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# Monitoring F5 BIG-IP

F5 BIG-IP PowerPack version 101

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## Introduction

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### Overview

This manual describes how to monitor F5 Networks' BIG-IP Local Traffic Manager (LTM) devices in the ScienceLogic platform using the *F5 BIG-IP PowerPack*.

The following sections provide an overview of BIG-IP LTM devices and the *F5 BIG-IP PowerPack*:

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### What is F5 BIG-IP LTM?

F5 Networks' BIG-IP Local Traffic Manager (LTM) devices manage local system traffic to ensure optimal network and application performance and increase the system's operational efficiency. BIG-IP LTM solutions include BIG-IP appliances, the VIPRION application delivery controller, and software-based BIG-IP Virtual Editions.

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## What Does the F5 BIG-IP PowerPack Monitor?

The *F5 BIG-IP* PowerPack enables you to monitor LTM configuration and performance metrics for virtual servers, pools, and member nodes, as well as other chassis and asset information.

**WARNING:** If you have an *F5 BIG-IP* PowerPack installed from a version of the ScienceLogic platform prior to version 7.6.0, you must delete it and install the most recent version instead. When you do so, the existing F5 devices and information will be deleted from the ScienceLogic platform and must be rediscovered.

The *F5 BIG-IP* PowerPack includes the following features:

- Dynamic Applications that discover and monitor F5 BIG-IP LTM devices
- Device Classes for each of the F5 BIG-IP LTM devices that the *F5 BIG-IP* PowerPack can monitor
- Event Policies and corresponding alerts that are triggered when F5 BIG-IP LTM devices meet certain status criteria

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## Installing the F5 BIG-IP PowerPack

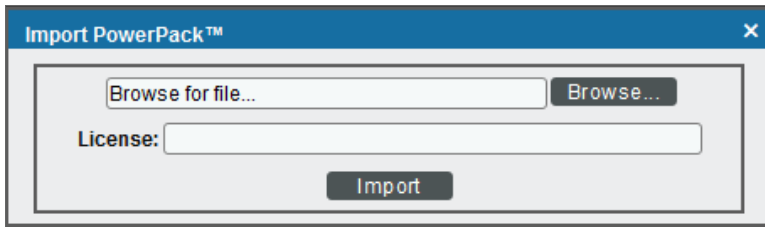
Before completing the steps in this manual, you must import and install the latest version of the *F5 BIG-IP* PowerPack.

**TIP:** By default, installing a new version of a PowerPack overwrites all content in 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.)

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*.

## Configuring F5 BIG-IP Monitoring

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### Overview

The following sections describe how to configure and discover F5 BIG-IP Local Traffic Manager (LTM) services for monitoring by the ScienceLogic platform using the *F5 BIG-IP PowerPack*:

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### Prerequisites for Monitoring F5 BIG-IP

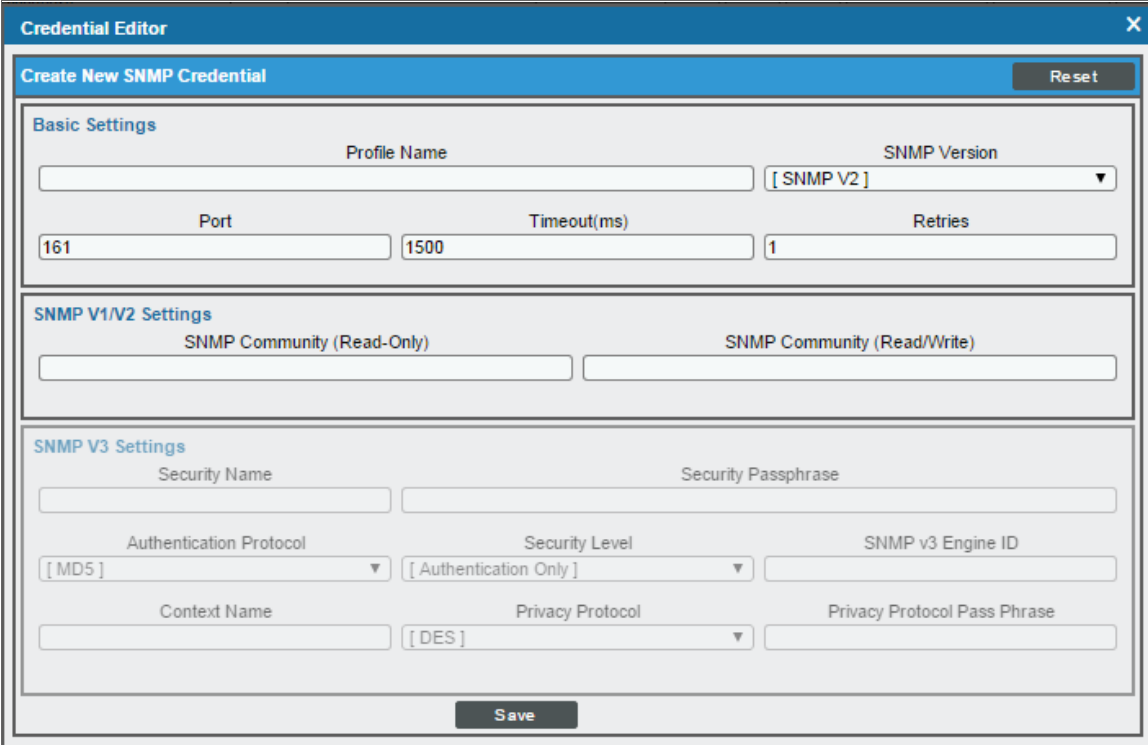
Before you can monitor F5 BIG-IP services using the *F5 BIG-IP PowerPack*, you must ensure that the ScienceLogic platform can communicate with BIG-IP using SNMP and you must know the SNMP community string for the BIG-IP system. The ScienceLogic platform can then use the data collected from BIG-IP to create device records for all components managed by BIG-IP.

## Creating an SNMP Credential for F5 BIG-IP

To use the Dynamic Applications in the *F5 BIG-IP* PowerPack, you must first define an SNMP credential in the ScienceLogic platform. This credential allows the platform to communicate with the BIG-IP system.

To configure an SNMP credential for F5 BIG-IP:

1. Go to the **Credential Management** page (System > Manage > Credentials).
2. Click the **[Actions]** button.
3. In the drop-down list that appears, select *Create SNMP Credential*. The **Credential Editor** page appears:



The screenshot shows the 'Credential Editor' window with a 'Create New SNMP Credential' header and a 'Reset' button. The form is divided into three sections: 'Basic Settings', 'SNMP V1/V2 Settings', and 'SNMP V3 Settings'. The 'Basic Settings' section includes fields for 'Profile Name', 'SNMP Version' (set to '[ SNMP V2 ]'), 'Port' (161), 'Timeout(ms)' (1500), and 'Retries' (1). The 'SNMP V1/V2 Settings' section has fields for 'SNMP Community (Read-Only)' and 'SNMP Community (Read/Write)'. The 'SNMP V3 Settings' section includes fields for 'Security Name', 'Security Passphrase', 'Authentication Protocol' (set to '[ MD5 ]'), 'Security Level' (set to '[ Authentication Only ]'), 'SNMP v3 Engine ID', 'Context Name', 'Privacy Protocol' (set to '[ DES ]'), and 'Privacy Protocol Pass Phrase'. A 'Save' button is located at the bottom of the form.

4. In the **SNMP Version** field, select *SNMP V2*.
5. In the **Profile Name** field, enter a name for the credential.
6. In the **SNMP Community (Read Only)** field, enter the community string for the BIG-IP system.
7. Optionally, supply values in the other fields in this page. In most cases, you can use the default values for the other fields.
8. Click the **[Save]** button.

## Discovering an F5 BIG-IP System

After you have created an SNMP credential for the F5 BIG-IP system that you want to monitor, you can create and run a discovery session that will discover the BIG-IP system and automatically align Dynamic Applications with the BIG-IP system.

To do so, perform the following steps:

1. Go to the **Discovery Control Panel** page (System > Manage > Discovery).
2. Click the **[Create]** button to create a new discovery session. The **Discovery Session Editor** window appears:



The screenshot shows the 'Discovery Session Editor | Create New' window. It has a blue header with 'New' and 'Reset' buttons. The main content area is divided into four columns:

- Identification Information:** Name field contains 'F5 BIG-IP'. Description field is empty.
- IP and Credentials:**
  - IP Address/Hostname Discovery List:** Text box contains '10.0.13.11'. Below it are 'Upload File' and 'Browse for file...' buttons.
  - SNMP Credentials:** A list box containing various credentials like '\_Cisco SNMPV2 - Example', '\_EM7 Default V2', etc. The last item, '\_SNMP Public V2', is selected.
  - Other Credentials:** A list box containing 'Basic/Snippet' and various examples like '\_Cisco CUCM Example KATE', '\_Cisco: ACI', etc.
- Detection and Scanning:**
  - Initial Scan Level:** Dropdown menu set to '[ System Default (recommended) ]'.
  - Scan Throttle:** Dropdown menu set to '[ System Default (recommended) ]'.
  - Port Scan All IPs:** Dropdown menu set to '[ System Default (recommended) ]'.
  - Port Scan Timeout:** Dropdown menu set to '[ System Default (recommended) ]'.
  - Detection Method & Port:** List box with '[ Default Method ]' selected. Other options include 'UDP: 161 SNMP', 'TCP: 1 - tcpmux', 'TCP: 2 - compressnet', etc.
- Basic Settings:**
  - Discover Non-SNMP:**
  - Model Devices:**
  - DHCP:**
  - Duplication Protection:**
  - Collection Server PID:** Text box contains '1'.
  - Organization:** Dropdown menu set to '[ System ]'.
  - Add Devices to Device Group(s):** Text box contains 'Please create a device group first'.
  - Apply Device Template:** Dropdown menu set to '[ Choose a Template ]'.

At the bottom, there are 'Save' and 'Save As' buttons, and a 'Log All' checkbox.

3. Enter values in the following fields:
  - **IP Address Discovery List.** Enter the IP address for the BIG-IP system.
  - **SNMP Credentials.** Select the SNMP Credential for the BIG-IP system.
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 and then close the **Discovery Session Editor** window.



6. The discovery session you created will appear 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. When the BIG-IP system is discovered, you can click its device icon (  ) to view the system device's properties.

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## Aligning F5 BIG-IP Dynamic Applications

The Dynamic Applications in the *F5 BIG-IP* PowerPack are divided into four types:

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

The following Dynamic Applications are aligned automatically to the F5 BIG-IP system when you run discovery:

- F5: Viprion Chassis Slot Status
- F5 BIG-IP: Cluster Status
- F5 BIG-IP: CPU Configuration
- F5 BIG-IP: Disk Array Status
- F5 BIG-IP: Fan Status
- F5 BIG-IP: Interface Usage (64Bit)
- F5 BIG-IP: Performance
- F5 BIG-IP: Power Supply Status
- F5 BIG-IP: System Configuration
- F5 BIG-IP: Temperature
- F5 BIG-IP: vCMP VM Configuration
- F5 BIG-IP LTM: Node Configuration
- F5 BIG-IP LTM: Node Discovery
- F5 BIG-IP LTM: Node Performance
- F5 BIG-IP LTM: Pool Configuration
- F5 BIG-IP LTM: Pool Discovery: Non-Default Pools
- F5 BIG-IP LTM: Pool Discovery: Virtual Server Default Pools
- F5 BIG-IP LTM: Pool Member Configuration
- F5 BIG-IP LTM: Pool Member Discovery

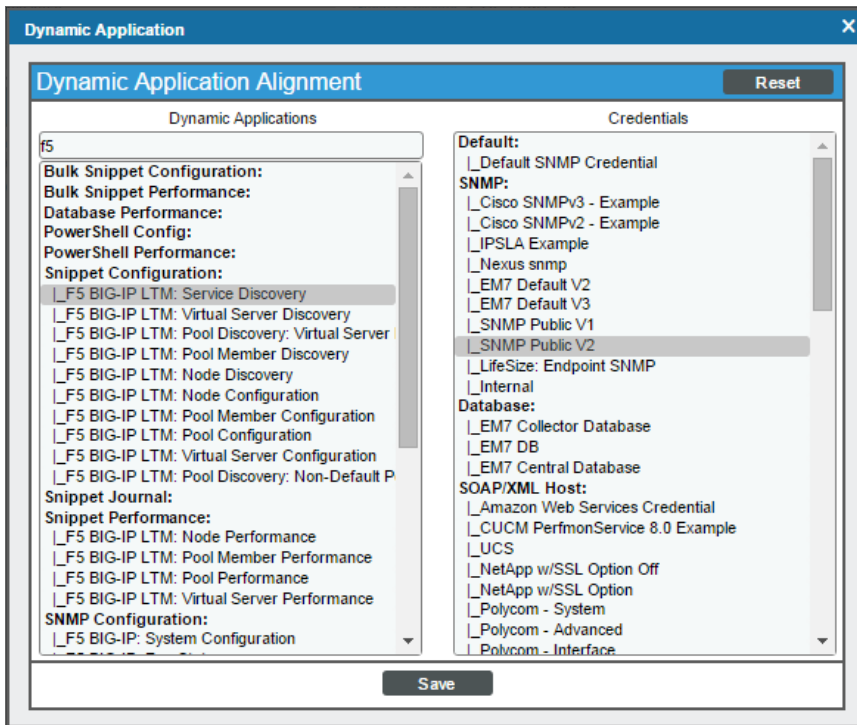
- F5 BIG-IP LTM: Pool Member Performance
- F5 BIG-IP LTM: Pool Performance
- F5 BIG-IP LTM: Virtual Server Configuration
- F5 BIG-IP LTM: Virtual Server Discovery
- F5 BIG-IP LTM: Virtual Server Performance
- Host Resource: Configuration
- Net SNMP: CPU
- Net SNMP: Physical Memory
- Net SNMP: Swap

**CAUTION:** To discover all of the component devices in the BIG-IP system, you must **manually align** the "F5 BIG-IP LTM: Service Discovery" Dynamic Application with the BIG-IP root device. For instructions on how to do this, see the section on [Manually Aligning the Dynamic Application with the BIG-IP Root Device](#).

If these Dynamic Applications are not aligned during discovery, perform the following steps to add them manually:

1. Go to the **Device Properties** page (Registry > Devices > wrench icon) for the BIG-IP system.
2. Click the **[Collections]** tab. The **Dynamic Application Collections** page appears.

- Click the **[Actions]** button and then select *Add Dynamic Application*. The **Dynamic Application Alignment** page appears:



- In the **Dynamic Applications** field, select the Dynamic Application that you want to align to the BIG-IP system.
- In the **Credentials** field, select the SNMP credential for the BIG-IP system.
- Click the **[Save]** button.

## Manually Aligning the "F5 BIG IP LTM: Service Discovery" Dynamic Application with the BIG-IP Root Device

When you run discovery, the "F5 BIG-IP LTM: Component Counts" Dynamic Application is automatically aligned with the F5 BIG-IP system. This Dynamic Application enables you to determine the number of component devices in your BIG-IP system that will be discovered.

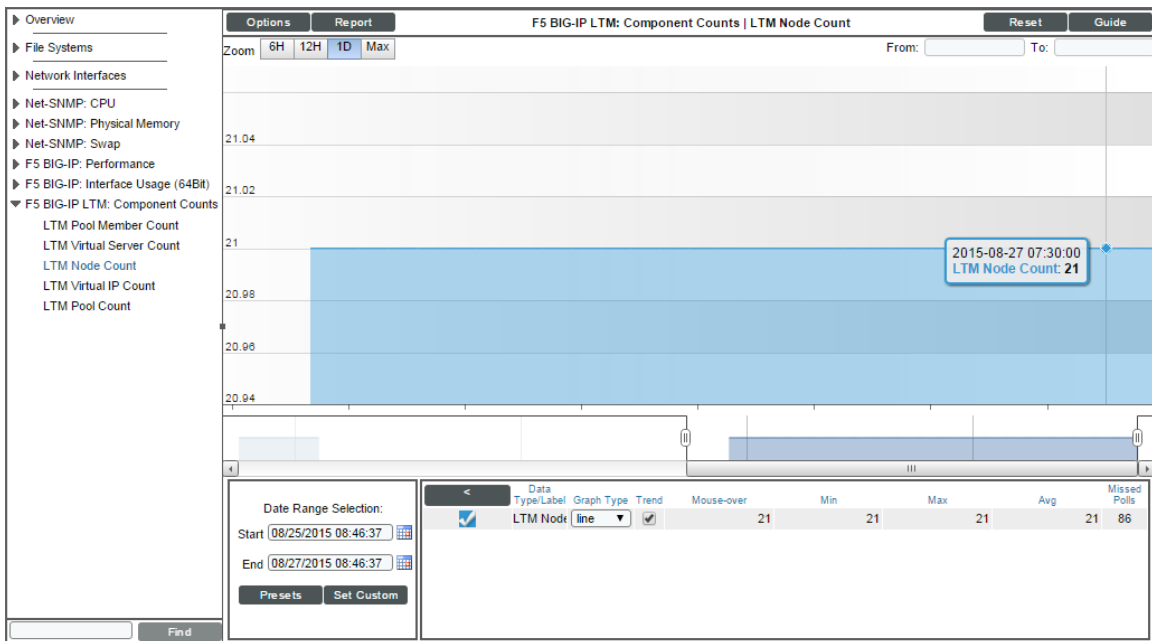
To determine the BIG-IP component device count:

- Go to the **Device Manager** page (Registry > Devices > Device Manager).
- Click the wrench icon (🔧) for the BIG-IP system.
- In the **Device Administration** panel, click the **[Collections]** tab. The **Dynamic Application Collections** page displays.

- Click the plus icon (+) for the "F5 BIG-IP LTM: Component Counts" Dynamic Application. If collection for the Dynamic Application was successful, the graph icons (📊) for the "F5 BIG-IP LTM: Component Counts" presentation objects are enabled:

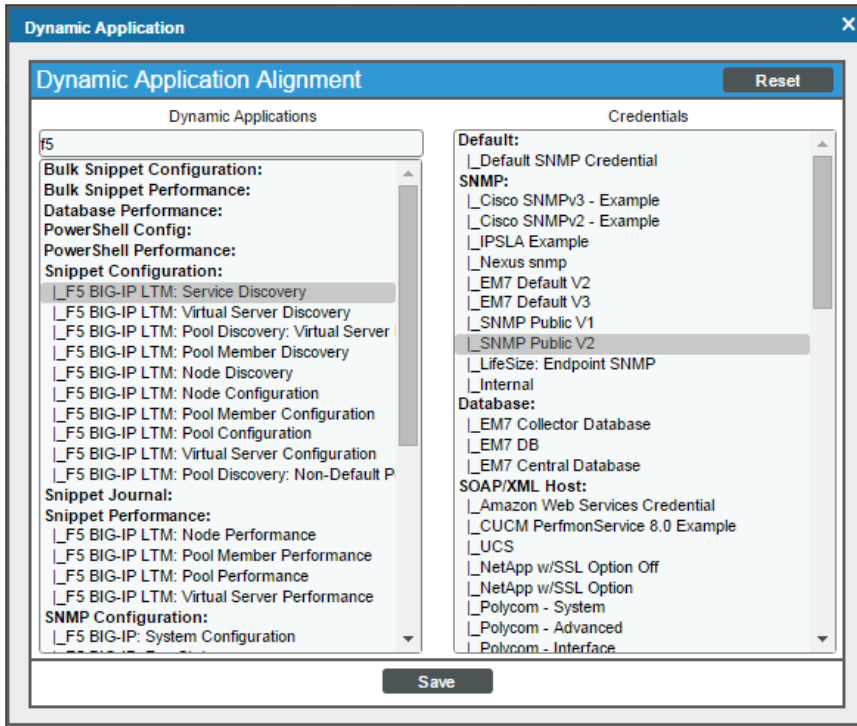
Dynamic Application™ Collections										Expand	Actions	Reset	Guide
Dynamic Application	ID	Poll Frequency	Type	Credential									
- F5 BIG-IP LTM: Component Counts	1223	15 mins	SNMP Performance	Default SNMP Credential						📊			
Presentation Object •													
		Version	Pid	Found	Collecting	Group	Label	Precedence	📊				
+ LTM Node Count	1	p_4399	yes	yes	--	--	0	📊					
+ LTM Pool Count	1	p_4401	yes	yes	--	--	0	📊					
+ LTM Pool Member Count	1	p_4397	yes	yes	--	--	0	📊					
+ LTM Virtual IP Count	1	p_4400	yes	yes	--	--	0	📊					
+ LTM Virtual Server Count	1	p_4398	yes	yes	--	--	0	📊					
Misc Collection Object •													
		Cid	Found	Collecting	Edited By								
+ Discovery Object		p_13478	no	yes	--								
+ F5 BIG-IP: Interface Usage (64Bit)	1222	5 mins	SNMP Performance	Default SNMP Credential						📊			
+ F5 BIG-IP: Performance	1217	15 mins	SNMP Performance	Default SNMP Credential						📊			
+ Net-SNMP: CPU	564	5 mins	SNMP Performance	Default SNMP Credential						📊			
+ Net-SNMP: Physical Memory	565	5 mins	SNMP Performance	Default SNMP Credential						📊			
+ Net-SNMP: Swap	566	5 mins	SNMP Performance	Default SNMP Credential						📊			
+ F5 BIG-IP: Disk Array Status	1221	60 mins	SNMP Configuration	Default SNMP Credential						📊			
+ F5 BIG-IP: System Configuration	1215	360 mins	SNMP Configuration	Default SNMP Credential						📊			
+ Host Resource: CPU Config	470	1440 mins	SNMP Configuration	Default SNMP Credential						📊			
+ Host Resource: Software	467	120 mins	SNMP Configuration	Default SNMP Credential						📊			
+ System Uptime: hrSystemUptime	932	5 mins	SNMP Configuration	Default SNMP Credential						📊			
+ System Uptime: sysUptime	931	5 mins	SNMP Configuration	Default SNMP Credential						📊			
+ F5 BIG-IP LTM: Service Discovery	1201	120 mins	Snippet Configuration	Default SNMP Credential						📊			
+ Host Resource: Memory Config	469	1440 mins	Snippet Configuration	Default SNMP Credential						📊			
+ Support: File System	719	120 mins	Snippet Configuration	Default SNMP Credential						📊			

- Click a graph icon (📊) for any of the "F5 BIG-IP LTM: Component Counts" presentation objects to view the collected data for that presentation object. The **Device Performance** page displays the number of components that are being monitored.



After verifying the number of component devices that will be discovered, perform the following steps to start component device discovery by aligning the "F5 BIG-IP LTM: Service Discovery" Dynamic Application with the BIG-IP root system:

1. Go to the **Device Properties** page (Registry > Devices > wrench icon) for the BIG-IP system.
2. Click the **[Collections]** tab. The **Dynamic Application Collections** page appears.
3. Click the **[Actions]** button and then select *Add Dynamic Application*. The **Dynamic Application Alignment** page appears:




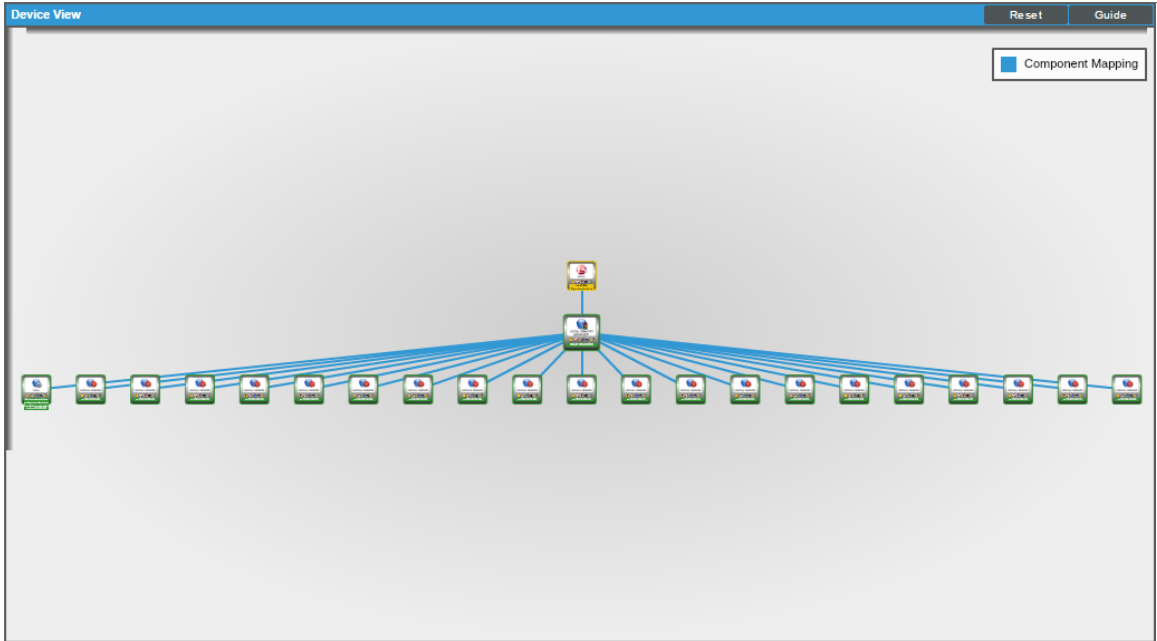
4. In the **Dynamic Applications** field, select *F5 BIG-IP LTM: Service Discovery*.
5. In the **Credentials** field, select the SNMP credential for the BIG-IP system.
6. Click the **[Save]** button.

## Viewing Component Devices

When the ScienceLogic platform performs collection for the F5 BIG-IP system, 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 F5 BIG-IP system 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:

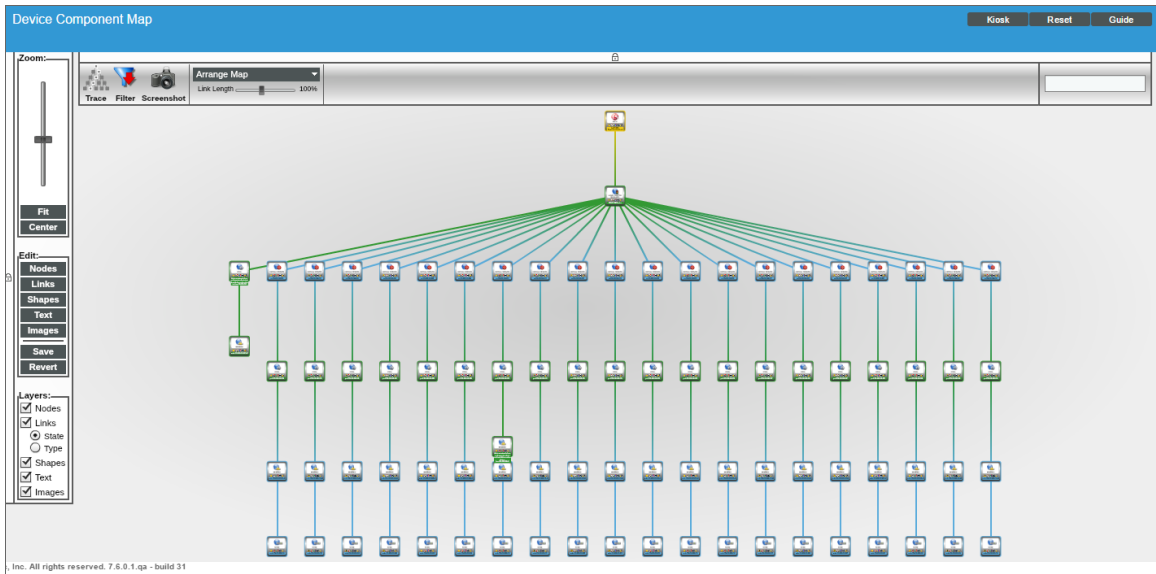


- The **Device Components** page (Registry > Devices > Device Components) displays a list of all root devices and component devices discovered by the ScienceLogic platform in an indented view, so you can easily view the hierarchy and relationships between child devices, parent devices, and root devices. To view the component devices associated with an F5 BIG-IP system, find the BIG-IP device and click its plus icon (+):

Device Components | Devices Found [9]

Device Name	IP Address	Device Category	Device Class   Sub-class	DID	Organization	Current State	Collection Group	Collection State
1. -		Application	F5 Networks, Inc.   BIG-IP Local Traffic Manager	1228	System	Healthy	CUG	Active
1. +		Application	F5 Networks, Inc.   BIG-IP LTM Pool	1561	System	Healthy	CUG	Active
2. -		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1578	System	Notice	CUG	Active
1. -		Application	F5 Networks, Inc.   BIG-IP LTM Pool	1599	System	Healthy	CUG	Active
1. -		Application	F5 Networks, Inc.   BIG-IP LTM Pool Member	1620	System	Notice	CUG	Active
1. -		Application	F5 Networks, Inc.   BIG-IP LTM Node	1640	System	Notice	CUG	Active
3. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1590	System	Notice	CUG	Active
4. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1576	System	Notice	CUG	Active
5. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1564	System	Notice	CUG	Active
6. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1570	System	Notice	CUG	Active
7. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1579	System	Notice	CUG	Active
8. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1577	System	Notice	CUG	Active
9. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1567	System	Notice	CUG	Active
10. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1566	System	Notice	CUG	Active
11. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1568	System	Notice	CUG	Active
12. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1569	System	Notice	CUG	Active
13. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1561	System	Notice	CUG	Active
14. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1571	System	Notice	CUG	Active
15. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1572	System	Notice	CUG	Active
16. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1573	System	Notice	CUG	Active
17. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1574	System	Notice	CUG	Active
18. +		Application	F5 Networks, Inc.   BIG-IP LTM Virtual Server	1575	System	Notice	CUG	Active

- 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 F5 BIG-IP system, 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.



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