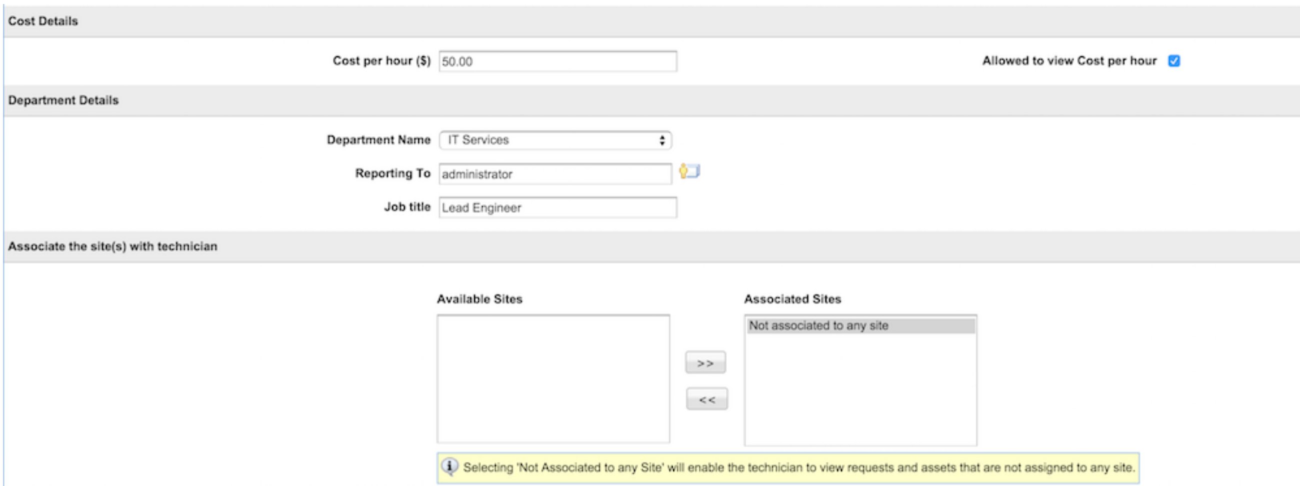
Adding Technician

To manually add a Technician in ServiceDesk Plus,

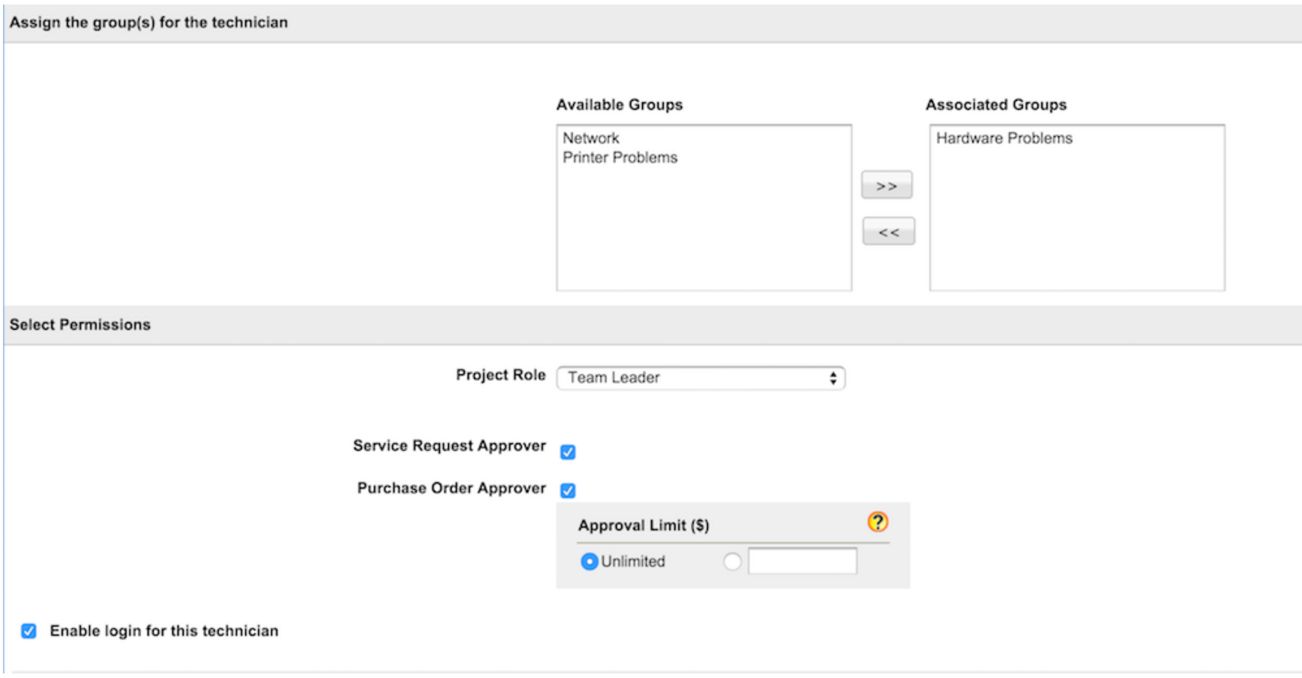
1. In the Technician List view displayed, click **Add New Technician** link at the top right corner.



2. In the **Personal Details** block, enter the **Full Name** (includes the **First Name, Middle Name** and **Last Name)** of the Technician. The **Display Name** field gets filled-in automatically as you type the Full Name. You can also edit the Display Name, if required.
3. In the **Employee Details** block, specify the **Employee ID**, **Test** and **Description.** Choose the **Business Impact** (High, Low, Medium).
4. Specify the **Contact Information** of the Technician, such as the **E-mail Address**, **Phone Number**, **Mobile Number** and **SMS Mail ID**.



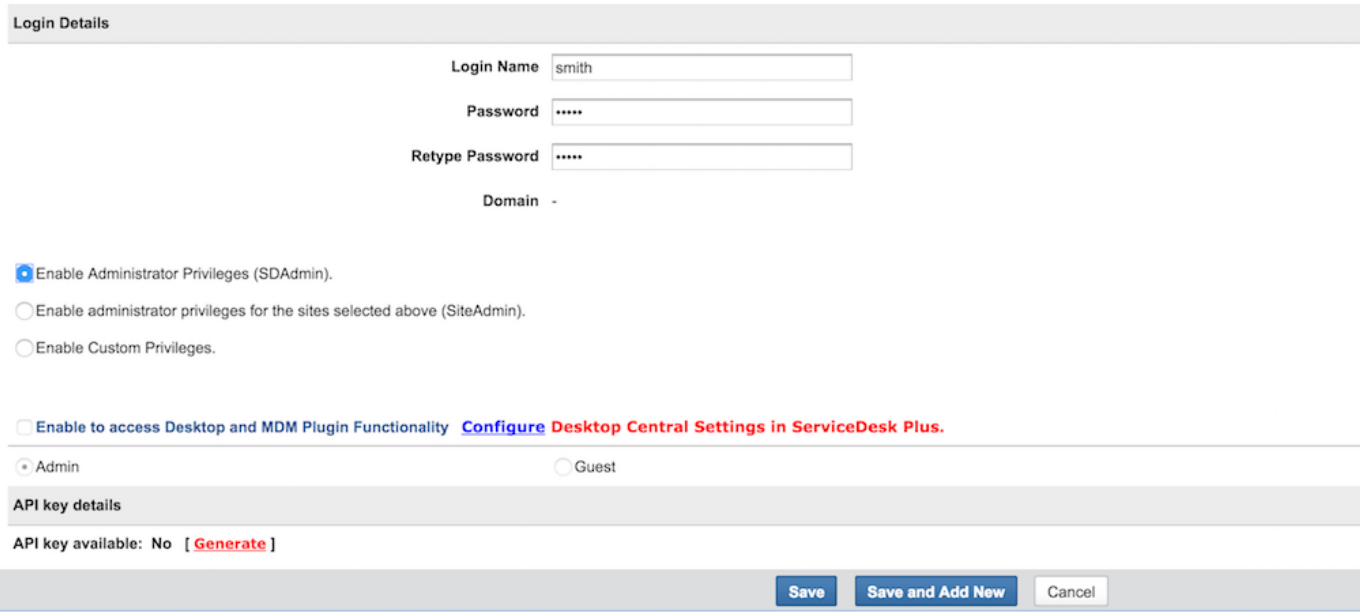
5. Specify the **Cost per hour** of the Technician.
6. Specify the **Department Details.** Select the **Department Name** of the Technician. Enter the **Job title** and in **Reporting to** field enter the name of the Technician to whom should the new Technician report.
7. If you have configured sites in the application, then **Associate the site(s) with Technician** block is displayed. The sites configured in the application are displayed in **Available Sites** column. To associate sites with Technician, select the sites and click **>>** button. The selected sites are listed in **Associate Sites** column. **NOTE:** If a Technician is not associated to any site, then by default, the Technician is associated to **Not in any Site**.



8. The Technician groups configured in the application are listed in **Available Groups** column. To assign groups for the Technician, select the groups and click **>>** button. The selected Technician groups are listed in **Associated Groups** column.
9. **Select Permissions** for the Technician. Choose the **Project Role**. If you want the Technician to approve service requests, then select **Service Request Approver** check box. An email is sent to the Technician to approve or reject the service request. You can also assign the Technician with the privilege to approve **Purchase Orders** by selecting Purchase Order Approver check box. Set the Approver Limit within which the Technician can approve the PO. An email is sent to the Technician to accept or reject the PO. **NOTE:** If you have selected any of the check boxes (Service Request Approver or Purchase Order Approver), then the email address of the Technician should be specified.

Providing Login Credentials and Roles:

10. Select **Enable login for this Technician** check box. The **Login Details** block is displayed.



11. Enter the **Login Name** and **Password** for the Technician. Re-type the password in the **Re-type Password** field. Please ensure that the login name and password are

mandatory fields. Also note that the login name should be unique for each Technician.

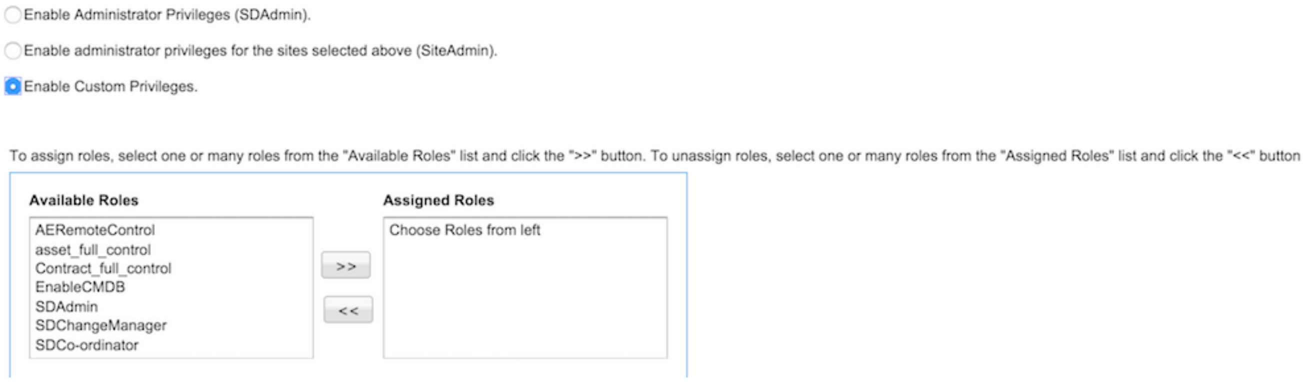
12. Select the **Domain** of the Technician from the drop-down box.

13. Select **Roles** to be assigned to the Technician. The Role will define his access privilege to various modules of the application.

- **Enable Administrator Privileges (SDAdmin):** Technician with this role will has complete access over all the modules in the application. The administrator alone has the privilege to access the Admin module which is the key to operate the application.

NOTE: If you are logged in as a Site Administrator, then this option will not be available.

- **Enable administrator privileges for the sites selected above (SiteAdmin):** Technician with this role has complete administrator access for the above selected sites. The Site Admin can configure all the Admin configurations pertaining to his/her site alone.



- **Enable Custom Privileges:** The Roles configured in the application are listed in **Available Roles** column. To assign roles, select one or more roles from the Available Roles column and click **>>** button. The selected role(s) is listed in the **Assigned Roles** column.

14. While enabling login permission to a Technician, you can also provide the Technician with Desktop Central login access and DC Role. The two DC Roles are **DC Admin**

and **DC Guest**. Select the check box **Enable to access Desktop Management Functionality** and provide either of the role to the Technician. When the Technician

logs into ServiceDesk Plus using his/her credentials, the Technician can view the **Desktop Management** drop-down menu, from where, the Technician can perform

Desktop Management functionality from within ServiceDesk Plus web console.

15. The **API Key** for the Technician is essential while integrating ServiceDesk Plus with **REST API** or with **Desktop Central** application. The API Key performs as an

authentication mechanism between the two applications.

To generate the API Key, click the Generate link. Select a time frame for the key to expire or simply retain the same key perpetually. If a key is already generated for

the Technician, a Re-generate link appears.

16. Click **Save** button. If you want to add more than one Technician then, click **Save and Add New** button. If you decide to give the login access for the Technician at a

later time, then you can save the Technician details without the login details. For this you need to stop with Step 10 and click Save. You can add the login details by

editing the Technician details.

At any point, if you decide not to add the new Technician, then click **Cancel** to get back to the Technician list.
In general, the users are imported into the application using any of the following methods namely, **Active Directory Import**, **LDAP** or **Import from CSV file**. The imported users are listed in **Admin -> Requesters**. From the Requesters List view, you can categorize the users into Requesters and Technicians. To change a user as Technician, click **Change as Technician** option and associate sites, assign Technician group and provide access permissions to the Technician.

Editing Technician

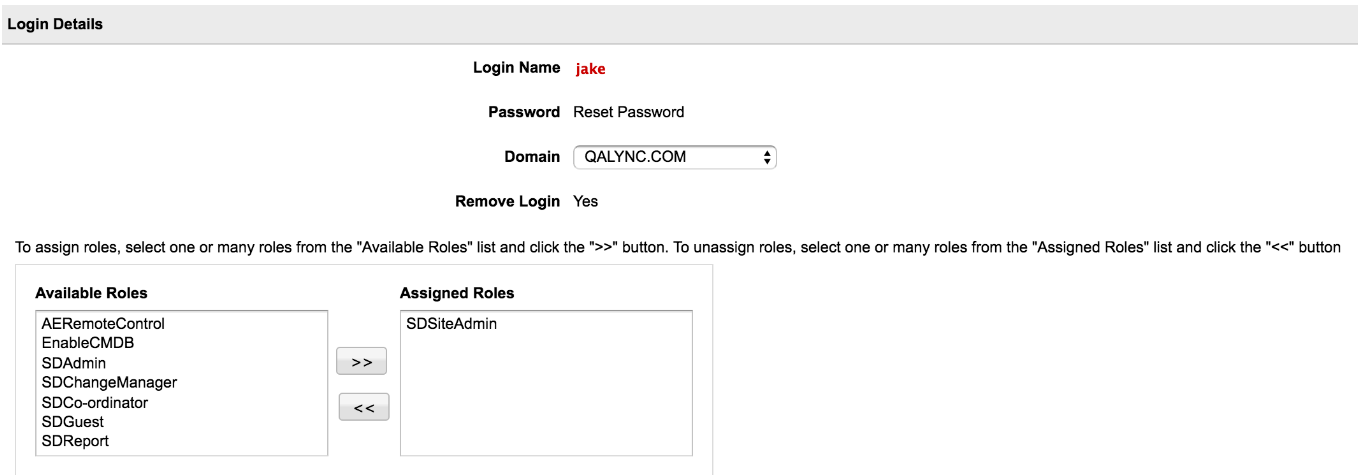
If you want to add/remove the login credentials for a Technician or you want to change a Technician's password, then you can so while editing the Technician's details.
To edit the Technician information:

1. In the Technician List view, click the **edit** icon beside the Technician to edit.
2. Modify the details in **Personal Details** block, **Contact Information** block, **Cost Details** clock and **Department Details** block. You can also associate/dissociate sites with the Technician, and also assign/unassign groups for the Technician.
3. Click **Save** button. Even while editing a Technician, if you wish to add a new Technician, then click **Save and add new** button after making the changes. At any point, if you want to cancel the edit operation, then click **Cancel**.

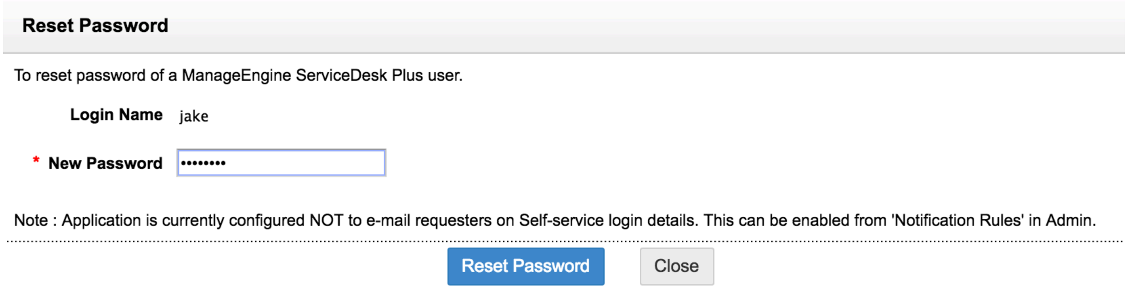
Changing Password

You can change the password of the Technician while performing the edit operation.

1. Click **Reset Password** link beside the Password field.



2. In Reset Password popup window, enter the New Password in the field provided.
3. Click Reset Password button. If you do not want to change the password, then click Close button.

1. 

4. If you have enabled Send Self Service Login details option in Admin -> Notification Rules, then the new password is sent as an email notification to the requester.
5. Click Save in the Technician form.

Adding/Removing Login Permissions

You can add/remove the login permission of the Technician while performing the edit operation.
Adding Login Permission
To add login credentials for the Technician, refer the topic Providing Login Credentials and Roles under **Adding Technicians**.
Removing Login Permission

1. In Login Details block, click the Yes link beside Remove Login field. A dialog box confirming to remove the login permission for the Technician appears.
2. Click OK to proceed. If you do not want to remove the login permission, click Cancel.
3. Click Save in the Technician form.

Associating/Dissociate Workstations to Technicians

To associate workstations to the Technician:

1. In the Technician List view, select the Technician to associate workstation.
2. Click Associate Workstation option. The Associate Workstation window pops up. By default, all the workstations configured in the application are listed in Workstation List column. You can also choose to display the unassigned workstations alone by selecting Show unassigned only link.

NOTE: Selecting Show unassigned only link changes the link to Show assigned only.

3. To associate workstations, select one or more workstations from Workstation List column and click >> button. The selected workstation(s) are listed in Associated Workstations column.
4. Click Save button.

To dissociate workstations for the Technician:

1. In the Technician List view, select the Technician to dissociate workstation.
2. Click Associate Workstation option. The Associate Workstation window pops up. By default, all the workstations configured in the application are listed in Workstation List column. The workstations associated with the Technician are listed in Associated Workstation column.
3. Click Dissociate All button. The workstations are dissociated from the Technician.

Changing Technicians as Requesters

To change Technician as requester:

1. In the Technician List view, select the check box beside the Technicians to change as requesters.
2. Click **Actions** drop down button.
3. Select **Change as Requester** option. A dialog box confirming the operation appears.
4. Click **OK** to proceed. The selected Technicians are changes as requesters and listed in the Requester List view.

Associating Technicians to Site

You can associate bulk Technicians to sites using this option. If you have added the Technician without associating the sites then the same can be done from the Technician List view.

1. Select the check box beside the Technician(s) to associate site.
2. Click **Actions** drop down button.
3. Select **Associate to Site** option. The Associate Technician(s) to site pops up.
4. Select the **Site** to which you want to associate the Technician.
5. Click **Associate** button. The Technician is associated to the site.

Dissociating Technicians from Site

You can dissociate bulk Technicians from a site using this option.

1. In Technician List view, select the check box beside the Technician dissociate site.
2. Click **Actions** drop down button.
3. Select **Dissociate from Site** option. The Dissociate Techncian(s) from site pops up.
4. Select the **Site** from which you want to dissociate the Technician.
5. Click **Dissociate** button. A dialog box confirming the operation appears.
6. Click **OK** to proceed. The Technician gets dissociated from the site.

NOTE: Dissociating the Technicians from a site will remove all their traces from SLA, Business Rules and Groups associated to that site.

Deleting Technicians

To delete Technician(s),

1. In the Technician List view, select the check box beside the Technician to delete.
2. Click **Delete** button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed with the deletion. The selected Technician(s) is deleted from the list.

NOTE: The delete icon will not be present for the Technicians logged into the application. To delete that Technician, you need to log out and log in as a different Technician and then delete the details. Also, the administrator Technician details can be deleted only by another Technician with administrative privileges.

Support Groups

Support Groups denote the classification of your help desk team, so that the incoming requests are categorized and based on the technicians expertise, the requests are distributed.
By configuring support groups, multiple support teams can be managed by classifying them into individual groups with e-mail settings for each group. So when an e-mail is sent to a group mail ID, the request is fetched and automatically sent to the group.
Say for instance, you are managing two support groups - hardware and network with the email IDs hardware@domain.com and network@domain.com respectively. The two mail IDs are linked to a single mail account that is fetched by ServiceDesk Plus. So on configuring the group mail IDs, e-mails sent to hardware@domain.com are automatically assigned to the hardware group and the conversation threads possesses the group mail ID in the address field.
Further, you can restrict technicians to view requests in their Group alone. This can be done by creating a Role "All in group & assigned to him" and assigning this role to the technician to restrict his view. Refer Roles to know more.
You can also enable notifications to be sent to the technicians on receiving a new request and if a request is left unpicked. The configured groups are listed in the Groups drop-down menu in the **New Request** form.

To open the Group configuration page

1. Click the **Admin** tab in the header pane.
2. In the Users block, click **Support** Groups. The available support groups are listed. From this page you can add, edit and delete groups.

Add Support Group

1. Click **Add New Group** link available at the right top corner of the **Group list** page.
2. In the **Add Support Group** form, enter the group name in the **Name** field. This is mandatory field.
3. Select the Business Impact caused by this support group on other CIs.
4. Select the technicians that you wish to group under this Support Group from the **Available Technicians** list box and click >> button to move them to **Technicians interested in this Group**.
5. You can choose the technicians of the Group to whom you wish to notify for a new request creation in the Group. To do this,
    1. Select the check box **Send notification to Group technician(s) when a new request is added to this Group**.
    2. Click Choose button. The technicians under the group are listed in a pop-up window.
    3. Select the technicians to notify and click OK.
6. To choose the technicians to send notification for unpicked requests in the Group,
    1. Select the check box Send notification to technician(s) when a request in this Group is left unpicked.
    2. Click Choose button. The complete list of technicians available in your help desk appears in a pop-up window.
    3. Select the technicians from the list box and click OK. The technicians get listed in the field provided.
    4. Enter the time period, from the creation of the request in Group, after which the notification of unpicked requests will be sent to the selected technicians.

7. If you wish to describe the Group in detail enter the same in the Description text box.
8. If you wish to automatically assign the incoming tickets to the group, enter the Group E-mail ID. Each support group can possess multiple e-mail IDs which should be unique and separated by commas or semi colon.

   Note: Please note that the group e-mail IDs should be aliased to a mail account which is fetched by ServiceDesk Plus.
9. Specify the Sender's Name and the Sender's E-mail in the given text field. The senders name will be specified while sending e-mails.
10. Click **Save**. The new Group is added to the support group list.

At any point, if you decide not to add the new Support Group, then click **Cancel** to get back to the Group list. Clicking the **View List** link on the top right corner of the add Group form will also take you to the Group list view.

Note: Enabling the check boxes while adding Group does not ensure that the notification will be sent. This setting is just to choose the technicians to whom the notification needs to be sent and the time frame after which the unpicked request notification is to be sent. To actually send the notification, you need to enable the corresponding setting under the Notification Rules under the Admin tasks, which are:
1.
Notify Group technician by mail when request is added to Group.
2.
Notify technician by mail when request is unpicked in Group.

Edit Support Group

To edit an existing Support Group

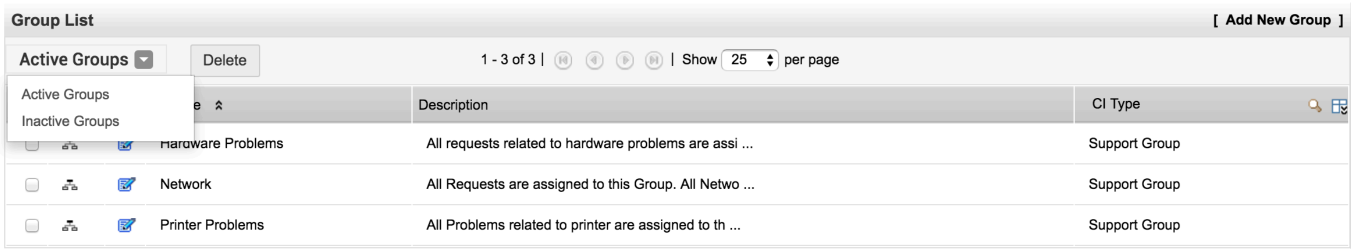
1. In the **Support** Group **List** page, click the **edit** icon beside the group name to edit.
2. In the **Edit Support Group** form, you can modify the name of the Group, the technicians belonging to the Groups, the notification settings, and description.
3. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Even while editing a Group, if you wish to add a new Group, then click **Save and add new** button instead of clicking Save button after making the changes.

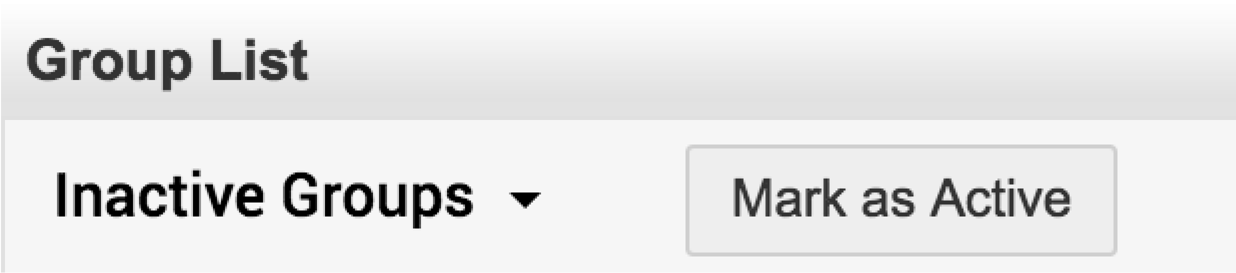
Delete Support Group

Active and Inactive Groups

Active group includes all the support groups that are currently in use. An active support group will become Inactive, if an active group that is being used by other modules is deleted. Only an active group that is not being used by any module can be deleted.



Inactive group(s) can be moved to active state by selecting the required groups and clicking the 'Mark as Active' option.



Note

If a support group from a default site is 'Marked as Deleted', then their copy site(s) which use the support group will also be 'Marked as Deleted'. If the support group in a default site which is 'Marked as Deleted' is reverted back as active, then their copy site(s) which use the support group will also become active group(s).

Steps to delete a support group:

1. In the **Support Group List** page, enable the check box beside the active group name to delete.
2. Click Delete button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed with the deletion. If you do not want to delete the Group, then click **Cancel**. An active group which is used by other groups cannot be deleted. It will be moved to Inactive groups on deletion.

User Groups

You can classify all the ServiceDesk Plus end-users (requesters) within your organization into various User Groups. In Site based implementation, categorizing users into groups is especially necessary to prevent users from accessing certain items. The users can be restricted to view certain service items, solutions, announcements and request template.
For instance, the announcement - Nortel network is down for a day due to maintenance in the site New York. This announcement is vital for users in site New York alone. A user group is created such that the announcement is available only to the users associated to site New York. The user group can also be filtered based on Department, Email ID, Job Title and Name.

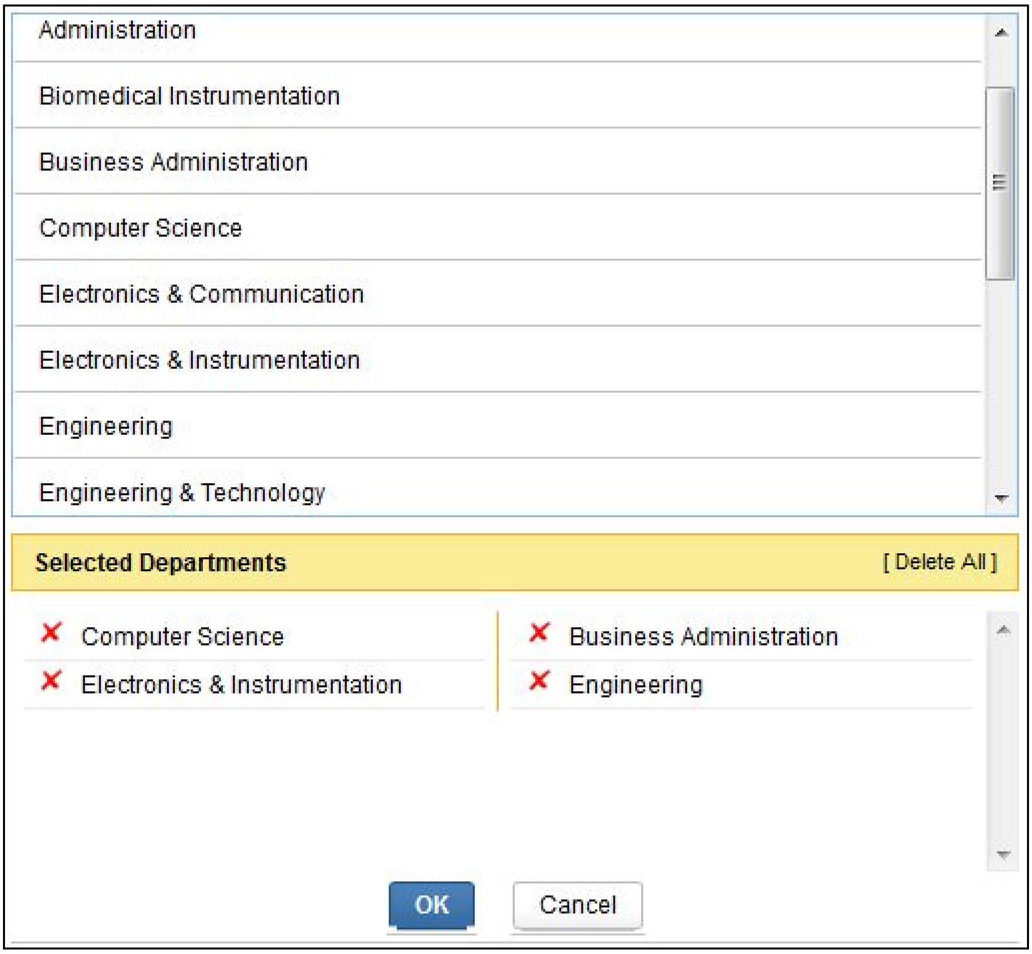
To access the user group configuration page,

1. Click Admin tab in the header pane to open the configuration page.
2. Click User Groups under the **Users** block. The User Group list view page is displayed where you can add, edit and delete a user group.

Adding New User Group

1. Click Add User Group link from the User Group list view page.
2. Specify a unique Name for the user group. Say, Sales Team in New York. This field is mandatory.
3. Enter a short Description about this user group.
4. Set the Filter by selecting the Criteria and Condition from the drop down. Enter the value in the text field.

   You can also perform a search operation for the values using the search icon . A pop up listing the values for the selected criteria appears. Select a value click ok.



5. To view the requesters under the specified criteria, click Preview button. The requesters list appears in a pop up window.
6. To add another criteria, click the addition button and repeat the similar process. Choose to match All the conditions (And) or Any one of the condition (Or) from the drop down.
7. Click Save to save the user group and return to the list view. Click Save and Add New, to save the user group and add another.

The configured User Groups appear while creating a new Service Item, solution, announcement and request template.

Editing User Groups

1. From the User Groups list view page, click the edit icon beside the user group name to edit. The Edit User Group form appears.
2. Modify the Name and Description field.
3. You can also alter the existing filters set or add new filters using the criteria and condition drop down.
4. Click Save, to save the user group and return to the list view. Even while editing, you can add another user group by clicking Save and Add New button.

Deleting User Groups

1. From the User Groups list view page, enable the check box beside the user group to delete.

2. Click Delete button. A confirmation dialog appears.
3. Click OK to proceed. The User group is deleted from the list.

Active Directory

The integration of Active Directory with the ServiceDesk Plus application enables you to import user information from the Active Directory server into the ServiceDesk Plus application. It also lets you import requesters from the active directory, schedule user import from AD, sync deleted requester/ technician from the AD, and configure active directory authentication.

Quick Links

- Importing Requesters
- Scheduling import for Requesters
- Sync deleted users from Active Directory
- Configuring AD authentication
- Configuring pass-through authentication

Importing Requesters from Active Directory

If you have not yet imported requesters from any of the domains, you can import them by clicking Import Requesters from Active Directory link. The Import From Active Directory window pops up.

1. From the list of domains that are listed in the Domain Name drop-down box, select the domain name in which the active directory you wish to import is installed. If the other details such as domain controller name, username, and password have already been entered in the Domain scan page, then that will be populated automatically. Else, enter the name of the domain controller in the **Domain Controller Name** field, login name, and password in the corresponding fields.
2. You also have an option to select the fields to be imported from Active Directory. To do this, enable the checkbox beside the default fields namely, Employee ID, Phone, Department, Job Title, Mobile, Site Name, and E-mail. Specify the field name configured in Active Directory for the selected fields. AD fields of type 'Large Integer' like accountExpires, lastLogon can also be imported.

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Say, if "Phone" is configured as "telephoneNumber" in active directory, then enter telephoneNumber in the text field provided. The unselected fields are not imported. This is to avoid over ridding of the new values by the old values from the directory.

3. Apart from the default fields, you can also Import Requester Additional Field details from the active directory. If you have not configured any requester additional fields, then select Click here to configure link. This takes you to Requester - Additional Field page, from where you need to configure the additional fields to be imported from Active Directory. The configured requester additional fields - Text and Numeric fields, appear in Import from Active Directory window indicated in the colors Blue and Green respectively. Enable the checkbox beside the requester additional fields to import, and specify the field name configured in active directory beside the selected field. The unselected fields are not imported.

Field Name	Field Type	Distinguished Name (DN) in Active Directory	Description
Email Address	Text	mail	Email Address of the requester
Country Code	Numeric	countryCode	Country Code of the requester

Note:	1. The numeric additional fields hold up to 19 digits. If your numeric value exceeds 19 digits, then configure the value in the text field. 2. On every import, the existing requester data will be overwritten.

4. If the site associated to the user/department is changed in Active Directory, then the assets belonging to the user/department should be moved to the new site. To update this information on every import, enable Move associated assets check box. De-selecting this check box will not move the asset to the new site.
5. Click **Import Now.** The import wizard displays the various Organizational Units (OUs) available in that domain. Choose the specific Organizational Unit from which you wish to import users by selecting the checkbox beside it.
6. Click **Start Importing**. Once the import is complete, the data on how many records were added, how many overwritten, and how many failed to import will be displayed.

Facts

1. AD fields of type 'Large Integer' [like accountExpires, lastLogon] can be imported.
2. If the fields of this type are mapped to a date additional field, they will be displayed as date. Even if values in these fields are of date-time fields in AD, the value in SDP will be of Date type as the user-additional field has 'Date' alone.
3. The values that can be set are of the range from Jan 2, 1970, to Dec 31, 9999.
   - If the value is below Jan 2, 1970, it will take the minimum value [ie Jan 2, 1970]
   - If the value is above Dec 31, 9999, it will take the maximum value [ie Dec 31, 9999]
4. If the fields of this type are mapped to other fields [String, Numeric,..], it will not be displayed as 'Date'. Instead, it will be a numeric value.

   Note: If "accountexpires" value is set as "never" in AD, then the maximum value in SDP will be displayed [Dec

31, 9999].

Schedule AD import

You have an option to schedule Active Directory import in a specified number of days. When you schedule an Active Directory Import, data from all the domains available in the application is imported at the specified number of days.

1. Select the Schedule AD import check box. Specify the number of days in the text box. The requester details get imported automatically as scheduled.
2. Click the saveADSync button to be in sync with the active directory.

The criterion for User Account overwrite in Active Directory User Imports:

While performing a user import from Active Directory,
Criteria 1: ObjectGUID - If the ObjectGUID of a user account in ServiceDesk Plus matches with the user account in Active Directory, then the record in ServiceDesk Plus will be overwritten.

Criteria 2: Login name and Domain - If the login name and domain of a user account in ServiceDesk Plus matches with the user account in Active Directory, then the record in ServiceDesk Plus will be overwritten.

Criteria 3: Email address - If the 'Override based on EmailId' option is enabled under Admin>> Self-Service Portal settings and if the email address of the user account in ServiceDesk Plus matches with the Active Directory user account, then the record in ServiceDesk Plus will be overwritten.

Criteria 4: Login name and domain is '-' (not associated) - If a user account in ServiceDesk Plus contains only a login name with an email address without a domain association and if the login name matches with the Active Directory user account, then the record in ServiceDesk Plus will be overwritten.

When a user is imported from the AD, the ObjectGUID of the user is used as a unique identifier to update the user details in ServiceDesk Plus. If the 'ObjectGUID' does not match for any user in ServiceDesk Plus,

- The 'loginname+domainname' of the user is used as a unique identifier to update the user details in ServiceDesk Plus.
- If the 'loginname+domainname' does not match for any user in ServiceDesk, the 'email address' of the user will be used as a unique identifier.
- If the email address does not match, then the 'loginname + domain=NULL' (where loginname is Howard (example) and domain name is NULL) is used as a unique identifier to update user details.

In cases where none of the specified conditions like 'ObjectGUID' , 'loginname+domainname', 'email address','loginname + domain=NULL' are absent in ServiceDesk Plus, a new user will be added.

Sync deleted users from Active Directory

This option lets you sync the deleted requesters/technicians from the Active Directory into the application. Syncing of deleted users happens after an import. Once the sync is done, it shows you the list of deleted users from AD. You can delete the requesters and technicians from the list. For requesters, you can enable automatic deletion so that when a requester is deleted from the active directory, the user will be removed from the application as well. However, for technicians, this option is not available. You can delete the technicians by choosing from the list and manually deleting them.

- Mouseover "Sync deleted users from Active Directory" fields. Edit option will appear. Click on the edit button. Enable "Sync deleted User(s) from AD".

- Select the mode of deletion of users. To sync the deleted users automatically, select "Delete Automatically...".
- To stop the automatic sync of deleted users and delete the users manually, select "Delete Manually...". You can manually delete the users, by clicking on the deleted users link that appears in the import results page and at the top of the configuration wizard. The link opens up the list of deleted users, you can verify and delete the users from the list.

Note: If you disable "Sync deleted User(s) from AD" option, the deleted users will not be synced. The list of the deleted requester(s), technician(s) will not be displayed as well. If you import users manually from the AD, the deleted users will not get synced. If the sync deleted users in running on a schedule, the SDAdmins will be notified about the deleted users through the bell notification.

Active Directory Authentication

You can authenticate the Requester login with active directory (AD) by following the steps mentioned below. On configuring AD authentication, any changes made in the password in AD will be reflected in ServiceDesk Plus. This facilitates the Requesters to log in to the application using the login name and password of the system.

	Note: Please ensure that you have already imported the requesters before you start configuring the AD Authentication. Only if a user account is available in ServiceDesk Plus application, it will authenticate the password for that user account from the active directory. Hence, when none of the users have been imported from the active directory, the authentication cannot be done for the user account.

To configure the Active Directory Authentication,

1. Log in to the ServiceDesk Plus application using the **username** and **password** of a ServiceDesk Plus administrator.
2. Click the **Admin** tab in the header pane.
3. In the Users block, click Active Directory Authentication. Here you can enable or disable active directory authentication. By default, the AD authentication will be disabled.
4. If you have already imported requesters from the any of the domains in your network, then click Enable button.

Even after enabling Active Directory (AD) Authentication, if you would like to bypass the AD Authentication, then in the application login screen, you need to select Local Authentication from the Domain list box after entering the login name and password, and then click Login button to enter ServiceDesk Plus.

Configure Pass - through Authentication

On enabling single sign-on, ServiceDesk plus directly authenticates your windows system username and password. Hence you need not login again to enter into ServiceDesk Plus.
ServiceDesk Plus Pass-through Authentication uses NTMLV2 which provides better security and validates the credentials using NETLOGON service.

1. Enabling Active Directory activates the Pass-through authentication (Single Sign-on) option.
2. If you like to activate single sign-on, select the Enable Pass-through Authentication (Single Sign-On) option.
3. You can enable Pass-through authentication for users from a particular domain. To do so, select the Domain Name from the drop-down list. The enabled domain should be two way trusted.
4. Specify the DNS Server IP of the domain in the provided field.
5. To use the NTLM security provider as an authentication service a computer account needs to be created in the Active Directory with a specific password. Specify a unique name for the Computer Account and Password for this account.
6. The Bind String parameter must be a fully qualified DNS domain name or the fully qualified DNS hostname of a particular AD server.
7. Save the authentication. You will get a confirmation message on the authentication.

Upon saving the details, a new computer account will be created on the Active Directory (with the help of VB Script). If the user specifies an existing computer account name, the password specified here will be reset on the Active Directory for the computer account. Users can choose to reset the password of computer account by clicking on the Reset Password link as well.
If there is a problem in creating a Computer Account or resetting a password of the existing Computer Account using VB script from SDP server(upon save, the script will be called automatically), the details specified here will be saved and user can execute the script locally on the AD server specifying the same details to create computer account / reset password.
If there is an issue with computer account creation, users can specify an already created computer account name and reset the password of that computer account with the help of reset password script.
Note: The single sign-on will function if you map a computer account that is directly created in the AD.

LDAP

ServiceDesk Plus allows you to use Lightweight Directory Access Protocol (LDAP) to import users from a user directory. When you enable LDAP, requesters can use their LDAP credentials to log in to ServiceDesk Plus. LDAP authentication supports both Linux and Windows users. For Windows users, AD authentication will be automatically disabled when LDAP is enabled.

LDAP authentication is disabled, by default.

To import users from a new domain, go to **Admin>>Users>>LDAP**

Choose from **Random** or **Predefined** password for your users, **Enable LDAP authentication**, and **Import Users** after adding one or more domain controllers.

Click **Add New Domain** and provide all the required details, using the pointers given below:

Domain Controller: Provide the location of the domain controller, along with its port number. The default port for LDAP is 389 and for LDAPS is 636.

User Name: Specify the user's distinguished name, such as CN=Patricia,CN=Users,DC=Zylker,DC=com

Password: Enter the specific user's password.

Base DN: Provide the organizational unit's distinguished name, such as CN=User,DC=Zylker,DC=com

Search Filter: Provide the criteria that must be located within the domain controller, such as objectClass=users. For search criteria "users," all the users will be imported.

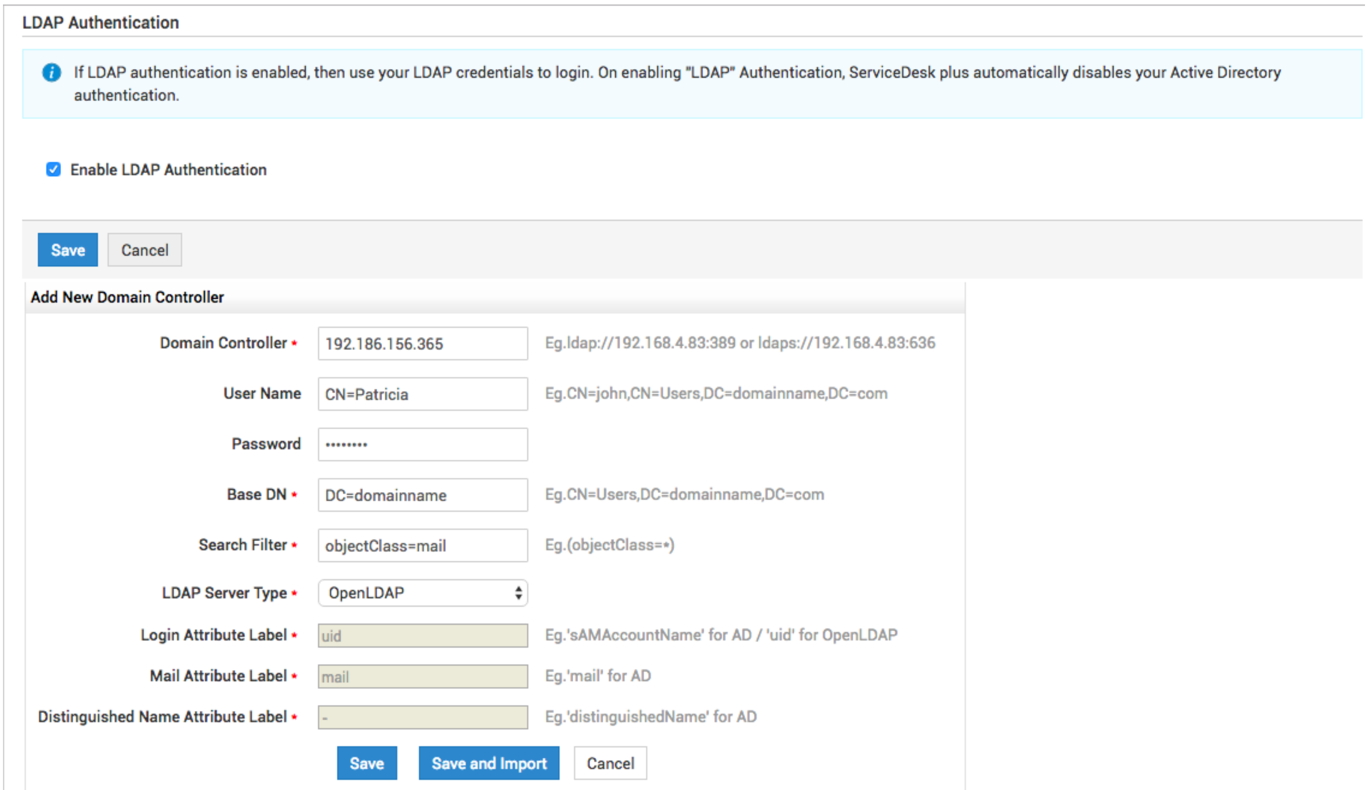
LDAP Server Type: Select the correct server type.

For Microsoft Active Directory, Novell eDirectory and OpenLDAP server types, the corresponding attribute labels will be auto-populated.

Login Attribute Label: Specify the login attribute of the selected directory.

Mail Attribute Label: Provide the mail attribute of the selected directory.

Distinguished Attribute Label: Provide the distinguished attribute of the selected directory.



You can either save and add more domain controllers, or **Save** and **Import users** immediately.

When you import users from the same domain, the existing data will be overwritten.

After you save these settings and import the users, they will be able to log in to the application using their LDAP credentials.

Importing User Defined Fields (Requester)

You can import default user attributes such as the login name, distinguished name, and domain name fields. Other user attributes such as phone, mobile, department, office, jobTitle, and email are mapped to LDAP attributes in the **sdldapfieldmap** table.
To import any more additional fields, such as user defined fields, the SDAdmin or users with database access can map them to the corresponding LDAP attributes in the **sdldapfieldmap** table.
Sample scenario
To map the user defined field, Emp ID to the employeeID attribute of your directory, such as AD or openLDAP, you'll need to do the following:
Insert a row in the **sdldapfieldmap** table by executing the following insert query in your database server:

```
insert into sdldapfieldmap values (7, null, 'Emp ID', 'employeeID', true);
```

Note that the ID column is 7, because there are 6 entries, by default.
Restart the server after executing the queries. Then, import your users the LDAP server.

Leave Types

In most cases, your technicians may be unable to work for a day or two. In order to avoid requests being assigned to them, the technician can apply for leave under Scheduler.
The most common reasons for applying leave are configured in **Leave Types**. You can denote the type of leave with the help of color code. This facilitates the administrator to comprehend the reason for applying leave by the technician.

To access Leave Types configuration wizard,

1. Login to ServiceDesk Plus application using the Username and Password of an admin user.
2. Click the Admin tab in the header pane.
3. In **Users** block, click **Leave Types**. By default, there are four Leave Types displayed in the List View. From this page, you can add, edit and delete leave types.

Add Leave Type

1. In Leave Types List view, click New Leave Type link. This opens the Add-Leave Type form.
2. In Add New Leave Type form, enter the Name of the leave type. For example, Sick Leave, On Duty, Optional and so on. The Name should be unique and is a mandatory field.
3. Select a **Color** to denote the leave type in the Technician Availability Chart using icon.
4. Specify brief description about the leave type in the Description text field.
5. Click Save button. The leave type is saved and displayed in the list view. Click Save and Add New button to add another leave type.

Edit Leave Type

1. In Leave Types List view, click the **edit** icon beside the leave type to edit. The Edit Leave Type form is pre-filled with values configured while adding the leave type.
2. Modify the Name, the Color code and the Description of the leave type.
3. Click Save button. You can also save and add another leave type from Update page by clicking **Save and Add New** button.

Delete Leave Type

1. In Leave Types List view, select the check box beside the leave type to delete.
2. Click Delete button. A dialog box confirming the delete operation appears.
3. Click OK to proceed. The leave type is deleted from the list.

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Robo Technician

Using Robo Technician you can reset the user password quickly & easily. This involves two steps process to reset the user password such as, 1) configure robo task 2) creating a request template.

To open the robo technician page,

1. Log in to the ServiceDesk Plus application using the **user name** and **password** of a ServiceDesk Plus administrator.
2. Click the **Admin** tab in the header pane.
3. In the Users block, click **Robo Technician**. On purchasing the license for the robo technician the Robo Task Configuration page is displayed.

Configuring Robo Task

1. Click Enable robo task option to perform the robo task operations by clicking the enable icon. By default the status of the robo task would be disabled.
2. There are three blocks available in the configuring robo task page such as, Task Options, Action On Success & Action On Failure. In the Task Options block select Password Reset Type from the combo box. You have four passwords reset types such as,

Random Password: In this case the robo technician assigns a random password to the user.
Typed Password: In this type the logged in technician will enter the password in the given text field.
Same as the User Name: The robo technician will assign the same user name as password.
Blank Password: In this type the password assigned will be a blank password.

3. If you wish, you can select User must change password on next login check box. Generally this option should be enabled for security purpose.
4. On resetting the password successfully you can configure the corresponding actions to be performed in the Action On Success block. Select the Request Status you wish from the combo box.
5. Specify the Resolution Details in the text field.
6. If the password-reset action is failed then you can configure the corresponding actions to be performed in the Action On Failure block. To assign the event to the currently logged in user select Assign to Invoker check box.
7. Or you can assign it to the Group under which the problem is associated.
8. And also you can assign the problem to the corresponding Technician.
9. Specify the notes about the issue in the Notes text field.
10. Click Save button to save the details.
11. Click Save and go to Template button to go to the Request Template page.

Creating a Request Template
On installing Robo Technician it automatically creates a default Request Template for a particular Robo Task. You can also edit this request template based on your needs.
Example: Say if a user requests technician for password reset, and if the technician has already configured robo task, then he can create a request to reset password using this default template.

Technician Auto Assign

Apart from assigning technicians to requests using Business Rule, selection of category or from the UI, technicians can be automatically assigned to requests on configuring the Technician Auto Assign option. The Technician Auto assign follows the Round Robin or Load Balancing methods, and based on the availability of the technicians, the requests are assigned. So if a technician is unavailable on a specific day, and the due by time of certain requests falls on that day, the technician on leave will not be assigned to those requests.

Note	For site specific requests, the technicians associated to the sites are auto assigned to the requests. Similar for requests associated to groups, the technicians associated to the groups are assigned to the requests.

To access Technician Auto Assign Configuration,

1. Click the Admin tab in the header pane to open the configurations wizard page.
2. Click Technician Auto Assign under the Users block. The Technician Auto Assign page opens.

Enabling Technician Auto Assign

1. Select Enable Technician Auto Assign check box.
2. Requests are assigned to the technicians either through Round Robin or Load Balancing model.

Load Balancing: The number of requests that are In progress and assigned to a technician is taken as the load of the technician. So on selecting this model, technicians with the least load are assigned to requests.
Round Robin: In this model, technicians are assigned to the request irrespective of the load.

3. The tech auto assign is executed for newly created requests, edited requests or, to both created and edited requests. Select your option by enabling the radio button.
4. On creating a new request, the technician auto assign can be applied to either the Unassigned Requests or to the assigned/unassigned Requests.

Unassigned Requests: On selecting this option, the technician auto assign is applied to requests that are unassigned even after passing through all the Business Rules and Category selections.
All Requests: When this option is selected, the technicians assigned to the requests through business rules or category selection will be overridden.

Note	While editing a request, technician auto assign is applied to requests that remain unassigned even after the application of Business Rules and Category selection. The auto assign is not applied to requests that are assigned to technicians.

Excluding Technicians from auto assign
You can exclude certain technicians from being auto assigned say, the administrator, site admin, change manager.

1. Click Exclude the following Technician check box.
2. Click Add Technicians to exclude link. The list of technicians available in the application appears.
3. Select the technicians to be excluded by clicking on their Name link. These technicians get listed under Selected Technicians. Click Ok button.

You can delete individual technicians from the Selected Technicians list using the delete icon. Click Delete All link to delete all the technicians from the Selected Technician list.

Excluding Requests from auto assign

You can also exclude certain requests from being auto assigned to technicians. Say for example, requests with the priority as "High" should not be auto assigned to technicians.

1. Select Enable Exceptions check box.
2. Choose the Column from the drop down and its corresponding Value using the icon .
3. Choose to match all the exceptions (AND) or any of the exceptions (OR) from the drop down.
4. Save the details.

Problem/Change Management

The goal of Problem Management is to find the root cause of incidents and reduce the impact on business. **The goal of Change Management is to control and manage approved changes with accepted risk.** ServiceDesk Plus allows you to implement a comprehensive problem management and change management system. Problem/Change related configurations are:

1. Problem Additional Fields
2. Problem Closure Rules
3. Change Type
4. Change Risk
5. Reason for Change
6. Change Advisory Board
7. Change Roles
8. Change Stage
9. Stage and Status
10. Change Workflow
11. Change Additional Fields
12. Change Templates
13. Change Closure Codes
14. Change Closure Rules

To access Problem/Change related configurations:

1. Log in to the ServiceDesk Plus application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane. The problem/change management block is below the Help Desk block.

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Problem Additional Fields

You have pre-defined fields by default in the New Problem form to enter the details about the problem. If you need any additional fields in the New Problem form then, you can add your own additional fields using this option. You can add text, numeric and date/time fields in the form.

To add your own custom fields in the New Problem form:

1. Login to the ServiceDesk Plus application using the **user name** and **password** of a ServiceDesk Plus administrator.
2. Click the **Admin** tab in the header pane.
3. In the Problem/Change Management block, click the Problem **- Additional Fields** icon . This opens the Problem - Additional Fields page. You can add three types of fields in the form: text, numeric and date/time.
4. To add the text fields, enter the label name in the form fields below the **Label** heading. If required, enter the description for the field.
5. You can choose the type of text field that you wish to add by selecting the radio buttons.

- A Single-line text field allows you to add just a text field.
- The Multi-line text field allows you to add a text box where a lengthy description can be added.
- A Pick List allows you to add a list menu from which you can select. In all the three cases, you can add default values for the text field in the space provided for the same.

- To add items for the pick list, enter the value in the text filed and click Add Item. To select the default selected value of the list, click on the value in the list.
- To add numeric fields, click the **Numeric** tab and then enter the label name in the form fields provided for the same.
- To add date/time fields, click the **Date/Time** tab and enter the required details.
- Click **Save**. A message for successful creation of the fields is displayed.

These fields appear under the grouping **Additional Problem Details** in the **New Problem** form. To delete the user-defined fields, in step 4 through 7, instead of adding the label names, delete the label names that you wish to remove from the fields of the form and click **Save**. The respective fields that you deleted will be removed from the New Problem form.

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Problem Closure Rules

Problem closing rules can be used to select the mandatory fields to be filled in by the technicians while closing the problems and also includes optional rules that can be enabled by the technician on closing the problem.

Example: If you have selected 'Associated Tasks should be closed' as a mandatory field in this page, then the technician whoever resolving the problem, should close all the related tasks to a problem and enter the details in the corresponding field before closing it. Else an error message pops up, asking you to fill the details in the field. If you have selected the optional rules as, E-mail all requesters affected by this problem and Close all associated incidents, on closing the problem a pop up window listing the selected optional rules appears. Based on the incident the technician can enable the check box corresponding to the optional rules.

To configure the problem closing rules,

1. Login to the ServiceDesk Plus application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane.
3. In the Problem/Change Management block, click Problem **Closure Rules**. This opens the Problem Closure Rules page.
4. Select the Mandatory Fields from the list to be filled in before closing the problem by enabling the check box.
5. Select the Optional Rules by enabling the check box. The selected rules will get listed to the technician on closing the problem. Based on the incident the technician can,

- E-mail technician working on incidents associated with this problem: An e-mail notification is sent to the concerned technicians working on the incident associated with the problem.
- E-mail all requesters affected by this problem: An e-mail notification is sent to all requesters who have raised requests concerning the problem.

- Copy problem solution and workaround to all associated incidents: The solution to the problem and workaround is copied to all associated incidents.
- Close all associated incidents: All the associated incidents is closed on resolving the problem.

- Save the details.

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Change Type

The change types show the significant changes in the organization which involves cost and time. By default you have four change types and Standard is a pre-defined change type hence cannot be edited. And the Standard Change type is a pre-approved change type which will not require approval from the change manager.

To access the Change Type configuration wizard,

1. Login to the ServiceDesk Plus application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane.
3. In the Problem/Change Management block, click Change Types. This opens the Change Type list page.

Adding Change Type

1. Click on the New Change Type link. This opens the Add New page.
2. Specify the Name for the change Type in the given text field, say Significant. This is a mandatory field.
3. Select the Color by clicking the color icon to indicate the severity of the change. This is a mandatory field.
4. Specify the Description about the change type in the description field.
5. Save the changes. You can see the change type getting listed in the change type list view.
6. Click the **Save and add new** button to save the Change Type and add another Change Type.

Editing Change Type

To edit an change type,

1. In the Change Type **list** page, click the edit icon beside the change type name that you wish to edit.
2. In the Edit Change Type form, edit the fields you want to change.
3. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Even while editing a change type, if you wish to add a new change type, then click **Save and add new** button instead of clicking Save button after making the changes.

Delete Change Type

1. From the Change Type **list** page, enable the check box beside the change type name that you wish to delete.
2. Click Delete button. A confirmation dialog appears.
3. Click **OK** to proceed with the deletion. The change type gets deleted from the available list. If you do not wish to delete the change type, then click **Cancel**.

Change Risk

Changes involve some level of risk during implementation. To assess the level of risk - high, low, medium etc., - and to inform about the same to the technicians involved, ServiceDesk Plus provides you with the change risk option.
By default, the application provides three risk levels in the list view.

To access the **Change Risk configuration wizard**,

1. **Login to the ServiceDesk Plu**s application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane.
3. In the Problem/Change Management block, click Change Risk. This opens the Change Type list page.

Add Change Risk
To add new change risk level, do the following:

1. Click **Add button**. This action will direct you to **Add New Risk** box.
2. Specify Name for the risk level in the given text field, say Normal. (This is a mandatory field.
3. Specify Description about the change risk in the description field.
4. Save the changes. You will see the added change type getting listed in the change type list view.

Editing Change Risk
To edit a change risk level,

1. In Change **Risk list page**, click the **on-hover edit icon** appearing **beside the change risk level** you wish to edit.
2. Edit fields as per your requirement.
3. Click **Update** to update the changes made. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Delete Change Risk

1. In Change **Risk list page**, click the **on-hover delete icon** appearing **beside the change risk level** you wish to delete.
2. Click Delete button. A confirmation dialog appears.
3. Click **OK** to proceed with the deletion. The change risk gets deleted from the available list. .

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Reason for Change

Reason for Change denotes the purpose of initiating a change request. For instance, if a printer in your organization does not work due to a damage in the printer cartridge, then the reason for change can be **Printer is not working** and the change request initiated can be **Change the printer cartridge.**
Similarly, you can **document the most frequent reasons** for initiating a change request. This helps the management **to obtain reports on the reasons behind the change(s)** occuring in the organization.

To access the **Reason for Change** configuration wizard,

1. Login to the ServiceDesk Plus application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane.
3. In the Problem/Change Management block, click **Reason for Change**.

Adding Reason for Change

To add reason for change,

1. Click **Add** button.This action will direct you to **Add Reason for Change** box.
2. Specify **Reason for Change**, say Anti-Virus Installation. (This is a mandatory field).
3. Specify a Description elaborating on the reason for change in the description field.
4. Save the changes. You will see the added **Reason for Change** getting listed in the reason for change list view.

Editing Reason for Change

To edit reason for change,

1. In Change **Reason for Change list** page, click the **on-hover edit icon** appearing **beside the reason for change** you wish to edit.
2. Edit fields as per your requirement.
3. Click **Update** to update the changes made. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Delete Reason for change

1. In **Reason for Change list** page, click the **on-hover delete icon** appearing **beside the change reason for change** you wish to delete.
2. Click Delete button. A confirmation dialog appears.
3. Click **OK** to proceed with the deletion. The reason for change gets deleted from the available list. .

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Change Advisory Board

The Change Advisory Board (CAB) is a body that exists to approve changes and to assist Change Management in the assessment and priorities of changes. The members of the CAB are selected based on their expertise and capability to assess change adequately from business and technical point of view.

To add new a CAB,

1. Login to the ServiceDesk Plus application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane.
3. In the Problem/Change Management block, click Change Advisory Board. The Change Advisory Board (CAB) page opens.
4. Click New CAB button to open the Add CAB page.
5. Specify the Name of the CAB in the given text field. It is a mandatory field.
6. Specify the Description of the CAB in the description field.
7. Click Add CAB Member icon to select the members for the CAB. The list of users appears in a pop up window. If the list is vast, select the number of users to be listed in a page from Show page drop down box. You can navigate to the next and previous pages using the navigation options.
8. Select the members of the CAB from the users list by enabling the check box beside their name and clicking Add CAB Member button.
9. The selected Members in this CAB are listed in the Add CAB page. You can delete a CAB Member on selecting the delete icon beside their name.
10. Click Save to save the CAB details and return to the list view.
11. Click **Save and Add New** button to save the CAB and add another CAB.

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Change Roles

- About Change Roles
- Change Roles available by default
- Adding New Change Roles

Change Roles are access permissions defined exclusively for the **Change** module. Unlike the module-level the System Roles, Change Roles are defined based on the stages in the change lifecycle. While the System Roles are pre-assigned to users with login permission, the Change Roles are dynamic, and can be assigned to both login and non login users at the time of creating or editing a change request. Change Roles assigned to users differs with change requests. A Change Role when assigned to a user allows the user to perform tasks defined in the role for that change request alone.

For instance, in one change, a user can play the role of a Change Manager with privilege to control the change across all the stages. At the same time, the user can also play the role of a Reviewer, in another change, with permission to control the Review Stage alone.

Users assigned with full control permission over the change module via System Role can access change requests whether or not they are assigned with a change role. But these users do not have the privilege to approve changes, unless they are assigned with a Change Role having Approval permission.

For instance, a technician possessing the role of SDChange Manager can edit all the change requests across the change module whether he/she is assigned with a change role or not. If the same technician is assigned as the Change Manager for a change request, then apart from edit permissions, he/she has the privilege to approve/reject the change request.

When a Change Role is assigned to a user without any login permission, an e-mail notification with Non Login URL is sent to the user, allowing him/her to perform tasks based on the permission defined in the role.

Note: The Login users assigned with a Change Role should possess System Role with View permission enabled for Change module.

The default change roles are discussed in the following table:

Change Roles	Description
Change Advisory Board (CAB)	The dynamic group of people who assist the Change Manager in assessing, prioritizing and scheduling of changes. They have the authority to recommend a change.
Change Approver	The person who has the authority to approve/reject the change in approval stage.
Change Manager	The person who has full authority over the change and has the privilege to approve/reject a change.
Change Requester	The person who initiates the change.
Implementer	The person or group responsible for implementing the planned change.
Line Manager	The person who authorizes the initial level of acceptance of a new change request.
Reviewer	The person who authorizes the initial level of acceptance of a new change request.
SharedRole	Use this role to share a change with all technicians by selecting the **$AllTechnician** variable. You can also share the change with specific technicians. ($ALLTechnician is available only for this role.) Note that the change requests shared with all technicians will not appear under **My Changes** such as My Open Changes**, My Approved Changes,** etc. in the list view.

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All change roles come with some default permissions, which are editable in all cases except in the **Change Manager** role.

You cannot delete change Roles such as CAB, Change Manager, Change Owner, Change Requester, and SharedRole.

Change Manager and Change Approver are the only two roles having permission to approve/reject change requests in the **Approval** Stage.

Configuring Change Roles

To access the **Change Roles** configuration wizard,

1. Login to the ServiceDesk Plus application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane.
3. In the Problem/Change Management block, click Change Roles.

To configure change roles, follow the steps mentioned below:

Adding Change Roles
To add change roles, follow the steps mentioned below:

1. Click **Add button** (available above and below **default change roles**' list)
2. Specify a **name for the change role** in the field provided, like, **change planner, change implementer** etc.,
3. Provide a **brief description** about the change role.
4. Decide whether the change role would apply to **all users or only technicians** of your application and **by selecting the respective radio buttons** (All Users/Technicians Only).
5. Configure **Access Permissions across all Change Stages for the change role**. Say, if you want to provide **Approval** permission for the **Stages Submission and Review**, then select the **Approve check box corrosponding to both these stages**.

The following are the **access permissions for the six default stages** in the change lifecycle.

- **View:** View permission enables users to view the change request in the selected stage. They cannot perform any further operations
- **Edit:** Edit permission enables users to edit the change request in the selected stage. They do not have permission to approve/reject a change. On selecting the Edit option for a stage, the View permission check box is automatically enabled.
- **Approve:** Approve permission enables the user to approve/reject the change request in the selected stage. On selecting the Approve option for a stage, the View permission check box is automatically enabled.

Users with full control permission over change module via System Role such as **SDChange Manager** or the **SDAdmin** do not have the privilege to **approve/reject a change.**

1. You can also provide **complete access permission over all the stages** by selecting **All access permission check box** (available above **stage permissions**).
2. Click **Save button**. The change role will be saved and listed in the Change Role List View.

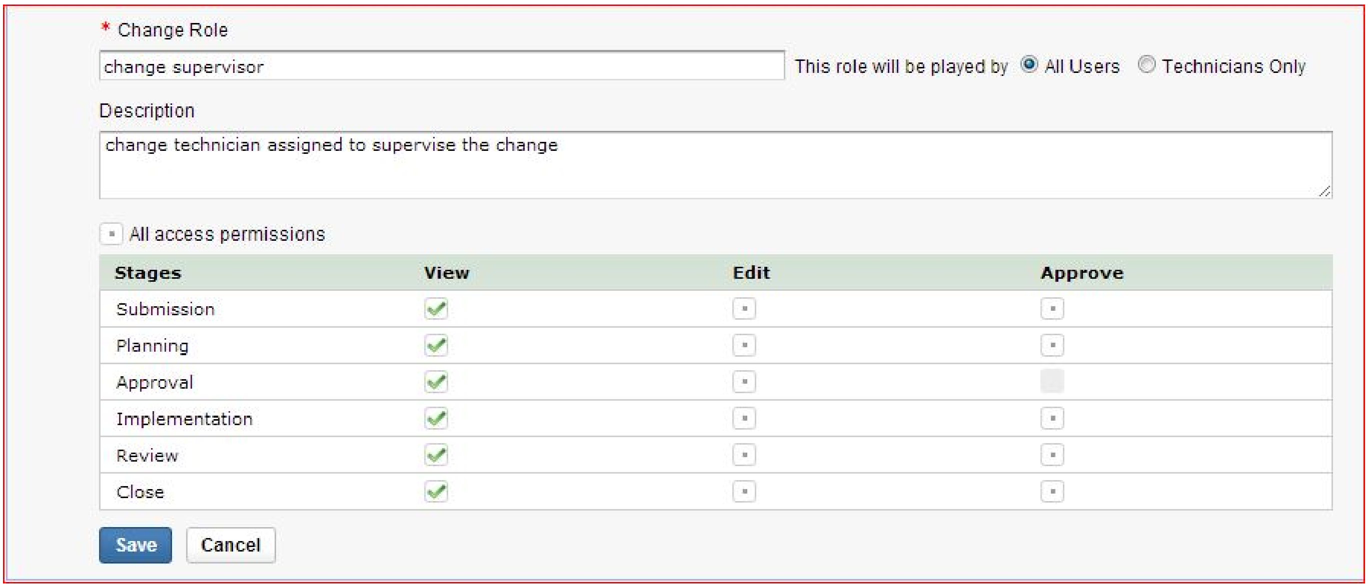
Editing Change Roles

To edit an already configured change role,

1. In **Change Roles list page**, click the **on-hover edit icon** appearing **beside the change role** you wish to edit.
2. Edit fields as per your requirement.
3. Click **Update** to update the changes made. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Deleting Change Roles

1. In Change **Roles list page**, click the **on-hover delete icon** appearing **beside the change role** you wish to delete.
2. Click Delete button. A confirmation dialog appears.
3. Click **OK** to proceed with the deletion. The change role gets deleted from the available list.



Change Stage

Changes undergo six stages in the Change Lifecycle before being successfully completed and closed as planned. Each Stage in the Change Lifecycle requires approval before proceeding the change to the next stage. Application provides six default Change Stages,
namely **Submission, Planning, Approval, Implementation, Review and Close**.
You can **edit the existing Stage Name and Description for Change Stage(s)** but you cannot add a new Change Stage or delete the default Change Stages.

To access the **Change Stage** configuration wizard,

1. Login to the ServiceDesk Plus application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane.
3. In the Problem/Change Management block, click Change Stages.

Editing Change Stage(s)
To edit change stage(s).

1. In the **Change Stage(s) list pag**e, click the **on-hover edit icon** beside the change stage name that you wish to edit.
2. Edit the fields based on your requirements
3. Click **Update** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

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Change Stage-Status

The lifecycle of a change request usually involves six stages, and these **six stages may possess many status(es)**. At the beginning/completion of each status, a notification is sent out to users playing certain change roles alerting them on the progress of the change request.
The **Stage - Status Configuration Wizard lets you define status(es) under each stage**. And, also allows you to **modify and delete the existing status(es).**

To access the **Change Stage-Status** configuration wizard,

1. Login to the ServiceDesk Plus application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane.
3. In the Problem/Change Management block, click **Stage-Status**.

Adding Change Status (for a Change Stage)

1. Click **Add** button available below the corrosponding **change stage**
2. Specify **name** for the status
3. Provide a **brief description** about the status
4. Specify **Action Name** for this status The **Action Name** is an **abbreviated form** of the **Status Name**. For instance, "**Submitted for Authorization**" can be expressed as "**Awaiting Authorization**" and so on.The **Action Name** gets listed in **Status Actions drop down menu** in the change details page.
5. Using "**Notify to**" option, choose the change technicians who will receive alerts via e-mail notifications whenever a change enters this status, by clicking on **choose roles** (technicians) icon
6. Next, you have to configure the **notification template**, by adding text (or) using already existing **content variables**
7. Click **Save** button
8. Saved status will be added to the existing status list

Editing Change Status
To edit change status,

1. In the Change Status **list** page, click the **on-hover edit icon** **beside the change status** that you wish to edit.
2. **Edit the details** as per your requirements
3. Click **Update** to update the changes.

Delete Change Status

1. In Change **Status list page**, click the **on-hover delete icon** appearing **beside the change status** you wish to delete.
2. Click Delete button. A confirmation dialog appears.

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3. Click **OK** to proceed with the deletion. The change type gets deleted from the available list.

Note:
- Status(es) responsible for moving change from existing stage to a succeeding stage (default status(es)) cannot be deleted, but can be renamed as per your requirement
- Added Status cannot be deleted while a change is in the process of using the added status

Change Workflow

Organizations face various kinds of changes which differ in process and control. Changes such as, replacing switches or routers across the organization requires a systematic flow with approvals at every stage. Whereas, changes initiated frequently or carried out periodically like, upgrading the RAM for users or changing the printer toner; do not have to undergo the entire change lifecycle process. Such changes can be implemented directly and closed, and at times may not even require approval from the concerned authority.
The Change Workflow Wizard lets you simplify the change lifecycle by configuring change workflows that suits your organizations needs. The configured workflows are listed in the Workflow drop down field in new change form, enabling the change request to follow the process defined in the selected workflow.
To know more about change workflows, visit the following pages,

---

- Adding Change Workflows
- Configuring Change Workflows
- Duplicating Change Workflows

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Change Workflow

Administrators can configure change workflow by deciding the stage and status the change would move to **for a given status like approved or rejected or requested for information etc.** and choosing the technicians to be notified **when the specified change status is reached** and also choosing the technicians who will be notified **when the change progresses from current status to next stage.**
Two workflows–**SDGeneral** and **SDEmergency** come preconfigured in the application.

Adding a new workflow

Go to **Admin**>>**Problem**/**Change management**>>**Change Workflow**.
Click the **Add** button and provide a name and description to your workflow.
Select one or both from the following:

- **Mark as Emergency**: Changes with high priorities, great urgencies, or pressing deadlines are preferred to follow the course of the emergency workflow.
- **Set as default**: Select this checkbox to default your workflow. Since the **SDGeneral** workflow has been preconfigured to be the default workflow, a message will ask your confirmation to change it. Click **OK**. Every time, you want to set a different workflow as the default one, you will repeat this process.

Click **Add a workflow chart reference file** and attach the relevant documents, if any.
Click **Save and Configure** to proceed with workflow configuration.
Alternatively, you can just save the workflow and configure it at a later point of time (use **Configure Workflow** button next to the saved workflow then).

You can't delete the default change workflow.

After you default a workflow, the workflows created subsequently will have their configurations copied from the default workflow. You can edit them all.

List view page

Use respective filters to view all, general, and emergency workflows.

To learn how to configure a change workflow, click here.

Configuring Change Workflow

Go to **Admin**>>**Problem**/**Change management**>>**Change Workflow**.
Click the **Configure Workflow** button beside a workflow or add a workflow and then proceed with its configuration.
All stages with their statuses (added under Admin>>Problem & Change Management>>Stage and Status) will be displayed.

Automating Change Approval

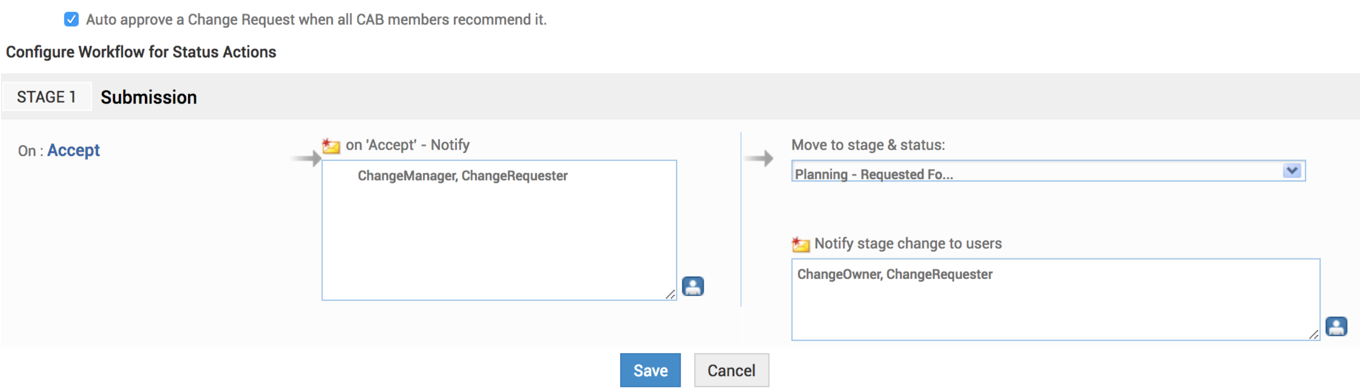
For a change that is recommended by all CAB members, you can bypass approvals from the Change Manager and the Change Approver.
To do this, select **Auto approve a Change Request when all CAB members recommend it**.

Editing a Status

Click the **Edit** icon next to a status of a stage and configure the following:

- Users to notify when the change arrives at that status.
- The stage and status to which the change must shift from the current stage and status.
- Users to notify when the change shifts to the new stage and status.

Click **Save**.



Repeat the configuration for the statuses in all stages.

Sample Emergency Workflow (Here's a quick read about emergency workflow.)

STAGE 3	Approval		
On Approve	Notify Change Manager, CAB, Change Approver	Move to Stage: Implementation Status: Implementation Started	Notify Change Manager, Implementer
On Reject	Notify Change Manager, Change Owner, CAB, Change Approver	Move to Stage: Close Status: Canceled	Notify Change Manager, Change Owner
On Approval Pending	Notify -	Configure Next Stage	

STAGE 4	Implementation		
On Complete	Notify Change Manager, Change Owner	Move to Stage: Review Status: Review in Progress	Notify Reviewer
On Cancel	Notify -	Configure Next Stage	
On Implementation Started	Notify Change Owner	Configure Next Stage	
On Fail	Notify Change Manager, Change Owner	Move to Stage: Close Status: Canceled	Notify Change Requester

STAGE 5	Review		
On Complete	Notify Change Manager	Move to Stage: Close Status: Completed	Notify Change Owner, Change Requester
On Fail	Notify -	Configure Next Stage	

Sample Standard Workflow (Here's a quick read about standard workflow.)

STAGE 4	Implementation		
On Complete	Notify Change Manager, Change Owner	Move to Stage: Review Status: Review in Progress	Notify Reviewer
On Cancel	Notify -	Configure Next Stage	
On Fail	Notify Change Manager, Change Owner	Move to Stage: Close Status: Canceled	Notify Change Manager, Change Requester

STAGE 5	Review		
On Complete	Notify Change Manager	Move to Stage: Close Status: Completed	Notify Change Owner,Change Requester
On Fail	Notify -	Configure Next Stage	
On Review in Progress	Notify Change Owner	Configure Next Stage	

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To learn how to duplicate a change workflow, click here.

Duplicating Change Workflow

Administrators are provided with the option of duplicating workflows; that is, copying an already existing workflow and reusing it again - under some other name - as it is or by making slight modifications based on their requirements. Duplicating workflows allows administrators to create workflows quickly, as it provides them with a **definite picture of how each and every stage can be progressed and which technicians should be involved in the respective stages**, since they're using an already configured workflow for reference.

To **duplicate a change workflow**, follow the steps given below:

1. Click the change workflow **duplicate** **icon** appearing on-hover the **change workflow list view**.
2. Specify a **name** for the change workflow (by default, it will be named as **Copy of "*Workflow Name being Copied*"**)
3. Mark it as Emergency (by selecting the corrosponding checkbox), if required
4. Provide a suitable description in the **description** field
5. Click **Save and Configure**
6. You can:
    - Leave the workflow as it (or) **modify it to suit your requirements** (see: workflow configuration)

Change Additional Fields

You have pre-defined fields by default in the New Change form to enter the change details in the form. If you need any additional fields in the New Change form then, you can add your own additional fields using this option. You can add text, numeric and date/time fields in the form.

To add change additional fields,

1. In the Problem/Change Management block, click the Change Additional Fields icon.
2. This opens the Change Additional Fields page. You can add three types of fields: **text, numeric** and **date/time.**
3. To add the text fields, enter the label name in the form fields beside **Label** field. If required, enter the description for the field.
4. You can choose the **type of text** field to be added from the following **radio buttons:**

- A **Single-line** text field allowing you to add a text field with a single line.
- The **Multi-line** text field allowing you to add a text with multiple lines.
- A Pick List allowing you to add a list menu from which you can select the desired option. In all the **three cases**, you can **add default values** for the text field in the space provided for the same.

- To add items to the pick list, enter the value in the text filed and click Add Item. To set a default value for the list, **click on the value** in the list and save it.
- To add numeric fields, click the **Numeric** tab and then enter the label name (and description) in the form fields provided for the same.
- To add date/time fields, click the **Date/Time** tab and enter the required details.
- Click **Save**.

These added additional change fields will appear in the Drag and Drop section of the current **Default Change Template** and they can be added to the change template through drag and drop.

Deleting Change Additional Fields

To delete the user-defined fields, **access the field-to-be-deleted** >> delete the **respective label name** >> click **Save**. The respective fields that you deleted will be removed from the existing change templates.

Change Template

Change Template lets you custom create change templates for the most common and frequently requested changes. Each template can possess different fields, field values and workflow, thus customizing or pre-defining change forms so as to suit the changes that may arise in your organization.
The change template enables the Change Requester to initiate a change quickly with all the necessary fields pre-filled, thereby increasing the productivity of your help desk team.
Remember: New change templates being configured will copy the configurations of the **change template that is set as default**.
To access the **Change Template** configuration wizard,

1. Login to the ServiceDesk Plus application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane.
3. In the Problem/Change Management block, click Change Template.

To custom create a new change template, follow the steps mentioned below:

1. Click on **Add Change Template button** available in the **Change Template List View.**
2. **Add Change Template page** will open up, This page will be split into 3 sections: **Template-Workflow** section, **Canvas** and **Drag and Drop Fields** section.
3. To add the text fields, enter the label name in the form fields beside **Label** field. If required, enter the description for the field.

The Change Template will be displayed with three tabs namely:

- Change Details
- Change Roles
- Field and Form Rules

Template-Workflow section
This section will help you do the following:

- **Provide a name to the change template**
- **Decide the workflow** the change template would follow (by allowing you to select workflow from **Follows Workflow dropdown**)
- **Set the change template being configured as the default template** (by checking **Set as default** checkbox)

- **Mark the change template being configured as the emergency template** (by checking **Mark as Emergency** checkbox**)**
- **Provide a short description** for the change template stating why it is being created

Canvas section
This section helps you design the change form by lettng you:

- **Add/Delete** fields available in the canvas
- **Adding Fields:** Click and drag fields onto the canvas from Drag and Drop fields section of change template
- **Deleting Fields**: By clicking on on hover Delete icon
- **Set fields as mandatory** (by clicking on **on hover Edit dropdown** and selecting **mandatory field** checkbox**)**

Drag and Drop section
This section helps you design the change form by lettng you:

- **Drag and Drop fields** onto the Canvas
- **Configure new fields,** store them in the drag and drop section, and add them to the Canvase based on your requirements
- **Configuring new fields:** Drag and drop **Add New Field** section from Drag and Drop and decide whether the **field to be added** is **text or numeric or Date/Time field** using **Add New Field pop-up** and okay it for the field to be added.

Click **Save** to save the change template.
Field and Form Rules:
Field & Form Rules lets the Administrator to define rules that can be executed on a change form.The defined rules can be enabled or disabled. The rules that are disabled will not be applied.

- **On Form Load**:Allows rules to be executed when the change form is loaded.
- **On Field Change**:Allows rules to be executed when the field value changes. Rule will be applied when a field value mentioned in the rule is changed.

  For above two events:

  1.The rules defined should contain atleast one action to be executed.

  2.The actions will be executed after checking the criteria. If no criterion is set, then the actions will be executed in the order in which it is organized.
- **On Form Submit**:Allows rules to be executed on submission of the change form. Execute Script is the only action allowed for this event. Rules defined for this event should contain a valid script. Script will be executed after checking the set criteria and if no criterion is defined then the script will be executed directly.

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Change Closure Code

Change Closure Code are codes that denote the reason for closing a change request: whether the change was closed due to completion, rejection, and so on. Using the closure code, the change mangement can understand how the change was closed.
To access the Change Closure Code configuration wizard,

1. Login to the ServiceDesk Plus application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane.
3. In the Problem/Change Management block, click Change Types**.** This opens the Change Code list view page.

Adding Closure Code

To add closure code,

1. Click Add Closure Code button.
2. Specify a unique Name for the change closure code. This field is mandatory.
3. Provide a brief Description about the change closure code.
4. Click Save button. The change closure code is saved and listed in the list view.
5. Save the details.

Note: The configured change closure codes and a section for comments appear in the Close Stage of a change request. Here, the Change Owner can select the closure code and provide detailed explanation for closing the change.

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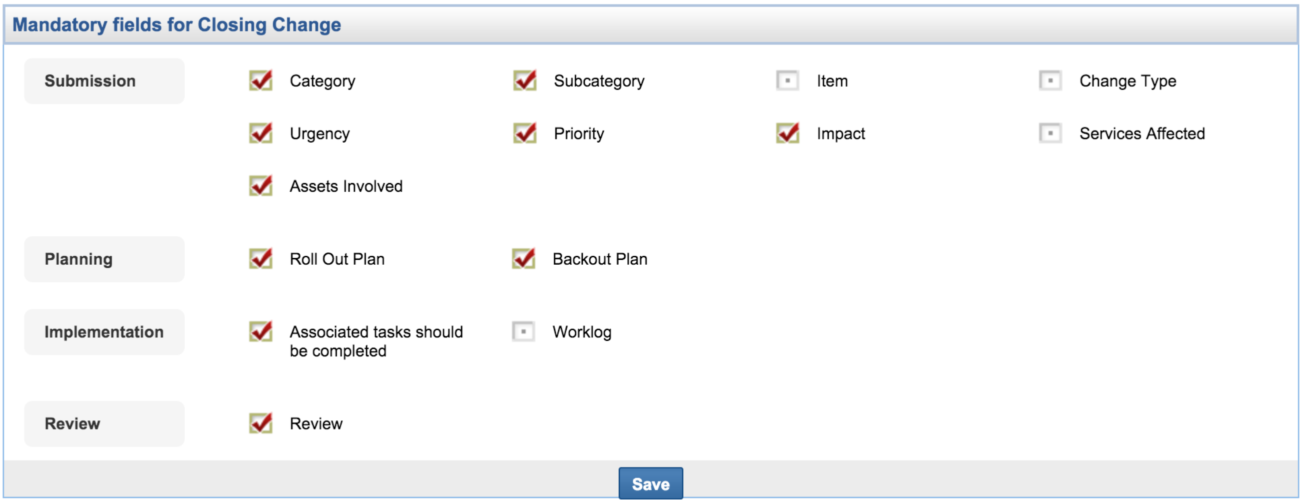
Change Closure Rule

Change Closure Rule enables the administrator to select mandatory fields to be filled-in before closing each stage of the Change Request.
The fields are organized stagewise and the selected mandatory fields in any stage should be filled-in before moving out from one stage to the next stage.

For e.g, if **Impact** and **Urgency** options are enabled, then impact and urgency fields should be configured before moving out from **Submission** stage to any other stage. If the fields are not configured, a warning message will pop up prompting you to fill the mandatory fields specific to the Submission stage.
To select mandatory fields,

1. Log in to the ServiceDesk Plus Application.
2. Click on the **Admin** tab.
3. Select **Change Closure Rules** under the **Problem/Change Management** block.
4. Select the mandatory fields for closing a given Stage of Change Request by enabling the check box. eg, Category and sub category in the submission stage.



5. Click **Save** button.

Change Custom Triggers

Change custom triggers allow you to execute custom scripts or files and automate change-related tasks. In custom triggers, you will define rules, which when match the change requests will invoke predefined actions. Triggers prove specially useful in performing actions in other modules or in third-party applications.
Some actions that you can perform with change custom triggers are changing roles assignment after updating a change, approving a change based on the percentage of CAB recommendations, resolving associated problem(s) and incident(s) when a change is closed, closing task(s) on canceling/completing a change request and more.

Configuring a New Action Using a Custom Trigger

Click **Admin**>>**Problem/Change management**>>**Change Custom Triggers**.
Click Add New Action and provide a unique name and description to the action.
Select from the following when the action has to be executed:

- Change is created
- Change is edited
- Change is created and edited
- CAB members take an approval action
- CAB members recommend a change
- CAB members reject a change

Setting Matching Conditions

You can set conditions to be matched by the change for executing the custom script.
Select the criteria fields and set corresponding conditions and field values as displayed in the following screenshots.
Click the **Add** icon or **Add another criteria** to specify more matching conditions. Switch between **AND** and **OR** operators between the conditions per your requirement.

Configuring Action

Select the **Action Type** and the corresponding script/class file that has to be triggered.

> Make sure that the Script/Class file is stored in the directory at the location:
> [SDP_Home]/integration/custom_scripts/

For **Execute Script action type**, specify name and path of the file in the field provided (For example, py addApprovers.py $TITLE $TYPE $TEMPLATE); whereas for **Execute Class** action type, you must specify the class (For example, com.servicedeskplus.integration.ChangeActionImplementation $TITLE $TYPE $TEMPLATE).
Arguments for Custom **Script** can also be passed.

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Eg: cmd / c Index.bat $SUBJECT $PRIORITY $STATUS

Other Parameters Supported

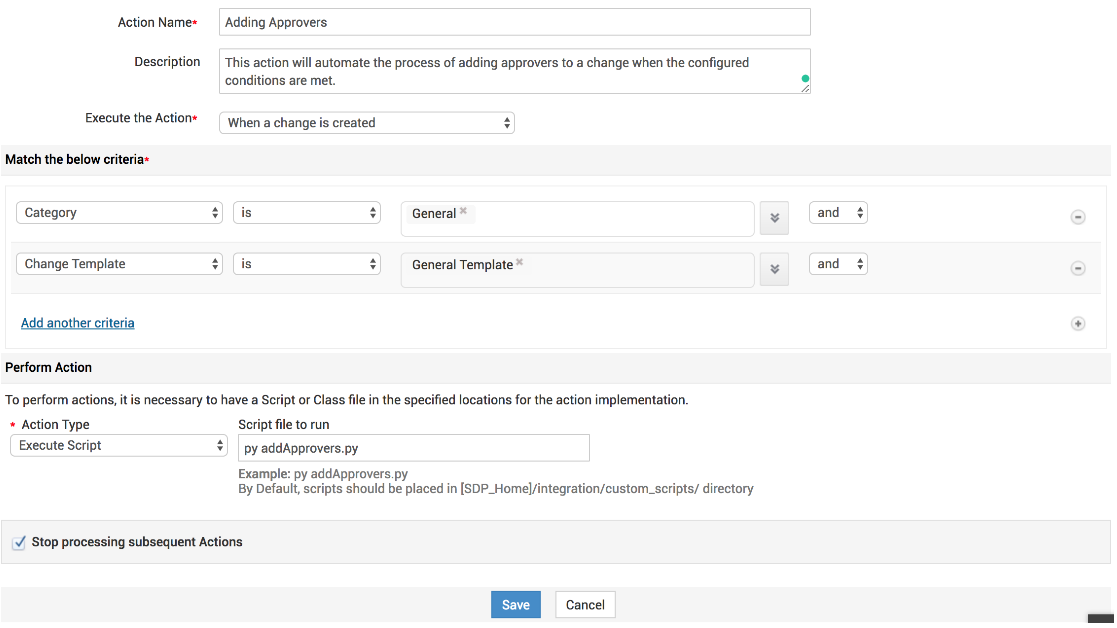
$COMPLETE_JSON_FILE ---> Complete Request Object will be saved to a JSON file and the file path will be passed as String Object. If the Operation is **'When a Change is edited'**, then DIFF_JSON (difference between the old change data and new change data) will also be saved to a JSON file.
JSON File Path : *(SDP_Homeintegrationcustom_scriptschange12_1426143538036.json).*

Here's a list of more parameters supported.

Stopping Subsequent Actions

Select whether the subsequent custom triggers with the matching conditions for the change must be stopped from being executed on the change.
Click **Save**.

Sample action



List view page action

You can prioritize the custom triggers by ordering them in the list view page.
Click Organize Actions at the upper-right corner, rearrange the custom triggers using respective buttons, and click **Save**.

Click here to view sample scenarios for 'custom triggers' with sample class file and script.

We can also pass arguments for Custom **Script**. All API parameters are supported as arguments and the below table lists the supported arguments.

PARAMETER	DESCRIPTION
$TITLE	Denotes the title of the change
$DESCRIPTION	Provides the description provided for the change
$TEMPLATE	Denotes the name of the template used to create the change
$SUBCATEGORY	Denotes the subcategory configured for the particular change
$CATEGORY	Denotes the category configured for the particular change
$ITEM	Denotes the item configured for the particular change
$SITE	Denotes the site for which the change was raised
$TYPE	denotes the significance of a change initiated in the organization
$SCHEDULED_START_ON	Provides the scheduled start time of the change
$ASSETS	Provides the assets related to the particular change
$ROLES	Denotes the access permissions defined exclusively for the change
$REASON_FOR_CHANGE	Denotes the purpose of initiating a change request
$URGENCY	Denotes the level of urgency of the change
$IMPACT	Provides the impact of the change
$GROUP	Denotes the group under which the change falls
$ISOVERDUE	Denotes if the change is overdue
$SERVICES_AFFECTED	Denotes the services affected because of the change
$COMPLETED_ON	Provides the completed time of the change
$RISK	Denotes the level of risk during the implementation of the change
$SCHEDULED__END_ON	Provides the scheduled end time of the change
$STATE	Denotes the stage and status of the change
$ID	Provides the unique id generated for the change
$PRIORITY	Denotes the level of priority of the change
$CUSTOM_FIELDS	Provides information about the custom fields configured for the change

Sample Scenario for Custom Trigger in Change module

Scenario: Website is down for payroll advice view and the new server needs to be quickly installed.

For the above emergency situation where the impact is 'High', the required 'Action' can be triggered through the script/class file.

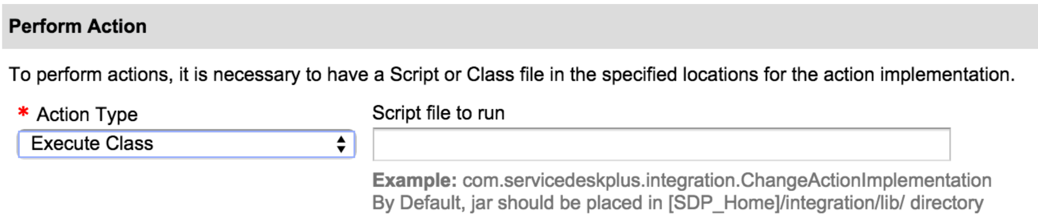
The members of the E-CAB can be configured well in advance for such emergency situations and the corresponding class/script file can be executed. To perform actions, it is necessary to have the Class file in the specified location for the action implementation.

In case of 'class' file:

*By default, jar should be placed in [SDP_Home]/integration/lib/ directory

*Example:com.servicedeskplus.integration.ChangeActionImplementation

Note: It is necessary that the class file has to converted to jar file to implement the action.



Let us consider the situation where the roles performed by the E-CAB members have to be updated. The following JSON format has to be followed inorder to trigger the required action.

UPDATE_ROLES (Script/Class)

```
{
   "message": "Adding Emergency CAB members through Custom Trigger",
   "operations": [
      {
         "operation_name": "UPDATE_ROLES",
         "input_data": {
            "change": {
               "roles": [
                  {
                     "id": 5,
                     "name": "Line Manager",
                     "users": [
                        {
                           "email": "Aaron@xyz.com",
```

```
                        "name": "Aaron"
                    },
                    {
                        "email": "Abby@xyz.com",
                        "name": "Shawn Adams"
                    }
                ]
            }
        ]
    }
   }
  }
 ]
}
```


Following is a sample implementation for 'Change' Action :

```
package com.servicedeskplus.integration;
import com.manageengine.servicedesk.actionplugin.executor.ActionInterface
import com.manageengine.servicedesk.actionplugin.executor.ExecutorData
   /**
    *Trigger implementation has to be done in this class
    *@executorData, contains DataJSON,diffJSON
    */
public class ChangeActionImplementation extends DefaultActionInterface {

   public JSONObject execute(ExecutorData executorData) throws Exception {
         //get the change data in api format
         JSONObject changeData = executorData.getDataJSON();
         //fetch the field impact
         JSONObject impact = changeData.get("impact");
         //get the value associated with impact
         String impactName = impact.get("name");

         JSONObject returnJSON = new JSONObject();

         //Array of operations to be performed in trigger ,currently UPDATE_ROLES option is alone provided in
change
         JSONArray operations = new JSONArray();

         //JSON for specific operation
         JSONObject operation = new JSONObject();

         //JSON for providing operation details
         JSONObject input_data = new JSONObject();

         //JSON for entity change
```

```
JSONObject change = new JSONObject();

//Array of roles to be configured
JSONArray roles = new JSONArray();

//JSONObject for Role details
JSONObject roleObject = new JSONObject();

//array of users to be configured
JSAONArray users = new JSONArray();

//JSONObject for user details
JSONObject user1 = new JSONObject();
JSONObject user2 = new JSONObject();

if (impactName.equalsIgnoreCase("High") {
        returnJSON.put("message", "Adding Emergency CAB members through Trigger");
        operation.put("operation_name", "UPDATE_ROLES");
        roleObject.put('id': ROLEID of CAB);
        roleObject.put("name": "Role Name ,Here CAB");
        user1.put("email": "emailId of user");
        user1.put("name": "name of user");
        user2.put("id": ID of user);

        // Enter the name of the user.
        user2.put("name": "name of user");
        users.put(user1);
        users.put(user2);
        roleObject.put("users", users);
        roles.put(roleObject);
        change.put("roles", roles);
        input_data.put("change", change);
        operation.put("input_data", input_data);
        operations.put(operation);
        returnJSON.put("operations", operation);
    } else {
        returnJSON.put("message", "Adding CAB members through Trigger");
        operation.put("operation_name", "UPDATE_ROLES");
        roleObject.put("id ": ROLEID of CAB);
        roleObject.put("name": "Role Name, Here CAB ");
        user1.put("email": "emailId of user");
        user1.put("name": "name of user");
        user2.put("id": ID of user);
        user2.put("name": "name of user");
        users.put(user1);
        users.put(user2);
        roleObject.put("users", users);
```

```
            roles.put(roleObject);
            change.put("roles", roles);
            input_data.put("change", change);
            operation.put("input_data", input_data);
            operations.put(operation);
            returnJSON.put("operations", operation);
        }
        return returnJSON;
    }
```

Following are the methods used in Class implementation:

***getDataJSON()**- To get the input in API format which provides complete information about the 'change'.

***getDiffJSON()**- Returns the details iof the fields that are modified recently in the change To get information about the recently modified fields in the 'change'.

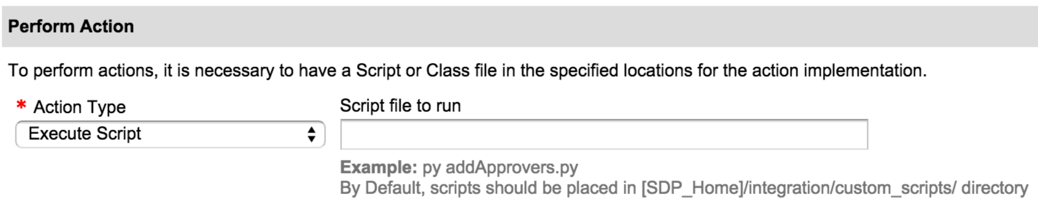
Click here to view the values returned in getDataJSON() and getDiffJSON()

Having known the JSON format , the action can be executed either via class file or script file. To perform actions, it is necessary to have the Script file in the specified location for the action implementation.

In case of 'script' file:

*By default, scripts should be placed in [SDP_Home]/integration/custom_scripts/ directory

*Example: py addApprovers.py



Click here to view a sample script file for 'Change' Action:

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Sample script file for Custom Trigger in Change module

```
#Example to assign CAB members based on the value of impact configured in change.
 #if impact is High then emergency CAB members will be assigned. Else normal CAB members will be assigned to the change.
import sys
import json
import urllib

file_Path = sys.argv[1]
with open(file_Path) as data_file:
    data = json.load(data_file)

#fetch the impact value from the change JSON.
#JSON Format in change will be {'INPUT_DATA':{"entity": "change","login_name": "menders","entity_data": {..},"entity_diff_data": {...}}
inputData = data['INPUT_DATA']
changeData = inputData['entity_data']
impact = changeData['impact']
impactValue = impact['name']

#configure emergency CAB for impact value "High".
if impactValue == 'High':
    returnJSON = {
    #message : value to be shown in change history
        'message': 'Adding Emergency CAB members through Custom Trigger',
        'operations': [{
            #operation_name denotes the operation to be done through trigger ,currently UPDATE_ROLES is only supported.
            'operation_name': 'UPDATE_ROLES',
            'input_data': {
                'change': {
                    'roles': [{
                        #replace with the Role ID to be updated
                        'id': 5,
                        #replace with the role Name to be updated .
                        'name': 'CAB'
                        #users can be added/updated to change roles using either emailid or user id .
                        'users': [{
                            # emailid of the user to be configured
                          'email': 'heather@xyz.com',
                          #name of the user corresponding to the email id
                          'name': 'Heather Graham'
                        }, {
                            #ID of user to be configured
```

```
                    'id': 3,
                    #name of the user corresponding to the ID
                    'name': 'Shawn Adams'
                }]
            }]
        }
    }
}]
}
#configure normal CAB for other values of impact
 else :
returnJSON = {
 #message -value to be shown in change history
   'message': 'Adding Normal CAB members through Custom Trigger',
    #operation_name denotes the operation to be done through trigger, currently UPDATE_ROLES is only
supported.
   'operations': [{
       'operation_name': 'UPDATE_ROLES',
       'input_data': {
           'change': {
               'roles': [{
                  #replace with the Role ID to be updated
                  'id': 5,
                  #replace with the role Name to be updated .
                  'name': 'CAB'
                  #users can be added/updated to change roles using either emailid or user id .
                  'users': [{
                      # emailid of the user to be configured
                     'email': 'john@xyz.com',
                     #name of the user corresponding to the email id
                     'name': 'John'
                  }, {
                      #ID of user to be configured
                      'id': 4,
                      #name of the user corresponding to the ID
                      'name': 'Howard stern'
                  }]
              }]
          }
      }
   }]
}
print(json.dumps(returnJSON))
```

Values returned in GET_DATA_JSON and GET_DIFF_JSON for Custom Trigger in Change module


```
{
  "id": 1,
  "title": "Title of the Change Request",
  "template": {
    "id": 1,
    "name": "General Template"
  },
  "workflow": {
    "id": 1,
    "name": "SDGeneral"
  },
  "emergency": false,
  "retrospective": true,
  "pre_approved": false,
  "state": {
    "stage": {
      "id": 1,
      "name": "Submission"
    },
    "status": {
      "id": 1,
      "name": "Requested"
    },
    "comments": "Status comments given as part of status change"
  },
  "approval_status": {
    "id": 1,
    "name": "Pending Approval"
  },
  "description": "Description of the Change",
  "reason_for_change": {
    "id": 1,
    "name": "Firewall Upgrade"
  },
  "site": {
    "id": 0,
    "name": "Not associated to any site"
  },
  "group": {
    "id": 301,
```

```
    "name": "Hardware Problems"
  },
  "category": {
    "id": 1,
    "name": "Software"
  },
  "subcategory": {
    "id": 1,
    "name": "MS-Office"
  },
  "item": {
    "id": 1,
    "name": "Install"
  },
  "priority": {
    "id": 1,
    "name": "High"
  },
  "urgency": {
    "id": 4,
    "name": "Urgent"
  },
  "risk": {
    "id": 3,
    "name": "Low"
  },
  "impact": {
    "id": 1,
    "name": "High"
  },
  "type": {
    "id": 1,
    "name": "Major"
  },
  "assets": [
    {
      "id": 301,
      "name": "HP Printer"
    },
    {
      "id": 4566,
      "name": "MacBook Pro"
    }
  ],
  "services_affected": [
    {
      "id": 301,
```

```
            "name": "Communication"
        },
        {
            "id": 302,
            "name": "Data Management"
        }
    ],
    "scheduled_start_time": {
        "value": 1427361634000,
        "display_value": "06-10-2015 13:01:16"
    },
    "scheduled_end_time": {
        "value": 1427361634000,
        "display_value": "06-10-2015 13:01:16"
    },
    "created_time": {
        "value": 1427361634000,
        "display_value": "06-10-2015 13:01:16"
    },
    "completed_time": {
        "value": 1427361634000,
        "display_value": "06-10-2015 13:01:16"
    },
    "custom_fields": [
        {
            "name": "UDF_CHAR1",
            "label": "",
            "value": ""
        },
        {
            "name": "UDF_CHAR2",
            "label": "",
            "value": ""
        }
    ],
    "roles": [
        {
            "id": 1,
            "name": "Change Requester",
            "users": [
                {
                    "id": 301,
                    "name": "Jennifer"
                }
            ]
        },
        {
```

```
        "id": 301,
        "name": "CAB",
        "users": [
          {
            "id": 301,
            "name": "Jennifer"
          },
          {
            "id": 302,
            "name": "Heather Graham"
          }
        ]
      },
      {
        "id": 310,
        "name": "Custom Role",
        "users": [
          {
            "id": 301,
            "name": "Jennifer"
          },
          {
            "id": 302,
            "name": "Heather Graham"
          }
        ]
      }
  ]
}
```


Values returned in getDiffJSON():


```
{
  "services_affected": {
    "old": [],
    "new": [
      {
        "id": 304,
        "name": "0BSServicecatalog01"
      },
      {
        "id": 301,
        "name": "0itServicecatalog00"
      },
      {
        "id": 303,
        "name": "0BSServicecatalog00"
```

```
        }
      ]
    },
    "custom_fields": [
      {
        "label": "ChangeNumeric",
        "value": {
          "old": null,
          "new": 89
        },
        "name": "UDF_LONG1"
      }
    ],
    "scheduled_start_on": {
      "old": null,
      "new": {
        "display_value": "24/09/2015 09:38AM",
        "value": 1444820340000
      }
    },
    "category": {
      "old": null,
      "new": {
        "id": 302,
        "name": "000Category"
      }
    }
}
```

/Change Status

Change Status shows the current state of the change in the organization. You have a list of default change status. Rejected is a pre-defined change status hence cannot be deleted.

To access the Change Status configuration wizard,

1. Login to the ServiceDesk Plus application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane.
3. In the Problem/Change Management block, click Change Status. This opens the Status List page.

Adding New Change Status

1. Click on the New Status link on the right hand side of the page. This opens the Add Status page.
2. Specify the Name of the status in the given text field.
3. Specify the Description about the status in the given text field.
4. Save the changes. You can see the new status getting listed in the status list page. s
5. Click the **Save and add new** button to save the Change Status and add another Change Status.

Editing Change Status

To edit an change status,

1. In the Change **Status list** page, click the edit icon beside the change status name that you wish to edit.
2. In the Edit Change Status form, edit the fields you want to change.
3. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Even while editing a change status, if you wish to add a new change status, then click **Save and add new** button instead of clicking Save button after making the changes.

Delete Change Status

1. From the Change **Status list** page, enable the check box beside the change status name that you wish to delete.
2. Click Delete button. A confirmation dialog appears.
3. Click **OK** to proceed with the deletion. The change status gets deleted from the available list. If you do not wish to delete the change status, then click **Cancel**.

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Project Configurations

To access **Project related configurations:**

1. Log in to the ServiceDesk Plus application using the **user name** and **password.**
2. Click the **Admin** tab in the header pane. **Project Configurations** would be available in **Project Managment** block.

In this section, you learn about**:**

1. Setting Up a Project - Learn about projects, its members and their roles, with an example project and sample member hierarchy diagram.
2. Configuring Project Types - Learn how to create new project types, assign a specific color, change them to inactive status via this page.
3. Configuring Project Roles - Learn how to create new project roles, configure access permissions and assign them to members via this page.
4. Configuring Project Status - Learn how to configure new project status, assign a specific color, chang them to inactive status via this page.

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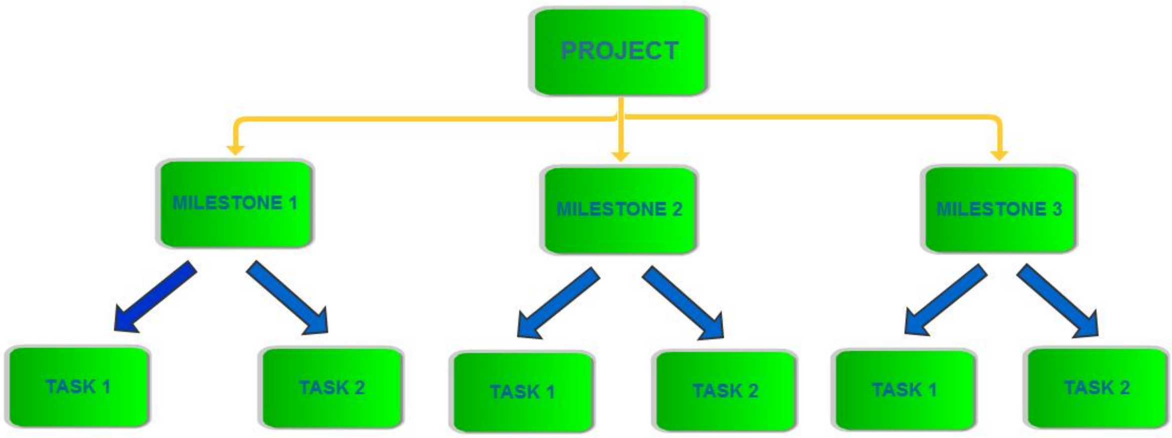
Setting up a Project

Contents

- What are Projects?
- Project Members
- Project Types and Project Status

Projects
Systematic approach to completing a Task can be termed as a Project**.** Creating a Work Breakdown Structure (WBS), providing a crystal clear view of the "work in progress"**,** through various stages namely Milestones and Tasks, is the Project's ultimate objective. Setting up realistic goals, working against a reasonable time schedule, with a multitude of members assigned to various roles concentrating on different aspects of the "work in progress", are some of the features of project(s)**.**Anything from a simple "office shifting" to an IT project like "setting up a datacenter" can be considered a project. The basic WBS of a Project is as follows: Milestones, Tasks and related Tasks.



Let us take the example of "**Setting up an IT Test Environment**" and see how it is implemented with projects**.** As stated earlier, a project can be divided into: **Milestones, Tasks and related Tasks**. Superficially speaking, the basic WBS of the Test Environment would be like**: Database Configuration, Workstation Configuration** and **Network Configuration.** These three major tasks outining the entire Project can be considered as Milestones.
Milestones, or major Tasks (mentioned above), would inturn require no. of actions to be carried out for the Milestone to be completed**.** For example, the Milestone "Workstation Configuration" would involve: deciding the "hardware/software required", "allocating hardware/software efficiently" **(**to respective workstations), and so on. These actions under a Milestone are known as Tasks.

Sample IT Test Environment, along with its Milestones and Tasks, represented through a project.

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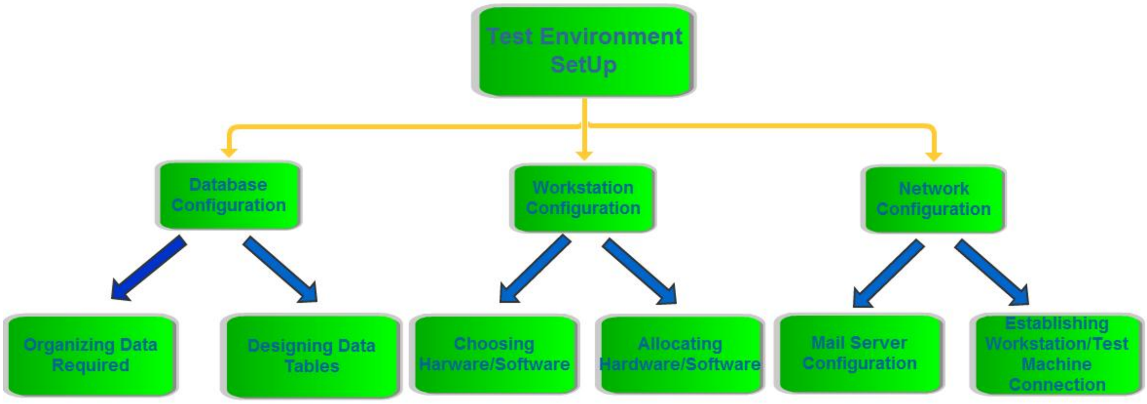
Project	Milestone	Task 1	Task 2
Test Environment SetUp	**Database Configuration**	Organizing Data Required	Designing Data Tables
	Workstation Configuration	Choosing Hardware/Software	Allocating Hardware/Software
	Network Configuration	Mail Server Configuration	Establishing Connection between Workstations and Test Machines

The **flowdiagram for 'Test Environment Setup'** project would be as follows:



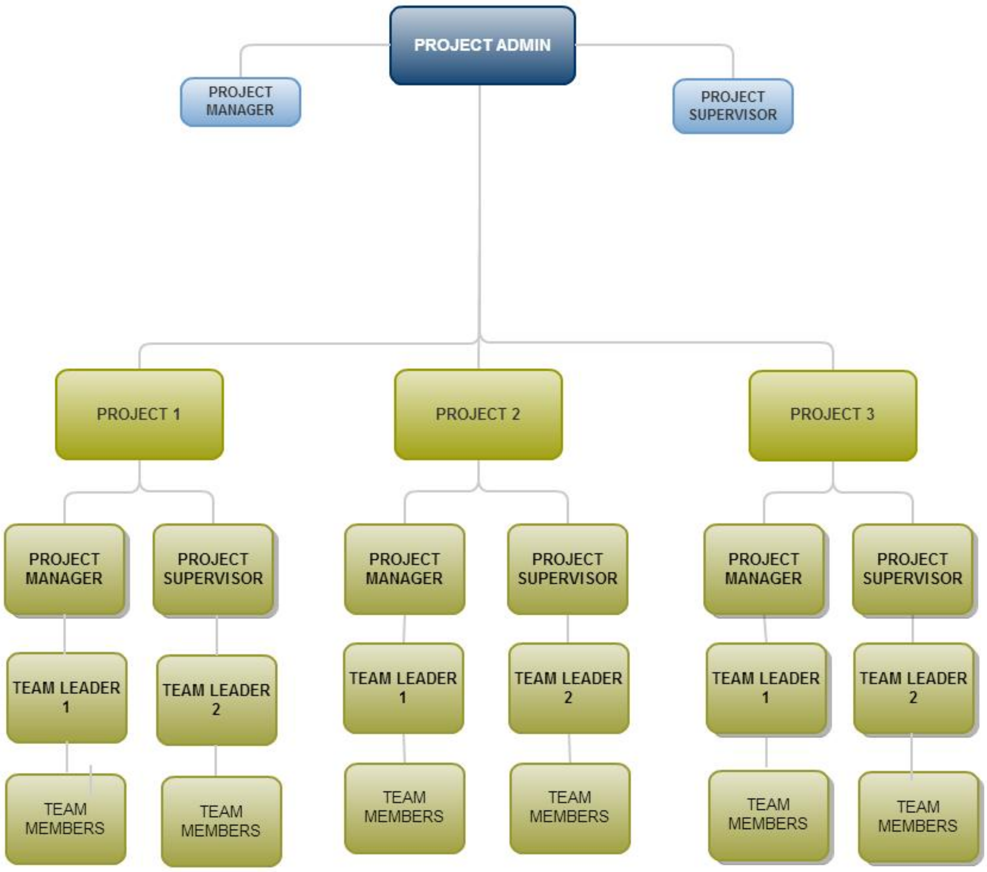
Project Members

Project member is one to whom a part of the project is assigned. It could be a milestone, task or the entire project itself. Based on the assigned role, the member would be provided with a set of access permissions. For example, let's say, you have a deluge of tasks in your project and therefore need a member to supervise the tasks alone, then you can define a role like Task Supervisor. In similar manner, you could have members specific to Milestones as well.

Member roles available by default are:

- **Project Admin:** Role that allows members to **access/control entire project module** (that is,control over all available projects)
- **Project Manager:** Role that allows members to **access/control an entire project** (add, edit and delete Projects)
- **Team Leader:** Role that allows members to **access/control Milestones** (add, edit and delete Milestones)
- **Team Member:** Role that allows members to **access/control Tasks** (add, edit and delete Tasks)

Sample Member Hierarchy Diagram


PROJECT ADMIN
PROJECT MANAGER
PROJECT SUPERVISOR
PROJECT 1
PROJECT 2
PROJECT 3
PROJECT MANAGER
PROJECT SUPERVISOR
PROJECT MANAGER
PROJECT SUPERVISOR
PROJECT MANAGER
PROJECT SUPERVISOR
TEAM LEADER 1
TEAM LEADER 2
TEAM LEADER 1
TEAM LEADER 2
TEAM LEADER 1
TEAM LEADER 2
TEAM MEMBERS
TEAM MEMBERS
TEAM MEMBERS
TEAM MEMBERS
TEAM MEMBERS
TEAM MEMBERS

Project Types and Project Status

Specify project types and indicate the project status using Project Types and Project Status respectively.For example: let's say yours is a business project, then such a project can be classified as of the type 'business'. Similarly, Project Status is useful in indicating the project's progress rate which plays a crucial part in letting project administrator/ manager decide what steps should be taken further within to improve it.

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Default Options	Default Project Types	Default Project Status
	Business	Open
	Infrastructure	Onhold
	Maintenance	Closed
	Research	Canceled

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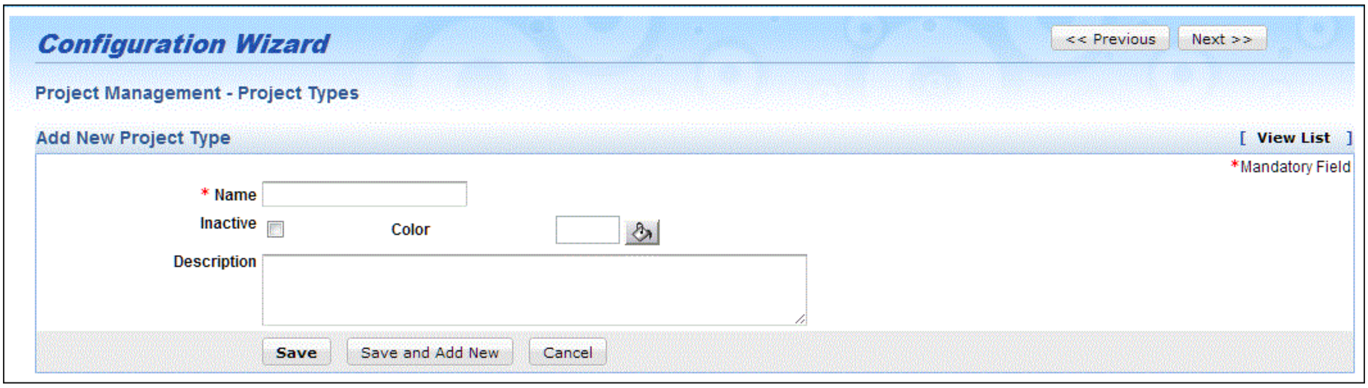
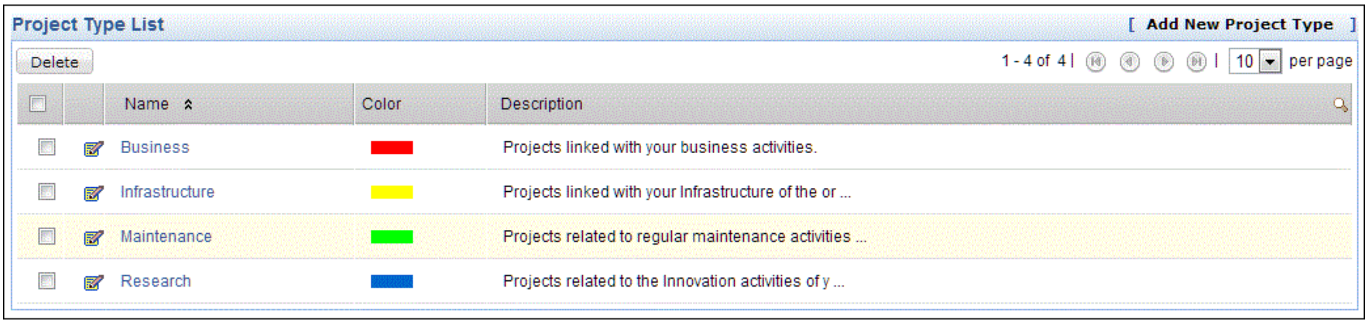
Configuring Project Types

1. Click on **Admin Tab** and select **Project Types** under the **Project Management** block.
2. Click the **Add New Project Type** Link (present at **top-right corner** of the Project Type List View)
3. In Add New Project Type form, provide the Project Type Name
4. Select color representing the Project Type; provide description regarding the Project Type
5. **Inactive check box** lets you keep the Project Type dormant; that is, the **Project Type can be reinstated** as and when required by **unchecking this option**.



6. By **default** the following project type options are available:



Note:

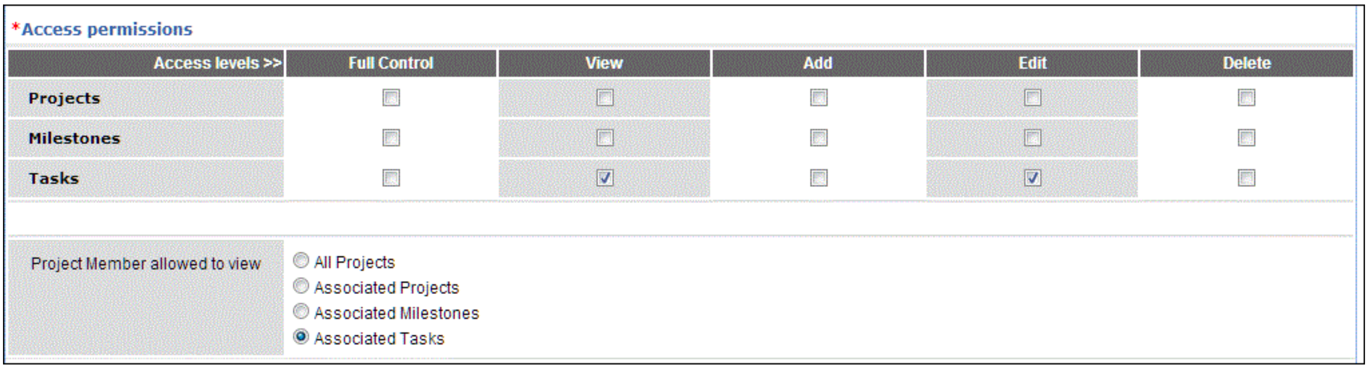
- Click **Edit Icon** to edit project types
- **Bulk Deletion of Project Types** is possible; to do so, select **multiple projects types** and **click on Delete Button**

Configuring Project Roles

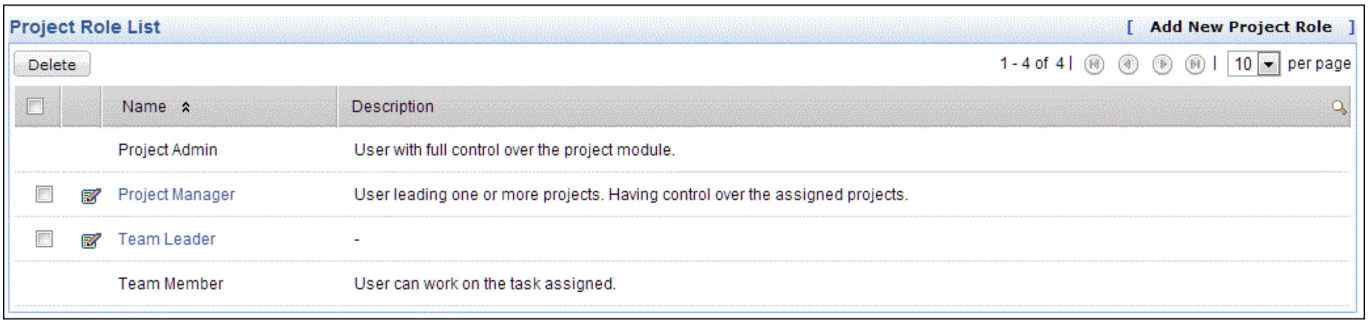
1. Click on **Admin Tab** and click **Project Roles** under the **Project Management** block.
2. Click the **Add New Project Role** Link. (present at **top-right corner** of Project Role List View page)
3. In Add New Project Role form, provide the Project Role Name.
4. Provide description for the new Project Role.

1. Choose the **Access Permissions** for the newly formed **project role**

- Like already stated there would be 2 non-editable default options: **Project Admin & Team Manager**
- **Project Admin** would have full control over Project Module and **Team Manager** would have permission to work on Tasks assigned to him
- Also it is impossible to uncheck Task View option as it is mandatory for a project role
- Configure project roles as per requirement and assign them to project members



6. Based on the **permissions configured** the **project member** will be associated with anyone of the following: **All Projects/Associated Projects/Associated Milestones/ Associated Tasks** (pointed out by **Project Member allowed to view** radio button).
7. By default the following project roles are available:



Note:

- **Users/Requesters** can be **assigned a default project role.** These **default project roles do not override project specific roles;** they serve as **default options when no project role is configured** for the user/requester.
- **Project Admin** and **Team Member** are **non-editable/non-deletable** roles
- **Bulk Deletion of Project Roles** is possible; to do so, select multiple projects roles and click on **Delete Button**

Configuring Project Status

1. Click on **Admin Tab** and select **Project Status** under the **Project Management** block**.**
2. Click the **Add New Project Status** Link (present at **top-right corner** of the Project Status List View)
3. In Add New Project Status form, provide the Project Status Name
4. Select the color to represent the Project Status; provide description regarding the Project Status

5. To render a project status inactive click **Inactive** checkbox**.**
6. By default the following project status options would be available.

Note:

- Click **Edit Icon** to **edit project status**
- For **Bulk Deletion** of Project Status select multiple project status, **click Delete Button**

Project Additional Fields

SDAdmins can now configure additional fields into the Project form so that different types of project-related information can be collected. For example, you can add Pick List for say number of resources that might be required to complete a milestone.

The different types of fields that you add are single line, pick list, multi line, numeric, date/time, and decimal.

The maximum number of fields that can be added is 90.

Configuring an additional field

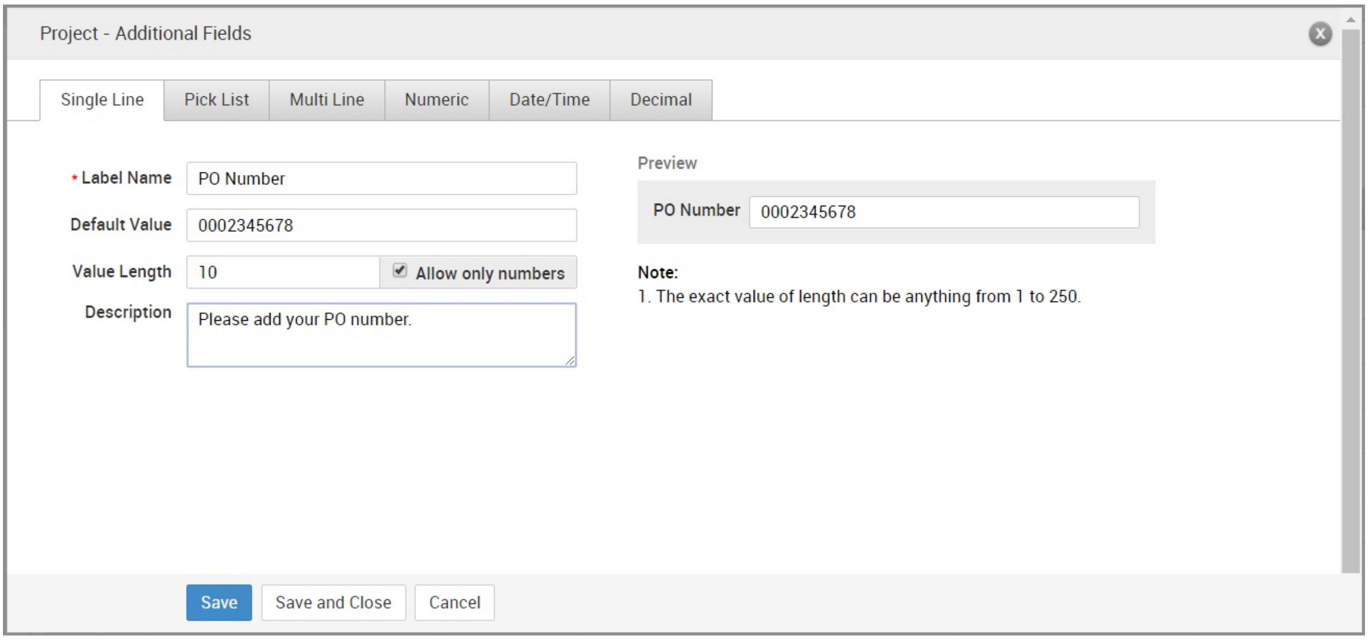
Go to **Admin>>Project Management>>Project - Additional Fields.**

Click **Add New Field**, pick a field type, enter the required details, and click **Save**.

Single line, pick list, and multi line fields can be used to collect textual information, whereas numeric, date/time, and decimal fields can be used to collect number-related information.

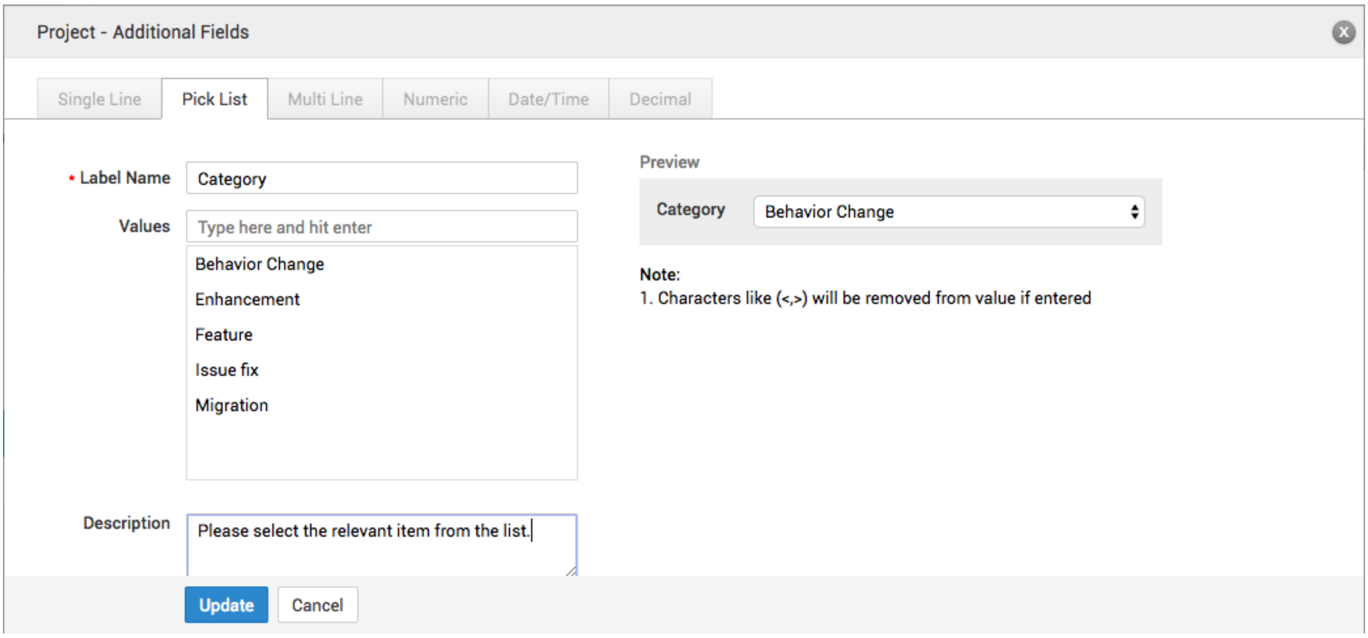
You can collect numeric information under the single line field by clicking the **Allow only numbers** option. This option is especially useful where using the numeric fields may not be the best option. For example, if you were to capture a PO number that contains a few leading zeroes, a Numeric field will the save the number without the zeroes. That is, 000014567 will be saved as 14567, leading to incorrect data.

Under each field, as you enter information on the left, a preview of the field will be displayed on the right.



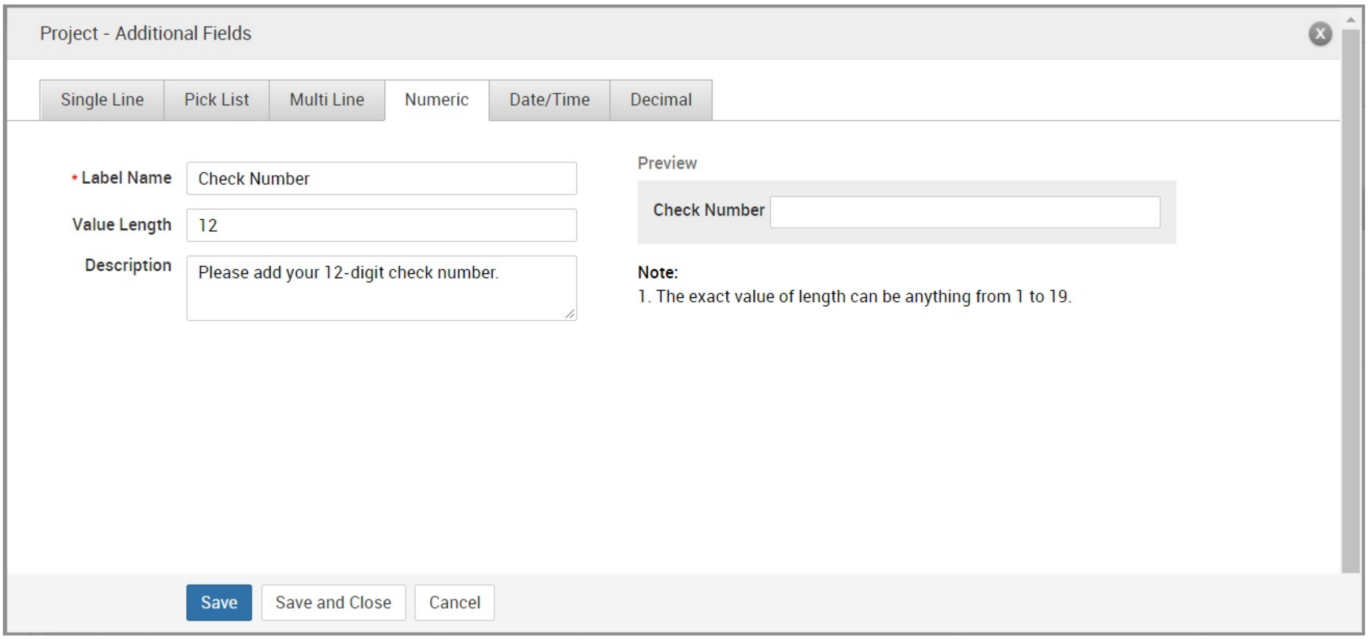
To restrict the length of the value entered into the filed, you can specify the exact value in **Value Length**.

The pick list field allows you to provide choices to pick from. For example, you can use this field for users to select from a list of categories, as shown below:

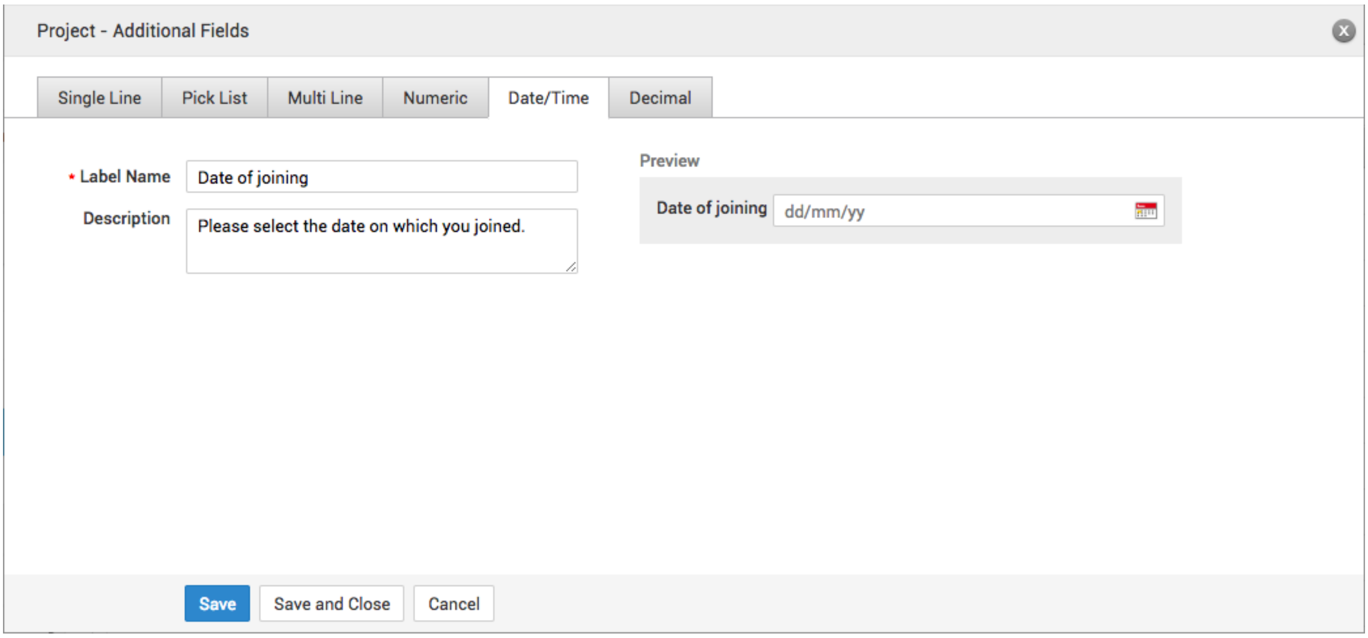


The **Multi Line** field will be useful if the information added may require more than one line.

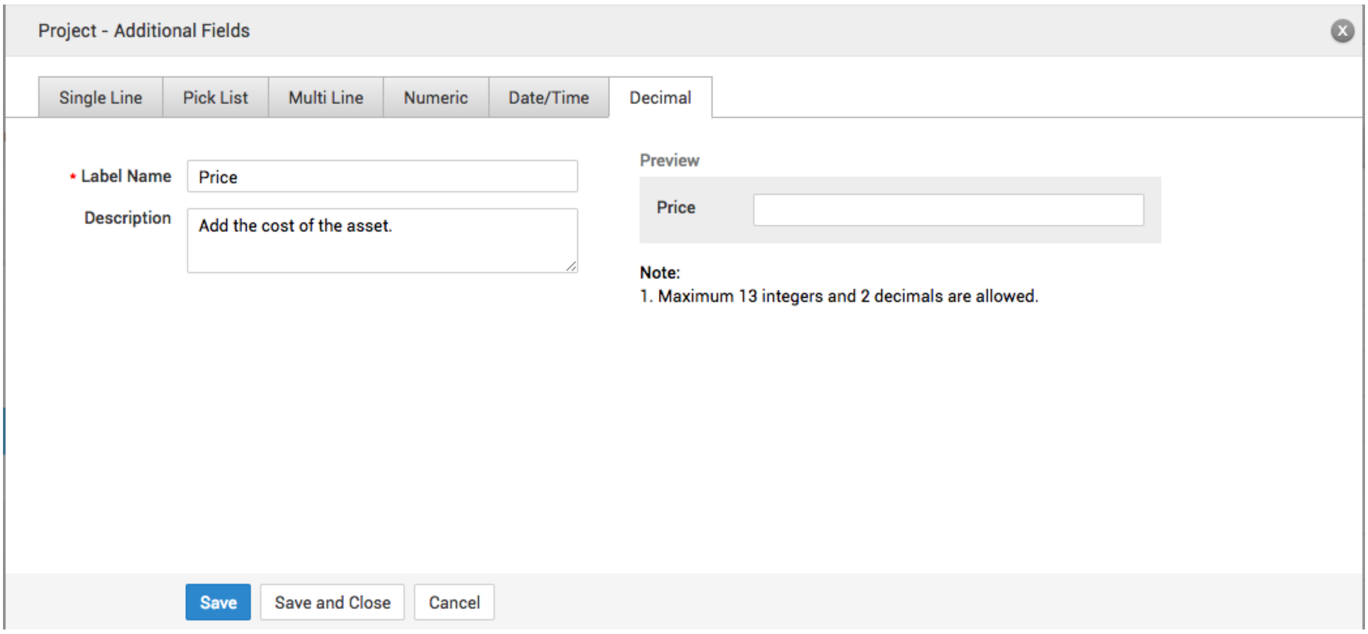
The **Numeric** field can be used to indicate check number or even age.



The **Date/Time** field is useful to capture important dates, such as the milestone end date or the date of joining.



The **Decimal** field helps capture numbers that might have some decimal values, such as price or even percentage completion, expressed in decimals.



The number added can be 13-digit long and correct to 2 decimal places. That is, the integer part of the number can be 13 digits, while the decimal part, if added in excess, will be rounded off to 2 decimal places.

All the configured additional fields will be auto-populated in the project template. You do not have to manually configure these additional fields inside the template.

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Asset Management

The Asset module of the ServiceDesk Plus application enables you to keep track of the various assets available in your organization and their corresponding usage and availability. It also helps you monitor your assets online in any of the networks in your firm. This helps you in proactively planning your resource allocation and purchases. Before you start using the inventory module, you have to configure the inventory-related information.
The inventory-related configurations are:

- **Product Type**:

  Categorize all the products purchased by your organization into specific product types.
- **Product**:

  Denotes the assets purchased by your organization.
- **Vendors**:

  Configure the vendors with whom your organization has business contacts for purchasing resources.
- **Workstation-Additional Fields**:

  Set your own custom fields apart from the default fields in the add workstation form.
- **Assets-Additional Fields**:

  Set your own custom fields apart from the default fields in the add assets form.
- **Asset State**:

  Configure the various states of an asset in the Asset Lifecycle.
- **CMDB - Configuration Item Types (CI Types)**:

  Categorize your CIs into specific CI Types. Also configure default attributes and relationships for each CI Type.
- **CMDB - Relationship Types**:

  Configure relationships types between the CIs. The Relationship Types shows how the CIs are interconnected and interdependent with other CIs.

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Configure Products

Products refer to the commodities purchased by your organization. For instance, the workstation "Latitude D600" is a Product with the Product Type "Workstation". You can either import the product details from a CSV file or manually add the products in the application. Configuring products are essential while adding assets in the Asset module and while purchasing products using the Purchase Order form.
As and when the firm purchases a product, the product details should be entered in the application. If a product is discarded, then you can remove it from the list by deleting the same.
Most of the products wear out and decrease in value, over a period of time. For such products, calculating the depreciation is essential for financial reporting. You can configure depreciation using any of the 4 methods provided in the application.

To access the **Product** configuration wizard,

1. Login to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Asset Management block, click **Products**. The **Product List** view is displayed. You can add products, edit and delete products, and configure depreciation for products.

Adding Product
To add products,

1. In the **Product List** page, click **Add New Product** link available at the top right corner.
2. In the **Add Product** form, select the Product Type under which you wish to classify the product that you are adding from the drop-down.
3. Enter the **Product Name**. This field cannot be blank.
4. If you know the **manufacturer** of the product, enter the same in the Manufacturer field.
5. Enter the **Part No.** and cost for the product.
6. If required, you can add relevant Description for the product.
7. Click **Save**. A message is displayed and the product is added. Click Save and Add New to save the product details and open the add product form to add another product. Click Cancel to go back to the Product List page, without saving the details.

Configuring Depreciation
If the selected Product Type is an asset or component, then the **Depreciation Details** block is displayed. ServiceDesk Plus allows 4 methods to calculate the depreciation of a product.

Methods of Calculating Depreciation

- Declining Balance
- Double Declining Balance
- Straight Line

- Sum of the Years Digit

Before we begin configuring depreciation, there are certain terms related to depreciation calculation:

- **Useful Life:** The period during which an asset is expected to be available for use.
- **Salvage Value:** The estimated selling value of any asset, after it has reached the end of service life or its value has depreciated substantially. It is the total net worth of any asset after it has exhausted its useful life span.

To configure depreciation details while adding the product,

1. Select the **Depreciation Method** from the drop down box. If the Depreciation Method is **Declining Balance**, then the **Useful Life** radio button and **Decline Percent** radio button appears. If the depreciation method is **Straight Line**, then the **Useful Life** radio button and **Depreciation Percent** radio button appears.
2. Specify the **Useful Life** of the product. If you have enabled Decline Percent or Depreciation Percent radio button, then specify the **Decline Percent** or **Depreciation Percent** of the product.
3. Specify the **Salvage Value** of the product.
4. Click **Save** button.

If you have not configured the depreciation details for a product, then you can also configure it from the Product List view.

1. Select the check box beside the product for which you want to configure depreciation.
2. Click Configure Depreciation button.
3. Select the Depreciation Method from the drop down box.
4. Specify the Useful Life and the Salvage Value of the product.
5. Click Save button. The depreciation details are configured for the selected product(s).

The configured Depreciation Details can be viewed in the Costs tab of the Assets details page. The depreciation is calculated only if the Purchase Cost and Acquisition Date is specified for the asset.

Associating Vendor

You can also associate the vendor to a product. To do so,

1. Click the **Vendor** tab.
2. Select the vendor of the product from V**endor Name** drop-down.
3. Enter the Price of the product. The Vendor Name and Price are mandatory fields.
4. If there is any Tax Rate for the product, specify the same in the field provided.
5. If you know the warranty period of the product, enter it in the **Warranty Period** by choosing the number of years and months from the combo box.
6. Select the Maintenance Vendor of the product from the drop-down.
7. If you wish to add any **comments**, add it in the Comments text box.
8. Click Save to save the details. You can add more than one vendor who supplies the product. The vendors associated to the product information is displayed below the add vendor form.

If you do not wish to associate the vendor now, then click **Cancel**. It goes back to the **Product List page**.

You cannot delete product-vendor associations.

Edit Product

You can edit the product details from the Product List page. To edit the product information,

1. Click the Edit icon beside **Product Name** in the **Product List** page.
2. Edit the fields in the form.
3. Click Save to save the details. While editing a product, you can also add new product by clicking Save and Add New button. Click Cancel to go back to the Product List page.

In some instances, you may add the product without associating the vendor. In such cases, you need to edit the product to associate the vendor.

1. Click the Vendor tab to associate a vendor for the product.
2. The Product Name is a non-editable field but you can add/edit the other fields in the form.
3. Click Save.

Delete Product

If a product is not used by a module, then you can delete the product from the list.

1. In the **Product List** page, enable the check box beside the product name.
2. Click Delete button. A dialog box confirming the delete operation appears.
3. Click OK to proceed. The product is deleted from the list.

You cannot delete a product that is used in a purchase order or purchase request.

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Configuring Product Types

Each product purchased by a firm can be categorized into a specific product type. This is the high-level categorization for the assets that are bought. For example, Adobe Photoshop or Macromedia Flash can be categorized under the product type Software, while HP Inkjet Printer can be categorized under the product type Printer. In general, product type is a parent category under which you can group each of the specific assets owned by your firm. Proper categorization helps in estimating how much has been spent for purchasing each of the product type assets (Printer, Scanners, etc.), how much assets in each of the product types are available in the organization and so on.

- Product Type: Product Type is the high level categorization in grouping products. Say, Workstations in an organization are grouped under the product type "Workstations".
- Type: Type is a subdivision of product types that is classified into Asset, Components and Consumable. Say, Workstation is an Asset, Keyboard is a Component and the Printer Toner is Consumable.
- Category: Category is a common attribute of Product Types and Types. They are classified into IT and Non-IT. Say, Workstation is an IT asset, and Projector and Scanners are Non - IT assets.

Example : Adobe Photoshop & HP Inkjet Printer can be categorized as,

Assets	Product Type	Type	Category
Adobe Photoshop/Macromedia Licenses	Software Licenses	Components	IT
HP Inkjet Printer	Printer	Asset	IT

To open the product type configuration page:

1. Log in to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Asset Management block, click **Product Types**. The next page displays the available list of product types. You can add, edit, or delete product types.

Adding Product Type

To add a product type,

1. Click Add New Product Type link.
2. In the Add Product Type form, specify the Product Type Name which will uniquely identify the individual product types. Say, Printer.
3. Select the Type from the drop down. Say, Asset, Component, Consumable.
4. Select the Category from the drop down. Say, IT, Non-IT.
5. Specify any relevant information about the product type in the Description field.
6. Click Save button.

If you want to add more than one product type, then instead of clicking Save, click **Save and add new** button.

This adds the new product type and reopens the add product type form after displaying a message that the a new product type is added.

At any point, if you decide not to add the new product type, then click **Cancel** to get back to the product type list. Clicking the **View List** link on the top right corner of the add product type form will also take you to the product type list view.

Editing Product Type

To edit a product type,

1. In the **Product Types List** page, click the **edit** icon beside the **Product Type Name** that you wish to edit.
2. In the **Edit Product Type** form, you can edit the product type name, type, category and the description.
3. Click **Save**. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Even while editing a product type, if you wish to add new product type, then click **Save and add new** button instead of clicking **Save** button after making the changes.

Deleting Product Types

To delete a product type,

1. In the **Product Types List** page, select the check box beside the product type to delete.
2. Click **Delete** button. A dialog box confirming the delete operation appears.
3. Click **OK** to proceed with the deletion. If you do not want to delete the product type, then click **Cancel**.

Configure Vendors

An organization can have business contacts with more than one vendor for buying the various resources of the organization. It is very essential for the firm to keep track of its vendors and the products supplied by these vendors. To configure these details, you can use the configuring vendors option available in the admin page.

1. Log in to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the Asset Management block, click **Vendors**. You can add, edit, or delete vendors.

Add Vendors

To add vendors:

1. In the **Vendor List** page, click **Add New Vendor** link available at the top right corner.
2. Select **Currency** used by the vendor from **Currency dropdown** (or) **Add New Currency** by clicking on icon
3. In the **Add Vendor** form, enter the **Vendor Name**. This name needs to be unique and this field cannot be blank. All the other fields are optional.
4. Enter relevant **Description** for the vendor.
5. Enter the **Contact Name** at the vendor location.
6. Enter the **address** details of the vendor in the respective fields.
7. Enter the vendor e-mail ID, phone, fax, and web URL.
8. Click **Save**. A message is displayed and the vendor is added. Simultaneously, a **Products** tab is also added. This tab is for adding the list of products that are supplied by the vendor.
9. Click the **Products** tab.
10. Click **Associate Product** button.
11. In the associate product form, choose the **product name** from the combo box and enter the **price** of the product. These are the two fields that are mandatory.
12. If you know the warranty period of the product, enter it in the **Warranty Period** by choosing the number of years and months from the combo box.
13. Choose the **maintenance vendor** from the combo box.
14. If you wish to add any **comments**, add it in the Comments text box.
15. Click **Add**. The page is refreshed to display the product association information. Repeat the steps 9 - 14, till you have added all the products supplied by this vendor.

If you do not wish to add the product list after opening the associate product form, then click **Cancel**. It goes back to the **Vendor Details** tab.

If you wish to add more than one vendor, then in step 7, instead of clicking Save, click **Save and add new button**. This would add the vendor and open the add vendor form for you to add more vendors. In this case, the

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product list needs to be added later. To get back to the vendor list page without adding the vendor or after adding the list of product supplied by the vendor, click **View List** link at the top right corner of the **Add Vendor** form.

Edit Vendor

If you have added the vendor without adding the product list, then you have to add the list of product supplied by the vendor only by editing the vendor information.

To edit the vendor information:

1. Click the edit icon beside **Vendor Name** in the **Vendor List** page.
2. In the **Edit Vendor** form, you can edit all the form fields mentioned in the add vendor procedure.
3. Click the **Products** tab to add the list of products supplied by the vendor and follow the steps 9 through 14 in add vendors.

Even while editing the vendor information, if you wish to see the vendor list page, click the **View List** link at the top right corner of the **Edit Vendor** form. Also if you want to add a new vendor, then in the vendor details tab, click the **Save and add new** button.

Delete Vendors

To delete a vendor, it is necessary that the product vendor association is first removed and then the vendor is deleted. Also ensure that the particular vendor is not used elsewhere. Follow the steps below to delete a vendor:

1. In the **Vendor List** page, click the edit icon beside **Vendor Name**.
2. Click the **Products** tab.
3. Click the delete icon beside the **Products**. A confirmation dialog is opened.
4. Click **OK** to proceed with the deletion. Delete all the products listed.
5. Click **view list** link on the top right corner of the center pane.
6. Now, click the delete icon beside the **Vendor Name** for which you removed the product list. A confirmation dialog is opened.
7. Click **OK** to proceed with the deletion. If you do not wish to delete the vendor, click **Cancel**.

Workstation Additional Fields

You can define your own organization specific fields that need to appear in the new workstation form apart from the default fields. You can add text fields, numeric fields, and date/time type fields in the form.

Adding Workstation Additional Fields

1. Click the Admin tab in the header pane.
2. Click Workstation Additional Fields under the **Asset Management** block. This opens Workstation � Additional Fields page.

Configuring Additional Text fields

1. By default the list of all additional text fields are displayed. Specify the Label for the Workstation Additional Fields.
2. Specify any relevant information about the additional fields in the Description text field.
3. Specify the Type of the text field by enabling the radio button. It can be either Single- Line, Multi � Line or drop down menu list.
4. Specify the Default Values in the given text field.
5. Click Save to save the settings.

Configuring Additional Numeric fields

1. Click the **Numeric** tab.
2. Specify the Label for the additional field. This is a mandatory field.
3. Specify any relevant information about the additional fields in the Description text field.
4. Click Save to save the settings.

Configuring Additional Date/Time fields

1. Click the **Date/Time** tab.
2. Specify the Label for the additional field. This is a mandatory field.
3. Specify any relevant information about the additional fields in the Description text fields.
4. Click Save to save the settings.

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Asset Additional Fields

You can define your own organization specific fields that need to appear in the new asset form apart from the default fields. You can add text fields, numeric fields, and date/time type fields in the form.

Adding Asset Additional Fields

1. Click Admin tab in the header pane.
2. Click Assets Additional Fields under the Asset Management block. This opens Assets � Additional Fields page.

Configuring Additional Text fields

1. By default the list of all additional text fields are displayed. Specify the Label for the asset additional fields.
2. Specify any relevant information about the additional fields in the Description field.
3. Specify the Type of the text field by enabling the radio button. It can be either Single- Line, Multi � Line or drop down menu list.
4. Specify the Default Values in the given text field.
5. Click Save to save the settings.

Configuring Additional Numeric fields

1. Click the **Numeric** tab.
2. Specify the Label for the additional field. This is a mandatory field.
3. Specify any relevant information for the additional fields in the Description field.
4. Click Save to save the settings.

Configuring Additional Date/Time fields

1. Click **Date/Time** tab.
2. Specify the Label for the additional field. This is mandatory field.
3. Specify any relevant information for the additional fields in the Description field.
4. Click Save to save the settings.

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Asset State

Asset State denotes the different states of assets in the organization such as assets in Use, In Store, Expired and so on. Apart from the default asset states, you can create custom ones. You can also enable or disable ownership and scan for custom asset states you create. You can also choose to mandate the ownership field while moving an asset in the custom asset state.

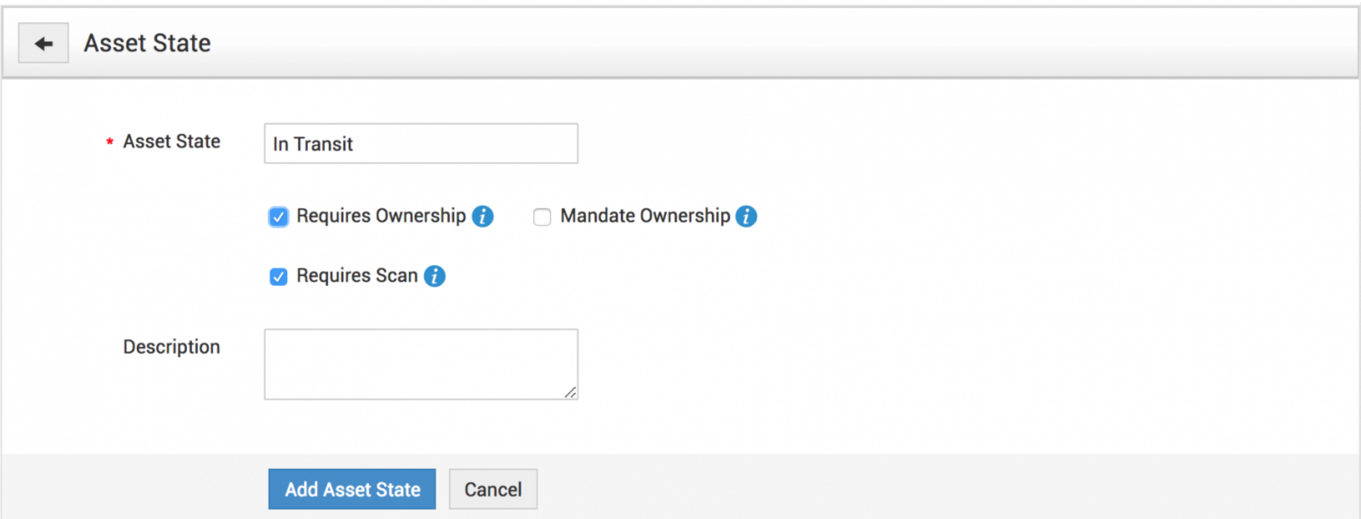
To access the asset state configuration wizard page,

1. Click the Admin tab in the header pane. This opens the Configuration Wizard page.
2. Under the **Asset Management** block click the Asset State. This opens the Asset State List page where you can add, edit and delete an asset state. By default, you have five asset states available in ServiceDesk Plus which can neither be edited nor deleted.

Add Asset State

Create custom asset states as per requirement. For e.g., you may need to create an asset state, "In transit", for assets that are in transit from one site to another. This can be done by following the below-mentioned steps.

1. Click New Asset State link.
2. Enter a name for the Asset State. This field is mandatory.
3. Choose the Requires Ownership option to display ownership section for assets moved to this state.
4. Enable Mandate Ownership to mandate filling of the ownership details for assets in this asset.
5. Enable/disable scan for assets in this state by using the "Requires Scan" option.
6. Specify any relevant information about the asset state in the Description field.
7. Click Add Asset State button. The newly added asset state is added to the Asset State List.



Edit Asset State

1. From the Asset State List view page, click the Edit icon beside the asset state to edit. The edit form is pre-filled with the values entered while adding the asset state.
2. Modify the Asset State and Description.
3. Enable or disable ownership, mandate ownership or scan.
4. Click Update Asset State button to update the changes.

Note: While the fields mentioned below can be edited in the default asset states, their names cannot be edited.

Some facts about the editable fields in the default asset states are as follows,

Asset State	Editable fields
"In Use"	Requires Scan
"In Store"	Requires Scan
"In Repair"	Requires Scan, Requires Ownership, Mandate Ownership
"Expired"	Requires Ownership
"Disposed"	-

Delete Asset State

1. From the Asset State List view page, click the Delete icon beside the asset state to delete. A dialog box confirming the delete operation appears.
2. Click OK to proceed. The asset state is deleted from the list.

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Configuring other networks

ManageEngine ServiceDesk Plus can automatically scan for Windows domains and list them as soon as the application is installed and started for the first time. But it is not essential that all the workstations in your organizations are connected to a Windows domain. There can be non-Windows workstations and these workstations will not be a part of the Windows domain and hence may not be scanned. To avoid these kinds of omissions, ServiceDesk Plus supports IP-based network discovery, using which you can scan the workstations in other networks and the workstations that are not a part of the Windows domains.

To open the network scan configurations:

1. Log in to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Admin** tab in the header pane.
3. In the **Asset Management** block, click the **Network Scan** icon . You can add, edit, or delete networks.

Add New Network

To add a new network:

1. Click the **Add New Network** link available at the top right corner of the **Network List** page.
2. In the **Add Network** form, enter the **Network Address**. This field cannot be left empty and can take only unique values.
3. Though the login name and password are not mandatory fields, they are required if you want to scan the network and discover the associated assets and workstations. So enter the **Login Name** and **Password** for the network.
4. If you wish to add any description for the network, then you can enter the same in the **Description** text box.
5. Click **Save**.

If you want to add more than one network, then instead of clicking Save, click the **Save and add new** button. This adds the new network and reopens the add network form after displaying a message that the new network is added..

At any point, if you decide not to add the new network, then click **Cancel** to get back to the network list. Clicking the **View List** link on the top right corner of the add network form will also take you to the network list view.

Edit Network

If the login names and passwords of networks have changed, then you will need to modify the network details.

To edit the network information:

1. In the **Network List** page, click the edit icon beside the **Network Address** or the hyperlinked network address that you wish to edit.
2. In the **Edit Network** form, you can modify the network address, login name, password, and description of the network.

3. Click **Save** to save the changes. At any point, if you wish to cancel the operation that you are performing, click **Cancel**.

Even while editing a network, if you wish to add new network, then click **Save and add new** button instead of clicking **Save** button after making the changes.

Delete Network

To delete a network:

1. In the **Network List** page, click the delete icon beside the **Network Address** that you wish to delete. A confirmation dialog appears.
2. Click **OK** to proceed with the deletion. If you do not wish to delete the network, then click **Cancel**.

Scan Network

You can scan the network, if the network details have the login name and password information. To start scanning a network, click the scan network icon available beside the **Network Address** that is to be scanned. The page is refreshed, displaying the following message:

SUCCESS : Discovery started for the network. Discovered workstations can be viewed from Inventory module.

	Note: To scan the Linux workstations, the telnet service needs to be enabled in both the server and the client workstations.

Software

Software helps you to configure all the software related tasks such as Software Type, Software Category, Software License Types and Additional fields for software license and license agreement.

- Software Type
- Software Category
- License Additional Fields
- Software License Types
- Agreement Additional Fields
- Import License (s) from CSV

Configuring Software Type

All different forms of software such as, licensed, prohibited, freeware, shareware, excluded and un-identified software comes under this category.

To access the Software Type configuration page,

1. Click the Admin tab in the header pane. This opens the Configuration Wizard page.
2. Click the Software Type under the Software block. This opens the Software Type list view page. By default there are six software types that cannot be edited nor deleted.

- Shareware: Software that is available free of charge, may be distributed for evaluation with a fee requested for additional features or a manual etc.

- Freeware: Software that is provided without charge.

- Prohibited: Software that is prevented from use.

- Excluded: Software that is omitted from use.

- Managed: All licensed software comes under this software type.

- Un-Identified: Unknown software can be categorized under this software type.

Adding New Software Type

1. Click the New Software Type link. This opens the Software Type Details page.
2. Specify the Software Type name in the given text field. This is a mandatory field which will uniquely identify individual software type.
3. Specify any relevant information about the Software Type in the description field.
4. Click Add Software Type button. This adds the software type to ServiceDesk Plus and gets displayed below the add software form.

Editing Software Type

1. From the Software Type list view page, click the **Edit** icon beside the software type to edit.
2. Modify the necessary changes.
3. Click Update Software Type button.

Deleting Software Type

1. From the Software Type list view page, click the Delete icon beside the software type to delete. A dialog box confirming the delete operation appears.
2. Click OK to proceed. The software type is deleted from the list.

Software Category

The software available in the application are organized by grouping them into specific Software Categories. Some of the default software categories available in the application are Accounting, Internet, Graphics, Multimedia, Operating System, Game and much more.

To access the software category configuration wizard,

1. Click the Admin tab in the header pane to open the configuration wizard page.
2. Click Software Category under Software block. The Software Category list view page opens. From this page, you can add, edit and delete a software category.

By default, there are nine software categories listed in the application. These software categories can neither be edited nor deleted.

Adding Software Category

1. Click New Software Category link.
2. Specify a unique name for the Software Category in the provided field. The Software Category is a mandatory field.
3. Specify any relevant information about the category in the Description field.
4. Click Add Software Category button to add the software category to the list. Click Cancel to go back to the list view. The added software categories are displayed while adding a new software.

Editing Software Category

1. Click the Edit icon beside the software category to edit.
2. Modify the Software Category name and Description fields.
3. Click Update Software Category to update the changes.

Deleting Software Category

1. Click the Delete icon beside the software category to delete. A dialog box confirming the delete operation appears.
2. Click OK to proceed. The software category is deleted from the list.

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License - Additional Fields

If you require any further additional information while adding the software license details, apart from the pre-set fields in the Add software licenses form you can configure them under License - Additional Fields. You can add **text** fields, **numeric** fields, **date** type fields and Cost fields as the additional fields in the form.

To add license - additional fields,

1. Click the **Admin** tab in the header pane to open the configuration wizard page.
2. Click License - Additional Fields under Software block. The License Additional page opens to view the following tabs namely, Text, Numeric, Date/Time and Cost. You can add up to twelve text and cost fields, and four numeric and date/time fields.

Configuring Additional Text fields

1. By default, the Text tab is selected. Specify the Label for the Additional field.
2. Specify any relevant information about the additional field in the Description text field.
3. Select the Type of the text field by enabling the radio button. It can be either Single-Line, Multi-Line or Pick List (drop down list).
4. You can also specify default values to be pre-filled in the software license form.
5. Save the settings.

Configuring Additional Numeric fields

1. Click the Numeric tab.
2. Specify the Label for the additional field.
3. Specify any relevant information about the additional fields in the Description text field.
4. Save the settings.

Configuring Additional Date/Time fields

1. Click the Date/Time tab.
2. Specify the Label for the additional field.
3. Specify any relevant information about the additional fields in the Description text fields.
4. Click Save to save the settings.

Configuring Cost fields

1. Click the Cost tab.
2. Specify the Label for the Additional field.
3. Specify any relevant information about the additional field in the Description text field.
4. You have two cost type fields, Add cost (for cost addition) and Subtract cost (for cost subtraction).Click the corresponding radio button to select the cost fields and also specify the Default values to be pre-filled in the software license form.

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These additional fields will appear while adding a software license under the Additional Information block.To delete a user-defined fields, instead of adding the label names, delete the existing label names you wish to remove from the fields of the form and click **Save**. The fields are automatically removed from the Software License form.

Software License Types

Every software manufacturing company has their unique software license type apart from the several common license types. Since it is not feasible to support all these license types, ServiceDesk Plus helps you customize the license types for all software manufacturers based on the workstations and users.

To access the Software License Types configuration page,

1. Click the Admin tab in the header pane to open the configuration wizard page.
2. Click Software License Types under Software block. The list of default license types filtered by the manufacturer is displayed.

- Individual: License type for single installation
- OEM (Original Equipment Manufacturers): License type for software that is already installed in the hardware.
- Named User License: License Type for a specific user.
- Volume: License Type supporting multiple users.
- Client Access License (CAL): License type that gives a user the rights to access the services of the server.
- Trial License: License Type for trial versions of the software.
- Enterprise (Perpetual): License Type that does not require renewal and is for lifelong.
- Concurrent License: License Type for software that can be accessed by a specific number of users at a time.
- Free License: License Type for freeware software.
- Enterprise Subscription: License Type that requires renewal for every specific period.
- Node Locked: License Type for workstations with specific configurations.

Apart from the default license types available in the application, you can add, edit and delete Software License Types.

Adding New License Type

1. Click Add New License Type link.
2. Enter the License Type say Volume, Enterprise, Standard and so on. In general, each manufacturer depicts their license types uniquely and so the license type needs to be specified accordingly to the manufacturer. This field is mandatory.
3. Select the software Manufacturer from the drop down. If required, you can also add a new manufacturer using the Add New Manufacturer icon.

4. The software license can be tracked by workstations or users.

- Workstations: The license is allocated to the workstation.
- User: The license is allocated to the workstation as well as the user.

Select the corresponding option from Track By drop down.

5. Choose any one option from Installation allowed drop down.

    - Single: Similar to Individual license, only one installation is allowed for this license type.
    - Volume: Multiple installations (s) is allowed for this license type.
    - Unlimited: Unlimited installation(s) is allowed for this license type.
    - OEM (Original Equipment Manufacturers): The software license is attached to the hardware i.e. hardware say, laptops for which the software is installed. The software cannot be transferred to another workstation and the license expires once the workstation is moved to the Disposed state.

6. If you have selected Workstation as the Track By option, the Is Node Locked option appears. This option can be enabled for a workstation with specific configurations. Enabling this option automatically changes the Installation Allowed field to Single.
7. If you have selected Users, the Users Allowed field appears. From this field you can select the number of users who can access the software, say, Single, Volume (multiple) or Unlimited.
8. If the software is one-time installation and does not require a renewal, enable Is Perpetual check box.
9. If the software is freeware with unlimited installations and no expiry date, enable Is Free License check box.
10. Few software license types can be divided into sublicense types say for instance, with Client Access License (CAL) you can purchase a license for every user who accesses the server (Per User) or license for every device that accesses the server (Per Device).

    Enter the License Option and click Add to add it in the picklist field. You also have an option to delete the License Option from the picklist field. Select the license option and click the delete icon .

Editing License Type

1. From the Software - License Types page, click on the Edit icon beside the License Type you wish to edit.
2. The Software - License Types page opens with the values populated while adding the License Type.
3. Modify the required details and Save the changes.

Deleting License Type

1. From the Software - License Types page, p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545} select the Manufacturer from the Filter drop down
2. Select the checkbox beside the license type to be deleted.
3. Click Delete button. A dialog box confirming the delete operation appears.

4. Click OK to continue. The Software - License Type is deleted from the selected manufacturer list.

License Agreement- Additional Fields

If you require any further additional information while adding the software license agreement details, apart from the pre-set fields in the license agreement form you can configure them under License Agreement - Additional Fields. You can add **text** fields, **numeric** fields, **date** type fields and Cost fields as the additional fields in the form.

To add license - additional fields,

1. Click the **Admin** tab in the header pane to open the configuration wizard page.
2. Click Agreement - Additional Fields under the Software block. The License Agreement Additional page opens to view the following tabs namely, Text, Numeric, Date/Time and Cost. You can add up to twelve text and cost fields, and four numeric and date/time fields.

Configuring Additional Text fields

1. By default, the Text tab is selected. Specify the Label for the Additional field.
2. Specify any relevant information about the additional field in the Description text field.
3. Select the Type of the text field by enabling the radio button. It can be either Single-Line, Multi-Line or Pick List (drop down list).
4. You can also specify default values to be pre-filled in the license agreement form.
5. Save the settings.

Configuring Additional Numeric fields

1. Click the Numeric tab.
2. Specify the Label for the additional field.
3. Specify any relevant information about the additional fields in the Description text field.
4. Save the settings.

Configuring Additional Date/Time fields

1. Click the Date/Time tab.
2. Specify the Label for the additional field.
3. Specify any relevant information about the additional fields in the Description text fields.
4. Click Save to save the settings.

Configuring Cost fields

1. Click the Cost tab.
2. Specify the Label for the Additional field.
3. Specify any relevant information about the additional field in the Description text field.
4. You have two cost type fields, Add cost (for cost addition) and Subtract cost (for cost subtraction).Click the corresponding radio button to select the cost fields and also specify the Default values to be pre-filled in the license agreement form.

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These additional fields will appear while adding the license agreement details. To delete a user-defined fields, instead of adding the label names, delete the existing label names you wish to remove from the fields of the form and click **Save**. The fields are automatically removed from the License Agreement form.

Importing License From CSV

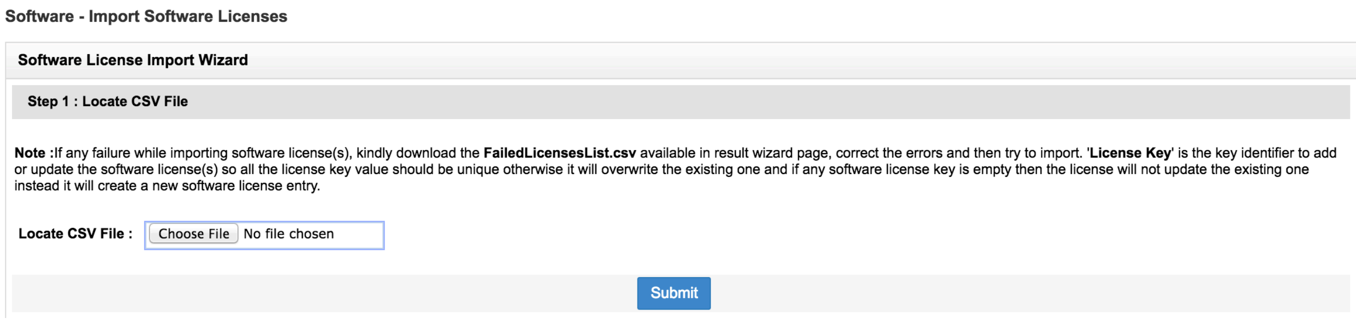
Adding license information for each and every software scanned in ServiceDesk Plus application is tedious and endless. Hence with the easy-to-use CSV import option, you can import software license information from your existing database or even from other applications. The License Key is a pivotal identifier to add or update the software license(s). So the license key should be unique to avoid overwriting with the existing ones.

To import contacts from CSV file,

1. Click the Admin tab in the header pane to open the configurations wizard page.
2. Click Import License from CSV under the **Software** block.

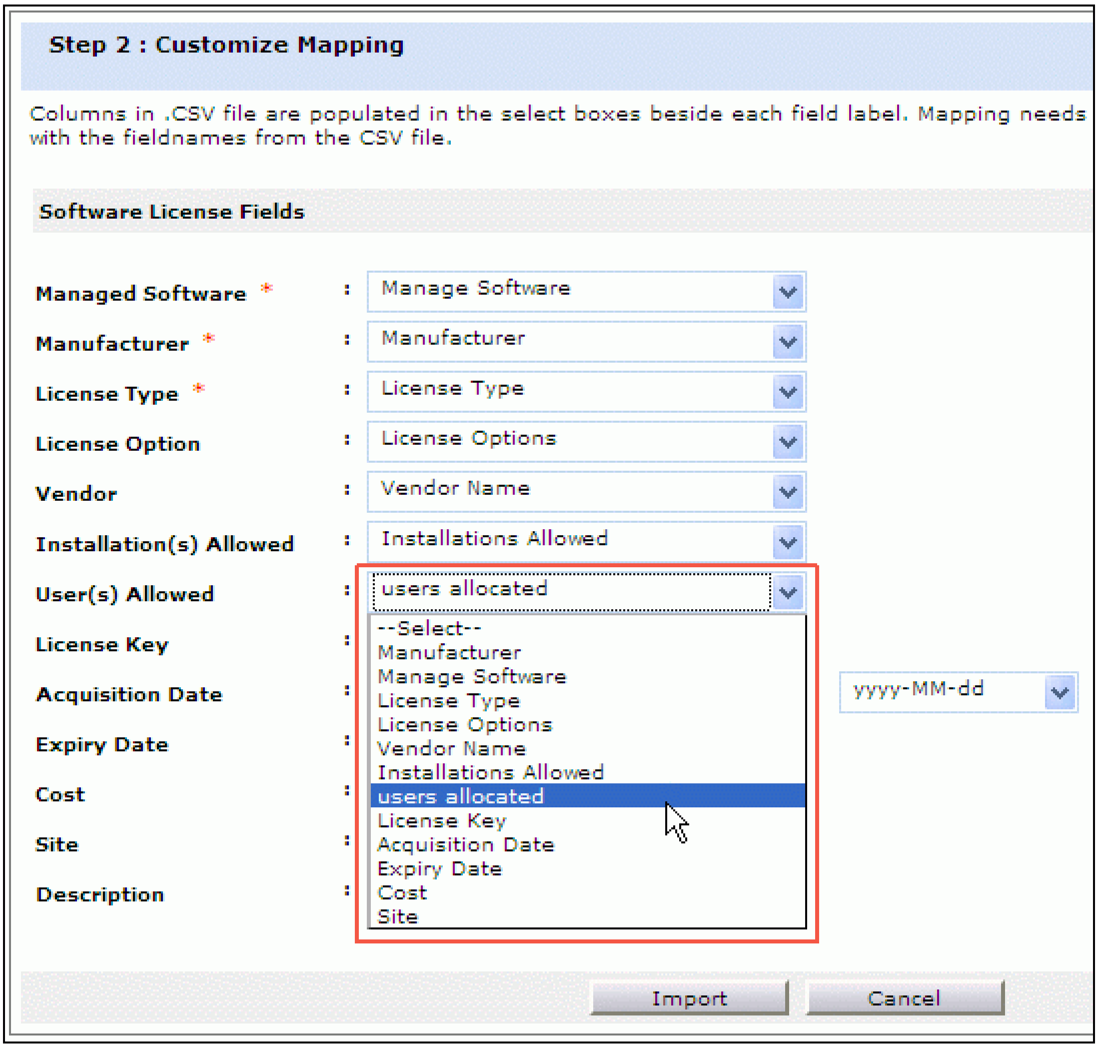
Step 1: Locate CSV file

1. Click **Browse** button to select the CSV file.
2. On locating the CSV file from the file chooser window, click Open. The path to the file appears automatically in Locate CSV file field.
3. Click Submit.

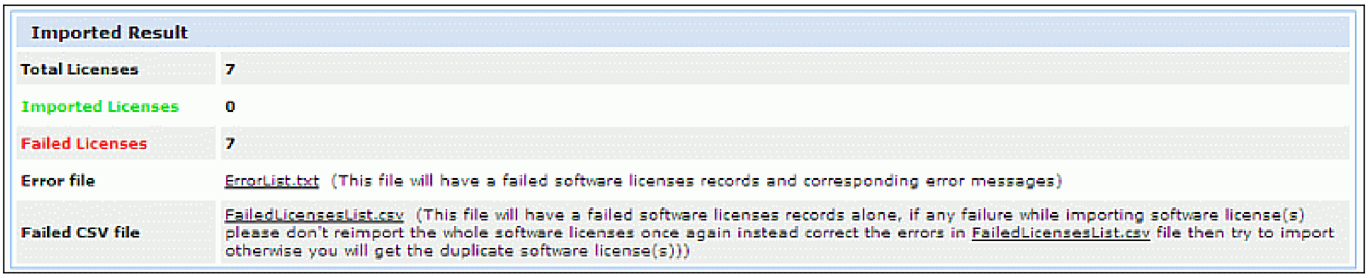


Step 2: Customize Mapping

1. Map the application software license fields with the field names from the CSV file. If there are any additional fields configured under License - Additional Fields, the same appears in the customized mapping form.



2. Click **Import** button. The software license details from the CSV file is imported.
3. Once the import is complete, the data on the total number of license, the number of license imported and the number of failed to import license is displayed.



Warning	If there are any failure records while importing software license (s), don't re-import the same CSV file. Instead download the FailedLicensesList.csv from the Imported Result page and correct the errors on comparing with ErrorList.txt file. The Error List file shows the failed software license records along with the corresponding error message. This is to avoid duplication of the software license(s).

Purchase/Contract Configurations

You need to configure the purchase/contract configurations before creating a Purchase Order and Contract.

The Purchase/Contract Configurations are,

- Purchase - Additional Fields

  Require Additional Fields while creating a Purchase Order ? This configuration provides option to add text, numeric, date/time and cost fields.

- Purchase Default Values

  Set default values to be populated in the New Purchase Order form.

- Cost Center

  The Business Units are budgeted and tracked for the cost, income and allocation.

- GL Code

  Add General Ledger Codes that can be associated with the Purchase Order.

- Currency

  Add Currencies that can be associated with the Purchase Order.

- Contract Additional Fields

  Require Additional Fields while creating a contract ? This configuration provides option to add text, numeric and date/time.

- Notification Rules

  Notify Technicians of an Overdue Purchase Order or when the lease period of the asset is about to expire.

Purchase Order Additional Fields

You can configure purchase additional fields that need to appear in the new purchase order form.

1. Log in to ServiceDesk Plus application using your user name and password.
2. Click the **Admin** tab in the header pane.
3. In the **Purchase/Contracts management** block, click **Purchase - Additional Fields**. This opens the Purchase - Additional Fields page. You can add four types of fields in the form: text, numeric, date/time and cost.
4. To add the text fields, enter the label name in the form fields below the **Label** heading. If required, enter the description for the field.
5. You can choose the type of text field that you wish to add by selecting the radio buttons.

- Single-line text field: Allows you to add just a text field in the new purchase order form.
- Multi-line text field: Allows you to add a text box where a lengthy description can be added in the new purchase order form.
- Pick List: Allows you to add a combo box in the new purchase order form. Contents of the combo box can be added by specifying it in the text field and adding it to the list. This gives you an option to select from the list. In all the three cases, you can add default values for the text field in the space provided for the field.

6. To add numeric fields, click the **Numeric** tab and then enter the label name in the form fields provided for the same.
7. To add date/time fields, click the **Date/Time** tab and enter the required details.
8. To add the cost field, click the Cost tab. You have two cost type fields, Add cost (for cost addition) and Subtract cost (for cost subtraction).Click the corresponding radio button to select the cost fields.
9. Click **Save**. A message for successful creation of the fields is displayed.

These fields (except for cost) appear under the General Information in the **New Purchase Order** form. To delete the user-defined fields, in step 4 through 7, instead of adding the label names, delete the label names that you wish to remove from the fields of the form and click **Save**. The respective fields that you deleted will be removed from the New Purchase form.

Purchase Default Values

With this option, you can set the default values to be populated in the New Purchase Order form.You can set default values for fields such as tax rate, the billing and shipping address, the purchase order terms and conditions and so on. Thereby, making it feasible to add create a Purchase Order instantly.
Also, from this option, you can set the mandatory fields to be filled in before closing a PO. These fields are the additional fields configured under Purchase Additional Fields.

To access the purchase default value configuration page,

1. Click the Admin tab in the header pane.
2. In the **Purchase/ Contracts** block, click Purchase - Default Values. This opens the Purchase Default Values page.

Configuring Purchase Default Values

- Default Currency: The default currency to be displayed in all the purchase orders (PO) generated and in places where money is being used. Say, USD, $
- Default Tax Rate (%): Tax rate used for calculating the sales tax in all the POs generated. You can provide different tax rate to a specific PO by entering the new rate while creating the PO.
- Signing Authority: Signing Authority's name.
- Tax Shipping: Enable the check box for additional tax in shipping of the items.
- Shipping Address: Select the default Site to which the PO items needs to be shipped.
- Billing Address: Select the default Site for invoice and billing the PO items.
- Cost Center: Default cost center department to be displayed.
- Approver (s): Approvers for the purchase order. The approvers can be the users or technicians in your organization.
- PO Owner as Approver: Enable the check box if you wish to add the PO owner as the approver.
- Multi Approval: If there are more than one approvers, on enabling multi approval check box, the PO is approved only if all the approvers approve the PO. The PO is rejected even if one of the approvers rejects the PO.
- Terms and Remarks: Terms and remarks while making the purchase.
- PO# Start From: Customize the PO number.

Mandatory fields for closing PO
The fields listed in this block are the PO additional fields configured in the application. Enable the check box beside the field that should be filled in before closing the PO. Click Save to save the settings.

General Ledger Code (GL Code)

You can add all the general ledger codes using this option. A general ledger account will have a specific code for all transactions in the organization. On specifying the GL code you will be able to track the necessary information for a specific transaction.
Say, if you like to know all your company's IT purchases for the November month 2007, then you can specify the GL code for IT purchases in November 2007 and get the details.

To access the GL Code configuration,

1. Click on the Admin tab in the header pane.
2. In the **Purchase/Contracts Management** block, click GL Code. The GL Code list view page opens where you can add, edit and delete a GL Code.

Add GL Code

1. Click the New GL Code link. The GL Code form has two fields namely, GL Code and Description.
2. **Enter the GL Code**. This field is mandatory.
3. Specify any relevant information about the GL Code in the **Description** field.
4. Click the **Add GL Code** button. The GL Code is added to the List View.

Edit GL Code

1. Click the Edit icon beside the GL code to modify. The details while adding the GL Code is populated in the edit form.
2. Modify the required details in the fields.
3. Click Update GL Code button.

Delete GL Code

1. Click the Delete icon beside the GL code to delete. A confirmation dialog appears.
2. Click OK to proceed. The cost center is deleted from the list.

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Cost Center

Individual department or a group of department makes a Cost center. These cost centers are budgeted and tracked for the cost, income and allocation. These cost centers will be associated with the purchase order while making a new purchase in your organization.

To access the Cost Center configuration,

1. Click the Admin tab in the header pane.
2. Click Cost Center under the **Purchase/ Contract Management** block. The Cost Center List view page opens where you can add, edit and delete a cost center.

Add Cost Center

1. Click the **New Cost Center** link. The Cost Center form has four mandatory fields namely, Cost Center Code, Name and Owner.
2. **Specify the code for the cost center in Cost Center Code** field.
3. **Specify the Name** of the cost center.
4. The departments configured in ServiceDesk Plus application is listed under Departments. Select the Department from the available list.
5. **Specify the Owner** of the cost center. The owner is generally the department head and employee of the organization.
6. If required, enter relevant information about the cost center in the Description field.
7. Click Add Cost Center button. The cost center is added to the List View.

Edit Cost Center

1. Click the Edit icon beside the cost center you wish to modify. The details while adding the cost center is populated in the edit form.
2. Modify the required details in the fields.
3. Click Update Cost Center button.

Delete Cost Center

1. Click the Delete icon beside the cost center to be deleted. A confirmation dialog appears.
2. Click OK to proceed. The cost center is deleted from the list.

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Currency

Different currencies used while procuring assets/services from different vendors can be added under the currencies list. ServiceDesk Plus supports all currencies out of which the ones you'll be using can be selected and added.

Two benefits of configuring a currency list:

- **Currencies added** can be associated with the **vendors** as they are added to the application
- Purchase orders will list the **respective currency being used by the vendor** (upon vendor selection) along with its **exhange rate with respect to base currency** when the purchase order is being created

Note: Default currency used by you - known as **base currency** - cannot be **deleted.**

To access currency option,

1. Click the Admin tab in the header pane.
2. Click Currency under the **Purchase/ Contract Management** block. The Currency page opens where you can add, edit and delete currencies

Add Currency

1. Click the **Add New Currency** link.
2. **Add New Currency** pop-up box opens up. It has the **following options**:
   - **Currency** dropdown
   - **Currency Symbo**l box
   - **Exchange Rate**
3. Select the currency to be added using the Currency dropdown
4. Specify the Currency Symbol in the currency symbol box
5. Specify the exhange rate of the currency being added
6. Click Save

Edit Currency

1. Click the Edit icon beside the currency you wish to modify. Added currency will change to editable mode.
2. Edit details as per your requirements
3. Click **Save** button.

Delete Currency

1. Click the Delete icon beside the currency to be deleted. A confirmation dialog appears.
2. Click OK to proceed. The currency will be deleted from the list.

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Contract Additional Fields

You can configure contract additional fields that need to appear in the new contract form.

1. Log in to ServiceDesk Plus application using your user name and password.
2. Click the **Admin** tab in the header pane.
3. In the **Purchase/Contracts Management** block, click Contract **- Additional Fields**. This opens the Contract - Additional Fields page. You can add three types of fields in the form: text, numeric and date/time.
4. To add the text fields, enter the label name in the form fields below the **Label** heading. If required, enter the description for the field.
5. You can choose the type of text field that you wish to add by selecting the radio buttons.

- Single-line text field: Allows you to add just a text field in the new contract form.
- Multi-line text field: Allows you to add a text box where a lengthy description can be added in the new contract form.
- Pick List: Allows you to add a combo box in the new contract form. Contents of the combo box can be added by specifying it in the text field and adding it to the list. This gives you an option to select from the list . In all the three cases, you can add default values for the text field in the space provided for the field.

To add items for the pick list, enter the value in the text filed and click Add Item. To select the default selected value of the list, click on the value in the list.

6. To add numeric fields, click the **Numeric** tab and then enter the label name in the form fields provided for the same.
7. To add date/time fields, click the **Date/Time** tab and enter the required details.
8. Click **Save**. A message for successful creation of the fields is displayed.

These fields appear under the Additional Contract details in the New Contract form. To delete the user-defined fields, in step 4 through 7, instead of adding the label names, delete the label names that you wish to remove from the fields of the form and click **Save**. The respective fields that you deleted will be removed from the New Contract form.

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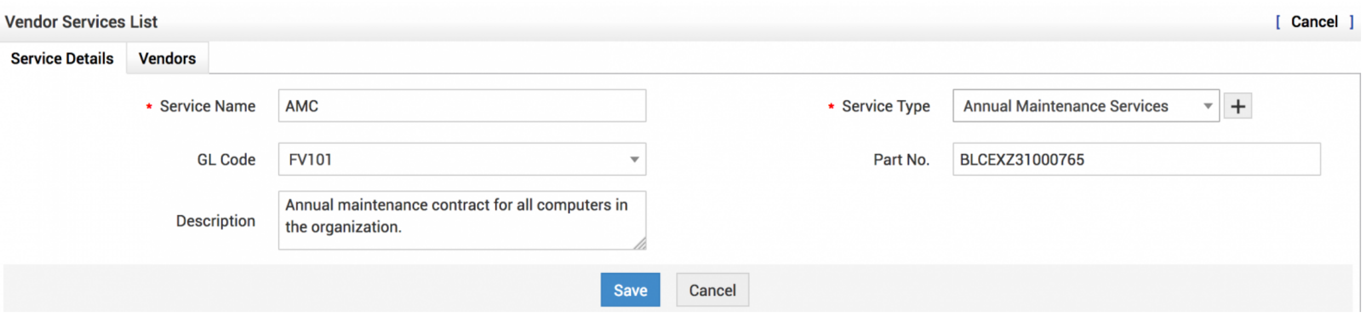
Vendor Services

You can now acquire and track various services of your organization such as the annual maintenance and preventive maintenance service for IT assets, infrastructure service, internet service, security, housekeeping, etc. Purchase order in the application is extended to buy services.

To add a new vendor service

Go to **Admin**>>**Purchase/Contract Management**>>**Vendor Services**.
On the vendor services list page, click **Add New Vendor Service** and fill out the form as shown in the screenshot below.

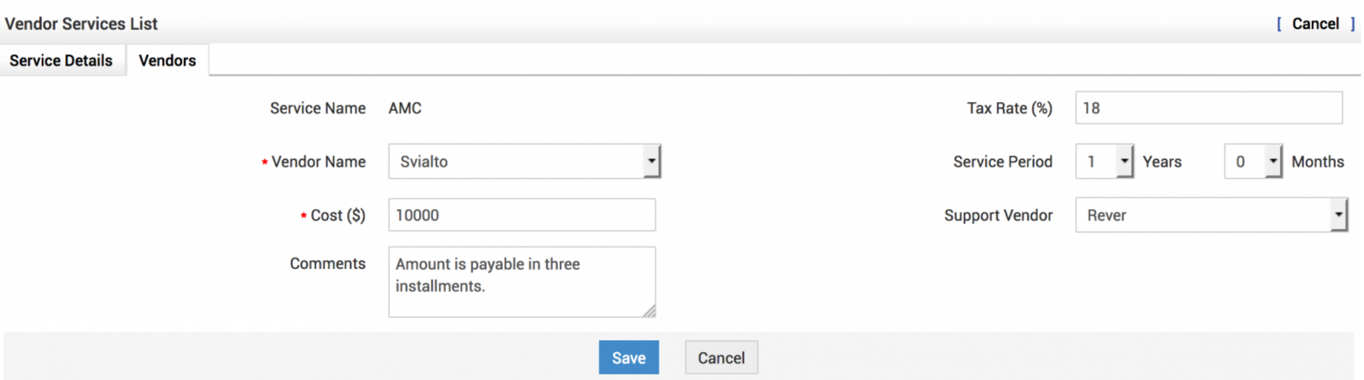


Use + to add a new service type.
Click **Save**.

Service attribute values such as **GL code** and **Part No** specified here will become the default values in a purchase order or purchase request.

Associating a vendor with a service

Select a service and click **Vendors** tab on its details page.
Add the vendor details as shown in the following screenshot and click **Save**.



You can add multiple vendors to a service.

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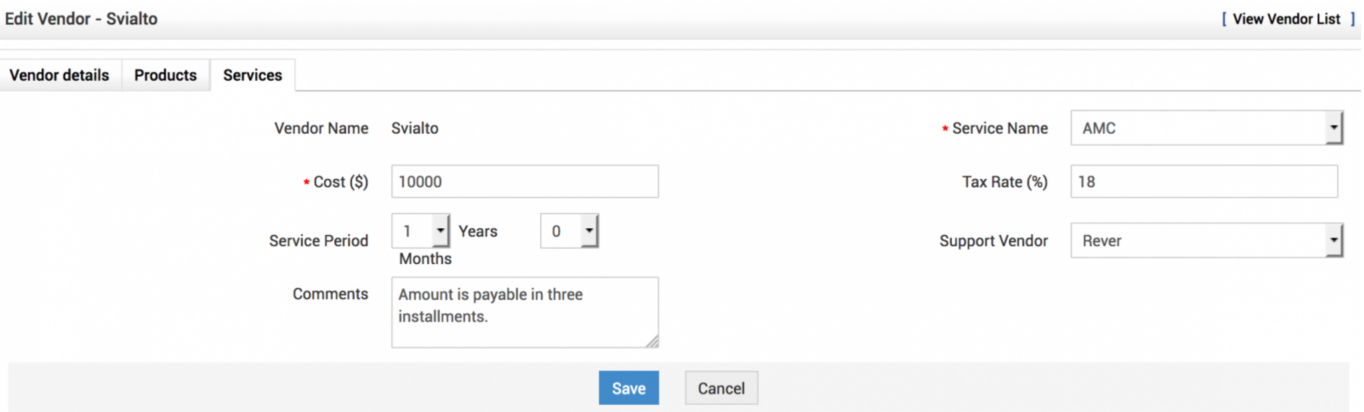
Adding a service to a vendor

Go to **Admin**>>**Asset Management**>>**Vendor**.
Select a vendor from the list or add a new vendor using the link.
Click **Services** tab on the vendor details page.
Click **Associate Service,** fill out the service details as shown in the screenshot below and click **Save**.



Deleting a service

You can delete the following services and their vendor associations:

- Services that are not used in any purchase order or purchase request.
- Services in closed or canceled purchase orders (they will be marked inactive upon deleting).
- Services in closed or canceled purchase requests (they will be marked inactive upon deleting).

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Notification Rules

Notification Rules are helpful when an event has to be notified to the technicians. Say, when Purchase order is overdue or Audit changes during discovery or Software under Compliance during discovery or when prohibited software is identified during discovery.
When the above-mentioned situations are managed suitably, it not only helps technicians in efficient management of the assets but also brings in cost savings to the organization.

Enabling Notification Rules

1. Click the Admin tab in the header pane. The configuration wizard page opens.
2. In **Purchase/Contract Management** block, click Notification Rules. The Notification Rules page opens.
3. To set the notification rules select the relevant notification rules by enabling the check box. These notification rules are self-explanatory.
4. Except for Purchase order Overdue, You can assign technicians to notify of the fault for all the other notification rules.
5. To assign technician select Choose button, this brings up the Choose Technician Name page.
6. Select as many as technicians from the list using ctrl or shift keys.
7. Click OK button to save. You can see the selected technicians displayed in the choose technicians grayed out field.
8. Click Save button to save the set notification rules. The notification to the administrator or to the technicians will be generally sent through email.

Customize Message Template
You have default message template for Contract notification. To customize email templates as per your requirement,

1. Under Customize Message Template, click Edit Template link.
2. You can change the Subject and the Message content by typing the text of your choice and also adding other variables that you wish to display as a part of the subject or message content.
3. To add more variables, just click the corresponding variable from the list box beside the respective field.
4. Click Save.

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User Survey

Survey is a great way to interact with your end users and collect feedback about your service. ServiceDesk Plus provides you an enhanced user survey with increased flexibility in terms of survey type and range of questions. A better capture of user feedback coupled with intuitive reporting will help you visualize and fix problems quickly. Following are the steps involved in the process of conducting a user survey.

- Survey Configuration
- Survey Exclusion
- Survey Email Configuration
- Survey Initiation

After users submit their survey responses, you can view survey reports.

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Survey Configuration

This document deals with the following topics:

Survey Types
Request-based Survey Configuration
General Survey Configuration
Survey Templates
Reordering Request-based Surveys

Survey Types

You can configure two types of survey.

1. Request-based survey
2. General survey

Request-based Survey

Send surveys to users as soon as technicians close an incident/service request. This will help you collect information about specific technician or service. You can also restrict the surveys to specific requests, such as high priority requests, requests of a specific category, or from a department.

Request-based Survey Types

Incident survey: Sent to requesters of closed incidents.
Service survey: Sent to requesters of closed service requests.
Incident and service survey: Sent to requesters of both incidents and service requests.

Configuring an Incident Survey

Go to **Admin**>>**User Survey**>>**Survey Configuration**.
Select **Incident Survey** from **New Request-based Survey** drop-down.
Provide a title to your survey and add details to the following sections.

Workspace

Configure survey questions here.

- Select a question type in the left menu and drag it to the canvas.
- Enter a question and set its scale limit. Then, mark it mandatory, if necessary.
  - Rating: You can set the scale anywhere between 2 and 10 stars.
  - Opinion scale: Set the scale to be anywhere between 3 and 10. Provide three anchor points.
  - Binary: Enter two answer choices, maximum and minimum values.
  - Radio: This is a multiple choice question. Click **Bulk Add**, enter answer choices, and then click **Add.**

- After entering the question and its answer choices, click **Add**.

Survey Configuration

Select from the following, when to survey users.

Condition	Sample value	Explanation
Every time a specified number of incident requests is closed.	100	For every 100 incidents closed, a survey will be sent to the requester of the 100th incident closed.
Every time a specified number of incident requests is closed for a requester.	10	For every 10 incident requests closed for an arbitrary requester, a survey will be sent to the requester.
Every time a specified number of incident requests is closed by a technician.	50	For every 50 incident requests closed by an arbitrary technician, a survey will be sent to the requester of the 50th incident closed.
All closed incident requests.		

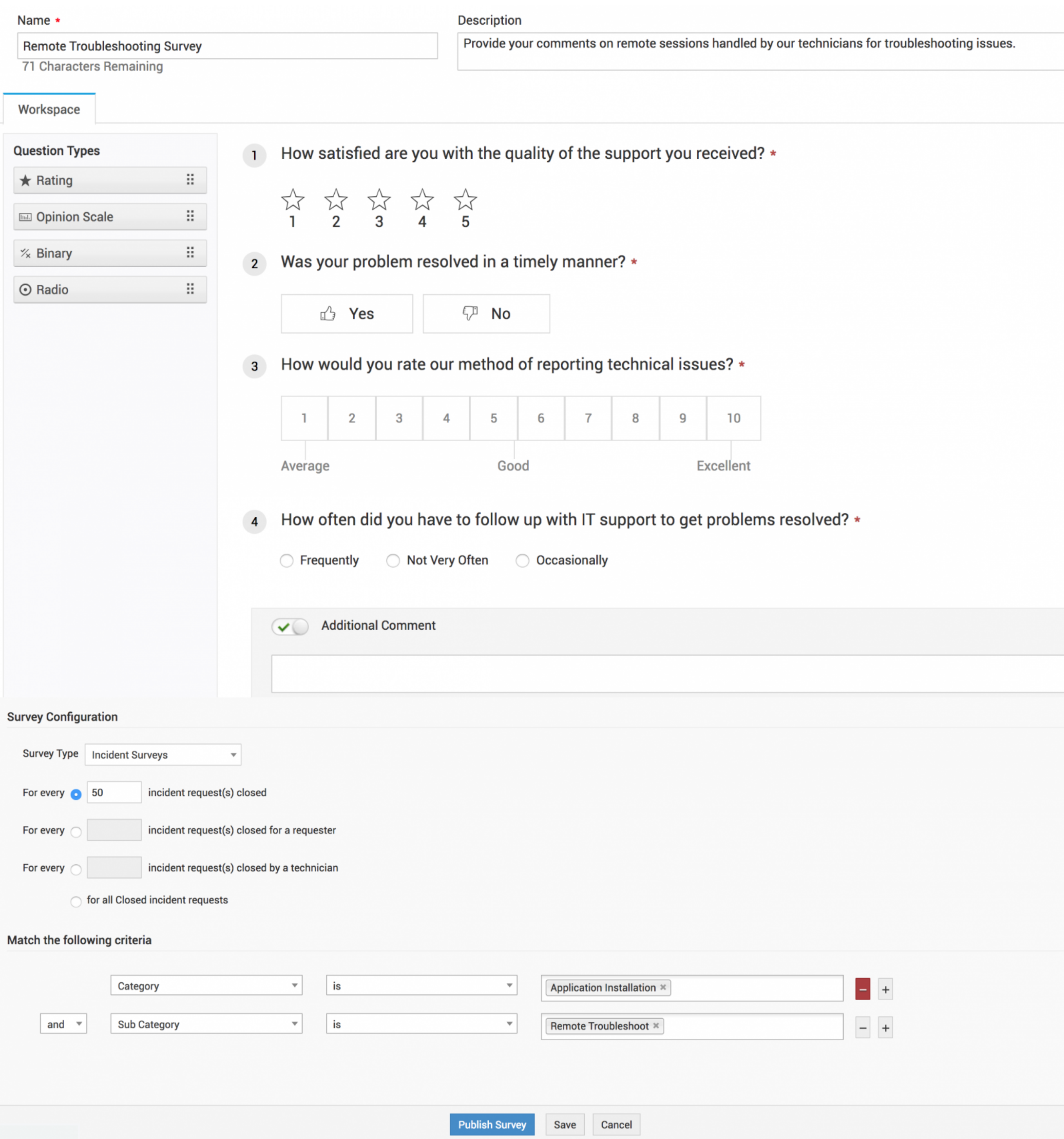
Enable **Additional Comment** to allow users enter extra information.

Matching Criteria for Requests

- Specify conditions (combined with AND or OR operators) to be matched by requests to send a survey and click **Save**.

Sample

Column	Criteria	Value
Priority	is	high
Email ID	is	alex@zylker.com
Level	is not	Tier 4

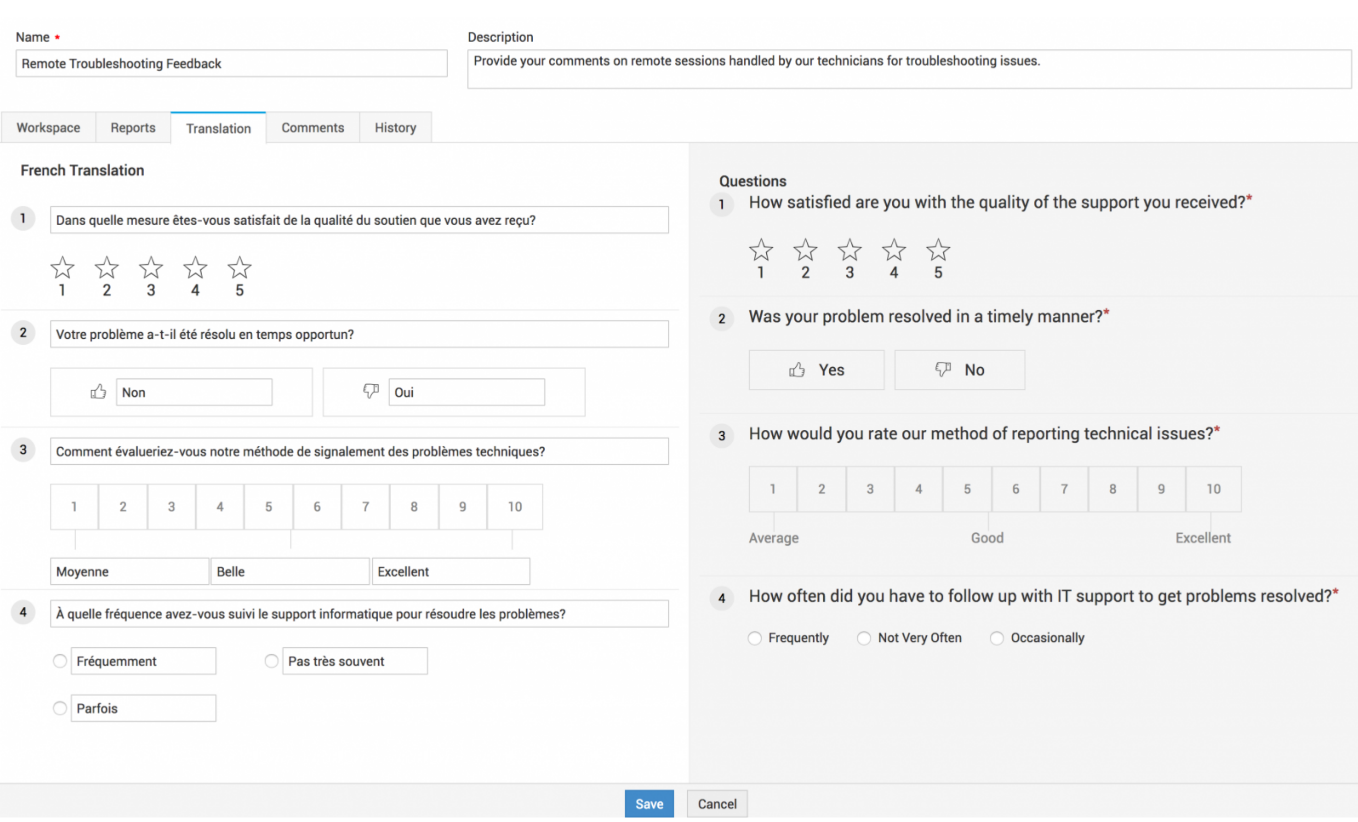


The following tabs will appear only when you edit a survey.

Translation

You can write the survey in other languages for your users. You must, however, possess a multi-lingual license for the application to configure translation.

- Go to **Translation** inside a survey.
- Click **New Translation** and select a language from the drop-down.
- Enter the translated equivalent of the survey questions and click **Save**.



- You can similarly add more languages and have them listed under the **Translation** tab.
- The **Settings** icon allows you to disable or delete the language.

Comments

Provide any extra information about the survey for your reference. Users cannot view your comments.

History

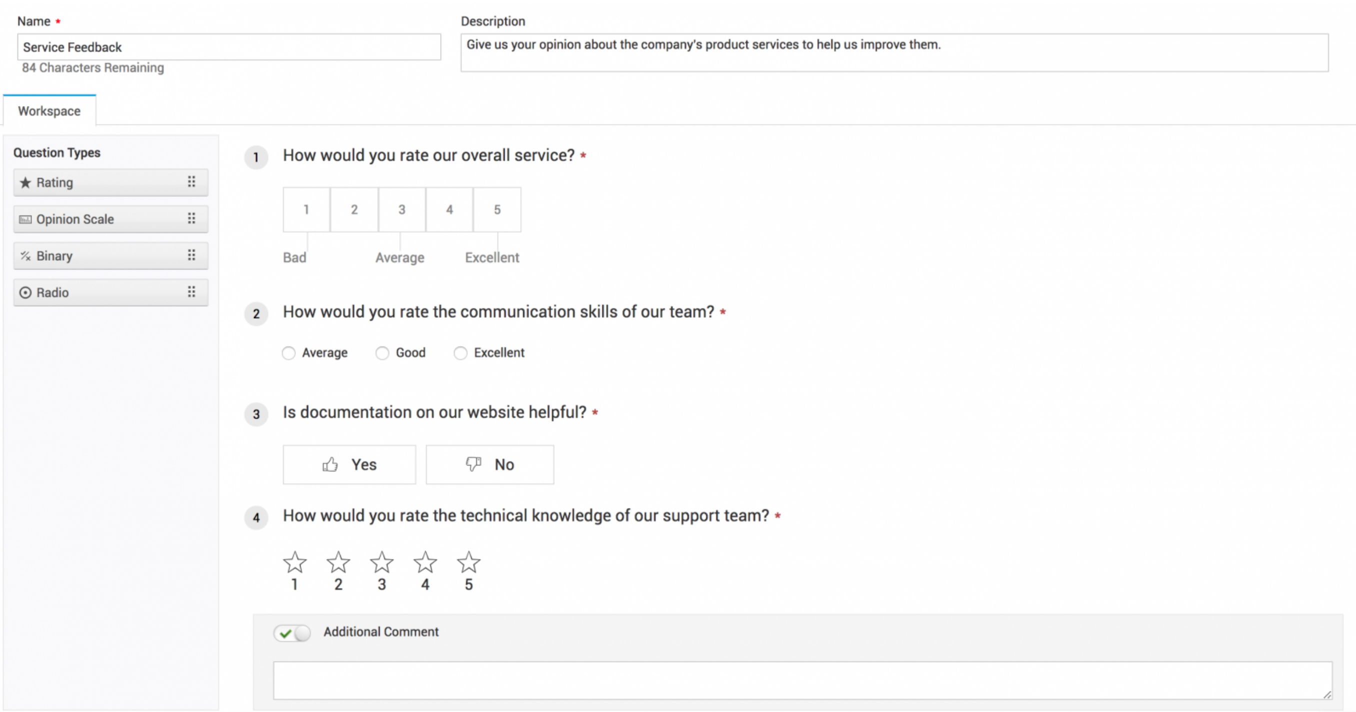
All the survey logs are recorded here.

General Survey

General surveys are user-specific and are independent of the requests closed. You can send them to users across the organization to get an idea of the company's overall performance in terms of production, service, customer satisfaction, and more. You can configure a general survey to be sent once or periodically.

Configuring a General Survey

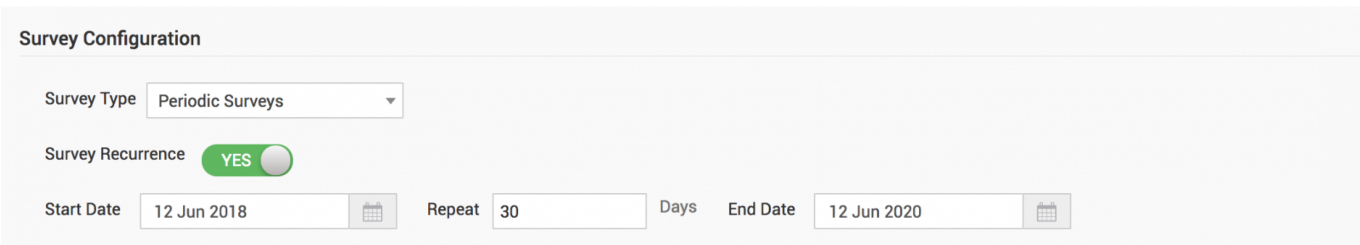
Go to **Admin**>>**User Survey**>>**Survey Configuration**.
Click General Survey
Enter the survey title and questions in **Workspace**. Learn about the different question types and their configuration here.



Survey Configuration

To set survey periodicity,

- Click **Periodic Survey** from **Survey Type** drop-down.
- Select **Survey Recurrence**, then specify date limit and survey frequency.



Target Audience

- Select all users or specific user groups to be surveyed.
- You can further limit the selected users' count by setting only a percentage of them to be randomly picked for the survey.

User count is capped to a configurable value. Consider your mail server capacity when you configure a higher user count.
The count you set here will be common to all general surveys.

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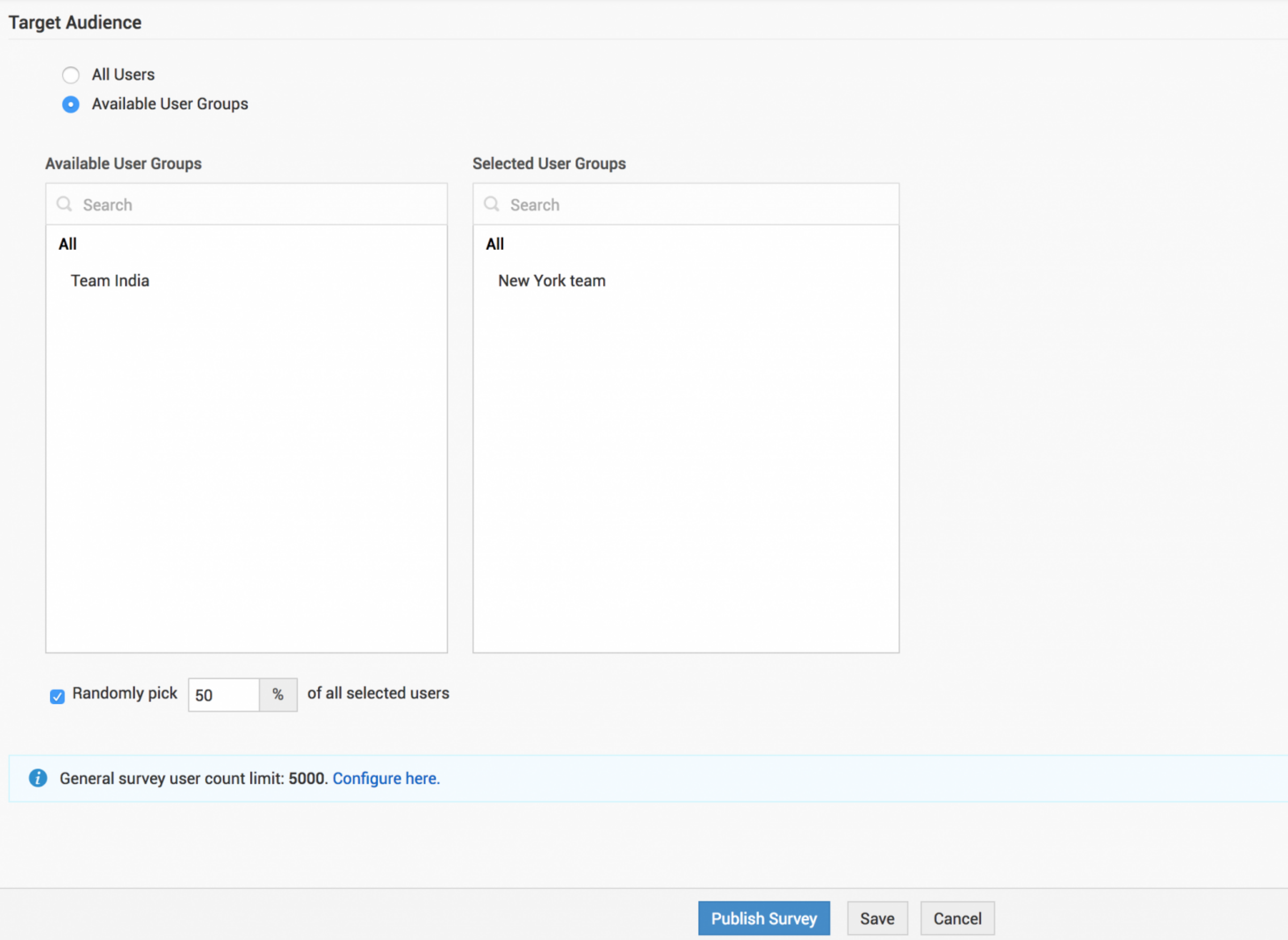
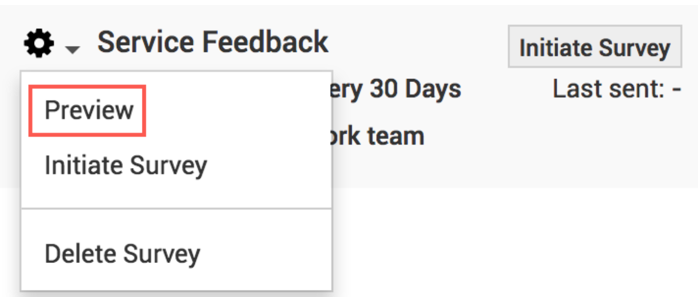


Click **Save**. The survey will now be listed under General surveys in the survey home page.

The following tabs will appear when you edit a survey. Refer the links to learn more about them.
[Translation](#)
[Comments](#)
[History](#)

Survey preview

Use **Settings** icon in the survey home page to preview any survey.



Survey Template

Save frequently asked surveys as templates, so you can import them into new surveys. This will help you save time that will be otherwise spent on typing the same questions in each new survey.
To save a template,
Go to a survey and click **Save as Template** on the footer of the survey form.

Adding Template Questions to a New Survey

In a new survey, before you add any question, click **Survey Templates** in the workspace canvas area. Both request-based and general survey templates will be listed.
Select a template and click **Import.**

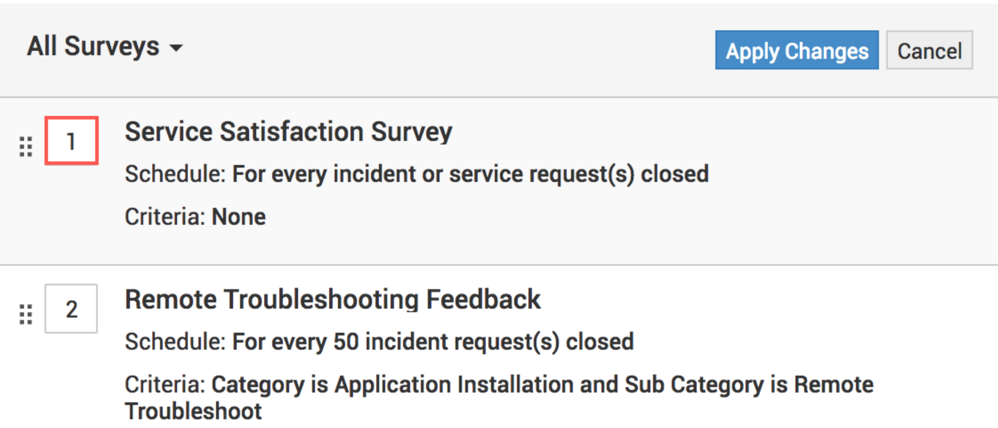
Note that you can import questions into a survey from just one template.

After importing, you can edit/remove the template questions.
You can then add new questions to the survey. You cannot, however, add new questions first, and then import template questions.

Reordering Request-based Surveys

Survey reordering is important to prioritize request-based surveys when more than one survey condition matches with a request. The first survey that has the matching criteria for the request will be sent to users and no further survey will be checked.

- On the survey home page, click **Reorder** on the upper-right corner of request surveys list.
- Enter the order in the given boxes next to surveys and click **Apply Changes**.



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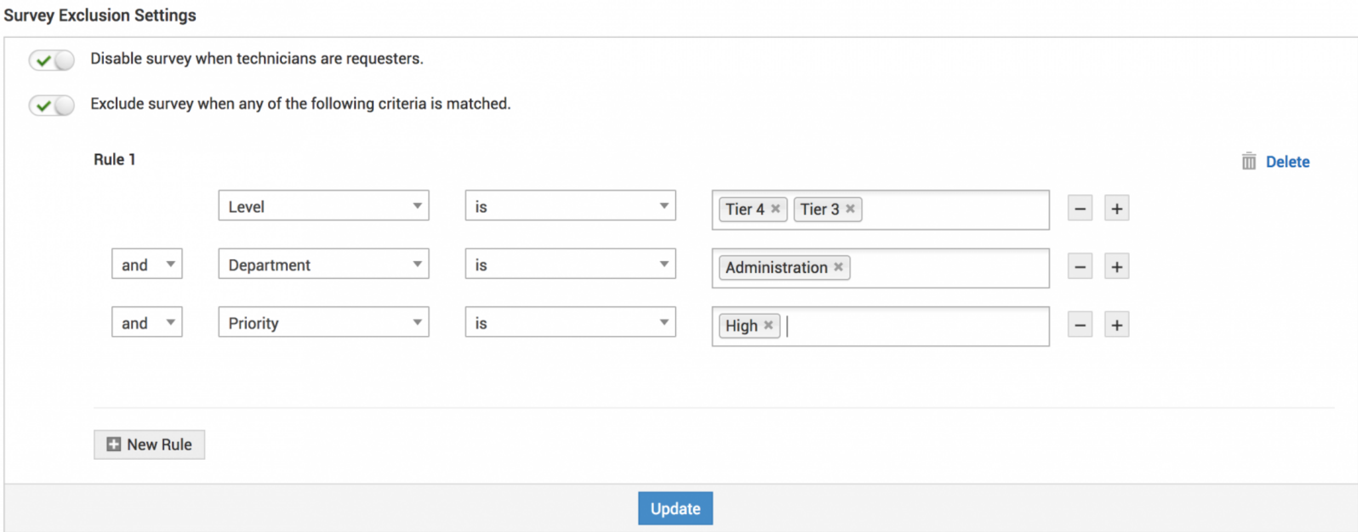
Survey Exclusion Settings

You can globally exclude surveys (both request-based and general surveys) in selective conditions such as requests for mundane tasks, requests from technicians, VIP user requests, and the like.
Go to **Admin** >> **User Survey** >> **Survey Exclusion**.
Select from the following options per your requirement.

- Disable survey when technicians are the requesters
- **Exclude survey when any of the following criteria is matched**

Configure matching conditions for requests to exclude them surveys. Select criteria, set conditions, and enter corresponding values.



Survey Email Configuration

Published surveys reach users by email. You can configure different email messages for general and request-based surveys.

Configuring Emails

Go to **Admin** >> **User Survey** >> **Survey Email Configuration**.
Click **Request-based Survey** or **General Survey**.
Default notification for the selected survey type with the following fields will be displayed. You can edit them and update.

Welcome Message

- Contains the survey's subject.
- Type **$** to select and insert a variable into the editor.

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Email Content

- Represents the survey's purpose.
- Type **$** to select and insert a variable into the editor. **$SurveyLink** is mandatory for both survey types.

Success Message

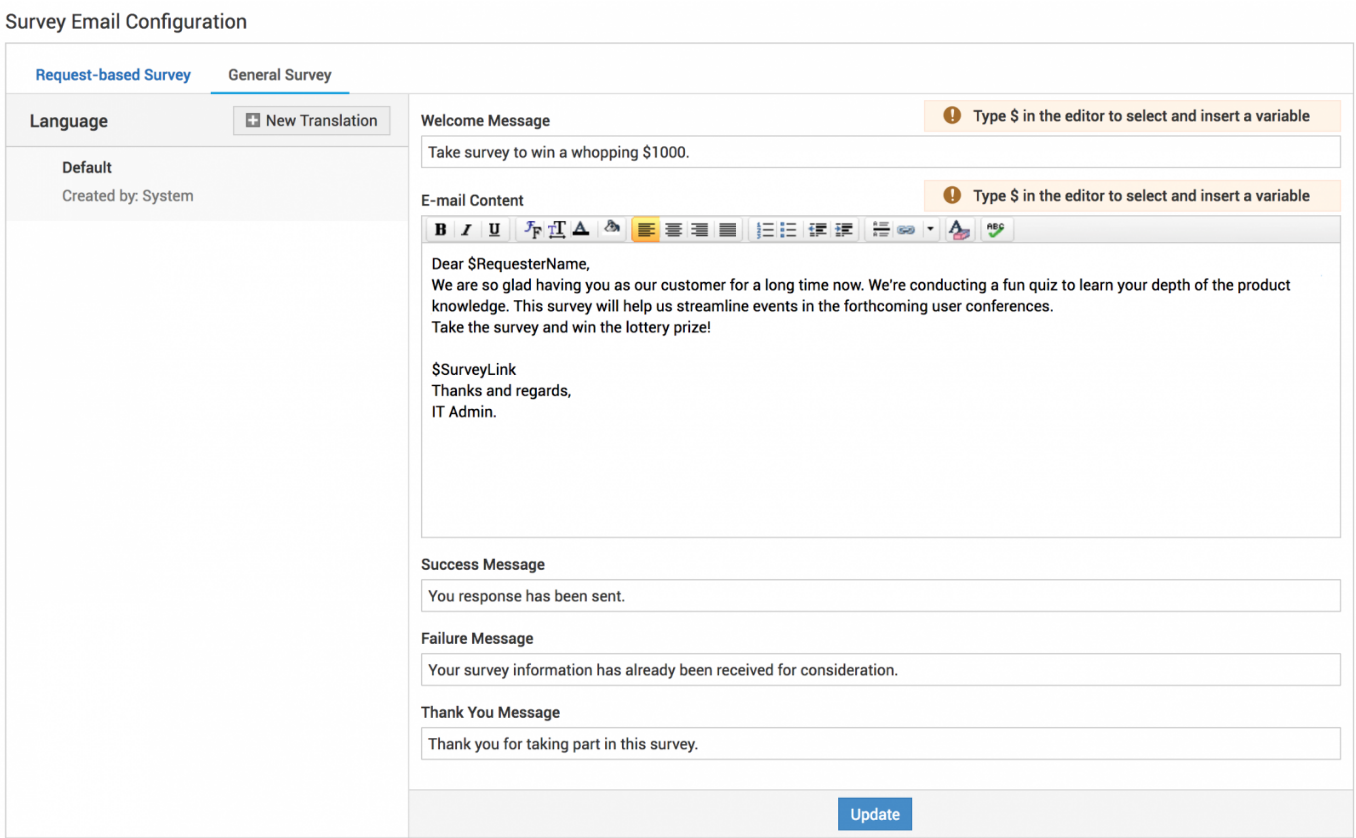
Confirms the survey submission to the user.

Failure Message

This message will be displayed when a user attempts a survey twice or a suspended survey.

Thanks Message

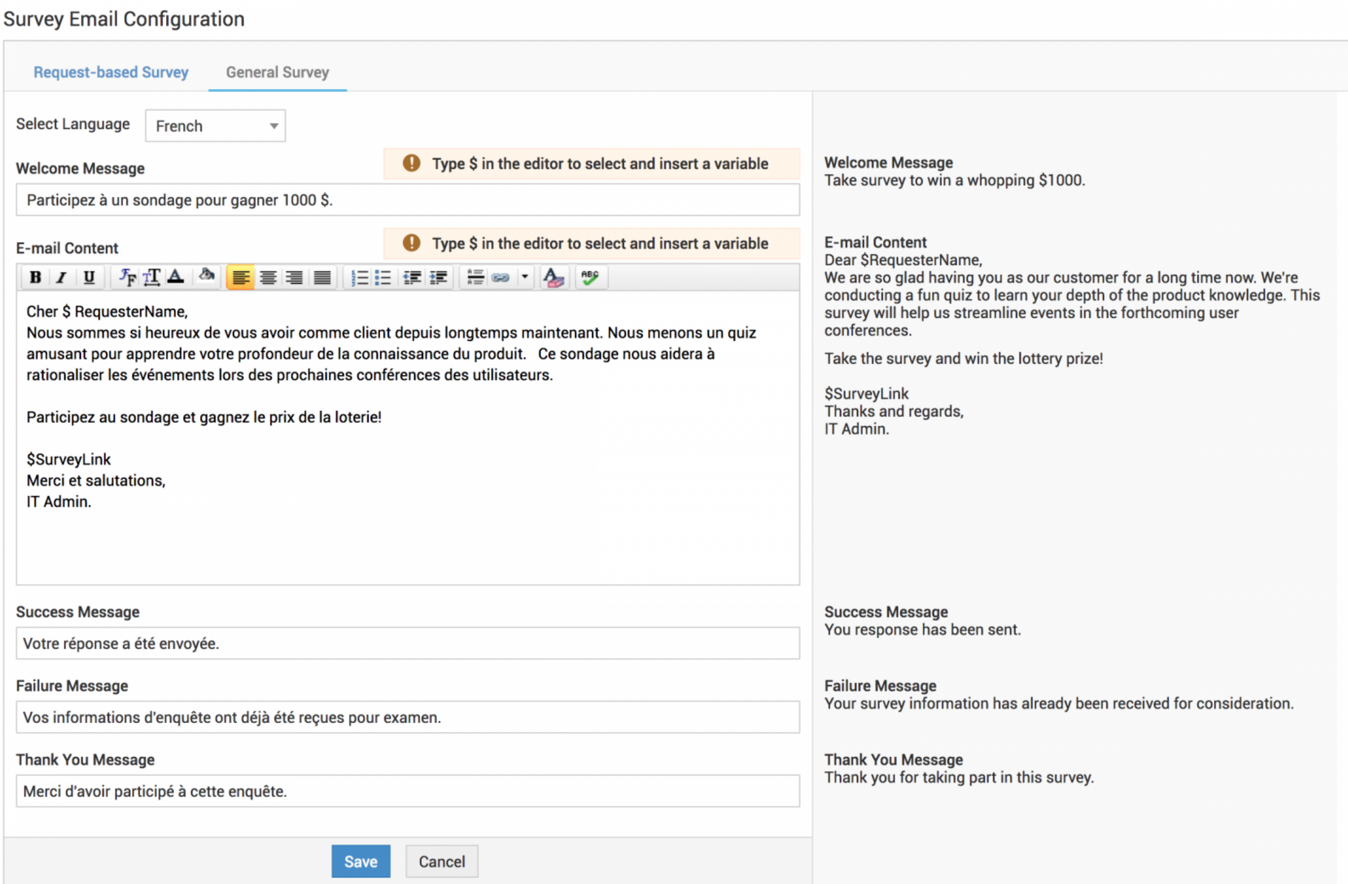
This message is displayed when the user successfully completes the survey.



Translation

You can write the email message in different languages for your users.

- Select a survey type and click New Translation
- Select a language from the drop-down and type the email.
- Click **Save**. The added language will be listed in the email configuration home page.
- Use **Settings** icon to disable or delete them.


Survey Email Configuration
Request-based Survey
General Survey
Select Language
French
Welcome Message
Type $ in the editor to select and insert a variable
Participez à un sondage pour gagner 1000 $.
E-mail Content
Type $ in the editor to select and insert a variable
Cher $ RequesterName,
Nous sommes si heureux de vous avoir comme client depuis longtemps maintenant. Nous menons un quiz amusant pour apprendre votre profondeur de la connaissance du produit. Ce sondage nous aidera à rationaliser les événements lors des prochaines conférences des utilisateurs.
Participez au sondage et gagnez le prix de la loterie!
$SurveyLink
Merci et salutations,
IT Admin.
Success Message
Votre réponse a été envoyée.
Failure Message
Vos informations d'enquête ont déjà été reçues pour examen.
Thank You Message
Merci d'avoir participé à cette enquête.
Save
Cancel
Welcome Message
Take survey to win a whopping $1000.
E-mail Content
Dear $RequesterName,
We are so glad having you as our customer for a long time now. We're conducting a fun quiz to learn your depth of the product knowledge. This survey will help us streamline events in the forthcoming user conferences.
Take the survey and win the lottery prize!
$SurveyLink
Thanks and regards,
IT Admin.
Success Message
You response has been sent.
Failure Message
Your survey information has already been received for consideration.
Thank You Message
Thank you for taking part in this survey.

Initiating a Survey

Go to Admin >> User Survey >> Survey Configuration.

- Click **Initiate Survey.**

or

- Select a survey and click **Publish Survey** on the form header.

Sometimes, you might want to trigger a survey for a request under uncertain conditions. To do that:

- Select a request and choose **Send Survey for this request from Actions drop-down.**

The first survey in request-based surveys list that matches the request criteria will be sent to the requester.

Editing a Published Survey

- You can modify all fields, but you cannot add or remove questions.
- After editing, click **Save & Publish Survey**.

Suspending a Published Survey

- On the survey home page, click Settings>>Stop Survey.

or

- Select a survey and then click **Stop Survey** in the details page.

You can resume stopped surveys by initiating them again.

Deleting a Survey

You can delete unpublished surveys and published surveys with zero responses. As for the published surveys with responses, you can only mark them inactive.

- Click **Delete Survey** from **Settings** drop-down beside a survey in the survey home page.

or

- Select a survey and click **Delete Survey** on the form header.

Inactivating a Survey

You can inactivate published surveys to terminate them and simultaneously save their user responses.

- Click **Settings** icon and **select Mark as Inactive**.

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Viewing Survey Reports

You can view report for:
Multiple Surveys
Individual Survey
Individual Request Survey

To View Aggregate Results of Surveys

Go to Admin >> User Survey >> Survey Reports.
Select from the following filters and click **Apply Filter**.

- Survey's publishing period
- Survey type
- Survey name
- Support group
- Technician

Satisfaction level and response summary of the selected survey(s) will be represented in pie graphs.
User-based reports for the filtered surveys will be displayed as well.

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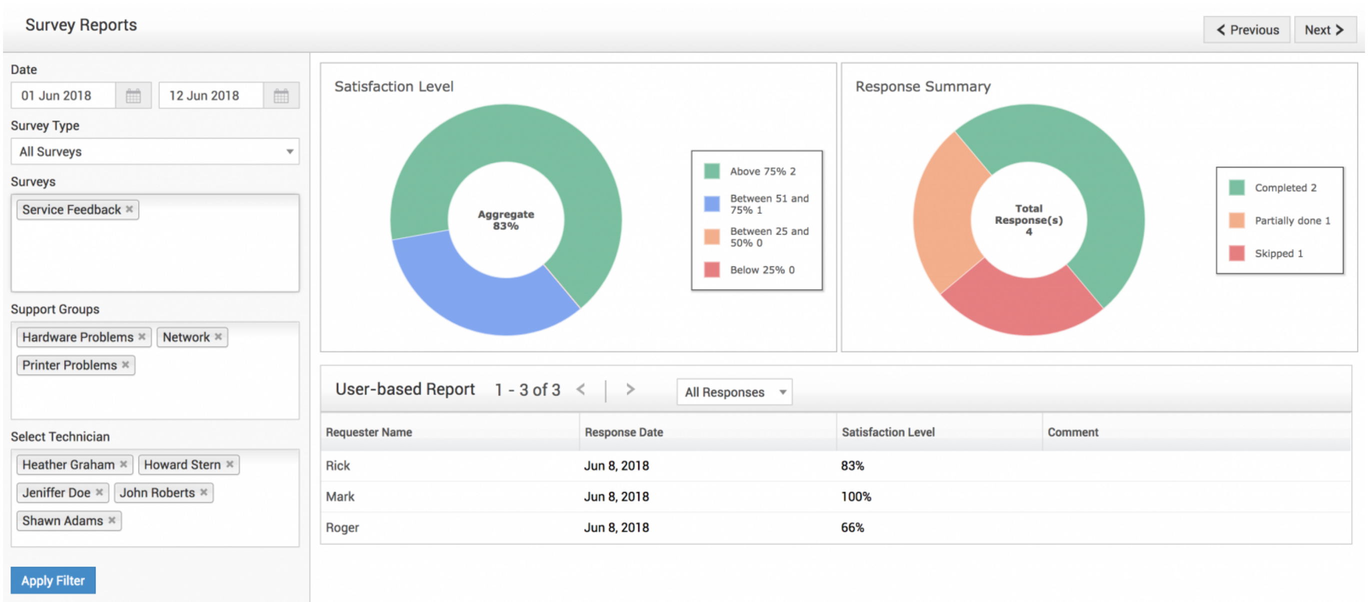
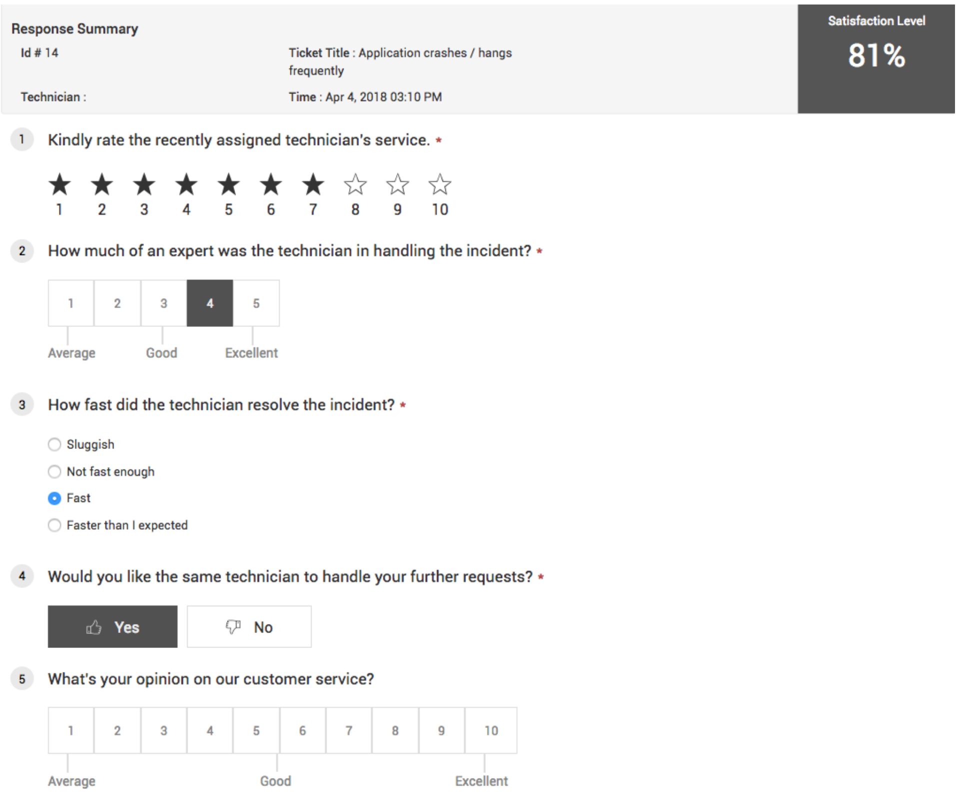


Satisfaction Level

Average scores of individual surveys are plotted against a pie graph.

Sample Survey:



Satisfaction Level score calculation for the sample survey:

Question	Score calculation

1	(7/10)*100 = 70%
2	(4/5)*100 = 80%
3	(3/4)*100 = 75%
4	100% (No/False = 10%)
5	0 (Question is unanswered, so it is not accounted for the average score)
	Average score = (70+80+75+100)/4 = 81.25%

Response Summary

Following are the values represented in the response summary pie graph.

Completed - Users have answered all questions in the survey.

Partially done - Users haven't answered one or more optional questions.

Skipped - Users have ignored the survey or they have answered zero questions and submitted.

User-based Report

This allows you to view individual surveys submitted by requesters. You can filter them by satisfaction level score and response level as well.

Click a requester name to view the requester's survey.

To View a Specific Survey Report

- Go to Admin >> User Survey >> Survey Settings.
- Select a survey and click **Reports**.

To View the Survey Report for a Request

- Go to Admin >> Requests.
- Select a request and click **View Survey Result under Actions.**

General Settings

General Settings configurations are,

- Self Service Portal

  Select fields to be displayed in the self-service portal of the end-user login.

- Backup Scheduling

  Schedule a backup of all your files and attachments at regular intervals.

- Data Archiving

  Boost the performance of your help desk by archiving closed/resolved requests.

- Integrating ServiceDesk Plus with Other ME products

  Automate desktop management activities like installing software, patches and service packs in your Windows environment from a single point.

- Translations

Personalize ServiceDesk Plus by modifying any text displayed in the web interface to suit your organization needs.

Custom Schedules

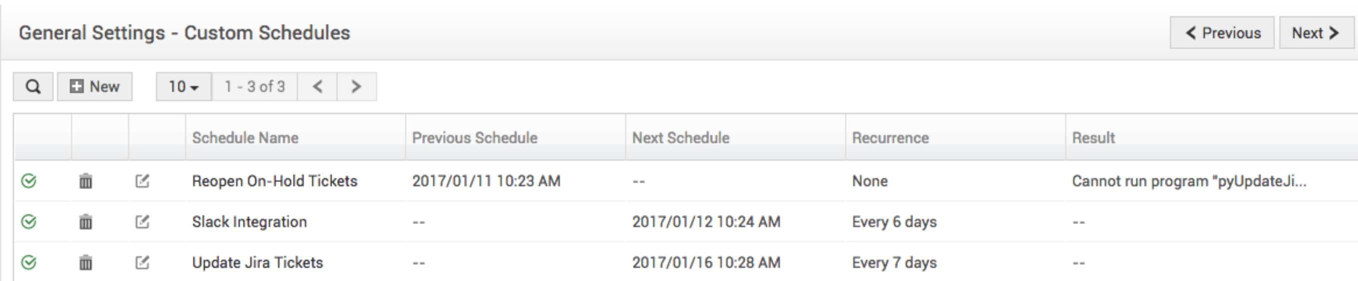
The Custom Schedules feature enables you to access any data in ServiceDesk Plus to perform customized actions periodically. You can even synchronize ServiceDesk Plus data with other third-party applications to perform various actions, such as send mailer campaigns to requesters at regular intervals.

Scheduling a custom action

Custom Schedules performs actions specified in a customized script file automatically at specified intervals. Each custom schedule can associate Query Reports as arguments to the script file. This enables access to the required data in ServiceDesk Plus through queries.
Each time the schedule executes an action, the associated Query Reports are generated. The results of each report are saved in an individual JSON file in the [SDP_Home]/integration/custom_schedule_reports/ directory. The file paths of the reports are sent to the script file as arguments, which the script can use to open the file and access the data.

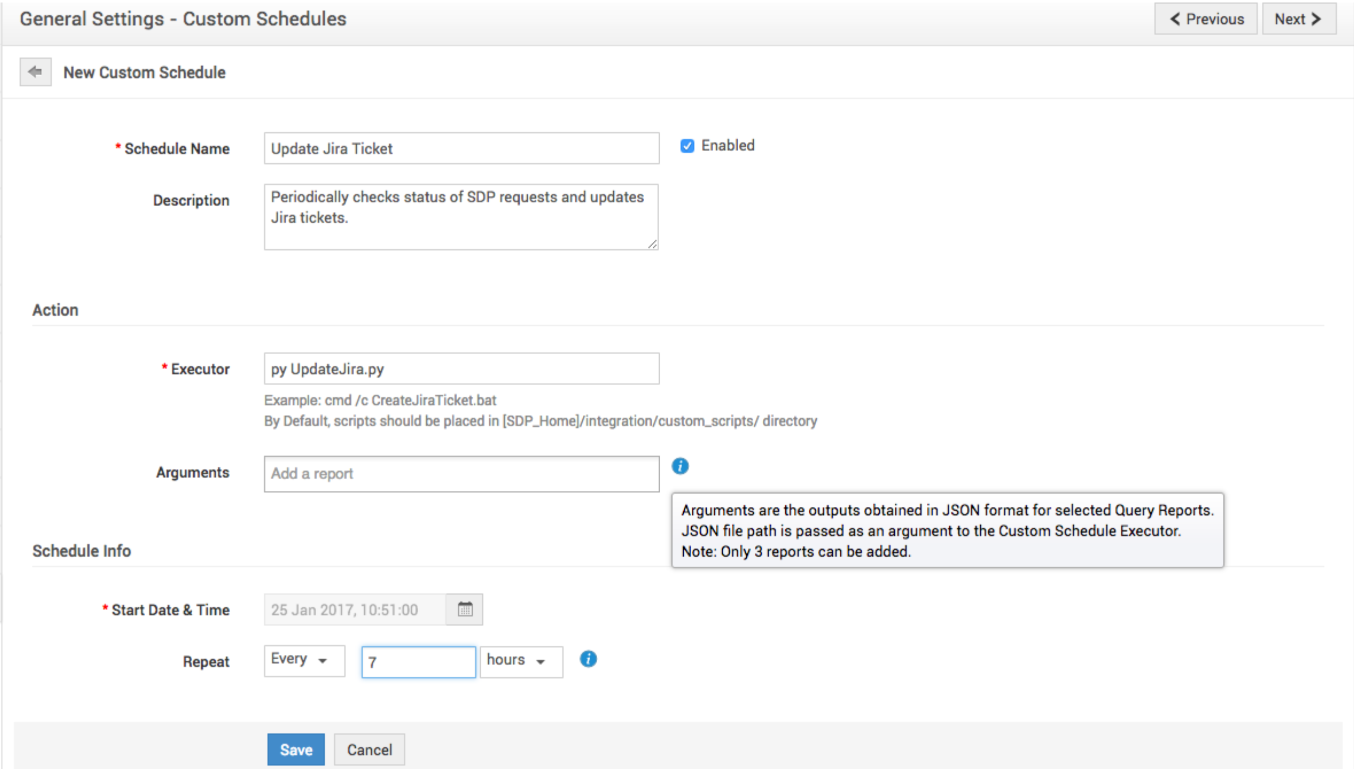
Configuring Custom Schedules

Custom Schedules are available under the **Admin** tab in the **General Settings** area. When you click **Custom Schedules**, its configuration page will be displayed as follows:



On the configuration page, you can set up a new schedule, modify an existing schedule, remove a schedule, and activate or deactivate a schedule. The latest output for each of the actions can be seen in the **Result** column.

To set up a schedule, click the **New** button and fill out the fields as shown in the following screenshot:



Input Arguments

Up to three query reports can be associated as arguments to a custom schedule**.** When the schedule runs, the associated query reports are generated and the results of each report are saved in an individual JSON file in the [SDP_Home]/integration/custom_schedule_reports/ directory. The result JSON is an array of JSON objects, one JSON object for each row. Each JSON object has column names as the keys and corresponding data as the values.

For example, let's take the **SLA Violated Requests by High Priority** report. If you assume the query gives the following result:

RequestID	Subject	Technician
47	Unable to fetch mails	Heather Graham
12	Cannot connect to MSSQL server	Shawn Adams

The result JSON will have the following format:

```
[

  {

    "Request ID":"47",

    "Subject":"Unable to fetch mails",

    "Technician":"Heather Graham"

  },
```

{

"Request ID":"128",

"Title":"Cannot connect to MSSQL server",

"Technician":"Shawn Adams"

}

]

Use cases for Custom Schedules

You can use Custom Schedules to periodically:

1. Reopen "Onhold" requests in bulk after a specific time interval or when a specific criterion is met.
2. Send custom email or SMS notifications for requests that match specific criteria.
3. Schedule mailer campaigns with requesters list as input arguments.
4. Check and update asset data from other asset management tools.
5. Send notifications when certain changes occur to assets.
6. Send Slack notifications for Tasks.
7. Integrate with other knowledge base tools.

Related Documents

FAQ | Request Custom Menu | Custom Triggers | Change Custom Triggers

Support

If you have any questions about Custom Schedules, please post it in our community forum.

Did you create something amazing with Custom Schedules? Post your success story on our resources forum.

Custom Schedules: Frequently asked questions

1. Does the result JSON file for the Query Reports always gets created? I can't find it in the [SDP_Home]/integration/custom_schedule_reports/ folder

Yes, separate files will be created for each of the Query Report passed as an argument to the script. However, after the script is executed, the file is deleted.

2. According to instructions, the result JSON file should be in the in the [SDP_Home]/integration/custom_schedule_reports/ folder. But that folder never gets made in that location.

The problem could be a privilege issue. Please ensure to provide sufficient permissions to create a file in the mentioned location.

3. Where can I find the history of custom schedules executions?

Whenever the schedule executes an action, the results of the associated reports and the script are logged in the System Log Viewer.

4. What happens if I delete a custom schedule in the middle of its execution?

The schedule will execute the script file to its completion even if the schedule is deleted in the middle of its execution.

5. How can I access the data in result json file?

The file paths of the Query Reports are sent in order of their association. The script file should open the file and access the data in it. Check the sample python script to learn about accessing the result JSON.

6. What does the Result column display?

The Result column displays the output given by the script.

7. What structure should the output of a script have?

The output returned by the script is used to display in the Result column or must be logged in the System Log Viewer. The script can return any output or not return anything at all.

8. The message in the Result column says, "Cannot run program 'py'". What does it mean?

It means Python is not installed in the server.

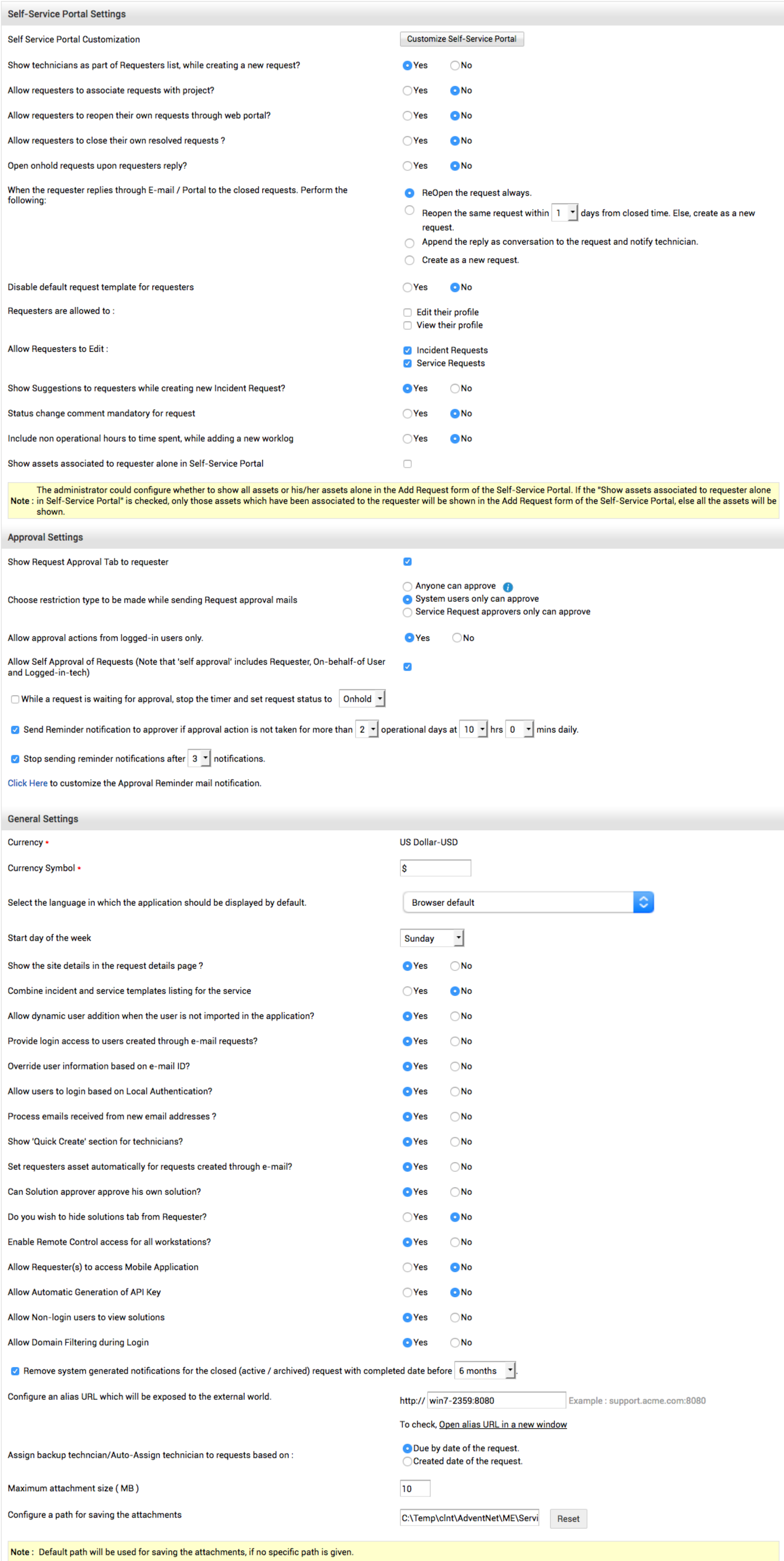
- Install Python in the ServiceDesk Plus server.
- Make sure the path for Python is set in the Environment Variables of your server.

Configuring Self Service Portal Settings

Self-Service Portal Settings allows you to select fields to display in the Self-Service Portal. The Self Service Portal Settings also includes options to select the display language, customize the start day of the week in your calendar, enable Remote Control access for all workstations, customize the login and header images and much more.

To access the Self-Service Portal Settings Configuration Wizard:

1. Login to ServiceDesk Plus using the user name and password of an admin user.
2. Click the Admin tab in the header pane.
3. Click Self Service PortalSettings under the General**Settings** block.



Self-Service Portal Settings

Self Service Portal Customization	Customize Self-Service Portal
Show technicians as part of Requesters list, while creating a new request?	Yes No
Allow requesters to associate requests with project?	Yes No
Allow requesters to reopen their own requests through web portal?	Yes No
Allow requesters to close their own resolved requests ?	Yes No
Open onhold requests upon requesters reply?	Yes No
When the requester replies through E-mail / Portal to the closed requests. Perform the following:	ReOpen the request always. Reopen the same request within 1 days from closed time. Else, create as a new request. Append the reply as conversation to the request and notify technician. Create as a new request.
Disable default request template for requesters	Yes No
Requesters are allowed to :	Edit their profile View their profile
Allow Requesters to Edit :	Incident Requests Service Requests
Show Suggestions to requesters while creating new Incident Request?	Yes No
Status change comment mandatory for request	Yes No
Include non operational hours to time spent, while adding a new worklog	Yes No
Show assets associated to requester alone in Self-Service Portal	

Note : The administrator could configure whether to show all assets or his/her assets alone in the Add Request form of the Self-Service Portal. If the "Show assets associated to requester alone in Self-Service Portal" is checked, only those assets which have been associated to the requester will be shown in the Add Request form of the Self-Service Portal, else all the assets will be shown.

Approval Settings

Show Request Approval Tab to requester	
Choose restriction type to be made while sending Request approval mails	Anyone can approve System users only can approve Service Request approvers only can approve
Allow approval actions from logged-in users only.	Yes No
Allow Self Approval of Requests (Note that 'self approval' includes Requester, On-behalf-of User and Logged-in-tech)	

While a request is waiting for approval, stop the timer and set request status to Onhold

Send Reminder notification to approver if approval action is not taken for more than 2 operational days at 10 hrs 0 mins daily.

Stop sending reminder notifications after 3 notifications.

Click Here to customize the Approval Reminder mail notification.

General Settings

Currency *	US Dollar-USD
Currency Symbol *	$
Select the language in which the application should be displayed by default.	Browser default
Start day of the week	Sunday
Show the site details in the request details page ?	Yes No
Combine incident and service templates listing for the service	Yes No
Allow dynamic user addition when the user is not imported in the application?	Yes No
Provide login access to users created through e-mail requests?	Yes No
Override user information based on e-mail ID?	Yes No
Allow users to login based on Local Authentication?	Yes No
Process emails received from new email addresses ?	Yes No
Show 'Quick Create' section for technicians?	Yes No
Set requesters asset automatically for requests created through e-mail?	Yes No
Can Solution approver approve his own solution?	Yes No
Do you wish to hide solutions tab from Requester?	Yes No
Enable Remote Control access for all workstations?	Yes No
Allow Requester(s) to access Mobile Application	Yes No
Allow Automatic Generation of API Key	Yes No
Allow Non-login users to view solutions	Yes No
Allow Domain Filtering during Login	Yes No

Remove system generated notifications for the closed (active / archived) request with completed date before 6 months.

Configure an alias URL which will be exposed to the external world.	http:// win7-2359:8080 Example : support.acme.com:8080 To check, Open alias URL in a new window
Assign backup techncian/Auto-Assign technician to requests based on :	Due by date of the request. Created date of the request.
Maximum attachment size (MB)	10
Configure a path for saving the attachments	C:\Temp\clnt\AdventNet\ME\Servi Reset

Note : Default path will be used for saving the attachments, if no specific path is given.

Default Currency

Specify the default currency in the given text field. This unit will be used in all the places where cost calculation is done. The default currency specified is $.

Display Language

ServiceDesk Plus supports different languages as part of the application. You can choose default language of your choice to be displayed in the application. To select the language of your choice,
Click Browser default combo box. Select the language of your choice from the list.

Calendar Customization

You can customize the calendar view by selecting the start day of the week from the drop-down. The selected day will be considered as the starting day of the week in all the calendar views.

My Reminder(s)

If you wish to show all your tasks as reminders to the requesters then select 'Yes' radio button else select 'No' option. The reminders will be shown in the home page.

Requester List

1. While entering the requester name in the new request form, the list of all available requesters will be automatically listed. If you wish to list the technicians name along with the requesters name then select **Yes** radio button.
2. You can allow requesters to **Reopen** their closed or resolved requests from the Self-Service Portal. Click **Yes** radio button to enable this option. When the status of the request is moved to Closed or Resolved, a **Reopen** tab is displayed in the request details page.
3. You can also allow requesters to **Close** their requests from the Self-Service Portal. Click **Yes** radio button to enable this option. When the status of the request is moved to Resolved, a **Close** tab is displayed in the request details page.

Request Feature List

Includes options to change the status of requests to Open when requesters reply to On Hold requests, actions to perform when requesters reply to closed requests, stop timer for requests awaiting approval and option to show site details in the request details page.

1. If you wish to change the request status to Open when a requester replies to an On Hold request, click 'Yes' radio button.
2. Select the following options when a requester replies to a Closed request:

- The request is reopened always.
- If the requester replies within the specified number of days from the closed time, the request is reopened. Else, the reply is created as a new request.
- The reply is appended as a conversation and notified to the technician. The status of the request remains unchanged.
- The reply is created as a new request.

3. In most cases, when a request is sent for approval to the concerned authority, the help desk team may not be held responsible for the delay in approval process. In order to minimize the SLA violations by the helpdesk

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team, you can stop the timer for requests with status as �pending approval�. Select the check box to avail this option. You can also select the request status from the drop-down box.

Note	1. The Status with Type as In Progress and with Stop Timer enabled is listed in the drop-down box. 2. The Stop Timer is automatically disabled once the decision of the concerned authority is recorded. 3. The Stop Timer is applicable for incident as well as service requests. 4. In case of incident requests, first the Business Rules is applied and the status set by the Business Rule is overridden with the status set for Stop Timer. 5. When Stop Timer is enabled, the option to open the on hold requests on requesters reply will not be applied.

4. When a request is submitted for approval, the requesters would be interested to know the progress and status of their requests. For such cases, you can show the approval details to the requesters. The **Approvals tab** would show information such as the approver's e-mail address, the date when the request was submitted for approval, the status of the request (whether the request is approved, pending approval or denied), the date when the concerned authority recorded their decision and the comments provided by them. The **Approvals Tab** is shown to the requester who has initiated the request and to the requester who can approve requests. Select **Show Approval Tab to requester** check box to avail this option.
5. If you wish to view the **Site details** such as, site name, address and contact information from the request details page, click 'Yes' radio button. A View Site details icon appears beside the site parameter in the request details page to view the site details. To remove the View Site details icon from the request details page, click 'No' radio button.
6. You can **Combine the Incident and Service Templates** configured in the application. Click **Yes** radio button to enable this option. The Incident and Service Templates will be grouped according to specific categories and listed under New Request drop-down menu.
7. By default, the default request template is shown to the requester. If you do not want the requester to view the default request template, then click **Yes** radio button for **Disable default request template for requesters** option.
8. When a new incident request is created by the requester, automatic suggestion of solutions and announcements related to the particular request can be done.
   To auto-suggest the solutions, select **Yes** radio button for **Show suggestions to requesters while creating new incident request** in the Admin>>General>>Self-Service Portal Settings.
   By default,when a requester creates a new request, solutions are auto-suggested based on the keywords entered in category, sub- category ,Item and Subject. When **add request** option is clicked, the words entered in **description** field will also be taken into account for auto-suggesting the solutions and announcements. The administrator can configure the fields to be considered for auto-suggesting the solutions and announcements by entering the following query :
   To disable considering category, sub-category and Item fields for auto-suggest:
   [update globalconfig set paramvalue='false' where category='ShowSuggestionsToRequesters' and parameter='CSI_include']
   To disable considering description fields for auto-suggest:
   [update globalconfig set paramvalue='false' where category='ShowSuggestionsToRequesters' and parameter='Description_include']

Dynamic User Addition

By default, when a user is not imported into the application but imported through Active Directory, then the user can login to the application using the AD credentials. This will automatically provide login access to the application. If you do not wish to provide dynamic user addition when the user is not imported into the application then enable the 'No' radio button.

User Login Addition

By default, if a mail fetched by the ServiceDesk Plus application has a requester name and email ID that is not available in the requester or technician list already, then the name is automatically added in the requester list and the login name and password is created. The first part of the e-mail ID is set as the name and the entire e-mail ID is set as login name and password. The requester can log in to the self-service portal and change his/her password. If you do not wish to provide login access to users created through email requests then enable the 'No' radio button.

Override User based on Email ID

While importing users using Active Directory, CSV and LDAP, the existing user information is overwritten based on two criteria - The first criteria is based on the username and Domain, and the second criteria is based on email id. If you do not wish to override user information based on email id then enable 'No' radio button else enable 'Yes'.

Enable Local Authentication Login

On enabling Active Directory, if you wish to allow users to login to the application using the password configured in ServiceDesk Plus then enable 'Yes'. The user should select Local Authentication from the Log on to drop down list in the Login screen. If you wish to allow users to login to the application using the system password then enable 'No' option.

Email from New User

Using this option, you can prevent mails, from a new email address to be fetched into the application. To block mails from the email address that is unavailable in ServiceDesk Plus database, click 'No' radio button. The mails are discarded and will not be logged in as a new request or appended as a conversation in the application. To process mails from a new email address, click 'Yes' radio button.

Quick Create Settings

If you wish to show the quick create section to the technicians in the home page, then enable the 'Yes' radio button else select the 'No' button.

Auto Assign Asset

In ServiceDesk Plus, you can assign multiple workstations to a requester. So while creating a request through email, by default, the first workstation is displayed. If you do not wish to display the workstation information in the request details page, then enable 'No' radio button else enable 'Yes'.

Requester Details

You can allow requesters to view their profile in Self Service Portal by enabling **View their profile** check box. A **My Details** tab appears in the header pane where the requester can view his/her details.
You can also allow your requesters to edit their profile and maintain it up-to-date in Self Service Portal. Select **Edit their profile** check box. By selecting this check box, View their profile option is automatically enabled but its greyed.
By default, all the workstations configured by the administrator will be listed in the new request form of the self service portal. If you want the requester to view only the workstations associated to them, then enable the check box 'Show workstation associated to requester in Self-Service Portal'.

Solutions Settings

- By default, the solution approvers can approve their own solutions rather than submitting it for approval. If you do not want the solution approvers to approve their own solution, enable 'No' radio button.
- You can allow the Requesters to view the **Solutions** tab by choosing **"No"** for the option "**Do you wish to hide solutions tab from Requester?**". Else if you wish to hide the Solutions tab from the Requesters, choose **"Yes"**.

Approval Restriction

- Choose restriction type to be made while sending Request approval mails: The Administrator can choose the type of users or approvers who can approve the Approval Request. The Admin can choose from 'Anyone can Approve', 'System users only can approve' and 'Service Request approvers only can approve'.

- Allow Self Approval of Requests (Note that 'self approval' includes Requester, On-behalf-of User and Logged-in-tech). Selecting this checkbox will allow the Requester to approve his own Request. Requester here includes both On-behalf-of user and the Logged-in Technician.

- Enabling the option, 'Allow approval actions from logged-in users only' assures that only the intended users take approval actions.

Note: You can activate either '**Anyone can approve**' option or '**Allow approval actions from logged-in users only**' option at one time, because each of these has got different purpose.

Remote Control Access

If you want to enable Remote Control Access to all the workstations then select 'Yes' radio button else select 'No' button.

Alias URL

To provide an alternate URL
1. In the text field provided beside the http:// text, enter the URL (along with the port number if needed).
2. Click **Open alias URL in a new window** link just below the text field, to test if the alias URL works.

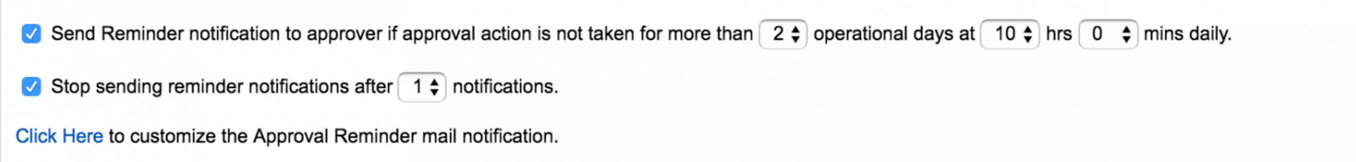
Customize ServiceDesk

You can customize the application by choosing to display your custom logo. You need to add the logo in two dimensions, one for the login page and the other for the header image that you see on the top left corner of the pages once you login. The login page image should be of the dimensions 252 px x 61 px (W x H), while the header

image needs to be 166 px x 46 px.
To import the login page image:
1. Click **Import image...** button.
2. Click **Browse** button to select the image.
3. In the file chooser window, select the file that you wish to import and click **Open**.
4. Click **Import**.
The image that you just imported will be replaced instead of the login page image. Follow the same process for header image also.

Approval Reminder Notification

You can send approval reminder notifications to the approvers on their pending approvals.



1. Enable **Send Reminder notification to approver...** and select the number of operational days (i.e The days of inaction on a approval request, after which the reminder notification will be sent). You can also set the time to send the notification on a daily basis. Use the hours and minutes field to set the notification time.
2. Select the notification count and enable **Stop sending reminder notification after -.- notifications** to limit the notifications that are sent to the approver. If disabled the notification will be sent daily to the approver untill the approval action is taken.
3. The content for Approval Reminder Notification can also be customized. Tap on **Click here** to customize the content of the mail.

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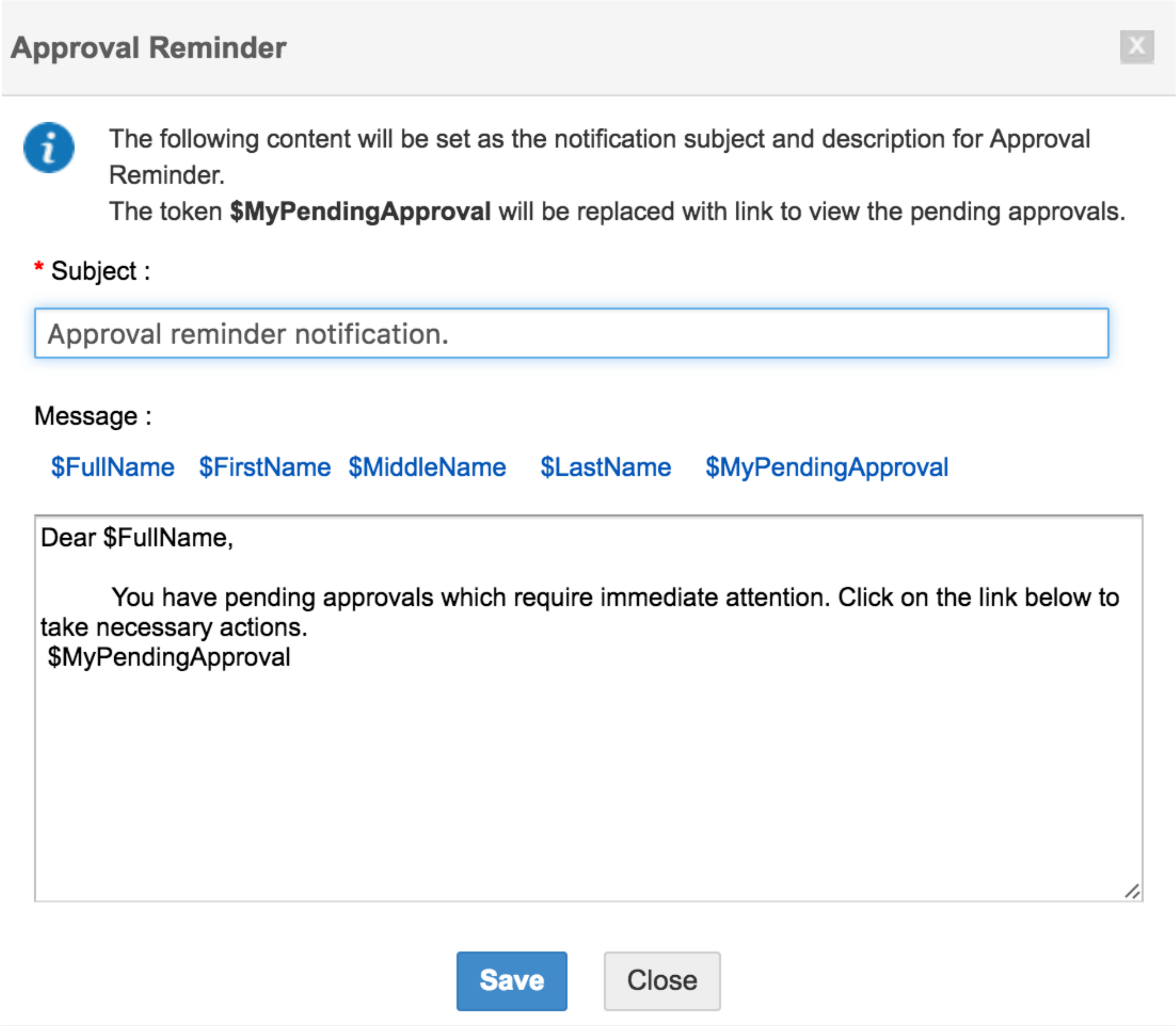


- Enter a Subject.
- You can use the default content or edit and use it. Click on the name tags above the content such as **$FullName**, **$MiddleName** etc to include them. For eg, if you want to add the full name of the approver select **$FullName**.
- Click on **$MyPendingApproval** to include the link to view the pending approval.
- Click **Save**.

Click Save, to save the overall changes made in the settings.

Restricting File Upload

You can restrict users from uploading vulnerable files to the application by blacklisting them based on file properties such as file extension or file content type. Alternatively, you can allow only specific files to be uploaded by whitelisting them. You can perform these operations by passing database queries.

Parameters to support the functionality:

- **BlackList_Or_WhiteList** - Parameter to choose whether to block or allow files of selected criteria to be uploaded to the application
- **FileExtensions** - Parameter that holds comma-separated values of file extensions
- **FileContent Types** - Parameter to holds comma-separated values of file content types

Sample queries to update values for FileExtensions and FileExtensions:

1. UPDATE Attachmentconfig SET paramvalue = 'png,jpeg,gif,bmp' WHERE parameter = 'FileExtensions'
   (Replace png,jpeg,gif,bmp with different extensions per requirements.)
2. UPDATE Attachmentconfig SET paramvalue = 'image/png,image/jpeg,text/plain' WHERE parameter = 'FileContentTypes' In the above sample
   (Replace image/png,image/jpeg,text/plain with different content types per requirements.)

The **BlackList_Or_WhiteList** parameter is set to BLACKLIST by default. You can swtich the option to **Whitelist** by using the following query:
UPDATE Attachmentconfig SET paramvalue = 'WHITELIST' WHERE parameter = 'BlackList_Or_WhiteList'

Restart the application after you update values by passing queries.

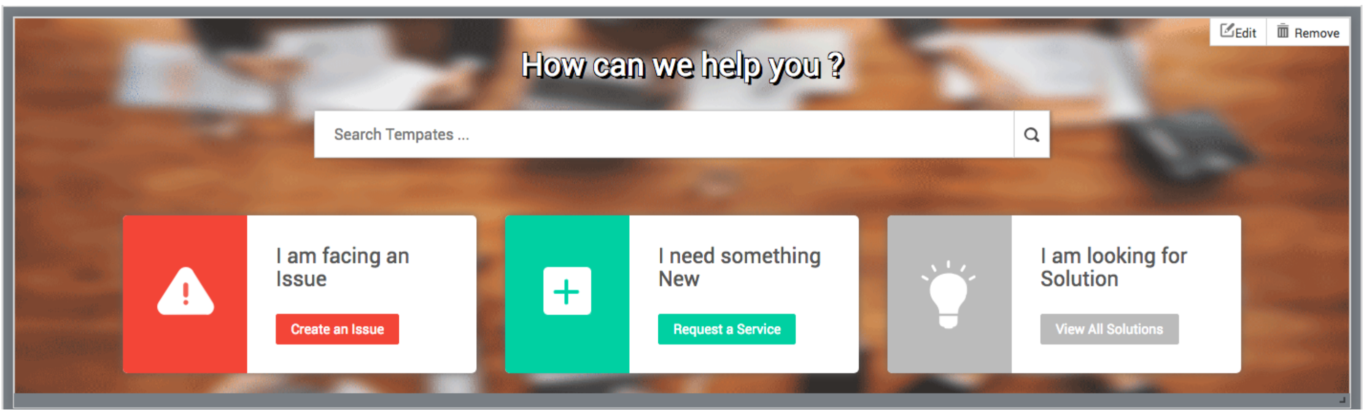
Self Service Portal Customization

The Self-Service Portal can be designed and customized by the administrator to display it in a way that he/she requires the users to view it. This customization option allows the administrator to re-arrange, restore, add, delete, hide and re-size the widgets. The widgets can be positioned anywhere in the screen and can re-sized through easy drag and extend/compress. This option can be accessed by clicking on Admin>>Self-Service Portal Settings >>Customize Self-Service Portal.

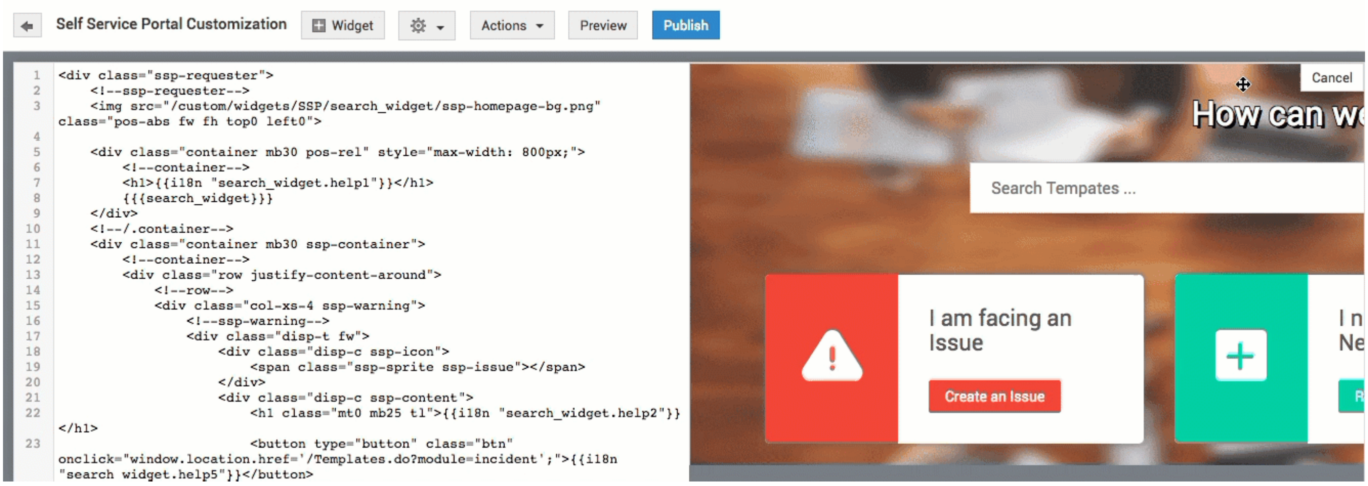
- **Steps to customize Self-Service Portal**
- **Adding Widgets**
- **Setting Properties**
- **Actions on Drafts**
- **Preview the Portal**
- **Publish the customized settings**

Steps to customize Self-Service Portal:
Click 'Customize Self-Service Portal'. The Self Service Portal Customization window will be displayed with five options:

- **Widget**: My Request Summary, Announcements, Popular Solutions, Submit Your Request, My Approvals, Portal Usage Video & Help document are the default widgets.
  - Find service/incident templates easily with the new Search widget. You can also edit the HTML to display any specific option to the requester such as Solutions, Issues, or How-tos.



To allow requesters to search through templates, click Edit in the upper-right corner, locate {{{search_widget}}}, and add {{{search_widget,[incident]}}} or {{{search_widget,[service]}}} to display incident or service templates, respectively.



- **Properties**: Upto four columns can be displayed with desired layout and background color.
- **Actions**: Drafts pertaining to design can be cleared/saved and changes can be discarded.
- **Preview**: Preview displays a wholesome view of the page before saving the desired settings.
- **Publish**: The customization done will be saved and applied and will be visible to all users.

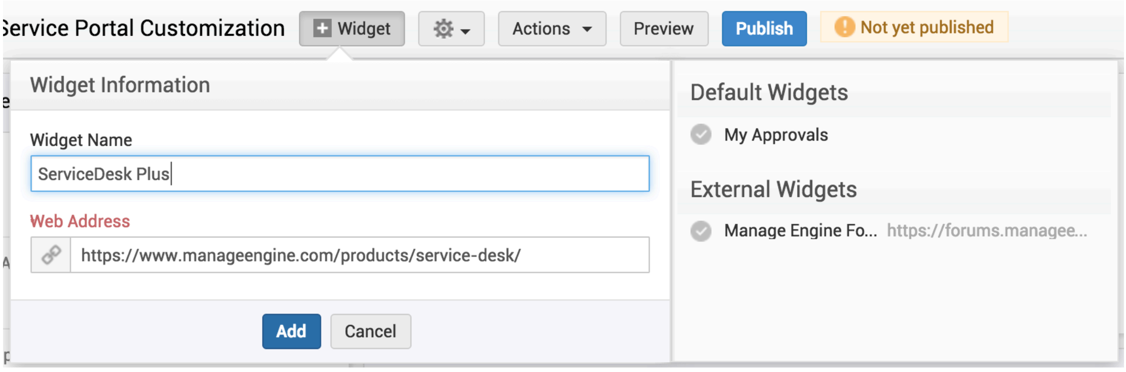
Adding Widgets

- Click 'Widget'.
- Enter the widget name and its corresponding web address in the space provided and click 'Add'.
- The newly added widget(s) will be displayed in the portal and can be re-sized and positioned accordingly.
- If any default/external widget is removed, it will be displayed under removed default/external widgets. All removed default widgets and the last three removed external widgets will be listed. The removed widgets can be added back by just clicking on the widget from the removed widgets list.

Note:

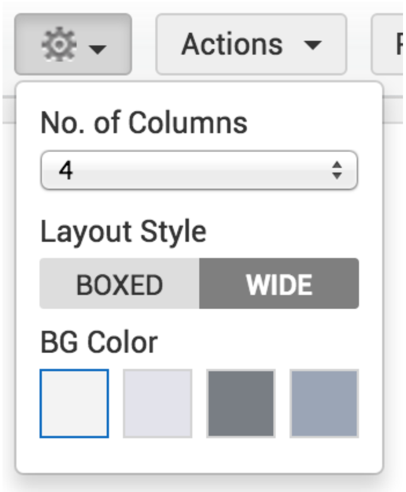
An alert message 'Not yet published' will be displayed until the design is published.

If 'Do you wish to hide solutions tab from Requester?' is set to 'Yes', ‘Popular Solutions’ widget will not be available in self-service portal customization page. If 'Do you wish to hide solutions tab from Requester?' is set to ‘No’ and if the portal is already published or saved without the ‘Popular Solutions’ widget, then the ‘Popular Solutions’ will be available under the removed default widgets list.



Setting Properties

- Click 'Properties'. Choose the required number of columns and the layout style.
- The layout of the Self-Service Portal can be either "boxed" or "wide". Wide layout occupies the whole screen width while the boxed layout will make the Self-Service Portal 1328 pixels wide.
- Choose the background color for the Self-Service Portal. On clicking each color, a preview along with the selected color will be displayed.



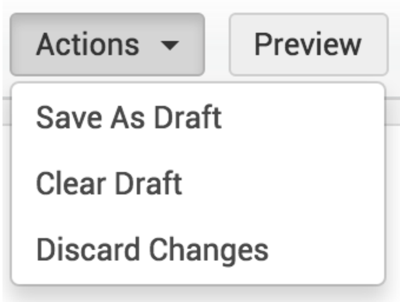
Actions on Drafts

After setting the properties, Click on 'Actions' drop-down.

- **Save As Draft**: The customized design will be saved as draft but will not applied until 'Publish' is chosen.
- **Clear Draft**: The previously saved draft will be deleted and the newly published version of the Self-Service Portal will be displayed.
- **Discard Changes**: The changes applied so far will be deleted and the Self-Service Portal will be restored to its already existing state.

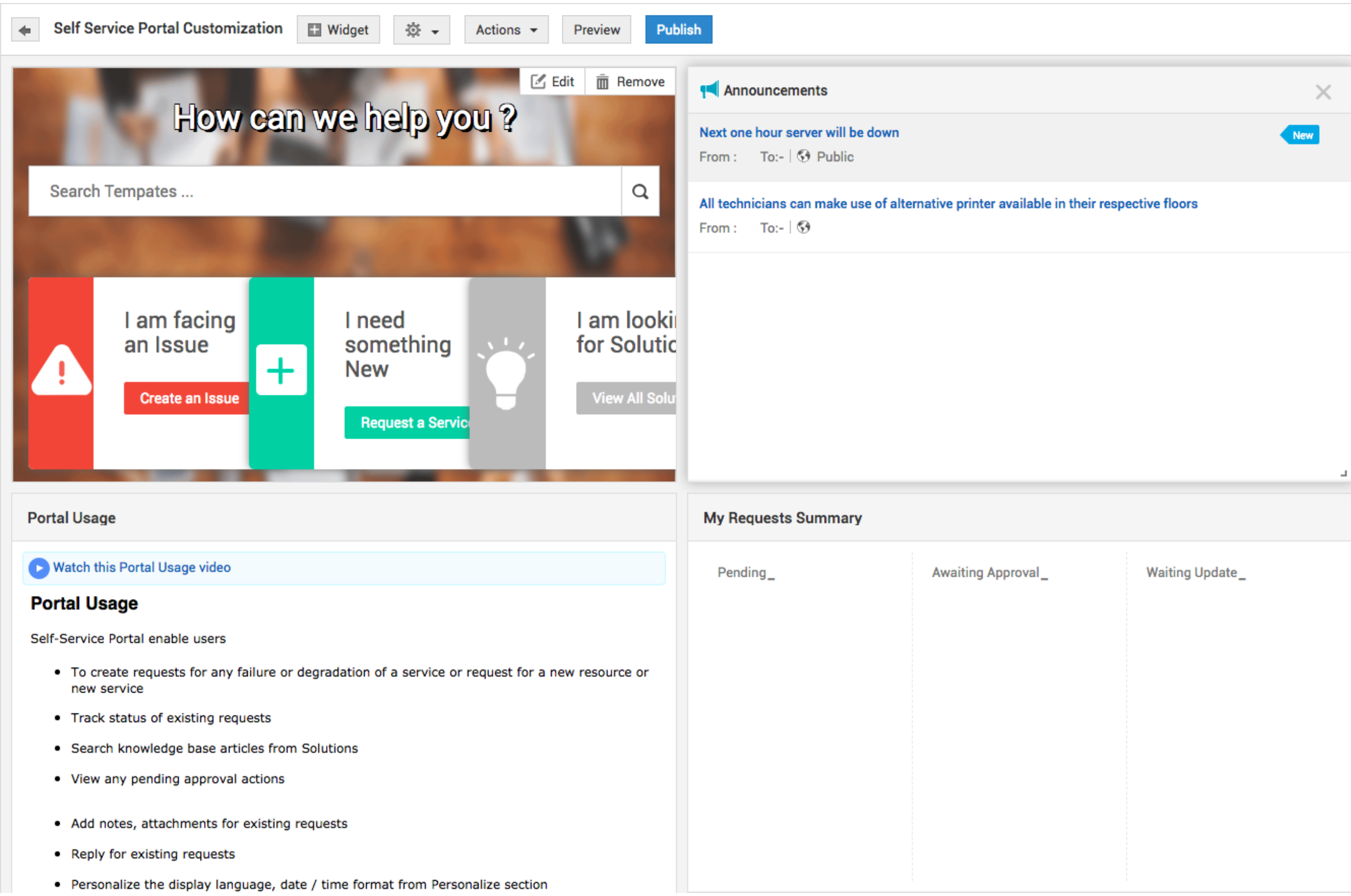
Note:

Administrator can save only a single draft. After publishing the draft, the saved draft will get removed from the 'Drafts'.



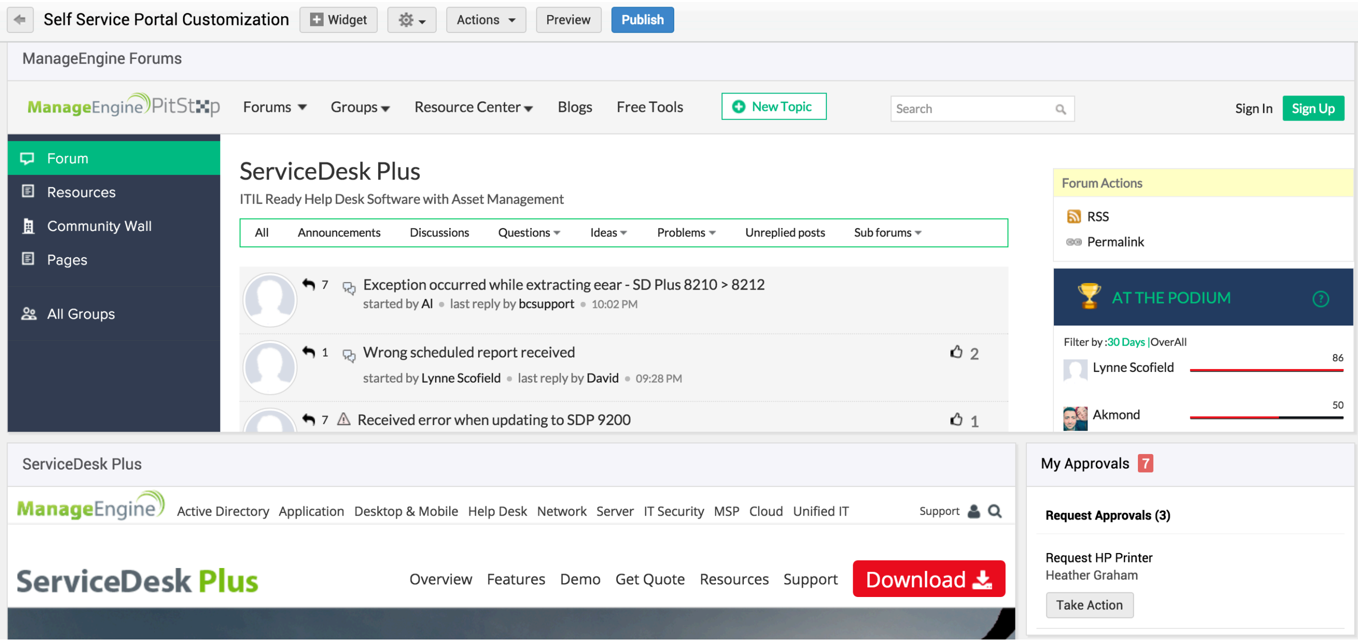
Preview the Portal

- Click 'Preview' to examine the customized Self-Service Portal. The preview of the Portal will be displayed.
- If 'My Approvals' widget is selected, then a version with 'Requester with Approval Permission' and a version without 'My Approvals' will be displayed alternately.
- To stop viewing the preview, click 'Close Preview'.



Publish the customized settings

- Click 'Publish' to save the customized changes and display the customized portal to all the users.



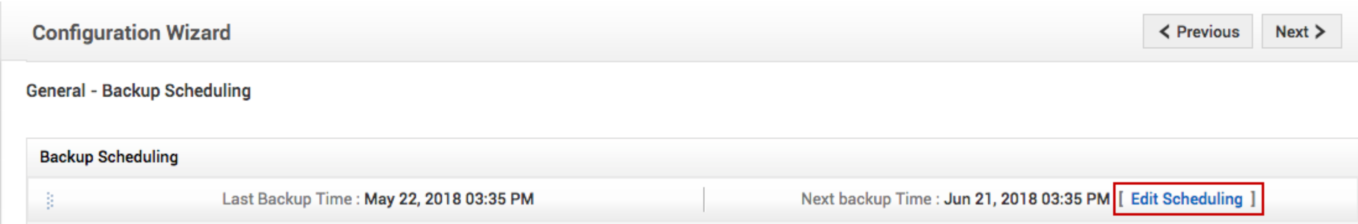
p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px Helvetica; color: #454545}

Backup Scheduling

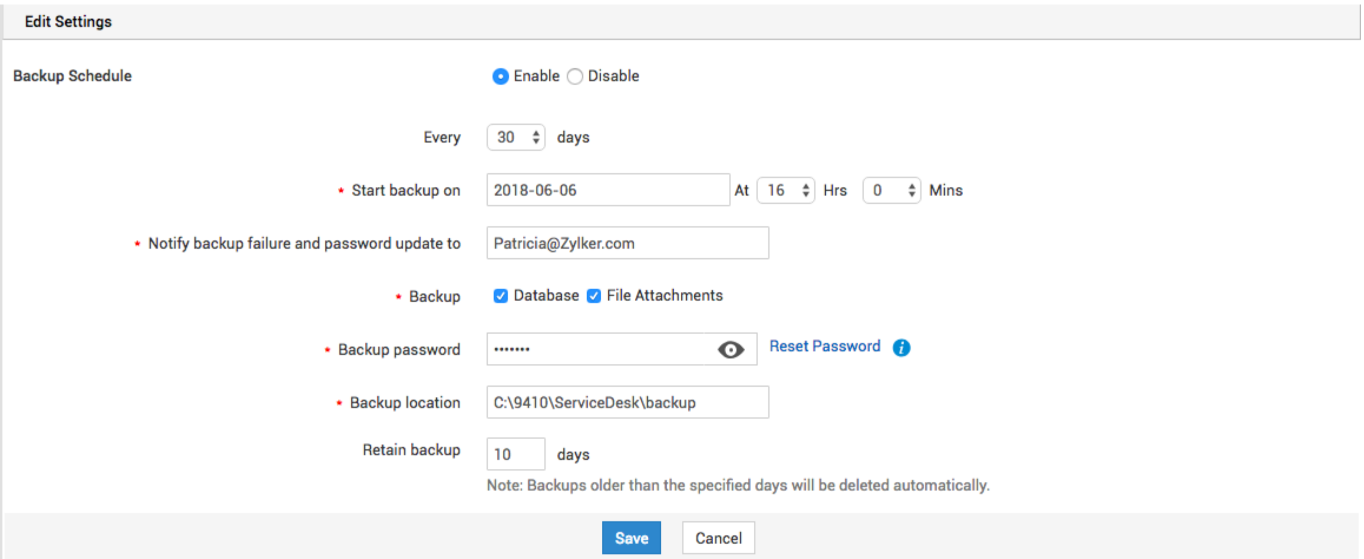
Schedule periodic backups of your application files. All these backup files are password-protected. The SDAdmin will need to configure the password while scheduling the backup. This password will be applied immediately after you upgrade to ServiceDesk Plus 9410.

To schedule a backup go to **Admin>>General>>Backup Scheduling**.

On the displayed page, click **Edit Scheduling**.



Fill out the displayed page, as shown in the following screen shot:

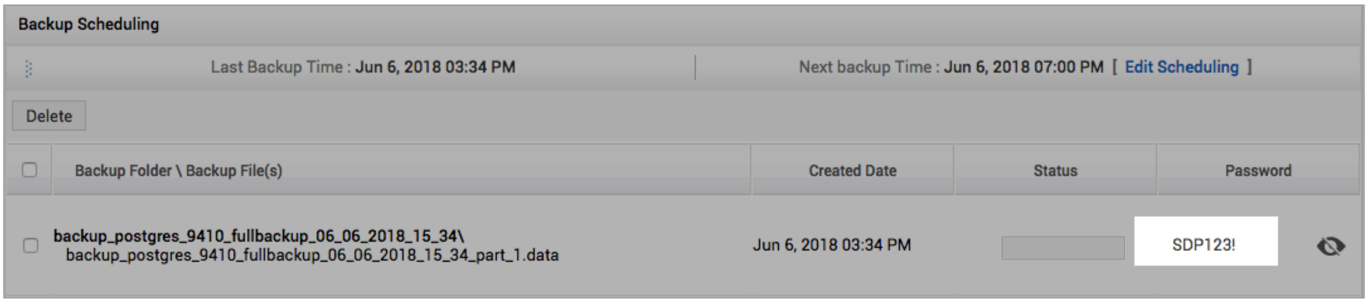


Select **Enable** and choose the frequency, the date, and time of the backup.

Provide the email address of the technician to be notified if the backup fails.

Select the type of files (attachment/database) to be backed up.

Click **Reset Password** if you want to change the password. (You can view the password on the Backup Scheduling home page)



Provide the backup location and the number of days to retain the backup files.

> In case of partial backups, go to the location of the skipped files and disable any anti-virus restrictions. Also check for corrupted files and rerun the backup schedule.

Password Protection of Backup Files

After upgrading the application, you will be required to use a password to access the backup files. The

SDAdmin configures the password while scheduling the backup. The password can be viewed and reset in the Backup Scheduling home page.This password applies to all files backed up manually as well by schedule.
The password is necessary to restore the application by using backup files.
When you configure the password afresh or reset it, a notification email is sent to you and to all users configured to be notified each time a backup fails.

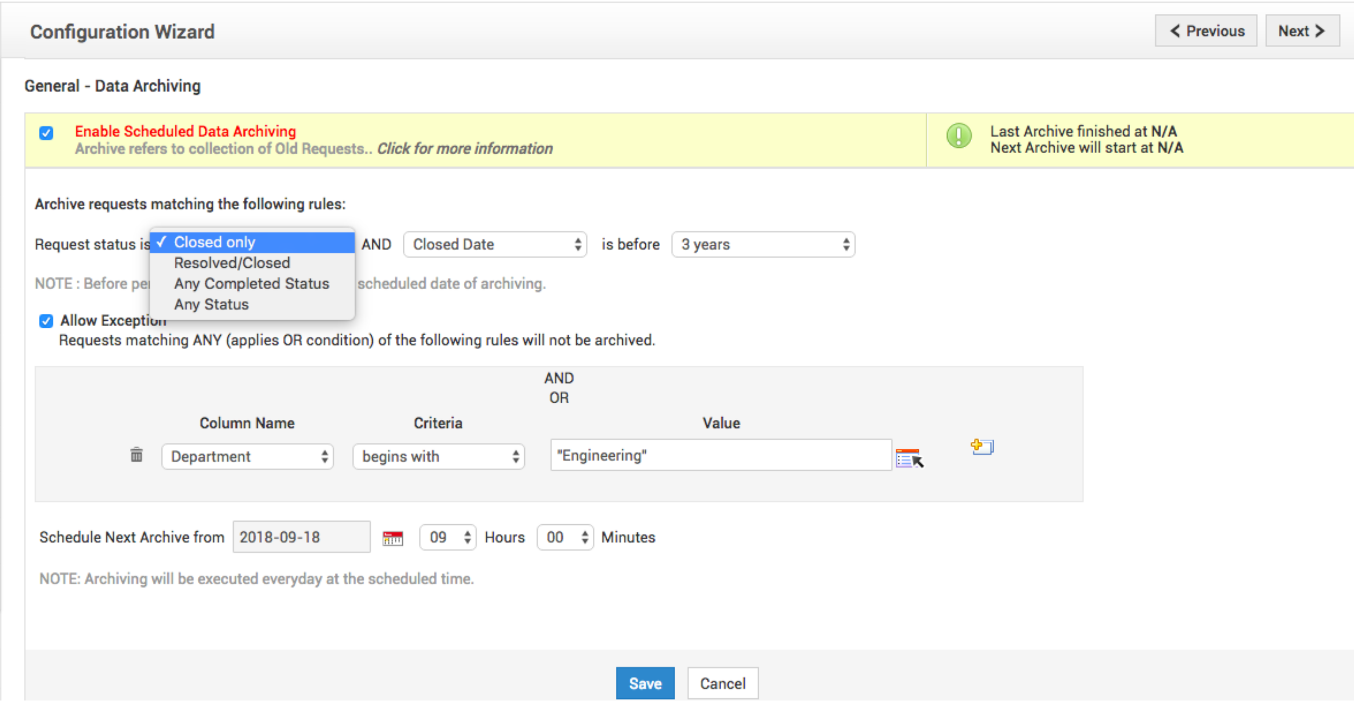
Data Archiving

Data archiving involves moving closed or resolved requests to separate storage. This activity, when done periodically, helps ensure optimum performance of your help desk.
Archived requests are removed from the active requests list because they are considered as a separate entity with unique search options and reports. Archived requests cannot be modified, deleted, or restored to the active state. Any reply to an archived request will be added as a new request.

Only the SDAdmin can configure data archiving.

Configuring Data Archiving

- Go to **Admin>>General Settings>>Data Archiving**
- Select the **Enable Scheduled Data Archiving**
- Select the criteria of the requests that must be archived.
- If there are any exceptions to the criteria selected, select the Allow Exception checkbox and configure the exceptions.
- Schedule the next archival period and save the settings, as shown in the following screenshot:



Viewing Archived Requests

To view the requests, go to **Requests** and select **Archived** from the **Requests** drop-down.

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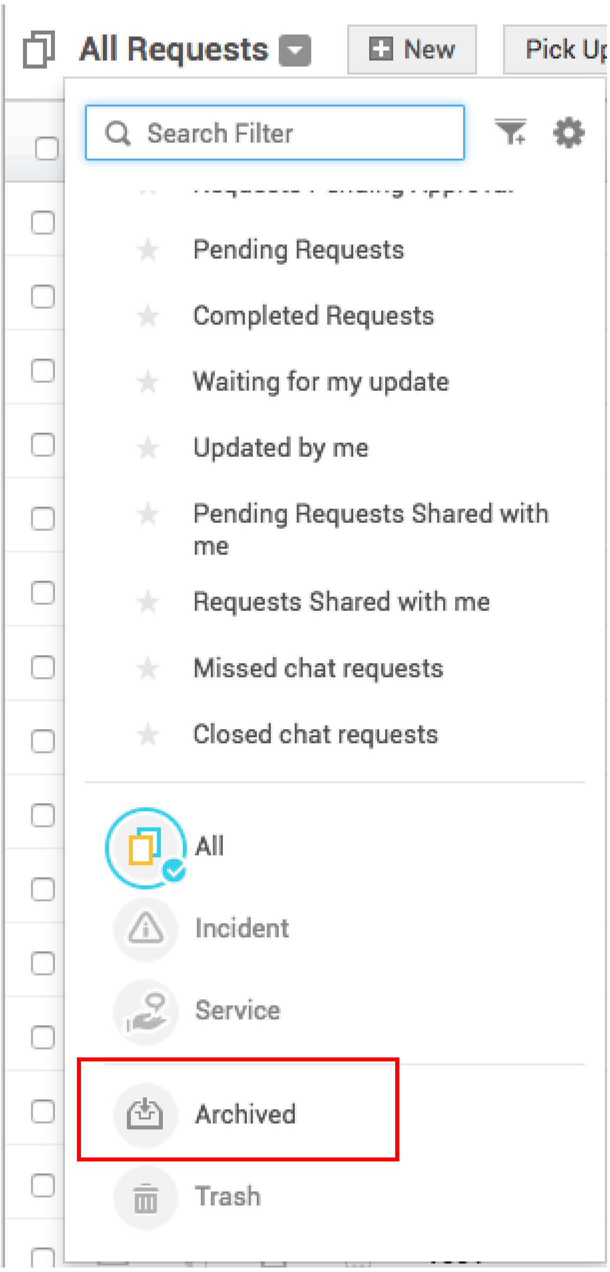

You can also view them under **Quick Actions**.

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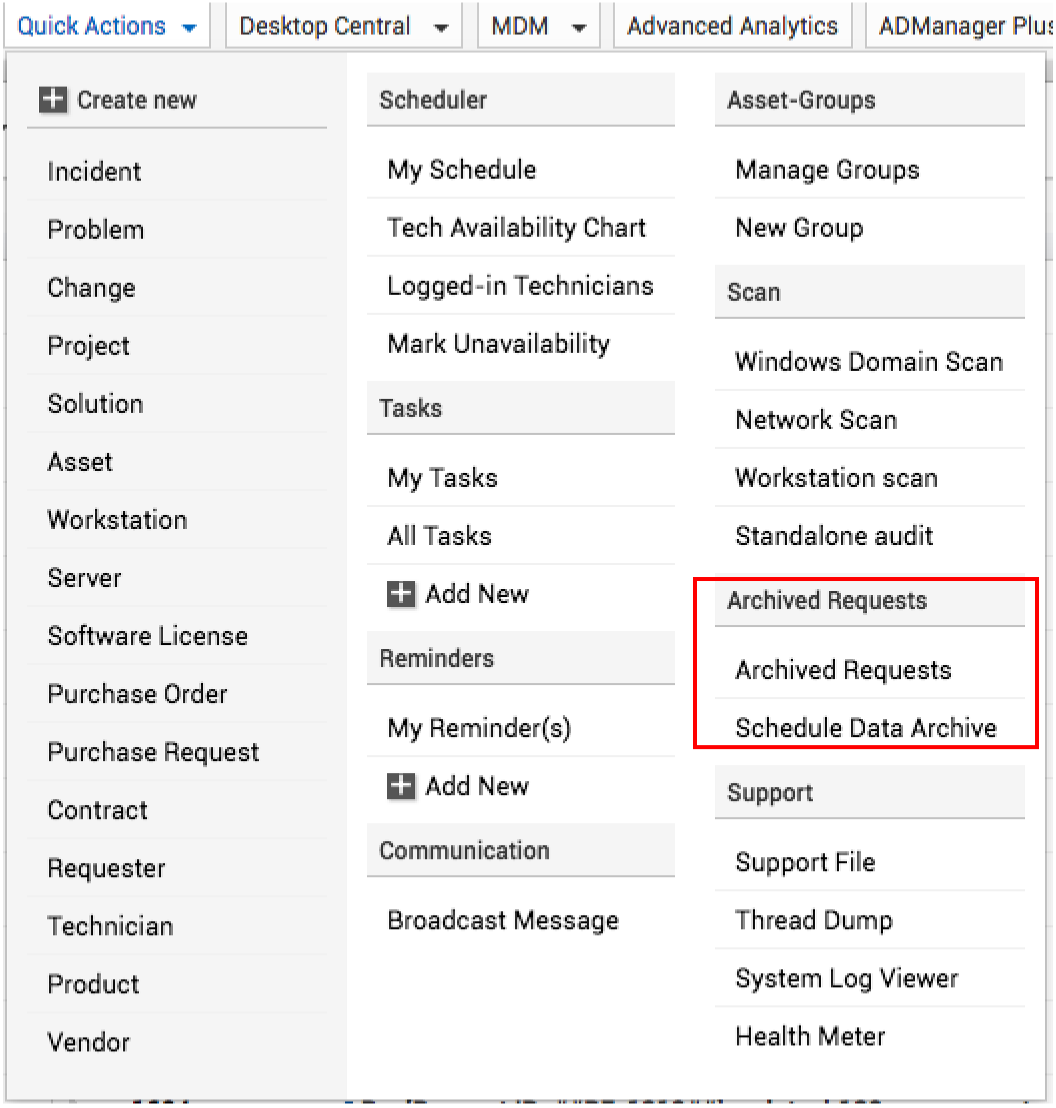

Quick Actions
Desktop Central
MDM
Advanced Analytics
ADManager Plus
Create new
Incident
Problem
Change
Project
Solution
Asset
Workstation
Server
Software License
Purchase Order
Purchase Request
Contract
Requester
Technician
Product
Vendor
Scheduler
My Schedule
Tech Availability Chart
Logged-in Technicians
Mark Unavailability
Tasks
My Tasks
All Tasks
Add New
Reminders
My Reminder(s)
Add New
Communication
Broadcast Message
Asset-Groups
Manage Groups
New Group
Scan
Windows Domain Scan
Network Scan
Workstation scan
Standalone audit
Archived Requests
Archived Requests
Schedule Data Archive
Support
Support File
Thread Dump
System Log Viewer
Health Meter

Security Settings

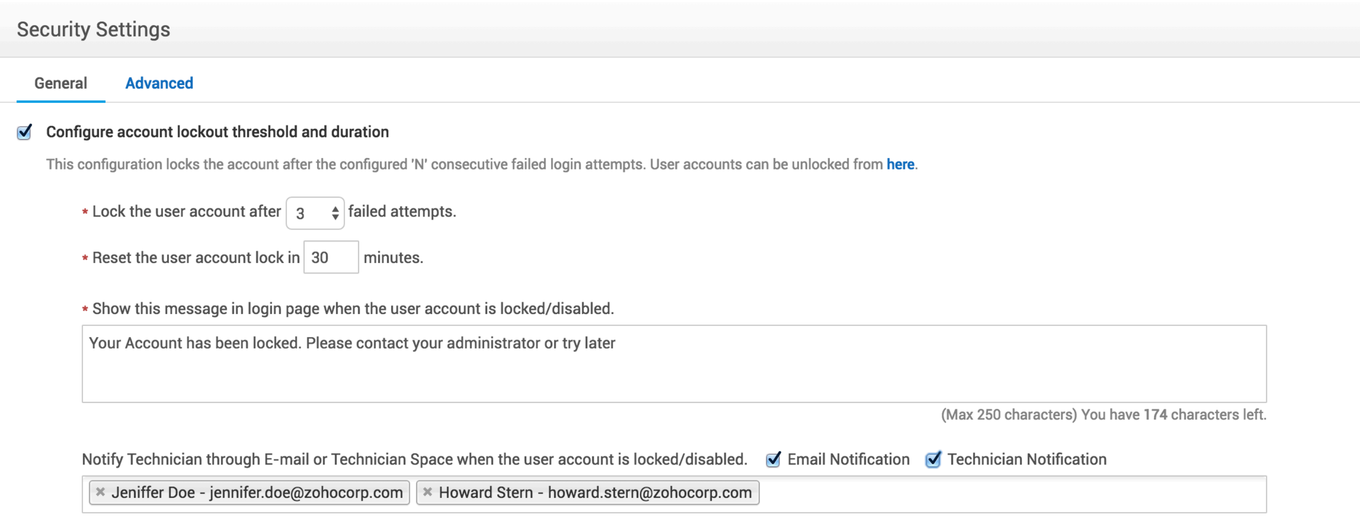
Security settings allows the Administrator to configure security related options without looking for Technicians help to solve security breaches. By configuring the General and Advanced settings, the Administrator can ensure protection of the application from various types of vulnerabilities.

- General settings
- Advanced settings

General Settings:

Configure account lockout threshold and duration: The administrator can configure the settings in such a way that, if a user enters wrong credentials for 'n' number of times, the account gets locked automatically and displays the desired message in the login page. The account can be reset/unlocked within the duration specified. The Administrator can unlock an account by clicking the link provided and choosing 'Unlock'. The pop-up will display the locked accounts with their domain and IP address.

The Administrator can choose to notify the Technicians either through e-mail or as Technician space notification in the header.



Server Port and Protocol Configuration:

The Administrator can choose to run the application in HTTP or HTTPS mode.

For HTTP: Specify the default Server port where the application has to run and the NIO port.

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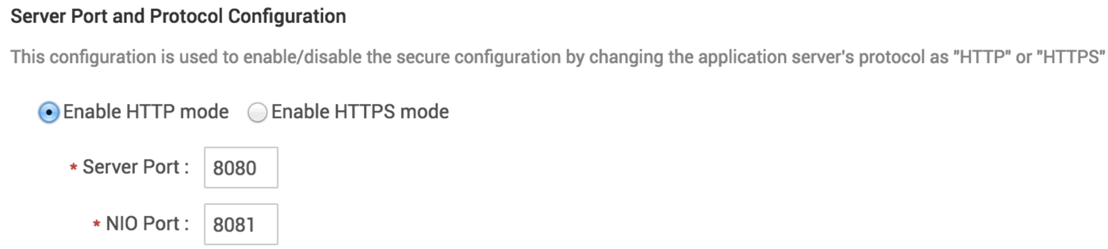
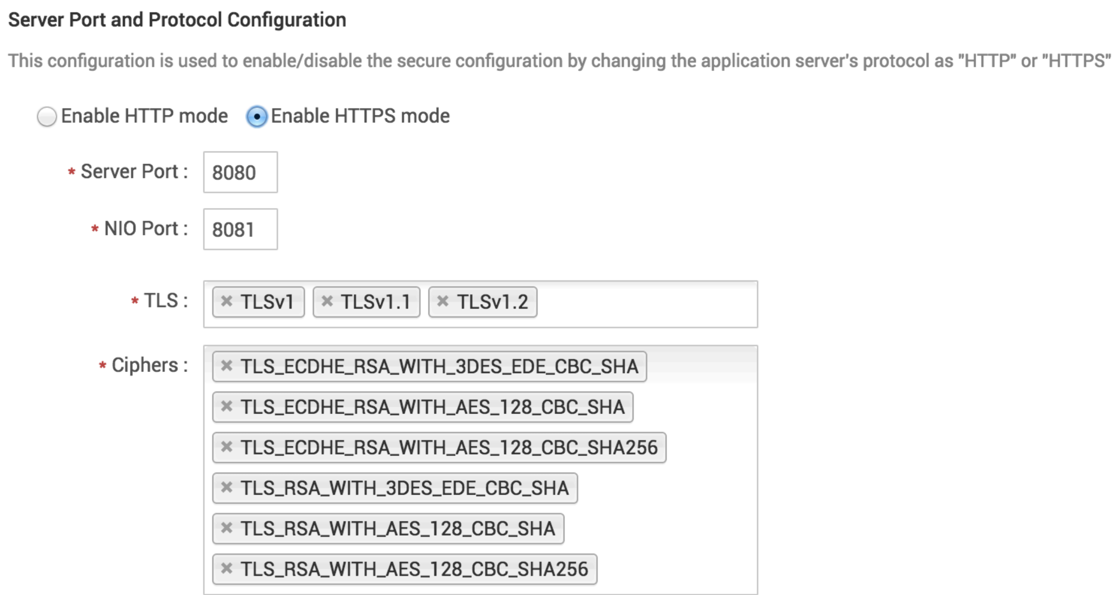
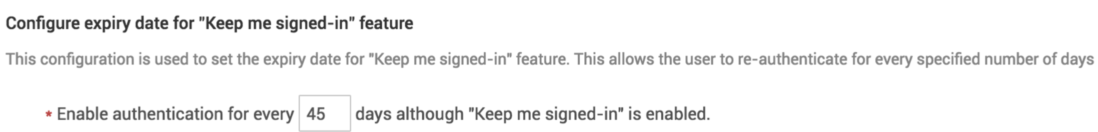


For HTTPS: After specifying the server port and NIO port, the Administrator can choose from the listed TLS versions and Ciphers that help in proper encryption of data, thus preventing hackers from stealing it.



Configure expiry date for "Keep me signed-in" feature: This allows the administrator to set duration for number of days the user can be kept signed in to the application. On the expiry date, the user has to re-aunthenticate by entering the same username and password again. By default, the user has to re-authenticate for every 45 days.

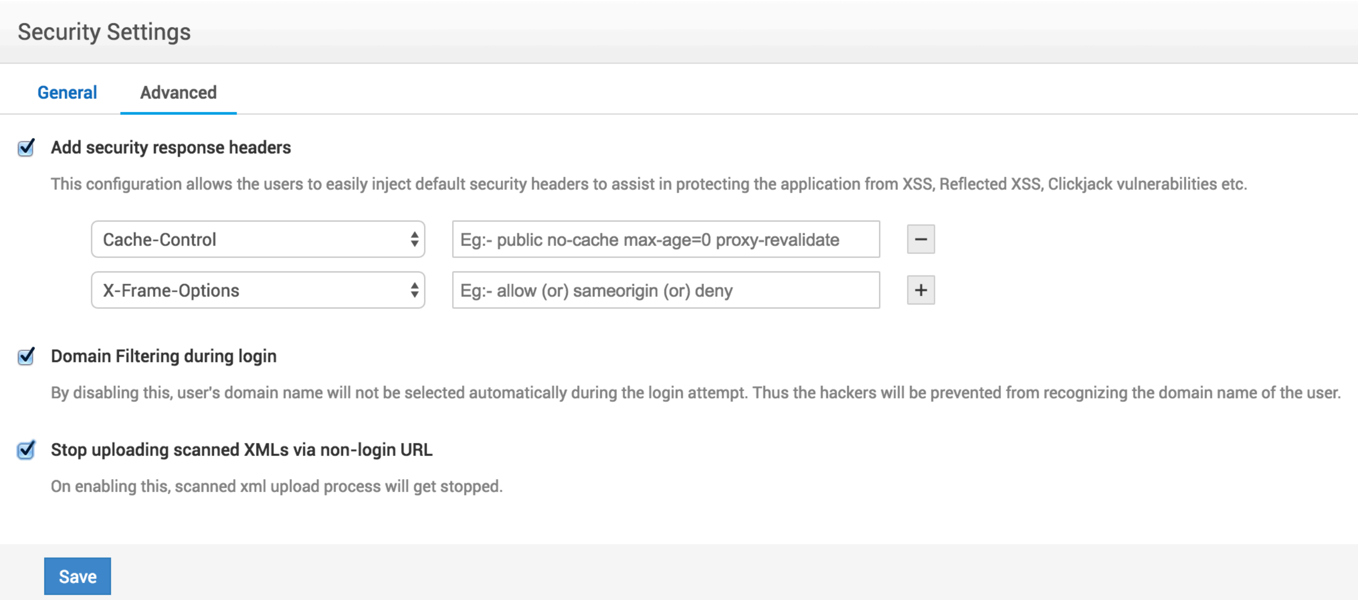


Advanced Settings:

Add security response headers: Allows the user to safeguard the application from different types of vulnerabilities, by configuring security headers. These headers can prove very useful in protection against certain type of attacks. Choose the required security response header from the list. You can also include or exclude one or more response headers.

Domain Filtering during Login : When entering the username during login, the domain will automatically be loaded. The Administrator can disable domain filtering and display the entire list of domain names. The probability of knowing the domain name can thus be reduced.

Stop uploading scanned XMLs via non-login URL: Agent sends scanned XML to the application and through a non-login URL, there is a chance that any other scanned XML data can be uploaded into the application. By enabling this option, the application will not respond to the unwanted upload process in between as proper authentication is necessary.



Note
Application must be restarted for the saved settings to take effect.

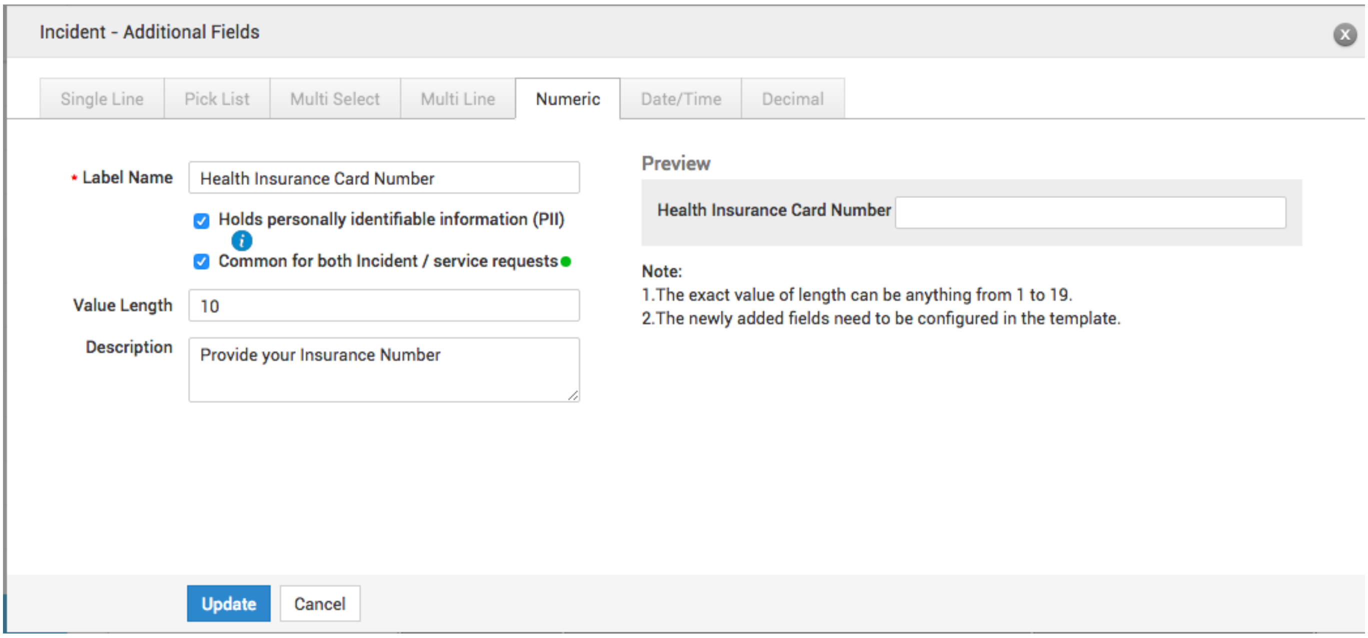
Privacy Settings

You can now configure privacy settings in ServiceDesk Plus. Privacy regulations and guidelines, such as the General Data Protection Regulation, require businesses to protect their user's personal data from misuse. GDPR protects all types of personal data, including the user's name, social security number, insurance details, or racial or ethnic data.

In ServiceDesk Plus, you can completely delete or anonymize all personally identifiable information (PII). The ability to identify PII is available in **Incident Additional Fields**, **Service Catalog**, and **Resource Questions**.

Incident Additional Fields

You can mark PII in Single Line, Multi Line, Pick List, Numeric, and Date/Time fields. You can add these fields to both incident and service requests, as shown in the following screenshot:



This is sample of all additional fields that contain PII.

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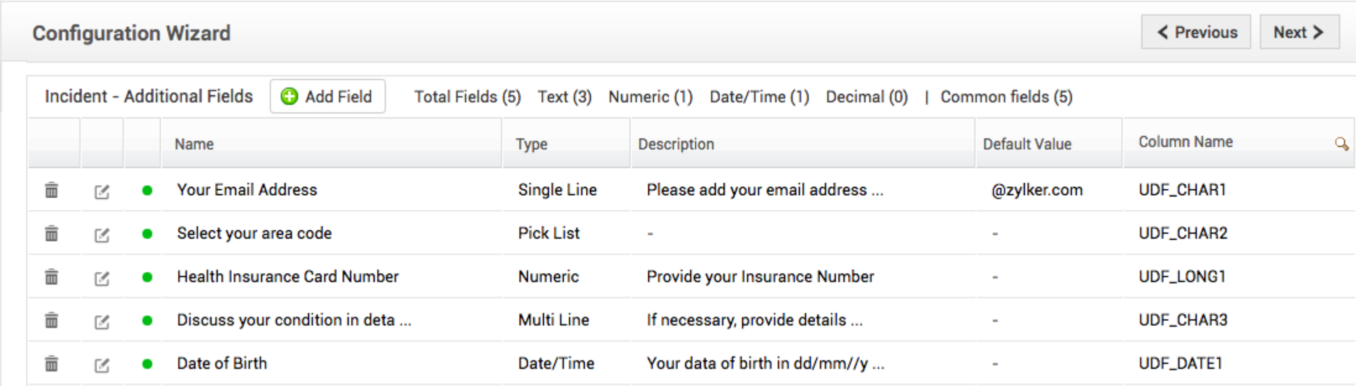
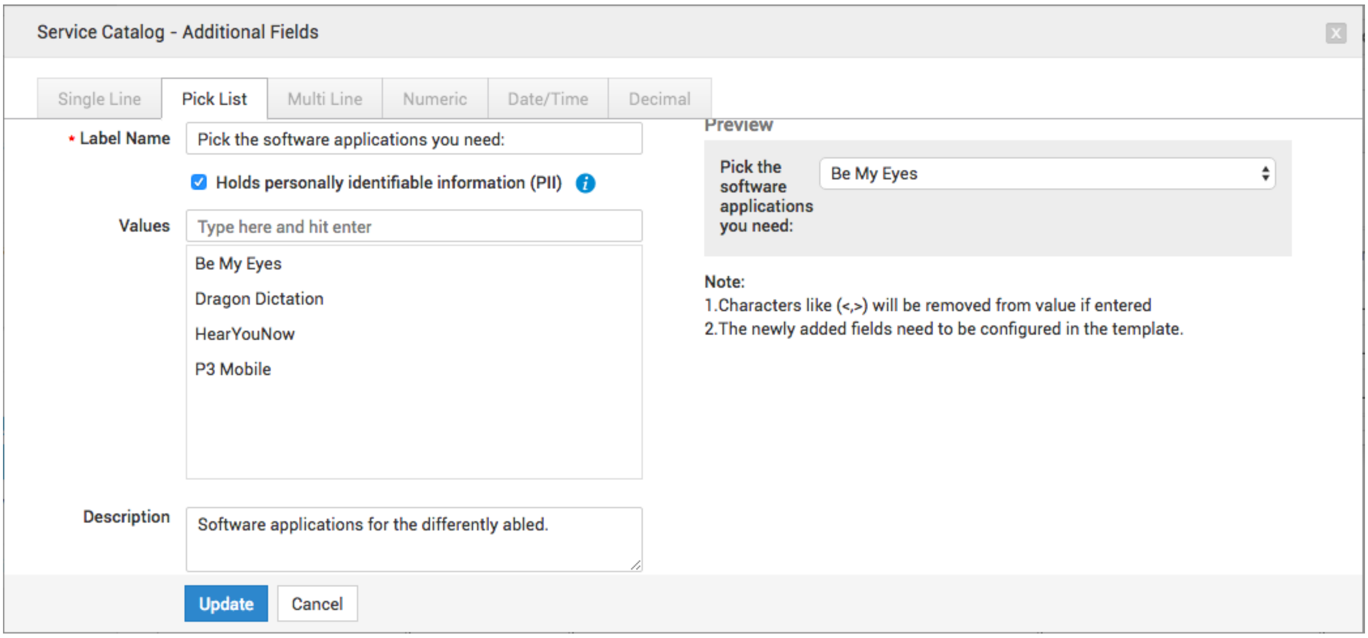


Service Catalog Additional Fields

Mark Service Catalog additional fields as holding PII, by clicking the relevant option under the field, as shown below:



Resource Questions

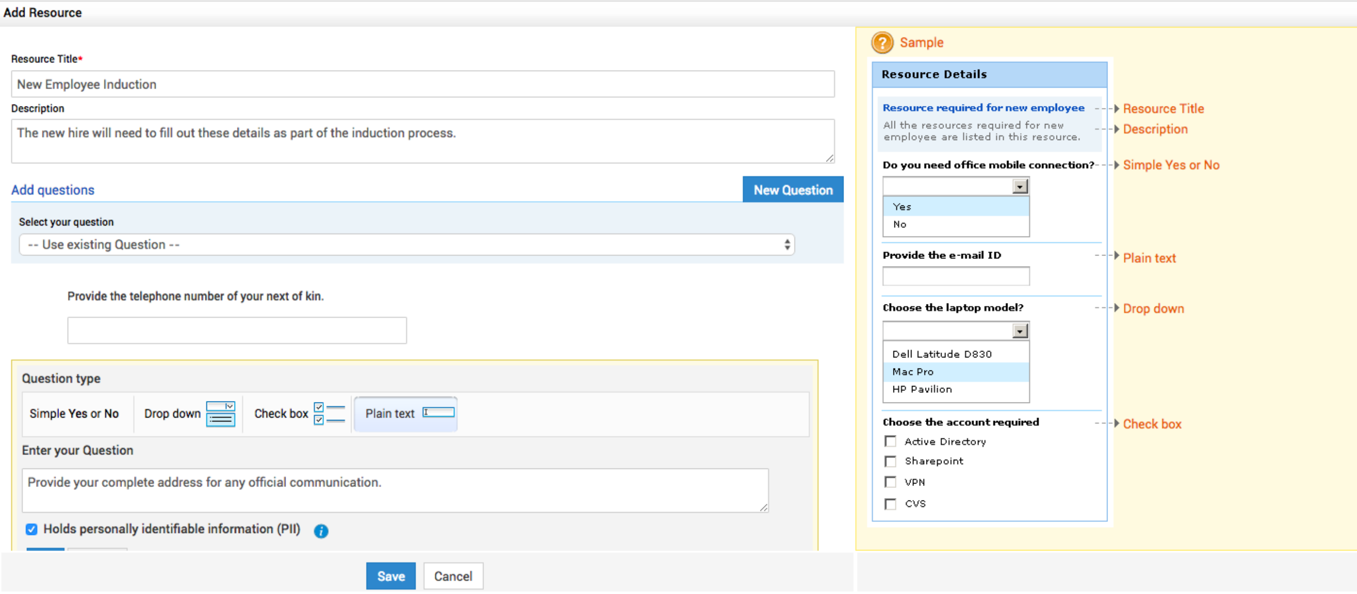
When certain services are provided to your users, you may collect some personal information. For example, when a new employee joins the organization, it's routine to collect their address for communication or the contact details of the next of kin. Now, such details must be marked out so that they can deleted when the user leaves the organization.

Go to **Admin>>Service Catalog>>Select any service.**

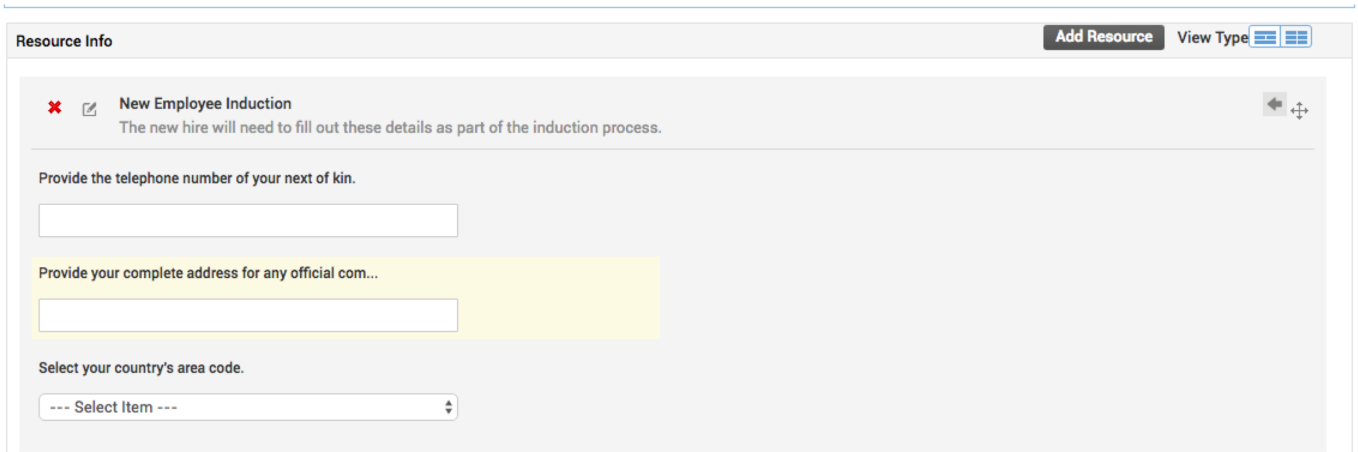
On the displayed form, provide the name of your service along with other details and click **Add Resource**.

Provide the resource title, description, and click **New Question**.

Add your question and if it contains any personal data, select **Hold personally identifiable information (PII)** and save.



Here are some sample resource questions.



Privacy Settings—Anonymize

On this page are listed all the fields that you have marked as PII. Here, you can select whether they must be completely removed when the user is deleted.

Anonymization means completely deleting any user data that can be used to accurately identify the user. In case of user names, you will be able to provide a random text in the place of the actual name. All other PII data fields selected on this page will be deleted from the system. Other details in the requests raised by the user will be retained in the system for audit and other regulatory processes.

To enable anonymization, select the **Show option to anonymize user data while deletion** option and select all the PII fields that must be deleted when the user exits the organization.

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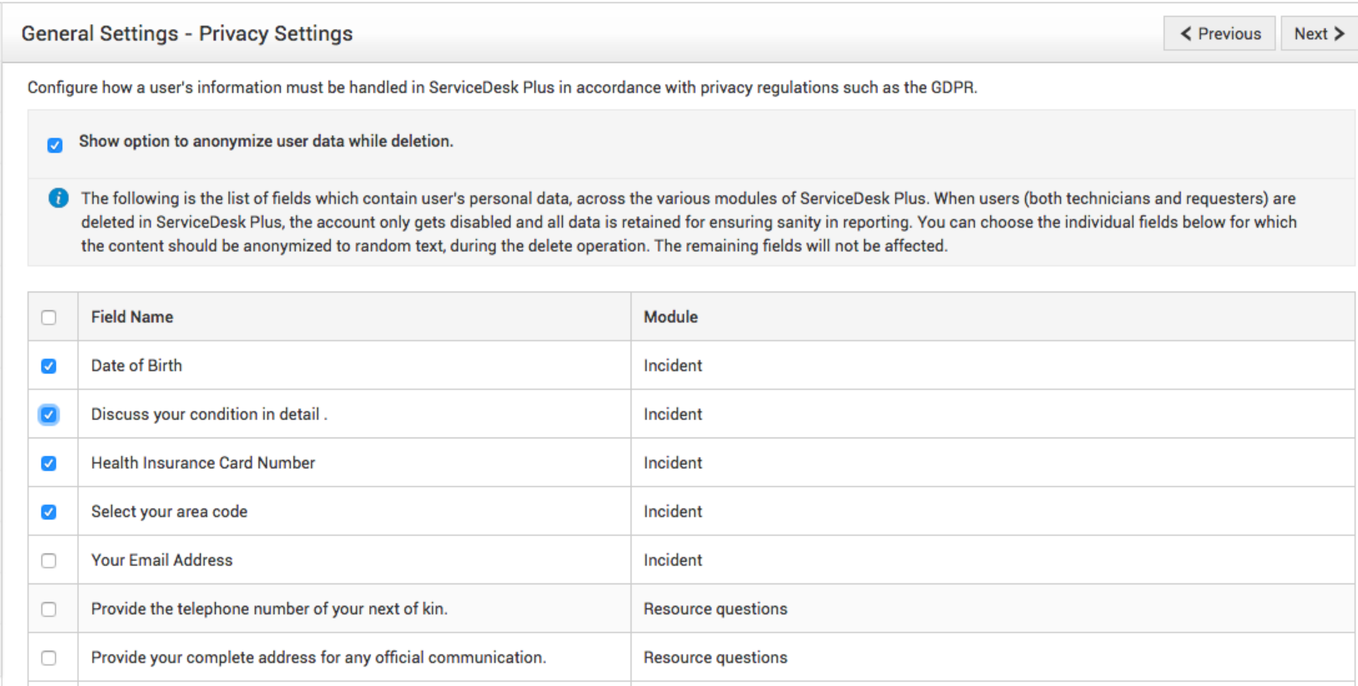
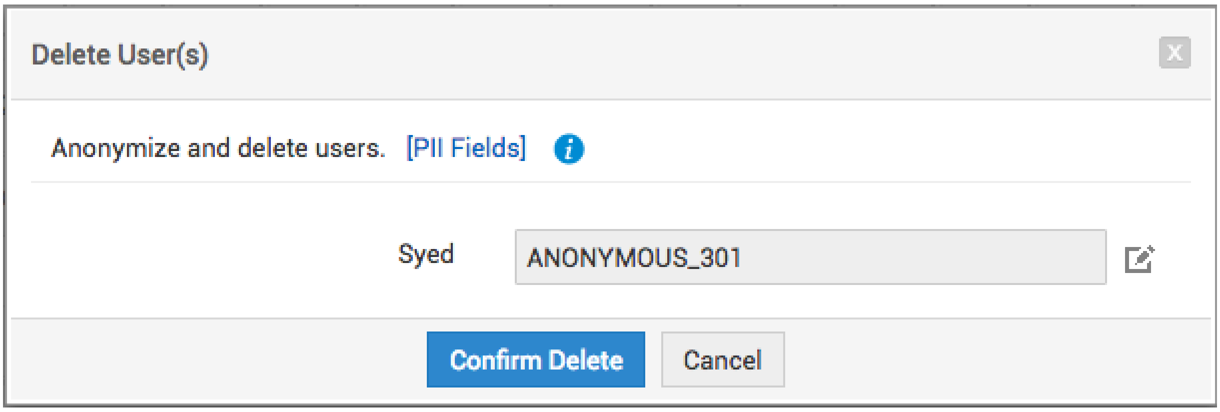


Deleting Requesters/Technicians

When a user leaves the organization and exercises her right to be forgotten, her name can be changed to random text when it's deleted, as shown in the screen shot.



All other PII of the user will be completely deleted from the system.

> When a user, whose PII is marked for anonymization, is deleted, anonymization (of the name) happens immediately, whereas the PII data deletion happens through a schedule, which runs every 8 hours.

After anonymization is complete, the request that once contained PII will appear as shown below:

Request Type	Incident
Health Insurance Card Number	-
Discuss your condition in detail .	PII_DELETED
Your Email Address	PII_DELETED
Date of Birth	-
Select your area code	PII_DELETED
Status	Open
Mode	Not Assigned
Level	Not Assigned
Group	Not Assigned
Technician	Not Assigned
Service Category	Not Assigned
Asset(s)	-
Department	Not Assigned
Template	Default Request
Last Update Time	Not Assigned

Requester Details Edit

Requester Name	ANONYMOUS_303
Contact number	
Department	-

Anonymization will be possible only when compliance regulations are effected within the application.

Details about when exactly the PII was removed is available in the history of each request. To know when the user was actually deleted from the system go to **System Log Viewer under** the **Community** button.

File Protection Password

Ensure secure access to files generated from within the application by enabling the **File Protection Password** option. Once this option is enabled, files such as exported reports, scheduled reports, and exported request list will require a password to be opened.

Select the **Enable File Protection Password** option, enter a common password for non-login users, and share the password with them.

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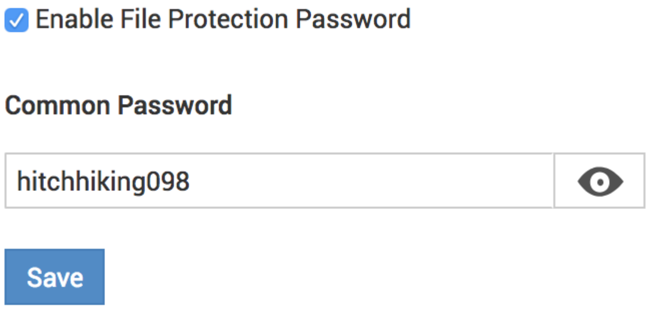
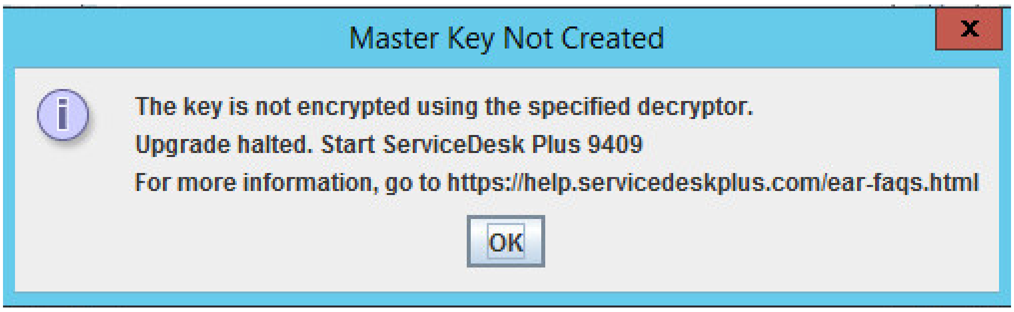


After you enable the file protection password option and when a user triggers a report, a password specific to the user login will be generated. The user can view reset the password under the **Change Password** wizard. The user can also manually configure a file protection password.

Some of the frequently asked questions (FAQs) on EAR are listed here. We discuss the various problems you could encounter while generating a master key password or while upgrading the application in the current setup.

Upgrade halted with the following message. How to proceed?



What are symmetric keys?
What is a database master key?
How to open the database master key.
How to check whether symmetric keys are present for a particular database.
How to check whether certificates are present for a particular database.
How to create the master key password.
How to change the master key password.
How to take backup of the master key password.
How to restore the master key password?
Why does the master key password fail during upgrade?
What is the default algorithm used to encrypt the values in postgres?
What is the datatype of encrypted column in various databases ?
How to back up and restore the MSSQL database.
System error codes
What is ECTag? Can I change it?

- **Upgrade halted. How to proceed?**

  You cannot upgrade by using the existing database; please go through the following steps to upgrade:

  1. Back up your application.
  2. Create a new database using **/changeDBServer.bat** or **/changeDBServer.sh**.
  3. Start and stop the application once.
  4. Restore your application into the new database.
  5. Now, upgrade your application to **ServiceDesk Plus 9313** or later.

Top

- **What are symmetric keys?**

  A symmetric key or a secret key is an input to the encryption algorithm that helps produce a different output for different keys provided at any given time.

Top

- **What is a database master key?**

  It is a symmetric key that protects the private keys of certificates and asymmetric keys in the database. The key is encrypted with either the Triple DES or AES_256 algorithm and a user-provided password. Only if the database master key is created, you can create additional symmetric keys and certificates for data encryption.

Top

- **How to open the database master key.**

  Open MSSQL Server Management Studio, right-click the database and choose **New Query**
  In the workspace, run the following query:

  ```
  OPEN MASTER KEY DECRYPTION BY PASSWORD='<MasterKey_password>';
  ```

  Top

- **How to check whether symmetric keys are present for a particular database.**

  Open MSSQL Server Management Studio, right-click the database and choose **New Query**
  In the workspace, run the following query:

  ```
  select * from sys.symmetric_keys;
  ```

  The symmetric keys, if present, will be tabulated in the results.

  Top

- **How to check whether certificates are present for a particular database.**

  Open MSSQL Server Management Studio, right-click the database and choose **New Query**
  In the workspace, run the following query:

  ```
  select * from sys.certificates
  ```

  The result will tabulate the certificates, if there are any.

  Top

- **How to create the master key password.**

  The user with dbcreator permissions can follow these steps to create the master key password:
  Open MSSQL Server Management Studio, right-click the database and choose **New Query**
  In the workspace, run the following query:

  ```
  CREATE MASTER KEY ENCRYPTION BY PASSWORD='<new_Masterkey_password>';
  ```

  The master key password must comply with the password policy of the MSSQL-installed machine.

  Top

- **How to change the master key password.**

  The user with dbcreator permissions can follow these steps to change the master password:
  Open MSSQL Server Management Studio, right-click the database and choose **New Query**
  For regenerating the database master key and all other keys, run the following query:

  ```
  ALTER MASTER KEY REGENERATE WITH ENCRYPTION BY
  PASSWORD='<new_Masterkey_password>';
  ```

  To create an additional master key password, run the following query:

  ```
  ALTER MASTER KEY ADD ENCRYPTION BY PASSWORD='<new-master_key>';
  ```

  Note that after you create an alternative master key password, the old master key password will still be functional.

  Top

- **How to take backup of the master key password.**

  Open MSSQL Server Management Studio, right-click the database and choose **New Query**

In the workspace, run the following query:

```
BACKUP MASTER KEY TO FILE = 'path_to_file' ENCRYPTION BY PASSWORD =
'<Masterkey_password>';
```

Top

- **How to restore the master key password?**

  Open MSSQL Server Management Studio, right-click the database and choose **New Query**
  In the workspace, run the following query:

```
RESTORE MASTER KEY FROM FILE = 'path_to_file' DECRYPTION BY PASSWORD =
'<masterkey_password_of_backup_database>' ENCRYPTION BY PASSWORD =
'<masterkey_password_of_restoring_database>';
```

  The master key password will be restored to the database.

Top

- **Why does the master key password fail during upgrade?**

  This can happen of the password doesn't comply with the password policy of the MSSQL-installed machine.

Top

- **What is the default algorithm used to encrypt the values in postgres?**

  AES_256

Top

- **What is the datatype of encrypted column in various databases ?**

  Postgre: bytea
  MSSQL: varbinary

Top

- **How to back up and restore the MSSQL database.**

  In **MSSQL** S**erver Management**, right-click the database to be backed up and go to **Tasks>>Backup**
  The database will be backed up in the given location.
  To restore the database, right-click it and choose **Restore DataBase**.
  In the **Restore Database** dialog box, choose the device option and the backup file path, and click **Ok**.
  Your MSSQL database will be restored.

  Note:
  If the ***System.Data.sqlClient.SqlError : The file 'filepath*.mdf' cannot be overwritten. It is being used by database 'database_name'. (Microsoft.SqlServer.SmoExtended)*** error is displayed, then choose **Files** in the **Restore Database** dialog box.

  Go to the **Restore As** column, rename the *.mdf and *_log.ldf files, and click **Ok** to restore the database.

Top

- **System error codes**
- **What is ECTag? Can I change it?**

  It is the symmetric PGP (Pretty Good Privacy) key used in postgres to encrypt the data in password columns.The value of the ECTag is encrypted and stored in the product-config.xml file.
  Follow these steps to change it:

  Please take a backup before invoking changeKey.bat.

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From <product_home>/ME/ServiceDesk/bin, invoke changeKey.bat followed by the new ECTag value.
changeKey.bat <ECTag value>
The entire database will be decrypted using the old key and encrypted again with the given ECTag value.

Top

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Importing SSL Certificate from SDP UI

Download the certificate files from the CA to the location of your keystore (sdp.keystore).

Go to **Admin**>>**General Settings**>>**Import SSL Settings**.

On the screen displayed, browse to the certificate files and select the primary or domain certificate file. Note that you can select only files that have the .cer, .crt, .p7b, .pfx, .keystore, or .jks extension.

For **.pfx, .keystore,** or**.jks** files, provide the keystore password and click the **Import** button for the SSL certificate to be installed.

For **.cer** or **.crt** files, provide the keystore file and the password and select the upload method for the intermediate/root certificate. Then, click the **Import** button for the SSL certificate to be installed.

For the **.p7b** file, just provide the keystore file and the password and click the **Import** button for the SSL certificate to be installed.

Restart the application for the changes to take effect.

Note: If you have the Private Key as a .key file, you do not have to enter any password.
The following screenshot describes the process for a .cer/.crt file where the intermediate/root certificates are uploaded manually.

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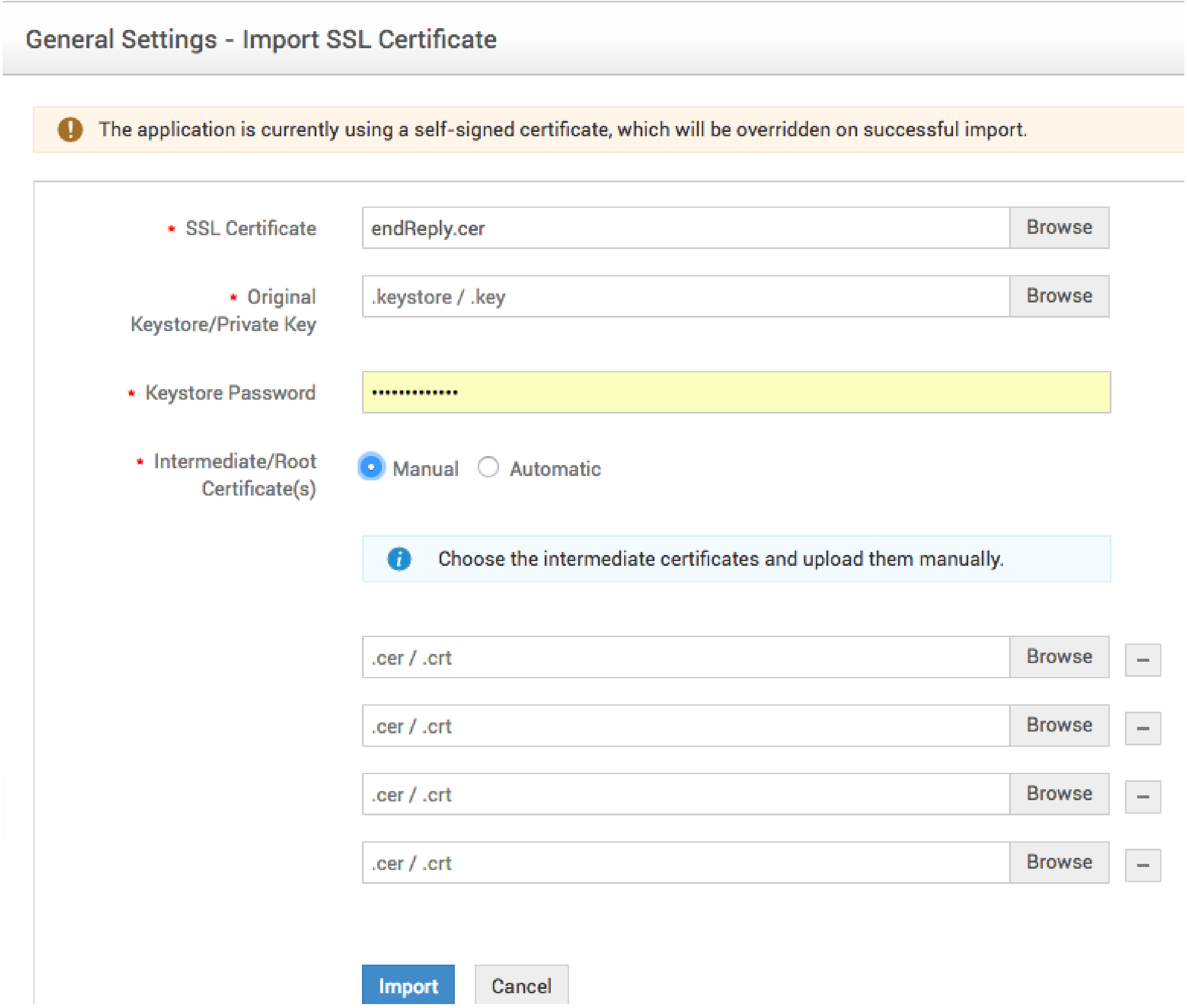


Note: You can upload a maximum of four Intermediate/Root Certificates.

Support for Encryption at Rest

ServiceDesk Plus brings in an option to encrypt columns in the database to secure user data. All you need to do is just select the fields which you think can expose user data and encrypt them, the data will remain encrypted and safe.

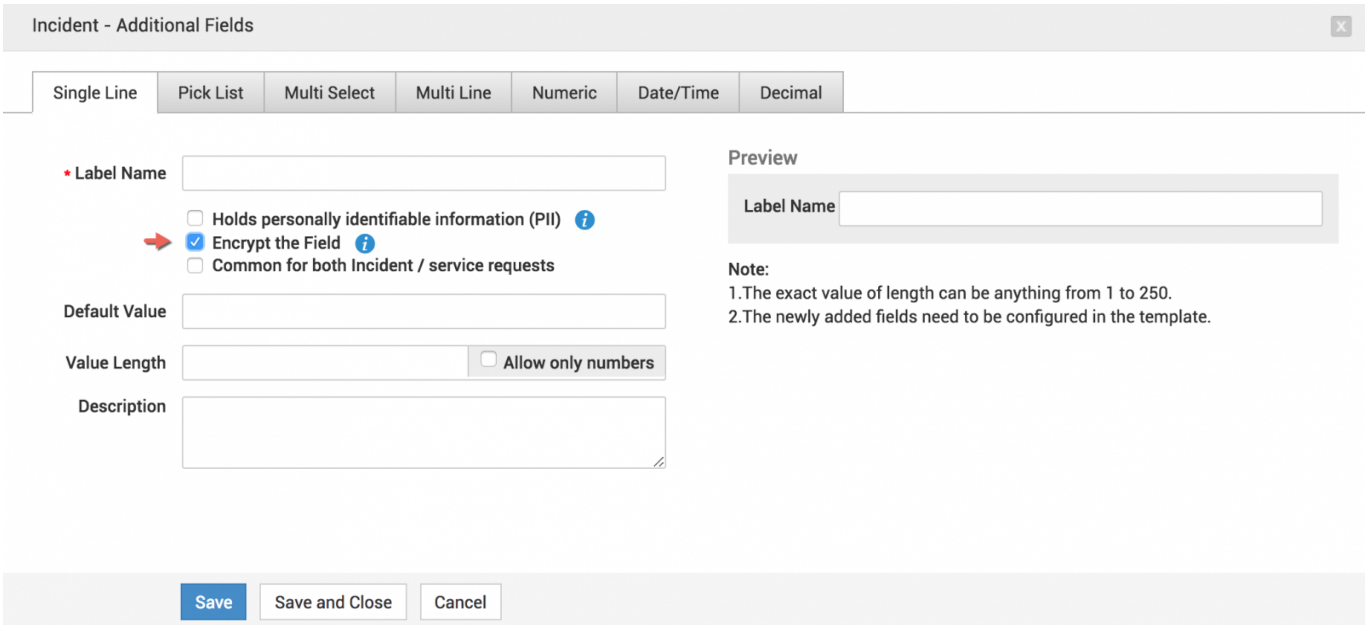
How is it done in different databases?

1. For PGSQL database, pgcrypto, a cryptographic module of Postgres is used for encryption.
2. For MSSQL, master key, symmetric key, and certificate are used for encryption.

How can you secure the data?

You can individually encrypt user data provided in additional fields by ticking off the checkboxes present along the respective additional fields while creating them.

- Head to Admin.
- Select the additional field you want to encrypt. For e.g., for incident additional field, head to **Admin**>>**Helpdesk Cuztomizer**>>**Incident Additional Fields**.
- Tick on the **Encrypt the Field** checkbox for the respective additional field.
- Click **Save**.



Note: Encryption option is available only while adding an additional field. Fields cannot be encrypted while editing an additional field. Also once the fields are marked for encryption, they cannot be unmarked.

For FAQs related to EAR, check this page.

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Common Database Error and Troubleshooting

The following table depicts the common errors and steps to troubleshoot.

Common Errors and Troubleshooting

Error ID	Error	Root cause and troubleshooting steps
1000	ERROR_WHILE_GETTING_CONNECTION	**Root cause:** Connection could not be established with the MSSQL database. **Troubleshooting**: Refer this page.
1001	ENCRYPTION_NOT_SUPPORTED	**Root cause:** Master Key is supported only for versions greater than 2000 in MSSQL **Troubleshooting**: Upgrade MSSQL to version higher than 2000.
1002	MASTER_KEY_NOT_CREATED	**Root cause:** The Master Key is not created. **Note**: Only admin can create the Master key. **Troubleshooting**: Provide Master Key password which matches your MSSQL installed machine's Password Policy. Check if the user has the "**dbcreator**" role.
1003	CREATE_MASTER_KEY_FAILED	**Root cause:** Error when creating the Master key. Some causes for this could be the specified master key may not satisfy the windows password policy of database server or the database access permission of the user specified for connection is not of DB create permission. **Note**: User must have an admin privilege to create a Master Key. **Troubleshooting**: Provide Master Key password which matches your MSSQL installed machine's Password Policy. Check if the user has the "**dbcreator**" role.
1004	OPEN_MASTER_KEY_FAILED	**Root cause:** The Master Key failed to open. Please specify the correct Master Key password that was used to configure the database. **Troubleshooting**: p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545} Master Key password should be same as the one which was given during the database creation. If u have forgotten the Master Key password, then refer (altering master key query).
1005	ASSOCIATE_MASTER_KEY_WITH_SERVICE_MASTER_KEY_FAILED	Contact support
1006	CERFICATE_NOT_CREATED	**Root cause:** Certificate is not created in the database. **Troubleshooting**: Contact support.
1007	CREATE_CERTIFICATE_FAILED	**Root cause:** Certificate already exists or open Master Key command should have failed. **Troubleshooting**: Contact support.
1008	OPEN_CERTIFICATE_FAILED	**Root cause:** Certificate doesn't exist or Master Key is closed. **Troubleshooting**: Contact support.
1009	SYMMETRIC_KEY_NOT_CREATED	**Root cause:** Symmetric key is not created in the database. **Troubleshooting**: Contact support.

1010	CREATE_SYMMETRIC_KEY_FAILED	**Root cause:** Symmetric key already exists or open Master key command should have failed. **Troubleshooting**: Contact support.
1011	OPEN_SYMMETRIC_KEY_FAILED	**Root cause:** Symmetric key cannot be opened since the Master key is closed. **Troubleshooting**: Contact support.
1012	CLOSE_SYMMETRIC_KEY_FAILED	**Root cause:** Symmetric key cannot be closed since the Master key cannot be closed. **Troubleshooting**: Contact support.
1013	CREATE_EXTENSIONS_FAILED	Contact support
1014	ERROR_WHILE_RETRIEVING_COLLATION	Contact Support
1015	ERROR_WHILE_RETRIEVING_DATABASE_METADATA	Contact Support
1016	ERROR_WHILE_CREATING_STATEMENT	Contact Support

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Fail Over Service

Availability of service desk application will be an important factor for smooth running of service desk service. Unexpected hardware / software failure can make service desk application unavailable, which could have a big impact on business. ServiceDesk Plus (SDP) provides 'Fail Over Service' (FOS) feature to ensure availability of service desk application even during a software/hardware failure.

Topics Covered:

- How does Fail Over Service work?
- Prerequisites for using the FOS Feature
- Setup Process
- Upgrade Process
- Restore Process
- Prerequisites for DC Add-on (If DC plugin installed)
- Disabling FOS

How does Fail Over Service work ?

- There will be two installations of SDP in two different machines (M1 & M2).
- One installation will be a primary one and other a secondary.
- Both installations contain 'ManageEngine ServiceDesk FOS', a windows service which is used to manage and monitor the availability of 'ManageEngine ServiceDesk Plus' service.
- A common IP address needs to be configured through which users will connect to the service desk application.
- In an environment without FOS, SDP URL will point to the primary machine by default. To configure FOS, the application URL has to be bound to the common IP address instead of the primary machine’s. This has to be done in the DNS of your local network.
- FOS service in secondary installation will monitor the availability of SDP service in primary.
- Upon non availability of SDP service in primary, FOS service will automatically start the SDP service in secondary installation after acquiring common IP address.
- Since users connect to SDP application through common IP address, there will be no interruption to the service.
- When FOS service in primary is started after rectifying the problem, it will automatically start as secondary and will start monitoring the availability of the SDP service in the 'new' primary.
- Ideally it would take about 3 to 4 minutes to start the FOS in the machine 2 after an unexpected hardware/software failure.

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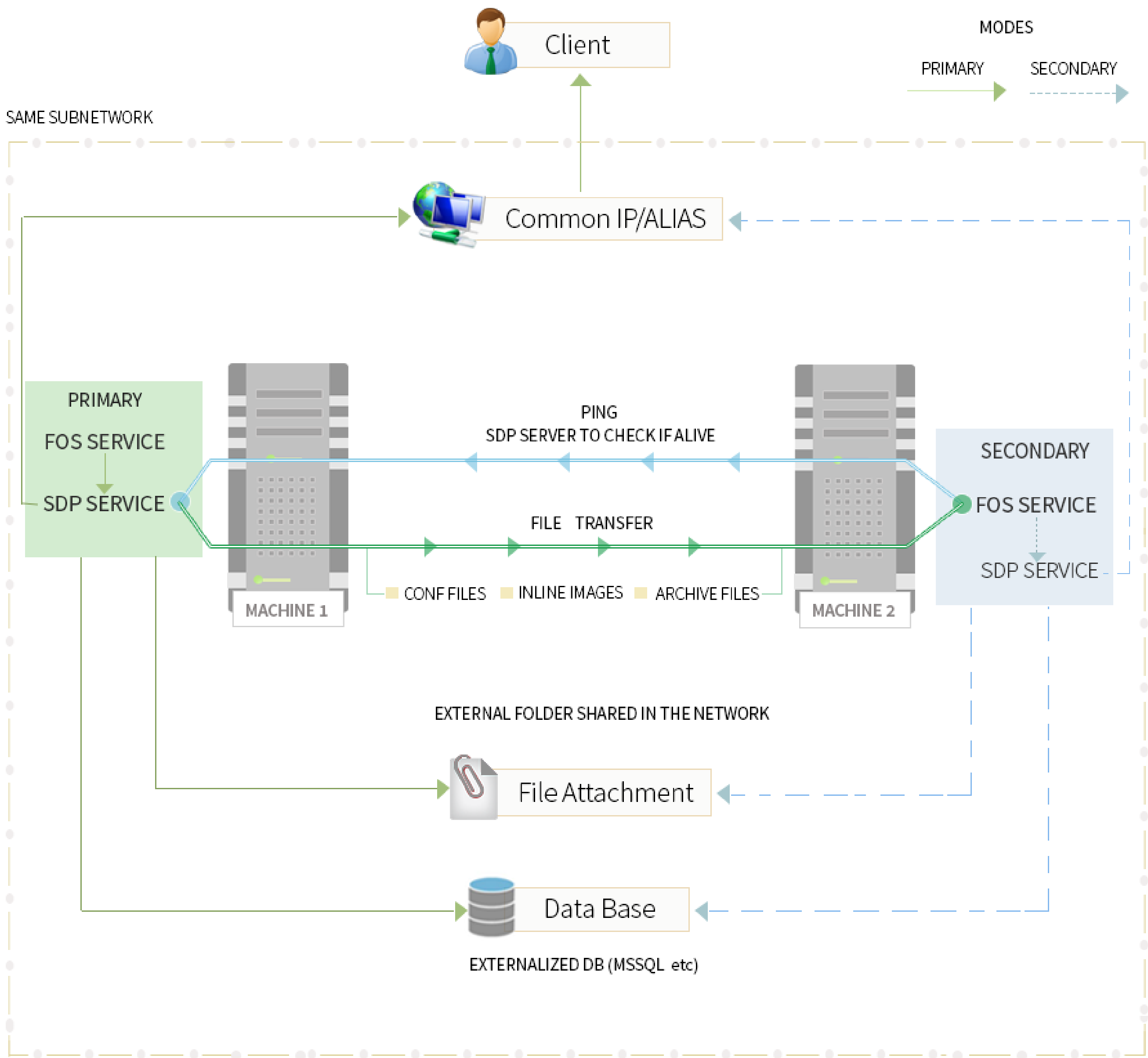


PREREQUISITES FOR USING THE FOS FEATURE:

Server Requirements

- Two 64 bit Server machines with high network connectivity.
- The servers used for the FOS setup must have two-way read-write access for the ManageEngine folder(Where ServiceDesk is installed).
- It is supported ONLY in ServiceDesk 64 bit exe installations.
- Robocopy windows utility must be present in both the machines.
- Common IP Address must be available in the same network for allowing the primary and secondary installations

of ServiceDesk service to bind the same i.e : the server machine's IP and the common IP Address must belong to the same IP range.

Note	• Use two virtual or physical machines with different nic card addresses to set up the FOS. • **Common IP Address :** Common IP address is basically a virtual IP address in the local network, that is not bound to any specific machine. A simple way to check if a IP address can be used as a common one is to ping the IP address. If it's not reachable then it can be used as a common IP address.

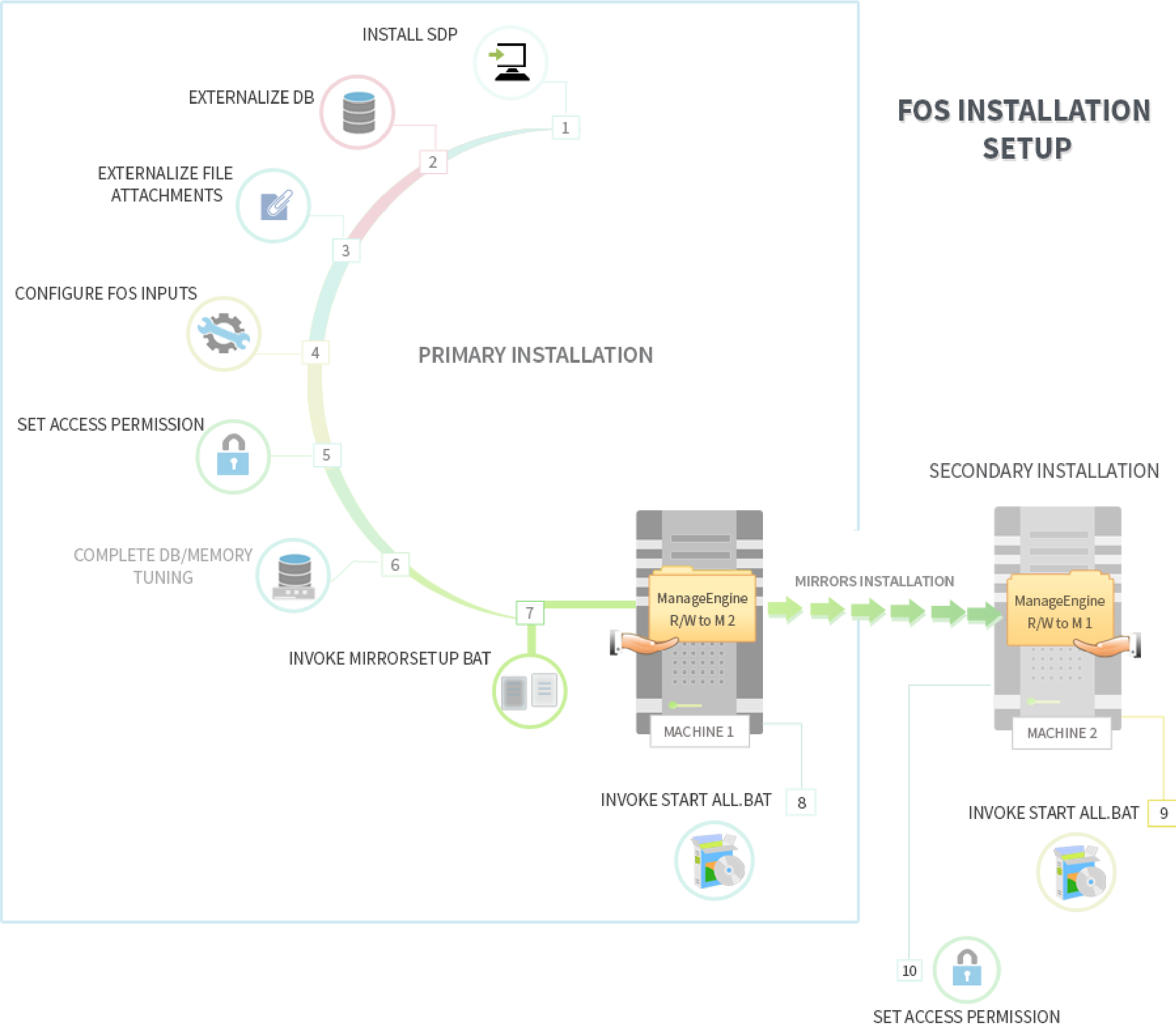
ServiceDesk Configuration Requirements

- DB must be externalized i.e The database server must be externalized from machine 1 and machine 2 but accessible to both. Preferably use Mssql setup
- File Attachment path must be externalized i.e Set as a network path (Must belong to the same network domain and externalized from both machines, Make sure it is accessible to both machines)
- HTTPS certificate must be obtained for the Alias url of common IP.
- HTTPS mode for FOS will NOT work for self signed certificates and certificates from the internal CA. Signed Certificates from a known authority will only be supported.
- The common url (for which the certificate is obtained) needs to be bound to the common ip configured, in the DNS of the network.

Note	• FOS needs to be purchased as an **add-on** even for the Enterprise edition.

SETUP PROCESS :

All the configurations must be done only in the primary installation and replicated to the secondary installation using mirrorSetup.bat



- **Installation** :

Install the build in machine 1

The installation for the second machine will be copied during mirror operation.

Note	
	◦ The entries in the registry will not be copied during the mirror operation as they are not required for the FOS to function. ◦ Use the secondary setup only as a backup, in case of a failover to avoid data accumulation in the machine 2. Once the machine 1 is fixed, Please switch over to the standard mode with the machine 1 running as primary server.

- **Set Access Permission** :

1. Share the machine 1's ManageEngine folder to machine 2 (with full read/write permission).
2. Create a folder called ManageEngine in machine 2 and share this folder with machine 1 (with full read/write permission).
3. Access machine 2's shared folders from machine 1 and vice versa, By accessing start menu->run-> \<machineIP>ManageEngine e.g: \192.168.3.11ManageEngine and provide the user name and password (if needed)to make sure an IPC connection is established between the machines.
4. Set the permission as given below for the service "Manage Engine ServiceDesk Plus"

   services.msc -> "Manage Engine ServiceDesk Plus" service -> right click -> properties -> Log On -> click "This account" and enter an account/password that has access to \<machineIP>ManageEngine , NOTE : Replicate the same step in machine 2 after the last step.

- **Configure FOS inputs**:

1. From the Machine 1 Navigate to the <SERVICEDESK HOME>fos folder.
2. Supply the values for the given fields in the <SERVICEDESK HOME>fosfosInputs.conf file using the following file format .

   The sample file for fos input is as follows:

```
nicMachine1 = {3EBB4723-3249-451A-AC96-82FAC46B2CAA}

nicMachine2 = {0AB90472-6D50-4254-9730-0F51436DE838}

commonIP = 172.21.9.150

machineURL1 = http://192.168.212.138:8080

machineURL2 = http://172.21.153.137:8080

ipMachine1 = 192.168.212.138

ipMachine2 = 172.21.153.137
```

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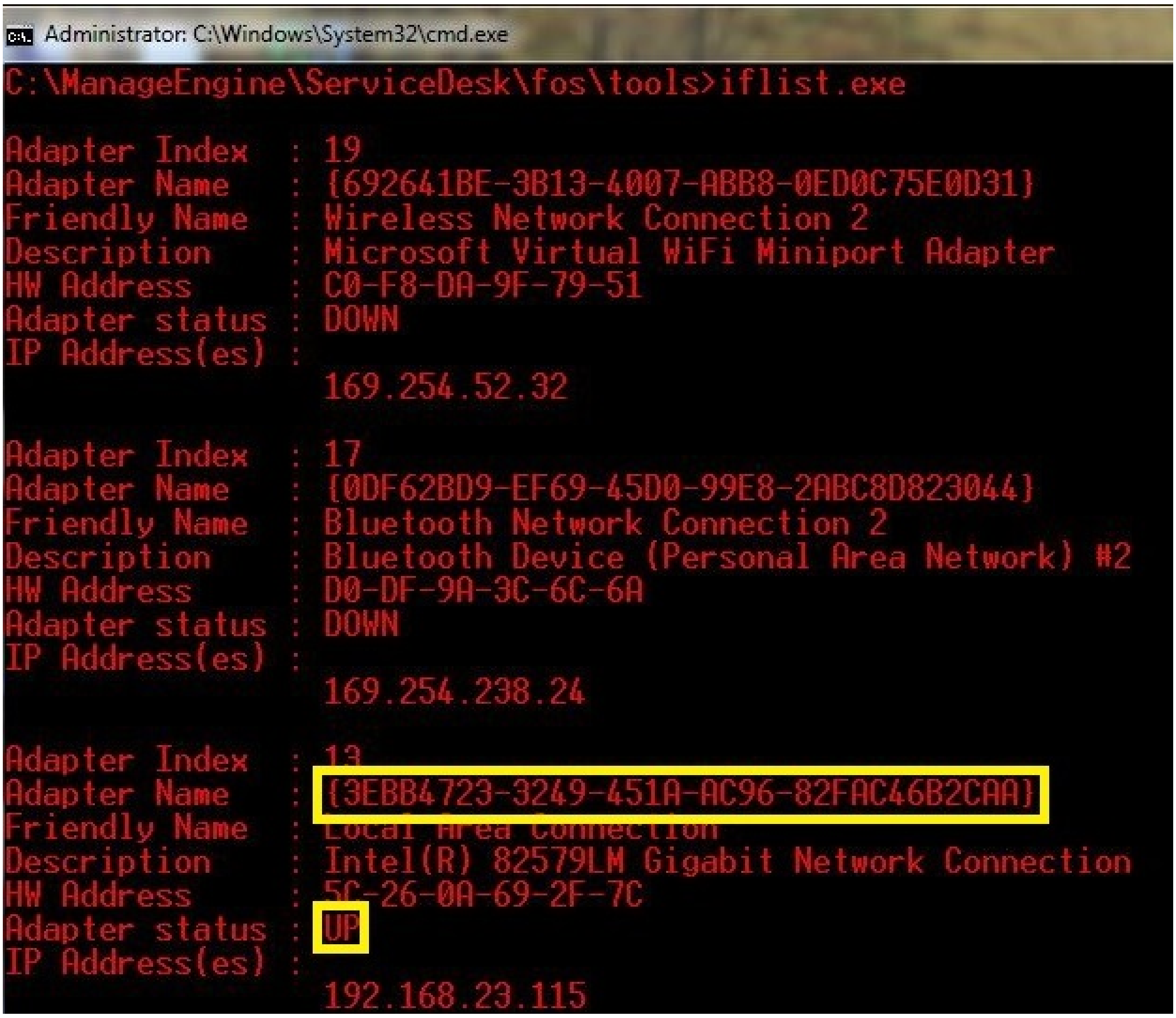
Please note,

1. **nicMachine1** refers to the the nic card address for machine 1.
2. **nicMachine2** refers to the nic card address for machine 2.
3. **commonIP** refers to the virtual IP address used to bind the active machine.
4. **machineURL1** refers to the url for accessing servicedesk in machine 1.
5. **machineURL2** refers to the url for accessing servicedesk in machine 2.

Tool for identifying the nic card address:

1. Use the iflist.exe tool inside the <SERVICEDESK HOME>fostools folder to obtain the nic card that is actively configured for the machine.
2. Choose the nic card id of the network that is UP. (To be specific choose the NIC address for the IP to which the servicedesk application is bound)
3. Copy the iflist.exe to the remote machine and run it to obtain the nic card id for that machine.



Use <SERVICEDESK HOME>bin[changeDBserver.bat] and externalize the DB

Complete the DB , JAVA , Memory tuning in the required files (If needed).

- **Mirror Installation** :

  Invoke <SERVICEDESK HOME>fosmirrorSetup.bat <machine2-name/ip> - pass the machine 2 name or IP as parameter

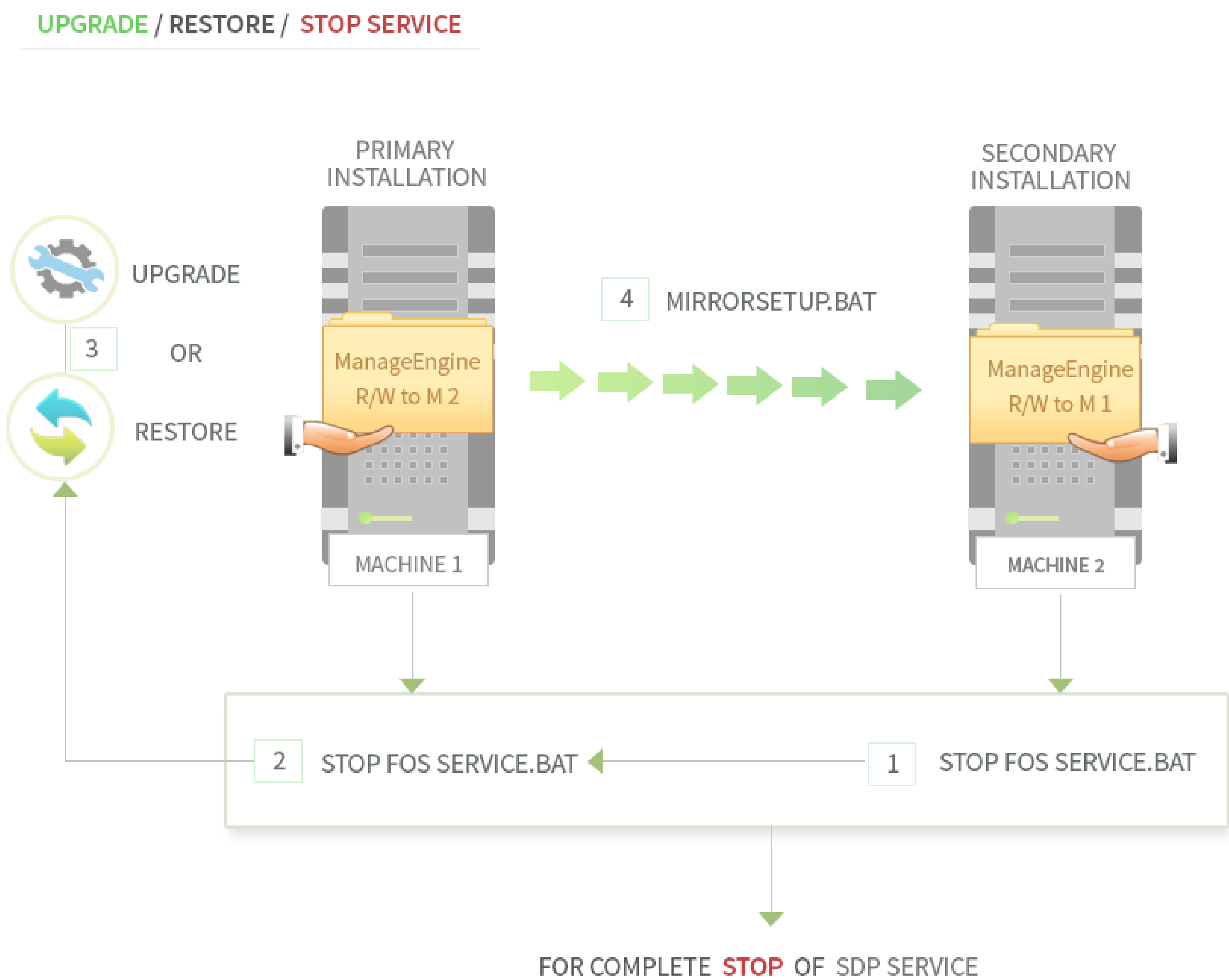
Start Application :

Invoke <SERVICEDESK HOME>fosstartFOSService.bat in machine 1. This will also start SDP service in machine 1.

Invoke <SERVICEDESK HOME>fosstartFOSService.bat in machine 2. This will also start SDP service in machine 2.

Note	• SDP service must be started only through the bat file and not through windows SDP service or from the start menu.

Upgrade process:



Follow these steps while upgrading the FOS.

- Invoke <SERVICEDESK HOME>fosstopFOSService.bat in machine 2. This will also stop FOS and SDP service in machine 2.
- Invoke <SERVICEDESK HOME>fosstopFOSService.bat in machine 1. This will also stop FOS and SDP service in machine 1.
- Upgrade Build in Machine 1 using the PPM. For more details click.
- Invoke <SERVICEDESK HOME>fosmirrorSetup.bat <machine2-name/ip> - pass the machine 2 name or ip as parameter.
- If you are using secure server (https), go to <SERVICEDESK HOME>fosconfwrapper-fos.conf in machine 2, find "wrapper.java.additional.4=-Dverifyhost=<ip of master machine>", remove the hash preceeding the configuration, and replace <ip of master machine> with the IP of machine 1.
- Invoke <SERVICEDESK HOME>fosstartFOSService.bat in machine 1. This will also start FOS and SDP service in machine 1.
- Invoke <SERVICEDESK HOME>fosstartFOSService.bat in machine 2. This will also start FOS and SDP service in machine 2.

Restore process :
Follow these steps while restoring the FOS.

- Invoke <SERVICEDESK HOME>fosstopFOSService.bat in machine 2. This will also stop FOS and SDP service in machine 2.
- Invoke <SERVICEDESK HOME>fosstopFOSService.bat in machine 1. This will also stop FOS and SDP service in machine 1.
- Restore the data in machine 1 setup. For more details click.
- Invoke <SERVICEDESK HOME>fosmirrorSetup.bat <machine2-name/ip> - pass the machine 2 name or ip as parameter.
- If you are using secure server (https), go to <SERVICEDESK HOME>fosconfwrapper-fos.conf in machine 2, find "wrapper.java.additional.4=-Dverifyhost=<ip of master machine>", remove the hash preceeding the configuration, and replace <ip of master machine> with the IP of machine 1.
- Invoke <SERVICEDESK HOME>fosstartFOSService.bat in machine 1. This will also start FOS and SDP service in machine 1.
- Invoke <SERVICEDESK HOME>fosstartFOSService.bat in machine 2. This will also start FOS and SDP service in machine 2.

Note	• As a general rule run mirrorSetup.bat (under <SERVICEDESK HOME>fos folder) whenever there is a configuration change made in the machine 1 setup. • Configuration tips: Always do the configuration changes like changing the web server port, theme changes, translations etc in the machine 1 (Primary installation). • If the file attachments path is modified via UI then the corresponding conf file must be manually updated in the FOS service

Prerequisites for DC Add-on (If DC plugin installed):

- The location path of the servers on both installations(machine 1 & machine 2) should be the same

  (\primary installationManageEngineServiceDesk and \secondary installationManageEngineServiceDesk and so on)
- File location path has to be changed to a network share that is accessible by both the installations(machine 1 & machine 2) for the following

  DesktopCentral - Admin - Tools - Database Backup - Backup Directory

  DesktopCentral - Admin - Software Repository - HTTP Repository - New Location

  DesktopCentral - Patch Mgmt - Downloaded Patches - Settings - Patch Repository Location

Disabling FOS:

- Invoke <SERVICEDESK HOME>fosstopFOSService.bat in both the machines. This will also stop the FOS and SDP service in both the machines.
- Remove these two files from the folder <SERVICEDESK HOME>fos,

<SERVICEDESK HOME>fosconfigSuccess.txt.

<SERVICEDESK HOME>fosSDPFosStart.txt.

FOS will be disabled.

Note	• The SDP service which was moved to the **Manual** mode must be reset to the **Automatic** mode manually.

Login page customization

The login page can be customized according to the user's needs.

- The html file for default layout is available in C:/ServiceDesk>>custom>>login>>default.html
- The user can make a copy of the 'default' file and customize it as per their requirement. The customized file should be saved as 'custom.html' in the same location as that of the default file. ie; C:/ServiceDesk>>custom>>login>>custom.html
- The user has to ensure that the server is restarted after making changes (ie; add/update/delete) in custom.html.
- The images and css files have to be saved in the 'custom/login' path. In the html file, the image should be accessed as follows: /custom/login/login_image.png
- The css file should be accessed as follows: /custom/login/loginstyle_layout.css
- Ensure that the id "loginFormDiv" is present in the desired place in the html file, so that login contents ('username','password','domain','keep me signed') are displayed as per the customization. If the id "loginFormDiv" is not present in the html file, the login contents will appear in the center of the page.

STEPS TO REMOVE CUSTOMIZATION:

The customized login page can be restored to default by following the step mentioned below:
Delete the file 'custom.html' from C:/ServiceDesk>>custom>>login>>custom.html.On deleting, the default login page will be restored.

Translations

Translations let you personalize ServiceDesk Plus by modifying any text displayed in the web interface to suit your organization needs. You can modify sentences or change specific words such as, Request to Tickets, Admin to Configurations, or Requesters to Users using Translations.
If you have multi language edition, then you can modify the transcripts for all the languages supported by ServiceDesk Plus.

NOTE:

1. To view the modified text, make sure you restart the server.
2. For sentences with curly braces {}, make sure you enter the curly braces even after modifying the sentence.

To access **Translations** Configuration Wizard,

1. Click **Admin** tab in the header pane.
2. Click **Translations** under **General Settings** block. By default, the language set in the Translations page is English. The total number of text in the application, and the number of modification make by you is represented in the form of a link. You can select the link to view the same.

In case of other language, the English text and the other language text is displayed one below the other.

Modifying Sentences

If you want to modify a sentence, then an instant means is by performing a search for the sentence.

1. Enter the sentence in **Search for English** text field. Say, Mark this template Inactive to.
2. Click **Search** button. The search result shows the list of sentences having Mark this template Inactive.
3. Click **Modify** link below the sentence.
4. Enter the modified sentence in the text provided. Say, Mark as Inactive.
5. Click the icon to save. The entered value is saved in the file present in the custom/i18n directory. A Reset link is displayed beside the modified sentence. Click the **Reset** link to revert the changes.

Modifying a specific Text

If you want to call Admin as Configurations, or Requesters as Users, then you can do so using the Find & Replace button.

1. Click **Find & Replace** button.
2. Enter the keyword to search in **Find** text box.
3. Specify the keyword to be replaced in the **Replace** text box.
4. Click **Proceed** button.
5. The search result shows sentences with the search keyword and the corresponding sentences with the replaced keyword at the side.
6. Select the check box beside the sentences to replace the word.
7. Click **Replace** button. The sentence is modified and displayed along with a Reset link. Click **Reset** link to revert the changes.

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Integrate ServiceDesk Plus with other ME products

ServiceDesk Plus allows you to integrate the application with the following other ManageEngine Products:

- Desktop Central

  For allowing helpdesk to improve their IT services through **Desktop and Mobile device management**

- ADSelfService Plus

  For enabling users (both technicians and requesters) to **self-service their Active Directory accounts**

- ADManager Plus

  For allowing technicians to **create, edit and effectively manage Active Directory user accounts**

- OpManager

  For allowing the helpdesk to **monitor your IT infrastructure** using this Network Monitoring Tool

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Desktop Central Integration

Desktop Central (DC) is a web-based Windows Server and Desktop Management Software from ManageEngine. And, with Desktop Central Integration with ServiceDesk Plus (SDP), you can configure and manage your Windows environment from a single point. Desktop Central automates regular desktop management activities like installing software, patches and service packs in the windows workstations and servers available in your network. You can also execute scripts for a user or workstation.

Desktop Central Integration Requirement:

1. You should have installed both **Desktop Central** and **ServiceDesk Plus** products.
2. The ServiceDesk Plus version should be above **8** and should be running the **Enterprise Edition**.
3. Desktop Central version should be 70211 and above.

NOTE: If you have installed ServiceDesk Plus version 8.0 and above, then the DC operation works for Service Requests and not Incident requests.

Topics discussed in this section:

- Prerequisites for performing Desktop Central activities

  Lists the prerequisites for performing desktop central activities.
- Getting Started with DC Integration

  Step by step configuration to establish the integration and perform desktop management activities.
- Authentication Mechanism between the two applications

  Authentication between SDP and DC application is through an application level key. This section explains about generating this authentication key.
- Handling Desktop Management activities from ServiceDesk Plus

  Procedure for handling DC operations like install/uninstall software, resolve requests using templates, remote control, tools, and executing scripts from ServiceDesk Plus.
- Enabling Notification to Technician

  Send notification to the concerned technician when the task is updated in Desktop Central.
- Integration when DC is running in HTTPS mode

  Steps to establish a connection when Desktop Central is running in HTTPS mode.

Prerequisites for performing Desktop Central activities

Desktop Central activities are performed only if,

- The Workstations and Servers are part of a **Windows** domain.
- The domain should be managed by **Desktop Central**, and
- A **Desktop Central Agent** should be installed in the workstations/servers.

Getting Started with DC Integration

To get started with Desktop Central Integration, the following tasks should be performed to establish the Integration and perform desktop management activities:-

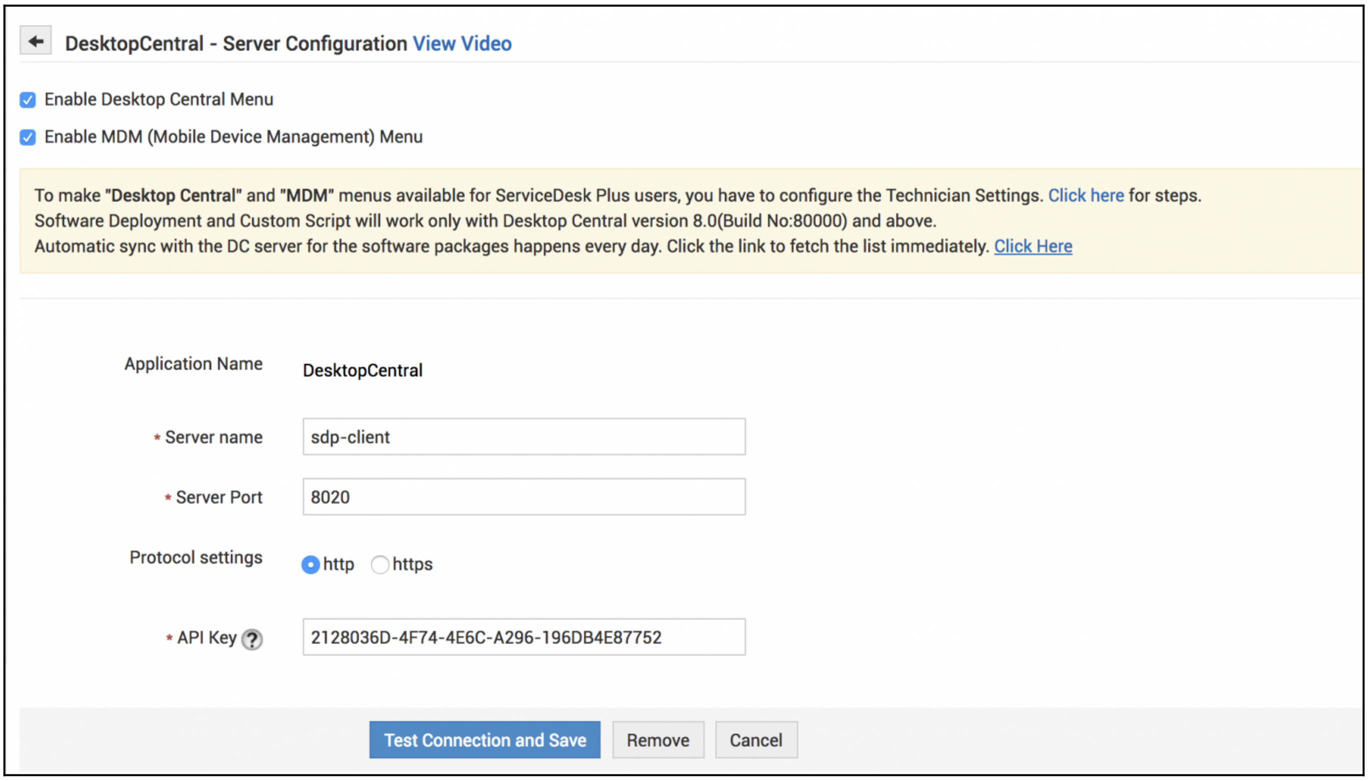
1. Desktop Central Server Settings
2. Enabling access to Desktop Management Functionality
3. Enabling Template Actions in the Service Item form

Step 1: Desktop Central-Server Configuration

If you have installed both ServiceDesk Plus and Desktop Central servers, you just have to provide the details of the computer where Desktop Central is installed along with its port number. On entering these details and save, ServiceDesk Plus will try to establish a connection with the Desktop Central server. Once the connection is established, the configured software details and scripts from the Desktop Central server are fetched.

1. Click the Admin tab in the header pane.
2. Click **ME Integrations** under General Settings and click **DesktopCentral**.
3. On the DesktopCentral Server-Configuration page, enter the **Server name** where Desktop Central application is installed.
4. Enter the **Server port** number of the Desktop Central server.
5. Select the **Protocol settings**. Say, HTTP or HTTPS. If the Desktop Central Server is running in HTTPS mode, refer SDP-DC integration with DC in HTTPS mode, to know more about establishing a connection.
6. To display the Desktop Central drop-down menu in the header pane, select **Enable Desktop Central Menu** check box. The Desktop Central menu will be displayed only for Desktop Central build number #70242 and above.
7. Click **Test Connection and Save**. The settings are saved and ServiceDesk Plus tries to establish a connection with the Desktop Central server. When the connection is established, ServiceDesk Plus fetches the software details and scripts from DC.

ServiceDesk Plus automatically syncs with Desktop Central server for configured software packages day-to-day. So, if you need to fetch the configured software packages instantly, click the **click here** link.

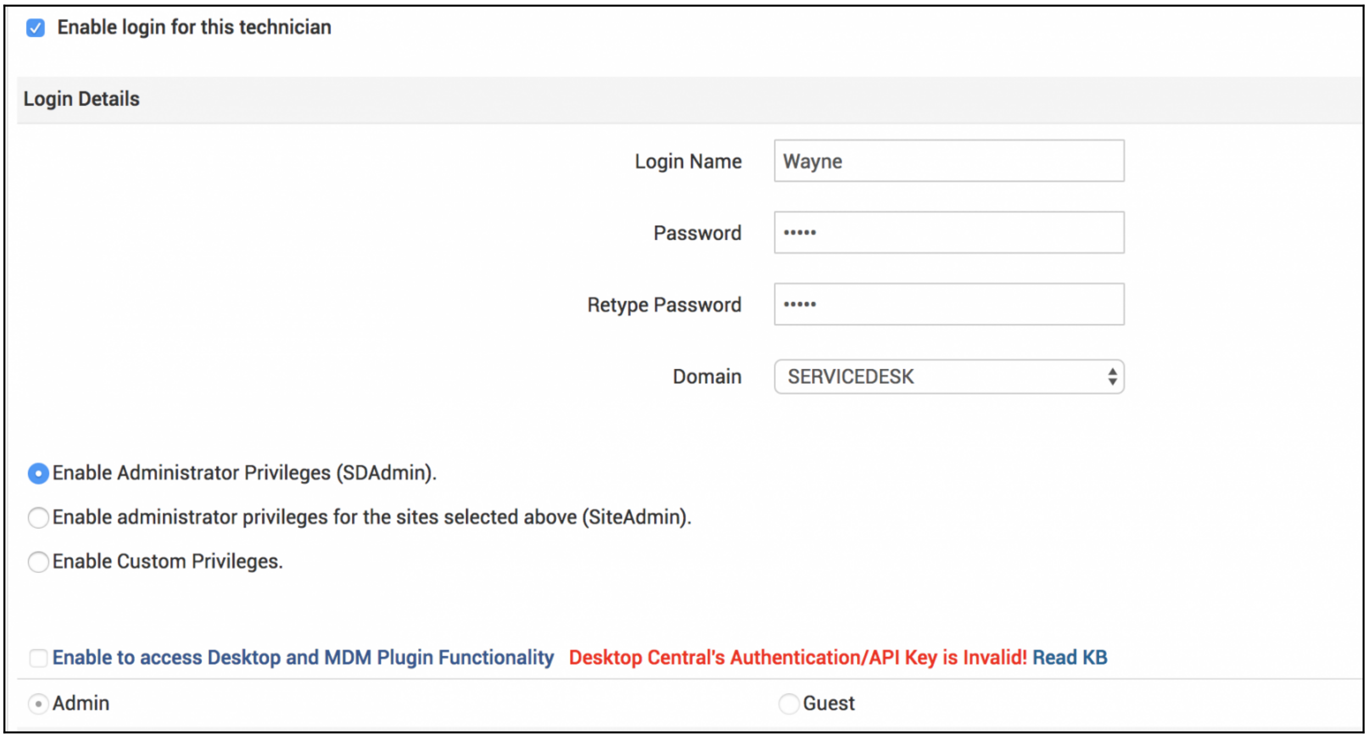


Step 2: Enabling access to Desktop Management Functionality

While enabling login permission to a technician, you can also provide the technician with Desktop Central login access and DC Role. The two DC Roles are DC Admin and DC Guest. Select the check box **Enable to access Desktop and MDM Plugin Functionality** and provide either of the roles to the technician. When the technician logs into ServiceDesk Plus using his/her credentials, the technician can view the Desktop Management drop-down menu, from where the technician can perform Desktop Management functions within the ServiceDesk Plus web console.

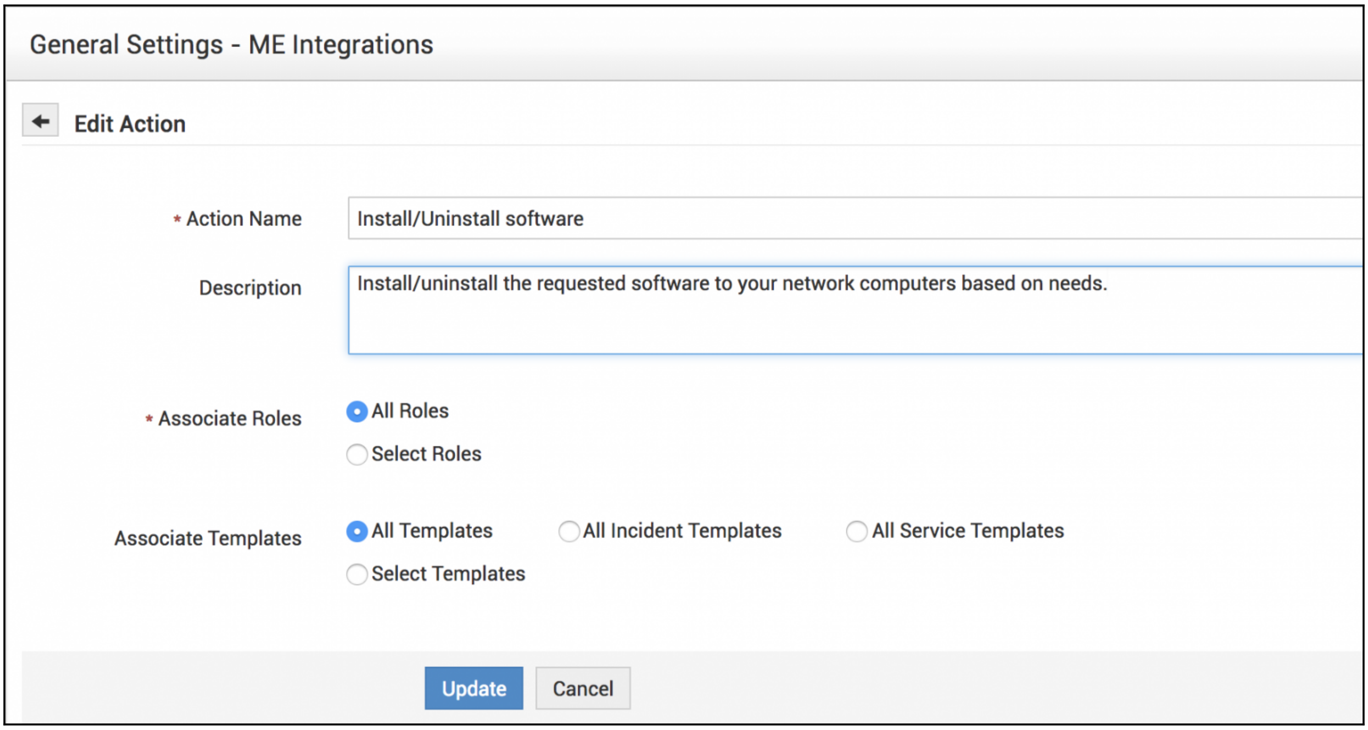
NOTE:

1. Selecting the check box **Enable to access Desktop and MDM Plugin Functionality** and a DC Role will create a user with the same login credentials in the Desktop Central application.
2. You will be able to select **Enable to access Desktop and MDM Plugin Functionality** check box only when the connection between Desktop Central and ServiceDesk Plus is established successfully. If the integration is not successful, then this option will be greyed out.



Step 3: Enabling Template Actions for a Service Request

Apart from providing technicians with the privilege to perform Desktop Central operations, you need to associate templates and roles to the actions. Templates and roles can be associated to actions by editing a action under **Admin**-->**ME Integration**-->**DesktopCentral**--> **DesktopCentral Actions**.

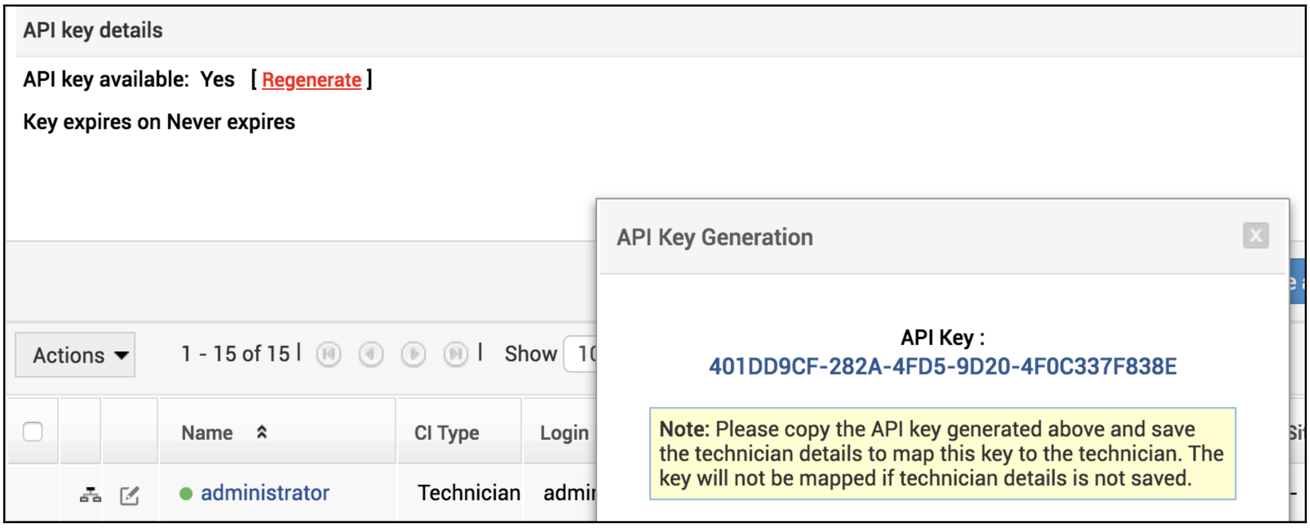


This functionality is available only when Desktop Central 70211 and above is integrated with ServiceDesk Plus. If the integration is not established, then this option will be greyed out.

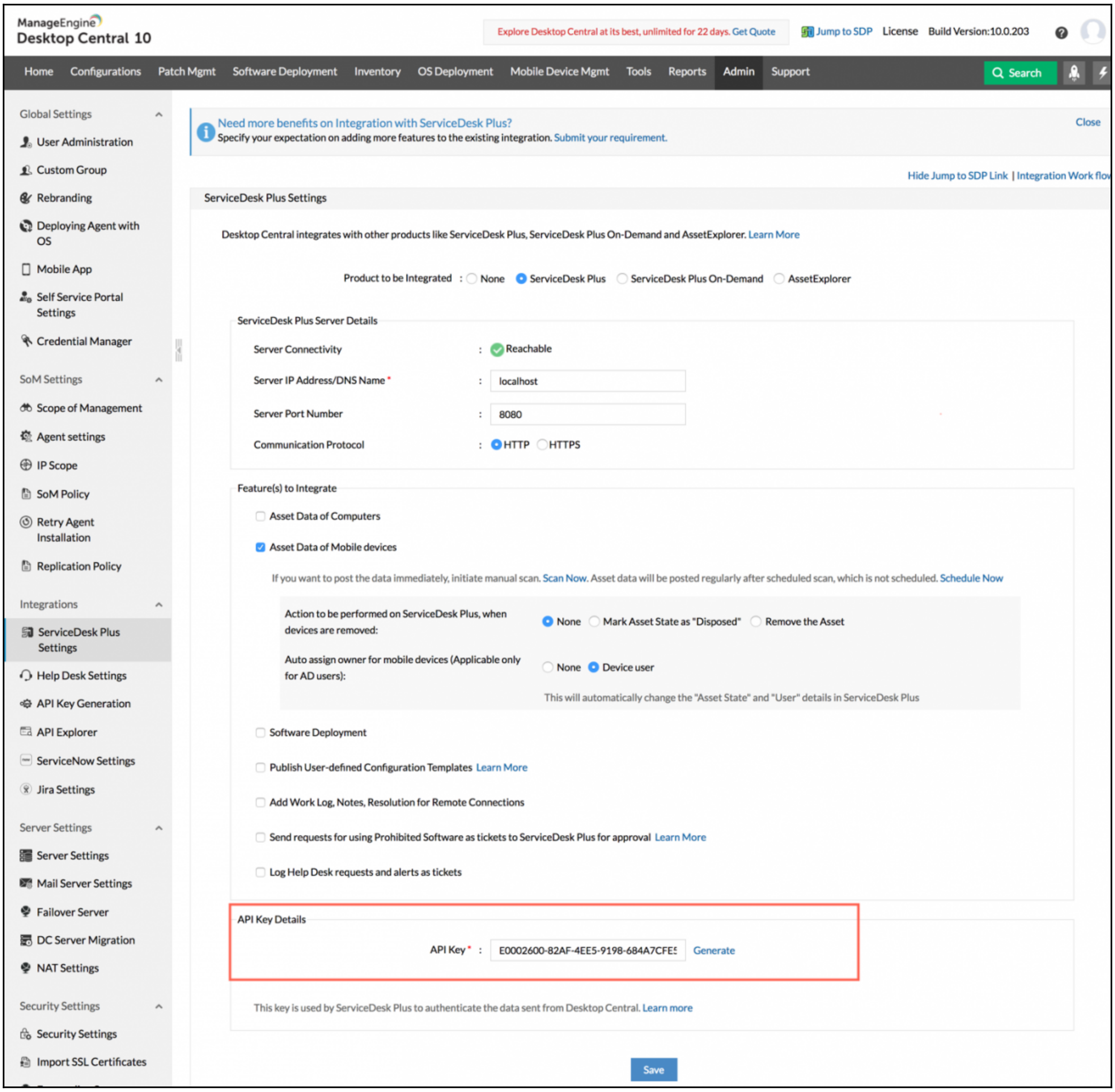
Authentication mechanism between the two applications

The authentication between ServiceDesk Plus and Desktop Central is through an application level key that functions as a handshake mechanism between the two applications. A unique key is generated for a technician in the ServiceDesk Plus application.

1. Click Admin -> Technicians under Users.
2. Click the icon beside the technician to generate the API key. Please note that the technician should be enabled with login permission.
3. Click Generate. If a key is already generated for the technician, a **Regenerate** link appears.



The generated key is specified as the Authentication Key under ServiceDesk Plus Settings in Desktop Central application. So, whenever Desktop Central contacts ServiceDesk Plus, the authentication key is passed. This key is validated against the ServiceDesk Plus database and if found valid, the process continues, else an error is thrown.



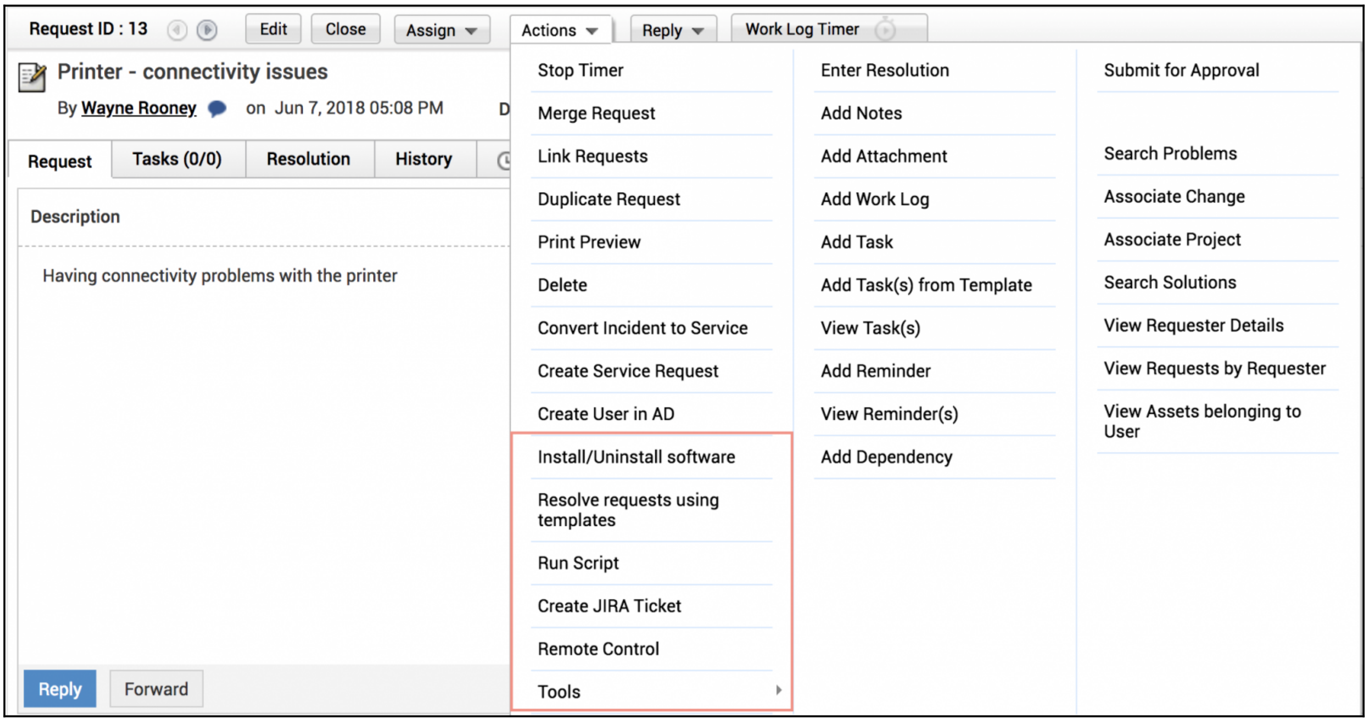
Handling desktop management activities from ServiceDesk Plus

Since the whole idea of this integration is to perform regular desktop management activities from ServiceDesk Plus application, the list of software and scripts are fetched from Desktop Central periodically and populated in ServiceDesk Plus database.

So when an end-user raise a service request for "installing software", the technician with Desktop Central role can log into ServiceDesk Plus application and perform the installation operation.

Performing desktop management activities

From the request details page of the service request, click the **Actions** drop-down menu. The options **Install/Uninstall software, Resolve requests using templates, Run Script, Remote Control, and Tools** are listed based on the template associated with these actions as shown below,



Install/Uninstall software

Click **Install/Uninstall Software** option. The Install/Uninstall Software window pops up.

Package Settings

1. Select the Installer Type, whether the software to be installed is of the format MSI or EXE.
2. The list of software under the selected Installer Type is listed under Package Name. Choose the software from the dropdown
3. Specify the name of the user for which the installation should run in Run As field.
4. Enter the Password of the specified user.
5. The type of operation, say Install or Uninstall is listed in Operation Type drop down. If the Installer Type is MSI, the operation type consists of Install, Advertise and Uninstall. For EXE, the operation type consists of Install and Uninstall.
6. If the execution file is in a network share, then the file or folder can be copied to the client machine by selecting the option from Copy Option drop down.

Deployment Settings

1. The domains available in ServiceDesk Plus are listed under the Domain drop down. Select the domain of the user/workstation.
2. The installation can be for a user or a workstation. Select the option from Install for drop down.
3. You can set and schedule the installation operation. If the Install for is selected as User, the installation can occur During or after Login into the machine, during login or after login. Similarly, for a workstation, the installation can occur During Startup, After Startup, During or After Startup.
4. You can also schedule a time for the deployment operation by enabling the checkbox beside Schedule Operation check box. Select the Schedule Date and Time using the calendar icon.
5. Set the Reboot Policy from the drop-down. You can either force a reboot when the user logs into the machine, force a shut down when the user has logged in or allow the user to skip the reboot/shut down.

Selecting Users/Workstations

You can select the Users/Workstations for the installation from the icon. The Users/Workstations under the selected domain is listed in a pop-up window.

NOTE: Selecting Users/Workstations depends on the Install for option under Deployment Settings. If you have selected Users, Select Users appears and vice versa.

1. Enable the checkbox beside the user/workstation.
2. Click Select User/Workstation button. The users/workstations are listed under Selected Users/Workstation. Click Select Users/Workstation and Close button to add the users/workstations to the list and close the pop-up window.
3. Save the details.

p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545} li.li1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545} ol.ol1 {list-style-type: decimal}

Resolve requests using templates

Click **Resolve requests using templates** option. **Configuration template details** window pops up.

1. Choose the DesktopCentral template.
2. Search/enter the computer name.
3. Click **Deploy Configuration** to execute the configuration.

Note: This feature is supported only for customers, who use Desktop Central (100139) integrated with ServiceDesk Plus (9325).

Executing scripts

To execute scripts on a computer account/user account,

1. Click **Run Script** option.
2. In the Run Script popup window, select the **Script Name** from the drop-down box. The scripts files are uploaded in Desktop Central, and ServiceDesk Plus will store these script files in the SDP database. These script files are periodically updated in SDP database.
3. If required, specify the Script Arguments.
4. Select the Domain to which the user account/computer account belongs.
5. You can execute the script either for a computer account or user account. If you want to install the script for a computer account, select **Workstation** from the **Install for** drop-down box. The **Select Workstation** block is displayed. Click the icon to select workstations.
6. To execute the script for user accounts, select **Users** from the **Install for** drop-down box. The **Select Users** window is displayed. Click **Select user** link. The list of users belonging to the selected domain is displayed. Select the check box beside the user(s). Click **Select User** button. Click **Select user and close** button to add the selected users and close the pop-up window.
7. Click the **Save** button. On saving the Run Script Configuration, a task is created in Desktop Central.

Remote control

To initiate a connection with a remote system,

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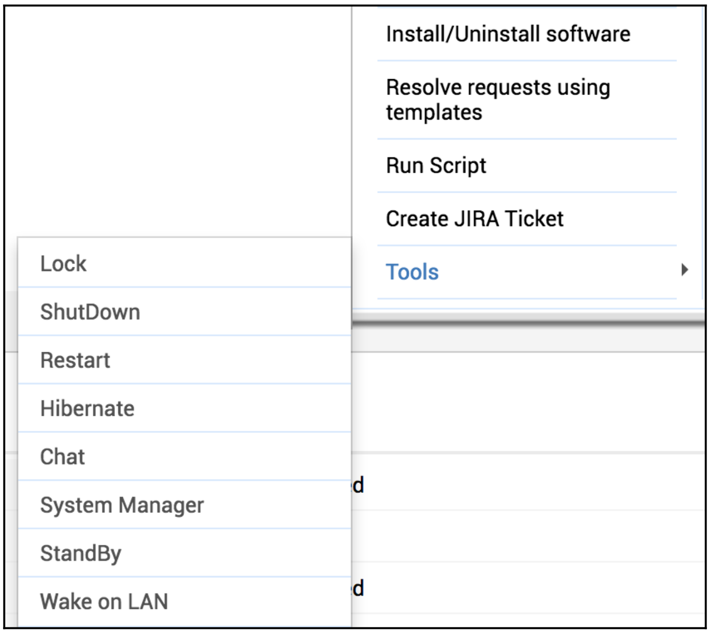
Click **Remote Control** option. **Initiate Remote Control using Desktop Central** window pops up.

1. Enter/search the 'computer name'.
2. Type the 'reason message' to initiate a remote session.
3. Click the **initiate** button.

Tools

Click **Tools** option. A window pops up with Lock, ShutDown, Restart, Hibernate, Chat, System Manager, StandBy, and Wake on LAN actions.



Lock: Select the computer to be locked. It will automatically lock the system using the desktop central agent. After this process, a note will be added to that particular request.
Shutdown: Select the computer for a shutdown. Use this option to close all the applications forcibly, before shutting down the computers. You can also use this option when applications are running in the background and you want to shut down the computer immediately.
Restart: To restart a computer.
Hibernate: To set a remote computer in Hibernate mode.
System Manager: As networks grow, IT departments need to efficiently manage remote computers. Desktop Central's System Manager enables administrators to perform various system management tasks without user interactions. You could monitor the processes, services, software, users and other details about the systems you manage. To get started with System Manager, go to **Tools --> System manager --> Computer Name --> Manage**.
StandBy: To set a remote computer in Standby mode.
Wake on LAN: To wake up a computer within the same/different subnets. Desktop Central agent should be live to perform the wake-up task.

Enabling Notification to Technician

Once the software installation/uninstallation task is performed and the status is updated by Desktop Central, you can enable notification to the concerned technician regarding the update under Notification Rules.

1. Click Admin -> Notification Rules icon under Helpdesk block.
2. In the Request section, Enable "Notify Technician when a software Installation/Uninstallation task is updated" checkbox.

3. Save the details. p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545}

If Desktop Central runs in HTTPS mode, you will have to generate and install a self-signed certificate to establish a connection between ServiceDesk Plus and Desktop Central servers. Learn more here.

Integrating with ADSelfService Plus

Integrate ServiceDesk Plus with ManageEngine ADSelfService Plus and allow your Active Directory users (both technicians and requesters) to self-service their Active Directory passwords and accounts easily. ManageEngine ADSelfService Plus is a secure, web-based, end-user password reset management program. This software helps domain users to perform password self-service, account self service and self service of their personal details (e.g telephone number, e-mail id, etc.,) in Microsoft Windows Active Directory. If you have installed both of these products, you just have to provide the details of the computer where ADSelfService Plus is installed, along with its Port Number.

Steps to Install:

1. **Download** and **Install** ADSelfService Plus.
2. **Configure** ADSelfService Plus Settings in ServiceDesk Plus.

Steps to Configure:

1. Navigate to **Configure Other ME Products** page by selecting **Admin** tab --> and **Configure Other ME products** option from **General** block.
2. Click **ADSelfService Plus** option.
3. Decide to whom **ADSelfService Plus menu should displayed** [technicians or requesters or both] by **Enabling/Disabling** ADSelfService menu checkboxes for **technicians/requesters.**
4. Specify **Server Name** and **Port Number.**
5. Select the **protocol** (HTTP or HTTPs).
6. Click **Test Connection and Save** button. The connection will be established.
7. Once the connection is established, use the **"Jump To"** link to switch over to **ADSelfService Plus** server.

Note	1. ADSelfService Plus tab will be displayed to the technicians when the same has been enabled **irrespective of the integration status** between ServiceDesk Plus and ADSelfService Plus 2. ADSelfService Plus tab will be displayed to the requesters when the same has been enabled **only if ServiceDesk Plus is integrated** with ADSelfService Plus

Integrating with ADManager Plus

Integrate ServiceDesk Plus with ManageEngine ADManager Plus and manage your Active Directory user accounts easily. ADManager Plus is a simple, easy to use Windows Active Directory Management and Reporting Solution that facilitates bulk Active Directory User Creation/Management, Active Directory User/Group Modification. Active Directory Computer Management and more. If you have installed both these products, you just have to provide the details of the computer where ADManager Plus is installed along with its Port Number.

Steps to Install:

1. **Download** and **Install** ADManager Plus.
2. **Configure** ADManager Plus Settings in ServiceDesk Plus.

Steps to Configure:

1. Navigate to **Configure Other ME Products** page by selecting **Admin** tab --> and **Configure Other ME products** option from **General** block.
2. Click **ADManager Plus** option.
3. Specify **Server Name** and **Port Number.**
4. Select the **protocol** (HTTP or HTTPs).
5. Click **Test Connection and Save** button. The connection will be established.
6. Once the connection is established, use the **"Jump To"** link to switch over to **ADManager Plus** server.

Integrating with OpManager

Integrate ServiceDesk Plus with ManageEngine OpManager and monitor your network effectively. OpManager is a network and data center infrastructure management software that helps large enterprises, service providers and SMEs manage their data centers and IT infrastructure efficiently and cost effectively. Automated workflows, intelligent alerting engines, configurable discovery rules, and extendable templates enable IT teams to setup a 24x7 monitoring system within hours of installation. If you have installed both these products, you just have to provide the details of the computer where OpManager is installed along with its Port Number.

Steps to Install:

1. **Download** and **Install** OpManager.
2. **Configure** OpManager Settings in ServiceDesk Plus.

Steps to Configure:

1. Navigate to **Configure Other ME Products** page by selecting **Admin** tab --> and **Configure Other ME products** option from **General** block.
2. Click **OpManager** option.
3. Specify **Server Name** and **Port Number.**
4. Select the **proctocol** (HTTP or HTTPs).
5. Click **Test Connection and Save** button. The connection will be established.
6. Once the connection is established, use the **"Jump To"** link to switch over to **OpManager** server.

To edit/remove the configured settings, use respective icons next to the application.

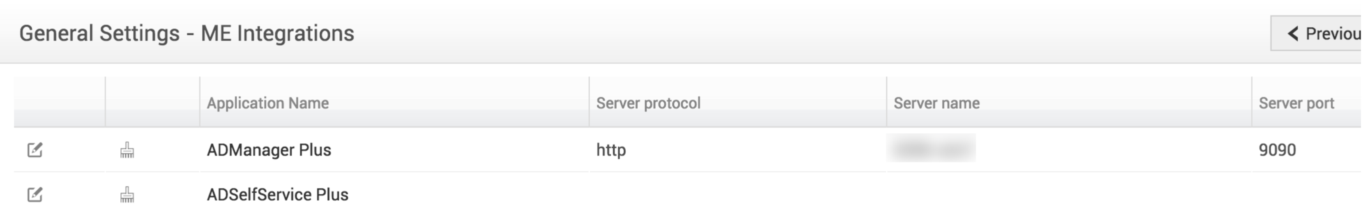
If the integrating application runs in HTTPS mode, you will have to generate and install a certificate to establish a connection between ServiceDesk Plus and the integrating application servers. Learn more here.

ADManager Plus Integration

ADManager Plus is a simple, easy-to-use Windows Active Directory Management and Reporting Solution that helps AD Administrators and Help Desk Technicians with their day-to-day activities. With a centralized and Intuitive web-based UI, the software handles a variety of complex tasks like Bulk Management of User accounts and other AD objects, delegates Role-based access to Help Desk Technicians, and generates an exhaustive list of AD Reports, some of which are an essential requirement to satisfy Compliance Audits.

- SDP-ADMP Integration
- Domain Configuration in SDP
- ADManager Plus- Server configuration in SDP
- ServiceDesk Plus Server configuration and Authentication in ADMP
- Create users in ADManager Plus from SDP
- Syncing Additional fields created in SDP with ADMP

SDP-ADMP Integration : SDP-ADManager Plus Integration offers ease of use for AD Administrators and Help Desk Technicians to do actions quickly in AD thus reducing the copying of data (Eg: Request form's data) from SDP into ADMP forms. Administrators can reset password, create, delete, unlock, enable and disable users in AD from ServiceDesk Plus. SDP-ADMP integration can be configured in Admin>> Configure other ME products >> ADManager Plus



Domain Configuration in SDP:
For SDP-ADMP integration, Domain creation for the user is necessary. For more details on domain configuration, click here.

- Domain for an existing user in SDP can be configured under Admin >>Technician >> Login Details >> Select Domain.
- New domain can be added in SDP using Admin->Discovery->Windows Domain Scan.

Note

Login name and Domain name of Help Desk Technician in ADMP should be same as that in SDP.
Please click here to know more details about domain configuration.
ADManager Plus- Server configuration in SDP:
The first step in SDP-ADMP integration will involve entering the ADMP's server details in SDP and vice versa. This will ensure registration of the server details in both the applications.

- Enter the Server name and Server Port where the application is currently running and choose between http and https protocol settings.
- Click Test Connection and Save. This will check for an established connection between SDP and ADMP in their

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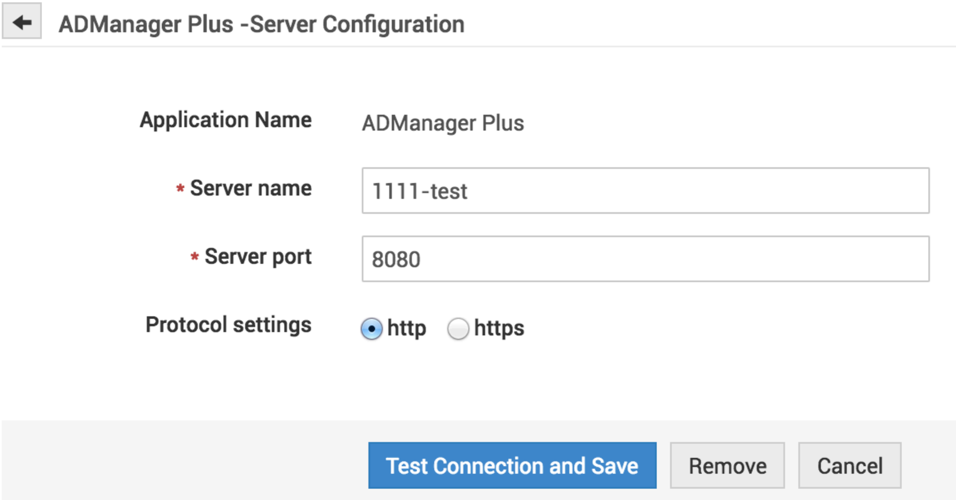
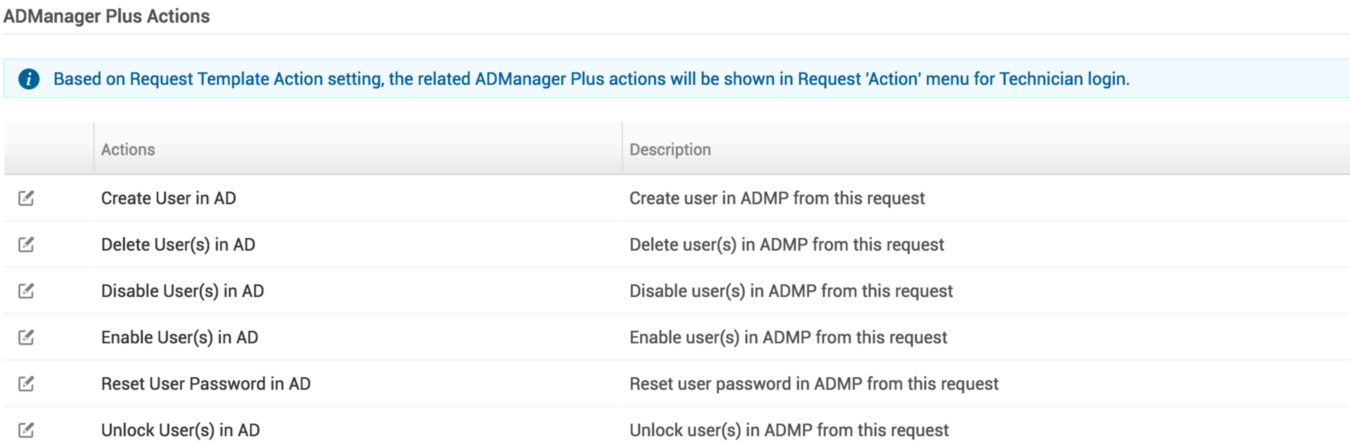
respective ports and save the settings.

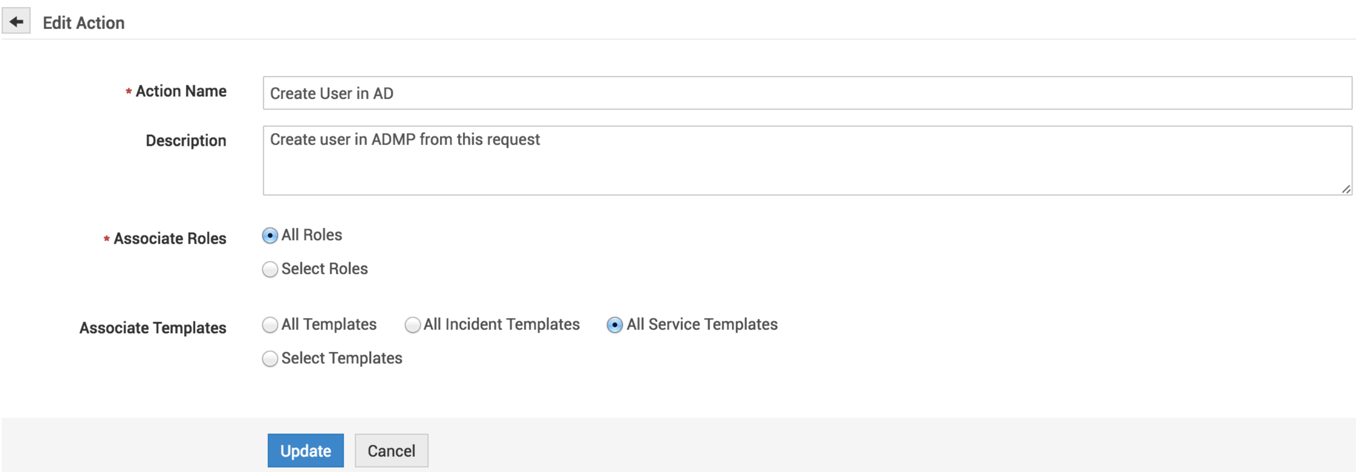
- Click 'Remove' to remove the established connection between the two applications. Clicking 'Cancel' will cancel the entered settings that have not been saved and return back to the List view page.



- After configuring the server settings, the general settings page with the list of ADManager Plus Actions and their description will be displayed along with option to edit corresponding actions.

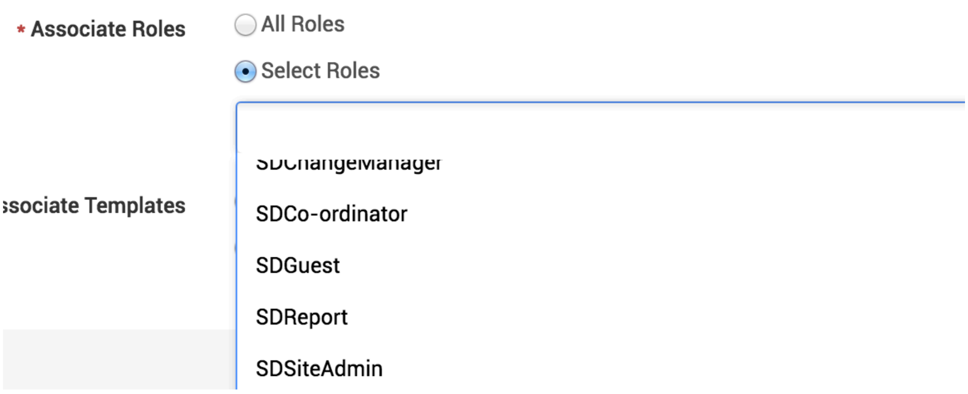


- On clicking 'edit', the 'Edit Action' page will be displayed. Enter/edit Action Name and provide suitable description.

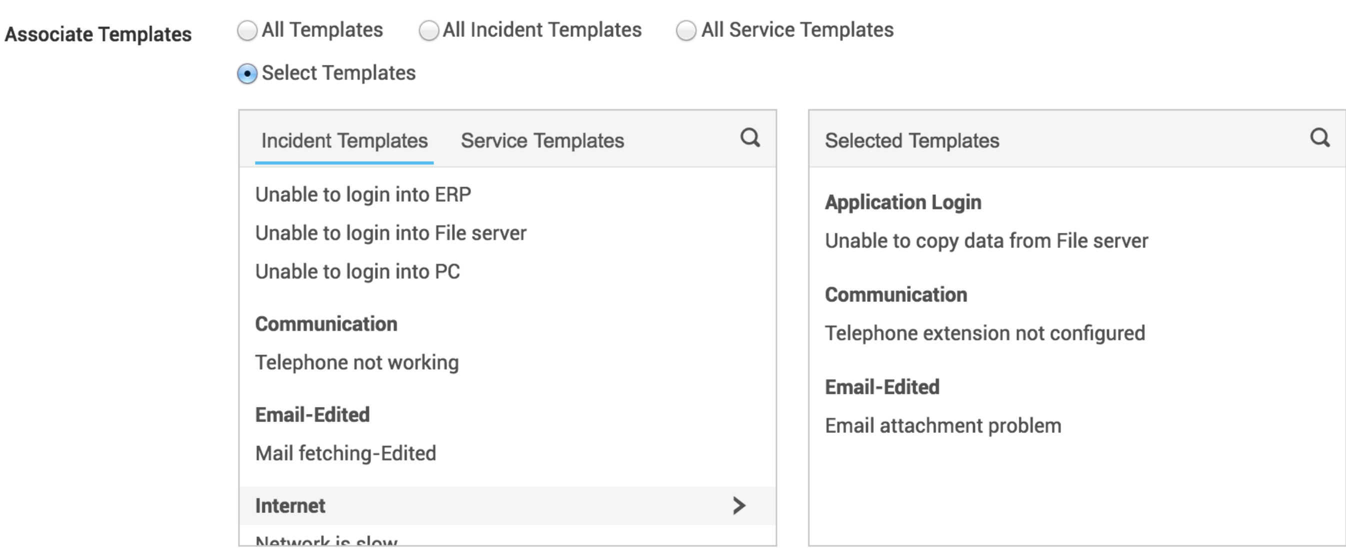


- **Associate Roles:** Choose 'All Roles' or 'Select Role'. Choosing 'All Roles' will provide permission for all

Technicians to perform that action. 'Select Role' displays the list of Roles and the Admin can choose users with selected roles to perform that action. Eg: SDAdmin, SDSiteAdmin etc.,



- **Associate Templates:** Choose all Templates or All Incident/Service Request or few selected Request Templates in which the corresponding action should be displayed. Requests created using that Request Template will have that action displayed in the Request details page under 'Actions' tab.



Note

The Administrator can also choose the options (Eg: Create User in AD, Delete User in AD) to be displayed in 'Actions' tab, by selecting the Template Actions available under Admin >> Service Catalog >> Service category >> Select the desired template >> Workflow >> Template Actions >> Enable/Disable.

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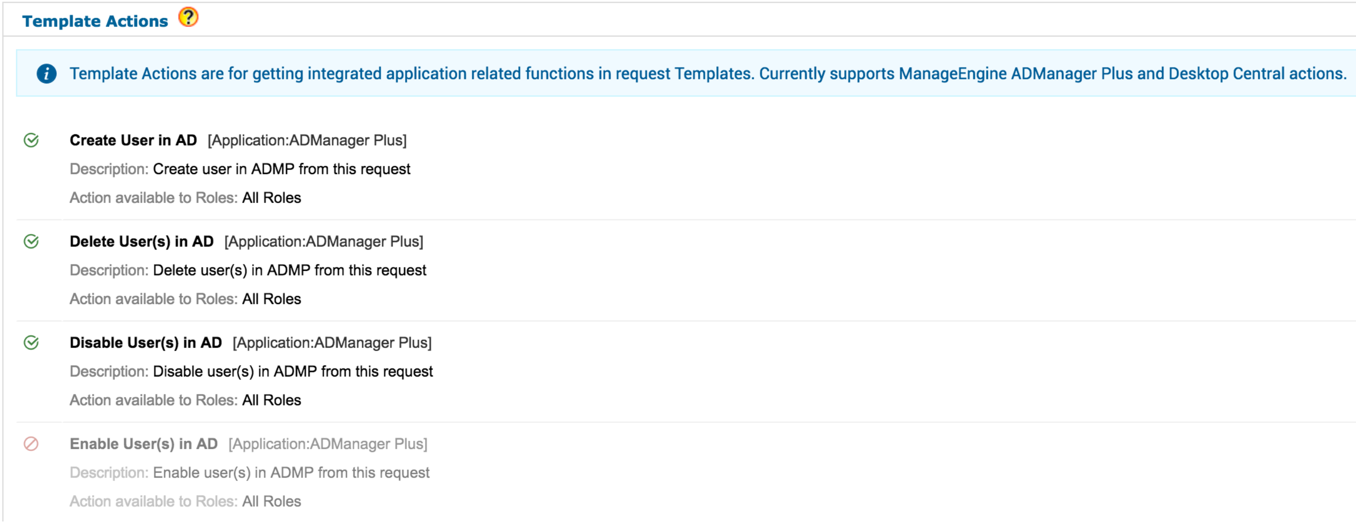
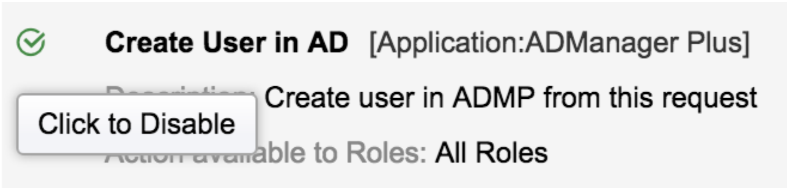
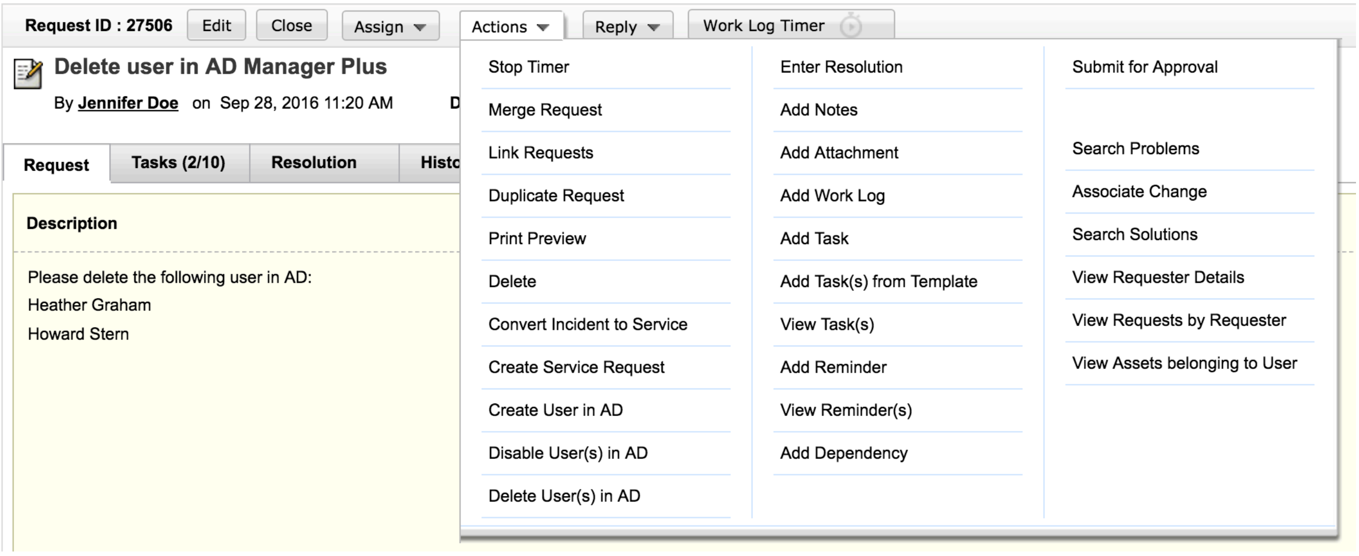


- From the list of options, Enable/Disable the options to be listed in the 'Actions' tab of Request details page.



- The enabled options to be displayed in 'Actions' tab will be displayed as follows for every Request created using that template. An entry in History will be added only when the menu is invoked from Request Details page.



Create user in ADManager Plus from SDP:

Based on Actions enabled for each Request Template, the Technician can perform the permitted actions.
Eg: When 'Create user in AD' is invoked from 'Request Details page >> Actions tab', a pop-up with required fields will be displayed. Note that these fields have to mapped exactly between the two applications. Provide all the details and click 'Create AD User'. To add more fields,

- Open the Admp.xml file available under [SDP_Home] >> integration >> resources >> admp >> conf.
- Edit "create_user" and include the desired additional fields. The field can be a text field/ date field/ date time

field/ pick list field.

Note

- To include the additional fields, it is necessary that the Id of the corresponding additional field in ADManager Plus is known. The Id values can be viewed here.

SDP FIeld Name	Field Id
Request ID	WORKORDERID
Created By	CREATEDBY
Subject	SUBJECT
Template	REQUESTTEMPLATE
Mode	MODE
SLA	SLA
Asset	ASSET
Site	SITE
Service Category	SERVICE
Category	CATEGORY
SubCategory	SUBCATEGORY
Item	ITEM
Technician	TECHNICIAN
Status	STATUS
Priority	PRIORITY
Level	LEVEL
Impact	IMPACT
Impact Details	IMPACTDETAILS
Urgency	URGENCY
Request Type	REQUESTTYPE
Group	GROUP
Description	DESCRIPTION
Description Short	SHORTDESCRIPTION
Requester	REQUESTER

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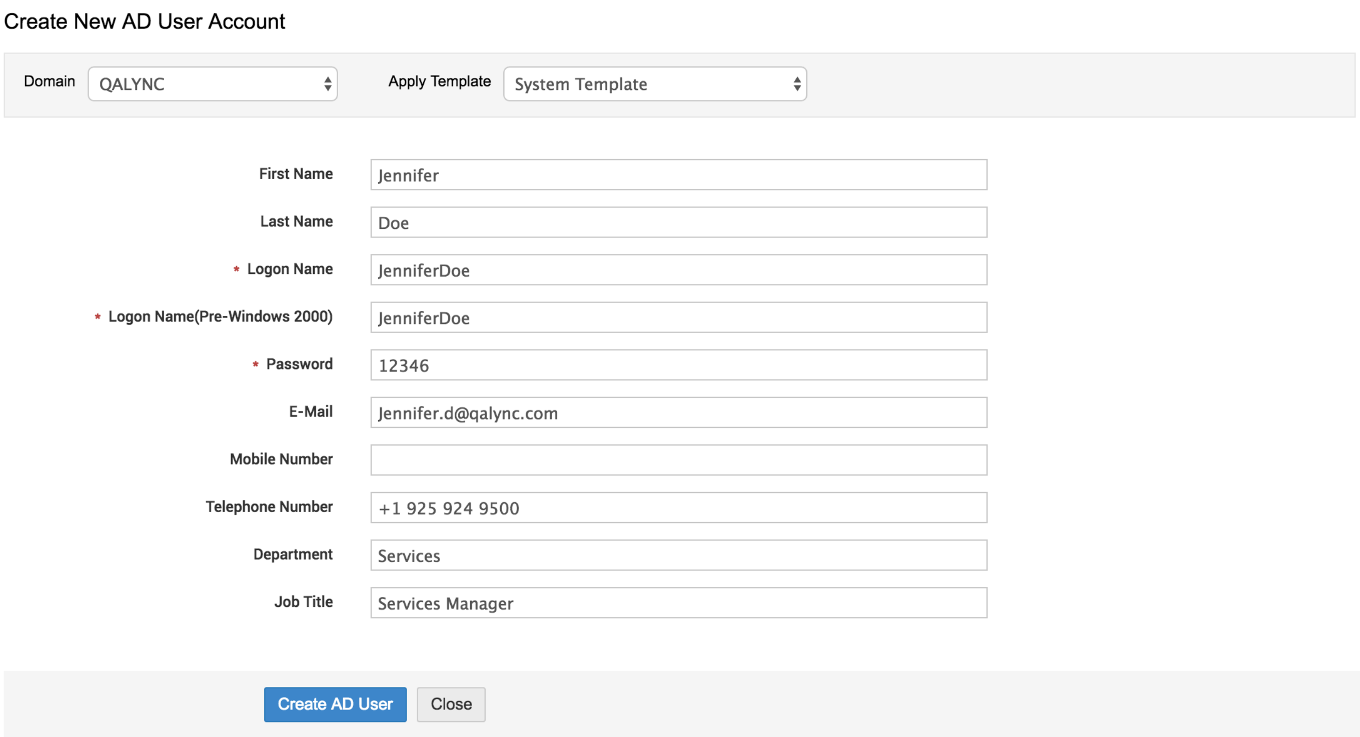
Department	DEPARTMENT
Created Date	CREATEDDATE
DueBy Date	DUEBYDATE
Time Elapsed	TIMESPENTONREQ
Resolved Date	RESOLVEDTIME
Completed Date	COMPLETEDTIME
Response DueBy Time	RESPONSEDUEBYTIME
Additional Fields	Field Name in SDP

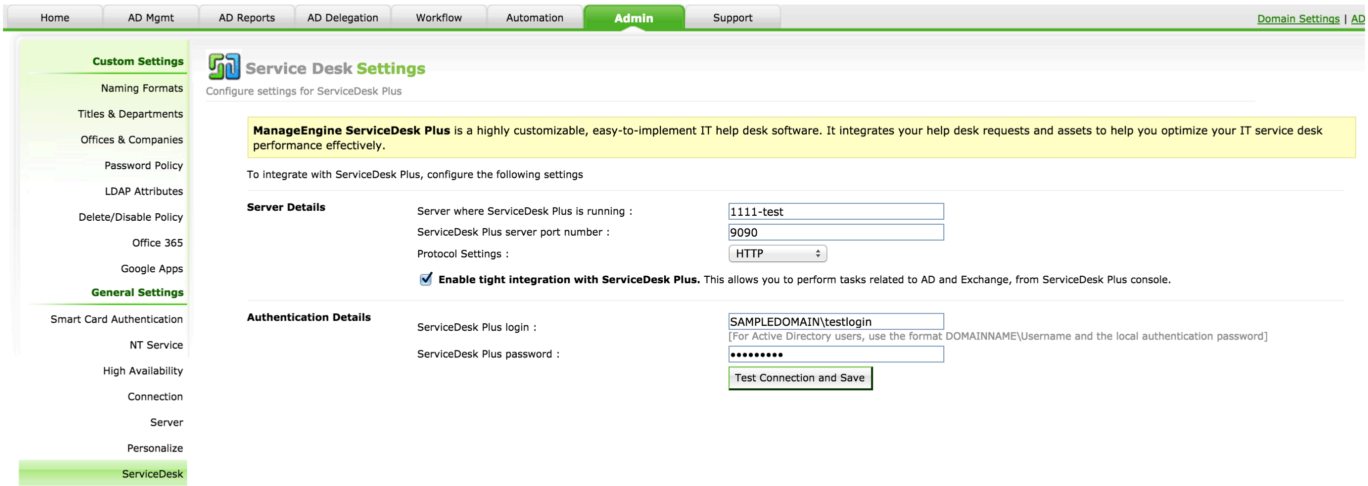
- In bulk actions form, instead of searching manually for a field, mention that field (for eg: Employee Name, etc.,) in the Admp.xml file under 'menu name'. This will search for the given field value in ADMP. Ie.,For operations like Enable/Disable/Unlock/Delete Users(s) in ADMP, the value for searching the user in ADMP can be taken from SDP request data. Thus a Technician invoking these actions do not have to enter the value for search field manually.



ServiceDesk Plus Server configuration and Authentication in ADMP:
The following settings have to be entered and configured in ADManager Plus. The settings are available under ADMP >> Admin >> General Settings >>ServiceDesk.

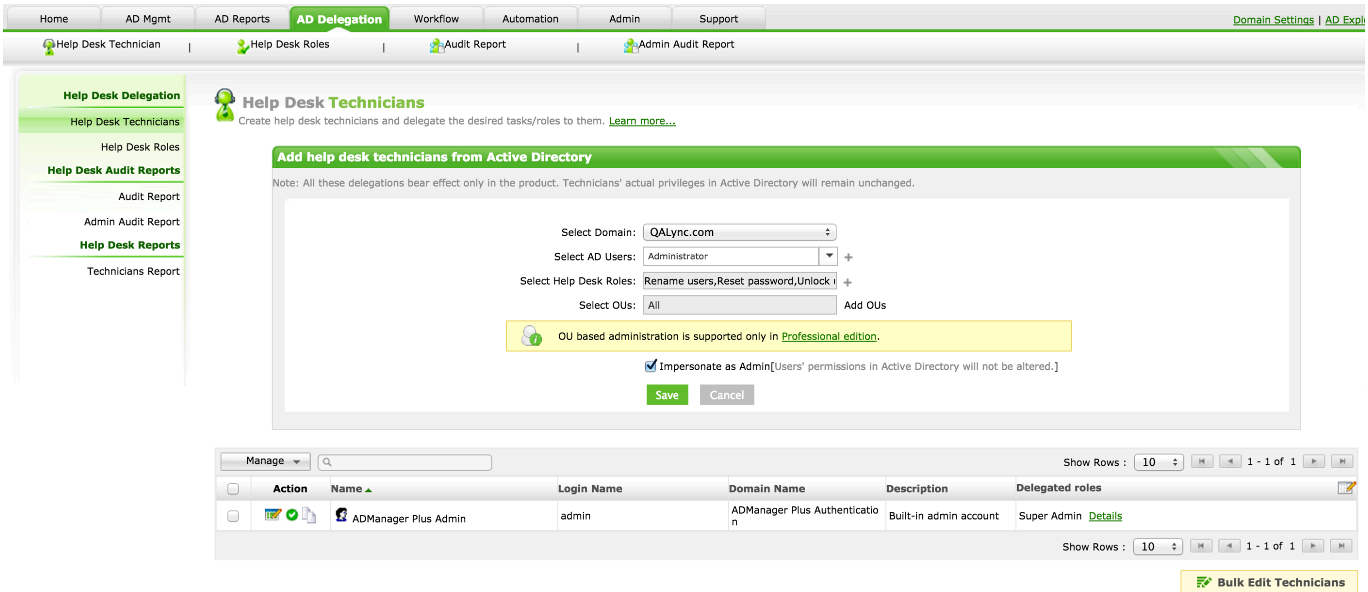
- Enter the Server name and Server Port where the SDP application is currently running and choose the protocol settings.
- Enable the 'Enable tight integration with ServiceDesk Plus' checkbox. This will ensure Integration between the two applications and exchange related tasks from SDP.

- Click 'Test connection and Save'. This will check for an established connection between SDP and ADMP in their respective ports and saves the settings.



This integration will be available only for those Technicians in SDP configured as Help Desk Technicians in ADMP. To configure SDP Technicians who are AD Users:

- Go to AD Delegation >> Help Desk Delegation >> Help Desk Technicians >>Add New Technician.
- Select 'Help Desk Roles', Templates and groups for the Technicians and click 'Save'.
- Help Desk Technicians can also be added from Active Directory. Select the Domain, AD users, help desk roles and the Organizational Units. Enable 'Impersonate as Admin' checkbox, if that Technician can also be an Admin. Click 'Save'.



Sample Scenario:

Let us take a sample scenario where a new employee joins the organization and a new account has to be created in SDP and in AD. Instead of entering details twice, the Administrator can create a user in AD from SDP and also sync the additional information (such as 'Seating Location' and 'Extension Number') obtained in additional fields. Note that the resource fields cannot be synced between SDP and ADMP.

Syncing Additional fields created in SDP:

Additional fields added in a Request Template can be synced with AD Manager Plus by following the below steps:

1. Create the required additional fields 'Seating Location' and the 'Extension Number' from Admin >> Helpdesk Customizer >> Incident- Additional Fields.

Incident - Additional Fields | Add Field | Total Fields (2) | Text (2) | Numeric (0) | Date/Time (0) | Decimal (0) | Common fields (2)

			Name	Type	Description	Default Value	Column Name
			Seating Location	Single Line	-	-	UDF_CHAR1
			Extension Number	Single Line	-	-	UDF_CHAR2

2. After creating the additional fields, open the Admp.xml file available under [SDP_Home] >> integration >> resources >> admp >> conf.

In the HTML fields, enter the name, type and value of the additional field added. The value of the field can be obtained from the Active Directory attributes file.

Eg: **Seating Location:**

<field>

<name>Seating Location</name>

<type>input</type>

<value>info</value>

</field>

Extension Number:

<field>

<name>Extension Number</name>

<type>input</type>

<value>otherTelephone</value>

</field>

```
- <field>
    <name>E-Mail</name>
    <type>input</type>
    <value>mail</value>
  </field>
- <field>
    <name>Mobile Number</name>
    <type>input</type>
    <value>mobile</value>
  </field>
- <field>
    <name>Telephone Number</name>
    <type>input</type>
    <value>telephoneNumber</value>
  </field>
- <field>
    <name>Department</name>
    <type>input</type>
    <value>department</value>
  </field>
- <field>
    <name>Job Title</name>
    <type>input</type>
    <value>title</value>
  </field>
- <field>
    <name>Seating Location</name>
    <type>input</type>
    <value>info</value>
  </field>
- <field>
    <name>Extension Number</name>
    <type>input</type>
    <value>otherTelephone</value>
  </field>
```

3. After entering the HTML fields, enter the mapping fields with the exact name and value.

For eg:

Seating Location:

<field>

<name>info</name>

<value>Seating Location>

</field>

Extension Number:

<field>

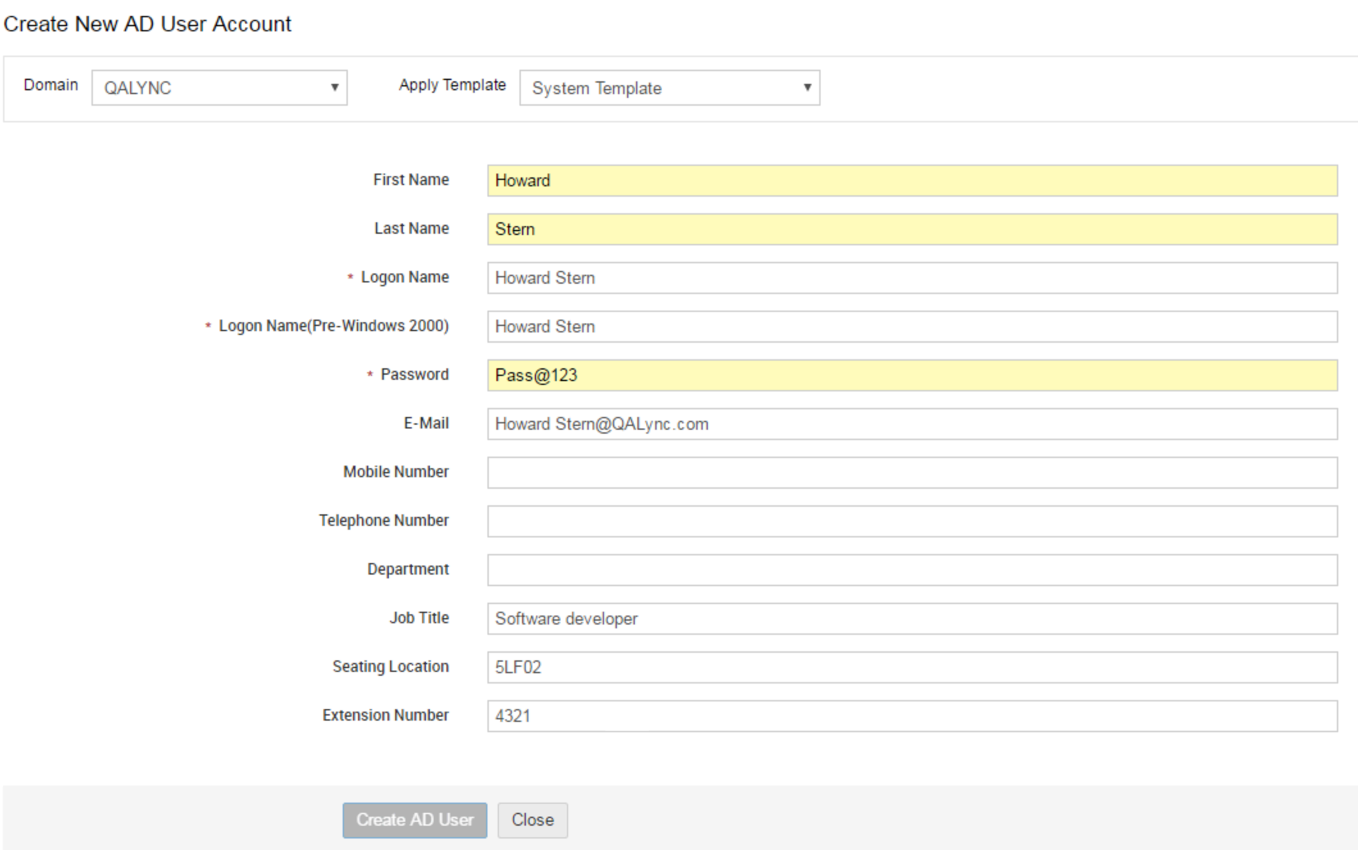
<name>otherTelephone</name>

<value>Extension Number</value>

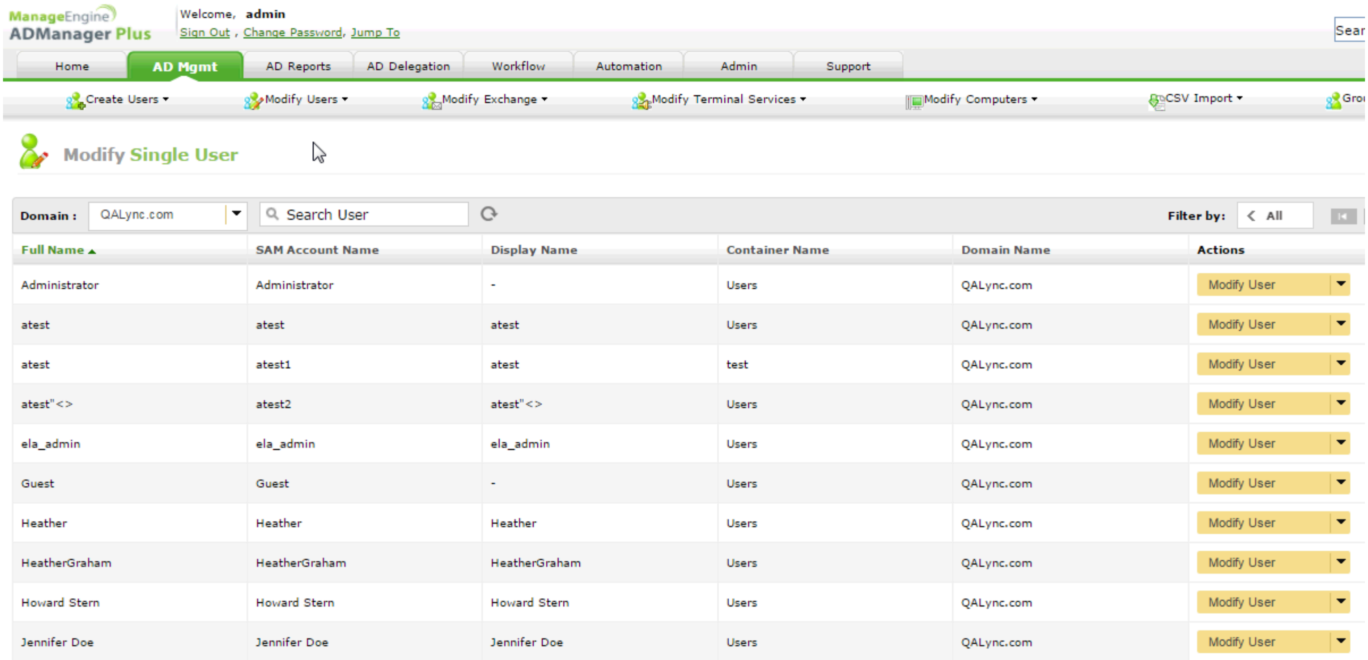
</field>


```
- <mapping_fields>
  - <field>
      <name>userPrincipalName</name>
      <value>Employee Name</value>
    </field>
  - <field>
      <name>sAMAccountName</name>
      <value>Employee Name</value>
    </field>
  - <field>
      <name>givenName</name>
      <value>Employee Name</value>
    </field>
  - <field>
      <name>mobile</name>
      <value>Mobile</value>
    </field>
  - <field>
      <name>mail</name>
      <value>Email ID</value>
    </field>
  - <field>
      <name>title</name>
      <value>Job Title</value>
    </field>
  - <field>
      <name>department</name>
      <value>Department</value>
    </field>
  - <field>
      <name>info</name>
      <value>Seating Location</value>
    </field>
  - <field>
      <name>otherTelephone</name>
      <value>Extension Number</value>
    </field>
  </mapping_fields>
```

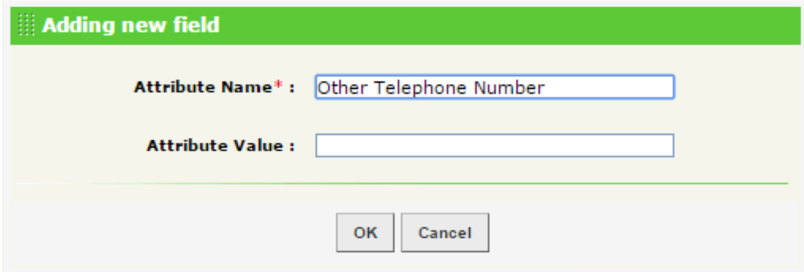

4. Create a new AD user account from Actions menu of the Request details. A pop-up containing the created additional fields will be displayed as follows. Enter the necessary details and click 'Create AD User'.



5. The user will be successfully created in AD. You can check the added AD user in ADMP under AD Mgmt >> Modify Single User by filtering the domain of the user created.



6. Click on 'Modify User' drop-down button >>Modify User Properties to view the details of the added user (also includes details of the additional fields added). Make sure that additional fields added in SDP are available as default attribute fields in ADMP. You can check the default attributes avaialble in ADMP in this [file](). If the created additional field and its details are not supported by default in ADMP, then create a new custom attribute under Custom Attributes >> Adding new field.



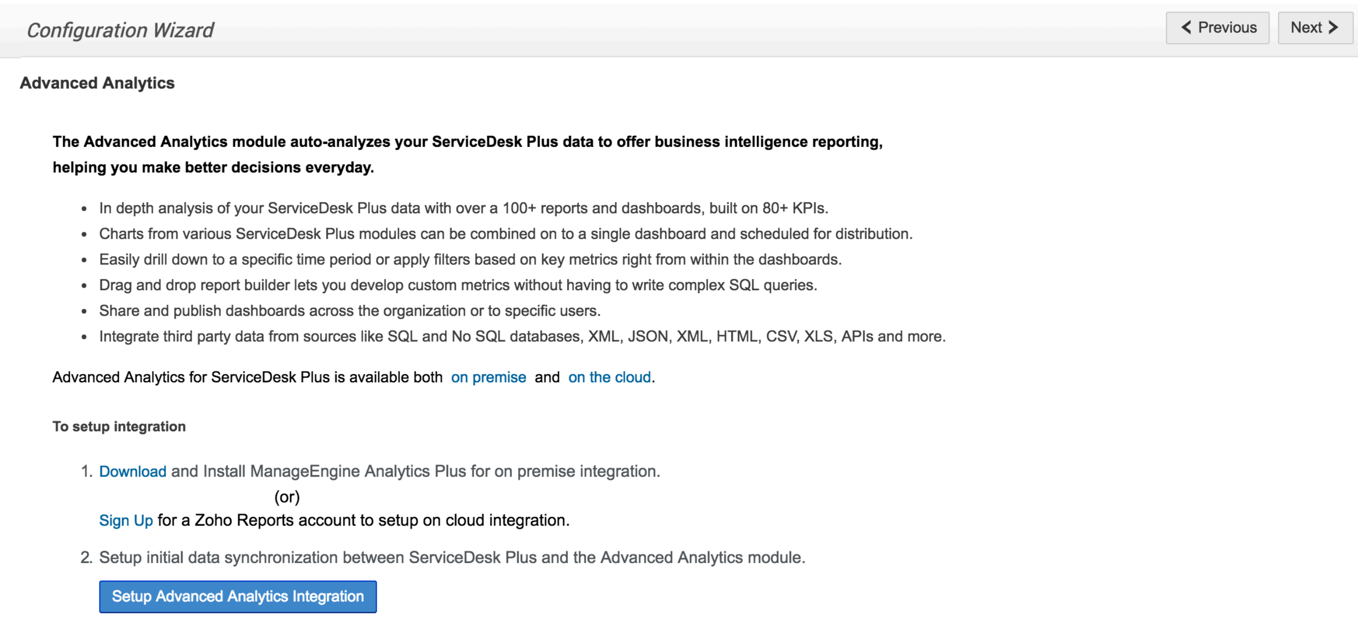
If ADManager Plus runs in HTTPS mode, you will have to generate and install a certificate to establish a connection between ServiceDesk Plus and ADManager Plus servers. Learn more here.

SDP - ManageEngine Analytics Plus / Zoho Reports Integration

Integration of Zoho/ManageEngine Analytics Plus with SDP provides easy report generation, analysis and interpretation and has an advantage of timely-sync. ManageEngine Analytics Plus is for On premise integration while Zoho Reports is for On Cloud integration.
How to configure:

- SDP-Zoho Reports Integration (On Cloud)
- SDP-ME Analytics Plus Integration (On Premises)

This feature is available under **Admin**>>**genera**l>>**Advanced Analytics**>>**Setup Advanced Analytics Integration.**



ZOHO REPORTS FOR ON CLOUD:

Zoho Reports is an online reporting & business intelligence service that helps you easily analyze your business data and create insightful reports and dashboards for informed decision making. With Zoho Reports - SDP Integration, the data can be easily analyzed in Service Desk Plus. Zoho Reports intuitive drag-and-drop interface can quickly 'slice & dice' the service desk data, analyze key service metrics and provide informed decisions to optimize your business operation.

STEPS TO INTEGRATE SDP WITH ZOHO REPORTS:

The integration between SDP and Zoho Reports can be done as follows:
1. The configuration wizard with

- **'Initial setup'** ,
- **'Additional setup'** and

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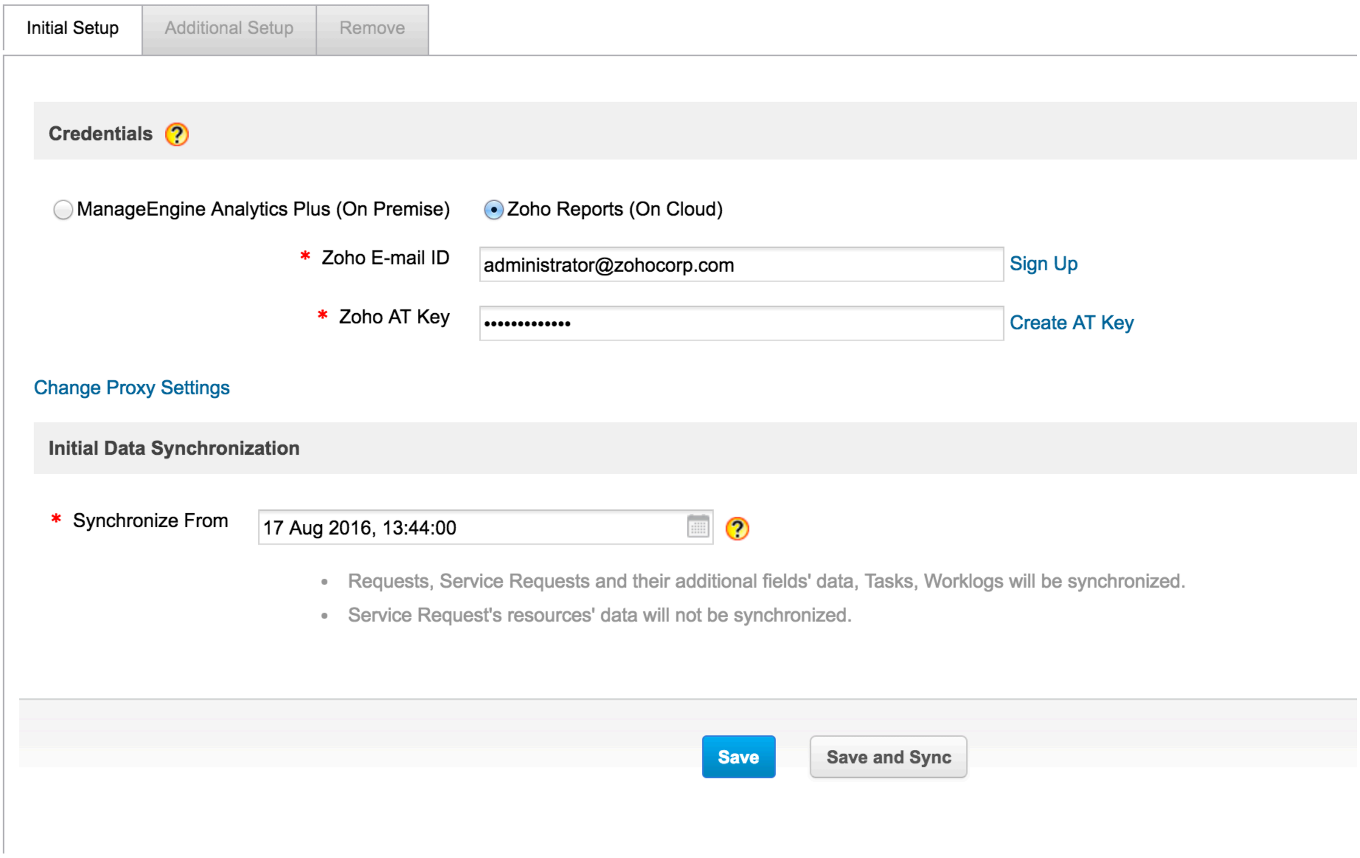
- **'Remove'** will be displayed.

2.In the '**Initial Setup**' , the credentials and initial data synchronization will be shown.

- In the '**credentials**', enter the Zoho E-mail ID and the Zoho AT key.(If you do not have a Zoho mail account, click 'Sign up')
- Click  provided next to the credentials field to obtain the Zoho AuthToken key or click on the following URL:https://accounts.zoho.com/apiauthtoken/create?SCOPE=ZohoReports/reportsapi
- Click '**change proxy settings**' to configure proxy settings and change proxy settings. Enter the details such as Host, Port, Username and Password. For further information about proxy settings,click here.
- In '**Initial Data Synchronization**', click on the calendar icon and choose the date from when the reports have to be synchronized. The data will be synchronized based on the interval specified in Additional setup>>Periodic Data Synchronization.



On clicking 'Save' Button: On clicking 'save', the entered details will be saved and the credentials will be validated ,without initializing data sync.
On clicking 'Save and sync' Button: On clicking 'save and sync', the entered details will be saved in the database and the data will get synchronized. It should be noted that the Requests, Service Requests and their Tasks, Worklogs and Additional fields (except multi select) will be synchronized.
On clicking 'Re-Sync': The 'Re-Sync' button will be available after the 'Save and Sync' process is completed.On clicking 'Re-Sync',manual sync process can be initiated.
3.In the '**Additional Setup**' ,

- **Periodic Data Synchronization -** Choose the day and time for scheduling the periodic data synchronization.

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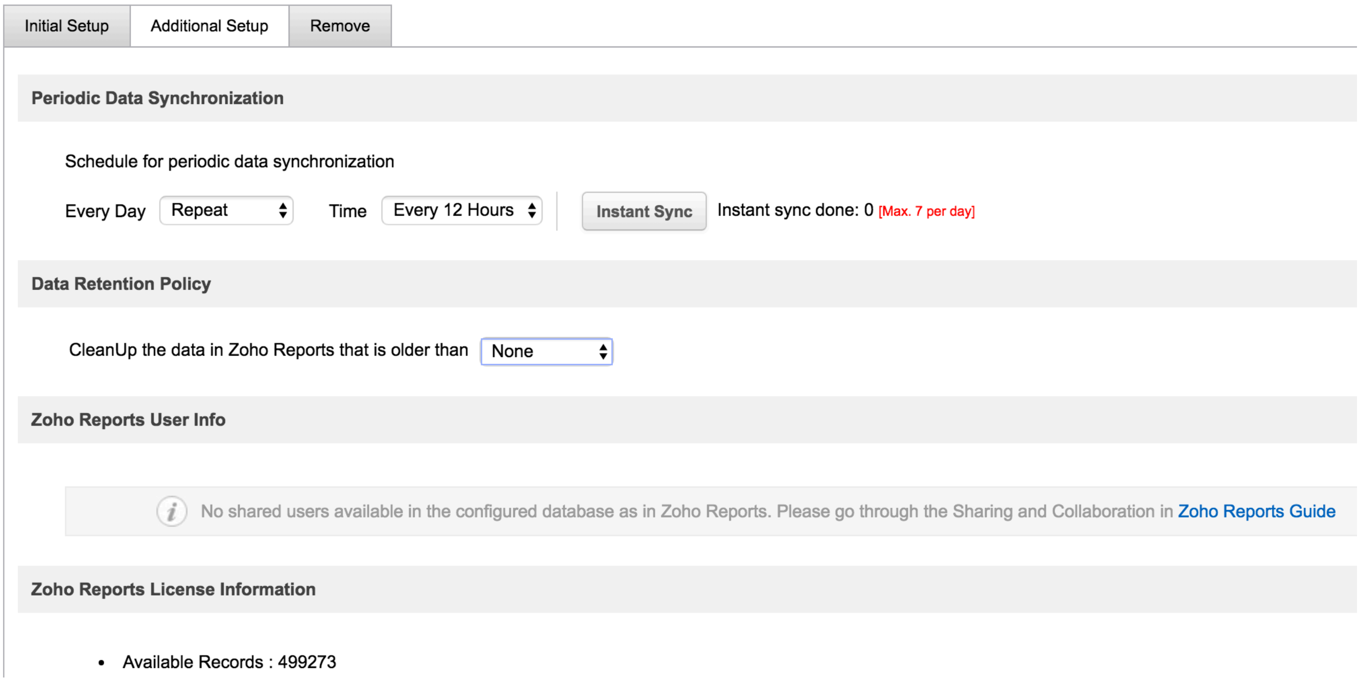
- **Instant Sync** - Instant sync allows you to sync the reports immediately with the database without any required scheduling. A maximum of 7 'Instant Sync's are allowed per day. Instant-sync done shows the number of times reports have been instant-synced.
- **Data Retention Policy -** Select the time duration for cleaning up the older data. The time period for which the data can be retained in Zoho Reports can be configured here.
- **Zoho Reports User Info -** In Zoho reports user info if no shared users are available in zoho reports configured database, an info message will be displayed. If shared users are available, then the zoho reports users available in SDP and not available in SDP will be displayed.
- **Zoho Reports License Information -** Displays the available records and license expiry date. Click renewal to renew the expired license.



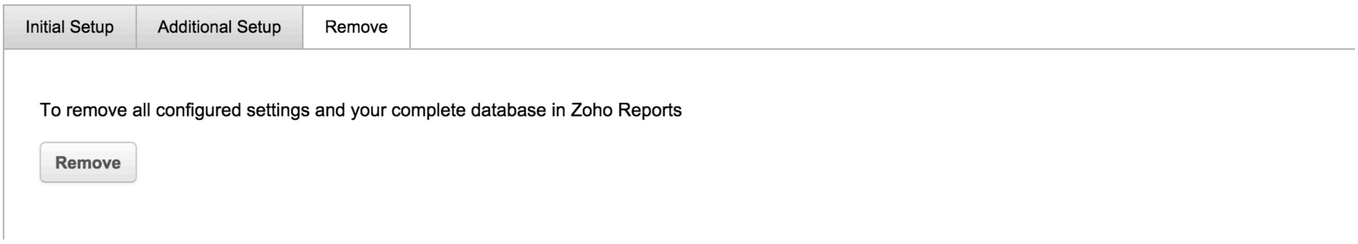
The security information provides detailed information about the data transfer and other pre-cautions.

Note

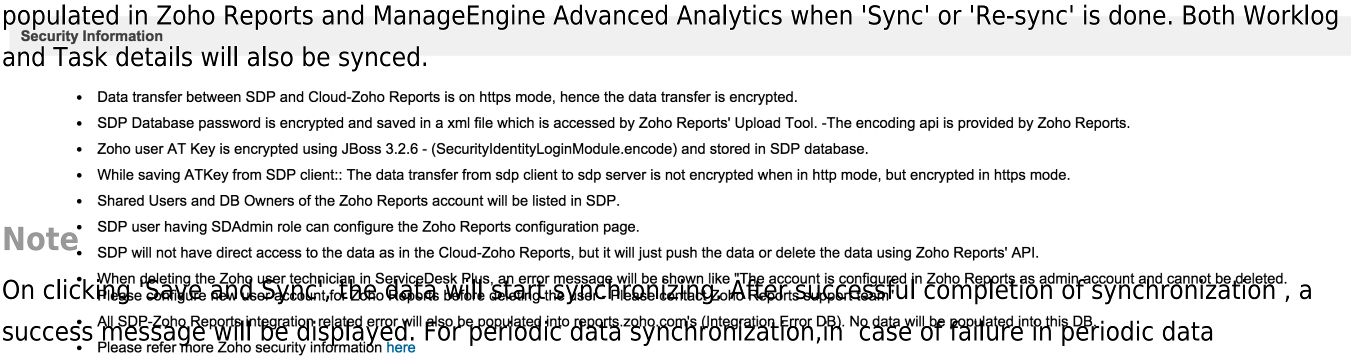
- The details such as 'Zoho reports admin' ,'sync status' and 'last successful sync time' will be available on top of the page.
- By default, the Synchronization frequency under Periodic Data Synchronization section will be set to "**Repeat for Every 1 Hour** ". In case of failure in periodic synchronization, a failure message will be displayed and a detailed mail will be sent to admin user to resolve the problem.

4.Removing Integration:

Click 'Remove' button to remove all the configured settings and complete database in Zoho Reports. The default reports and the customized reports will also be removed.



The following will be synced with Zoho Reports/ ManageEngine Analytics Plus :
Additional fields (Incident and common to both) created for a Request, Worklog and Task will be automatically populated in Zoho Reports and ManageEngine Advanced Analytics when 'Sync' or 'Re-sync' is done. Both Worklog and Task details will also be synced.



Security Information

- Data transfer between SDP and Cloud-Zoho Reports is on https mode, hence the data transfer is encrypted.
- SDP Database password is encrypted and saved in a xml file which is accessed by Zoho Reports' Upload Tool. -The encoding api is provided by Zoho Reports.
- Zoho user AT Key is encrypted using JBoss 3.2.6 - (SecurityIdentityLoginModule.encode) and stored in SDP database.
- While saving ATKey from SDP client:: The data transfer from sdp client to sdp server is not encrypted when in http mode, but encrypted in https mode.
- Shared Users and DB Owners of the Zoho Reports account will be listed in SDP.
- SDP user having SDAdmin role can configure the Zoho Reports configuration page.
- SDP will not have direct access to the data as in the Cloud-Zoho Reports, but it will just push the data or delete the data using Zoho Reports' API.
- When deleting the Zoho user technician in ServiceDesk Plus, an error message will be shown like "The account is configured in Zoho Reports as admin account and cannot be deleted. Please configure new user account for Zoho Reports before deleting the user - Please contact Zoho Reports support team"
- All SDP-Zoho Reports integration related error will also be populated into reports.zoho.com's (Integration Error DB). No data will be populated into this DB.
- Please refer more Zoho security information here

Note

On clicking 'Save and Sync', the data will start synchronizing. After successful completion of synchronization , a success message will be displayed. For periodic data synchronization,in case of failure in periodic data synchronization, a failure message will be sent to the mail account.

MANAGEENGINE ANALYTICS PLUS FOR ON PREMISES :

ManageEngine Analytics Plus is a business intelligence and reporting software from ManageEngine that helps generate detailed reports about your Help desk performance & metrics. With a variety of reporting functionalities, it helps you analyze your help desk and take control over your assets & tickets.

STEPS TO INTEGRATE SDP WITH MANAGEENGINE ANALYTICS PLUS:

After downloading and installing the ManageEngine Reports on a windows/linux machine, click Admin>>Advanced Analytics >>Initial Setup.

1. The configuration wizard with

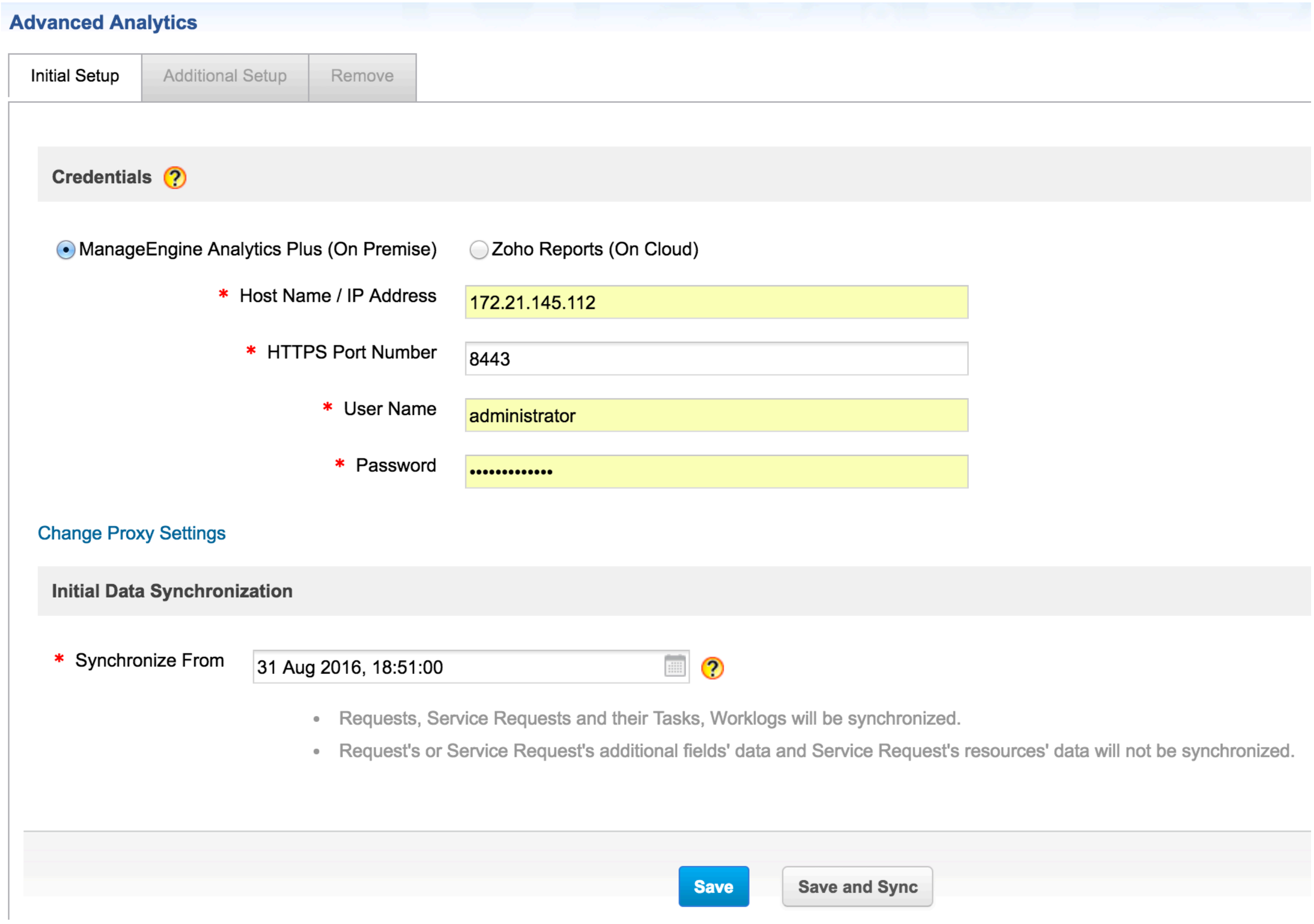
- '**Initial setup'** ,
- **'Additional setup'** and
- **'Remove'** will be displayed.

2.In the Initial Setup, Credentials and initial data synchronization will be shown. In the 'credentials' field, enter the following details:

- **Host Name/IP Address -** Enter the name of the proxy server of ME Analytics Plus or the IP Address.
- **HTTPS Port Number -** Enter the port number of the server in which ME Analytics Plus is installed. (8443 by default).
- **Username** - Enter the username of the user account in ManageEngine Analytic Plus. (administrator by default).
- **Password** - Enter the password of the corresponding user account. (administrator by default)

Click '**change proxy settings**' to configure proxy settings and change proxy settings. Enter the details such as Host, Port, Username and Password. For further information about proxy settings,click here.

In '**Initial Data Synchronization**', click on the calendar icon and choose the date from when the reports have to be synchronized . The data will be synchronized based on the interval specified in Additional setup>>Periodic Data Synchronization.



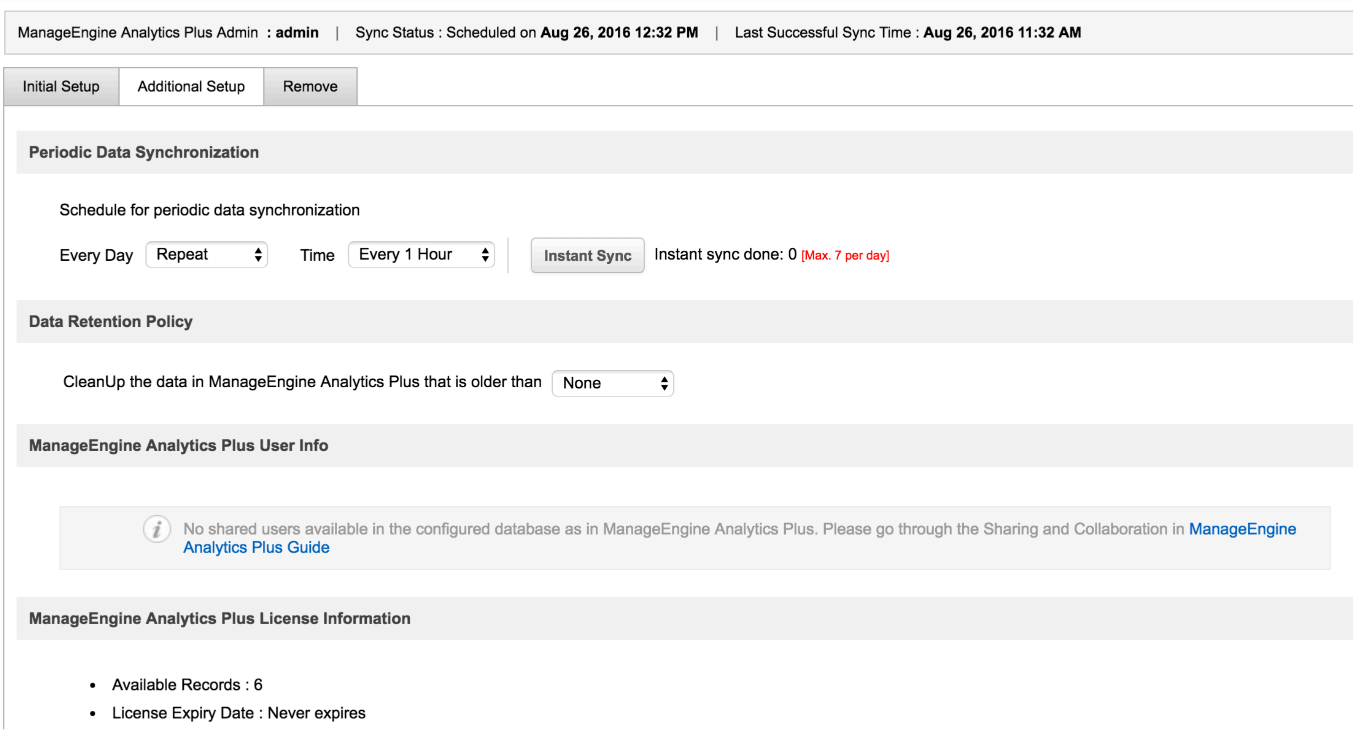
On clicking 'Save' Button: On clicking 'save', the entered details will be saved and the credentials will be validated ,without initializing data sync.

On clicking 'Save and sync' Button: On clicking 'save and sync', the entered details will be saved in the database and the data will get synchronized. It should be noted that the Requests, Service Requests and their Tasks, Worklogs and Additional fields (except multi select) will be synchronized.

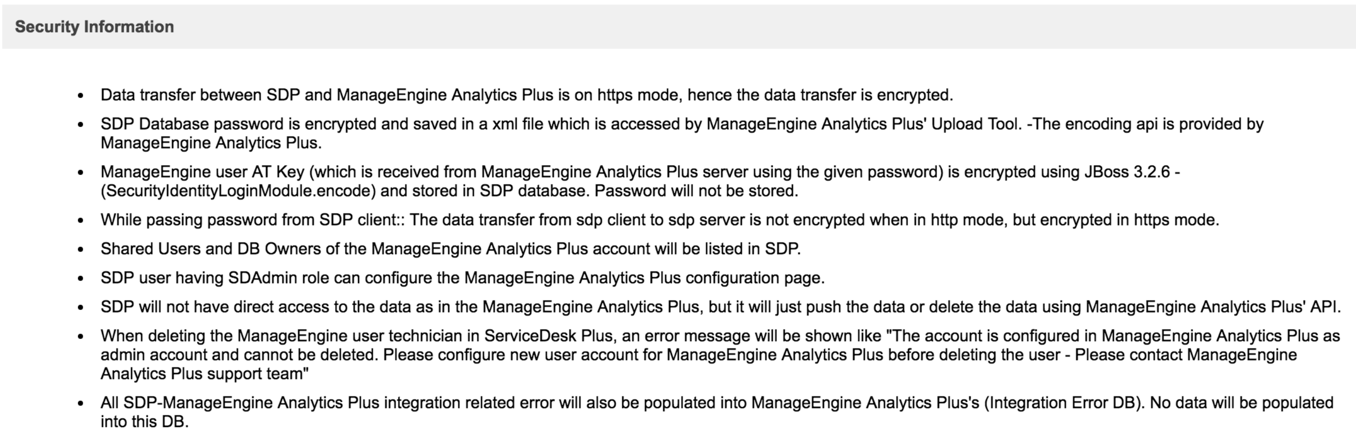
On clicking 'Re-Sync': The 'Re-Sync' button will be available after the 'Save and Sync' process is completed.On clicking 'Re-Sync',manual sync process can be initiated.

3.In the Additional Setup,

- **Periodic Data Synchronization -** Choose the day and time for scheduling the periodic data synchronization.
- **Instant Sync -** Instant sync allows you to sync the reports immediately with the database without any required scheduling. A maximum of 7 'Instant Sync's are allowed per day. Instant-sync done shows the number of times reports have been instant-synced.
- **Data Retention Policy -** Select the time duration for cleaning up the older data. The time period for which the data can be retained in Analytics Plus can be configured here.
- **ManageEngine Analytics Plus User Info -** This info will display the shared users available in the ManageEngine Analytics Plus's configured Database.
- **ManageEngine Analytics Plus License Information -** Displays the available records and license expiry date.

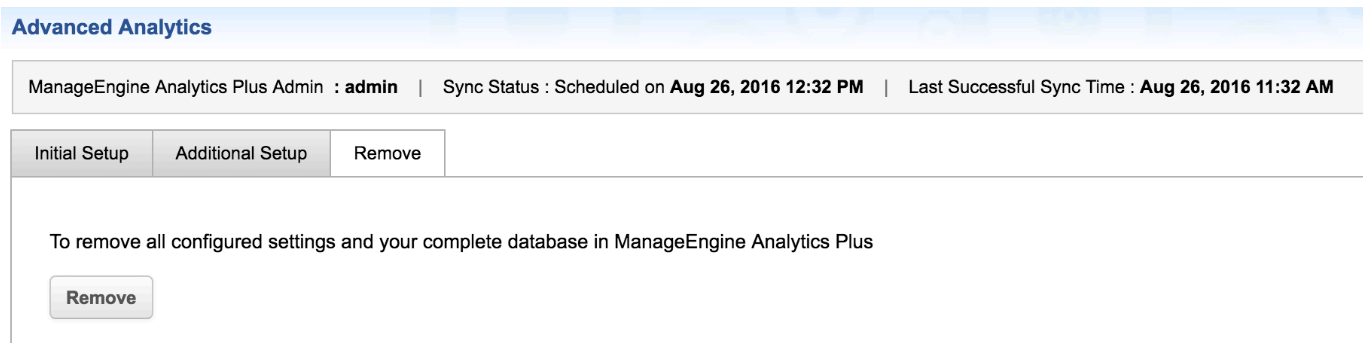


The security information provides detailed information about the data transfer and other pre-cautions.



4.Removing Integration:

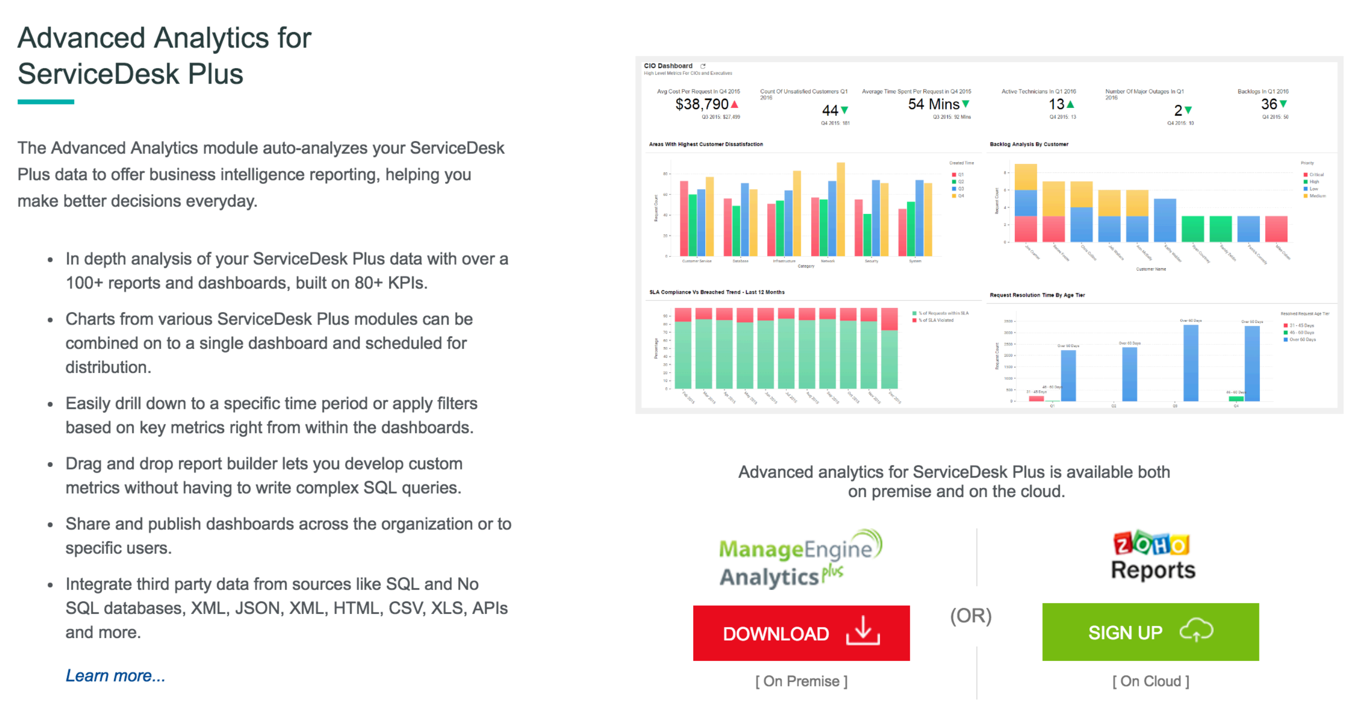
Click 'Remove' button to remove all the configured settings and complete database in ManageEngine Analytics Plus. The default reports and the customized reports will also be removed.



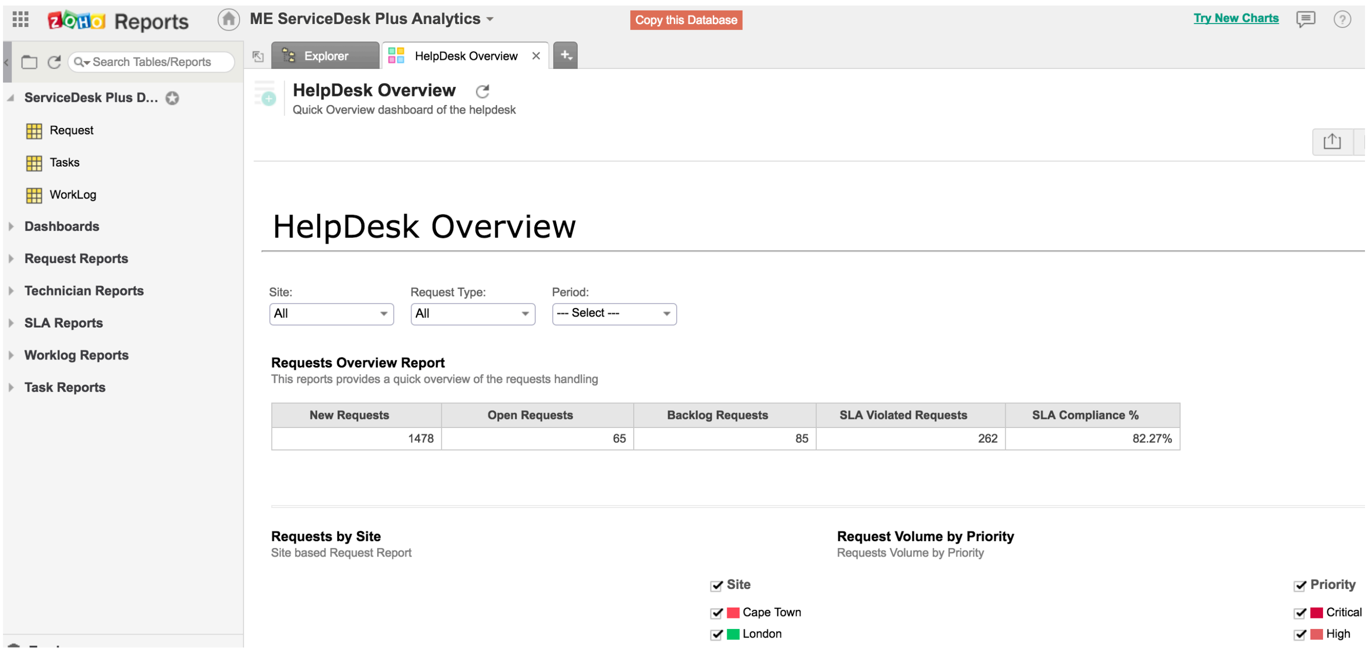
How to view Reports after Integration :

Only Users having account either in ManageEngine Analytics Plus or Zoho Reports can view Advanced Analytics

Reports.
After Integrating ServiceDesk Plus with Zoho Reports/ ME Analytics Plus, the Reports can be viewed from Reports >> Advanced Analytics.
Before integration, the Advanced Analytics Reports will be displayed as follows:



When 'Advanced Analytics' is clicked a pop-up directing to the Zoho Reports Database will be displayed incase of successful integration with Zoho Reports.



Incase of integration with ManageEngine Analytics Plus, the following pop-up will be displayed when 'Advanced Analytics' is clicked.

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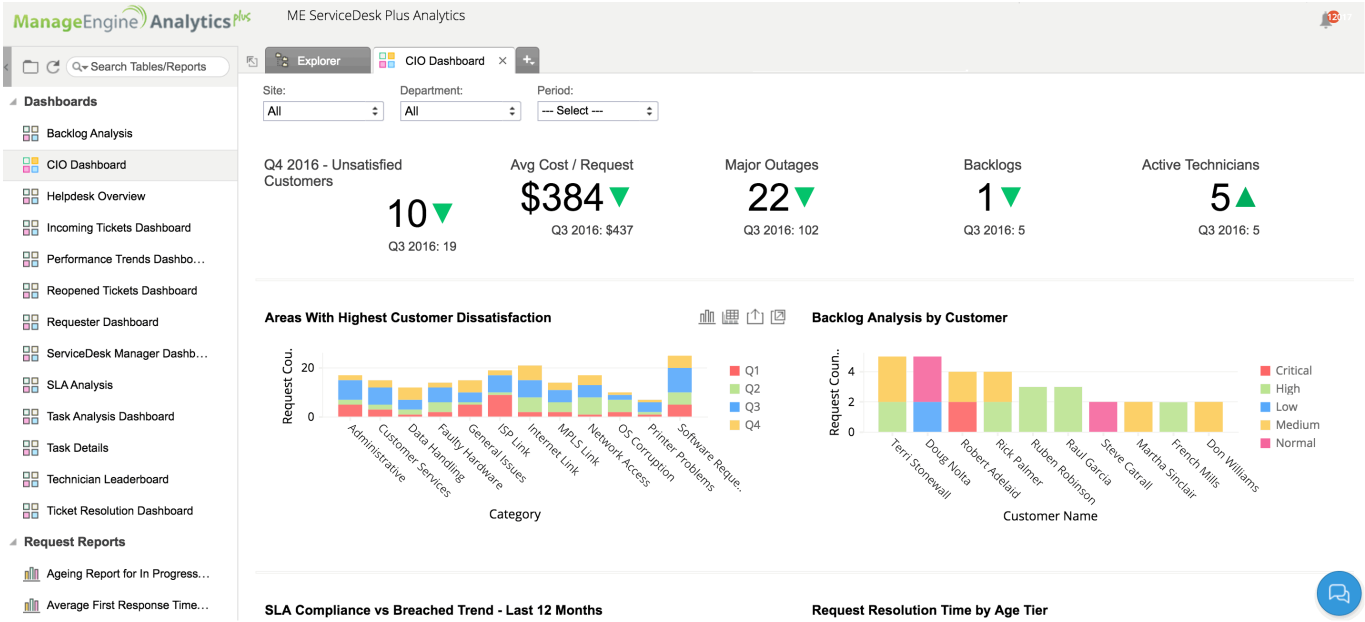
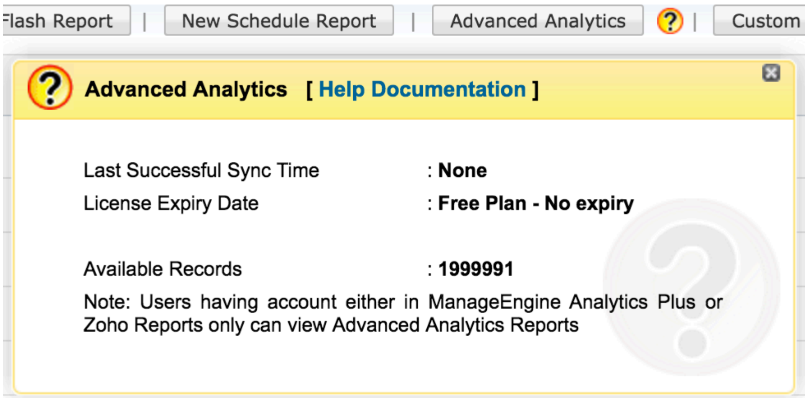


The help icon next to 'Advanced Analytics' will display the Last Successful Sync Time, License Expiry date and the available records.



Note

1. The entire 'Sync schedule' will be ceased in four days if the continuous sync fails.
2. The Retention Policy will run once in seven days.
3. The shared users list in Zoho Reports will be categorized as 'Zoho reports users available in SDP' and 'not available in SDP'. Each category will have users and DB owners.
4. Error log file related to 'Sync' process can be traced out from 'Logs' folder available SDP_Home >>Logs.

Password Manager Pro Integration

This integration allows your technicians to access privileged accounts in target machines (or resources) remotely from within ServiceDesk Plus, without manually providing the account credentials. It helps technicians save time and effort, which will otherwise be spent on retaining the credentials every time they log in to remote machines. They can quickly troubleshoot issues and do password finds for users.
The integration supports remote access for Windows server over Remote Desktop Protocol, for Linux and Mac machines over Telnet or Secure Shell (SSH).

Prerequisites

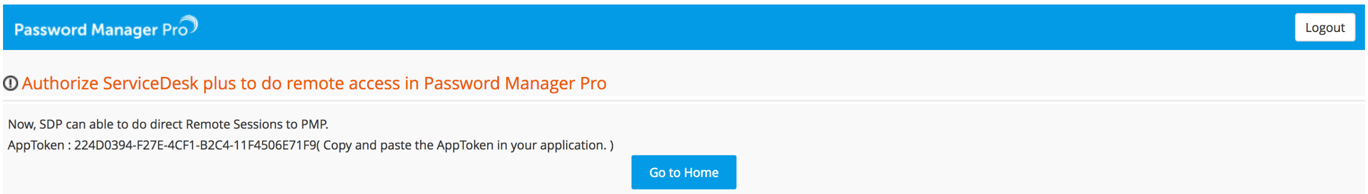
ServiceDesk Plus technicians must also be Password Manager Pro users, with the same user names in both applications.

Role

SDAdmin and Password Manager Pro admin

Configuring the Integration

Ensure that there's a working connection between the application servers. Then, go to **Admin**>>**General Settings**>>**ME Integrations** and click **Password Manager Pro**.
Enter the Password Manager Pro application's server name and port number.
Click **Generate Auth Token**. This will open the Password Manager Pro application in a new tab.
Log in to your Password Manager Pro administrator account.
Click **Authorize**. An Auth Token (or AppToken) will be generated and displayed.



Copy the AppToken, go to Password Manager Pro Integration page in ServiceDesk Plus, and enter the AppToken in the respective field.

The Auth Token generated is specific to your ServiceDesk Plus instance, and it will be displayed only once.

To regenerate the Auth Token, you must revoke the existing Auth Token by deleting the Password Manager Pro configuration.

Click **Test Connection and Save** to establish a connection between ServiceDesk Plus and Password Manager Pro servers. Once the connection is established, PMP configuration in ServiceDesk Plus will be saved.

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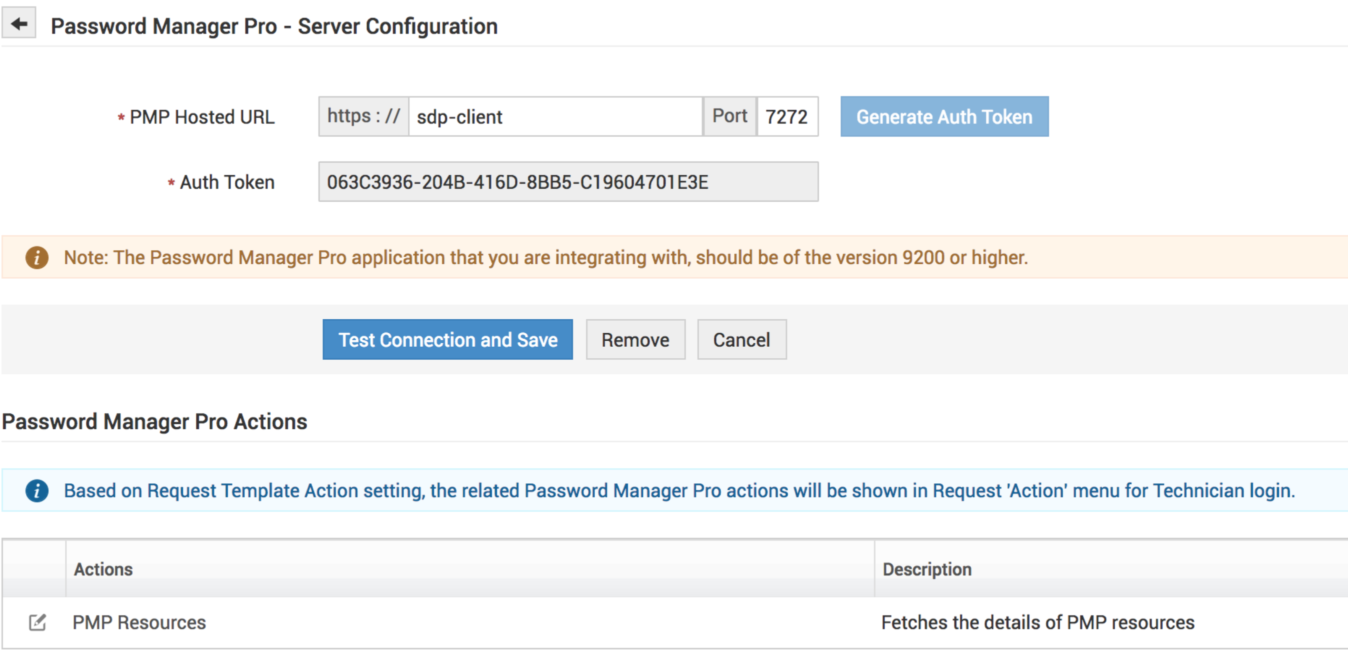


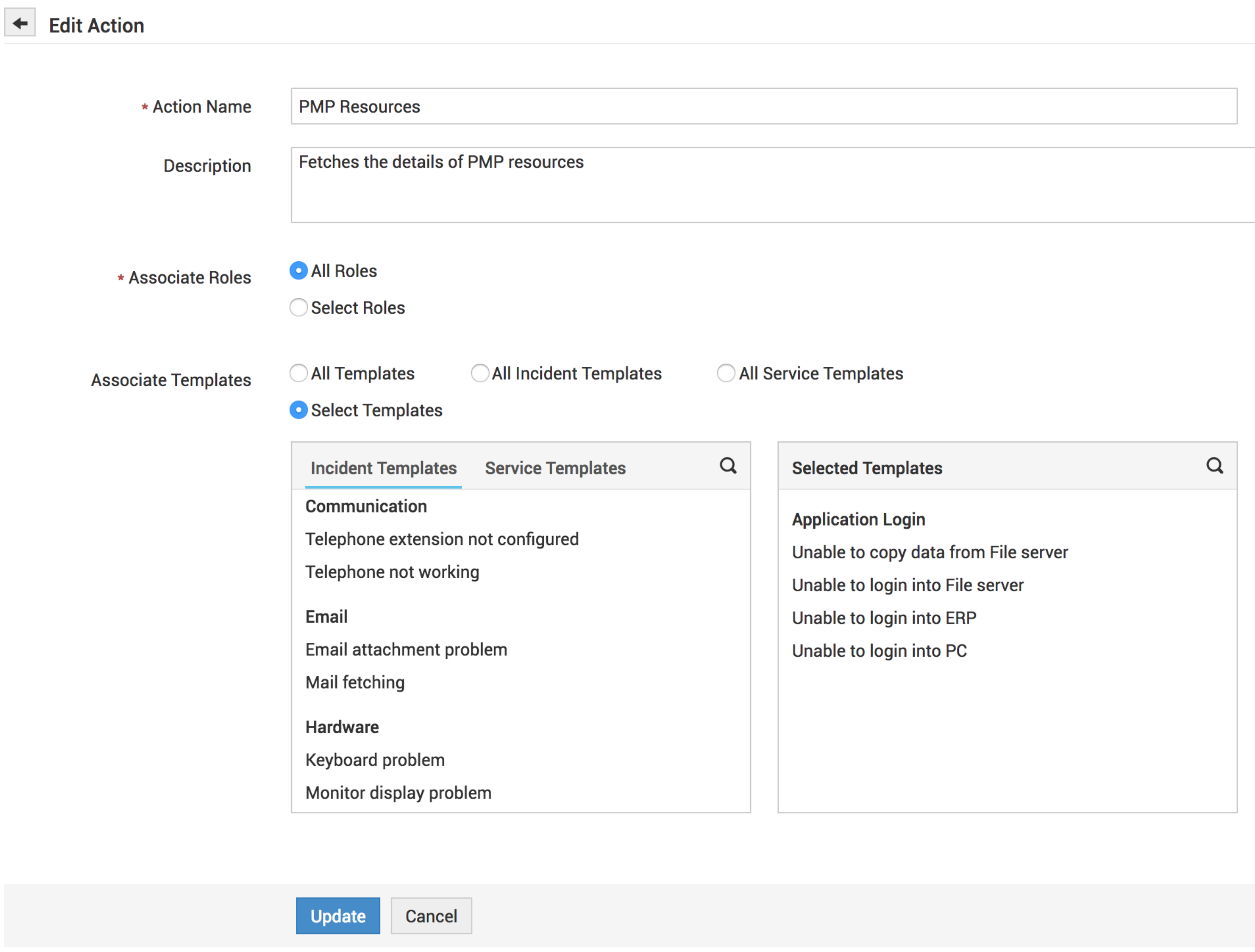
Configuring Actions

You can configure the **Password Manager Pro Actions** menu to be used for selective templates and by selective roles. Technicians can access remote machines over remote and view the user account passwords by using this **Actions** menu.

In the Password Manager Pro integration page, under **Actions**, click **PMP Resources**.

On the displayed page, you can edit action name and description.

Select templates and roles to display the **Password Manager Pro Resources** action menu and click **Update**.



To learn how to access the remote machines using this integration, click here.

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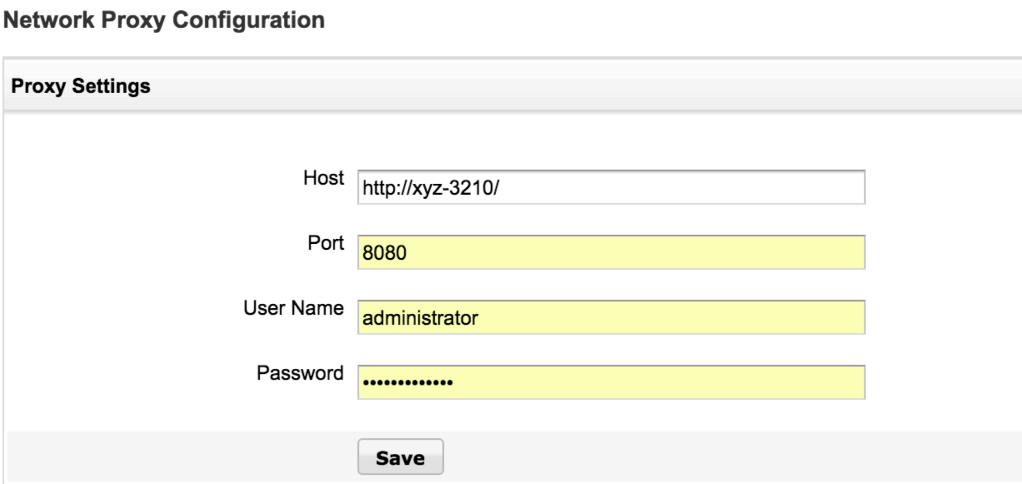
Proxy Settings:

To establish secure connection or interaction between your organization and other servers, the proxy server has to be configured.
In the **Network Proxy Configuration** wizard , the following details have to be provided while configuring the Proxy Settings:
Host : The name of the proxy server has to be entered.(example: servicedesk-1212)

Port : The port number of the proxy server has to be entered.(example: 8080)

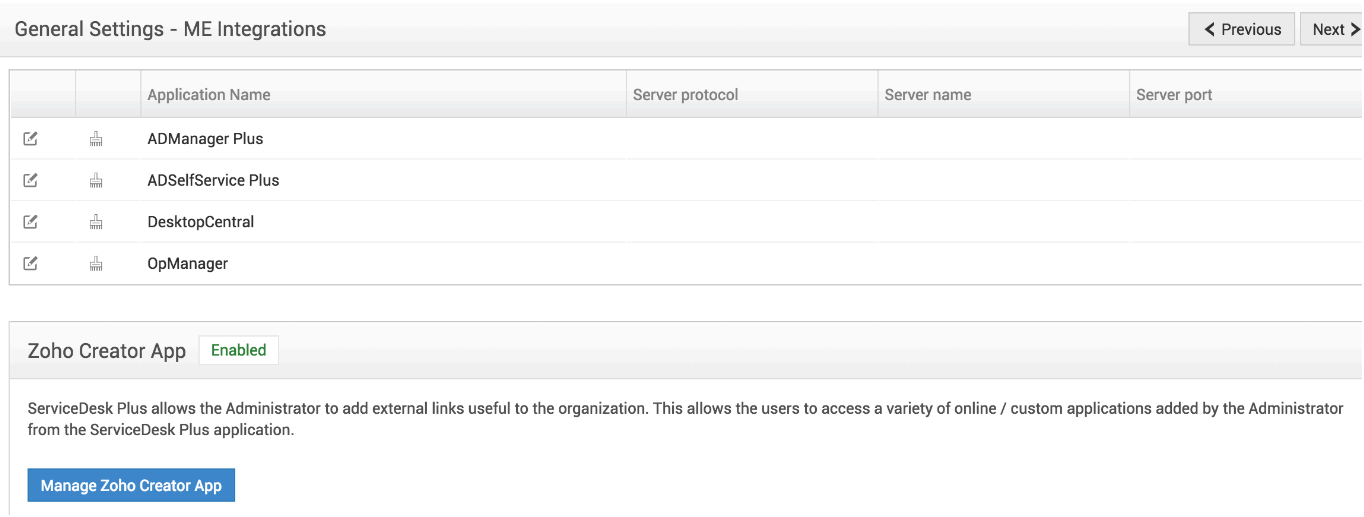
User Name : The username for the proxy settings has to be specified.(example: servicedesk)

Password : The password for the proxy settings has to be Specified.
After entering the details, click **Save** .



Zoho Creator/External Links

Integrate with Zoho Creator/other Applications: Integrate ServiceDesk plus with zoho creator app to fill out forms or provide external links.



Enabled/Disabled : Click 'Enabled' to display the application name in the header along with the drop down. Disabling it will hide the name from the header.

Manage application : Click 'Manage Application' which will take you to a new window where the following have to be enabled and details have to be provided.

Enable application: Enabling the checkbox will display the application in the header along with the drop-down.

Allow requester to access: Enabling the checkbox will provide access to the external links for the requesters. Disabling the checkbox will hide the entire list of links and remain inaccessible to the requesters.

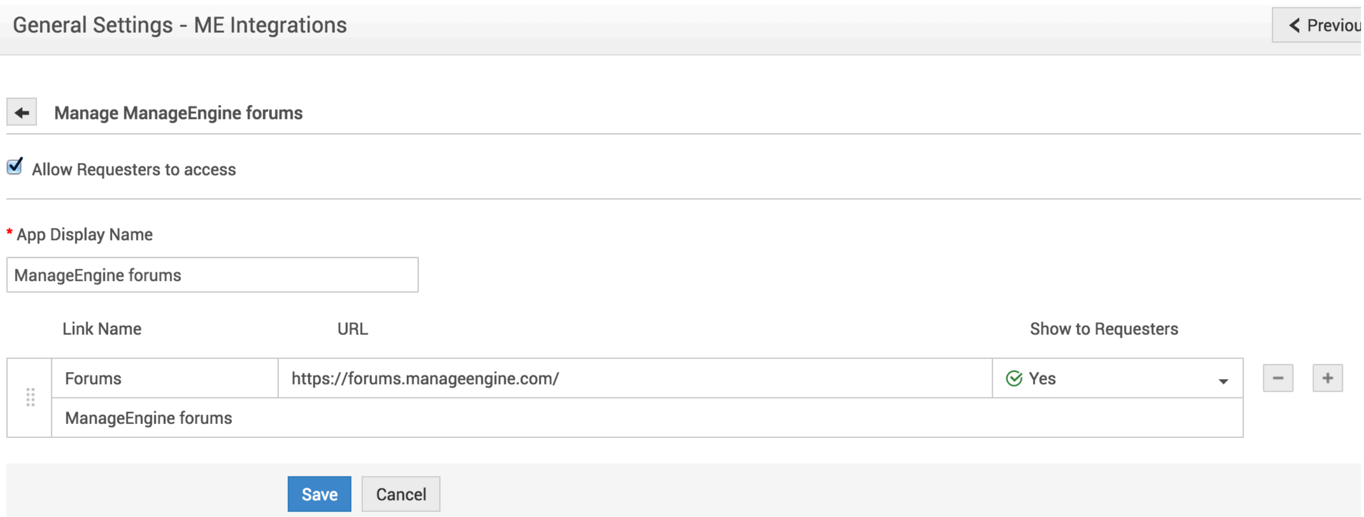
View name: Enter the name that you wish to display. If apps other than zoho creator is used, then the display name can be re-named accordingly.

Link name: Enter a prominent name for the link to the application. Proper description can be entered about the application in the space provided.

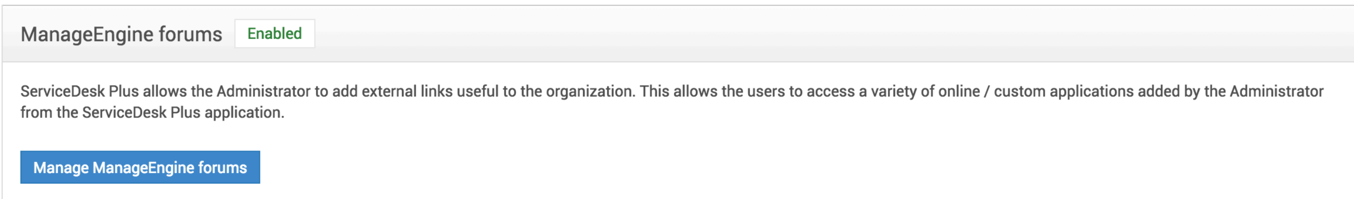
URL: Paste the URL to access the application. This URL will re-direct the user to the application.

Allow to requester: Allow to requester is different from Allow requester to access in the sense that, each individual link can be chosen to be exposed or concealed from the requester by choosing 'Yes' or 'No' from the drop-down.

Click 'Save' to save the settings and the same can be viewed by clicking the Application name in the header.



After saving, the App's display name will be updated.



You can now view the added external apps in the header pane.

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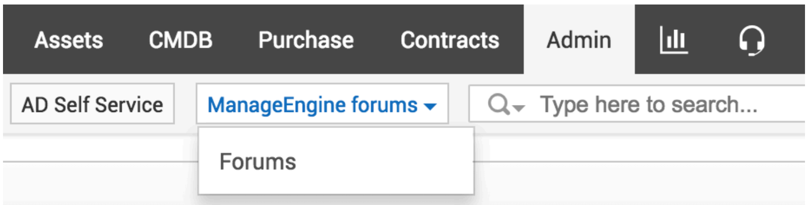

Note:

- Links can be added and deleted by clicking the ' +' and '-' options accordingly .
- The order in which the applications have to displayed can be arranged by making use of the drag and drop option on mouse hover.

Sample scenario:External links useful to the organization can be listed under the applications tab. Purchase of assets for an organization is essential and the employees may require a common form to fill out their requirements. In such cases, a quick link to the form can be listed and shown to the requesters. The view name can be given as 'Asset booking form' and the creator link can be pasted in the URL space. The requesters can be allowed to access this form by choosing 'Yes' for 'Allow to requester'.

When you integrate any application running in a secured protocol with ServiceDesk Plus, you will have to generate and install a certificate to establish a connection between ServiceDesk Plus and the integrating application servers. Learn more here.

Certificate installation to integrate with applications running in secured protocols

When you integrate ServiceDesk Plus with any application running in any secured protocol, you will have to generate and install a self-signed certificate to establish a connection between the two application servers.

Steps to follow:

- Download the corresponding **.zip** file from the following links and extract it to ***ManageEngineServiceDesk***.

For Linux:
https://uploads.zohocorp.com/Internal_Useruploads/dnd/ServiceDesk_Plus/o_1cb6g423n1gp9135o97nfchub1/lincertgeneration.zip

For Windows:

https://uploads.zohocorp.com/Internal_Useruploads/dnd/ServiceDesk_Plus/o_1cb6g2tdh126s6hmhpvjja2si1/windowscertgeneration.zip

- Connect to the command prompt. Go to ***ManageEngineServiceDesk*** and run the batch file of the format:

C:>ManageEngineServiceDesk>gencert.sh servername:portnumber — for Linux
C:>ManageEngineServiceDesk>gencert.bat servername:portnumber — for Windows

- On running the command, you will receive an exception PKIX and you will be asked to enter a value. Enter 1. A file named **jssecacerts** will be generated under ***ManageEngineServiceDesk***.

- Copy the jssecacerts file to the security folder ***ManageEngineServiceDeskjrelib*** and then restart the ServiceDesk Plus application.

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Mobile Device Manager Plus Integration

You can integrate **Mobile Device Manager Plus** and exercise control over the mobile devices of users, either corporate owned or personal devices (BYOD). This integration helps you recover lost mobile devices while securing their data and also enables automatic updates from Mobile Device Manager Plus to ServiceDesk Plus.

Benefits

1. Secure lost devices by performing actions, such as track device, activate an alarm, remotely lock device, clear passcode, wipe data, and prompt a contact number.
2. Access complete Mobile Device Manager Plus functionalities to monitor, manage, and safeguard mobile devices and their data, easily and more effectively, by using the IFrame inside ServiceDesk Plus.
3. With the integration enabled, any mobile device added to Mobile Device Manager Plus will be automatically added to ServiceDesk Plus. This allows technicians to view assets from a single location.
4. Mobile device allocation to users will be copied in ServiceDesk Plus as and when you update them in Mobile Device Manager Plus, provided the users are imported from Active Directory in both applications.

Prerequisites of Integration

1. Make sure that the two applications run on the same network and they are of the following versions:
   - ServiceDesk Plus 9418 or higher version
   - Mobile Device Manager Plus 92370 or higher version

2. You must configure and initiate the integration in Mobile Device Manager Plus as explained here.
3. You must generate the API key in ServiceDesk Plus or Mobile Device Manager Plus as explained here.

API Key Generation

The API key connects ServiceDesk Plus and Mobile Device Manager Plus application servers. You can generate the API key from either application.
In ServiceDesk Plus, the API key is technician's login-specific.

Steps to Generate the API Key

- Click the **Profile** button and select **API Key Generation**.
- Choose the key expiry period and click **Generate**.
- The API key will be generated; enter the key in the respective field of the Mobile Device Manager Plus integration page.

Click here to learn how to generate the API key in Mobile Device Manager Plus.
Click here to learn how to generate and merge self-signed certificates if Mobile Device Manager Plus runs in a

secured mode.

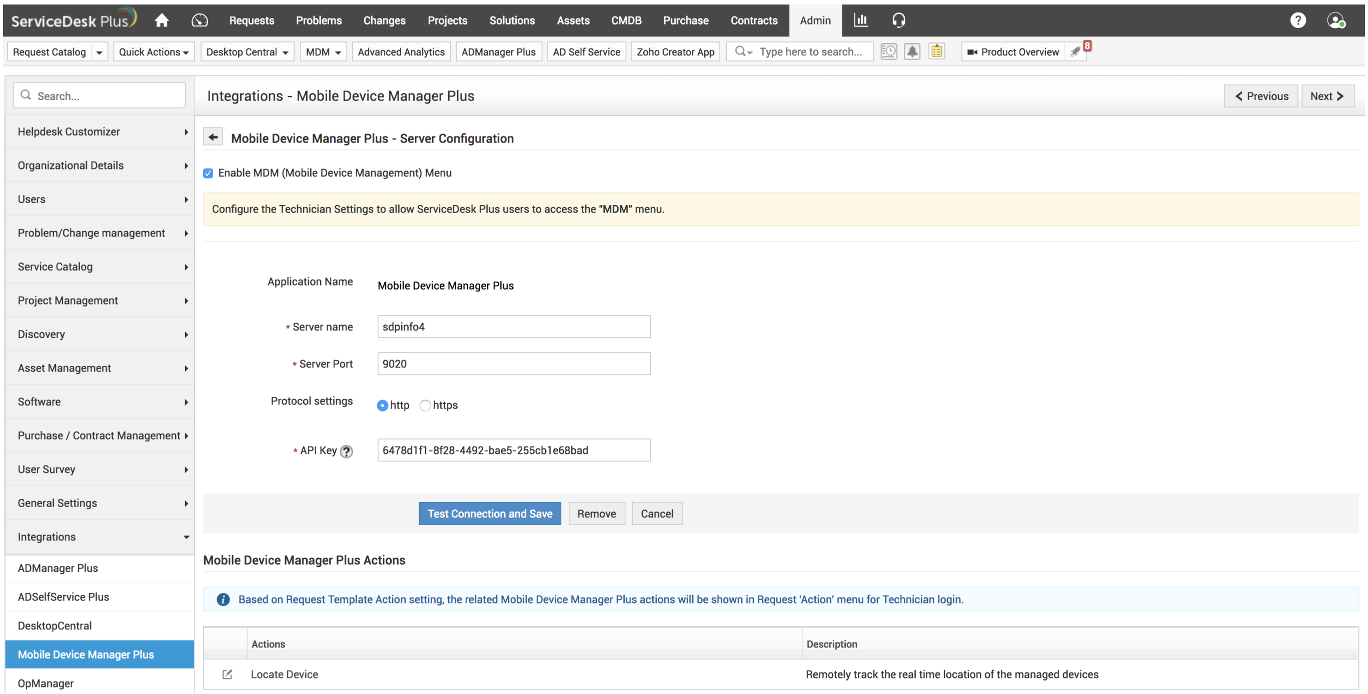
Configure Mobile Device Manager Plus Integration

To configure the integration, you must possess the **SDAdmin** role enabled with **admin/guest** access to Desktop Central and Mobile Device Manager Plus functionalities under **Admin** >> **Users** >> **Technicians**. (The admin role provides complete access to the Mobile Device Manager Plus menu, while the guest role provides only read permission.)

Note that you cannot enable access to Desktop Central and Mobile Device Manager Plus for yourself, only a fellow administrator can do that for you.

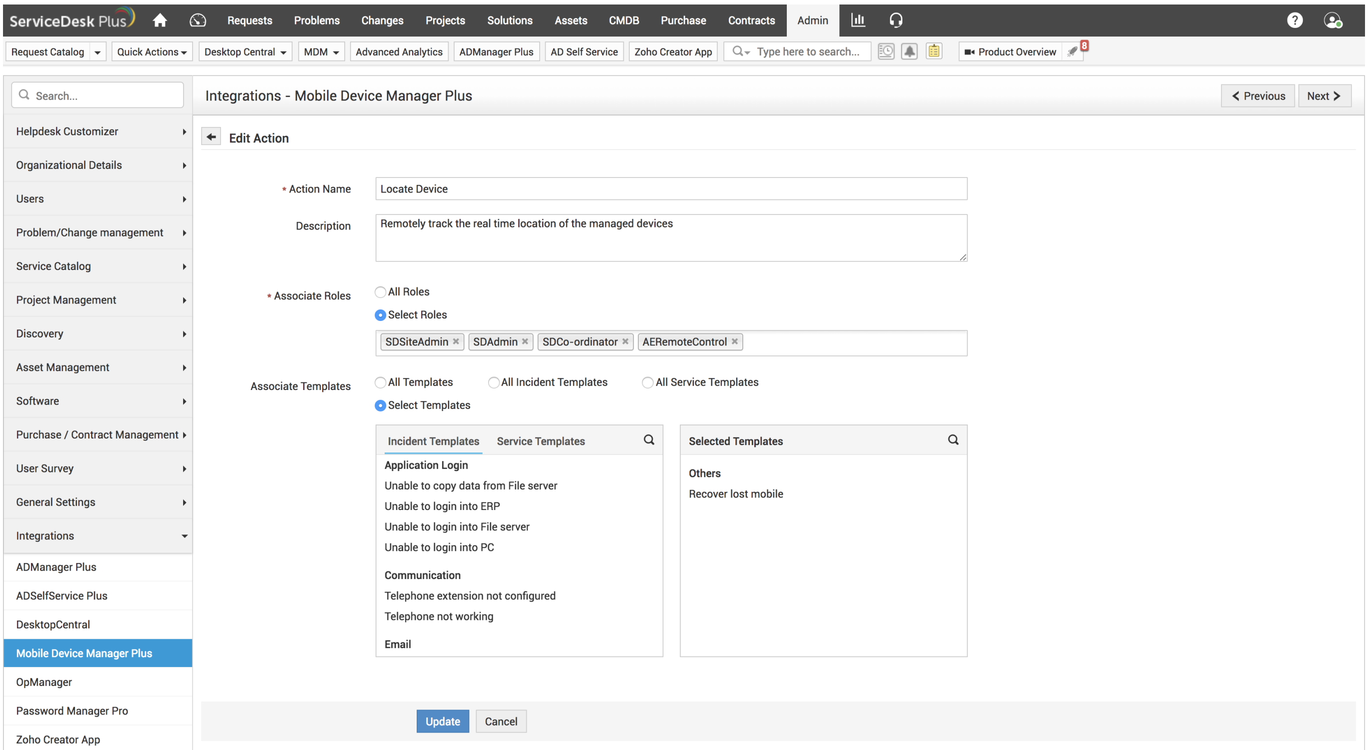
Steps

- Go to **Admin** >> **Integrations** >> **Mobile Device Manager Plus**. The Mobile Device Manager Plus menu will be enabled by default.
- If you've already integrated Desktop Central with ServiceDesk Plus, the same configuration will be copied for this integration. Otherwise, manually fill out the details of the server installed with Mobile Device Manager Plus application such as name and port.
- Select a protocol and enter the API key.
- Click **Test Connection and Save** to test the connectivity between the two application servers. Otherwise, simply save the configuration.



Configure Action

- Under **Mobile Device Manager Plus Actions**, click **Locate Device**.
- Enter a name and description for the action on the displayed page. This name will be displayed for the action inside the request details page.
- Select specific or all roles, associate the required templates, and click Update.
- The action will be available only for requests raised on the selected templates and for the configured roles.



Actions Supported

Mobile Device Manager Plus integration enables the **Locate Device** action. This action allows technicians to detect the geographical locations of lost mobile devices by using the **Geo-tracking** feature in Mobile Device Manager Plus.

⚠ Note that **Location Services** must have been enabled on the device for this action to work.

Authorized technicians can view and access the action from inside the request details page. In addition, technicians can remotely perform actions on the device such as lock, set alarm, clear or reset passcode, erase corporate data, and remove complete data. These actions are internally handled within the **Locate Device** action, so individual configuration is not necessary.

Sample

A user raises an incident request for a lost mobile device. The device could either be misplaced or stolen. In any case, you must secure the mobile data while trying to get hold of the device.

Let's first assume that the device had been misplaced.

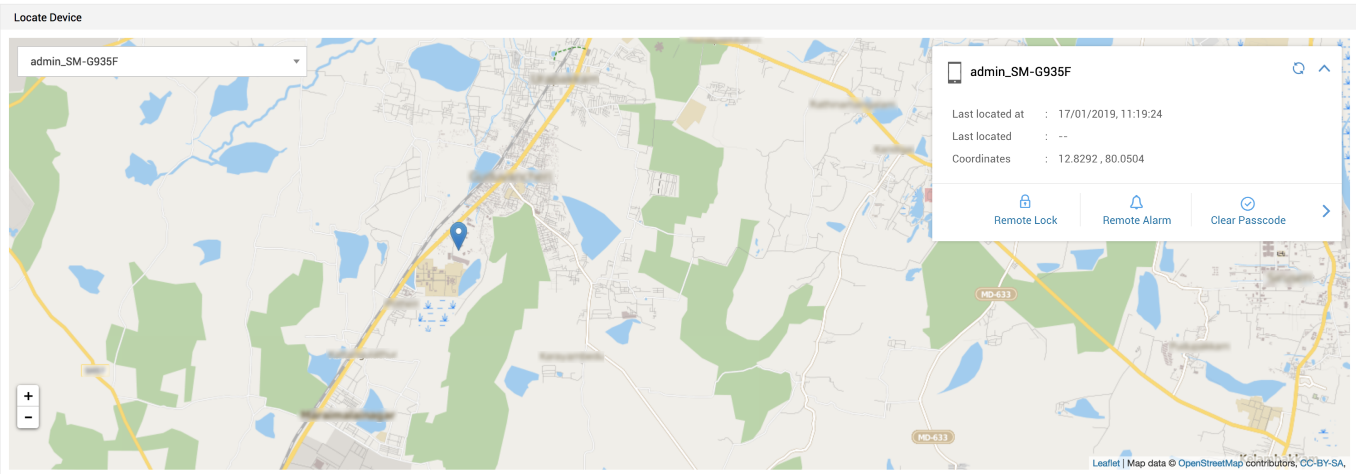
Use the **Locate Devices** action to identify the geographical location of the device. Meanwhile, lock the device by using the Remote Lock option. To add an extra layer of security, you can enable Lost Mode on the device. This will allow you to reset the password as well as display a contact number on the device. Once you've made sure that the device data is secured, hurry to the location detected, which is only nearly accurate. Then set off an alarm by using the Remote Alarm option to spot the device.

Let's say the **Location Services** of the device had been turned off after it went missing. Now, it's safe to assume that the device has been stolen. In that case, you can erase the confidential data in the device to ensure security. Depending on what data needs to be erased, you can choose between Corporate Wipe and Complete Wipe. While the former deletes only the apps and configurations installed through Mobile Device Manager Plus, the latter clears all data.

Perform Actions

- Go to the request details page, click **Custom Actions** and select [Locate Devices]. All devices associated with the request will be listed.
- Select the device that's lost. The geographical location of the device will be detected.
- You can access other actions from the upper half of the page in just a click.

Reload the device location by using the **Refresh** button at the upper half of the page.



Description of Actions

Remote Alarm

You can set off an alarm on the device by using this option. The alarm will ring regardless of the silent mode activated on the device. You can stop the alarm only by unlocking the device. This action helps you spot the exact location of a lost device after identifying its geographical location, which is only nearly accurate.

'Remote Lock

You can remotely lock mobile devices that are stolen or misplaced by using this action. Once you lock the device, a

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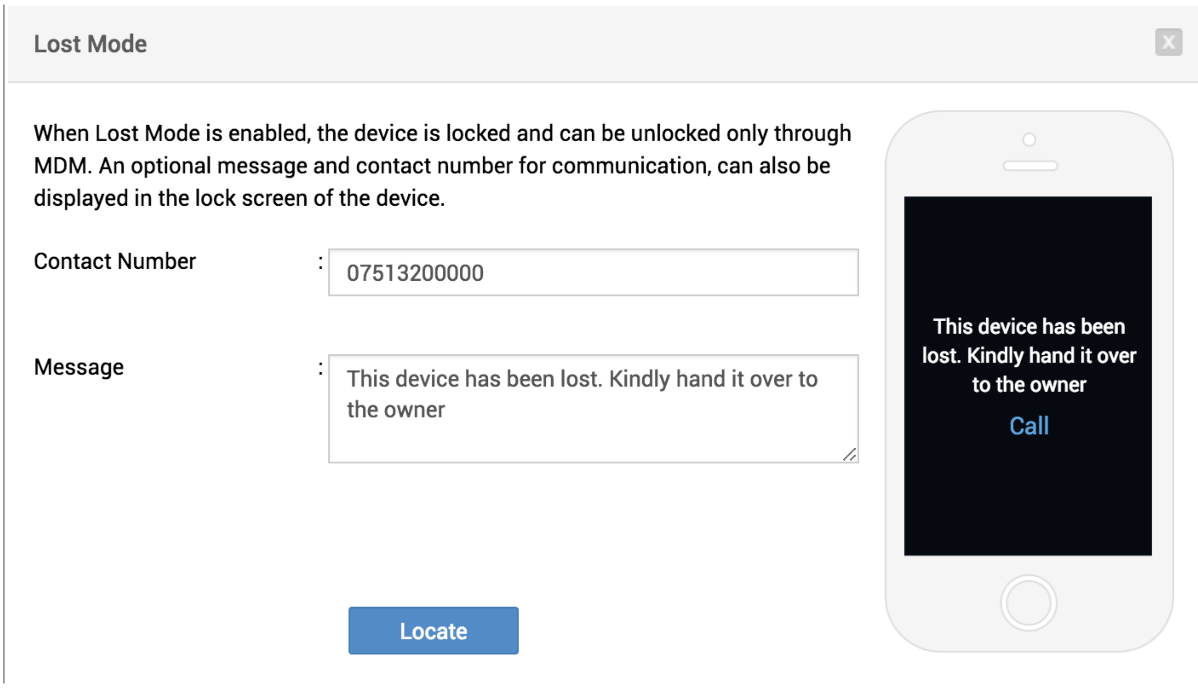
message will be prompted on the device to unlock by entering the passcode (if already configured).

Lost Mode

Lost Mode provides an additional layer of security to the mobile data over the remote lock. With this option, you can remotely lock the device, reset the device password, and display a contact number along with a message. The device can be unlocked only through Mobile Device Manager Plus.



Corporate Wipe

Corporate Wipe allows you to delete all profiles/configurations and applications that were installed through Mobile Device Manager Plus. Other data in the device will be preserved. Mobile Device Manager Plus will no longer manage the device and the deleted data cannot be restored.

Complete Wipe

As the name indicates, the Complete Wipe option clears all data from the device.

Clear Passcode

When a user forgets the device passcode, you can delete the passcode by using this action. The user must reset the passcode if a policy is enforced, otherwise resetting the passcode is optional.

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JIRA Integration

ServiceDesk Plus (SDP) - JIRA integration allows you to push any request created in ServiceDesk Plus as an Issue in JIRA with a preferred issue type.

Integration Steps

After upgrading to 10007 version, the updated Jira.xml and jiraimpl.jar are placed under **[SDP_HOME]/actionplugins/conf** and **[SDP_HOME]/actionplugins/lib** directories respectively. Starting from this version, the existing Jira.xml file will not have the JIRA's administrator credential and JIRA's server URL configuration fields as these details can be configured in the current integration page.

Follow the below steps to move the integration files to the appropriate directories.

> **Note**: If you are already using JIRA integation with any customizations in earlier versions, p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545} please take a backup of the customized files and move the files as mentioned below and then update the customization changes in the new files.

- Move the Jira.xml file present inside **[SDP_Home]/actionplugins/jira/conf/** to **[SDP_Home]/integration/conf/** directory.
- Move the jiraimpl.jar file present inside **[SDP_Home]/actionplugins/jira/** to **[SDP_Home]/integration/lib/** directory.
- Move all the integration files present inside **[SDP_Home]/actionplugins/jira/resources/** to **[SDP_Home]/integration/resources/** directory. (This is not required if you have already done this in earlier versions)
- Make the custom changes (if any) to the Jira.xml and restart the SDP server.

Configuring JIRA settings in ServiceDesk Plus:

- Go to Admin >> Integrations >> JIRA
- Enter the Server name and Server Port where the JIRA application is currently running and choose between HTTP and https protocol settings.
- Enter the JIRA administrator credentials (username/password) and Save the configuration. The password will be encrypted and saved securely in Database.
- Click 'Save' to save the settings.

Note: All other configurations other than username and password are still in Jira.xml.

Steps to create JIRA action menu:

- Create a new custom menu for Jira ticket creation under **Admin** > **Request Custom Menu** > **Add New Menu**.

- **Menu Name** > **Create_JIRA_UI_Ticket** (If you want to change the menu name then changes has to be done in Jira.xml too as the configurations are internally mapped)
- **Description** > *Optional*
- **Associates Roles** > Select the Technician Roles who should get access to this menu (Options: All Roles or 'Selected Roles')
- **Associate Templates** > Select the Templates, under which this menu should be displayed (Options: 'All Templates', 'All Incident Templates, 'All Service Templates' (or) 'Selected Templates')
- **Custom Html File** > **Create_Jira_Ticket.html** (Make sure the HTML file is present under **[SDP_Home]/Integration/resources/** directory.)
- **Action Type** > Select Execute Class > **com.servicedeskplus.integration.JiraActionImplementation** (Make sure the jar file is present under **[SDP_Home]/integration/lib**directory.)

REST API

- About REST API
- Generating API Key
- REST API Supported Operations

About REST API

Application Programming Interface (API) is used to integrate various applications and facilitate sharing of data between them. The integration can be achieved with any third party (external) applications or web services that are capable of sending the data via HTTP protocol.
With API, ServiceDesk Plus operations can be accessed from other applications or web services. In case of request operations, it provides a convenient method to raise requests (other than the default e-mail or web form) directly into ServiceDesk Plus without logging into the application. If required, you can also have an option to create your own web form for using API.
The purpose of REST API can be explained with the help of a scenario.

> Scenario:
> Let's take the case of a network monitoring tool (external application) that is installed on your network. In general, when an alarm is raised by the network monitoring tool, an e-mail notification is sent as a ticket to ServiceDesk Plus application. The field values (priority, level, impact, category and so on) should be filled by the technician manually in ServiceDesk Plus. This mechanism is time-consuming and eventually results in a dip in your helpdesk productivity chart.
> With REST API, you can automate this ticketing process. When an alarm is triggered, the network monitoring tool provides the field details and raises a ticket automatically in ServiceDesk Plus via HTTP protocol. The ticket ID is sent back to the network monitoring tool in order to perform any further operations over the request.
> When the cause for the alarm is resolved, ServiceDesk Plus will invoke an URL (callback URL) that was provided by the monitoring tool. The URL functions as a notification to the external application indicating that the ticket is resolved. If this URL (callback URL) is not provided, ServiceDesk Plus will not perform any additional operation on the ticket. When ServiceDesk Plus invokes the callback URL, the network monitoring tool can perform "any" internal operations based on the URL invocation. However, the expectation is that the application will clear the alarm (which was raised as a ticket) at their end.
>
> Note: Please note that the callback URL is applicable only while creating and editing requests.

The operations performed with REST API are based on the 'operation' parameter and is sent to the url via HTTP POST method. The url format is as shown below,
http://<servername>:<port number>/sdpapi/<module>

Authentication to the ServiceDesk Plus application is key based i.e., an API key is sent along with the url for every operation. This key is technician based and can be generate for technicians with login privilege. The role given to the technician is also taken into consideration, so the key is valid only for the role given to the technician. Once the key is generated, the key is manually transferred to the integrated application so that the application can use the key for further API operations. If the key is invalid (key is expired or the technician login is disabled), the operation fails and an error is propagated to the integrated application.

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Note	1. Please note that the administrator alone has the privilege to generate the authentication key for technicians with login permission. 2. If a login for the technician is disabled, then the technician key is deleted. 3. The operations can be performed based on the Role provided to the technician.

Currently, XML is the supported input and output format. The input data is sent as an XML string along with the technician key and operation name, while the output is exposed as an XML string.

Generating API Key

The authentication between ServiceDesk Plus and integrated application is through an API key. A unique key is generated for a technician with login permission in ServiceDesk Plus application.

1. Click Admin -> Technicians icon under User block.
2. If you want to generate the API key to the existing technician, click the edit icon beside the technician.

   If you want to generate the API key to a new technician, click Add New Technician link, enter the technician details and provide login permission.
3. Click Generate link under the API key details block. You can select a time frame for the key to expire using the calendar icon or simply retain the same key perpetually.

   If a key is already generated for the technician, a Re-generate link appears.

The key in the above image is generated for an existing technician. A time frame for the key is selected which shows the date, month, year and the time (in hours and minutes) when the key will expire.

REST API supported operations

The REST API supports the following operations which can be separated into:

- Operations on request: adding a new request, picking up requests, assigning requests, get requests, obtain conversations, add attachments, get request notifications, and add/edit/get resolutions.
- Operations on a specific request:
  - editing, closing, deleting and viewing existing requests.
  - adding new notes to a request, editing, deleting and viewing existing notes.
  - adding worklog to a request, editing, deleting and viewing existing worklogs.
  - obtain conversations related to request
  - add attachments to request
  - add, edit, and get a resolution of a request.
  - pick up / assign request.
  - reply to request
  - get notifications related to a request
- Technician related operations: import technician profiles (of all technicians) and assign operations to them.
- Requester related operations: import requester profiles (of all requesters) and work on their requests.
- Admin related operations: import specific Category/ all Categories, specific Subcategory/ all Subcategories, specific Item/ all Items, specific Status/ all Status, specific Level/ all Level(s), specific Mode/ all Modes, specific Urgency (all Urgencies), specific Priority/ all Priorities, specific Request Template/ all Request Templates, and all Support Group(s)

Servlet API is no longer supported.

Request operations

The operations on request such as adding new request, updating, closing, deleting and viewing the existing request are discussed under this section.
To perform operations on the request, the following URL patterns should be used.
For adding request:
http://<servername>:<port number>/sdpapi/request/
For operations on a specific request:
http://<servername>:<port number>/sdpapi/request/<request id>

Contents

- Adding Request
- Editing Request
- Viewing Request
- Deleting Request
- Closing Request
- Get Conversations
- Get Conversation
- Add Attachment
- Adding Resolution
- Editing Resolution
- Get Resolution
- Pickup Request
- Assign Request
- Reply Request
- Add Conversation
- Get Requests
- Get Notification
- Get Notifications
- Get All Conversations
- Get Request Filters

Adding Request
Say, you are running ServiceDesk Plus with the server name "localhost" in the port "8080". You are creating a new request for the requester Shawn Adams, who is unable to browse the internet. The input and output XML formats for the above scenario are given below,
To add a new request, the URL is given as:

http://<servername>:<port number>/sdpapi/request/

So for the scenario above, the URL is:
http://localhost:8080/sdpapi/request/

Key Points:

1. The operation name "ADD_REQUEST" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is an XML string sent as a "POST attribute" with key "INPUT_DATA".

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Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input - Format 1 for Incident Request:


```
<Operation>
<Details>
<parameter>
<name>requester</name>
<value>Shawn Adams</value>
</parameter>
<parameter>
<name>subject</name>
<value>The subject of the request</value>
</parameter>
<parameter>
<name>description</name>
<value>The description of the request</value>
</parameter>
<parameter>
<name>callbackURL</name>
<value>http://localhost:8080/CustomReportHandler.do</value>
</parameter>
<parameter>
<name>requesttemplate</name>
<value>Unable to browse</value>
</parameter>
<parameter>
<name>priority</name>
<value>High</value>
</parameter>
<parameter>
<name>site</name>
<value>New York</value>
</parameter>
<parameter>
<name>group</name>
<value>Network</value>
</parameter>
<parameter>
<name>technician</name>
<value>Howard Stern</value>
</parameter>
<parameter>
<name>level</name>
<value>Tier 3</value>
</parameter>
<parameter>
<name>status</name>
<value>Open</value>
</parameter>
<parameter>
<name>service</name>
<value>Email</value>
</parameter>
</Details>
</Operation>
```


Input - Format 2 for Incident Request:


```
<Operation>
<Details>
<requester>Shawn Adams</requester>
<subject>Specify Subject</subject>
<description>Specify Description</description>
<callbackURL>http://localhost:8080/CustomReportHandler.do</callbackURL>
<requesttemplate>Unable to browse</requesttemplate>
<priority>High</priority>
<site>New York</site>
<group>Network</group>
<technician>Howard Stern</technician>
<level>Tier 3</level>
<status>open</status>
<service>Email</service>
</Details>
</Operation>
```


Input - Format 1 for Service Request:


```
<Operation>
<Details>
<parameter>
<name>requesttemplate</name>
<value>Request a CRM account</value>
</parameter>
<parameter>
<name>technician</name>
<value>Howard Stern</value>
</parameter>
<parameter>
<name>level</name>
<value>Tier 3</value>
</parameter>
<resources>
<resource>
<title>System Requirements</title>
<parameter>
<name>Choose the desktop model</name>
<value>Dell</value>
</parameter>
<parameter>
<name>Choose the devices required</name>
<value>iPhone</value>
<value>Blackberry</value>
</parameter>
</resource>
<resource>
<title>Additional Requirements</title>
<parameter>
<name>Choose the additional hardware required</name>
<value>Optical Mouse</value>
</parameter>
</resource>
</resources>
<parameter>
<name>editor</name>
<value>administrator</value>
</parameter>
<parameter>
<name>serviceapprovers</name>
<value>administrator</value>
<value>guest</value>
</parameter>
<!--Common Additional Field-->
<parameter>
<name>Employee ID</name>
<value>0217</value>
</parameter>
<!--Service Category Specific Additional Field --!>
<parameter>
<name>RAM Size</name>
<value>8 GB</value>
</parameter>
</Details>
</Operation>
```


Output:
The Output format for the operation "Add Request" supports both the formats.


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="ADD_REQUEST">
<result>
<status>Success</status>
<message>Request added successfully</message>
</result>
<Details>
<workorderid>25</workorderid>
</Details>
<Details>
<parameter>
<name>workorderid</name>
<value>25</value>
</parameter>
</Details>
</operation>
```

Editing Request

To edit a request, the URL is given as:
http://<servername>:<port number>/sdpapi/request/<request id>

Assume the Request ID to edit is 25, then the URL is: http://localhost:8080/sdpapi/request/25

Key Points:

1. The operation name "EDIT_REQUEST" should be sent as a "POST attribute" with key "OPERATION_NAME"
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY"
3. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input - Format 1 for Incident Request:

```
<Operation>
<Details>
<parameter>
<name>level</name>
<value>Tier 3</value>
</parameter>
</Details>
</Operation>
```

Input - Format 2 for Incident Request:

```
<Operation>
<Details>
<level>Tier 3</level>
</Details>
</Operation>
```

Input - Format 1 for Service Request:

```
<Operation>
<Details>
<resources>
<resource>
<title>System Requirements</title>
<parameter>
<name>Choose the desktop model</name>
<value>Dell</value>
</parameter>
<parameter>
<name>Choose the devices required</name>
<value>iPhone</value>
<value>Blackberry</value>
</parameter>
</resource>
<resource>
<title>Additional Requirements</title>
<parameter>
<name>Choose the additional hardware required</name>
<value>Optical Mouse</value>
</parameter>
</resource>
</resources>
<parameter>
<name>editor</name>
<value>administrator</value>
</parameter>
<!--Common Additional Field-->
<parameter>
<name>Employee ID</name>
<value>0217</value>
</parameter>
<!--Service Category Specific Additional Field --!>
<parameter>
<name>RAM Size</name>
<value>8 GB</value>
</parameter>
</Details>
</Operation>
```

Output:

```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="EDIT_REQUEST">
<result>
<status>Success</status>
<message>Request 25 successfully edited</message>
</result>
</operation>
```

Viewing Request

To view a request, the URL is given as:
http://<servername>:<port number>/sdpapi/request/<request id>

Assume the Request ID to view is 24, then the URL is: http://localhost:8080/sdpapi/request/24/

Key points:

1. The operation name "GET_REQUEST" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for viewing requests.

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output Format for Incident Request:


```xml
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_REQUEST">
<result>
<status>Success</status>
<message>Request details fetched successfully</message>
</result>
<Details>
<parameter>
<name>workorderid</name>
<value>24</value>
</parameter>
<parameter>
<name>requester</name>
<value>Howard Stern</value>
</parameter>
<parameter>
<name>createdby</name>
<value>Howard Stern</value>
</parameter>
<parameter>
<name>createdtime</name>
<value>31 May 2011, 20:52:26</value>
</parameter>
<parameter>
<name>duebytime</name>
<value>01 Jun 2011, 10:00:00</value>
</parameter>
<parameter>
<name>timespentonreq</name>
<value>0hrs 0min</value>
</parameter>
<parameter>
<name>subject</name>
<value>The subject of the request</value>
</parameter>
<parameter>
<name>requesttemplate</name>
<value>Unable to browse</value>
</parameter>
<parameter>
<name>sla</name>
<value>High SLA</value>
</parameter>
<parameter>
<name>service</name>
<value>Email</value>
</parameter>
<parameter>
<name>technician</name>
<value>Howard Stern</value>
</parameter>
<parameter>
<name>status</name>
<value>Open</value>
</parameter>
<parameter>
<name>priority</name>
<value>High</value>
</parameter>
<parameter>
<name>level</name>
<value>Tier 3</value>
</parameter>
<parameter>
<name>group</name>
<value>Network</value>
</parameter>
<parameter>
<name>description</name>
<value>The description of the request</value>
</parameter>
<Notes URI="http://localhost:8080/sdpapi/request/24/notes/"/>
<Worklogs URI="http://localhost:8080/sdpapi/request/24/worklogs/"/>
</Details>
</Operation>
```


Output Format for Service Request:


```xml
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_REQUEST">
<result>
<status>Success</status>
<message>Request details fetched successfully</message>
</result>
<Details>
<parameter>
<name>workorderid</name>
<value>24</value>
</parameter>
<parameter>
<name>requester</name>
<value>Howard Stern</value>
</parameter>
<parameter>
<name>createdby</name>
<value>Howard Stern</value>
</parameter>
<parameter>
<name>createdtime</name>
<value>31 May 2011, 20:52:26</value>
</parameter>
<parameter>
<name>duebytime</name>
<value>01 Jun 2011, 10:00:00</value>
</parameter>
<parameter>
<name>timespentonreq</name>
<value>0hrs 0min</value>
</parameter>
<parameter>
<name>subject</name>
<value>Please provide me an account in our CRM system</value>
</parameter>
<parameter>
<name>requesttemplate</name>
<value>Request a CRM account</value>
</parameter>
<parameter>
<name>service</name>
<value>Email</value>
</parameter>
<parameter>
<name>technician</name>
<value>Howard Stern</value>
</parameter>
<parameter>
<name>status</name>
<value>Open</value>
</parameter>
<parameter>
<name>priority</name>
<value>High</value>
</parameter>
<parameter>
<name>level</name>
<value>Tier 3</value>
</parameter>
<parameter>
<name>group</name>
<value>Network</value>
</parameter>
<parameter>
<name>description</name>
<value>The description of the request</value>
</parameter>
<resources>
<resource>
<title>System Requirements</title>
<parameter>
<name>Choose the desktop model</name>
<value>Dell</value>
</parameter>
<parameter>
<name>Choose the devices required</name>
<value>iPhone</value>
<value>Blackberry</value>
</parameter>
<resource>
<title>Additional Requirements</title>
<parameter>
<name>Choose the additional hardware required</name>
<value>Optical Mouse</value>
</parameter>
</resource>
</resources>
<parameter>
<name>editor</name>
<value>vidhya</value>
</parameter>
<Notes URI="http://localhost:8080/sdpapi/request/24/notes/"/>
<Worklogs URI="http://localhost:8080/sdpapi/request/24/worklogs/"/>
</Details>
</Operation>
```

Deleting Request

To delete a request, the URL is given as:

http://<servername>:<port number>/sdpapi/request/<request id>

Assume the Request ID to delete is 21, then the URL is: http://localhost:8080/sdpapi/request/21/

Key points:

1. The operation name "DELETE_REQUEST" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for deleting requests.

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="DELETE_REQUEST">
<result>
<status>Success</status>
<message>Request deleted successfully</message>
</result>
</operation>
```


Close Request

To close a request, the URL is given as:

http://<servername>:<port number>/sdpapi/request/<request id>

Assume the Request ID to close is 25, then the URL is given as: http://localhost:8080/sdpapi/request/25

Key points:

1. The operation name "CLOSE_REQUEST" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. The input XML is optional. If specified, then the input is an XML string sent as "POST attribute" with key "INPUT_DATA".

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input - Format 1:

```
<Operation>
<Details>
<parameter>
<name>closeAccepted</name>
<value>Accepted</value>
</parameter>
<parameter>
<name>closeComment</name>
<value>The Closing Comment</value>
</parameter>
</Details>
</Operation>
```

Get Conversations

To get conversation of all requests, the URL is given as:

http://<servername>:<port number>/sdpapi/request/<request id>/conversation/

Assume the Request ID is 25,then the URL is given as: http://localhost:8080/sdpapi/request/25/conversation/

Key points:

1. The operation name "GET_CONVERSATIONS " should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for Get Request Conversations

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output Format:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_CONVERSATIONS">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Conversation details fetched successfully</message>
</result>
<Details type="conversation">
<record URI="http://<servername>:<port-number>/sdpapi/request/<requestId>/conversation/1">
<parameter>
<name>CONVERSATION ID<name>
<value>1<value>
</parameter>
<parameter>
<name>FROM<name>
<value>administrator<value>
</parameter>
<parameter>
<name>CREATEDTIME<name>
<value>1343844854421<value>
</parameter>
<parameter>
<name>TYPE<name>
<value>MERGE<value>
</parameter>
</record>
<record URI="http://<servername>:<port-number>/sdpapi/request/<requestId>/conversation/2">
<parameter>
<name>CONVERSATION ID<name>
<value>2<value>
</parameter>
<parameter>
<name>FROM<name>
<value>administrator<value>
</parameter>
<parameter>
<name>CREATEDTIME<name>
<value>1343844854421<value>
</parameter>
<parameter>
<name>TYPE<name>
<value>MERGE<value>
</parameter>
</record>
</Details>
</operation>
```

Get Conversation

To get conversation of a request, the URL is given as:
http://<servername>:<port number>/sdpapi/request/<request id>/conversation/<conversationId>

Assume the Request ID is 25 and the Conversation ID is also 25, then the URL is given as:
http://localhost:8080/sdpapi/request/25/conversation/25

Key points:

1. The operation name "GET_CONVERSATION " should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for Get Request Conversation

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output Format:


```
<xml version="1.0" encoding="UTF-8">
<operation name="GET_CONVERSATION">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Conversation details fetched successfully</message>
</result>
<Details type="conversation">
<record>
<parameter>
<name>CONVERSATION ID<name>
<value>1<value>
</parameter>
<parameter>
<name>TITLE<name>
<value>title<value>
</parameter>
<parameter>
<name>DESCRIPTION<name>
<value>description<value>
</parameter>
<parameter>
<name>TOADDRESS<name>
<value>xyz@abc.com<value>
</parameter>
<parameter>
<name>CCADDRESS<name>
<value>xyz@abc.com<value>
</parameter>
</record>
</Details>
</operation>
```

Add Attachment

To append attachments to requests, the URL is given as:

http://<servername>:<port number>/sdpapi/request/<request id>/attachment

Assume the Request ID is 25,then the URL is given as: http://localhost:8080/sdpapi/request/25/attachment

Key points:

1. The operation name "ADD_ATTACHMENT " should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note: Please note that the Output XML format has been changed. But for compatibility reasons, the Input operation will support both the formats.

Attachment Client Side Snippet:

The snippet provided below is an example of how you can append "Attachments to Requests" written in java.

```
{
/**
* 1. Create a MultipartPostMethod
* 2. Construct the web URL to connect to the SDP Server
* 3. Add the filename to be attached as a parameter to the MultipartPostMethod with parameter name "filename"
* 4. Execute the MultipartPostMethod
* 5. Receive and process the response as required
* /
HttpClient client = new HttpClient( );
String weblinkURL =
"http://<SDPServer>:<PortNumber>/sdpapi/request/<requestId>/attachment?OPERATION_NAME=ADD_ATTACHMENT&TECHNICIAN_KEY=<general
technician API key>";
MultipartPostMethod method = new MultipartPostMethod( weblinkURL );
String fileName = "C:" + File.pathSeparator + "ManageEngine" + File.pathSeparator + "ServiceDesk" + File.pathSeparator + "a.csv";
File file = new File(fileName);
method.addParameter("filename", file );

try {
client.executeMethod( method );
String response = method.getResponseBodyAsString();
System.out.println( response );
} catch  (HttpException he) {
System.out.println( he );
} catch (Exception e) {
System.out.println( e );
} finally {
method.releaseConnection( );

}
}
```

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="ADD_ATTACHMENT">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Attachments added successfully</message>
</result>
<Details type="attachment"/>
</operation>
```

Adding Resolution

To add new resolution to a request, the URL should be given as:

http://<servername>:<port number>/sdpapi/request/<request ID>/resolution

Assume the Request ID is 25,then the URL is given as:

http://localhost:8080/sdpapi/request/ 25/resolution

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input Format:

```
<Details>
<resolution>
<resolutiontext>asd</resolutiontext>
</resolution>
</Details>
```

Output Format:

```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="ADD_RESOLUTION">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Resolution added Successfully</message>
</result>
</operation>
```

Editing Resolution

To edit a resolution to a request, the URL should be given as:

http://<servername>:<port number>/sdpapi/request/<request ID>/ resolution

Assume the Request ID is 25,then the URL is given as:

http://localhost:8080/sdpapi/request/25/

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input Format:

```
<Details>
<resolution>
<resolutiontext>asd</resolutiontext>
</resolution>
</Details>
```

Output Format:

```
<?xml version="1.0" encoding="UTF-8"?>
<operation ssname="EDIT_RESOLUTION">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Resolution edited Successfully for request<request ID></message>
</result>
</operation>
```

Get Resolution

To get a resolution, the URL should be given as:

http://<servername>:<port number>/sdpapi/request/ <requestid>/

Assume the Request ID is 25,then the URL is given as:

http://localhost:8080/sdpapi/request/25/

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_RESOLUTION">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Resolution details fetched Successfully for request<requestid></message>
</result>
<Details>
<resolution>resolution</resolution>
<lastupdatedtime>1352100738881</lastupdatedtime>
<resolver>301</resolver>
</Details>
</operation>
```


Pickup Request

To pick up request, the URL should be given as:

http://<servername>:<port number>/sdpapi/request/ <requestid>/

Assume the Request ID is 25,then the URL is given as:

http://localhost:8080/sdpapi/request/25/

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="PICKUP_REQUEST">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Request picked up Successfully</message>
</result>
</operation>
```


Assign Request

To assign request, the URL should be given as:

http://<servername>:<port number>/sdpapi/request/ <requestid>/

Assume the Request ID is 25,then the URL is given as:
http://localhost:8080/sdpapi/request/25/

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input:


```
<?xml version="1.0" encoding="UTF-8"?>
<Details>
<parameter>
<name>technicianid</name>
<value>4</value>
</paramter>
</Details>
```


Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="ASSIGN_REQUEST">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Request assigned Successfully</message>
</result>
</operation>
```


Reply Request

Reply request can be used to send reply to a request by a technician. Only technicians can use this to reply to a request.

To Reply to a request, the URL should be given as:
http://<servername>:<port number>/sdpapi/request/ <requestid>/

Assume the Request ID is 25,then the URL is given as:
http://localhost:8080/sdpapi/request/25/

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input:

```
<Details>
<parameter>
<name>to</name>
<value>abc@xyz.com</value>
</parameter>
<parameter>
<name>cc</name>
<value>abc@xyz.com</value>
</parameter>
<parameter>
<name>subject</name>
<value>subject text</value>
</parameter>
<parameter>
<name>description</name>
<value>description text</value>
</parameter>
</Details>
```

Output:

```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="REPLY_REQUEST">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Request assigned Successfully</message>
</result>
</operation>
```

Adding Conversation:

Adding Conversation lets the requester to reply to a request. Only Requesters can use this to reply to a request.

To add conversation the URL should be given as:

http://<servername>:<port number>/sdpapi/request/ <requestid>/

Assume the request id is 15, then the URL is given as:

http://localhost:8080/sdpapi/request/15/conversation/

The operation name "ADD_CONVERSATION" should be sent as a "POST attribute" with key "OPERATION_NAME".

The requester key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

```
Input:

<Details>

<parameter>

    <name>subject</name>

        <value>subject text</value>

</parameter>

<parameter>

    <name>description</name>

        <value>description text</value>

</parameter>

</Details>
```

Get Requests

To get request, the URL should be given as:
http://<servername>:<port number>/sdpapi/request/

Assume the Request ID is 25,then the URL is given as:
http://localhost:8080/sdpapi/request/

```
Input:
<Details>
<parameter>
<name>from</name>
<value>0</value>
</parameter>
<parameter>
<name>limit</name>
<value>25</value>
</parameter>
<parameter>
<name>filterby</name>
<value>All_Requests</value>
</parameter>
</Details>
```

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_REQUESTS">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Request replied Successfully</message>
</result>
<Details type="GET_REQUESTS">
<record URL="http://localhost:8080/sdpapi/request/<requestid>
<parameter>
<name>workorderid</name>
<value><requestid></value>
</parameter>
</parameter>
<name>requester</name>
<value>administrator</value>
</parameter>
<name>createdby</name>
<value>administrator</value>
</parameter>
</parameter>
<name>createdtime</name>
<value>12321434324324</value>
</parameter>
</parameter>
<name>duebytime</name>
<value>11234321412454</value>
</parameter>
</parameter>
<name>subject</name>
<value>subject</value>
</parameter>
</parameter>
<name>technician</name>
<value>administrator</value>
</parameter>
</parameter>
<name>priority</name>
<value>High</value>
</parameter>
</parameter>
<name>status</name>
<value>open</value>
</parameter>
</parameter>
<name>isoverdue</name>
<value>false</value>
</parameter>
</record>
<record URL="http://localhost:8080/sdpapi/request/<requestid>"
<parameter>
<name>workorderid</name>
<value><requestid></value>
<parameter>
<name>requester</name>
<value>administrator</value>
<parameter>
<parameter>
<name>createdby</name>
<value>administrator</value>
<parameter>
<parameter>
<name>createdtime</name>
<value>1232143323543</value>
<parameter>
<parameter>
<name>duebytime</name>
<value>1123432143534</value>
<parameter>
<parameter>
<name>subject</name>
<value>subject</value>
<parameter>
<parameter>
<name>technician</name>
<value>administrator</value>
<parameter>
<parameter>
<name>priority</name>
<value>High</value>
<parameter>
<parameter>
<name>status</name>
<value>open</value>
<parameter>
<parameter>
<name>isoverdue</name>
<value>false</value>
<parameter>
</record>
</Details>
</operation>
```

Get Notification

To get notifications of a request, the URL should be given as:

http://<servername>:<port-number>/sdpapi/request/<requestId>/notification/<notificationId>

Assume the Request ID is 25 and the notification is 10, then the URL is given as:

http://localhost:8080/sdpapi/request/25/ notification/10

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_NOTIFICATION">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message> Notification details fetched successfully</message>
</result>
<Details type="GET_NOTIFICATION">
<record>
<parameter>
<name>NOTIFYID</name>
<value>1</value>
</parameter>
<parameter>
<name>FROM</name>
<value>administrator</value>
</parameter>
<parameter>
<name>CREEATEDDATE</name>
<value>1343844854421</value>
</parameter>
<parameter>
<name>TITLE</name>
<value>Re: [Request ID :##1##] : asdasd</value>
</parameter>
<parameter>
<name>DESCRIPTION</name>
<value><p>Category : <br />Description : </p></value>
</parameter>
<parameter>
<name>TOADDRESS</name>
<value>abc@xyz.com</value>
</parameter>
<parameter>
<name>CCADDRESS</name>
<value>abc@xyz.com</value>
</parameter>
<parameter>
<name>TYPE</name>
<value>Notification</value>
</parameter>
<parameter>
<name>SUBTYPE</name>
<value>REQREPLY</value>
</parameter>
</record>
</Details>
</Operation>
```

Get Notifications

To get notifications of a request, the URL should be given as:
http://<servername>:<port-number>/sdpapi/request/<requestId>/notification/

Assume the Request ID is 25, then the URL is given as:
http://localhost:8080/sdpapi/request/25/ notification/

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_NOTIFICATIONS">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message> Notification details fetched successfully</message>
</result>
<Details type="GET_NOTIFICATIONS">
<record URI="http://<servername>:<port-number>/sdpapi/request/<requestId>/notification/1">
<parameter>
<name>NOTIFYID</name>
<value>1</value>
</parameter>
<parameter>
<name>FROM</name>
<value>administrator</value>
</parameter>
<parameter>
<name>CREEATEDDATE</name>
<value>1343844854421</value>
</parameter>
<parameter>
<name>TYPE</name>
<value>Notification</value>
</parameter>
<parameter>
<name>SUBTYPE</name>
<value>REQREPLY</value>
</parameter>
</record>
<record URI="http://<servername>:<port-number>/sdpapi/request/<requestId>/notification/2">
<parameter>
<name>NOTIFYID</name>
<value>2</value>
</parameter>
<parameter>
<name>FROM</name>
<value>administrator</value>
</parameter>
<parameter>
<name>CREEATEDDATE</name>
<value>1343844834134</value>
</parameter>
<parameter>
<name>TYPE</name>
<value>Notification</value>
</parameter>
<parameter>
<name>SUBTYPE</name>
<value>REQFORWARD</value>
</parameter>
</record>
</Details>
</Operation>
```

Get All Conversations

To get notifications of a request, the URL should be given as:

http://<servername>:<port-number>/sdpapi/request/<requestId>/allconversation/

Assume the Request ID is 25, then the URL is given as:

http://localhost:8080/sdpapi/request/25/allconversation/

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_ALL_CONVERSATIONS">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message> Notification details fetched successfully</message>
</result>
<Details type="GET_ALL_CONVERSATIONS">
<record URI="http://<servername>:<port-number>/sdpapi/request/<requestId>/allconversation/1343844854421">
<parameter>
<name>NOTIFYID</name>
<value>1</value>
</parameter>
<parameter>
<name>FROM</name>
<value>administrator</value>
</parameter>
<parameter>
<name>CREEATEDDATE</name>
<value>1343844854421</value>
</parameter>
<parameter>
<name>TYPE</name>
<value>Notification</value>
</parameter>
<parameter>
<name>SUBTYPE</name>
<value>REQREPLY</value>
</parameter>
<parameter>
<name>DESCCRIPTION</name>
<value></value>
</parameter>
</record>
<record URI="http://<servername>:<port-number>/sdpapi/request/<requestId>/allconversation/1343844834134">
<parameter>
<name>NOTIFYID</name>
<value>2</value>
</parameter>
<parameter>
<name>FROM</name>
<value>administrator</value>
</parameter>
<parameter>
<name>CREEATEDDATE</name>
<value>1343844834134</value>
</parameter>
<parameter>
<name>TYPE</name>
<value>Notification</value>
</parameter>
<parameter>
<name>SUBTYPE</name>
<value>REQFORWARD</value>
</parameter>
<parameter>
<name>DESCRIPTION</name>
<value></value>
</parameter>
</record>
<record URI="http://<servername>:<port-number>/sdpapi/request/<requestId>/allconversation/1357110660162">
<parameter>
<name>CONVERSATION ID</name>
<value>1</value>
</parameter>
<parameter>
<name>FROM</name>
<value>guest</value>
</parameter>
<parameter>
<name>CREEATEDDATE</name>
<value>1357110660162</value>
</parameter>
<parameter>
<name>TYPE</name>
<value>Conversation</value>
</parameter>
<parameter>
<name>DESCRIPTION</name>
<value></value>
</parameter>
</record>
</Details>
</Operation>
```

Get Request Filters

To fetch various filters associated with requests, the URL should be given as:

http://<servername>:<port-number>/sdpapi/request/

Sample URL:

http://localhost:8080/sdpapi/request/

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Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```xml
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_REQUEST_FILTERS">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message> Request Filters fetched successfully</message>
</result>
<Details>
<Filters>
<parameter>
<name>MyOpen_Or_Unassigned</name>
<value>My Open Or Unassigned</value>
</parameter>
<parameter>
<name>Unassigned_System</name>
<value>Unassigned Requests</value>
</parameter>
<parameter>
<name>Open_User</name>
<value>My Open Requests</value>
</parameter>
<parameter>
<name>Onhold_User</name>
<value>My Requests On Hold</value>
</parameter>
<parameter>
<name>Overdue_User</name>
<value>My Overdue Requests</value>
</parameter>
<parameter>
<name>All_Pending_User</name>
<value>All_Pending_Requests_Tasks_User</value>
</parameter>
<parameter>
<name>Due_Today_User</name>
<value>My Requests Due Today </value>
</parameter>
<parameter>
<name>All_Completed_User</name>
<value>All My Requests</value>
</parameter>
<parameter>
<name>My_Pending_Approval</name>
<value>Requests Pending My Approval </value>
</parameter>
<parameter>
<name>All_User</name>
<value>All My Requests</value>
</parameter>
<parameter>
<name>Open_System</name>
<value>Open Requests</value>
</parameter>
<parameter>
<name>Onhold_System</name>
<value>Overdue Requests</value>
</parameter>
<parameter>
<name>Overdue_System_Today</name>
<value>Requests Due Today</value>
</parameter>
<parameter>
<name>Pending_Approval</name>
<value>Requests Pending Approval</value>
</parameter>
<parameter>
<name>All_Pending</name>
<value>Completed Requests</value>
</parameter>
<parameter>
<name>All_Completed</name>
<value>Conversation</value>
</parameter>
<parameter>
<name>Waiting_Update</name>
<value>Waiting for my update</value>
</parameter>
<parameter>
<name>Updated_By_Me</name>
<value>Updated by me</value>
</parameter>
<parameter>
<name>All_Requests</name>
<value>All Requests</value>
</parameter>
</Filters>
</Details>
</Operation>
```

Adding Conversation:

Adding Conversation lets the requester to reply to a request. Only Requester can use this for replying to a request. To add conversation the URL should be given as:

Sample URL:

http://localhost:8080/sdpapi/request/15/conversation/

The operation name "ADD_CONVERSATION" should be sent as a "POST attribute" with key "OPERATION_NAME".

The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

```
Input:

<Details>

<parameter>

    <name>subject</name>

          <value>subject text</value>

 </parameter>

 <parameter>

      <name>description</name>

        <value>description text</value>

 </parameter>

 </Details>
```

Notes related operations

The notes related operations on specific request such as adding new notes, updating, deleting and viewing the existing notes are discussed under this section.
To perform the notes related operations on an existing request, the following URL patterns should be used.
For adding notes to a request:
http://<servername>:<port number>/sdpapi/request/<request id>/notes
For operations on a specific note for a request:
http://<servername>:<port number>/sdpapi/request/<request id>/notes/<notes id>

Contents

- Adding Note
- Editing Note
- Viewing Note
- Viewing all the Notes
- Deleting Note

Adding Note
Say, you are running ServiceDesk Plus with the server name as "localhost" in the port "8080". You are adding a note for an existing request for which the input and output XML format is given below,
For adding a note to an existing request, the URL is given as:
http://<servername>:<port number>/sdpapi/request/<request id>/notes

So for the above scenario, the URL is: http://localhost:8080/sdpapi/request/24/notes/

Key Points:

1. The operation name "ADD_NOTE" should be sent as a "POST attribute" with key "OPERATION_NAME"
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY"
3. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input - Format 1:

```
<Operation>
<Details>
<Notes>
<Note>
<parameter>
<name>isPublic</name>
<value>false</value>
</parameter>
<parameter>
<name>notesText</name>
<value>Text added to the note</value>
</parameter>
</Note>
</Notes>
</Details>
</Operation>
```

Input - Format 2:

```
<Operation>
<Details>
<Notes>
<Note>
<isPublic>false</isPublic>
<notesText>Text added to the note</notesText>
</Note>
</Notes>
</Details>
</Operation>
```

Output:

```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="ADD_NOTE">
<result>
<status>Success</status>
<message>Note added successfully for request 24</message>
</result>
</operation>
```

Editing Note

To edit a note of an existing request, the URL is given as:

http://<servername>:<port number>/sdpapi/request/<request id>/notes/<note id>

Assume the Note ID to edit the note is 301, then the URL is: http://localhost:8080/sdpapi/request/24/notes/301

Key Points:

1. The operation name "EDIT_NOTE" should be sent as a "POST attribute" with key "OPERATION_NAME"
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY"
3. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input - Format 1:

```
<Operation>
<Details>
<Notes>
<Note>
<parameter>
<name>notesText</name>
<value>edited the subject</value>
</parameter>
</Note>
</Notes>
</Details>
</Operation>
```

Input - Format 2:

```
<Operation>
<Details>
<Notes>
<Note>
<notesText>edited sub</notesText>
</Note>
</Notes>
</Details>
</Operation>
```

Output:

```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="EDIT_NOTE">
<result>
<status>Success</status>
<message>Note 301 successfully edited for request 24</message>
</result>
</operation>
```

Viewing Note

To view one of the notes of an existing request, the URL is given as:
http://<servername>:<port number>/sdpapi/request/<request id>/notes/<note id>

Assume the Note ID to view the note is 301, then the URL is: http://localhost:8080/sdpapi/request/24/notes/301

Key Points:

1. The operation name "GET_NOTE" should be sent as a "POST attribute" with key "OPERATION_NAME"
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY"
3. Input is not required in this case.r

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_NOTE">
<result>
<status>Success</status>
<message>Note details fetched successfully</message>
</result>
<Details>
<Notes>
<Note>
<parameter>
<name>userid</name>
<value>301</value>
</parameter>
<parameter>
<name>ispublic</name>
<value>false</value>
</parameter>
<parameter>
<name>notesText</name>
<value>Text added to the note</value>
</parameter>
<parameter>
<name>username</name>
<value>Shawn Adams</value>
</parameter>
<parameter>
<name>notesid</name>
<value>301</value>
</parameter>
<parameter>
<name>notesdate</name>
<value>1275373443722</value>
</parameter>
<parameter>
<name>workorderid</name>
<value>24</value>
</parameter>
</Note>
</Notes>
</Details>
</Operation>
```


Viewing all the Notes

To view all the notes of a request, the URL is given as:
http://<servername>:<port number>/sdpapi/request/<request id>/notes/

Assume the Request ID to view all the notes is 24, then the URL is: http://localhost:8080/sdpapi/request/24/notes

Key Points:

1. The operation name "GET_NOTES" should be sent as a "POST attribute" with key "OPERATION_NAME"
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY"

3. Input is not required in this case.

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_NOTES">
<result>
<status>Success</status>
<message>Notes details fetched successfully</message>
</result>
<Details>
<Notes>
<Note URI="http://localhost:8080/sdpapi/request/24/notes/302/">
<parameter>
<name>ispublic</name>
<value>false</value>
</parameter>
<parameter>
<name>notesText</name>
<value>Note added to the request</value>
</parameter>
<parameter>
<name>username</name>
<value>Shawn Adams</value>
</parameter>
<parameter>
<name>notesdate</name>
<value>1275373948835</value>
</parameter>
</Note>
<Note URI="http://localhost:8080/sdpapi/request/24/notes/301/">
<parameter>
<name>ispublic</name>
<value>false</value>
</parameter>
<parameter>
<name>notesText</name>
<value>Text added to the note</value>
</parameter>
<parameter>
<name>username</name>
<value>Shawn Adams</value>
</parameter>
<parameter>
<name>notesdate</name>
<value>1275373443722</value>
</parameter>
</Note>
</Notes>
</Details>
</operation>
```


Deleting Note

To delete a note of an existing request, the URL is given as:

http://<servername>:<port number>/sdpapi/request/<request id>/notes/<note id>

Assume the Note ID to delete the note is 301, then the URL is: http://localhost:8080/sdpapi/request/24/notes/301

Key Points:

1. The operation name "DELETE_NOTE" should be sent as a "POST attribute" with key "OPERATION_NAME"
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY"
3. Input is not required in this case.

> Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.
>
> Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="DELETE_NOTE">
<result>
<status>Success</status>
<message>Note deleted successfully</message>
</result>
</operation>
```

Work log operations

The worklog related operations on specific request such as adding worklog, updating, deleting and viewing the existing worklogs are discussed under this section.
To perform worklog related operations the following URL patterns should be used.
For adding worklog to an existing request:
http://<servername>:<port number>/sdpapi/request/<request id>/worklogs
For operations on a specific worklog:
http://<servername>:<port number>/sdpapi/request/<request id>/worklogs/<worklog id>

Contents

- Adding Worklog
- Editing Worklog
- Viewing Worklog
- Viewing all the Worklogs
- Deleting Worklog

Adding Worklog
To add a worklog for an existing request, the URL is given as:
http://<servername>:<port number>/sdpapi/request/<request id>/worklogs
So for the scenario above, the URL is: http://localhost:8080/sdpapi/request/24/worklogs/
Key Points:

1. The operation name "ADD_WORKLOG" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".

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Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input - Format 1:


```
<Operation>
<Details>
<Worklogs>
<Worklog>
<parameter>
<name>description</name>
<value>Adding a New Worklog</value>
</parameter>
<parameter>
<name>technician</name>
<value>Howard Stern</value>
</parameter>
<parameter>
<name>cost</name>
<value>25</value>
</parameter>
<parameter>
<name>workMinutes</name>
<value>20</value>
</parameter>
<parameter>
<name>workHours</name>
<value>6</value>
</parameter>
</Worklog>
</Worklogs>
</Details>
</Operation>
```


Input - Format 2:


```
<Operation>
<Details>
<Worklogs>
<Worklog>
<description>Adding a New Worklog</description>
<technician>Howard Stern</technician>
<cost>25</cost>
<workMinutes>20</workMinutes>
<workHours>6</workHours>
</Worklog>
</Worklogs>
</Details>
</Operation>
```


Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="ADD_WORKLOG">
<result>
<status>Success</status>
<message>Work Log added successfully for request 24</message>
</result>
</operation>
```

Editing Worklog

To edit a worklog of an existing request, the URL is given as:

http://<servername>:<port number>/sdpapi/request/<request id>/worklogs/<work log id>

Assume the Worklog ID to edit is 302, then the URL is: http://localhost:8080/sdpapi/request/24/worklogs/302

Key Points:

1. The operation name "EDIT_WORKLOG" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input - Format 1:

```
<Operation>
<Details>
<Worklogs>
<Worklog>
<parameter>
<name>description</name>
<value>Editing Worklog</value>
</parameter>
</Worklog>
</Worklogs>
</Details>
</operation>
```

Input - Format 2:

```
<Operation>
<Details>
<Worklogs>
<Worklog>
<description>Editing Worklog</description>
</Worklog>
</Worklogs>
</Details>
</Operation>
```

Output:

```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="EDIT_WORKLOG">
<result>
<status>Success</status>
<message>Work Log 302 successfully edited for request 24</message>
</result>
</operation>
```

Viewing Worklog

To view one of the worklog of an existing request, the URL is given as:

http://<servername>:<port number>/sdpapi/request/<request id>/worklogs/<work log id>

Assume the Worklog ID to view worklog is 302, then the URL is:

http://localhost:8080/sdpapi/request/24/worklogs/302

Key Points:

1. The operation name "GET_WORKLOG" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required in this case.

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_WORKLOG">
<result>
<status>Success</status>
<message>Work log details fetched successfully</message>
</result>
<Details>
<Worklogs>
<Worklog>
<parameter>
<name>dateTime</name>
<value>1275375445281</value>
</parameter>
<parameter>
<name>executedTime</name>
<value>1275375433484</value>
</parameter>
<parameter>
<name>cost</name>
<value>21.6666666666667</value>
</parameter>
<parameter>
<name>WORKORDERID</name>
<value>24</value>
</parameter>
<parameter>
<name>workHours</name>
<value>0</value>
</parameter>
<parameter>
<name>workMinutes</name>
<value>7800000</value>
</parameter>
<parameter>
<name>technician</name>
<value>Howard Stern</value>
</parameter>
<parameter>
<name>description</name>
<value>Worklog 2</value>
</parameter>
<parameter>
<name>requestCostID</name>
<value>301</value>
</parameter>
</Worklog>
</Worklogs>
</Details>
</Operation>
```

Viewing Worklogs

To view all the worklogs of a request, the URL is given as:

http://<servername>:<port number>/sdpapi/request/<request id>/worklogs/

Assume the Request ID to view all the worklogs is 302, then the URL is: http://localhost:8080/sdpapi/request/24/worklogs/

Key Points:

1. The operation name "GET_WORKLOGS" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required in this case.

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Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_WORKLOGS">
<result>
<status>Success</status>
<message>Work log details fetched successfully</message>
</result>
<Details>
<Worklogs>
<Worklog URI="http://localhost:8080/sdpapi/request/24/worklogs/301/">
<parameter>
<name>dateTime</name>
<value>1275375445281</value>
</parameter>
<parameter>
<name>executedTime</name>
<value>1275375433484</value>
</parameter>
<parameter>
<name>cost</name>
<value>21.6666666666667</value>
</parameter>
<parameter>
<name>WORKORDERID</name>
<value>24</value>
</parameter>
<parameter>
<name>workHours</name>
<value>0</value>
</parameter>
<parameter>
<name>workMinutes</name>
<value>7800000</value>
</parameter>
<parameter>
<name>technician</name>
<value>Howard Stern</value>
</parameter>
<parameter>
<name>description</name>
<value>Worklog 2</value>
</parameter>
<parameter>
<name>requestCostID</name>
<value>301</value>
</parameter>
</Worklog>
<Worklog URI="http://localhost:8080/sdpapi/request/24/worklogs/302/">
<parameter>
<name>dateTime</name>
<value>1275375861188</value>
</parameter>
<parameter>
<name>executedTime</name>
<value>1275375861188</value>
</parameter>
<parameter>
<name>cost</name>
<value>25.0</value>
</parameter>
<parameter>
<name>WORKORDERID</name>
<value>24</value>
</parameter>
<parameter>
<name>workHours</name>
<value>0</value>
</parameter>
<parameter>
<name>workMinutes</name>
<value>22800000</value>
</parameter>
<parameter>
<name>technician</name>
<value>Howard Stern</value>
</parameter>
<parameter>
<name>description</name>
<value>Adding a New Worklog</value>
</parameter>
<parameter>
<name>requestCostID</name>
<value>302</value>
</parameter>
</Worklog>
<Worklogs>
</Details>
</operation>
```

Delete Worklog

To delete a worklog from a request, the URL is given as:

http://<servername>:<port number>/sdpapi/request/<request id>/worklogs/<work log id>

Assume the Worklog ID to delete is 301, then the URL is: http://localhost:8080/sdpapi/request/24/worklogs/301

Key Points:

1. The operation name "DELETE_WORKLOG" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required in this case.

> Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.
>
> Output:


```xml
<?xml version="1.0" encoding="UTF-8"?>
<operation name="DELETE_WORKLOG">
<result>
<status>Success</status>
<message>Work Log deleted successfully</message>
</result>
</operation>
```

Change-related API operations

Perform Change-related operations Add, Update, Get, Get All, and Delete without logging into ServiceDesk Plus using REST APIs.
To get change related information use the following URL pattern:
http://<servername>:<port number>/sdpapi/change/
Assuming you are going to work on changes available in the local server with port number 8080 the URLs should follow the following pattern:
http://<localhost>:<8080>/sdpapi/change/
Change related API operations
You can perform the following operations on Change using REST API.

- **Change Parameters**
- **Supported Formats**
- **Add Change**
- **Update Change**
- **Get Change Details**
- **Get All Change Details**
- **Add Attachment**
- **Delete Change**

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Change API parameters

Parameter Name	Parameter Type	Description
templatename	Pick List	Denotes Change Template Name
workflowname	Pick List	Denotes Change Workflow Name
stagename	Pick List	Denotes Change Stage (Submission, Planning, Implementation etc.,)
statusname	Pick List	Denotes Change Status (Requester for Information, Approval Pending, Planning In Progress etc.,)
requestedby	Pick List	Denotes Change Requester for the Change
changemanager	Pick List	Denotes Change Manager for the Change
technician	Pick List	Denotes Change Technicians
category	Pick List	Denotes Catogory the Change belongs to
subcategory	Pick List	Denotes Subcategory the Change belongs to
item	Pick List	Denotes Risk Involved
risk	Pick List	Denotes Risk Involved
urgency	Pick List	Denotes Change Urgency
priority	Pick List	Denotes Change Priority
changetype	Pick List	Denotes Change Type
reasonforchange	Pick List	Denotes Reason for Change
sitename	Pick List	Denotes SiteName to which Change belongs
impact	Pick List	Denotes Change Impact
title	Single Linet	Denotes Change Title
description	Multi Line	Denotes Change Description
statuscomments	Multi Line	Denotes Status Comments (added for the particular stage in the Change)
servicesaffected	Multi Valued Field	Denotes Services Affected (due to the Change)
assets	Multi Valued Field	Denotes Assets Involved
scheduledstarttime	Date Time	Denotes Scheduled Start Time
scheduledendtime	Date Time	Denotes Scheduled End Time

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Note:

- **Numeric fields** are included in **User defined fields.**

Supported formats

Contents

- xml format
- json format

XML Format

In this format Change Attributes are passed within **<parameter></parameter>** tags. The **<name>** & **<value>** tags specify the **Attribute Name and its value** respectively.

```
<Operation>
<Details>
<parameter>
<name>
scheduledstarttime
</name>
<value>
26 Apr 2013, 10:11:11
</value>
</parameter>
<parameter>
<name>
numeric_field
</name>
<value>
26
</value>
</parameter>
<parameter>
<name>
servicesaffected
</name>
<value>
email
</value>
<value>
hardware
</value>
</parameter>
<parameter>
<name>
title
</name>
<value>
title of the change
</value>
</parameter>
<parameter>
<name>
priority
</name>
<value>
high
</value>
</parameter>
<parameter>
<name>
description
</name>
<value>
description of the change
</value>
</parameter>
</Details>
</Operation>
```

JSON Format

In this format neither **<parameter></parameter>** nor **<name><value></value></name>** tags are used. Instead **Change Attribute** and its value are declared in the following format: **"change attribute":"value"** within **details** and **operation** parenthesis.

```
{
"operation":
{
"details":
{
"scheduledstarttime":"26 Apr 2013, 10:11:11 ",
"numeric_field":"100",
"servicesaffected":["Email", "Hardware"],
"title":"Title of the change",
"urgency","Urgent",
"description","Due to change in services"
}
}
}
```

Operation add change

To add a Change use the following URL format:
http://<servername>:<portnumber>/sdpapi/change/
Assuming you are adding a change in the local server with port number 8080, the URL should be given as::
http://<localhost>:<8080>/sdpapi/change/

Contents

- **Sample Input Format**
- **Sample Output Format**

Keypoints:

1. The operation name "ADD" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

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Note: Please note that the Input and Output XML formats have been changed.

Input Format


```
<Details>
<parameter>
<name>title</name>
<value>change subject</value>
</parameter>
<parameter>
<name>description</name>
<value>description with tags</value>
</parameter>
<parameter>
<name>scheduledendtime</name>
<value>26 Apr 2013, 11:11:11</value>
</parameter>
<parameter>
<name>scheduledstarttime</name>
<value>26 Apr 2013, 10:11:11</value>
</parameter>
<parameter>
<name>requester</name>
<value>administrator</value>
</parameter>
<parameter>
<name>technician</name>
<value>vivin</value>
</parameter>
<parameter>
<name>category</name>
<value>Software</value>
</parameter>
<parameter>
<name>subcategory</name>
<value>Adobe Reader</value>
</parameter>
<parameter>
<name>item</name>
<value>Install</value>
</parameter>
<parameter>
<name>priority</name>
<value>High</value>
</parameter>
<parameter>
<name>status</name>
<value>Requested</value>
</parameter>
<parameter>
<name>sitename</name>
<value />
</parameter>
<parameter>
<name>urgency</name>
<value>High</value>
</parameter>
<parameter>
<name>changetype</name>
<value>Major</value>
</parameter>
<parameter>
<name>impact</name>
<value>High</value>
</parameter>
<parameter>
<name>servicesaffected</name>
<value>Email</value>
<value>Hardware</value>
</parameter>
<parameter>
<name>assets</name>
<value />
</parameter>
</Details>
```

The **output format** would be as follows:

Note: Please note that the Input and Output XML formats have been changed.

Output Format:


```
<API version="1.0">
<response>
<operation name="ADD">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>New Change Added Successfully with change ID :1</message>
</result>
<Details type="Change"/>
</operation>
</response>
</API>
```

Operation update change

To update a Change use the following URL format:

http://<servername>:<port-number>/sdpapi/change/<changeID>
Assuming you are about to update a change (with Change ID I) in the local server with port number 8080, then the URL should be given as:
http://localhost:8080/sdpapi/change/1

Contents

- Sample Input Format
- Sample Output Format

Keypoints:

1. The operation name "UPDATE" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note: Please note that the Input and Output XML formats have been changed.

Input Format

```
<Details>
<parameter>
<name>title</name>
<value>change subject</value>
</parameter>
<parameter>
<name>description</name>
<value>description with tags</value>
</parameter>
<parameter>
<name>scheduledendtime</name>
<value>26 Apr 2013, 11:11:11</value>
</parameter>
<parameter>
<name>scheduledstarttime</name>
<value>26 Apr 2013, 10:11:11</value>
</parameter>
<parameter>
<name>completedtime</name>
<value>26 Apr 2013, 13:11:11</value>
</parameter>
<parameter>
<name>requester</name>
<value>administrator</value>
</parameter>
<parameter>
<name>technician</name>
<value>vivin</value>
</parameter>
<parameter>
<name>category</name>
<value>Software</value>
</parameter>
<parameter>
<name>subcategory</name>
<value>Adobe Reader</value>
</parameter>
<parameter>
<name>item</name>
<value>Install</value>
</parameter>
<parameter>
<name>priority</name>
<value>High</value>
</parameter>
<parameter>
<name>status</name>
<value>Requested</value>
</parameter>
<parameter>
<name>sitename</name>
<value />
</parameter>
<parameter>
<name>urgency</name>
<value>High</value>
</parameter>
<parameter>
<name>changetype</name>
<value>Major</value>
</parameter>
<parameter>
<name>impact</name>
<value>High</value>
</parameter>
<parameter>
<name>servicesaffected</name>
</value>
</parameter>
<parameter>
<name>assets</name>
</value>
</parameter>
</Details>
```

The **output format** would be as follows:

```
Note: Please note that the Input and Output XML formats have
been changed.

Output Format:

<API version="1.0">
<response>
<operation name="UPDATE">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Change With ID : 1 updated successfully</message>
</result>
<Details type="Change"/>
</operation>
</response>
</API>
```

Operation get change details

Contents

- Operation Get Change
- Operation Get All Change

GET CHANGE DETAILS

To fetch details of a specific Change from the available Change list use the following URL format:

http://<servername>:<port-number>/sdpapi/change/<changeID>

Assuming you are about to fetch details of a change (with ID 10), in the local server with port number 8080, the URL should be given as::

http://<localhost>:<8080>/sdpapi/change/10

Keypoints:

1. The operation name "GET" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note: Please note that the Input and Output XML formats have been changed.

Output Format


```
<API version="1.0">
<response>
<operation name="GET">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Change details fetched successfully</message>
</result>
<Details type="Change">
<record>
<parameter>
<name>changeid</name>
<value>1</value>
</parameter>
<parameter>
<name>title</name>
<value>vivin</value>
</parameter>
<parameter>
<name>description</name>
<value>description with tags</value>
</parameter>
<parameter>
<name>scheduledendtime</name>
<value>1366308840000</value>
</parameter>
<parameter>
<name>scheduledstarttime</name>
<value>1366222440000</value>
</parameter>
<parameter>
<name>createdtime</name>
<value>1366220289736</value>
</parameter>
<parameter>
<name>completedtime</name>
<value>0</value>
</parameter>
<parameter>
<name>technician</name>
<value>vivin</value>
</parameter>
<parameter>
<name>category</name>
<value>Software</value>
</parameter>
<parameter>
<name>subcategory</name>
<value>Adobe Reader</value>
</parameter>
<parameter>
<name>item</name>
<value>Install</value>
</parameter>
<parameter>
<name>priority</name>
<value>High</value>
</parameter>
<parameter>
<name>status</name>
<value>Requested</value>
</parameter>
<parameter>
<name>approvalstatus</name>
</value>
</parameter>
<parameter>
<name>urgency</name>
<value>High</value>
</parameter>
<parameter>
<name>changetype</name>
<value>Major</value>
</parameter>
<parameter>
<name>impact</name>
<value>High</value>
</parameter>
<parameter>
<name>servicesaffected</name>
<value>{Application Login, Communication, Data

Management}</value>
</parameter>
<parameter>
<name>assets</name>
<value>{vivin-0415.cse>.zohocorpin.com.}</value>
</parameter>
</record>
</Details>
</operation>
</response>
</API>
```

GET ALL CHANGE DETAILS

To get details of all changes available in the change list, use the following URL format:

http://<servername>:<port-number>/sdpapi/change/

Assuming you are using local server with port number 8080, then the URL should be given as:

http://localhost:8080/sdpapi/change/

Key points:

1. The operation name "GET_ALL " should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note: Please note that the Input and Output XML formats have been changed.

Output Format


```
<API version="1.0">
<response>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Change details fetched successfully</message>
</result>
<Details type="Change">
<record URI="http://localhost:8080/sdpapi/change/1/">
<parameter>
<name>changeid</name>
<value>1</value>
</parameter>
<parameter>
<name>title</name>
<value>vivin</value>
</parameter>
<parameter>
<name>description</name>
<value>description with tags</value>
</parameter>
<parameter>
<name>scheduledendtime</name>
<value>1366308840000</value>
</parameter>
<parameter>
<name>scheduledstarttime</name>
<value>1366222440000</value>
</parameter>
<parameter>
<name>createdtime</name>
<value>1366220289736</value>
</parameter>
<parameter>
<name>completedtime</name>
<value>0</value>
</parameter>
<parameter>
<name>requester</name>
<value>administrator</value>
</parameter>
<parameter>
<name>technician</name>
<value>vivin</value>
</parameter>
<parameter>
<name>category</name>
<value>Software</value>
</parameter>
<parameter>
<name>subcategory</name>
<value>Adobe Reader</value>
</parameter>
<parameter>
<name>item</name>
<value>Install</value>
</parameter>
<parameter>
<name>priority</name>
<value>High</value>
</parameter>
<parameter>
<name>status</name>
<value>Requested</value>
</parameter>
<parameter>
<name>approvalstatus</name>
</value>
</parameter>
<parameter>
<name>urgency</name>
<value>High</value>
</parameter>
<parameter>
<name>changetype</name>
<value>Major</value>
</parameter>
<parameter>
<name>impact</name>
<value>High</value>
</parameter>
<parameter>
<name>servicesaffected</name>
<value>{Application Login, Communication, Data

Management}</value>
</parameter>
<parameter>
<name>assets</name>
<value>{vivin-0415.cse>.zohocorpin.com.}</value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/change/2/">
<parameter>
<name>changeid</name>
<value>2</value>
</parameter>
<parameter>
<name>title</name>
<value>vivin asd</value>
</parameter>
<parameter>
<name>description</name>
</value>
</parameter>
<parameter>
<name>scheduledendtime</name>
<value>1366308840000</value>
</parameter>
<parameter>
<name>scheduledstarttime</name>
<value>1366222440000</value>
</parameter>
<parameter>
<name>createdtime</name>
<value>1366220289736</value>
</parameter>
<parameter>
<name>completedtime</name>
<value>0</value>
</parameter>
<parameter>
<name>requesterid</name>
<value>301</value>
</parameter>
<parameter>
<name>requester</name>
<value>administrator</value>
</parameter>
<parameter>
<name>technicianid</name>
<value>4</value>
</parameter>
<parameter>
<name>technician</name>
<value>administrator</value>
</parameter>
<parameter>
<name>category</name>
<value>Telephone</value>
</parameter>
<parameter>
<name>subcategory</name>
<value>Blackberryr</value>
</parameter>
<parameter>
<name>item</name>
</value>
</parameter>
<parameter>
<name>priority</name>
<value>Low</value>
</parameter>
<parameter>
<name>status</name>
<value>Completed</value>
</parameter>
<parameter>
<name>approvalstatus</name>
<value>Approved</value>
</parameter>
<parameter>
<name>urgency</name>
<value>Low</value>
</parameter>
<parameter>
<name>changetype</name>
<value>Standard</value>
</parameter>
<parameter>
<name>impact</name>
<value>Low</value>
</parameter>
<parameter>
<name>servicesaffected</name>
<value></value>
</parameter>
<parameter>
<name>assets</name>
<value></value>
</parameter>
</record>
</Details>
</operation>
</response>
</API>
```

Operation add attachment

Content

- Add Attachment

Add Attachment

To append attachments to changes, the URL pattern should be as follows:
http://<servername>:<port number>/sdpapi/change/<change id>/attachment
Assuming Change ID is 25, then the URL is given as: http://localhost:8080/sdpapi/change/25/attachment
Key points:

1. The operation name "ADD_ATTACHMENT " should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY"

```
Note: Please note that the Output XML format has been changed.

Attachment Client Side Snippet:

The snippet provided below is an example of how you can append "Attachments to Changes" written in java.

{
/**
* 1. Create a MultipartPostMethod
* 2. Construct the web URL to connect to the SDP Server
* 3. Add the filename to be attached as a parameter to the MultipartPostMethod with parameter name "filename"
* 4. Execute the MultipartPostMethod
* 5. Receive and process the response as required
* /
HttpClient client = new HttpClient( );
String weblinkURL =
"http://<SDPServer>:<PortNumber>/sdpapi/change/<changeId>/attachment?OPERATION_NAME=ADD_ATTACHMENT&TECHNICIAN_KEY=<general
technician API key>";
MultipartPostMethod method = new MultipartPostMethod( weblinkURL );
String fileName = "C:" + File.pathSeparator + "ManageEngine" + File.pathSeparator + "ServiceDesk" + File.pathSeparator + "a.csv";
File file = new File(fileName);
method.addParameter("filename", file );

try {
client.executeMethod( method );
String response = method.getResponseBodyAsString();
System.out.println( response );
} catch  (HttpException he) {
System.out.println( he );
} catch (Exception e) {
System.out.println( e );
} finally {
method.releaseConnection( );

}
}
```

Note: Please note that the Input and Output XML formats have been changed.

Output:


```xml
<?xml version="1.0" encoding="UTF-8"?>
<operation name="ADD_ATTACHMENT">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Attachments added successfully</message>
</result>
<Details type="attachment"/>
</operation>
```

Operation delete change

To delele a change, use the following URL format:

http://<servername>:<port-number>/sdpapi/change/<changeID>

Assume you have to delete a change (with ID 1) in local server with port number 8080, then the URL is given as:

http://localhost:8080/sdpapi/change/1

Key points:

1. The operation name "DELETE " should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output:


```
<API version="1.0">
<response>
<operation name="DELETE">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Change With ID : 1 deleted
successfully</message>
</result>
<Details type="Change"/t>
</operation>
</response>
</API>
```

CMDB API

All the Configuration items present in the product can be accessed via CMDB API. If a Server is dependent on another server, relationship between two servers can be easily added using CMDB API. All the business critical items can be mapped using API. It helps us to build a complete CMDB relationship between the CIs in the product using external applications. A technician can easily add a relationship between a mobile device/workstation to an user.

Modules supported for CMDB API Operation

- CI (Configuration Item)
- CI Type (Configuration Item Type)
- CI Relationships (Relationship between Configuration Items)

Visit the following pages to know more about CMDB API:

- Add CIs
- Add CI Relationships
- Update CIs
- Get CIs
- Add CI Type
- Add CI Type Attributes
- Get CI Type Count
- Get CI Type Details
- Get CI Relationship Details
- Delete CI
- Delete CI Type
- Delete CI Relationship
- Status Codes
- Using Third-Party Tools

Add Configuration Item (CI)

To add CIs use the following URL format:

http://<servername>:<portnumber>/api/cmdb/ci/
Assuming you are adding a CI in the local server with port number 8080, the URL should be given as::
http://localhost:8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

To know more about adding CIs, visit the following pages:

- Add Workstation/Server CI
- Add Other Asset CI(s)
- Add Business Service CI
- Add Requester CI
- Add Software CI
- Add Support Group CI
- Sample Response

Add Workstation CI

To add CIs use the following URL format:

http://<servername>:<portnumber>/api/cmdb/ci/
Assuming you are adding a CI in the local server with port number 8080, the URL should be given as::
http://localhost:8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- Product Names will get added dynamically in case they are not already avilable in the application. In the below example, the product **Latitude Optimus** will be created while adding this workstation CI (in case the product is not already available in the application).
- Technician with rights to adding assets (**asset addition role**) can perform **add operations on assets** CIs like workstaions,printers etc.
- Technician having **SDAdmin role** can perform **add operations on admin** CIs like Business Service, Department etc.
- **CI-ID** of the newly added entry is **returned** along with the **CI Name** in the response.
- Technicians can **add more than one C(s)** using the **<record> </record>** tags.
- **CI Attributes**, **Global Attributes** and **custom CI Attributes** for the **corresponding CI Type** can be added.
- **All asset additional attributes** can be added
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample Input for adding Workstation/Server

```xml
<?xml version="1.0" encoding="UTF-8"?>
<API version="1.0" locale="en">
   <records>
   <record>
      <parameter><name>CI Name</name><value>sdp-w2k3-2</value></parameter>
      <parameter><name>CI Type</name><value>Windows Workstation</value></parameter>
      <parameter><name>Product Name</name><value>Latitude Optimus</value></parameter>
      <parameter><name>Site</name><value>Japan</value></parameter>
      <parameter><name>Business Impact</name><value>High</value></parameter>
      <parameter><name>Asset Tag</name><value>MY RES TAG</value></parameter>
      <parameter><name>Resource Serial No.</name><value>KIJH-KPOJ-IOO9-IO98</value></parameter>
      <parameter><name>Bar Code</name><value>(empty)</value></parameter>
      <parameter><name>Cost</name><value>23.98</value></parameter>
      <parameter><name>Vendor</name><value>Zoho Corp</value></parameter>
      <parameter><name>Expiry Date</name><value>2010-08-23</value></parameter>
      <parameter><name>Warranty Expiry Date</name><value>2010-08-23</value></parameter>
      <parameter><name>Acquisition Date</name><value>2008-8-23</value></parameter>
      <parameter><name>Location</name><value>(empty)</value></parameter>
      <parameter><name>Asset State</name><value>In use</value></parameter>
      <parameter><name>Location</name><value>Japan</value></parameter>
      <parameter><name>Description</name><value>JapanrnAXL</value></parameter>
      <parameter><name>Barcode</name><value>101001100010101</value></parameter>
      <parameter><name>Service Tag</name><value>AXL90OSASASD</value></parameter>
      <parameter><name>Total Memory</name><value>1024</value></parameter>
      <parameter><name>Virtual Memory</name><value>1024</value></parameter>
      <parameter><name>OS</name><value>Microsoft Windows XP Professional 2007</value></parameter>
      <parameter><name>Service Pack</name><value>Microsoft Windows XP Professional 2007</value></parameter>
      <parameter><name>Manufacturer</name><value>Zoho Corp</value></parameter>
      <parameter><name>Monitor Type</name><value>LG 360</value></parameter>
      <parameter><name>Monitor Manufacturer</name><value>LCD Flat monitor</value></parameter>
      <parameter><name>Monitor Serial Number</name><value>AADSD90KL88767</value></parameter>
      <parameter><name>Mouse Type</name><value>LOGITECH</value></parameter>
      <parameter><name>Mouse Manufacturer</name><value>Microsoft Corp</value></parameter>
      <parameter><name>Mouse Serial Number</name><value>MOUSE_AADSD90KL88767</value></parameter>
      <parameter><name>Keyboard Type</name><value>LG 480</value></parameter>
      <parameter><name>Keyboard Manufacturer</name><value>Microsoft Corp</value></parameter>
      <parameter><name>Keyboard Serial Number</name><value>KBD_AADSD90KL88767</value></parameter>
      <!-- Adding ownership details -->
      <multi-valued-parameter name="Assign Ownership">
         <record>
            <parameter><name>Department</name><value>Sales</value></parameter>
            <parameter><name>Department's site</name><value>Pleasanton,CA</value></parameter>
         </record>
      </multi-valued-parameter>
      <multi-valued-parameter name="Asset Lease Information">
         <record>
            <parameter><name>Start Date</name><value>2010-09-21</value></parameter>
            <parameter><name>End Date</name><value>2011-09-21</value></parameter>
         </record>
      </multi-valued-parameter>
      <multi-valued-parameter name="Network Details">
         <record>
            <parameter><name>DHCP Server</name><value>www.dbexplorer.com</value></parameter>
            <parameter><name>IP Address</name><value>192.168.112.234</value></parameter>
            <parameter><name>MAC Address</name><value>AS2.168.112.234</value></parameter>
            <parameter><name>NIC</name><value>MY NIC</value></parameter>
            <parameter><name>Network</name><value>192.168.112.0</value></parameter>
         </record>
         <record>
            <parameter><name>DHCP Server</name><value>www.dbexplorer1.com</value></parameter>
            <parameter><name>IP Address</name><value>192.168.112.233</value></parameter>
            <parameter><name>MAC Address</name><value>AS2.168.112.232</value></parameter>
            <parameter><name>NIC</name><value>MY NIC-1</value></parameter>
            <parameter><name>Network</name><value>192.168.112.12</value></parameter>
         </record>
      </multi-valued-parameter>
      <multi-valued-parameter name="Processor Details">
         <record>
            <parameter><name>Processor Count</name><value>1</value></parameter>
            <parameter><name>Processor Type</name><value>Intel.</value></parameter>
            <parameter><name>Processor Speed</name><value>1025</value></parameter>
            <parameter><name>Processor Manufacturer</name><value>SSL Corporation</value></parameter>
         </record>
         <record>
            <parameter><name>Processor Count</name><value>1</value></parameter>
            <parameter><name>Processor Type</name><value>Intel.</value></parameter>
            <parameter><name>Processor Speed</name><value>2025</value></parameter>
            <parameter><name>Processor Manufacturer</name><value>SSL Corporation (India)</value></parameter>
         </record>
      </multi-valued-parameter>
      <!-- Asset/Workstation Additional parameters Start -->
      <parameter><name>Cost Center</name><value>Sales</value></parameter>
      <parameter><name>Account Number</name><value>0166440001754</value></parameter>
      <parameter><name>Resolution</name><value>NO RESULT</value></parameter>
      <parameter><name>Bank Account</name><value>1298374</value></parameter>
      <parameter><name>Depreciation Amount</name><value>2022</value></parameter>
      <parameter><name>Renewal Date</name><value>2010-10-23</value></parameter>
      <parameter><name>My Child Data</name><value>Japan-Kollam</value></parameter>
      <parameter><name>Asset Data</name><value>My data Textas</value></parameter>
      <parameter><name>Asset Number</name><value>98765</value></parameter>
      <!-- Asset Additional parameters Start -->
   </record>
   </records>
</API>
```

Add Other IT Asset(s) CIs

To add asset CIs (other than workstations) use the following URL format:
http://<servername>:<portnumber>/api/cmdb/ci/
Assuming you are adding a CI in the local server with port number 8080, the URL should be given as:
http://localhost :8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- Product Names will get added dynamically in case they are not already avilable in the application. In the below example, the product **Cisco 123 ACC** will be created while adding this workstation CI (in case the product is not already available in the application).
- Technician with rights to adding assets (**asset addition role**) can perform **add operations on assets** CIs like workstaions,printers etc.
- Technician having **SDAdmin role** can perform **add operations on admin** CIs like Business Service, Department etc.
- **CI-ID** of the newly added entry is **returned** along with the **CI Name** in the response.
- Technicians can **add more than one C(s)** using the **<record> </record>** tags.
- **CI Attributes**, **Global Attributes** and **custom CI Attributes** for the **corresponding CI Type** can be added.
- **All asset additional attributes** can be added
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample Input for adding other IT Assets (Access Point):

	Note: • Refer the below **xml for adding all IT assets** like Firewall, Keyboard, Printer, Projector, Router, Scanner, Storage Device and Switch

```xml
<?xml version="1.0" encoding="UTF-8"?>
<API version="1.0" locale="en">
  <records>
  <record>
    <parameter><name>Name</name><value>192.168.112.1</value></parameter>
    <parameter><name>CI Type</name><value>Access Point</value></parameter>
    <parameter><name>Product Name</name><value>Cisco 123 ACC</value></parameter>
    <parameter><name>Site</name><value>Japan</value></parameter>
    <parameter><name>Business Impact</name><value>High</value></parameter>
    <parameter><name>Asset Tag</name><value>MY RES TAG</value></parameter>
    <parameter><name>Resource Serial No.</name><value>KIJH-KPOJ-IOO9-IO98</value></parameter>
    <parameter><name>Bar Code</name><value>(empty)</value></parameter>
    <parameter><name>Cost</name><value>23.98</value></parameter>
    <parameter><name>Vendor</name><value>Zoho Corp</value></parameter>
    <parameter><name>Expiry Date</name><value>2010-08-23</value></parameter>
    <parameter><name>Warranty Expiry Date</name><value>2010-08-23</value></parameter>
    <parameter><name>Acquisition Date</name><value>2008-8-23</value></parameter>
    <parameter><name>Location</name><value>(empty)</value></parameter>
    <parameter><name>Asset State</name><value>in use</value></parameter>
    <parameter><name>Location</name><value>Japan</value></parameter>
    <parameter><name>Description</name><value>Japan - AXL</value></parameter>
    <parameter><name>Barcode</name><value>101001100010101</value></parameter>
    <!-- Asset Additional parameters Start -->
    <parameter><name>Cost Center</name><value>Sales</value></parameter>
    <parameter><name>Account Number</name><value>0166440001754</value></parameter>
    <parameter><name>Resolution</name><value>NO RESULT</value></parameter>
    <parameter><name>Bank Account</name><value>112</value></parameter>
    <parameter><name>Depreciation Amount</name><value>2022</value></parameter>
    <parameter><name>Renewal Date</name><value>2010-10-23</value></parameter>
    <parameter><name>Asset Data</name><value>My data Textas</value></parameter>
    <parameter><name>Asset Date</name><value>2011-09-23</value></parameter>
    <parameter><name>Asset Number</name><value>98765</value></parameter>
    <!-- Asset Additional parameters Start -->
    <multi-valued-parameter name="Assign Ownership">
     <record>
       <parameter><name>Associate to Asset</name><value>192.168.11.29</value>
        <parameter><name>Department's site</name><value>Pleasanton,CA</value></parameter>
     </record>
    </multi-valued-parameter>
    <multi-valued-parameter name="Asset Lease Information">
    <record>
       <parameter><name>Start Date</name><value>2010-09-21</value></parameter>
       <parameter><name>End Date</name><value>2011-09-21</value></parameter>
    </record>
    </multi-valued-parameter>
  </record>
  </records>
</API>
```

Add Business Service CI

To add non-IT asset CIs use the following URL format:

http://<servername>:<portnumber>/api/cmdb/ci/
Assuming you are adding a non-IT asset CI in the local server with port number 8080, the URL should be given as:
http://localhost:8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- Technician having **SDAdmin role** can perform **add operations on admin** CIs like Business Service, Department etc.
- **CI-ID** of the newly added entry is **returned** along with the **CI Name** in the response.
- Technicians can **add more than one CI(s)** using the **<record> </record>** tags.
- **CI Attributes**, **Global Attributes** and **custom CI Attributes** for the **corresponding CI Type** can be added.
- **All asset additional attributes** can be added
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Attributes
All the **default attributes** and **custom attributes** present in the **CI Type details** (specified below) can be added.

- Business Service
- Department
- Requester

- Software
- Support Group

Note: Attributes for other **default CI Types** like **Cluster, Document, IT Service, Network,Switch Ports** and **Datacenter** can be added by **referring the CI Type details page.**

Sample Input for adding non-IT assets (Business Service):


```
<?xml version="1.0" encoding="UTF-8"?>

<API version="1.0" locale="en">

    <records>

    <record>

        <parameter><name>CI Name</name><value>Tomcat Server 8</value></parameter>

        <parameter><name>CI Type</name><value>Business Service</value></parameter>

        <parameter><name>Site</name><value>China</value></parameter>

        <parameter><name>Business Impact</name><value>High</value></parameter>

        <parameter><name>Description</name><value>Domain Conroller </value></parameter>

        <parameter><name>Availability Target(%)</name><value>200</value></parameter>

        <parameter><name>Service Support Hours</name><value>24X5</value></parameter>

        <parameter><name>Cost</name><value>8080</value></parameter>

        <parameter><name>Incident restoration target</name><value>90%</value></parameter>

        <parameter><name>Global Attr</name><value>Gobal attribute</value></parameter>

    </record>

    </records>

</API>
```

Add Department CI

To add non-IT asset CIs use the following URL format:
http://<servername>:<portnumber>/api/cmdb/ci/
Assuming you are adding a non-IT asset CI in the local server with port number 8080, the URL should be given as:
http://localhost:8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**
- Technician having **SDAdmin role** can perform **add operations on admin** CIs like Business Service, Department etc.
- **CI-ID** of the newly added entry is **returned** along with the **CI Name** in the response.
- Technicians can **add more than one CI(s)** using the **<record> </record>** tags.
- **CI Attributes**, **Global Attributes** and **custom CI Attributes** for the **corresponding CI Type** can be added.
- **All asset additional attributes** can be added
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Note: Attributes for other **default CI Types** like **Cluster, Document, IT Service, Network,Switch Ports** and **Datacenter** can be added by **referring the CI Type details page.**

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Sample Input for adding non-IT assets (Department):


```
<?xml version="1.0" encoding="UTF-8"?>

<API version="1.0" locale="en">

    <records>

    <record>

        <parameter><name>Name</name><value>Research and Development1</value></parameter>

        <parameter><name>CI Type</name><value>Department</value></parameter>

        <parameter><name>Site</name><value>Japan</value></parameter>

        <parameter><name>Business Impact</name><value>Medium</value></parameter>

        <parameter><name>Description</name><value>Research and development</value></parameter>

    </record>

    </records>

</API>
```

Add Requester CI

To add requester CI use the following URL format:

http://<servername>:<portnumber>/api/cmdb/ci/
Assuming you are adding a requester CI in the local server with port number 8080, the URL should be given as::
http://localhost:8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- Technician with rights to adding assets (**asset addition role**) can perform **add operations on assets** CIs like workstaions,printers etc.
- Technician having **SDAdmin role** can perform **add operations on admin** CIs like Business Service, Department etc.
- **CI-ID** of the newly added entry is **returned** along with the **CI Name** in the response.
- Technicians can **add more than one C(s)** using the **<record> </record>** tags.
- **CI Attributes**, **Global Attributes** and **custom CI Attributes** for the **corresponding CI Type** can be added.
- **All asset additional attributes** can be added
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample Input for adding Requester:

```
<?xml version="1.0" encoding="UTF-8"?>

<API version="1.0" locale="en">

    <records>

    <record>

        <parameter><name>Name</name><value>Prakash</value></parameter>

        <parameter><name>CI Type</name><value>Requester</value></parameter>

        <parameter><name>Site</name><value>Japan</value></parameter>

        <parameter><name>Business Impact</name><value>Medium</value></parameter>

        <parameter><name>Description</name><value>New user joined to
ZOHO</value></parameter>

        <parameter><name>Employee ID</name><value>0658</value></parameter>

        <parameter><name>E-
mail</name><value>prakash_jp_4323@zoho.com</value></parameter>

        <parameter><name>Phone</name><value>9159840336</value></parameter>

        <parameter><name>Mobile</name><value>9159840336</value></parameter>

        <parameter><name>Department Name</name><value>Finance</value></parameter>

        <parameter><name>Department's
site</name><value>Pleasanton,CA</value></parameter>

        <parameter><name>Job title</name><value>MTS</value></parameter>

    </record>

    </records>

</API>
```

Add Software CI

To add software asset CI use the following URL format:

http://<servername>:<portnumber>/api/cmdb/ci/

Assuming you are adding an software asset CI in the local server with port number 8080, the URL should be given as:

http://localhost:8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- Technician having **SDAdmin role** can perform **add operations on admin** CIs like Business Service, Department etc.
- **CI-ID** of the newly added entry is **returned** along with the **CI Name** in the response.
- Technicians can **add more than one CI(s)** using the **<record> </record>** tags.
- **CI Attributes**, **Global Attributes** and **custom CI Attributes** for the **corresponding CI Type** can be added.
- **All asset additional attributes** can be added
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Note: Attributes for other **default CI Types** like **Cluster, Document, IT Service, Network,Switch Ports** and **Datacenter** can be added by **referring the CI Type details page.**

Sample Input for adding Software CI

```
<?xml version="1.0" encoding="UTF-8"?>
<API version="1.0" locale="en">
    <records>
    <record>
        <parameter><name>Name</name><value>zenity-1</value></parameter>
        <parameter><name>CI Type</name><value>Database</value></parameter>
        <parameter><name>Site</name><value>Japan</value></parameter>
        <parameter><name>Description</name><value>Adding a software instance</value></parameter>
        <parameter><name>Software</name><value>zenity</value></parameter>

<parameter><name>Workstation</name><value>nprasanna-0157.csez.zohocorpin.com</value></parameter>
        <parameter><name>Installation Path</name><value>C:AdventNetMESSL Reports</value></parameter>
        <parameter><name>Version</name><value>1.0.0</value></parameter>
        <parameter><name>Installed On</name><value>2011-01-28</value></parameter>
        <parameter><name>License Key</name><value>SADD-DSDS-SK90-KSAL</value></parameter>
    </record>
    <record>
        <parameter><name>Name</name><value>Accelerometer</value></parameter>
        <parameter><name>CI Type</name><value>Web Server</value></parameter>
        <parameter><name>Site</name><value>China</value></parameter>
        <parameter><name>Description</name><value>Adding a software instance</value></parameter>
        <parameter><name>Software</name><value>Apache Tomcat 6.0.18</value></parameter>

<parameter><name>Workstation</name><value>nprasanna-0157.csez.zohocorpin.com</value></parameter>
        <parameter><name>Installation Path</name><value>C:Program FilesApacheApache
Tomcat</value></parameter>
        <parameter><name>Version</name><value>6.0.10</value></parameter>
        <parameter><name>Installed On</name><value>2013-01-28</value></parameter>
        <parameter><name>License Key</name><value>SAADD-DSDS-SK90-KSAL</value></parameter>
    </record>
    </records>
</API>
```

Add Support Group CI

To add support group CI use the following URL format:

http://<servername>:<portnumber>/api/cmdb/ci/

Assuming you are adding a support group CI in the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- Technician with rights to adding assets (**asset addition role**) can perform **add operations on assets** CIs like workstaions,printers etc.
- Technician having **SDAdmin role** can perform **add operations on admin** CIs like Business Service, Department etc.
- **CI-ID** of the newly added entry is **returned** along with the **CI Name** in the response.
- Technicians can **add more than one C(s)** using the **<record> </record>** tags.
- **CI Attributes**, **Global Attributes** and **custom CI Attributes** for the **corresponding CI Type** can be added.
- **All asset additional attributes** can be added
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Note: Attributes for other **default CI Types** like **Cluster, Document, IT Service, Network,Switch Ports** and **Datacenter** can be added by **referring the CI Type details page.**

Sample Input for adding support group:

```
 <?xml version="1.0" encoding="UTF-8"?>

<API version="1.0" locale="en">

    <user_key>B1263980-9435-4305-A42B-D783F9AAD44B</user_key>

    <records>

    <record>

        <parameter><name>Name</name><value>CART</value></parameter>

        <parameter><name>CI Type</name><value>Support Group</value></parameter>

        <parameter><name>Site</name><value>Japan</value></parameter>

        <parameter><name>Description</name><value>Customer Active Response
Team</value></parameter>                    <parameter><name>Business
Impact</name><value>Low</value></parameter>

        <parameter><name>Owned By</name><value>nprasann</value></parameter>

    </record>

    </records>

</API>
```

Sample Output

XML Format


```
<?xml version="1.0" encoding="UTF-8"?>

<API locale="en" version="1.0"> <user_key>B1263980-9435-4305-A42B-D783F9AAD44B</user_key>

    <response>

            <result>

                <statuscode>200</statuscode>

                <status>Success</status>

                <message>Successfully Added</message>

                <created-date>Mar 22, 2013 10:58 AM</created-date>

                <records failed="0" success="1" total="1">

                <success>

                              <ci id="610">CART</ci>

                </success>

            </result>

   </response>

</API>
```


JSON Format

```
{
 "API":{
  "locale":"en",
  "response":{
   "operation":{
    "result":{
     "created-date":"May 8, 2013 04:36 PM",
     "records":{
      "total":"1",
      "failed":[
       "1",
       {
        "ci":{
         "error":"Workstation [sdp-w2k3-12] is already exists.",
         "name":"sdp-w2k3-12"
        }
       }
      ],
      "success":"0"
     },
     "message":"Unable to add the CI(s), please refer the error message.",
     "status":"Failed",
     "statuscode":"3016"
    },
    "name":"add"
   }
  },
  "version":"1.0"
 }
}
```

Add CI relationships

To add relationship between CIs, use the following format:

http://<hostname>:<portnumber>/api/cmdb/cirelationships

Assuming you are adding relationship between CIs in the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/cmdb/cirelationships

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

To know more about adding CI relationships, visit the following pages:

- Add CI Relationship
- Sample Response

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Add CI Relationships

To add relationship between CIs, use the following format:
http://<hostname>:<portnumber>/api/cmdb/cirelationships
Assuming you are adding relationship between CIs in the local server with port number 8080, the URL should be given as::
http://localhost:8080/api/cmdb/cirelationships

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

- Add relationship between two CIs
- Relate CI to multiple CI Types

Note:
If no result format specified then API will return output in **JSON** format**.**
•
Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Adding a relationship between a workstation and a access point with relationship attributes.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<API version="1.0" locale="en">
    <records>
        <relationships>
            <addrelationship>
                <toci>balaguru.zohocorpin.com</toci>
                <relationshiptype>Connected to</relationshiptype>
                <relatedcis>
                    <citype>Printer</citype>
                    <ci>
                        <name>DLF11thFloor-I.csez.zohocorpin.com</name>
                        <relationattributes>
                            <attribute>
                                <name>AMC</name>
                                <value>5789</value>
                            </attribute>
                            <attribute>
                                <name>Maintained By</name>
                                <value>IT Department</value>
                            </attribute>
                        </relationattributes>
                    </ci>
                    <ci>
                        <name>firstfloor.zohocorpin.com</name>
                        <relationattributes>
                            <attribute>
                                <name>AMC</name>
                                <value>3789</value>
                            </attribute>
                            <attribute>
                                <name>Maintained By</name>
                                <value>IT Department</value>
                            </attribute>
                        </relationattributes>
                    </ci>
                </relatedcis>
            </addrelationship>
        </relationships>
    </records>
</API>
```


Sample Input XML for relating a CI to multiple CI Types:

```
<?xml version="1.0" encoding="UTF-8"?>
<API version="1.0" locale="en">
    <records>
        <relationships>
            <addrelationship>
                <toci>balaguru.zohocorpin.com</toci>
                <relationshiptype>Connected to</relationshiptype>
                <relatedcis>
                    <citype>CPU Cores</citype>
                    <ci>
                        <name>rack-012W23</name>
                    </ci>
                </relatedcis>
                <relatedcis>
                    <citype>Disks</citype>
                    <ci>
                        <name>disk-01123</name>
                    </ci>
                </relatedcis>
                <relatedcis>
                    <citype>Processors</citype>
                    <ci>
                        <name>Dual-Core-Procesor-011212</name>
                    </ci>
                </relatedcis>
            </addrelationship>
        </relationships>
    </records>
</API>
```

Sample Output

XML Format Format - Failed:


```
<?xml version="1.0" encoding="UTF-8"?>

<API locale="en" version="1.0"> <user_key>B1263980-9435-4305-A42B-
D783F9AAD44B</user_key>

    <response>

            <result>

                <statuscode>3024</statuscode>

                <status>Duplicate record found.</status>

                <message>Relationship 'Connected to' is already added to
'gemini.zohocorpin.com'.</message>

            </result>

    </response>

</API>
```


XML Format Format - Success:

```
<?xml version="1.0" encoding="UTF-8"?>

<API locale="en" version="1.0"> <user_key>B1263980-9435-4305-A42B-
D783F9AAD44B</user_key>

    <response>

            <result>

                <statuscode>3024</statuscode>

                <status>Duplicate record found.</status>

                <message>Relationship 'Connected to' is already added to
'gemini.zohocorpin.com'.</message>

            </result>

   </response>

</API>
```


JSON Output Format


```
{

    "API":{

        "locale":"en",

        "response":{

            "operation":{

                "result":{

                    "created-date":"Mar 22, 2013 04:03 PM",

                    "message":"Relationship added successfully.",

                    "status":"Success",

                    "statuscode":"200"

                },

                "name":"add"

            }

        },

    "version":"1.0"

}

}
```

Update configuration item (CI)

To update CIs use the following URL format:

http://<servername>:<portnumber>/api/cmdb/ci/

Assuming you are updating a CI in the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "update" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

To know more about adding CIs, visit the following pages:

- Update Workstation/Server CI
- Update Other Asset CI(s)
- Update Business Service CI
- Sample Response

Update workstation CI

To update a CI use the following URL format:

http://<servername>:<portnumber>/api/cmdb/ci/

Assuming you are updating a CI in the local server with port number 8080, the URL should be given as:

http://localhost:8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "update" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- **Technician** having **Asset update role** can perform these operations.
- **CI-ID** of the **updated entry** is **returned** along with the **CI Name** in the **response.**
- **CI Attributes**, **Global Attributes** and **custom CI Attributes** for the **corresponding CI Type** can be updated
- All **workstation additional fields** can be updated for workstation/server.
- All **asset additional attributes** can be updated.
- If the field is **non-english**, same can be given in the **xml to update the data.**
- All **asset additional attributes** can be updated.
- Can use the **filters with relational operations** for updating assets.
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample XML input for updating Server: (Can update workstation using the same set of fields).

```
?xml version="1.0" encoding="UTF-8"?>
<API version="1.0" >
   <citype>
      <name>Windows Workstation</name>
      <criterias>
         <criteria>
            <parameter>
               <name compOperator="IS">CI Name</name>
               <value>sdp-w2k3-13</value>
            </parameter>
         </criteria>
      </criterias>
      <newvalue>
      <record>
      <!-- Product Name/Type cannot be updated using Update Operations-->
      <!--parameter><name>Product Name</name><value>Unknown Server</value></parameter-->
      <parameter><name>Site</name><value>China</value></parameter>
      <parameter><name>Asset Tag</name><value>MY RES TAG_1</value></parameter>
      <parameter><name>Asset State</name><value>In use</value></parameter>
      <parameter><name>Asset Serial No.</name><value>KIJH-KPOJ-IOO9-IO98_1</value></parameter>
      <parameter><name>Cost</name><value>1223.98</value></parameter>
      <parameter><name>Vendor</name><value>HP</value></parameter>
      <parameter><name>Expiry Date</name><value>2012-08-23</value></parameter>
      <parameter><name>Warranty Expiry Date</name><value>2012-08-23</value></parameter>
      <parameter><name>Acquisition Date</name><value>2002-8-23</value></parameter>
      <parameter><name>Location</name><value>Beijing</value></parameter>
      <parameter><name>Business Impact</name><value>High</value></parameter>
      <parameter><name>Description</name><value>BeijingrnAXL_EXT</value></parameter>
      <parameter><name>Barcode</name><value>101001100010101_1</value></parameter>

      <!-- Inventory data -->
      <parameter><name>Service Tag</name><value>AXL90OSASASD_1</value></parameter>
      <parameter><name>Total Memory</name><value>2024</value></parameter>
      <parameter><name>Virtual Memory</name><value>2024</value></parameter>
      <parameter><name>OS</name><value>Microsoft Windows XP Professional 2010</value></parameter>
      <parameter><name>Service Pack</name><value>Microsoft Windows XP Professional 2010</value></parameter>
      <parameter><name>Disk space</name><value>22</value></parameter>
      <parameter><name>Manufacturer</name><value>HP</value></parameter>
      <parameter><name>Is Virtual</name><value>true</value></parameter>
      <parameter><name>Monitor Type</name><value>LG 360_EXT</value></parameter>
      <parameter><name>Monitor Manufacturer</name><value>LCD Flat monitor_EXT</value></parameter>
      <parameter><name>Monitor Serial Number</name><value>AADSD90KL88767_EDXT</value></parameter>
      <parameter><name>Mouse Type</name><value>LOGITECH_EXT</value></parameter>
      <parameter><name>Mouse Manufacturer</name><value>Microsoft Corporation</value></parameter>
      <parameter><name>Mouse Serial Number</name><value>MOUSE_AADSD90KL88767_EXT</value></parameter>
      <parameter><name>Keyboard Type</name><value>LG 480_EXT</value></parameter>
      <parameter><name>Keyboard Manufacturer</name><value>Microsoft Corporation</value></parameter>
      <parameter><name>Keyboard Serial Number</name><value>KBD_AADSD90KL88767_EXT</value></parameter>

      <!-- Asset Additional fields -->
      <parameter><name>Asset Data</name><value>My datarnTextas_EXT</value></parameter>
      <parameter><name>Asset Date</name><value>2012-09-23</value></parameter>
      <parameter><name>Asset Number</name><value>987654321</value></parameter>

      <!-- Workstation Additional fields -->
      <parameter><name>WS Data</name><value>My datarnTextas_EXT</value></parameter>
      <parameter><name>WS Date</name><value>2013-09-23</value></parameter>
      <parameter><name>WS Number</name><value>987654321</value></parameter>

      <!-- Ownership details -->
      <multi-valued-parameter name="Assign Ownership">
         <record>
            <parameter><name>Department</name><value>Finance</value></parameter>
            <parameter><name>Department's site</name><value>Pleasanton,CA</value></parameter>
         </record>
      </multi-valued-parameter>

      <multi-valued-parameter name="Asset Lease Information">
         <record>
            <parameter><name>Start Date</name><value>2013-09-21</value></parameter>
            <parameter><name>End Date</name><value>2013-09-21</value></parameter>
         </record>
      </multi-valued-parameter>

      <multi-valued-parameter name="Network Details">
         <record>
            <parameter><name>DHCP Server</name><value>www.dbexplorer.com_bak</value></parameter>
            <parameter><name>IP Address</name><value>192.168.112.200</value></parameter>
            <parameter><name>MAC Address</name><value>AS2.168.112.200</value></parameter>
            <parameter><name>NIC</name><value>MY NIC_BAK</value></parameter>
            <parameter><name>Network</name><value>192.168.112.255</value></parameter>
         </record>
         <record>
            <parameter><name>DHCP Server</name><value>www.dbexplorer1.com_BAK</value></parameter>
            <parameter><name>IP Address</name><value>192.168.112.255</value></parameter>
            <parameter><name>MAC Address</name><value>AS2.168.112.255</value></parameter>
            <parameter><name>NIC</name><value>MY NIC-1_BAK</value></parameter>
            <parameter><name>Network</name><value>192.168.112.100</value></parameter>
         </record>
      </multi-valued-parameter>
      <multi-valued-parameter name="Processor Details">
         <record>
            <parameter><name>Processor Count</name><value>2</value></parameter>
            <parameter><name>Processor Type</name><value>Intel Inside 2</value></parameter>
            <parameter><name>Processor Speed</name><value>2025</value></parameter>
            <parameter><name>Processor Manufacturer</name><value>SSL Corporation_BAK</value></parameter>
         </record>
         <record>
            <parameter><name>Processor Count</name><value>2</value></parameter>
            <parameter><name>Processor Type</name><value>Intel Inside 2</value></parameter>
            <parameter><name>Processor Speed</name><value>4025</value></parameter>
            <parameter><name>Processor Manufacturer</name><value>SSL Corporation (India)_bak</value></parameter>
         </record>
      </multi-valued-parameter>
      </record>
      </newvalue>
   </citype>
</API>
```

Update asset CIs (other than Workstation)

To update a CI use the following URL format:

http://<servername>:<portnumber>/api/cmdb/ci/

Assuming you are updating a CI in the local server with port number 8080, the URL should be given as:

http://localhost:8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "update" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- **Technician** having **Asset update role** can perform these operations.
- **CI-ID** of the **updated entry** is **returned** along with the **CI Name** in the **response.**
- **CI Attributes**, **Global Attributes** and **custom CI Attributes** for the **corresponding CI Type** can be updated
- All **workstation additional fields** can be updated for workstation/server.
- All **asset additional attributes** can be updated.
- If the field is **non-english**, same can be given in the **xml to update the data.**
- All **asset additional attributes** can be updated.
- Can use the **filters with relational operations** for updating assets.
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample XML for updating Access Point:

Note: Since, all **IT Assets share the same attributes as like of Access Point,** refer this xml to update other IT Assets as well.

Note:

- Since all **IT Assets share the attributes similar to that Access Point,** refer this xml to update other IT Assets as well.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<API version="1.0" >
    <citype>
        <name>Access Point</name>
        <criterias>
            <criteria>
                <parameter>
                    <name compOperator="IS">CI Name</name>
                    <value>192.168.112.33</value>
                </parameter>
            </criteria>
        </criterias>
        <newvalue>
        <record>
            <!-- Product Name/Type cannot be updated using Update Operations-->
            <!--parameter><name>CI Name</name><value>(empty)</value></parameter-->
            <!--parameter><name>CI Type</name><value>My Test Access1</value></parameter-->
            <!--parameter><name>Product Name</name><value>My Access Point1</value></parameter-->
            <parameter><name>Site</name><value>chennai</value></parameter>
            <parameter><name>Asset Tag</name><value>MY RES TAG-1</value></parameter>
            <parameter><name>Serial Number</name><value>KIJH-KPOJ-IOO9-IO98-EXT</value></parameter>
            <parameter><name>Barcode</name><value>MY BAR CODE</value></parameter>
            <parameter><name>Cost</name><value>68884.98</value></parameter>
            <parameter><name>Vendor</name><value>Zoho Corp</value></parameter>
            <parameter><name>Expiry Date</name><value>2011-08-23</value></parameter>
            <parameter><name>Warranty Expiry Date</name><value>2011-08-23</value></parameter>
            <parameter><name>Acquisition Date</name><value>2011-09-23</value></parameter>
            <parameter><name>Location</name><value>Porur</value></parameter>
            <parameter><name>Asset State</name><value>In Use</value></parameter>
            <parameter><name>Business Impact</name><value>high</value></parameter>
            <parameter><name>Description</name><value>Mydescription</value></parameter>

            <!-- Multi value parameters -->
            <multi-valued-parameter name="Assign Ownership">
                <record>
                   <parameter><name>Associate to Asset</name><value>sdp-w2k3-13</value></parameter>
                   <parameter><name>Department's site</name><value>Pleasanton,CA</value></parameter>
                </record>
            </multi-valued-parameter>
            <multi-valued-parameter name="Asset Lease Information">
                <record>
                   <parameter><name>Start Date</name><value>2010-09-21</value></parameter>
                   <parameter><name>End Date</name><value>2011-09-21</value></parameter>
                </record>
            </multi-valued-parameter>
        </record>
        </newvalue>
    </citype>
</API>
```

Update business CI

To update a non-asset CI use the following URL format:

http://<servername>:<portnumber>/api/cmdb/ci/

Assuming you are updating a non-asset CI in the local server with port number 8080, the URL should be given as:

http://localhost:8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "update" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- **CI-ID** of the **updated entry** is **returned** along with the **CI Name** in the **response**.
- **CI Attributes**, **Global Attributes** and **custom CI Attributes** for the **corresponding CI Type** can be updated
- If the field is **non-english**, same can be given in the **xml to update the data.**
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample Input for updating Business Service

```xml
<?xml version="1.0" encoding="UTF-8"?>
<API version="1.0" >
    <citype>
        <name>Business Service</name>
        <criterias>
            <criteria>
                <parameter>
                    <name compOperator="IS">Name</name>
                    <value>Tomcat Server 8</value>
                </parameter>
            </criteria>
        </criterias>
        <newvalue>
        <record>
            <parameter><name>Site</name><value>Japan</value></parameter>
            <parameter><name>Business Impact</name><value>Low</value></parameter>
            <parameter><name>Description</name><value>Tokyo !@#$%^*rnAXL-EXT</value></parameter>
            <parameter><name>Service Support Hours</name><value>12345678</value></parameter>
            <parameter><name>Owned By</name><value>Charles</value></parameter>
            <parameter><name>Cost</name><value>1234</value></parameter>
            <parameter><name>Incident restoration target</name><value>12345</value></parameter>
            <parameter><name>Availability Target(%)-1</name><value>500</value></parameter>
            <parameter><name>Technician</name><value>np</value></parameter>
            <parameter><name>Service Port</name><value>9090</value></parameter>
            <parameter><name>Cost Center</name><value>Finance</value></parameter>
            <parameter><name>Global Attr</name><value>Finance</value></parameter>
        </record>
        </newvalue>
    </citype>
</API>
```

Sample Output

XML Format


```
<?xml version="1.0" encoding="UTF-8"?>
<API locale="en" version="1.0">
  </response>
        <result>
           <statuscode>200</statuscode>
           <status>Success</status>
           <message>Successfully Updated</message>
           <created-date>Mar 22, 2013 10:58 AM</created-date>
           <records updated ="1">
                  <ci id="7293">sdp-w2k3-13</ci>
           </records>
        </result>
  </response>
</API>
```


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Get CI details

To read details of of CI(s) use the following format:

http://<hostname>:<portnumber>/api/cmdb/cirelationships

Assuming you are fetching relationship of all CIs in the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/cmdb/cirelationships

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "read" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

To know more about adding CI relationships, visit the following pages:

- Get All CI Details
- Get CI Details using filter
- Get CI Count

Get all configuration item (CI) details

To read (obtain) all CIs use the following URL format:

http://<hostname>:**<port>/api/cmdb/ci/list/all**/**<Page Number>**/

Assuming you want to read all CIs associated with the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/cmdb/ci/list/all

Keypoints:

1. The operation name "read" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY

- Sample XML Output
- Sample JSON Output

Note:
If no result format specified then API will return output in **JSON** format**.**

- To **fetch all CIs without CI Type details**, use **all**
- **Parameter-related:** To **fetch CI for a specific CI Type**, pass the CI Type value in the URL.
- **Parameter-related: Page Number - Optional**. Specifies the page or results to retrieve
- **Parameter-related: Result Format - Optional**. specifies the return format (XML or JSON)

Sample XML Output

```xml
<API version="1.0">
    <response>


            <result>
                <statuscode>200</statuscode>
                <status>Success</status>
                <message>Successfully fetched.</message>
                <created-date>May 7, 2013 11:18 AM</created-date>
                <field-names>
                    <name type="String">CI Name</name>
                    <name type="String">CI Type</name>
                    <name type="String">Site</name>
                    <name type="String">Description</name>
                </field-names>
                <field-values totalRecords="8">
                    <record>
                        <value>Microsoft(R) Windows(R) Server 2003, Standard Edition
(assetexplorer.helpdesk-test.com)</value>
                        <value>Operating System</value>
                        <value>(null)</value>
                        <value>(null)</value>
                    </record>
                    <record>
                        <value>balaguru.zohocorpin.com</value>
                        <value>Windows Workstation</value>
                        <value>(null)</value>
                        <value>(null)</value>
                    </record>
                    <!-- Truncated -->
                    <record>
                        <value>1 (hp2650.csez.zohocorpin.com)</value>
                        <value>Switch Ports</value>
                        <value>(null)</value>
                        <value>Created while scanning..</value>
                    </record>
                    <record>
                        <value>2 (hp2650.csez.zohocorpin.com)</value>
                        <value>Switch Ports</value>
                        <value>(null)</value>
                        <value>Created while scanning..</value>
                    </record>
                </field-values>
            </result>


    </response>
</API>
```

Sample JSON Output

```
{ "API" : { "response" : { "result" : { "created-date" : "Sep 2, 2013 12:08 PM",
          "field-names" : { "name" : [ { "content" : "CI Name",
                  "type" : "String"
                },
                { "content" : "CI Type",
                  "type" : "String"
                },
                { "content" : "Site",
                  "type" : "String"
                },
                { "content" : "Description",
                  "type" : "String"
                }
              ] },
          "field-values" : { "record" : [ { "value" : [ "administrator",
                    "Technician",
                    "(null)",
                    "3ED8AEC2-A7D1-42F6-9A90-8B848E70D077"
                  ] },
                { "value" : [ "Administration",
                    "Department",
                    "Pleasanton,CA",
                    "(null)"
                  ] },
                { "value" : [ "Engineering",
                    "Department",
                    "Pleasanton,CA",
                    "(null)"
                  ] },
                { "value" : [ "Sales",
                    "Department",
                    "Pleasanton,CA",
                    "(null)"
                  ] },
                { "value" : [ "Finance",
                    "Department",
                    "Pleasanton,CA",
                    "(null)"
                  ] },
                { "value" : [ "IT Services",
                    "Department",
                    "Pleasanton,CA",
                    "(null)"
                  ] },
                { "value" : [ "nprasanna-0157.csez.zohocorpin.com.",
                    "Windows Workstation",
                    "(null)",
                    "(null)"
                  ] },
                { "value" : [ "Microsoft Windows 7 Professional (nprasanna-0157.csez.zohocorpin.com.)",
                    "Operating System",
                    "(null)",
                    "(null)"
                  ] },
                { "value" : [ "dept1",
                    "Department",
                    "(null)",
                    "(null)"
                  ] },
                { "value" : [ "dept2",
                    "Department",
                    "(null)",
                    "(null)"
                  ] },
                { "value" : [ "dept3",
                    "Department",
                    "(null)",
                    "(null)"
                  ] },
                { "value" : [ "Research and Development",
                    "Department",
                    "(null)",
                    "(null)"
                  ] },
                { "value" : [ "Healthcare",
                    "Department",
                    "(null)",
                    "(null)"
                  ] },
                { "value" : [ "HR",
                    "Department",
                    "(null)",
                    "(null)"
                  ] },
                { "value" : [ "Service",
                    "Department",
                    "(null)",
                    "(null)"
                  ] }
              ],
            "totalRecords" : "15"
          },
          "message" : "Successfully fetched.",
          "status" : "Success",
          "statuscode" : "200"
        } },
    "version" : "1.0"
  } }
```

Get CI Details using criteria

To get (obtain) details of a CI using criteria use the following URL format:
http://<hostname>:<port>/api/cmdb/ci/
Assuming you want to read details of a CI - using some form of criteria - associated with the local server with port number 8080, the URL should be given as:
http://localhost:8080/api/cmdb/ci/

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "read" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

	Note: • ◦ Parameter **Result Format - Optional**. specifies the return format (XML or JSON) If no result format specified then API will return output in **JSON** format**.**

Sample Input XML using various conditions:

1. Get CI Details using conditions with relational operator (OR)
2. Get CI Details using date criteria

- Sample XML Response
- Sample JSON Response

Fetching CI Details using conditions with relational operator (OR)

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```
<API version="1.0" locale="en">
<citype>
  <name>Windows Workstation</name>
    <criterias>
      <criteria>
        <parameter>
          <name compOperator="START WITH">CI Type</name>
          <!-- Can give Non english values in the parameter names as well as in the data-->
          <value>Windows Workstation</value>
        </parameter>
        <reloperator>OR</reloperator>
        <parameter>
          <name compOperator="CONTAINS">CI Name</name>
          <value>sdp</value>
        </parameter>
      </criteria>
    </criterias>
    <returnFields>
      <name>CI Name</name>
      <name>CI Type</name>
      <name>Business Impact</name>
      <name>Site</name>
      <name>Description</name>
    </returnFields>
    <sortparameters sortOrder="desc">
      <name>CI Name</name>
      <name>Site</name>
    </sortparameters>
    <!-- If the total number pages is 100, we can give the navigation from 50 to 50 -->
    <range>
      <startindex>1</startindex>
      <limit>50</limit>
    </range>
</citype>
</API>
```

Note: If the CI Type is not mentioned then only the attributes pertaining to the common fields will be fetched and listed.

Fetching CI Details using conditions with relational operator (OR)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<API version="1.0">
    <citype>
        <name>Workstation</name>
        <criterias>
            <criteria>
                <parameter>
                    <name compOperator="IS">Acquisition Date</name>
                    <value>2011-12-30</value>
                </parameter>
            </criteria>
        </criterias>
        <returnFields>
            <!-- Syntax to return all available column(s). <name>*</name> -->
            <name>CI Name</name>
            <name>CI Type</name>
            <name>Owned By</name>
            <name>Site</name>
            <name>Description</name>
            <name>Acquisition Date</name>
            <name>Warranty Expiry Date</name>
            <name>Expiry Date</name>
            <name>Asset Tag</name>
            <name>Serial Number</name>
            <name>Barcode</name>
            <name>Product Name</name>
            <name>Resource State</name>
            <name>Vendor</name>
            <name>Location</name>
            <name>Mac Address</name>
            <name>WS UDF Date</name>
            <name>WS UDF Num</name>
            <name>WS UDF Multi</name>
            <name>WS UDF String</name>
            <name>Sites</name>
        </returnFields>
        <sortFields sortOrder="desc">
            <name>Product Name</name>
        </sortFields>
    </citype>
</API>
```

Sample XML Response (truncated)

```
<?xml version="1.0" encoding="UTF-8"?>
<API locale="en" version="1.0">
    <response>

        <range>
            <startindex>40</startindex>
            <limit>50</limit>
        </range>
        <result>
            <statuscode>200</statuscode>
            <status>Success</status>
            <message>Successfully fetched.</message>
            <created-date>May 10, 2013 12:52 PM</created-date>
            <field-names>
                <name type="String">CI Name</name>
                <name type="String">CI Type</name>
                <name type="String">Site</name>
                <name type="String">Description</name>
            </field-names>
            <field-values totalRecords="14">
                <record>
                    <value>21 (hp2650.csez.zohocorpin.com)</value>
                    <value>Switch Ports</value>
                    <value>(null)</value>
                    <value>Created while scanning..</value>
                </record>
                <!--
                Truncated
                    .
                    .
                    .
                -->
                <record>
                    <value>10 (hp2650.csez.zohocorpin.com)</value>
                    <value>Switch Ports</value>
                    <value>(null)</value>
                    <value>Created while scanning..</value>
                </record>
                <record>
                    <value>1 (hp2650.csez.zohocorpin.com)</value>
                    <value>Switch Ports</value>
                    <value>(null)</value>
                    <value>Created while scanning..</value>
                </record>
            </field-values>
        </result>

    </response>
</API>
```

Sample JSON Response

{"API":{"locale":"en","response":{"":{"result":{"created-date":"May 10, 2013 12:55 PM","field-names":{"name":[{"type":"String","content":"CI Name"},{"type":"String","content":"CI Type"},{"type":"String","content":"Site"},{"type":"String","content":"Description"}]},"message":"Successfully fetched.","field-values":{"record":[{"value":["21 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["20 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["2 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["19 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["18 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["17 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["16 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["15 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["14 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["13 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["12 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["11 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["10 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]},{"value":["1 (hp2650.csez.zohocorpin.com)","Switch Ports","(null)","Created while scanning.."]}],"totalRecords":"14"},"status":"Success","statuscode":"200"},"range":{"limit":"50","startindex":"40"},"name":"read"}},"version":"1.0"}}

Get all CI(s) count

To read (obtain) the number of CIs available in your organization use the following URL format:

http://<hostname>:**<port>/api/cmdb/ci/count/all**/

Assuming you want to read the number of CIs associated with the local server with port number 8080, the URL should be given as:

http://localhost:8080/api/cmdb/ci/count/all

Keypoints:

1. The operation name "read" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

- Sample XML Output
- Sample JSON Output

Note:
If no result format specified then API will return output in **JSON** format**.**
•
To read **CIs count of a specific CI Type**, give the **CI Type's name** in the URL instead of all.
•
Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample XML Output for Get All CI(s) Count:


```
<?xml version="1.0" encoding="UTF-8"?>

<API version="1.0">
<response>
<result>
<statuscode>200</statuscode>
<status>Sucess</status>
<message>Successfully fetched.</message>
<created-date>Mar 13, 2013 05:10 PM</created-date>
<field-names>
<name type="Integer">Count</name>
; </field-names>
<field-values totalRecords="1">
<record>
<value>30</value>
</record>
</field-values>
</result>
</response>
```


Sample JSON Output for Get All CI(s) Count:

```
{
    "API": {
        "response": {
            "result": {
                "created-date": "Sep 2, 2013 12:11 PM",
                "field-names": {
                    "name": {
                        "content": "Count",
                        "type": "Integer"
                    }
                },
                "field-values": {
                    "record": {
                        "value": "1"
                    },
                    "totalRecords": "1"
                },
                "message": "Successfully fetched.",
                "status": "Success",
                "statuscode": "200"
            }
        },
        "version": "1.0"
    }
}
```

Add CI type

To add a CI Type, use the following URL format:

http://<servername>:<portnumber>/api/change/

Assuming you are adding a new CI Type in the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/change/

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

To know more about adding CI Types, visit the following pages:

- Sample XML Input for Adding Asset CI Type
- Sample XML Input for Adding Child CI Type
- Sample XML Input for Adding Non-Asset CI Types
- Sample XML Response

Add asset CI type

To add a CI Type, use the following URL format:
http://<servername>:<portnumber>/api/change/
Assuming you are adding a new CI Type in the local server with port number 8080, the URL should be given as::
http://localhost:8080/api/change/
Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

> **Note**:
> If no result format specified then API will return output in **JSON** format**.**
> - **CIType-ID** of the newly added entry is returned along with the **CI Type** in the response.
> - **Technician** having **SDAdmin role** can add CI Type(s).
> - **CI Attributes** can be added **separately**
> - Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample Input xml for adding Asset CI Type
While adding CI Types, if the CI Type being added is asset, this has to be specified using IsAsset tag as specified below:

```
<?xml version="1.0" encoding="UTF-8"?>

<API version="1.0" locale="en">

<records>

    <record>

        <parameter><name>Name</name><value>Sensors</value></parameter>

        <parameter><name>IsAsset</name><value>True</value></parameter>

        <parameter><name>Type</name><value>Asset</value></parameter>

        <parameter><name>Category</name><value>IT</value></parameter>

        <parameter><name>Parent</name><value>(empty)</value></parameter>

        <parameter><name>Description</name><value>Added via automation
script</value></parameter>

        <parameter><name>description</name><value>11Added via automation
script</value></parameter>

    </record>

</records>

</API>
```

Add child CI type

To add a CI Type, use the following URL format:

http://<servername>:<portnumber>/api/change/

Assuming you are adding a new CI Type in the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/change/

Keypoints:

1. TInput is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- **CIType-ID** of the newly added entry is returned along with the **CI Type** in the response.
- **Technician** having **SDAdmin role** can add CI Type(s).
- **CI Attributes** can be added **separately**
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample Input for Adding Child CI Type:

While adding CI Types, if the CI Type being added is asset and has a parent, then parent tag should be used instead of IsAsset tag.

```
<?xml version="1.0" encoding="UTF-8"?>

<API version="1.0" locale="en">

<records>

    <record>

        <parameter><name>Name</name><value>Thermal Sensors</value></parameter>


        <parameter><name>Parent</name><value>Sensors</value></parameter>

        <parameter><name>Description</name><value>Adding a child CI Type for 
Sensor</value></parameter>

    </record>

</records>

</API>
```

Add non-asset CI type

To add a CI Type, use the following URL format:

http://<servername>:<portnumber>/api/change/

Assuming you are adding a new CI Type in the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/change/

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- **CIType-ID** of the newly added entry is returned along with the **CI Type** in the response.
- **Technician** having **SDAdmin role** can add CI Type(s).
- **CI Attributes** can be added **separately**
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample Input XML for adding non-asset CI Types

```
<?xml version="1.0" encoding="UTF-8"?>

<API version="1.0" locale="en">

        <records>

            <record>

                <parameter><name>Name</name><value>VOIP Phone</value></parameter>

                <parameter><name>IsAsset</name><value>False</value></parameter>

                <parameter><name>Description</name><value>Creating a non-asset CI
Type</value></parameter>

                <parameter><name>Parent
type</name><value>(empty)</value></parameter>

            </record>

        </records>

</API>
```

Sample XML response

Note: Please note that the Input and Output XML formats have been changed.


```
<?xml version="1.0" encoding="UTF-8"?>
<API locale="en" version="1.0">
<response>
<result>
        <statuscode>200</statuscode>
        <status>Success</status>
        <message>Successfully added</message>
        <created-date>Mon Jul 05 18:18:39 GMT+05:30 2010</created-date>
        <records failed="0" success="1" total="1>
             <sucess>
                     <citype typeid="909">UPS</citype>
             </sucess>
</result>
</response>
</API>
```

Add configuration item (CI) attributes

To add CI Attributes to a CI Type, use the following URL format:
http://<hostname>:<port>/api/cmdb/ci/citypeattributes
Assuming you want to add CI Attributes to a CI Type in the local server with port number 8080, the URL should be given as:
http://localhost:8080/api/cmdb/ci/citypeattributes
Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "add" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

- Sample XML Input
- Sample XML Response

Note:
If no result format specified then API will return output in **JSON** format**.**
- **Technician** having **SDAdmin role** can perform add operation on CI Type.
- Can add more than one attribute at a time, but **only one single CI Type** can be added.
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample Input XML for adding CI Type Attributes to CI Type Access Point

```xml
<?xml version="1.0" encoding="UTF-8"?>
<API version="1.0" locale="en">
   <addattribute>
      <tocitype>Access Point</tocitype>
      <attributes>
            <attribute>
               <parameter><name>Attribute Name</name><value>Cost Center</value></parameter>
               <parameter><name>Description</name><value>Access Point coverage area in meters</value></parameter>
               <parameter><name>Type</name><value>single-line</value></parameter>
            </attribute>
            <attribute>
               <parameter><name>Attribute Name</name><value>Account Number</value></parameter>
               <parameter><name>Description</name><value>Issues in business service for mulit line</value></parameter>
               <parameter><name>Type</name><value>single-line</value></parameter>
            </attribute>
            <attribute>
               <parameter><name>Attribute Name</name><value>Resolution</value></parameter>
               <parameter><name>Description</name><value>Issues in business service for mulit line</value></parameter>
               <parameter><name>Type</name><value>multi-line</value></parameter>
            </attribute>
            <attribute>
               <parameter><name>Attribute Name</name><value>Bank Account</value></parameter>
               <parameter><name>Description</name><value>number of issues while creating business service</value></parameter>
               <parameter><name>Type</name><value>number</value></parameter>
            </attribute>
            <attribute>
               <parameter><name>Attribute Name</name><value>Depreciation Amount</value></parameter>
               <parameter><name>Description</name><value>number of issues while creating business service</value></parameter>
               <parameter><name>Type</name><value>number</value></parameter>
            </attribute>
            <attribute>
               <parameter><name>Attribute Name</name><value>Renewal Date</value></parameter>
               <parameter><name>Description</name><value>Dated issues while creating business service</value></parameter>
               <parameter><name>Type</name><value>datetime</value></parameter>
            </attribute>
           <attribute>
               <parameter><name>Attribute Name</name><value>Pick Service Type</value></parameter>
               <parameter><name>Description</name><value>Types of services while creating business service</value></parameter>
               <parameter><name>Type</name><value>pick-list</value></parameter>
               <parameter><name>List Item</name><value>Switch-1,Switch-2,Switch3</value></parameter>
            </attribute>
      </attributes>
   </addattribute>
</API>
```

Sample XML Response


```
<?xml version="1.0" encoding="UTF-8"?>

<API locale="en" version="1.0">

<response>

<result>

        <statuscode>200</statuscode>

        <status>Success</status>

        <message>Relationship added successfully.</message>

        <created-date>Mon Jul 05 18:18:39 GMT+05:30 2010</created-date>

</result>

</response>

</API>
```


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Get all CI(s) type count

To get (obtain) the number of CI types available in your organization use the following URL format:

http://<hostname>:<port>/api/cmdb/citype/count/

Assuming you want to get the number of CI types associated with the local server with port number 8080, the URL should be given as:

http://localhost:8080/api/cmdb/citype/count/

Keypoints:

1. The operation name "GET" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- To get the **count of all CIs**, use **all** keyword in the URL
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample JSON Output for Get All CI(s) Count:


```
{
   "API": {
      "response": {
         "result": {
            "created-date": "Sep 2, 2013 01:01 PM",
            "field-names": {
               "name": {
                  "type": "Integer",
                  "content": "Count"
               }
            },
            "message": "Successfully fetched.",
            "field-values": {
               "record": {
                  "value": "1"
               },
               "totalRecords": "1"
            },
            "status": "Success",
            "statuscode": "200"
         }
      },
      "version": "1.0"
   }
}
```

Get CI type details

To read a CI Type's details, use the following url format:

http://<servername>:<portnumber>/api/cmdb/citype/<CI Type>

Assuming you are fetching a CI Type's details available in the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/cmdb<CI Type>

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "read" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

- Sample XML Output
- Sample JSON Output

Note:
If no result format specified then API will return output in **JSON** format**.**
- **CI Type - Mandatory**. CI Type name. (Can be **case insensitive**).
- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample XML Output:

Note: Please note that the Input and Output XML formats have been changed.


```
<?xml version="1.0" encoding="UTF-8"?>

<API version="1.0">

    <response>

        <result>

            <statuscode>200</statuscode>

            <status>Success</status>

            <message>Successfully fetched.</message>

            <created-date>Sep 2, 2013 01:02 PM</created-date>

            <field-names>

                <name type="String">Attribute Name</name>

                <name type="String">Data Type</name>

            </field-names>

            <field-values totalRecords="10">

                <record>

                    <value>Availability Target(%)</value>

                    <value>String</value>

                </record>

                <record>

                    <value>Service Support Hours</value>

                    <value>String</value>

                </record>

                <record>

                    <value>Cost</value>

                    <value>String</value>

                </record>
                .................................

                .................................

                .................................

                .................................

                <record>

                    <value>Incident restoration target</value>

                    <value>String</value>

                </record>

                <record>

                    <value>Site</value>

                    <value>String</value>

                </record>

                <record>

                    <value>Description</value>

                    <value>String</value>

                </record>

            </field-values>

        </result>

    </response>

</API>
```

Sample JSON Output:

```
{
  "API": {
    "response": {
      "result": {
        "created-date": "Sep 2, 2013 01:02 PM",
        "field-names": {
          "name": [
            {
              "type": "String",
              "content": "Attribute Name"
            },
            {
              "type": "String",
              "content": "Data Type"
            }
          ]
        },
        "message": "Successfully fetched.",
        "field-values": {
          "record": [
            {
              "value": [
                "Availability Target(%)",
                "String"
              ]
            },
            {
              "value": [
                "Service Support Hours",
                "String"
              ]
            },
            {
              "value": [
                "Cost",
                "String"
              ]
            },
            {
              "value": [
                "Incident restoration target",
                "String"
              ]
            },
            {
              "value": [
                "Owned By",
                "String"
              ]
            },
            {
              "value": [
                "Business Impact",
                "String"
              ]
            },
            {
              "value": [
                "CI Name",
                "String"
              ]
            },
            {
              "value": [
                "Site",
                "String"
              ]
            },
            {
              "value": [
                "Description",
                "String"
              ]
            }
          ],
          "totalRecords": "10"
        },
        "status": "Success",
        "statuscode": "200"
      }
    },
    "version": "1.0"
  }
}
```

Get CI relationship

To read relationship between CIs use the following URL format:

http://<servername>:<portnumber>/api/cmdb/cirelationships/CI Name/

Assuming you are fetching relationship between two CIs available in the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/cmdb/cirelatiionships/CI Name/

Keypoints:

1. The operation name "read" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY

To know more about fetching CI relationships, visit the following pages:

- Read CI Relationship Details
- Read Specific Relationship for a CI
- Read Relationship between two CIs

Get CI relationship details

To read relationship between CIs use the following URL format:

http://<servername>:<portnumber>/api/cmdb/cirelationships/CI Name/

Assuming you are fetching relationship between two CIs available in the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/cmdb/cirelatiionships/CI Name/

Keypoints:

1. The operation name "read" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY

- Sample XML Output
- Sample JSON Output

Note:
If no result format specified then API will return output in **JSON** format**.**
•
Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample XML Output for Read CI Relationship

```xml
<?xml version="1.0" encoding="UTF-8"?>
<API version="1.0">
    <response>
            <result>
                <statuscode>200</statuscode>
                <status>Success</status>
                <message>Successfully fetched.</message>
                <created-date>Mar 22, 2013 12:10 PM</created-date>
                       <relationships for="sdpvm-w2k8.zohocorpin.com.">
                           <relationship>
                            <name>Managed by</name>
                              <ci>
                                  <type>Technician</type>
                                   <name>Charles</name>
                                   <relattributes/>
                               </ci>
                           </relationship>
                           <relationship>
                           <name>Runs</name>
                              <ci>
                                  <type>Operating System</type>
                                  <name>Microsoft® Windows Server® 2008 Standard (sdpvm-w2k8.zohocorpin.com.)</name>
                              </ci>
                        </relationship>
                        <relationship>
                        <name>Uses</name>
                          <ci>
                                <type>Storage Device</type>
                                 <name>san-1</name>
                           </ci>
                         </relationship>
                         <relationship>
                        <name>Hosts</name>
                           <ci>
                               <type>IT Service</type>
                                <name>E-mail</name>
                                <relattributes/>
                          </ci>
                           </relationship>
                       </relationships>
            </result>
    </response>
</API>
```

Sample JSON Output for Read CI Relationship

Note: Please note that the Input and Output XML formats have been changed.


```
{
    "API": {
        "response": {
            "result": {
                "created-date": "Sep 2, 2013 01:09 PM",
                "message": "Successfully fetched.",
                "status": "Success",
                "statuscode": "200",
                "relationships": {
                    "relationship": {
                        "ci": {
                            "type": "Operating System",
                            "relattributes": {
                                "attribute": [
                                    {
                                        "value": "-",
                                        "name": "Installed On"
                                    },
                                    {
                                        "value": "-",
                                        "name": "Version"
                                    },
                                    {
                                        "value": "-",
                                        "name": "Installation Location"
                                    }
                                ]
                            },
                            "name": "Microsoft® Windows Server® 2008 Standard (sdpvm-w2k8.zohocorpin.com.)"
                        },
                        "name": "Runs"
                    },
                    "for": "sdpvm-w2k8.zohocorpin.com."
                }
            }
        },
        "operation": {
            "name": "read"
        },
        "version": "1.0"
    }
}
```


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Get specific relationship for CI

To read a specific relationship of a CI, use the following url:

http://<servername>:<portnumber>/api/cmdb/cirelationships/CI Name/<Relationship Type>
Assuming you are to fetch a specific relationship of a CI - example: server being used by a technician - available in the local server with port number 8080, the URL should be given as:
http://localhost:8080/api/cmdb/cirelationships/CI Name/Charles/Uses

Keypoints:

1. The operation name "read" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY

- Sample XML Output
- Sample JSON Output

	Note: If no result format specified then API will return output in **JSON** format**.** • Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

	Mandatory Parameters: • CI Name - Mandatory. CI Name can be case insensitive • Relationship Type - Mandatory. Relationship type name can be case insensitive.

Sample XML Output for Read Specific Relationship for CI

```
<?xml version="1.0" encoding="UTF-8"?>
<API version="1.0">
    <response>
            <result>
                <statuscode>200</statuscode>
                <status>Success</status>
                <message>Successfully fetched.</message>
                <created-date>Mar 22, 2013 12:57 PM</created-date>
                           <relationships for="Charles">
                                  <relationship>
                                  <name>Uses</name>
                                      <ci>
                                         <type>Server</type>
                                        <name>opman-solaris1.csez.zohocorpin.com</name>
                                        <relattributes/>
                                      </ci>
                                <relationship>
                           </relationships>
              </result>
    </response>
</API>
```


Sample JSON Output for Read Specific Relationship for CI

```
{
    "API": {
        "response": {
            "result": {
                "created-date": "Sep 2, 2013 02:59 PM",
                "message": "Successfully fetched.",
                "status": "Success",
                "statuscode": "200",
                "relationships": {
                    "relationship": {
                        "ci": {
                            "type": "Mac Workstation",
                            "relattributes": {},
                            "name": "sdp-imac.csez.zohocorpin.com"
                        },
                        "name": "Uses"
                    },
                    "for": "Charles"
                }
            }
        },
        "operation": {
            "name": "read"
        },
        "version": "1.0"
    }
}
```

Get relationship between two CIs

To read a specific relationship of a CI, use the following url:

http://<servername>:<portnumber>/api/cmdb/cirelationships/CI Name 1<->CI Name 2/
Assuming you are to read a specific relationship of a CI - example: server being used by a technician - available in the local server with port number 8080, the URL should be given as:
http://localhost:8080/api/cmdb/cirelationships/connector.iad8.amazon.com<->dlf-1w.printer-1/

Keypoints:

1. The operation name "read" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY

- Sample XML Output
- Sample JSON Output

Note:
If no result format specified then API will return output in **JSON** format**.**
•
Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Mandatory Parameters:
•
Symbol between the two CIs is mandatory
•
CI Name1 - Mandatory. CI Name can be case insensitive.

Sample XML Output for Relationship between two CIs: Here the webserver connector.iad8.amazon.com is connected with the dlf-1w.printer-1 printer.

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```xml
<?xml version="1.0" encoding="UTF-8"?>
<API version="1.0">
    <response>
            <result>
                <statuscode>200</statuscode>
                <status>Success</status>
                <message>Successfully fetched.</message>
                <created-date>Mar 22, 2013 12:51 PM</created-date>
                         <relationships for="connector.iad8.amazon.com">
                                   <relationship>
                                    <name>Connected to</name>
                                        <ci>
                                              <type>Printer</type>
                                               <name>dlf-1w.printer-1</name>
                                               <relattributes/>
                                         </ci>
                                   </relationship>
                         </relationships>
             </result>
    </response>
</API>
```


Sample JSON Response:

```
{
    "API": {
        "response": {
            "result": {
                "created-date": "Sep 2, 2013 03:05 PM",
                "message": "Successfully fetched.",
                "status": "Success",
                "statuscode": "200",
                "relationships": {
                    "relationship": {
                        "ci": {
                            "type": "Switch Ports",
                            "name": "connector.iad8.amazon.com"
                        },
                        "name": "Connected to"
                    },
                    "for": "DLF11thFloor-I.csez.zohocorpin.com"
                }
            }
        },
        "operation": {
            "name": "read"
        },
        "version": "1.0"
    }
}
```

Delete configuration item (CI)

To delete a CI use the following URL format:

http://<servername>:<portnumber>/api/change/cmdb/ci/CI Type:CI Name/delete/

Assuming you deleting a requester CI in the local server with port number 8080, the URL should be given as:

http://localhost:8080/api/cmdb/ci/Requester:Mukul/delete/

Keypoints:

1. The operation name "delete" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

- Sample XML Output
- Sample JSON Output

Note:
If no result format specified then API will return output in **JSON** format**.**
•
It is **mandatory** to give **colon** between **CI Type and CI Name**, so as to delete the CI uniquely.
•
Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample XML Output:


```
<?xml version="1.0" encoding="UTF-8"?>

<API version="1.0">

    <response>

            <result>

                <statuscode>200</statuscode>

                <status>Success</status>

                <message>1 records removed successfully.</message>

                <created-date>Mar 22, 2013 10:58 AM</created-date>

             </result>

   </response>

</API>
```


Sample JSON Output:

```
{
    "API": {
        "response": {
            "result": {
                "created-date": "Sep 2, 2013 03:10 PM",
                "message": "1 records removed successfully.",
                "status": "Success",
                "statuscode": "200"
            }
        },
        "version": "1.0"
    }
}
```

Delete CI using criteria

To delete CI using a filter use the following URL format:

http://<servername>:<portnumber>/api/cmdb/ci

Assuming you are deleting a CI in the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/cmdb/ci

Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "delete" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note:
If no result format specified then API will return output in **JSON** format**.**

- Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Mandatory Parameters:

- **All CIs** can be **deleted** using **this API;** to **delete unique records**, use the tag **<CI Type>** to specify the CI Type.
- CI Name1 - Mandatory. CI Name can be case insensitive.
- Only **CIs and CI Relationships** can be **deleted.**
- **CI Type tag** is optional.

Sample Input XML


```
<?xml version="1.0" encoding="UTF-8"?>

<API version="1.0">

        <citype>

            <name>Switch Ports</name>

            <criterias>

                <criteria>

                   <parameter>  <name compOperator="CONTAINS">CI Name</name><value>1
(hp2650.csez.zohocorpin.com)</value></parameter>

                </criteria>

            </criterias>

        </citype>

</API>
```

Sample XML to delete a workstation CI using CI Type

```xml
<?xml version="1.0" encoding="UTF-8"?>

<API locale="en" version="1.0">

<response>

<result>

            <statuscode>200</statuscode>

            <status>Success</status>

            <message>Relationship added successfully.</message>

            <created-date>Mon Jul 05 18:18:39 GMT+05:30 2010</created-date>

</result>

</response>

</API>
```

Sample Response: Success

```xml
<?xml version="1.0" encoding="UTF-8"?>

<API version="1.0">

       <response>

           <result>

                   <statuscode>200</statuscode>

                   <status>Success</status>

                   <message>Deleted successfully.</message>

                   <created-date>May 10, 2013 03:31 PM</created-date>

                   <records deleted="5">

                       <ci id="6919">1 (hp2650.csez.zohocorpin.com)</ci>

                       <ci id="6929">11 (hp2650.csez.zohocorpin.com)</ci>

                       <ci id="6939">21 (hp2650.csez.zohocorpin.com)</ci>

                       <ci id="6939">31 (hp2650.csez.zohocorpin.com)</ci>

                       <ci id="6939">41 (hp2650.csez.zohocorpin.com)</ci>

                   </records>
           <result>

       <response>
<API version="1.0">
```

Sample Response: Failure


```
<?xml version="1.0" encoding="UTF-8"?>

<API locale="en" version="1.0">

<response>

<result>

        <statuscode>3018</statuscode>

        <status>No row matched to delete</status>

        <message>No row matched to delete</message>

</result>

</response>

</API>
```


JSON Response for deleting Printer CIs

```
{
    "API": {
        "response": {
            "result": {
                "created-date": "May 10, 2013 03:41 PM",
                "records": {
                    "deleted": "6",
                    "ci": [
                        {
                            "content": "192.168.11.2",
                            "id": "1224"
                        },
                        {
                            "content": "192.168.11.23",
                            "id": "1220"
                        },
                        {
                            "content": "192.168.11.24",
                            "id": "1221"
                        },
                        {
                            "content": "192.168.11.25",
                            "id": "1222"
                        },
                        {
                            "content": "192.168.11.26",
                            "id": "1223"
                        },
                        {
                            "content": "192.168.11.29",
                            "id": "2401"
                        }
                    ]
                },
                "message": "Deleted successfully.",
                "status": "Success",
                "statuscode": "200"
            },
            "name": "delete"
        }
    },
    "version": "1.0"
}
```

Delete CI type

To delete a CI Type use the following URL format:

http://<servername>:<portnumber>/api/cmdb/citype/CI Type Name/delete

Assuming you are deleting a CI Type Server of the local server with port number 8080, the URL should be given as::

http://localhost:8080/api/cmdb/citype/My Server/delete/

Keypoints:

1. The operation name "delete" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

- Sample XML Output
- Sample JSON Output

Note:
If no result format specified then API will return output in **JSON** format**.**
•
Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Sample XML Output Format


```xml
<?xml version="1.0" encoding="UTF-8"?>

<API version="1.0">

    <response>

            <result>

                <statuscode>200</statuscode>

                <status>Success</status>

                <message>1 records removed successfully.</message>

                <created-date>Mar 22, 2013 10:58 AM</created-date>

            </result>

     </response>

</API>
```


Sample JSON Output Format

```
{
    "API": {
        "response": {
            "result": {
                "created-date": "Sep 2, 2013 03:23 PM",
                "message": "1 records removed successfully.",
                "status": "Success",
                "statuscode": "200"
            }
        },
        "version": "1.0"
    }
}
```

Delete CI relationship

To delete a CI Relationship, use the following URL format:
http://<servername>:<portnumber>/api/cmdb/cirelationships
Assuming you are adding a change in the local server with port number 8080, the URL should be given as::
http://localhost:8080/api/cmdb/cirelationshipss
Keypoints:

1. Input is an XML string sent as "POST attribute" with key "INPUT_DATA".
2. The operation name "delete" should be sent as a "POST attribute" with key "OPERATION_NAME".
3. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

- Sample XML Input
- Sample Output: Success
- Sample Output: Failures

Note:
If no result format specified then API will return output in **JSON** format**.**
•
Parameter **Result Format - Optional**. specifies the return format (XML or JSON)

Mandatory Parameters:
•
Deleting CI relationships for a CI
•
Use * to delete all relationships with a CI, but this can be used by specifying the relationship type.

Sample Input XML


```
<API version="1.0" locale="en">
   <relationships>
         <deleterelationship>
            <fromci>sd-test5.zohocorpin.com</fromci>
            <relationshiptype>runs</relationshiptype>
            <relatedcis>
                  <ci>SSL_Reports_sd-test5.zohocorpin.com</ci>
                  <!--Syntax to delete all ci <ci>*</ci> -->
            </relatedcis>
         </deleterelationship>
    </relationships>
</API>
```

Sample Output: Success


```
<?xml version="1.0" encoding="UTF-8"?>

<API locale="en" version="1.0">

        <result>

            <statuscode>200</statuscode>

            <status>Success</status>

            <message>1 records removed successfully.</message>

            <created-date>Mar 22, 2013 10:58 AM</created-date>

        </result>

</API>
```


Sample Output: Failure


```
<?xml version="1.0" encoding="UTF-8"?>

<API locale="1.0">

<response>

        <result>

            <statuscode>200</statuscode>

            <status>No rows matched to delete.</status>

            <message>No relationship is defined for the CI(s) [SSL_Reports_sd-
test5.zohocorpin.com] </message>

        </result>

</response>

</API>
```

API status codes

Status Code	Status Message
200	Success
3000	No rows found for the specified criteria.
3001	Unknown error.
3002	Partially added.
3003	No XML data specified.
3004	Invalid XML/request Format.
3005	API key is not found in XML/request.
3006	Invalid operation name.
3007	Unable to authenticate, invalid user key is specified in the XML/request.
3008	Key received from the XML/request is expired. Cannot use the key for further API requests.
3009	API key received is not associated to any technician. Authentication failed.
3010	Invalid URL for the requested operation.
3011	Maximum rows limit exceeded.
3012	Input xml cannot be empty or null.
3013	Delete operation cannot be performed
3014	Invalid output format.
3015	Access is denied.
3016	Unable to perform the requested operation.
3017	API is disabled. Operation not performed.
3018	No rows matched to delete.
3019	No rows matched to update.
3020	Invalid data provided for the input.
3021	Mandatory input is empty or not found.
3022	Data cannot be altered or deleted.
3023	SQL Syntax error.
3024	Duplicate record found.
3025	Invalid column(s) specified.
3026	Syntax error.
3027	Operation not supported.

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How to access API using third party tools?

- Java using Apache Client
- Python using HTTP for request
- Browser Plugins

```
 /*  Other URL
        * ciURL = "http://localhost:8080/api/cmdb/ci/";
        * ciTypeURL = "http://localhost:8080/api/cmdb/citype/";
        * ciRelationshipsURL  =  "http://localhost:8080/api/cmdb/cirelationships/"
        *
        *
        * OPERATION_NAME : [ "add", "update" , "read" , "delete" ]
        * format : ["json","xml"] If format not specified, json is the default.
        *
        * Dependency jars : httpcore-4.0.1.jar , httpclient-4.0.1.jar : This can be available http://hc.apache.org/downloads.cgi
        * @author: nprasanna
*/



package api;
import java.io.BufferedReader;
import java.io.FileInputStream;
import java.io.IOException;
import java.io.InputStreamReader;
import java.util.ArrayList;
import java.util.List;
import org.apache.http.HttpResponse;
import org.apache.http.NameValuePair;
import org.apache.http.client.HttpClient;
import org.apache.http.client.entity.UrlEncodedFormEntity;
import org.apache.http.client.methods.HttpPost;
import org.apache.http.impl.client.DefaultHttpClient;
import org.apache.http.message.BasicNameValuePair;

public class PostAPIRequest
{
    public static void main(String[] args) throws Exception {
        HttpClient client = new DefaultHttpClient();



        String postURL = "http://localhost:8080/api/cmdb/citypeattributes/";


        HttpPost post = new HttpPost(postURL);
        String fileName = "D:\Downloads\API-INPUT-XMLI\ADD_ATTRIBUTE\pick-list.xml";
        BufferedReader in = new BufferedReader(new InputStreamReader(new FileInputStream(fileName), "UTF8"));
        String str;

        StringBuilder strContent = new StringBuilder();
        while ((str = in.readLine()) != null) {
            strContent.append(str);
        }

        String fileContents = strContent.toString();
        try {
            List<NameValuePair> nameValuePairs = new ArrayList<NameValuePair>(1);
            nameValuePairs.add(new BasicNameValuePair("TECHNICIAN_KEY", "31F022AE-4AAC-4F53-A519-193727C8B2BB"));
            nameValuePairs.add(new BasicNameValuePair("format", "xml"));
            nameValuePairs.add(new BasicNameValuePair("OPERATION_NAME", "add"));
            nameValuePairs.add(new BasicNameValuePair("INPUT_DATA", fileContents));
            post.setEntity(new UrlEncodedFormEntity(nameValuePairs));
            HttpResponse response = client.execute(post);
            BufferedReader rd = new BufferedReader(new InputStreamReader(response.getEntity().getContent()));
            String line = "";
            while ((line = rd.readLine()) != null) {
                System.out.println(line);
            }
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}
```

Python using HTTP for request

```
#requests is a python module used for Posting HTTP requests.

#module can be downloaded from https://pypi.python.org/pypi/requests

#Getting the input xml file as argument and post the xml contents in the INPUT_DATA attribute

import requests,codecs,sys,pprint

url = 'http://localhost:8080/api/cmdb/ci/'

fileName = sys.argv[1]

xmlcontent = open(fileName, 'r').read()

args = {'OPERATION_NAME':'add','TECHNICIAN_KEY':'398DA976-0242-47AF-BE43-
F6377AEC3EBA','format':'xml','INPUT_DATA':xmlcontent}

response = requests.post(url,params=args)

print response.text
```

Browser Plugins:

- Firefox : https://addons.mozilla.org/en-us/firefox/addon/restclient/
- Chrome: PostMan : http://bit.ly/MuID5O

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Technician operations

To get technician related information regarding all Technicians, use the following URL pattern:

http://<servername>:<port number>/sdpapi/technician/

Example:

http://localhost:8080/sdpapi/techician/

Contents:

- Get All Technician

Get All Technician

Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input Format:

```
<?xml version="1.0" encoding="UTF-8"?>
<Details>
<siteName></siteName>
<groupid></groupid>
</Details>
</operation>
```

Output Format :


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for Technician in group: nullof
site:null</message>
</result>
<Details type="technician">
<record URI=="http://localhost:8080/sdpapi/technician/4/">
<parameter>
<name>technician id<name>
<value>4<value>
</parameter>
<parameter>
<name>technicianname<name>
<value>administrator<value>
</parameter>
</record>
<record URI=="http://localhost:8080/sdpapi/technician/5/">
<parameter>
<name>technician id<name>
<value>5<value>
</parameter>
<parameter>
<name>technicianname<name>
<value>Shawn Adams<value>
</parameter>
</record>
</Details>
</Operation>
```

Requester operations

To get requester related information regarding all requesters, use the following URL pattern:
http://<servername>:<port number>/sdpapi/requester/

Example:
http://localhost:8080/sdpapi/requester/

Get All Requesters
Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The input values are case sensitive
3. AND Operation is applied incase you give more than parameter.
4. For contact number parameter, all the numbers associated with the requester (office/mobile) will be fetched.
5. Values fetched (the result) would be based on the exact value provided; for example, you are searching for requester John, and there exists a requester by name Johnathan, then he would not be fetched; if you desire to fetch the requester Johnthan as well, you have to append "*" as suffix to John. Eg: **<value>**john* **</value>**. The same rule applies for prefix as well.

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input Format


```
<Operation>
<Details>
<parameter>
<name>loginname</name>
<value>guest</value>
</parameter>
<parameter>
<name>domainname</name>
<value></value>
</parameter>
<parameter>
<name>department</name>
<value>administration</value>
</parameter>
<parameter>
<name>sitename</name>
<value>asd</value>
</parameter>
<parameter>
<name>contactnumber</name>
<value>1234567890</value>
</parameter>
<parameter>
<name>employeeid</name>
<value>888</value>
</parameter>
<parameter>
<name>name</name>
<value>GUEST</value>
</parameter>
<parameter>
<name>email</name>
<value>asd@asd.com</value>
</parameter>
<parameter>
<name>jobtitle</name>
<value>job title</value>
</parameter>
<parameter>
<name>noofrows</name>
<value>10</value>
</parameter>
</Details>
</Operation>
```


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Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Output Format


```
<Operation>
<Details type="Requester" >
<record URI="http://vivin-0415:8080/sdpapi/requester/3/">
<parameter>
<name>userid</name>
<value>3</value>
</parameter>
<parameter>
<name>username</name>
<value>guest</value>
</parameter>
<parameter>
<name>emailid</name>
<value>asd@asd.com</value>
</parameter>
<parameter>
<name>department</name>
<value>Administration</value>
</parameter>
<parameter>
<name>sitename</name>
<value>asd</value>
</parameter>
<parameter>
<name>domainname</name>
<value>-</value>
</parameter>
<parameter>
<name>employeeid</name>
<value>888</value>
</parameter>
<parameter>
<name>jobtitle</name>
<value>job title</value>
</parameter>
<parameter>
<name>landline</name>
<value>8888</value>
</parameter>
<parameter>
<name>mobile</name>
<value>1234567890</value>
</parameter>
</Details>
</Operation>
```

Admin related operations

To fetch information pertaining to Requests based on entities like Category, Status, Impact, Priority, Request Template etc., use the following URL pattern:

http://<servername>:<port number>/sdpapi/admin/attribute/<respective-id>/

Example:
http://localhost:8080/sdpapi/admin/category/<Category-ID>

Contents:

- Category
- Subcategory
- Item
- Status
- Level
- Mode
- Impact
- Urgency
- Priority
- Request_Template
- Support Group

Category Operations

GET Category
http://<servername>:<portnumber>/sdpapi/admin/category/<Category ID>

Example:
http://localhost:8080/sdpapi/admin/category/25

Keypoints:

1. The operation name "GET" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET" category operation.

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Output Format: (for "GET" category)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for Category ID: 1</message>
</result>
<Details type="category">
<record>
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>General<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
<parameter>
<name>description<name>
<value>General Problems<value>
</parameter>
</record>
</Details>
</Operation>
```


GET_ALL Category

http://<servername>:<portnumber>/sdpapi/admin/category/

Example:

http://localhost:8080/sdpapi/admin/category/

Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET_ALL" category operation.

Output Format: (for "GET_ALL" category)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Category details fetched successfully</message>
</result>
<Details type="category">
<record URI="http://localhost:8080/sdpapi/admin/category/2/">
<parameter>
<name>id<name>
<value>2<value>
</parameter>
<parameter>
<name>name<name>
<value>Desktop Hardware<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/category/1/">
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>General<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
</Details>
</Operation>
```


Sub-Category Operations

GET SubCategory

http://<servername>:<portnumber>/sdpapi/admin/subcategory/<subcategory ID>

Example:

http://localhost:8080/sdpapi/admin/subcategory/25

Keypoints:

1. The operation name "GET" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET" subcategory operation.

Output Format: (for "GET" subcategory)


```
<xml version="1.0" encoding="UTF-8" ?>
<operation name="GET">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for SubCategoryID: 1</message>
</result>
<Details type="subcategory">
<record>
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>New Joinee<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
<parameter>
<name>description<name>
<value>A New employee joining to the company<value>
</parameter>
</record>
</Details>
</Operation>
```

GET_ALL SubCategory

http://localhost:8080/sdpapi/admin//subcategory/category/<category-id>

Example:

http://localhost:8080/sdpapi/admin/subcategory/category/25

Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET_ALL" subcategory operation.

Output Format: (for "GET_ALL" subcategory)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>SubCategory details fetched successfully</message>
</result>
<Details type="subcategory">
<record URI="http://localhost:8080/sdpapi/admin/subcategory/2/">
<parameter>
<name>id<name>
<value>2<value>
</parameter>
<parameter>
<name>name<name>
<value>Employee Leaving<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/subcategory/4/">
<parameter>
<name>id<name>
<value>4<value>
</parameter>
<parameter>
<name>name<name>
<value>Move Employee<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/subcategory/1/">
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>New Joinee<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/subcategory/3/">
<parameter>
<name>id<name>
<value>3<value>
</parameter>
<parameter>
<name>name<name>
<value>Password Reset<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
</Details>
</Operation>
```

Item Operations

GET Item
http://<servername>:<portnumber>/sdpapi/admin/item/<item ID>

Example:
http://localhost:8080/sdpapi/admin/item/25

Keypoints:

1. The operation name "GET" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET" item operation.

Output Format: (for "GET" item)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for ItemID: 1</message>
</result>
<Details type="item">
<record>
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>Install<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
<parameter>
<name>description<name>
<value>MS Office install<value>
</parameter>
</record>
</Details>
</Operation>
```

GET_ALL Item

http://<servername>:<portnumber>/sdpapi/admin/item/subcategory/subcategory ID/

Example:

http://localhost:8080/sdpapi/admin/item/subcategory/25/

Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET_ALL" Item operation.

Output Format: (for "GET_ALL" Item)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Item details fetched successfully</message>
</result>
<Details type="item">
<record URI="http://localhost:8080/sdpapi/admin//item/6/">
<parameter>
<name>id<name>
<value>6<value>
</parameter>
<parameter>
<name>name<name>
<value>Install<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/item/7/">
<parameter>
<name>id<name>
<value>7<value>
</parameter>
<parameter>
<name>name<name>
<value>Uninstall<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
</Details>
</Operation>
```

Status Operations

GET Status

http://<servername>:<portnumber>/sdpapi/admin/status/<status ID>

Example:

http://localhost:8080/sdpapi/admin/status/25/

Keypoints:

1. The operation name "GET" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET" Status operation.

Output Format: (for "GET" status)


```
<xml version="1.0" encoding="UTF-8" ?>
<operation name="GET">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for StatusID: 1</message>
</result>
<Details type="status">
<record>
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>Open<value>
</parameter>
<parameter>
<name>description<name>
<value>Request Pending<value>
</parameter>
<parameter>
<name>is pending<name>
<value>true<value>
</parameter>
<parameter>
<name>stopclock<name>
<value>false<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
</Details>
</Operation>
```

GET_ALL Status

http://<servername>:<portnumber>/sdpapi/admin/status/

Example:

http://localhost:8080/sdpapi/admin/status/

Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET_ALL" Status operation.

Output Format: (for "GET_ALL" Status)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Status details fetched successfully</message>
</result>
<Details type="status">
<record URI="http://localhost:8080/sdpapi/admin/status/301/">
<parameter>
<name>id<name>
<value>301<value>
</parameter>
<parameter>
<name>name<name>
<value>asd,asd<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/status/3/">
<parameter>
<name>id<name>
<value>3<value>
</parameter>
<parameter>
<name>name<name>
<value>closed<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
</Details>
</Operation>
```

Level Operations

GET Level

http://<servername>:<portnumber>/sdpapi/admin/level/<level ID>

Example:

http://localhost:8080/sdpapi/admin/level/25/

Keypoints:

1. The operation name "GET" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET" Status operation.

Output Format: (for "GET" level)


```
<xml version="1.0" encoding="UTF-8" ?>
<operation name="GET">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for Level ID: 1</message>
</result>
<Details type="level">
<record>
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>Tier 1<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
<parameter>
<name>description<name>
<value>info<value>
</parameter>
</record>
</Details>
</Operation>
```

GET_ALL Level

http://<servername>:<portnumber>/sdpapi/admin/level/

Example:

http://localhost:8080/sdpapi/admin/level/

Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET_ALL" Level operation.

Output Format: (for "GET_ALL" level)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Level details fetched successfully</message>
</result>
<Details type="level">
<record URI="http://localhost:8080/sdpapi/admin/level/1/">
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>Tier 1<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/level/2/">
<parameter>
<name>id<name>
<value>2<value>
</parameter>
<parameter>
<name>name<name>
<value>Tier 2<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
</Details>
</Operation>
```

Mode Operations

GET Mode

http://<servername>:<portnumber>/sdpapi/admin/mode/<mode ID>

Example:

http://localhost:8080/sdpapi/admin/mode/25/

Keypoints:

1. The operation name "GET" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET" Mode operation.

Output Format: (for "GET" mode)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for ModeID: 1</message>
</result>
<Details type="mode">
<record>
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>E-Mail<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
<parameter>
<name>description<name>
<value>Request through mail<value>
</parameter>
</record>
</Details>
</Operation>
```

GET_ALL Mode

http://<servername>:<portnumber>/sdpapi/admin/mode/

Example:

http://localhost:8080/sdpapi/admin/mode/

Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET_ALL" Mode operation.

Output Format: (for "GET_ALL" Mode)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Mode details fetched successfully</message>
</result>
<Details type="mode">
<record URI="http://localhost:8080/sdpapi/admin/mode/1/">
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>E-Mail<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/mode/3/">
<parameter>
<name>id<name>
<value>3<value>
</parameter>
<parameter>
<name>name<name>
<value>Phone Call<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
</Details>
</Operation>
```

Impact Operations

GET Impact

http://<servername>:<portnumber>/sdpapi/admin/impact/<impact ID>

Example:

http://localhost:8080/sdpapi/admin/impact/25

Keypoints:

1. The operation name "GET" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET" Impact operation.

Output Format: (for "GET" impact)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for Impact ID: 1</message>
</result>
<Details type="impact">
<record>
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>High<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
<parameter>
<name>description<name>
<value>The impact is high so that it could affect the business<value>
</parameter>
</record>
</Details>
</Operation>
```

GET_ALL Impact

http://<servername>:<portnumber>/sdpapi/admin/impact/

Example:

http://localhost:8080/sdpapi/admin/impact/

Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET_ALL" Impact operation.

Output Format: (for "GET_ALL" Impact)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Impact details fetched successfully</message>
</result>
<Details type="impact">
<record URI="http://localhost:8080/sdpapi/admin/impact/1/">
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>High<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/impact/3/">
<parameter>
<name>id<name>
<value>3<value>
</parameter>
<parameter>
<name>name<name>
<value>Low<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
</Details>
</Operation>
```


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Urgency Operations

GET Urgency

http://<servername>:<portnumber>/sdpapi/admin/urgency/<urgency ID>

Example:

http://localhost:8080/sdpapi/admin/urgency/25/

Keypoints:

1. The operation name "GET" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET" Urgency operation.

Output Format: (for "GET"urgency)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for Level ID: 1</message>
</result>
<Details type="urgency">
<record>
<parameter>
<name>id<name>
<value>URGENCYID<value>
</parameter>
<parameter>
<name>name<name>
<value>NAME<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>ISDELETED<value>
</parameter>
<parameter>
<name>description<name>
<value>DESCRIPTION<value>
</parameter>
</record>
</Details>
</Operation>
```

GET_ALL Urgency

http://localhost:8080/sdpapi/admin/urgency/

Example:

http://localhost:8080/sdpapi/admin/urgency/

Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET_ALL" Urgency operation.

Output Format: (for "GET_ALL" Impact)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Urgency details fetched successfully</message>
</result>
<Details type="urgency">
<record URI="http://localhost:8080/sdpapi/admin/urgency/2/">
<parameter>
<name>id<name>
<value>2<value>
</parameter>
<parameter>
<name>name<name>
<value>High<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/urgency/4/">
<parameter>
<name>id<name>
<value>4<value>
</parameter>
<parameter>
<name>name<name>
<value>Low<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
</record>
</Details>
</Operation>
```

Priority Operations

GET Priority

http://<servername>:<portnumber>/sdpapi/admin/priority/<priority ID>

Example:

http://localhost:8080/sdpapi/admin/priority/25/

Keypoints:

1. The operation name "GET" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET" Priority operation.

Output Format: (for "GET" priority)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for Priority ID: 1</message>
</result>
<Details type="priority">
<record>
<parameter>
<name>id<name>
<value>PRIORITYID<value>
</parameter>
<parameter>
<name>name<name>
<value>PRIORIYNAME<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>ISDELETED<value>
</parameter>
<parameter>
<name>description<name>
<value>PRIORITYDESCRIPTION<value>
</parameter>
</record>
</Details>
</Operation>
```

GET_ALL Priority

http://<servername>:<portnumber>/sdpapi/admin/priority/

Example:

http://localhost:8080/sdpapi/admin/priority/

Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET_ALL" Priority operation.

Output Format: (for "GET_ALL" Priority)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Priority details fetched successfully</message>
</result>
<Details type="priority">
<record URI="http://localhost:8080/sdpapi/admin/priority/4/">
<parameter>
<name>id<name>
<value>4<value>
</parameter>
<parameter>
<name>name<name>
<value>High<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
<parameter>
<name>color<name>
<value>#ff0000<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/priority/1/">
<parameter>
<name>id<name>
<value>1<value>
</parameter>
<parameter>
<name>name<name>
<value>Low<value>
</parameter>
<parameter>
<name>isdeleted<name>
<value>false<value>
</parameter>
<parameter>
<name>color<name>
<value>#666666<value>
</parameter>
</record>
</Details>
</Operation>
```

Request Template Operations

http://<servername>:<portnumber>/sdpapi/admin/request_template/<templateID>

Example:

http://localhost:8080/sdpapi/admin/request_template/25/

Keypoints:

1. The operation name "GET" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET" Request Template Details operation.

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Output Format: (for "GET" Request Template Details)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for Request Templates</message>
</result>
<Details type="request_template">
<record>
<parameter>
<name>Templateid<name>
<value>1<value>
</parameter>
<parameter>
<name>Templatename<name>
<value>Mail fetching<value>
</parameter>
<parameter>
<name>Status<name>
<value>Open<value>
<parameter>
<name>Mode<name>
<value>Phone Call<value>
</parameter>
<parameter>
<name>Level<name>
<value>Tier 1<value>
</parameter>
<parameter>
<name>Priority<name>
<value>Normal<value>
</parameter>
<parameter>
<name>Technician<name>
<value>Shawn Adams<value>
</parameter>
<parameter>
<name>Group<name>
<value>Printer Problems<value>
</parameter>
<parameter>
<name>Category<name>
<value>General<value>
</parameter>
<parameter>
<name>Subcategory<name>
<value/>
</parameter>
<parameter>
<name>Item<name>
<value/>
</parameter>
<parameter>
<name>Subject<name>
<value>Unable to fetch mails<value>
</parameter>
<parameter>
<name>Description<name>
<value>I am unable to fetch mails from the mail server<value>
</parameter>
<parameter>
<name>Requester Details<name>
<value/>
</parameter>
<parameter>
<name>E-mail Id(s) To Notify<name>
<value/>
</parameter>
<parameter>
<name>Service Category<name>
<value>User Management<value>
</parameter>
<parameter>
<name>Requester Type<name>
<value>Request for Information</value>
</parameter>
<parameter>
<name>Impact<name>
<value>Medium</value>
</parameter>
<parameter>
<name>Impact Details<name>
<value/>
</parameter>
<parameter>
<name>Urgency<name>
<value>Urgent</value>
</parameter>
</record>
</Details>
</Operation>
```

GET_ALL Request Template Details

http://<servername>:<portnumber>/sdpapi/admin/request_template/

Example:

http://localhost:8080/sdpapi/admin/request_template/

Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".
3. Input is not required for "GET_ALL" Request Template Details operation.

Output Format: (for "GET_ALL" Request Templatet)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for Request Templates</message>
</result>
<Details type="request_template">
<record URI="http://localhost:8080/sdpapi/admin/request_template/1">
<parameter>
<name>TEMPLATEID<name>
<value>1<value>
</parameter>
<parameter>
<name>TEMPLATENAME<name>
<value>Mail fetching<value>
</parameter>
<parameter>
<name>comments<name>
<value>This template is used to create request when there is problem in mail fetching<value>
</parameter>
<parameter>
<name>ISDELETED<name>
<value>false<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/request_template/2">
<parameter>
<name>TEMPLATEID<name>
<value>2<value>
</parameter>
<parameter>
<name>TEMPLATENAME<name>
<value>Unable to browse<value>
</parameter>
<parameter>
<name>COMMENTS<name>
<value>This template is used to create request when user is not able to browse
internet<value>
</parameter>
<parameter>
<name>ISDELETED<name>
<value>false<value>
</parameter>
</record>
</Details>
</Operation>
```

Support Group Operations

GET_ALL Support Group Details

http://<servername>:<portnumber>/sdpapi/admin/supportgroup/

Example:

http://localhost:8080/sdpapi/admin/supportgroup/

Keypoints:

1. The operation name "GET_ALL" should be sent as a "POST attribute" with key "OPERATION_NAME".
2. The technician key should be sent as a "POST attribute" with key "TECHNICIAN_KEY".

Note: Please note that the Input and Output XML formats have been changed. But for compatibility reasons, the Input operation will support both the formats.

Input:

```
<?xml version="1.0" encoding="UTF-8"?>
<operation name="GET_ALL">
<Details>
<siteName></siteName>
</Details>
</operation>
```

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Output Format: (for "GET_ALL" SupportGroup)


```
<?xml version="1.0" encoding="UTF-8" ?>
<operation name="GET_ALL">
<result>
<statuscode>200</statuscode>
<status>Success</status>
<message>Details fetched successfully for Technician groups in
site:null</message>
</result>
<Details type="supportgroup">
<record URI="http://localhost:8080/sdpapi/admin/supportgoup/1/">
<parameter>
<name>group id<name>
<value>1<value>
</parameter>
<parameter>
<name>group name<name>
<value>Hardware Problems<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/supportgroup/2/">
<parameter>
<name>group id<name>
<value>2<value>
</parameter>
<parameter>
<name>group name<name>
<value>Network<value>
</parameter>
</record>
<record URI="http://localhost:8080/sdpapi/admin/supportgroup/3/">
<parameter>
<name>group id<name>
<value>3<value>
</parameter>
<parameter>
<name>groupname<name>
<value>Shawn Adams<value>
</parameter>
</record>
</Details>
</Operation>
```

External action plug-in

The following topics are discussed in this document:

- About External Action Plugin
- Integration with Third Party Applications
- Configuring your Integration
- Request Operations Supported By Default
- Default Integration (Integration with JIRA)

Purpose of this Document

This document provides procedural information for developers to create a plug-in and establish integration between ServiceDesk Plus and various other third party applications.

About External Action Plugin

A complete request workflow requires different tasks to be performed by the Support team. Occasionally, the Support team might involve third party applications to accomplish certain tasks by accessing the concerned applications, which may exceed the application limit.
Thus, to overcome the tedious process of bringing in the third party applications to perform the tasks, such as issue tracker integration, active directory account creation and new mail account creation, you can avail the External Action Plug-in option in ServiceDesk Plus. This option aids the Support team in performing various third party related operations right from the 'Requests' page just by clicking the 'Actions' menu.

Scenario:
Consider an organization using ServiceDesk Plus for their customer support and JIRA for bug tracking. Here is where the external action plug-in framework comes into play, using which they can build integration between ServiceDesk Plus and JIRA. As a result, they can create JIRA issues from the 'Actions' menu of 'Requests' page.

External Action Plugin

Skills Required to Develop the External Action Plugin

Knowledge in the following areas is required to work on the plug-in:

- Extensible Markup Language (XML)
- JavaScript Object Notation (JSON)
- Java (specifically Interface and Implementation concepts)

Setting Up the Plug-in

The plug-in is designed to have an implementation class and can be invoked through a menu. The menu can be configured under the 'Admin' module of ServiceDesk Plus.

- Implementation Class
- Menu Configuration

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Implementation Class

The Java class should extend the 'DefaultActionInterface' and provide the implementation through the 'execute' method. The required import classes are available in 'AdventNetHelpDesk.jar' and 'AdventNetServiceDeskCommon.jar' found under: "[SCP_HOME]applicationsextractedAdventNetSupportCenter.eearAdventNetHelpDesk.ear".

```
package com.manageengine.servicedesk.actionplugin.sample;
import com.manageengine.servicedesk.actionplugin.executor.ActionInterface
import com.manageengine.servicedesk.actionplugin.executor.ExecutorData
public class SampleActionImplementation extends DefaultActionInterface
{
public JSONObject execute(ExecutorData executorData) throws Exception
{
ExecutorData data = executorData;

ActionMenuData menuData = data.getActionMenuData();
String menuName = (String) menuData.getMenuName();
JSONObject scpValuesObj  = data.getDataJSON();

//You can have your implementation here

//Return type should be JSON

}
}
```

The Execute Method:
The implementation will be defined on the execute method with the parameter ExecutorData Object:

- Method: Execute (ExecutorData)
- Returns: JSONObject

Executor Data:
The ExecutorData object is a parameter to the Execute method. Using this, we can get the details about the menu that is invoked using the getActionMenuData() method. This returns an object called ActionMenuData:
i) **ActionMenuData** - This provides information about the menu from which the action is invoked.

- Method: **getActionMenuData()**
- Returns: **ActionMenuData**

Below are the methods available to extract values and their respective data types:

Parameter	Return Value
getMenuName Returns the name of the action menu that is invoked.	String
getDisplayText Returns the display name of the menu that is invoked.	String

getExecutorClass Returns the name of the Java execution class specified for this menu.	String
getAllowedRoles Returns the list of roles that are allowed to use this menu.	ArrayList
getAllowedTemplates Returns the list of templates in which this menu will be available.	ArrayList

ii) **JSON Data**- The details of the request from which the menu has been triggered can be obtained by invoking the getDataJSON method in ExecutorData. This will return the details as a JSON object:

- Method: **getDataJSON()**
- Returns: **JSONObject**

A sample data would look like below:


```
{
  "WORKORDERID": "1",
  "REQUESTER": "Guest",
  "CREATEDBY": "administrator",
  "CREATEDTIME": "1469685688321",
  "DUEBYTIME": "1469692888321",
  "RESPONSEDUEBYTIME": "-1",
  "FR_DUETIME": "-1",
  "RESPONDEDTIME": "0",
  "RESOLVEDTIME": "0",
  "COMPLETEDTIME": "0",
  "SHORTDESCRIPTION": "",
  "TIMESPENTONREQ": "0hrs 0min",
  "SUBJECT": "Testing for Bulk SMS",
  "REQUESTTEMPLATE": "Default Request",
  "MODE": "E-Mail",
  "SLA": "Medium SLA",
  "ASSET": "",
  "DEPARTMENT": " HR  Department",
  "EDITORID": "null",
  "EDITING_STATUS": "0",
  "IS_CATALOG_TEMPLATE": "false",
  "SITE": "Singapore Support",
  "ISVIPUSER": "No",
  "SERVICE": "",
  "CATEGORY": "Software",
  "SUBCATEGORY": "MS Office",
  "ITEM": "Install",
  "TECHNICIAN": "Heather Graham",
  "TECHNICIAN_LOGINNAME": "Heather",
  "STATUS": "Open",
  "PRIORITY": "Medium",
  "LEVEL": "Tier 2",
  "IMPACT": "",
  "URGENCY": "High",
  "IMPACTDETAILS": "-",
  "REQUESTTYPE": "Incident",
  "APPROVAL_STATUS": "",
  "CLOSURECODE": "",
  "CLOSURECOMMENTS": "",
  "FCR": "false",
  "YETTOREPLYCOUNT": "",
  "GROUP": "Hardware Problems",
  "DESCRIPTION": "",
  "Test": ""
}
```

Request Operations Supported By Default
With this information customers can write their own implementation code for perform the necessary operation. Now, there are two ways to update a ticket. The first option is to use the REST API support available in SDP and update the request or perform operations like adding a worklog, notes, resolution etc., The second is to use the **default return functionality supported by action plugin framework.**
The execute method returns a JSON Object. By default, **adding of notes** and **updating a request** is supported if the returned JSON complies with the supported format.

a. Adding Notes to a Request


```
{
"message":"Request Added Successfully",
"result":"success",
"operation":[
{
"INPUT_DATA": [
{
"notes": {
"notestext":"Tickethas been created in JIRA and information populated in SDP"
}
}],
"OPERATIONNAME":"ADD_NOTE"
}],
}
```


b. Updating a Request


```
{
"message":"Request Added Successfully",
"result":"success",
"operation":[
{
"INPUT_DATA": [
{
"Jira ID":"35",
"Jira Key":"SDP-3",
"self":"http://jira-server/rest/api/2/issue/35"
}],
"OPERATIONNAME":"UPDATE_REQUEST"
}],
}
```

Default Integration (integration with JIRA)

For configuring Request Actions Menu

```
<?xml version="1.0" encoding="UTF-8"?>
<menus>
<menu name=""JiraIntegration"" refresh="true">
<displaytext>SCP to Jira Integration</displaytext>
<roles>
<role>ModifyRequests</role>
</roles>
<template>
<template>System Defined Template</template>
</templates>
<invoke>
<class>com.manageengine.supportcenter.integrations.jira.action.JiraActionImplementation</class>
</invoke>
</menu>
<menu name=""SDP Integration"" refresh="true">
<displaytext>SCP to SDP Integration</displaytext>
<roles>
<role>ModifyRequests</role>
</roles>
<templates>
<template>System Defined Template</template>
<template>testing</template>
</templates>
<invoke>
<class>com.manageengine.supportcenter.integrations.jira.action.SDPActionImplementation</class>
</invoke>
</menu>
</menus>
```

For JIRA Integration

Note: We will be providing a **default implementation for JIRA**. For this customers needs to define **another xml** which will have the **JIRA specific implementations.**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<menus>
<!-- The menu name should match the one specified in the ActionMenu xml -->
<menu name="JiraIntegration">
<--Specifies the input parameters that should be passed to JIRA-->
<request>
<!-- Credentials need to login to JIRA -->
<username>administrator</username>
<password>administrator</password>
<!-- URL to invoke to perform the operation -->
<url>http://localhost:8080/rest/api/2/issue/</url>
<!-- Params to be passed to the URL -->
<param>
<name>project</name>
<type>projectpicker</type>
<value>SCP</value>
</param>
<param>
<name>Issuetype</name>
<type>select</type>
<value>Bug</value>
<!-- Dynamic parameters can be specified by a $ prefix. In this case, the value for the variable will be taken from SDP and passed. -->

</param>
<param>
<name>summary</name>
<type>textfield</type>
<value>$subject</value>
<param>
<name>priority</name>
<type>select</type>
<value>$priority</value>
</param>
<param>
<name>description</name>
<type>textarea</type>
<value>$description</value>
</param>
<param>
<name>labels</name>
<type>labels</type>
<value>$JIRA_ISSUE_ID</value>
</param>
<param>
<name>environment</name>
<type>textarea</type>
<value>$description</value>
</param>
<param>
<name>duedate</name>
<type>datepicker</type>
<value>$dueByTime</value>
</param>
<param>
<name>customfield_10002</name>
<type>url</type>
<value>$Company Website</value>
</param>
<param>
<name>customfield_10100</name>
<type>url</type>
<value>$JIRA_SelectList</value>
</param>
<param>
<name>customfield_10200</name>
<type>float</type>
<value>$Jira Numeric Field</value>
<param>
<name>customfield_10300</name>
<type>textfield</type>
<value>$Jira_Text Field</value>
</param>
<param>
<name>customfield_10301</name>
<type>datetime</type>
<value>$Jira_Date Time</value>
</param>
<param>
<name>customfield_10302</name>
<type>datepicker</type>
<value>$Jira_Date Picker</value>
</param>
<param>
<name>customfield_10303</name>
<type>userpicker</type>
<value>$Jira_User Picker</value>
</param>
<param>
<name>customfield_10304</name>
<type>grouppicker</type>
<value>$Jira_Group Picker</value>
<param>
<name>customfield_10306</name>
<type>textarea</type>
<value>$Jira_Free Text Field</value>
</param>
</request>
<success>Successfully Integrated with Jira and the Jira id is : $id</success>
<failure>Failed to Integrate to jira</failure>
<!-- Specifies the fields that are to be updated after the action is executed -->
<response>
<param>
<!-- name indicates the attribute in the return JSON object received from JIRA API -->
<name>JIRA_ISSUE_ID</name>
<!-- value indicates the SDP field that should be updated with the JIRA value -->
<value>$ id</value>
</param>
<param>
<!-- name indicates the attribute in the return JSON object received from JIRA API -->
<name>JIRA_ISSUE_URL</name>
<!-- value indicates the SDP field that should be updated with the JIRA value -->
<value>$ self</value>
</param>
<!-- In any note needs to be added at the end of the operation, then it needs to be specified here. $message will take the value from the json object returned by JIRA. Hardcoded messages can also be given -->
<notes>
<note>Ticket is created in jira with key : $key And with Id: $id</note>
<note>Ticket is created in jira with issueID : $id</note>
</notes>
</response>
</menu>
<menus>
```

How to migrate to V3 API

This document lists the changes that have been done in V3 API.

- General differences between V2 and V3 APIs
- Changes in TASK API
- Changes in WORKLOG API
- Changes in ATTACHMENT API
- Changes in SOLUTION API

General differences between V2 and V3 APIs :

Change	V2	V3	Comments
URL change	/sdpapiv2	/api/v3	Access the mentioned URLs to make use of the different versions. Refer the changes made in URL for each module under their corresponding headings.

All the output fields will be string encoded except boolean.	{
	"id": 101,
	"technician": {
	"id": 8,
	"name": "Howard Stern"
	},
	"inactive": false
	}
		{
		"id": "101",
		"technician": {
		"id": "8",
		"name": "Howard Stern"
		},
		"inactive": false
		}
			Note the format in which the output fields have been encoded in V3. "id"s provided in Integer format will now be string encoded in V3.

"associated_entity" and "associated_entity_id" have been replaced with parent entity object model.	{
	"subentity":{
	"associated_entity": "parent",
	"associated_entity_id": "1"
	}
	}
		{
		"subentity":{
		"parent": {
		"id": "1"
		}
		}
		}
			Refer changes done in Task and Worklog API for more details.

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The position and structure of "fields_required" has been modified.	{
	"list_info":{
	"fields_required":"[id,name,title]",
	"row_count": "10",
	"start_index": "1"
	}
	}
		{
		"fields_required":["id", "name", "title"],
		"list_info":{
		"row_count": "10",
		"start_index": "1"
		}
		}
			"fields_required" should be used only for "Read" (GET and GET_ALL) operations.

"get_all" notation will not be supported in "fields_required" from V3.	{
	"list_info":{
	"fields_required":"[get_all]",
	"row_count": "10",
	"start_index": "1"
	}
	}
		{
		"fields_required":[//have to give the list of all attribute names instead of giving "get_all"//],
		"list_info":{
		"row_count": "10",
		"start_index": "1"
		}
		}
			In V2, "get_all" would fetch all the fields. In V3, "get_all" attributes will not be supported. Hence, the list of all the attribute names should be provided under "fields_required".

Behaviour of "fields_required" has been changed in V3.	For get and get_all : default fields + fields_required	For get : default fields + fields_required For get_all : fields_required alone	Previously, both get and "get_all" will provide all the default fields and fields required. Now, get will provide the same, while "get_all" will provide only the fields mentioned in the "fields_required".

"has_more_rows" will be available in "list_info" in V3.		{
		"list_info":{
		"has_more_rows" : true/false
		}
		}
			"has_more_rows" indicates whether the entity has more data than the currently fetched set. For ex., if the user has given the row_count as 10 and the list contains more than 10 entries, then the "has_more_rows" will be true.

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In "get_all" operation, the position if the filter attribute has been changed.	{
	"subentity":{
	"filter": "OPEN"
	"associated_entity":"parent",
	"associated_entity_id": 1
	},
	"list_info":{
	"start_index": 1,
	"row_count": 10
	}
	}
		{
		"subentity":{
		"parent": {
		"id": "1"
		}
		},
		"list_info":{
		"start_index": "1",
		"row_count": "10",
		"filter": "OPEN"
		}
		}
			The filter attribute, which was available inside the entity object in V2, has been moved to "list_info" in V3.

Consistent formatting of words in response messages	"Success", "Warning", "Info", "Failed", "statuscode"	"success", "warning", "info", "failed", "status_code"	Words starting with upper cases have been converted to lower cases.

"id" will not be provided in the response status except for bulk operations	"response_status":{
	"id": 1,
	"status": "Success",
	"messages":[]
	}
		"response_status":{
		"status": "success",
		"messages":[]
		}
			Henceforth, "id" will be mentioned in the response status only for bulk operations.

Date fields in input should be provided as json object	{
	"task": {
	"scheduled_starttime": "1428477452973",
	"scheduled_endtime": "14284778452500"
	}
	}
		{
		"task": {
		"scheduled_start_time": {
		"value":"1428477452973"
		},
		"scheduled_endtime": {
		"value":"14284778452500"
		}
		}
		}
			Earlier, the date fields in input were provided as direct values. Now, the input for date fields will be provided as json object .

Changes in TASK API:

Following Attribute name changes and structure changes have been added in V3.

Attribute name changes:

Below table lists the changes done in V3 with respect to Attribute names.

V2	V3
scheduled_starttime	scheduled_start_time
scheduled_endtime	scheduled_end_time

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actual_starttime	actual_start_time
actual_endtime	actual_end_time

Removed attributes:

- entity
- associated_entity_id
- milestoneid
- projectid

New attributes:
overdue : Boolean value (read-only)
email_before : given in milliseconds
The following format has been followed in order to mention the parent entity while adding a Task:
"parent entity":

{
"id": "1"

}
where a parent entity should be a project / milestone / request / change / problem. The same structure will be followed in output as well.
Structure Change :
Following structure change has been done for "comment" in V3.

V2	V3

"comment" : "Last added comment"	{
	"comment": {
	"id": "2",
	"owner": {
	"id": "3",
	"name": "administrator"
	},
	"comment": "new comment"
	}
	}

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Changes in WORKLOG API:

Removed attributes :

The following attributes have been removed in WORKLOG API.

- task_id
- associated_entity
- associated_entity_id

New Attributes added:

The following format has been followed inorder to mention the parent entity while adding a Worklog :
"parent entity":

{
"id": "1"

}
where the parent entity should be task / request / change / problem. The same structure will be followed in output as well.

URL change :

Refer the following URL change for the new form operation.

V2	V3
"/sdpapiv2/worklog/worklog_newform"	"/api/v3/worklog_newform"

Changes in ATTACHMENT API :

Attribute name changes : (only in output)

Few attribute names have been changed / replaced as follows in the output side of V3.

V2	V3
AttachmentName	file_name
AttachmentId	id
AttachmentSize	size

New Attribute : (only in output)

"content_url" attribute has been added in V3.
Example: "content_url": "/api/v3/attachments/3"

Changes in SOLUTION API:

"key_words" was returned as string in v2 get_all solution operation. In V3, it will be returned as a JSON array of string."

V2	V3

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{ "solutions": [{ "id": 3, "title": "Modify Login screens and Logout screens", "key_words": "[modify login screen, modify logout screen]" }] }	{ "solutions": [{ "id": 3, "title": "Modify Login screens and Logout screens", "key_words": ["modify login screen", "modify logout screen"] }] }

A Comparison of API V1 and V3

This document captures the general differences between the v1 and v3 API as well as the changes in request attributes and their formats.

General Difference	V1	V3

Key in input_ JSON and format change	case insensitive in I/P
	[ex : "requester": "Shawn Adams"]
	always upper case in O/P,
	[ex : "REQUESTER": "Shawn Adams"]
		strict validation in key case (i.e lower case)
		[ex : "requester": {
		"id":"4",
		"name":"Shawn Adams"
		}
		]

INPUT_DATA	Case Sensitive - Capital	Case Sensitive - Lower Case
Technician key	TECHNICIAN_KEY	authtoken
No value representation	for date field "-1" or "0" for other fields "null" or "" [empty] string ex ["FR_DUETIME": "-1", "RESPONDEDTIME": "0"]	null value is used ex: "first_response_due_by_time": null
Boolean value representation	"true" or "false" string is used	true or false is used
Mandatory, data-type Validation	Liberal validation	Strict validation
Date Format in input	"dd MMM yyyy, HH:mm:ss" only supported format	Long value alone is supported

Some of the Differences in the request attributes are listed in the table below

	Difference			
Field Name	**v1**	**V1**	**V3**	**v3**
Workorderid	"WORKORDERID": "8"	✓	✓	"id": "8",

requester	"REQUESTER": "administrator"	✓	✓	p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545}
				"requester": {
				"id": "3",
				"name": "administrator",
				"email_id": null,
				"is_vipuser" : true
				}

created by	"CREATEDBY": "administrator"	✓	✓	"created_by": {
				"id": "3",
				"name": "administrator",
				"email_id": null
				}

created time	"CREATEDTIME": "1482754093346"	✓	✓	"created_time": {
				"display_value": "Dec 26, 2016 05:38 PM",
				"value": "1482754093346"
				}

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due by time	"DUEBYTIME": "1482755700000"	✓	✓	"due_by_time": {
				"display_value": "Dec 26, 2016 06:05 PM",
				"value": "1482755700000"
				}

is_overdue	NA	X	✓	"is_overdue": true,
response due by time	"RESPONSEDUEBYTIME": "1482753960000"	✓	X	**NA** In v3 , it is mentioned as "first_response_due_by_time"

first_response_due_by_ time	"FR_DUETIME": "1482755400000"	✓	✓	"first_response_due_by_time": {
				"display_value": "Dec 26, 2016 06:00 PM",
				"value": "1482755400000"
				}

is_first_response_overdue	NA	X	✓	"is_first_response_overdue": true

responded time	"RESPONDEDTIME": "1482756527476"	✓	✓	"responded_time": {
				"display_value": "Dec 26, 2016 06:18 PM",
				"value": "1482756527476"
				}

resolvedtime	"RESOLVEDTIME": "1482756700093"	✓	✓	"resolved_time": {
				"display_value": "Dec 26, 2016 06:21 PM",
				"value": "1482756700093"
				}

completedtime	"COMPLETEDTIME": "1482756700093"	✓	✓	"completed_time": {
				"display_value": "Dec 26, 2016 06:21 PM",
				"value": "1482756700093"
				}

shortdescription	"SHORTDESCRIPTION": Router access	✓	X	"short_description": router access **Note**: "shortdescription" will be only available in get_all operation.
timespentonreq	"TIMESPENTONREQ": "53hrs 38min"	✓	✓	"time_elapsed": { "display_value": "53hrs 38min", "value": "193103767" }
subject		✓	✓	Format remains the same
requesttemplate	"REQUESTTEMPLATE": "Request a CRM account"	✓	✓	"template": { "id": "8", "name": "Request a CRM account" }

mode	"MODE": "Phone Call"	✓	✓	"mode": {
				"id": "1",
				"name": "Phone Call"
				}

sla	"SLA": "Low SLA"	✓	✓	"sla": {
				"id": "4",
				"name": "Low SLA"
				}

asset	"ASSET": "mewin10.csez.zoho.com"	✓	✓	"assets": [
				{
				"id": "79",
				"name": "mewin7.csez.zoho.com"
				},{
				"id": "301",
				"name": "mewin10.csez.zoho.com"
				}
				],

department	"DEPARTMENT": "Engineering"	✓	✓	"department": {
				"id": "11",
				"name": "Engineering",
				
				}

editor	"EDITOR": "Heather Graham"	✓	✓	"editor": {
				"id": "14",
				"name": "Heather",
				"email_id": “heather@zohocorp.com"
				}

editorid	"EDITORID": "6"	✓	✓	In v3, it is mentioned as part of the "editor" field.
editing_status	"EDITING_STATUS": "1"	✓	✓	"is_editing_completed": false
is_catalog_template	"IS_CATALOG_TEMPLATE": "true"	✓	✓	"is_service_request": true

site	"SITE": "test_refer"	✓	✓	"site": {
				"id": "2",
				"name": "test refer"
				}

isvipuser	"ISVIPUSER": "true"	✓	X	Will be included as part of the requester

service	"SERVICE": "Communication"	✓	✓	"service_category": {
				"id": "1",
				"name": "Communication"
				}

category	"CATEGORY": "Hardware"	✓	✓	"category": {
				"id": "8",
				"name": "Hardware"
				}

subcategory	"SUBCATEGORY": "Desktop Hardware"	✓	✓	"subcategory": {
				"id": "2",
				"name": "Desktop Hardware"
				}

item	"ITEM": "Keyboard",	✓	✓	"item": { "id": "301", "name": "Keyboard" },

technician	"TECHNICIAN": "administrator"	✓	✓	"technician": {
				"id": "3",
				"name": "administrator",
				"email_id": null
				}

technician_loginname		✓	X	NA

status	"STATUS": "Open"	✓	✓	"status": {
				"id": "3",
				"name": "Open"
				}

priority	"PRIORITY": "Low"	✓	✓	"priority": {
				"id": "4",
				"name": "Low"
				}

level	"LEVEL": "Tier 1"	✓	✓	"level": {
				"id": "1",
				"name": "Tier 1"
				}

impact	"IMPACT": "High"	✓	✓	"impact": {
				"id": "1",
				"name": "High"
				}

urgency	"URGENCY": "High"	✓	✓	"urgency": {
				"id": "2",
				"name": "High"
				}

impactdetails	"IMPACTDETAILS": "test impact details"	✓	✓	"impact_details": "test impact details"

requesttype	"REQUESTTYPE": "Incident"	✓	✓	"request_type": {
				"id": "1",
				"name": "Incident"
				}

appr_statusid	"APPR_STATUSID": "Pending Approval"	✓	X	Information will be under approval_status attribute.
approval_status	APPROVAL_STATUS": "Pending Approval"	✓	✓	"approval_status":{ "id" : "1", "name": "Pending Approval" }
closurecode	"CLOSURECODE": "Success"	✓	✓	In V3, it is mentioned as a part of "closure_info"
closurecomments	"CLOSURECOMMENTS": "Status Change Comment test"	✓	✓	In V3 , it is mentioned as a part of "closure_info"
closure_info	NA	X	✓	In v3 , "closure_info": { "closure_code": { "id": "1", "name": "Success" }, "requester_ack_comments": "comment", "closure_comments": "status change comment", "requester_ack_resolution": true }
fcr	"FCR": "true"	✓	✓	"is_fcr": true
yettoreplycount	"YETTOREPLYCOUNT": "1"	✓	X	NA
group	"GROUP": "Hardware Problems"	✓	✓	"group": { "id": "4", "name": "Hardware Problems" }
description	NA	✓	✓	In v1 and v3 , format for "description" remains the same.
Interestedparty	"INTERESTEDPARTY": "hiju.s@zohocorp.com"	✓	✓	"email_ids_to_notify": ["hiju.s@zohocorp.com"]

resource	"resource": {
	"Software": {
	"Choose the sofwares to be installed": [
	"IDE",
	"Browser"
	],
	"Request a DID extension resources plain": [
	"AErnqrqr!@#@$AD"
	],
	"Request a DID extension resources drop": [
	"Microsoft Office Enterprise 2007"
	],
	"Request a DID extension resources simple": [
	"Yes"
	]
	}
	}
		✓	✓	p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545}
				In v3, "Resources" key (res_RESOURCE_ID) specifies the particular resource and "Question" key ("qstn_TYPE_QUESTION_ID") specifies the particular question which is under the resource (res_304)
				For Plain text questions, question key will be "qstn_text_309".
				For Drop down questions, question key will be "qstn_select_309".
				For Check box questions, question key will be "qstn_check_309".
				For Simple Yes or No questions, question key will be "qstn_simple_309".
				Soon we will provide the option to get the (Resources) key and the (Question) key from the product itself. p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545} p.p2 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545; min-height: 14.0px}
				"resources": {
				"res_1203": {
				"qstn_check_3": [
				{
				"name": "External Harddisk"
				},
				{
				"name": "CD RW"
				}
				],
				"qstn_check_304": [
				{
				"name": "Ad Account resources checkbox 2"
				},
				{
				"name": "Ad Account resources checkbox 1"
				}
				],
				"qstn_simple_301": {
				"name": "Yes"
				},
				"qstn_select_302": {
				"id" : "901",
				"name": "HP"
				},
				"qstn_select_5": {
				"name": "Dell"
				},
				"qstn_text_303":{
				"value": "Additional space required"
				}
				},
				"res_1201": {
				"qstn_check_307": [
				{
				"id": "301",
				"name": "access point 1",
				"cost": "0.00"
				},
				{
				"id": "302",
				"name": "access point 2",
				"cost": "0.00"
				}
				]
				}
				}

last_update_time	NA	X	✓	In v3,
				"last_updated_time": {
				"display_value": "Dec 26, 2016 07:15 PM",
				"value": "1482759949641"
				}

attachments	NA	X	✓	In v3,
				"attachments": [
				{
				"id": "1",
				"file_name": "sample descrip.txt",
				"content_url": "/api/v3/attachments/1",
				"size": "520.45KB"
				}
				]

assigned_time	NA	X	✓	In v3 ,
				"assigned_time": {
				"display_value": "Dec 27, 2016 11:13 AM",
				"value": "1482817403130"
				}

resolution	NA	X	✓	In v3, p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545}
				"resolution": {
				"content": "Attached the details in screenshot",
				"resolution_attachments": [
				{
				"id": "2",
				"file_name": "sample description.txt",
				"content_url": "/api/v3/attachments/2",
				"size": "520.45KB"
				}
				],
				"submitted_by": {
				"id": "4",
				"name": "administrator",
				"email_id": null,
				"is_vipuser": false
				},
				"submitted_on": {
				"display_value": "Jul 5, 2018 01:27 PM",
				"value": "1530777475554"
				}
				}

is_read	NA	X	✓	In v3, "is_read": true,
is_trashed	NA	X	✓	In v3, "is_trashed": true,
is_reopened	NA	X	✓	In v3, "is_reopened": true,

udf_fields	"test_udf": "Single line field test",
	"test_pick_udf": "pick2",
		✓	✓	In V3, all the additional fields are grouped under udf_fields and they are represented as "udf_TYPE"+columnaliasid
				i.e additional fields such as UDF_CHAR1, UDF_LONG1 are represented as udf_sline_301, udf_long_302 (columnaliasid) etc.,
				API key for the additional fields will be displayed in additional fields list view itself.
				
				"udf_fields": {
				"udf_pick_305": "12",
				"udf_long_303": "12",
				"udf_decimal_304": "34.00",
				"udf_mline_302": "Multi rnLine",
				"udf_multiselect_306": [
				"Adam",
				"Geoffrey",
				"Abdul",
				"Jaffer"
				],
				"udf_date_307": {
				"display_value": "Jul 6, 2018 01:22 PM",
				"value": "1530863520000"
				},
				"udf_sline_301": "Single Line"
				}

email_to	NA	X	✓	In v3, "email_to": ["malt@zohocorp.com", "farooq@sdplinmail.com", "gk@sdplinmail.com"]
email_cc	NA	X	✓	In v3, "email_cc": ["jack@sdplinmail.com"]

on_behalf_of	NA	X	✓	In v3,
				"on_behalf_of": {
				"id": "14",
				"name": "requester_all",
				"email_id": "Mel.r@zohocorp.com"
				}

onhold_scheduler	NA	X	✓	"onhold_scheduler": {
				"scheduled_time": {
				"display_value": "06/07/2018 01:00 PM",
				"value": "1530862200000"
				},
				"change_to_status": {
				"id": "1",
				"color": "#0066ff",
				"name": "Open"
				},
				"held_by": {
				"id": "4",
				"name": "administrator",
				"email_id": null,
				"is_vipuser": false
				},
				"comments": "Waiting for resource"
				}

linked_to_request	NA	X	✓	"linked_to_request": {
				"request": {
				"id": "341",
				"subject": "Title"
				},
				"link_comments": "Similar Request"
				}

callback_url	NA	X	✓	"callback_url": "demo.servicedesk.com"

is_shared	NA	X	✓	"is_shared": true
has_dependency	NA	X	✓	"has_dependency": false
has_linked_requests	NA	X	✓	"has_linked_requests": false
has_draft	NA	X	✓	"has_draft": true
has_notes	NA	X	✓	"has_notes": true
has_project	NA	X	✓	"has_project": true
has_problem	NA	X	✓	"has_problem": false
has_attachments	NA	X	✓	"has_attachments": true
has_request_caused_by_change	NA	X	✓	"has_request_caused_by_change": false
has_request_initiated_change	NA	X	✓	"has_request_initiated_change": false
deleted_assets	NA	X	✓	"deleted_assets": ["mewin1.csez.zoho.com", "mewin2.csez.zoho.com"]

deleted_on	NA	X	✓	"deleted_on": {
				"display_value": "Dec 27, 2016 11:32 AM",
				"value": "1482818539816"
				}

deleted_by	NA	X	✓	"deleted_by":
				{
				"id": "3",
				"name": "Lyod",
				"email_id": lyod@zylker.com
				}

p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px 'Helvetica Neue'; color: #454545}

Reports

ManageEngine ServiceDesk Plus gives you a set of preset help desk, problem/change and asset reports and so on generated from the data available in the application.

To view the various reports available in application

1. Log in to the ServiceDesk Plus application using the user name and password of an admin user.
2. Click the **Reports** tab in the header pane. The next page lists the various reports grouped under different heads. Along with the default reports you also create New Custom Reports, New Query Reports, New Scheduled Report.

   The following sections explain the various reports and the kind of data that each of these reports represents.

- About ServiceDesk Plus
- New Custom Report
- New Query Report
- Flash Report
- New Scheduled Report
- Custom Settings

Pre-defined ServiceDesk Plus Reports

ServiceDesk Plus provides you with pre-defined reports that can be classified as Helpdesk, Problem/Change, **Request Timespent, Survey, Asset, Audit, Resources, Purchase, Contracts reports. Technicians with** administrator privilege and Full access permission over Reports module can edit these pre-defined reports to suit their needs.

Helpdesk Reports

Helpdesk Reports includes all request related reports such as, Reports on Incident Requests, Reports on Service Requests, Reports by All Requests, Reports by Completed Requests, Reports by Pending Requests and Summary Requests.

Reports on Incident Requests

These reports consists of all the open, closed and SLA violated Incident Requests based on parameters such as, category, priority, request date, due date, technician and group.

Reports on Service Requests

These reports consists of all the open, closed and SLA violated Service Requests based on parameters such as, category, priority, request date, due date, technician and group.

Reports by all requests

These reports provide you with graphical view of all open and closed requests by category, group, created date, department, due date, level, priority, status, technician, status by category, status by level, status by priority, status by technician.

Reports by completed requests

These reports show the distribution of completed and closed requests. Similar to Report by all request, these reports are also generated based on various parameters such as category, group, department, due date, level, mode, priority and request date.

Reports by SLA Violated requests

These reports display the distribution of the requests that have violated the SLA that was applicable on them. You can view these violations based on the request category, group, the department from which the request was generated, and the technician who handled the request and so on.

Reports by pending requests

This shows the distribution of all pending requests for a specific period of time, based on different parameters, such as priority, department, technician, category, due date, request date and so on.

Request Summary Reports

These reports provide you with a high level view of the requests received and closed during a particular period, date-wise. The summary reports available are the received request summary reports by date and closed request summary reports by date. These reports are generated on the parameters of request received or closed by technicians, request received or closed in a specific category, priority, and mode.

Problem/Change Reports

Problem/Change Reports includes all problem and change related reports such as, Reports by All Problem, Reports on Pending Problems, Reports on Completed Problems, Reports by All Changes, Reports on Pending Changes and Reports on Completed Changes.

Reports by All Problems

You get a graphical view as well as tabular view of all open, closed, on-hold and resolved problems based on different parameters such as category, status, priority, impact, technician and urgency.

Reports on Pending Problems

You get a graphical view as well as tabular view of all open and on-hold problems based on different parameters such as, category, priority, urgency and incidents counts.

Reports on Completed Problems

You get a graphical view as well as tabular view of all closed problems based on different parameters such as, category, priority, urgency, cost and incident counts.

Reports by All Changes

You get a graphical view as well as tabular view of all approval, approved, completed, implementation, planning, rejected, release, requested, review and testing changes based on different parameters such as, category, impact, status, change type, technician, time spent on change and priority.

Reports on Pending Changes

You get a graphical view as well as tabular view of all pending changes such as approval, approved, implementation, planning, release, requested, review and testing changes based on different parameters such as, category, priority, change type, urgency, incident counts and problem counts.

Reports on Completed Changes

You get a graphical view as well as tabular view of all completed changes based on different parameters such as, category, change type, priority, urgency, cost, incident counts and problem counts.

Request Timespent Reports

These reports provide information on the technician's time spent on requests and the cost per technician based on the time spent. You can group the report information based on category, department, requester and technician attending to the request. The time spent report by requester, gives you an idea on the cost per requester and the number of request.

By default, the help desk reports will be created for the current week. You can choose any custom period of your choice or choose to create reports for last week, or this month, or for just this day. All these reports can be used for analysis purposes. For example, the reports mapped against the parameter technician can be used to measure the technician responsiveness and load handling capability.

Survey Reports

These reports provide you with the summary details on the survey results based on various parameters. All these reports help in measuring the efficiency and effectiveness of the support team and take respective corrective actions.
Under Survey reports you have,

- Survey Overview Report which gives you the overall ratings of each of the questions in the survey based on the feedback of the users who took the survey. The ratings give you an idea about the value that is associated with the corresponding question. This report provides both tabular and a graphic representation of the results.
- Survey Results by Category report has the survey information grouped based on the category. Against each category, the points gained by each of the survey questions will be tabulated. Depending on the kind of survey questions, this report will provide valuable information based on individual request categories.
- Survey Results by Department has the survey information grouped based on the department from which the requests originated. The points for each question of the survey are mapped against the department name from where the request originated.
- Survey Results by Level has the survey information grouped based on the level of the requests. The points for each question of the survey are mapped against the level of the request for which the survey was sent.
- Survey Results by Mode has the survey information grouped based on the mode of the requests. The points for each question of the survey are mapped against the mode of the request for which the survey was sent. This also gives you an idea on the mode of request that is most frequently used to create a new request.
- Survey Results by Priority has the survey information grouped based on the priority of the requests. The points for each question of the survey are mapped against the priority of the request for which the survey was sent.
- Survey Results by Requester has the survey information grouped based on individual requester. This helps you in finding out which requester has sent the maximum number of requests and any other information based on your survey questions. This will give you an idea of the users perspective and help you in deciding about the corrective actions that need to be taken to make the support team more efficient and effective.
- Survey Results by Technicians has the survey information grouped based on individual technicians. Each of the survey questions will carry some value and based on this value, the average value for the questions will be marked against the technicians. These points will enable you to objectively measure the technicians efficiency and effectiveness from the users perspective and take any corrective measures, if required.

Asset Reports

All Computers (Workstation and Servers)

The workstation reports give you information about the various workstation-related metrics.

- **Computers by Domain** report tells you the computers grouping based on domains. Thus you get to know the number of computers in each of the domains in your organization network.

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- **Computers by Manufacturer** report gives you a high-level distribution view of the computers used from different manufacturers.
- **Computers by OS** report gives you an overview on the percentage of computers belonging to each type of operating system. Thus you will also know the different types of Operating Systems in use in your organization.
- **Computers** by Processor Manufacturer report gives you the graphical view as well as the tabular view of the computers by processor manufacturer. Thus it gives a count of all computers with processor vendor name used in your organization.
- **Computers** by Processor Type report will give a tabular view of all processor type in each computers used in your organization.
- **Computers by Vendor report gives a graphical as well as the tabular view of all vendors for each the computers in your organization.**
- **Computers with less than 256MB RAM and more than 256MB RAM gives the report of all computers in your organization with more than 256MB RAM and less than 256MB RAM.**
- **Operating System by Region gives you the list of workstations that are grouped under a particular region but are not yet assigned to any user or department. The list of computers is also displayed in the tabular form just below the graph.**
- **Unassigned workstations by Domain** gives you the number of computers that are connected to the domains but are not assigned to any user or department or computer. The list of computers is also displayed in the tabular form just below the graph.

Server

- **Server with less than 10% Free Disk space gives the report of all the servers in your organization with less than 10% free Disk space.**
- **Servers with less than 512MB RAM gives the report of all the servers in your organization with less than 512MB RAM.**

Software

Under software reports you have, Software Reports - Purchased Vs Installed software, Software by Category and Software by Manufacturer. Under software reports - purchased Vs Installed software you can view the list of all software purchased vs installed in each of the workstation in your organization. Under software by category you can view the list of all software classified under default software category. Under Software by Manufacturer you can have the tabular view of all software used in your organization listed based on the manufacturer of the software.

Workstation Summary Reports

Under workstation summary reports you have, Software Summary Report and Hardware Summary Report. Software summary report provides you with the tabular view of all the software installed in each workstation. This includes all managed, unmanaged software. Hardware summary report provides you with all the hardware details of an workstation such as, memory details, drive information, hard disk information, physical drive information, network adapters and so on. Thus it gives a complete overview of all the software installed and hardware details of an workstation.

Audit Reports

Under audit reports you have audit history by workstation, audit history by time line, audit history by changes. The updated audit reports are available only by scanning the workstation. Audit history by workstation gives a complete report on the account of all actions taken place in a workstation. This provides detail report on both hardware and software details. Audit history by time line gives a detail overview of all actions taken place in a workstation for a specific time period. By default you can get only the current week report. Audit history by changes gives a complete report on all changes taken place in a workstation for the current week.

To get the audit report for previous weeks,

1. Click the Edit button. This opens the Custom Reports.
2. From the Date Filter block-> select the Scan Date option from the combo box -> select the duration by clicking During combo box which provides you with the last week, last month, this month, this quarter, last quarter or yesterday options to generate reports. (OR) if you wish to generate reports for a specific time period then select the From and To radio button and select the dates from the calendar button.
3. Click Run Report button. You can get report for the specified time period.

Resources Reports

Under resources reports you have, resources by product type, resources by vendor, resources types by site. Resources by product types give the graphical view as well as the tabular view of all the resources (assets) available for all default and newly added product types. Resources by Vendor give the graphical and tabular view of all the resources in the organization based on the vendor name. The name of the vendor will be in X-axis and the resource count will be in Y-axis. Resource Types by Site lists all the available resources in your organization distributed across each sites of your company.

Contract Reports

Under contracts reports you have reports based on Active contracts, Contracts by Max value, Contracts by status, Contracts by vendor and Expired contracts. Active Contracts shows all the open contracts in your organization in a graphical and tabular view. Contracts by Max Value shows all the contracts which costs above 1000$ will be displayed in both graphical and tabular view. Contracts by Status show the list of all contracts with its status level such as, open contracts, expired, expired in the last 30 days, expiring in next 7 days and expiring in next 30 days in a graphical and tabular view. Contracts by Vendor shows all the contracts with all status level but classified based on the vendor. Expired Contracts shows the list of all the expired contracts in your organization.

Purchase Reports

Under purchases you have reports based on PO Vendors, PO by Ordered Date, PO by Required Date, PO by Status. Purchase orders by vendors gives the graphical view and tabular view of all the approved, pending for approval, partially approved, closed, overdue, POs due in next 7 days, POs due in next 30 days purchase orders classified based on the vendor name. Purchase orders by ordered date gives the graphical view and tabular view of all the approved, pending for approval, partially approved, closed, overdue, POs due in next 7 days, POs due in next 30 days purchase orders classified based on the ordered date. Purchase orders by required date gives the graphical view and tabular view of all the approved, pending for approval, partially approved, closed, overdue, POs due in next 7 days, POs due in next 30 days purchase orders classified based on the required date.

Custom Reports

ServiceDesk Plus enables you to create reports that meet your need if you are unable to find them from the list of out-of-the-box reports already available. To create your custom reports,

1. Login to ServiceDesk Plus application with your user name and password.
2. Click Reports tab in the header pane.
3. Click New Custom Report button in the reports home page. This opens the Custom Report page that will help you navigate through the various steps involved in the creation of a custom report.
4. Specify the relevant Report Title in the given text field. This is a mandatory field.
5. Choose the Report Type by selecting the radio buttons. You can create Tabular Reports, Matrix Reports, Summary Reports, Audit Reports.
6. Choose the module (Request, TimeSpent, Problem, Change and so on) for which you wish to create the report. The audit History module will be enabled only for audit reports. This is applicable only for the tabular and matrix reports. For summary reports, audit reports default modules will be selected.
7. Click Proceed to Report Wizard >> button. This opens the Display Columns page. This page differs for each report type. Each report type has to go through various steps before generating it as a customized report.

To generate Tabular Reports

Tabular reports are simple reports that allow you to list your data based on certain criteria. If you had selected the Tabular Reports option then you have five steps to create a complete customized tabular report. If you wish to skip a particular option then click the next tab and move to the next step.

Display Columns

The first step to create tabular reports is to select the display columns which need to be displayed in the tabular report. Select the columns from the Available Columns list box and click >> button to move them to Display Columns list box. Click the << button if you want to remove any column from the Display Columns list box.

Click Next button. This leads you to the grouping of columns, where you can choose two levels of grouping.

Filter Options

1. If you are using the date/time filter criteria, select the date column name from the Select Column combo box.
2. Select the period for which you want to generate the report. If you would like to generate report during this week, last week, this month, last month, this quarter, last quarter or today, yesterday then select the During radio button and select the time period from the combo box. (OR) If you wish to provide a custom period, then select the From and To date using the calendar button.
3. To use Advanced Filtering, select the column name such as, Requester name, region site and so on from the combo box. Select the criteria (is, is not, contains and so on) from the combo box. You can pick a value by invoking the icon. Select AND or OR option from the combo box to add more than one criteria. You can delete a criteria by clicking the delete icon.
4. Click the Choose button and select the value for the column to add as a filter condition.

5. Click as Add to Filter button to add the filter condition to the filter set which gets listed under the Filter Set title.
6. Click Next buttonto go to the grouping of data.

Grouping Data

From the Group by combo box, select the column based on which you wish to group the data.
Select the Order by from the combo box.
Click the Next button to go to the next stage.

Column Summary

You can get the column summary for all the columns in the report. If you wish to have the column summary displayed in the report, select the column summary options available for each column. The summary options differs for each column you have selected.
Click the Next button to go the next option.

Charts

In addition to the tabular chart, if you wish to have a chart displayed for a particular column then, or you can skip this option and directly run the report.

1. Select the chart type to be displayed from the combo box.
2. Select the Axis column from the combo box to be displayed in the chart . This is a mandatory field. The data will be grouped in the chart based on the column selected.
3. Select the Display Format from the combo box. For ex: in numbers or in percentage.
4. Click Run Report button.

On running the report you get a tabular report as well as the graphical view for the selected column data.

To generate Matrix Reports

Matrix reports provide the data in a grid manner (m x n format). It allows you to study different scenarios based on the chosen criteria. If you have selected matrix reports you have two steps to generate a complete matrix report. Click the Proceed to Report Wizard button to go to next page.

Grouping Data
You have simple grouping and advanced grouping option for matrix reports.

Simple Grouping

1. Click the Simple grouping tab. You have two options Top column information and left column information. Select the top column information from the combo box. This is a mandatory field.
2. Select the left column information from the combo box. This is a mandatory field.
3. Select the summarize column count from the combo box to get the column summary.

Normal Grouping

1. Click the Advanced grouping tab. You have two options Column grouping and Group by.
2. Select the Columns and Date format to be displayed from the combo box. Select the group by from the combo box. You have three options for group by to be displayed in the report. This is a mandatory field.
3. Select the summarize column from the combo box.
4. Select the period for which you want to generate the report. If needed you can also provide a custom period by choosing the from and to date manually.
5. Click Next.
6. To use Advanced Filtering, you first need to select the radio button for matching all the selected criteria or any one of them. Then from the column listing, select the various columns and set the match operator and mention the values for matching.

Filter Options

1. If you are using the date/time filter criteria, select the date column name from the Select Column combo box.
2. Select the period for which you want to generate the report. If you would like to generate report during this week, last week, this month, last month, this quarter, last quarter or today, yesterday then select the During radio button and select the time period from the combo box. (OR) If you wish to provide a custom period, then select the From and To date using the calendar button.
3. To use Advanced Filtering, you first need to select the radio button for matching all the selected criteria or any one of them. Then from the column listing, select the various columns from the list and set the match operator and mention the values for matching the column as (is, is not, contains and so on) from the combo box.
4. Click the Choose button and select the value for the column to add as a filter condition.
5. Click as Add to Filter button to add the filter condition to the filter set which gets listed under the Filter Set title.
6. Click Run Report button. You get a matrix report

Request Summary Reports

Summary reports are detailed reports that allow you to list your data based on certain criteria. To create a Request Summary Report, Choose the **Summary Report** and Click the Proceed to Report Wizard button to go to next page. You have two steps to generate a complete request summary report.

Display Columns

The first step to create request summary reports is to select the display columns which need to be displayed in the request summary report. Select the columns from the Available Columns list box and click >> button to move them to Display Columns list box. Click the << button if you want to remove any column from the Display Columns list box.

Click Next button. This leads you to the grouping of columns, where you can choose two levels of grouping.

Filter Options

1. If you are using the date/time filter criteria, select the date column name from the Select Column combo box.
2. Select the period for which you want to generate the report. If you would like to generate report during this week, last week, this month, last month, this quarter, last quarter or today, yesterday then select the During radio button and select the time period from the combo box. (OR) If you wish to provide a custom period, then select the From and To date using the calendar button.
3. To use Advanced Filtering, you first need to select the radio button for matching all the selected criteria or any one of them. Then from the column listing, select the various columns from the list and set the match operator and mention the values for matching the column as (is, is not, contains and so on) from the combo box.
4. Click the Choose button and select the value for the column to add as a filter condition.
5. Click as Add to Filter button to add the filter condition to the filter set which gets listed under the Filter Set title.
6. Click Next buttonto go to the grouping of data.

Audit Reports

Audit reports are detailed history reports that allow you to list your inventory history data based on scan time criteria. Click Proceed to Report Wizard button to go to the next page. This opens the Audit History Report page.

You have three audit history reports options, on scanning the workstation you get the updated version of all the audit reports.

- Audit history by workstation.

Audit history by workstation gives a complete audit report of the hardware and software details of the workstation.

- Audit history by time line.

Audit history by time line gives a detail overview of all the actions taken place in a workstation for a specific time period.

- Audit history by changes.

Audit history gives a complete report on all changes taken place in a workstation.

Select any of the three audit history report options. Specify the scan date from the combo box.
Click Run Report button. You get the audit history report.

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Creating New Query Reports

1. Click on the Reports tab. This opens the All Reports page.
2. Click New Query Report button. This opens the Query Editor page.
3. Select the Table Schema from the combo box say, requests, timespent and so on. Click Get to view the table schema for the selected option.
4. Specify the title of the report in the Report Title field. This is a mandatory field.
5. Specify the query to be executed for getting reports in the Query field. This is a mandatory field.
6. The logs will display all error messages on providing any wrong query.
7. Click Run Report to run query report.

Tips

1. Date Formulae: DATE_FORMAT (FROM_UNIXTIME (COLUMN_NAME/1000),'%d-%m-%Y %k: %i') 'Column Alias'.
2. Minutes Formulae: ROUND ((((COLUMN_NAME/1000)/60)) % 60) 'Minutes'.
3. Hours Formulae: ROUND (((COLUMN_NAME/1000)/3600)) 'Hours'.
4. Compare Date: COLUMN_NAME >= (UNIX_TIMESTAMP (DATE ('2006-07-24 00:00:00')) * 1000).
5. Convert Memory in GB: ((((MEMORY_COLUMN)/1024)/1024)/1024)
6. Default Value For Null Data: COALESCE (COLUMN_NAME, 'Unassigned')
7. Group by: Query statement will be ends with order by <column_index>

Additional Field tables

1. Request Additional Fields - WorkOrder_Fields
2. Requester Additional Fields - Requester_Fields
3. Technician Additional Fields - Technician_Fields
4. Asset Additional Fields - Asset_Fields
5. Workstation Additional Fields - Workstation_Fields
6. Problem Additional Fields - Problem_Fields
7. Change Additional Fields - Change_Fields

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Flash Report

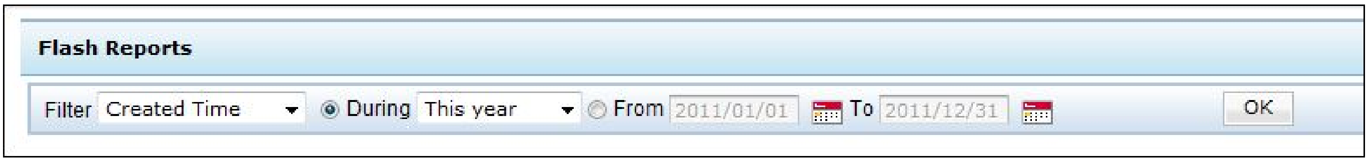
Flash Reports help to get a quick and customizable overview of reports. Using Flash Reports we can generate a high level picture on the status of the requests based on the selected criteria. It tells us the number of requests that are present for a given condition.

To configure and view flash reports,

1. Login to ServiceDesk Plus application with your user name and password.
2. Click Reports tab in the header pane.
3. Click Flash Reports button in the reports home page. This opens the Flash Reports page.
4. Select the filter parameters:

    - Select Created/Responded/Due-by/Completed time from the drop down box.
    - Select pre-defined time period from the drop down box by choosing During option or customize the time period by selecting the From and To dates from the calendar.

5. Click OK.
6. The report is loaded in the same page.



The report shows information pertaining to requests in the mentioned time period under conditions such as Total requests, Pending Requests, Completed Requests and SLA Violated Requests. Based on parameters such as SLA, Technicians, Priority, Category, Site, Level, Type, Urgency, Impact, Mode and Status, the reports can be further scrutinized. These parameters can be viewed by clicking on the button.
For example,
If you need to know the number of requests that have violated the SLA, then click on "SLA" option. This shows number of violated/non-violated requests. For further information on the requests, click on the downward arrow and choose from one of the given parameters. Say, you need to know technicians handling the SLA violated requests, and then click on downward arrow and choose "Technician" from the drop down list. The technicians along with the number of requests handled by them are displayed in the next branch. Further if you want to know the priority of requests handled by a particular technician, then click on downward arrow next to the technician name and select "Priority". This displays the number of requests that have normal, high and low priorities.

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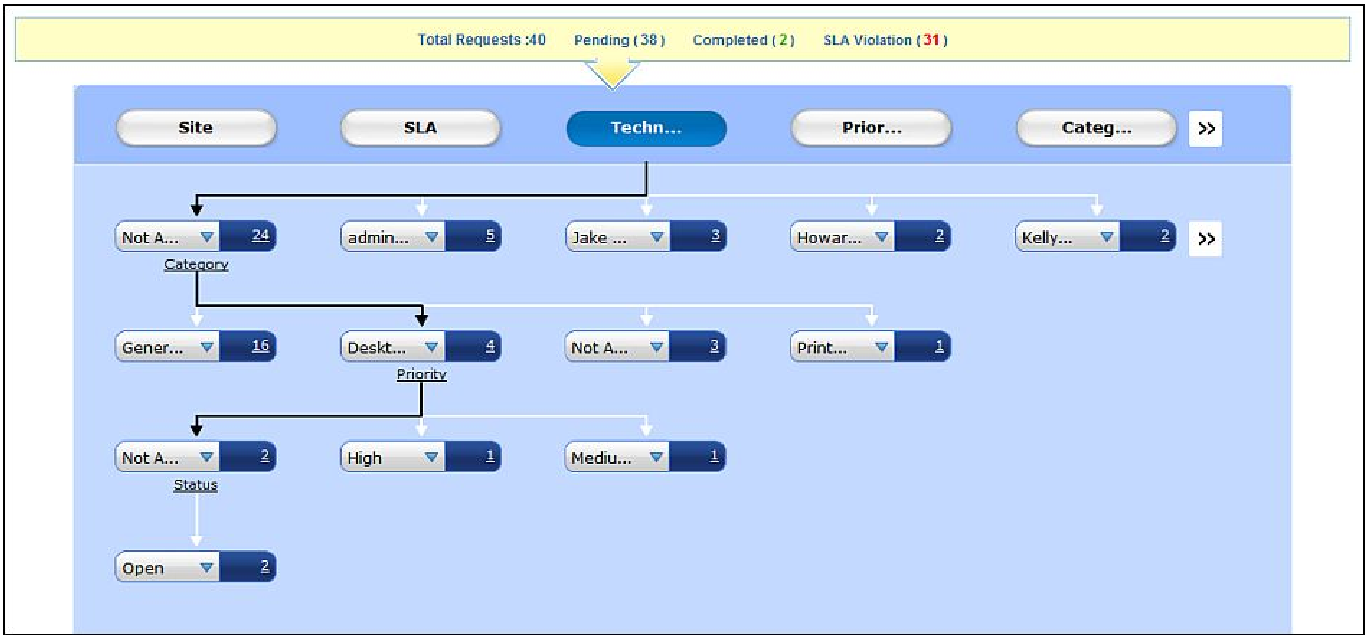

If you click on the number that is displayed along with the report, the list of requests will be displayed in a new window. By clicking on the title of the request, you can view the request details in the space below. The request details cannot be edited/modified in this screen.

Scheduling Report Settings

1. Click Reports tab. This opens the All Reports page.
2. Click New Scheduled Report button. This opens Schedule Report Settings page.
3. To generate report once click Generate Once radio button. Specify the date using the calendar button and Time from the combo box on which the report has to be generated.
4. Select the report to schedule from the combo box. The list will display all the available reports such as, Reports by All requests, Reports by Completed requests, Reports by SLA Violated reports and so on. This is a mandatory field.
5. Specify the E-mail ID of the person to whom the generated report has to be sent.
6. Save the details. Scheduled reports get displayed in the Schedule Reports page.
7. To generate reports on a daily basis click Daily Report radio button and specify the From Date, Time, report to be scheduled and the e-mail address of the person to whom the report has to be sent. Save the details.
8. To generate weekly report click Weekly Report radio button. Specify the days of the week on which you want to generate reports by selecting the check box. Or select Everyday check box to generate reports on daily basis. Also specify the time, report to schedule, and E-mail ID of the person to whom the generated report has to be sent. Save the details.
9. To generate reports on a monthly basis click Monthly Report radio button. Specify the month on which the report has to be generated by enabling the check box. Or select Every Month check box to generate reports on monthly basis. Also specify the time, report to schedule, and E-mail ID of the person to whom the generated report has to be sent. Save the details.

NOTE: If a technician is deleted or the login credentials are removed from the application, then the ownership of the scheduled reports created by that technician is transferred to the technician who has performed the delete/unassigned login credentials action.

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Custom Settings

The custom settings wizard helps you to customize the report column size. This helps to increase or decrease the tabular column size, matrix column size and modify the date and time format of your custom reports.

1. Click Reports tab. This opens the All Reports page.
2. Click the Custom Settings button. The Report Settings dialog pops up.
3. If you wish to customize the Tabular column size, specify the size of the small text, large text, number size and date and time text. And update the changes.
4. If you wish to customize the Matrix column size, specify the size of the cell width and cell height and update the changes.
5. To disable the links in reports enable the check box beside Disable links in report under **General Settings** block. To view one Group per page, enable the check box beside the same.
6. For empty values, enter the value to be shown in the report, such as Not Assigned, Null and so on.
7. For better stability and performance of the ServiceDesk Plus application we recommend you to use **Stability Settings**.

   Use the Stability settings to limit the row counts for,
   - Request module reports containing Description/Resolution Column.
   - Request module reports containing text additional fields.
   - Anyother tabular reports.

   You can also use Stability Settings to limit maximum number of simultaneous report users and configure report time out minutes.

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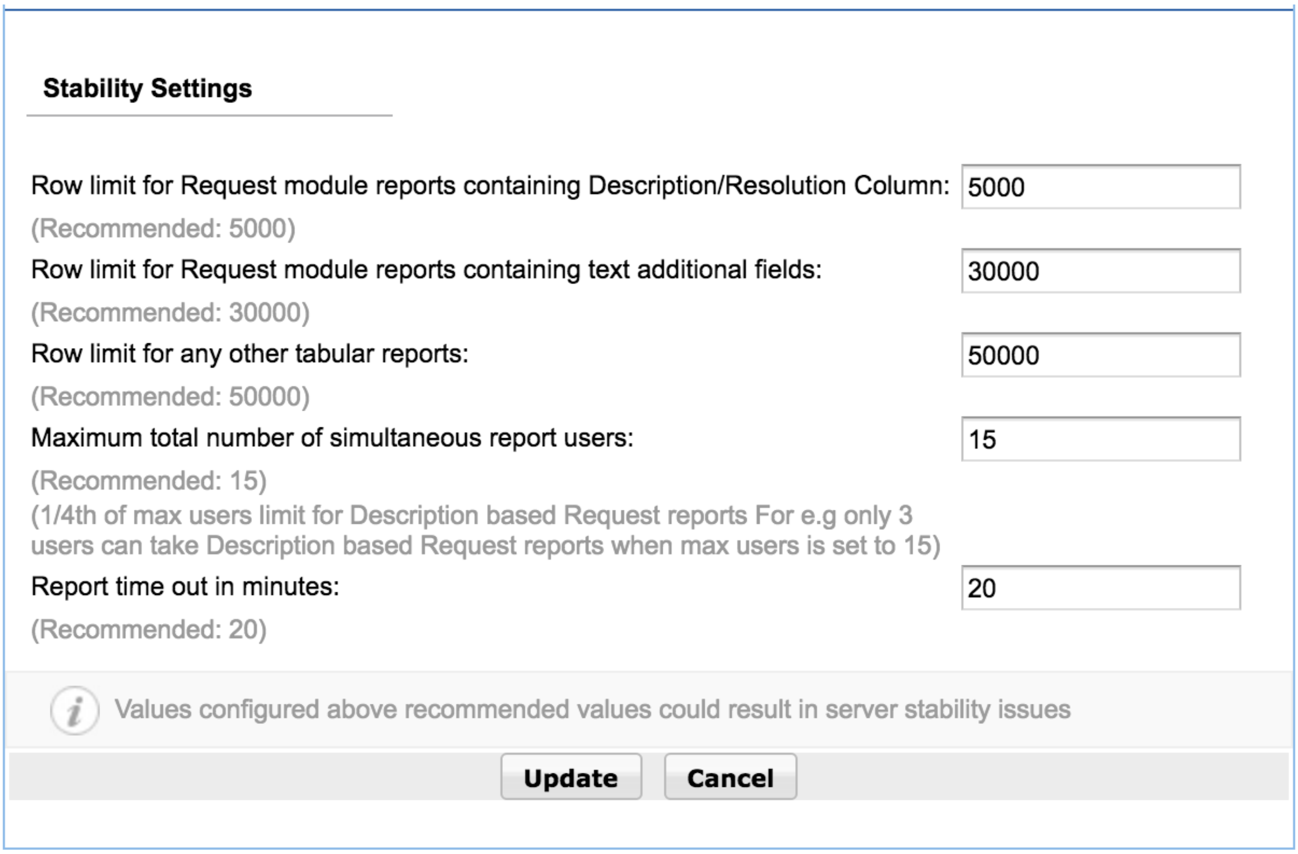


Note

If the recommended values are exceeded, server might face stability issues

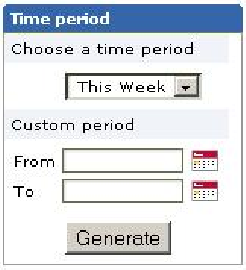
8. Click the Update button to update the changes.

Viewing Asset Reports

To view asset reports

1. Log in to ServiceDesk Plus using the user name and password of an admin user.
2. Click the **Reports** tab in the header pane. The asset reports are listed below the helpdesk reports.
3. Click any of the asset reports.

You can generate Assets by Acquisition Date and Assets by Expiry Date reports for the time duration you want.
To choose the time period

1. Click the report name to view the default report generated for the current month.
2. Once you enter into the individual report view, on the right side you will see a **Time Period** block. By default, **This Month** is selected in the **Choose a time period** combo box.
   - 

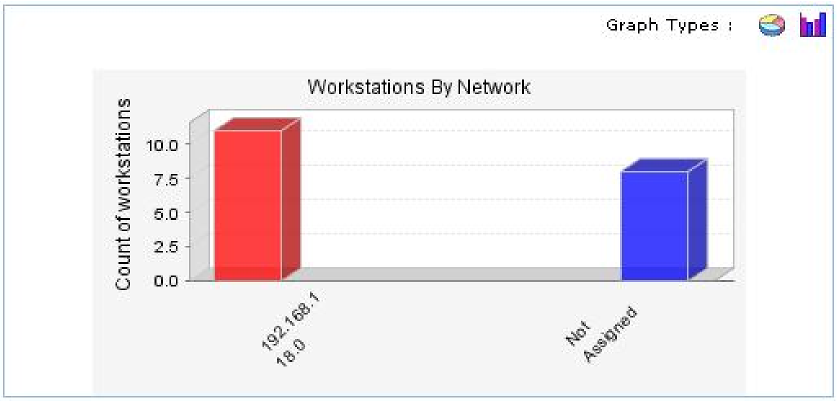
3. From the **Choose a time period** combo box, select your time period. The various options available are **This Week**, **Last Week**, **This Month**, **This Quarter**, **Last Quarter**, and **Ever Opened**.

If you do not want the predefined periods, then you can choose your own custom period.

1. In the **Time Period** block, click the calender icon beside the **From** field under **Custom Period**.
2. Choose a start date from which the report needs to be generated.
3. Similarly, choose an end date for the report in the **To** field.
4. Click **Generate**.

The report is generated for the custom period that you have chosen.

You can view the report either as a bar graph or as a pie chart. By default, the report is displayed as a bar graph as shown below:

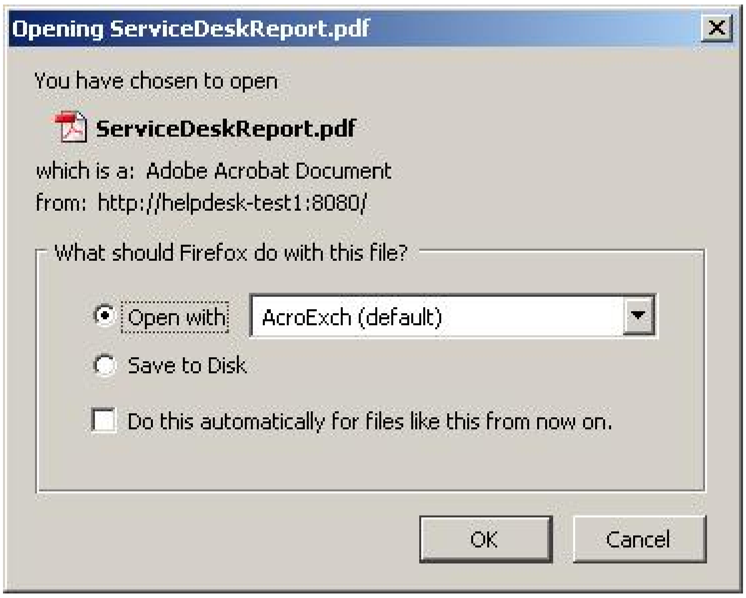
- 

To view the report as a pie chart, click the  icon. To view it as a bar chart, click the  icon.

Exporting Report as PDF

You can export the report as PDF and save the PDF version of the report for future reference.

To export a report as PDF

1. Generate the report that you want. To know how to generate a report, refer to the Viewing Helpdesk Reports and the Veiwing Asset Reports topics.
2. In the report view, click the **Export as PDF** link available at the top right corner of the report block.
3. If you have a PDF reader (Acrobat Reader), you will be asked if you want to open the document in your default PDF reader. Or else, you can choose to save the PDF document to your disk by selecting the **Save to Disk** radio button. If you want to open the PDF in a PDF reader, then leave the default selected option as is.
    1. 

4. Click **OK**. The PDF document is opened in your default PDF reader.
5. Save the PDF document for future reference.

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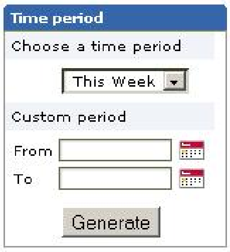
Viewing Purchase Reports

To view purchase reports

1. Log in to ServiceDesk Plus using the user name and password of an admin user.
2. Click the **Reports** tab in the header pane. The purchase reports are listed below the survey reports.
3. Click any of the purchase reports.

You can generate the purchase reports for the time duration you want.

To choose the time period

1. Click the report name to view the default report generated for the current month.
2. Once you enter into the individual report view, on the right side you will see a **Time Period** block. By default, **This Month** is selected in the **Choose a time period** combo box.
    1. 

3. From the **Choose a time period** combo box, select your time period. The various options available are **This Week**, **Last Week**, **This Month**, **This Quarter**, **Last Quarter**, and **Ever Opened**.

If you do not want the predefined periods, then you can choose your own custom period.

1. In the **Time Period** block, click the calender icon  beside the **From** field under **Custom Period**.
2. Choose a start date from which the report needs to be generated.
3. Similarly, choose an end date for the report in the **To** field.
4. Click **Generate**.

The report is generated for the custom period that you have chosen.

You can view the report either as a bar graph or as a pie chart. By default, the report is displayed as a bar graph as shown below:

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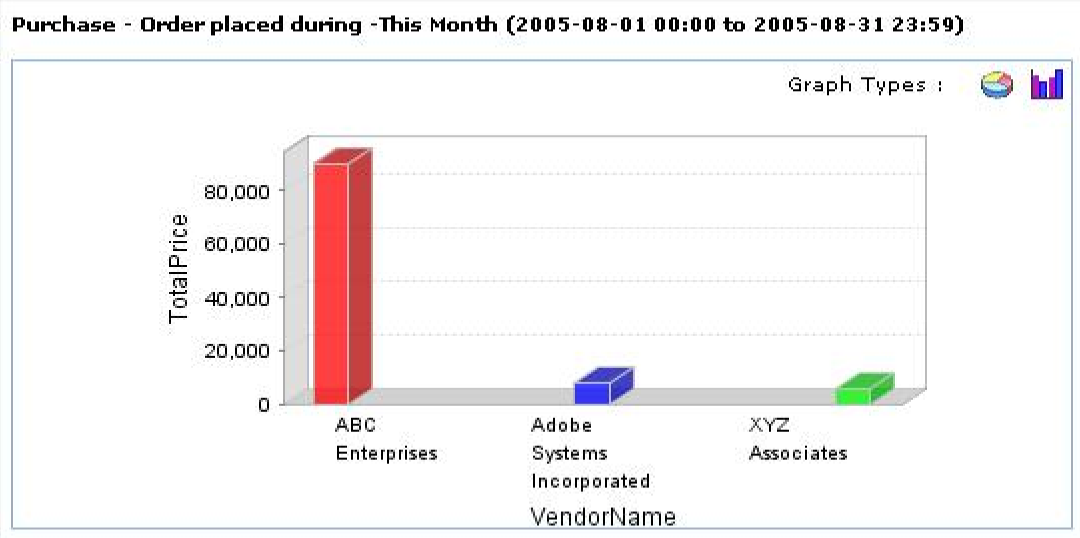
1. 

To view the report as a pie chart, click the icon. To view it as a bar chart, click the icon.

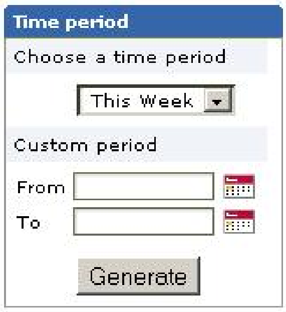
Viewing Helpdesk Reports

To view helpdesk reports

1. Log in to ServiceDesk Plus using the user name and password of an admin user.
2. Click the **Reports** tab in the header pane. First, the help desk reports are listed, followed by the assets reports.
3. Click any of the helpdesk reports.

For all the helpdesk reports, you can choose the time period for which the report can be generated. To choose the time period, follow the steps given below:

1. Click the report name to view the default report generated for the current week.
2. Once you enter into the individual helpdesk report view, on the right side you will see a **Time Period** block. By default, **This Week** is selected in the **Choose a time period** combo box.



3. From the **Choose a time period** combo box, select your time period. The various options available are **Today**, **This Week**, **Last Week**, **This Month**, and **Ever Opened**.

Note: For the summary reports, you will not find the Ever Opened option in the time period combo box.

If you do not want the predefined periods, then you can choose your own custom period.

1. In the **Time Period** block, click the calender icon beside the **From** field under **Custom Period**.
2. Choose a start date from which the report needs to be generated.
3. Similarly, choose an end date for the report in the **To** field.
4. Click **Generate**.

The report is generated for the custom period that you have chosen.

You can view the report either as a bar graph or as a pie chart. By default, the report is displayed as a bar graph as shown below:

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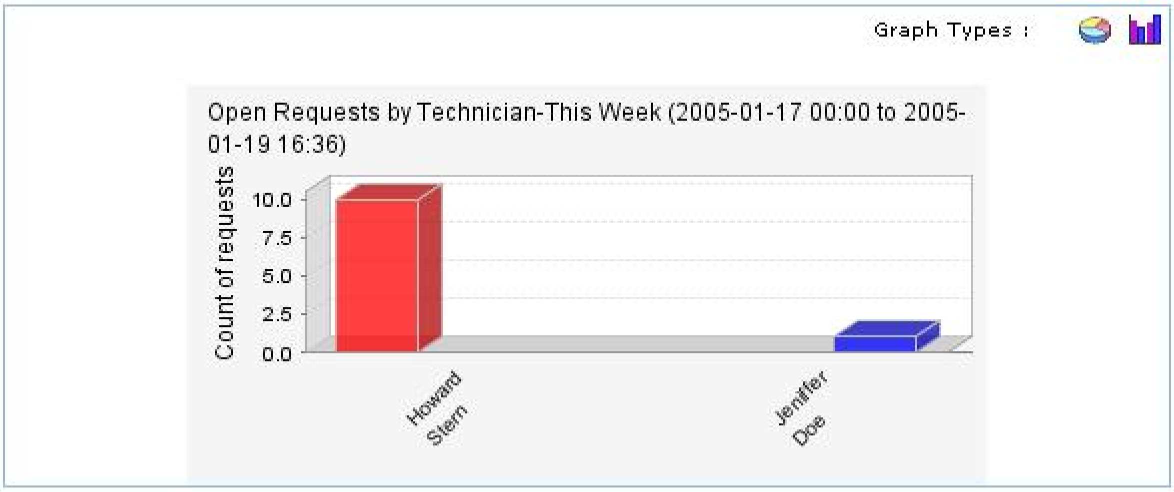
- 

To view the report as a pie chart, click the icon. To view it as a bar chart, click the icon.

In case of the time spent reports, you can also select the requester / technician / department / category for which you wish to generate the report, depending on the report type. This will give you the report for only the selected value.

Mobile client

ManageEngine ServiceDesk Plus Mobile Client improves the efficiency and productivity of your help desk system by providing technicians with the ability to instantly access their requests while they are away from their desk through their mobile devices.
It is a complete browser based web application supporting various request features like **viewing requests**, **adding requests**, **closing resolved requests**, **assigning request**, **adding work log**, **adding resolution** and **deleting requests**.
ServiceDesk Mobile Client is compatible with mobile devices such as Blackberry and iPhone, and is accessed through the mobile browser on typing the URL http://<machine-name>:<port-number>, which redirects to the 'mc' context.

Features

- A browser based web application to access tickets from any location.
- Supports request module features such as, creating incident request, viewing request details, adding resolution to a request, adding work log, assigning technician to a request, closing completed requests and deleting requests.
- Any actions performed on the requests are based on the Roles assigned to the technicians.

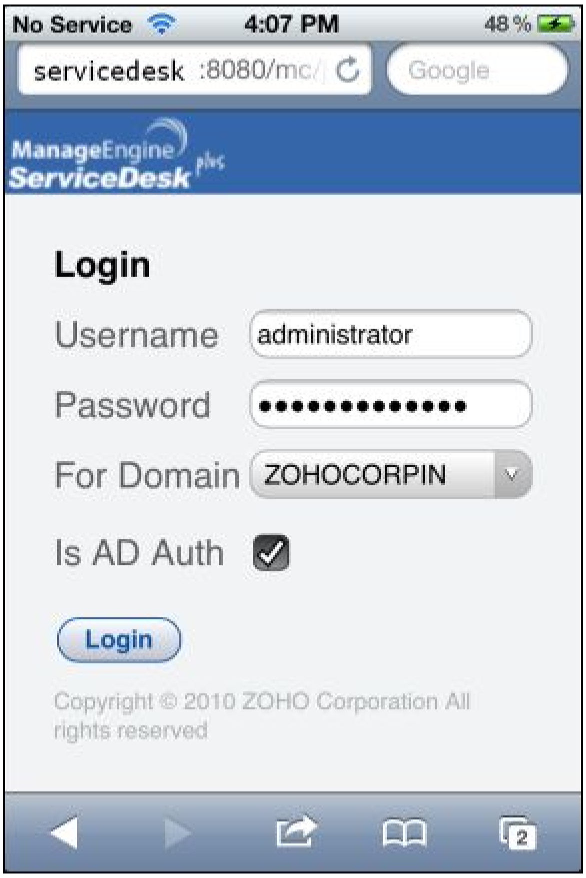
Limitations

- Currently, ServiceDesk Plus Mobile Client supports only request module.
- Editing/Modifying requests cannot be performed.
- Compatible with mobile devices such as Blackberry and iPhone.

Logging into ServiceDesk Plus
On connecting your mobile device to http://<machine-name>:<port-number>/mc, the screen opens to displays the login page.

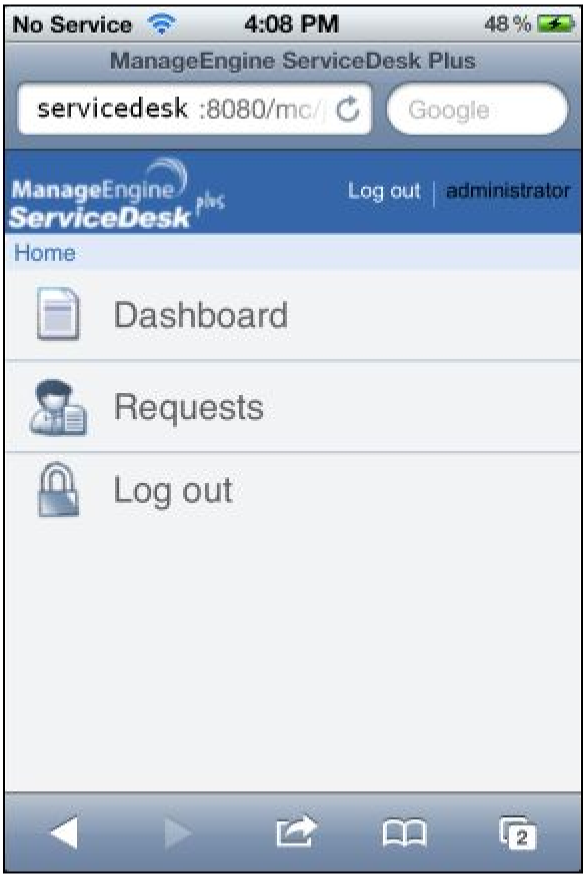
- Username: Username of the technician.
- Password: Password of the technician.
- For Domain: Choose the domain of the logged in technician. If the domain is not selected then it is considered as 'Not in any domain'.
- Is AD Auth: Select the check box for AD authentication.

Note: ServiceDesk Plus Mobile Client does not support Single Sign-On (SSO)



Click **Login** button.

On logging into the application from your mobile device, the home page displays the **Dashboard**, **Requests** and **Log out** options.

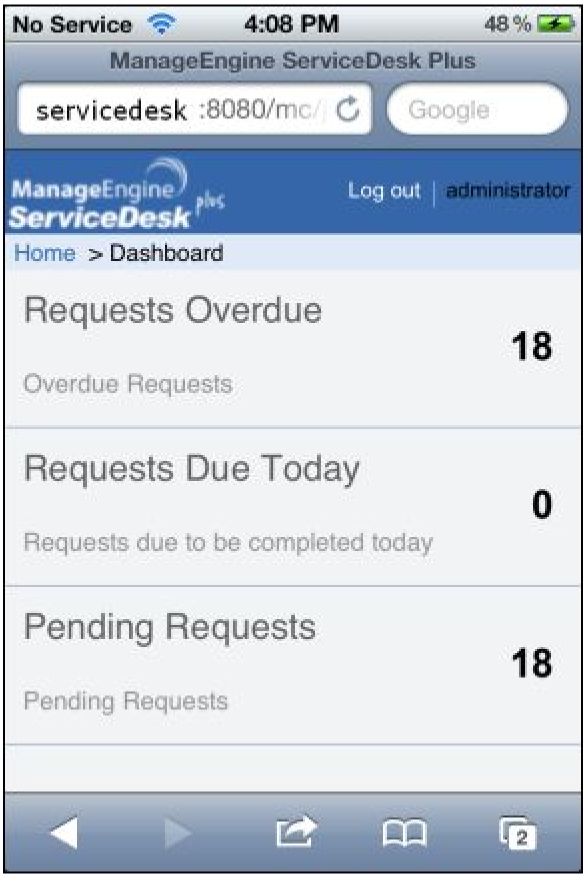


- Dashboard: Displays the number of **Overdue Requests**, **Requests Due Today** and **Pending Requests** of the logged in technician.

- Requests: Displays the request list view with options to select, **My Pending Requests**, **All Pending Requests** and **Incident/Service Requests**.
- Log out: To log out from the mobile client.

Dashboard

The dashboard of the logged in technician comprises of the number of all overdue requests, requests due to be completed today and the pending requests. Click an option to display the list of request under it.



To revert back to the Home page click Home link on the top right corner of the page.

Requests

Selecting Requests from the dashboard takes you to **My Pending requests** by default. The requests view options comprises of My Pending Requests, All Pending Requests and Incident/Service Requests.

Note: The request list view and the actions performed on the requests are based on the roles assigned to the logged in technician.

Request List View

Request List View displays the title of the request, requester, status of the request, created date and time, technician assign icon, priority color code, first response time overdue flag, request overdue flag, and first response and resolution overdue flag.

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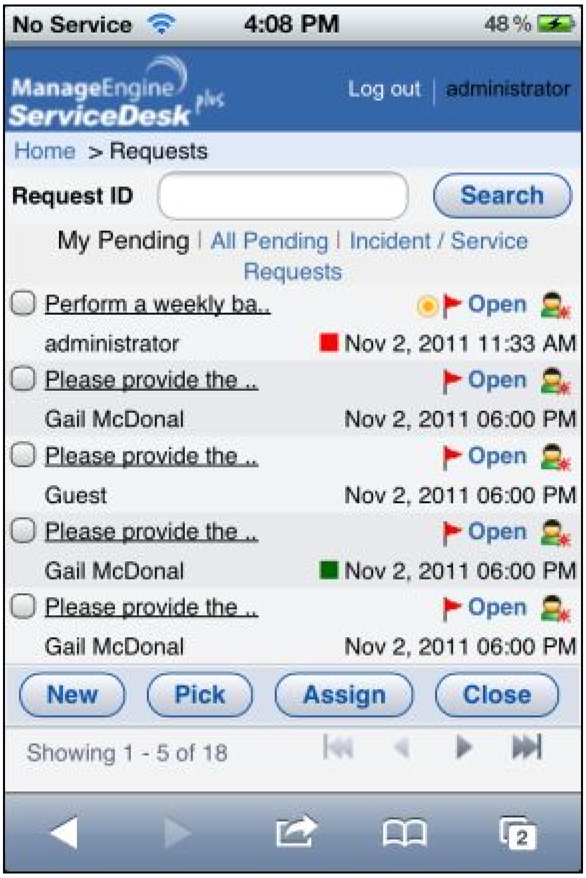


Representation of icons from the Request List View

- - Indicates that the First Response Time is overdue
- - Indicates that the request is overdue
- - Indicates that the First Response Time and the Resolution Time are overdue
- - Indicates unassigned requests i.e., technician is not assigned to the request
- - Indicates technician is assigned to the request.
- - Indicates request assigned to the logged in technician

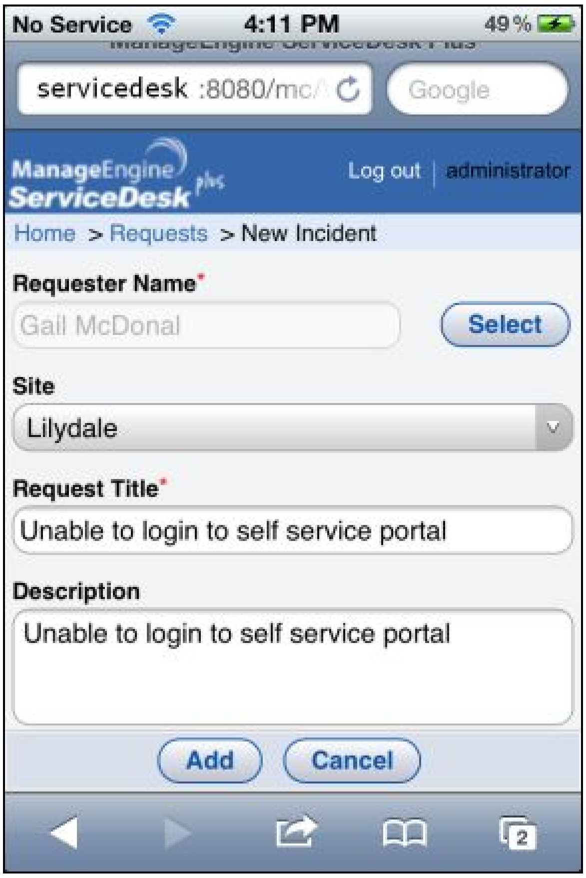
Operations performed from the Request List View

- **Search Requests based on Request ID:** Search for requests instantly by entering the Request ID in the Search field
- **New:** Option to create new incident requests
- Pick**:** Option to pick up unassigned requests
- Assign: Option to assign requests to other technicians
- Close: Option to close completed requests

The request list view displays a total of five requests in a page. You can navigate to other pages using the navigation options below the page. To revert back to the Home page, click the **Home** link on the top right corner of the page.

Creating Incident Request

Creating incident requests is simple and instant. All you need to do is enter the **Requester Name**, **Request Title** and **Description** of the issue. To create new request, click **New** button from the Request List View.



- **Requester Name:** Enter the name of the requester raising the request. To select and search for available requesters, click Select.
- **Request Title:** Enter a brief summary of the request
- **Description:** Enter detailed description of the request

Click Add to save and add the request in the request list view.

Note:

- Requests cannot be created through Request Template though templates are configured in the server.
- Request details such as request type, priority, urgency, group, category, sub category and item cannot be added while creating a new request.

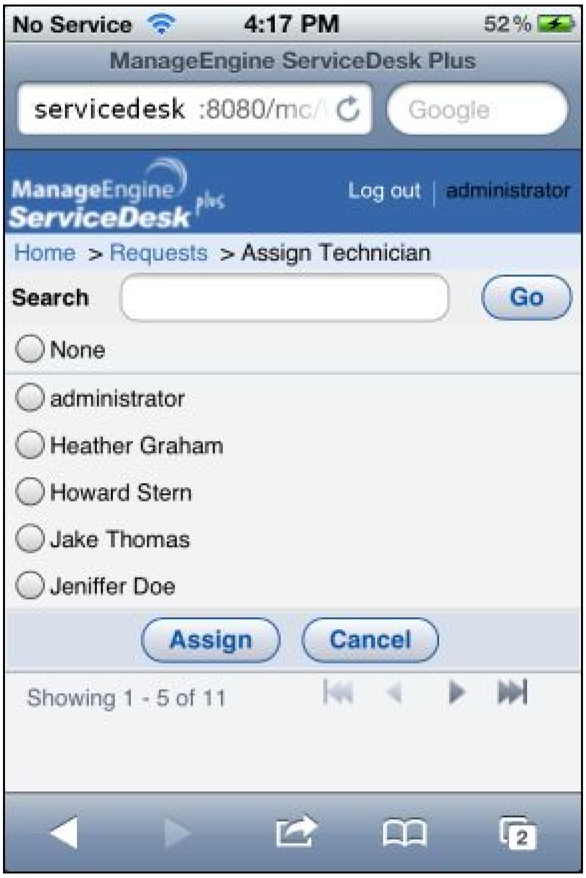
Viewing Request Details

Click the request you want to view from the request list view page. The request details page displays the **Request ID**, **Requester**, **Status** of the request along with the overdue flag, **Technician** assigned to the request, **Priority** along with color code, **Due by Time** of the request, **Subject** and **Description**.

Click More details... link to get the entire detail of the request such as, request type, impact, status, due by time, response due by time and so on.
If the description exceeds 250 characters then (More...) link appears. Click the link to view the entire description.
Click More.. button to Add Resolution and Work Log.
If the request is resolved, click Close. Click Delete to discard the request completely from the application.

Assigning requests to technicians
If you are assigning requests to technicians using your mobile device, then the list of all the available technicians are displayed. Requests can be assigned to technicians provided the technician is associated to the site where the issue exists.

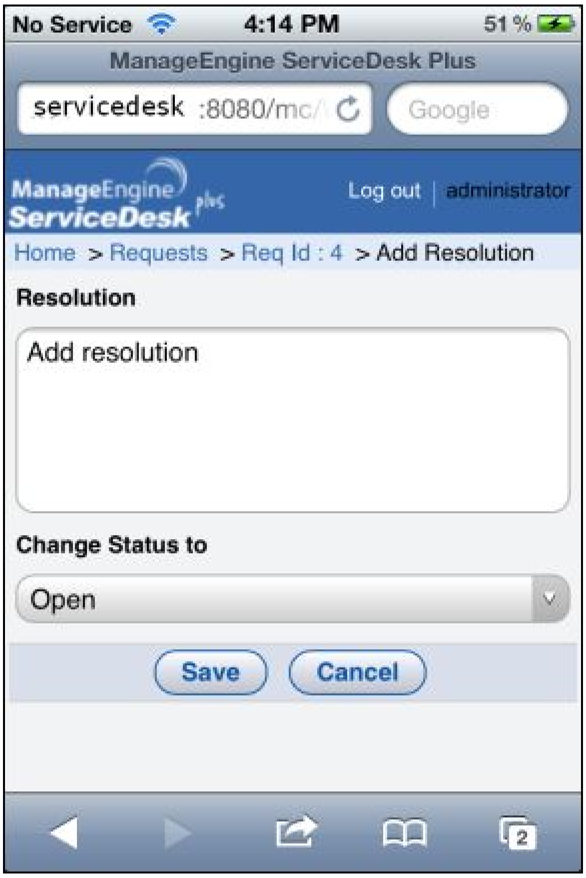
1. Select the check box beside the request.
2. Click Assign. Select the radio button beside the technician.
3. Click Assign.



Note: Please note that an error message does not occur if a request is assigned to a technician with restricted access permission and if the technician is not associated to the site. Instead the request is not assigned to the technician.

Adding Resolution to a request

1. From the request details page, click More..
2. Click Add beside Resolutions. Enter the resolution in the text field.
3. You can also change the status of the resolution from Change State to drop down list.
4. Click Save.



Note:

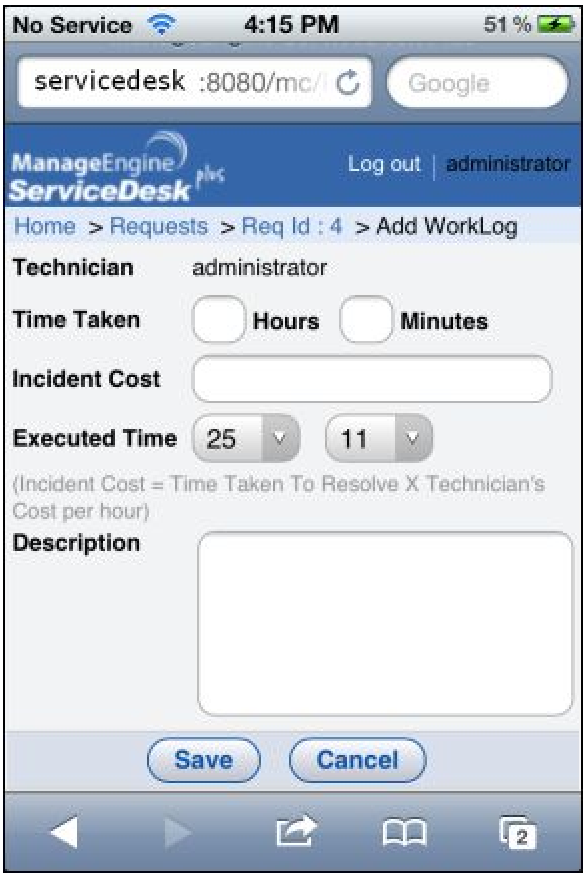
- Resolutions can be added only as plain text.
- Resolutions cannot be created through resolution templates though the templates are configured in the server.
- Resolutions cannot be searched from Solutions module.

Viewing/Editing Resolutions for a request

1. Click More.. from the request details page.
2. If the resolution is added to the request then the Edit and View link appears.
3. Click View to view the resolution. The resolution along with the technician submitted the resolution is displayed.
4. From the view resolution page, click Edit to modify the resolution. You can edit the request from More.. -> Edit link.
5. Edit the content and if necessary change the status.
6. Click Save.

Adding Work Log for a request

You can add the time spent details for a request from your mobile device.
Click More.. from the request details page.



- **Technician:** The name of the logged in technician is displayed in a non-editable text by default.
- **Time Taken:** Enter the time taken to resolve the request in hours and minutes.
- **Incident Cost:** Enter the Incident Cost. The Incident Cost is Time Taken x Technician's cost per hour. The Technician Cost per hour is mentioned while adding a technician under Admin -> Technician.
- **Execution Time:** By default, the execution time displays the current date. Select the date and month from the drop down box.
- **Description:** Enter description about the time spent entry.

Click Save. The name of the technician along with the time taken to resolve the request and the cost is displayed. To know more on Adding Work Log refer Cost of Request.

Note:

- Work Log cannot be added for other technicians.
- The logged in Technician's Cost per hour should be configured in the server.

ServiceDesk Plus for iOS

Introduction

The dynamic business space today requires your customers to have access to the right information on the move. With the need to have key information on the fingertips today, mobile

devices and iPads have become inevitable for businesses worldwide.

The ServiceDesk Plus iOS App is intended to help you interact with the ServiceDesk Plus application more quickly and efficiently. By using the app you can extend support to your

customers anytime, anywhere. In short, you can have a bird`s eye view of the complete details of your tickets in a single pane.

You can install the ServiceDesk Plus application in any iOS device—**iPhone, iPad, or iPad Touch**.

With the ServiceDesk Plus iPhone app, you will be able to do the following:

- Add request
- Edit requests
- Assign requests to Technicians
- Reply to requests
- Add resolutions and work logs
- Approve/reject requests
- Close the completed requests
- Approve/reject change requests

Features

- Access your tickets from any location.
- Be available for your end users anytime.
- Allow your end users to quickly log in tickets from their mobile app.
- Have the advantage of making live conversations with your end users.
- Respond to the end user queries from within the ticket.
- Create, edit, pick up, assign, and resolve tickets in a quick manner.
- Notify Technicians of request and task assignments, replies from end users, and request approvals, etc, on the go.
- Create custom views and save them for later use.
- Keep track of your response and resolution SLAs with the SLA status flags.
- Converse with the end users through emails from within the mobile app.

- Keep track of all tasks associated with tickets and track progress from your device.
- View all your pending tickets as events on your mobile calendar app.
- As CAB members, view and approve your requests and changes.

This document walks you through the following topics:

1. Downloading the ServiceDesk Plus iPhone App
2. Logging into the ServiceDesk Plus iPhone App
3. Configuring the ServiceDesk Plus iPhone App Settings
4. Requests List View
5. Add Request
6. Viewing Request Details
    1. Request Options
    2. Actions on Request
7. Tasks List View
8. Approvals (of requests and changes)
9. Assets
10. Notifications
11. Attachments
12. Logging out of the ServiceDesk Plus iPhone App

I Downloading the ServiceDesk Plus iPhone App

Download the ServiceDesk Plus iPhone app from the iPhone app Store. Search for the term 'ServiceDesk Plus' and you will find the ServiceDesk Plus - IT Helpdesk iPhone app in the search results displayed. It is a free app and does not require any license to be purchased. Proceed installing the app in your iPhone.

II Logging into the ServiceDesk Plus iPhone app

After installing the app, a **ServiceDesk Plus icon** is displayed in the Home screen of your iPhone. Tap the icon to view the **Take a tour** screen. You can view the tutorials if you wish, or **Skip** directly to the **Server Details** screen (shown in the below image), where you need to enter the **Server Address** for the ServiceDesk Plus iPhone app. By default, the address '**http://demo.servicedeskplus.com:80**' is shown. You can change the URL if required . Click **Save**.

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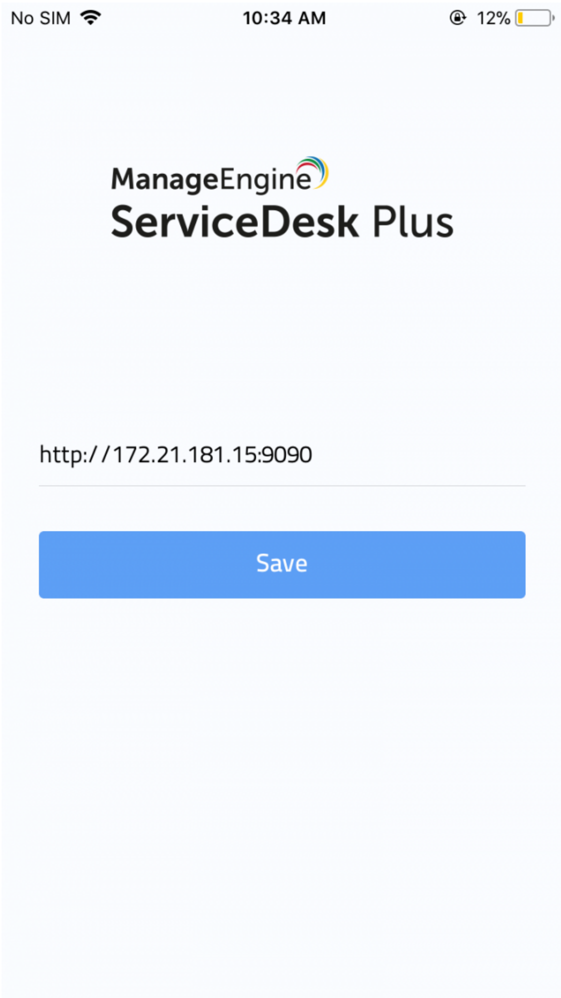
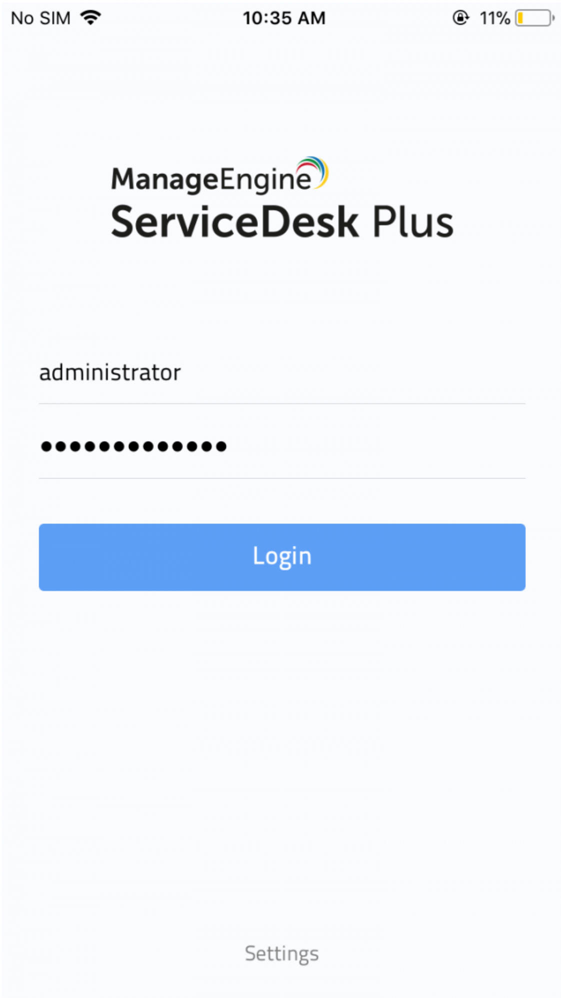


Once you click Save, the **Login** screen is displayed. Enter the **Username** and **Password** (say, **admin/admin**) and tap **Login**.



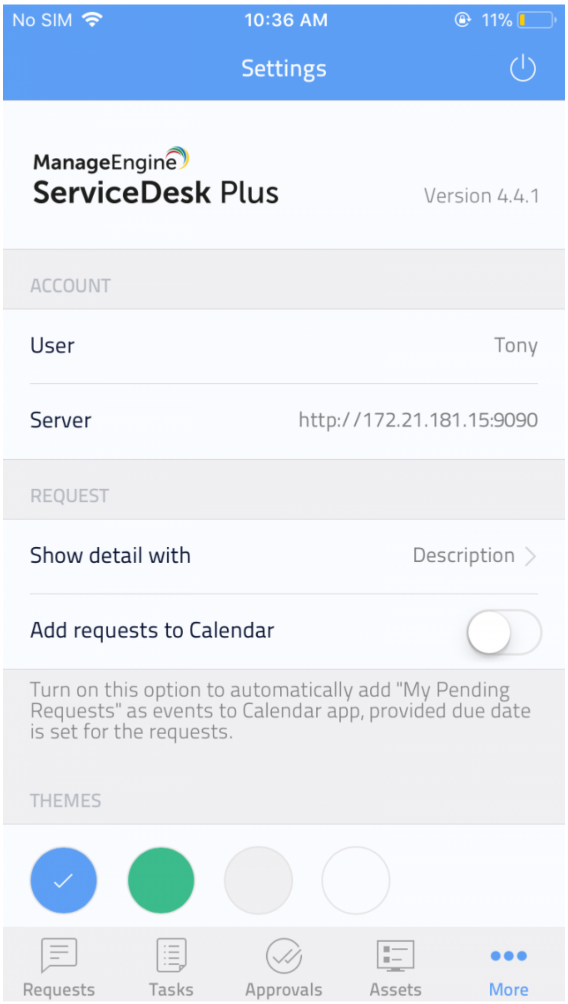
Note:

1. Please note that the Technician should be enabled with the respective login permissions.
2. If AD Authentication is enabled in ServiceDesk Plus, then the Technician should login to the ServiceDesk Plus iPhone app using the corresponding AD credentials.

III Configuring the ServiceDesk Plus iPhone App Settings

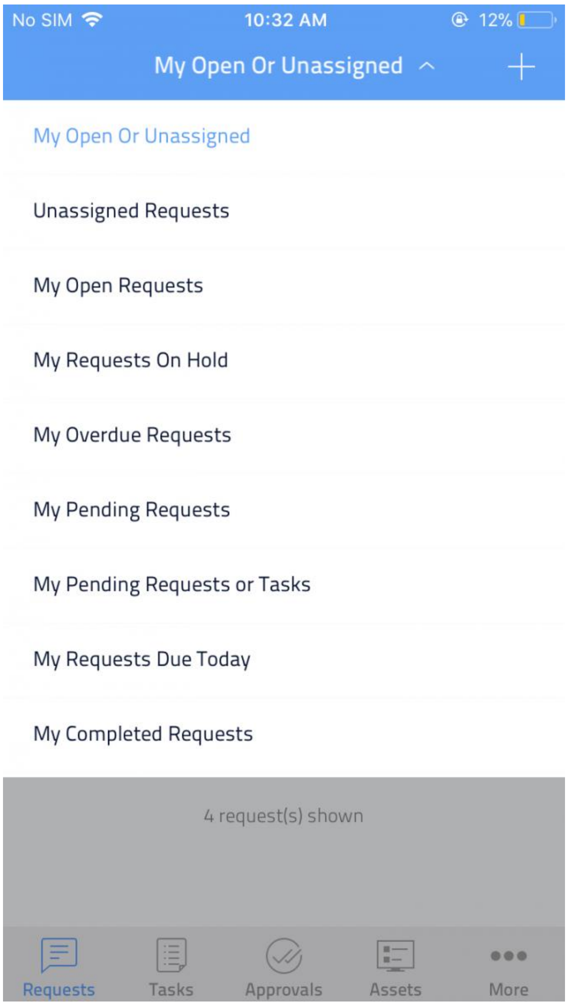
Tap the icon to view and modify the app settings. You can configure the following details:

- Choose on how you want the request details to be displayed.
- Choose to add the requests to calendar, so that "My Pending Requests" gets automatically added to the Calendar app, provided due date for the requests is set.
- Change the theme of the app.

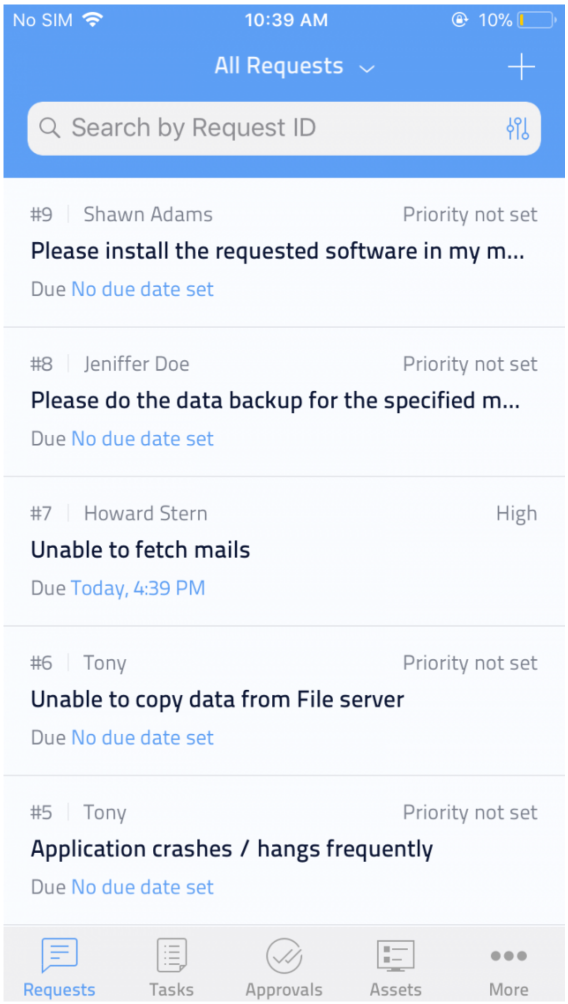


IV Requests List View

1. The Requests List View displays the **My Open or Unassigned requests,** by default. There are also other views, such as **My Open Requests**, **All My Requests**, **My Overdue Requests**, etc.



2. The Requests List View displays a maximum of 250 requests and each page displays a total of 50 requests.

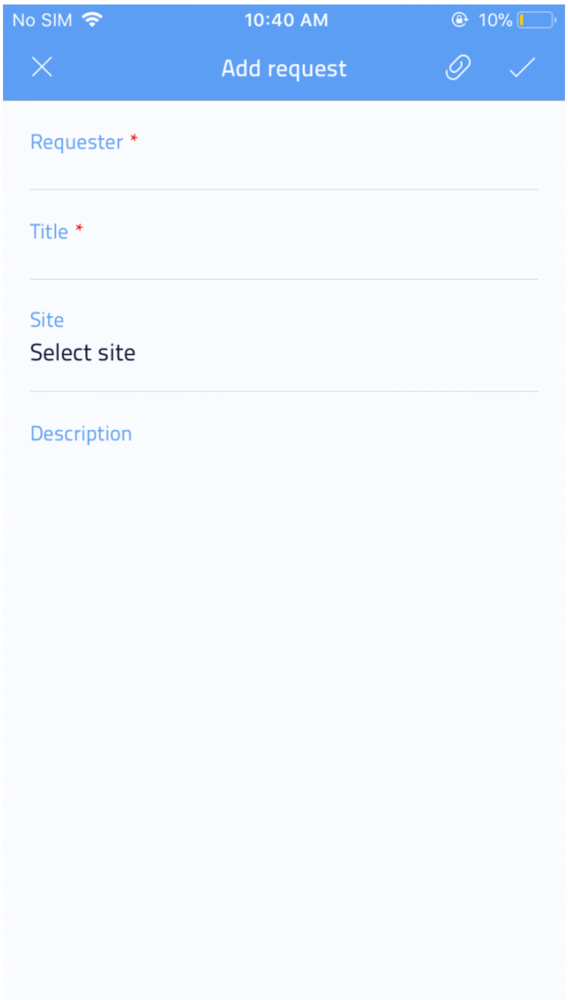


V Add Request

From the Requests List View, you can add new requests by clicking the **+** icon. The **Add Request** form is displayed.

1. Configure the following:

1. Enter the name of the **Requester** in the field provided.
2. Enter a **Title** for the request.
3. Select a **Site**.
4. Write a **Description**.
5. You can also add **attachments**, if required.



2. Tap the tick icon at the top. The Request is saved and displayed in the Requests List View along with the Requester`s Name and the Due by Date.

VI Viewing Request Details

1. From the Requests List View click an individual request to view the relevant details of the request, which include **Request Title**, **Status**, **Requester Name**, **Due by Date, Priority** and **Description**.

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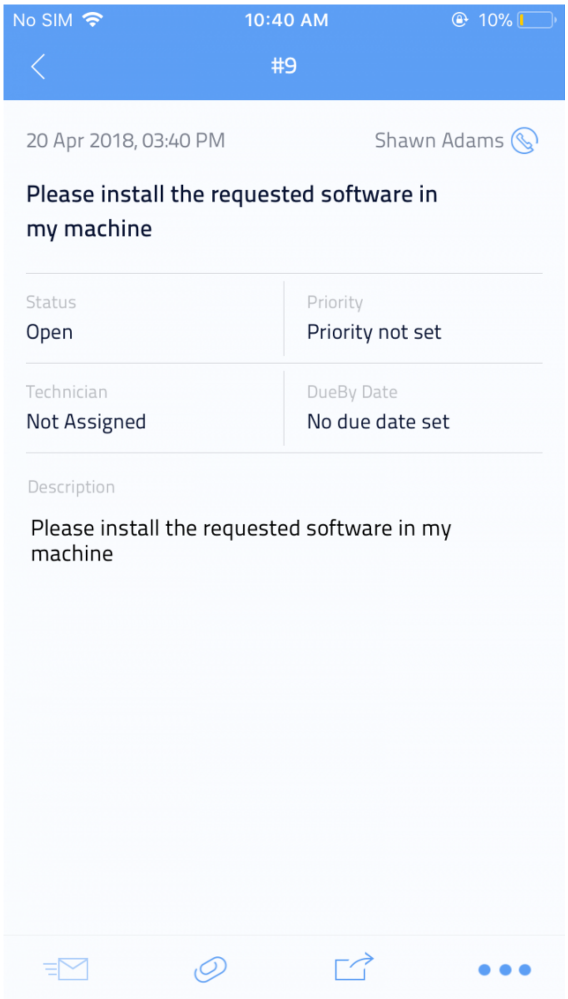

VI 1 Request Options

Click the ••• icon to view the following options: Request Details, Resolution, Solutions, Work Logs, Tasks and Notes.

VI 1.1 Request Details:

i. Click **Request Details**.

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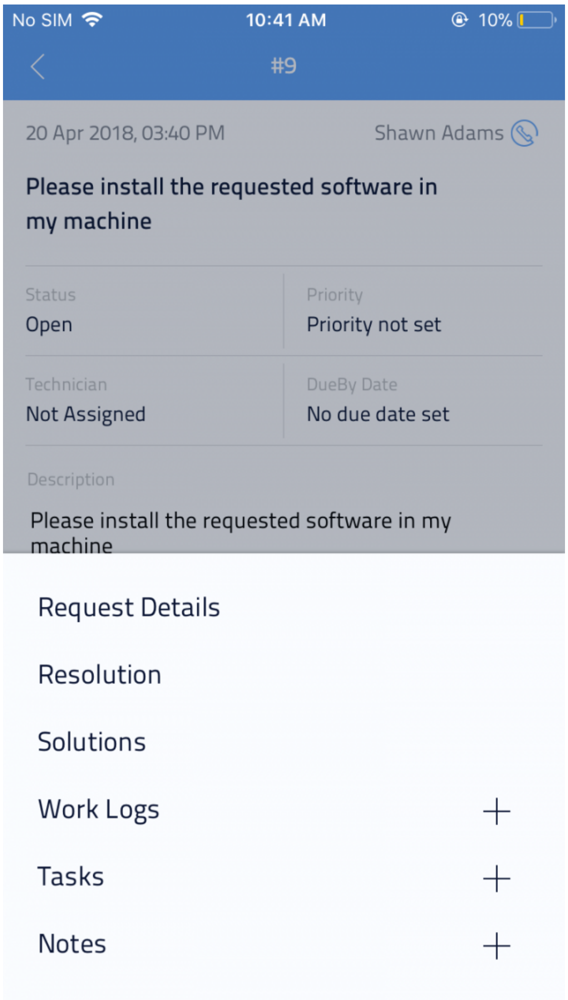
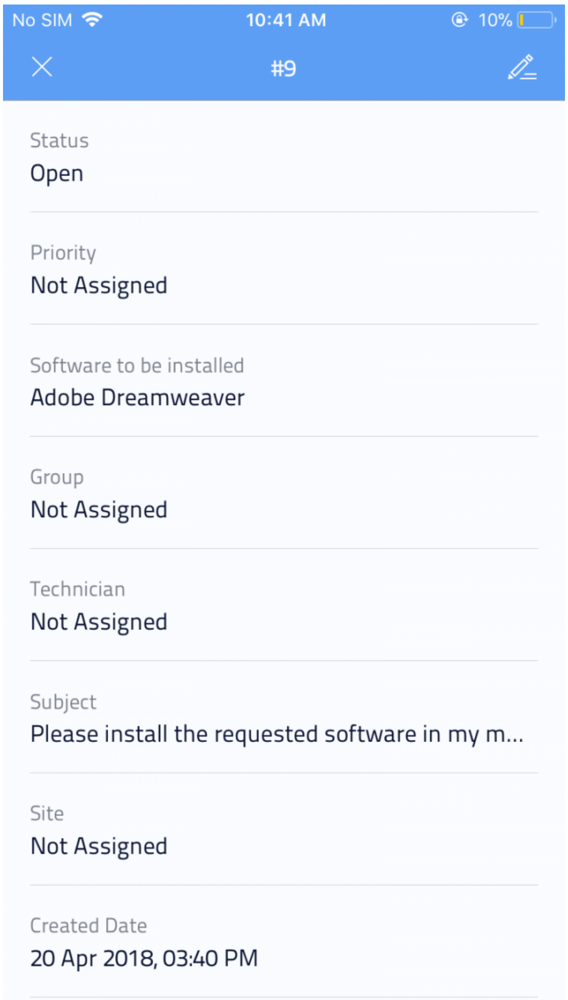


ii) More details about the request will be displayed as shown in the below screenshot.



VI 1.2 Resolution:

Using Resolution option, you can enter resolution for a request, view existing resolution and edit them if required.
Note:

- Resolutions cannot be created through resolution templates though the templates are configured in the server.
- Resolutions cannot be searched from Solutions module.

VI 1.2.1 Adding Resolution

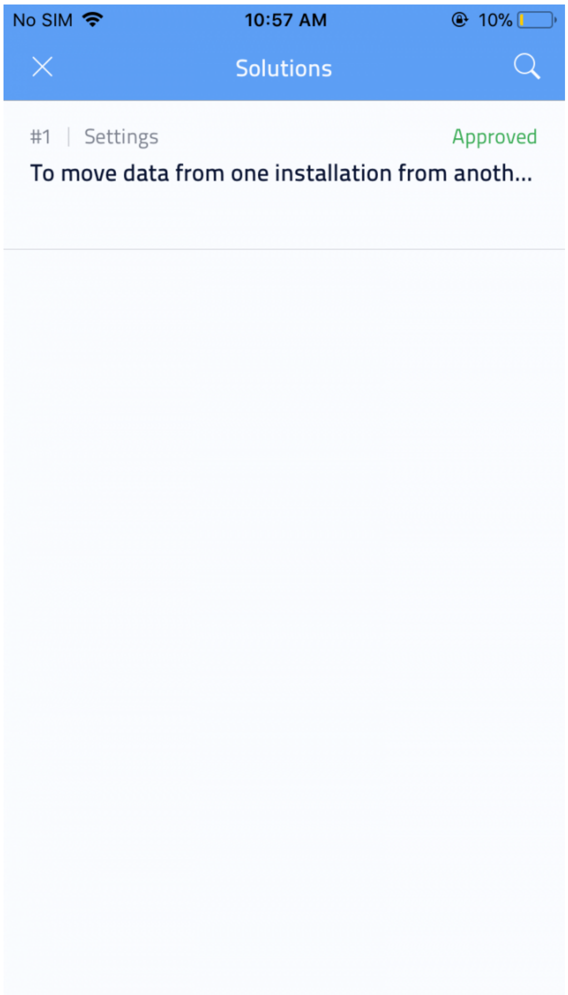
1. From the Requests List View click an individual request to view the relevant details of the request. From the resulting page, click the ••• icon and tap **Resolution**.
2. Enter the **Resolution** in the field provided.
3. Tap **Save**.
4. A message appears stating that the resolution is saved successfully.
5. Tap **Close** to go back to Request Details page.

VI 1.2.2 Editing Resolution

1. From the Requests List View click an individual request to view the relevant details of the request. From the resulting page, click the ... icon and tap **Resolution**.
2. Tap the **Edit** icon. The edit option is available only if a resolution is added to the request. Edit the resolution and tap the tick icon.
3. A message appears stating that the resolution is saved successfully.
4. Tap **Close** to go back to Request Details page.

VI 1.3 Solutions

The Solution option lists the pre-recorded solutions that are relevant to a selected request. You can further narrow down the search and look for a specific solution by entering the relevant keyword in the available Search box. Click the required solution from the avalable list to view the details.
Note: Using ServiceDesk Plus iPhone app, you can **only view** the solutions related to a request. You cannot add a new solution or edit the solutions.



VI 1.4 Work Logs

Using Work Log option, you can record the total time spent on resolving a request. In ServiceDesk Plus iPhone app,

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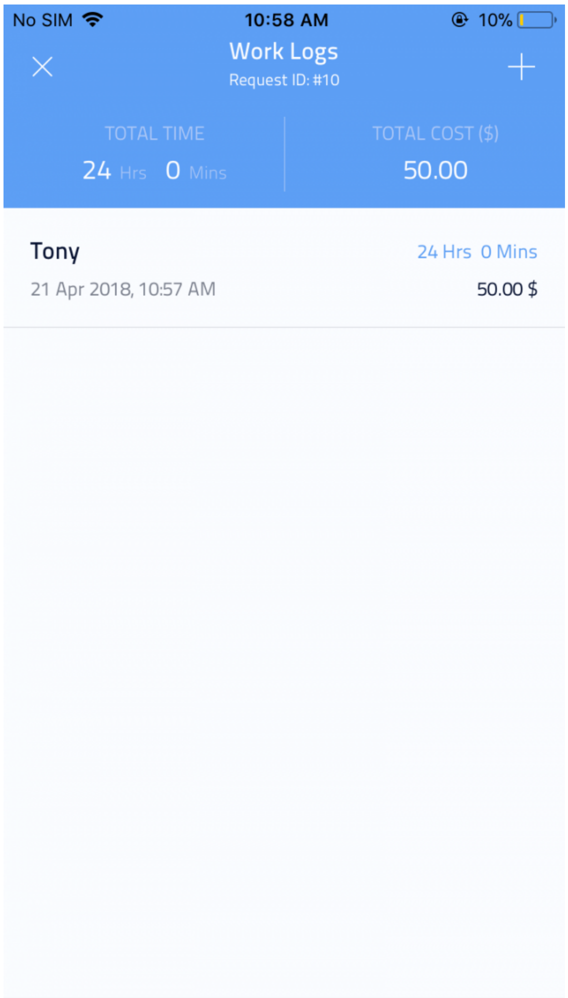
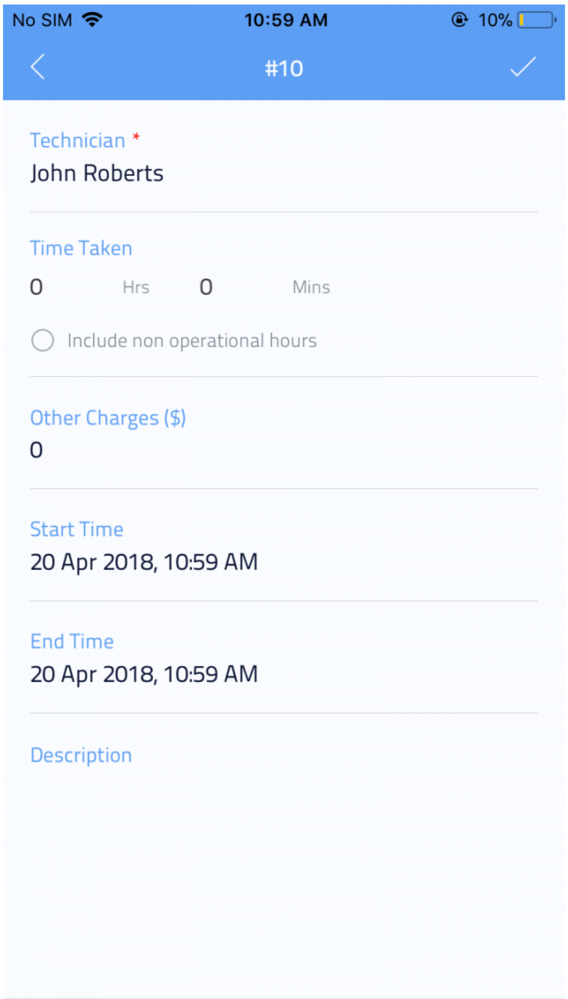
you can **Add Work Log**, **Edit Work Log** and **Delete Work Log**.

VI 1.4.1 Adding Work Logs for a request

i. From the Requests List View click an individual request to view the relevant details of the request. From the resulting page, click the ... icon and tap **Work Log**.
ii. The All Work Logs List view is displayed listing all the work logs added for the request. If no work logs are added to the request, then a **No Work Log Found** message is displayed.



iii. Tap the **+** icon to add a work log. The **Add Work Log** form is displayed.



1. Enter the **Technician** name who had resolved the request.
2. Enter the **Time Taken to Resolve** (in hrs and mins) the request in Hours and Minutes.
3. Select whether non operational hours must be included in the **Time Taken**.
4. Enter the **Other Charges** of the request.
5. Choose the **Start Time** and **End Time** taken to complete the request.
6. Enter any relevant information about the time spent in the **Description** field.
7. Tap the tick icon. The Work Log is added to the All Work Logs List view.

VI 1.4.2 Viewing Work Logs of a request

1. From the Requests List View click an individual request to view the relevant details of the request. From the resulting page, click the ... icon and tap **Work Log**.
2. The All Work Logs List view is displayed listing all the available work logs of the request.
3. The work logs are displayed along with the name of the Technician who had resolved the request and the Time taken to Execute the request.
4. Select a work log to view the details. The work log details page is displayed.

VI 1.4.3 Editing a Work Log

1. From the Requests List View click an individual request to view the relevant details of the request. From the resulting page, click the ... icon and tap **Work Log**.
2. The All Work Logs List view is displayed listing all the available work logs of the request.
3. The work logs are displayed along with the name of the Technician who had resolved the request and the Time taken to Execute the request.
4. Select a work log to view the details. The work log details page is displayed.
5. Tap the **Edit** icon. Modify the required details.
6. All the fields in the form are editable. You can modify the **Technician**, edit the **Time Taken To Resolve** the request, edit the **Other Charges**, modify the **Start Time** and **End Time** and edit the **Description** of the Work Log.
7. Tap the tick icon. The details are saved and listed in the All Work Logs List view.

VI 1.4.4 Deleting a Work Log

1. From the Requests List View click an individual request to view the relevant details of the request. From the resulting page, click the ... icon and tap **Work Log**.
2. The All Work Logs List view is displayed listing all the available work logs of the request.
3. Tap the **Delete** icon. The Work Log is deleted from the All Work Log List view.

VI 1.5 Tasks

Certain requests might involve multiple technicians' work. In that case, the request can be divided into several tasks and each task can be assigned to a Technician/Group.

VI 1.5.1 Adding Tasks for a request

i. From the Requests List View click an individual request to view the relevant details of the request. From the resulting page, click the ... icon and tap **Tasks**.
ii. The All Tasks List view is displayed listing all the tasks added under the request. If no tasks are added to the request, then a **No Task Found** message is displayed.

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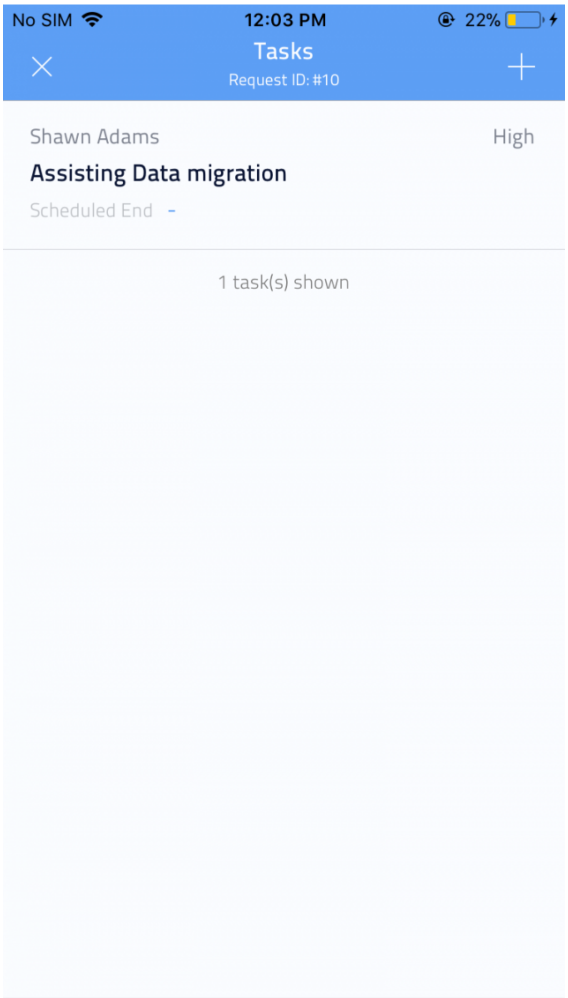

iii. Tap the **+** icon to add a task. The **Add Task** form is displayed.

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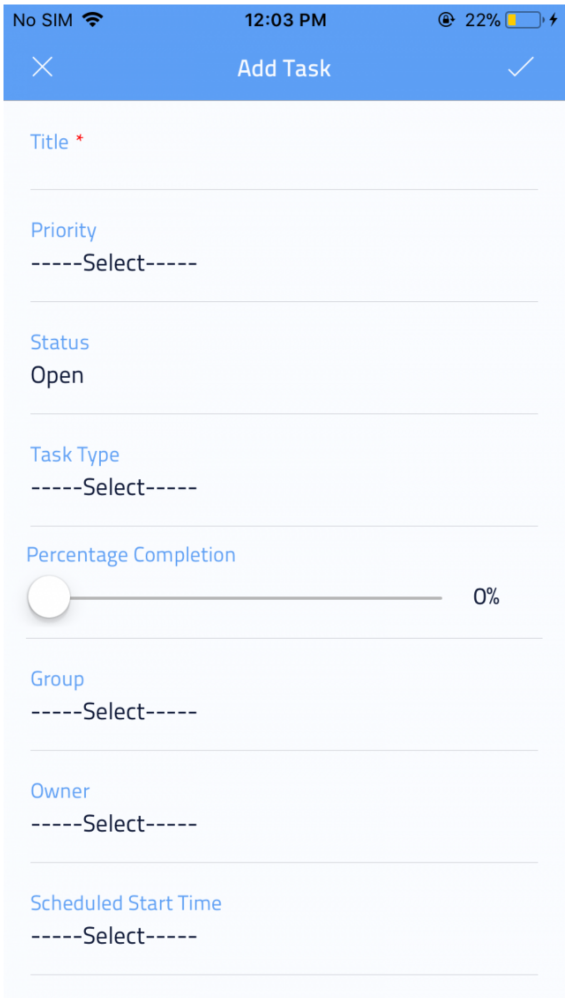

1. Enter a **Title** for the task.
2. Choose the **Priority** and **Status** of the task.
3. Choose the **Task Type**.
4. Select the **Percentage Completion** of the task.
5. Select the **Group** and **Owner** of the task
6. Tap the tick icon. The task is added to the All Tasks List view.

VI 1.5.2 Viewing Tasks of a Request

1. From the Requests List View click an individual request to view the relevant details of the request. From the resulting page, click the icon and tap **Tasks**.
2. The All Tasks List view is displayed listing all the available tasks of the request.
3. Select a task to view the details. The Task details page is displayed.

VI 1.5.3 Editing a Task

1. From the Requests List View click an individual request to view the relevant details of the request. From the resulting page, click the icon and tap **Tasks**.
2. The All Tasks List view is displayed listing all the available tasks of the request.

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3. Select a task to view the details. The Task details page is displayed.
4. Tap the **Edit** icon. Modify the required details of the task.
5. Tap the tick icon. The details are saved and listed in the All Tasks List view.

VI 1.5.4 Deleting a Task

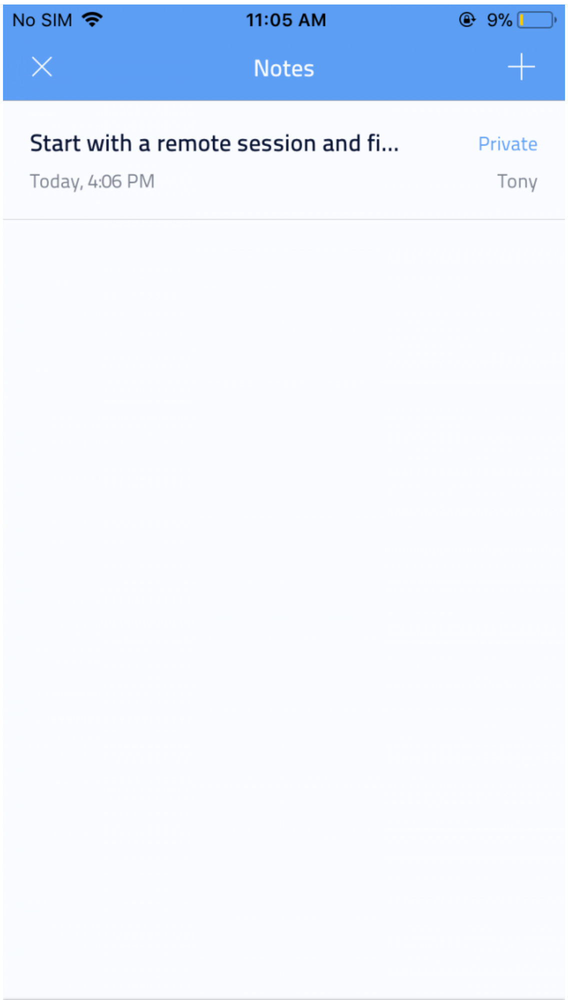
1. From the Requests List View click an individual request to view the relevant details of the request. From the resulting page, click the ... icon and tap **Tasks**.
2. The All Tasks List view is displayed listing all the available tasks of the request.
3. Select a task to view the details. The Task details page is displayed.
4. Tap the **Delete** icon. The task is deleted from the All Tasks List view.

VI 1.6 Notes

You might require to add some additional information, including technical information, to a particular request based on your observations. In that case, you can use the Notes option. You can also use notes to update the status of a request.

VI 1.6.1 Adding Note

i. From the Requests List View click an individual request to view the relevant details of the request. From the resulting page, click the ... icon and tap **Notes**.
ii. The All Notes List view is displayed listing all the notes added under the request. If no notes are added to the request, then a **No Notes Found** message is displayed.



iii. Tap the **+** icon to add a note.
iv. Enter your content in the text field.
v. There are two types of notes that can be added to the request namely, Public Notes and Private Notes:

- **Public Notes**: Public notes can be viewed by both the Requesters and Technicians.

If you want the notes to be visible to all the requesters, then select the **Show to Requester** check box.

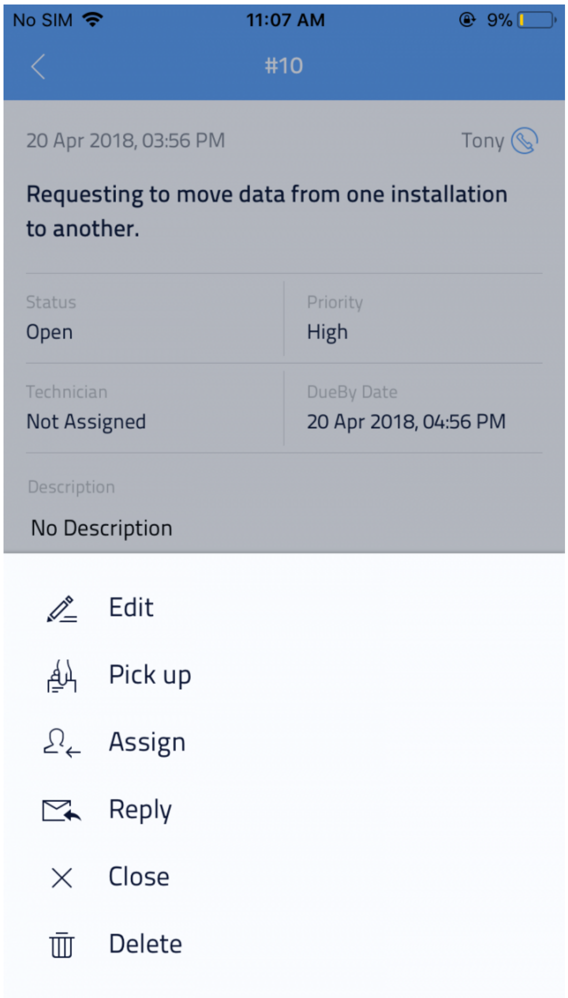
- **Private Notes**: Private notes can be viewed only by the Technicians (all the technicians).

If you want to notify the technician about the addition of the note, then select the **Mail to Technician** check box.
vi. Tap the tick icon. The note is added at the bottom of the request along with a date and time stamp. The name of the person who added the note is also displayed.

You can add any number of notes to a request. The added notes will be displayed in the descending order with recently added note first. You can also edit or delete the notes that have been added.

VI 2 Actions on Request

Click the icon to view the list of actions that can be performed on the request.



1. **Edit:** You can edit all the available details of the request. To edit a request:

   1. Tap **Edit**. The Edit Request form is displayed.
   2. Edit the request fields in the form and tap the tick icon at the top to save the changes.

2. **Pick up:** You can self-pickup requests from the Request details view. To pick up requests:
Tap **Pick up**. The request will be assigned to you.
3. **Assign**: You can assign Technicians to requests:

   1. Tap **Assign**. The **Technician Groups** are listed.
   2. Select a Technician Group that lists all the technicians associated with that group.
   3. Choose the **Technician** you want to assign the request. Tap the tick icon at the top.
   4. A message appears stating the request is successfully assigned to the selected technician.

4. **Reply**: You can reply to Requesters. To reply:

   1. Tap **Reply**.
   2. Enter the **To** address of the requester.
   3. If you want to send the same information to multiple persons then enter the relevant e-mail addresses in the **CC** field with commas as a separator.
   4. The **Subject** is pre-populated. You can edit the subject if required.

5. Enter a **Description**.
6. Tap the tick icon at the top. The e-mail is sent to the requester.

5. **Close**: When a requester is completely satisfied with the support provided and the reported problem has been perfectly resolved, the request can be moved to closed status. To close a request:

1. Tap **Close**.
2. Enter **Comments**.
3. If the **requester has acknowledged the resolution**, enable the checkbox. Tap the tick icon at the top.

Note: In ServiceDesk Plus Server:

- If you have enabled user's acknowledgement in ServiceDesk Plus server, then the **Close Request** page is displayed.
- If you have selected the mandatory fields to be filled while closing the request in **Request Closing Rules**, then enter the mandatory field and close the request. Else an error message appears and the request cannot be closed unless the field value is entered.
- If you have enabled the option **"Yes, prompt a message"** to confirm a user's acknowledgement in **Request Closing Rule**, then a **Close Request** page appears.

6. **Delete:**

1. Tap **Delete**.
2. Tap **Delete Request**. The request is deleted from the list.

VII Tasks List View

1. The Tasks List view displays the different categories of tasks that includes **My Open Tasks, My Overdue Tasks**, **My All Tasks**, **Unassigned Pending Tasks,** etc.

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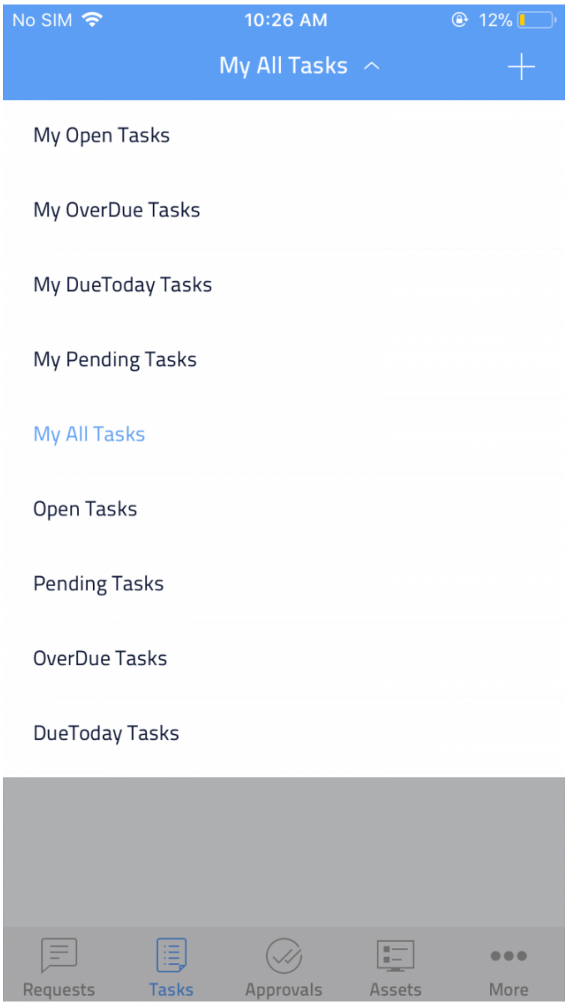
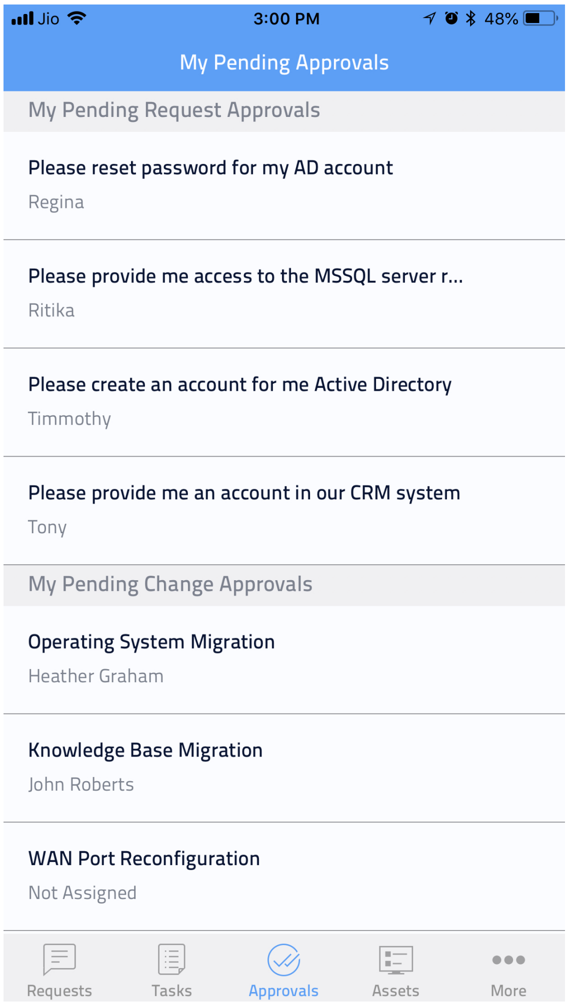


2. You can add, edit and delete tasks.

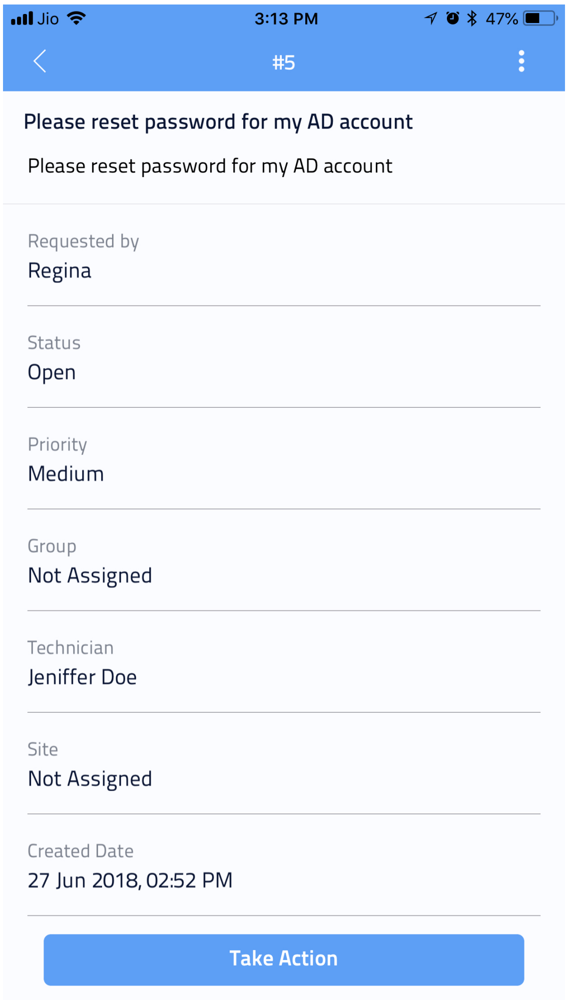
VIII Approvals

As CAB members, you can now view and approve service requests and changes right in your mobile application. Tap the **Approvals** icon. A list of your approval-pending requests and changes will be displayed.



Approving a request

Go to a request. Use icon to view the request's conversations, notes, and attachments.
Tap the **Take Action** button, enter comments, and tap **Approve** or **Reject**.



Approving a change request

Go to a change; the change details page will be displayed.
Use icon to view the following:

- Change Roles — displays all the roles assigned to the change.
- Approvals — displays all pending-approvals within the change.
- Implementation — displays tasks added to the change request.

Tap the **Take Action** button, enter comments, and tap **Approve** or **Reject**.

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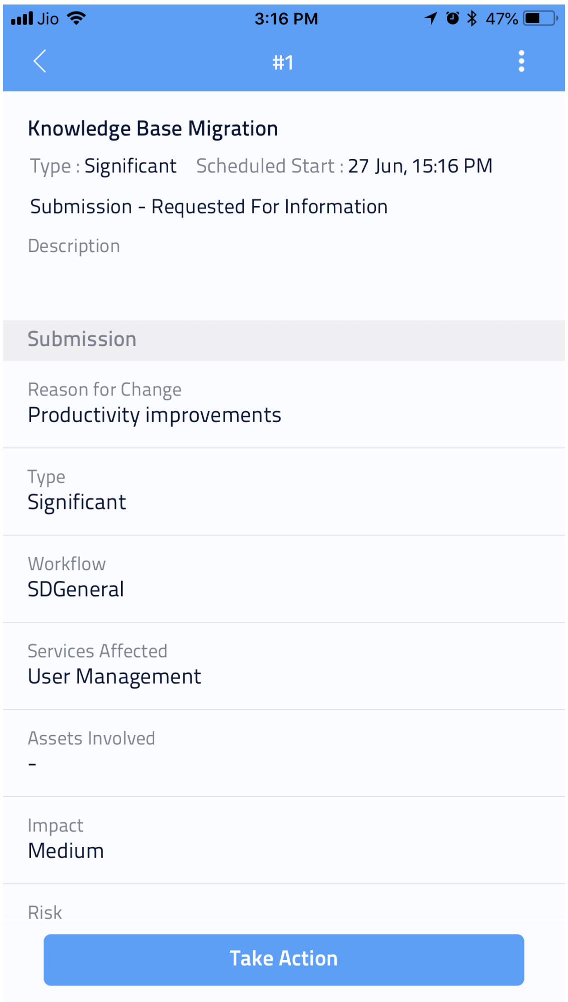

IX Assets

You can now manage your IT and non-IT assets by using the ServiceDesk Plus iOS application. You can scan your assets' vendor barcodes (like service tag barcodes) and add their details to the application. You can also access your Windows-machines over Remote Desktop Protocol (RDP).

Adding assets

With the Add Assets feature, you can scan assets' barcodes and manually add their details.

Tap Add Assets and scan one or more asset barcodes.

Click the **Tick** icon at the bottom after scanning the barcodes. All scanned barcodes will be listed.

Select Product Type and Product.

Provide the asset's site and location.

Enter a comment and tap the **Tick** icon.

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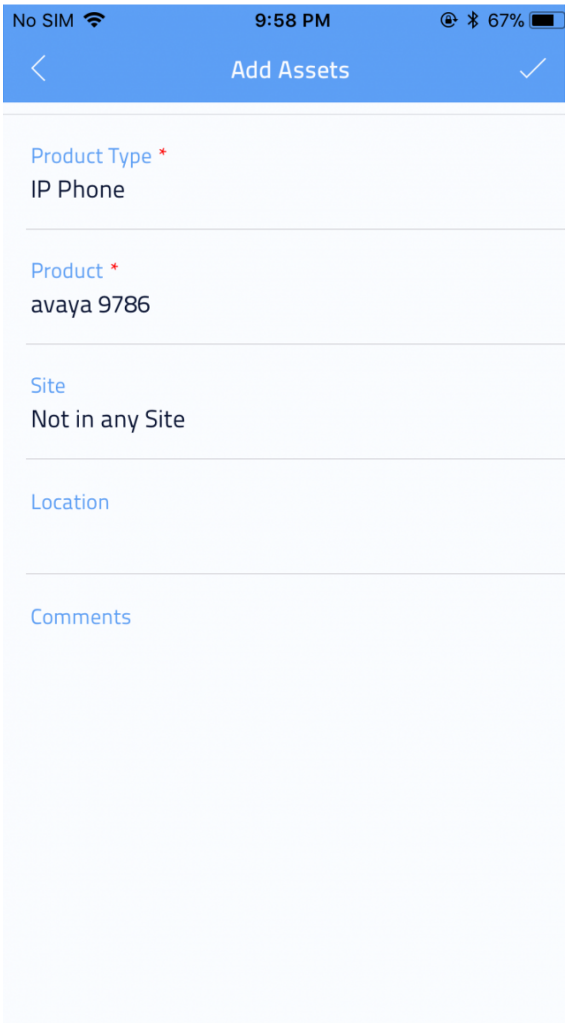

Viewing asset details

You can view asset details in two ways:
Tap Search Assets and type the asset or barcode name.
Optionally you can scan the asset and fetch its details using the **Scan Assets** button.

Web remote

Web remote feature facilitates remote sessions on Windows client machines. Before you initiate the remote sessions, follow through the prerequisites and configure web remote in your ServiceDesk Plus application. Learn them here.

Accessing remote machines

Tap **Web RDP**.
From the list of machines, pick one and enter the remote session's purpose or any other information in the Comments section.
Once the machine gets connected, you will be taken to the remote session.

X Notifications

Similar to the email and sms notification alerts, the ServiceDesk Plus iPhone app provides the Technicians

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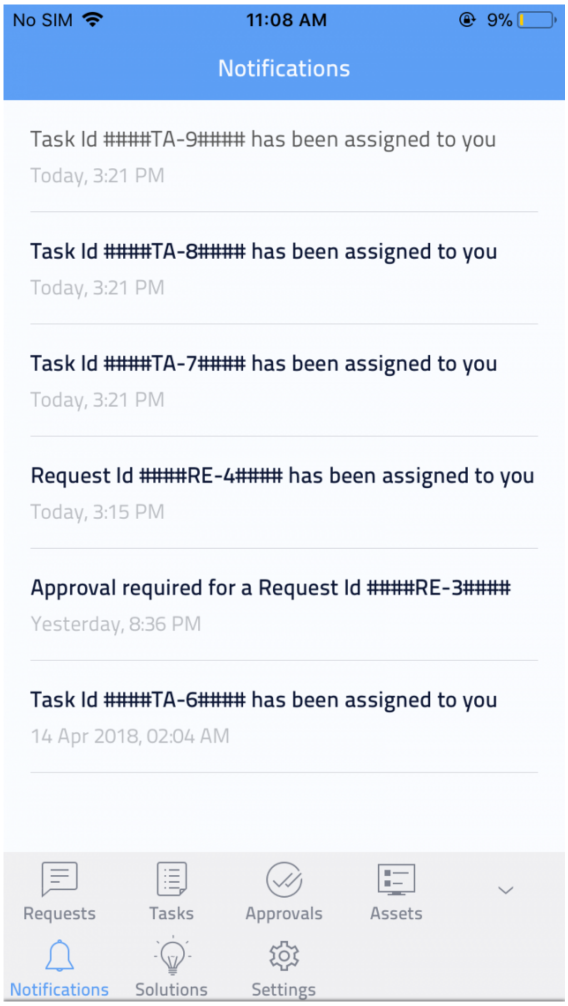
with **Notifications Alerts.** These alerts designated by a specific icon alarms the Technicians about the **vital aspects associated with a request** and facilitates prompt action on their part, thereby increasing the overall productivity of your helpdesk.



You can view the **notifications icon** in the The Requests List View that alerts the Technicians about the following events:

- When a **request is assigned** to them.
- When a **task is assigned** to them.
- When **notes are added to the request** assigned to them.
- When a **requester replies to a request** assigned to them.
- When **approval is required for a request** for which they have been assigned as **approvers.**
- When a requester/higher authority **approves/rejects the resolution** provided by them.

Note:

- A **red mark** with a number over the notifications Icon  indicates the number of **unopened notifications.**
- **Self-assigned or self-approved technician requests** will not be listed/recorded under the technician space.

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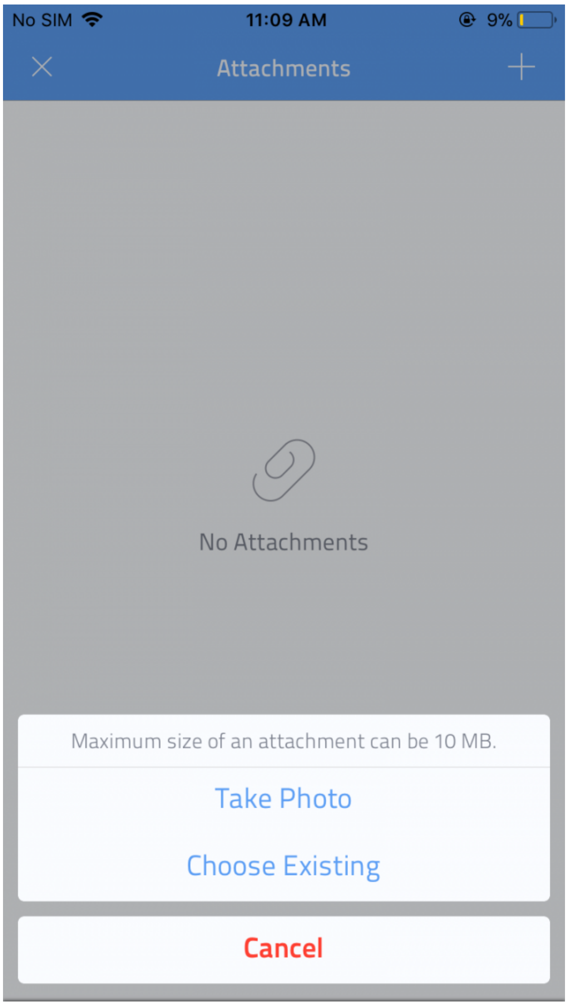
XI Attachments

Attachments are files or images that can be appended to requests. You can attach multiple files to a request.



To add an attachment to a request do the following:

1. From the Requests List View click an individual request to view the relevant details of the request. From the resulting page, click the icon.
2. The Attachments page is displayed that lists the existing attachments. A 'No Attachments' message is shown in case of NIL attachments.
3. Click the **+** icon to add an attachment. You can either take a photo or choose from the existing images in your phone.

Note:

- To add the attachments you need to first give access to the app, to your camera and photos.
- You can add attachments of size maximum upto 10 MB.

XII Logging out of the ServiceDesk Plus iPhone App

To logout of the ServiceDesk iPhone app, do the following:

1. Go to the Settings page.

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2. Tap the icon. You will be logged out of the app.

ServiceDesk Plus Android app

Introduction

ServiceDesk Plus, your IT helpdesk expert, is now available for quick access in your android mobile devices. You can tackle your tickets while on the go.
The ServiceDesk android App is intended to help you interact with the ServiceDesk Plus application more quickly and efficiently. By using the app you can extend support to your customers anytime, anywhere. In short, you can have a bird`s eye view of the complete details of your tickets in a single pane.
Once you have installed the android app in your phone, you will be able to do the following:

- Add requests
- Edit requests
- Assign requests to Technicians
- Reply to requests
- Add resolutions
- Add Worklogs
- Close the completed requests

Features

- Access your tickets from any location.
- Be available for your end users anytime.
- Allow your end users to quickly log in tickets from their mobile app.
- Have the advantage of making live conversations with your end users.
- Respond to the end user queries from within the ticket.
- Create, edit, pick up, assign, and resolve tickets in a quick manner.
- Notify Technicians of request and task assignments, replies from end users, and request approvals, etc, on the go.
- Create custom views and save them for later use.
- Keep track of your response and resolution SLAs with the SLA status flags.
- Converse with the end users through emails from within the mobile app.
- Keep track of all tasks associated with tickets and track progress from your device.

This document walks you through the following topics:

1. Downloading the ServiceDesk Plus Android App
2. Logging into the ServiceDesk Plus Android App
3. Configuring the ServiceDesk Plus Android App Settings
4. Requests List View
5. Add Request

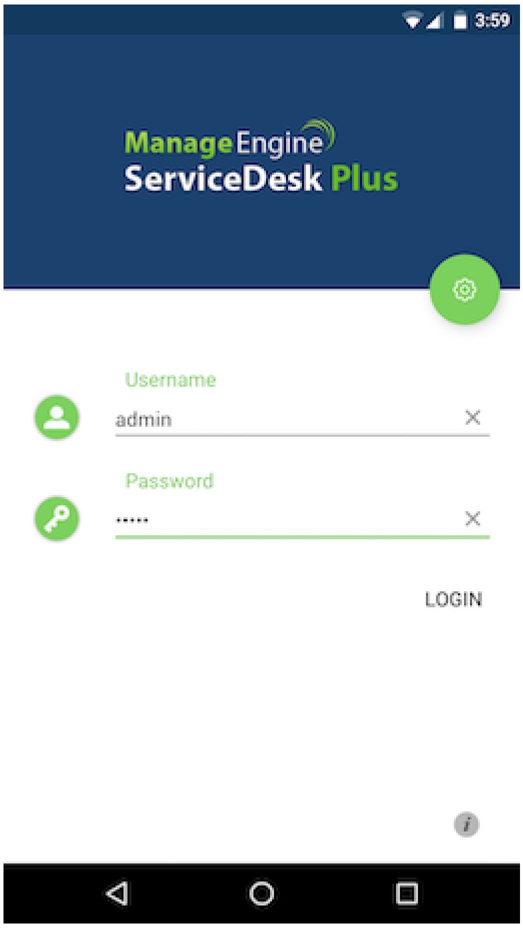
6. Viewing Request Details
    1. Request Options
    2. Attachments for a Request
    3. Actions on Request
7. Tasks List View
8. Logging out of the ServiceDesk Plus Android App

I Downloading the ServiceDesk Plus Android App

Download the ServiceDesk Plus Android app from the Play Store of your Android phone. Search for the term 'ServiceDesk Plus' and you will find the ServiceDesk Plus - IT Helpdesk Android app in the search results displayed. It is a free app and does not require any license to be purchased. Proceed installing the app in your Android phone.

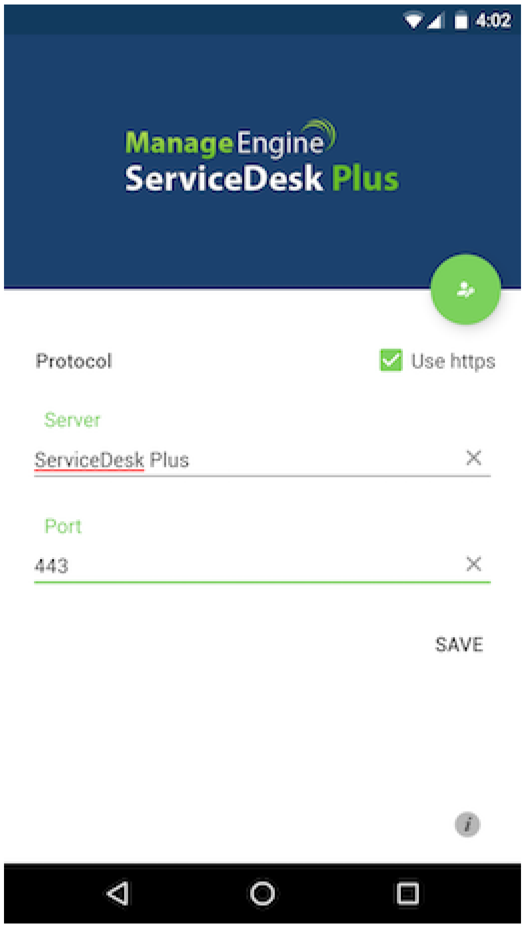
II Logging into the ServiceDesk Plus Android app

After installing the app, a **ServiceDesk Plus icon** is displayed in the Home screen of your phone. Tap the icon to view the the **Login** screen. Enter the **Username** and **Password** and tap **Login**. The Requests List View page is displayed.



II 1 Server Details Page

Tap the  icon in the **Login** screen. The **Server Details** screen (shown in the below image), where you need to enter the **Server Address** for the ServiceDesk Plus Android app. By default, the address '**http://demo.servicedeskplus.com:80**' is shown. You can change the URL if required. Enable the **Use https** checkbox, if you wish to run the server in https mode. Tap **Save**.



II 2 About Page

Tap the icon to view the **About** page, where you can view few important information about the ServiceDesk Plus application like, **Version**, **URL** to the website of ServiceDesk Plus application, **Contact number**, etc.

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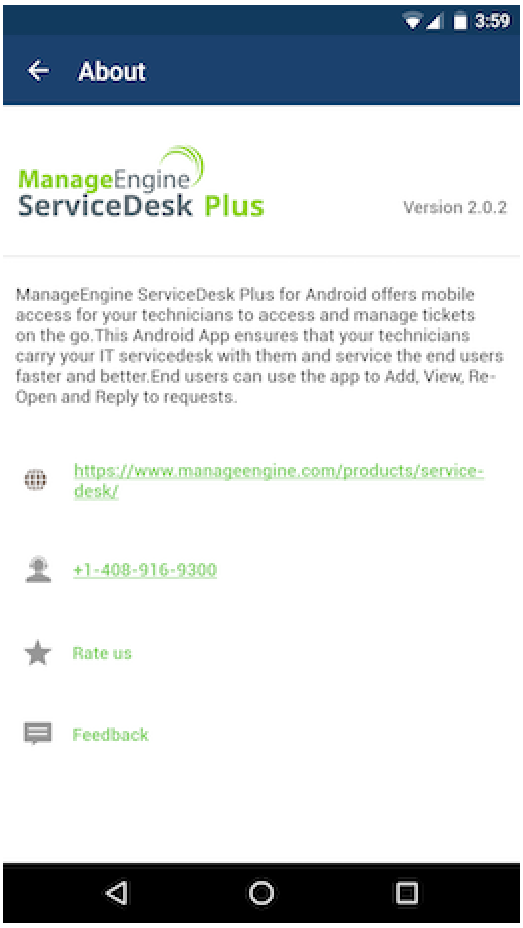
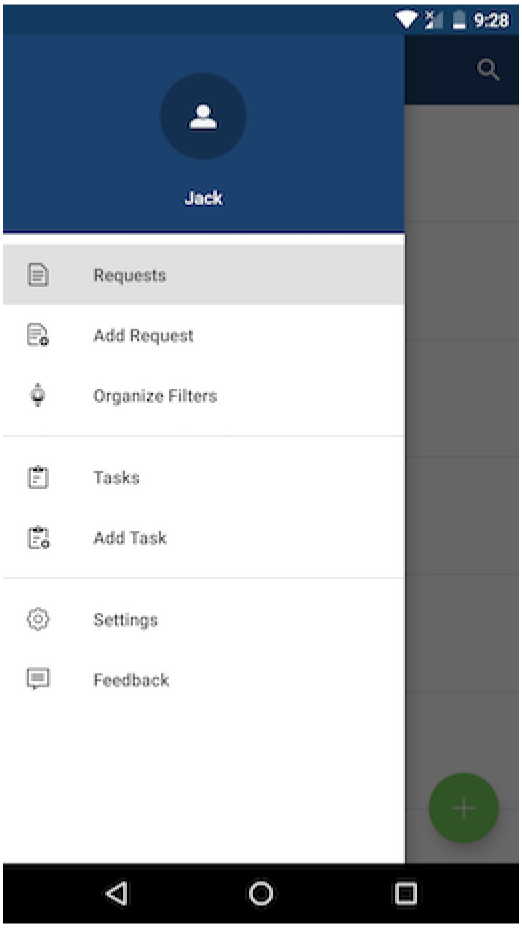


Note:

1. Please note that the Technician should be enabled with login permissions.
2. If AD Authentication is enabled in ServiceDesk Plus, then the technician should login to the ServiceDesk Plus Android app using his AD credentials.

III Configuring the ServiceDesk Plus Android App Settings

1. Tap the icon from the Requests List View page to view and modify the app **Settings**.



2. You can configure the following details:

- Choose the **Theme**. You can choose between the colors, **Blue (default), Green, Red and Dark Grey**.
- View the details **About** the app and read the **Acknowledgement.**
- **Share** the app.

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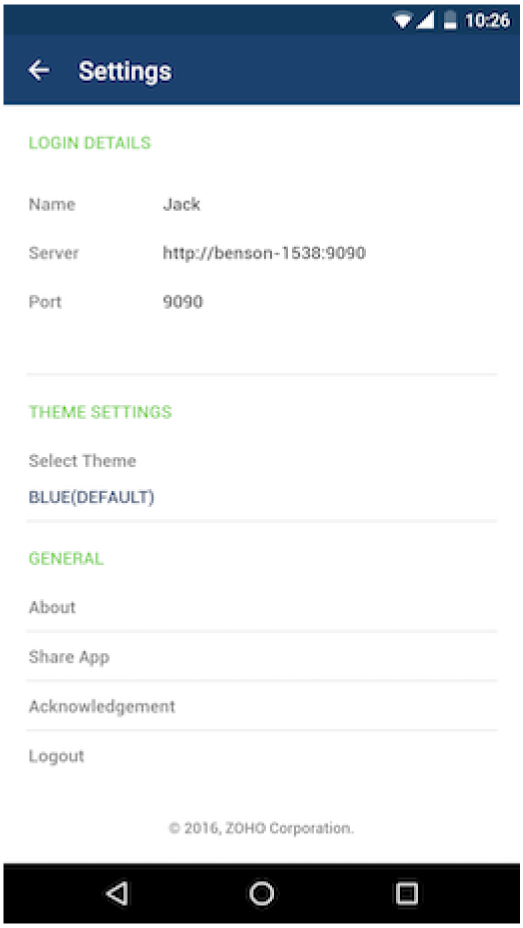
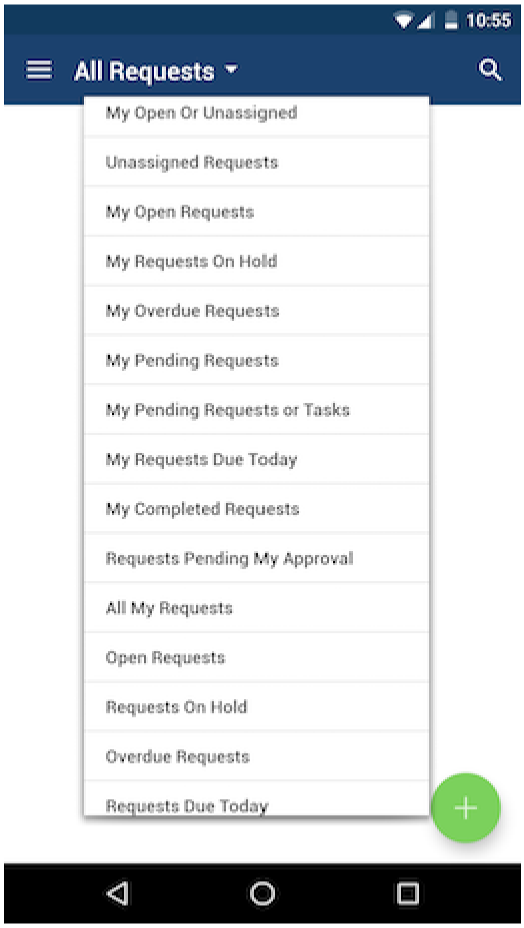
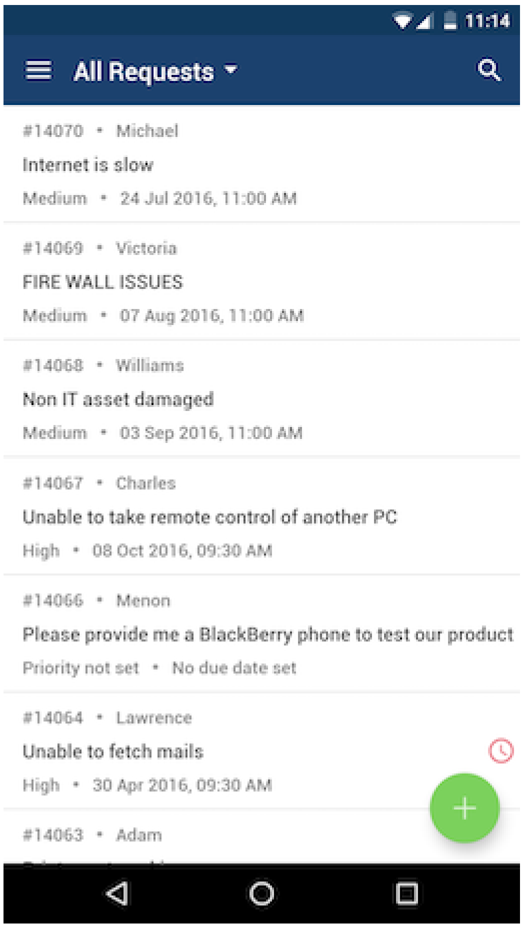


IV Requests List View

1. The Requests List View displays the **My Open or Unassigned requests,** by default. There are also other views, such as **My Open Requests**, **All My Requests**, **My Overdue Requests**, etc.



2. The Requests List View displays a maximum of 250 requests and each page displays a total of 50 requests.

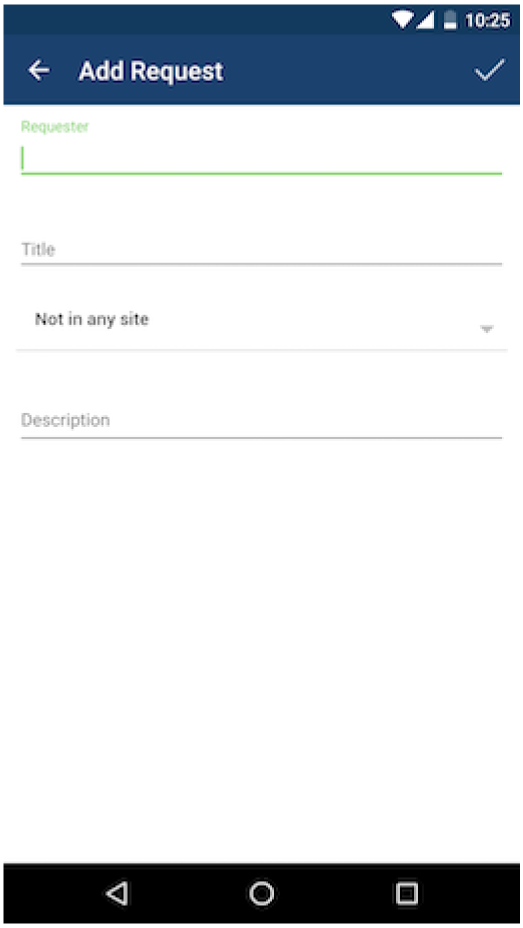


V Add Request

From the Requests List View, Tap the icon and select **Add Request [OR]** tap the **green +** icon. The **Add Request** form is displayed.

1. Enter the below details:

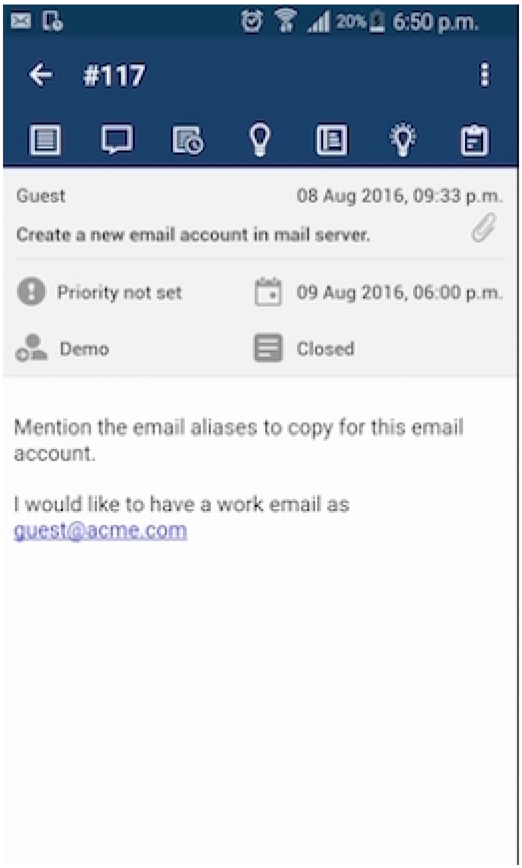
1. Enter the name of the **Requester** in the field provided.
2. Enter a **Title** for the request.
3. Select a **Site**.
4. Write a **Description**.
5. You can also add **attachments**, if required.



2. Tap the tick icon at the top. The Request is saved and displayed in the Requests List View along with the Requesters Name and the Due by Date.

VI Viewing Request Details

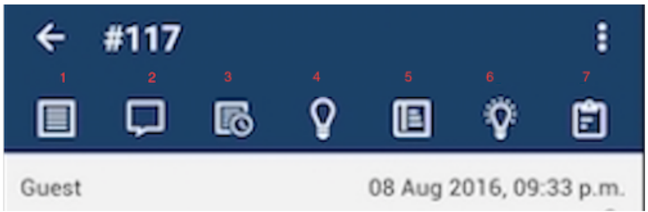
From the Requests List View tap an individual request. The Request details page is displayed. You can view the relevant details of the request sucha as, **Request Title**, **Status**, **Requester Name**, **Due by Date, Priority** and **Description**.



VI 1 Request Options

From the Request details page, you can view the following options as icons. Tap the respective icon to view the relevant details.

1 - Request Details
2 - Conversations
3 - Work Logs
4 - Resolution
5 - Notes
6 - Solutions
7 - Tasks



VI 1.1 Request Details:

More details about the request will be displayed as shown in the below screenshot. Tap the green icon to edit the request.

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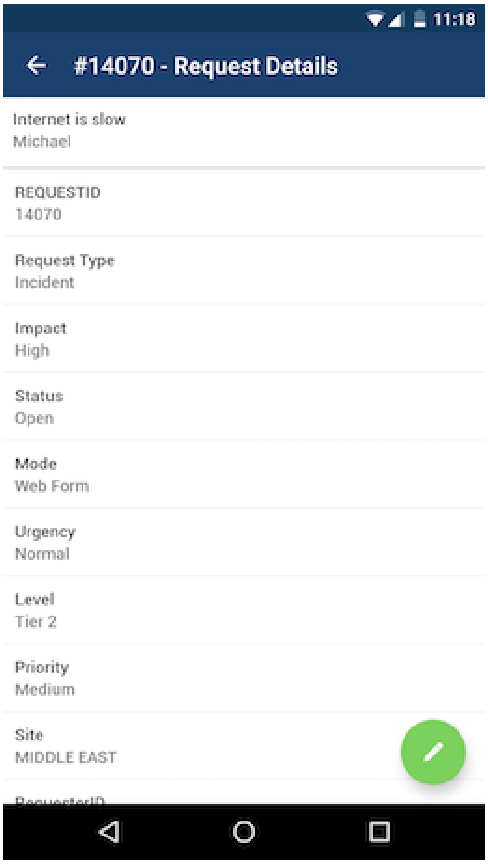


VI 1.2 Conversations:

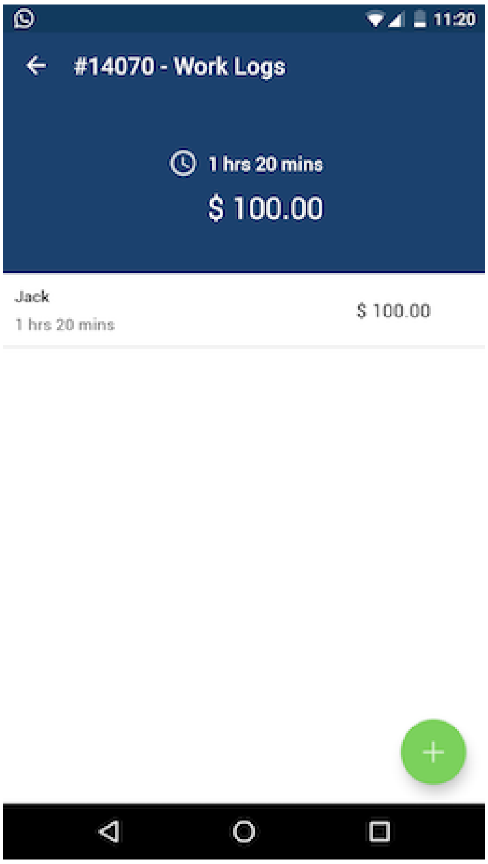
The email transactions happening between the Technician, handling the request, and the Requester are listed here as conversations. At times, the Technicians can converse with other Technicians regarding the request and those conversations also get listed under the Conversations block.

VI 1.3 Work Logs

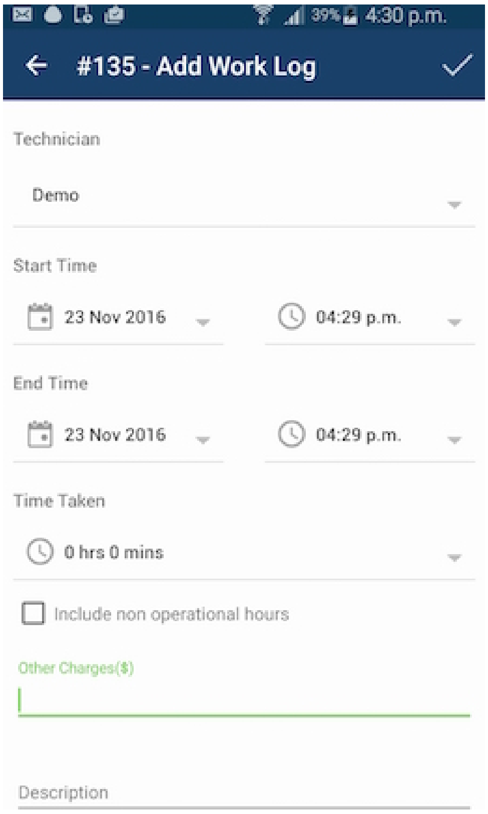
Using Work Logs option, you can record the total time spent on resolving a request. In ServiceDesk Plus Android app, you can **Add Work Log**, **Edit Work Log** and **Delete Work Log**.

VI 1.3.1 Adding Work Logs for a Request

1. Tap the Work Logs icon. The All Work Logs List view is displayed listing all the work logs added for the request. If no work logs are added to the request, then a **No Work Logs** message is displayed.



iii. Tap the **+** icon to add a work log. The **Add Work Log** form is displayed.



1. Enter the **Technician** name who had resolved the request.

2. Choose the **Start Time** and **End Time** taken to complete the request.
3. Enter the **Time Taken** to resolve (in hrs and mins) the request.
4. Enter any relevant information about the time spent in the **Description** field.
5. Enter the **Other Charges** of the request.
6. Tap the tick icon. The Work Log is added to the All Work Logs List view.

VI 1.3.2 Viewing Work Logs of a request

1. Tap the Work Logs icon. The All Work Logs List view is displayed listing all the work logs added for the request.
2. The work logs are displayed along with the name of the Technician who had resolved the request and the Time taken to Execute the request.
3. Select a work log to view the details. The work log details page is displayed.

VI 1.3.3 Editing a Work Log

1. Tap the Work Logs icon. The All Work Logs List view is displayed listing all the work logs added for the request.
2. The work logs are displayed along with the name of the Technician who had resolved the request and the Time taken to Execute the request.
3. Select a work log to view the details. The work log details page is displayed.
4. Tap the **Edit** icon. Modify the required details.
5. All the fields in the form are editable. You can modify the **Technician**, edit the **Time Taken To Resolve** the request, edit the **Other Charges**, modify the **Start Time** and **End Time** and edit the **Description** of the Work Log.
6. Tap the tick icon. The details are saved and listed in the All Work Logs List view.

VI 1.3.4 Deleting a Work Log

1. Tap the Work Logs icon. The All Work Logs List view is displayed listing all the work logs added for the request.
2. The All Work Logs List view is displayed listing all the available work logs of the request.
3. Tap the **Delete** icon. The Work Log is deleted from the All Work Log List view.

VI 1.4 Resolution:

Using Resolution option, you can enter resolution for a request, view existing resolution and edit them if required.
Note:

- Resolutions cannot be created through resolution templates though the templates are configured in the server.

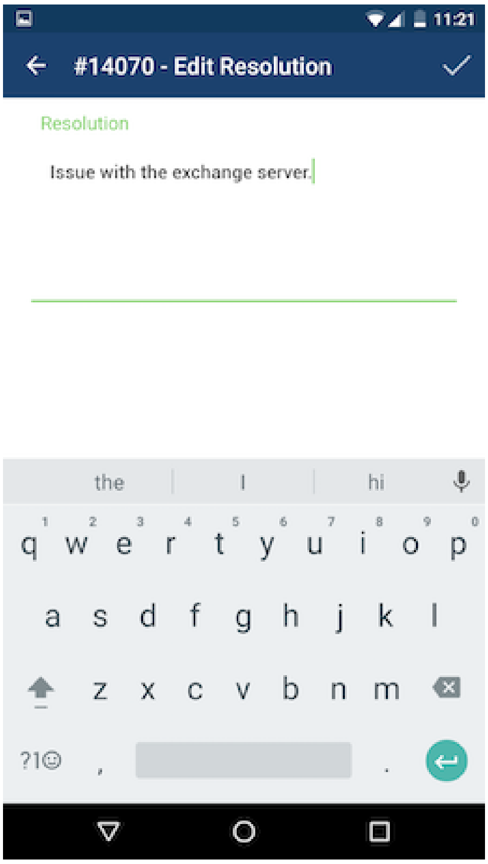
- Resolutions cannot be searched from Solutions module.

VI 1.4.1 Adding Resolution

1. Tap the Resolution icon. The All Resolutions List view is displayed listing all the resolutions added for the request. If no resolutions are added to the request, then a No Resolution message is displayed.
2. Tap the **+** icon to add a resolution. The **Add Resolution** form is displayed.
3. Enter the **Resolution** in the field provided.
4. Tap **the tick icon**. A message appears stating that the resolution is saved successfully.

VI 1.4.2 Editing Resolution

1. Tap the Resolution icon. The All Resolutions List view is displayed listing all the resolutions added for the request.
2. Tap the **Edit** icon. The edit option is available only if a resolution is added to the request. Edit the resolution and tap the tick icon.
3. A message appears stating that the resolution is saved successfully.

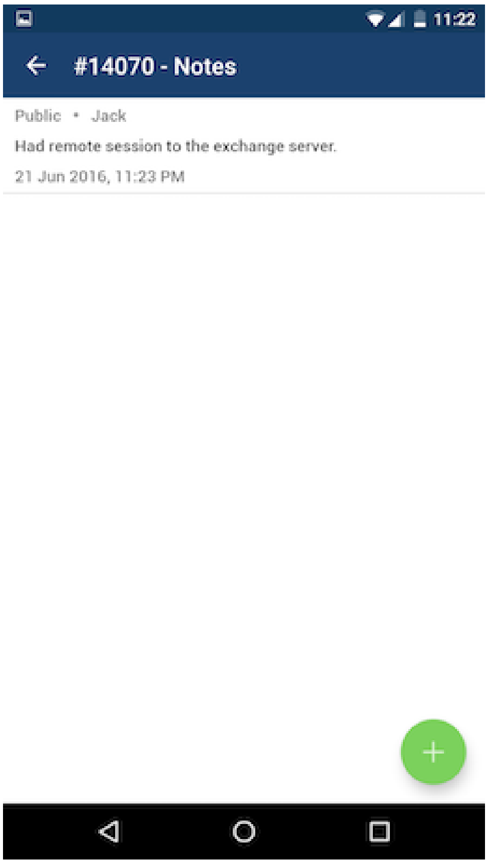


VI 1.5 Notes

You might require to add some additional information, including technical information, to a particular request based on your observations. In that case, you can use the Notes option. You can also use notes to update the status of a request.

VI 1.5.1 Adding Note

i. Tap the Notes icon. The All Notes List view is displayed listing all the notes added for the request. If no notes are added to the request, then a **No Notes** message is displayed.



ii. Tap the **+** icon to add a note.
iii. Enter your content in the text field.
iv. There are two types of notes that can be added to the request namely, Public Notes and Private Notes:

- **Public Notes**: Public notes can be viewed by both the Requesters and Technicians.

If you want the notes to be visible to all the requesters, then select the **Show to Requester** check box.

- **Private Notes**: Private notes can be viewed only by the Technicians (all the technicians).

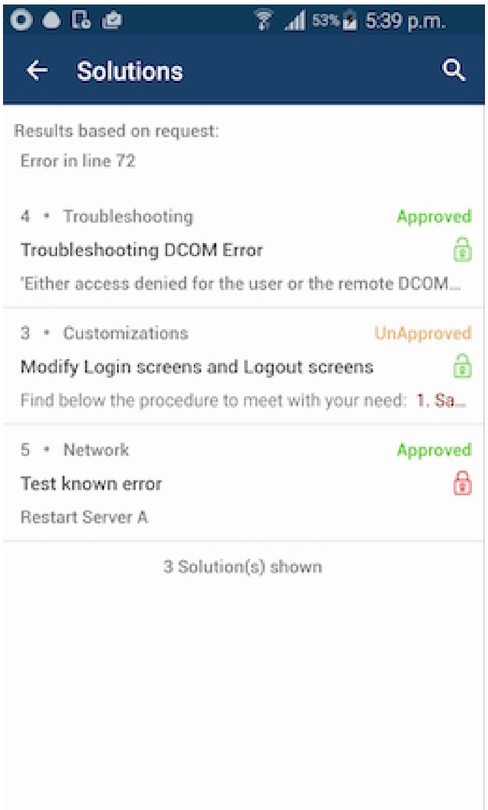
If you want to notify the technician about the addition of the note, then select the **Mail to Technician** check box.

v. Tap the tick icon. The note is added at the bottom of the request along with a date and time stamp. The name of the person who added the note is also displayed.

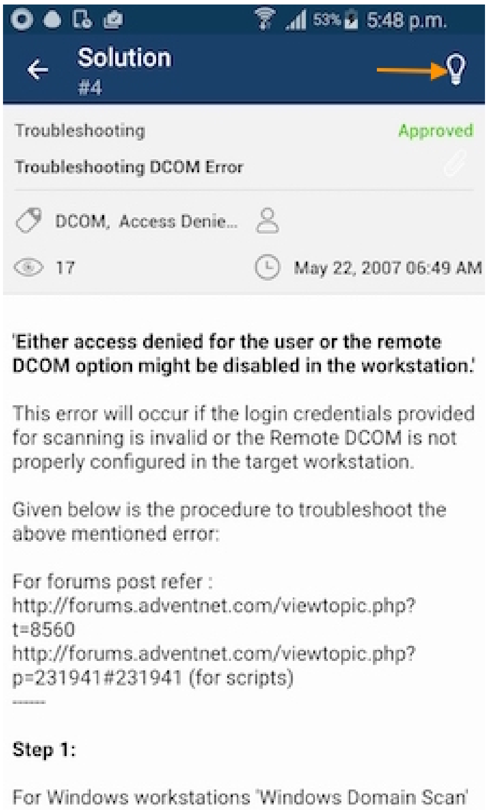
You can add any number of notes to a request. The added notes will be displayed in the descending order with recently added note first. You can also edit or delete the notes that have been added.

VI 1.6 Solutions

The Solution option lists the pre-recorded solutions that are relevant to a selected request. You can further narrow down the search and look for a specific solution by entering the relevant keyword in the available Search box. Tap the required solution from the avalable list to view the details.



Note: Using ServiceDesk Plus Android app, you can **only view** the solutions related to a request. You cannot add a new solution or edit the solutions. Anyway, you can edit the resolutions by tapping the Resolution icon present in the Solution details page.



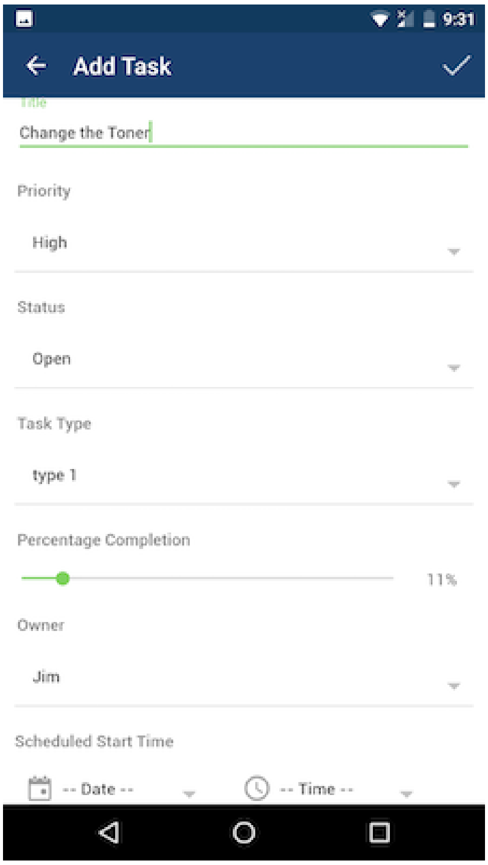
VI 1.7 Tasks

Certain requests might involve multiple Technician work. In that case, the request can be divided into several tasks and each task can be assigned to a Technician/Group.

VI 1.7.1 Adding Tasks for a request

i. Tap the Tasks icon. The All Tasks List view is displayed listing all the tasks added for the request. If no tasks are added to the request, then a **No Tasks** message is displayed.

ii. Tap the **+** icon to add a task. The **Add Task** form is displayed.

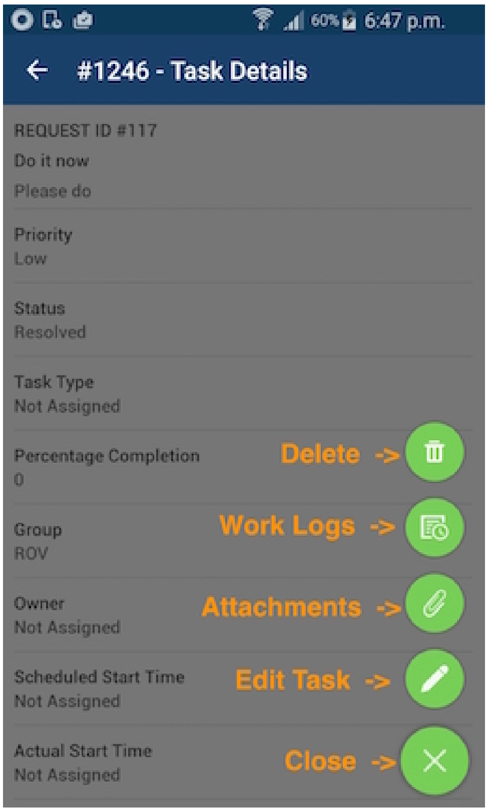


1. Enter a **Title** for the task.
2. Choose the **Priority** and **Status** of the task.

3. Choose the **Task Type**.
4. Select the **Percentage Completion** of the task.
5. Select the **Group** and **Owner** of the task
6. Tap the tick icon. The task is added to the All Tasks List view.

VI 1.7.2 Viewing Tasks of a Request

1. Tap the Tasks icon. The All Tasks List view is displayed listing all the tasks added for the request.
2. Select a task to view the details. The Task details page is displayed.
3. Tap the + icon to view different options:



VI 1.7.3 Deleting a Task

1. Tap the Delete icon (shown in the above image).
2. The task is deleted from the All Tasks List view.

VI 1.7.4 Work Logs for Task

1. Tap the **Work Logs** icon (shown in the above image).
2. Follow the similar steps as in Request to add, view, edit and delete work logs.

VI 1.7.5 Attachments for a Task

Attachments are files or images that can be appended to tasks. You can attach multiple files to a task.
To add an attachment to a task do the following:

1. Tap the **Attachments** icon (shown in the above image).
2. The Attachments page is displayed that lists the existing attachments. A 'No Attachments' message is shown in case of NIL attachments.
3. Tap the **+** icon to add an attachment. You can either take a photo or choose from the existing images in your phone.

NOTE:

- To add the attachments you need to first give access to the app, to your camera and photos.
- You can add attachments of size maximum upto 10 MB.

VI 1.7.6 Editing a Task

1. Tap the **Edit Task** icon (shown in the above image).
2. Modify the required details of the task.
3. Tap the tick icon. The details are saved and listed in the All Tasks List view.

VI 1.7.7 Closing a Task

Tap the **Close Task** icon (shown in the above image). The task gets closed.

VI 2 Attachments for a Request

Attachments are files or images that can be appended to requests. You can attach multiple files to a request.
To add an attachment to a request do the following:

1. From the Requests List View tap an individual request to view the relevant details of the request. From the resulting page, tap the icon.
2. The Attachments page is displayed that lists the existing attachments. A 'No Attachments' message is shown in case of NIL attachments.
3. Tap the **+** icon to add an attachment. You can either take a photo or choose from the existing images in your phone.

Note:

- To add the attachments you need to first give access to the app, to your camera and photos.
- You can add attachments of size maximum upto 10 MB.

VI 3 Actions on Request

Tap the icon at the top right corner of the page to view the list of actions that can be performed on the request.

1. **Edit:** You can edit all the available details of the request. To edit a request:

   1. Tap **Edit**. The Edit Request form is displayed.
   2. Edit the request fields in the form and tap the tick icon at the top to save the changes.

2. **Pick up:** You can self-pickup requests from the Request details view. To pick up requests:
Tap **Pick up**. The request will be assigned to you.

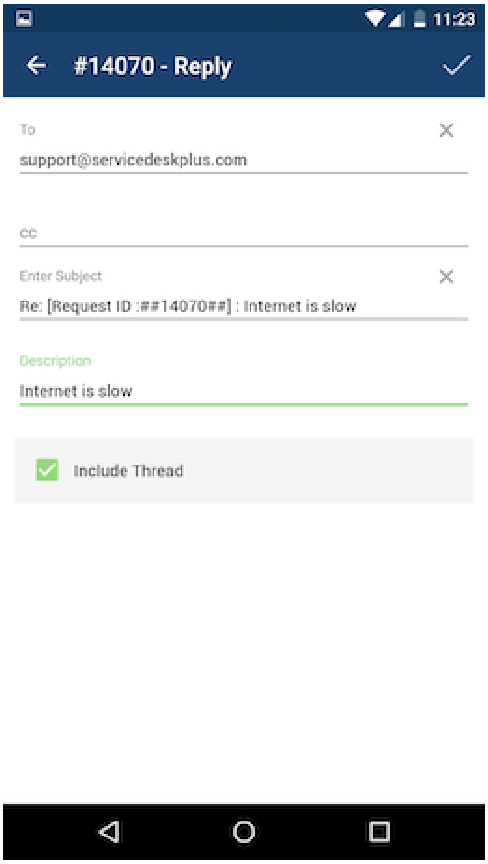
3. **Assign**: You can assign Technicians to requests:

   1. Tap **Assign**. The **Technician Groups** are listed.
   2. Select a Technician Group that lists all the technicians associated with that group.
   3. Choose the **Technician** you want to assign the request. Tap the tick icon at the top.
   4. A message appears stating the request is successfully assigned to the selected technician.

4. **Reply**: You can reply to Requesters. To reply:

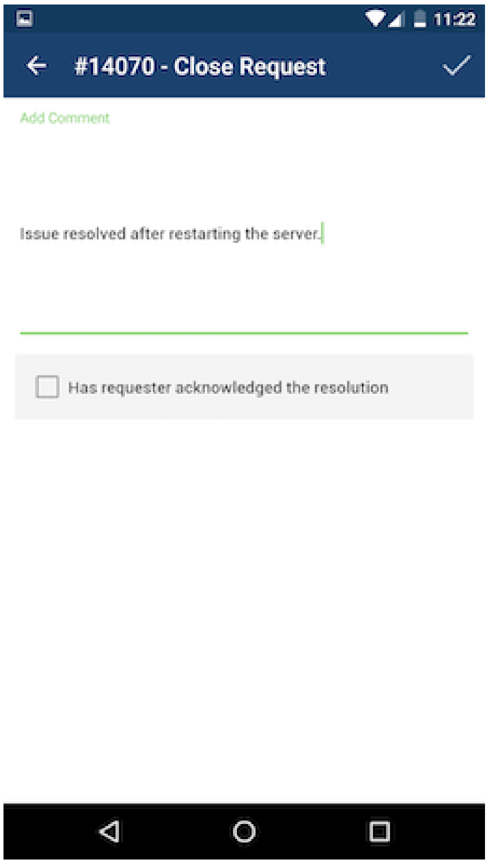
   1. Tap **Reply**.
   2. Enter the **To** address of the requester.
   3. If you want to send the same information to multiple persons then enter the relevant e-mail addresses in the **CC** field with commas as a separator.

4. The **Subject** is pre-populated. You can edit the subject if required.
5. Enter a **Description**.
6. Tap the tick icon at the top. The e-mail is sent to the requester.



5. **Close**: When a requester is completely satisfied with the support provided and the reported problem has been perfectly resolved, the request can be moved to closed status. To close a request:

1. Tap **Close**.
2. Enter **Comments**.
3. If the **requester has acknowledges the resolution**, enable the checkbox. Tap the tick icon at the top.



Note: In ServiceDesk Plus Server:

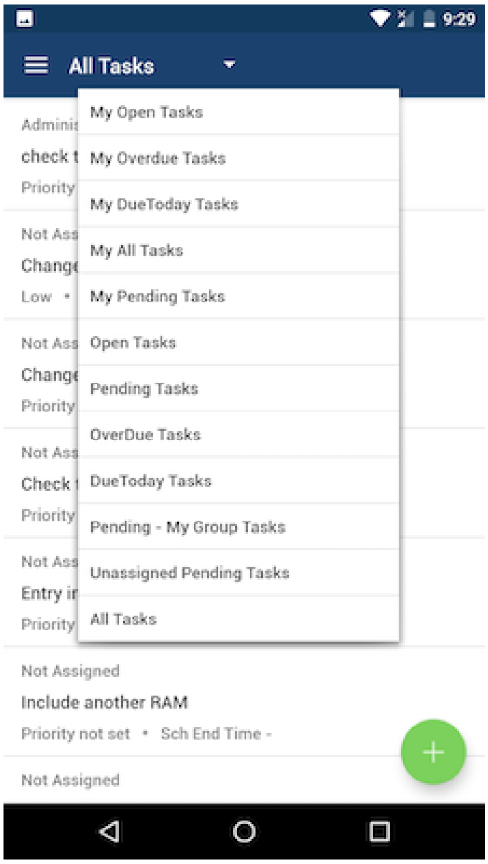
- If you have enabled user's acknowledgement in ServiceDesk Plus server, then the **Close Request** page is displayed.
- If you have selected the mandatory fields to be filled while closing the request in **Request Closing Rules**, then enter the mandatory field and close the request. Else an error message appears and the request cannot be closed unless the field value is entered.
- If you have enabled the option **"Yes, prompt a message"** to confirm a user's acknowledgement in **Request Closing Rule**, then a **Close Request** page appears.

6. **Delete:**

1. Tap **Delete**.
2. Tap**Delete Request**. The request is deleted from the list.

VII Tasks List View

1. The Tasks List view displays the different categories of tasks that includes **My Open Tasks, My Overdue Tasks**, **My All Tasks**, **Unassigned Pending Tasks,** etc.
2. Tap the  icon from the Requests List View page and tap Tasks.



3. The Tasks List View displays the **My Open Tasks,** by default. There are also other views, such as **My Overdue Tasks**, **My All Tasks**, **Pending Tasks**, etc.
4. Tap the required task to view the relevant details.
5. You can add, edit and delete tasks.

VIII Logging out of the ServiceDesk Plus Android App

To logout of the ServiceDesk Android app, do the following:

1. Go to the Settings page.
2. Tap Logout.
3. Click Logout in the confirmation window displayed.

Appendix

This topic explains the various features that are not grouped under any of the modules but can be used from the application.

- System Log Viewer
- Performance Monitoring Tool
- Backup Process
- Restore Process
- Change Web Server Port
- Feedback
- Performance Guide
- Troubleshooting

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System Log Viewer

You can view the error logs generated by the ServiceDesk Plus application online.

Note: To view performance logs and to schedule performance monitoring click on performance monitoring tool

To view the error logs,

1. Log in to the ServiceDesk Plus application using your user name and password. If you have the permissions to view the support information, you will see a Support tab in the header.
2. Click the **Support** tab in the header pane.
3. Click the System Log Viewer link available in the Support page.

To view the individual error details,

1. In the **Error Log** list view page, click the hyper linked **Error Message**. An error log window with the details of the error is opened.
2. The **Error Message** field contains the complete error message.
3. The **Module** field indicates the module in which the error occurred.
4. The **Occurred At** field indicates the date and time when the error occurred.
5. If the probable cause of the error is known, then the cause is displayed in the **Probable Cause** field.
6. The **Performed By** field indicates the origin of the error. For example, if it is a system-generated error, then the Performed By field contains System as its value.
7. Click **Close** after viewing the details of the error message.

None of these fields are editable. You can also search for a specific error log details with the help of the Search in feature.

To search for error logs,

1. In the left menu, the search block is found at the bottom. If you are in the Error Log list view page, then by default, the System Log option is chosen in the Search in combo box. If not, then choose System Log.
2. In the Enter Keyword text field, enter the search string.
3. Press Enter on your keyboard or click Go. The search results will display all the error logs that match the search string.
4. Click the error log of your choice to view the same.

You can delete these error logs.

To delete individual error logs

1. In the **Error Log** list view, select check boxes beside the **Error Messages** that you wish to delete.
2. Click **Delete**.

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If you want to delete all the existing error messages, then click the **Delete All** button.

Back up Process

- Back up Process in Windows
  - Back up Process in Windows without file attachments
- Back up Process in Linux
  - Back up Process in Linux without file attachments
- Password protection of backup files

Back up Process in Windows

1. Shut down ManageEngine ServiceDesk Plus server before you perform a back up of your data.
2. Click **Start -> Programs -> ManageEngine ServiceDesk Plus -> Backup Data**. [OR]

   From command prompt, go to <ServiceDesk>bin directory and execute the backUpData.bat as shown below,

   C:ManageEngineServiceDeskbinbackUpData.bat

2. A backup of the data in the database and the file attachments that have been added in the application is created in <ServiceDesk>backup directory. The backup file has to be a .data file.
3. The file name for the backup file will be of the pattern backup_servicedesk_[build number]_fullbackup_month_date_year_hr_min.data. For example, a back up taken in Version 8.0 of ServiceDesk Plus looks like this,

backup_servicedesk_8000_fullbackup_01_18_2011_15_28.data

ServiceDesk Plus is designed in such a way that the file attachments are not stored in the database. The attachments are stored in the file attachments folder of the installation directory (C:ManageEngineServiceDesk). If you are upgrading the server, then you can save time by performing a back up without file attachments i.e., back up of the database alone.

Back up Process in Windows without file attachments

1. From command prompt, go to <ServiceDesk Plus>bin directory and execute **backUpData.bat --trimmed** command to start the database back up.

   C:ManageEngineServiceDeskbinbackUpData.bat --trimmed

2. Once the back up is complete, a backup file with .data extension is placed in the Trimmed Backup folder under ServiceDesk Plus Home directory.
3. The backup file contains information such as, the Build number of ServiceDesk Plus, and date and time when the back up was performed. Here is the format of the backup file.

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backup_ servicedesk_ [build number] _database_month _date _ year _ hour _minutes.

For example, a trimmed backup taken in Version 8.0 of ServiceDesk Plus looks like this, backup_servicedesk_8000_database_01_18_2011_15_28.data

Back up Process in Linux

Follow the steps given below to take a back up of the ManageEngine ServiceDesk Plus data:

1. Shut down ManageEngine ServiceDesk Plus server before you perform a back up of your data.
2. Go to <ServiceDesk>/bin directory from the command prompt.
3. Execute the backUpData.sh file as given below:

    $ sh backUpData.sh

The backup file is created in the <ServiceDesk>/backup directory. The backup file has to be a .data file

3. The file name for the backup file is of the pattern backUp_servicedesk_[build number]_fullbackup_month_date_year_hr_min.data.

For example, a back up taken in Version 8.0 of ServiceDesk Plus looks like this, backup_servicedesk_8000_fullbackup_01_18_2011_15_28.data

Back up Process in Linux without file attachments

1. From command prompt, go to <ServiceDesk Plus>bin directory and execute **backUpData.sh --trimmed** command to start the database back up.

$ sh backUpData.sh --trimmed

2. Once the back up is complete, a backup file with .data extension is placed in the Trimmed Backup folder under ServiceDesk Plus Home directory.
3. The backup file contains information such as, the Build number of ServiceDesk Plus, and date and time when the back up was performed. Here is the format of the backup file.

backup_ servicedesk_ [build number] _database_month _date _ year _ hour _minutes.

For example, a trimmed backup taken in Version 8.0 of ServiceDesk Plus looks like this, backup_servicedesk_8000_database_01_18_2011_15_28.data

Password protection of backup files

After upgrading the application, you will be required to use a password to access the backup files. The

SDAdmin configures the password while scheduling the backup. The password can be viewed and reset under **Admin>>General>>Backup Scheduling**.This password applies to all files backed up manually as well by schedule.
The password is necessary to restore the application by using the backup files.
When you configure the password afresh or reset it, a notification email is sent to you and to all users configured to be notified each time a backup fails.

Restore Process

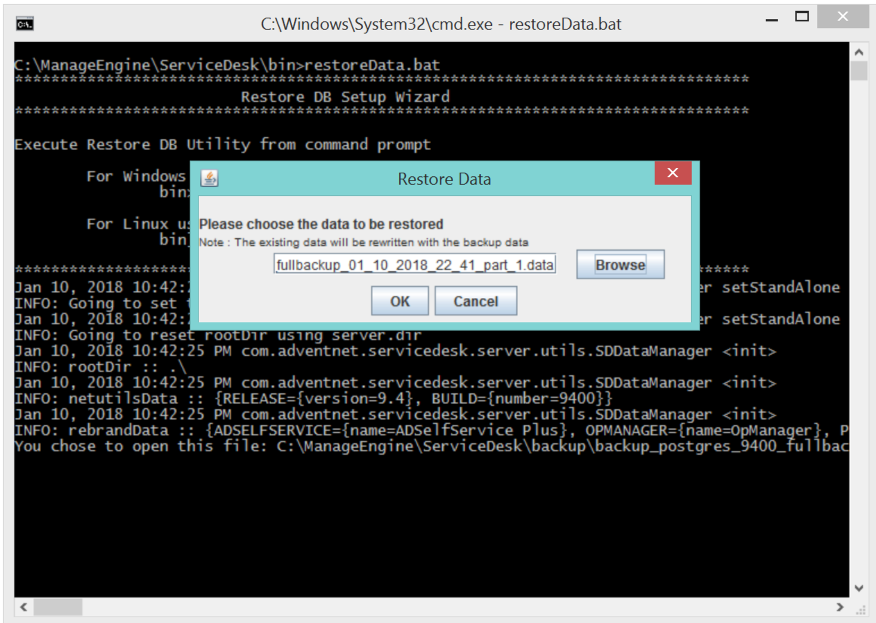
- Restore Process in Windows
- Restore Process in Linux

Restore Process in Windows

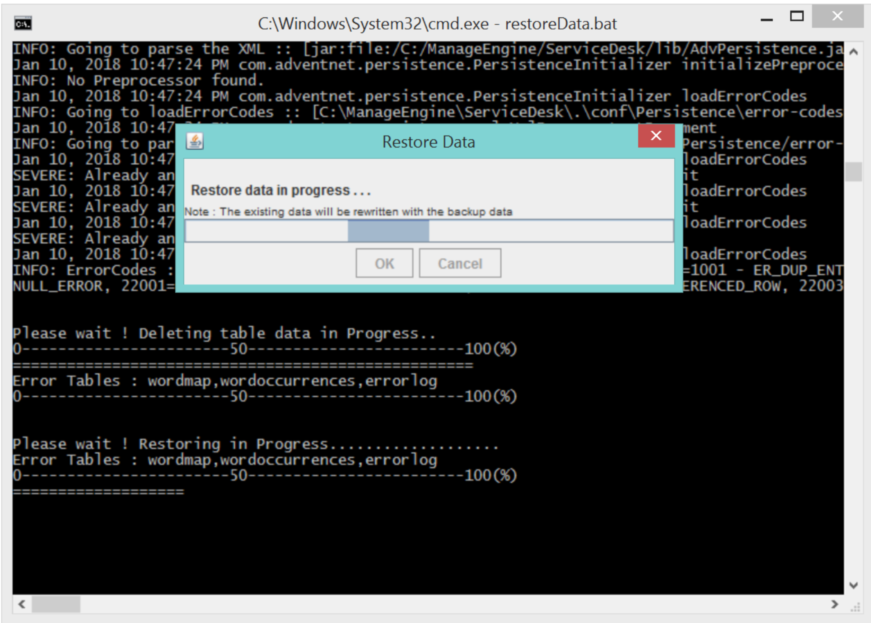
1. Shut down ManageEngine ServiceDesk Plus Server before you restore the data.
2. From the command prompt, go to <ServiceDesk>bin directory.
3. Execute the file restoreData.bat as shown below:

C:ManageEngineServiceDeskbinrestoreData.bat

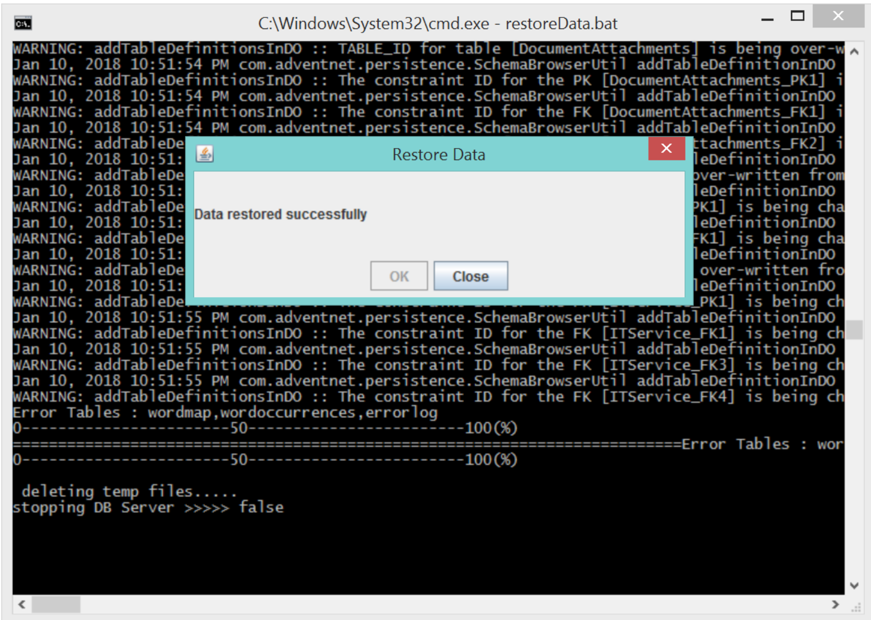
4. The Restore Data dialog pops-up. Browse the backed up file and click OK.



4. The data begins to restore. While restoring the existing data is rewritten with the backed up file.



5. Close on successful installation.



Restore Process in Linux

1. Shut down ManageEngine ServiceDesk Plus Server before you restore the data.
2. Go to <ServiceDesk>/bin directory from the command prompt.
3. Execute the file restoreData.sh as shown below:

$ sh restoreData.sh <backup file name>

The back up file name has to be the .data file from which you wish to restore the data. This will restore the data from the back up file.

Change Web Server Port

- Change Web Server Port on Windows
- Change Web Server Port on Linux

Change Web Server Port on Windows

Follow the steps given below to change the web server port where the ServiceDesk Plus server will be running:

1. Go to <ServiceDesk>bin directory.
2. Execute the file changeWebServerPort.bat at command prompt as shown below:

C:[ServiceDesk Plus Home]bin>changeWebServerPort.bat <new port number> <http or https>

1. The web server port will be reset to the new port number that you have specified.
    - HTTPS - To start the ServiceDesk Plus server in HTTPS mode.
    - HTTP - To start the ServiceDesk Plus server in HTTP mode. By default, executing the file as **changeWebServerPort.bat <new port number>** will start the server in HTTP mode.
2. f the port number is occupied, you will be prompted to enter a different port number. If you do not wish to enter a different port number then press N on your keyboard to exit the application. Else press Y and enter a different port number that is unoccupied.

This change will be effected only when you restart the server. To connect to the ServiceDesk Plus server after restarting, the new port number must be used.

Change Web Server Port on Linux

Follow the steps given below to change the web server port where the ServiceDesk Plus server will be running:

1. Go to <ServiceDesk>/bin directory.
2. Execute the file changeWebServerPort.sh at command prompt as shown below,

$ sh changeWebServerPort.sh <new port number> <http or https>

1. The web server port will be reset to the new port number that you have specified.
    - HTTPS - To start ServiceDesk Plus server in HTTPS mode.
    - HTTP - To start ServiceDesk Plus server in HTTP mode. By default, executing the file as **changeWebServerPort.bat <new port number>** will start the server in HTTP mode.
2. If the port number is occupied, you will be prompted to enter a different port number. If you do not wish to enter a different port number then press N on your keyboard to exit the application. Else press Y and enter a different port number that is unoccupied.

This change will be effected only when you restart the server. To connect to the ServiceDesk Plus server after restarting, the new port number must be used.

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Activating Service Monitoring Service for ServiceDesk Plus

ServiceDesk Plus lets users monitor its server performance by activating a cloud-based self-monitoring service right from the application. Site 24 * 7, the cloud based monitoring service, when activated monitors ServiceDesk Plus server to ensure it is being used effectively and thereby boosts productivity.
Site 24*7 is an agent based monitoring solution which uses WMI (Windows Management Instrumentation) protocol for scanning purposes. Do the following to proceed with the agent installation.

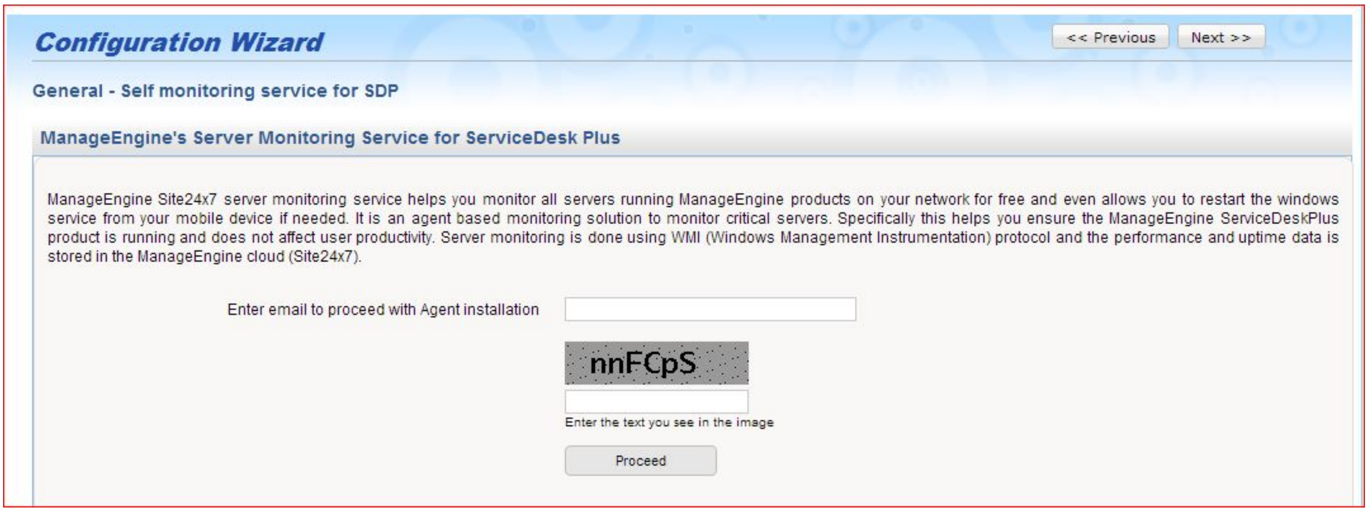
Activating Site 24 * 7 for monitoring ServiceDesk Plus server

1. Provide your **Email ID** to proceed with the **Agent Installation**
2. Type in the **verification text** provided
3. Click **Proceed**

Navigating to **Configure Self-Monitoring Service for ServiceDesk Plus**: Click **Admin** --> **General** --> **Self monitoring service for SDP**

Once activated, Site 24*7 will begin monitoring the ServiceDesk Plus server and provides you with critical information like server uptime/downtime, CPU usage, memory usage, disk usage etc., which is essential to keep your server up and running.

To know more about Site 24 * 7 and to configure additional alerts that will help monitor ServiceDesk Plus effectively, please visit: http://site24x7.com/.



Performance Guide

Your help desk application may have the facility to store large amount of data but this can also hinder the performance of your help desk tool. This guide provides certain queries to improve the performance of ManageEngine ServiceDesk Plus.
To execute the query, you need to access the MySQL database. Click the respective OS link (Windows or Linux) to know how to access the MySQL database.
NOTE: Please restart ServiceDesk Plus after executing the query for the changes to get applied.

The list of performance tips discussed in this guide is,

- Java Tuning
- Enabling MSSQL Snapshot Mode
- Distributed Asset Scan
- Disable Request Count
- Disable Request Refresh Timer
- Disable All Requests filter
- Decrease the number of requests in List View
- Disable Short Description Search
- Cleanup Recent Item Limit
- Cleanup Error Log Limit
- Cleanup ACC Session
- Delete System Generated Notifications
- Increase User Cache Count
- Increase Technician Cache Count
- Increase Message IDs Cache Count
- Increase E-mail IDs / User IDs Cache Count

Java Tuning
It is required to have a 64bit server machine. The default configuration set in wrapper.conf is sufficient. However, in a larger environment, set the max heap size as follows,

Maximum Java Heap Size (in MB)

wrapper.java.maxmemory=4096

Enabling MS SQL Snapshot Mode

We can enable the Read committed Snapshot in the MSSQL environment to increase the performance of the application. It creates a snapshot or read-only database of your current results that is separate from your live database. So when you run a SELECT statement, to read your data, you are reading from a read-only copy of your database. When you change your database, it happens on the live database, and then a new copy or snapshot is

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created for reading against.

How to enable read committed snapshot isolation (RCSI)

All MSSQL databases usually have lock issues, which may affect an application's optimal performance. To avoid such performance issues in ServiceDesk Plus, enable the read committed snapshot isolation (RCSI) by following these steps:

This might take a while to complete and also requires downtime, so please schedule it over a weekend.

1. Stop ServiceDesk Plus application.
2. Log in to SQL Management studio.
3. Take the ServiceDesk Plus database offline by executing
```
USE master GO ALTER DATABASE <db_name> SET OFFLINE WITH ROLLBACK IMMEDIATE
GO
```
4. Enable the read committed snapshot by running
```
ALTER DATABASE <db_name> SET READ_COMMITTED_SNAPSHOT ON WITH ROLLBACK IMMEDIATE
GO
```
5. Bring the database online using
```
USE master GO ALTER DATABASE <db_name> SET ONLINE
GO
```
6. Check if you have enabled RCSI successfully by running the following query
```
SELECT is_read_committed_snapshot_on FROM sys.databases WHERE [name] = '<db_name>'
```

If the output to this query is 1, you've successfully enabled RCSI.

You can now start the application. For more information on MSSQL databases and RSCI, go here.

Benefits of enabling the MS SQL Snapshot Mode

Simultaneous user querying of database will be possible without any delay or disruption (although load on application might exceed the usual limits).

User querying records will be maintained in a separate tempdb, which will not be affected by other user queries occurring in parallel or subsequently.

Database tables will be uploaded only after a transaction reaches completion.

Distributed Asset Scan

If you have many nodes say, more than 1000, then scanning these nodes at regular intervals would hinder the performance of ServiceDesk Plus. To reduce the load on the server, you could scan these nodes using Distributed Asset Scan. All you need to do is install remote ServiceDesk Plus servers across departments. These remote servers scan the nodes at regular intervals and export the data to the central ServiceDesk Plus server.

Disable Request Count

The Request Count displays the total number of requests in the request list view page. Larger the request count value, the longer it takes to display the requests in the list view page.

The request count value cannot be removed. Instead you can choose to view the request count, by clicking a **Row Count** button in the request list view page.

To show the Row Count button, use the query,

```
update GlobalConfig set PARAMVALUE='FALSE' where CATEGORY='PERFORMANCE' and
```

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PARAMETER='SHOW_REQUEST_COUNT';

Disable Request Refresh Timer

The Refresh Timer refreshes the request list view page at regular intervals. But this can slow down the performance of ServiceDesk Plus.

You can disable the Refresh Timer option by using the query,

```
update GlobalConfig set PARAMVALUE='FALSE' where CATEGORY='PERFORMANCE' and PARAMETER='SHOW_WO_REFRESH_TIME';
```

Disable All Requests filter

The 'All Requests' filter in the request list view displays all the requests that have been created so far, irrespective of the status. But as the number of requests increases, the performance of ServiceDesk Plus gradually slows down.

In this case, you can remove the 'All Requests' option from the filter drop-down using the query,

```
update GlobalConfig set PARAMVALUE='FALSE' where CATEGORY='PERFORMANCE' and PARAMETER='SHOW_ALL_REQUEST_VIEW';
```

Decrease the number of requests in List View

In the Request List View page, you would find a drop-down menu to select the number of requests to view per page. Limiting this number to 25 or 50 would eliminate loading of requests and improve the performance of ServiceDesk Plus.

Disable Short Description Search

Short Description refers to the description which appears when you hover over the subject link of the request in the request list view. By default, while performing a search operation, the short description of a request would be searched. But when you have large amount of data, the performance of ServiceDesk Plus eventually decreases.

You can disable this feature by using the query,

```
update GlobalConfig set PARAMVALUE='false' where CATEGORY='SearchShortDescription' and PARAMETER='Status';
```

Cleanup Recent Item Limit

By default, the recent items list is deleted once in every 15 days. But you can improve ServiceDesk Plus's performance by increasing the cleanup frequency.

Example: If you want to cleanup the Recent Item list every 5 days, then use the query,

```
update GlobalConfig set PARAMVALUE=5 where CATEGORY='CLEANUP_TASK' and PARAMETER='CLEANUP_RI_LIMIT';
```

The maximum limit for cleaning up recent item list is 90. If you want to disable the cleanup, then set the parameter value as -1.

Cleanup Error Log Limit

By default, the error log list is deleted once in every 180 days. But you can increase the cleanup frequency to accelerate the backup process.

Example: If you want to cleanup the Error Log list every 30 days, then use the query,

```
update GlobalConfig set PARAMVALUE=30 where CATEGORY='CLEANUP_TASK' and PARAMETER='CLEANUP_ERROR_LOG_LIMIT';
```

The maximum limit for cleaning up error log list is 365. If you want to disable the cleanup, then set the parameter value to -1.

Cleanup ACC Session

It is a table containing the session details i.e., the logged in and logged out information. These entries are not used by the application and can be removed periodically for better database performance. By default, the session details are deleted once in every 90 days but for better performance, you can increase the cleanup frequency.

Example: If you want to cleanup the ACC Session every 30 days then use the query,

```
update GlobalConfig set PARAMVALUE=30 where CATEGORY='CLEANUP_TASK'
```

`and PARAMETER='CLEANUP_ACC_SESSION_LIMIT';`

The maximum limit for cleaning up the ACC session details is 365. If you want to disable the cleanup, then set the parameter as -1.

Delete System Generated Notifications

System Generated Notifications are notifications generated and sent by the system. You can either delete all the system notifications or manually check the notifications to delete.

If you want to delete all the system notifications then execute the query,

delete from notification where senderid=1;

To get the list of notification titles to delete unwanted notifications, execute the query,

select notificationtitle from notification limit 100;

Example: If the notificationtitle is 'has been added to the group', then use the query to delete notifications under this title,

delete from notification where notificationtitle like '%has been added to the group%';

Increase User Cache Count

By default, the number of user data objects that would be cached is **500**. But in case of high-end machines with better RAM configurations, this value can be increased to cache more data for quick response.

Example: If you want to increase the cache count to 1000, then use the query,

```
update GlobalConfig set PARAMVALUE='1000' where PARAMETER='USER_CACHECOUNT';
```

Increase Technician Cache Count

By default, the number of technician data objects that would be cached is **300**. But in case of high-end machines with better RAM configurations, this value can be increased to cache more data for quick response.

Example: If you want to increase the cache to 1000, then use the query,

```
update GlobalConfig set PARAMVALUE='1000' where PARAMETER='TECHNICIAN_CACHECOUNT';
```

Increase Message IDs Cache Count

By default, the number of Message IDs that would be cached is **1000**. But in case of high-end machines with better RAM configurations, this value can be increased to cache more data for quick response.

Example: If you want to increase the cache count to 2000, then use the query,

```
update GlobalConfig set PARAMVALUE='2000' where PARAMETER='MESSAGEID_CACHECOUNT';
```

Increase E-mail IDs / User IDs Cache Count

By default, the number of E-mail IDs / User IDs that would be cached is **1000**. But in case of high-end machines with better RAM configurations, this value can be increased to cache more data for quick response.

Example: If you want to increase the cache count to 2000, then use the query,

```
update GlobalConfig set PARAMVALUE='2000' where PARAMETER='EMAIL_USERID_CACHECOUNT';
```

Feedback

If you are connected to the network you can send your feedback about ServiceDesk Plus immediately to our support team.

To send your feedback,

1. Log in to the ServiceDesk Plus application using your user name and password.
2. Click **Help** drop-down link at the top left corner of the page.
3. Click **Feedback** option. The Feedback form opens in a pop up window.
4. The To address will be in non-editable format to our support team . Specify Your Name, Your email ID, Subject of the mail and Message mail content in their corresponding fields.
5. Click Submit button to send the mail.

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Lucene Search

ServiceDesk Plus uses Lucene Search for implementing its search mechanism and allowing application users to perform all kinds of searches.
Table below lists the fields which can be searched (along with sections under which they appear in the application):

Request Module	Request ID
	Status
	Category
	Group
	Incident text field
	Priority
	Subject
	Mode
	Sub Category
	Technician
	Single Line
	Urgency
Search Fields	Description
	Level
	Item
	Impact Details
	Multi Line
	Impact
	Request Type
	Department
	Requester
	Pick - List
Solution Module	Solution ID
	Solution Title
	Solution Topic
	Solution Keyword

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	Solution Comments
	Solution content

Using Lucene search, the user can search for results with :

- Exact Words: The user can also search within double quotes. Eg: Search for "Server crash"
- Multiple words: By default, the application will search with OR function. If the user requires AND function, then he/she has to search the same keyword within double quotes. This can also be done using Advanced Search. Eg: Search for Mac Headphones and Mac monitor
- Numerical ranges: This can be done only using Advanced search. Eg: Search for all tickets between 30000 and 30050
- Specific values in tickets: This can be done only using Advanced search. Eg: Search for Requests containing Software upgrade and maintenance

Tips:

- Avoid entering common words like "is","was","for","as",etc.. in the search box, to obtain precise results.
- Higher the number of times 'the term' you search for occurs in the Solution, higher is the precision of your search results.

Points to remember about search mechanism:

- **Special characters** cannot be searched
- Request(s) whose **description exceeds/or is equal to 64k** cannot be searched
- Search performed by **Technicians with SDAdmin role** will fetch **500 results**
- Search performed by **Technicians with roles other than SDAdmin role** will fetch **2500 results**
- Newly added/updated records can be searched only after an **interval of 2 mins**

Note: In case, the lucene folder gets corrupted, execute the file **reIndex.bat** available under: *servicedesk/bin* to sort out the records.

Generating and Merging Self-signed Certificates

1. Generating Self-signed Certificate to Connect to Secured Servers

Whenever a product is running in secured (**HTTPS/IMAPS/POPS/LDAPS**) mode, it is required to generate a self-signed certificate, in order to connect ServiceDesk Plus with the respective secured server.

Steps Required:

The following steps should be followed to establish connection between ServiceDesk Plus and the corresponding secured server.
1. Download the **.zip** file from the links given below and extract it to "*ManageEngineServiceDesk*".
For Linux:
https://uploads.zohocorp.com/Internal_Useruploads/dnd/ServiceDesk_Plus/o_1af3b3o2010mg10kbj961mdt18sq1/lincertgeneration.zip
For Windows:
https://uploads.zohocorp.com/Internal_Useruploads/dnd/ServiceDesk_Plus/o_1af360niepdjr7j1flk1o323fa1/wincertgeneration.zip

2. Connect to the command prompt. Go to "*ManageEngineServiceDesk*" and run the batch file with following format:
For Linux:
C:>ManageEngineServiceDesk>gencert.sh servername:portnumber
For Windows:
C:>ManageEngineServiceDesk>gencert.bat servername:portnumber

3. On running the command, you will receive an exception **PKIX** and will ask you to enter a value. Provide value **1** that will generate a file named **jssecacerts** under "*ManageEngineServiceDesk*" .

4. Copy the jssecacerts file under "*ManageEngineServiceDeskjrelib*" security folder.

Now, restart the ServiceDesk Plus application for the connection with the secured server to work.

2. Merging Certificates When Multiple Products are Configured in Secured Mode

It is possible to merge the certificates of two or more products running in secured mode. You can merge the certificates during the following situations:

- When both incoming and outgoing mail servers are in secured mode.
- When you try to connect two or more ME products running in secured mode.
- When you try to connect secured ME products and secured mail server.

Let us consider a **Mail server** running in **secured** mode. You have to generate certificate for the Mail server by using these steps, which provides you with a ***jssecacerts*** file. If you wish to connect another ManageEngine

(ME) product, say **Desktop Central (DC)** running in **HTTPs** mode, then you need to create a certificate for that product too using the same steps, which provides you with another ***jssecacerts*** file. Now, there are 2 ***jssecacerts*** files, which can be merged.

Important!: Always remember, whenever you merge the certificates, the "alias" has to be different. If the alias are same, overwriting occurs.

For example, if Mail server and DC are running in the same machine, then when generating certificate using "gencert.bat", give Hostname as machine name for the former and FQDN as machine name for the latter.

3. Example

The following is an example for creating and merging certificates for Mail server and Desktop Central.

Generating Certificates:

Consider, the Mail server and the DC are installed in a win7-test machine. Now, create separate certificates for both by using the below commands:

For Mailserver > *gencert.bat win7-test:9443*
At the end of the certificate generation, a message is shown as "Added certificate to keystore 'jssecacerts' using alias **'win7-test-1'**

It automatically gets saved as "*jssecacerts*".

For DC > *gencert.bat localhost:8383*
At the end of the certificate generation, a message is shown as "Added certificate to keystore 'jssecacerts' using alias **'localhost-1'**

It automatically gets saved as "*jssecacerts*". Rename it to "*jssecacerts-dc*".

Merging Certificates:

Once the certificates are generated, copy thems under the *ServiceDeskjrelibsecurity* folder. Execute the below command:

>keytool -importkeystore -noprompt -srckeystore **jssecacerts-dc** -destkeystore **jssecacerts**
Now, restart Servicedesk Plus for both the Mail server and DC connections to work.

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Troubleshooting

This section gives you solutions for the problems faced while scanning for workstations in ServiceDesk Plus Inventory module.

1. Either access denied for the user or the remote DCOM option might be disabled in the workstation.
2. User does not have the access privileges to perform this operation.
3. Remote DCOM option is disabled in the Server machine.
4. Connection to RPC server in the workstation failed.
5. One of the WMI components is not registered properly.
6. Execution failure in the WMI Service of workstation.
7. WMI Service is disabled in the workstation.
8. Request for scan operation rejected by the workstation.
9. Connection to Telnet Service in the workstation failed.
10. Either Username or Password is incorrect in the workstation.
11. Scan operation Timed out.
12. The operation invoked is not supported in the current platform.
13. General failure while performing the operation.

Error Message	Either access denied for the user or the remote DCOM option might be disabled in the workstation
Cause	This error message is shown when scanning of a Windows workstation fails due to any of the following reasons: 1. The login name and password provided for scanning might be invalid in the workstation. 2. Remote DCOM option might be disabled in the remote workstation.

Resolution	1. Check if the login name and password are entered correctly. 2. Check if Remote DCOM is enabled in the remote workstation. If not enabled, then enable the same. To enable DCOM in Windows 2000 Computers: 1. Select Start > Run 2. Type DCOMCNFG in the text field 3. Click OK. 4. Select Default Properties tab 5. Check the box "Enable Distributed COM in this machine" 6. Press OK To enable DCOM in Windows XP Computers: 1. Select Start > Run 2. Type DCOMCNFG in the text field 3. Click OK 4. Right Click on Component Services > Computers > My Computer 5. Click Properties 6. Select Default Properties tab in the frame that pops 7. Check the box "Enable Distributed COM in this machine" 8. Press OK 3. Check if the user account is valid in the target workstation. For this execute the following commands in the command prompt (of the server machine). net use \<RemoteComputerName>C$ /u:<DomainNameUserName> "<password>" net use \<RemoteComputerName>ADMIN$ /u:<DomainNameUserName> "<password>" Replace the relevant value within <>. Supply password within the quotes. If these commands show any error message, then the provided user account is not valid in that remote computer.

Top

Error Message	User does not have the access privileges to perform this operation
Cause	Such error messages are shown, if the User ID provided for scanning does not have sufficient access privileges to perform the scanning operation. Probably, this user does not belong to the Administrator group of the workstation.
Resolution	Move the user to the Administrator Group of the workstation (or) Scan with an administrator (preferably a Domain Administrator) account.

Top

Error Message	Remote DCOM option is disabled in the Server machine
Cause	Remote DCOM option might be disabled in the machine running ServiceDesk Plus Server.
Resolution	ServiceDesk uses Windows Management Instrumentation (WMI) to scan the remote workstations. WMI works over Remote DCOM and hence this option must be enabled for scanning the remote machines. To know how to enable DCOM in Windows system refer to resolution of the error message Either access denied for the user or the remote DCOM option might be disabled in the workstation.

Top

Error Message	Connection to RPC server in the workstation failed
Cause	This message is shown when a firewall is configured on the remote computer. Such exceptions mostly occur in Windows XP (SP-2), when the default Windows Firewall is enabled.
Resolution	Disable the default Firewall in the workstation. To disable the Firewall in Windows XP (SP2) 1. Select Start->Run 2. Type Firewall.cpl 3. Click OK. 4. In the General tab, click Off. 5. Click OK. If Firewall cannot be disabled then, we can lauch Remote Administration feature for administrators in the remote computer. The following command when executed in the target computer, can enable the feature: netsh friewall set service RemoteAdmin After scanning the computer, if required, the Remote Administration feature can also be disabled. The following command disables the feature: netsh friewall set service RemoteAdmin disable

Top

Error Message	One of the WMI components is not registered properly
Cause	This message is shown if WMI is not available in the remote windows workstation. This happens in the Windows 9x, Windows NT and Windows ME. Such error codes might also occur in higher versions of Windows if the WMI Components are not registered properly.
Resolution	Install WMI core in the remote workstation. This can be downloaded from the Microsoft web site. If the problem is due to WMI Components registration, then register the WMI dlls by executing the following command at command prompt: winmgmt /RegServer

Top

Error Message	Execution failure in the WMI Service of workstation
Cause	Such error messages are shown, when there are some internal execution failures in the WMI Service (winmgmt.exe) running in the remote workstation. Probably the last update of the WMI Repository in that workstation could have failed.
Resolution	Restart the WMI Service in the remote workstation. To restart the WMI service in the workstation 1. Click Start -> Run. 2. Type Services.msc 3. Click OK. 4. In the Services window that pops-up, select "Windows Management Instrumentation" service and right-click on that. 5. Click Restart.

Top

Error Message	WMI Service is disabled in the workstation
Cause	This error message is shown when the WMI Service (winmgmt.exe) is not enabled in the remote workstation.

Resolution	Modify the property of WMI Service to Manual or Automatic from Disabled. 1. Click Start -> Run. 2. Type Services.msc 3. Click OK. 4. In the Services window that pops-up, select "Windows Management Instrumentation" service and right-click on that. 5. Click Properties. 6. If the Startup type is "Disabled", change it to "Automatic/Manual" and start the service. 7. Restart the service.

Top

Error Message	Request for scan operation rejected by the workstation
Cause	DCOM settings in Registry of the target workstation reject the scan request.
Resolution	Edit the Registry key value, as described below: 1. Use Regedit to navigate to: HKEY_LOCAL_MACHINESOFTWAREMicrosoftOLE. 2. Double-click the EnableDCOM value Name, a string (REG_SZ) data type. Set its data value to Y, even if it is already SET to Y. 3. Click OK 4. Shutdown and restart the computer.

Top

Error Message	Connection to Telnet Service in the workstation failed
Cause	Telnet Service might not be running in the target computer (or) Telnet Service is not running in default port 23.
Resolution	Discovering remote Linux Machines by ServiceDesk is done using Telnet. Ensure that Telnet is running in the remote workstations in the default port 23.

Top

Error Message	Either Username or Password is incorrect in the workstation
Cause	The username and password provided to scan the remote workstation is incorrect.
Resolution	Discovering Linux Workstations, in ServiceDesk Plus is done using the Telnet. Provide a valid username and password that can successfully establish a telnet session with the target workstation.

Top

Error Message	Scan operation Timed out
Cause	Target workstation did not respond within the default time limit. This might be due to some delay in the network.
Resolution	Try scanning the workstation, sometime later. If the same error message repeats, contact ServiceDesk Plus Support Team at servicedeskplus-support@manageengine.com.

Top

Error Message	The operation invoked is not supported in the current platform
Cause	Such error codes are shown if the workstation has an Operating System other than Windows or Linux.

Resolution	Currently, Network Discovery in ServiceDesk Plus supports Windows or Linux machines, only.

Top

Error Message	General failure while performing the operation
Cause	Some unexpected exception occurred while, scanning the workstation.
Resolution	Contact the ServiceDesk support team at servicedeskplus-support@manageengine.com with the Error log files. You can obtain the error log files from Support tab by clicking on the Support File link in the ServiceDesk Plus application.

Top

Installing Desktop Central Plugin

Example: Let's say, ServiceDesk Plus is installed in location: **D:ManageengineServiceDeskplus**
Then, DC Plugin should be installed in the location:
D:ManageengineServiceDeskplusDesktopcentral_Server,

1. Extract **.exe file** and install it under location: **<SDP_home>Desktopcentral_Server**
2. **DC Plugin Startup/Shutdown**

- DC Plugin will **start and shutdown** along with ServiceDesk Plus server
- During DC Plugin installation, the **ServiceDesk Plus server will be running** and the DC Plugin will automatically start functioning once its server details are configured

- **Uploading Desktop Central logs for Analysis**

- Zip the logs available under: **D:ManageengineServiceDeskplusDesktopcentral_ServerLogs** and upload it directly to the Desktop Central Server

- **Features available to ServiceDesk Plus users once DC Plugin is installed:**

All features associated with Desktop Central will be available to ServiceDesk Plus users from its home page (Desktop Central & MDM dropdowns)

- **Following features will be particularly useful for ServiceDesk Plus** users with respect to Desktop Central

- **Deploying software package** from ServiceDesk Plus request details page
- **Deploying custom script execution** from ServiceDesk Plus request details page
- **Advanced Remote control** from ServiceDesk Plus asset details page and request details page
- Ability to add **worklogs after the completion of remote control sessions**
- Ability to **invoke chat from request details page,** which can be transcripted as: a) Notes for that request b) Resolution for that request C) A New Ticket

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Note:

- DC Plugin will **automatically will push asset-related data** to ServiceDesk Plus
- **Desktop Central users too can raise tickets in ServiceDesk Plus** from Desktop Central application using desktop central agent trayicon
- During startup, if **ServiceDesk Plus server starts but DC Plugin does not**, then the DC Plugin can be started from the **service manager**
- For Desktop Central related queries, plesae send mail to: **desktopcentral-support@manageengine.com**

Performance Monitoring Tool

Monitor ServiceDesk Plus software metrics and scale the application's capacity (based on memory utilization and cpu usage) using the performance monitoring tool. This tool through regular monitoring (as per the configured schedule) checks for performance issues and finds out their rootcause. It presents "a clear picture of performance issues" which enable the application user to provide administrators with the exact log details required for effectively tackling application slowdowns..

Notes:

- Performance Monitoring Tool is an **url-based tool** which can be enabled/disabled only **through urls.**
- **Technicians with SDAdmin role** alone have the rights to **operate performance monitoring tool**

Contents

- Performance Monitoring Tool
- When will the performance monitoring tool alarm you?
- URLs for operating Performance Monitoring Tool
- Details generated during Performance Monitoring
- Notes

Performance Monitoring Tool

- Url-based thread dump generation tool
- Provides you with the following parameters: **'cpu usage', 'free memory' & 'time interval'** using which application performance can be monitored
- Allows you to change performance monitoring schedule to suit your requirements
- Can be enabled/disabled

When will the performance monitoring tool alarm you?

- When the parameter **'cpu usage' exceeds threshold value** for the specified time interval (OR)
- When the parameter **'free memory' goes below threshold value** for the specified time interval

URLs for enabling, modifying & disabling Performance Monitoring Tool

PURPOSE	URL
Enable	http://servername:portnumber/PerformanceSchedule.do?performancemonitoring=true
Modify	http://servername:portnumber/PerformanceSchedule.do?performancemonitoring=true&timeinterval=5&cpulimit=90&freememorylimit=120
Disable	http://servername:portnumber/PerformanceSchedule.do?performancemonitoring=false

Information displayed on the Dashboard largely depends on the site and roles associated to the technician.

Viewing details generated during Performance Monitoring (in version 9400 and above)

- Click **'System Log Viewer'** under **'Support Tab'**
- **Logs generated during performance monitoring** will be appended with the **threaddump0.txt file** (under the location **SDP_home/log/Directory**) and the **reason for the performance degradation** will also be available in the same.

Viewing details generated during Performance Monitoring (in versions below 9400)

- Click **'System Log Viewer'** under **'Support Tab'**
- **Logs generated during performance monitoring** will be appended with the **threaddump0.txt file** (under the location **SDP_home/server/default/log/ Directory**) and the **reason for the performance degradation** will also be available in the same.

Notes:

- **Modify URL parameters** (time interval=5; cpulimit=90; freememory=120;) provided here **are example values**. This can be modified as per requirement.
- **Default parameter values** (generated when invoking Enable URL) **are : time interval=2;cpu limit=80; freememory=100**

.roadmap { font-family:arial,helvetica,sans-serif; } .roadmap .title1{ font-family:Arial, Helvetica, sans-serif; font-size: 22px; } .roadmap .alertinfo{ background: #f9f9f9; border: 1px solid #eeeeee; padding: 10px !important; } .roadmap .flow-pos { font-size: 18px; padding: 10px 0 !important; width:950px; } .roadmap .flow-pos span{ position: relative; } .roadmap .plan{ left: 2.5%; } .roadmap .design{ left: 16%; } .roadmap .implement{ left: 26.5%; } .roadmap .testing{ left: 38.4%; } .roadmap .release{ left: 53%; } .roadmap .workflow-ui{ display: flex; flex-flow: row wrap; padding-top: 30px!important; } .roadmap .workflow-ui>div{ margin: 5px; } .roadmap .flex1{ flex: 1; } .roadmap .flow-box{ border: 1px solid #d1d1d1; flex-flow: row wrap; } .roadmap .flow-inner-title{ background: #f7f7f7; margin: 0 !important; font-size: 19px; padding: 10px !important; } .roadmap .color0 { border-bottom: 2px solid #50db75; } .roadmap .color1{ border-bottom: 2px solid #60d9d9; } .roadmap .color2{ border-bottom: 2px solid #c240f2; } .roadmap .color3{ border-bottom: 2px solid #f3a355; } .roadmap .color4{ border-bottom: 2px solid #4da8eb; } .roadmap .pos-align{ position: relative; top: 8px; float: left; } .hiq-t .roadmap div.workflow-diagram { margin-top:20px; } .roadmap ul.bullet-arrow { margin: 0; padding: 0; } .roadmap ul.bullet-arrow li { padding: 10px; list-style:none; } .roadmap ul.bullet-arrow li.header{ font-size:13px; font-weight: bold; border-bottom:2px solid #eff1f1; text-transform:uppercase; letter-spacing:.5px; } .roadmap ul.bullet-arrow li.subheader { color:#333; font-weight:bold; padding-left:4px; } .roadmap ul.bullet-arrow li:not(:last-child):not(.header) { border-bottom: 1px solid #dfdfdf; } .roadmap ul.bullet-arrow li:not(.header):not(.subheader) { padding-left:20px; } .roadmap ul.bullet-arrow li:not(.header) { padding-top:7px; padding-bottom:7px; margin-left:15px; margin-right:15px; } .roadmap ul.bullet-arrow li:not(.header):not(.subheader):before { content: ''; display: inline-block; speak: none; border-top: 4px solid #afb9b9; border-right: 4px solid transparent; border-left: 4px solid transparent; transform: rotate(-90deg); margin-left: -15px !important; margin-right: 6px !important; top: -4px; position:relative; } .roadmap .listinner li:before{ content: ''; display: inline-block; width: 0; height: 0; margin-left: 2px; vertical-align: middle; border-top: 4px solid #afb9b9; border-right: 4px solid transparent; border-left: 4px solid transparent; transform: rotate(-90deg); float: left; position: relative; top: 9px; } .roadmap .listinner li div{ margin-left: 20px; } .roadmap li.header:before{ display: none; } .roadmap .update-info { font-size:13px; color:#888; margin-top:10px; }

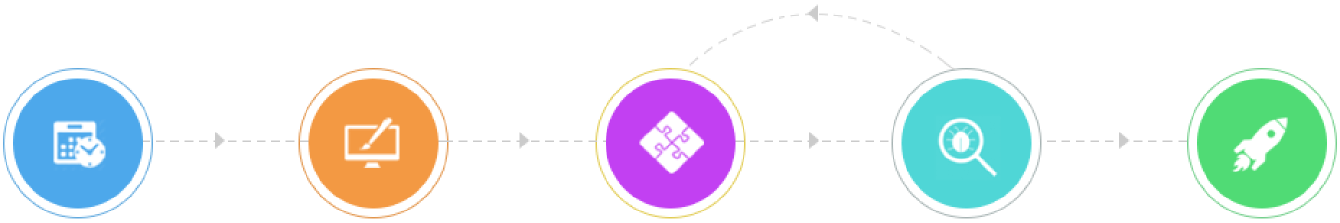
Product Roadmap

The ServiceDesk Plus roadmap provides you an overview of what you can expect in our future releases.

Updated on 15 January 2019

Note: We put in our best efforts to keep to this schedule. However, the actual timing of the release of each feature may vary based on our internal priorities and schedules.

If you would like to see something added into our plans, please head here.



Planning UI Design Implementation Testing Release
Planning

- Admin
- Define Operational Hours
- Configure different operational hours for each day in a week.
- Log Viewer Enhancements
- Add a log entry for all Admin operations such as adding, editing, or deleting entries.

Group Level Organization Roles

- Requests
- Read-only Shared Request

- Assign read-only permission to the technicians with whom requests are shared.
- Related Workflow
- Creating dependent requests for service request through templates.
- Resource Profiling
- Configure allowed resources based on the user's role in the organization.
- Request Custom Filter
- Enhanced criteria section with $My_groups , $Today , $This_Week place holders.

Add Notes

- Ability to add notes while assigning a technician.

Mobile App

- Request V3 (with API search).
- Worklog Timer.
- Change
- Workflow Builder
- A diagrammatic way of defining the workflow of a change.
- UAT Stage
- New stage to record testing operations required for the change record.

Tasks in Change Template

- Add implementation tasks to the change template.
- Projects
- Link projects to improve efficiency.
- History Filters
- Filter history section based on certain fields.
- UI Enhancements
- New icons for edit and create actions.
- Associations
- Associate purchase orders and purchase requests.

Project Collaboration

- Send emails from inside the project. Conversations, comments, and other project collaborations collected together under a tab.
- Notifications for projects
- Assets
- CMDB V3 API

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- Create, edit, update, and delete CIs.
- Bulk modify CIs
- Edit more than one asset simultaneously.
- Custom triggers
- Virtual Software License Management
- Manage virtual licenses across the network.
-

UI Design

- Requests
- Follow Requests
- Technicians can follow requests that are not assigned to them.
- Service Templates
- Map resources across templates.
- Configure a separate list view resource questions with Add/Edit/Delete options.

Action Matrix

- Based on ticket status and role permissions...Restrict specific user actions under a ticket.
- Changes
- Conflicts/Collision Detection
- Display collision/conflicts in the Change Details page when two changes have common CIs and contain overlaps in their schedules.
- Change Freeze Date
- Mark out a freeze window (period/interval) when no changes can be scheduled due to high business hours or holidays.

Voice Record CAB

- Voice record all proceedings of the CAB meeting.
- Projects
- Kanban View
- Streamline the scheduling and managing of projects effectively by using the Kanban view.
- Assets
- IT Store Management
- Track movements of all the assets in and out of the store.
- Troubleshooting Page Revamp
- Organize your troubleshooting by grouping errors.
- Alerts
- Be notified of under-licensed software, overwritten machines, and the like.

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Asset Reservation

- Allow requesters to reserve company assets from a central location.
- Enable requesters to reserve assets well in advance; pre-book their assets up to a week in advance
- Configure advanced filters for requesters to fine-tune their selection in the asset list.
- Display reservation slots for available assets.
- Allow requesters to select and reserve more than one asset at a time.
- Automate loan entry under for each checked-out asset for each user.
- Send email notifications each time an asset is reserved, canceled, or extended.
-

Implementation

- General

Exchange Web Services

- Fetch mails using Exchange Web Server.
- Enterprise service management (ESM)
- Use ServiceDesk Plus to provide help desk services to other teams, such as human resources, finance, and facilities, across the organization.
- With ESM, organizations can now have:
- A single enterprise directory to manage users, service desks, authentications, and associations.
- Unique service desk instances for each business function.
- ITSM workflows (service automations) for all service departments.
- A built-in catalog and templates for each business unit.
- A centralized request portal that lists all services available for the end users.

ADMIN

- Factor in the technician shift timings and assign requests based on their shifts.
- Requests

Operational-level Agreement

- For any SLA, configure multiple OLAs specific to each group.

Gamification

- Break the monotony of the every day and motivate technicians to enjoy their work.

Unified Activity List

- Display a consolidated view of requests and tasks for a technician.

Technician Auto-assign

- Automatically assign tickets to technicians based on the availability.
- Exclude specific technician groups from the auto-assign pool.
- Display request properties under task details

Kanban View

- Organize your requests effectively as cards in a Kanban view to ensure efficient closure of tickets.

Tags

- Add tags to requests and conversations.

Global Search

- Look through Requests, Requesters, Assets, Changes, and Solutions to find the required information.

Request Additional Fields

- Include all types of additional fields for incidents/service catalog and make them available under business rules, SLAs, and custom trigger conditions.

API

- Merging requests.

Request Form Customizer

- Set default height of description field and multi-line additional fields.
- Assign default values for Email IDs to notify and Editor.
- Option to enable/disable incident templates.
- Copy incident templates.

Chat Enhancements

- Integration with other chat tools, such as Telegram, Slack, and Zoho Cliq.
- Service Request
- Include multiple SLAs for service templates.
- Add images for resource options and templates.
- Enable technicians to recommend a request template to the end user by email.
- Enable requesters to cancel pending requests.
- Modify Requests
- Auto-fill email IDs to notify requesters.
- Mobile App features
- Create requests based on request templates.

- Add module-level administrative roles (like SDHelpdeskAdmin, SDAssetAdmin).
- Changes
- Custom Filters
- Easily access your change requests by configuring customized views or filters.

Multi-Level CAB Approval

- Add multiple levels of CAB inside the recommendation phase under the **Approvals** tab.
- REST API V3
- Use API for operations such as creating, editing, updating, adding notes to, and deleting changes.
- Link change requests

PROBLEMS

Templates

- Save time and effort by using predefined templates for repetitive problems.

Business Rules

- Configure business rules to automate various actions for problem requests.

Field and Form Rules

- Define field and form rules to be executed when Problem Requests are loaded, edited, and submitted.

Custom Triggers

- Configure custom triggers for executed specfic action when the incoming request fulfills a certain condition.
- Projects
- Auto-rescheduling of projects, milestones, and tasks
- Based on the change of schedule of a task/milestone, update the associated tasks/milestones/projects.

Custom trigger for tasks

- Import Enhancements
- Import from xls, xlsx, and other types of format.
- Microsoft Project Import Enhancement
- Map additional fields while using the MPP import.
- Task List View Enhancement
- Quickly add tasks from the list view.
- Assign and pick up from the list view.

Indexing Milestone, Milestone Template, Task Template

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Resource Utilization Chart

- Solutions
- Additional Fields
- Capture different types of information into the knowledge base by using additional fields.
- Comment, Like, Unlike
- Improve the quality of the solutions by allowing your requesters can comment on, like, or unlike the solution.
- Add Links
- Assets
- Audit
- Periodically assess the status of your assets. Check if the procured assets are available, list the missing assets, and inventory assets that must be acquired.
- Asset V3 API - Create, edit, update, and delete assets.
- Cloud software license management - Office 365
- Fetch subscriptions, licenses, and user information from MS Office 365.
- Identify unused subscriptions.
- SCCM Integrations
- Configure SCCM integration directly from the application.
- Enable users to track and manage assets in one place.
- Import all hardware and software inventory done by SCCM into ServiceDesk Plus.
- Schedule in ServiceDesk Plus periodic updates on asset info.
- Manage multiple SCCMs from one screen and keep track of all assets that are being scanned.
- Analytics Plus and Zoho Reports Integration
- Perform asset data analysis through Analytics Plus/Zoho reports. Initial phase includes data transfer such as asset, workstation, software, sw licenses and asset history.

Software Metering Enhancements

- Integrate Desktop Central to monitor software usage.

Automatic Categorizing of Managed Software Type

- Unidentified software will be automatically categorized as managed software based on database information.

User V3 API

- Create, edit, update, and delete CIs.

Testing

GENERAL

Backup Approvers

- Add a backup approver for requesters to ensure business continuity.

EWS Support

- Use Exchange Web Services to connect to an external server for mail fetching.
- Requests

Chat Enhancements

- Intitate group chat between technicians.
- Assets
- SNMP Enhancements
- Fetch CI attributes/additional field values created for network entities and populate during the scan by configuring the corresponding SNMP OIDs.

SOLUTIONS

- Include **Expiry** date.

Release

WE WILL BE UPDATING THIS SECTION WITH THE SCHEDULED FEATURES SOON.

Support Policy

Following is the support policy of ServiceDesk Plus

- Product support will be offered only for builds that are one year old. For example, support for ServiceDesk Plus 9.3 released on 8th February, 2017 will be available only till 8th February, 2018. To continue receiving support, you will have to move to the latest version of ServiceDesk Plus.
- Service packs released will be applicable only over the latest available build of ServiceDesk Plus.

Why upgrade

By upgrading to the latest version of ServiceDesk Plus, you get access to the new features that help improve your help desk performance and enhance IT service delivery. With every release, existing bugs are fixed, thus reducing the number of issues or breakdowns you experience with ServiceDesk Plus.

Help and guidance

All information about the latest versions are available here and the upgrades can be downloaded from here. If you are using a build earlier to 7612, you can follow the migration sequence to upgrade to the latest edition. In case you face a failed upgrade, you can request assistance to restore your build. If you need further assistance in upgrading ServiceDesk Plus, you can always contact us at support@servicedeskplus.com

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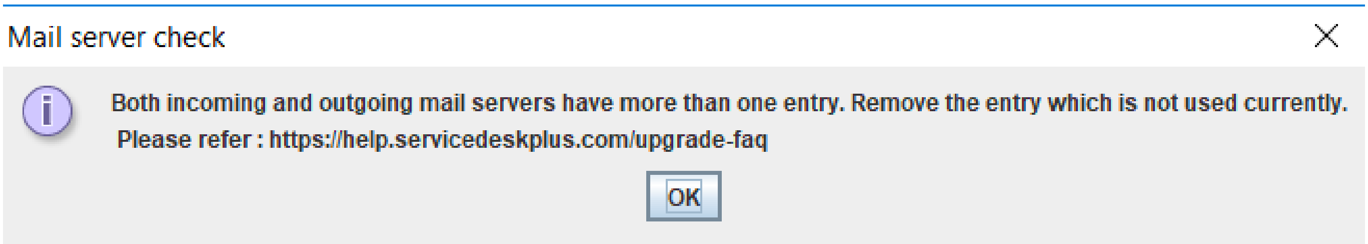
Migration halted because of additional entry in incoming/outgoing mail server. Remove the entry that is not currently used.



Go to the database and run the following queries in the database to select and delete the additional entries in the tables:

Incoming mail server

To find all the configured incoming mail servers:

```
select * from incomingmailserver
```

To delete the unused mail servers:

```
delete from incomingmailserver where serverid=xx
```

Outgoing mail server

To find all the configured incoming mail servers:

```
select * from outgoingmailserver
```

To delete the unused mail servers:

```
delete from outgoingmailserver where serverid=xx
```

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Home page

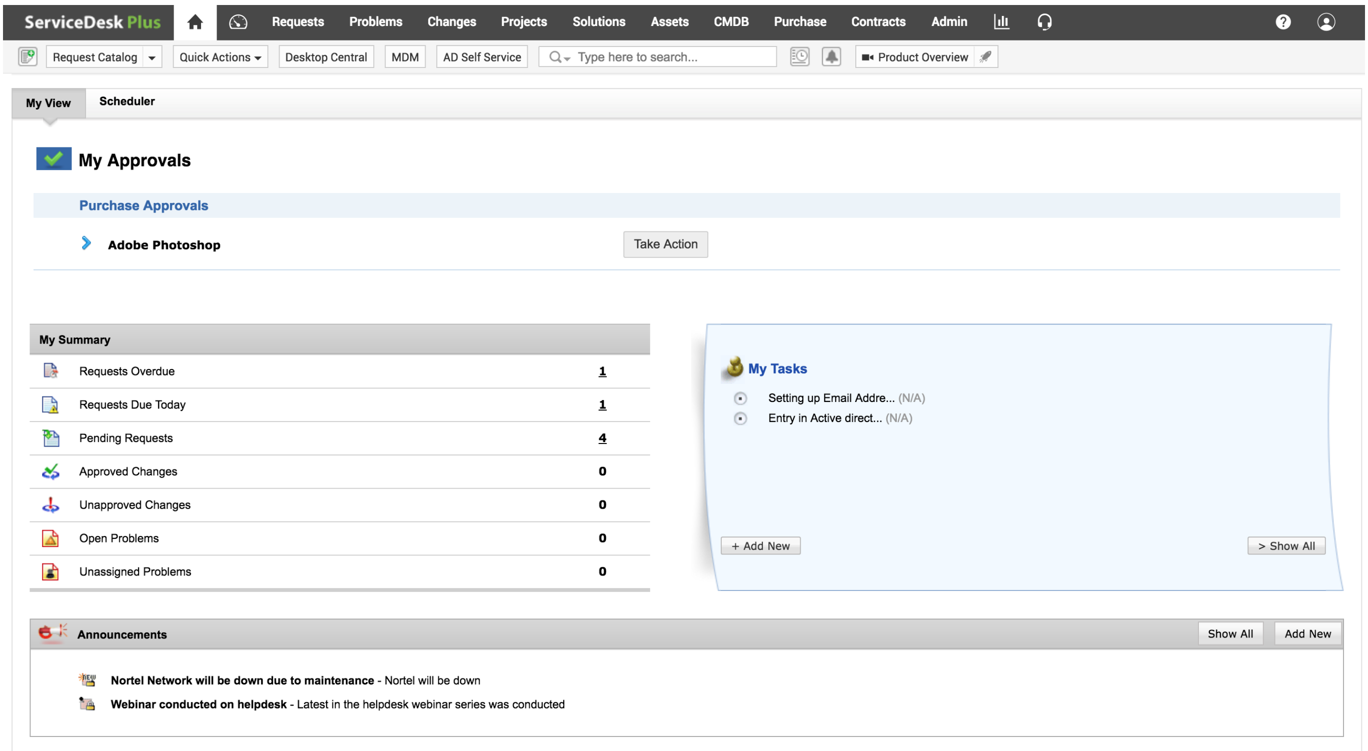
The home page of ServiceDesk Plus has various useful information displayed that enables an administrator or a technician to take necessary action.
The user you are logged in as is the Administrator and the following are available in home page,

1. My View
2. Scheduler
3. Quick Create
4. Search
5. Personalize
6. Quick Actions drop-down menu
7. Request Catalog drop-down menu OR

   Incident Catalog drop-down menu
   Service Catalog drop-down menu

If you are on a Trial version, then the following links will appear along with the above,

1. License Expiry Alert
2. Get Quote



My View

The My View tab displays the following information:

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- My Approvals
- My Summary
- My Tasks
- Announcements

My Approvals

This block lists all the approval actions to be taken by you for a service request and purchase order. To approve or reject, click Take Actions button. The approval for service requests and purchase orders are listed only if you have the approval permission.

My Summary

This block displays the summary of requests, problem and changes assigned to the logged in technician.

- Request Overdue - Number of requests assigned to the logged in technician that are overdue.
- Requests Due Today - Number of requests assigned to the logged in technician that are due for that day.
- Pending Requests - Number of pending requests that are assigned to the technician.
- Approved Changes - Number of changes assigned to the logged in technician that are approved.
- Unapproved Changes - Number of changes assigned to the logged in technician that are unapproved.
- Pending Problems - Number of Open problems assigned to the logged in technician.
- Unassigned Problems - Number of problems that are unassigned to technicians.

Scheduler

Scheduler gives a calendar view of the number of open requests, problems, changes, task and reminder for a technician in a given month. Using the Technician Availability Chart, the availability of a technician on a given date can be viewed, based on which requests can be assigned to other technicians (backup technicians).

- My Scheduler
- Technician Availability Chart

Quick Create - New Incident

An instant mode to create new incident when you are on a call with a requester. To access Quick Create - New Incident,

Click on the Quick Create icon in the top left corner.

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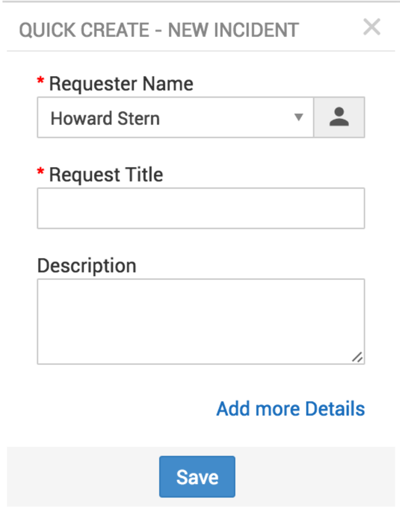
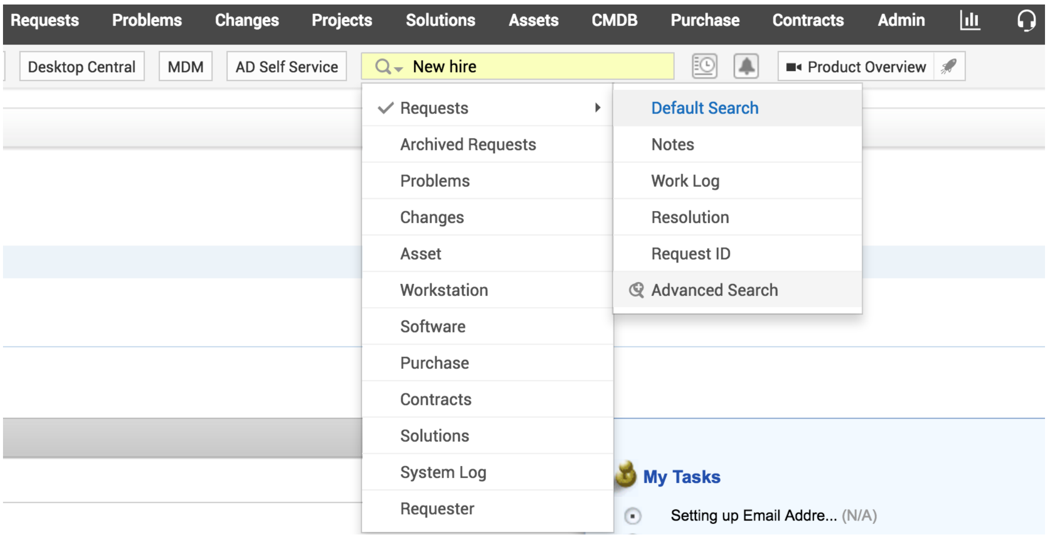


You can either conduct a search for the requester using theRequester List icon or you can enter the name of the requester in the field provided. Next, all you need to do is enter Request Title and Description. If you require additional details such as category, priority or assign a technician, click Add More Details >> link. This takes you to the New Incident form.

Note: The Quick Create - New Incident section is available only when 'Quick Create Settings' option is enabled in the Self-Service Portal Settings.

Search

You can search for Requests, Archived Requests, Problem, Change, Assets, Workstation, Software, Purchase, Contract, Solutions, System Log and Requester from the home page. You can further enhance the request search by drilling it down to sub modules. You can search for notes, work log, resolution and request ID. Conducting a search using the request ID/Keyword takes you to the request details page of the specified request ID/keyword.



Personalize

You can change the language and time zone displayed in the application, customize your signature, and change your password from the Personalize link. Click here to view more.

Quick Actions drop-down menu

The Quick Actions drop-down menu functions as a instant navigator to the Add New forms, Scheduler, Tasks, Reminders, Asset - Groups, Scanning inventories and Archived Requests.

Request Catalog drop-down menu

The Request Catalog drop-down menu groups both, the Incident Requests and Service Request Templates based on the category.
The Request Catalog drop-down menu is made available to your technicians only if you has enabled the option "Combine incident and service templates listing for the service" in Self Service Portal Settings.

Incident Catalog drop-down menu

The incident templates made available to your technicians are grouped based on the Service Category and listed in the Incident Catalog drop down. Click Incident Catalog link to access the default incident template.

Service Catalog drop-down menu

The service categories and the service items available to you are listed in the Service Catalog drop down. The list is organized to view the service items under each service category. All you need to do is browse for the available services in the catalog and submit a request.

License Expiry Alert

The license expiry alert shows the number of days for the existing license to get expired. In addition, it also provides the date within which the license should be renewed and the contact information of the support team.

Get Quote

The Get Quote link is visible to users using the Demo or Trial version. Clicking Get Quote link navigates the page to the Get Quote form in the website. Entering the specifications in the form will help us to provide you with the exact details of your requirement. Click Submit on specifying the details and our sales team will contact you on receiving the e-mail.

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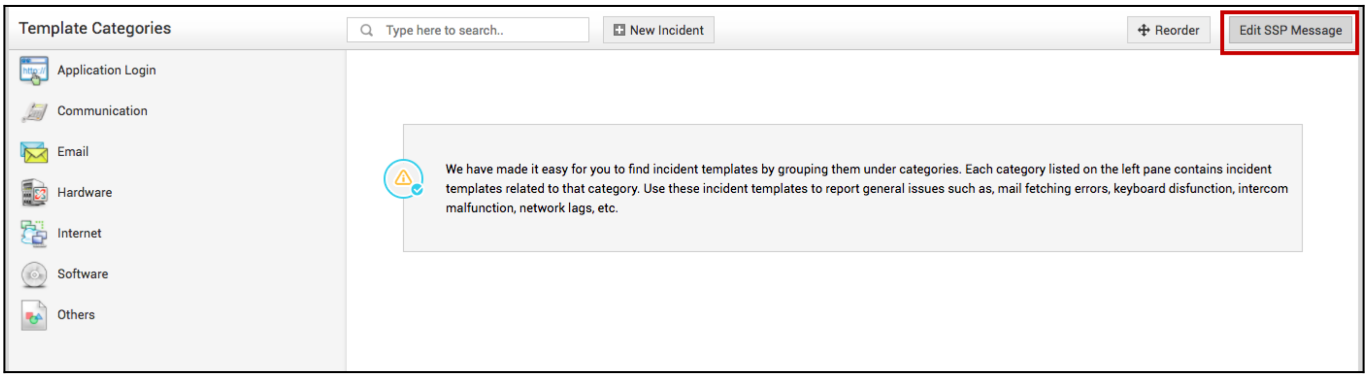
Request Catalog

To list both incidents and service templates under Request Catalog, go to the Self Service Portal and select **Yes** for the **Combine incident and service templates listing for the service** option.
When you click **Request Catalog** or **Incident/Service Catalog**, if you have not opted to display both incidents and services together, a landing page appears with a customizable message. The admin can add any information that must be displayed to all users.
To add a new message on this page, click the **Edit SSP Message**.



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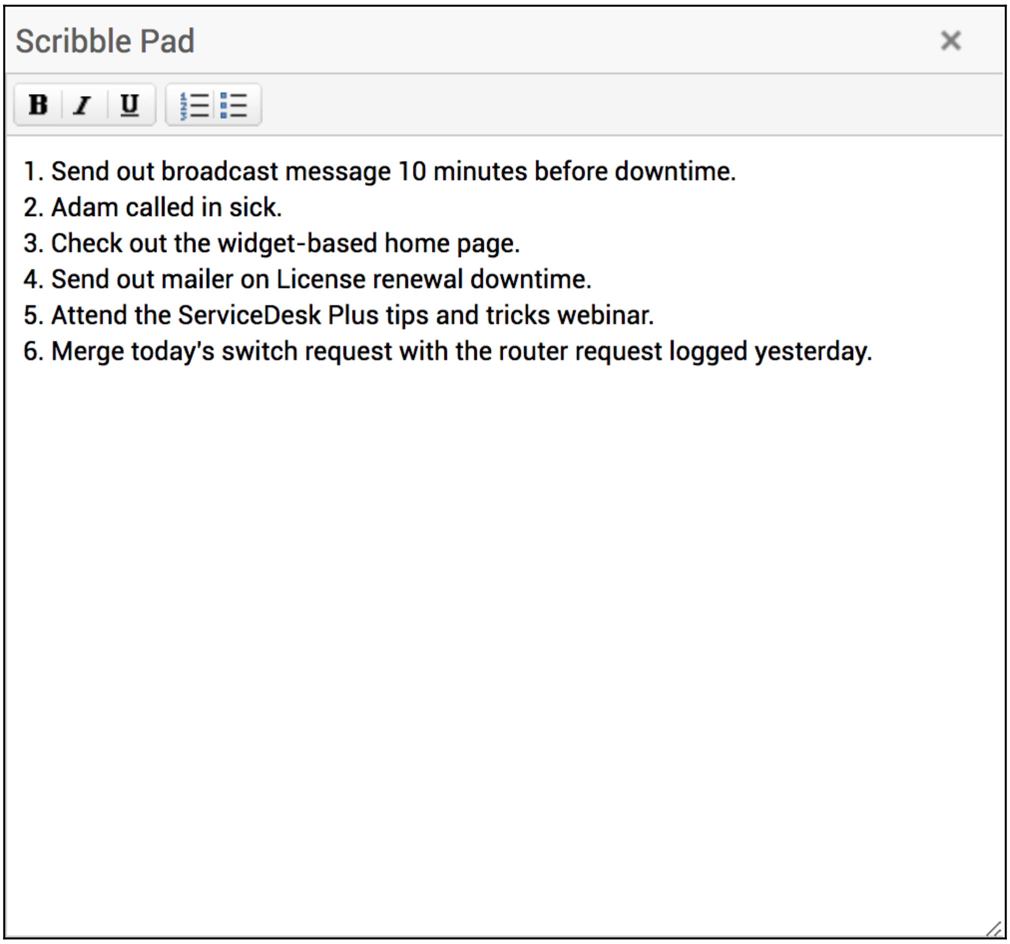
Scribble Pad

Often, technicians make hurried notes on paper while working on tickets. It could be a reminder to themselves to close a certain task or read up on the latest technology trend, or even an idea to link two seemingly similar requests. Scribble Pad is an easy and a better way of making these notes.
The Scribble Pad is on the top right of the Header.

Click the **Scribble Pad** and begin making your notes, as shown below:



You can access the Scribble Pad across modules. Any information entered remains until the technician deletes it.

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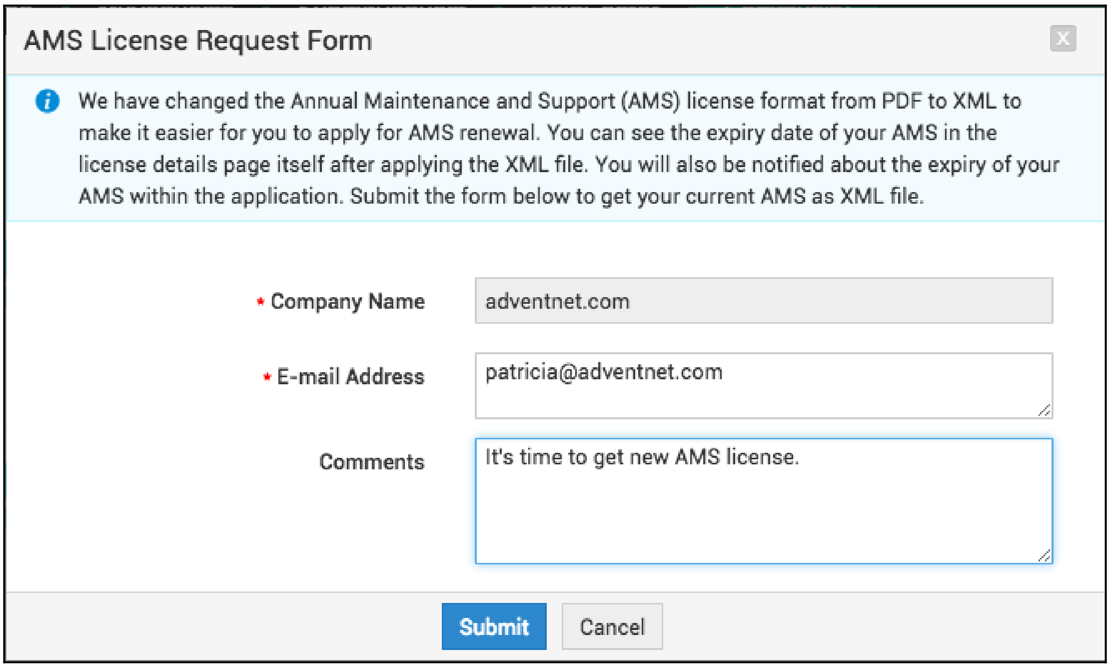
Annual Maintenance Support License

If you have purchased a perpetual license, you will need to purchase the Annual Maintenance Support License for continued support from the ServiceDesk Plus team.

To purchase the license, click **Get your AMS** in the User menu. Check the details, prepopulated, on the displayed form and click **Submit**.



You will receive XML files by email. Use those files to apply your AMS license. The license page will then display the expiry date of the AMS license for your records. When the license is due to expire in 30 days, a banner will alert you to renew the license.

License expiry alert

The **License Expiry Alert** shows the number of days for the existing license (or the trial version) to expire. If you wish to renew the license, then a renewal request must be sent to our support team, and they, in turn will provide you with the license file. To send a renewal request, click the Renew button. The page navigates to a Renewal Form where the License ID and Customer ID are pre populated. Enter the Email Address and your Company Name, also specify the Number of Technicians and Nodes license you wish to avail, and enable the add-ons if required. Enter relevant comments in the provided field and click Submit.

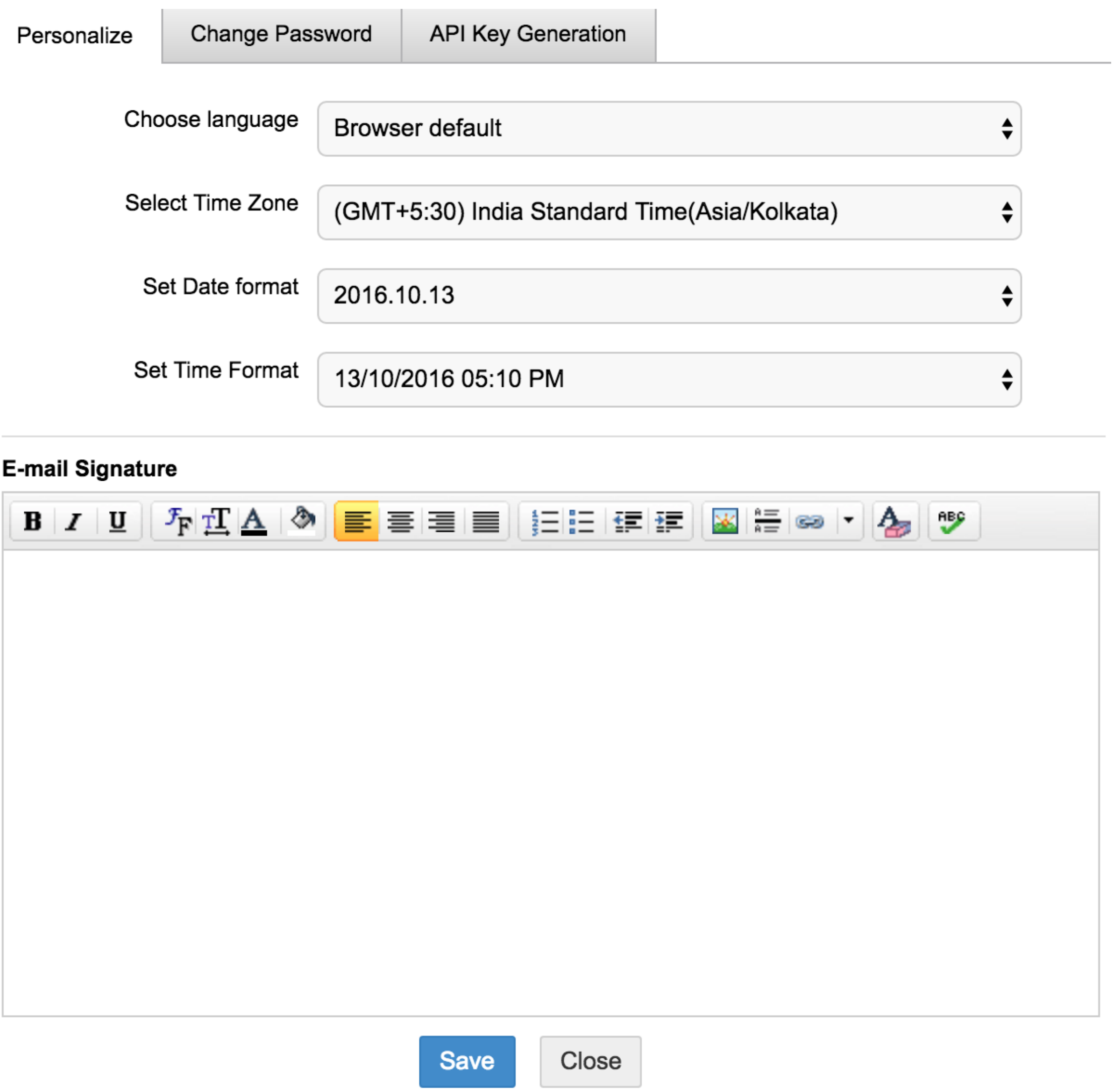
An email notification is sent to our support team, and they in turn will provide you with the license file. Once the license file is obtained, click the License link to install the license file. To know more on applying the license file, click Registering ServiceDesk Plus.

Personalize

You can localize your personalization such as display language, time zone and so on, as well as change your login password using this option. Apart from the option of changing password from the user management configurations, you can also change your individual password.

1. Log in to the ServiceDesk Plus application using your user name and password.
2. Click the Account icon at the top right corner of the page.

Select **Personalize**. This opens the Personalization page which has three tabs which are, Personalize, Change Password and API Key Geneartion as shown below,



Personalize
The personalize tab consists of display language, time zone, data format, time format and e-mail signature.

- Display Language

Select the language of your choice from the Choose Language combo box. The selected language will be you default display language in the application. All the data will be displayed in the language selected by you.

- Time Zone

  Since the organizations can be situated in various sites; every site has its particular time zone. Select the time zone of the site of your organization from the Select Time Zone combo box. The date and time will be set according to the selected time zone.

- **Date/Time Format**

  Select the format of the date such as, Tue 16 Sep 2008, from the Set Date Format combo box. Similarly you can also set the time format from Set Time Format combo box. The selected date and time format will be displayed where ever date/time is considered

For Example: While creating a request, the request created on and due by time will be displayed in the selected date and time format corresponding to the selected time zone. The same can be viewed under Problem, Change, Solution and Purchase modules.

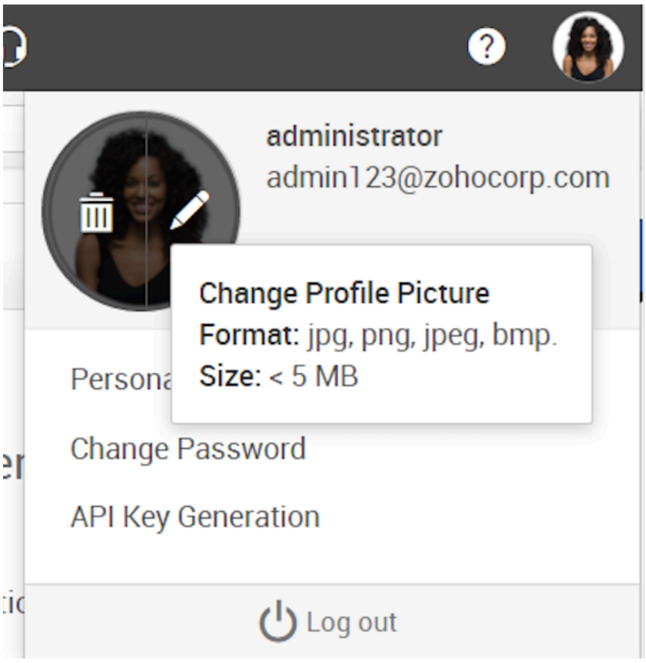
- E-mail Signature

  You can have your own personalized signature while replying to the mails using this option. Enter your signature in the text provided. Click Save.

Change Password

1. Click the **Change Password** tab in the personalize page. This displays the Change Password form.
2. **Enter your old password in the Current Password** field.
3. Enter your new password in the New Password field.
4. In the Confirm New Password, enter the new password again.
5. Click Save button.

Upload/delete profile picture:
Users can upload profile picture by clicking on the space where the profile picture has to be uplaoded in the header pane. The picture can be in .jpg, .png, .jpeg, .bmp formats. Note that the file size should not exceed 5MB.



The users can delete the profile picture by clicking the delete option available when hovering over the picture

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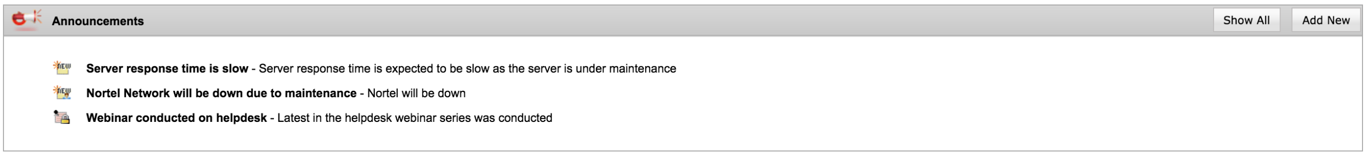
Publish announcements

ServiceDesk Plus allows you to publish Announcements company-wide or just to the technicians group. The announcement board is available in the login home page of the My View tab, below the My Summary block. Any technician can add, edit, and delete announcements.



The recent announcements will be displayed in the box. To view all the announcements, even completed ones, click the Show All button. This will display the list of all announcements added till date.
To view an announcement, click the Announcement Title to open the complete announcement details in a pop-up. If there is more than one announcement, then you will notice a Previous and Next button in the pop-up. Using this you can navigate through the announcements list and view all the announcements without closing the pop-up window.

Representation of Icons
- Private Announcement i.e., announcements published to the technicians
- New Private Announcement
- Public Announcement i.e., announcements that are published to technicians and requesters.
- New Public Announcement
- Public Announcements restricted to certain User Groups
- Newly added Public Announcement restricted to certain User Groups

Adding Announcement
To add an announcement,

1. Click **Add New** button in the Announcements block. The Add New announcement window pops up.
2. Enter the Announcement Title. This can be a short statement that describes the announcement. This is mandatory field.
3. Type the Announcement Content in the text box provided for the same.
4. Select the From date and To date using the calendar icon beside the respective fields.
5. By default, the announcement is available to technicians. If you want to publish the announcement in the requester login, enable Show to Requester check box.

   If you have configured User Groups, then you can publish the announcement to requesters under the user group. Select the **User Group** from the available list, select >> button to move the list to the selected user group. The announcement is displayed in the home page with a lock beside it. Click here to know more on configuring User Groups.
6. If you wish to Send this announcement as mail then select the corresponding option by enabling the check box.

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7. Click Save. At any point of time, you do not wish to add the announcement, click Cancel.

The announcement will be added and the pop-up will display the announcement details as entered by you. The announcement title will be displayed in the login home in bold text in the announcement box with a new icon beside it.

Viewing All Announcements

To view all the announcements that have been displayed in the application, click **Show All** button in Announcements block. The **Manage Announcements** page is displayed. From this page, you can Add Announcement, Edit Announcements and Delete Announcements.

		Title	Shown To	Date From	Date To
		Server response time is slow	Everyone	Oct 13, 2016 12:31 PM	Oct 15, 2016 12:53 PM
		Nortel Network will be down due to maintenance	Restricted	Oct 13, 2016 11:47 AM	Oct 18, 2016 12:53 PM
		Webinar conducted on helpdesk	Technician	Oct 12, 2016 07:33 PM	Oct 19, 2016 12:54 PM

By default, all the announcements are shown. You can select the announcements to display in the column view from **Filtering Showing** drop-down menu. You can view announcements that are **Currently Shown**, or announcements that are **To be shown** in the home page or announcements that are **Already displayed**.

Edit an Announcement

1. In the login home page, click the title of the announcement that you wish to edit. The announcement details are displayed in a View Announcement pop-up. If you have permissions to edit / delete the announcements, you will see an Edit and Delete button.
2. Click Edit button.
3. You can change all the fields of the announcement in the Edit Announcement form.
4. Click Save. At any point of time, you do not wish to edit the announcement, click Cancel.

All the changes made in the announcement will be saved.

Delete an Announcement

1. In the login home page, click the title of the announcement that you wish to delete. The announcement details are displayed in a View Announcement pop-up. If you have permissions to edit / delete the announcements, you will see an Edit and Delete button.
2. Click Delete button. A confirmation dialog pops up.
3. Click OK to delete, and Cancel to retain the announcement.

Alternatively,

1. In the login home page, click Show All button in the Announcements box.
2. In the announcements list view, select check boxes beside the announcement Title which you wish to delete.
3. Click Delete. A confirmation dialog pops up.
4. Click OK to delete, and Cancel to retain the announcements.

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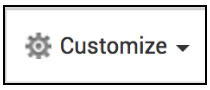
Technician / Requester home page customization

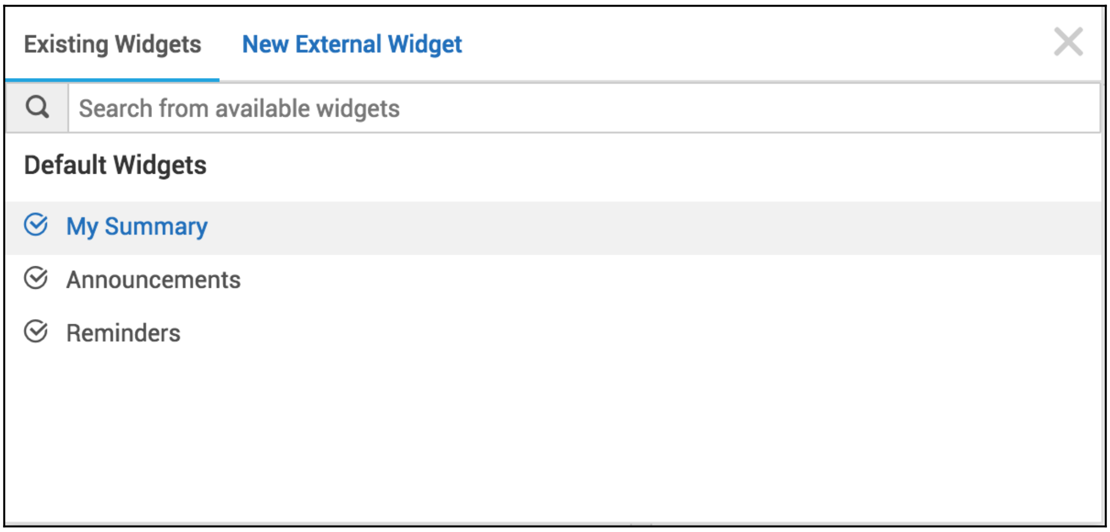
You can now customize the technician's/ requester's home page by adding / organizing widgets, and changing the layout style and background color. Embed your organization’s resource page or intranet page on the home page via the external widget addition option.

To customize,

- Head to the **Home** page.
- Click on **Customize** at the top right 

.
- Select **Requester Home Page / Technician Home Page**.
- The page turns to edit mode.
- Click 

to add a new widget. Default widgets will be listed.



- Click on the ones you want to add them to the homepage.
- To add external widgets, choose **External widgets** while adding a new widget. You can also Embed URLs, HTML files, or other files as an external widget.

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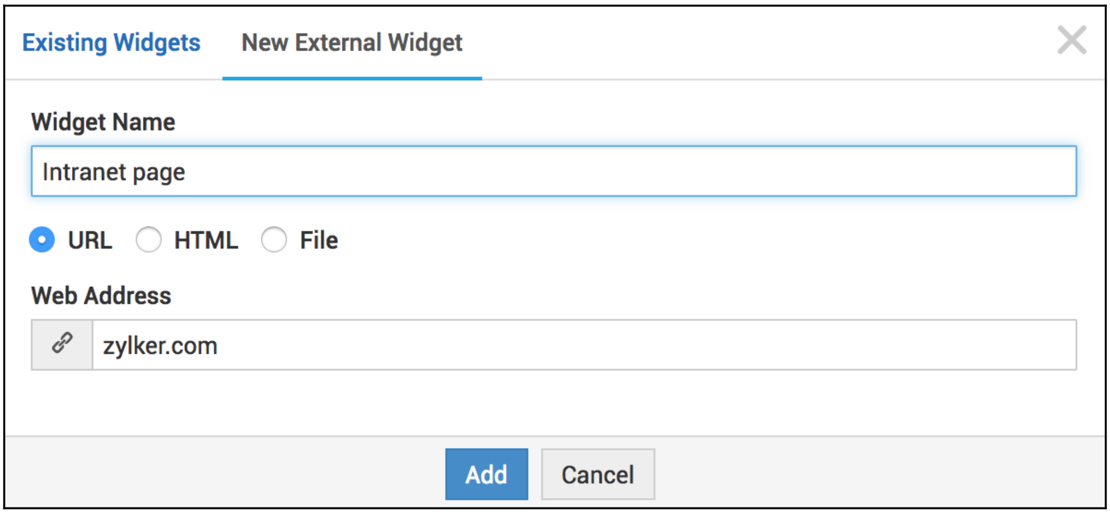
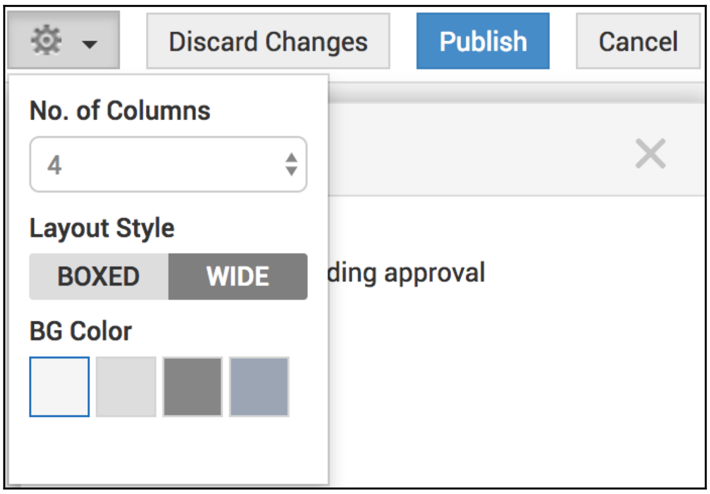
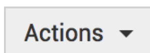


External widgets help you to include your organization's intranet/knowledge base or other information related pages into the home page.

- Drag and drop the widgets to move them around.
- Use the settings menu to customize the column count, layout style, and the background color of the homepage.



- Preview how the changes look like by hitting on the preview button.
- Save/clear the changes does to the page by clicking on the actions menu 

. Changes can be discarded as well.
- Save and publish the new configuration by clicking on the **Publish** button 

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