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# Microsoft Teams Integrations

Microsoft Teams Synchronization PowerPack Version 1.0.0

Microsoft Teams Integration PowerPack Version 1.00

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# Chapter

# 1

## Introduction to the Microsoft Teams Synchronization PowerPack

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### Overview

This chapter describes how you can use the *Microsoft Teams Synchronization PowerPack* to automatically create channels and trigger event messages from SL1 to Microsoft Teams. The integration is uni-directional between SL1 and Microsoft Teams.

This Synchronization PowerPack requires a subscription to ScienceLogic Standard solutions.

**NOTE:** The label "SyncPack" is used in place of "Synchronization PowerPack" in the PowerFlow user interface.

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This manual covers the following topics:

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### Prerequisites for the Synchronization PowerPack

This Synchronization PowerPack requires the following:

- Administrator access to the SL1 Administration Portal
- Administrator access to Microsoft Teams
- A secured SSL/TLS-enabled connection to PowerFlow

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

Source IP	PowerFlow Destination	PowerFlow Source Port	Destination Port	Requirement
PowerFlow	SL1 API	Any	TCP 443	SL1 API Access
PowerFlow	Microsoft Teams API	Any	TCP 443	Microsoft Teams API Access

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## Contents of the Synchronization PowerPack

This section lists the contents of the *Microsoft Teams* Synchronization PowerPack.

### PowerFlow Applications

- **Create Channel For Event.** This application creates a channel in Microsoft Teams to post event notifications from SL1.
- **Created Channel Event Notification MS Teams.**
- **Major Event Notification To MS Teams.**
- **Outage Event Notification.**
- **Sync Event Status From Teams to SL1.** This application synchronizes an event update made in Microsoft Teams with the event status in SL1.

For more information about how to configure these applications, see [Configuring and Aligning a Configuration Object in PowerFlow](#).

### Configuration Object

- **Sample Microsoft Teams Config.** This configuration object can be used as a template after the Synchronization PowerPack is installed on the PowerFlow system. The configuration object includes the following:
  - Details for connecting to the SL1 API, including the URL, username, and password
  - Details for connecting to the Microsoft Teams API, including the base URL, private instance URL, and API keys
  - Details for connecting to an HTTP Proxy when communicating with Microsoft Teams, including the hostname or IP address, username, and password
  - Mapping between SL1 events and Microsoft Teams alerts including, device ID format, heartbeat and schedule name, default user, and maintenance object format information

## Steps

The following steps are included in this Synchronization PowerPack:

- Call User on Teams
- Create Teams Channel
- Create SL1 Payload
- Delete Event From SL1
- Fetch Channel ID From Name
- Fetch Microsoft Email
- Fetch Teams User Input Data
- Post Event Card To Teams
- Post Event Details To Channel
- Post Update to SL1

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## Installing the Synchronization PowerPack

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

## Downloading the Synchronization PowerPack

**NOTE:** If you are installing or upgrading to the latest version of this Synchronization PowerPack in an offline deployment, see [Installing or Upgrading in an Offline Environment](#) to ensure you install any external dependencies.

To locate and download the Synchronization PowerPack:

1. Go to the ScienceLogic Support Site at <https://support.sciencelogic.com/s/>.
2. Click the **[Product Downloads]** tab and select *PowerPack*.
3. In the **Search PowerPacks** field, search for the Synchronization PowerPack and select it from the search results. The **Release Version** page appears.
4. On the **[PowerPack Versions]** tab, click the name of the Synchronization PowerPack version that you want to install. The **Release File Details** page appears.
5. Click the **[Download File]** button to start downloading the file.

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

## Importing the Synchronization PowerPack

To import a Synchronization PowerPack 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 Synchronization PowerPack 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 Synchronization PowerPack. The Synchronization PowerPack is added to the **SyncPacks** page.
4. You will need to activate and install the Synchronization PowerPack in PowerFlow. For more information, see [Activating and Installing a Synchronization PowerPack](#).

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

## Installing the Synchronization PowerPack


To activate and install a Synchronization PowerPack in the PowerFlow user interface:

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

**NOTE:** If you try to activate and install a Synchronization PowerPack 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 Synchronization PowerPack is activated, the **SyncPacks** page displays a green check mark icon (✓) for that Synchronization PowerPack. 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 Synchronization PowerPack. 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 Synchronization PowerPack on your PowerFlow system, you can click the **[Actions]** button (  ) for that Synchronization PowerPack and select *Change active version* to activate a different version other than the version that is currently running.

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# Chapter

# 2

## Configuring Applications for the Microsoft Teams Synchronization PowerPack

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### Overview

This chapter describes how to set up the PowerFlow applications for the *Microsoft Teams Synchronization PowerPack*.

This chapter covers the following topics:

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<i>Creating and Aligning a Configuration Object in PowerFlow</i> .....	10
<i>Scheduling PowerFlow Applications</i> .....	15



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# Configuring Microsoft Teams

To configure Microsoft Teams to work with PowerFlow, you must register an application in Azure Active Directory and perform some configuration steps for that application before using the *Microsoft Teams Synchronization PowerPack*. To configure the application:

1. [Follow the steps in Microsoft's documentation](#) to register your application in Azure Active Directory.
2. Note the "app\_id(client\_id)", "client\_secret", and "tenant\_id" of your application.
3. Grant scoped permissions to the web API, specifically the following:
  - Calls.Initiate.All
  - Call.InitiateGroupCall.All
  - Channel.Create
  - ChannelMessage.Send
  - Channel.ReadBasic.All
  - offline\_access
  - openid
  - User.Read
  - User.Read.All
4. [Follow these steps](#) to authorize a user and retrieve the "refresh\_token".


**NOTE:** If a refresh token is generated **before** enabling multi-factor authentication (MFA), the same token will not work once MFA is enabled. In this case you must generate a new refresh token once MFA is enabled and update it in your PowerFlow configuration.

5. [Create incoming webhooks](#) in Microsoft Teams and ensure the channel privacy setting is "standard" and not "private".
6. Note the URL of your webhook(s).
7. Create a bot [here](#) (only required fields are needed).
8. After creating your bot, click **My bots** from the top menu and select your bot.
9. Add Microsoft Teams as a featured channel and enable calling.
10. Create an intermediary URL:
  - In PowerFlow, navigate to the **API Keys** page (🔑).
  - Select [**Create API Key**] and copy the key once it is generated.
  - Create the following URL, inserting your PowerFlow IP address and API key where indicated, and paste it in to your PowerFlow configuration:

```
https://<Your PF IP Address>/api/v1/applications/sync_event_status_from_teams_to_sl1/run?PF-APIKEY=<API Key>
```

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## Creating and Aligning a Configuration Object in PowerFlow

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 Synchronization PowerPack, 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.

### Creating a Configuration Object

For this Synchronization PowerPack, you can make a copy of the "Sample Microsoft Teams Config" configuration object, which is the sample configuration file that was installed with the *Microsoft Teams* Synchronization PowerPack.

**TIP:** The "Sample Microsoft Teams Config" configuration object contains all of the required variables. Simply update the variables from that object to match your SL1 and Microsoft Teams settings.

To create a configuration object based on the "Sample Microsoft Teams Config" configuration object:

1. In the PowerFlow user interface, go to the **Configurations** page (  ).
2. Click the **[Edit]** button for the "Sample Microsoft Teams Config" configuration object. The **Configuration** pane appears:

## Sample Microsoft Teams Config



Toggle JSON Editor

Description

sample configuration file for MS Teams

Version

1.0.0

## Configuration Data Values

Name	Value	<input type="checkbox"/> Encrypted	
sl1_host	dummy	<input type="checkbox"/> Encrypted	
sl1_password	WxxFHTgw4ZG+1HM5c	<input checked="" type="checkbox"/> Encrypted	
sl1_user	dummy	<input type="checkbox"/> Encrypted	
refresh_token	ZV9k8L3QXdoXOetn0t7	<input checked="" type="checkbox"/> Encrypted	
client_id	dummy	<input type="checkbox"/> Encrypted	
client_secret	7XfxPIfryJOI1c/8CC1fw	<input checked="" type="checkbox"/> Encrypted	

Add Value

Copy as

Save

3. Click **[Copy as]**. The **Create Configuration** pane appears.
4. Complete the following fields:
  - **Friendly Name**. Name of the configuration object that will display on the **Configurations** page.
  - **Description**. A brief description of the configuration object.
  - **Author**. User or organization that created the configuration object.
  - **Version**. Version of the configuration object.
5. In the **Configuration Data Values** fields, update the default variable definitions to match your PowerFlow configuration:

- **sl1\_host**. The hostname or IP address of the SL1 system the alerts will synchronize to.
- **sl1\_user**. The username for your SL1 system.
- **sl1\_password**. The password for your SL1 system.
- **refresh\_token**. The refresh token you received in Azure Active Directory.
- **client\_id**. ID of registered app in Azure Active Directory.
- **client\_secret**. Secret code given for the corresponding app in Azure Active Directory.
- **tenant\_id**. Tenant ID of the Azure Active Directory.
- **team\_id**. ID of your team in Microsoft Teams.
- **ms\_teams\_webhook\_url**. The URL of the webhook you created in Azure Active Directory.
- **microsoft\_user\_ids**. Microsoft Teams user ID used for group calling. For a group call, enter multiple user IDs in your PowerFlow configuration separated by commas. For example:

```
{  
  
  "encrypted": false,  
  
  "name": "microsoft_user_ids",  
  
  "value": "dce672e6-c430-43f9-b17e-bfe07e51816d,30127c40-  
12b3-436b-8523-115d3b814ea9"  
  
}
```

- **default\_ack\_user**. The default user to acknowledge events and alerts.
  - **intermediary\_url**. URL endpoint of the intermediary between Microsoft Teams and PowerFlow for sending user interaction data.
9. Click **[Save]**. You can now align this configuration object with one or more applications.


## Aligning a Configuration Object and Configuring PowerFlow Applications

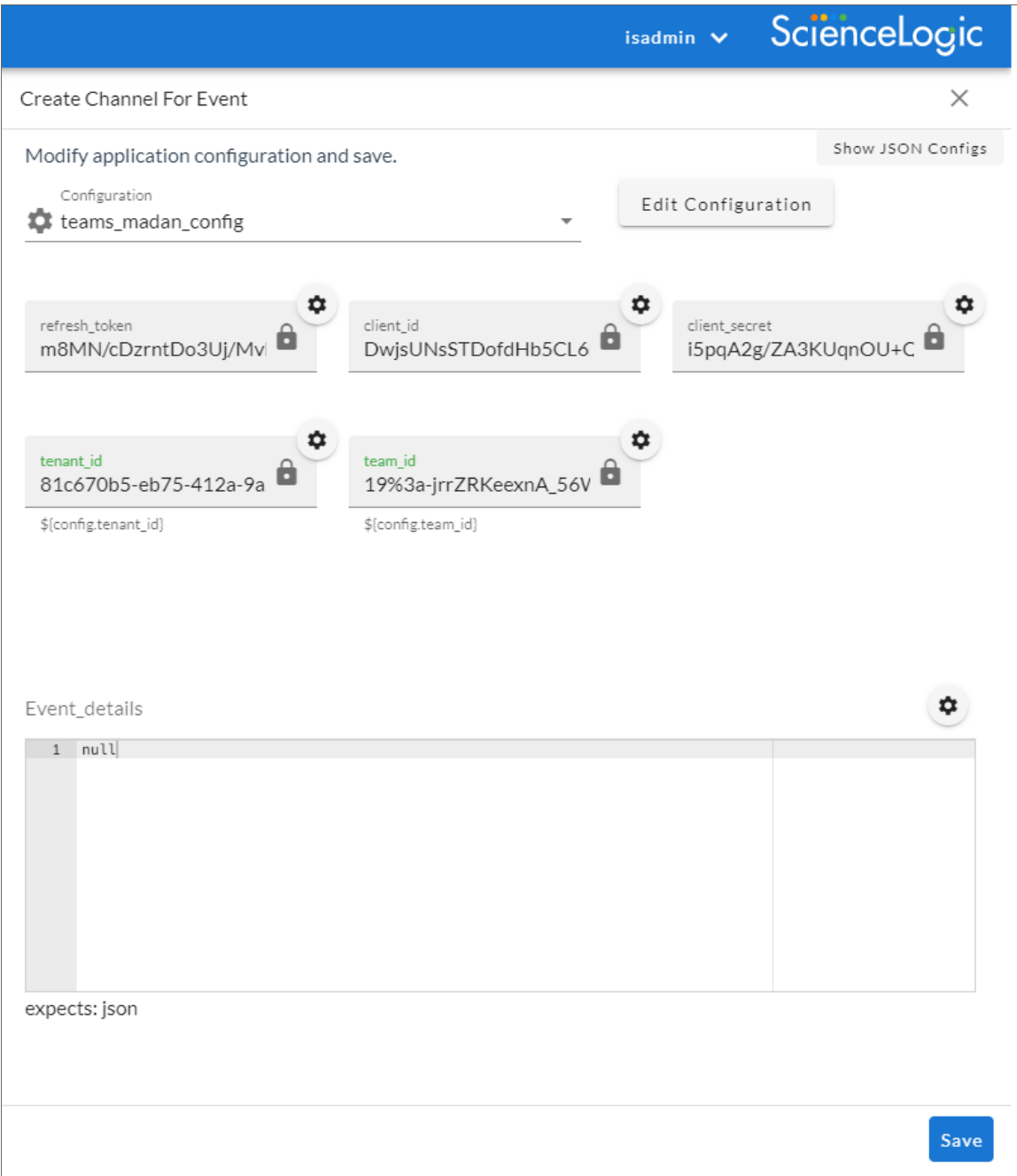
With this Synchronization PowerPack, any status changes made to an SL1 event is sent to Microsoft Teams to update the corresponding alert. Any status changes to the Microsoft Teams alert are synced back to the corresponding SL1 event. You will need to align the Microsoft Teams applications with the relevant configuration object in PowerFlow, and, if needed, update any other fields on the **Configuration** pane for the applications.

To run this Synchronization PowerPack, you must "align" the configuration object to run with the following PowerFlow applications:

- Create Channel For Event
- Created Channel Event Notification MS Teams
- Major Event Notification To MS Teams
- Outage Event Notification
- Sync Event Status From Teams to SL1

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:



isadmin ScienceLogic

Create Channel For Event

Modify application configuration and save. Show JSON Configs

Configuration  
teams\_madan\_config Edit Configuration

refresh\_token  
m8MN/cDzrntDo3Uj/Mvi

client\_id  
DwjsUNsSTDofdHb5CL6

client\_secret  
i5pqA2g/ZA3KUqnOU+C

tenant\_id  
81c670b5-eb75-412a-9a  
\${config.tenant\_id}

team\_id  
19%3a-jrrZRKeexnA\_56V  
\${config.team\_id}

Event\_details

1	null
---	------

expects: json

Save

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

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

- Click **[Save]** to align that configuration with the application.
- Wait until you see the "App & Config modifications saved" pop-up message before proceeding.
- Repeat this process for the other PowerFlow applications.

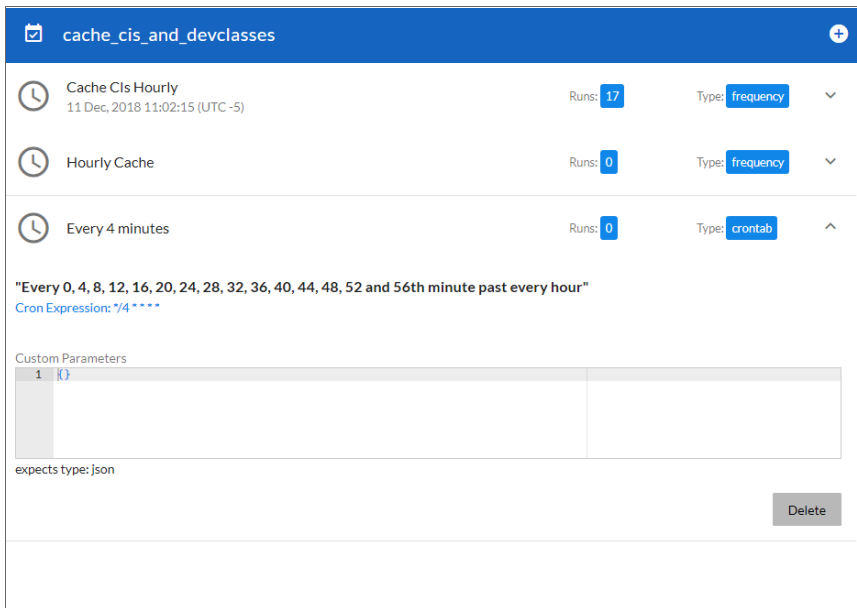
---

## Scheduling PowerFlow Applications

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 schedule an application:

- On the **Applications** page (📄), click the **[Schedule]** button for the application you want to schedule. The **Schedule** window appears, displaying any existing schedules for that application:



**NOTE:** If you set up a schedule using a cron expression, the details of that schedule display in a more readable format in this list. For example, if you set up a cron expression of `*/4 * * * *`, the schedule on this window includes the cron expression along with an explanation of that expression: "Every 0, 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, and 56th minute past every hour".

2. Select a schedule from the list to view the details for that schedule.
3. Click the + icon to create a schedule. A blank **Schedule** window appears:

The screenshot shows a window titled "cache\_cis\_and\_devclasses" with a red close button. Inside, there's a "Schedule Name" field, a "Switch to Cron Expression" toggle, a "Frequency" field with a "secs" unit, and a "Custom Parameters" section with a table containing three rows: "1 - [", "2 - ()", and "3 - ]". Below the table, it says "expects type: json". A blue "Save Schedule" button is at the bottom right.

4. In the **Schedule** window, complete the following fields:
  - **Schedule Name.** Type a name for the schedule.
  - **Switch to.** Use this toggle to switch between a cron expression and setting the frequency in seconds.
    - **Cron expression.** Select this option to schedule the application using a cron expression. 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 *Expression: "Every 0 and 30th minute past every hour on the 1 and 31st of every month", based on `*/30 * */30 * *`.*
    - **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.



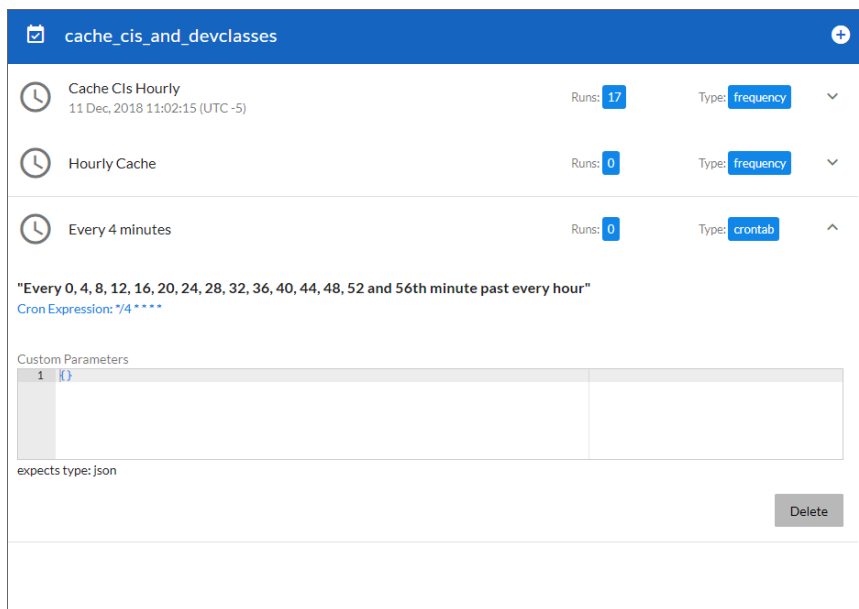
5. Click **[Save Schedule]**. The schedule is added to the list of schedules on the initial **Schedule** window. Also, on the **Applications** page, the word "Scheduled" appears in the **Scheduled** column for this application, and the **[Schedule]** button contains a check mark:



**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 **Schedule** window appears.
2. Click the down arrow icon (▼) to view the details of an existing schedule:



3. To delete the selected schedule, click **[Delete]**. The schedule is removed.

**NOTE:** When either multiple SL1 instance or multiple Microsoft Teams instances are involved with PowerFlow, you should create an individual configuration object for each SL1 or Microsoft Teams 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 Microsoft Teams instance. Creating copies of a PowerFlow application from a Synchronization PowerPack for the purpose of distinguishing between domains is not supported, and will result in issues on upgrades.

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# Chapter

# 3

## Introduction to the Microsoft Teams Integration PowerPack

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### Overview

This chapter describes how to use the automation policies and automation actions found in the *Microsoft Teams Integration PowerPack*.

This chapter covers the following topics:

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## What is the Microsoft Teams Integration PowerPack?

The *Microsoft Teams Integration PowerPack* includes automation policies and actions that create channels and trigger event updates between SL1 and Microsoft Teams.

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## Installing the Microsoft Teams Integration PowerPack

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

**IMPORTANT:** You must install and configure the *Microsoft Teams Synchronization PowerPack* version 1.0.0 before using the *Microsoft Teams Integration PowerPack*.

**NOTE:** The *Microsoft Teams Integration PowerPack* requires SL1 version 11.1.0 or later. For details on upgrading SL1, see the appropriate SL1 [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 a PowerPack:

1. Download the PowerPack from the ScienceLogic Support Site at <https://support.sciencelogic.com/s/powerpacks>.
2. Go to the **PowerPack Manager** page (System > Manage > PowerPacks).
3. In the **PowerPack Manager** page, click the **[Actions]** button, then select *Import PowerPack*. The **Import PowerPack** dialog box appears.
4. Click the **[Browse]** button and navigate to the PowerPack file.
5. When the **PowerPack Installer** modal appears, click the **[Install]** button to install the PowerPack.

**NOTE:** If you exit the **PowerPack Installer** modal 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. This page appears when you click the **[Actions]** menu and select *Install PowerPack*.

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# Chapter

# 4

## Configuring Device Credentials

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### Overview

This chapter describes how to configure the credential required by the automation actions in the *Microsoft Teams Integration* PowerPack.

This chapter covers the following topics:

<i>Creating a SOAP/XML Credential to Access SL1 PowerFlow</i> .....	21
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# Creating a SOAP/XML Credential to Access SL1 PowerFlow

After you have integrated your Microsoft Teams and SL1 PowerFlow systems, you must create a SOAP/XML credential so that the automation actions included in the *Microsoft Teams Integration PowerPack* can access your SL1 PowerFlow system. The *Microsoft Teams Integration PowerPack* includes a template for a SOAP/XML credential that you can edit for use with your PowerFlow system.

To define a SOAP/XML credential using the example credential:

1. Go to the **Credential Management** page (System > Manage > Credentials).
2. Click the wrench icon (🔧) for the **PowerFlow Microsoft Teams** credential. The **Credential Editor** modal window appears:

The screenshot shows the 'Credential Editor [125]' window. The title bar reads 'Edit SOAP/XML Credential #125'. There are 'New' and 'Reset' buttons in the top right. The window is divided into several sections:

- Basic Settings:** Profile Name (PowerFlow Microsoft Teams), Content Encoding ([text/xml]), Method ([POST]), HTTP Version ([HTTP/1.1]). URL [http(s)://Host:Port/Path | %D = Aligned Device Address | %N = Aligned Device Host Name] (https://10.2.11.157). HTTP Auth User (isadmin), HTTP Auth Password (masked with dots), Timeout (seconds) (5).
- Proxy Settings:** Hostname/IP, Port (0), User.
- CURL Options:** A list of options (CAINFO, CAPATH, CLOSEPOLICY, CONNECTTIMEOUT, COOKIE, COOKIEFILE, COOKIEJAR, COOKIELIST, CRLF, CUSTOMREQUEST, DNSCACHETIMEOUT) with right and left arrow buttons.
- Soap Options:** Embedded Password [%P], Embed Value [%1], Embed Value [%2], Embed Value [%3], Embed Value [%4].
- HTTP Headers:** + Add a header.

At the bottom, there are 'Save' and 'Save As' buttons.

3. Supply values in the following fields:
  - **Profile Name.** Type a new name for the credential.
  - **URL.** Type the URL for your SL1 PowerFlow system.
  - **HTTP Auth User.** Type the username for your SL1 PowerFlow user account.
  - **HTTP Auth Password.** Type the password for your SL1 PowerFlow user account.
4. Click the **[Save As]** button to save the new SOAP/XML credential.
5. SL1 assigns the credential an ID number. Take note of the ID number that appears in the **Credential Editor** heading, as you will need this when editing the input parameters of the automation actions included in the *Microsoft Teams Integration PowerPack*.

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# Chapter

# 5

## Configuring the Microsoft Teams Integration Automation Actions

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### Overview

This manual describes how to edit the automation actions included in the *Microsoft Teams Integration* PowerPack so that the automation actions can communicate with your SL1 PowerFlow system.

This chapter covers the following topics:

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## Editing the Microsoft Teams Integration Automation Actions

The *Microsoft Teams Integration* PowerPack includes seven automation actions that use the "Run Integration Service Application" action type to trigger the PowerFlow applications that send and receive data to and from Microsoft Teams. You can specify the credential ID in a JSON structure that you enter in the **Input Parameters** field in the **Action Policy Editor** modal.

After you edit the action and trigger the event policy, the new event log will be added to the respective device on the **Event Console** page.

To edit the automation actions included in the PowerPack:

1. Go to the **Action Policy Manager** page (Registry > Run Book > Actions).
2. Locate the automation action 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 SL1 PowerFlow system. This field is required.
  - **include\_event**. Leave the value as "true".
  - **application\_name**. Leave the default application value.
  - **params**. Leave the default parameter value.
4. Click **[Save]**.

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# Chapter

# 6

## Microsoft Teams Integration Automation Policies

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### Overview

This chapter describes the automation policies found in the *Microsoft Teams Integration* PowerPack.

This chapter covers the following topics:

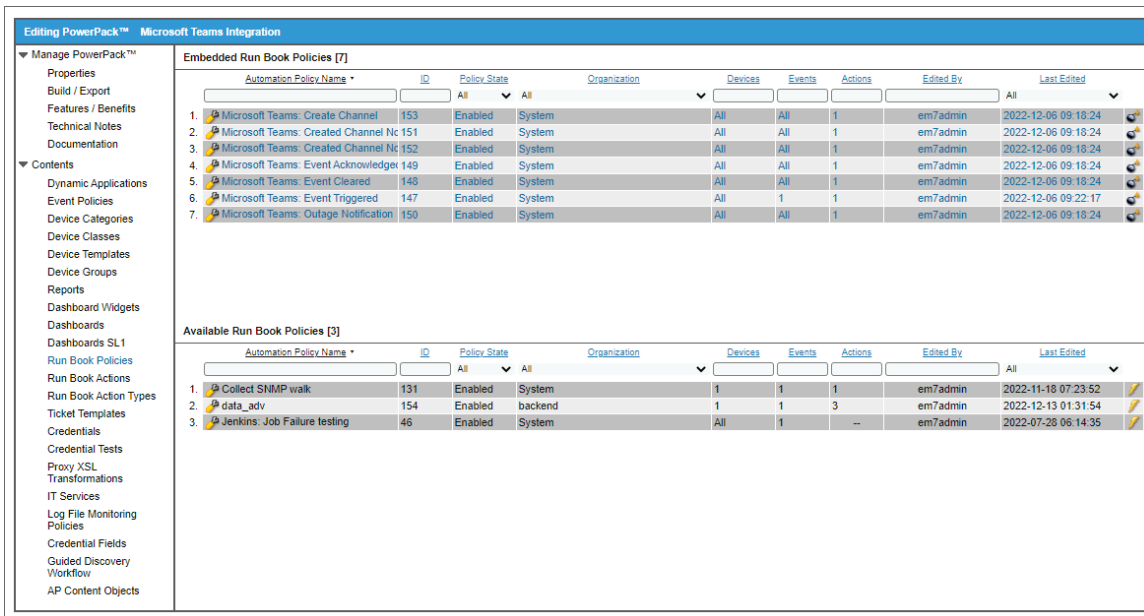
<i>Standard Automation Policies</i> .....	25
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# Standard Automation Policies

The *Microsoft Teams Integration* PowerPack includes seven standard automation policies that you can enable, shown in the following figure.

These policies update the Opsgenie alert or SL1 events with the state of the associated event or alert, create a maintenance object, or populates SL1 with on-call details. When the event is first detected in SL1 or Microsoft Teams, the "triggered" state is sent. When the event is acknowledged in SL1 or Microsoft Teams, the "acknowledged" state is sent. When the event is cleared in SL1 or Microsoft Teams, the "resolved" state is sent. When the on-call policy is triggered, on-call details are added to the SL1 event notes. When a maintenance object is required, a maintenance object is created in Microsoft Teams.




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	Automation Action
Microsoft Teams: Create Channel	(All Events)	Microsoft Teams: Create Channel
Microsoft Teams: Create Channel Notification - Acknowledge	(All Events)	Microsoft Teams: Created Channel Notification - Acknowledge
Microsoft Teams: Create Channel Notification - Clear	(All Events)	Microsoft Teams: Create Channel Notification - Clear
Microsoft Teams: Event Acknowledged	(All Events)	Microsoft Teams: Acknowledge
Microsoft Teams: Event Cleared	(All Events)	Microsoft Teams: Clear
Microsoft Teams: Event Triggered	(All Events)	Microsoft Teams: Add/Update

Automation Policy Name	Aligned Events	Automation Action
Microsoft Teams: Outage Remediation	(All Events)	Microsoft Teams: Outage Notification

To enable these automation policies:

1. Go to the **Automation Policy Manager** page (Registry > Run Book > Automation).
2. Locate the "Microsoft: Teams: Event Triggered" automation policy and click its wrench icon ().
3. In the **Automation Policy Editor** page, update the following fields:
  - **Policy State.** Select *Enabled*.
  - **Policy Priority.** Select *High* to ensure that the PowerFlow automation policy is added to the top of the queue.
  - **Available Actions.** If it is not already selected, select the corresponding Microsoft Teams Run Book action policy.
4. Click [**Save**].
5. Repeat steps 2 - 4 for the other Run Book Automation policies.

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# Chapter

# 7

## Troubleshooting

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### Overview

This chapter contains troubleshooting resources and procedures to use with the *Microsoft Teams Synchronization PowerPack*.

This chapter covers the following topics:

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## Initial Troubleshooting Steps

The first step taken when troubleshooting should be to ensure that there are no issues with the data platforms with which PowerFlow is interacting. There might be additional configurations or actions enabled on Microsoft Teams or SL1 that result in unexpected behavior. Perform the steps in the following sections to troubleshoot SL1 PowerFlow and Microsoft Teams.

### SL1 PowerFlow

1. Run `docker service ls` on the PowerFlow server.
2. Note the Docker container version and verify that the Docker services are running.
3. If a certain service is failing, make a note of the service name and version.
4. Run `docker service ps <service_name>` to see the historical state of the failing service and make a note of this information. For example: `docker service ps iservices_contentapi`
5. Make a note of any logs impacting the service by running `docker service logs <service_name>`. For example: `docker service logs iservices_couchbase`

### Microsoft Teams

1. Make a note of the Microsoft Teams version and Synchronization PowerPack version, if applicable.
2. Make a note of the Microsoft Teams application that is failing on PowerFlow.
3. Make a note of what step is failing in the application. Try running the application in debug mode, and capture any traceback or error messages that occur in the step log.

---

## Resources for Troubleshooting

This section contains port information for PowerFlow and troubleshooting commands for Docker, Couchbase, and the PowerFlow API.

### Useful PowerFlow Ports

- **`https://<IP of PowerFlow>:8091`**. Provides access to Couchbase, a NoSQL database for storage and data retrieval.
- **`https://<IP of PowerFlow>:15672`**. Provides access to the RabbitMQ Dashboard, which you can use to monitor the service that distributes tasks to be executed by PowerFlow workers. Use the following for login:
  - Username: guest
  - Password: guest
- **`https://<IP of PowerFlow>/flower`**. Provides access to Flower, a tool for monitoring and administrating Celery clusters.

**NOTE:** For version 2.0.0 and later of PowerFlow, port 5556 must be open for both PowerFlow and the client.

## Helpful Docker Commands

PowerFlow is a set of services that are containerized using Docker. For more information about Docker, see the [Docker tutorial](#).

Use the following Docker commands for troubleshooting and diagnosing issues with PowerFlow:

### Viewing Container Versions and Status

To view the PowerFlow version, SSH in to your PowerFlow instance and run the following command:

```
docker service ls
```

In the results, you can see the container ID, name, mode, status (see the replicas column), and version (see the image column) for all the services that make up PowerFlow.

### Restarting a Service

Run the following command to restart a single service:

```
docker service update --force <service_name>
```

### Stopping all PowerFlow Services

Run the following command to stop all PowerFlow services:

```
docker stack rm iservices
```

### Restarting Docker

Run the following command to restart Docker:

```
systemctl restart docker
```

**NOTE:** Restarting Docker does not clear the queue.

### Viewing Logs for a Specific Service

You can use the Docker command line to view the logs of any currently-running service in the PowerFlow cluster. To view the logs of a service, run the following command:

```
docker service logs -f iservices_<service_name>
```

Some common examples include the following:

```
docker service logs -f iservices_couchbase
```

```
docker service logs -f iservices_steprunner
```

```
docker service logs -f iservices_contentapi
```

Application logs are stored on the central database as well as on all Docker hosts in a clustered environment. These logs are stored at `/var/log/iservices` for both single-node or clustered environments. However, the logs on each Docker host relate only to the services running on that host. For this reason, using the Docker service logs is the best way to get logs from all hosts at once.

## Clearing RabbitMQ Volume

RabbitMQ is a service that distributes tasks to be executed by PowerFlow workers.

The following error message might appear if you try to run a PowerFlow application via the API:

```
Internal error occurred: Traceback (most recent call last):\n File\n \"/content_api.py", line 199, in kickoff_application\n task_status =\n ... line 623, in _on_close\n (class_id, method_id),\n ConnectionError)\nInternalError: Connection.open: (541) INTERNAL_ERROR -\n access to vhost '/' refused for user 'guest': vhost '/' is down
```

First, verify that your services are up. If there is an issue with your RabbitMQ volume, you can clear the volume with the following commands:

```
docker service rm iservices_rabbitmq
```

```
docker volume rm iservices_rabbitdb
```

If you get a message stating that the volume is in use, run the following command:

```
docker rm <id of container using volume>
```

Re-deploy PowerFlow by running the following command:

```
docker stack deploy -c /opt/iservices/scripts/docker-compose.yml  
iservices
```

**NOTE:** Restarting Docker does not clear the queue, because the queue is persistent. However, clearing the queue with the commands above might result in data loss due to the tasks being removed from the queue.

## Viewing the Process Status of All Services

Run the following command:

```
docker ps
```

## Deploying Services from a Defined Docker Compose File

Run the following command:

```
docker stack deploy -c <compose-file> iservices
```

## Dynamically Scaling for More Workers

Run the following command:

```
docker service scale iservices_steprunner=10
```

## Completely Removing Services from Running

Run the following command:

```
docker stack rm iservices
```

## Diagnostic Tools

Multiple diagnostic tools exist to assist in troubleshooting issues with the PowerFlow platform:

- **Docker PowerPack.** This PowerPack monitors your Linux-based PowerFlow server with SSH (the PowerFlow ISO is built on top of an Oracle Linux Operating System). This PowerPack provides key performance indicators about how your PowerFlow server is performing. For more information on the Docker PowerPack and other PowerPacks that you can use to monitor PowerFlow, see the *Using SL1 to Monitor SL1 PowerFlow* chapter in the **SL1 PowerFlow Platform** manual.
- **Flower.** This web interface tool can be found at the `/flower` endpoint. It provides a dashboard displaying the number of tasks in various states as well as an overview of the state of each worker. This tool shows the current number of active, processed, failed, succeeded, and retried tasks on the PowerFlow platform. This tool also shows detailed information about each of the tasks that have been executed on the platform. This data includes the UUID, the state, the arguments that were passed to it, as well as the worker and the time of execution. Flower also provides a performance chart that shows the number of tasks running on each individual worker.
- **Debug Mode.** All applications can be run in "debug" mode via the PowerFlow API. Running applications in debug mode may slow down the platform, but they will result in much more detailed logging information that is helpful for troubleshooting issues. For more information on running applications in Debug Mode, see [Retrieving Additional Debug Information](#).
- **Application Logs.** All applications generate a log file specific to that application. These log files can be found at `/var/log/iservices` and each log file will match the ID of the application. These log files combine all the log messages of all previous runs of an application up to a certain point. These log files roll over and will get auto-cleared after a certain point.
- **Step Logs.** Step logs display the log output for a specific step in the application. These step logs can be accessed via the PowerFlow user interface by clicking on a step in an application and bringing up the **Step Log** tab. These step logs display just the log output for the latest run of that step.
- **Service Logs.** Each Docker service has its own log. These can be accessed via SSH by running the following command:

```
docker service logs -f <service_name>
```

## Retrieving Additional Debug Information (Debug Mode)


The logs in PowerFlow use the following **loglevel** settings, from most verbose to least verbose:

- **10.** Debug Mode.
- **20.** Informational.
- **30.** Warning. This is the default settings if you do not specify a loglevel.
- **40.** Error.

**WARNING:** If you run applications with "loglevel": 10, those applications will take longer to run because of increased I/O requirements. Enabling debug logging using the following process is the only recommended method. **ScienceLogic does not recommend setting "loglevel": 10 for the whole stack with the docker-compose file.**

To run an application in Debug Mode using the PowerFlow user interface:



1. Select the PowerFlow application from the **Applications** page.
2. Hover over the **Run**  from and select **Debug Run** from the pop-up menu. PowerFlow executes the application in Debug Mode with a log level of 10.

To run an application in Debug Mode using the API:

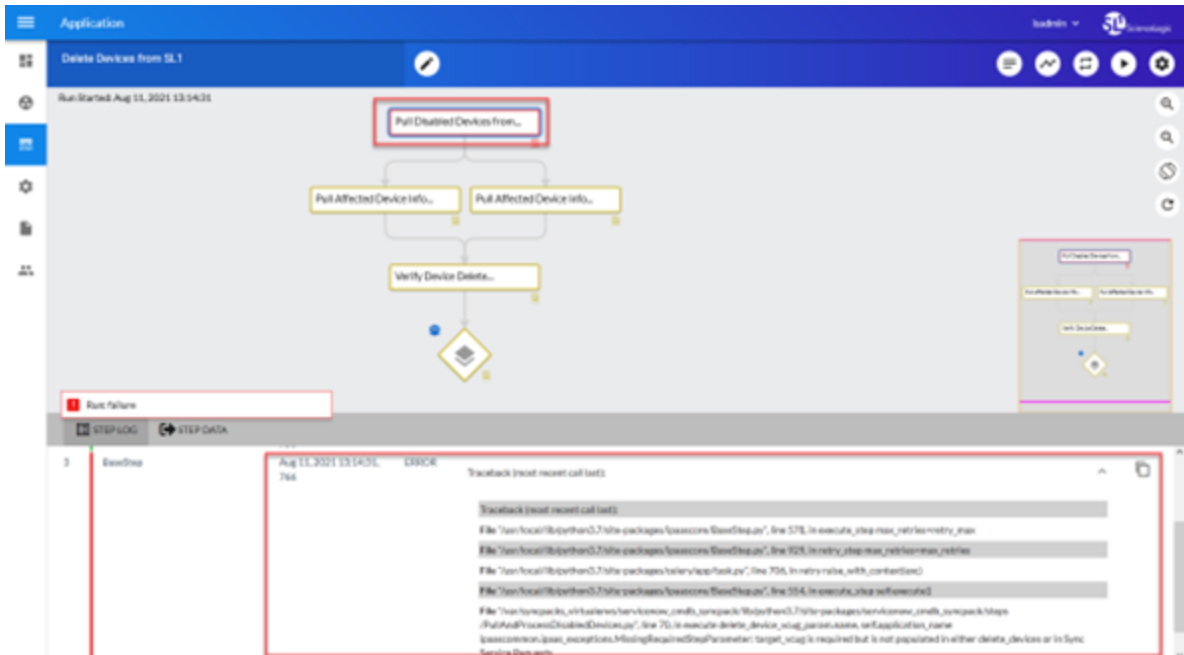
1. POST the following to the API endpoint:

```
https://<PowerFlow>/api/v1/applications/run
```

2. Include the following in the request body:

```
{  
  "name": "<application_name>",  
  "params": {  
    "loglevel": 10  
  }  
}
```

After running the application in Debug Mode, review the step logs in the PowerFlow user interface to see detailed debug output for each step in the application. This information is especially helpful when trying to understand why an application or step failed:



You can also run an application in debug using curl via SSH:

1. SSH in to the PowerFlow instance.
2. Run the following command:

```
curl -v -k -u isadmin:em7admin -X POST "https://<your_
hostname>/api/v1/applications/run" -H 'Content-Type: application/json' -
H 'cache-control: no-cache' -d '{"name": "interface_sync_sciencelogic_
to_servicenow", "params": {"loglevel": 10}}'
```

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