ScienceLogic

Monitoring SoftLayer

SoftLayer: Cloud PowerPack version 0.5, revision 2

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Introduction

Overview

This manual describes how to monitor SoftLayer services and devices in SL1 using the *SoftLayer: Cloud* PowerPack.

The following sections provide an overview of SoftLayer and the *SoftLayer: Cloud* PowerPack:

This chapter covers the following topics:

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What is SoftLayer?

SoftLayer is an IBM-owned cloud infrastructure service that offers bare metal and virtual servers, private cloud services, networking services, and load balancing services, among other offerings.

What are SoftLayer Regions?

SoftLayer currently has data centers in the following locations to support its services:

- Amsterdam
- Dallas
- Frankfurt
- Hong Kong
- Houston
- London
- Melbourne
- Mexico
- Milan
- Montreal
- Paris
- San Jose
- Sao Paulo
- Seattle
- Singapore
- Sydney
- Tokyo
- Toronto
- Washington, DC

The Dynamic Applications in the SoftLayer: Cloud PowerPack create a region component device for each discovered data center location used by your account.

What Does the SoftLayer: Cloud PowerPack Monitor?

The *SoftLayer: Cloud* PowerPack includes:

- A sample Credential for discovering SoftLayer components
- Dynamic Applications to discover, model, and monitor the following SoftLayer component devices:

    ○ Virtual and bare metal servers

    ○ Private and public networks (including subnets and VLANs)

    ○ Local load balancers

- Content delivery network (CDN) accounts
- Account invoice information
- Device Classes for each type of SoftLayer component device that SL1 monitors
- Event Policies that are triggered when SoftLayer component devices meet certain status criteria

Installing the SoftLayer: Cloud PowerPack

Before completing the steps in this manual, you must import and install the latest version of the *SoftLayer: Cloud* 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 ***System Administration*** manual.)

> **IMPORTANT:** The minimum required MySQL version is 5.6.0.

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 Discovery

Overview

The following sections describe how to configure SoftLayer resources for monitoring by SL1 using the *SoftLayer: Cloud* PowerPack:

This chapter covers the following topics:

Copying Your SoftLayer API Key

Before you can monitor your SoftLayer account in SL1, you must first generate or retrieve the user-specific API key for your SoftLayer account. SL1 requires this unique API key to communicate with your SoftLayer account.

To generate your SoftLayer API key:

1. Log in to the SoftLayer customer portal and go to the **Users** page (Account > Users).

2. Click the **Generate** link in the *API Key* column for your SoftLayer user. The **Generate** link changes to a **Show** link.

3. Click the **Show** link. Your API key appears.

4. Copy the API key.

To retrieve your SoftLayer API key:

1. Log in to the SoftLayer customer portal.
2. Click your username on the Navigation Pane. The **Edit User Profile** page appears.
3. Locate and copy the API Key.

Configuring a Basic/Snippet Credential for SoftLayer

To configure SL1 to monitor a SoftLayer account, you must create a Basic/Snippet credential. This credential allows the Dynamic Applications in the *SoftLayer: Cloud* PowerPack to communicate with your SoftLayer account.

An example Basic/Snippet credential that you can edit for your own use is included in the *SoftLayer: Cloud* PowerPack.

To configure a Basic/Snippet credential to access your SoftLayer account:

1. Go to the **Credential Management** page (System > Manage > Credentials).

2. Locate the **SoftLayer Credential** and click its wrench icon (🔧). The **Edit Basic/Snippet Credential** page appears.

3. Complete the following fields:

   - *Credential Name*. Type a new name for the SoftLayer credential.

   - *Hostname/IP*. Type a value, such as "%D".

NOTE: The credential requires a value in the *Hostname/IP* field, but the value itself does not matter.

   - *Port*. Type "80".
   - *Timeout*. Type "5000".
   - *Username*. Type your SoftLayer account username.
   - *Password*. Type the *API key for the SoftLayer account*.

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

Creating a SoftLayer Virtual Device

Because the SoftLayer service does not have an IP address, you cannot discover a SoftLayer device using discovery. Instead, you must create a *virtual device* that represents the root device for the SoftLayer service. A virtual device is a user-defined container that represents a device or service that cannot be discovered by SL1. You can use the virtual device to store information gathered by policies or Dynamic Applications.

> **TIP:** If you have multiple SoftLayer subscriptions you want to monitor, you should create a separate virtual root device for each.

To create a virtual device that represents your SoftLayer service:

1. Go to the **Device Manager** page (Registry > Devices > Device Manager).

2. Click the **[Actions]** button and select *Create Virtual Device* from the menu. The **Virtual Device** modal page appears.

3. Enter values in the following fields:

   - *Device Name*. Enter a name for the device. For example, you could enter "SoftLayer Service" in this field.

   - *Organization*. Select the organization for this device. The organization you associate with the device limits the users that will be able to view and edit the device. Typically, only members of the organization will be able to view and edit the device.

   - *Device Class*. Select *Service | SoftLayer Service*.

   - *Collector*. Select the collector group that will monitor the device.

4. Click the **[Add]** button to create the virtual device.

Aligning the SoftLayer Dynamic Applications

There are three types of Dynamic Applications included in the *SoftLayer: Cloud* PowerPack:

- *Discovery*. These Dynamic Applications poll SoftLayer for new instances of services or changes to existing instances of services.

- *Configuration*. These Dynamic Applications retrieve configuration information about each service instance and retrieve any changes to that configuration information.

- *Performance*. These Dynamic Applications poll SoftLayer for performance metrics.

To discover all of the components of your SoftLayer account, you must manually align the "SoftLayer: Account Discovery" Dynamic Application with the SoftLayer virtual device.

When you align the "SoftLayer: Account Discovery" Dynamic Application with the SoftLayer virtual device, the Dynamic Application creates a component device representing the SoftLayer account. Under the SoftLayer account component device, SL1 automatically aligns additional Dynamic Applications that:

- Discover and create child component devices for each region used by the SoftLayer account

- Discover and create child component devices for the SoftLayer CDN service and any CDN accounts associated with the SoftLayer account

- Retrieve SoftLayer account invoice information

Under each region, SL1 then discovers "bucket" component devices that act as parents for each of the following component devices, which SL1 also discovers:

- Virtual Servers
- Bare Metal Servers
- Network Services

    ○ Private Networks

        ▪ Subnets

        ▪ VLANs

    ○ Public Networks

        ▪ Subnets

        ▪ VLANs

- Local Load Balancers

To align the "SoftLayer: Account Discovery" Dynamic Application to your SoftLayer virtual device, perform the following steps:

1. Go to the **Device Manager** page (Registry > Devices > Device Manager).

2. Click the wrench icon () for your SoftLayer virtual device.

3. In the **Device Administration** panel, click the **[Collections]** tab. The **Dynamic Application Collections** page appears.

4. Click the **[Action]** button and select *Add Dynamic Application* from the menu.

5. In the **Dynamic Application Alignment** modal page:

    - In the ***Dynamic Applications*** field, select *SoftLayer: Account Discovery*.

    - In the ***Credentials*** field, select the *credential you created for your SoftLayer service*.

6. Click the **[Save]** button to align the Dynamic Application with the SoftLayer virtual device.

Viewing SoftLayer Component Devices

When SL1 performs collection for the SoftLayer virtual device, SL1 will create component devices that represent each region in your SoftLayer service and align other Dynamic Applications to those component devices. Some of the Dynamic Applications aligned to the component devices will also be used to create additional component devices. All component devices appear in the **Device Manager** page just like devices discovered using the ScienceLogic discovery process.

In addition to the **Device Manager** page, you can view the SoftLayer service and all associated component 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 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 a SoftLayer service, find the SoftLayer virtual 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 a SoftLayer service, 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.

Adding Collection Objects to the SoftLayer Dynamic Applications

If you want SL1 to collect information about your SoftLayer account that is not already collected by the Dynamic Applications in the *SoftLayer: Cloud* PowerPack, you can add a Collection Object to the appropriate Dynamic Application to enable SL1 to do so.

The following SoftLayer reference documents describe the possible properties that can be collected:

- For bare metal servers: http://sldn.softlayer.com/reference/datatypes/SoftLayer_Hardware_Server

- For virtual servers: http://sldn.softlayer.com/reference/datatypes/SoftLayer_Virtual_Guest

- For load balancers: http://sldn.softlayer.com/reference/datatypes/SoftLayer_Billing_Item_Network_Application_Delivery_Controller_LoadBalancer_VirtualIpAddress

To add a SoftLayer property as a collection object, you must translate the property hierarchy to a string. To format the property hierarchy as a string, separate each group in the hierarchy with a dash character followed by a dash and the property name. For example, the property for hard drive capacity (named "capacity") on a bare metal server is under the hardDrives group, then the hardwareComponentModel group. The string format for this hierarchy is:

```
hardDrives-hardwareComponentModel-capacity
```

To add a Collection Object to a SoftLayer Dynamic Application:

1. Go to the **Dynamic Applications Manager** page (System > Manage > Applications).

2. Find the Dynamic Application to which you want to add a collection object, then click its wrench icon ( ). The **Dynamic Applications Properties Editor** page appears. You can add collection objects to the following Dynamic Applications:

  - SoftLayer: Bare Metal Server Configuration

  - SoftLayer: Bare Metal Server Private Network Performance

  - SoftLayer: Bare Metal Server Public Network Performance

  - SoftLayer: Virtual Server Configuration

  - SoftLayer: Virtual Server CPU Performance

  - SoftLayer: Virtual Server Memory Performance

  - SoftLayer: Virtual Server Private Network Performance

  - SoftLayer: Virtual Server Public Network Performance

  - SoftLayer: Load Balancer Configuration

3. Click the **[Collections]** tab. The **Dynamic Applications | Collections Objects** page appears.

4. Enter values in the fields on this page. Enter the string that represents the property hierarchy in the *Snippet Arguments* field. For information about the other fields in this page, see the see the *Dynamic Application Development manual*.

5. Click the **[Save]** button to save the collection object.

6. If you added a collection object to a performance Dynamic Application, a presentation object is automatically created for the collection object. If you want to edit the presentation object, click the

   [Presentations] tab and click the wrench icon ( ) for the presentation object.

7. If you added a collection object for a property that is in a group from which no other properties are collected, you must repeat steps 1 - 6 to add the unique ID of that group as a collection object.

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