ScienceLogic

Jenkins SyncPack

Version 1.0.0

Table of Contents

Chapter

1

Introduction to the Jenkins SyncPack

Overview

This chapter describes how you can use the "Jenkins" SyncPack to configure a bidirectional integration between SL1 events and Jenkins jobs, pipeline jobs, and nodes.

This SyncPack uses the "Jenkins Automation" PowerPack.

This chapter covers the following topics:

How Can I Use this SyncPack?

The "Jenkins" SyncPack includes a configuration object, applications, and steps that bidirectionally sync jobs, pipeline jobs, and node status between Jenkins and SL1.

This SyncPack includes the following applications:

- *Create External Notes For SL1 Event*. This application queries Jenkins for job information to be added to the associated SL1 event.
- *Create Event In SL1 For Jenkins Job Run*. This application creates an SL1 event when a Jenkins job fails.
- *Create Event In SL1 For Jenkins Node Status*. This application creates an SL1 event when a node is offline in Jenkins.
- *Create Event In SL1 For Jenkins Pipeline Job Run*. This application creates an SL1 event when a Jenkins pipeline job fails.
- *Update SL1 Event Triggered*. This application updates an SL1 event with Jenkins job information.
- *Trigger Event In SL1*. This application creates an SL1 event when an SL1 event reaches a major severity threshold.
- *Create Virtual Device In SL1 For Jenkins Jobs And Nodes*. This application creates a virtual device in SL1 that is used to identify Jenkins jobs and nodes.

Contents of the SyncPack

This section lists the contents of the *Jenkins* SyncPack.

PowerFlow Applications

- *Create External Notes For SL1 Event*. This application queries Jenkins for job information to be added to the associated SL1 event.
- *Create Event In SL1 For Jenkins Job Run*. This application creates an SL1 event when a Jenkins job fails.
- *Create Event In SL1 For Jenkins Node Status*. This application creates an SL1 event when a node is offline in Jenkins.
- *Create Event In SL1 For Jenkins Pipeline Job Run*. This application creates an SL1 event when a Jenkins pipeline job fails.
- *Update SL1 Event Triggered*. This application updates an SL1 event with Jenkins job information.
- *Trigger Event In SL1*. This application creates an SL1 event when an SL1 event reaches a major severity threshold.
- *Create Virtual Device In SL1 For Jenkins Jobs And Nodes*. This application creates a virtual device in SL1 that is used to identify Jenkins jobs and nodes.

For more information about how to configure these applications, see *Configuring Applications for the Jenkins SyncPack*.

Configuration Object

- *Base Jenkins Configuration*. This configuration object can be used as a template after the SyncPack is installed on the PowerFlow system. The configuration object includes the following:

    ○ Details for connecting to SL1, including the host, username, and password.

    ○ Details for connecting to Jenkins, including the URL, username, and password.

    ○ Details for notifications including the sender and receiving email, password, server, and port.

    ○ Details for connecting to Jenkins devices including device ID, collector group ID, and device class ID.

Steps

The following steps are included in this SyncPack:

- Build Jenkins Job
- Build Jenkins Job From SL1 Event
- Build Jenkins Pipeline Job
- Create Jenkins Virtual Devices On SL1
- Create SL1 Alert
- Create Virtual Device
- Get Event Details From SL1
- Get Jenkins Nodes Status
- Get List Of Existing Virtual Devices Of Nodes
- Get Virtual Device
- Post Update To SL1
- Read Cache
- Update Jenkins Details To SL1
- Update SL1 Event of Jenkins Build Job

Chapter

2

Installing the Jenkins SyncPack

Overview

This chapter describes how to install the "Jenkins" SyncPack, and how to install the "Jenkins Automation" PowerPack.

This chapter covers the following topics:

Prerequisites for the SyncPack

This SyncPack requires the following:

- The latest "Jenkins Automation" PowerPack
- Administrator access to Jenkins

For the latest System Requirements, see the *SL1 PowerFlow SyncPack Release Notes*.

The following table lists the port access required by PowerFlow and this SyncPack:

Source IP	PowerFlow Destination	PowerFlow Source Port	Destination Port	Requirement
PowerFlow	SL1 API	Any	TCP 443	SL1 API Access
PowerFlow	Jenkins API	Any	TCP 443	Jenkins API Access
PowerFlow	SL1 Database	Any	TCP 7706	SL1 Database Access

Installing the Jenkins SyncPack

A SyncPack file has the **.whl** file extension type. You can download the SyncPack file from the ScienceLogic Support site.

Downloading the SyncPack

> **NOTE:** If you are installing or upgrading to the latest version of this SyncPack in an offline deployment, see *Installing or Upgrading in an Offline Environment* to ensure you install any external dependencies.

To locate and download the SyncPack:

1. Go to the ScienceLogic Support Site at https://support.sciencelogic.com/s/.
2. Click the **[Product Downloads]** tab and select *PowerPacks & SyncPacks*.
3. In the *Search* field, search for the SyncPack and select it from the search results. The **Release Version** page appears.
4. On the **[Files]** tab, click the down arrow next to the SyncPack version that you want to install, and select *Show File Details*. The **Release File Details** page appears.
5. Click the **[Download File]** button to download the SyncPack.

After you download the SyncPack, you can import it to your PowerFlow system using the PowerFlow user interface.

Importing the SyncPack

To import a SyncPack in the PowerFlow user interface:

1. On the **SyncPacks** page (⊙) of the PowerFlow user interface, click **[Import SyncPack]**. The **Import SyncPack** page appears.

2. Click **[Browse]** and select the **.whl** file for the SyncPack you want to install. You can also drag and drop a **.whl** file to the **Import SyncPack** page.

3. Click **[Import]**. PowerFlow registers and uploads the SyncPack. The SyncPack is added to the **SyncPacks** page.

4. You will need to activate and install the SyncPack in PowerFlow. For more information, see the following topic.

NOTE: You cannot edit the content package in a SyncPack published by ScienceLogic. You must make a copy of a ScienceLogic SyncPack and save your changes to the new SyncPack to prevent overwriting any information in the original SyncPack when upgrading.

Installing the SyncPack

To activate and install a SyncPack in the PowerFlow user interface:

1. On the **SyncPacks** page of the PowerFlow user interface, click the **[Actions]** button (⋮) for the SyncPack you want to install and select *Activate & Install*. The **Activate & Install SyncPack** modal appears.

NOTE: If you try to activate and install a SyncPack that is already activated and installed, you can choose to "force" installation across all the nodes in the PowerFlow system.

TIP: If you do not see the PowerPack that you want to install, click the Filter icon (▼) on the **SyncPacks** page and select *Toggle Inactive SyncPacks* to see a list of the imported PowerPacks.

---

2. Click **[Yes]** to confirm the activation and installation. When the SyncPack is activated, the **SyncPacks** page displays a green check mark icon (✅) for that SyncPack. If the activation or installation failed, then a red exclamation mark icon (🔴) appears.

3. For more information about the activation and installation process, click the check mark icon (✅) or the exclamation mark icon (🔴) in the **Activated** column for that SyncPack. For a successful installation, the "Activate & Install SyncPack" application appears, and you can view the Step Log for the steps. For a failed installation, the **Error Logs** window appears.

4. If you have other versions of the same SyncPack on your PowerFlow system, you can click the **[Actions]** button (⋮) for that SyncPack and select *Change active version* to activate a different version other than the version that is currently running.

Installing the Jenkins Automation PowerPack

The "Jenkins Automation" PowerPack includes automation policies and action policies that bidirectionally sync jobs, pipeline jobs, and node status between Jenkins and SL1.

NOTE: The *Jenkins Automation* PowerPack requires SL1 version 11.1.0 or later. For details on upgrading SL1, see the *SL1 Platform Release Notes*.

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 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*.

Chapter

3

Configuring Applications for the Jenkins SyncPack

Overview

This chapter describes how to set up the run book automations in SL1 and how to configure the PowerFlow applications in the "Jenkins" SyncPack.

This chapter covers the following topics:

Workflow for Configuring the SyncPack

The following workflows describe how to configure SL1 and PowerFlow to work with the "Jenkins" SyncPack.

Configuring SL1

1. *Enable the Jenkins event policies*
2. *Create a SOAP/XML credential to access PowerFlow*
3. *Edit the Jenkins run book actions*
4. *Enable the Jenkins run book automations*

Configuring PowerFlow

1. *Create and align a PowerFlow configuration object*
2. *Configure the Jenkins PowerFlow applications*
3. *Schedule the PowerFlow applications*

Configuring SL1

The following topics cover how to set up your SL1 instance to work with the "Jenkins" SyncPack.

Enabling the Jenkins Event Policies

The "Jenkins Automation" PowerPack includes 11 event policies that you can enable to trigger the events detected by the applications included in the"Jenkins" SyncPack and its associated automation action policy.

To enable the event policies:

1. Go to the **Event Policies** page (Events > Event Policies).
2. Click the check boxes for all of the "Jenkins" event policies. A row of buttons appear at the top of the list.
3. Click **[Enable]**. The Status for all 11 policies is updated to "Enabled".

Creating a SOAP/XML Credential to Access PowerFlow

You will need to create a SOAP/XML credential in SL1 so that the action policies included in the "Jenkins Automation" PowerPack can access your PowerFlow system. The PowerPack includes the "PowerFlow Jenkins" sample credential, which you can edit for use with your PowerFlow system.

To create a SOAP/XML credential:

1. Go to the **Credentials** page (Manage > Credentials).
2. Locate the "PowerFlow Jenkins" sample credential, click its **[Actions]** icon (⋯), and select *Duplicate*. A copy

of the credential, called "PowerFlow Jenkins copy" appears.

3. Supply values in the following fields:

   - **Name**. Type a new name for the credential.

   - **All Organizations**. Toggle on (blue) to align the credential to all organizations, or toggle off (gray) and then select one or more specific organizations from the **What organization manages this service?** drop-down field to align the credential with those specific organizations.

   - **URL**. Type the URL for your PowerFlow system.

   - **HTTP Auth User**. Type the username for your PowerFlow system.

   - **HTTP Auth Password**. Type the password for your PowerFlow system.

4. Click **[Save & Close]**.

5. Take note of the SL1-assigned ID number for the new credential on the **Credentials** page, in the **ID** column. You will need the ID number when editing the input parameters of the run book actions included in the PowerPack, below.

Editing the Jenkins Run Book Actions

The "Jenkins Automation" PowerPack includes eleven following run book action policies. These action policies use the "Run Integration Service Application" action type to trigger the corresponding PowerFlow application that collects data from Ansible. You can specify the credential ID in a JSON structure that you enter in the **Input Parameters** field in the **Action Policy Editor** modal.

To edit the action policies included in the PowerPack:

1. In SL1, go to the **Actions** page (Registry > Run Book > Actions).

2. Locate the action policy that you want to use, and then click its wrench icon (🔧). The **Editing Action** page appears.

3. In the **Input Parameters** field, change the values of the following parameters:

   - **credential_id**. Change the value to the credential ID that you noted earlier when creating a credential for your PowerFlow system in the previous procedure. This parameter is required.

   - **include_event**. Leave the value as "true".

   - **application_name**. Leave the default application value.

   - **params**. Leave the default parameter value.

4. Make sure the **Action State** is set to *Enabled*, and then click **[Save]**.

Enabling the Jenkins Run Book Automations

The "Jenkins Automation" PowerPack includes eleven run book automation policies that you will need to enable. These policies update the SL1 event with the state of the associated Jenkins job. When a node is offline, a failure occurs, or a major event is detected in Jenkins, SL1 creates an event and updates the associated event with relevant job details.

To enable the run book automations:

1. In SL1, go to the **Automation** page (Registry > Run Book > Automation).
2. Locate a"Jenkins" automation policy and click its wrench icon (🔧). The **Automation Policy Editor** page appears.
3. Update the following fields:
    - *Policy State*. Select *Enabled*.
    - *Policy Priority*. Select *High* to ensure that this PowerFlow automation policy is added to the top of the queue.
    - *Available Actions*. If it is not already selected, select the "Run Integration Service Application: *<name>*" action that corresponds with the Jenkins automation policy you selected in step 2, and click the arrows to move it to *Aligned Actions*.

> **WARNING:** ScienceLogic highly recommends that you do not make changes to the *Policy Type*, *Repeat Time*, or *Align With* fields or the *And event is NOT acknowledged* setting.

4. Click **[Save]**.
5. Repeat steps 2-4 for the remaining "Jenkins" run book automation policies.

The following table shows the automation policy, its aligned events, and the automation action that runs in response to the events.

Automation Policy Name	Aligned Events	Run Book Action
Jenkins Node: Healthy	Jenkins: Healthy Event	Jenkins: Event Update
Jenkins Node: Major	Jenkins: Major Event	Jenkins: Alert
Jenkins: Job Pending	Jenkins: Pending Event	Jenkins: Event Update
Jenkins: Job Failure	Jenkins: Major Event	Jenkins: Alert
Jenkins: Healthy	Jenkins: Healthy Event	Jenkins: Event Update
Jenkins: Trigger	Jenkins: Trigger	Jenkins: Trigger
Jenkins: Trigger Healthy	Jenkins: Healthy Event	Jenkins: Event Update
Jenkins: Trigger Job Pending	Jenkins: Pending Event	Jenkins: Job Pending State
Jenkins: Pipeline Job Failure	Jenkins: Major Event	Jenkins: Alert
Jenkins: Pipeline Job Healthy	Jenkins: Healthy Event	Jenkins: Event Update

Automation Policy Name	Aligned Events	Run Book Action
Jenkins: Pipeline Job Pending	Jenkins: Pending Event	Jenkins: Job Pending State

Configuring PowerFlow

The following topics cover how to set up your PowerFlow instance to work with the "Jenkins" SyncPack.

Creating and a Configuration Object

A **configuration object** supplies the login credentials and other required information needed to execute the steps for a PowerFlow application. The **Configurations** page (⚙) of the PowerFlow user interface lists all available configuration objects for that system.

You can create as many configuration objects as you need. A PowerFlow application can only use one configuration object at a time, but you can use (or "align") the same configuration object with multiple applications.

To use this SyncPack, you will need to use an existing configuration object in the PowerFlow user interface or create a new configuration object. Next, you need to align that configuration object to the relevant applications.

For this SyncPack, you should make a copy of the "Base Jenkins Configuration" configuration object, which is the sample configuration file that was installed with the *Jenkins* SyncPack.

> **TIP:** The "Base Jenkins Configuration" configuration object contains all of the required variables. Simply update the variables from that object to match your SL1 and Jenkins settings.

To create a configuration object based on the "Base Jenkins Configuration" configuration object:

1. In the PowerFlow user interface, go to the **Configurations** page (⚙).
2. Click the **[Actions]** button (⋮) for the "Base Jenkins Configuration" configuration object and select *Edit*. The **Configuration** pane appears.
3. Click **[Copy as]**. The **Create Configuration** pane appears.
4. Complete the following fields:
    - *Friendly Name*. Type a name for the configuration object that will display on the **Configurations** page.
    - *Description*. Type a brief description of the configuration object.
    - *Author*. Type the user or organization that created the configuration object.
    - *Version*. Type a version of the configuration object.
5. In the **Configuration Data** field, update the default variable definitions to match your PowerFlow configuration:

- **sl1_host**. Type the hostname or IP address of the SL1 system the alerts will synchronize with.
- **sl1_password**. Type the password for your SL1 system.
- **sl1_user**. Type the username for your SL1 system.
- **jenkins_url**. Enter the URL for your Jenkins system.
- **jenkins_username**. Type the username for your Jenkins system.
- **jenkins_password**. Type the password for your Jenkins system.
- **job_name**. Type the name for your Jenkins job.
- **receiver_mail**. Type the email address that you want to receive updates on SL1 events and your Jenkins jobs.
- **sender_mail**. Type the email address that you want updates on SL1 events and your Jenkins jobs to send from.
- **sender_mail_password**. Type the password for the sender email address that you entered.
- **mailserver**. Type the server for your sender email.
- **mailserverport**. Type the port for your sender email.
- **node_device_class_id**. Type the device class ID for your Jenkins instance.
- **job_device_class_id**. Type the device class ID for your Jenkins job.
- **guid_node_major_event**. Enter the GUID of the SL1 event policy.
- **collector_group_id**. Type the collector group ID for your Jenkins instance.
- **device_id**. Type the device ID for your Jenkins instance.
- **guid_job_major_event**. Enter the GUID of the SL1 event policy.
- **guid_job_trigger_event**. Enter the GUID of the SL1 event policy.
- **guid_pipeline_job_major_event** Enter the GUID of the SL1 event policy.

6. Click **[Save]**. You can now align this configuration object with one or more applications.

Aligning a Configuration Object and Configuring PowerFlow Applications

With this SyncPack, you can create SL1 events based on Jenkins jobs. You will need to align the *Jenkins SyncPack* applications with the relevant configuration object in PowerFlow, and, if needed, update any other fields on the **Configuration** pane for the applications.

To align the configuration object with the relevant PowerFlow applications:

1. On the **Applications** page of the PowerFlow user interface, open one of the PowerFlow applications listed above and click **[Configure]** (⚙). The **Configurations** pane for that application appears.

2.   From the **Configurations** drop-down, select the configuration object you want to use.

> NOTE: The values for **sl1_hostname** and the other parameters that appear in the **Configuration** pane with a padlock icon (🔒) are populated by the configuration object you aligned with the application. Do not modify these values. If you encounter an error, make sure your configuration object is configured properly.

3.   Click **[Save]** to align that configuration with the application.

4.   Repeat this process for the other PowerFlow applications.

Scheduling PowerFlow Applications

To trigger the applications in the SyncPack, you must schedule the PowerFlow applications that are included in the SyncPack.

You can create one or more schedules for a single application in the PowerFlow user interface. When creating each schedule, you can specify the queue and the configuration file for that application.

To create a schedule:

1.   On the **Applications** page (▦), click the **[Schedule]** button for the application you want to schedule. The **Scheduler** window appears.

2.   In the **Schedule List** pane, click the down arrow icon (⌄) next to an existing schedule to view the details for that schedule.

3.   In the **Schedule Creator** pane, complete the following fields for the default **Frequency** setting:

   - **Schedule Name**. Type a name for the schedule.

   - **Frequency in seconds**. Type the number of seconds per interval that you want to run the application.

   - **Custom Parameters**. Type any JSON parameters you want to use for this schedule, such as information about a configuration file or mappings.

4.   To use a cron expression, click the **Switch to Cron Expression** toggle to turn it blue. If you select this option, you can create complicated schedules based on minutes, hours, the day of the month, the month, and the day of the week:

As you update the cron expression, the **Schedule** window displays the results of the expression in more readable language, such as *Runs app: "Every 0 and 30th minute past every hour on Sat"*, based on 0,30 in the **Minutes** field and 6 in the **Day of Week** field.

5. Click **[Save Schedule]**. The schedule is added to the **Schedule List** pane. Also, on the **Applications** page, the **[Schedule]** button now displays with a dark blue background:
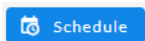
NOTE: After you create a schedule, it continues to run until you delete it. Also, you cannot edit an existing schedule, but you can delete it and create a similar schedule if needed.

To view or delete an existing schedule:

1. On the **Applications** page, click the **[Schedule]** button for the application that contains a schedule you want to delete. The **Scheduler** window appears.

2. Click the down arrow icon (∨) to view the details of an existing schedule.

3. To delete the selected schedule, click the Actions icon (⋮) and select**[Delete]**.

TIP: On the **Scheduler** window for a PowerFlow application, you can click the **[Copy as]** button from the **Schedule List** pane to make a copy of an existing schedule.

NOTE: When either multiple SL1 instances or multiple Jenkins instances are involved with PowerFlow, you should create an individual configuration object for each SL1 or Jenkins instance. Next, create an individual schedule for each configuration object. Each schedule should use a configuration object that is specific to that single SL1 or Jenkins instance. Creating copies of a PowerFlow application from a SyncPack for the purpose of distinguishing between domains is not supported, and will result in issues on upgrades.

© 2003 - 2024, ScienceLogic, Inc.

All rights reserved.

LIMITATION OF LIABILITY AND GENERAL DISCLAIMER

ALL INFORMATION AVAILABLE IN THIS GUIDE IS PROVIDED "AS IS," WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED. SCIENCELOGIC™ AND ITS SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT.

Although ScienceLogic™ has attempted to provide accurate information on this Site, information on this Site may contain inadvertent technical inaccuracies or typographical errors, and ScienceLogic™ assumes no responsibility for the accuracy of the information. Information may be changed or updated without notice. ScienceLogic™ may also make improvements and / or changes in the products or services described in this Site at any time without notice.

Copyrights and Trademarks

ScienceLogic, the ScienceLogic logo, and EM7 are trademarks of ScienceLogic, Inc. in the United States, other countries, or both.

Below is a list of trademarks and service marks that should be credited to ScienceLogic, Inc. The ® and ™ symbols reflect the trademark registration status in the U.S. Patent and Trademark Office and may not be appropriate for materials to be distributed outside the United States.

- ScienceLogic™
- EM7™ and em7™
- Simplify IT™
- Dynamic Application™
- Relational Infrastructure Management™

The absence of a product or service name, slogan or logo from this list does not constitute a waiver of ScienceLogic's trademark or other intellectual property rights concerning that name, slogan, or logo.

Please note that laws concerning use of trademarks or product names vary by country. Always consult a local attorney for additional guidance.

Other

If any provision of this agreement shall be unlawful, void, or for any reason unenforceable, then that provision shall be deemed severable from this agreement and shall not affect the validity and enforceability of any remaining provisions. This is the entire agreement between the parties relating to the matters contained herein.

In the U.S. and other jurisdictions, trademark owners have a duty to police the use of their marks. Therefore, if you become aware of any improper use of ScienceLogic Trademarks, including infringement or counterfeiting by third parties, report them to Science Logic's legal department immediately. Report as much detail as possible about the misuse, including the name of the party, contact information, and copies or photographs of the potential misuse to: legal@sciencelogic.com. For more information, see https://sciencelogic.com/company/legal.

ScienceLogic