Monitoring Dell EMC XtremIO

Dell EMC: XtremIO PowerPack version 106

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Chapter 1

Introduction

Overview

This manual describes how to monitor Dell EMC XtremIO storage devices in SL1 using the "Dell EMC: XtremIO" PowerPack. SL1 monitors the storage devices with the Dell EMC XtremIO API through the Dell EMC XtremIO Management Server (XMS).

This chapter covers the following topics:

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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.

What Does the Dell EMC: XtremIO PowerPack Monitor?

To monitor Dell EMC XtremIO storage devices with SL1, 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 SL1 monitors
- Event policies and corresponding alerts that are triggered when XtremIO storage devices meet certain status criteria

Installing the Dell EMC: XtremIO PowerPack

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

TIP: By default, installing a new version of a PowerPack overwrites all content from a previous version of 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 section on *Global Settings*.

NOTE: For details on upgrading SL1, see the relevant *SL1 Platform Release Notes*.

To download and install the PowerPack:

1. Search for and download the PowerPack from the **PowerPacks** page (Product Downloads > PowerPacks & SyncPacks) at the ScienceLogic Support Site.
2. In SL1, go to the **PowerPacks** page (System > Manage > PowerPacks).
3. Click the **[Actions]** button and choose *Import PowerPack*. The **Import PowerPack** dialog box appears.
4. Click **[Browse]** and navigate to the PowerPack file from step 1.
5. Select the PowerPack file and click **[Import]**. The **PowerPack Installer** modal displays a list of the PowerPack contents.
6. Click **[Install]**. The PowerPack is added to the **PowerPacks** page.

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

Chapter 2

Configuration and Credentials

Overview

This section describes how to configure and discover Dell EMC XtremIO storage devices for monitoring by SL1 using the "Dell EMC: XtremIO" PowerPack.

This chapter covers the following topics:

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Prerequisites for Monitoring Dell EMC XtremIO

Before you can monitor Dell EMC XtremIO storage devices in SL1 using the "Dell EMC: XtremIO" PowerPack, you must have already properly installed and configured the XtremIO storage devices that you want to monitor.

In addition, you must create a read-only user in the 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 XtremIO storage devices you want to monitor.

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

Configuring Traps with Dell EMC XtremIO

To send alerts to SL1, SNMP traps must be enabled and configured on the Dell EMC XtremIO storage array. When configuring these traps, use the IP address of the ScienceLogic Message Collector, Data Collector, or All-In-One Appliance responsible for monitoring the system as the destination IP.

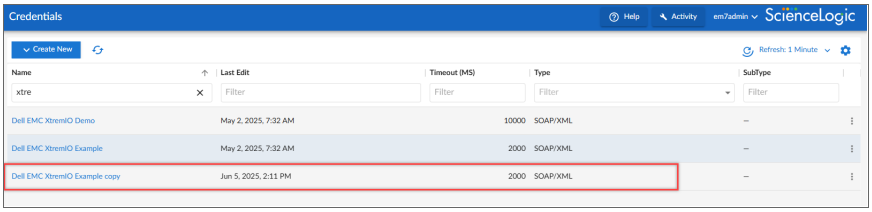
For more information, see the Dell EMC XtremIO documentation.

Creating a SOAP/XML Credential for Dell EMC XtremIO

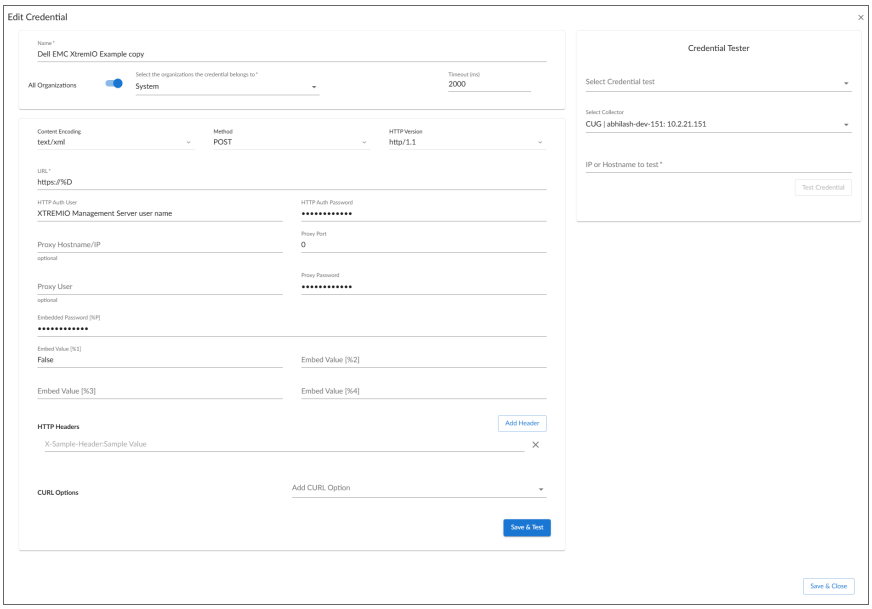
To configure SL1 to monitor Dell EMC XtremIO storage devices, you must create a credential that allows the Dynamic Applications in the "Dell EMC: XtremIO" PowerPack to communicate with your XtremIO storage devices. The PowerPack includes an example SOAP/XML credential that you can edit for your own use.

To create a SOAP/XML credential:

1. Go to the **Credential Management** page (Manage > Credentials).
2. Locate the "Dell: EMC XtremIO Example" credential, then click its **[Actions]** icon (⋮). Select *Duplicate* from the drop-down field. The "Dell EMC: XtremIO Example copy" credential appears.



3. Click the **[Action]** icon (⋮) for the "Dell EMC: XtremIO Example copy" credential. Select *Edit* and the **Edit Credential** page appears.



4. Enter values in the following fields:
    - ***Name***. Type a new name for the credential. This field is required.
    - ***All Organizations***. Toggle on (blue) to align the credential to all organizations, or toggle off (gray) and then select one or more specific organizations from the ***Select the organizations the credential belongs to*** drop-down field to align the credential with those specific organizations.
    - ***Timeout***. Time, in milliseconds, after which SL1 will stop trying to communicate with the Dell EMC XtremIO device. The default value is *2000*. This field is required.
    - ***URL***. Type the Dell EMC XtremIO url. The default is http://%D/api/json/types.
    - ***HTTP Auth User***. Type the Dell EMC XtremIO username associated with the administrator account.
    - ***HTTP Auth Password***. Type the Dell EMC XtremIO password associated with the administrator account.
5. For all remaining fields, use the default values.
6. Click **[Save & Close]**.

Creating a SOAP/XML Credential for Dell EMC XtremIO in the SL1 Classic User Interface

To configure SL1 to monitor Dell EMC XtremIO storage devices in the classic user interface, you must create a credential that allows the Dynamic Applications in the "Dell EMC: XtremIO" PowerPack to communicate with your XtremIO storage devices. The 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 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.

Chapter 3

Discovery

Overview

The following sections describe the steps required to discover Dell EMC XtremIO storage devices in SL1:

This chapter covers the following topics:

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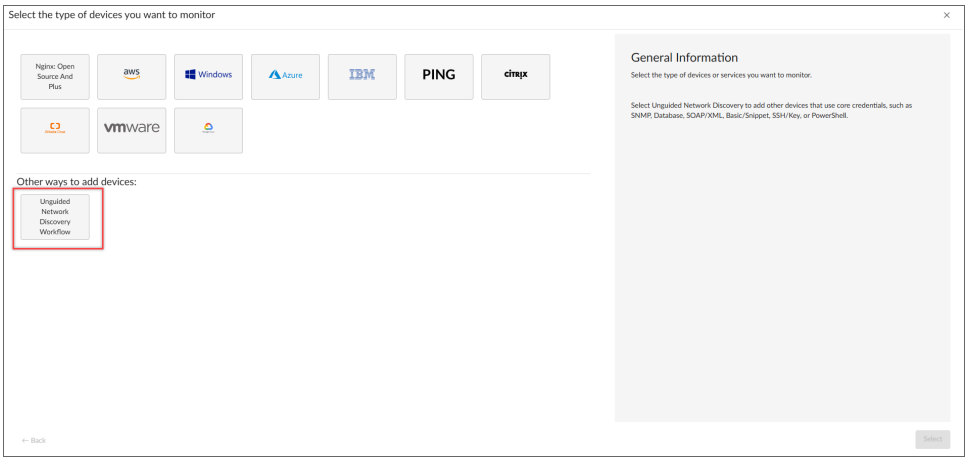
Discovering Dell EMC XtremIO Component Devices

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 SL1 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 create and run a discovery session that will discover a Dell EMC XtremIO appliance:

1. Go to the **Devices** page ( ) or the **Discovery Session** page (Devices > Discovery Sessions) and click the **[Add Devices]** button.
2. Click the **[Unguided Network Discovery Workflow]** button. Additional information about that requirements for discovery appears in the **General Information** pane to the right.



3. Click **[Select]**. The **Add Devices** page appears.
4. Complete the following fields:
    - ***Discovery Session Name***. Type a unique name for this discovery session. This name is displayed in the list of discovery sessions on the **[Discovery Session]** tab.
    - ***Description***. Optional. Type a short description of the discovery session. You can use the test in this description to search for the discovery session on the **[Discovery Session]** tab.
    - ***Select the organization to add discovered devices to***. Select the name of the organization to which you want to add the discovered devices.
5. Click **[Next]**. The **Credentials** page of the **Add Devices** wizard appears.
6. On the **Credentials** page, locate and select the SOAP/XML credential you created for Dell EMC XtremIO appliances.
7. Click **[Next]**. The **Discovery Session**page of the **Add Devices** wizard appears.
8. Complete the following fields:
    - ***List of IP/Hostnames***. Type the IP address for the Dell EMC XtremIO appliance.
    - ***Which collector will monitor these devices?***. Required. Select an existing collector to monitor the discovered devices.
    - ***Run after save***. Select this option to run this discovery session as soon as you save the session.
    - ***Advanced options***. Click the down arrow (⌄) to complete the following fields:
        - ***Discover Non-SNMP***. Enable this setting.
        - ***Model Devices***. Enable this setting.
        - ***Select Device Template***. If you configured a Dell EMC XtremIO device template, select it here. Otherwise, leave the default selection.
9. If you enabled the ***Run after save*** option, click the**[Save and Run]** button. The discovery session will run and the **Discovery Logs** page will display any relevant log messages. If the discovery session locates and adds any devices, the **Discovery Logs** page will include a link to the **Device Investigator** page for the discovered device.

10. If you did not enable the ***Run after save*** option, click the **[Save and Close]** button. The **Discovery Session** page (Devices > Discovery Sessions) will display the new discovery session.

To model and monitor your Dell EMC XtremIO storage devices in the SL1 classic user interface, you must run a discovery session to discover the XtremIO Management Server (XMS) device and XtremIO clusters that SL1 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 > Classic Discovery or System > Manage > Discovery in the classic user interface).
2. On the **Discovery Control Panel**, click the **[Create]** button.
3. The **Discovery Session Editor** page appears. On the **Discovery Session Editor** page, define values in the following fields:
    - ***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.
4. 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.
5. Click the **[Save]** button to save the discovery session and then close the **Discovery Session Editor** window.
6. 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.
7. 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 SL1 has automatically aligned the correct Dynamic Applications during discovery:

1. 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.

2. 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.

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 (Devices > Classic Devices, or Registry > Devices > Device Manager in the classic SL1 user interface), 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 (Devices > Device Components) displays a list of all root devices and component devices discovered by SL1 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 (+).
- The **Component Map** page (Classic Maps > 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. SL1 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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