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# Monitoring Dynatrace

Beta Version

Dynatrace PowerPack version 101

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# Chapter

# 1

## Introduction

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### Overview

This manual describes how to monitor Dynatrace environments in SL1 using the *Dynatrace PowerPack*.

The following sections provide an overview of Dynatrace environments and the *Dynatrace PowerPack*:

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### What is Dynatrace?

Dynatrace is an application performance management and monitoring platform for programs running on-premises (Dynatrace Managed) and in the cloud (Dynatrace SaaS). Dynatrace enables you to monitor various component types within your environment, such as applications, hosts, and services, and analyze the data collected through tools such as dashboards and reports.

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## What Does the Dynatrace PowerPack Monitor?

To monitor Dynatrace Managed environments using SL1, you must install the *Dynatrace PowerPack*. This PowerPack enables you to discover, model, and collect data about Dynatrace components.

The *Dynatrace PowerPack* includes:

- Dynamic Applications to discover and monitor Dynatrace component devices, including:
  - Applications
  - Hosts
  - Services
- Device Classes for each of the Dynatrace components that the *Dynatrace PowerPack* can monitor
- Event Policies that are triggered when Dynatrace component devices meet certain status criteria
- A sample SOAP/XML Credential that you can use to create your own Dynatrace Credential
- A Device Template that aligns Dynamic Applications to the Dynatrace Environment virtual device and enables you to discover component devices for that environment
- Device Dashboards that display information about Dynatrace component devices

**NOTE:** The *Dynatrace PowerPack* does not monitor Dynatrace SaaS environments.

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## Installing the Dynatrace PowerPack

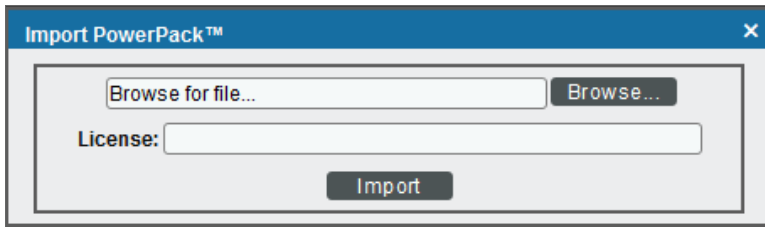
Before completing the steps in this manual, you must import and install the latest version of the *Dynatrace PowerPack*.

**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*.

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# Chapter

# 2

## Configuration and Discovery

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### Overview

The following sections describe how to configure and discover Dynatrace resources for monitoring by SL1 using the *Dynatrace PowerPack*:

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### Generating a Dynatrace API Token

To configure the SL1 system to monitor Dynatrace resources using the *Dynatrace PowerPack*, you must first generate a Dynatrace API token.

To do so:

1. Log in to your Dynatrace portal. On the left menu, click **Settings > Integration > Dynatrace API**. The **Dynatrace API** page appears.
2. Click the **[Generate Token]** button.

3. In the blank box that appears, type a token name, and then activate (at a minimum) the "Access problem and event feed, metrics, topology, and RUM JavaScript tag management" permission.
4. Click **[Generate]** to generate the API token.

**TIP:** You can click the **[Copy]** button next to the generated token to copy the token to your computer's clipboard.

5. The newly generated API token appears in your list of API tokens. Ensure that the **Disable/enable** switch is activated.
6. Optionally, if you want to verify the token, you can use an API tool like Postman or cURL to send a GET request for your Dynatrace environment, and then attach the token to the Api-Token realm for the Authorization HTTP header. For example:

```
curl --request GET \  
  --url https://<Hostname>/e/<Environment-ID>.live.dynatrace.com/api/v1/time \  
  --header 'Authorization: Api-Token <generated API token>' \  

```

---

## Configuring Dynatrace Credentials

To configure SL1 to monitor Dynatrace devices, you must first create a SOAP/XML credential. This credential allows the Dynamic Applications in the *Dynatrace PowerPack* to use your Dynatrace user account to retrieve information from the *Dynatrace* environment and component devices.

The PowerPack includes an example SOAP/XML credential (**Dynatrace Credential Example**) that you can edit for your own use.

To configure a SOAP/XML credential to access Dynatrace:

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

2. Locate the **Dynatrace Credential Example** credential, and then click its wrench icon (🔧). The **Edit SOAP/XML Credential** modal page appears:

3. Complete the following fields:

### **Basic Settings**

- **Profile Name.** Type a new name for the Dynatrace credential.
- **URL.** Type your URL in the following format, replacing <Hostname> with your Dynatrace hostname and <Environment-ID> with your Dynatrace environment ID:  

```
https://<Hostname>/e/<Environment-ID>/api/v1/
```
- **HTTP Auth User.** This field must be blank.
- **HTTP Auth Password.** This field must be blank.

### **SOAP Options**

- **Embed Value [%1].** Keep the default value of "false".

### **HTTP Headers**

- Type your authorization API token in the following format, replacing <API-Token> with your actual API token:  

```
Authorization: Api-Token <API-Token>
```



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

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## Discovering Dynatrace Devices

To discover and monitor your Dynatrace environment, you must do the following:

- Create a virtual device representing the environment
- Configure the Dynatrace device template that is included in the *Dynatrace PowerPack*
- Align the device template to the Dynatrace virtual device

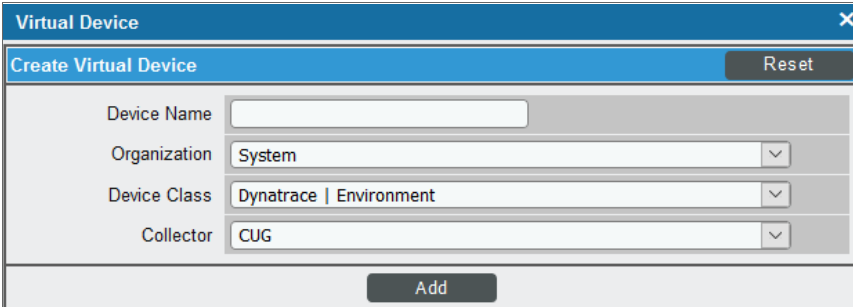
Each of these steps is documented in the following sections.

## Creating a Dynatrace Virtual Device

Because the Dynatrace environment does not have a static IP address, you cannot discover a Dynatrace device by running a discovery session. Instead, you must create a **virtual device** that represents the Dynatrace environment. 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.

To create a virtual device that represents your Dynatrace environment:

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:



The screenshot shows a modal window titled "Virtual Device" with a close button (X) in the top right corner. Below the title bar is a sub-header "Create Virtual Device" and a "Reset" button. The form contains four fields: "Device Name" (text input), "Organization" (dropdown menu with "System" selected), "Device Class" (dropdown menu with "Dynatrace | Environment" selected), and "Collector" (dropdown menu with "CUG" selected). At the bottom of the form is an "Add" button.

3. Complete 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 *Dynatrace | Environment*.
  - **Collector.** Select the collector group that will monitor the device.

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

## Configuring the Dynatrace Device Template

A **device template** allows you to save a device configuration and apply it to multiple devices. The Dynatrace PowerPack includes the "Dynatrace Template," which enables SL1 to align all of the necessary Dynamic Applications to the environment root component device.

Before you can use the "Dynatrace Template", you must configure the template so that each Dynamic Application in the template aligns with the **credential you created earlier**.

To configure the Dynatrace device template:

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

The screenshot shows the 'Device Template Editor' interface for editing dynamic application subtemplates. The title bar reads 'Device Template Editor | Editing Dynamic Application Subtemplates (Click field labels to enable/disable them)' and includes 'New' and 'Reset' buttons. The 'Template Name' field is set to 'Dynatrace Template'. The interface is divided into several sections: 'Subtemplate Selection' on the left, 'Template Application Behavior' at the top, 'Dynamic Application Settings' in the middle, and 'Dynamic Application Thresholds' at the bottom. The 'Dyn Apps' tab is selected. In the 'Dynamic Application Settings' section, the 'Credentials' dropdown menu is highlighted with a red box and contains the text 'Dynatrace Credential Example'. Other settings include 'Align Dynamic Application With' set to 'All devices', 'Dynamic Application' set to 'Dynatrace: Host Container Discovery', and 'Poll Rate' set to 'Every 1 Minute'. The 'Dynamic Application Thresholds' section shows 'Raw Data Retention' set to 5 records. At the bottom, there are 'Save' and 'Save As' buttons.

4. In the **Credentials** drop-down list, select the credential that you created for Dynatrace.
5. Click the next Dynamic Application listed in the **Subtemplate Selection** section on the left side of the page and then select the credential you created in the **Credentials** field.

- Repeat step 5 until you have selected your Dynatrace credential in the **Credentials** field for all of the Dynamic Applications listed in the **Subtemplate Selection** section.
- Click **[Save]**.

**NOTE:** To maintain a "clean" version of the template, type a new name in the **Template Name** field and then click **[Save As]** instead of **[Save]**.

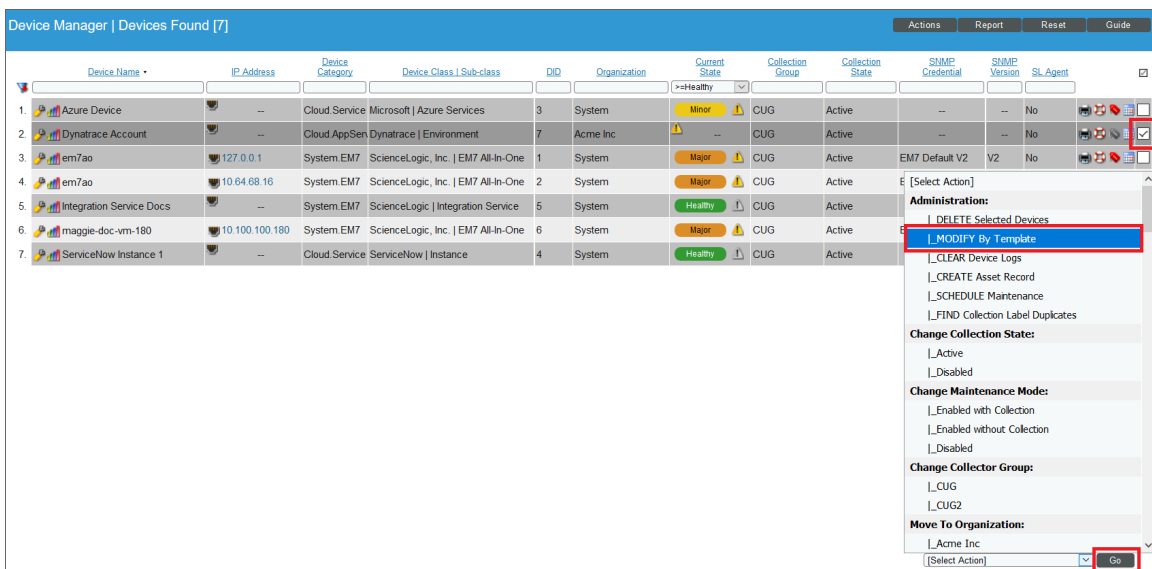
**NOTE:** The "Dynatrace: Events" Dynamic Application is disabled by default in the *Dynatrace PowerPack*. To collect Dynatrace events, you must enable it. To do so, go to the **Dynamic Applications Manager** page (System > Manage > Applications), locate the "Dynatrace: Events" Dynamic Application and click its wrench icon (🔧), change the **Operational State** setting to *Enabled*, and then click **[Save]**.

## Aligning the Device Template to Your Dynatrace Virtual Device

After you have configured the Dynatrace device template so that each Dynamic Application in the template aligns with your Dynatrace credential, you can use that template to align the Dynamic Applications to the virtual device that you created to act as the root device for your Dynatrace environment. When you do so, SL1 discovers and models all of the components in your Dynatrace environment.

To align the Dynatrace device template to the Dynatrace virtual device:

- Go to the **Device Manager** page (Registry > Devices > Device Manager).
- On the **Device Manager** page, select the checkbox for the Dynatrace virtual device.
- In the **Select Actions** field, in the lower right corner of the page, select the option *MODIFY by Template* and then click the **[Go]** button. The **Device Template Editor** page appears.



4. In the **Template** drop-down list, select your Dynatrace device template.

**Bulk Device Configuration (Manually Selected Devices)**

Device Template Editor | Applying Template to Devices | Config Template Settings (Click field labels to enable/disable them) Reset

Template [ **Dynatrace Template** ] Save When Applied & Confirmed  Template Name Dynatrace Template

Config	Interface	CV Policies	Port Policies	Svc Policies	Proc Policies	Dyn Apps	Logs
--------	-----------	-------------	---------------	--------------	---------------	----------	------

**Access & Monitoring**

Device Organization: Acme Inc

SNMP Read: Cisco SNMPv2 - Example | SNMP Write: None

Availability Protocol: TCP | Avail Port: ICMP

Latency Protocol: TCP | Latency Port: ICMP

Avail+Latency Alert: Disabled

Collection: Enabled | Collector Grp: CUG

Coll. Type: Standard

Critical Ping: Disabled

Event Mask: Disabled

**Device Preferences**

Auto-Clear Events:  | Scan All IPs:

Accept All Logs:  | Dynamic Discovery:

Daily Port Scans:  | Preserve Hostname:

Auto-Update:  | Disable Asset Update:

Bypass Interface Inventory:

**Device Retention & Basic Thresholds**

System Latency: 100 ms | Daily Rollup Bandwidth Data: 730 days

Availability Packet Size: 56 bytes | Hourly Rollup Bandwidth Data: 120 days

Availability Ping Count: 1 pings | Raw Performance Data: 7 days

Daily Rollup Performance Data: 730 days

**Interface Inventory Settings**

Interface Inventory: 600000 ms | Maximum Allowed: 10000 interfaces

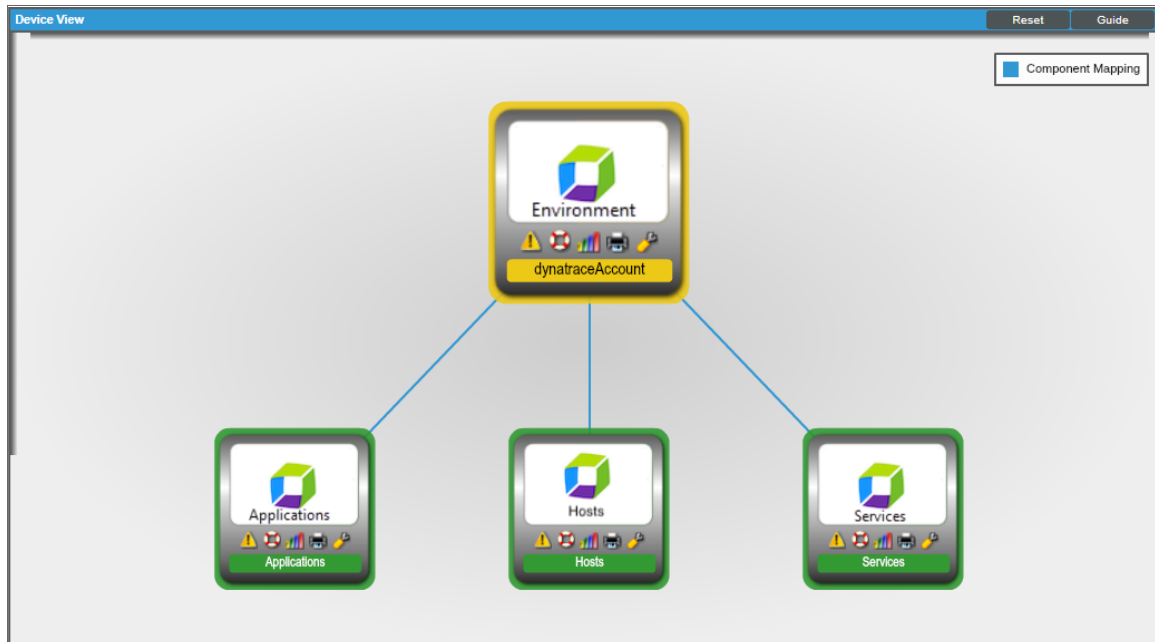
**Apply**

5. Click the **[Apply]** button, and then click **[Confirm]** to align the Dynamic Applications to the root component device.

## Viewing Dynatrace Component Devices

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

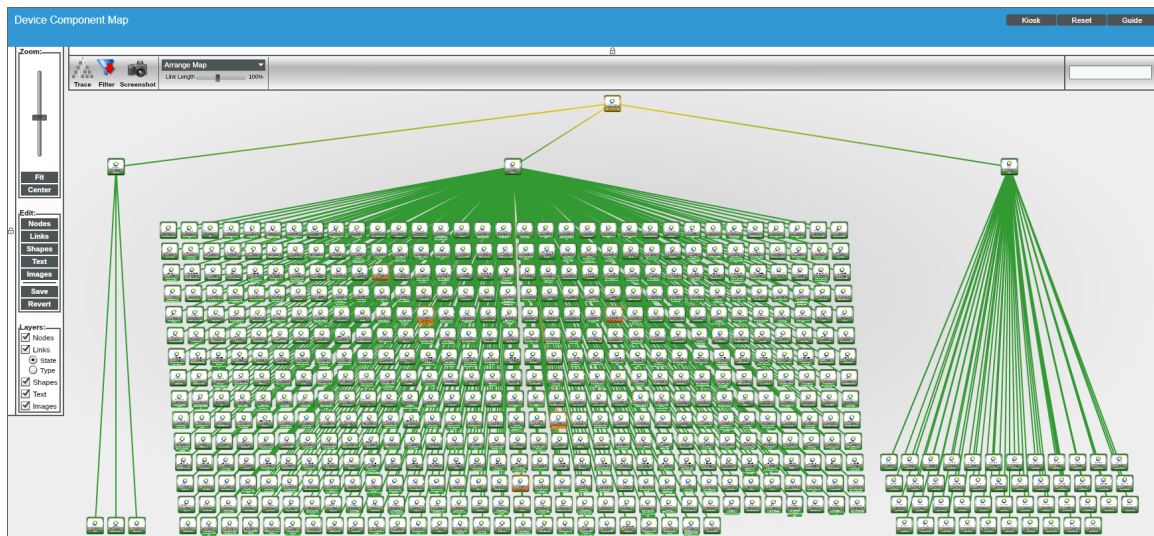
- The **Device View** modal page (click the bar-graph icon [📊] for a device, then click the **Topology** tab) displays a map of a particular device and all of the devices with which it has parent-child relationships. Double-clicking any of the devices listed reloads the page to make the selected device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

Device Name	IP Address	Device Category	Device Class   Sub-class	DID	Organization	Current State	Collection Group	Collection State
1. - DynatraceCustomer	--	AppService	Dynatrace   Environment	11	SILO	Healthy	CUG	Active
1. - Applications	--	AppService	Dynatrace   Applications	676	SILO	Healthy	CUG	Active
1. - Espase clients	--	AppService	Dynatrace   Web Application	678	SILO	Healthy	CUG	Active
2. - www.direct-energie.com	--	AppService	Dynatrace   Web Application	677	SILO	Healthy	CUG	Active
2. + Hosts	--	AppService	Dynatrace   Hosts	12	SILO	Healthy	CUG	Active
3. - Services	--	AppService	Dynatrace   Services	13	SILO	Healthy	CUG	Active
1. - \$Proxy	--	AppService	Dynatrace   Messaging Service	177	SILO	Healthy	CUG	Active
2. - <default>	--	AppService	Dynatrace   Database Service	47	SILO	Healthy	CUG	Active
3. - AbstractTextMessageListener	--	AppService	Dynatrace   Messaging Service	143	SILO	Healthy	CUG	Active
4. - AccountResource	--	AppService	Dynatrace   Webservice Service	165	SILO	Healthy	CUG	Active
5. - ActiTableResource	--	AppService	Dynatrace   Webservice Service	35	SILO	Healthy	CUG	Active
6. - ActiveMQ Queue Listener	--	AppService	Dynatrace   Default Service	211	SILO	Healthy	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. 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 Dynatrace devices, 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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## Relationships Between Component Devices

In addition to parent/child relationships between component devices, SL1 also creates relationships between the following Dynatrace component devices:

- Hosts and Services
- Services and Applications

Additionally, the platform can automatically build relationships between Dynatrace component devices and other associated devices:

- If you discover Azure devices using the Dynamic Applications in the *Microsoft: Azure PowerPack* version 108 or later, SL1 will automatically create relationships between the following device types:
  - Dynatrace Hosts and Azure Virtual Machines
  - Dynatrace Hosts and Azure Virtual Machine Scale Sets
- If you discover Linux devices using the Dynamic Applications in the *Linux Base Pack* PowerPack version 102 or later, SL1 will automatically create relationships between Dynatrace Hosts and Linux Servers.
- If you discover VMware devices using the Dynamic Applications in the *VMware: vSphere Base Pack* PowerPack version 210 or later, SL1 will automatically create relationships between Dynatrace Hosts and VMware Virtual Machines.
- If you discover Windows devices using the Dynamic Applications in the *Microsoft: Windows Server* PowerPack version 107 or later or the *Microsoft Base Pack* PowerPack version 106 or later, SL1 will automatically create relationships between Dynatrace Hosts and Windows Servers.

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# Chapter

# 3

## Dashboards

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### Overview

The following sections describe the device dashboards that are included in the *Dynatrace* PowerPack:

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### Device Dashboards

The *Dynatrace* PowerPack includes device dashboards that provide summary information for *Dynatrace* component devices. Each of the device dashboards in the *Dynatrace* PowerPack is set as the default device dashboard for the equivalent device class.

#### Dynatrace: Custom Application

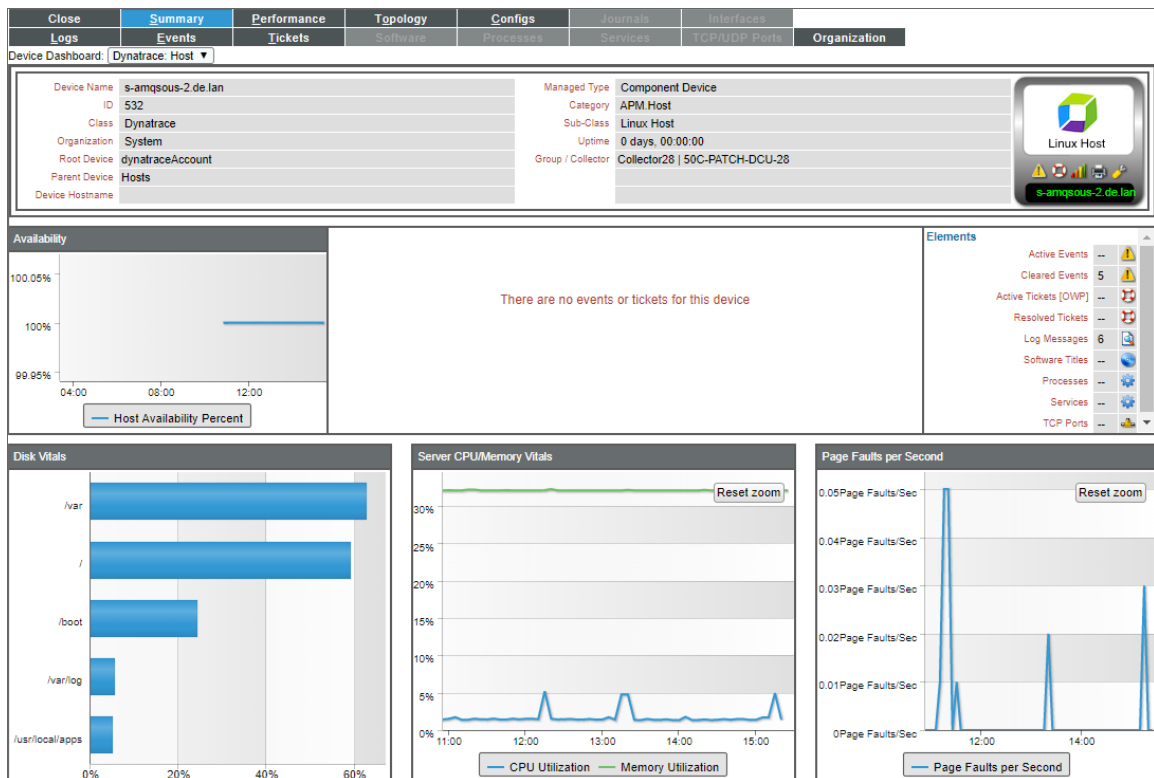
The **Dynatrace: Custom Application** dashboard displays the following information:

- The basic information about the device
- A list of active events and open tickets associated with the device
- A count of, and links to, the elements associated with the device



- Four instances of the Multi-series Performance Widget that display the following metrics trended over the last 12 hours:
  - Apdex rating
  - User actions
  - Web requests
  - Error rates

## Dynatrace: Host



The **Dynatrace: Host** dashboard displays the following information:

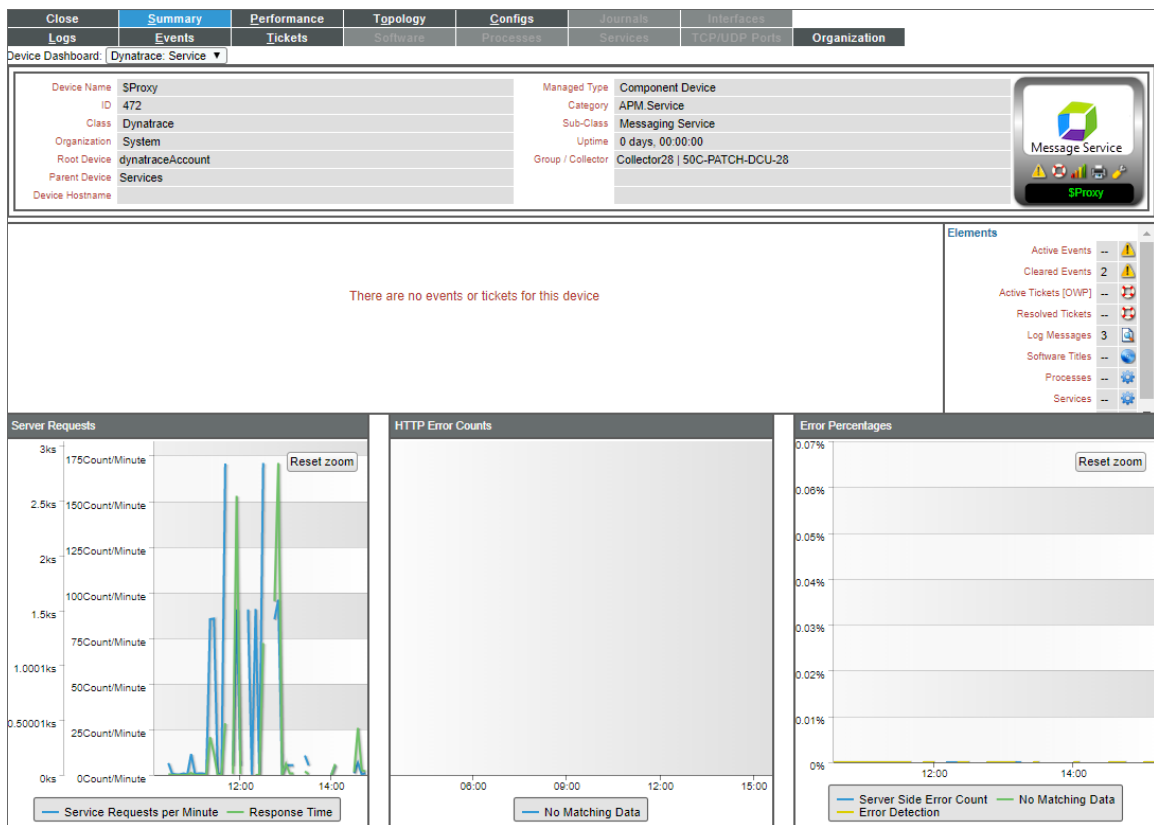
- The basic information about the device
- A list of active events and open tickets associated with the device
- A count of, and links to, the elements associated with the device
- Four instances of the Multi-series Performance Widget that display the following metrics trended over the last 12 hours:
  - Availability
  - Disk utilization
  - Server CPU and memory utilization
  - Page faults per second

# Dynatrace: Mobile Application

The **Dynatrace: Mobile Application** dashboard displays the following information:

- The basic information about the device
- A list of active events and open tickets associated with the device
- A count of, and links to, the elements associated with the device
- Four instances of the Multi-series Performance Widget that display the following metrics trended over the last 12 hours:
  - Apdex rating
  - User actions
  - Web requests
  - Error rates

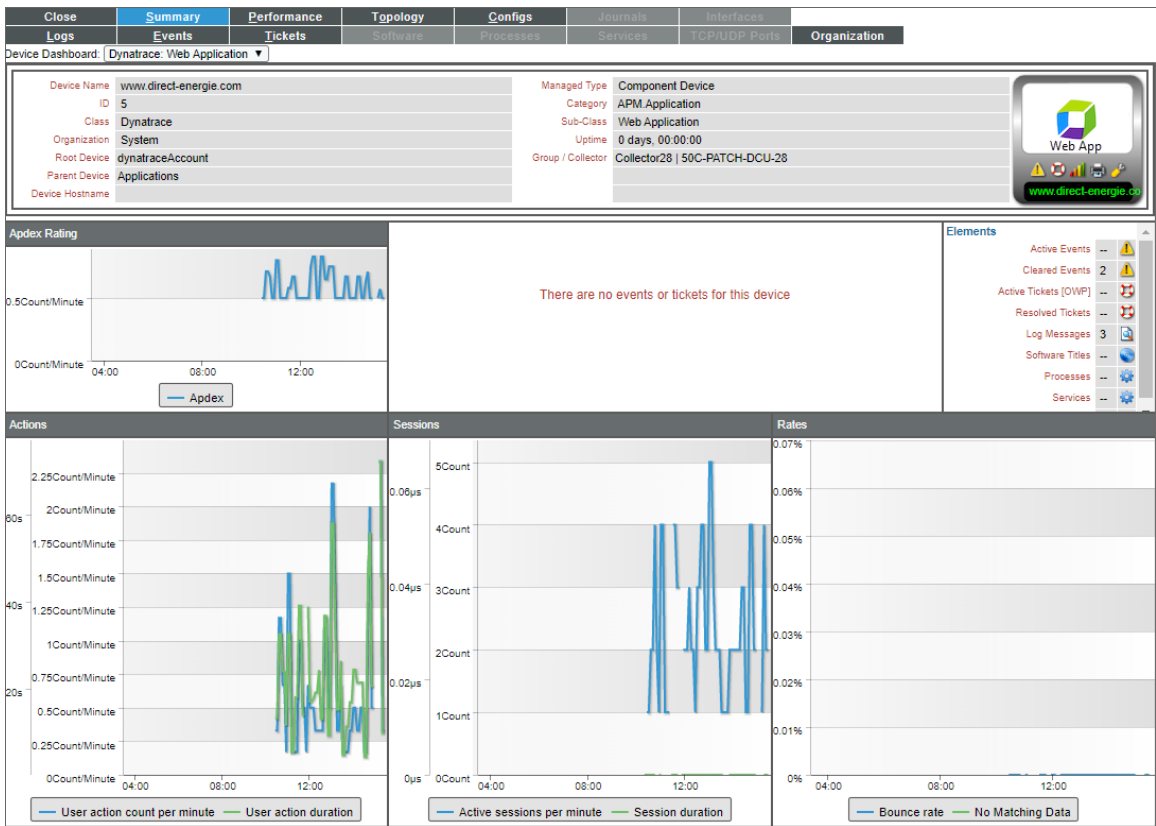
# Dynatrace: Service



The **Dynatrace: Service** dashboard displays the following information:

- The basic information about the device
- A list of active events and open tickets associated with the device
- A count of, and links to, the elements associated with the device
- Three instances of the Multi-series Performance Widget that display the following metrics trended over the last 12 hours:
  - Service requests
  - HTTP error counts
  - Error percentages

## Dynatrace: Web Application



The **Dynatrace: Web Application** dashboard displays the following information:

- The basic information about the device
- A list of active events and open tickets associated with the device
- A count of, and links to, the elements associated with the device
- Four instances of the Multi-series Performance Widget that display the following metrics trended over the last 12 hours:

- Apdex rating
- User actions
- Web requests
- Error rates

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