Monitoring Cisco AppDynamics

Cisco: AppDynamics PowerPack version 100

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Chapter 1

Introduction

Overview

This manual describes how to monitor Cisco AppDynamics Applications in the ScienceLogic platform using the *Cisco: AppDynamics* PowerPack.

The following sections provide an overview of Cisco AppDynamics and the *Cisco: AppDynamics* PowerPack:

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What is Cisco AppDynamics?

Cisco AppDynamics is a real-time data platform for application and business performance monitoring. AppDynamics enables users to monitor applications at the code level to help them better understand their users' experience while also providing a real-time view of their applications' performance.

What Does the Cisco: AppDynamics PowerPack Monitor?

The *Cisco: AppDynamics* PowerPack enables you to monitor configuration and performance metrics for AppDynamics applications, tiers, and nodes. The PowerPack includes the following features:

- Dynamic Applications that discover and monitor AppDynamics devices
- Device Classes for each type of AppDynamics component device that the *Cisco: AppDynamics* PowerPack can monitor
- Event Policies and corresponding alerts that are triggered when AppDynamics devices meet certain status criteria
- A sample SOAP/XML Credential for discovering AppDynamics devices
- Run Book Actions and Policies that automatically create AppDynamics Application virtual devices
- A device template that is used to align the PowerPack's Dynamic Applications to AppDynamics Application virtual devices

NOTE: ScienceLogic recommends running the latest version of the AppDynamics Agent when monitoring Cisco AppDynamics applications in the ScienceLogic platform.

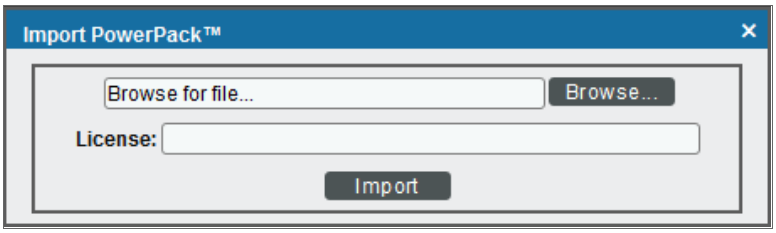
NOTE: The *Cisco: AppDynamics* PowerPack is not supported on Federal Information Processing Standard (FIPS)-compliant ScienceLogic systems.

Installing the Cisco: AppDynamics PowerPack

Before completing the steps in this manual, you must import and install the latest version of the *Cisco: AppDynamics* PowerPack.

To download and install a PowerPack:

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*.

Chapter 2

Configuring Cisco AppDynamics Monitoring

Overview

The following sections describe how to configure and discover Cisco AppDynamics applications for monitoring by the ScienceLogic platform using the *Cisco: AppDynamics* PowerPack:

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Prerequisites for Monitoring Cisco AppDynamics

Before you can monitor Cisco AppDynamics applications using the *Cisco: AppDynamics* PowerPack, you must first create a user account that is assigned the "Applications and Dashboard Viewer" role in the AppDynamics account portal. This user account must also have sufficient permissions to obtain metrics information from the AppDynamics REST API.

For more information about creating the AppDynamics user account, see https://docs.appdynamics.com/display/PRO44/Roles+and+Permissions.

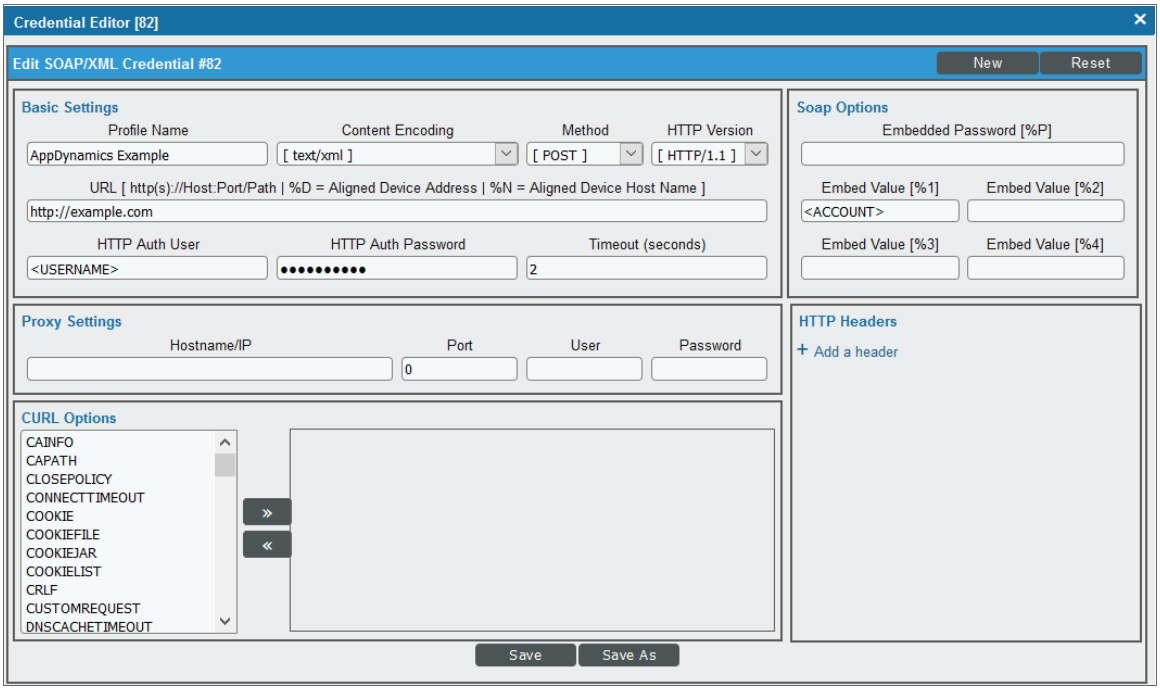
Creating a SOAP/XML Credential for Cisco AppDynamics

To use the Dynamic Applications in the *Cisco: AppDynamics* PowerPack, you must first define a SOAP/XML credential in the ScienceLogic platform. This credential allows the platform to communicate with the AppDynamics applications.

The *Cisco: AppDynamics* PowerPack includes a sample credential you can use as a template for creating SOAP/XML credentials for AppDynamics.

To configure a SOAP/XML credential for AppDynamics:

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



3. Enter values in the following fields:

Basic Settings

- ***Profile Name***. Type a new name for the credential.
- ***URL***. Type the URL for the AppDynamics account controller.
- ***HTTP Auth User***. Type the username of an AppDynamics user account that is assigned the "Applications and Dashboard Viewer" role in the AppDynamics portal.
- ***HTTP Auth Password***. Type the AppDynamics user account password.

SOAP Options

- ***Embed Value [%1]***. Type your AppDynamics account name.

4. Click **[Save As]**.
5. In the confirmation message, click **[OK]**.

Configuring an AppDynamics Device Template

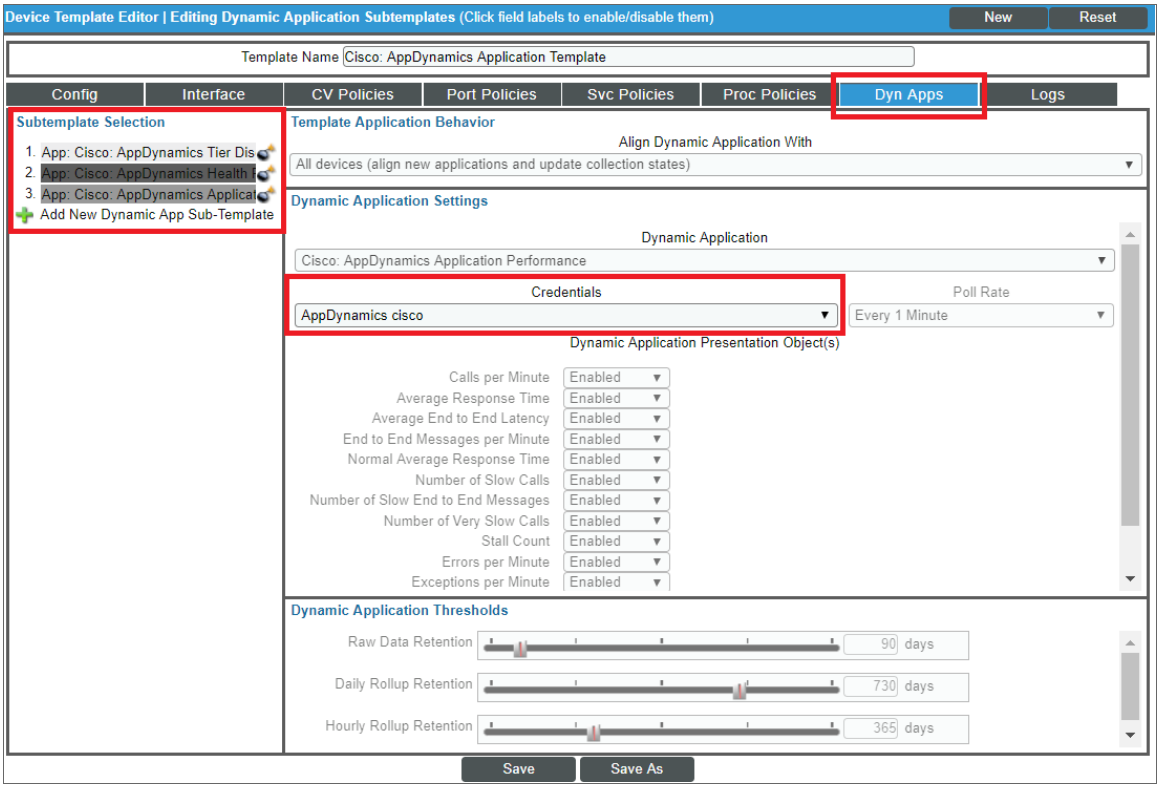
A ***device template*** allows you to save a device configuration and apply it to multiple devices. The *Cisco: AppDynamics* PowerPack includes the "Cisco: AppDynamics Application Template." You must configure this device template to use the AppDynamics SOAP/XML credential that you created.

If you configure this device template correctly, then when you align the "Cisco: AppDynamics Application Discovery" Dynamic Application to the AppDynamics account controller virtual device, the ScienceLogic platform will use the device template to automatically align the AppDynamics Dynamic Applications to each of the AppDynamics applications it discovers in your account.

To configure the AppDynamics device template:

1. Go to the **Configuration Templates** page (Registry > Devices > Templates).
2. Locate the "Cisco: AppDynamics Application Template" and click its wrench icon ( ). The **Device Template Editor** page appears.
3. Click the **[Dyn Apps]** tab. The **Editing Dynamic Application Subtemplates** page appears.

4. Complete the following fields:



- **Template Name**. Type a new name for the device template.
- **Credentials**. Select the SOAP/XML credential that you created for AppDynamics.

5. Click the next Dynamic Application listed in the **Subtemplate Selection** section on the left side of the page and then select the AppDynamics SOAP/XML credential in the ***Credentials*** field.
6. Repeat step 5 until the you have selected the AppDynamics SOAP/XML credential in the ***Credentials*** field for all of the Dynamic Applications listed in the **Subtemplate Selection** section.
7. Click **[Save]**.

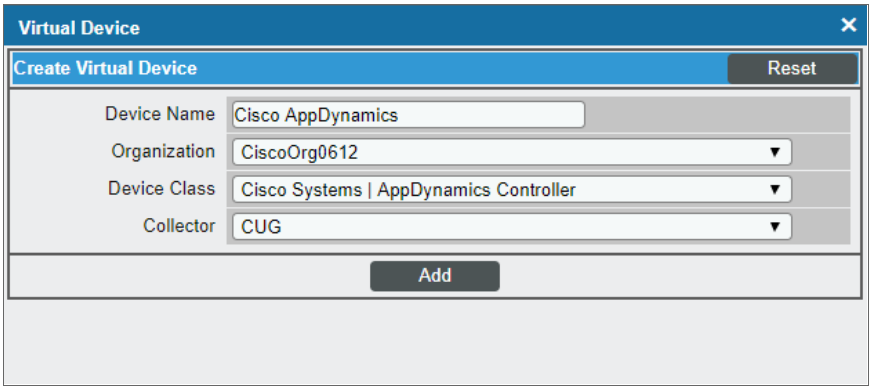
Creating an AppDynamics Virtual Device

Because the AppDynamics account controller does not have a static IP address, you cannot discover it using a typical discovery session. Instead, you must create a ***virtual device*** that represents the account controller. 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.

To create a virtual device that represents your AppDynamics account controller:

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***. Type a name for the device.
   - ***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 *Cisco Systems | AppDynamics Controller*.
   - ***Collector***. Select the collector group that will monitor the device.
4. Click **[Add]** to create the virtual device.

Aligning the AppDynamics Dynamic Applications

The Dynamic Applications in the *Cisco: AppDynamics* PowerPack are divided into the following types:

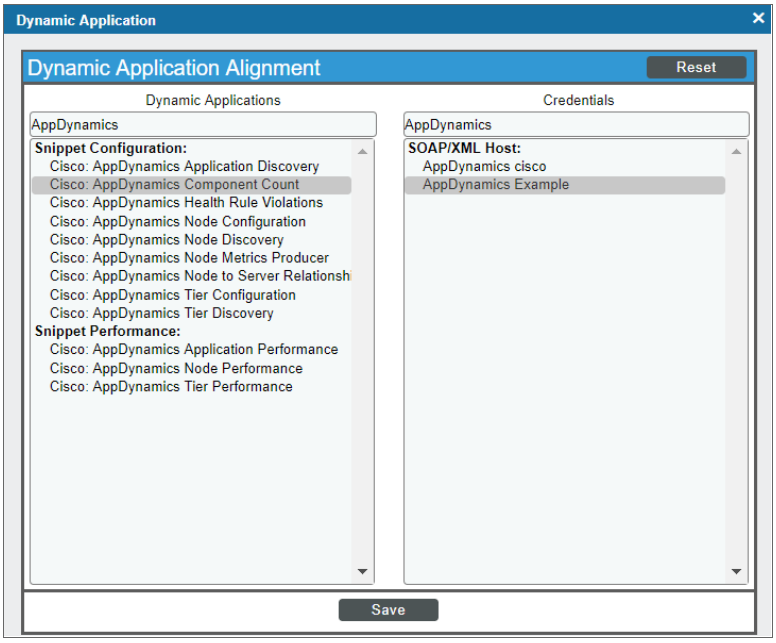
- ***Count***. This Dynamic Application polls AppDynamics to determine the number of component devices monitored by the ScienceLogic platform.
- ***Discovery***. These Dynamic Applications poll AppDynamics for new applications or changes to existing applications.
- ***Configuration***. These Dynamic Applications retrieve configuration information about each application and component device and retrieve any changes to that configuration information.
- ***Performance***. These Dynamic Applications poll AppDynamics for performance metrics.

Counting AppDynamics Component Devices

If you want to determine the number of AppDynamics component devices that will be monitored prior to running discovery (for instance, to estimate license usage), you can manually align the "Cisco: AppDynamics Component Count" Dynamic Application with the AppDynamics application controller virtual device.

To manually align the "Cisco: AppDynamics Component Count" Dynamic Application:

1. Go to the **Device Manager** page (Registry > Devices > Device Manager).
2. Locate the AppDynamics controller virtual device and then click its wrench icon ( ).
3. In the ***Device Administration*** panel, click the **[Collections]** tab. The **Dynamic Application Collections** page appears.
4. Click the **[Actions]** button and select *Add Dynamic Application* from the menu.
5. In the **Dynamic Application Alignment** modal:



   - In the ***Dynamic Applications*** field, select *Cisco: AppDynamics Component Count*.
   - In the ***Credentials*** field, select the credential you created for AppDynamics.
6. Click **[Save]** to align the Dynamic Application with the AppDynamics account controller virtual device.

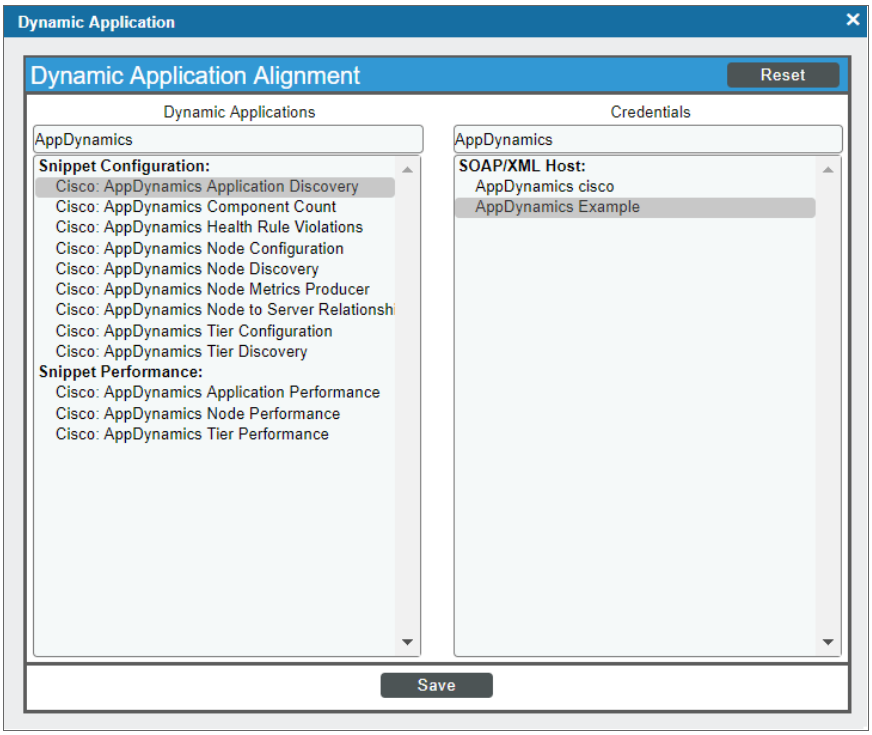
NOTE: If your AppDynamics account has a large number of applications, tiers, or nodes, ScienceLogic recommends discovering your account on a Collector Group with a sufficient number of Data Collectors. For guidelines about the number of Data Collectors you might need, see the ***ScienceLogic Architecture*** manual.

Discovering AppDynamics Applications and Component Devices

To discover all of the applications and components of your AppDynamics account, you must manually align the "Cisco: AppDynamics Application Discovery" Dynamic Application with the AppDynamics account controller virtual device.

To manually align the "Cisco: AppDynamics Application Discovery" Dynamic Application:

1. Go to the **Device Manager** page (Registry > Devices > Device Manager).
2. Locate the AppDynamics controller virtual device and then click its wrench icon ( ).
3. In the ***Device Administration*** panel, click the **[Collections]** tab. The **Dynamic Application Collections** page appears.
4. Click the **[Actions]** button and select *Add Dynamic Application* from the menu.
5. In the **Dynamic Application Alignment** modal:



   - In the ***Dynamic Applications*** field, select *Cisco: AppDynamics Application Discovery*.
   - In the ***Credentials*** field, select the credential you created for AppDynamics.

6. Click **[Save]** to align the Dynamic Application with the AppDynamics account controller virtual device.

When you align the "Cisco: AppDynamics Application Discovery" Dynamic Application with the AppDynamics controller virtual device, if you have *configured the AppDynamics device template correctly*, then the ScienceLogic platform, the following happens:

- Events are triggered indicating that AppDynamics application virtual devices are being created for each application discovered in the AppDynamics account.
- Those events trigger Run Book Actions that apply the AppDynamics device template to each of the application virtual devices
- The device template aligns additional Dynamic Applications to each of the application virtual devices, which results in the creation of child component devices representing the tiers and nodes under those applications.

CAUTION: After you align the "Cisco: AppDynamics Application Discovery" Dynamic Application to the AppDynamics account controller virtual device, it is important to let the Dynamic Application run at its predetermined polling interval; you ***should not*** run the Dynamic Application manually by clicking its lightning bolt icon ( ). Clicking the lightning bolt icon ( ) for the "Cisco: AppDynamics Application Discovery" Dynamic Application will result in the application virtual devices not being created. If this happens, you must delete the account controller virtual device and repeat the process again.

CAUTION: If the application virtual devices are not discovered when you align the "Cisco: AppDynamics Application Discovery" Dynamic Application to the AppDynamics account controller virtual device or if the application virtual devices are discovered but the Dynamic Applications aligned to those application virtual devices are using the incorrect credentials because *the "Cisco: AppDynamics Application Template" Device Template was not modified* to use your correct AppDynamics credentials, then you must delete all devices including the account controller virtual device and repeat the process again.

NOTE: You can discover only one AppDynamics account at a time. If you want to monitor multiple accounts, see the section *Monitoring Multiple AppDynamics Accounts* for instructions.

NOTE: The ScienceLogic platform is unable to discover applications with names that include special characters.

NOTE: If a tier or node name includes special characters, the ScienceLogic platform replaces the special characters with empty spaces in the device name. This does not affect data collection, but it does prevent a relationship from being created between a physical server and a component node if the node's machine name contains special characters.

Discovering Multiple AppDynamics Accounts

The "Cisco: AppDynamics Application Template" Device Template that is included in the *Cisco: AppDynamics* PowerPack can work with only a single credential at a time. Because of this, you cannot discover more than one AppDynamics account at a time. If you have multiple accounts that you want to monitor, you must discover them sequentially, one after the other, on separate AppDynamics account controller virtual devices.

So, for example, if you have already discovered one account and want to discover a second account, you must:

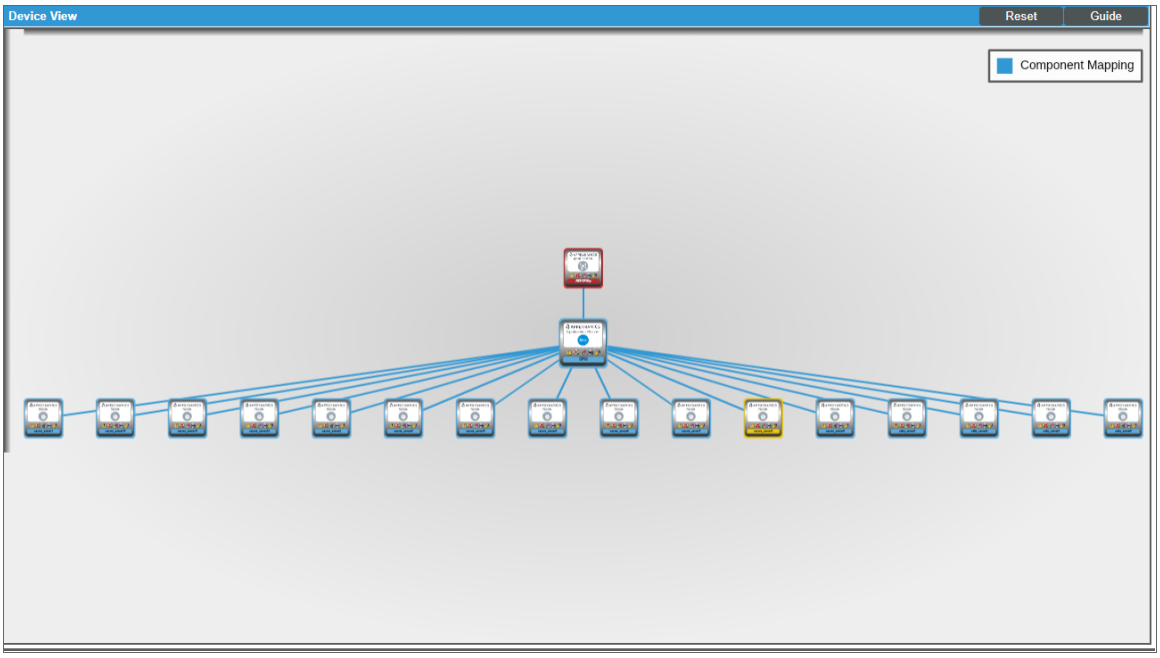
1. *Create a separate credential for the second account*.
2. *Edit the "Cisco: AppDynamics Application Template" Device Template* to align the new credential to the template's Dynamic Applications.
3. Disable data collection on the first account controller virtual device. To do so, go to the **Device Properties** page (Registry > Devices > wrench icon) for the account controller, select *Disabled* in the ***Collection*** field, and then click **[Save]**. (If you are monitoring more than one account, you must do this for each account controller virtual device in your system.)
4. *Create a new AppDynamics account controller virtual device* to represent the second account.
5. Discover the second account's applications and components following the instructions in this section.
6. After the second account has been discovered, return to the **Device Properties** page for the first account controller, select *Enabled* in the ***Collection*** field, and then click **[Save]** to re-enable data collection for the first account.

Viewing Component Devices

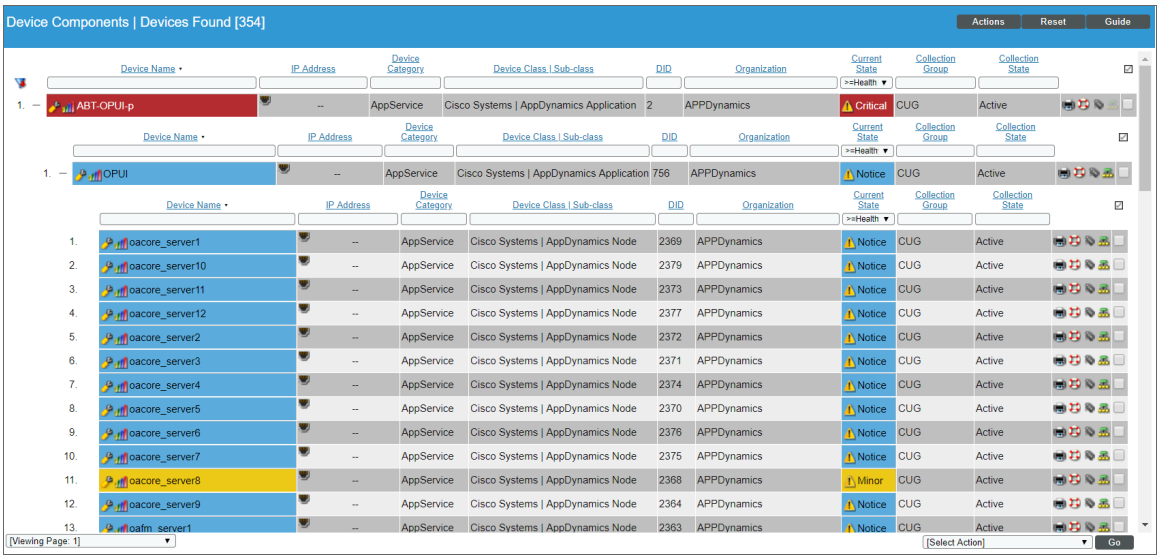
When the ScienceLogic platform performs collection for your AppDynamics account, the platform will create component devices that represent each device and align other Dynamic Applications to those component devices. Some of the Dynamic Applications aligned to the component devices will also be used to 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 AppDynamics account controller, applications, and all other component devices in the following places in the user interface:

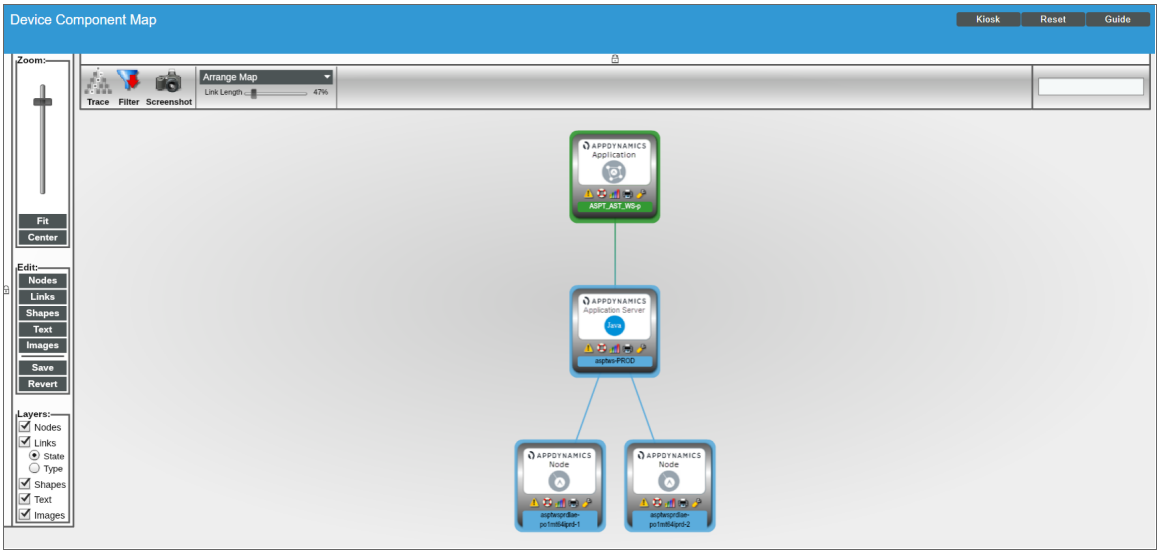
- The **Device View** modal page (click the bar-graph icon [ ] for a device, then click the **Topology** tab) displays a map of a particular device and all of the devices with which it has parent-child relationships. Double-clicking any of the devices listed reloads the page to make the selected device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



- The **Device Components** page (Registry > Devices > Device Components) displays a list of all root devices and component devices discovered by 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 an AppDynamics account, find the AppDynamics root device and click its plus icon (+):



- The **Device 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 **Device 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 AppDynamics account, go to the **Device Component Map** page and select the map from the list in the left NavBar. To learn more about the **Device Component Map** page, see the ***Views*** manual.



NOTE: If a tier is renamed in AppDynamics, the device name does not update in the ScienceLogic platform unless you go to the tier's **Device Properties** page (Registry > Devices > wrench icon) and uncheck the ***Preserve Hostname*** option.

NOTE: When an application is deleted from AppDynamics, it should be deleted from the ScienceLogic platform automatically. (This process will also cause the application's tiers and nodes to vanish.) If the application does not delete automatically, the Dynamic Applications aligned to the device will generate error messages in the log and you might need to manually delete the application.

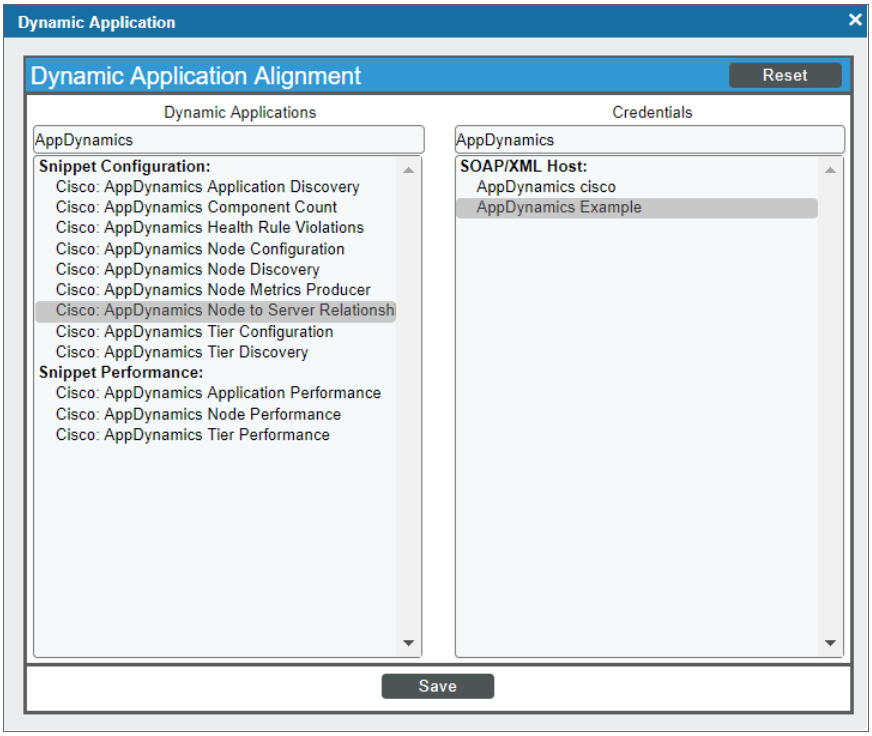
Creating Device Relationships Between Nodes and Servers

If you want to create a device relationship between AppDynamics nodes and the physical servers where they reside, you must manually align the "Cisco: AppDynamics Node to Server Relationship" Dynamic Application to the physical server device. The "Cisco: AppDynamics Node to Server Relationship" Dynamic Application can create relationships between a single server and one or more nodes.

To create device relationships between nodes and servers:

1. Go to the **Device Manager** page (Registry > Devices > Device Manager).
2. Locate the AppDynamics physical server device and then click its wrench icon ( ).
3. In the ***Device Administration*** panel, click the **[Collections]** tab. The **Dynamic Application Collections** page appears.
4. Click the **[Actions]** button and select *Add Dynamic Application* from the menu.

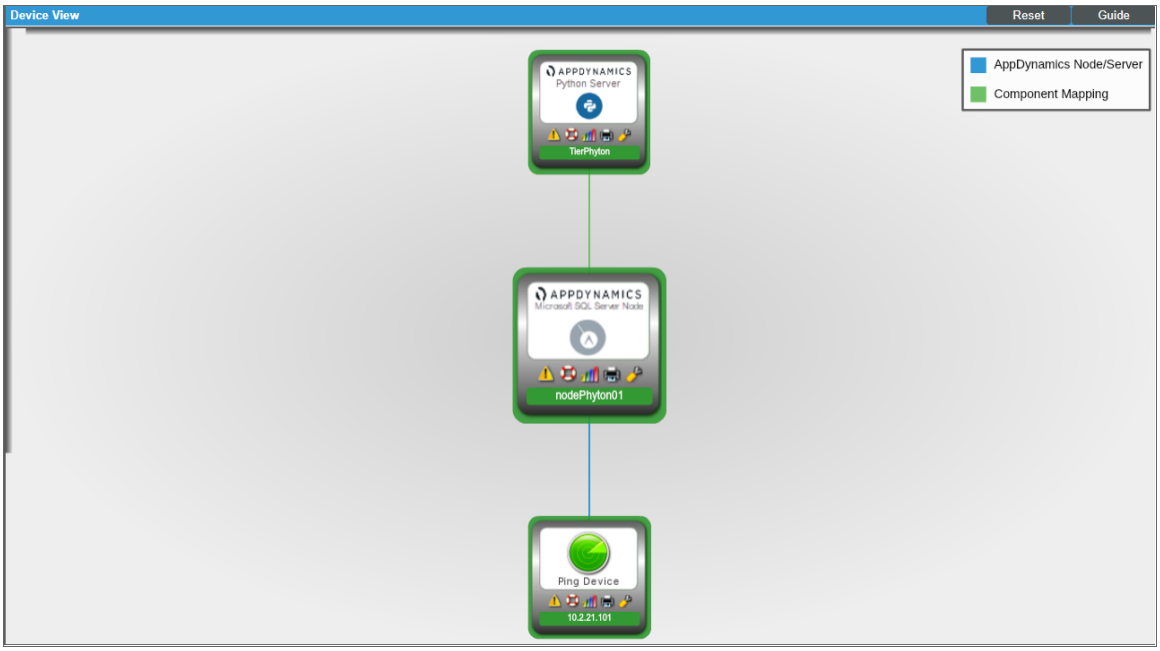
5. In the **Dynamic Application Alignment** modal:



   - In the ***Dynamic Applications*** field, select *Cisco: AppDynamics Node to Server Relationship*.
   - In the ***Credentials*** field, select the credential you created for AppDynamics.

6. Click **[Save]** to align the Dynamic Application with the AppDynamics physical server device.

7. To view the relationship, go to the **Device View** modal page (click the bar-graph icon [ ] for a device, then click the **Topology** tab) or the **Device Component Map** page (Views > Device Maps > Components) for the node device.



NOTE: You must ensure that the server hostname matches the node machine name that is collected by the "Cisco: AppDynamics Node Configuration" Dynamic Application. If the physical server device name is an IP address or otherwise differs from the machine name collected by the "Cisco: AppDynamics Node Configuration" Dynamic Application, you can go to the server's **Device Properties** page (Registry > Devices > wrench icon) and edit the ***Device Name*** to match the node machine name.

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

International: +1-703-354-1010