

Dell EMC OpenManage Plug-in Version 2.1 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 2.1 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 2.1 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 2.1 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)
- 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 Storage Arrays

For more details on device support, see Support matrix in the “*Dell EMC OpenManage Plug-in Version 2.1 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>To discover Dell servers through iDRAC with Lifecycle Controller, you can opt for either SNMP or WSMAN protocol. However, Dell EMC storage is discovered using SNMP protocol and Dell EMC chassis is discovered 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 Hosts or the Services view in the Nagios Core console.</p> <p>For more information about device services and their description, see Device Information in the <i>Dell EMC OpenManage Plug-in Version 2.1 for Nagios Core User’s Guide</i>.</p>
Monitor overall health of Dell EMC devices	Monitors the overall health of Dell EMC devices.
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 Monitor Component Health of Dell EMC Devices in the <i>Dell EMC OpenManage Plug-in Version 2.1 for Nagios Core User’s Guide</i>.</p>

Feature	Functionality
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 Reports > Alerts > History 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 Knowledge Base (KB) messages for the generated alerts in the <i>Dell EMC OpenManage Plug-in Version 2.1 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 Warranty information for Dell EMC devices in the <i>Dell EMC OpenManage Plug-in Version 2.1 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 2.1 for Nagios Core, download the latest documents from Dell.com/omconnectionsEnterpriseSystemsManagement or Dell.com/openmanagemanuals for the latest information about this product.

System requirements

Before you install the plug-in, ensure that you meet the following requirements based on the protocol you are using:

Common prerequisites:

- Nagios Core version 3.5.0 or later is installed and all the Nagios Core components are functional.
- Perl version 5.8.8 or later is installed.
- The Net-IP Perl module version 1.26 or later is installed.
- (Optional) Java version 1.6 or later is installed to view Dell EMC warranty information.
- (Optional) Socket6 Perl module version 0.27 or later is installed for monitoring managed systems using Internet Protocol version 6 (IPv6).
- (Optional) SNMP Trap Translator (SNMPTT) version 1.3 or later is installed to receive SNMP alerts. It is recommended to use the latest version.
- (Optional) The supported Remote RACADM utility is installed to monitor component attribute information of Dell EMC chassis such as:
 - **Speed(RPM)** of the **Dell EMC Chassis Fan Status**.
 - **InputCurrent(A)** of the **Dell EMC Chassis PowerSupply Status**.
 - **InputVoltage(V)** of the **Dell EMC Chassis PowerSupply Status**.
 - **OutputPower(W)** of the **Dell EMC Chassis PowerSupply Status**.
 - **Status** of the **Dell EMC Chassis I/O Module Status**.

For more information on downloading and installing the supported Remote RACADM utility, go to "en.community.dell.com/techcenter/systems-management/w/wiki/3205.racadm-command-line-interface-for-drac"

For SNMP:

The Net-SNMP Perl module version 6.0.1 or later is installed.

For WSMAN:

Openwasman and its Perl binding are installed.

NOTE: To discover iDRAC devices, you can opt for either SNMP or WSMAN protocol based on your requirement. However, Dell EMC storage is discovered using SNMP protocol and Dell EMC chassis is discovered using WSMAN protocol.

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 16.04.2 Server (64-bit)

The ESXi hypervisor that hosts the supported versions of RHEL 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
12th generation of PowerEdge servers	iDRAC7	2.41.40.40 and 2.40.40.40
13th generation of PowerEdge servers	iDRAC8	2.41.40.40 and 2.40.40.40
14th generation of PowerEdge servers	iDRAC9	3.00.00.00
Datacenter Scalable Solutions	iDRAC8	2.41.40.40 and 2.40.40.40
HCI Platforms	iDRAC8	2.41.40.40 and 2.40.40.40
PowerEdge M1000e Chassis	CMC	5.22 and 5.21
PowerEdge VRTX Chassis	CMC	2.23 and 2.22
PowerEdge FX2/FX2s Chassis	CMC	1.42 and 1.41
Compellent Storage Arrays	NA	7.1.12 and 6.7.40
EqualLogic PS-Series Storage Arrays	NA	9.1.2 and 9.1.1
PowerVault MD 34/38 Series Storage Arrays	NA	08.25.11.60 and 08.25.09.61

- If you are using SNMP, 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 2.1 for Nagios Core User's Guide* at dell.com/omconnectionsEnterpriseSystemsManagement.

- 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.

For the list of supported platforms, see **Support Matrix** in the *Dell EMC OpenManage Plug-in Version 2.1 for Nagios Core User's Guide*.

Downloading and Installing Dell EMC OpenManage Plug-in Version 2.1 for Nagios Core

- 1 Download the latest Dell EMC OpenManage Plug-in Version 2.1 for Nagios Core installer from the Dell EMC support website at Dell.com/support or from Nagios exchange at exchange.nagios.org/.

The installer is packaged as a `.tar.gz` file named **Dell_EMCMOpenManage_Plugin_v2.1_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_v2.1_Nagios_Core_A00.tar.gz

The following folder and files are extracted:

- Dell_OpenManage_Plugin folder
- Dell_EMCMOM_Plugin_2_1_For_NagiosCore_IG.pdf file
- Dell_EMCMOM_Plugin_2_1_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 Net-IP or both Net-SNMP and Openwsman are not installed in your system, then the installation process will exit. Ensure that the prerequisites are met and then begin the installation process once again.

If any of the other prerequisites are not met, then the installation procedure will display an appropriate message and continue with the installation.

- 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/snmptt.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`.

- 9 If you have installed RACADM, provide the path where RACADM is installed, and then press **Y** to continue with the installation. Alternatively, you can press **Enter** to continue with the default file path, `/opt/dell/srvadmin/sbin/racadm`. If you have not installed RACADM and want to skip this step, press **Enter**.

NOTE: If RACADM was not installed while installing this plug-in, but you later want to integrate RACADM, perform the following actions:

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

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

- 10 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`.

The plug-in is now installed.

- 11 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.

- 12 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`

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

```
service nagios restart
```

- 14 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 2.1 for Nagios Core

You can upgrade from Dell OpenManage Plug-in Version 1.0 or 2.0 for Nagios Core to Dell EMC OpenManage Plug-in Version 2.1 for Nagios Core by performing the following steps:

- 1 Download the latest Dell EMC OpenManage Plug-in Version 2.1 for Nagios Core installer from the Dell EMC support website at Dell.com/support or from Nagios exchange at exchange.nagios.org/.

The installer is packaged as a `.tar.gz` file named **Dell EMC OpenManage Plugin v2.1 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 EMC OpenManage Plugin v2.1 Nagios Core A00.tar.gz

The following folder and files are extracted:

- Dell_OpenManage_Plugin folder
- Dell EMC OM Plugin 2_1 For NagiosCore IG.pdf file
- Dell EMC OM Plugin 2_1 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 Net-IP or both Net-SNMP and Openwsman are not installed in your system, then the installation process will exit. Ensure that the prerequisites are met and then begin the installation process once again.

If any of the other prerequisites are not met, then the installation procedure will display an appropriate message and continue with the installation.

- 6 When prompted to upgrade to Dell EMC OpenManage Plug-in Version 2.1 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/snmpptt.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`.

- 9 If you have installed RACADM, provide the path where RACADM is installed, and then press **Y** to continue with the installation. Alternatively, you can press **Enter** to continue with the default file path, `/opt/dell/srvadmin/sbin/racadm`. If you have not installed RACADM and want to skip this step, press **Enter**.

NOTE: If RACADM was not installed while installing this plug-in, but you later want to integrate RACADM, perform the following actions:

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

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

- 10 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`.

The plug-in is now installed.

- 11 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.

- 12 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`

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

```
service nagios restart
```

- 14 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 2.1 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`

- 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 — [Dell.com/SoftwareSecurityManuals](https://www.dell.com/support/manuals)
- For Dell EMC OpenManage documents — [Dell.com/OpenManageManuals](https://www.dell.com/support/manuals)
- For Dell EMC Remote Enterprise Systems Management documents — [Dell.com/esmmanuals](https://www.dell.com/support/manuals)
- For iDRAC and Dell EMC Lifecycle Controller documents — [Dell.com/idracmanuals](https://www.dell.com/support/manuals)
- For Dell EMC OpenManage Connections Enterprise Systems Management documents — [Dell.com/OMConnectionsEnterpriseSystemsManagement](https://www.dell.com/support/manuals)
- For Dell EMC Serviceability Tools documents — [Dell.com/ServiceabilityTools](https://www.dell.com/support/manuals)
- For Client Command Suite Systems Management documents — [Dell.com/DellClientCommandSuiteManuals](https://www.dell.com/support/manuals)
- a Go to [Dell.com/Support/Home](https://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 Support website at 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 XC Series Hyperconverged Appliances manuals*
- *Dell EMC VxRail Appliance Series manuals*
- *Integrated Dell Remote Access Controller 8 with Lifecycle Controller User's Guide*
- *Dell Integrated Remote Access Controller 7 User's Guide*
- *Dell Chassis Management Controller for Dell PowerEdge M1000e User's Guide*
- *Dell Chassis Management Controller for Dell PowerEdge VRTX User's Guide*
- *Dell Chassis Management Controller for Dell PowerEdge FX2/FX2s User's Guide*
- *Dell Compellent Storage Arrays User's Guide*
- *Dell EqualLogic PS-Series Storage Arrays User's Guide*
- *Dell PowerVault MD Storage Arrays User's Guide*

Also see www.nagios.org/documentation for any Nagios XI related documentation.