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# Monitoring Dell EMC XtremIO

Dell EMC: XtremIO PowerPack version 104

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# Chapter

# 1

## Introduction

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### Overview

This manual describes how to monitor Dell EMC XtremIO storage devices in the ScienceLogic platform. The platform monitors the storage devices with the Dell EMC XtremIO API through the Dell EMC XtremIO Management Server (XMS).

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### What is Dell EMC XtremIO?

Dell EMC XtremIO storage arrays use all flash technology and a scale-out design to provide high performance and consistent low latency. XtremIO provides enterprise features for data reduction, high availability, snapshots, and clones.

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## Prerequisites

Before performing the tasks in this manual, you must have already properly installed and configured the Dell EMC XtremIO storage devices that you want to monitor with the ScienceLogic platform.

In addition, you must create a read-only user in the Dell EMC XtremIO Management Server (XMS) with the following user permissions:

- **User Name:** Type the XMS user's name.
- **Authentication.** Select the **By Password** checkbox.
- **Password:** Type and then confirm the XMS user's password.

You can also configure LDAP authentication for this account.

Finally, take note of the SNMP community string used by the Dell EMC XtremIO storage devices you want to monitor.

For more information about these configuration processes, see the Dell EMC XtremIO documentation.

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## What Does the Dell EMC: XtremIO PowerPack Monitor?

To monitor Dell EMC XtremIO storage devices with the ScienceLogic platform, you must install the *Dell EMC: XtremIO PowerPack*. This PowerPack lets you discover, model, and collect data about XtremIO storage devices.

The *Dell EMC: XtremIO PowerPack* includes:

- An example credential you can use as a template to create a SOAP/XML credential to connect to the XtremIO storage devices you want to monitor
- Dynamic Applications to discover, model, and monitor performance metrics and collect configuration data for XtremIO storage devices
- Device Classes for each of the XtremIO storage devices that the ScienceLogic platform monitors
- Event Policies and corresponding alerts that are triggered when XtremIO storage devices meet certain status criteria

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## Installing the Dell EMC: XtremIO PowerPack

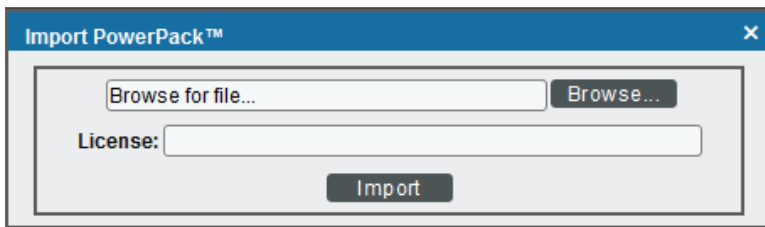
Before completing the steps in this manual, you must import and install version 104 of the *Dell EMC: XtremIO PowerPack*.

**NOTE:** To install version 104 of the PowerPack, your ScienceLogic system must be upgraded to the 8.2.0 or later release.

To download and install a PowerPack:

**TIP:** By default, installing a new version of a PowerPack overwrites all content in that PowerPack that has already been installed on the target system. You can use the **Enable Selective PowerPack Field Protection** setting in the **Behavior Settings** page (System > Settings > Behavior) to prevent new PowerPacks from overwriting local changes for some commonly customized fields. (For more information, see the **System Administration** manual.)

1. Download the PowerPack from the [ScienceLogic Customer Portal](#).
2. Go to the **PowerPack Manager** page (System > Manage > PowerPacks).
3. In the **PowerPack Manager** page, click the **[Actions]** button, then select *Import PowerPack*.
4. The **Import PowerPack** dialog box appears:



5. Click the **[Browse]** button and navigate to the PowerPack file.
6. When the **PowerPack Installer** modal page appears, click the **[Install]** button to install the PowerPack.

**NOTE:** If you exit the **PowerPack Installer** modal page without installing the imported PowerPack, the imported PowerPack will not appear in the **PowerPack Manager** page. However, the imported PowerPack will appear in the **Imported PowerPacks** modal page. This page appears when you click the **[Actions]** menu and select *Install PowerPack*.

## Configuring Dell EMC XtremIO for Monitoring

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### Overview

The following sections describe how to configure the ScienceLogic platform to monitor Dell EMC XtremIO storage devices:

- [Creating a SOAP/XML Credential for Dell EMC XtremIO](#)
- [Configuring Traps with Dell EMC XtremIO](#)

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### Creating a SOAP/XML Credential for Dell EMC XtremIO

To configure the ScienceLogic platform to monitor Dell EMC XtremIO storage devices, you must first create a credential that allows the Dynamic Applications in the PowerPack to communicate with your XtremIO storage devices. The *Dell EMC: XtremIO* PowerPack includes an example SOAP/XML credential that you can edit for your own use.

To configure the SOAP/XML credential to access Dell EMC XtremIO devices:

1. Go to the **Credential Management** page (System > Manage > Credentials).
2. Locate the **Dell EMC XtremIO Example - SOAP/XML** credential, and then click its wrench icon (🔧). The **Edit SOAP/XML Credential** modal page appears.

3. Update the values in the following fields:

### **Basic Settings**

- **Profile Name**. Type a name for the credential.
- **Content Encoding**. Select *text/xml*.
- **Method**. Select POST.
- **HTTP Version**. Select HTTP/1.1.
- **URL**. Type the device IP address or the host name for your XtremIO devices.
- **HTTP Auth User**. Type the XtremIO administrator username.
- **HTTP Auth Password**. Type the XtremIO administrator password.
- **Timeout (seconds)**. Type "2".

### **Proxy Settings**

- **Hostname/IP**. Leave this field blank.
- **Port**. Type "0".
- **User**. Leave this field blank.

### **CURL Options**

- **CURL Options**. Do not make any selections in this field.

### **SOAP Options**

- **Embedded Password [%P]**. Leave this field blank.
- **Embed Value [%1]**. Type "True" to enable verification of the storage array's self-signed certificate. Since the certificate is self-signed, you will need to determine if you trust the certificate and, if so, add it to a file. Append the applicable XMS root certificates to the file located at `/var/lib/em7/content/silo_rest/root_cert/xms_root_ca.crt` for any XMS being monitored. Type "False" or leave this field blank to disable SSL verification. This field is not case-sensitive.
- **Embed Value [%2]**. Leave this field blank.
- **Embed Value [%3]**. Leave this field blank.
- **Embed Value [%4]**. Leave this field blank.

### **HTTP Headers**

- **HTTP Headers**. Do not make any selections in this field.

4. Click the **[Save As]** button.

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## Configuring Traps with Dell EMC XtremIO

If you are using SNMP traps with Dell EMC XtremIO, use the IP address of the Message Collector, Data Collector, or All-In-One Appliance responsible for monitoring the system as the destination IP.

For more information, see the Dell EMC XtremIO documentation.



## Discovering Dell EMC XtremIO Devices

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### Overview

The following sections describe the steps required to discover Dell EMC XtremIO storage devices in the ScienceLogic platform:

- [Discovering Dell EMC XtremIO Component Devices](#)
- [Verifying Discovery and Dynamic Application Alignment](#)
- [Viewing Dell EMC XtremIO Component Devices](#)

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### Discovering Dell EMC XtremIO Component Devices

To model and monitor your Dell EMC XtremIO storage devices, you must run a discovery session to discover the XtremIO Management Server (XMS) device and XtremIO clusters that the ScienceLogic platform will use as the root devices for monitoring the applications.

After the discovery session completes, the Dynamic Applications in the *Dell EMC: XtremIO PowerPack* automatically align to the XMS device, and then the PowerPack discovers, models, and monitors the remaining XtremIO storage devices.

To discover the XtremIO devices that you want to monitor, perform the following steps:

1. Go to the **Discovery Control Panel** page (System > Manage > Discovery).
2. On the **Discovery Control Panel**, click the **[Create]** button.

- The **Discovery Session Editor** page appears. On the **Discovery Session Editor** page, define values in the following fields:

The screenshot shows the 'Discovery Session Editor | Editing Session [2]' window. It is divided into four main sections:

- Identification Information:** Name: XtremIO, Description: Dell EMC: XtremIO XMS.
- IP and Credentials:**
  - IP Address/Hostname Discovery List:** 10.64.140.16
  - SNMP Credentials:** [SNMP Public V2]
  - Other Credentials:** [XtremIO TEST SOAP]
- Detection and Scanning:**
  - Initial Scan Level:** [5. Deep discovery]
  - Scan Throttle:** [System Default (recommended)]
  - Port Scan All IPs:** [System Default (recommended)]
  - Port Scan Timeout:** [System Default (recommended)]
  - Detection Method & Port:** [TCP: 443 - https]
  - Interface Inventory Timeout (ms):** 600000
  - Maximum Allowed Interfaces:** 10000
  - Bypass Interface Inventory:**
- Basic Settings:**
  - Discover Non-SNMP:**
  - Model Devices:**
  - DHCP:**
  - Duplication Protection:**
  - Collection Server PID:** [knt\_aio\_dev\_10\_2\_5\_85]
  - Organization:** [System]
  - Add Devices to Device Group(s):** None Servers
  - Apply Device Template:** [Choose a Template]

Buttons at the bottom include 'Save', 'Save As', and 'Log All'.

- **IP Address/Hostname Discovery List.** Enter the IP address or hostname for the XtremIO storage device or devices that you want to discover.
  - **SNMP Credentials.** Select the SNMP credential that you are using for XtremIO.
  - **Other Credentials.** Select the Basic/Snippet or SOAP/XML credential that you created for your XtremIO storage devices.
  - **Initial Scan Level.** Select 5. Deep Discovery.
  - **Detection Method & Port:** Select TCP: 443 - https.
  - **Discover Non-SNMP.** Select this checkbox.
  - **Model Devices.** Select this checkbox.
  - **Duplication Protection.** Select this checkbox.
- Optionally, you can enter values in the other fields on this page. For more information about the other fields on this page, see the **Discovery & Credentials** manual.
  - Click the **[Save]** button to save the discovery session and then close the **Discovery Session Editor** window.
  - The discovery session you created appears at the top of the **Discovery Control Panel** page. Click its lightning-bolt icon (⚡) to run the discovery session.

- The **Discovery Session** window appears. After the devices are discovered, click the device icon (🖨️) to view the **Device Properties** page for each device.

## Verifying Discovery and Dynamic Application Alignment

To verify that the ScienceLogic platform has automatically aligned the correct Dynamic Applications during discovery:

- After discovery has completed, click the device icon for the XMS device (🖨️). From the **Device Properties** page for the XMS device, click the **[Collections]** tab. The **Dynamic Application Collections** page appears.
- All applicable Dynamic Applications for the XMS device are automatically aligned during discovery.

**NOTE:** It can take several minutes after the discovery session has completed for Dynamic Applications to appear in the **Dynamic Application Collections** page.

The screenshot displays the 'Device Properties' page for a Dell EMC XtremIO device. The 'Collections' tab is active, showing a table of Dynamic Application Collections. The table has columns for Dynamic Application, ID, Poll Frequency, Type, and Credential. Two applications are listed: 'Dell EMC: XtremIO Cluster Discovery' (ID 1381, 5 mins, Snippet Configuration, XtremIO TEST SOAP) and 'Dell EMC: XtremIO XMS Config' (ID 1380, 5 mins, Snippet Configuration, XtremIO TEST SOAP). Both have checkboxes in the rightmost column.

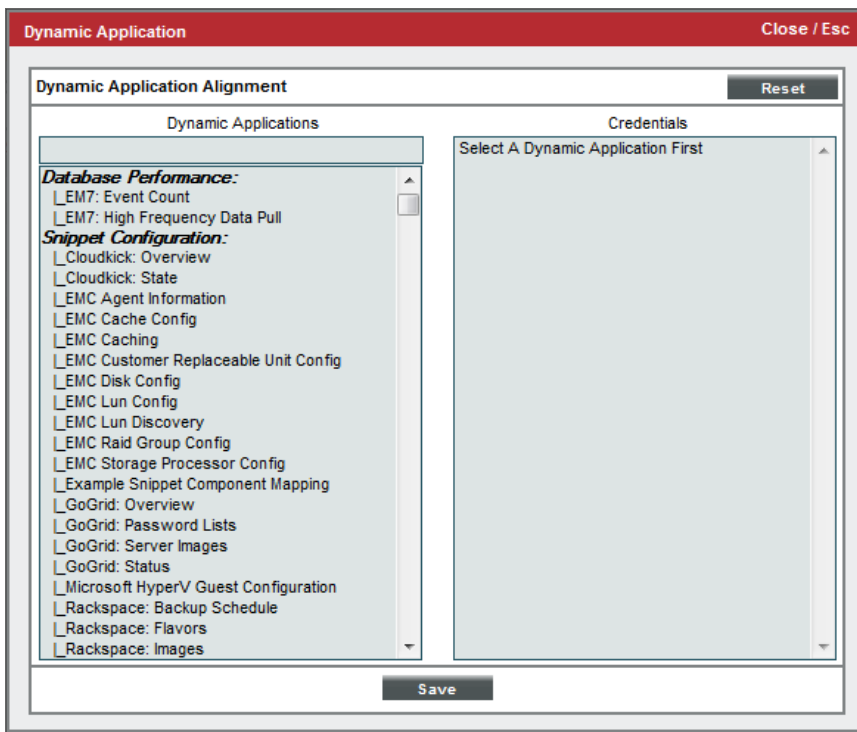
Dynamic Application	ID	Poll Frequency	Type	Credential	
+ Dell EMC: XtremIO Cluster Discovery	1381	5 mins	Snippet Configuration	XtremIO TEST SOAP	<input type="checkbox"/>
+ Dell EMC: XtremIO XMS Config	1380	5 mins	Snippet Configuration	XtremIO TEST SOAP	<input checked="" type="checkbox"/>

You should see the following Dynamic Applications aligned to the XMS device:

Dynamic Application	Credential Type
Dell EMC: XtremIO Cluster Discovery	SOAP/XML
Dell EMC: XtremIO XMS Config	SOAP/XML

If the listed Dynamic Applications have not been automatically aligned during discovery, you can align them manually. To do so, perform the following steps:


1. Click the **[Action]** button and then select *Add Dynamic Application*. The **Dynamic Application Alignment** page appears:

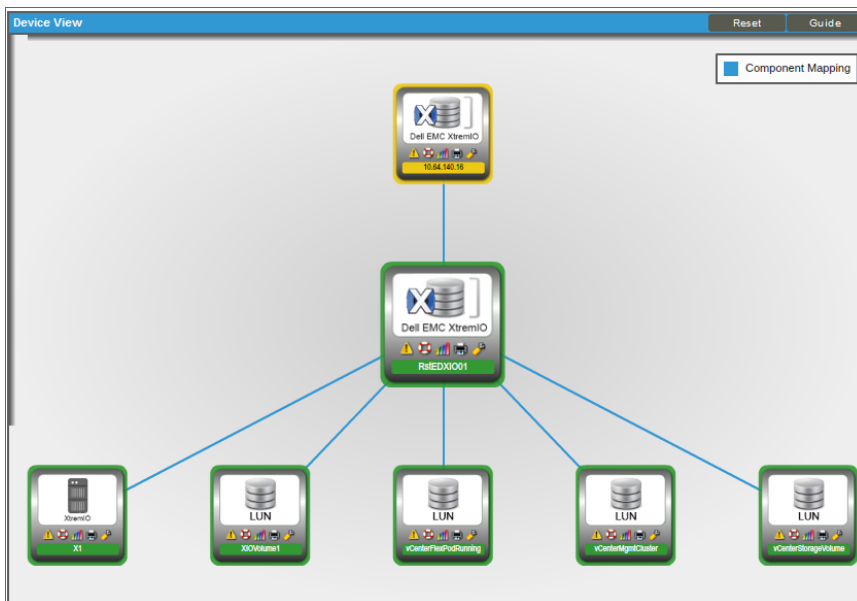


2. In the **Dynamic Applications** field, select the Dynamic Application you want to align.
3. In the **Credentials** field, select the credential specified in the table.
4. Click the **[Save]** button.
5. Repeat steps 1-4 for the other unaligned Dynamic Applications.

## Viewing Dell EMC XtremIO Component Devices

In addition to the **Device Manager** page (Registry > Devices > Device Manager), you can view the Dell EMC XtremIO storage devices in the following places in the user interface:

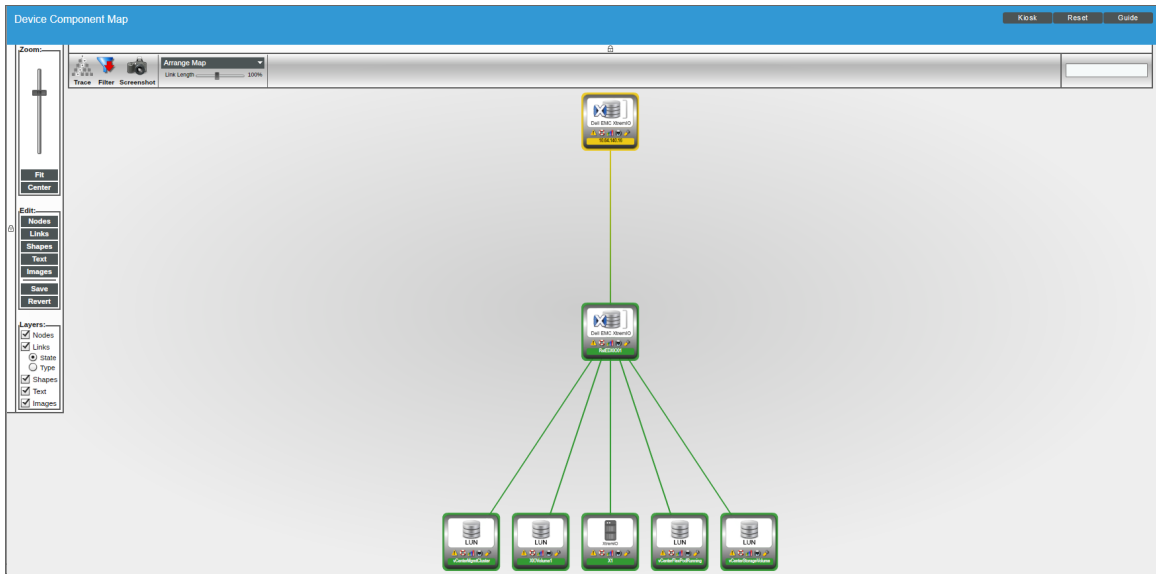
- The **Device View** modal page (click the bar-graph icon  for a device, then click the **Topology** tab) displays a map of a particular device and all of the devices with which it has parent-child relationships. Double-clicking any of the devices listed reloads the page to make the selected device the primary device:



- The **Device Components** page (Registry > Devices > Device Components) displays a list of all root devices and component devices discovered by the ScienceLogic platform in an indented view, so you can easily view the hierarchy and relationships between child devices, parent devices, and root devices. To view the component devices associated with Dell EMC XtremIO, find the XtremIO component device and click its plus icon (+):

Device Name	IP Address	Device Category	Device Class   Sub-class	DIID	Organization	Current State	Collection Group	Collection State
10.2.5.121	10.2.5.121	Pingable	Ping   ICMP	1453	System	Healthy	CUG	User-Disabled
10.5.100.5	10.5.100.5	Pingable	Ping   ICMP	477	System	Healthy	CUG	Active
10.64.140.16	10.64.140.16	Management	Dell EMC   XtremIO XMS	2033	System	Minor	CUG	Active
RsIEDX001	--	Array	Dell EMC   XtremIO Cluster	2034	System	Healthy	CUG	Active
VCenterFlexPodRunning	--	LUN	Dell EMC   XtremIO LUN	2038	System	Healthy	CUG	Active
VCenterMgmtCluster	--	LUN	Dell EMC   XtremIO LUN	2035	System	Healthy	CUG	Active
VCenterStorageVolume	--	LUN	Dell EMC   XtremIO LUN	2039	System	Healthy	CUG	Active
X1	--	Controller	Dell EMC   XtremIO X-Brick	2037	System	Healthy	CUG	Active
XIOVolume1	--	LUN	Dell EMC   XtremIO LUN	2036	System	Healthy	CUG	Active
emc-win2k8-r2-1	10.1.134.184	Pingable	Ping   ICMP	2021	System	Healthy	CUG	Active
lab-vcas6	10.0.13.10	Pingable	Ping   ICMP	541	VSAN	Minor	CUG	Active

- The **Component Map** page (Views > Device Maps > Components) allows you to view devices by root node and view the relationships between root nodes, parent components, and child components in a map. This makes it easy to visualize and manage root nodes and their components. The ScienceLogic platform automatically updates the **Component Map** as new component devices are discovered. The platform also updates each map with the latest status and event information. To view the map for an Dell EMC XtremIO devices, go to the **Component Map** page and select the map from the list in the left NavBar. To learn more about the **Component Map** page, see the **Views** manual.



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800-SCI-LOGIC (1-800-724-5644)

International: +1-703-354-1010