ManageEngine

INSTALLATION GUIDE

OpManager

www.manageengine.com/opmanager

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OpManager System Requirements

The system requirements mentioned below are minimum requirements for the specified number of devices. The sizing requirements may vary based on the load.

Hardware Requirements

No. of Devices	Processor	Memory	Hard Disk
OpManager <250	2 GHz	4 GB	20 GB
OpManager 500	2.5 GHz	8 GB	20 GB
OpManager 1000	Quad Core 2.5 GHz or higher	16 GB	40 GB
OpManager with add-ons (Or) OpManager Plus	Dual Quad Core 3.5 GHz or higher	16 GB	40 GB
Enterprise Edition	Dual Quad Core 3.5 GHz or higher	16 GB	100 GB
Enterprise Edition with add-ons	Dual Quad Core 3.5 GHz or higher	16 GB	100 GB

Important Notes:

1. In the case of OpManager Enterprise, the hardware requirements are the same for both the Central and Probe.
2. Dedicated resources must be available in the case of VMs

Software Requirements

The following table lists the recommended software requirements for an OpManager installation.

Software	Evaluation	Production
Windows OS	Windows 10 Windows 8 Windows 7 Also works with, Windows Server 2016 Windows Server 2012 R2 Windows Server 2012 Windows Server 2008	Windows Server 2016 Windows Server 2012 R2 Windows Server 2012 Windows Server 2008
Linux OS	Ubuntu Suse Red Hat Fedora Mandriva (Mandrake Linux)	Red Hat 64 bit Linux flavors
Browsers	Chrome latest Firefox latest Edge IE 11	Chrome preferred

	Note: Do not enable Enterprise Mode option in Internet Explorer. This will make Internet Explorer work as version 7. This is not supported.	
User privileges	Local administrator privileges required for OpManager installation.	

Port Requirements

The following table summarizes the ports and protocols that OpManager uses for communication.

- **Ports used by the application**

Port	Protocol	Port Type	Usage	Remarks
9990	TCP	Static	To export certain reports in PDF format	Customize the Port number by editing the **customExport.properties file (MINPORTRANGE =xxxx)** found under OpM/Export (the folder where OpManager is installed). Default port number is taken as 9990.
7275	TCP	Static	Remote Desktop Port	Can be changed in **conf/database_params.conf file/ dbconfiguration.bat** file.
22	TCP	Static	SSH Port	
8060	TCP	Static	Web Server Port	Can be configured using **ChangeWebServerPort.bat**.

- **Ports used for monitoring**

Port	Protocol	Port Type	Usage	Remarks
23	TCP	Static	Telnet Port	
161	UDP	Static	SNMP	
135	TCP	Static	WMI	
445	TCP	Static	WMI	
5000 to 6000	TCP	Dynamic	WMI	
49152 to 65535	TCP	Dynamic	WMI	Windows 2008R2 and higher.
162	UDP	Static	SNMP Trap Receiver Port	
514	UDP	Static	SYSLOG Receiver Port	SYSLOG Receiver Port can be changed via web client.

Note: Dynamic ports change during each server startup based on the ports available in the system

- **Ports used by add-ons**

Port	Protocol	Port Type	Usage	Remarks
69	UDP	Static	TFTP Port [NCM]	
1514	UDP	Static	Firewall Log Receiver Port [FWA]	Firewall Receiver Port can be changed via web client.
9996	TCP		NetFlow Listener Port [NFA]	NetFlow Listener Port can be changed via web client.

- **Databases**

Port	Protocol	Description	Remarks
13306	TCP	PostgreSQL Database Port	Can be changed in conf/database_params.conf file.
1433	TCP	MSSQL Database Port	Can be changed in **conf/database_params.conf** file/ **dbconfiguration.bat** file.

Database Requirements

The following table lists the basic requirements for your OpManager database server.

Memory & Disk

<table>
<tr><th>DB</th><th>Standard/ Professional Edition</th><th>Enterprise Edition</th></tr>
<tr><td>PGSQL</td><td>Bundled with the product.</td><td>For evaluation purposes only. Please use MSSQL for production.</td></tr>
<tr><td rowspan="4">MSSQL</td><td colspan="2">SQL 2016 | SQL 2014 | SQL 2012 | SQL 2008
Important Notices:
1. For production use 64 bit versions of SQL
2. Recovery mode should be set to SIMPLE.
3. SQL and OpManager should be in the same LAN. Currently WAN based SQL installations are not supported.</td></tr>
<tr><td colspan="2">Collation:
English with collation setting (SQL_Latin1_General_CP1_CI_AS)
Norwegian with collation setting (Danish_Norwegian_CI_AS)
Simplified Chinese with collation setting (Chinese_PRC_CI_AS)
Japanese with collation setting (Japanese_CI_AS)
German with collation setting (German_PhoneBook_CI_AS)</td></tr>
<tr><td colspan="2">Authentication:
Mixed mode (MSSQL & Windows Authentication).</td></tr>
<tr><td colspan="2">BCP (Only for Enterprise Edition (or) Standard/ Professional Edition with the NFA addon):
The "bcp.exe" and "bcp.rll" must be available in the OpManager bin directory.
The BCP utility provided with Microsoft SQL Server is a command line utility that allows you to import and export large amounts of data in and out of SQL server databases quickly. The bcp.exe and bcp.rll will be available in the MSSQL installation directory. If MSSQL is in a remote machine, copy bcp.exe and bcp.rll files and paste them into \OpManager\bin directory.

Note: The SQL server version compliant with the SQL Native Client must be installed in the same Server.</td></tr>
</table>

Warning: The Manage Engine directory (By Default: C:\ManageEngine\OpManager) and the Database directory should be excluded from the Antivirus program.

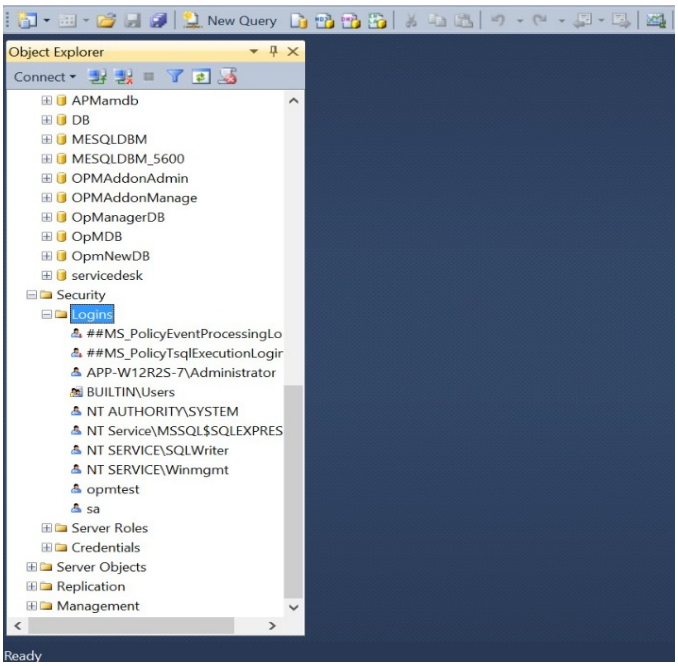
MSSQL Server Configuration for OpManager

Note: If you wish to proceed with your existing server authentication credentials, please skip this step and directly move to the installation procedure.

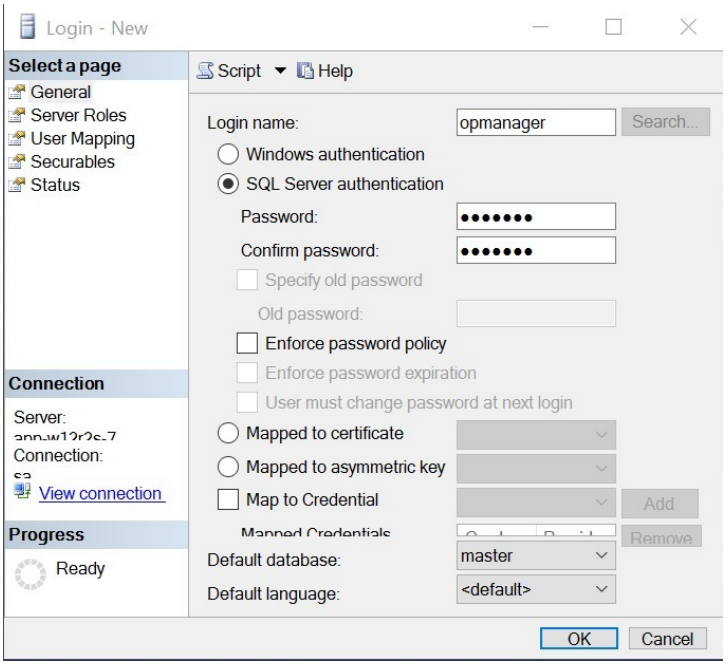
Steps to configure MSSQL

Step 1: To ensure proper communication between the MSSQL database server and OpManager, a new account has to be created with the below mentioned steps.

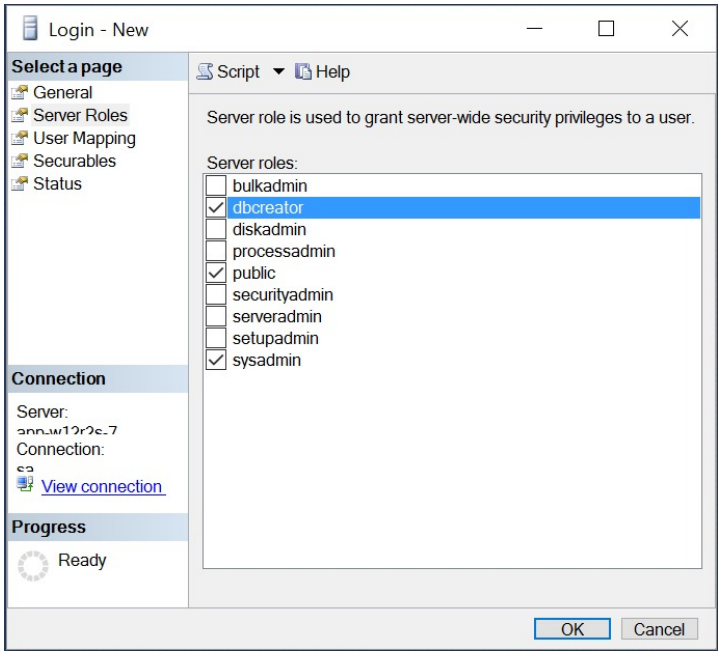
- Open SQL Management Studio and login using your Server Account (sa)/ Windows credentials.
- Right click on Logins
- Select New Login



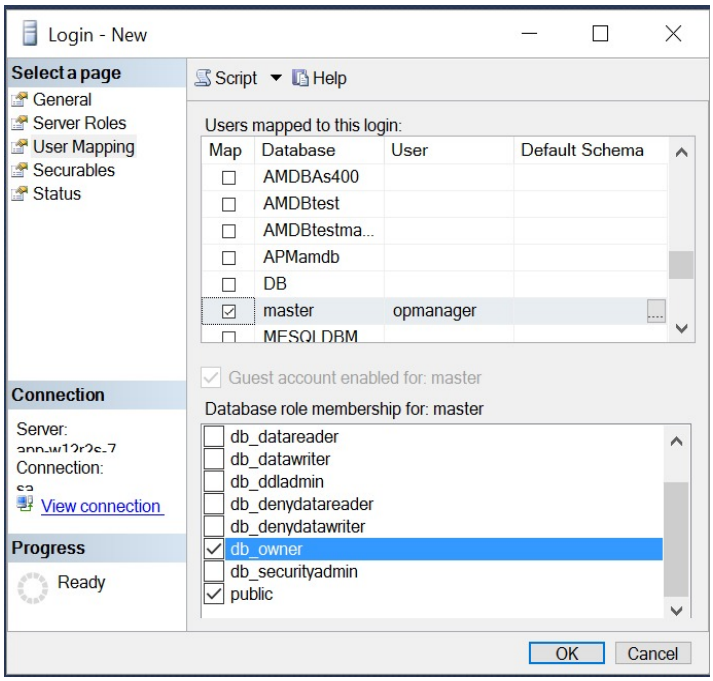
Step 2: Select Authentication type. For Windows authentication, select and login using your Windows login credentials. For SQL Server Authentication, enter the password. Then proceed with Step 3.



Step 3: Click on Server Role. Select Server Roles "dbcreator", "public" and "sysadmin"



Step 4: Click on User Mapping. Map this login to "master" with database role ownership as "db_owner" and "public". Click OK.



Installation

OpManager Standard/ Professional Installation

Note: If OpManager is run with MSSQL as the backend database, then the MSSQL database must be configured before proceeding with the following installation.

I. Installing OpManager on Windows

Steps to install

1. Download OpManager for Windows.
2. Execute the downloaded "OpManager.exe" to install and follow the instructions in the installation wizard.
3. Click 'Next' to begin the installation process. Go through the license agreement and click 'Yes' to proceed to the next step.
4. In the subsequent steps of the wizard, select the OpManager language and the directory to install OpManager. Proceed to the next step.
5. Specify the port number to run OpManager Web Server (OpManager Central uses 80 as the default web server port) and click 'Next'.
6. Register for technical support by providing your contact information such as Name, E-mail Id, etc., and click 'Next'.
7. Select the Server Mode (i.e., Primary or Standby server) and click 'Next'.
8. If the Server Mode is selected as Standby, then enter the Primary webserver host, port and login details and complete the installation.
9. Now, select the database. OpManager supports both, PostgreSQL and MSSQL as database and click 'Next'.
10. Click 'Finish' to complete the installation process.

B.1 Installing OpManager on Linux

Prerequisites

1. Sometimes, you might encounter errors such as database connection not getting established or the server not starting up. To workaround these issues, comment the IPv6 related entries in the /etc/hosts file.
2. Check if the DNS resolves properly to the IP Address on the system in which OpManager is installed. Add an entry to /etc/host file with ipaddress and host name if there is trouble starting OpManager.

Steps to install

1. Download OpManager for Linux.
2. Login as ***root*** user.
3. Assign the executable permission to the downloaded file using the following command: **chmod a+x ManageEngine_OpManager_64bit.bin**
4. Execute **./ManageEngine_OpManager_64bit.bin** This will display the installation wizard.
5. Click 'Next' to begin the installation process. Go through the license agreement and proceed to the next step.
6. In the subsequent steps of the wizard, select the OpManager Edition, language, the directory to install OpManager, and the port number to run OpManager Web Server. Proceed to the next step.
7. Verify the installation details and click 'Next'.
8. Click 'Finish' to complete the installation process.

It is recommended to install OpManager in the *opt* folder. By default, OpManager is installed in the */opt/ManageEngine/OpManager* directory.

B.2 Installing OpManager on Linux using Console mode/ Silent mode

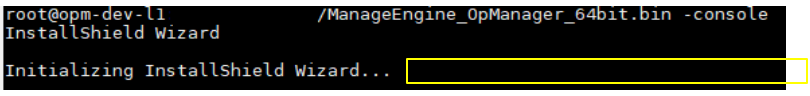
This is a quick walk-through of the console mode installation of OpManager on a Linux box - an easy thing to do if you are working on a Windows box and want to install on a remote Linux system.

Prerequisites

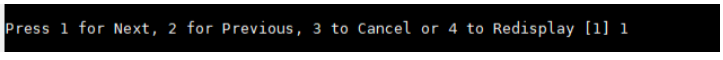
To begin with, make sure you have downloaded the binary for Linux.
(http://www.manageengine.com/network-monitoring/download.html)

Steps to install

Step 1: Execute the binary with **-console** option

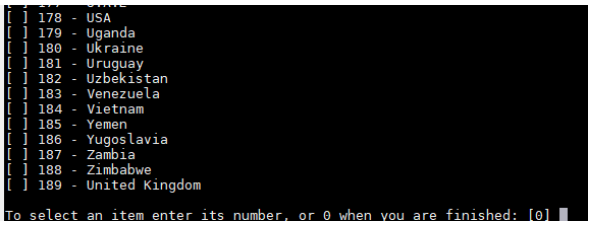


Step 2: Follow the on-screen instructions

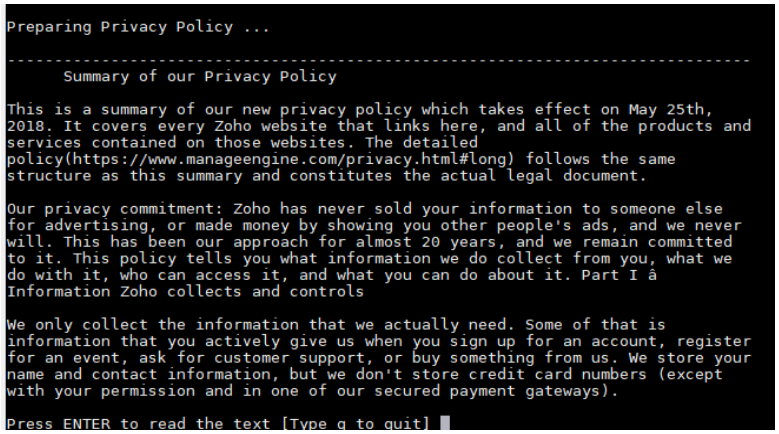


Step 3: Register for technical support (Enter Name, E-mail id, Phone, Company Name)

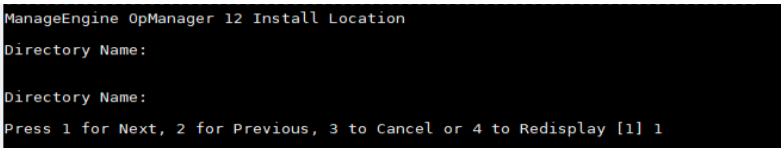
Step 4: Select the location



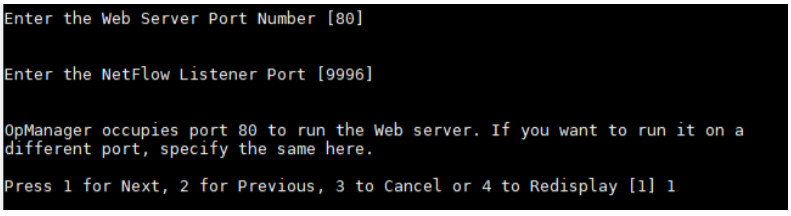
Step 5: Go through our privacy policy and agree to continue installation



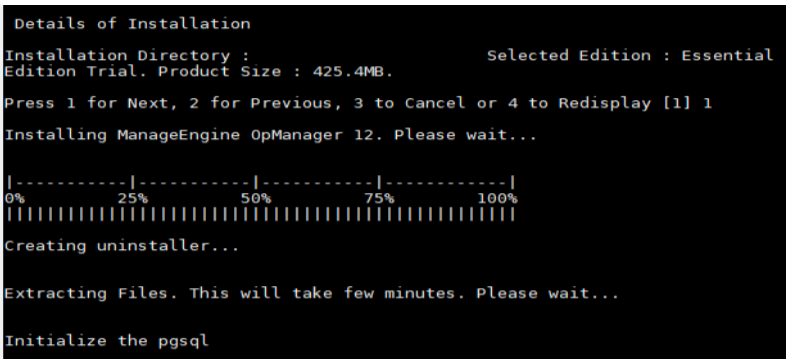
Step 6: Choose the installation directory



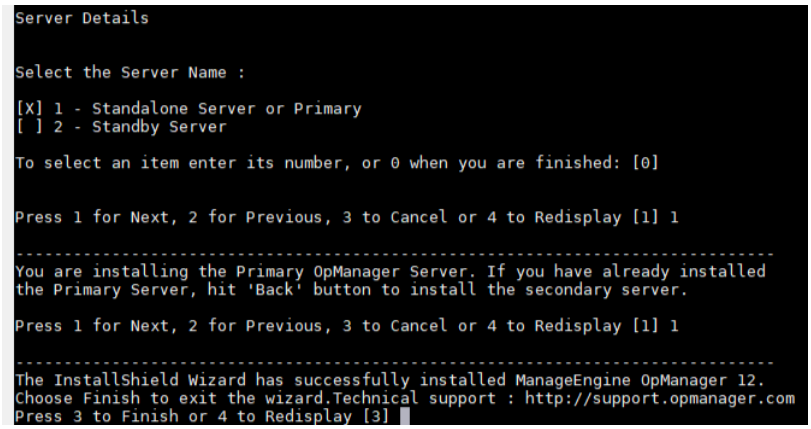
Step 7: Configure the Webserver Port



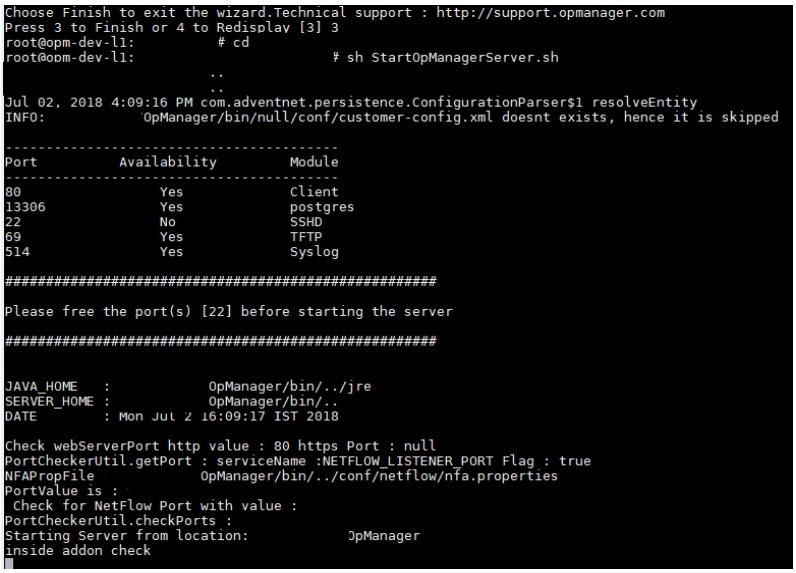
Step 8: Verify the installation details and the installation status



Step 9: Choose the installation server (Primary or Secondary server)



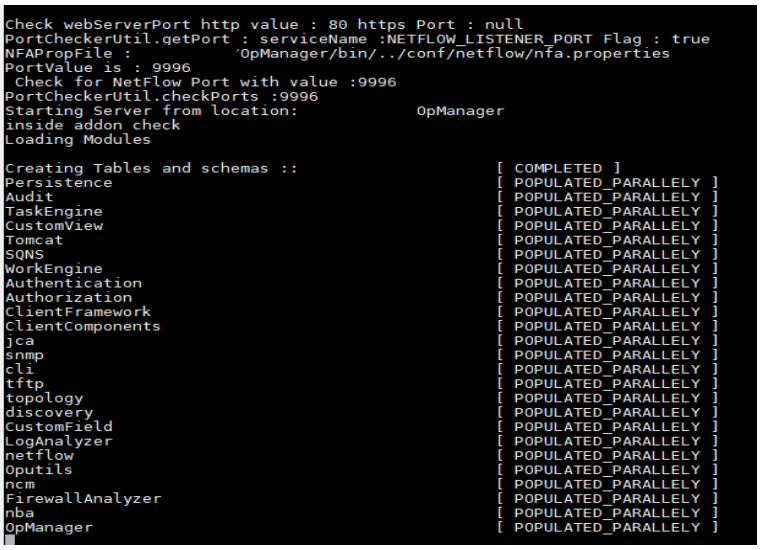
Step 10: Complete the Installation

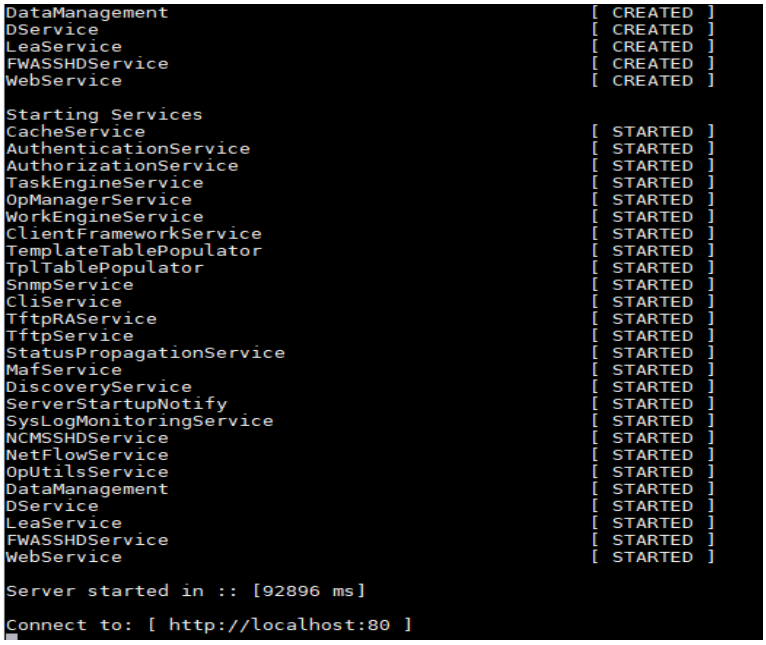


Starting OpManager on Linux

Go to /OpManager/bin folder
Execute: sh run.sh

To run OpManager server in the background, execute: nohup sh run.sh&





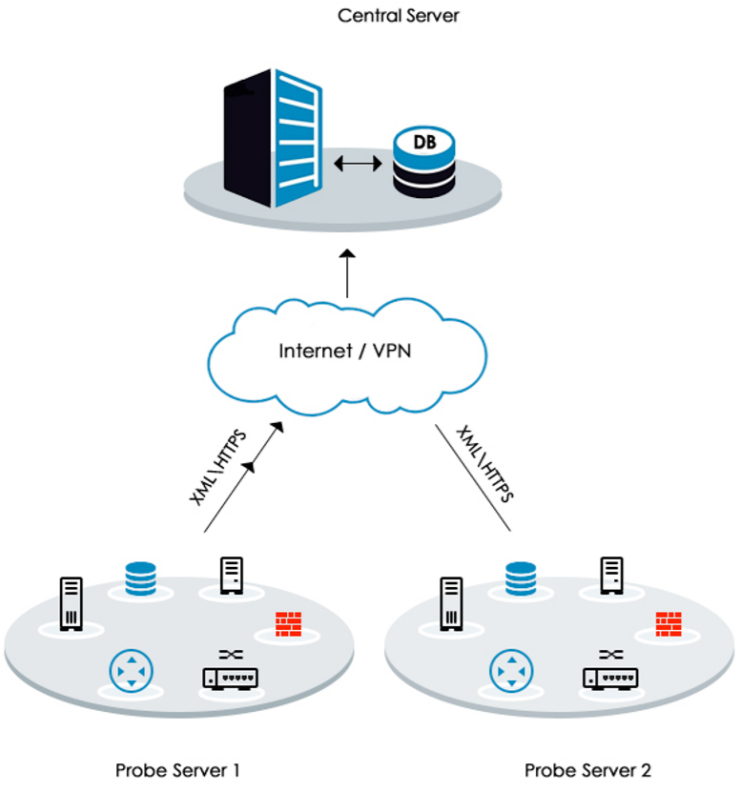
OpManager Enterprise Installation

OpManager Enterprise Edition can be deployed in the following cases:

Case 1: When geographically distributed networks need to be monitored from one location.

Case 2: When the number of devices that need to be monitored is more than 1K devices.

ManageEngine recommends the installation of a Central server and a Probe to effectively achieve a distributed network monitoring environment.



Central Server: Central periodically collects health, performance and fault data across all Probes and consolidates the information in one location.

Probe Server: The Probe periodically polls the devices in the local network and updates data to the central server. It has to be installed at the Remote Location.

Note: If OpManager is run with MSSQL as the backend database, then the MSSQL database must be configured before proceeding with the following installation.

A. Installing OpManager Enterprise Edition on Windows

OpManager Central Server

Step 1: Download the OpManager Central.exe from the below link

https://www.manageengine.com/network-monitoring/29809517/ManageEngine_OpManager_Central_64bit.exe

Run the exe as 'administrator'

Step 2: Click 'Next' to proceed with installation.

Step 3: Click 'Yes' to the OpManager License agreement

Step 4: Choose your language for OpManager installation and click 'Next' to proceed

Step 5: Choose the destination folder for OpManager installation and click 'Next' to proceed

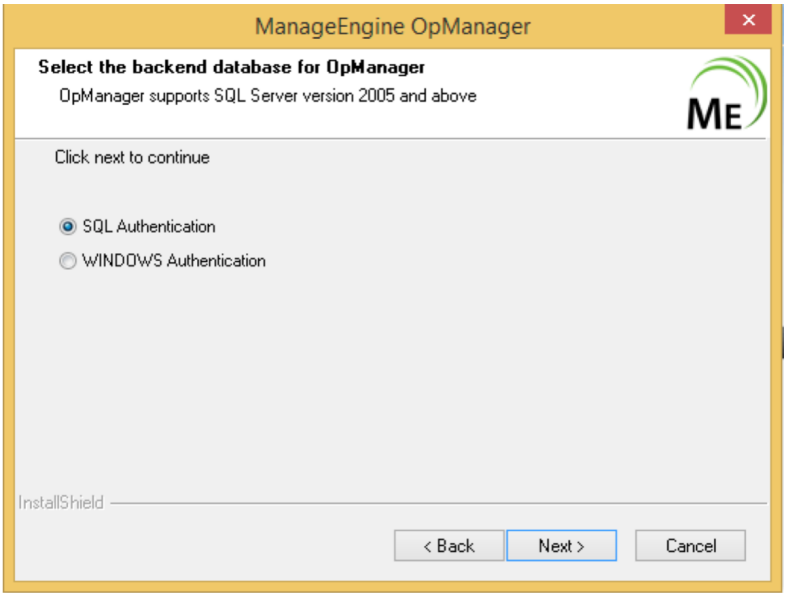
Step 6: If you want to change the default web server port for OpManager installation enter the new port number (OpManager Central uses 80 as the default web server port) and click 'Next' to proceed.

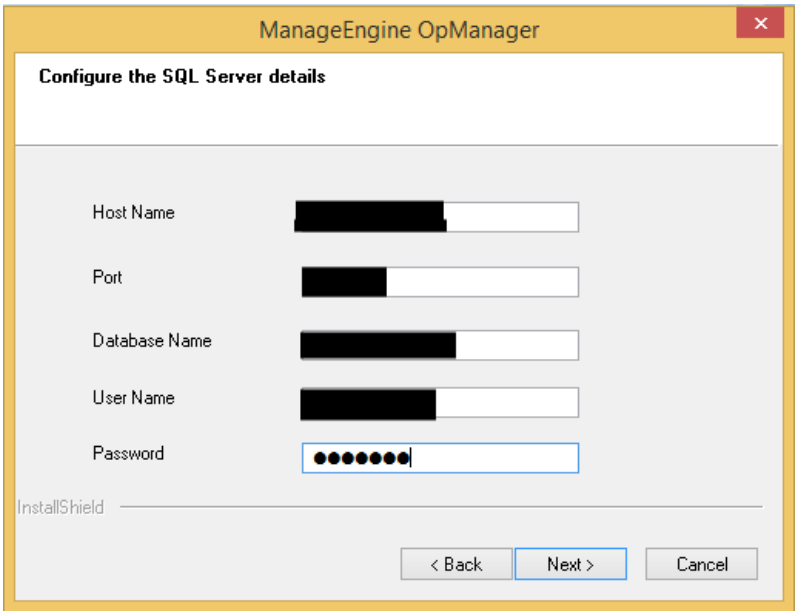
Step 7: Register your OpManager license with required details to get technical support and click 'Next' to proceed.

Step 8: Select 'Standalone' or 'Primary' server . If you are installing failover, select standby server. First configure standalone or primary for failover installation. Click 'Next' to proceed.

Step 9: If you select PGSQL, please proceed with Step 13. (or) If you select 'MSSQL' database (recommended for production). Click 'Next' to proceed

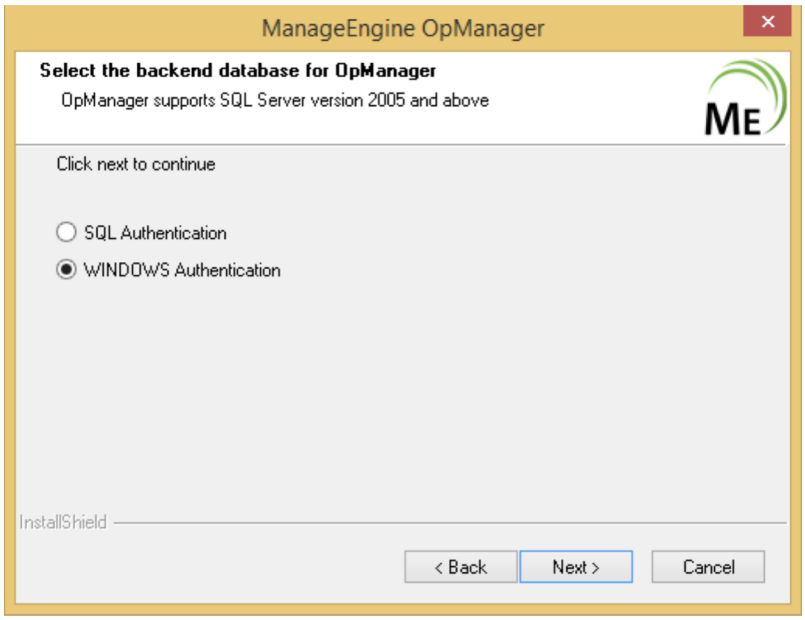
Step 10: If you select SQL Authentication, provide MSSQL details like Host Name, Port, Database Name. Use the SQL Server Authentication credentials (Username and Password) created earlier. Click 'Next' to proceed

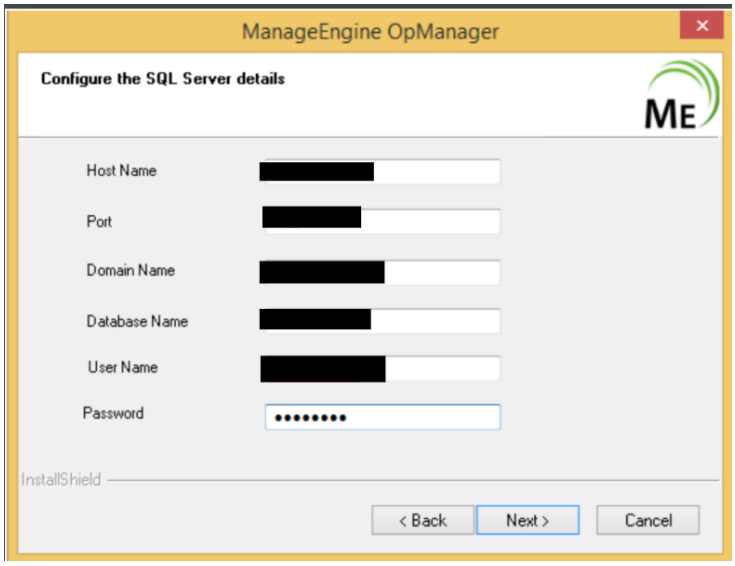




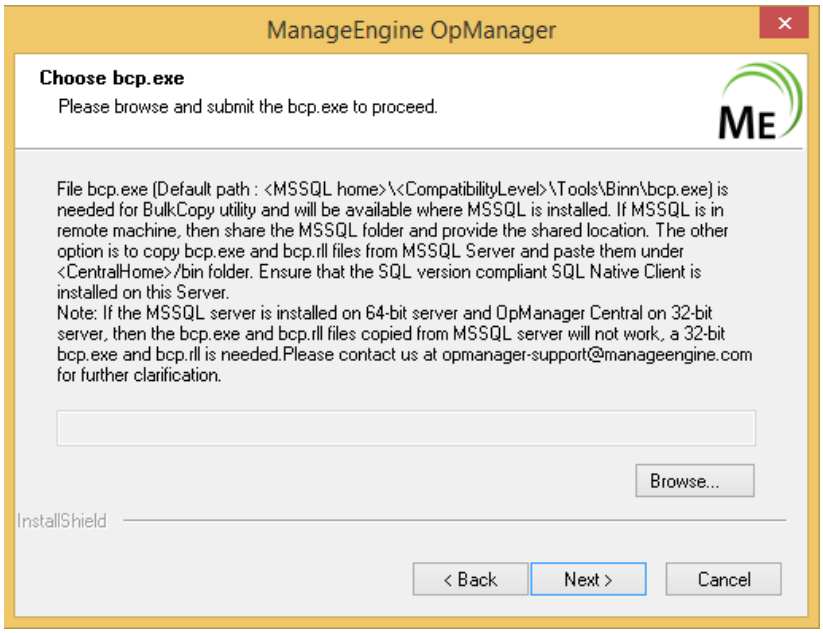
(or)

If you select WINDOWS Authentication, provide MSSQL details like Host Name, Port, Domain Name, Database Name, Username and Password. Click 'Next' to proceed.



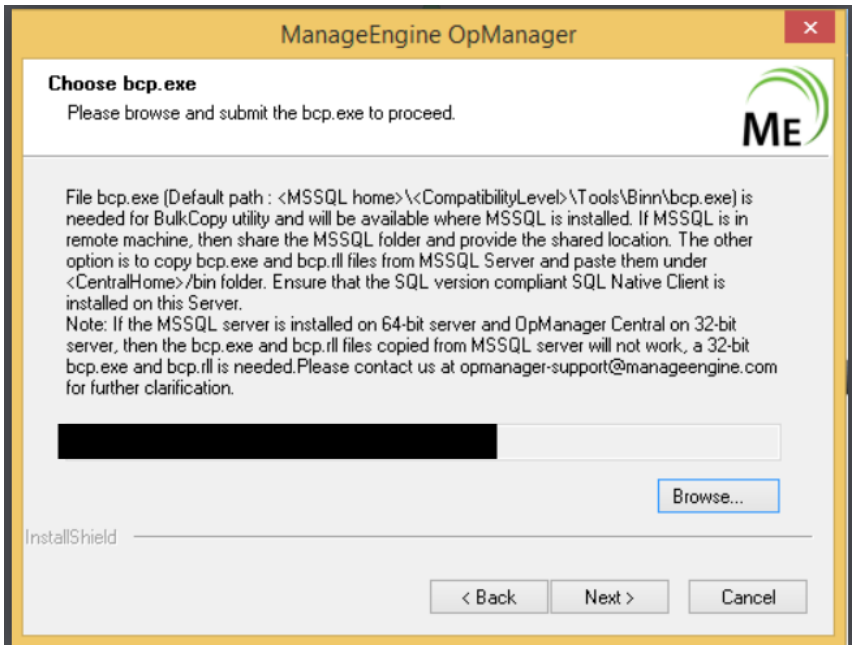


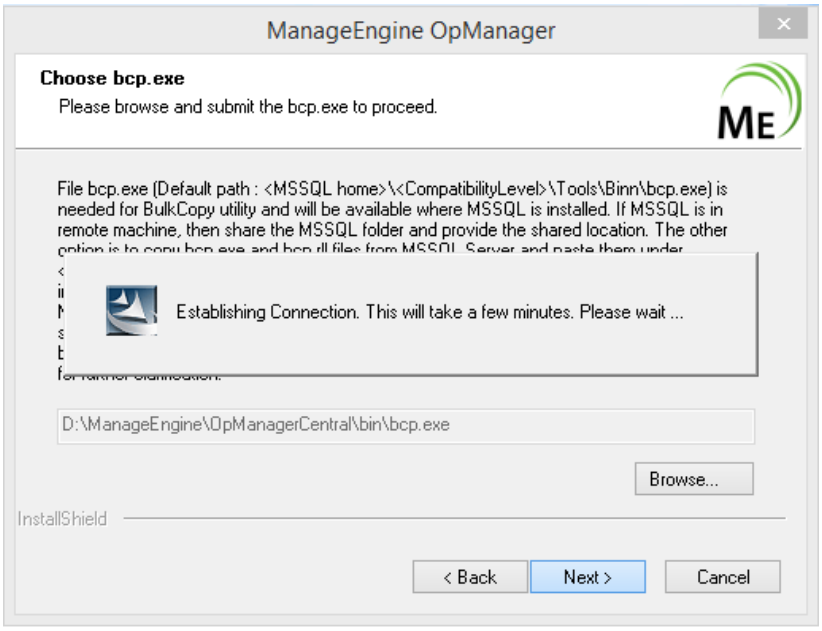
Step 11: Search for 'bcp.exe' and 'bcp.rll' in the MSSQL installation directory and copy these files under \OpManagerCentral\bin directory. Click 'Next' to proceed.



Note: The SQL server version compliant with the SQL Native Client must be installed in the same Server.

Step 12: Click on browse and select \OpManager\bin\bcp.exe. Click 'Next' to proceed.





Step 13: Click 'Finish' to complete OpManager Central Server installation.

OpManager Probe Server

Step 1: Download the OpManager Probe.exe from the below link

https://www.manageengine.com/network-monitoring/29809517/ManageEngine_OpManager_Probe_64bit.exe

Run the exe as 'administrator'

Step 2: Click 'Next' to proceed with installation

Step 3: Click 'Yes' to the OpManager License agreement

Step 4: Choose your language for OpManager Probe installation and click 'Next' to proceed

Step 5: Choose the destination folder for OpManager Probe installation and click 'Next' to proceed

Step 6: If you want to change the default web server, netflow ports for OpManager probe installation enter the new port numbers (OpManager uses 80 as the default web server port and 9996 as the default Netflow port) and click 'Next' to proceed.

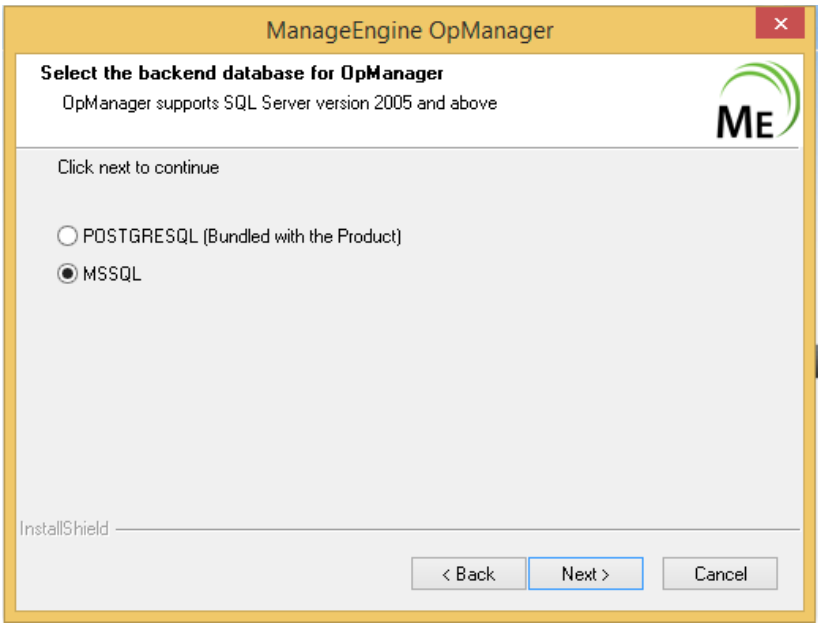
Step 7: Enter the details of the proxy server (if the probe is installed behind a proxy server) and click 'Next' to proceed

Step 8: Register your OpManager license with required details to get technical support and click 'Next' to proceed.

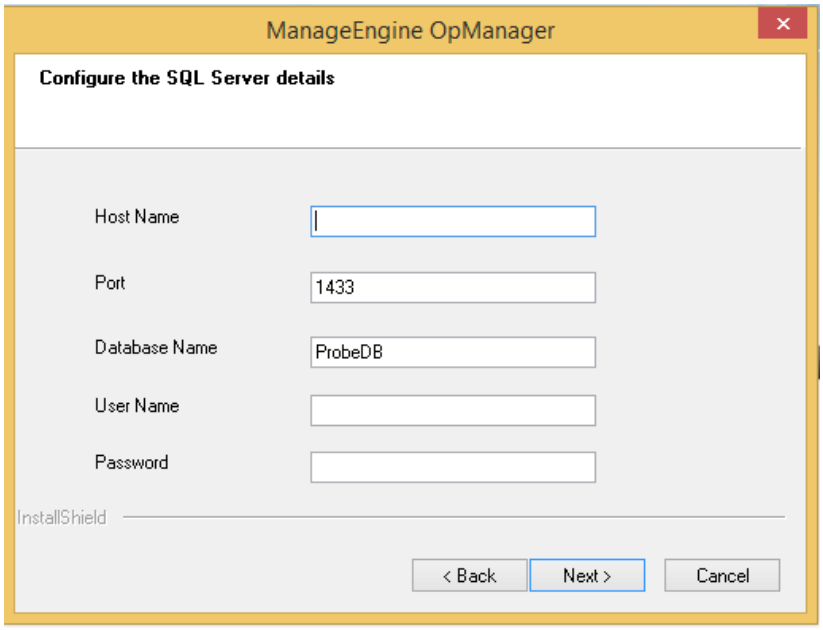
Step 9: Select 'Standalone' or 'Primary' server. If you are installing Failover, select standby server.

First configure standalone or primary for Failover installation. Click 'Next' to proceed.

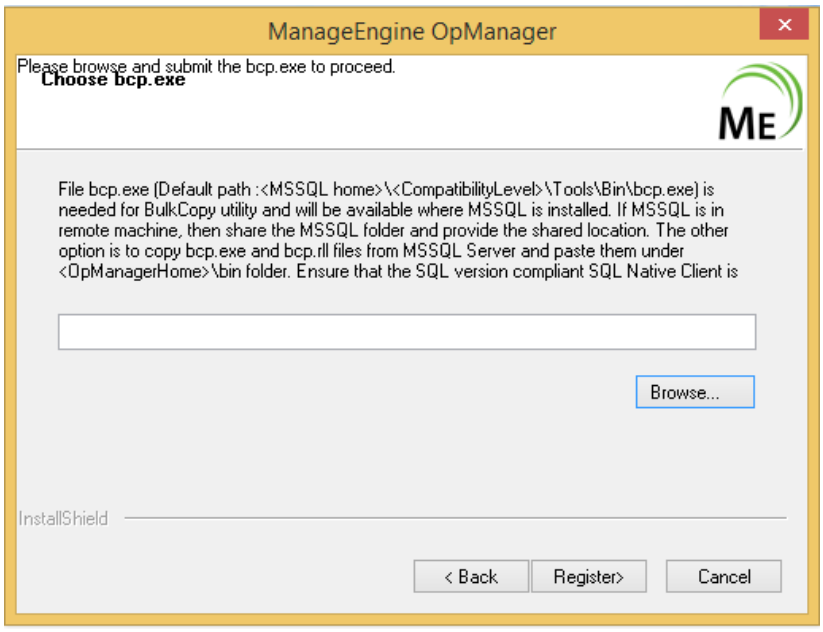
Step 10: If you select PGSQL, please proceed with Step 14. (or) If you select 'MSSQL' database (recommended for production). Click 'Next' to proceed



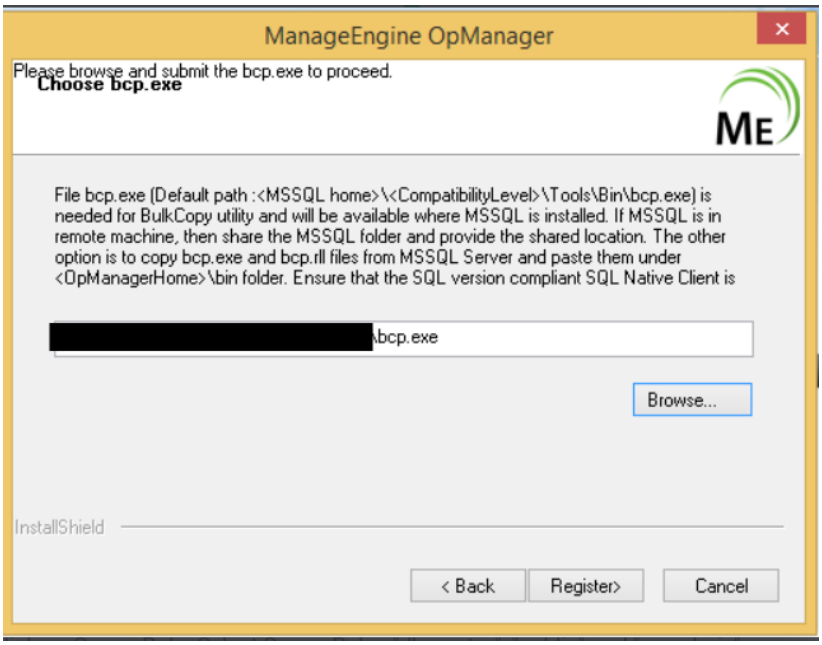
Step 11: Provide MSSQL details like host name, port, database name. Use the credentials (username and password) that was created earlier while configuring SQL. Click 'Next' to proceed



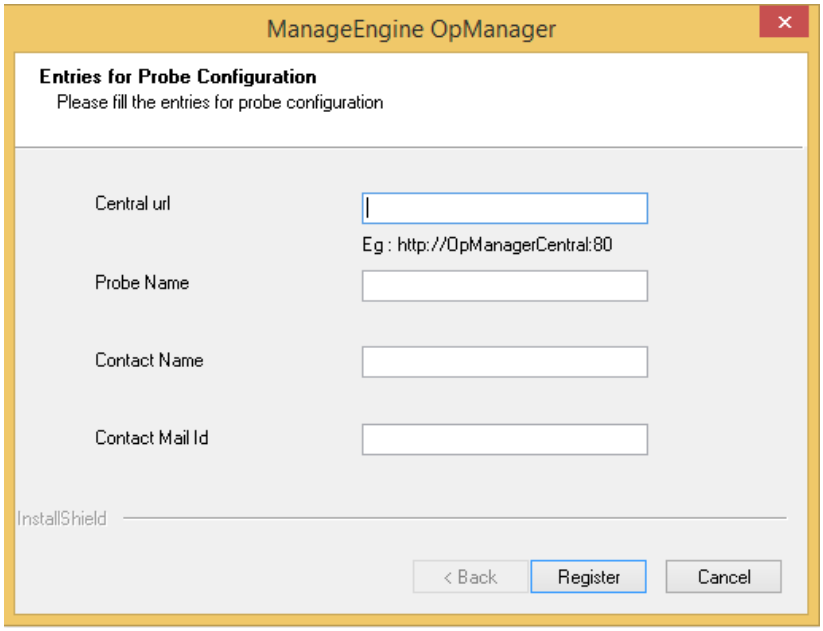
Step 12: Search for bcp.exe and bcp.rll in the MSSQL installation directory. Copy these files under \OpManagerCentral\bin directory. Click 'Next' to proceed

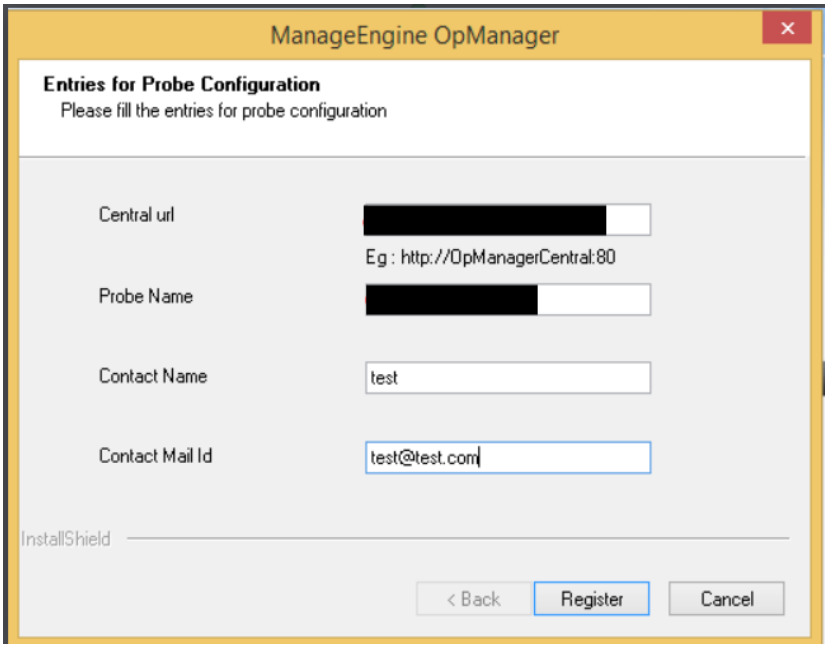


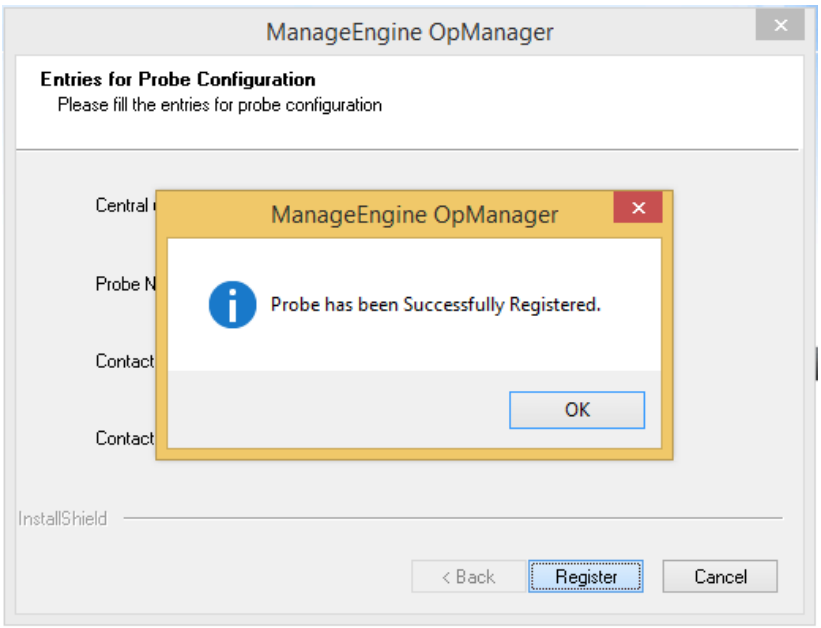
Step 13: Click on browse and select \OpManager\bin\bcp.exe. Click 'Next' to proceed.



Step 14: Provide OpManager Central server details like central server URL, probe name, contact name and contact mail ID. Click 'Register' to proceed







Step 15: Click 'Finish' to complete OpManager Probe installation

B.1 Installing OpManager Enterprise Edition on Linux

Prerequisites

1. Sometimes, you might encounter errors such as database connection not getting established or the server not starting up. To workaround these issues, comment the IPv6 related entries in the /etc/hosts file.
2. Check if the DNS resolves properly to the IP Address on the system in which OpManager is installed. Add an entry to /etc/host file with ipaddress and host name if there is trouble starting OpManager.

Steps to install

Central Server

1. Download ManageEngine_OpManager_Central_64bit.bin for Linux.
2. Login as ***root*** user.
3. Assign the executable permission to the downloaded file using the following command: **chmod a+x ManageEngine_OpManager_Central_64bit.bin**
4. Execute **./ManageEngine_OpManager_Central_64bit.bin**.This will display the installation wizard.

5. Click 'Next' to begin the installation process. Go through the license agreement and proceed to the next step.
6. In the subsequent steps of the wizard, select the OpManagerCentral language, the directory to install OpManagerCentral, and the port number to run OpManagerCentral Web Server. Proceed to the next step.
7. Verify the installation details and click 'Next'.
8. Click 'Finish' to complete the installation process.

It is recommended to install OpManagerCentral in the *opt* folder. By default, OpManagerCentral is installed in the */opt/ManageEngine/OpManagerCentral* directory.

Probe Server

1. Download ManageEngine_OpManager_Probe_64bit.bin for Linux.
2. Login as ***root*** user.
3. Assign the executable permission to the downloaded file using the following command: **chmod a+x ManageEngine_OpManager_Probe_64bit.bin**
4. Execute **./ManageEngine_OpManager_Probe_64bit.bin**.This will display the installation wizard.
5. Click 'Next' to begin the installation process. Go through the license agreement and proceed to the next step.
6. In the subsequent steps of the wizard, select the OpManagerProbe language, the directory to install OpManagerProbe, and the port number to run the OpManagerProbe Web Server. Proceed to the next step.
7. Please enter the Central URL, Probe Name, Username, Email ID and proceed to register the Probe.
8. Verify the installation details and click 'Next'.
9. Click 'Finish' to complete the installation process.

It is recommended to install OpManagerProbe in the *opt* folder. By default, OpManagerProbe is installed in the */opt/ManageEngine/OpManagerProbe* directory.

B.2 Installing OpManager Enterprise Edition on Linux using Console mode/ Silent mode

Prerequisites

To begin with, make sure you have downloaded the binary for Central and Probe for Linux OS. (https://www.manageengine.com/network-monitoring/download.html)

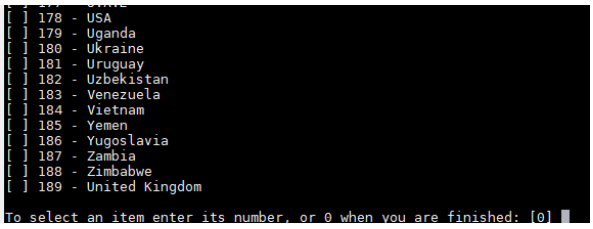
Central Server

Step 1: Execute ManageEngine_OpManager_Central_64bit.bin with **-console** option

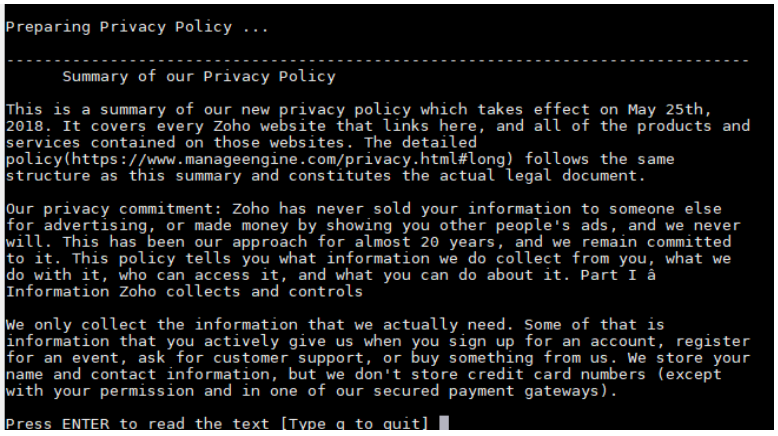
Step 2: Follow the on-screen instructions

Step 3: Register for technical support (Enter Name, E-mail id, Phone, Company Name)

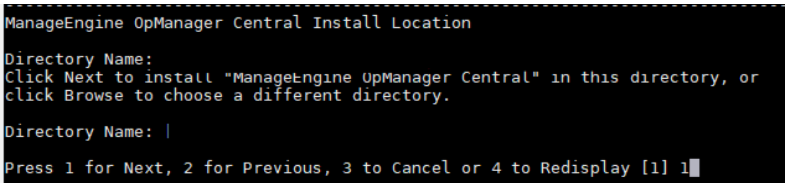
Step 4: Select the location



Step 5: Go through our privacy policy and agree to continue installation

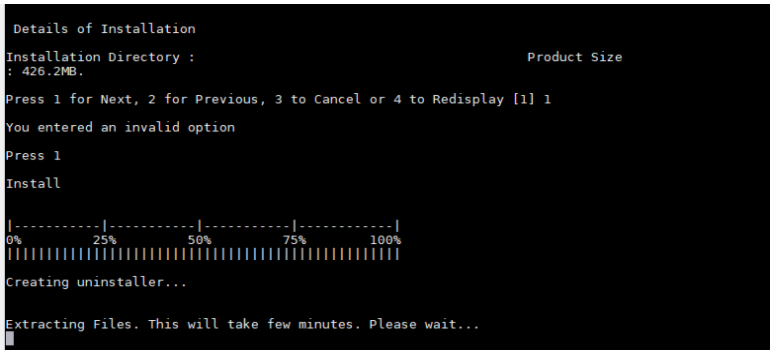


Step 6: Choose the installation directory

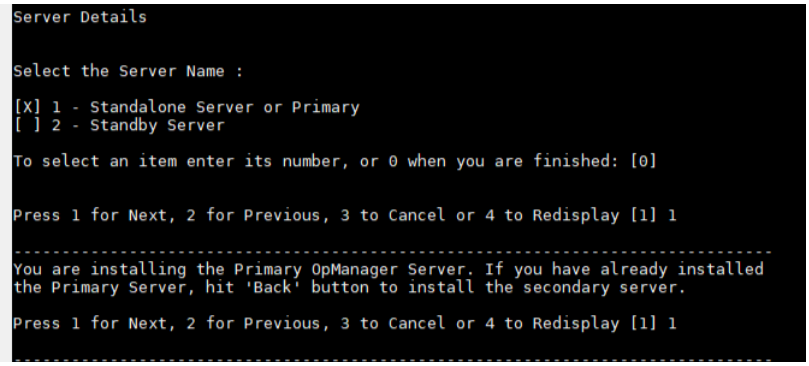


Step 7: Configure the Webserver Port

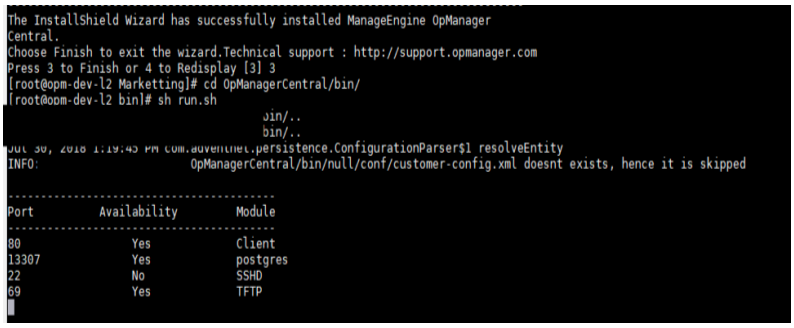
Step 8: Verify the installation details and the installation status



Step 9: Choose the installation server (Primary or Secondary server)

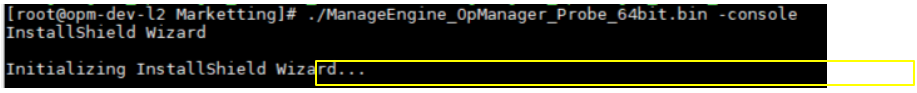


Step 10: Complete the Installation



Probe Server

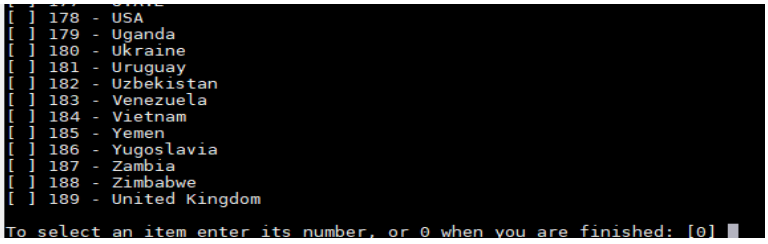
Step 1: Execute ManageEngine_OpManager_Probe_64bit.bin with **-console** option



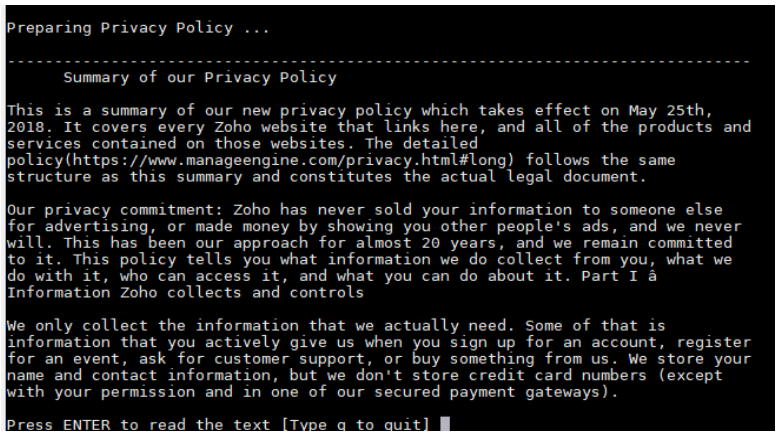
Step 2: Follow the on-screen instructions

Step 3: Register for technical support (Enter Name, E-mail id, Phone, Company Name)

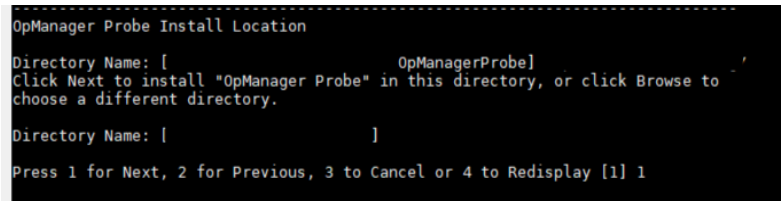
Step 4: Select the location



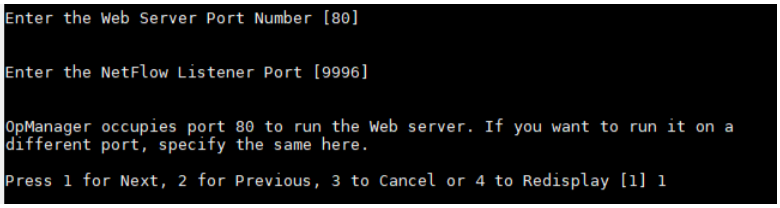
Step 5: Go through our privacy policy and agree to continue installation



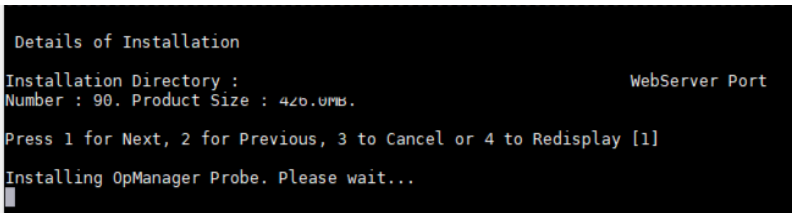
Step 6: Choose the installation directory



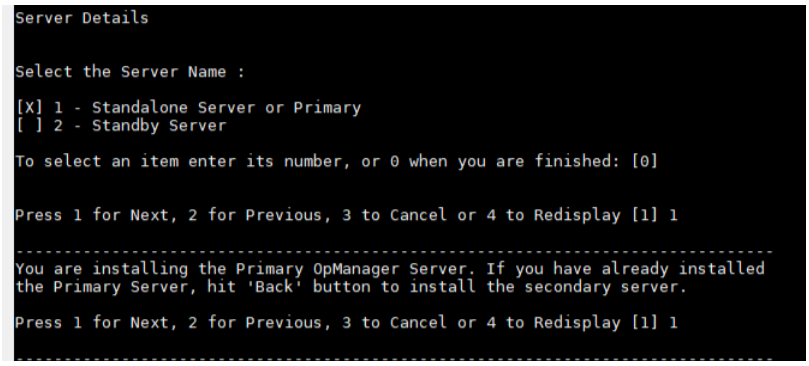
Step 7: Configure the Webserver Port



Step 8: Verify the installation details and the installation status

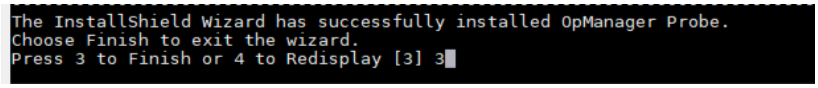


Step 9: Choose the installation server (Primary or Secondary server)



Step 10: Please enter the details required for Probe configuration.

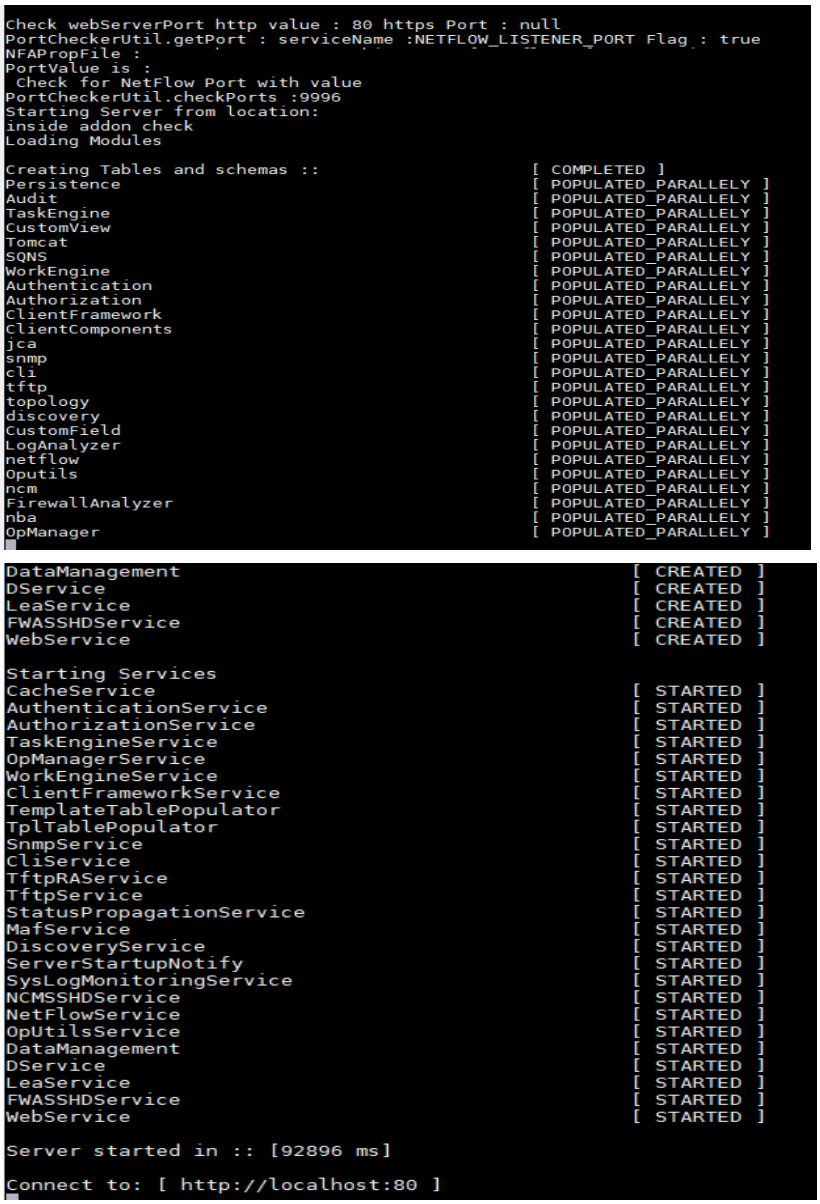
Step 11: Complete the installation



Starting OpManager Enterprise Edition on Linux

Go to /OpManager/bin folder
Execute: sh run.sh

To run OpManager server in the background, execute: nohup sh run.sh&



License Management

OpManager Licensing Model

OpManager license options depend on the number of devices to be monitored. The license is inclusive of all the interfaces, nodes or sensors in the device. A device can have any number of interfaces, elements or sensors.

Eg: Let us assume that a network has 50 devices with 4 interfaces each and the total number of interfaces will be 200. To monitor these 50 devices and 200 interfaces, OpManager needs a

50-device license.

How to register for a license in OpManager

There are two ways to invoke license registration in OpManager.

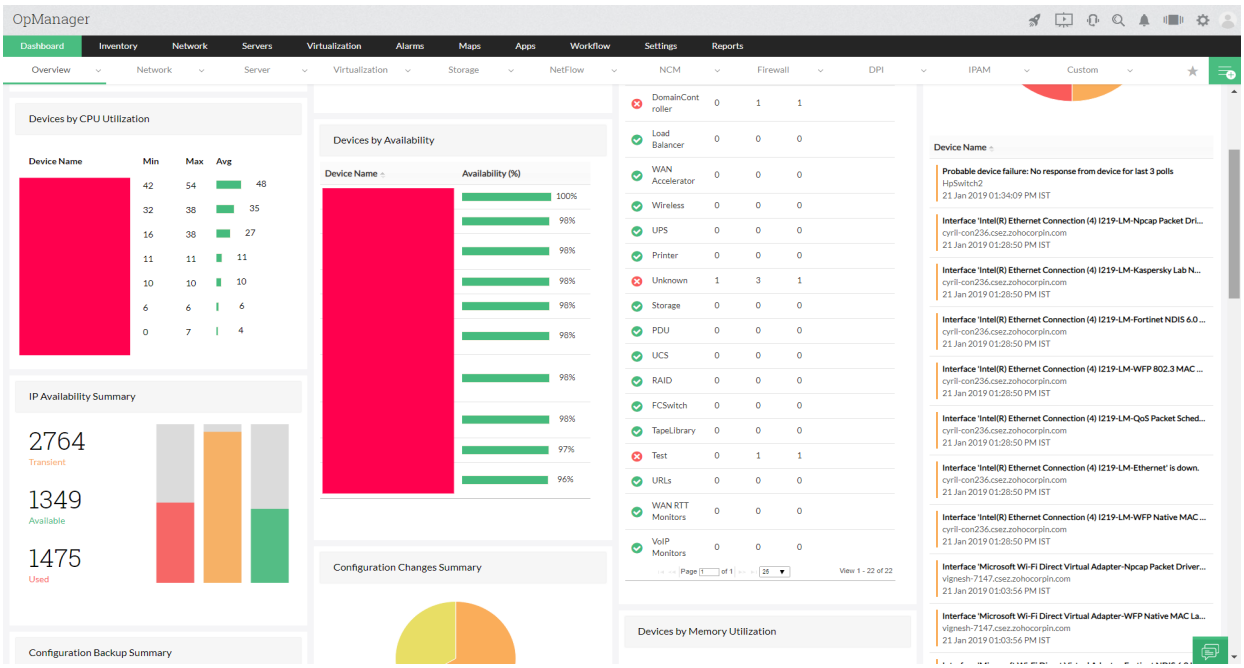
i) Using the OpManager UI

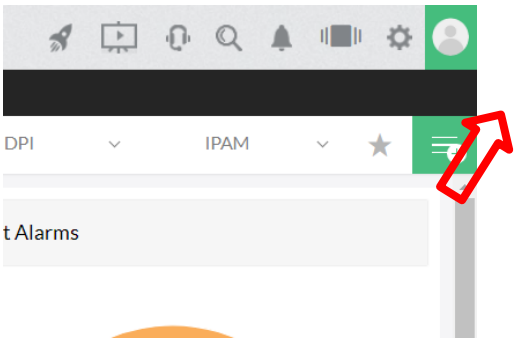
ii) During Server Startup (User Interface/Console Mode)

1. Steps to register license in the OpManager User Interface

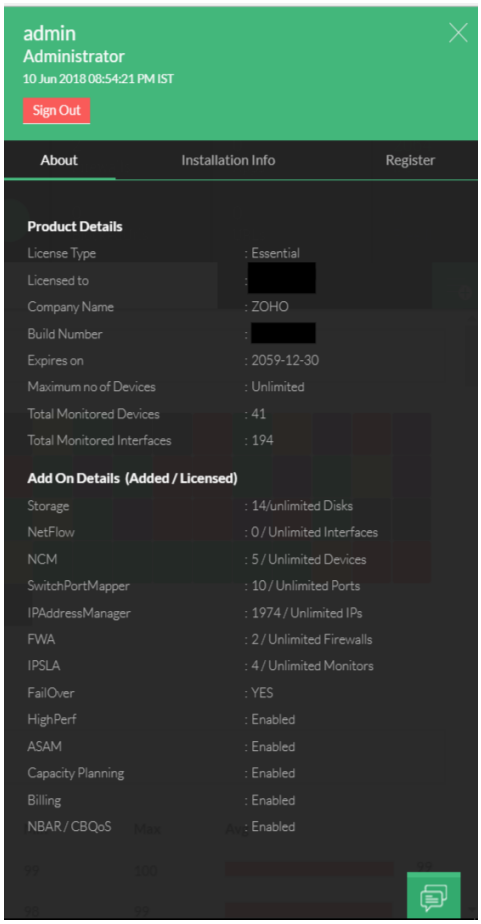
OpManager allows users to obtain and register for a license with ease.

1. Connect to the Webclient and click the "User" icon in the top right corner.

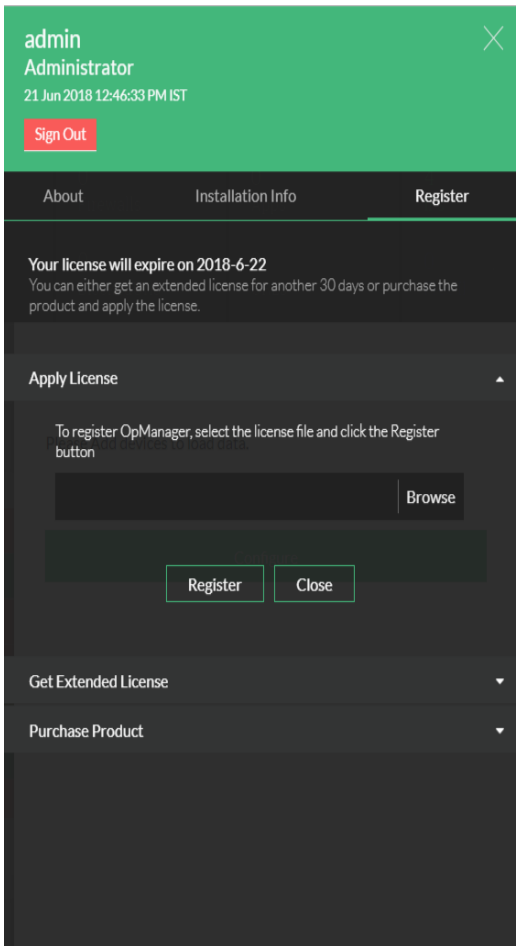




2. You will get the following pop up on the right side of your screen, displaying details about the product, add-ons, installation and registration.



3. Select the "Register" tab to view your license and registration options.



4. Click "Browse" and select the "License.xml" file you received from ManageEngine for OpManager.

5. Now click "Register" to finish applying your license.

2. Steps to register license during Server Startup

There are two ways to apply for a license during the server startup.

i. User Interface Mode

While starting a server in the console mode, with the GUI enabled, you will receive a notification stating that your license is about to expire. You can then "Browse", select the "License.xml" file and click on "Register" to apply your license in OpManager.

ii. Console Mode

When in the console mode, the CMD prompt will show you a message stating that your license is about to expire and it will request the address to the directory in which the "License.xml" file is available. Here, you can provide the path to the license file and register.

How to check your license

To check your license details, you can follow the simple steps below;

1. Click the "User" icon in the top right corner of your OpManager UI.

2. Under the "About" tab, you will be able to find details about your license and add-ons in the "License Details/Add-On Details (Added/Licensed)" section respectively.

Perpetual License Details

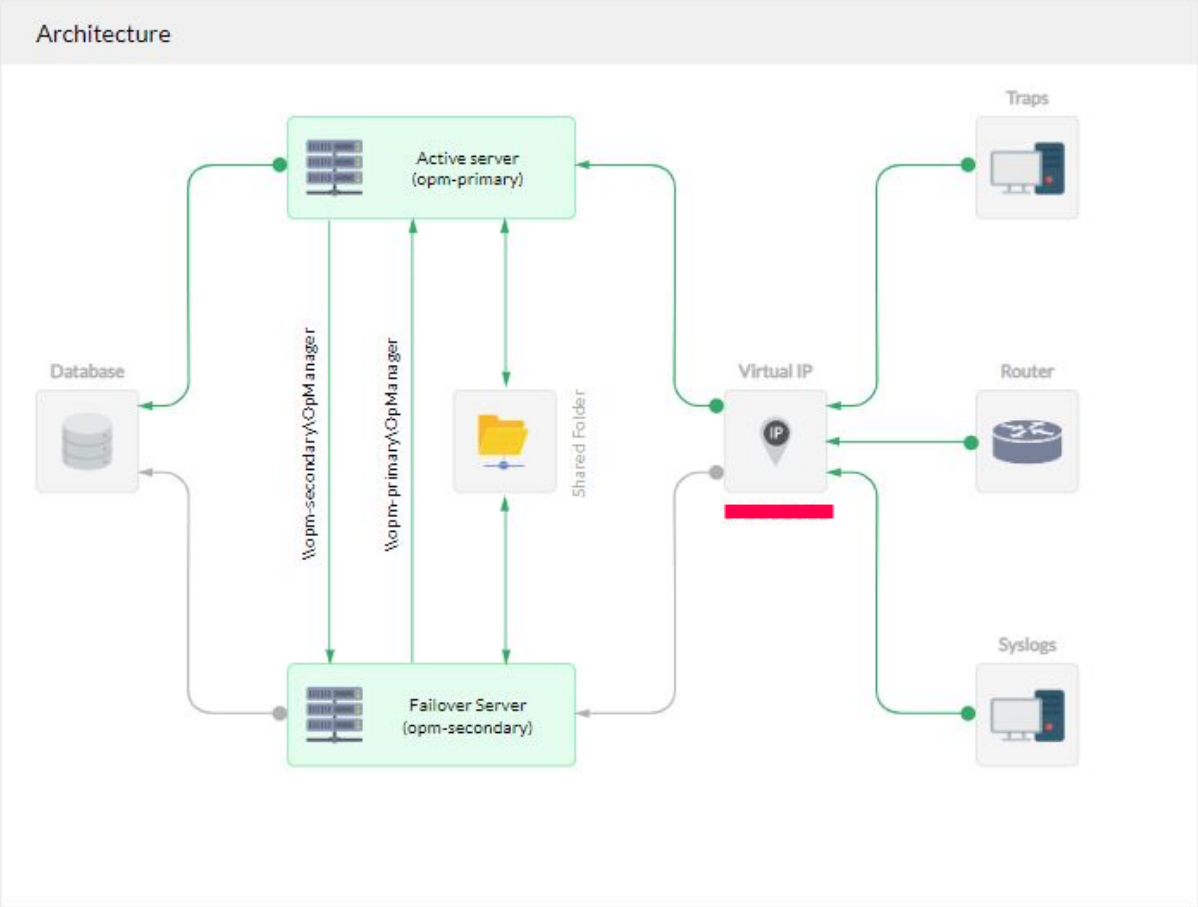
A perpetual license contains both the base product fee and the Annual Maintenance & Support (AMS) fee. The base product fee allows you to purchase the solution for any of the proposed device packs/ add-ons while AMS provides support to ensure healthy network monitoring from OpManager.

For more information or pricing related details, visit OpManager store.

Failover

What is Failover?

Failover is an alternative monitoring instance that is used to ensure your network remains monitored even when your primary monitoring setup goes down. OpManager helps in ensuring uninterrupted monitoring of your network by allowing you to configure a secondary monitoring instance on a separate server.



How does Failover work?

The primary server updates a value called heartbeat in the database. The heartbeat value is a counter that is incremented by the primary server at a specific frequency of time. The secondary server monitors the heartbeat value to check if it is being updated in the specified time interval. When the primary server goes down, it will not be able to update the heartbeat value in the database.

If the heartbeat value in the database is not updated for the last 60 seconds, the primary server is considered to have gone down and the secondary monitoring instance takes over. This secondary server will continue monitoring the network as long as it is up. Meanwhile, if the primary server is up (recovered and restarted), it will take the standby mode and let the secondary server continue monitoring.

The information between the primary and secondary instances are synced periodically, thus ensuring that you don't miss critical monitoring data (such as device status, traps, syslog messages etc.,) when your primary OpManager instance goes down.

What are the prerequisites?

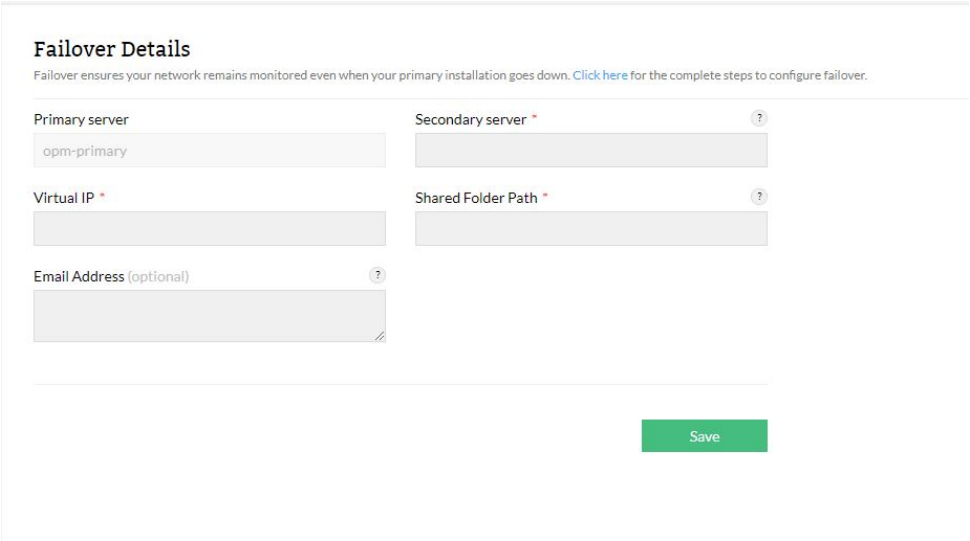
- **Apply the failover add-on**: Apply the ***Failover - Hot Standby Engine (MSSQL only) add-on*** in your primary instance. You can purchase the add-on for Professional Edition from here and for OpManager Plus from here.
- **Have the database in a separate server:** Ensure that the database for your OpManager installation is setup in a separate server and not the same server in which the primary or secondary OpManager instance is installed (MSSQL setup preferred).
- **Create a shared folder in a separate server:** Some data in OpManager are stored in files which are present in the local directory. When failover is configured, instead of a local directory, these files are stored in a shared folder that is accessible by both primary and secondary servers . This ensures that there is no data loss when the secondary server takes over the monitoring process.
  Create a folder in a separate server and share it with both the primary and secondary servers. Ensure that both primary and secondary servers have access to the shared folder with write permission.
  (**Note**: The server in which the folder is created should be in the same domain in which your primary and secondary servers are configured. Also, the server in which the folder is created should not be the same server in which the primary or secondary instance is configured).
  Click here to learn how to share a folder with both primary and secondary instances.
- **Have a virtual IP address:** A Virtual IP address is a common IP address that is shared by both primary and secondary server on the same subnet. When one server goes down, the virtual IP points to the other server. (This feature is available only for OpManager versions 12.5.140 and above.)
- **Hardware and software requirements**
  - Both the primary and secondary instances should be installed in Windows systems.
  - The same version of OpManager should be installed in both servers.
  - Both primary and secondary OpManager services should have the same port and protocol (http / https).
  - Both primary and secondary servers should have the same time and time zone.

- Both primary and secondary servers should have the same hardware configuration.

- **Network requirements**
  - Both primary and secondary servers should have a static IP address.
  - The virtual IP should be static and in IPv4 format.
  - The primary server and secondary server should be able to resolve each other's host name and IP address.
  - The IP and virtual IP of both the primary and secondary servers should belong to the same subnet.
  - Both the servers should have high connectivity and bandwidth.
  - The primary, secondary and the server in which the shared folder is created should all be in the same domain.
  - The Syslogs, SNMP traps and Flows are forwarded to the virtual IP address.

How to configure failover instance in OpManager?

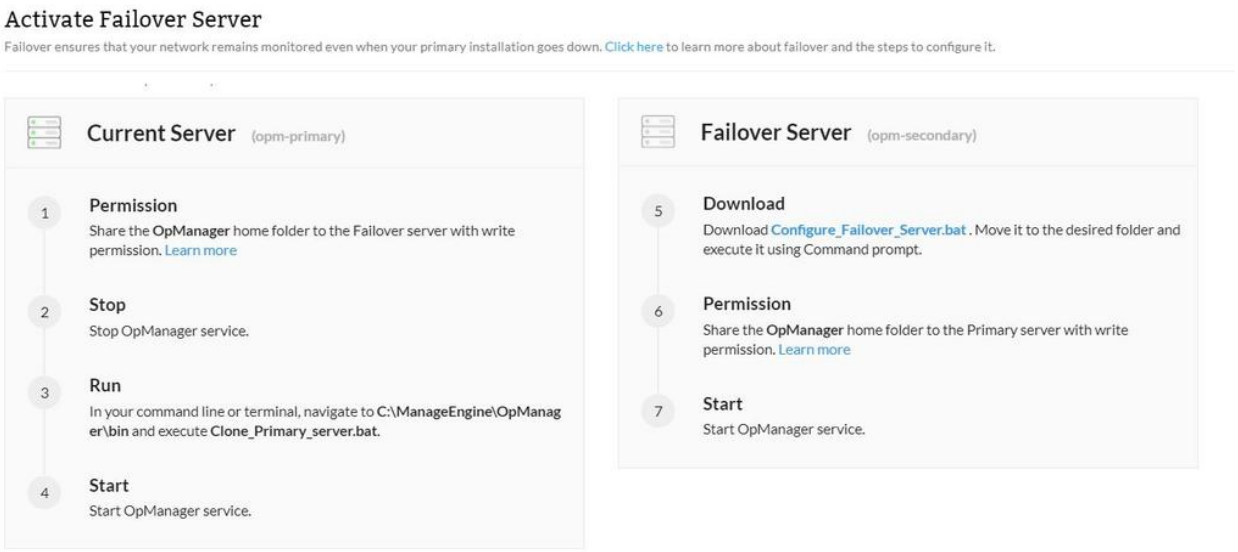
In your primary instance, go to **Settings -> General Settings -> Failover Details** and enter the following details:



- **Secondary Server IP:** The IP address or host name of your secondary server.
- **Shared folder path:** The path to the empty shared folder created in a separate server. This is generally of the form \\<*Server_Name_or_IP*>\<*Share_Name*>.
  Note: Ensure that the empty folder is shared with both primary and secondary servers. Click here to learn how to share the folder with primary and secondary servers.
- **Virtual IP:** The virtual IP address. Refer to the pre-requisites to know more about

Virtual IP Address.

- **Email address (optional):** Receive notifications on failover self monitoring alerts, data synchronization alerts and secondary server takeover alerts. You can specify the email recipients to whom the notifications must be sent. You can specify multiple recipients by separating each email address by a comma.
- Save the details and perform the following steps in the primary and secondary servers:



In the primary server:

- Stop OpManager service.
- Share the **<OpManagerHome>** folder to the secondary server. Click here to learn how.
- Open command prompt / terminal with administrator privileges, navigate to **<OpManagerHome>\bin** and execute the following command:
  Clone_primary_server.bat
- Start the OpManager service.

In the secondary server:

- Download the **Configure_failover_server.bat** file and move it to the folder where you wish to have your secondary instance configured.
- Run the Configure_failover_server.bat file.
- Share the **OpManagerHome** folder to the primary server. Click here to learn how.
- Start the secondary OpManager instance.

Note:

- **The option to configure failover with a virtual IP address is only available for OpManager versions 12.5.140 and above.**
- OpManager does not provide any kind of database failover support. It only provides application level failover support.
- Always start the secondary instance after the primary instance is completely started.

The approximate time taken for the secondary server to completely takeover the primary will be 3-4 minutes. There may be a minor loss of data in few SNMP traps, syslogs or flow received during that period.

Upgrading the failover setup: While upgrading your OpManager service, it is enough to apply the PPM for the primary setup. The secondary server will be updated automatically.

Uninstalling OpManager

Windows

1. To uninstall from a Windows machine, try **Start > Programs > ManageEngine OpManager > Uninstall OpManager**.

Linux

2. To uninstall from a Linux machine, execute the command **./uninstaller.bin** from the */bin/_uninst* directory under OpManager installation.