

# Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core

Installation Guide

## Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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# Introduction to Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core

This guide provides information about the software requirements, system requirements, and the steps to install, upgrade, and uninstall the Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core.

This plug-in provides capabilities to monitor Dell EMC devices in environments managed by Nagios Core. This plug-in gives you complete hardware-level visibility of Dell EMC devices, including overall and component-level health monitoring. The plug-in provides basic inventory information and event monitoring of Dell EMC devices. The plug-in also supports one-to-one web console launch of the supported Dell EMC devices for further troubleshooting, configuration, and management activities.

The Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core supports the following Dell EMC devices:

- 12th and later generations of PowerEdge servers through the agent-free method by using Integrated Dell Remote Access Controller (iDRAC) with Lifecycle Controller (LC)
- OEM Servers
- Datacenter Scalable Solutions (DSS)
- Hyper-converged Infrastructure (HCI) Platforms - Dell EMC VxRail, Dell EMC XC Series
- PowerEdge FX2/FX2s chassis, PowerEdge VRTX chassis, and PowerEdge M1000e chassis
- EqualLogic PS-Series Storage Arrays, PowerVault MD 34/38 Series Storage Arrays and Compellent SC-Series Storage Arrays
- Dell EMC Network Switches

For more details on device support, see Support matrix in the “*Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core User’s Guide.*”

**Table 1. Key features**

Feature	Functionality
Device Discovery	<p>Discovers Dell EMC devices. Once the discovery is complete, host and service definitions are created for each device.</p> <p>Discovering Dell EMC servers through iDRAC with Lifecycle Controller could be done either using SNMP or WSMAN protocol or Redfish REST APIs.</p> <p>Dell EMC storage and Dell EMC Network Switch discovery is supported using SNMP protocol.</p> <p>Dell EMC chassis discovery is supported using WSMAN protocol.</p>
Device Information	<p>Displays information about the discovered device such as Service Tag, Firmware Version, Device Name, Device Model, and so on after a device discovery is successful. You can view this information in the <b>Hosts</b> or the <b>Services</b> view in the Nagios Core console.</p> <p>For more information about device services and their description, see <b>Device Information</b> in the <i>Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core User’s Guide.</i></p>
Monitor overall health of Dell EMC devices	Monitors the overall health of Dell EMC devices.

Feature	Functionality
Component level health of Dell EMC devices	<p>Monitors health of the Dell EMC device components such as Physical Disks, Power Supply, Temperature Probe and Voltage Probe and displays the information about the respective components.</p> <p>For more information about Component level health of Dell EMC devices and their description, see <b>Monitor Component Health of Dell EMC Devices</b> in the <i>Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core User's Guide</i>.</p>
Monitor SNMP alerts	<p>Monitors SNMP alerts for Dell EMC devices. This feature displays only the last received SNMP alert.</p> <p>To view all received SNMP alerts navigate to <b>Reports &gt; Alerts &gt; History</b> in the Nagios Core console.</p> <p>You can also view the Alert Knowledge Base (KB) information for the supported Dell EMC devices corresponding to an SNMP alert for faster troubleshooting of the respective alert.</p> <p>For more information, see <b>Knowledge Base (KB) messages for the generated alerts</b> in the <i>Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core User's Guide</i>.</p>
Launching Dell EMC device specific consoles	<p>Launches the respective Dell EMC one-to-one consoles to further troubleshoot and manage the supported Dell EMC devices.</p>
Warranty information	<p>Monitors and displays the warranty information for the supported Dell EMC devices. For more information, see <b>Warranty information for Dell EMC devices</b> in the <i>Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core User's Guide</i>.</p>

This plug-in supports Nagios Core versions 3.5.0 and later.

Before installing Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core, download the latest documents from [Dell EMC OpenManage Plug-in for Nagios Core](#) for the latest information about this product.

## System requirements

Before you install the plug-in, ensure that you meet the following requirements:

Common prerequisites:

- Nagios Core version 3.5.0 or later is installed and all the Nagios Core components are functional.
- OMSDK (OpenManage Python Software Development Kit) version 1.1 or above is installed.
- Python version 2.7.5 and above or 3.6.3 and above are installed.
- Python Argparse module is installed.
- Python Netaddr module is installed.
- (Optional) Java version 1.6 or later is installed to view Dell EMC warranty information.
- (Optional) SNMP Trap Translator (SNMPTT) version 1.3 or later is installed to receive SNMP alerts. It is recommended to use the latest version.

**NOTE:** You can discover iDRAC devices either using SNMP or WSMAN or Redfish REST APIs. Dell EMC storage and Dell EMC Network Switch discovery is supported using SNMP protocol. Dell EMC chassis discovery is supported using WSMAN protocol.

**NOTE:** For information regarding installation, upgrade and uninstallation on OMSDK, refer [OMSDK Installation](#)

Topics:

- [System requirements for management systems](#)
- [System requirements for managed systems](#)

### System requirements for management systems

The requirements for the management systems are as follows:

- Red Hat Enterprise Linux (RHEL) 7.3 and RHEL 6.9 (64-bit)
- Ubuntu 16.04.3 Server (64-bit)
- SLES 12 SP3

The ESXi hypervisor that hosts the supported versions of RHEL, SLES and Ubuntu guest operating systems is also supported.

### System requirements for managed systems

The requirements for the managed systems are as follows:

**Table 2. Supported firmware versions for Dell EMC devices**

Dell EMC Device	Firmware	Supported Firmware Versions
14th generation of PowerEdge servers	iDRAC9	3.17.17.17, 3.15.15.15, 3.11.11.11 and 3.00.00.00
13th generation of PowerEdge servers	iDRAC8	2.50.50.50 and 2.41.40.40
12th generation of PowerEdge servers	iDRAC7	2.50.50.50 and 2.41.40.40

Dell EMC Device	Firmware	Supported Firmware Versions
Datacenter Scalable Solutions	iDRAC8	2.50.50.50 and 2.41.40.40
Nutanix XC	iDRAC8 iDRAC9	2.50.50.50 and 2.41.40.40 3.15.15.15 and 3.11.11.11
VxRail	iDRAC8 iDRAC9	2.50.50.50 and 2.41.40.40 3.15.15.15 and 3.11.11.11
PowerEdge M1000e Chassis	CMC	6.0 and 5.22
PowerEdge VRTX Chassis	CMC	3.0 and 2.23
PowerEdge FX2/FX2s Chassis	CMC	2.0 and 1.42
Compellent SC-Series Storage Arrays	NA	7.2.10 and 7.2.1
EqualLogic PS-Series Storage Arrays	NA	9.1.5 and 9.1.4
PowerVault MD 34/38 Series Storage Arrays	NA	08.25.13.60 and 08.25.11.60
Dell EMC Network Switches M, S, FN, Z and C-Series Dell EMC Network Switches N-Series	NA NA	9.13.0.0 and 9.11.2.8 6.3.3.10 and 6.3.3.9

- If you are using SNMP protocol, ensure that SNMP is configured in the respective devices.  
If you want to receive SNMP traps in the Nagios Core console, ensure that you configure the SNMP trap destination in the respective devices.

For more information, see **Appendix** in the *Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core User's Guide* at [dell.com/omconnectionsEnterpriseSystemsManagement](http://dell.com/omconnectionsEnterpriseSystemsManagement).

- If you are using Redfish REST APIs, ensure that Redfish is enabled in the respective devices.
- If you are using WSMAN protocol, it is recommended that you use a WSMAN service account other than the default service account.  
For more information, see **Configuring User Accounts and Privileges** in the respective device's User's Guide at [Dell.com/esmanuals](http://Dell.com/esmanuals).

For the list of supported platforms, see **Support Matrix** in the *Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core User's Guide*.

# Downloading and Installing Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core

- 1 Download the latest Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core installer from the Dell EMC support website at [Dell.com/support](https://Dell.com/support) or from Nagios exchange at [exchange.nagios.org/](https://exchange.nagios.org/).

The installer is packaged as a `.tar.gz` file named `Dell_EMCMOpenManage_Plugin_v3.0_Nagios_Core_A00.tar.gz`.

- 2 Navigate to the location where you have downloaded the folder, and run the following command to extract its contents:  
`tar -zxvf Dell_EMCMOpenManage_Plugin_v3.0_Nagios_Core_A00.tar.gz`

The following folder and files are extracted:

- `Dell_OpenManage_Plugin` folder
- `Dell_EMCMOM_Plugin_3_0_For_NagiosCore_IG.pdf` file
- `Dell_EMCMOM_Plugin_3_0_For_NagiosCore_ReadMe.txt` file
- `license_en.txt` file

- 3 Navigate to the `Dell_OpenManage_Plugin/Install` folder, and then run the following command to invoke the installer:

```
./install.sh
```

- 4 Press **Y** if Nagios Core version 3.5.0 or later is installed in your system, or press any other key to exit the installation process, install Nagios Core version 3.5.0 or later and then begin the installation process once again.

Alternatively, you can press **Enter** to continue with the default value (Y).

- 5 When prompted for the installed Nagios Core location, provide the path, and then press **Enter**.

Alternatively, you can press **Enter** to continue with the default location, `/usr/local/nagios/`.

An invalid entry will display an error and exit the installation process.

A prerequisite check is run and the installed prerequisites are displayed.

**NOTE:** If any of the other required prerequisites are not met, then the installation procedure will display an appropriate message and continues with the installation. However, before the functionality invocation, all the mandatory prerequisites should be installed else an error message is displayed and functionality will be aborted.

- 6 Press **Y** if you accept the **End User License Agreement**, or any other key to exit the installation.

Alternatively, you can press **Enter** to continue with the default value (Y).

- 7 Press **Y** to set the attribute `escape_html_tags` to '0', or press **N** to continue with the default setting, '1'.

Alternatively, you can press **Enter** to continue with the default value (N).

**NOTE:** It is recommended that you continue the installation with the attribute `escape_html_tags` set to '0' for better readability (multiline view) in order to distinguish the different instances or entities in the Dell EMC plug-in.

- 8 If you have installed SNMPTT, provide the path where SNMPTT is installed, and then press **Y** to continue with the installation.

Alternatively, you can press **Enter** to continue with the default file path, `/etc/snmp/snmpd.ini`. If you have not installed SNMPTT and want to skip this step, press **Enter**.



**NOTE:** If SNMPTT was not installed while installing this plug-in, but you later want to receive SNMP alerts, perform the following actions:

- Install SNMPTT.
- Navigate to `<NAGIOS_HOME>/dell/install`, and then run the following command:  
`./install.sh trap`

`<NAGIOS_HOME>` is the installed location of Nagios Core and by default, the location of `<NAGIOS_HOME>` is `/usr/local/nagios/`.

- Restart SNMPTT.
- Restart Nagios service.

- 9 If you have installed Java, provide the path where Java is installed, and then press **Y** to continue with the installation. Alternatively, you can press **Enter** to continue with the default file path, `/usr/bin/java`.

**NOTE:** If Java was not installed while installing this plug-in, but you later want to install or upgrade the Java version, perform the following actions:

- Install Java.
- Navigate to `<NAGIOS_HOME>/dell/install`, and then run the following command:  
`./install.sh java`

`<NAGIOS_HOME>` is the installed location of Nagios Core and by default, the location of `<NAGIOS_HOME>` is `/usr/local/nagios/`.

- Restart Nagios service.

The plug-in is now installed.

- 10 To verify the Nagios Core configuration entry, run the following command:

```
<NAGIOS_HOME>/bin/nagios -v <NAGIOS_HOME>/etc/nagios.cfg
```

A successful configuration update will display zero errors or warnings. If you receive any errors or warnings during this step, resolve them manually.

- 11 If you have installed SNMPTT and want to verify the SNMPTT configuration entry, navigate to the path where SNMPTT is installed and verify that the following entries are present in the `snmptt.ini` file under the section **TrapFiles**:

- `<NAGIOS_HOME>/dell/config/templates/Dell_Agent_free_Server_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_Chassis_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_Compellent_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_EqualLogic_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_PowerVaultMD_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_F10_Switch_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_N_Series_Traps.conf`

- 12 Restart the Nagios Core services by running the following command:

```
service nagios restart
```

- 13 If you have installed SNMPTT, then restart the SNMPTT services by running the following command:

```
service snmptt restart
```

# Upgrading to Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core

You can upgrade from Dell OpenManage Plug-in Version 2.0 or Dell EMC OpenManage Plug-in for Nagios Core version 2.1 to Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core by performing the following steps:

- 1 Download the latest Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core installer from the Dell EMC support website at [Dell.com/support](https://Dell.com/support) or from Nagios exchange at [exchange.nagios.org/](https://exchange.nagios.org/).

The installer is packaged as a `.tar.gz` file named **Dell\_EMCAOpenManage\_Plugin\_v3.0\_Nagios\_Core\_A00.tar.gz**.

- 2 Navigate to the location where you have downloaded the folder, and run the following command to extract its contents:  
**tar -zxvf Dell\_EMCAOpenManage\_Plugin\_v3.0\_Nagios\_Core\_A00.tar.gz**

The following folder and files are extracted:

- Dell\_OpenManage\_Plugin folder
- Dell\_EMCAOM\_Plugin\_3\_0\_For\_NagiosCore\_IG.pdf file
- Dell\_EMCAOM\_Plugin\_3\_0\_For\_NagiosCore\_ReadMe.txt file
- license\_en.txt file

- 3 Navigate to the **Dell\_OpenManage\_Plugin/Install** folder, and then run the following command to invoke the installer:  
**./install.sh**

- 4 Press **Y** if Nagios Core version 3.5.0 or later is installed in your system, or press any other key to exit the installation process, install Nagios Core version 3.5.0 or later and then begin the installation process once again.

Alternatively, you can press any key to exit installation and the default value (Y).

- 5 When prompted for the installed Nagios Core location, provide the path, and then press **Enter**.

Alternatively, you can press **Enter** to continue with the default location, `/usr/local/nagios/`.

An invalid entry will display an error and exit the installation process.

A prerequisite check is run and the installed prerequisites are displayed.

**NOTE:** If any of the other required prerequisites are not met, then the installation procedure will display an appropriate message and continues with the installation. However, before the functionality invocation, all the mandatory prerequisites should be installed else an error message is displayed and functionality will be aborted.

- 6 When prompted to upgrade to Dell EMC OpenManage Plug-in Version 3.0 for Nagios Core, press **Y**. Alternatively, you can press **Enter** to continue with the default value (Y).

If you do not want to upgrade, press any other key to exit the installation process.

- 7 Press **Y** if you accept the **End User License Agreement**, or any other key to exit the installation.

Alternatively, you can press **Enter** to continue with the default value (Y).

- 8 If you have installed SNMPTT, provide the path where SNMPTT is installed, and then press **Y** to continue with the installation.

Alternatively, you can press **Enter** to continue with the default file path, `/etc/snmp/snmpd.ini`. If you have not installed SNMPTT and want to skip this step, press **Enter**.

**NOTE:** If SNMPTT was not installed while installing this plug-in, but you later want to receive SNMP alerts, perform the following actions:

- Install SNMPTT.
- Navigate to `<NAGIOS_HOME>/dell/install`, and then run the following command:  
`./install.sh trap`

`<NAGIOS_HOME>` is the installed location of Nagios Core and by default, the location of `<NAGIOS_HOME>` is `/usr/local/nagios/`.

- Restart SNMPTT.
- Restart Nagios service.

- 9 If you have installed Java, provide the path where Java is installed, and then press **Y** to continue with the installation. Alternatively, you can press **Enter** to continue with the default file path, `/usr/bin/java`.

**NOTE:** If Java was not installed while installing this plug-in, but you later want to install or upgrade the Java version, perform the following actions:

- Install Java.
- Navigate to `<NAGIOS_HOME>/dell/install`, and then run the following command:  
`./install.sh java`

`<NAGIOS_HOME>` is the installed location of Nagios Core and by default, the location of `<NAGIOS_HOME>` is `/usr/local/nagios/`.

- Restart Nagios service.

The plug-in is now installed.

- 10 To verify the Nagios Core configuration entry, run the following command:

```
<NAGIOS_HOME>/bin/nagios -v <NAGIOS_HOME>/etc/nagios.cfg
```

A successful configuration update will display zero errors or warnings. If you receive any errors or warnings during this step, resolve them manually.

- 11 If you have installed SNMPTT and want to verify the SNMPTT configuration entry, navigate to the path where SNMPTT is installed and verify that the following entries are present in the `snmptt.ini` file under the section **TrapFiles**:

- `<NAGIOS_HOME>/dell/config/templates/Dell_Agent_free_Server_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_Chassis_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_Compellent_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_EqualLogic_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_PowerVaultMD_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_F10_Switch_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_N_Series_Traps.conf`

- 12 Restart the Nagios Core services by running the following command:

```
service nagios restart
```

- 13 If you have installed SNMPTT, then restart the SNMPTT services by running the following command:

```
service snmptt restart
```

# Uninstalling Dell EMC Openmanage Plug-in Version 3.0 for Nagios Core

- 1 Navigate to the `<NAGIOS_HOME>/dell/Install` folder, and run the following command:  
`./uninstall.sh`
- 2 When prompted for confirmation of uninstallation, press **Y** to uninstall or **N** to quit the uninstallation process.  
Alternatively, you can press **Enter** to exit the uninstallation.
- 3 When prompted to continue with the uninstallation process, press **Y** to continue or **N** to quit the uninstallation process.  
Alternatively, you can press **Enter** to exit.

**NOTE:** If you have set the value of the attribute `escape_html_tags` to '0' during installation, then you can reset it back to its default value, '1' by navigating to the `<NAGIOS_HOME>/etc/cgi.cfg` file and editing this value.

The plug-in is now uninstalled.

- 4 To verify the uninstallation of the Dell EMC OpenManage Plug-in, navigate to the `<NAGIOS_HOME>` folder and ensure that the `dell` folder has been removed.
- 5 To verify the Nagios Core configuration entry, navigate to the path where Nagios Core is installed and then run the following command:

```
<NAGIOS_HOME>/bin/nagios -v <NAGIOS_HOME>/etc/nagios.cfg
```

A successful configuration update will display zero errors or warnings. If you receive any errors or warnings during this step, resolve them manually.

- 6 If you have installed SNMPTT, navigate to the path where SNMPTT is installed and verify that the following entries have been removed from the `snmptt.ini` file under the section **TrapFiles**:

- `<NAGIOS_HOME>/dell/config/templates/Dell_Agent_free_Server_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_Chassis_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_Compellent_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_EqualLogic_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_PowerVaultMD_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_F10_Switch_Traps.conf`
- `<NAGIOS_HOME>/dell/config/templates/Dell_N_Series_Traps.conf`

- 7 Restart the Nagios Core services by running the following command:  
`service nagios restart`
- 8 If you have installed SNMPTT, restart the SNMPTT services by running the following command:  
`service snmptt restart`

# Accessing documents from the Dell EMC support site

You can access the required documents using the following links:

- For Dell EMC Enterprise Systems Management documents — [www.dell.com/SoftwareSecurityManuals](http://www.dell.com/SoftwareSecurityManuals)
- For Dell EMC OpenManage documents — [www.dell.com/OpenManageManuals](http://www.dell.com/OpenManageManuals)
- For Dell EMC Remote Enterprise Systems Management documents — [www.dell.com/esmmanuals](http://www.dell.com/esmmanuals)
- For iDRAC and Dell EMC Lifecycle Controller documents — [www.dell.com/idracmanuals](http://www.dell.com/idracmanuals)
- For Dell EMC OpenManage Connections Enterprise Systems Management documents — [www.dell.com/OMConnectionsEnterpriseSystemsManagement](http://www.dell.com/OMConnectionsEnterpriseSystemsManagement)
- For Dell EMC Serviceability Tools documents — [www.dell.com/ServiceabilityTools](http://www.dell.com/ServiceabilityTools)
- a Go to [www.dell.com/Support/Home](http://www.dell.com/Support/Home).
- b Click **Choose from all products**.
- c From **All products** section, click **Software & Security**, and then click the required link from the following:
  - **Enterprise Systems Management**
  - **Remote Enterprise Systems Management**
  - **Serviceability Tools**
  - **Dell Client Command Suite**
  - **Connections Client Systems Management**
- d To view a document, click the required product version.
- Using search engines:
  - Type the name and version of the document in the search box.

## Related Documentation

In addition to this guide, you can access the following guides available on the Dell EMC Support website at [Dell.com/support/manuals](https://Dell.com/support/manuals). On the Manuals page, click **Software & Security** and click the appropriate product link to access the documents:

- *Integrated Dell Remote Access Controller 9 (iDRAC9) Version 3.00.00.00 User's Guide*
- *Dell EMC XC Series Hyperconverged Appliances manuals*
- *Dell EMC VxRail Appliance Series manuals*
- *Integrated Dell Remote Access Controller 8 with Lifecycle Controller User's Guide*
- *Integrated Remote Access Controller 7 User's Guide*
- *Dell EMC Chassis Management Controller for Dell PowerEdge M1000e User's Guide*
- *Dell EMC Chassis Management Controller for Dell PowerEdge VRTX User's Guide*
- *Dell EMC Chassis Management Controller for Dell PowerEdge FX2/FX2s User's Guide*
- *Compellent SC-Series Storage Arrays User's Guide*
- *EqualLogic PS-Series Storage Arrays User's Guide*
- *PowerVault MD-Series Storage Arrays User's Guide*
- *Dell EMC Network Switch User's Guide*

Also see [www.nagios.org/documentation](http://www.nagios.org/documentation) for any Nagios Core related documentation.

# OMSDK Installation

OMSDK is available as a standard python package in `pypi.org`. You can install OMSDK using pip.

## Installing OMSDK package:

Run the below command to Install OMSDK:

```
pip install omsdk
```

```
pip install omdrivers
```

## Upgrading OMSDK package:

Run the below command to Upgrade OMSDK:

```
pip install omsdk --upgrade
```

```
pip install omdrivers --upgrade
```

## Uninstalling OMSDK package:

Run the below command to Uninstall OMSDK:

```
pip uninstall omsdk
```

```
pip uninstall omdrivers
```