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# Monitoring Amazon Web Services ELK Stacks

ELK: AWS CloudTrail PowerPack version 101

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# Chapter

# 1

## Introduction

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### Overview

This manual describes how to monitor Amazon Web Services (AWS) component devices that are part of an Elasticsearch, Logstash, and Kibana (ELK) stack in SL1 using the *ELK: AWS CloudTrail* PowerPack.

The following sections provide an overview of AWS ELK stacks and the *ELK: AWS CloudTrail* PowerPack:

This chapter covers the following topics:

<a href="#">What is an AWS ELK Stack?</a> .....	4
<a href="#">What Does the ELK: AWS CloudTrail PowerPack Monitor?</a> .....	4
<a href="#">Installing the ELK: AWS CloudTrail PowerPack</a> .....	4

**NOTE:** The *ELK: AWS CloudTrail* PowerPack is meant to be used in conjunction with the *Amazon Web Services* PowerPack. For more information about the *Amazon Web Services* PowerPack, including how to install the PowerPack and discover AWS devices, see the **Monitoring Amazon Web Services** manual.

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## What is an AWS ELK Stack?

An ELK stack is a centralized log management platform consisting of three open-source products:

- Elasticsearch, a storage solution with search and indexing capabilities
- Logstash, a server-side data collection engine
- Kibana, a web user interface used for visualizing stored data

In an ELK stack, Logstash collects data, Elasticsearch indexes and stores the data, and Kibana visually presents the data in a user-friendly manner.

You can install an ELK stack on an Amazon Web Services instance to collect, store, and visualize data about that instance.

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## What Does the ELK: AWS CloudTrail PowerPack Monitor?

The *ELK: AWS CloudTrail* PowerPack includes the following features:

- A sample Credential that you can use to create Basic/Snippet credentials to monitor AWS component devices in ELK stacks
- Dynamic Applications that align to AWS component devices in ELK stacks and then monitor CloudTrail logs and states changes on EC2 instances
- An Event Policy that notifies users when the ELK Dynamic Applications have aligned to AWS components
- Run Book Policies and Actions that align the ELK Dynamic Applications to AWS components and update the alignment status on the ScienceLogic Data Collector or All-In-One Appliance

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## Installing the ELK: AWS CloudTrail PowerPack

Before completing the steps in this manual, you must import and install the latest version of the *ELK: AWS CloudTrail* 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.)

**IMPORTANT:** The minimum required MySQL version is 5.6.0.

To download and install the PowerPack:

1. Search for and download the PowerPack from the **PowerPacks** page (Product Downloads > PowerPacks & SyncPacks) at the [ScienceLogic Support Site](#).
2. In SL1, go to the **PowerPacks** page (System > Manage > PowerPacks).
3. Click the **[Actions]** button and choose *Import PowerPack*. The **Import PowerPack** dialog box appears.
4. Click **[Browse]** and navigate to the PowerPack file from step 1.
5. Select the PowerPack file and click **[Import]**. The **PowerPack Installer** modal displays a list of the PowerPack contents.
6. Click **[Install]**. The PowerPack is added to the **PowerPacks** page.

**NOTE:** If you exit the **PowerPack Installer** modal without installing the imported PowerPack, the imported PowerPack will not appear in the **PowerPacks** page. However, the imported PowerPack will appear in the **Imported PowerPacks** modal. 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 AWS component devices in ELK stacks for monitoring by SL1 using the *ELK: AWS CloudTrail* PowerPack:

This chapter covers the following topics:

<a href="#">Prerequisites for Monitoring AWS ELK Stacks</a>	6
<a href="#">Creating an AWS ELK Credential</a>	7
<a href="#">Aligning the AWS ELK Dynamic Applications</a>	7

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### Prerequisites for Monitoring AWS ELK Stacks

To configure SL1 to monitor AWS component devices in ELK stacks using the *ELK: AWS CloudTrail* PowerPack, you must first:

- Install the *Amazon Web Services* PowerPack.
- Create a virtual device in SL1 to represent your AWS service.
- Discover AWS component devices by manually aligning the "AWS Account Discovery" Dynamic Application to the virtual device.
- Ensure that your AWS CloudTrail bucket is properly configured for all read/write events.


**NOTE:** For more information about the *Amazon Web Services* PowerPack, including how to install the PowerPack and discover AWS devices, see the *Monitoring Amazon Web Services* manual.

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## Creating an AWS ELK Credential

To use the Dynamic Applications in the *ELK: AWS CloudTrail* PowerPack, you must first define a credential in SL1. This credential enables the Dynamic Applications in the *ELK: AWS CloudTrail* PowerPack to monitor your AWS component devices in ELK stacks. The PowerPack includes a sample Basic/Snippet credential (**ELK: AWS Example**) that you can use as a template.

To define an AWS ELK credential:

1. Go to the **Credential Management** page (System > Manage > Credentials).
2. Click the wrench icon () for the **ELK: AWS Example** credential. The **Credential Editor** modal page appears.
3. Enter values in the following fields:
  - **Credential Name.** Type a new name for your AWS ELK credential.
  - **Hostname/IP.** Type the IP address or hostname for the Logstash server that collects data for the AWS components in your ELK stack.
  - **Port.** Type "9200".

Use the default values for the remaining fields.

**NOTE:** The Basic/Snippet credential requires values in the **Username** and **Password** fields, but the values themselves do not matter.


4. Click the **[Save As]** button, and then click **[OK]**.

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## Aligning the AWS ELK Dynamic Applications

To monitor your AWS component devices in ELK stacks, you must manually align the "ELK: AWS Alignment" Dynamic Application with the AWS virtual device. When you do so, the remaining Dynamic Applications from the *ELK: AWS CloudTrail* PowerPack automatically align to the appropriate AWS component devices.

To manually align the "ELK: AWS Alignment" Dynamic Application to your virtual device:

1. Go to the **Device Manager** page (Registry > Devices > Device Manager).
2. Locate your AWS virtual device and 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 then select *Add Dynamic Application* from the menu.
5. In the **Dynamic Application Alignment** modal page, select *ELK: AWS Alignment* in the **Dynamic Applications** field.

6. In the **Credentials** field, select the [credential you created for your AWS ELK components](#).
7. Click **[Save]**.

**NOTE:** By default, the "ELK: AWS Alignment" Dynamic Application begins collecting data after 60 minutes. If you want to begin collecting data immediately, click the lightning bolt icon (  ) for the "ELK: AWS Alignment" Dynamic Application on the **Dynamic Application Collections** page.

When you align the "ELK: AWS Alignment" Dynamic Application to the AWS root device, SL1 then aligns the following Dynamic Application from the *ELK: AWS CloudTrail* PowerPack to the appropriate component devices:

- ELK: AWS CloudTrail
- ELK: AWS CloudTrail EC2 Stats

To view the data collected by the "ELK: AWS CloudTrail" Dynamic Application, navigate to the **Journal View** page (Registry > Devices > Device Manager > bar-graph icon > Journals) and click **ELK: AWS CloudTrail** on the left menu.

To view the data collected by the "ELK: AWS CloudTrail EC2 Stats" Dynamic Application, navigate to the **Device Performance** page (Registry > Devices > Device Manager > bar-graph icon > Performance) and click **ELK: AWS CloudTrail** on the left menu.



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