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# Monitoring NGINX: Open Source and Plus

NGINX: Open Source and Plus PowerPack Beta version 101

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# Chapter

# 1

## Introduction

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### Overview

This manual describes how to monitor NGINX services in SL1 using the *NGINX: Open Source and Plus PowerPack*.

The following sections provide an overview of NGINX services and the *NGINX: Open Source and Plus PowerPack*:

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### What is NGINX?

NGINX is a free, open source, high-performance web server that can be used as a reverse proxy, load balancer, mail proxy, and HTTP cache. Both Open Source Software (OSS) NGINX and NGINX Plus are supported by the *NGINX: Open Source and Plus PowerPack*.

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## What Does the NGINX: Open Source and Plus PowerPack Monitor?

To monitor NGINX web devices using SL1, you must install the *NGINX: Open Source and Plus PowerPack*. This PowerPack lets you discover, model, and collect data about NGINX web services.

The *NGINX: Open Source and Plus PowerPack* includes:

- Dynamic Applications to discover, model, and monitor performance metrics and collect configuration data for NGINX services
- Device Classes for each of the NGINX services SL1 monitors
- A sample Credential for discovering NGINX services
- Device dashboards that display information about NGINX services

**NOTE:** Support is provided to monitor the status module for the NGINX Open Source Software (OSS) free version. The status module must be enabled on your NGINX server. For more information, see "Prerequisites for Monitoring NGINX Services" on page 6.

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## Installing the NGINX: Open Source and Plus PowerPack

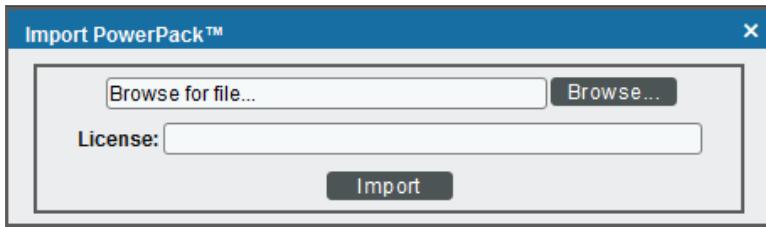
Before completing the steps in this manual, you must import and install the latest version of the *NGINX: Open Source and Plus PowerPack*.

**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.)

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*.

## Configuration and Discovery

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### Overview

The following sections describe how to configure and discover NGINX services for monitoring by SL1 using the *NGINX: Open Source and Plus PowerPack*:

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### Prerequisites for Monitoring NGINX Services

To configure the SL1 system to monitor NGINX services using the *NGINX: Open Source and Plus PowerPack*, note the following for monitoring the NGINX Open Source Software (OSS):

- The status module must be included when NGINX is instantiated.
- The status stub must be configured in the NGINX configuration.

**NOTE:** Restart NGINX after editing the configuration.


To learn more about the setup of the status module, see the following NGINX resources:

- Monitoring NGINX (<https://www.nginx.com/blog/monitoring-nginx>)
- Module ngx\_http\_stub\_status\_module ([http://nginx.org/en/docs/http/ngx\\_http\\_stub\\_status\\_module.html](http://nginx.org/en/docs/http/ngx_http_stub_status_module.html))

## Creating a SOAP/XML Credential for NGINX

To configure SL1 to monitor NGINX web services, you must create a SOAP/XML credential. This credential allows the Dynamic Applications in the *NGINX: Open Source and Plus* PowerPack to communicate with your NGINX web server.

To configure a SOAP/XML credential to access NGINX:

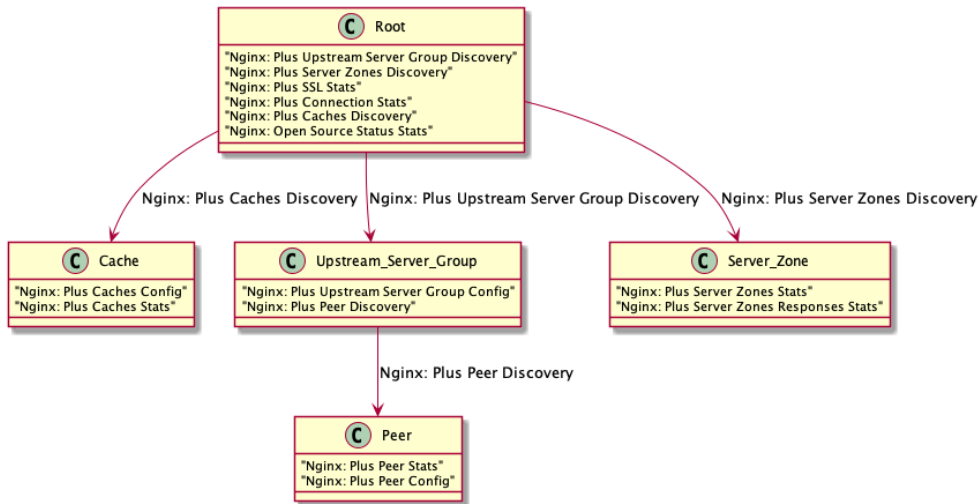
1. Go to the **Credential Management** page (System > Manage > Credentials).
2. Locate the **NGINX: Open Src and Plus Example** credential, and then click its wrench icon (). The **Edit SOAP/XML Credential** modal page appears.

3. Enter values in the following fields:
  - **Profile Name**. Type a new name for the credential.
  - **URL**. Leave this field as the default.
  - **Embed Value [%1]**. Used by the REST libraries for SSL certificate validation. Do one of the following:
    - Type "True" to enable SSL certificate validation.
    - Type "False" or leave this field blank to disable SSL certificate verification.
  - **Embed Value [%2]**. Type a specific API endpoint name to connect to if you want to override the default /nginx\_status endpoint for the Nginx: Open Source Status Stats Dynamic Application.

4. For all other fields, use the default values.
5. Click the **[Save As]** button.

## Discovering NGINX Component Devices

To model and monitor your NGINX services, you must run a discovery session to discover your NGINX services. The following diagram illustrates the way the discovery process works for NGINX.



Several minutes after the discovery session has completed, the Dynamic Applications in the *NGINX: Open Source and Plus* PowerPack should automatically align to the services and then discover, model, and monitor the remaining NGINX component devices.

To discover the NGINX service that you want to monitor, perform the following steps:

1. Go to the **Discovery Control Panel** page (System > Manage > Discovery).
2. In the **Discovery Control Panel**, click the **[Create]** button.



- The **Discovery Session Editor** page appears. In the **Discovery Session Editor** page, define values in the following fields:

The screenshot shows the 'Discovery Session Editor | Editing Session [1]' window. It is divided into several sections:


- Identification Information:** Name (Nginx - Demo), Description.
- IP and Credentials:** IP Address/Hostname Discovery List (demo.nginx.com), Upload File, Browse for file..., Browse..., SNMP Credentials (list of protocols like Cisco SNMPv2, etc.), Other Credentials (list of device types like Dell EMC XtremIO, etc.).
- Detection and Scanning:** Initial Scan Level (5. Deep discovery), Scan Throttle (System Default), Port Scan All IPs (System Default), Port Scan Timeout (System Default), Detection Method & Port (list of protocols like TCP: 442 - cvc\_hostd, etc.), Interface Inventory Timeout (ms) (600000), Maximum Allowed Interfaces (10000), Bypass Interface Inventory (checkbox).
- Basic Settings:** Discover Non-SNMP (checkbox), Model Devices (checkbox), DHCP (checkbox), Device Model Cache TTL (h) (2), Collection Server PID (3), [KNT-Patch2-CU1-65], Organization ([Nginx - Demo]), Add Devices to Device Group(s) (None Servers), Apply Device Template (Choose a Template), Log All (checkbox).

Buttons at the bottom include Save, Save As, and Log All.

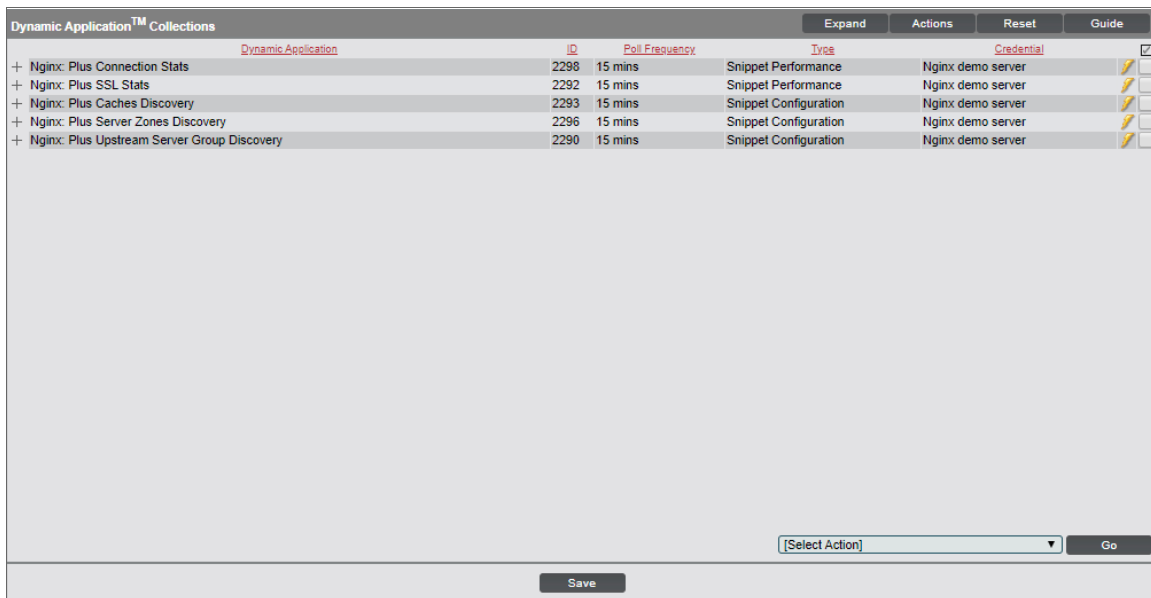
- **Name.** Type a name for the discovery session.
  - **IP Address/Hostname Discovery List.** Type the IP address or hostname of your NGINX server.
  - **Other Credentials.** Select the SOAP/XML credentials you created for the NGINX service.
  - **Initial Scan Level.** Select 5. *Deep discovery*.
  - **Detection Method & Port.** Select *TCP 80 - http* and *TCP 443 - https*.
  - **Discover Non-SNMP.** Select this checkbox.
  - **Model Devices.** Select this checkbox.
  - **Log All.** Select this checkbox.
- 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.
  - Click the **[Save]** button to save the discovery session and then close the **Discovery Session Editor** window.
  - 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.
  - The **Discovery Session** window appears. When the device is discovered, click the device icon (🖨️) to view the **Device Properties** page for each device.

## Verifying Discovery and Dynamic Application Alignment

To verify that SL1 has automatically aligned the correct Dynamic Applications during discovery:

1. After discovery has completed, click the device icon for the NGINX service (). From the **Device Properties** page for the NGINX service, click the **[Collections]** tab. The **Dynamic Application Collections** page appears.
2. All applicable Dynamic Applications for the service 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.



Dynamic Application™ Collections						Expand	Actions	Reset	Guide
	Dynamic Application	ID	Poll Frequency	Type	Credential				
+ Ngix: Plus Connection Stats		2298	15 mins	Snippet Performance	Ngix demo server				
+ Ngix: Plus SSL Stats		2292	15 mins	Snippet Performance	Ngix demo server				
+ Ngix: Plus Caches Discovery		2293	15 mins	Snippet Configuration	Ngix demo server				
+ Ngix: Plus Server Zones Discovery		2296	15 mins	Snippet Configuration	Ngix demo server				
+ Ngix: Plus Upstream Server Group Discovery		2290	15 mins	Snippet Configuration	Ngix demo server				

[Select Action] [Go]

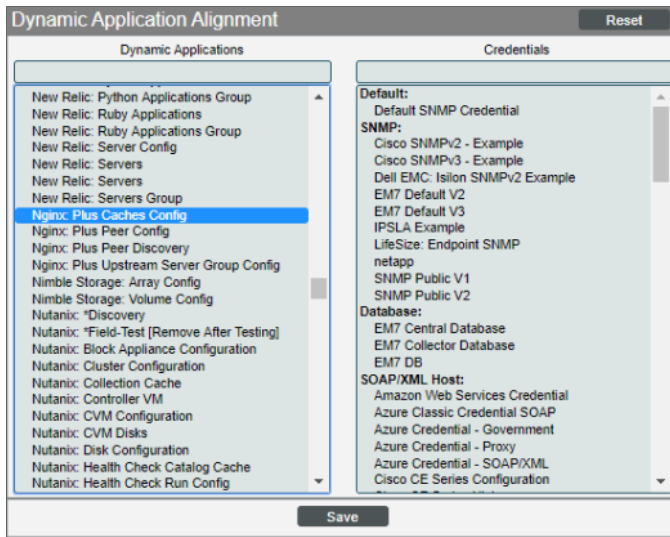
Save

You should see the following Dynamic Applications aligned to the NGINX service:

- Ngix: Plus Connection Stats
- Ngix: Plus SSL Stats
- Ngix: Plus Caches Discovery
- Ngix: Plus Server Zones Discovery
- Ngix: Plus Upstream Server Group Discovery

If the listed Dynamic Applications have not been automatically aligned during discovery, or you want to align more Dynamic Applications, you can align them manually. To do so, perform the following steps:


1. Click the **[Action]** button, and then select *Add Dynamic Application*. The **Dynamic Application Alignment** page appears:

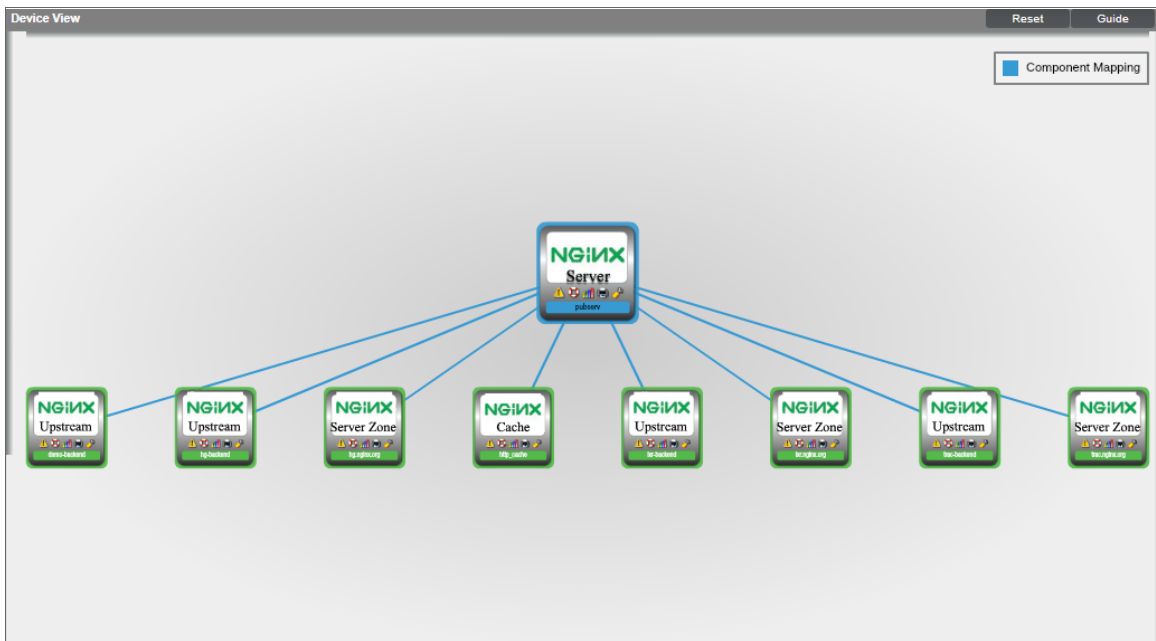


2. In the **Dynamic Applications** field, select the Dynamic Application you want to align.
3. In the **Credentials** field, select the credential specified in the table.
4. Click the **[Save]** button.
5. Repeat steps 1-4 for any other unaligned Dynamic Applications.

## Viewing NGINX Component Devices

In addition to the **Device Manager** page (Registry > Devices > Device Manager), you can view the NGINX service and all associated component devices in the following places in the user interface:

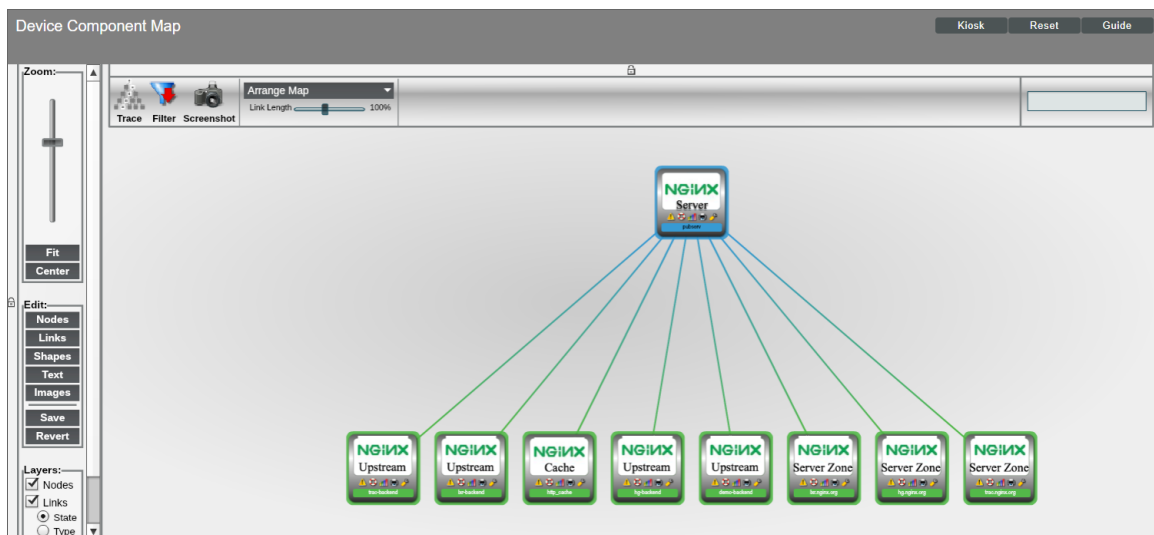
- The **Device View** modal page (click the bar-graph icon  for a device, then click the **Topology** tab) displays a map of a particular device and all of the devices with which it has parent-child relationships. Double-click to select any listed device. This reloads the page to make the selected device 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 an NGINX web server, find the server and click its plus icon (+):

Device Name	IP Address	Device Category	Device Class   Sub-class	DID	Organization	Current State	Collection Group	Collection State
9. + dev-stor-01	10.0.9.45	SAN	NetApp   Filer	307	System	Healthy	CUG	User-Disabled
10. + KnightsDev87	10.2.5.87	EM7	ScienceLogic, Inc.   EM7 All-In-One	72	System	Minor	CUG	User-Disabled
11. - pubserv	206.251.255.64	Software	Nginx   Webserver	1061	System	Notice	CUG	Active
1. + demo-backend	--	Software	Nginx   Upstream Server Group	1094	System	Healthy	CUG	Active
2. + hg-backend	--	Software	Nginx   Upstream Server Group	1093	System	Healthy	CUG	Active
3. hg.nginx.org	--	Software	Nginx   Server Zone	1102	System	Healthy	CUG	Active
4. http_cache	--	Software	Nginx   Cache	1092	System	Healthy	CUG	Active
5. + lxr-backend	--	Software	Nginx   Upstream Server Group	1091	System	Healthy	CUG	Active
6. lxr.nginx.org	--	Software	Nginx   Server Zone	1101	System	Healthy	CUG	Active
7. + trac-backend	--	Software	Nginx   Upstream Server Group	1090	System	Healthy	CUG	Active
8. trac.nginx.org	--	Software	Nginx   Server Zone	1103	System	Healthy	CUG	Active
12. + rststsvcsa6u2a01	10.0.13.16	Pingable	Ping   ICMP	349	System	Healthy	CUG	User-Disabled
13. + SILO qa sciencelogic local	10.5.100.8	Array	NetApp   Cluster	681	System	Major	CUG	Active
14. + SNIA-Nimble	10.1.135.33	SAN	Nimble Storage   Storage Array	1029	System	Healthy	CUG	User-Disabled

- 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. 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 an NGINX 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.



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# Chapter

# 3

## Dashboards

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### Overview

The following section describes the device dashboards that are included in the *NGINX: Open Source and Plus PowerPack*:

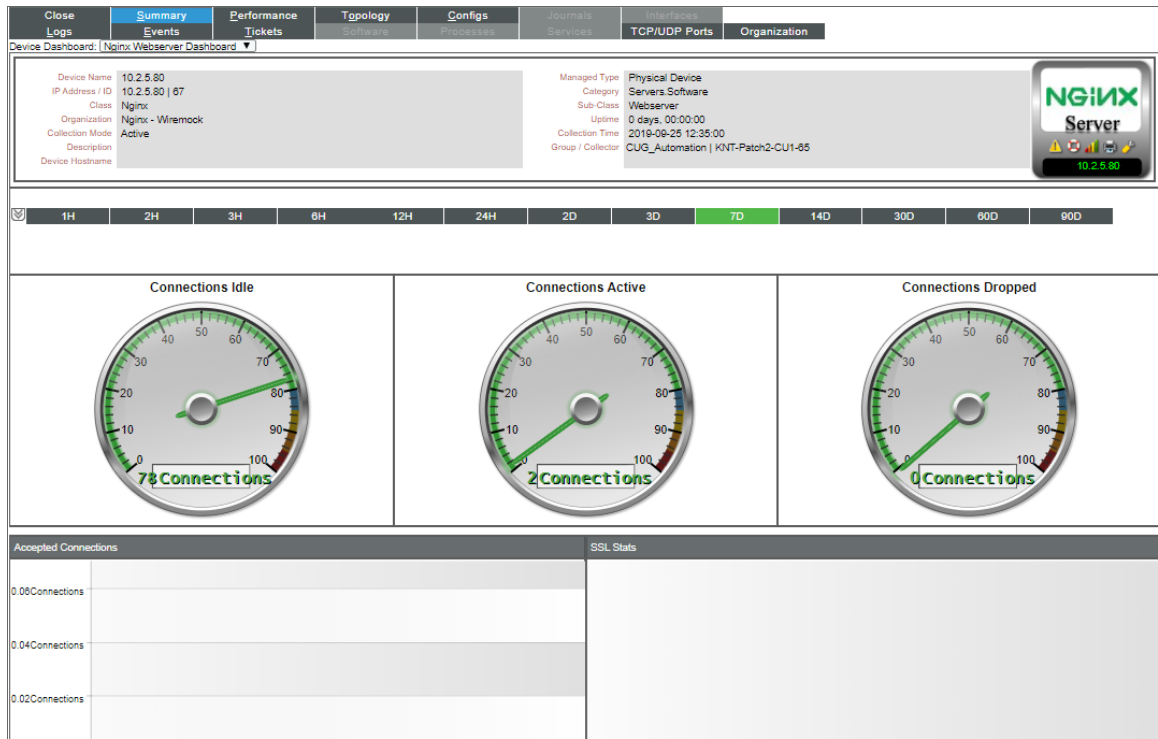
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### Device Dashboards

The *NGINX: Open Source and Plus PowerPack* includes device dashboards that provide summary information for NGINX servers and peers. The following device dashboards in the *NGINX: Open Source and Plus PowerPack* are aligned as the default device dashboard for the equivalent device class.

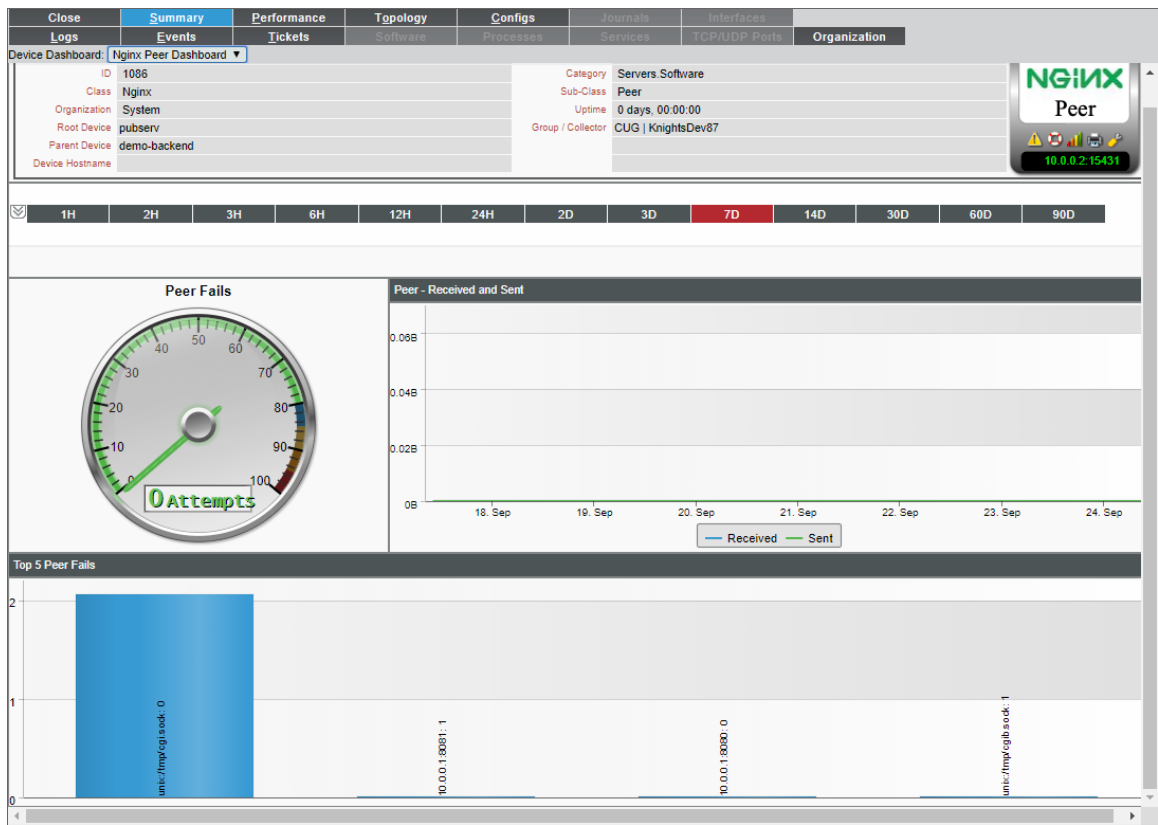
# NGINX Webserver Dashboard



The NGINX Webserver Dashboard displays the following information for the NGINX server:

- Connections Idle
- Connections Active
- Connections Dropped
- Accepted Connections
- SSL Stats

# NGINX Peer Dashboard



The NGINX Peer device dashboard displays the following information for NGINX peers:

- Peer Fails
- Peer - Received and Sent
- Top 5 Peer Fails



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