Monitoring Dell EMC Isilon

Dell EMC: Isilon PowerPack version 105

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Chapter 1

Introduction

Overview

This manual describes how to monitor Dell EMC Isilon storage systems in Skylar One using the Dynamic Applications in the "Dell EMC: Isilon" PowerPack.

This chapter covers the following topics:

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What is Dell EMC Isilon?

Dell EMC Isilon is a clustered, scale-out Network Attached Storage (NAS) array. The "Dell EMC: Isilon" PowerPack uses the Isilon API to discover the storage array and collect health, configuration, performance, and capacity information.

What Does the Dell EMC: IsilonPowerPack Monitor?

To monitor Dell EMC Isilon storage devices with Skylar One, you must install the "Dell EMC: Isilon" PowerPack. This PowerPack lets you discover, model, and collect data about Isilon storage devices.

The "Dell EMC: Isilon" PowerPack includes:

- Dynamic Applications to discover, model, and monitor performance metrics and collect configuration data for Dell EMC Isilon devices
- Device Classes for each type of Isilon device monitored
- Example credentials that you can use as templates to create a SOAP/XML credential for connecting to Isilon devices and an SNMP credential for device class alignment

Installing the PowerPack

Before completing the steps in this manual, you must import and install the latest version of the "Dell EMC: Isilon" 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 Skylar One, see the relevant *Skylar One Platform Release Notes*.

To download and install the PowerPack:

1. Search for and download the PowerPack from the **PowerPacks** page at the ScienceLogic Support Center (Skylar One > PowerPacks, login required).
2. In Skylar One, 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 Dell EMC Isilon storage arrays for monitoring by Skylar One using the "Dell EMC: Isilon" PowerPack.

This chapter covers the following topics:

Prerequisites for Monitoring Dell EMC Isilon

To configure the Skylar One system to monitor Dell EMC Isilon storage arrays using the "Dell EMC: Isilon" PowerPack, you must first do the following:

- Install and configure the storage arrays that you want to monitor.
- Take note of the SNMP community string used by the Isilon storage arrays you want to monitor.
- If you are using a Secure Sockets Layer (SSL) certificate to communicate with the Isilon storage arrays you are monitoring, you must add an Isilon SSL certificate on your Skylar One appliance in the following file:

  ```
  /var/lib/em7/Content/Release_Notes/Silo_core_rest/certs.crt
  ```

  If you are not using an SSL certificate to communicate with the Isilon storage arrays, then you do not need to add a certificate.

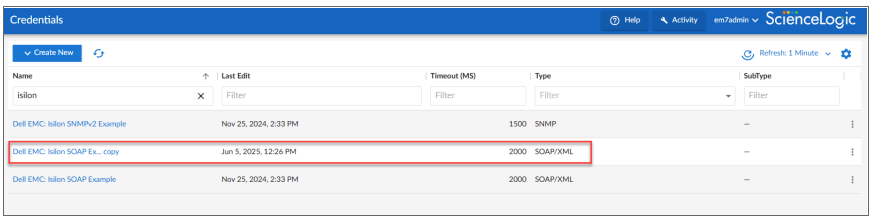
- Use either an administrator account, or a custom read-only account on OneFS that has the following minimum privileges to access the Dell: EMC Isilon array:
  - ***ISI_PRIV_LOGIN_PAPI***. Allows the user to log in to the REST API.
  - ***ISI_PRIV_STATISTICS***. Allows the user to collect performance statistics.
  - ***ISI_PRIV_CLUSTER***. Allows the user to discover and monitor nodes.
  - ***ISI_PRIV_QUOTA***. Allows the user to monitor quotas.
  - ***ISI_PRIV_DEVICES***. Allows the user to monitor NVRAM hardware status.
- Because the "Dell EMC: Isilon" PowerPack only communicates with the Isilon array using GET requests, and does not make any changes to the array, you must ensure the user account has access to the following API endpoints that are used by the PowerPack:
  - ***GET /platform/1/statistics/current***. Uses the ISI_PRIV_STATISTICS permission.
  - ***GET /platform/1/statistics/history***. Uses the ISI_PRIV_STATISTICS permission.
  - ***GET /platform/1/cluster/config***. Uses the ISI_PRIV_CLUSTER permission.
  - ***GET /platform/3/cluster/nodes***. Uses the ISI_PRIV_CLUSTER permission.
  - ***GET /platform/1/quota/quotas***. Uses the ISI_PRIV_QUOTA permission.
  - ***GET /platform/10/cluster/nodes/{lnn}/status/nvram***. Uses the ISI_PRIV_DEVICES permission.

Creating a SOAP/XML Credential for Dell EMC Isilon

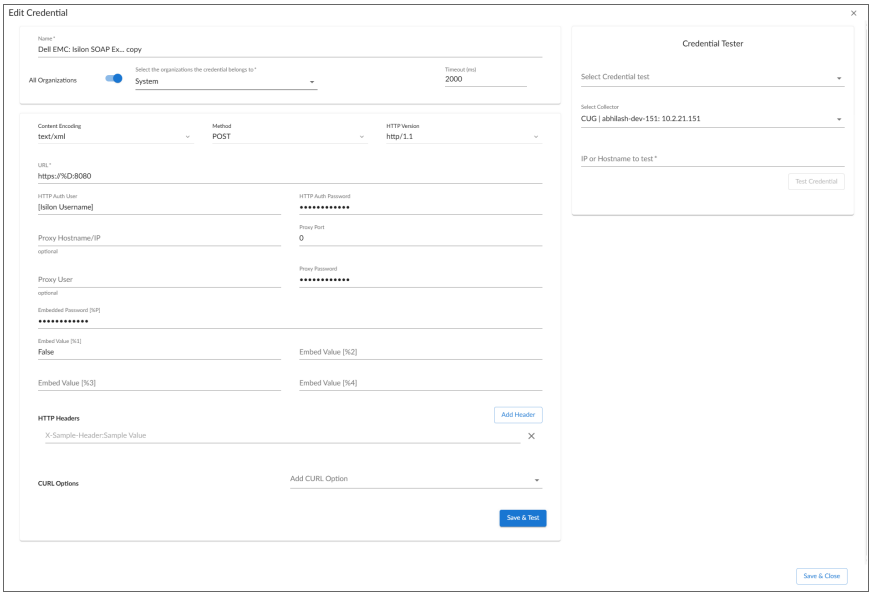
To configure Skylar One to monitor Dell EMC Isilon storage arrays, you must first create a credential that allows the Dynamic Applications in the "Dell EMC: Isilon" PowerPack to communicate with your Isilon storage devices. The PowerPack includes an example SOAP/XML credential that you can edit for your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

To create a SOAP/XML credential:

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



3. Click the **[Action]** icon (⋮) for the "Dell EMC: Isilion SOAP - 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 Skylar One will stop trying to communicate with the Isilon device. The default value is *2000*. This field is required.
    - ***URL***. Type the Dell EMC Isilon url and port.
    - ***HTTP Auth User***. Type the Dell EMC Isilon username associated with the user account that can access the Isilon array.
    - ***HTTP Auth Password***. Type the Dell EMC Isilon password associated with the user account that can access the Isilon array.
5. For all remaining fields, use the default values.
6. Click **[Save & Close]**.

Creating a SOAP/XML Credential for Dell EMC Isilon in the Skylar One Classic User Interface

To configure Skylar One to monitor Dell EMC Isilon storage arrays, you must first create a credential that allows the Dynamic Applications in the "Dell EMC: Isilon" PowerPack to communicate with your Isilon 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 Isilon devices:

1. Go to the **Credential Management** page (System > Manage > Credentials).
2. Locate the "Dell EMC: Isilon SOAP Example" 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 new name for the credential.
   - ***HTTP Auth User***. Type the Isilon user account that can access the Isilon array.
   - ***HTTP Auth Password***. Type the password for the Isilon user account that can access the Isilon array.

   SOAP Options

   - ***Embed Value [%1]***. Do one of the following:
     - Type "True" to enable verification of the storage array's SSL certificate.
     - Type "False" or leave this field blank to disable SSL verification.

> **NOTE:** This field is not case-sensitive.

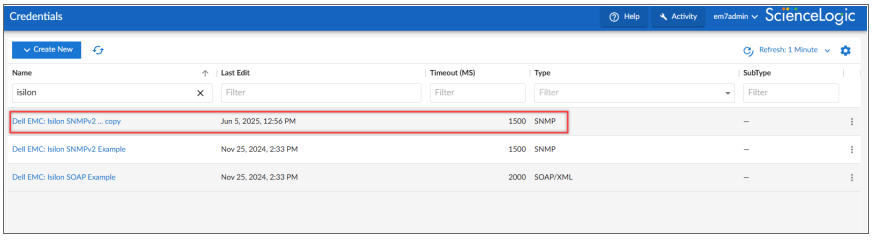
4. Click **[Save As]**.

Creating an SNMP Credential for Dell EMC Isilon

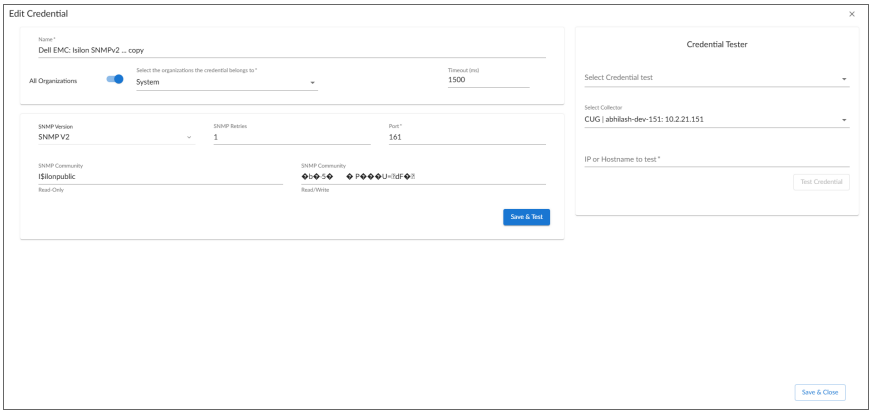
In addition to the SOAP/XML credential, you will also need to configure an SNMP credential to enable Skylar One to monitor Dell EMC Isilon storage arrays. The "Dell EMC: Isilon" PowerPack includes an example SNMP credential that you can edit for your own use.

To create a SNMP credential:

1. Go to the **Credential Management** page (Manage > Credentials).
2. Locate the "Dell EMC: Isilon SNMPv2- Example" credential, then click its **[Actions]** icon ( ). Select *Duplicate* from the drop-down field. The "Dell EMC: Isilon SNMPv2- Example copy" credential appears.



3. Click the **[Action]** icon (⋮) for the "Dell EMC: Isilon SNMPv2- Example" 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 Skylar One will stop trying to communicate with the Isilondevice. The default value is *1500*. This field is required.
    - ***SNMP Version***. SNMP version. Choices are *SNMP V1*, *SNMP V2*, and *SNMP V3*. The default value is *SNMP V2*. This field is required.
    - ***Retries***. Number of times Skylar One will try to authenticate and communicate with the external device. The default value is *1*. This field is required.
    - ***Port***. The port Skylar One will use to communicate with the external device or application. The default value is *161*. This field is required.
    - ***HTTP Auth Password***. Type the Dell EMC Isilon password associated with the user account that can access the Isilon array.
5. Click **[Save & Close]**.

Creating an SNMP Credential for Dell EMC Isilon in the Skylar One Classic User Interface

In addition to the SOAP/XML credential, you will also need to configure an SNMP credential to enable Skylar One to monitor Dell EMC Isilon storage arrays. The "Dell EMC: Isilon" PowerPack includes an example SNMP credential that you can edit for your own use.

To configure the SNMP credential to access Dell EMC Isilon devices:

1. Go to the **Credential Management** page (System > Manage > Credentials).
2. Locate the "Dell EMC: Isilon SNMPv2- Example" credential, and then click its wrench icon (🔧). The **Edit SNMP Credential** modal page appears.
3. Update the values in the following fields:

   Basic Settings

   - ***Profile Name***. Type a new name for the credential.

   SNMP V1/V2 Settings

   - ***SNMP Community (Read-Only)***. Type the Isilon storage array's SNMP community string.
4. Click **[Save As]**.

Chapter 3

Discovery

Overview

The following sections describe how to discover Dell EMC Isilon storage arrays for monitoring by Skylar One using the "Dell EMC: Isilon" PowerPack.

This chapter covers the following topics:

Discovering Dell EMC Isilon Component Devices

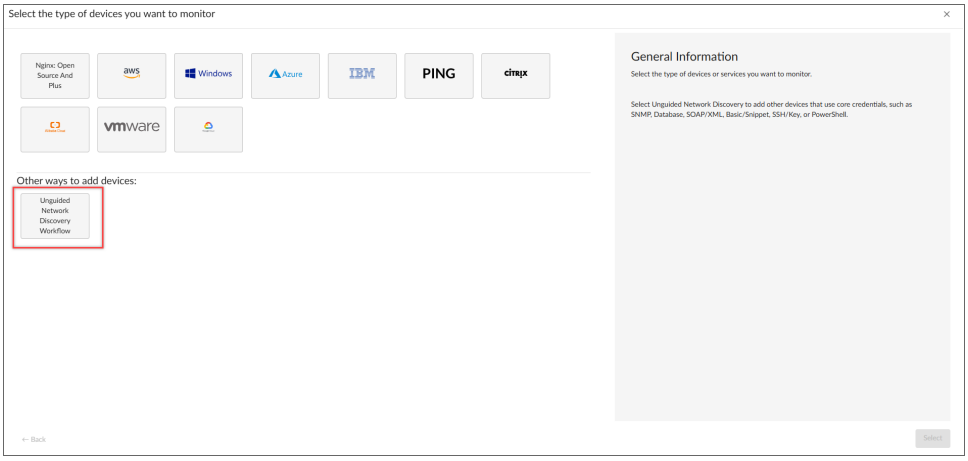
To model and monitor your Dell EMC Isilon storage arrays, you must run a discovery session to discover the storage arrays that Skylar One will use as the root devices for monitoring the Isilon storage system.

After the discovery session completes, the Dynamic Applications in the "Dell EMC Isilon" PowerPack automatically align to the storage array device, and then the PowerPack discovers, models, and monitors the remaining Isilon storage devices.

NOTE: When the PowerPack is upgraded, some component devices may appear duplicated. You must manually remove existing component devices and then upgrade the PowerPack, or you will need to upgrade the PowerPack and then, manually remove the old components.

To create and run a discovery session that will discover an Dell EMC Isilon 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 Isilon appliances.
7. Click **[Next]**. The **Discovery Session**page of the **Add Device**s wizard appears.
8. Complete the following fields:
    - ***List of IP/Hostnames***. Type the IP address for the TSM 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 Isilon 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.

Discovering Dell EMC Isilon Devices in the Classic User Interface

To model and monitor your Dell EMC Isilon storage arrays in the Skylar One classic user interface, you must run a discovery session to discover the storage arrays that Skylar One will use as the root devices for monitoring the Isilon storage system.

After the discovery session completes, the Dynamic Applications in the "Dell EMC Isilon" PowerPack automatically align to the storage array device, and then the PowerPack discovers, models, and monitors the remaining Isilon storage devices.

> **NOTE:** When the PowerPack is upgraded, some component devices may appear duplicated. You must manually remove existing component devices and then upgrade the PowerPack, or you will need to upgrade the PowerPack and then, manually remove the old components.

To discover the Isilon arrays that you want to monitor in the Skylar One classic user interface, 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. The **Discovery Session Editor** page appears.
3. Supply values in the following fields:
    - ***IP Address/Hostname Discovery List***. Type the IP address or hostname for the Isilon storage array or arrays that you want to discover.
    - ***SNMP Credentials***. Select the SNMP credential that you created for Isilon devices.
    - ***Other Credentials***. Select the SOAP/XML credential that you created for Isilon devices.
    - ***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 Skylar One has automatically aligned the correct Dynamic Applications during discovery:

1. After discovery has completed, click the device icon for the Isilon Storage Array device ().
2. From the **Device Properties** page for the array device, click the **[Collections]** tab. The **Dynamic Application Collections** page appears.
3. All applicable Dynamic Applications for the storage array 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 storage array device:

Dynamic Application	Credential Type
Dell EMC: Isilon Cluster Capacity Stats	SOAP/XML
Dell EMC: Isilon Cluster Config	SOAP/XML
Dell EMC: Isilon Cluster Stats	SOAP/XML
Dell EMC: Isilon Cluster Smart Quota	SOAP/XML
Dell EMC: Isilon Node Discovery	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 **[Actions]** 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 Isilon Component Devices

In addition to the **Device Manager** page (Devices > Classic Devices, or Registry > Devices > Device Manager in the classic user interface), you can view the Isilon 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 Skylar One 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 Isilon, find the Isilon 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. Skylar One 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 Isilon arrays, 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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