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# Monitoring SoftLayer

Beta Version

ScienceLogic version 7.7

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## Introduction

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### Overview

This manual describes how to monitor SoftLayer services in the ScienceLogic platform.

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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.

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### 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.

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## What Does the SoftLayer: Cloud PowerPack Monitor?

The Dynamic Applications in the SoftLayer: Cloud PowerPack can monitor performance metrics and/or collect configuration data for the following SoftLayer components:

- Virtual and bare metal servers
- Private and public networks (including subnets and VLANs)
- Local load balancers
- Content delivery network (CDN) accounts

The Dynamic Applications in the SoftLayer: Cloud PowerPack also collect SoftLayer account invoice information.

## Configuring SoftLayer Monitoring

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### Overview

The following sections describe how to configure the ScienceLogic platform to monitor a SoftLayer account:

- [Configuring a SoftLayer Credential](#)
- [Creating a SoftLayer Virtual Device](#)
- [Aligning the SoftLayer Dynamic Applications](#)
- [Viewing SoftLayer Component Devices](#)
- [Adding Collection Objects to the SoftLayer Dynamic Applications](#)

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### Configuring a SoftLayer Credential

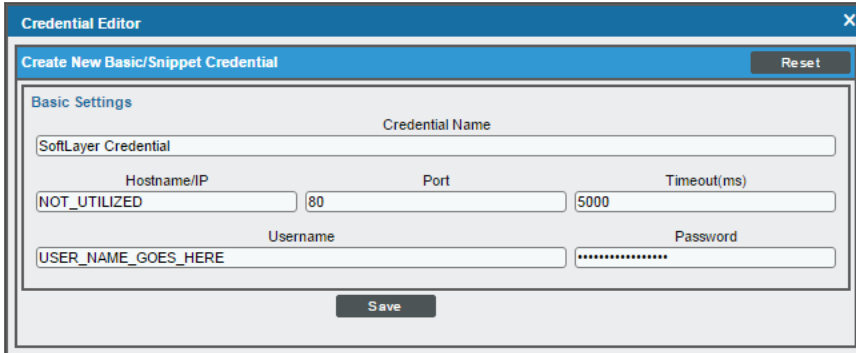
To configure the ScienceLogic platform to monitor a SoftLayer account, you must first create a Basic/Snippet credential. This credential allows the platform (specifically, the Dynamic Applications in the SoftLayer: Cloud PowerPack) to communicate with your SoftLayer account.

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

1. Go to the **Credential Management** page (System > Manage > Credentials).
2. Click the **[Actions]** button and select *Create Basic/Snippet Credential* from the menu. The **Create New Basic/Snippet Credential** modal page appears.

**TIP:** An example Basic/Snippet credential that you can edit for your own use is included in the SoftLayer: Cloud PowerPack. To edit this credential, install the PowerPack, then go to the **Credential Management** page (System > Manage > Credentials), locate the **SoftLayer Credential**, and click its wrench icon (🔧). For more information about installing PowerPacks, see the **PowerPack** manual.

3. Enter values in the following fields:



The screenshot shows a window titled "Credential Editor" with a sub-header "Create New Basic/Snippet Credential" and a "Reset" button. The "Basic Settings" section contains the following fields:

- Credential Name:** A text box containing "SoftLayer Credential".
- Hostname/IP:** A text box containing "NOT\_UTILIZED".
- Port:** A text box containing "80".
- Timeout(ms):** A text box containing "5000".
- Username:** A text box containing "USER\_NAME\_GOES\_HERE".
- Password:** A password field with masked characters "\*\*\*\*\*".

A "Save" button is located at the bottom center of the form.

- **Credential Name.** Enter a name for the SoftLayer credential.
- **Hostname/IP.** Leave this field blank.
- **Port.** Enter "80".
- **Timeout.** Enter "5000".
- **Username.** Enter your SoftLayer account username.
- **Password.** Enter the password for the SoftLayer account username.

4. If you are using the template credential, click the **[Save As]** button. If you are creating a new credential, click the **[Save]** button.

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## 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 the ScienceLogic platform. 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:

The screenshot shows a modal window titled "Virtual Device" with a close button (X) in the top right corner. Inside the modal, there is a sub-header "Create Virtual Device" and a "Reset" button. Below this, there are four input fields: "Device Name" with the text "SoftLayer Service", "Organization" with a dropdown menu showing "SoftLayer", "Device Class" with a dropdown menu showing "Service | SoftLayer Service", and "Collector" with a dropdown menu showing "vCUG". At the bottom of the form is an "Add" button.

- **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, the ScienceLogic platform 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, the ScienceLogic platform then discovers "bucket" component devices that act as parents for each of the following component devices, which the platform also discovers:

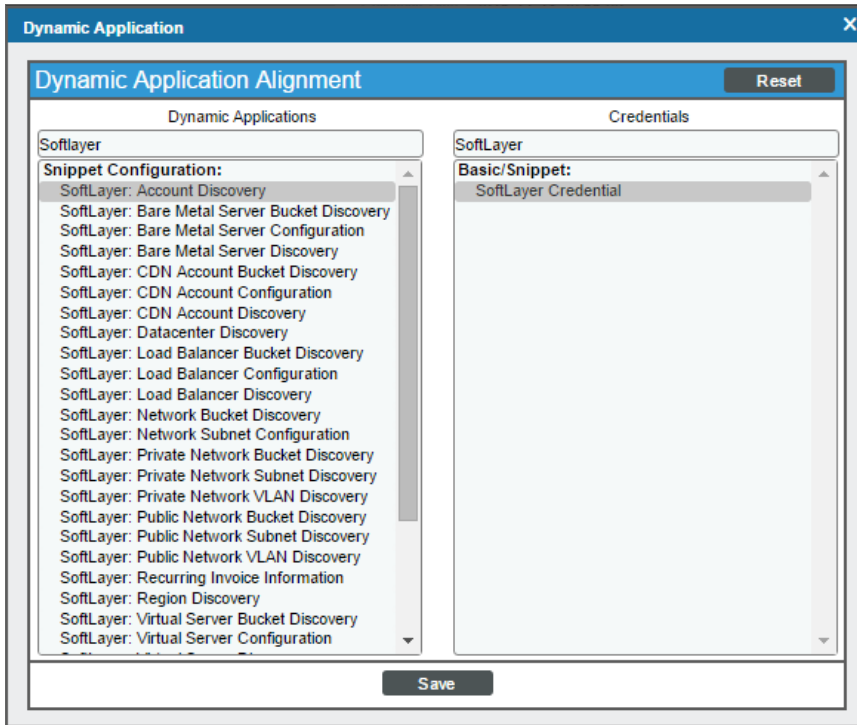
- Virtual Servers
- Bare Metal Servers
- Network Services
  - Private Networks
    - Subnets
    - VLANs
  - Public Networks
    - Subnets
    - VLANs
- Local Load Balancers

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 the *SoftLayer: Account Discovery* Dynamic Application.
  - 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.

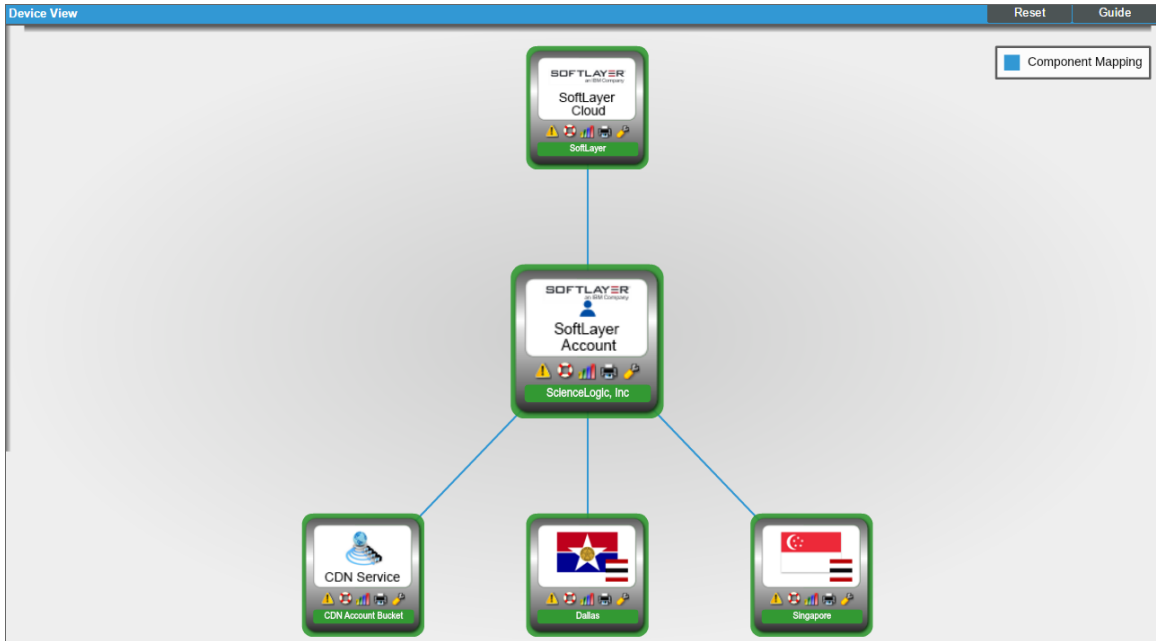
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## Viewing SoftLayer Component Devices

When the ScienceLogic platform performs collection for the SoftLayer virtual device, the platform 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:

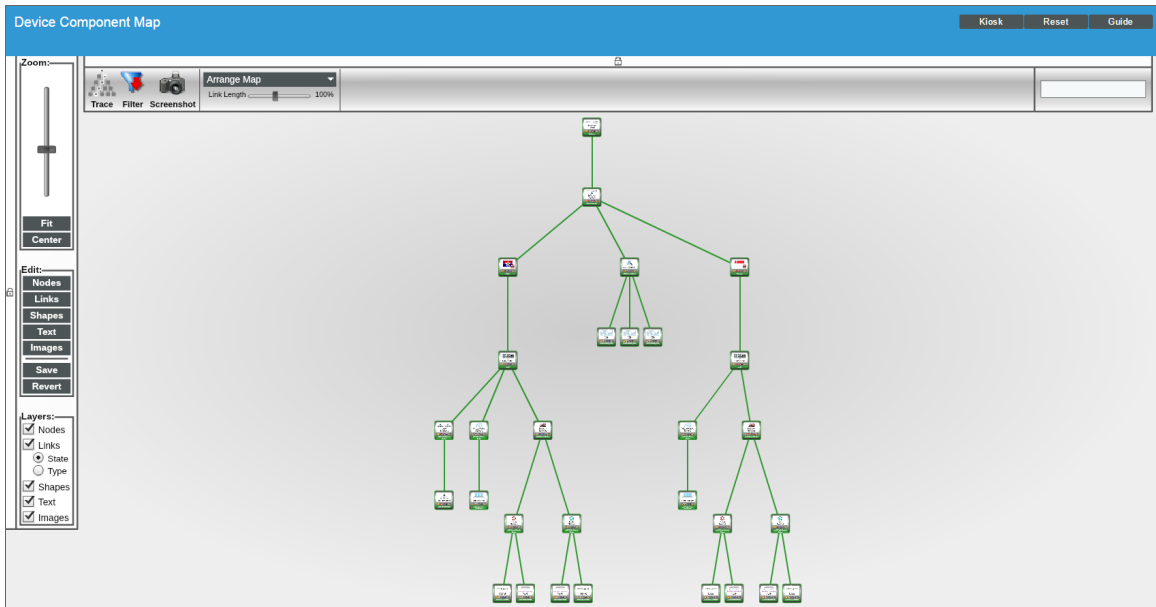
- The **Device View** modal page (click the bar-graph icon Topology tab) displays a map of a particular device and all of the devices with which it has parent-child relationships. Double-clicking any of the devices listed reloads the page to make the selected device the primary device:



- 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 a SoftLayer service, find the SoftLayer virtual device and click its plus icon (+):

Device Components   Devices Found [25]										Actions	Reset	Guide
Device Name	IP Address	Device Category	Device Class   Sub-class	DID	Organization	Current State	Collection Group	Collection State				
1. + Test Thresholds EM-6696	--	Virtual	Virtual Device   Content Verification	6750	EM-6696	Healthy	VCUG	Active				
2. + SoftLayer Jeremy	--	Service	Service   AWS Service	17436	SoftLayer Jeremy	Healthy	VCUG	Active				
3. - SoftLayer	--	Cloud	Service   SoftLayer Service	16722	SoftLayer	Healthy	CUG_99	Active				
1. - ScienceLogic, Inc.	--	Account	Account   SoftLayer Account	21147	SoftLayer	Healthy	CUG_99	Active				
1. - CDN Account Bucket	--	Service	CDN Account Bucket   SoftLayer CDN Account	21351	SoftLayer	Healthy	CUG_99	Active				
1. 1D964-ORIGIN_PULL	--	Service	CDN Account   SoftLayer CDN Account	21406	SoftLayer	Healthy	CUG_99	Active				
2. 1D965-ORIGIN_PULL	--	Service	CDN Account   SoftLayer CDN Account	21409	SoftLayer	Healthy	CUG_99	Active				
3. 1F97F-ORIGIN_PULL	--	Service	CDN Account   SoftLayer CDN Account	21411	SoftLayer	Healthy	CUG_99	Active				
2. - Dallas	--	Region	Dallas   SoftLayer Region	21350	SoftLayer	Healthy	CUG_99	Active				
1. - dal01	--	Service	Data Center   SoftLayer Data Center	21448	SoftLayer	Healthy	CUG_99	Active				
1. - dal01 Load Balancer Bucket	--	Service	Load Balancer Bucket   SoftLayer Load Balanc	E21604	SoftLayer	Healthy	CUG_99	Active				
1. dal01 75.126.76.104	--	Service	Load Balancer   SoftLayer Load Balanc	21720	SoftLayer	Healthy	CUG_99	Active				
2. - dal01 Network Bucket	--	Network	Network Bucket   SoftLayer Network Bud	21690	SoftLayer	Healthy	CUG_99	Active				
1. + dal01 Private Network Bucket	--	Network	Private Network Bucket   SoftLayer Priv	21716	SoftLayer	Healthy	CUG_99	Active				
2. + dal01 Public Network Bucket	--	Network	Public Network Bucket   SoftLayer Pub	21731	SoftLayer	Healthy	CUG_99	Active				
3. + dal01 Virtual Server Bucket	--	Compute	Virtual Server Bucket   SoftLayer Virtual	21674	SoftLayer	Healthy	CUG_99	Active				
3. - Singapore	--	Region	Singapore   SoftLayer Region	21354	SoftLayer	Healthy	CUG_99	Active				
1. + sng01	--	Service	Data Center   SoftLayer Data Center	21426	SoftLayer	Healthy	CUG_99	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 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 the ScienceLogic platform 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 the platform 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](http://sldn.softlayer.com/reference/datatypes/SoftLayer_Hardware_Server)
- For virtual servers: [http://sldn.softlayer.com/reference/datatypes/SoftLayer\\_Virtual\\_Guest](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](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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800-SCI-LOGIC (1-800-724-5644)

International: +1-703-354-1010