ServiceNow Service Catalog SyncPack

Version 2.0.0

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Chapter 1

Introduction to the ServiceNow Service Catalog SyncPack

Overview

This chapter describes the "ServiceNow Service Catalog" SyncPack, which lets you initiate a discovery session to discover devices in Skylar Automation (formerly PowerFlow) from ServiceNow. This SyncPack also lets you place Skylar One devices into and out of maintenance mode using ServiceNow change requests.

This chapter covers the following topics:

What Can I Do with this SyncPack?

The "ServiceNow Service Catalog" SyncPack is the ScienceLogic integration with the ServiceNow Service Catalog Request Application. This SyncPack lets you initiate a discovery session to discover devices in Skylar One from ServiceNow. You can also use this SyncPack to place Skylar One devices into and out of maintenance mode using ServiceNow change requests.

ScienceLogic created this SyncPack to improve maintainability and certification time. This SyncPack includes the Discovery module, which was previously available with the "ServiceNow CMDB" SyncPack, and the Change module, which was available with the "ServiceNow Change Management" SyncPack.

This SyncPack includes the following automations:

- Service Catalog:
  - **Create ScienceLogic Organization**. A request can be initiated directly from the ServiceNow Service Catalog or a company record. The provided workflow facilitates a request that can be started and approved within ServiceNow. This workflow allows the creation or updating of an organization within ScienceLogic and establishes a link between these two entities.
  - **Discover Device**. A request can be initiated directly from the Service Catalog, or from a specific record or list of configuration item records. The provided workflow establishes a request process that replicates the Skylar One discovery session form and includes an approval process, enabling you to initiate a discovery process from ServiceNow.
  - **Create Virtual Device**. A request can be initiated directly from the Service Catalog in ServiceNow, providing a workflow and an approval process for you to create a virtual device within a specified Skylar One system.
  - **Monitoring Removal**. A request can be initiated directly from the Service Catalog in ServiceNow, providing a workflow and an approval process for you to remove a device from monitoring within a specified Skylar One system.
- Change Management:
  - **Maintenance Mode**. You can trigger Maintenance Mode directly on a Device from a Change Request and place the associated Devices into Maintenance during the implementation step.
  - **Maintenance Schedule**. You can create maintenance schedules within the associated Skylar One systems based on the timing of approved Change Requests.

For more information, see *Configuring Applications for the ServiceNow Service Catalog SyncPack*.

Contents of theSyncPack

This section lists the contents of the "ServiceNow Service Catalog" SyncPack.

Skylar AutomationApplications

The following applications are included with the "ServiceNow Service Catalog" SyncPack, and you will need to configure these applications before you can run Discovery or Change Management Syncs:

- ***Sync Discovery Session Status from Skylar One to ServiceNow***. Collects and processes Discovery sessions from Skylar One, and collects Discovery session logs.
- ***Sync Service Requests from ServiceNow to Skylar One***. Processes Discovery sessions and posts Discovery sessions and new virtual devices to Skylar One. Also enables device decommissioning for devices you no longer want to monitor.
- ***Sync Catalog Requirements***. Sends configuration data from Skylar Automation to ServiceNow to use with change management and other processes.
- ***Sync Discovery Templates from Skylar One to ServiceNow***. Syncs Skylar One discovery sessions that contain a configured string to ServiceNow and creates Service Catalog templates in ServiceNow. You can use those templates for discovering or monitoring CIs.
- ***Sync Company Requests from ServiceNow to Skylar One***. Pulls catalog requests from ServiceNow and organizations from Skylar One, compares them, and creates the necessary organizations in Skylar One and companies in ServiceNow.
- ***Sync Maintenance Schedules from ServiceNow to Skylar One***. Syncs maintenance windows from ServiceNow change requests (CHG)s to Skylar One devices to place the synced devices into maintenance mode for the scheduled change window. If you are scheduling this application, ScienceLogic recommends that you schedule it to run every hour or so, depending on your environment. This process does *not* require the use of a ServiceNow MID Server.
- ***Trigger Device Maintenance Updates via MID Server***. Lets you sync maintenance windows from ServiceNow to Skylar One using a ServiceNow Management, Instrumentation, and Discovery (MID) Server.
- ***Create or Update Maintenance Schedule from ServiceNow Trigger***. Handles scheduling and canceling maintenance schedules in Skylar One using a trigger from a ServiceNow Management, Instrumentation, and Discovery (MID) Server. When triggered, the application gathers data about the change request in ServiceNow and generates a Skylar One Event with a severity of Notice.
- ***Update Skylar One Event with ServiceNow Change Request Info***. Updates a Skylar One Event with ServiceNow Change Request info

For more information, see *Configuring Applications for the ServiceNow Service Catalog SyncPack*.

Skylar Automation Applications (Internal)

The following applications are "internal" applications that should not be run directly, but are automatically run by applications from the previous list. To view the internal Skylar Automation applications, click the Filter icon ( ) on the **Applications** page and select *Show Hidden Applications*. Internal applications are hidden by default.

- ***Cancel Maintenance***. Cancels a scheduled maintenance in Skylar One.
- ***Create Discovery Session in Skylar One***. Creates and starts a Discovery session in Skylar One and updates the ServiceNow service request.
- ***Create Maintenance***. Creates a scheduled maintenance in Skylar One.

- ***Post New Organization to Skylar One***. Posts organizations to Skylar One based on information from the "Compare Snow Requests and Skylar One Orgs" step of the "Sync Company Requests from ServiceNow to SkylarOne" application.
- ***Create Virtual Device in Skylar One***. Creates a virtual device in Skylar One and updates the Requested Item (RITM) value.
- ***Post Company to ServiceNow***. Posts the Skylar One organization status to Service Now, creates a company in ServiceNow, and posts the company status to ServiceNow.
- ***Modify Maintenance***. Updates a scheduled maintenance in Skylar One.
- ***Sync Discovery Session Status from Skylar One to ServiceNow***.
- ***Post Discovery Template Data to ServiceNow***. Posts the discovery template date to ServiceNow.
- ***Process Create Schedule Requests***. Schedules and posts maintenance tasks in ServiceNow.
- ***Process Remove Device Requests from ServiceNow to Skylar One***.
- ***Pull and Post Discovery Logs***. Pulls Discovery session logs from Skylar One and posts updates to ServiceNow.
- ***Remove Maintenance***. Removes a scheduled maintenance in Skylar One.
- ***Run MySql Queries***. Creates notices for event changes that come in from ServiceNow.
- ***Schedule Maintenance***. Creates a scheduled maintenance in Skylar One.
- ***Update Devices and Post Maintenance Status to ServiceNow***. Updates Skylar One devices and posts Maintenance Status to ServiceNow.
- ***Sync Configs from PowerFlow to ServiceNow***. Syncs configuration data from Skylar Automation to ServiceNow.
- ***Sync Device Groups from Skylar One to ServiceNow***. Collects all device groups and group IDs from Skylar One and posts device group data to ServiceNow. To prevent errors when running this application or a device sync, make sure that the device group names are not already being used by existing groups in ServiceNow.

Steps

- Add External Ticket Reference to SL1 Event
- Check SL1 Device Schedules
- Compare SL1 Organizations and Snow Requests
- Check SL1 Device Schedules
- Delete Tasks or Schedules from SL1
- Disable Devices in SL1
- Update and Process Devices
- Parse SL1 Event Details
- Post Org to SL1 and Process Response

- Process Company Table Response for SL1 Callback
- Post Discovery Session
- Post Maintenance Task to SL1
- Post Maintenance Status to ServiceNow
- Post Org to SL1 and Process Response
- Post Remove Schedule and Task Results
- Post Virtual Device
- Process Change Requests
- Process Maintenance Schedule Triggers
- Process Maintenance Triggers
- Pull and Process Active Discovery Sessions
- Process Collectors and Collector Groups
- Pull and Process Credentials from SL1
- Pull and Process Device Groups from SL1
- Pull and Process Device Removal Requests
- Process Device Templates
- Pull and Process Device Discovery Requests
- Pull and Process Discovery Sessions
- Pull and Process PF Configs
- Pull Org Catalog Requests from ServiceNow
- Pull and Process Service Requests
- Process Virtual Device Classes
- Pull and Process Virtual Device Requests
- Pull Change Tasks
- Pull Devices and Validate Delete Requests
- Pull Discovery Session Logs from PF Cache and SL1
- Task and Schedule Call to SL
- Update and Process Devices

Chapter 2

Installing the ServiceNow Service Catalog SyncPack

Overview

This chapter lists the prerequisites and describes how to install the "ServiceNow Service Catalog" SyncPack in Skylar Automation (formerly PowerFlow), along with the other required components.

TIP: In ServiceNow, you can follow the Guided Setup on the "ScienceLogic Integration with Catalog Request" page to configure ServiceNow and Skylar Automation (formerly PowerFlow) for this SyncPack.

This chapter covers the following topics:

Prerequisites for ServiceNow SyncPacks

This section describes the prerequisites for the ServiceNow SyncPacks. For more information about the specific software versions required by a ServiceNow SyncPack, see the latest release notes for this SyncPack on the *SyncPack Manuals and Release Notes* page.

To install any of the ScienceLogic ServiceNow SyncPacks, you must have administrator access to both Skylar One and ServiceNow. Specifically, you will need:

- ScienceLogic administrator access to the Administration Portal
- ServiceNow administrator access

TIP: If you want to upload and install multiple ServiceNow SyncPacks at the same time, you should upload *all* of the SyncPacks first, and then install them to address any dependencies between the SyncPacks.

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

Source IP	Skylar Automation Destination	Skylar Automation Source Port	Destination Port	Requirement
Skylar Automation	Skylar One API	Any	TCP 443	Skylar One API Access
Skylar Automation	ServiceNow API	Any	TCP 443	ServiceNow API Access

NOTE: ScienceLogic highly recommends that you disable all firewall session-limiting policies. Firewalls will drop HTTPS requests, which results in data loss.

In addition, you will need to add the following role to the ServiceNow Integration user to give the user access to the ServiceNow Service Catalog Request Application:

- **x_sclo_sl1_catalog.sl1catalogaccess**

If you need to create templates, add the following role to the ServiceNow Integration user:

- **x_sclo_sl1_catalog.catalog_item_template**

Downloading and Installing the SyncPack

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

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 Center at https://support.sciencelogic.com/s/.
2. Go to the **SyncPacks** page (Skylar Automation > 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 Skylar Automation system using the Skylar Automation user interface.

Importing the SyncPack

NOTE: You must import and install the "ServiceNow Base" SyncPack before uploading and installing this SyncPack.

To import a SyncPack in the Skylar Automation user interface:

1. On the **SyncPacks** page (⚙) of the Skylar Automation 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]**. Skylar Automation registers and uploads the SyncPack. The SyncPack is added to the **SyncPacks** page.
4. You will need to activate and install the SyncPack in Skylar Automation. 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.

Activating and Installing a SyncPack

To activate and install a SyncPack in the Skylar Automation user interface:

1. On the **SyncPacks** page of the Skylar Automation 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 Skylar Automation system.

> **TIP:** If you do not see the SyncPack 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 highlighted version in the **Installed SyncPack** 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, go to the hidden "activate & Install SyncPack" application on the **Applications** page and check the step logs.
4. If you have other versions of the same SyncPack on your Skylar Automation 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 "ScienceLogic: Service Catalog Automation" Application in ServiceNow

You must install the "ScienceLogic: Service Catalog Automation" application on the ServiceNow instance to enable this SyncPack. You must first request the "ScienceLogic: Catalog Automation" application from the ServiceNow Store, and then you can install it.

> **NOTE:** You must have a ServiceNow HI Service Account to request this application and download it onto your ServiceNow instance.

To request and install the "ScienceLogic: Service Catalog Automation" application:

1. Go to the ServiceNow Store at https://store.servicenow.com and search for "ScienceLogic".
2. Select the "ScienceLogic: Service Catalog Automation" application. The detail page for the application appears.
3. Click **Get** and log in with your HI credentials.
4. After the request is approved, log in to ServiceNow as an administrator and navigate to **Application Manager** (System Applications > Applications).
5. Click **Downloads** in the menu header or search for "ScienceLogic".
6. Click the version drop-down for the "ScienceLogic: Service Catalog Automation" application listing to make sure you are using the correct version of the application that is compatible with your version of the *ServiceNow Events* SyncPack.
7. Click **Install** for the "ScienceLogic: Service Catalog Automation" application. The installation is complete when the button changes to **Installed**.
8. In the filter navigator, search for "ScienceLogic" and locate the application in the navigation menu in the left pane. You might need to log out of ServiceNow and log in again to see the updated left-hand navigation menu.

Chapter 3

Configuring Applications for the ServiceNow Service Catalog SyncPack

Overview

This chapter describes how to configure this SyncPack to use Skylar One to discover ServiceNow devices. This chapter also explains how to use the SyncPack to place Skylar One devices into and out of maintenance mode.

This chapter covers the following topics:

Workflow for Configuring the SyncPack

The following workflows describe how to configure ServiceNow, Skylar One, and Skylar Automation (formerly PowerFlow) to work with the "ServiceNow Service Catalog" SyncPack.

TIP: In ServiceNow, you can follow the Guided Setup on the "ScienceLogic Integration with Catalog Request" page to configure ServiceNow and Skylar Automation for this SyncPack.

Configuring ServiceNow

1. *Configure user groups for catalog requests*
2. *Create and manage catalog requests*

Configuring Skylar Automation

1. *Create a configuration object in the Skylar Automation user interface*
2. *Align the new configuration file with the relevant set of Skylar Automation applications* (depending on whether you use a ServiceNow MID Server)
3. *Configure and Run the Catalog Requirements Sync*
4. *Configure and Run the Company Request Sync*
5. *Configure and Run the Service Request Sync*
6. *Configure the Change Management Sync*
7. Schedule the applications as needed

Configuring User Groups for Catalog Requests

In order to properly handle catalog requests in ServiceNow, you must define a user group for approvals and tasks for each type of catalog request.

To configure user groups for catalog requests:

1. In ServiceNow, go to the **ScienceLogic SL1: Catalog Automations Properties** page (ScienceLogic SL1: Catalog Automations > Properties).
2. Enter the ServiceNow user group *sys_id value* for the user group that should manage approvals and tasks for each of the following fields:
   - ***User group for Device Removal approvals and tasks***
   - ***User group for Device Discovery approvals and tasks***
   - ***User group for Organization approvals and tasks***

- *User group for Create Virtual Device approvals and tasks*

3. Click **[Save]**.

ServiceNow Catalog Requests

The following topics cover how to access, submit, track, and manage catalog requests in ServiceNow.

Submitting a ServiceNow Catalog Request

To create a catalog request in ServiceNow:

1. In ServiceNow, go to the **Service Catalog** page (Self-Service > Service Catalog), or go to the Employee Center / Service Portal if your organization uses it.
2. Type *ScienceLogic* in the search bar at the top of the catalog. The following request items will appear:
   - *Create ScienceLogic Organization*
   - *Create Virtual Device*
   - *Discover Device*
   - *Monitoring Removal*
3. Select the type of request you want to enter. The corresponding request form will appear.
4. Fill out the request form, completing all required fields.
5. Click **[Add to Cart]** if you want to submit multiple requests, or click ***Order Now*** if you only want to submit a single request.
6. If you added multiple requests to your cart, click **[Proceed to Checkout]** to submit all requests in the cart.

Creating a Create ScienceLogic Organization Request in ServiceNow

To create a "Create ScienceLogic Organization" request in ServiceNow:

1. In ServiceNow, go to the **Catalog Request** page (Self-Service > Service Catalog).
2. Click ***ScienceLogic***.
3. Click ***Create ScienceLogicOrganization***. The **Create ScienceLogic Organization** request page appears.
4. Complete the following required fields:
   - ***Organization Name***. Enter a name for the organization that you want to add to Skylar One (SL1).

- ***Align a Organization with a SL1 Instance or Appliance?***. The default value is *No*. Select *Yes* to align this organization to a specific Skylar One (SL1) instance. The **Aligned SL1** section will appear.
    - ***Aligned SL1***. Click **[Add]**. The **Add Row** modal will appear. Select the Skylar One instance and click **[Add]**.

5. Complete the rest of the request options as needed.
6. Click the **[Order Now]** button. On the **Order Status** page that appears, make a note of the value in the ***Request Number*** field.

Creating a Discover Device Request in ServiceNow

To create a "Discover Device" request in ServiceNow:

1. In ServiceNow, go to the **Catalog Request** page (Self-Service > Service Catalog).
2. Click ***ScienceLogic***.
3. Click ***Discover Device***. The **Discover Device** request page appears.
4. Complete the following required fields:
    - ***IP Address/Hostname***. Provide a list of IP addresses, hostnames, or fully qualified domain names for Skylar One to scan during discovery:
        - One or more *single IPv4 addresses* separated by commas and a new line. Each IP address must be in standard IP notation and cannot exceed 15 characters. For example, "10.20.30.1, 10.20.30.2, 10.20."
        - One or more *ranges of IPv4 addresses* with "-" (dash) characters between the beginning of the range and the end of the range. Separate each range with a comma. For example, "10.20.30.1 – 10.20.30.254".
        - One or more IP address ranges in *IPv4 CIDR notation*. Separate each item in the list with a comma. For example, "192.168.168.0/24".
        - One or more hostnames (fully qualified domain names). Separate each item in the list with a comma.
    - ***Credentials***. Select one or more SNMP credentials to allow Skylar One to access a device's SNMP data and click the right arrow button to add them to the **Selected** table.
5. Complete the rest of the request options as needed:
    - ***Choose a Template***. If you previously created a catalog item template that contains your device discovery information, click the search icon and select the item from the **Catalog Item Templates** window that appears.
    - ***Create a Template from this Request?***. Select *Yes* to save the current device discovery as a template. A template saves all of the discovery settings except for the IP addresses. You can access existing templates on the **Catalog Template** page in ServiceNow (ScienceLogic > Automations > Catalog Templates).
6. Select the ***Basic Settings*** checkbox. The **Discovery Session - Basic Settings** section will appear.
    - ***Discover Non-SNMP***. Specifies whether Skylar One should discover devices that don't respond to SNMP requests.

- ***Model Devices***. Determines whether the devices that are discovered with this discovery session can be managed through Skylar One.
- ***DHCP***. Specifies whether the specified range of IPs and hostnames use DHCP. If you select this option, Skylar One performs a DNS lookup for the device during discovery and each time Skylar One retrieves information from the device.
- ***Device Model Cache TTL (h)***. Amount of time, in hours, that Skylar One stores information about devices that are discovered but not modeled, either because the ***Model Devices*** option is not enabled or because Skylar One cannot determine whether a duplicate device already exists. The cached data can be used to manually model the device from the **Discovery Session** window.
- ***What company is this for?***. Specify the company that will use this discovery data. Click the magnifying glass icon to locate a company. The ***Region*** field updates automatically based on the company you select.
- ***Collection Server***. Select an existing collector to monitor the discovered devices. Required.
- ***Add Devices to Device Groups***. Select one or more existing device groups to which you want to add the discovered devices.
- ***Apply Device Template*** . Select an existing device template if needed. As Skylar One discovers a device in the IP discovery list, that device is configured with the selected device template.

7. Select the ***Detection and Scanning*** checkbox. The **Discovery Session - Detection and Scanning** section appears.
   - ***Initial Scan Level***. For this discovery session only, specifies the data to be gathered during the initial discovery session.
   - ***Scan Throttle***. Specifies the amount of time a discovery process should pause between each specified IP address (specified in the ***IP Address/Hostname Discovery List*** field). Pausing discovery processes between IP addresses spreads the amount of network traffic generated by discovery over a longer period of time.
   - ***Port Scan All IPs***. For the initial discovery session only, specifies whether Skylar One should scan all IP addresses on a device for open ports.
   - ***Port Scan Timeout***. For the initial discovery session only, specifies the length of time, in milliseconds, after which Skylar One should stop trying to scan an IP address for open ports and begin scanning the next IP address, if applicable.
   - ***Detection Method & Port***. Enter the TCP ports that Skylar One will scan during discovery. The default TCP ports are 21,22,23,25,80.
   - ***Interface Inventory Timeout (ms)***. Specifies the maximum amount of time that the discovery processes will spend polling a device for the list of interfaces. After the specified time, Skylar One will stop polling the device, will not model the device, and will continue with discovery. The default value is 600,000 ms (10 minutes).
   - ***Maximum Allowed Interfaces***. Specifies the maximum number of interfaces per devices. If a device exceeds this number of interfaces, Skylar One stops scanning the device, will not model the device, and will continue with discovery. The default value is 10,000.
   - ***Bypass Interface Inventory***. Select this option if you do *not* want Skylar One to attempt to discover interfaces for each device in the discovery session.

8. Click the **[Order Now]** button. On the **Order Status** page that appears, make a note of value in the ***Request Number*** field.
9. In the Skylar Automation user interface, go to the **Applications** page and run the "Sync Service Requests from ServiceNow to Skylar One" application.
10. When the application completes, go to **Self-Service > My Requests** in ServiceNow.
11. Click the **RITM** record link to go to the **Requested Item** page. The **State** field should update to *Closed Complete*, and the request should be assigned to itself.
12. For a standard device discovery, go to ServiceNow and perform the following:
    - Scroll down to the **Activities** pane to verify that you have a comment stating the discovery completed.
    - In Skylar One, navigate to the **Discovery Control Panel** page (Registry > Manage > Discovery) and verify that Skylar One created a new discovery session with that ID.

Creating a Create Virtual Device Request in ServiceNow

To create a "Create Virtual Device" request in ServiceNow:

1. In ServiceNow, go to the **Catalog Request** page (Self-Service > Service Catalog).
2. Click ***ScienceLogic***.
3. Click ***Create Virtual Device***. The **Create Virtual Device** request page appears.
4. Complete the following required fields:
    - ***SL1 Instance or Appliance?***. Provide a list of IP addresses, hostnames, or fully-qualified domain names for Skylar One to scan during discovery:
    - ***What company is this for?***. Specify the company that will use this discovery data. Click the magnifying glass icon to locate a company. The ***Region*** field updates automatically based on the company you select.
    - ***Name***. Type a name for the virtual device.
    - ***Virtual Device Class***. Specify the device class of the virtual device. Click the magnifying glass icon to locate any classes aligned with your organization.
    - ***Collector Group***. Specify the Skylar One collector group to use for the Discovery Sync. Click the magnifying glass icon to locate any collector groups aligned with your organization.
5. Click the **[Order Now]** button. On the **Order Status** page that appears, make a note of the value in the ***Request Number*** field.
6. In the Skylar Automation user interface, go to the **Applications** page and run the "Sync Service Requests from ServiceNow to Skylar One" application.
7. When the application completes, go to **Self-Service > My Requests** in ServiceNow.
8. Click the **RITM** record link to go to the **Requested Item** page. The **State** field should update to *Closed Complete* and the request should be assigned to itself.

Creating a Monitoring Removal Request in ServiceNow

To activate a ServiceNow service request for Device Removal:

1. In ServiceNow, go to the **Catalog Request** page (Self-Service > Service Catalog).
2. Click ***ScienceLogic***.
3. Click ***Monitoring Removal***. The **Monitoring Removal** request page appears.
4. Complete the following fields:
    - ***Configuration Item***. Specify the configuration item you want to remove. Click the magnifying glass icon to locate the configuration item.
    - ***Remove from which SL1 Instance or Appliance?***. Specify the Skylar One environments you would like to remove devices from. Click the magnifying glass icon to locate the Skylar One environment.
5. Click the **[Order Now]** button. On the **Order Status** page that appears, make a note of value in the ***Request Number*** field.
6. In the Skylar Automation user interface, go to the **Applications** page and run the "Sync Service Requests from ServiceNow to Skylar One" application.
7. When the application completes, go to **Self-Service > My Requests** in ServiceNow.
8. Click the **RITM** record link to go to the **Requested Item** page. The **State** field should update to *Closed Complete* and the request should be assigned to itself.

Tracking ServiceNow Catalog Requests

The **My Requests** page in ServiceNow displays a list of requests, their priority, state, who they are assigned to, and more.

To track a submitted request in ServiceNow:

1. In ServiceNow, go to the **My Requests** page (Self-Service > My Requests).
2. Search for your request in the list.

For each request, the **My Requests** page displays the following information:

- ***Number***. The unique request ID number generated by ServiceNow. Click the ID hyperlink to open the request, where you can view details and updates, or add comments.
- ***Priority***. The relative priority of the request.
- ***State***. Where the request is in the approval process. The possible state values are:
    - ***Pending Approval***. Awaiting manager or approver sign-off.
    - ***In Progress***. Currently being fulfilled by the assigned team.
    - ***Completed***. Request was approved and closed.
    - ***Canceled***. Request was withdrawn or denied approval.
- ***Assigned To***. The user currently assigned to review the request.
- ***Short description***. Displays any text entered in the ***Short Description*** field on the request.

Managing ServiceNow Catalog Requests

If you are an approver or manager in ServiceNow, you may need to approve requests so they can be processed by the appropriate sync in Skylar Automation. When you have a request to approve, you will receive an email notification, and the request will display in your To-Do list or on the **My Approvals** page (Self-Service > My Approvals).

To approve a request in ServiceNow:

1. In ServiceNow, go to the **My Approvals** page (Self-Service > My Approvals).
2. Click the request ID hyperlink to open the request, where you can view details, make updates, or add comments.
3. Click **[Approve]** to move the request forward or **[Reject]** to decline the request.

Configuring Skylar Automation

The following topics cover how to set up your Skylar Automation instance for the "ServiceNow Service Catalog" SyncPack.

Creating and Aligning a Configuration Object in Skylar Automation

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

You can create as many configuration objects as you need. A Skylar Automation 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 Skylar Automation user interface or create a new configuration object. Next, you need to align that configuration object to the relevant applications that are triggered by the Run Book Actions in Skylar One.

> **TIP:** Depending on your Skylar One environment and the third-party environment with which you are syncing data, you might be able to use the same configuration object with more than one SyncPack.

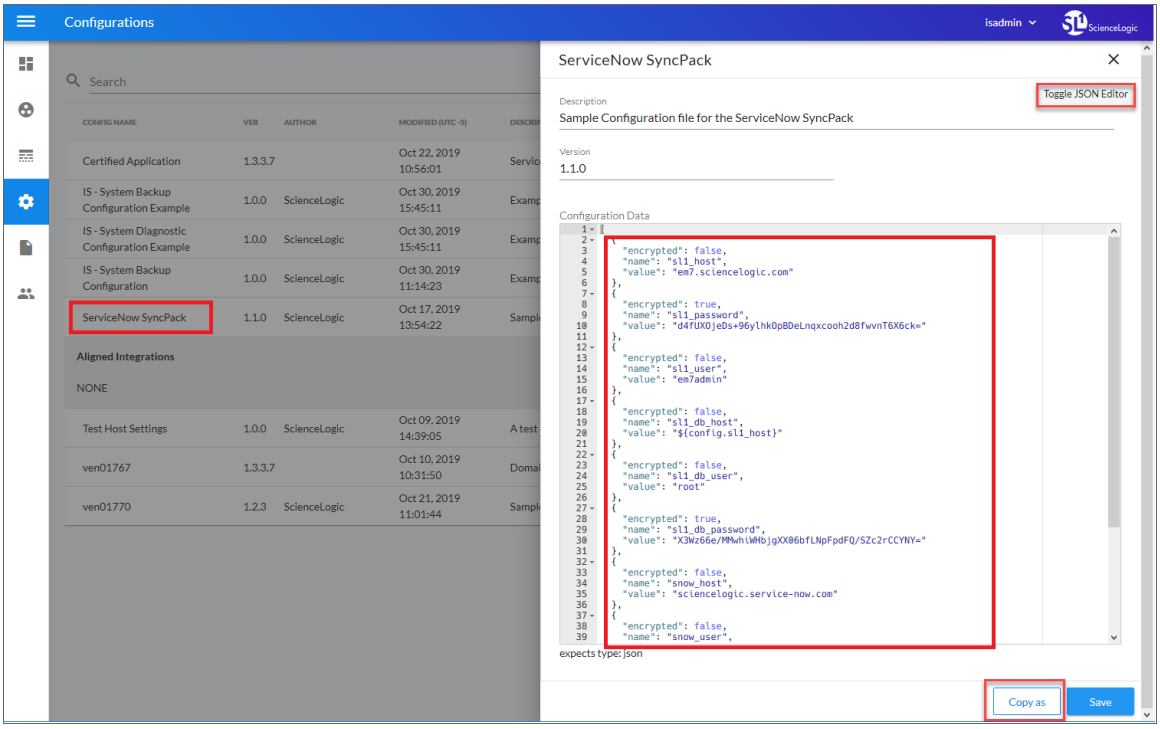
Creating a Configuration Object

For this SyncPack, you can make a copy of the "ServiceNow SyncPack" configuration object, which is the sample configuration file that was installed with the "ServiceNow Base" SyncPack.

TIP: The "ServiceNow SyncPack" configuration object contains all of the required variables. Make a copy of the configuration object and update the variables from that object to match your Skylar One and ServiceNow settings.

To create a configuration object based on the "ServiceNow SyncPack" configuration object:

1. In the Skylar Automation user interface, go to the **Configurations** page ( ).
2. Click the **[Actions]** button ( ) for the "ServiceNow SyncPack" configuration object and select *Edit*. The **Configuration** pane appears:



TIP: Click **[Toggle JSON Editor]** to show the JSON code. Click the button again to see the fields.

3. Click **[Copy as]**. The **Create Configuration** pane appears.

TIP: This step is required. Do *not* use the original configuration object to run Skylar Automation applications.

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*** field, include the required block of code to ensure that the applications aligned to this configuration object do not fail:

```
{
   "encrypted": false,
   "name": "<sl1_db_host>",
   "value": "${<config.sl1_host>}"
}
```

For example:

```
{
   "encrypted": false,
   "name": "sl1_db_host",
   "value": "10.2.11.42"
}
```

TIP: If you are using IPv6 for IP addresses, wrap the IP string in brackets, such as **https://[2001:db8:3333:4444:5555:6666:7777:8888]**

TIP: Click **[Toggle JSON Editor]** to show the JSON code. Click the button again to see the fields. You can also click **[Add Value]** and add a new name-value pair in the **Configuration Data Values** section.

NOTE: If you are using Skylar One with an External Database (Skylar One Extended architecture or a cloud-based architecture), update the `"value"` of that block of code to be the host of your database. This field accepts IP addresses. For example: `"value": "db.sciencelogic.com"`. If you are *not* using the Skylar One Extended architecture or a cloud-based architecture, you do not need to make any changes to the block of code other than pasting the code into the configuration object.

6. In the ***Configuration Data Values*** field, update the default variable definitions to match your Skylar Automation configuration.

NOTE: The ***region*** value is a user-defined variable that identifies your Skylar One instance within ServiceNow.

7. To create a configuration variable in the JSON Editor, define the following keys:

- ***encrypted***. Specifies whether the value will appear in plain text or encrypted in this JSON file. If you set this to "true", when the value is uploaded, Skylar Automation encrypts the value of the variable. The plain text value cannot be retrieved again by an end user. The encryption key is unique to each Skylar Automation system. The value is followed by a comma.
- ***name***. Specifies the name of the configuration file, without the JSON suffix. This value appears in the user interface. The value is surrounded by double-quotes and followed by a comma.
- ***value***. Specifies the value to assign to the variable. The value is surrounded by double-quotes and followed by a comma.

8. If you want to use OAuth2 for authentication with ServiceNow, complete the following Configuration Data Values fields:
    - ***snow_oauth_client_id***. Enter the OAuth2 Client ID from ServiceNow.
    - ***snow_oauth_client_secret***. Enter the OAuth2 Client secret from ServiceNow.
    - ***snow_oauth_token_url***. Enter the full authentication URL, including host and protocol from ServiceNow. For example, "https://<test-instance-name>.service-now.com/oauth_token.do".
    - ***snow_auth_method***: Enter *oauth* or *http_basic*. If no value is provided, *http_basic* will be used for connection.

NOTE: The configuration options listed above are included by default with the sample configuration object provided in the "ServiceNow Base" SyncPack. The configuration options are only required in the configuration object if you plan to use OAuth2 to authenticate. If the values are not present in the configuration object, normal "http_basic" authentication will be used.

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

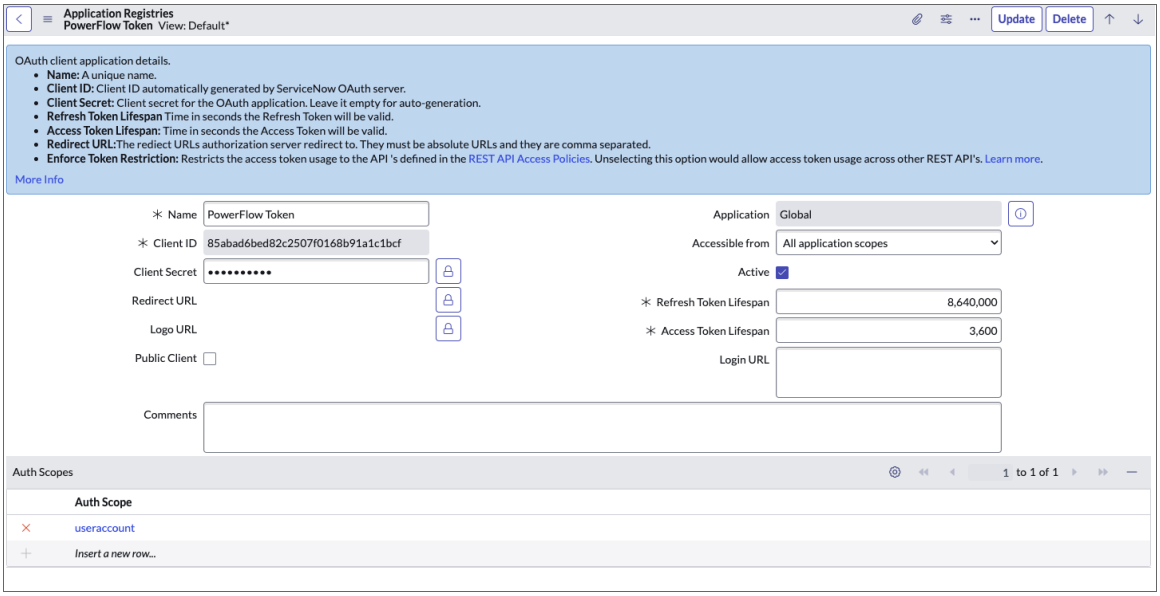
Creating an OAuth2 Credential Record in ServiceNow

In order to use OAuth2 for authentication with ServiceNow, you must create an OAuth2 credential record in ServiceNow. To configure the ServiceNow credential that will be used by the Connector Instance:

1. Navigate to **System OAuth > Application Registry**. The **Application Registries** page appears.
2. Click **[New]**.
3. Select **Create an OAuth API endpoint for external clients**. A new record appears.
4. Complete the following fields on the new record:
    - ***Name***. Type a unique name for the credential. Required.
    - ***Client ID***. The Client ID is automatically generated by the ServiceNow OAuth server.
    - ***Client Secret***. Leave this empty. ServiceNow will auto-generate this when the record is saved.
    - ***Refresh Token Lifespan***. Enter the length of time in seconds the Refresh Token will be valid.
    - ***Access Token Lifespan***. Type the length of time in seconds that the Access Token will be valid. ScienceLogic recommends setting this to 3,600 seconds to avoid known issues for longer ServiceNow REST interactions.

NOTE: In a scenario where the **[Access Token Lifespan]** value is shorter than the duration of a Skylar Automation step that makes multiple REST interactions with ServiceNow, the access token will expire and need to be refreshed. As a result, retries were added to several Skylar Automation steps where this issue may occur. This issue will hopefully be addressed in future versions of the Base Steps SyncPack.

5. Under the **Auth Scope** section at the bottom of the page, double click ***Insert a new row***.
6. In the search box that appears, click the magnifying glass icon, select the *useraccount* record, and click the checkmark icon to save.
7. Click **[Submit]** to save the new record.



Creating ScienceLogic Organizations

An ***Organization Sync*** uses the "Sync Organizations from Skylar One to ServiceNow" application in the "ServiceNow Base" SyncPack to connect one Skylar One organization with a single ServiceNow company. This process allows you to update information between both ServiceNow and Skylar One depending on the designated source of truth.

If ServiceNow is the source of truth, and you want to create organizations based on company records in ServiceNow, you must use the "Sync Catalog Requirements" and "Sync Company Requests" applications to sync organizations to Skylar One.

IMPORTANT: If your ServiceNow environment is *domain-separated*, where the data, processes, and administrative tasks have been organized into logical groupings called *domains*,it is essential that ServiceNow serves as the source of truth. To achieve this, you will need to

configure and schedule the "Sync Catalog Requirements" and "Sync Company Requests from ServiceNow to Skylar One" applications , and a ServiceNow update set. For more information, see the "ServiceNow Base" SyncPack manual.

To sync organizations from ServiceNow to Skylar One (SL1):

1. In ServiceNow, create any number of *organization catalog requests*.
2. Configure and schedule the *"Sync Catalog Requirements" application*.
3. Configure and schedule the "Sync Company Requests from ServiceNow to Skylar One" application.

Running the Catalog Requirements Sync

To prepare Skylar One and ServiceNow for a Discovery Sync or Company Request Sync, run the "Sync Catalog Requirements" application in the Skylar Automation user interface. This application exports information from Skylar One to populate the information in the Discovery Dependent table and ServiceNow request form. You must run this application before you can create a discovery sync, company request sync, or change management session in ServiceNow.

1. In the Skylar Automation user interface, select the "Sync Company Requests from ServiceNow to Skylar One" application from the **Applications** page and click **[Configure]** on the application detail page. The **Configuration** pane appears.
2. Complete the following fields:
   - ***Configuration***. Select the relevant configuration object to align with this application. You cannot edit fields that are populated by the configuration object. Required.

     NOTE: The ***region*** field is populated by the configuration object you aligned with this application. If you need to update this value, you will need to define the ***region*** variable in the configuration object that is aligned with this application, or align a different configuration object that has the correct ***region*** value.

   - ***snow_request_limit***. Specify the number of CIs fetched from ServiceNow in each request. The default is 500 objects per chunk.
   - ***read_timeout***. Specify the maximum amount of time in seconds the application should wait for a response before timing out. The default is 30 seconds.
   - ***sl1_chunk_size***. Specify the number of objects to include in each chunk sent from Skylar One to ServiceNow. The default is 500.
   - ***snow_chunk_size***. Specify the number of objects to send in each chunk from ServiceNow. The default is 150 objects per chunk.
3. Click **[Save]**.

TIP: ScienceLogic recommends scheduling the "Sync Catalog Requirements" application to run every hour or so, depending on your environment.

Running the Company Requests Sync

To retrieve approved organization catalog requests from ServiceNow and sync them to Skylar One, run the "Sync Company Requests from ServiceNow to Skylar One" application in the Skylar Automation user interface.

1. In the Skylar Automation user interface, select the "Sync Company Requests from ServiceNow to Skylar One" application from the **Applications** page and click **[Configure]** on the application detail page. The **Configuration** pane appears.
2. Complete the following fields:
   - ***Configuration***. Select the relevant configuration object to align with this application. You cannot edit fields that are populated by the configuration object. Required.

     NOTE: The ***region*** field is populated by the configuration object you aligned with this application. The region value must match the value in the ***Skylar One Region*** field in ServiceNow. If you need to update this value, you will need to define the ***region*** variable in the configuration object that is aligned with this application, or align a different configuration object that has the correct ***region*** value.

   - ***read_timeout***. Specify the maximum amount of time in seconds the application should wait for a response before timing out. The default is 30 seconds.
   - ***snow_request_limit***. Specify the number of CIs fetched from ServiceNow in each request. The default is 500 objects per chunk.
   - ***sl1_chunk_size***. Specify the number of objects to include in each chunk sent from Skylar One to ServiceNow. The default is 500.
   - ***snow_company_table***. Enter the ServiceNow table to which to send Skylar One organizations.
   - ***discovery_source***. Enter the ServiceNow discovery source.
   - ***verify_snow_ssl***. Toggle on (blue) this option to enable verification of the SSL certification when you run this application.
   - ***create_snow_company***. Toggle on (blue) this option to create the cooresponding company in ServiceNow.
   - ***Domain_Separation***. Select this checkbox if Domain Separation is configured in the ServiceNow instance.
3. Click **[Save]**.

TIP: ScienceLogic recommends scheduling the "Sync Company Requests from ServiceNow to Skylar One" application to run every hour or so, depending on your environment.

Service Request Sync

The Service Request Sync lets you use Skylar One for discovering ServiceNow devices and virtual devices. You can also use the Service Request Sync to remove monitoring for devices. The Service Request Sync will check for approved "Discover Device", "Create Virtual Device" or "Monitoring Removal" catalog requests and then sync those requests to Skylar One.

To run a Service Request Sync session:

1. In Skylar Automation, run the *"Sync Catalog Requirements" application*.
2. In ServiceNow, *create a service catalog request*.
3. In the Skylar Automation user interface, select the "Sync Service Requests from ServiceNow to Skylar One" application from the **Applications** page and click **[Configure]** on the application detail page. The **Configuration** pane appears.
4. Complete the following fields:
   - ***Configuration***. Select the relevant configuration object to align with this application. You cannot edit fields that are populated by the configuration object. Required.
   - ***read_timeout***. Specify the maximum amount of time in seconds the application should wait for a response before timing out. The default is 20 seconds.
   - ***recursively_disable_children***. Check this option to move all child devices of the devices you are decommissioning to the Virtual Collection Group (VCUG). If this option is not checked and a parent device is in the disable request, the parent device will be skipped with a warning message.
   - ***target_vcug***. Specify the ID of the Skylar One Virtual Collection Group (VCUG) you created to hold the devices on the **Collector Group Settings** page (System > Settings > Collector Groups). If this value is null, the application will attempt to pull the value from the ***target_vcug*** field in the "Delete Devices from Skylar One" application.
5. Click **[Save]**. The **Configuration** pane automatically closes after this message appears.
6. Click **[Run]** to run the application.

TIP: As a best practice, schedule the "Sync Service Requests from ServiceNow to Skylar One" application to run every hour or so, depending on your environment.

Configuring Change Management Sync

The Change Management Sync integration lets you configure Skylar One to generate an event when a maintenance-related change occurs. The Skylar One event contains data about the change request from ServiceNow, including a hyperlink to the ServiceNow change record. The event is aligned with a device in

Skylar One, and if the device is part of a business service in Skylar One version 12.2.0 or later, the event displays on the **[Changes]** tab for that business service in Skylar One.

You will need to configure the following Skylar Automation applications to run the Change Management Sync:

- Create or Update Maintenance Schedule from ServiceNow Trigger
- Sync Catalog Requirements
- Sync Maintenance Schedules from ServiceNow to SL1Trigger Device Maintenance Updates via MID Server
- Update Skylar One Event With ServiceNow Change Request Info

Syncing Device Maintenance from ServiceNow to Skylar One

You can use the following methods to put one or more devices into maintenance mode from ServiceNow to Skylar One:

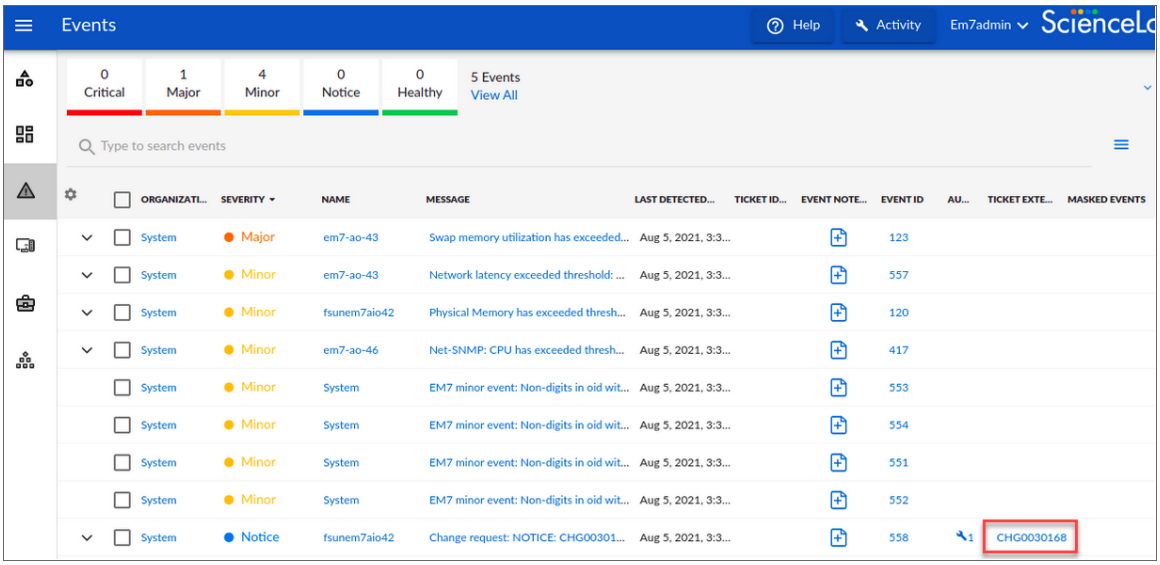
- Use the "Sync Maintenance Schedules from ServiceNow to Skylar One" Skylar Automation application if you are *not* using a MID Server, and you want to create a change request in ServiceNow to perform *scheduled* maintenance through a maintenance window in ServiceNow. For more information, see *Scheduling Device Maintenance (No MID Server)*.
- If you are looking to leverage a ServiceNow Management, Instrumentation, and Discovery (MID) Server, there are two separate ways of placing a Device in maintenance:
    - Use the "Create or Update Maintenance Schedule from ServiceNow Trigger" application to create and cancel maintenance schedules in Skylar One from a ServiceNow MID Server trigger. When triggered, the application gathers data about the change request in ServiceNow and generates a Skylar One Event with a severity of Notice.
    - Use the "Trigger Device Maintenance Updates via MID Server" application if you are using a ServiceNow MID Server and you want to *immediately* enable or disable maintenance on a device.

      For more information, see *Using a MID Server to Place a Device Directly in Maintenance or Schedule a Maintenance Window*.

Viewing Skylar One Events for Change Requests

When the "Create or Update Maintenance Schedule from ServiceNow Trigger" application is triggered, the application gathers data about the change request in ServiceNow and generates a Skylar One Event with a severity of Notice.

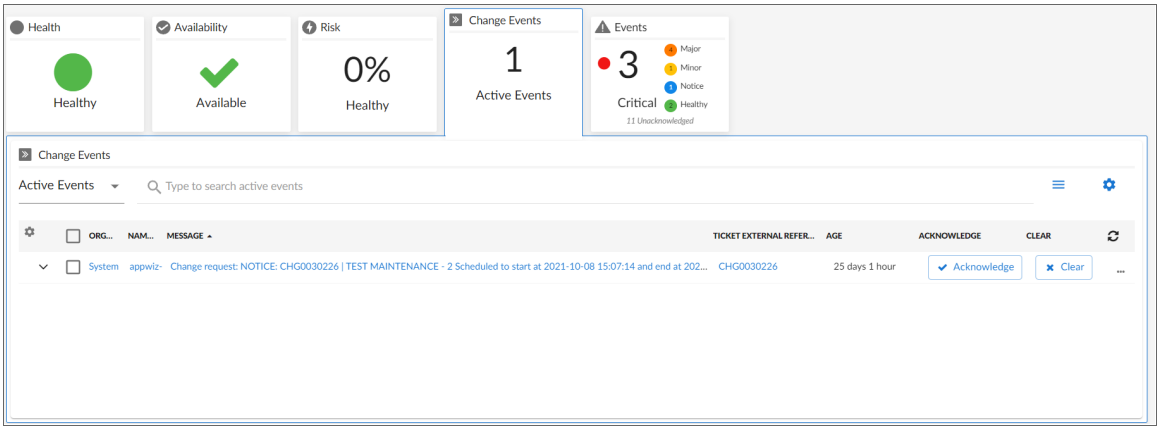
For a Skylar One Event that was generated by an update to a change request in ServiceNow, you can click the link for the ticket number in the **Ticket External Reference** column on the **Events** page (or click the life-ring icon ( ) in the classic user interface) to go back to the change request in ServiceNow:



For more information about Skylar One events, see the *Events* section.

Viewing Change Events for Skylar One Business Services

If you are using Skylar One version 11.1.0 or later with the Change Events feature enabled, and the device aligned with the event is in a Skylar One Business Service, the event will display on the **[Change Events]** tab for that Business Service in Skylar One:



The **Change Events** tab displays a list of events that are created when Skylar Automation pulls change data from ServiceNow, including both active and cleared change events.

For more information about Skylar One Business Services, see the *Business Services* section.

Scheduling Device Maintenance (No MID Server)

You can create a change request in ServiceNow to perform *scheduled* maintenance through a maintenance window in ServiceNow. You use the "Sync Maintenance Schedules from ServiceNow to

Skylar One" Skylar Automation application to sync maintenance windows from ServiceNow change requests (CHG)s to Skylar One devices to place the synced devices into maintenance mode for the scheduled change window.

This process does *not* require the use of a ServiceNow MID Server.

WARNING: Skylar Automation only syncs maintenance schedules that are aligned with devices that are already synced with ServiceNow. Before setting up maintenance schedule sync, you must first sync devices between Skylar One and ServiceNow using the *ServiceNow CMDB* SyncPack.

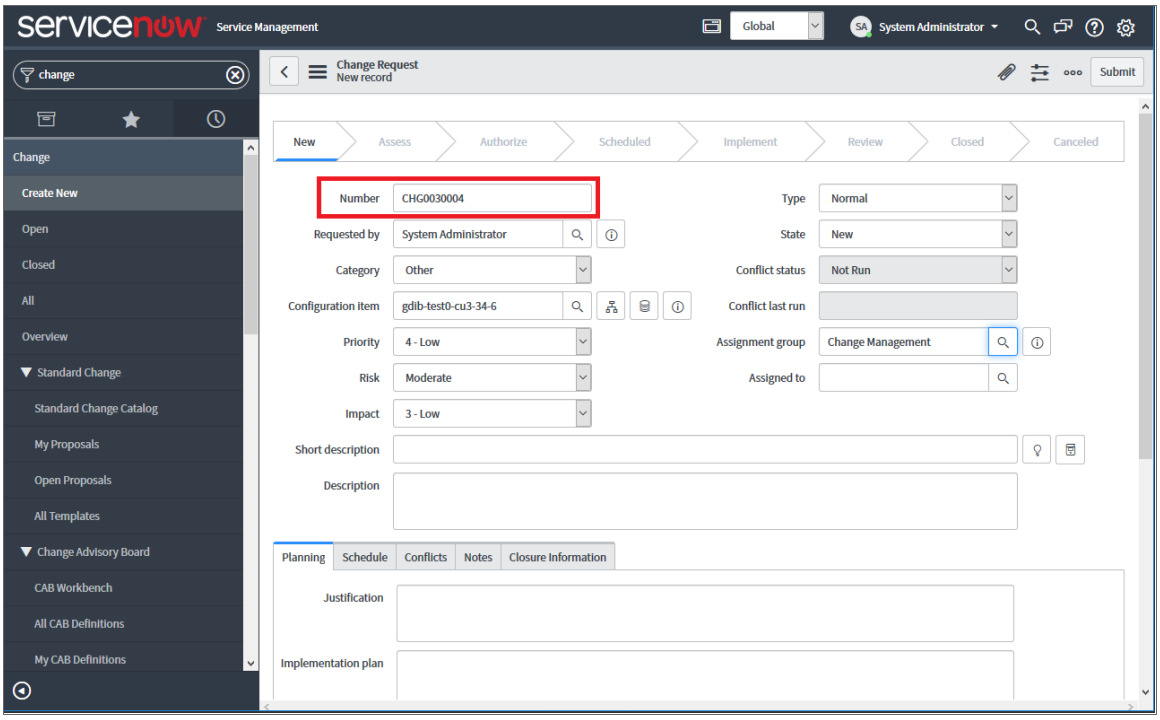
When you create a change request (CHG) in ServiceNow and sync it to Skylar One, the scheduled maintenance that Skylar One creates has collections disabled by default. This is not configurable.

The Skylar One Scheduler supports maintenance windows of at least one minute or more.

NOTE: If you update the scheduled times in a ServiceNow change request, you will need to cancel the change request, which also cancels the maintenance window in Skylar One. You will then need to create a new change request with the new time window and sync that change request to Skylar One.

To set up maintenance sync:

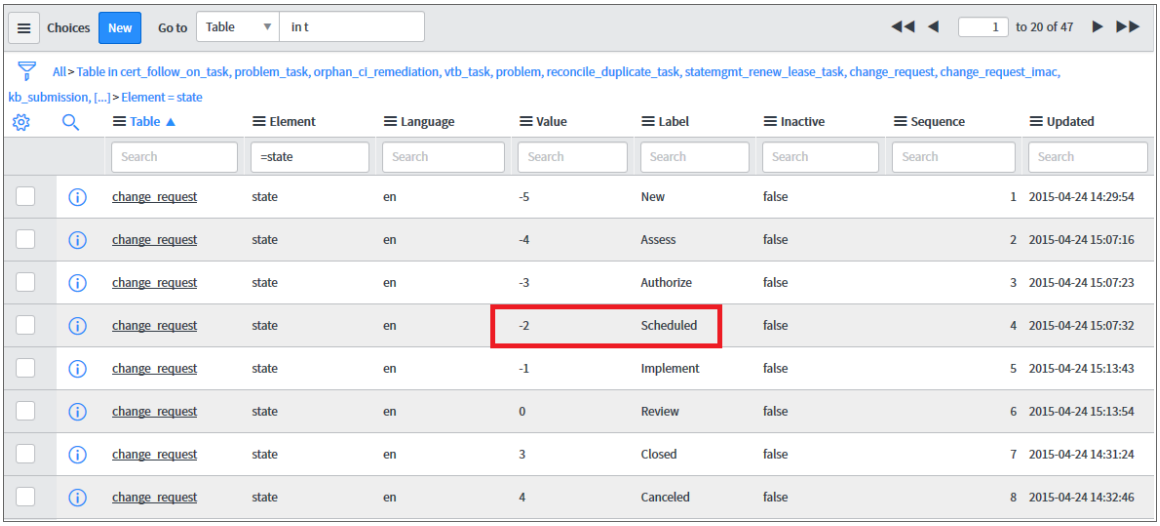
1. In ServiceNow, type "change" in the filter navigator and navigate to **Change > Create New**.
2. Click **[New]** to create a new change request of type "Normal". A new Change Request record appears:



3. Make a note of the change request number in the **Number** field. You will use this later to verify that the maintenance sync was created. In this example, the value is *CHG0030004*.
4. Update the following fields in the record:
   - ***Configuration Item***. Select the CI you want to configure for maintenance sync.
   - ***Assignment group***. Select the group for the CI.

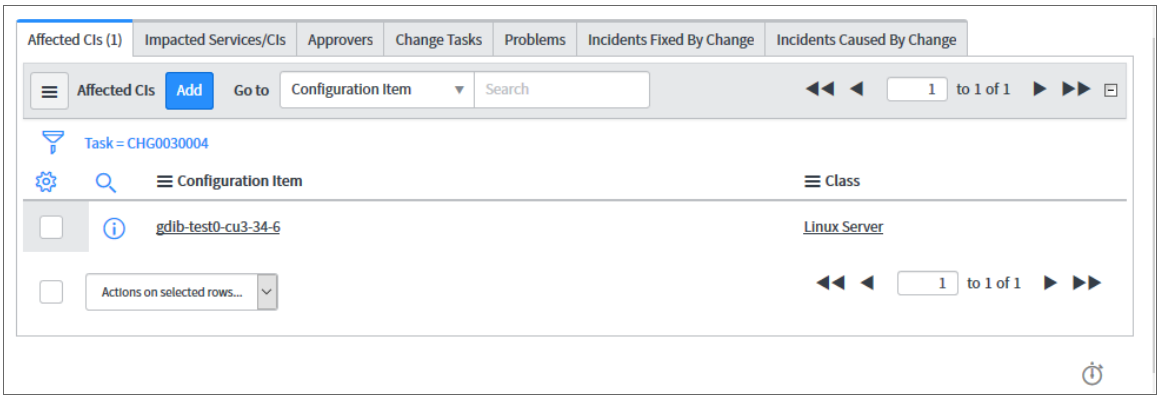
> **NOTE:** The aligned CI must have the ***Skylar One Monitored*** field selected before the Skylar Automation can use the maintenance schedule for that CI.

5. Click the **[Submit]** button. The change request is saved, and you are returned to the **Change Requests** page.
6. Select the change request you just created, and in the change request record, right-click the **State** label and select *Show Choice List*. The Choices list displays a list of the configurable choices and values:

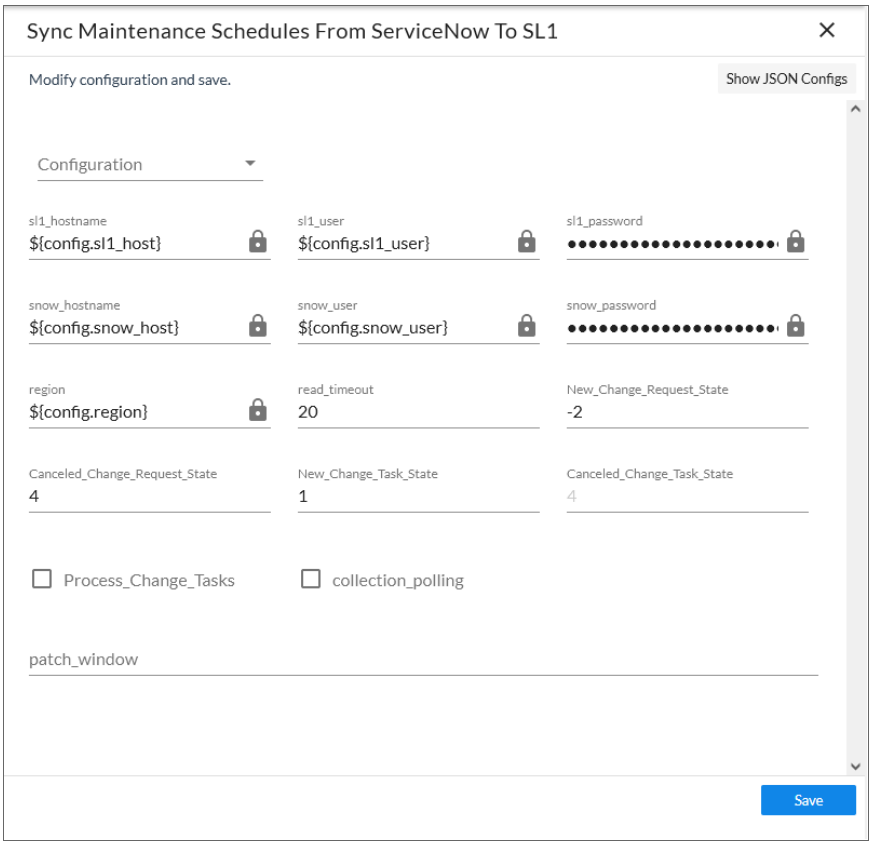


NOTE: You need Administrator privileges to access this list.

7. Make a note of the values in the ***Value*** and ***Label*** fields. These values map to the ***New_Change_Request_State*** and ***Canceled_Change_Request_State*** fields in the "Sync Maintenance Schedules from ServiceNow to Skylar One" application.
8. Return to your new change request and scroll down in the change request to the **[Affected CIs]** tab, where you can click the **[Add]** button to add additional synced CIs to the maintenance sync:



9. In the Skylar Automation user interface, go to the **Applications** page and select the "Sync Maintenance Schedules from ServiceNow to Skylar One" application.
10. Click **[Configure]** ( ). The **Configuration** pane appears:



11. As needed, update the following options from the **Configuration** pane:
    - ***Configuration***. Select the relevant configuration object to align with this application. You cannot edit fields that are populated by the configuration object. Required.
    - ***New_Change_Request_State***. The State ID from ServiceNow of the scheduled change request that this application accesses to pull to schedule maintenance windows in Skylar One.The default is -2.
    - ***read_timeout***. Specify the maximum amount of time in seconds the application should wait for a response before timing out. The default is 20 seconds.
    - ***Canceled_Change_Request_State***: The State ID for a canceled change request that this application accesses to pull to schedule maintenance windows in Skylar One. The default is 4.
    - ***New_Change_Task_State***: The State ID of the scheduled change task that this application accesses to pull to cancel maintenance windows in Skylar One. The default is 1.
    - ***Canceled_Change_Task_State***: The State ID for a canceled change task that this application accesses to pull to cancel maintenance windows in Skylar One. The default is 4.

- ***Process_Change_Tasks***: Select this option to enable change task processing, which allows the request to be broken down into Change Tasks, which results in two extra pulls of the data. The default is unselected.
- ***collection_polling***. When selected, leaves synced devices in a collection enabled state after a synced schedule completes. The devices will be put in maintenance but the devices will remain enabled for polling. By default, the devices are left in a collection disabled state.
- ***patch_window***. Specifies a patch window from 0 to 60 minutes.

12. Verify that the value from the ***New_Change_Request_State*** field matches the value in the ***Value*** field from ServiceNow, and the value from the ***Canceled_Change_Request_State*** field matches the value from the ***Label*** field from ServiceNow. These values must match for the maintenance sync to work.
13. Click **[Save]**. The **Configuration** pane automatically closes after this message appears.
14. Click **[Run]** () to run the application.
15. While the "Sync Maintenance Schedules from ServiceNow to Skylar One" application runs, you can monitor the status of the maintenance process by clicking the branch icon () on the "Schedule Maintenance" step. Click the triggered application's run ID in the pop-up window, and then click the branch icon on the "Create SL Maintenance" or "Modify Maintenance" steps for more information.
16. After the "Sync Maintenance from ServiceNow to Skylar One" application completes, navigate to the **Schedule Manager** (Registry > Schedules > Schedule Manager) in Skylar One to view the change requests.
17. Verify that the **Schedule Summary** field contains the same value from the ServiceNow **Number** field. In this example, the value in Skylar One matches the value from ServiceNow: *CHG0030004*.
18. You can also verify that the schedule was created for a device by navigating to the **Device Manager** (Registry > Devices), clicking the wrench icon for the device, and clicking the **[Schedule]** tab.
19. If you want to cancel the scheduled time for the maintenance sync, open the change request in ServiceNow, click the **Additional actions** menu button (), and select *Cancel Change*. The next time the "Sync Maintenance from ServiceNow to Skylar One" application runs, the application cancels that maintenance sync.

TIP: As a best practice, schedule the "Sync Maintenance from ServiceNow to Skylar One" application to run every hour or so, depending on your environment.

Using a MID Server to Place a Device Directly in Maintenance or Schedule a Maintenance Window

You can use this SyncPack with a ServiceNow MID Server for the following scenarios:

- Placing a device directly in maintenance.
- Scheduling a maintenance window

To set up either scenario, perform the following:

1. *Configure and run the "Sync Catalog Requirements" application* in Skylar Automation.
2. *Create a ServiceNow Credential and Credential Affinity in ServiceNow,* or

   Configure ServiceNow to use an API Key for Skylar Automation Authentication

Configuring and Running the "Sync Catalog Requirements" Application in Skylar Automation

Prerequisites for the MID Server workflow:

1. In Skylar Automation, open the "Sync Catalog Requirements" application and click the **[Configure]** button (). The **Configuration** pane appears.
2. This application uses one or more of the following options from the **Configuration** pane:
   - ***Configuration***. Select the relevant configuration object to align with this application. You cannot edit fields that are populated by the configuration object. Required.

     NOTE: The ***region*** field is populated by the configuration object you aligned with this application. If you need to update this value, you will need to define the ***region*** variable in the configuration object that is aligned with this application, or align a different configuration object that has the correct ***region*** value.

   - ***snow_request_limit***. Specify the number of CIs fetched from ServiceNow in each request. The default is 500 objects per chunk.
   - ***read_timeout***. Specify the maximum amount of time in seconds the application should wait for a response before timing out. The default is 30 seconds.
   - ***sl1_chunk_size***. Specify the number of object to include in each chunk sent from Skylar One to ServiceNow. The default is 500.
   - ***snow_chunk_size***. Specify the number of objects to send in each chunk from ServiceNow. The default is 150 objects per chunk.
3. Click **[Save]**.
4. Click the **[Run]** button. The application syncs the configuration objects from Skylar Automation to ServiceNow so that ServiceNow can tell Skylar Automation to which Skylar One system it needs to send the change request.
5. In ServiceNow, create a credential for the sync. For more information, see *Creating a ServiceNow Credential and Credential Affinity* or *Configure ServiceNow to use an API Key for Skylar Automation Authentication*.

NOTE: You do *not* need to run or schedule the "Create or Update Maintenance Schedule from ServiceNow Trigger" application or the "Trigger Device Maintenance Updates via MID Server" application in Skylar Automation. Those applications are triggered by the MID Server, which is triggered first by a registered event in ServiceNow Event Management. For more information about registered events, including examples of other triggering events you can define in ServiceNow, see *ServiceNow Registered Events*.

Creating a ServiceNow Credential and Credential Affinity

Before you can set up maintenance sync with the MID Server in ServiceNow, make sure you have run the "Sync Catalog Requirements" application.

1. In ServiceNow, go to **Connections & Credentials > Connection & Credential Aliases**.
2. Click **[New]**. The **Connection & Credential Aliases New record** page appears.
3. Complete the following fields:
   - ***Name***. Required. Enter a name for the credential alias record.
   - ***ID***. The ID field will auto-populate after saving the credential alias record.
   - ***Type***. Select *Credential*.
   - ***Application***. Select *Global*.
4. Click **[Submit]**. The credential alias is added to the **Connection & Credential Aliases** page.
5. Click **[New]** under the **Credentials** section of the new record.
6. Select the type of credential you want to use to connect to Skylar Automation.
7. Complete the ***Name***, ***Applies to***, and ***Active*** fields, along with any other necessary fields relevant to the credential type.
8. Click **[Submit]**. The credential is added to the **Connection & Credential Aliases** page.
9. Select the new credential. The credentials page for that credential appears.
10. Click **[New]** to create a Discovery IP Affinity record. A new **Credential Affinity** page appears.
11. Complete the following fields:
    - ***MID server***. The name of the MID Server you want to use.
    - ***IP address***. Use the Skylar Automation IP address that was listed in the ***IP*** field on the relevant record on the **Discovery Dependents** page in ServiceNow. To quickly find the relevant record on the **Discovery Dependents** page, right-click the **Type** column and select *Group By Type*, and then expand *Type: Integration Services*. Use the IP value from the record that matches the Region for the devices you want to use.
    - ***Credential ID***. This field should be completed for you.
12. Click **[Submit]**.

Chapter 4

Troubleshooting the ServiceNow Service Catalog SyncPack

Overview

This chapter includes troubleshooting resources and procedures to use with the "ServiceNow Service Catalog" SyncPack.

This chapter covers the following topics:

Initial Troubleshooting Steps

Skylar Automation acts as a middle server between data platforms. For this reason, the first steps should always be to ensure that there are no issues with the data platforms with which Skylar Automation is talking. There might be additional configurations or actions enabled on ServiceNow or Skylar One that result in unexpected behavior. For detailed information about how to perform the steps below, see *Resources for Troubleshooting*.

Skylar Automation

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

ServiceNow

1. Make a note of the ServiceNow version and SyncPack version, if applicable.
2. Make a note if you are running a ServiceNow certified application or a Service Graph SyncPack.
3. Make a note of the SyncPack application that is failing in Skylar Automation.
4. 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 Skylar Automation and troubleshooting commands for Docker, Couchbase, and the Skylar Automation API.

Useful Skylar Automation Ports

- **https://***<IP of Skylar Automation>***:8091**. Provides access to Couchbase, a NoSQL database for storage and data retrieval.
- **https://***<IP of Skylar Automation>***:15672**. Provides access to the RabbitMQ Dashboard, which you can use to monitor the service that distributes tasks to be executed by Skylar Automation workers.

- **https://***<IP of Skylar Automation>***/flower/workers**. Provides access to Flower, a tool for monitoring and administrating Celery clusters.
- **https://***<IP of Skylar Automation>:3141*. Provides access to the pypiserver service. which you can use to see if SyncPacks have been correctly uploaded to Devpi container.

IMPORTANT: Port 5556 must be open for both Skylar Automation and the client.

Helpful Docker Commands

Skylar Automation 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 Skylar Automation:

Viewing Container Versions and Status

To view the Skylar Automation version, SSH to your instance and run the following command:

```
rpm -qa | grep powerflow
```

To view the individual services with their respective image versions, SSH to your Skylar Automation 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 Skylar Automation:

Restarting a Service

Run the following command to restart a single service:

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

Stopping all Skylar Automation Services

Run the following command to stop all Skylar Automation 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.

Diagnosis Tools

Multiple diagnosis tools exist to assist in troubleshooting issues with the Skylar Automation platform:

- ***Docker PowerPack***. This PowerPack monitors your Linux-based Skylar Automation server with SSH (the Skylar Automation ISO is built on top of an Oracle Linux Operating System). This PowerPack provides key performance indicators about how your Skylar Automation server is performing. For more information on the Docker PowerPack and other PowerPacks that you can use to monitor Skylar Automation, see the *Using Skylar One to Monitor Skylar Automation*.
- ***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 Skylar Automation 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 Skylar Automation 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 Skylar Automation 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 Skylar Automation 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 in Debug Mode ("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 Skylar Automation user interface:

1. Select the Skylar Automation application from the **Applications** page.
2. Hover over the **[Run]** button and select *Custom Run* from the pop-up menu. The **Custom Run** window appears.
3. Select the Logging Level. *Debug* is the most verbose and will take longer to run.
4. Specify the configuration object for the custom run in the ***Configuration*** field, and add any JSON parameters in the ***Custom Parameters*** field, if needed.
5. Click **[Run]**.

To run an application in Debug Mode using the API:

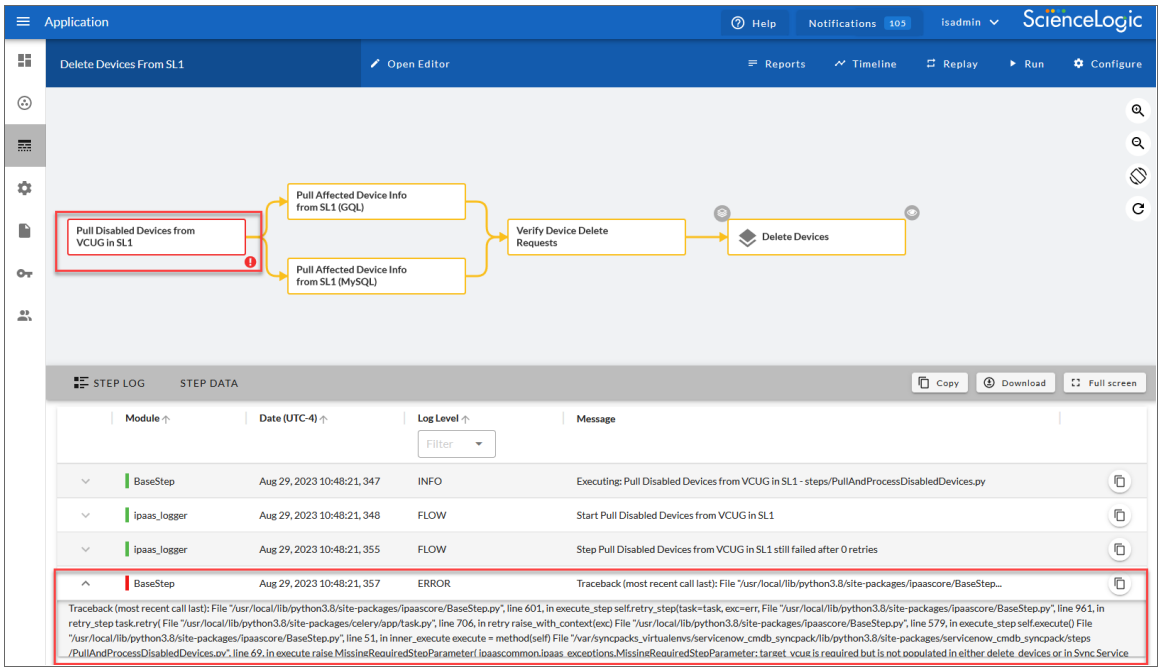
1. POST the following to the API endpoint:

```
https://<Skylar Automation_IP>/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 Skylar Automation 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 to the Skylar Automation instance.
2. Run the following command:

```
curl -v -k -u isadmin:<password> -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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