

Dell EqualLogic Storage  
Management Pack Suite  
Version 4.1 for Microsoft  
System Center Operations  
Manager 2007 SP1/R2 and  
System Center Essentials 2007  
SP1/2010

# Installation Guide



# Notes



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

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# Overview

This guide describes how to install the Dell EqualLogic Storage Management Pack Suite version 4.1 for Microsoft System Center Operations Manager (SCOM), or Microsoft System Center Essentials (SCE).

## Prerequisites

To install the Dell EqualLogic Storage Management Pack Suite version 4.1 on a management station, ensure that you meet the following pre-requisites:

- SCOM 2007 SP1/R2 or SCE 2007 SP1/2010 to support the Dell EqualLogic Storage Management Pack.

For SCOM 2007 SP1 and SCE 2007 SP1, apply the following:

- SCE 2007 SP1 Update 1 (Microsoft KB: 971541) that contains a fix for network monitoring stack.
- SCE Hotfix (Microsoft KB: 960569) that contains a fix for monitoring network devices with interface speed greater than 2 GB per second.
- Microsoft .NET version 2.0 or later to install SCOM or SCE.
- Administrator access on the system to install SCOM or SCE and to import the Dell EqualLogic Storage Management Pack.

## Accessing the Dell EqualLogic Storage Management Pack

The Dell EqualLogic Storage Management Pack Suite is packaged in the self extracting executable

`Dell_EqualLogic_Storage_Management_Pack_Suite_v4.1_A00.exe` file that contains the following files:

- `Dell_EqualLogic_Storage_Management_Pack_Suite_v4.1.msi`
- `DellMPv41_EqualLogicMP_Readme.txt`
- `DellMPv41_EqualLogic_IG.PDF`

The self extracting executable file is available at [support.dell.com](http://support.dell.com).

# Installing the Dell EqualLogic Storage Management Pack Suite

Download the self extracting executable `Dell_EqualLogic_Storage_Management_Pack_Suite_v4.1_A00.exe` from [support.dell.com](http://support.dell.com) and extract the contents to a suitable folder location.

To install the Dell EqualLogic Storage management pack:

- 1 Run the management pack installer. For more information, see [Running the Management Pack Installer](#).
- 2 Import the management pack in SCOM. For more information, see [Importing the Management Pack](#).
- 3 Perform post-import tasks. For more information, see [Post Import Tasks](#).

## Running the Management Pack Installer

To run the Dell EqualLogic Storage Management Pack installer:

- 1 Navigate to the location where you extracted the contents of `Dell_EqualLogic_Storage_Management_Pack_Suite_v4.1_A00.exe`.
- 2 Double click `Dell_EqualLogic_Storage_Management_Pack_Suite_v4.1_A00.msi` to start the installer.
- 3 Follow the instructions on the **InstallShield** wizard to install the management pack suite and click **Finish** on the wizard after the installation is complete.

The installer creates the following folders in the default location `C:\Dell Management Packs\EqualLogic Storage Mgmt Suite\4.1` or at the location that you specify in the installer:

- **Library** —This folder contains the following files:
  - `DellEQLHelper.dll`
  - `DellEQLHelper.dll.config`
  - `DellEQLHelper.tlb`

- **Management Pack** —This folder contains the following files:
  - **Dell.Connections.HardwareLibrary.mp** —Management Pack for defining the Dell Hardware Group and Dell folder in the Monitoring pane of the **Operations Console**.
  - **Dell.Storage.EqualLogic.mp** —Management Pack for monitoring supported EqualLogic storage arrays. Health is monitored upto the storage pools group and volume group of the storage arrays.
  - **Dell.Storage.EqualLogic.DetailedMonitoringOn.mp** — Management Pack for enabling health monitoring upto component groups.

## Importing the Management Pack

To import the EqualLogic Storage Array management pack, use the **SCOM Import Management Pack** wizard:

- 1** Click **Start**→**Programs**→**System Center Operations Manager 2007** and select **Operations Console**.
- 2** In the **Operations Console**, click **Administration** on the navigation pane.
- 3** Expand the **Administration** tree, right-click **Management Packs**, and select **Import Management Packs**.
- 4** Browse to the management pack location, select the management packs you want to import. For more information on the management packs, see [step 4](#) under [Running the Management Pack Installer](#).

The **Import Management Packs** screen with the selected management packs is displayed in the **Import List**.

- 5** Click **Install** to complete the task.

## Post Import Tasks

After you import the Dell EqualLogic Storage management packs, you must perform the following tasks to ensure that the Dell EqualLogic storage arrays are discovered and monitored from the **SCOM Operations Console**:

- 1 Configure the management server action account with normal user account privileges. For more information on configuring the management server action account, see the *SCOM Online Help*.
- 2 Discover the Dell EqualLogic storage arrays using the **SCOM Discovery** wizard. For more information on using the Discovery wizard, see the *Dell EqualLogic Storage Management Pack User Guide*.
- 3 Click the **Monitoring** tab of the **Operations Console** and ensure that:
  - **EqualLogic Device Alerts** is displayed under **Dell Alerts Views**.
  - **EqualLogic Devices** is displayed under **Dell Diagram Views**.
  - **EqualLogic Devices** is displayed under **Dell State Views**.

## Viewing Dell EqualLogic Storage Management Pack Objects

You can view objects contained in the Dell EqualLogic Storage Management Pack.

To view the objects:

- 1 Click the **Authoring** tab of the **Operations Console**.
- 2 Select **Object Discoveries** under **Management Pack Objects** on the **Authoring** pane.
- 3 In the **Object Discoveries** pane, click **Change Scope** on the top right hand corner of the screen to display the **Scope Management Pack Objects** window.
- 4 Select the **View all targets** option to display all the objects.
- 5 Under **Target**, select all the Dell EqualLogic objects and click **OK**.

The Dell EqualLogic Storage management pack objects are displayed in the **Object Discoveries** pane.



## Using the Repair Option

The **Repair** option in the installer repairs installation errors. You can use this option to re-install the management pack, missing files, and correct the registry entries.

To repair the installation of the Dell EqualLogic management pack:

- 1 Double-click the **Dell\_EqualLogic\_Storage\_Management\_Pack\_Suite\_v4.1.msi** file to launch the installer. The **Welcome** screen appears.
- 2 Click **Next**.
- 3 Select **Repair** and click **Next**. The **Ready to Repair the Program** screen is displayed.
- 4 Click **Install**. A progress screen displays the progress of the installation. Once the installation is complete, the **InstallShield Wizard Completed** window is displayed.
- 5 Click **Finish**.

## Upgrading the Management Pack From a Previous Version

If you have installed an earlier version of Dell EqualLogic Management Pack Suite, you can directly upgrade to the current version.

### Prerequisites

If you have installed Dell EqualLogic Storage Management Pack Suite version 4.0 with a particular user account, then you must login with the same user account to upgrade to Dell EqualLogic Storage Management Pack Suite version 4.1. For example, if you have installed Dell EqualLogic Storage Management Pack version 4.0 as User A, you must login as User A to upgrade. If you login as User B, then the upgrade process displays an error message and prevents you from proceeding.

## Pre-Upgrade Tasks *(Optional)*

Before you upgrade to version 4.1 from version 4.0, perform the following steps to back up the alerts generated through version 4.0:

- 1 Connect to the Database Server that is used by your SCOM/SCE installation.
- 2 Replace **OperationsManager** in the following query with the name of your SCOM/SCE database.

### SQL Query:

```
USE [OperationsManager]
GO
SELECT [dbo].[Alert].*
FROM
[dbo].[Alert],[dbo].[BaseManagedEntity],
[dbo].ManagedType
WHERE
([dbo].[Alert].[BaseManagedEntityId]=
[dbo].[BaseManagedEntity].BaseManagedEntityId)
AND
([dbo].[BaseManagedEntity].[BaseManagedTypeId]=
[dbo].ManagedType.ManagedTypeId)
AND
([dbo].ManagedType.TypeName=
'Dell.Storage.EqualLogicEthernetInterface')
GO
```

- 3 Execute the SQL query; save the results as a tab-delimited text file.

## Steps to Upgrade

To upgrade to the new version:

- 1 Double-click the **Dell\_EqualLogic\_Storage\_Management\_Pack\_Suite\_v4.1.msi** file to launch the installer. The following message is displayed: Another version of the product is already installed. Would you like to upgrade?
- 2 Click **Yes**, and then click **Next** on the **Welcome** screen.
- 3 Accept the license agreement and click **Next**.
- 4 Follow the instructions on the wizard to install the Dell EqualLogic Management Pack and click **Finish** on the wizard after the installation is complete.
- 5 Launch the **Operations Console** and navigate to the **Administration** tab to import the new management pack. For more information on importing the management pack, see [Importing the Management Pack](#).



**NOTE:** When you upgrade from version 4.0 to version 4.1, components that are in critical or warning state, may display a normal state after upgrading. The components display the correct health status only from the subsequent monitoring cycle. The critical or warning health is reflected only after 62 minutes when the first monitoring cycle triggers. This is applicable only to SCOM 2007 SP1, SCE 2007 SP1, SCOM 2007 R2, and SCE 2010.



**NOTE:** After you upgrade to version 4.1, you may see some of the components in Diagram view still displaying the icons from the earlier version. To see the new icons, restart the **Operations Console** using the **/clearcache** option.

# Uninstalling the Dell EqualLogic Storage Management Pack Suite

Before you uninstall the Dell EqualLogic Storage Management Pack Suite, it is recommended to delete the Dell EqualLogic management packs from SCOM.

To delete the management pack:

- 1 Select **Administration**→ **Management Packs** in the **Operations Console**.
- 2 Select the **EqualLogic Management Pack** from the **Management Packs** pane.
- 3 Right-click on the selected management pack and click **Delete**.

After deleting the management pack, you can uninstall the Dell EqualLogic Helper from the management station. It is recommended that you relaunch the SCOM console after deleting the EqualLogic Management Pack.



**NOTE:** Deleting any of the management packs may affect the scope of some user roles.

To uninstall the Dell EqualLogic Storage Management Pack Suite:

- 1 From the **Start** menu, select **Settings**→ **Control Panel**→ **Add/Remove Programs/Programs and Features**.
- 2 Select **Dell EqualLogic Storage Management Pack Suite v4.1 for System Center Operations Manager** and click **Uninstall**.

You can also uninstall the Dell EqualLogic Storage Management Pack Suite by running the

**Dell\_EqualLogic\_Storage\_Management\_Pack\_Suite\_v4.1.msi** file and selecting the **Remove** option from the installer.



**NOTE:** If you uninstall the management pack suite before deleting the Dell EqualLogic management pack, the alert **Dell EqualLogic: Dell EqualLogic Helper 4.1 may not be installed or needs to be updated** is displayed in the SCOM console. In multiple management stations, the alert also appears on a management station that does not monitor the Dell EqualLogic devices.

# Microsoft Guidelines for Performance and Scalability for SCOM

For optimal performance, deploy the Dell EqualLogic Management Pack Suite version 4.1 on a dedicated management station.

For information on Microsoft's recommendations for scalability, see [support.microsoft.com/kb/975057](http://support.microsoft.com/kb/975057).

## Security Considerations

Operations Console access privileges are handled internally by SCOM. You can set the **User Roles** option under **Administration**→**Security** feature on the SCOM console. The profile of your role determines what actions you can perform. For more information on security considerations, see the *SCOM Online Help*.

### Disabling Certificate Validation

When you discover EqualLogic PS Series arrays for the first time on a system that does not have access to the Internet or is on a slow network, there is a delay of 40-45 seconds for devices to appear in the Diagram View.

This delay occurs because the Certificate Revocation List (CLR) generates a Publisher Evidence and validates the certificate by contacting the issuing authority when it loads Dell EqualLogic Helper assembly into a process on the .NET Framework 2.0.

The operating system scans the chain of certificates and tries to download the Certificate Revocation List from a server on the Internet. If you do not have Internet access or the network is slow, then this process is delayed - thereby delaying the start of the Dell EqualLogic Helper.



**NOTE:** When you disable signature verification, the .NET Framework 2.0 managed application no longer receives publisher evidence. This behavior affects the .NET Framework 2.0 managed application only when you use publisher evidence or the `PublisherIdentityPermission` class.

To disable the signature verification:

- 1 Edit the file `DellEQLHelper.dll.config` under the Library folder where Dell EqualLogic Storage Management Pack Suite v4.1 is installed.
- 2 Change the value of `generatePublisherEvidence` to "false".

