Integration Service: ServiceNow SyncPack

Version 2.5.0

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Chapter 1

Introduction to the ServiceNow SyncPack

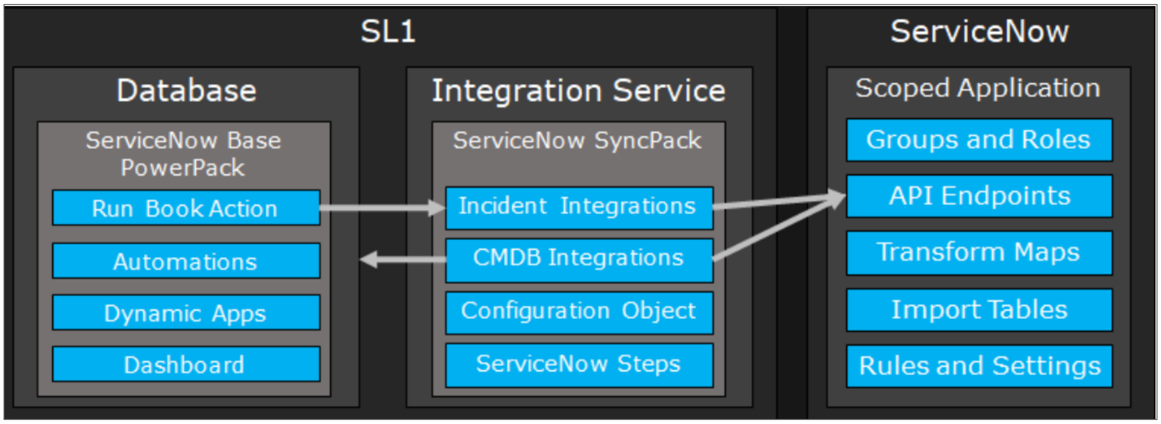
Overview

This manual describes how to configure the *Integration Service: ServiceNow SyncPack*. This SyncPack includes the ***Incident Sync*** and the ***Configuration Management Database (CMDB) Sync*** integration solutions.

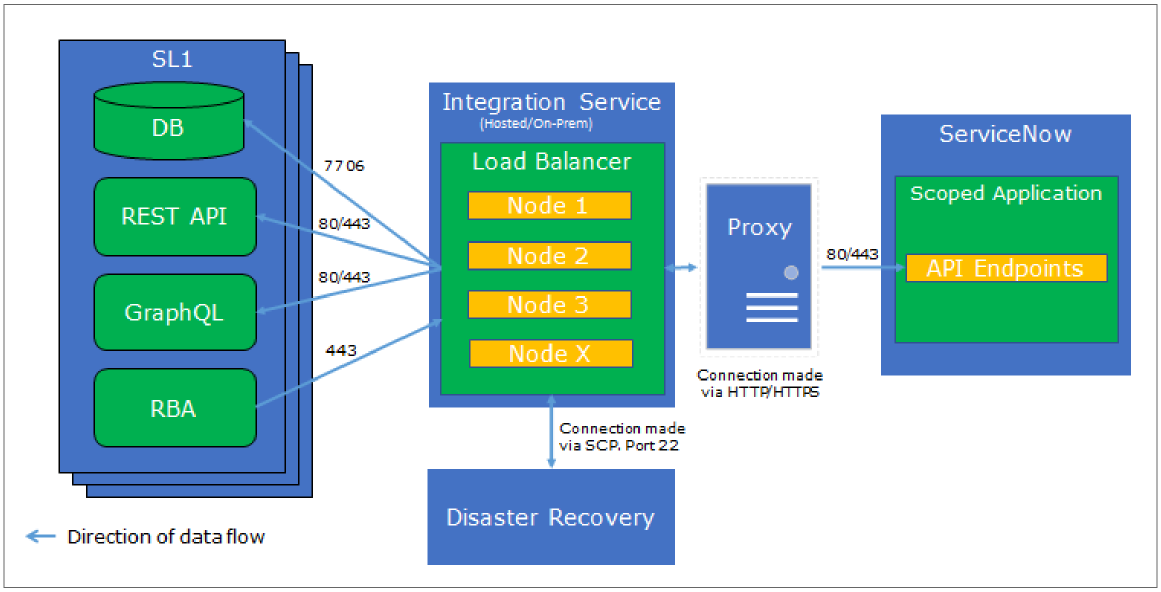
This chapter covers the following topics:

Architecture Overview for the ServiceNow SyncPack

The following diagram details the various elements that are contained in SL1 and the Integration Service, and how the Integration Service sits between the core SL1 platform and an external data platform:



The following diagram provides an example of the high-level architecture of an Integration Service system with High Availability, Disaster Recovery, and a proxy configured:



NOTE: The "ScienceLogic SL1: CMDB & Incident Automation" application contains all of the elements that were previously available only in the ScienceLogic Update Set. For more information, see *Installing the ScienceLogic SL1: CMDB & Incident Automation Application in ServiceNow*.

SL1 and ServiceNow Terminology

The following table lists the different names for the shared elements in SL1 and ServiceNow:

SL1	ServiceNow
Event	Incident
Device	CI (Configuration Item)
Asset	Asset
Organization	Company/Domain
Discovery Session	Service Catalog Request
Schedule	Maintenance Schedule
Topology	Dependency

Integration Applications Included in the ServiceNow SyncPack

The **Integrations** page of the Integration Service user interface contains a list of the available integration applications you can run with the ServiceNow SyncPack. This section lists the integration applications specific to the ServiceNow SyncPack.

Default Integration Applications in the ServiceNow SyncPack

The following integration applications are included with the ServiceNow SyncPack:

- ***Cache ServiceNow CIs and SL1 Device Classes***. Reads all existing SL1 Device Classes and ServiceNow CIs and writes them to a cache. To perform a Device Sync, run this integration application before you run the "Sync Devices from SL1 to ServiceNow" integration application. For more information, see ***Syncing Devices from SL1 to ServiceNow***.
- ***Clear ServiceNow Interface Cache***. Clears the cache of all ServiceNow interface-related entries of a specified region. If no region is provided, this application clears the cache for all SL1 entries. For more information about Interface Sync, see ***Syncing Network Interfaces from SL1 to ServiceNow***.
- ***Create or Update ServiceNow Incident from SL1 Event***. Reads SL1 events and creates or updates the corresponding ServiceNow Incident. For more information, see the ***Workflows for Installing and Configuring Incident Sync***.
- ***Delete Devices from SL1***. Lets you delete devices in a specific SL1 Virtual Collector Group (VCUG) if those devices have not been modified in SL1 for a specified amount of time that is set in the application. For more information, see ***Deleting Devices***.

- ***Generate Required CI Relations for ServiceNow***. Pulls device class mappings from the "Sync Devices from SL1 to ServiceNow" and the "Sync CI Attributes from ServiceNow to SL1" integration applications to prevent you from having to add a separate set of class mappings. The application also lists any missing relationships in the Step Log in the Integration Service user interface. For more information about the log messages, see *Log Messages for the "Generate Required CI Relations for ServiceNow" Application Integration*.
- ***Sync Advanced Topology from SL1 to ServiceNow***. Reads Dynamic Component Mapping relationships from SL1 and syncs those relationships with ServiceNow. You must run both the "Sync Devices from SL1 to ServiceNow" application and the "Sync Interfaces from SL1 to ServiceNow" application at least twice on new Integration Service systems to populate the cache for this integration application. For more information, see *Syncing Advanced Topologies from SL1 to ServiceNow*.
- ***Sync Business Services from SL1 to ServiceNow***. Reads Business Services, IT Services, and Device Services in SL1 and syncs them with business services in ServiceNow. This integration application creates and updates services, but it does not delete services. For more information, see *Syncing Business Services from SL1 to ServiceNow*.
- ***Sync Change Management Requirements***. Sends configuration data from the Integration Service to ServiceNow to use with change management and other processes. For more information, see *Triggering Maintenance Schedules from ServiceNow to SL1*.
- ***Sync CI Attributes from ServiceNow to SL1***. Reads CI attributes from ServiceNow and maps those attributes to asset and attribute fields in SL1. This application uses the mappings and additional attributes options from the "Sync Devices from SL1 to ServiceNow" application. This integration application can also sync the location and production state attributes from ServiceNow to SL1. For more information, see *Syncing CI Attributes from ServiceNow to SL1*.
- ***Sync Device Groups from SL1 to ServiceNow***. Collects all device groups and group IDs from SL1 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. For more information about Device Sync, see *Syncing Devices from SL1 to ServiceNow*.
- ***Sync Devices from SL1 to ServiceNow***. Syncs devices and their properties and relationships from SL1 to ServiceNow. For more information, see *Syncing Devices from SL1 to ServiceNow*.
- ***Sync Discovery Requirements***. Processes credentials from SL1, processes collector groups, device templates, virtual device classes, and collectors, and then syncs organizations and device groups. For more information, see *Discovery Sync*.
- ***Sync Discovery Session Status from SL1 to ServiceNow***. Collects and processes Discovery sessions from SL1, and collects Discovery session logs. For more information, see *Discovery Sync*.
- ***Sync File Systems from SL1 to ServiceNow***. Reads file systems discovered in SL1 and then maps them to a parent CI record in ServiceNow. For more information, see *Syncing File Systems from SL1 to ServiceNow*.
- ***Sync Incident State from ServiceNow to SL1 Event***. Clears or updates SL1 events when the related ServiceNow Incident is updated. For more information, see the *Workflows for Installing and Configuring Incident Sync*.
- ***Sync Installed Software from SL1 to ServiceNow***. Reads all available software packages from ServiceNow and the devices aligned to that software by region and syncs them with SL1. For more information, see *Syncing Installed Software between SL1 and ServiceNow*.

- ***Sync Interfaces from SL1 to ServiceNow***. Collects network interface data from ServiceNow and SL1, and then runs multiple CI syncs for each interface to be synced. For more information, see ***Syncing Network Interfaces from SL1 to ServiceNow***.
- ***Sync Maintenance Schedules from ServiceNow to SL1***. Performs maintenance of synced devices in ServiceNow and SL1. For more information, see ***Syncing Maintenance Schedules from ServiceNow to SL1***.
- ***Sync Organizations from SL1 to ServiceNow***. Pulls organizations from SL1 and syncs to ServiceNow. For more information, see ***Syncing Organizations from SL1 to ServiceNow***.
- ***Sync Service Requests from ServiceNow to SL1***. Processes Discovery sessions and posts Discovery sessions and new virtual devices to SL1. Also enables device decommissioning for devices you no longer want to monitor. This application was formerly named "Sync Discovery Session Requests from ServiceNow to SL1". For more information, see ***Configuring ServiceNow Service Requests for Discovery Sync***.
- ***Sync Software Packages from SL1 to ServiceNow***. Reads all software packages from and creates new CIs in ServiceNow. Run this integration before running the "Sync Installed Software" integration application. For more information, see ***Syncing Installed Software between SL1 and ServiceNow***.
- ***Template App***. Application template for creating integration applications. For more information, see the ***Integration Service for Developers*** manual.
- ***Timed Removal***. Removes logs from Couchbase on a regular schedule. For more information, see the ***Integration Service Platform*** manual.
- ***Trigger Device Maintenance Updates via MID Server***. Lets you sync maintenance windows from ServiceNow to SL1 using a ServiceNow Management, Instrumentation, and Discovery (MID) Server. For more information, see ***Triggering Maintenance Schedules from ServiceNow to SL1***.
- ***Update ServiceNow Incident when SL1 Event is Acknowledged***. Updates the synced ServiceNow incident when the corresponding SL1 event is acknowledged. For more information, see the ***Workflows for Installing and Configuring Incident Sync***.
- ***Update ServiceNow Incident when SL1 Event is Cleared***. Updates the synced ServiceNow Incident when the corresponding SL1 event is cleared. For more information, see the ***Workflows for Installing and Configuring Incident Sync***.

Internal Integration Applications in the ServiceNow SyncPack

Some of the integration applications on the **Integrations** page of the Integration Service user interface are *internal* applications that you should not run directly. Instead, other "parent" integration applications run these internal applications. To view the internal integration applications, click the Filter icon (☰) at the top right of the **Integrations** page and select *Show Hidden Integrations*. Internal integration applications are hidden by default.

The following integration applications are "internal" applications that should not be run directly, but are automatically run by applications from the previous list:

- ***Bulk Update SL1 Events***. Bulk updates SL1 events with a given payload.
- ***Cache SL1 Devices***. Reads all existing SL1 and ServiceNow devices and writes them to a cache.

- ***Cache SL1 Interfaces***. Reads all existing SL1 and ServiceNow network interfaces and writes them to a cache.
- ***Cancel Maintenance***. Cancels a scheduled maintenance in SL1.
- ***Clear ServiceNow Device Cache***. Clears the cache of all ServiceNow device-related entries of a specified SL1 ID. If no SL1 ID is provided, this application clears the cache for all SL1 entries.
- ***Create Discovery Session in SL1***. Creates and starts a Discovery session in SL1 and updates the ServiceNow service request.
- ***Create Maintenance***. Creates a scheduled maintenance in SL1.
- ***Create ServiceNow CI***. Creates a new ServiceNow CI with a mappings dictionary, but does not attempt to look up new CIs.
- ***Create Virtual Device in SL1***. Creates a virtual device in SL1 and updates the Requested Item (RITM) value.
- ***Modify Maintenance***. Updates a scheduled maintenance in SL1
- ***Post Company and Organization Updates***. Posts company and organization updates to ServiceNow or SL1.
- ***Post Discovery-dependent Data to ServiceNow***. Posts data used by a Discovery session to ServiceNow.
- ***Post New Companies to ServiceNow***. Posts new companies to ServiceNow.
- ***Post New Organizations to SL1***. Posts new organizations to SL1.
- ***Pull and Post Discovery Logs***. Pulls Discovery session logs from SL1 and posts updates to ServiceNow.
- ***Remove Maintenance***. Removes a scheduled maintenance in SL1.
- ***Schedule Maintenance***. Creates a scheduled maintenance in SL1.

NOTE: The ServiceNow SyncPack includes one default configuration object on the **Configurations** page: "Test Host Settings", which contains host information for testing. The SyncPack also includes the "IS - System Diagnostic Configuration Example" configuration object, which contains the structure needed for the "Integration Service System Diagnostics" integration application, and the "ServiceNow SyncPack" configuration object, which contains the required block of hostname code needed with the *ServiceNow SyncPack* version 2.3.0.

Log Messages for the "Generate Required CI Relations for ServiceNow" Application Integration

This section describes the different types of log messages you might see in the Step Log when you run the "Generate Required CI Relations for ServiceNow" integration application.

The following message displays if there are devices in a device tree that do not currently have a CI class mapping assigned.

```
Warning: 2751 Relations with missing mappings detected. Please re-run app with log
    level 10 to troubleshoot.
```

In this situation, the device tree cannot be built in ServiceNow. To address this issue, make sure that you have your entire technology tree mapped out in the ***mappings*** section of the "Sync Devices from SL1 to ServiceNow" integration application or in the ***mappings*** section of the "Generate Required CI Relations for ServiceNow" integration.

If you run the "Generate Required CI Relations for ServiceNow" integration application in Debug mode (log level 10), the application will create a log that displays the parent and child class, CI, and device ID. For example:

```
Debug: Missing Mapping for Device. Parent: {"class": "VMware | Cluster", "ci": None,
    "id": 76}, Child: {"class": "VMware | Host Server", ci: "cmdb_ci_esx_server", id:
    363 }
```

The following message appears if the GQL payloads had bad data for parent and or child devices:

```
Warning: 10 bad payloads received from SL1. Re-run app in debug to troubleshoot.
```

If you run the application in Debug mode, the application will create a log that displays these payloads.

The following message appears if all relations are mapped:

```
Flow: No missing relations found!
```

The following message appears if there is a parent/child relation between ServiceNow CI classes that does not currently exist in ServiceNow and is required to sync those devices:

```
Flow: Missing Relations: [{"parent": "cmdb_ci_vcenter_folder", "child": "cmdb_ci_
    esx_server"}, {"parent": "cmdb_ci_vcenter", "child": "cmdb_ci_vcenter_
    datacenter"}]
```

Refer to the labels in the log (above) to determine which CI class is the parent type and which is the child type. To address this issue, navigate to your ServiceNow instance and create the required service rules based on the recommendations in the **Step Log**.

The following message appears if the application encounters a list of relations that are required, but were successfully found in ServiceNow:

```
Info: Found Relations: [{"parent": "cmdb_ci_vcenter_folder", "child": "cmdb_ci_esx_
    server"}, {"parent": "cmdb_ci_vcenter", "child": "cmdb_ci_vcenter_datacenter"}]
```

This message lets you verify that your mappings and relations are configured correctly.

Allowing Cross-Scoped Access

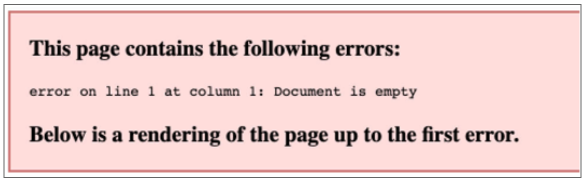
When using custom tables that are extended from the cmdb_ci table, you must configure cross-scope access for any custom tables created outside of the base ServiceNow deployment.

The following examples contain errors that might occur when cross-scope access is required.

Example of an API response:

```
{"results":[{"error":
{"message":"com.glide.script.fencing.access.ScopeAccessNotGrantedException: read
access to ui_test_hardware not granted","detail":""},"status":"failure"}
```

Example of navigating to a URL directly from a web browser when cross-scope access is required:



This page contains the following errors:

```
error on line 1 at column 1: Document is empty
```

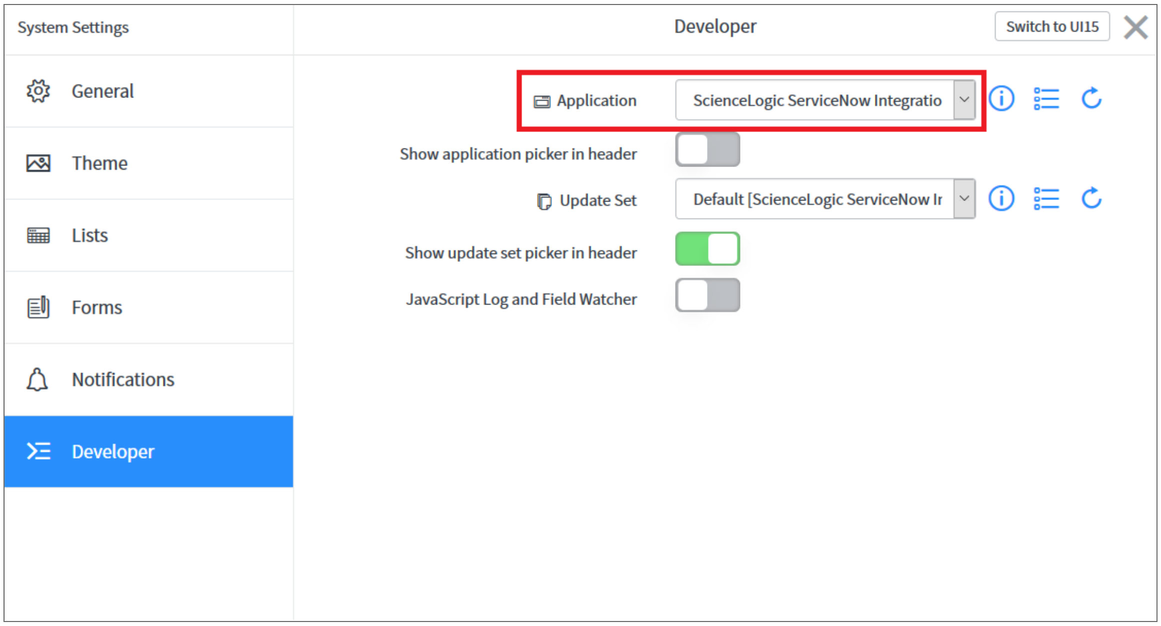
Below is a rendering of the page up to the first error.

In this example, the table requires that you grant access to the ScienceLogic Scope to allow the API call to run correctly. In the above example, the target table is **u_test_hardware**.

> **NOTE:** A ServiceNow account with System Administrator is required.

To grant access to the ScienceLogic Scope in ServiceNow:

1. Log in to your ServiceNow instance.
2. Click the **Settings** icon (⚙) and select the **Developer** tab. The **Developer System Settings** window appears:



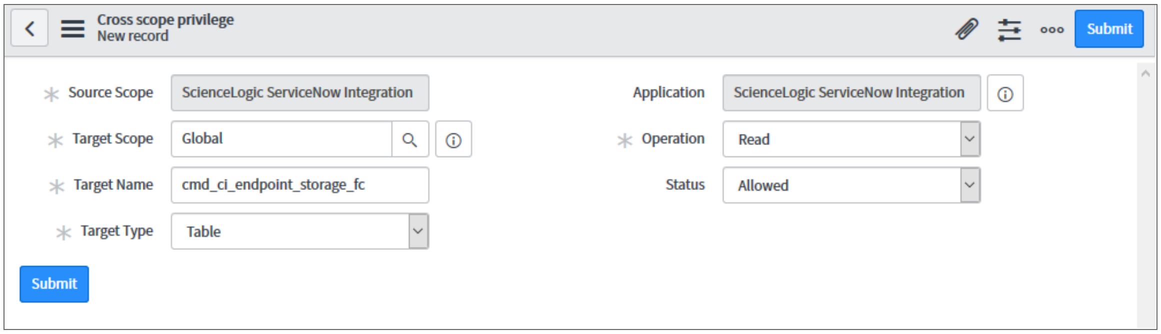
Developer

Application	ScienceLogic ServiceNow Integratio
Show application picker in header	Off
Update Set	Default [ScienceLogic ServiceNow Ir
Show update set picker in header	On
JavaScript Log and Field Watcher	Off

3. From the **Application** drop-down list, select *ScienceLogic ServiceNow Integration*.
4. Close the **Developer System Settings** window and navigate to the **Cross scope privileges** page (System Applications > Application Cross-Scope Access).

> NOTE: Make sure you are in the ScienceLogic ServiceNow Application scope and track these updates in an update set. For more information about update sets, see *Creating a ServiceNow update set*.

5. Click the **[New]** button to create a new record on the **Cross scope privileges** page:



Cross scope privilege
New record

Source Scope	ScienceLogic ServiceNow Integration	Application	ScienceLogic ServiceNow Integration
Target Scope	Global	Operation	Read
Target Name	cmd_ci_endpoint_storage_fc	Status	Allowed
Target Type	Table		

6. Verify that the ***Source Scope*** and ***Application*** fields are set to *ScienceLogic ServiceNow Integration*. If they are not, repeats steps 2-3.
7. Complete the following fields:
   - ***Target Scope***. Specify the scope of the target table, such as *Global*.
   - ***Operation***. Select *Read*.
   - ***Target Name***. Specify the name of the target table.
   - ***Status***. Select *Allowed*.
   - ***Target Type***. Select *Table*.
8. Click the **[Submit]** button.

For more information, see https://docs.servicenow.com/bundle/madrid-application-development/page/build/applications/reference/c_CrossScopePrivilegeRecord.html.

Chapter 2

Incident Sync Solution

Overview

This chapter describes the ScienceLogic integration with the ServiceNow Incident Management Module. This integration automatically logs, de-duplicates, correlates, updates, and appends ServiceNow Incidents, reducing the amount of time to resolve critical service issues. This integration covers the entire Incident life cycle, providing a bi-directional integration between SL1 events and ServiceNow Incidents, while providing a granular view into both the event and the associated Incident.

This chapter covers the following topics:

Workflows for Installing and Configuring Incident Sync

Use the following workflows to help you set up Incident Sync between SL1 and ServiceNow.

Workflow 1: Initial Installation and Configuration

This workflow covers how to install and configure the different elements used for Incident Sync:

1. *Review the Incident Sync prerequisites*
2. *Install the ScienceLogic SL1: CMDB & Incident Automation application in ServiceNow*
3. *Install the ServiceNow SyncPack*
4. *Install the ServiceNow Base Pack PowerPack in SL1*
5. *Validate network communications*
6. *Create a ServiceNow group* and *user account*
7. *Create a configuration object in the Integration Service user interface*
8. *Align the new configuration file with the following integration applications*:
   - "Create or Update ServiceNow Incident from SL1 Event"
   - "Sync Incident State from ServiceNow to SL1 Event"
   - "Update ServiceNow Incident when SL1 Event is Acknowledged"
   - "Update ServiceNow Incident when SL1 Event is Cleared"

Workflow 2: Configure the Run Book Automation

This workflow covers how to set up the Run Book Automation to run Incident Sync:

1. *Create a ServiceNow credential in SL1*
2. *Enable the following Run Book Automation Policies:*
   - "ServiceNow: Add/Update Incident"
   - "ServiceNow: Event Acknowledged"
   - "ServiceNow: Event Cleared
3. *Enable and customize the "ServiceNow: Add/Update/Clear Incident" Run Book Action Policy*
4. Optionally, *send custom data to ServiceNow using the Passthrough Option*
5. Optionally, *enable and configure the "ServiceNow: Click to Create Incident" Policy*

NOTE: For checklists that cover installation and deployment steps for specific configurations of the Integration Service, ServiceNow, and SL1, see *Appendix D: Checklists for Deployment*.

Incident Sync Prerequisites

This section describes the prerequisites that apply when you integrate ServiceNow with SL1 using the Incident Sync solution.

For more information about the specific software versions required by the Incident Sync solution, see the ***Integration Service: ServiceNow SyncPack Release Notes***.

For checklists that cover installation and deployment steps for specific configurations of the Integration Service, ServiceNow, and SL1, see ***Appendix D: Checklists for Deployment***.

To install the ScienceLogic ServiceNow Incident Sync integration solution, you must have administrator access to both the SL1 Management Platform and ServiceNow. Specifically, you will need:

- ScienceLogic root SSH access
- SSH access to the Integration Service
- ScienceLogic administrator access to the Administration Portal
- ServiceNow administrator access

The following table lists the port access required by the Integration Service for the ServiceNow Incident Sync integration:

Source IP	Integration Service Destination	Integration Service Source Port	Destination Port	Requirement
Integration Service	SL1 API	Any	TCP 443	SL1 API Access
Integration Service	ServiceNow API	Any	TCP 443	ServiceNow API Access
SL1 Run Book Action	Integration Service	Any	TCP 443	Send SL1 data to the Integration Service

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

Installing the ScienceLogic SL1: CMDB & Incident Automation Application in ServiceNow

The Incident Sync Solution uses the "ScienceLogic SL1: CMDB & Incident Automation Application" and the ServiceNow SyncPack to sync incident status update from ServiceNow back to SL1.

You must install the "ScienceLogic SL1: CMDB & Incident Automation" application on your ServiceNow instance to enable the *Integration Service ServiceNow SyncPack*. The "ScienceLogic SL1: CMDB & Incident Automation" application is also known as the "Certified Application" or the "Scoped Application".

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

WARNING: Integration Service instances running version 2.0.0 or later of the ServiceNow integration applications are not backwards-compatible with the previous ServiceNow update sets or with SyncServer. After you install the "ScienceLogic SL1: CMDB & Incident Automation" application on your ServiceNow instance, you need to upgrade your ServiceNow integration applications to version 2.0.0 or later on all Integration Service instances. The "ScienceLogic SL1: CMDB & Incident Automation" application is also not backwards-compatible with SyncServer. This change cannot be reverted.

Before you can use the *Integration Service ServiceNow SyncPack*, you must first request the "ScienceLogic SL1: CMDB & Incident Automation" application from the ServiceNow Store and then install it.

To request and install the Certified Application:

1. Go to the ServiceNow Store at https://store.servicenow.com and search for "ScienceLogic SL1".
2. Select the "ScienceLogic SL1: CMDB & Incident Automation" application. The detail page for the application appears.
3. Click the **[Get]** button 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 ServiceNow Integration" application listing to make sure you are using the correct version of the application that is compatible with your version of the *Integration Service ServiceNow SyncPack*.
7. Click the **[Install]** button for the "ScienceLogic ServiceNow Integration" 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 left-hand navigation menu.

Installing the ServiceNow SyncPack

A ***SyncPack*** contains all of the necessary steps, integration applications, and configurations needed for a release. After you install the "ScienceLogic SL1: CMDB & Incident Automation" application, you need to upload and install the *Integration Service: ServiceNow SyncPack* to your Integration Service.

TIP: Before upgrading or installing the *ServiceNow SyncPack*, or before upgrading your version of the Integration Service, ScienceLogic recommends that you make a backup of your Integration Service. For more information, see the "Backing up Data" topic in the ***Integration Service Platform*** manual.

NOTE: The complete *ServiceNow SyncPack* component will be added to the Integration Service platform in a future release. For this release, the SyncPack is a .tgz archive file.

To upgrade to this version:

1. Download the .tgz archive file containing the integration applications from the ScienceLogic Customer Portal. Save the file on your Integration Service instance.
2. SSH to your Integration Service instance and locate the .tgz archive file.
3. Run the following command to extract or "untar" the files:

   ```
   tar -xvf ServiceNow_SyncPack-x.x.0.tgz
   ```

4. On your Integration Service instance, change the directory to the new **servicenow_syncpack** directory.
5. Using the iscli tool, run the following command ***twice*** to ensure the upload of all integration applications that depend on other integration applications:

   ```
   iscli -usf util/ -p <password>
   ```

   where `<password>` is the Integration Service administrator password that you set during installation.

NOTE: When importing objects from the SyncPack onto the Integration Service instance, you might see the following message: "ERROR uploading __init__.pyc files to the API." You can ignore any error messages specific to posting the __init__.pyc file to the API.

6. To upload the latest steps, run the following command:

   ```
   iscli -usf steps/ -p <password>
   ```

7. To upload the latest integration applications, run the following command ***twice*** to ensure the upload of all integration applications that depend on other integration applications:

   ```
   iscli -uaf apps/ -p <password>
   ```

8. To upload the latest configurations, run the following command:

   ```
   iscli -ucf configs/ -p <password>
   ```

   After you finish this process, all of the integration applications on your Integration Service will be updated to version 2.0.0 or later. You can view the applications in the Integration Service user interface.

9. To create the configuration object that you will use with the SyncPack, see ***Creating and Aligning a Configuration Object***.

TIP: After installing the SyncPack, create a *new* configuration object and copy the variables from the new "ServiceNow SyncPack" configuration object on the **Configurations** page of the Integration Service user interface. This new configuration contains the updated set of variables used by the Certified Application, including ***region***, along with the required block of hostname code needed for version 2.3.0 and later of the SyncPack. Do not save over the existing "ServiceNow SyncPack" configuration, as that configuration might get overwritten by future SyncPack updates.

Installing the ServiceNow Base Pack PowerPack in SL1

For the ScienceLogic ServiceNow Incident Sync integration solution, you must install the most recent version of the *ServiceNow Base Pack* PowerPack.

The *ServiceNow Base Pack* PowerPack monitors the ServiceNow Incident and CMDB tables, and it returns information about Incident types, priorities, and states, displaying the information in an easy-to-consume dashboard. The PowerPack also returns information about the CI records that are actively being synced between SL1 and ServiceNow via the Integration Service, including basic CI metadata as well as an overall count.

Also, the PowerPack is a critical component of the Incident Sync Integration with ServiceNow, using Run Book Automations to integrate with the ServiceNow Incident Management module.

TIP: By default, installing a new version of a PowerPack overwrites all content in 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 install the *ServiceNow Base Pack* PowerPack:

1. Download the latest version of the PowerPack from the Customer Portal to a local computer.
2. Log in to SL1 as an administrator, then go to the **PowerPack Manager** page (System > Manage > PowerPacks).
3. Click the **[Actions]** button and select *Import PowerPack*.
4. Click the **[Browse]** button and navigate to the *ServiceNow Base Pack* PowerPack file from step 1.
5. Select the PowerPack file and click **[Import]**. The **PowerPack Installer** modal page displays a list of the PowerPack contents.
6. Click the **[Install]** button. After the installation is complete, the *ServiceNow Base Pack* PowerPack appears on the **PowerPack Manager** page.

Validating Network Communications

All communication between SL1 and ServiceNow is done through TCP port 443. To allow communication between SL1 and ServiceNow, the SL1 Database Server, Data Collector, or All-In-One Appliance must have external access to the ServiceNow instance. No inbound TCP ports are required to be open to the SL1 server. Outbound communication may use NAT or be direct.

NOTE: All firewall session-limiting policies must be disabled. If firewall session-limiting policies are enabled, HTTPS requests might be dropped by the firewall, resulting in data loss. Check with your security or firewall administrator to make sure there are no session limiting policies on TCP port 443 for your SL1 servers.

Checking DNS

Because ServiceNow is a cloud-based service, DNS must be configured on all SL1 servers that communicate with your ServiceNow instance.

NOTE: ServiceNow instances are generally named as: ***your-instance*.service-now.com**, where ***your-instance*** is the name of your ServiceNow server. The examples below use **mycompany.service-now.com**. Your instance name will be unique to your subscription.

To validate that your SL1 server has proper DNS name resolution configured, test network connectivity and name resolution using the nmap command, which is available from the command line of any SL1 server:

```
nmap -sT -p 443 mycompany.service-now.com
```

If the test was successful, you will see a message similar to the following:

```
Starting Nmap 5.51 ( http://nmap.org ) at 2013-11-12 20:22 UTC
Nmap scan report for mycompany.service-now.com (199.91.136.100)
Host is up (0.067s latency).
PORT STATE SERVICE
443/tcp open https
```

If domain name resolution fails, you will see a message similar to:

```
Failed to resolve given hostname/IP: mycompany.service-now.com.
```

Checking HTTPS and JSON

You can administer a simple test to determine if the ServiceNow JSON Plug-in web service is configured and operating using the Basic Authentication method on your ServiceNow instance. To do so, run the following command from the ScienceLogic Central Database or All-In-One Appliance:

NOTE: In the example below, replace the `admin:admin` username and password key/value pair with your ServiceNow administrator username and password and `mycompany.service-now.com` with your ServiceNow instance name.

```
curl --location -vu admin:admin -H "Accept: application/json" -H "Content-Type:
application/json"
'https://mycompany.service-now.com/api/now/table/incident'
```

If not successful, the following message appears:

```
HTTP/1.1 401 Unauthorized
```

If successful, a JSON encoded string starting with the "result" variable appears:

```
{"result":[{"upon_approval":"","location":"1083361cc611227501b682158cabf646",….
```

HTTP Codes

HTTP codes are necessary for identifying specific problems. The following table lists typical HTTP codes that might occur when testing the ServiceNow JSON Web Service.

Code	Definition
401	Unauthorized. Check that the username and password are correct and properly formatted.
403	Forbidden. ServiceNow understood the request, but either the URL is incorrect, or the user account does not have permission to see the requested object.
404	The ServiceNow server has not found anything matching the requested URL. Check to make sure there is data in the target table.
200	Success.
201	Success. Data is posted.

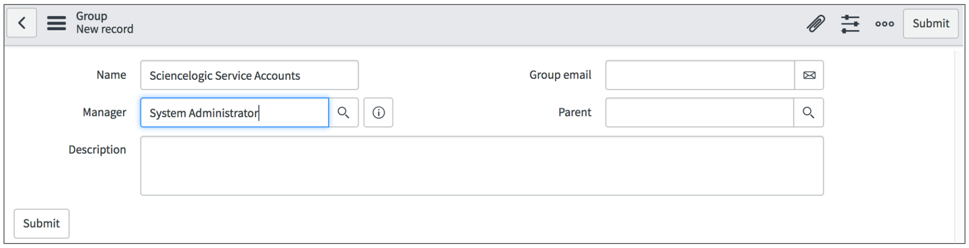
TIP: For more information about the ServiceNow JSON Web Service and the Table API, see http://wiki.servicenow.com/index.php?title=Table_API. If you continue to have problems, please contact either ScienceLogic or ServiceNow customer support.

Creating a ServiceNow Group

For best practice and security, create a dedicated ServiceNow account that has restricted access to only the groups, access control lists (ACLs), and roles needed for ScienceLogic incident management.

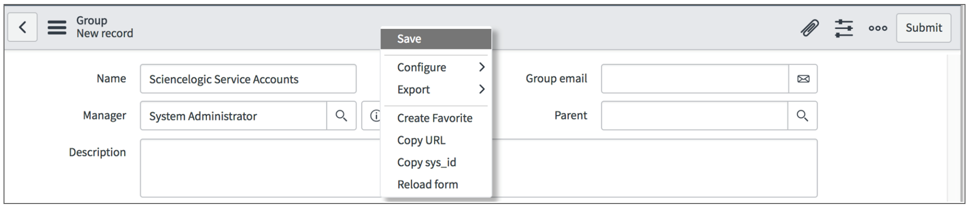
To create a ServiceNow Account for ScienceLogic Incident management:

1. In ServiceNow, search in the filter navigator for "groups".
2. On the **Groups** page (System Security > Groups), click **[New]**. A **New record** page appears.
3. In the **New record** page, type the group name and any additional information. ***Name*** is the only required field.



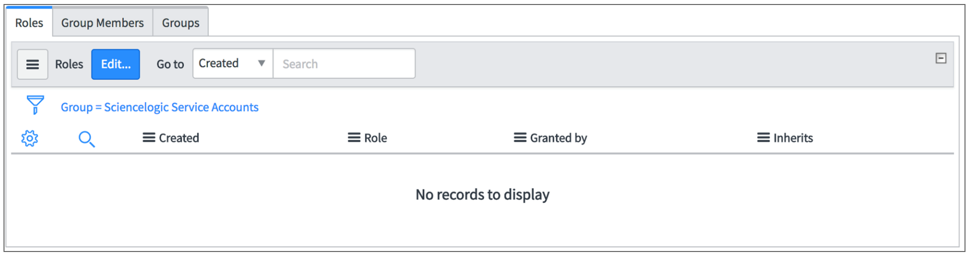
Name: Sciencelogic Service Accounts
Manager: System Administrator
Description:
Group email:
Parent:

4. Right-click the gray header and click *Save* to save the record.



Name: Sciencelogic Service Accounts
Manager: System Administrator
Description:
Group email:
Parent:

5. At the bottom of the Group form, select the **[Roles]** tab and click **[Edit]**.

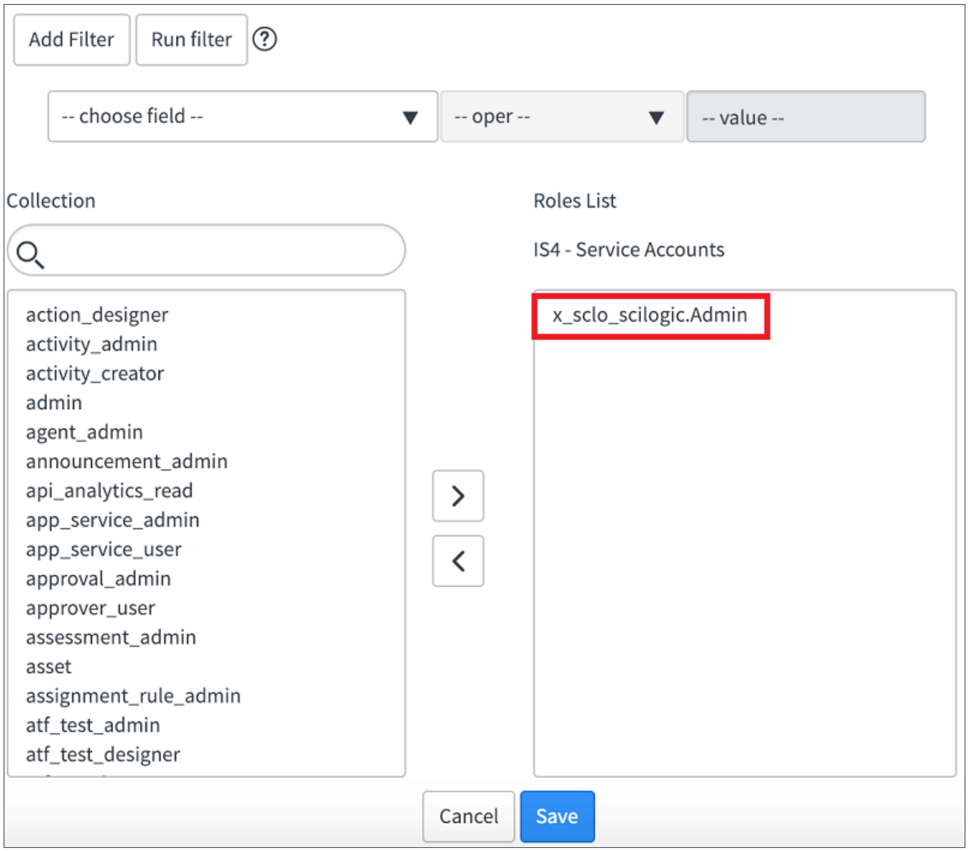


Group = Sciencelogic Service Accounts

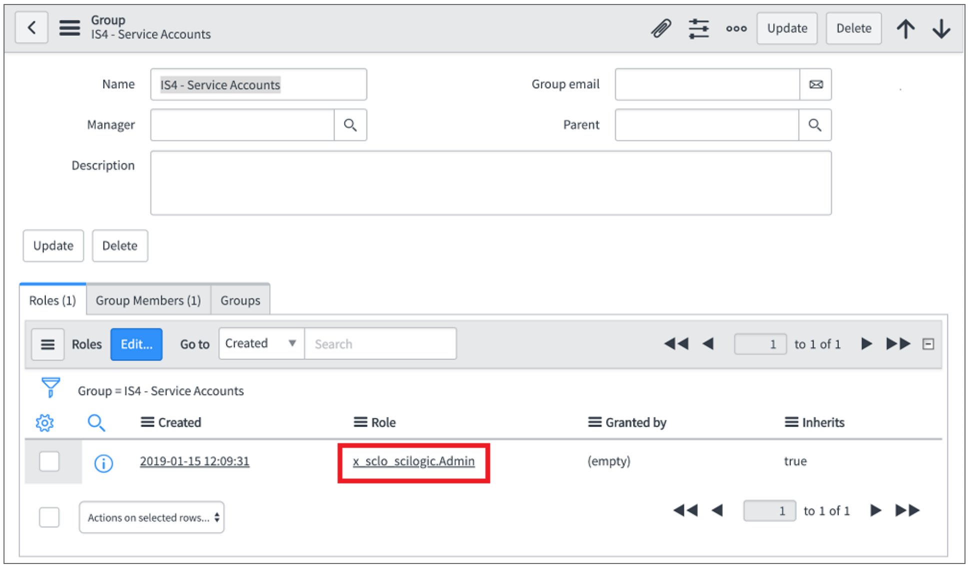
Created	Role	Granted by	Inherits

No records to display

6. Search for *x_sclo_scilogic.Admin* and move it to the **Roles List** column using the arrow buttons.



7. Click **[Save]**. Your ServiceNow Group now has an assigned Role:



Name	IS4 - Service Accounts
Group email	
Manager	
Parent	
Description	

Group = IS4 - Service Accounts

Created	Role	Granted by	Inherits
2019-01-15 12:09:31	x_sclo_scilogic.Admin	(empty)	true

8. Next, create a ServiceNow user to use with this Group. See the following procedure for the details.

Creating a ServiceNow User

NOTE: The ServiceNow user you create in this procedure will *not* be able to log into the ServiceNow user interface with the username and password you give this user. However, you will use the username and password in the relevant configuration objects in the Integration Service user interface to run integration applications. For more information about configuration objects, see *Creating and Aligning a Configuration Object*.

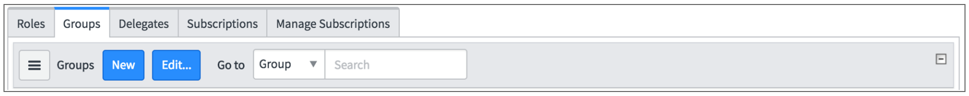
To create a ServiceNow Account for ScienceLogic Incident management:

1. In ServiceNow, search in the filter navigator for "users".
2. On the **Users** page (System Security > Users), click **[New]**. A **New record** page appears.
3. Complete the following fields:

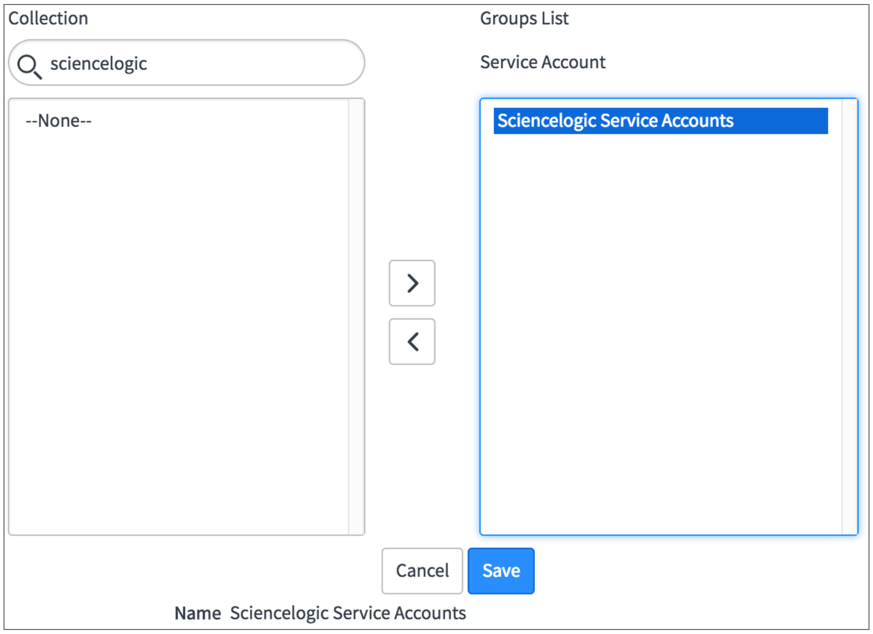
   - ***User ID***. Type a user ID. Required.
   - ***First Name***. Type the user's first name.
   - ***Last Name***. Type the user's last name.
   - ***Password***. Type a password. Required.
   - ***Active***. Select this checkbox. Required.
   - ***Web Service Access Only***. Select this checkbox. Required.
   - ***Time Zone***. Select GMT. Required.
   - ***Date Format***. Select *System (yyyy-MM-dd)*.

4. Right-click the gray header and click *Save* to save the user.

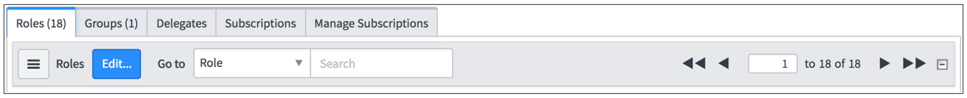
5. Select the **[Groups]** tab at the bottom of the record and click the **[Edit]** button:



6. Find the group you created previously and move the group to the right-hand column using the arrow buttons.



7. Click **[Save]**. After the user has been added to the group, you can see their Roles and Groups at bottom of the record:



NOTE: As a best practice, you should use a non-administrator ServiceNow user for the Integration Service configuration object.

Creating and Aligning a Configuration Object

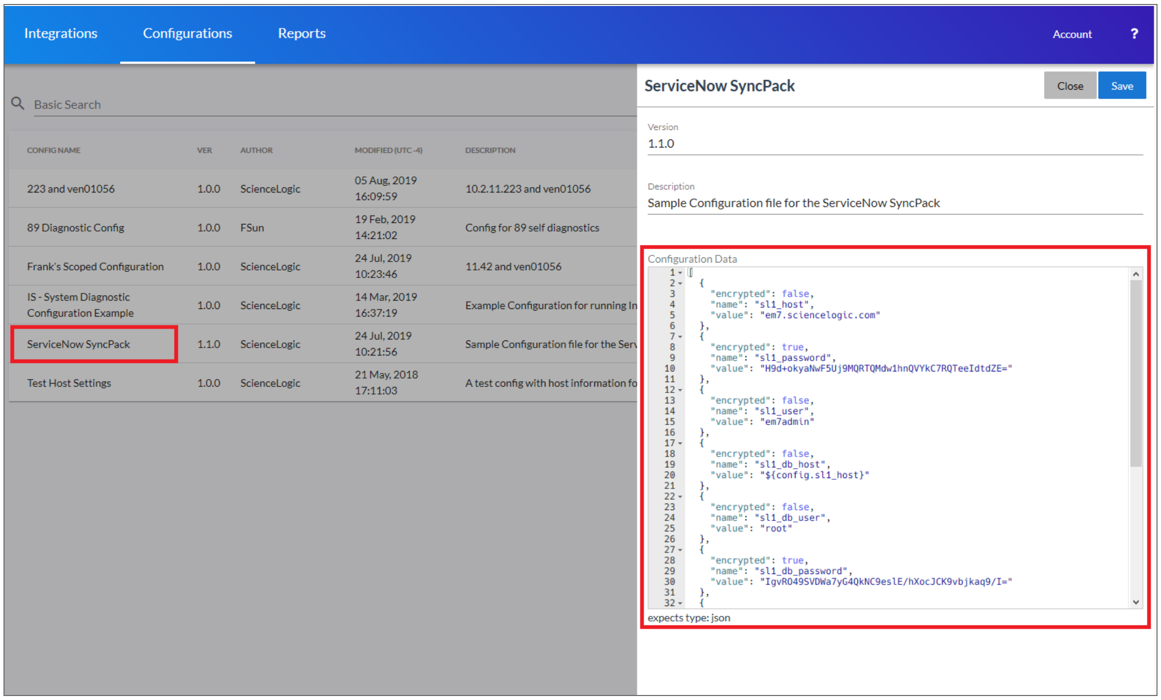
A ***configuration object*** supplies the login credentials to execute the steps for various integration applications in the Integration Service. You can use more than one configuration object as needed, and the **Configurations** page of the Integration Service user interfaces lists all available configuration objects for that system.

To use Incident Sync, you will need to create a new configuration object or file in the Integration Service user interface and align that configuration object to the relevant integration applications that are triggered by the Run Book Actions in SL1.

Creating a Configuration Object

To create a new configuration object:

1. In the Integration Service user interface, go to the **Configurations** page.
2. Click the **[Edit]** button for the **ServiceNow SyncPack** configuration object, which is the sample configuration file that was installed with the SyncPack. The **Configuration** pane appears:



CONFIG NAME	VER	AUTHOR	MODIFIED (UTC -4)	DESCRIPTION
223 and ven01056	1.0.0	ScienceLogic	05 Aug, 2019 16:09:59	10.2.11.223 and ven01056
89 Diagnostic Config	1.0.0	FSun	19 Feb, 2019 14:21:02	Config for 89 self diagnostics
Frank's Scoped Configuration	1.0.0	ScienceLogic	24 Jul, 2019 10:23:46	11.42 and ven01056
IS - System Diagnostic Configuration Example	1.0.0	ScienceLogic	14 Mar, 2019 16:37:19	Example Configuration for running In
ServiceNow SyncPack	1.1.0	ScienceLogic	24 Jul, 2019 10:21:56	Sample Configuration file for the Serv
Test Host Settings	1.0.0	ScienceLogic	21 May, 2018 17:11:03	A test config with host information fo

ServiceNow SyncPack

Version
1.1.0

Description
Sample Configuration file for the ServiceNow SyncPack

Configuration Data

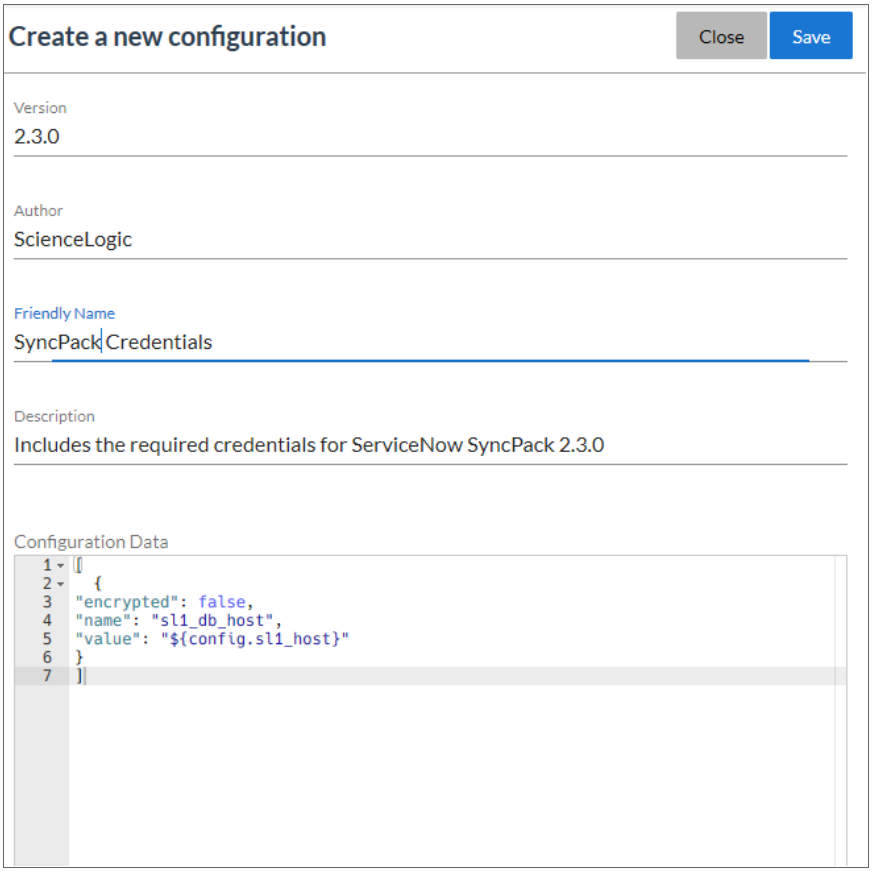
```
[
  {
    "encrypted": false,
    "name": "sl1_host",
    "value": "em7.sciencelogic.com"
  },
  {
    "encrypted": true,
    "name": "sl1_password",
    "value": "H9d+okyaNwF5Uj9MQRTQMdw1hnQVYkC7RQTeeIdtdZE="
  },
  {
    "encrypted": false,
    "name": "sl1_user",
    "value": "em7admin"
  },
  {
    "encrypted": false,
    "name": "sl1_db_host",
    "value": "${config.sl1_host}"
  },
  {
    "encrypted": false,
    "name": "sl1_db_user",
    "value": "root"
  },
  {
    "encrypted": true,
    "name": "sl1_db_password",
    "value": "IgvRO49SVDWa7yG4QkNC9eslE/hXocJCK9vbjkaq9/I="
  },
  {
```

expects type: json

TIP: If needed, click **[Toggle JSON Editor]** to show the JSON code in the **Configuration** pane.

3. Copy all of the sample configuration data from the ***Configuration Data*** field, and close the **Configuration** pane.

4. On the **Configurations** page, click the plus icon (⊕). The **Create a new configuration** pane appears:



Version
2.3.0

Author
ScienceLogic

Friendly Name
SyncPack Credentials

Description
Includes the required credentials for ServiceNow SyncPack 2.3.0

Configuration Data

```
[
  {
"encrypted": false,
"name": "sl1_db_host",
"value": "${config.sl1_host}"
}
]
```

5. Complete the following fields:

   - ***Version***. Version of the configuration object.
   - ***Author***. User or organization that created the configuration object.
   - ***Friendly Name***. Name of the configuration object.
   - ***Description***. A brief description of the configuration object.

6. Paste the code you copied from the **ServiceNow SyncPack** configuration object into the ***Configuration Data*** field.

7. In the ***Configuration Data*** field, be sure to include the required block of code for version 2.3.0 of the SyncPack to ensure that the integration 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"
   }
   ```

NOTE: If you are using SL1 with an External Database (SL1 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 SL1 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.

8. In the ***Configuration Data*** field, update the default variable definitions to match your Integration Service configuration. For the ServiceNow SyncPack, you must define the following variables in your new configuration object:

   - ***sl1_host***
   - ***sl1_password***
   - ***sl1_user***
   - ***sl1_db_user***
   - ***sl1_db_password***
   - ***snow_host***
   - ***snow_user***
   - ***snow_password***
   - ***region*** (this is a user-defined variable that will identify your SL1 instance within ServiceNow)

TIP: The **ServiceNow SyncPack** configuration object contains all of the required variables. Simply update the variables to match your SL1 and ServiceNow settings.

9. When creating a new configuration variable, note the syntax:

    - The configuration file is surrounded by square brackets.
    - Each variable definition is surrounded by curly braces.
    - Each key name is surrounded by double-quotes and followed by a colon, while each value is surrounded by double-quotes and followed by a comma.
    - Each key:value pair in the definition is separated with a comma after the closing curly brace. The last key:value pair should not include a comma.

10. To edit or create a configuration variable, 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, the Integration Service 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 Integration Service 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.

11. Click the **[Save]**button.

NOTE: In a step, you can include the **config.** prefix with a variable to tell the Integration Service system to look in a configuration object to resolve the variable.

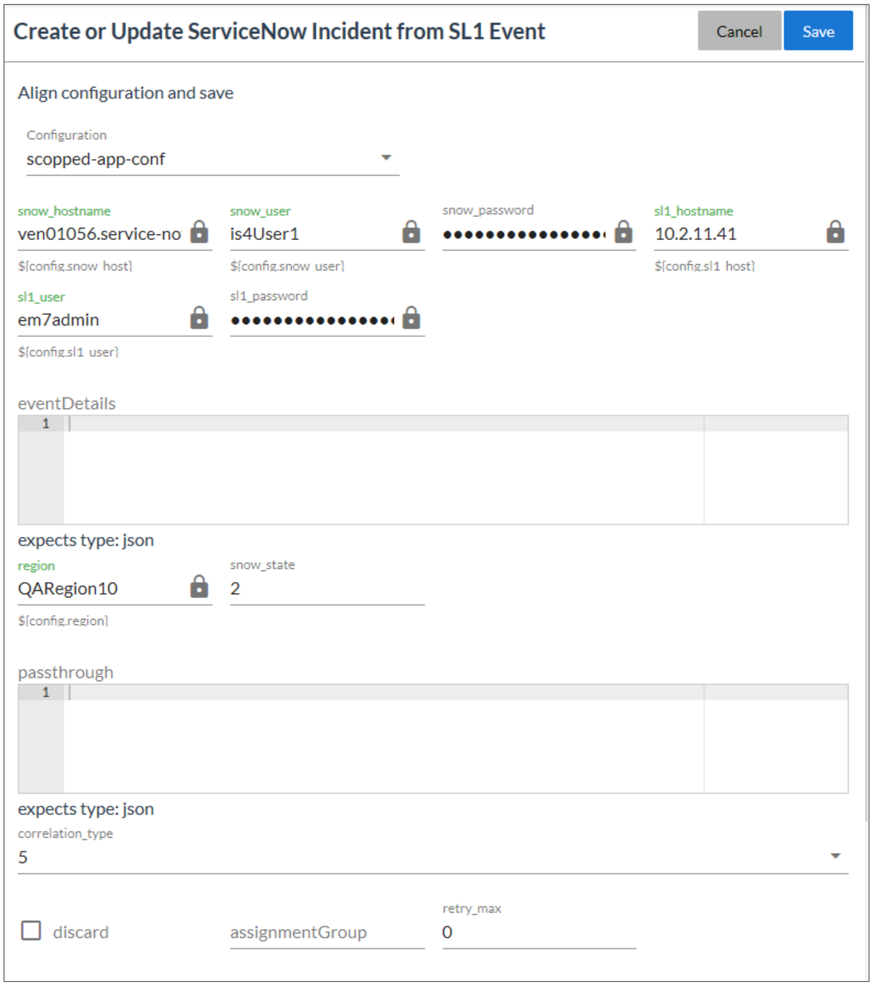
Aligning a Configuration Object

To align the configuration object with the relevant integration applications:

1. Log in to the Integration Service user interface with the username **isadmin** and the password that you set during installation.
2. To run Incident Sync, you must "align" the configuration object to run with the following integration applications:
    - "Create or Update ServiceNow Incident from SL1 Event"
    - "Update ServiceNow Incident when SL1 Event is Acknowledged"
    - "Update ServiceNow Incident when SL1 Event is Cleared"
    - "Sync Incident State from ServiceNow to SL1 Event"

NOTE: The "Sync Incident State from ServiceNow to SL1 Event" integration application is the *only* application for Incident Sync that can be run manually or scheduled. The other three applications should only be triggered by Run Book Automations.

3. From the **Integrations** page of the user interface, open the first integration application and click the **[Configure]** button. The **Configurations** pane for that application appears:



Create or Update ServiceNow Incident from SL1 Event

Align configuration and save

Configuration: scopped-app-conf

snow_hostname: ven01056.service-no 🔒
${config.snow host}

snow_user: is4User1 🔒
${config.snow user}

snow_password: ••••••••••••••• 🔒

sl1_hostname: 10.2.11.41 🔒
${config.sl1 host}

sl1_user: em7admin 🔒
${config.sl1 user}

sl1_password: ••••••••••••••• 🔒

eventDetails

```
1 |
```

expects type: json

region: QARegion10 🔒
${config.region}

snow_state: 2

passthrough

```
1 |
```

expects type: json

correlation_type: 5

□ discard

assignmentGroup

retry_max: 0

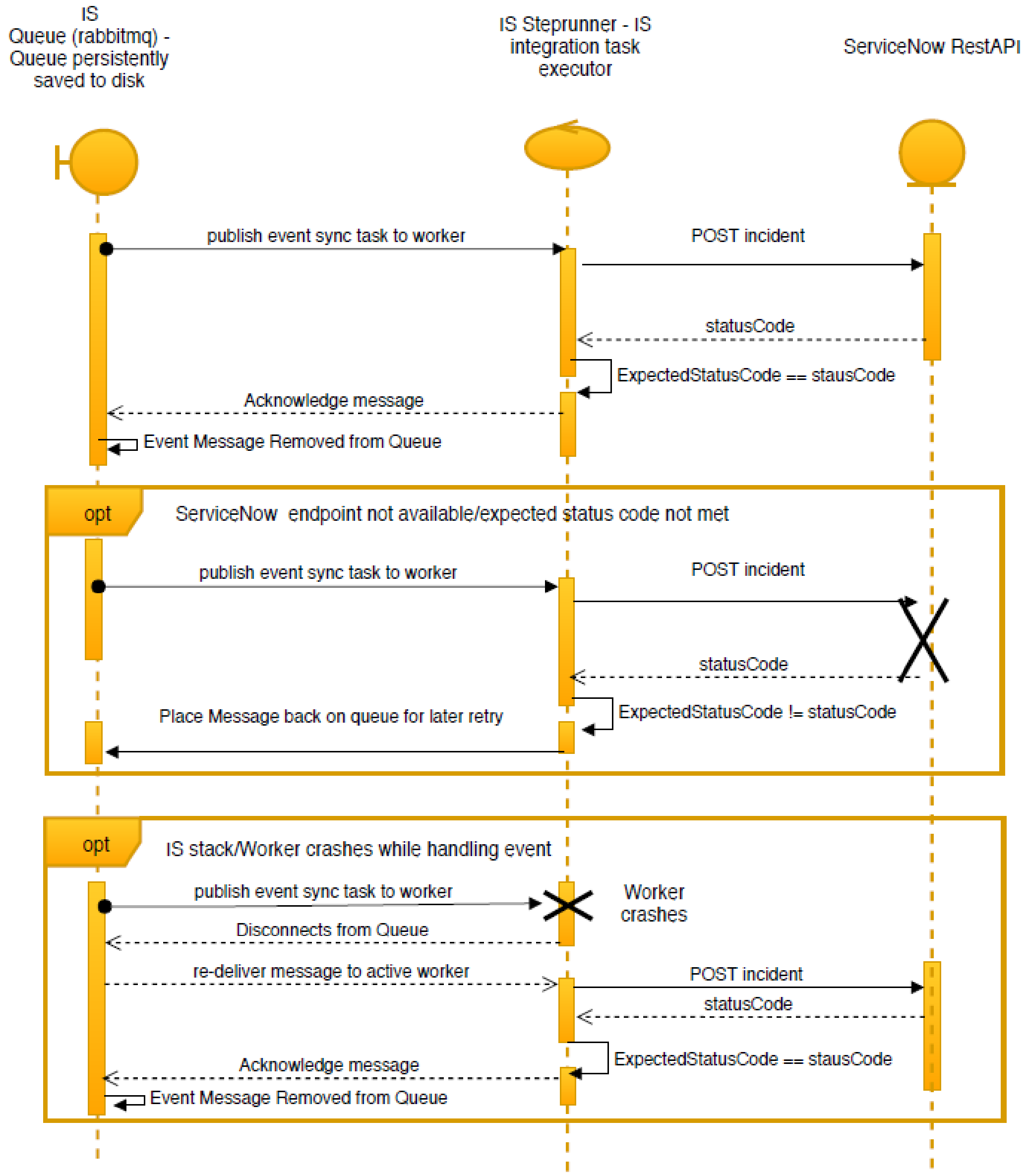
4. From the ***Configurations*** drop-down, select the configuration object you created and click **[Save]** to align that configuration with the integration application.

> **NOTE**: The values for **eventDetails** and the other parameters that appear in the **Configuration** pane with a padlock icon (🔒) are populated either by the configuration object you aligned with the integration 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.

Event Data Flow Between Integration Service and ServiceNow

Event Data Flow: Integration Service to ServiceNow

The following chart and steps illustrate the event data flow from the Integration Service to a ServiceNow instance:


IS
Queue (rabbitmq) -
Queue persistently
saved to disk
IS Steprunner - IS
integration task
executor
ServiceNow RestAPI
publish event sync task to worker
POST incident
statusCode
ExpectedStatusCode == stausCode
Acknowledge message
Event Message Removed from Queue
opt
ServiceNow endpoint not available/expected status code not met
publish event sync task to worker
POST incident
statusCode
ExpectedStatusCode != statusCode
Place Message back on queue for later retry
opt
IS stack/Worker crashes while handling event
publish event sync task to worker
Worker
crashes
Disconnects from Queue
re-deliver message to active worker
POST incident
statusCode
ExpectedStatusCode == stausCode
Acknowledge message
Event Message Removed from Queue

1. Workers are subscribed to the Integration Service task queue.
2. When a new event to be synced is placed in the Integration Service task queue, it is assigned and pushed to a worker.

3. The worker processes and transforms the necessary SL1 event data into a ServiceNow incident and POSTs the incident to the ServiceNow endpoint.

    - If the resulting status code matches the expected status code for the request, the original message is acknowledged and removed from the queue.
    - If the worker crashes while processing the event, the queue senses the unexpected disconnect, and the same event message is re-delivered to a new worker.

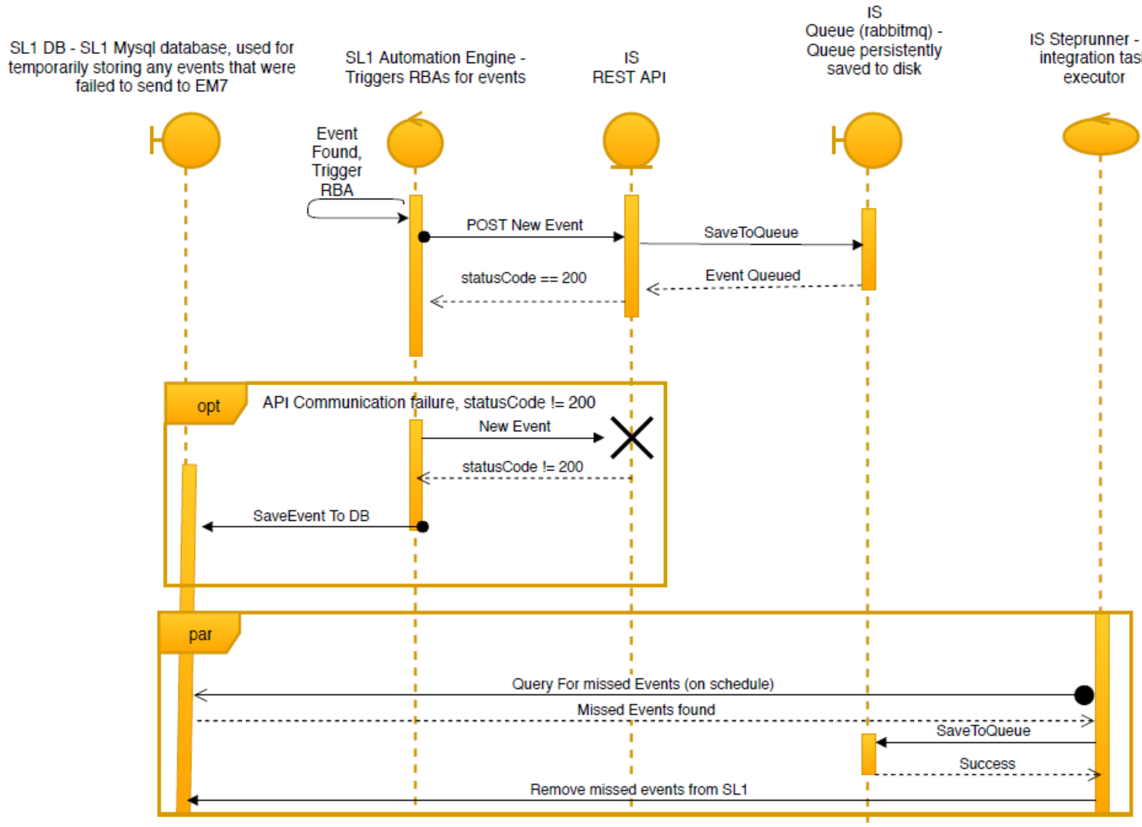
NOTE: The above results are performed through the "late acknowledgment" of tasks. With this setting enabled, an Integration Service worker will not remove a message from the queue until the message has been fully processed by the worker. This setting can be enabled or disabled with the environment variable "task_acks_late".

4. If ServiceNow responds with an unexpected status code when POSTing the incident, the message will be placed back in the queue with specified re-try parameters.

NOTE: You can configure re-try parameters on a per-task basis. You may want to manually alter your re-try parameters for tasks depending on the action the task is taking. The configuration of retries includes the maximum number of times a task is retried after consistently failing, and the delay length between retries.

Event Data Flow: SL1 to Integration Service

The following chart and steps illustrate the event data flow from SL1 to the Integration Service:


SL1 DB - SL1 Mysql database, used for temporarily storing any events that were failed to send to EM7
SL1 Automation Engine - Triggers RBAs for events
IS REST API
IS Queue (rabbitmq) - Queue persistently saved to disk
IS Steprunner - IS integration task executor
Event Found, Trigger RBA
POST New Event
SaveToQueue
statusCode == 200
Event Queued
opt
API Communication failure, statusCode != 200
New Event
statusCode != 200
SaveEvent To DB
par
Query For missed Events (on schedule)
Missed Events found
SaveToQueue
Success
Remove missed events from SL1

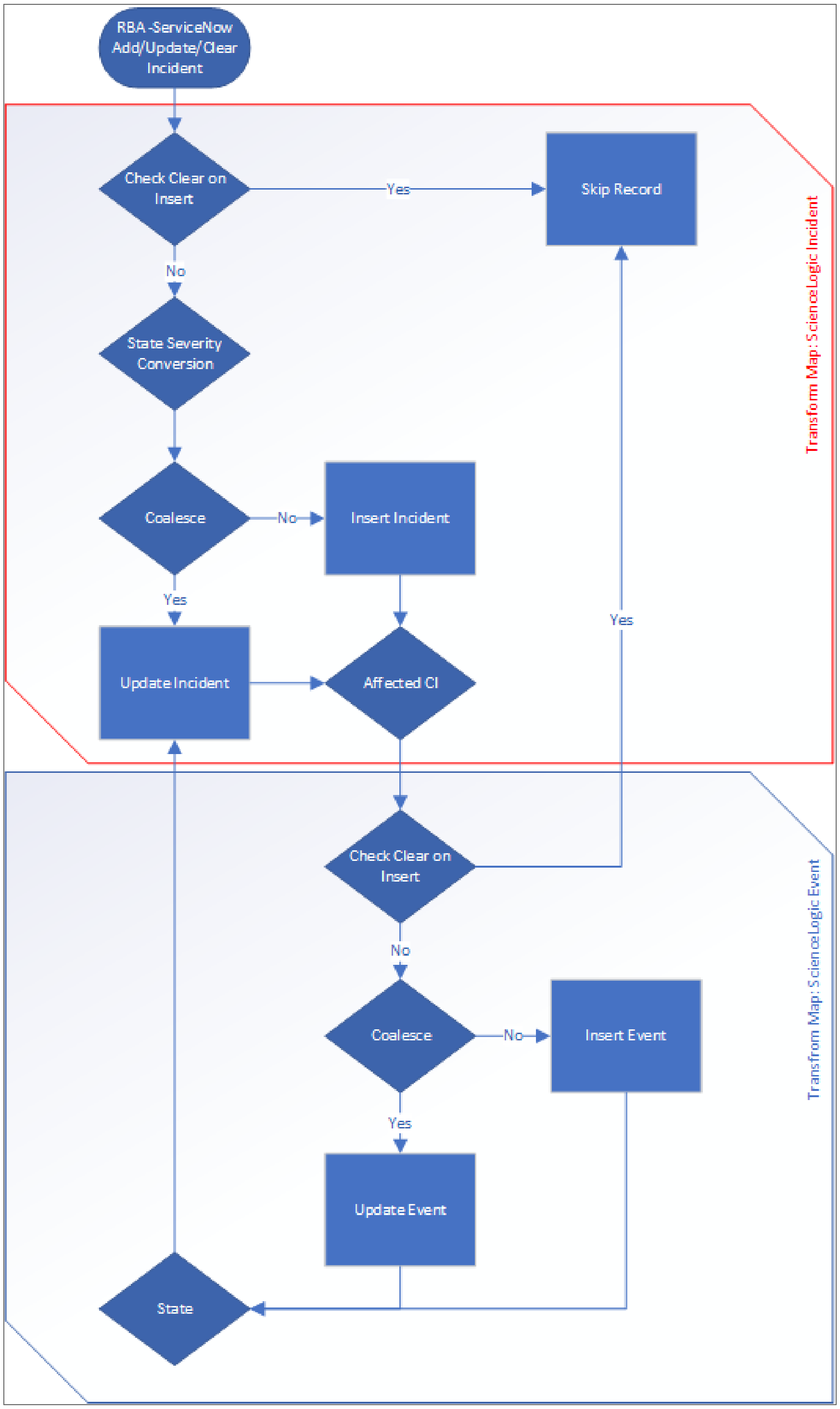
1. Through a Run Book Automation, SL1 identifies an event that should be synced to ServiceNow.
2. A Run Book Action executes a POST action to the Integration Service API to let the Integration Service know that an integration should be run to sync the event.
    - If the Run Book Action is successful and the POST responds with a 200, then the event data is stored in the Integration Service queue for syncing.
    - If the POST does not respond with a 200, then the Run Book Action inserts the missed event into a table in the SL1 database so that it can be retrieved later.
3. In parallel, a scheduled Integration Service event continuously checks the SL1 database for any missed events. If any missed events are found, they will be pulled from the database and inserted into the Integration Service queue.

NOTE: The Integration Service queue is persistently saved to disk, so if the Integration Service stops unexpectedly, any events that existed in the queue prior to the failure will still exist in the queue after the Integration Service is running again.

4. Missed are not removed from the SL1 database until after they are inserted into the Integration Service queue.

Overview of the Run Book Automation for Incident Sync

You can configure a Run Book Automation to ensure that whenever SL1 detects a new, acknowledged, or cleared event, a corresponding incident is created or updated in ServiceNow:



The "ServiceNow: Add/Update/Clear Incident" Run Book Action policy is responsible for sending the SL1 payload to the Integration Service. The Integration Service then sends that payload to ServiceNow and creates, updates, acknowledges, or clears an incident, as needed.

SL1 features three Run Book Automation policies that facilitate this process:

- ServiceNow: Add/Update Incident
- ServiceNow: Event Acknowledged
- ServiceNow: Event Cleared

NOTE: A fourth Run Book Automation policy, "ServiceNow: Click to Create Incident" lets you manually create an incident in ServiceNow by clicking the life-preserver icon (🛟) in SL1. For more information, see ***Configuring the Click to Create Incident Policy***.

NOTE: The "Sync Incident State from ServiceNow to SL1 Event" integration application does not have an associated Run Book Action that triggers Incident Sync. You must schedule this integration application to run every minute, or to a time suitable for your requirements. You can use a cron job to trigger this schedule, or you can use the Integration Service user interface to schedule the application. For more information about scheduling, see .

Each Run Book Automation policy calls a single action in SL1. Ensure that the integration application in the Integration Service points to the relevant SL1 system and ServiceNow instance. The action then calls an integration application on the Integration Service that determines the workflow to execute.

Events in SL1 frequently occur and resolve due to fluctuations in the network and other changing conditions. However, the Run Book Automation policies above use a de-duplication algorithm to ensure that only a single open ServiceNow incident exists per device. As a result, if a device already has an existing ServiceNow incident, the following updates are made to the ServiceNow incident record:

- The "Work Notes" activity log in the incident record is updated with information about the secondary event(s).
- If a secondary event is of a higher severity than the event that originally created the ServiceNow incident, then the ***Impact***, ***Urgency***, and ***Priority*** fields are updated automatically in the ServiceNow incident record. If the secondary event is of a lesser severity, those fields are not updated.
- If an event is cleared in SL1 and then later reoccurs before the incident has been "Closed" in ServiceNow, then the subsequent events appear in the original ServiceNow incident record for that device. If an incident record has been "Closed," then ServiceNow will create a new incident record when a cleared event reoccurs in SL1.
- By default, if an event is acknowledged in SL1, the ServiceNow incident record will be updated with the work notes and the acknowledging user. Clearing an SL1 event will move the ServiceNow incident record state to "Resolved". If all SL1 events associated with a ServiceNow incident record are clear, the ServiceNow incident record will, by default, move to a "Resolved" state.

NOTE: You can edit the Run Book Action Snippet code to adjust the behavior for changing states when an SL1 event is acknowledged or cleared.

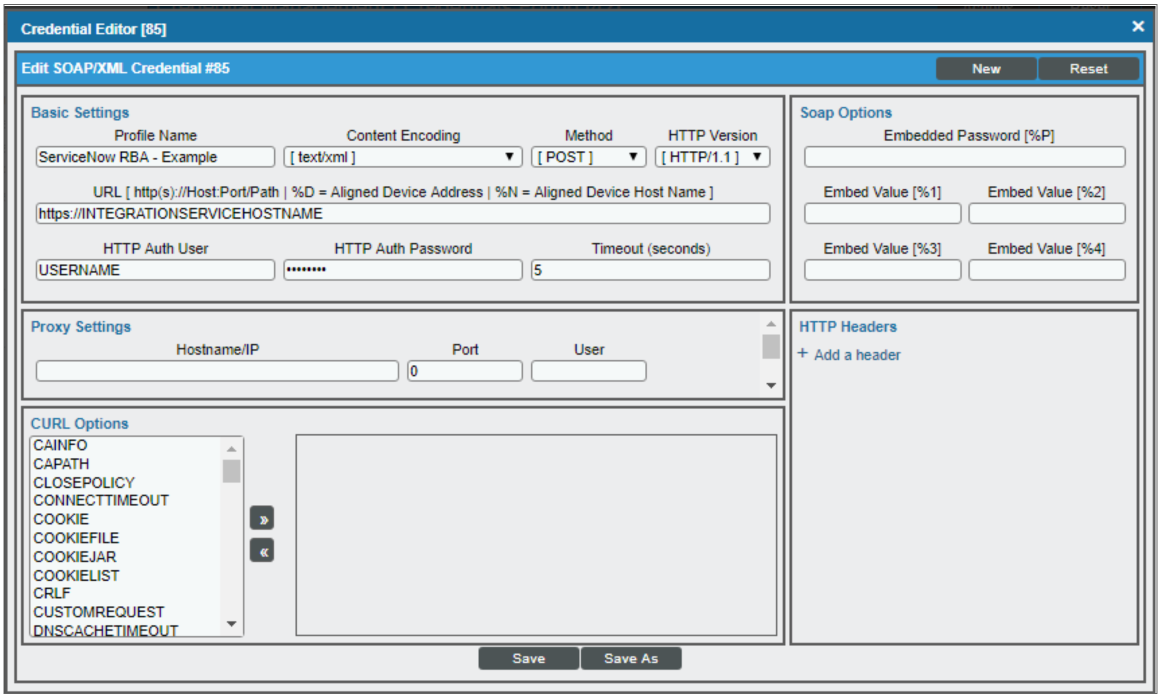
Creating a ServiceNow Credential in SL1

To configure SL1 to communicate with ServiceNow, you must first create a SOAP/XML credential. This credential allows the Run Book Automation scripts and the Dynamic Applications in the *ServiceNow Base Pack* PowerPack to connect with your ServiceNow instance. These Run Book Automations are responsible for sending the SL1 event data to the Integration Service, which ultimately sends the data to a ServiceNow Incident.

The **ServiceNow RBA - Example** credential from the *ServiceNow Base Pack* PowerPack is an example SOAP/XML credential that you can configure for your own use.

To configure the **ServiceNow RBA - Example** credential:

1. In SL1, go to the **Credential Management** page (System > Manage > Credentials).
2. Locate the **ServiceNow RBA - Example** credential, then click its wrench icon (🔧). The **Edit SOAP/XML Credential** page appears:



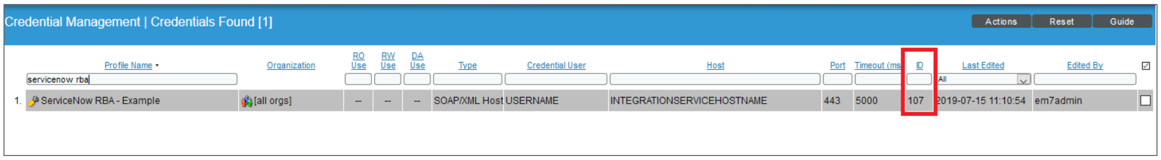
Profile Name	ServiceNow RBA - Example
Content Encoding	[text/xml]
Method	[POST]
HTTP Version	[HTTP/1.1]
URL [http(s)://Host:Port/Path | %D = Aligned Device Address | %N = Aligned Device Host Name]	https://INTEGRATIONSERVICEHOSTNAME
HTTP Auth User	USERNAME
HTTP Auth Password	••••••••
Timeout (seconds)	5
Embedded Password [%P]	
Embed Value [%1]	
Embed Value [%2]	
Embed Value [%3]	
Embed Value [%4]	
Hostname/IP	
Port	0
User	

CAINFO
CAPATH
CLOSEPOLICY
CONNECTTIMEOUT
COOKIE
COOKIEFILE
COOKIEJAR
COOKIELIST
CRLF
CUSTOMREQUEST
DNSCACHETIMEOUT

3. Complete the following fields:
   - ***Profile Name***. Type a new name for the ServiceNow credential.
   - ***Content Encoding***. Make sure *text/xml* is selected.
   - ***Method***. Make sure *POST* is selected.
   - ***HTTP Version***. Select *HTTP/1.1*.

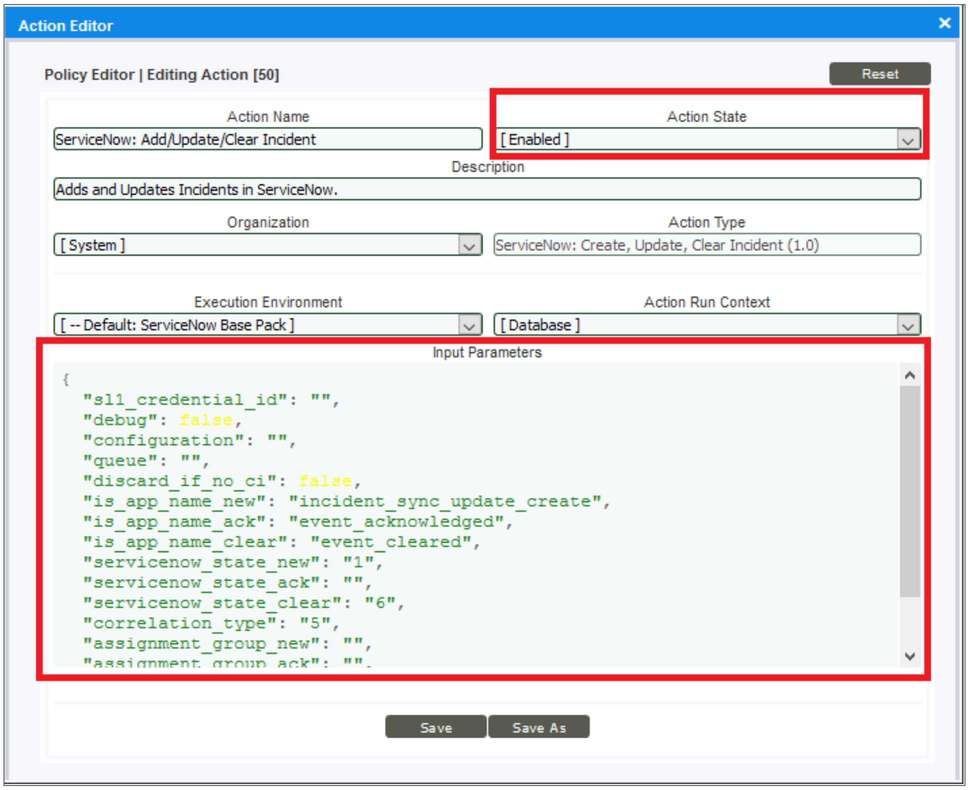
- ***URL***. Type the URL for your Integration Service instance.
- ***HTTP Auth User***. Type the username of your Integration Service instance.
- ***HTTP Auth Password***. Type the password of your Integration Service instance.
- ***Timeout***. Type "5".

4. Click **[Save As]**.
5. When the confirmation message appears, click **[OK]**.
6. On the **Credential Management** page (System > Manage > Credentials), make a note of the value in the **ID** column for the credential you just created:


Credential Management | Credentials Found [1]

	Profile Name	Organization	RO Use	RW Use	DA Use	Type	Credential User	Host	Port	Timeout (ms	ID	Last Edited	Edited By	☑
	servicenow rba											All		
1.	ServiceNow RBA - Example	[all orgs]	--	--	--	SOAP/XML Host	USERNAME	INTEGRATIONSERVICEHOSTNAME	443	5000	107	2019-07-15 11:10:54	em7admin	□

You will use this value with the "sl1_credential_id" parameter when you *enable and customize the snippet code of the "ServiceNow: Add/Update/Clear Incident" Run Book Action*:


Action Editor
Policy Editor | Editing Action [50]

Action Name: ServiceNow: Add/Update/Clear Incident
Action State: [Enabled]
Description: Adds and Updates Incidents in ServiceNow.
Organization: [System]
Action Type: ServiceNow: Create, Update, Clear Incident (1.0)
Execution Environment: [-- Default: ServiceNow Base Pack]
Action Run Context: [Database]
Input Parameters

```
{
  "sl1_credential_id": "",
  "debug": false,
  "configuration": "",
  "queue": "",
  "discard_if_no_ci": false,
  "is_app_name_new": "incident_sync_update_create",
  "is_app_name_ack": "event_acknowledged",
  "is_app_name_clear": "event_cleared",
  "servicenow_state_new": "1",
  "servicenow_state_ack": "",
  "servicenow_state_clear": "6",
  "correlation_type": "5",
  "assignment_group_new": "",
  "assignment_group_ack": "",
```

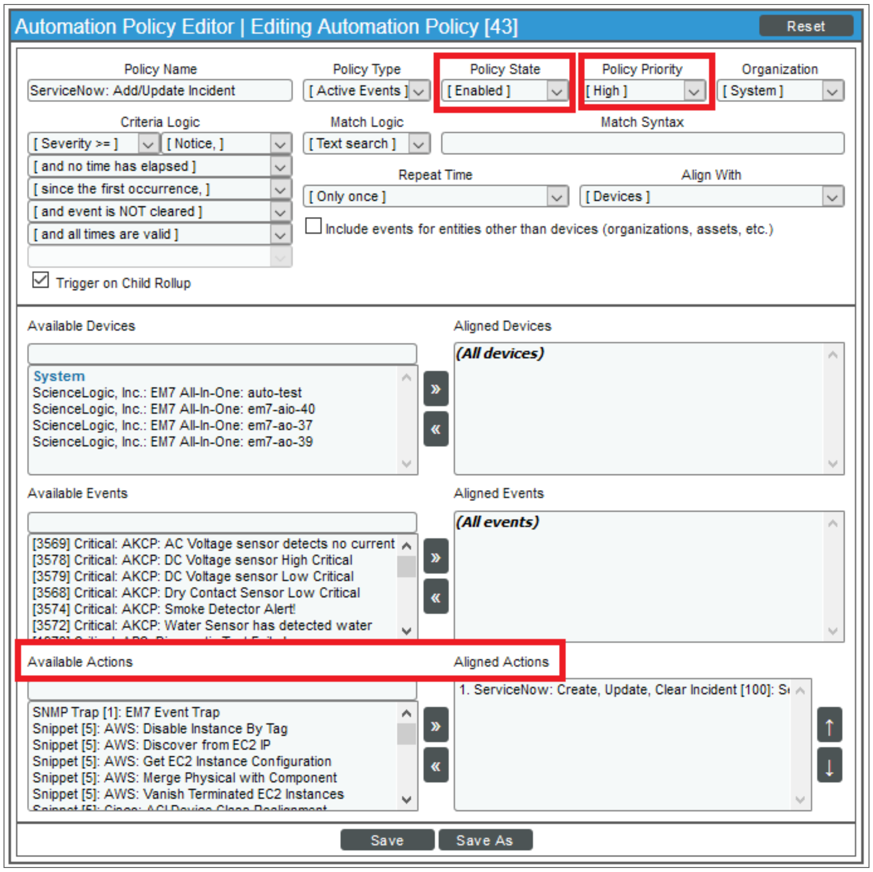
Enabling the Run Book Automation Policies

Before you can run the "ServiceNow: Add/Update/Clear Incident" Run Book Action, you must enable the three related Run Book Automation policies in SL1:

- ServiceNow: Add/Update Incident
- ServiceNow: Event Acknowledged
- ServiceNow: Event Cleared

To enable the three ServiceNow Run Book Automation policies:

1. In SL1, go to the **Automation Policy Manager** page (Registry > Run Book > Automation).
2. Locate the "ServiceNow: Add/Update Incident" automation policy and click its wrench icon (🔧). The **Automation Policy Editor** page appears:



Policy Name: ServiceNow: Add/Update Incident
Policy Type: [Active Events]
Policy State: [Enabled]
Policy Priority: [High]
Organization: [System]

Criteria Logic: [Severity >=] [Notice,]
[and no time has elapsed]
[since the first occurrence,]
[and event is NOT cleared]
[and all times are valid]

Match Logic: [Text search]
Match Syntax:
Repeat Time: [Only once]
Align With: [Devices]
☐ Include events for entities other than devices (organizations, assets, etc.)
☑ Trigger on Child Rollup

Available Devices
System
ScienceLogic, Inc.: EM7 All-In-One: auto-test
ScienceLogic, Inc.: EM7 All-In-One: em7-aio-40
ScienceLogic, Inc.: EM7 All-In-One: em7-ao-37
ScienceLogic, Inc.: EM7 All-In-One: em7-ao-39

Aligned Devices
(All devices)

Available Events
[3569] Critical: AKCP: AC Voltage sensor detects no current
[3578] Critical: AKCP: DC Voltage sensor High Critical
[3579] Critical: AKCP: DC Voltage sensor Low Critical
[3568] Critical: AKCP: Dry Contact Sensor Low Critical
[3574] Critical: AKCP: Smoke Detector Alert!
[3572] Critical: AKCP: Water Sensor has detected water

Aligned Events
(All events)

Available Actions
SNMP Trap [1]: EM7 Event Trap
Snippet [5]: AWS: Disable Instance By Tag
Snippet [5]: AWS: Discover from EC2 IP
Snippet [5]: AWS: Get EC2 Instance Configuration
Snippet [5]: AWS: Merge Physical with Component
Snippet [5]: AWS: Vanish Terminated EC2 Instances

Aligned Actions
1. ServiceNow: Create, Update, Clear Incident [100]: S

3. Update the following fields:
    - ***Policy State***. Select *Enabled*.
    - ***Policy Priority***. Select *High* to ensure that this Integration Service automation policy is added to the top of the queue.
    - ***Available Actions***. If it is not already selected, select the corresponding ServiceNow Run Book Action policy.

TIP: By default, the "ServiceNow: Add/Update Incident" automation policy will create ServiceNow incidents for ***all*** devices. You can limit the devices affected by making changes to the ***Organization***, ***Severity***, ***Match Logic***, ***Aligned Devices***, and/or ***Aligned Events*** fields.

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

4. Click **[Save]**.
5. Repeat steps 2-4 for the "ServiceNow: Event Acknowledged" and "ServiceNow: Event Cleared" Run Book Automation policies.

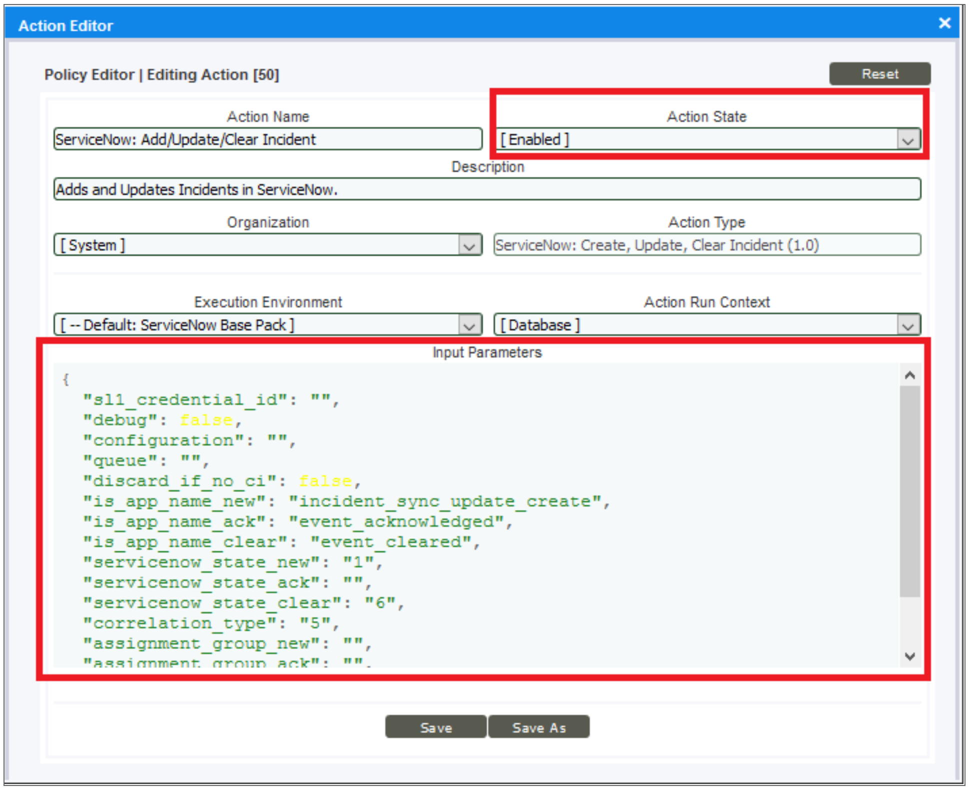
Enabling and Customizing the Run Book Action Policy

The "ServiceNow: Add/Update/Clear Incident" Run Book Action policy contains several default values in the snippet code for the policy that you can customize for Incident Sync. You can edit these values in the **Input Parameters** pane of the **Action Policy Editor** page for this policy.

For example, the ***Correlation Type*** is a value that you can use to correlate an SL1 event with a ServiceNow incident. For the Correlation Type, which is also called the "Correlation ID", you can choose a number of different ways in which an incident can be created. The default setting is `"correlation_type": "5"`, which means that this Run Book Action correlates all events by device ID and event policy ID, and if the event matches and the state is active, the Action updates the existing incident. The Action creates a *new* incident if the event does *not* match by device ID and event policy ID. As a result, the Correlation Type helps determine which events get rolled up under an incident. All Run Book Action scripts should use the same Correlation Type value, otherwise correlation will fail.

To enable and customize the Run Book Automation policies:

1. In SL1, go to the **Action Policy Manager** page (Registry > Run Book > Actions).
2. Locate the **ServiceNow: Add/Update/Clear Incident** policy and click its wrench icon (🔧). The **Action Policy Editor** page appears:



Action Name: ServiceNow: Add/Update/Clear Incident

Action State: [Enabled]

Description: Adds and Updates Incidents in ServiceNow.

Organization: [System]

Action Type: ServiceNow: Create, Update, Clear Incident (1.0)

Execution Environment: [-- Default: ServiceNow Base Pack]

Action Run Context: [Database]

Input Parameters

```
{
  "sl1_credential_id": "",
  "debug": false,
  "configuration": "",
  "queue": "",
  "discard_if_no_ci": false,
  "is_app_name_new": "incident_sync_update_create",
  "is_app_name_ack": "event_acknowledged",
  "is_app_name_clear": "event_cleared",
  "servicenow_state_new": "1",
  "servicenow_state_ack": "",
  "servicenow_state_clear": "6",
  "correlation_type": "5",
  "assignment_group_new": "",
  "assignment_group_ack": "",
```

3. For the ***Action State*** filed select *Enabled*.
4. In the **Input Parameters** pane, edit the snippet code as necessary, using the information in the ***Customizing the Snippet Code in the Input Parameters Pane*** section, below. When you are finished, click **[Save]**.

Customizing the Snippet Code in the Input Parameters Pane

SL1 Run Book Action snippets are written in Python. In the event of a syntax error, the policies will no longer run. As a result, you must ensure that all edits adhere to Python standards. True and False options are case-sensitive and must not contain quotes.

> **NOTE:** Previous SyncServer users had three separate Run Book Action scripts for add/update, acknowledge, and clear. These have been rolled into a single Run Book Action in the Integration Service, but there are still three Automation policies.

You can customize the following values in the "ServiceNow: Add/Update/Clear Incident" Run Book Action snippet code:

- ***sl1_credential_id***. Specifies the ID of the credential object. You can find this value in the **ID** column of the **Credentials** page (System > Manage > Credentials of SL1.
- ***debug***. A true/false value that determines if the action is logged in SL1 and if the application is run in Debug Mode on the Integration Service. Troubleshooting logs are written to **/data/tmp/servicenow_rba.log**.
- ***configuration***. Specifies the ID of the configuration object used on the Integration Service, such as `"configuration": "test-host-settings"`.

NOTE: To find the configuration ID, you can use Postman to make a GET on this endpoint: `https://<Integration_Service_hostname>/api/v1/configurations`. If you do not have Postman, you can SSH to the system and make the following cURL request: `curl -iku <username>:<password> -H "Accept: application/json" -H "Content-Type: application/json" -X GET https://<Integration_Service_hostname>/api/v1/configurations`

- ***queue***. Specifies the worker queue on which the application runs. Leave this as default.
- ***discard_if_no_ci***. Specifies whether the Integration Service should create incidents in ServiceNow for devices that do not have a matching CI record. The default is *false*. Your options include:
  - *true*. If a device is not mapped to a CI, the Integration Service will *not* create an incident in ServiceNow, and SL1 is not updated. The following log message appears: "No CI found".
  - *false*. If a device is not mapped to a CI, the Integration Service *will* create an incident in ServiceNow and update SL1.
- ***servicenow_state_new***:
  - *1*. Incident state is "New". This is the default value.
  - *2*. Incident state is "In Progress".
  - *3*. Incident state is "On Hold".
  - *6*. Incident state is "Resolved".
  - *7*. Incident state is "Closed".
  - *8*. Incident state is "Canceled".
- ***servicenow_state_ack***:
  - *1*. Incident state is "New". There is no default value.
  - *2*. Incident state is "In Progress".
  - *3*. Incident state is "On Hold".
  - *6*. Incident state is "Resolved".
  - *7*. Incident state is "Closed".
  - *8*. Incident state is "Canceled".

- ***servicenow_state_clear***:
  - *1*. Incident state is "New".
  - *2*. Incident state is "In Progress".
  - *3*. Incident state is "On Hold".
  - *6*. Incident state is "Resolved". This is the default value.
  - *7*. Incident state is "Closed".
  - *8*. Incident state is "Canceled".

- ***correlation_type***. Correlates an SL1 event with a ServiceNow incident. For this value, which is also called the "Correlation ID", you can choose a number of different ways in which an incident can be created. The default setting is `"correlation_type": "5"`, which means that this Run Book Action correlates all events by device ID and event policy ID, and if the event matches and the state is active, the Action updates the existing incident. The Action creates a *new* incident if the event does *not* match by device ID and event policy ID. As a result, the Correlation Type helps determine which events get rolled up under an incident. All Run Book Action scripts should use the same Correlation Type value, otherwise correlation will fail.

  The possible Correlation Type values include the following:

  - *1*. Correlate all duplicate incidents by SL1 ID only.
  - *2*. Correlate all duplicate incidents by event policy ID only.
  - *3*. Correlate all duplicate incidents by device ID only.
  - *4*. Correlate all duplicate incidents by Interface ID only. This correlation requires that the SL1 event has an interface aligned. If there is no interface aligned to the event, the returned Interface ID will be 0.
  - *5*. Correlate all duplicate incidents by device ID and event policy ID. This is the default Correlation Type value.
  - *6*. Correlate all duplicate incidents by device ID, event policy ID, and event sub entity ID.
  - *7*. Correlate all duplicate incidents by device ID, event policy ID, region, and event ID. Please note that using this correlation type will result in all events triggering new incidents.
  - *8*. Correlate all events to the root device ID of the component device into one incident. Please note that using this correlation type might lead to undesirable behavior, as not all events generated on a child device indicate a problem on the root device. As a result, ScienceLogic recommends that you only use this correlation type against specific event policies.

- You can assign the assignment group to one of the new, acknowledged, or cleared incidents that are mapped. To disable this feature, ensure that no values are set. After an incident is created, the assignment group value will not be changed by the Run Book Action. To assign an assignment group, set the variable value to the ***sys_id*** of the ServiceNow Assignment Group. In the following example, the assignment group is assigned to incidents that are *cleared*:

  ```
  "assignment_group_new": "",
  "assignment_group_ack": "",
  "assignment_group_clear": "sys_id"
  ```

Customizing Logging in the Run Book Action

You can customize the following logging-related items in the "ServiceNow: Add/Update/Clear Incident" Run Book Action snippet code:

- `logfile = /data/tmp/ServiceNow_add_update_clear_incident.log`
    - Location for logging output.
    - Will be created if it does not exist.
    - Will be appended with each Run Book job.
    - Is case-sensitive.
- `do_debug_logging = True`
    - True is on, False is off.
    - Is case-sensitive.
    - For troubleshooting, these can be enabled or changed.
    - Writes logs to **/data/tmp/servicenow_rba.log**.

Sending Custom Data to ServiceNow Using the Passthrough Option

You can use the "ServiceNow: Add/Update Incident" Run Book Automation and the "ServiceNow: Add/Update/Clear Incident" Run Book Action to "pass through" custom data to ServiceNow. For example, you might want to use the passthrough functionality to overwrite the impact and urgency of a ServiceNow Incident, which is the only way to change the priority of the Incident.

To pass custom data to ServiceNow:

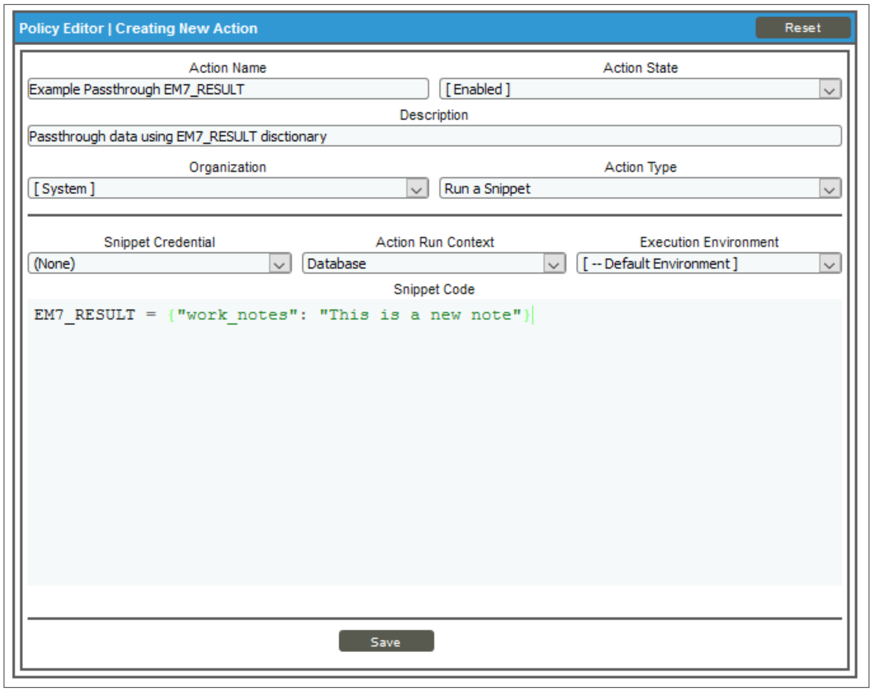
- Create a new Run Book Action that pulls the relevant data and adds it to a dictionary called EM7_RESULT.
- Add the new Run Book Action to the "ServiceNow: Add/Update Incident" Run Book Automation Policy, ahead of the "ServiceNow: Add/Update/Clear Incident" Run Book Action so that the new Action runs first, and then is consumed by the ServiceNow Action.

The following procedure describes how to configure the passthrough functionality.

Passing Custom Data to ServiceNow

To pass custom data to ServiceNow:

1. Go to the **Action Policy Manager** page (Registry > Run Book > Actions) and click **[Create]** to create a new Run Book Action policy:



Action Name	Example Passthrough EM7_RESULT
Action State	[Enabled]
Description	Passthrough data using EM7_RESULT disctionary
Organization	[System]
Action Type	Run a Snippet
Snippet Credential	(None)
Action Run Context	Database
Execution Environment	[-- Default Environment]

Snippet Code

```
EM7_RESULT = {"work_notes": "This is a new note"}
```

2. Complete the following fields:

   - ***Action Name***. Type a unique name for the Action.
   - ***Action State***. Select *Enabled*.
   - ***Action Type***. Select *Run a Snippet*.
   - ***Execution Environment***. Select *ServiceNow Base Pack*.
   - Complete the other fields as needed.

3. In the **Snippet Code** pane, add the code for the EM7_RESULT dictionary. For example, the following snippet code lets you override the ServiceNow Incident work notes with a hardcoded note:

   ```
   EM7_RESULT = {"work_notes": "This is a new note"}
   ```

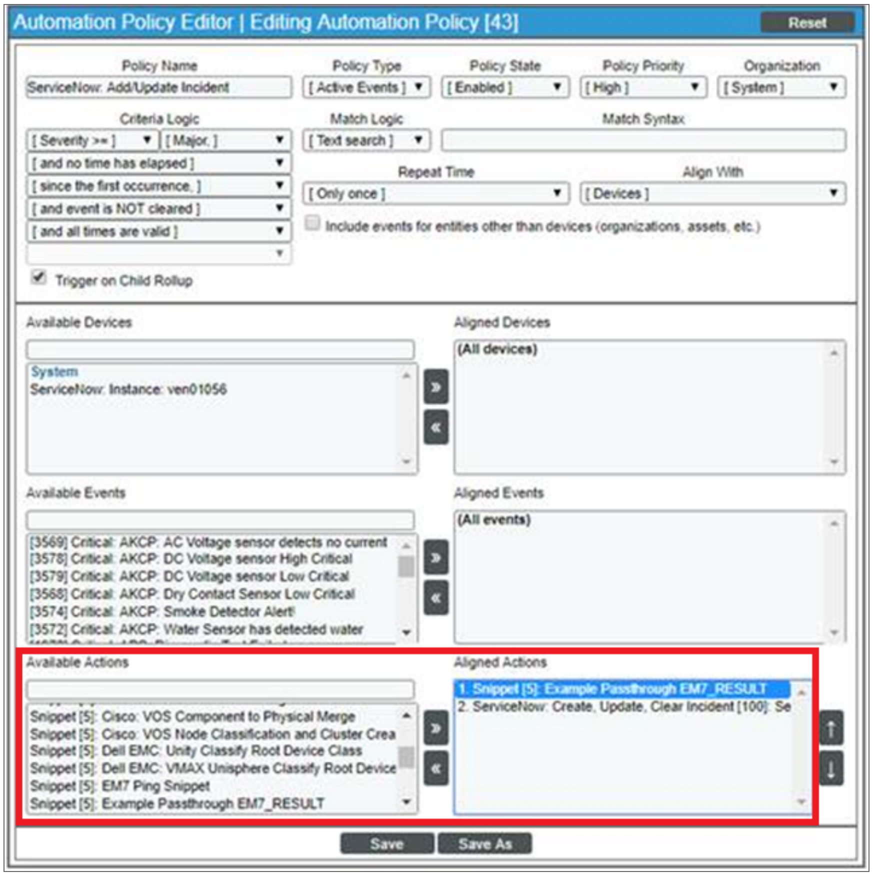
   Additional notes about the structure of the EM7_RESULT dictionary:

   - `EM7_RESULT =` is required for the dictionary, and the formatting of the keys should match the example above.
   - All keys defined in the EM7_RESULT dictionary need to map to field IDs on the **ScienceLogic Events** table in ServiceNow.
   - You can hard-code the values in the EM7_RESULT dictionary, or you can use variables and functions, like the ***Snippet Code Example***, below.
   - As a best practice, avoid sending null passthrough values to ServiceNow. If you must send 'null' or 'NULL' values to ServiceNow, pass through that value as an empty string, such as `"location":""`. Also, only pass through values that you need. For example, instead of sending `{"location": "", "work_notes": "stuff"}`, simply send `{"work_notes": "stuff"}`.
   - A long snippet might delay the ticket being created

4. Click **[Save]**.

5. Go to the **Automation Policy Manager** page (Registry > Run Book > Automation) and open the "ServiceNow: Add/Update Incident" Run Book Automation Policy.

6. In the **Available Actions** section, add the new Run Book Action *before* the "ServiceNow: Create, Update, Clear Incident" Run Book Action:



Automation Policy Editor | Editing Automation Policy [43]

Policy Name: ServiceNow: Add/Update Incident
Policy Type: [Active Events]
Policy State: [Enabled]
Policy Priority: [High]
Organization: [System]

Criteria Logic: [Severity >=] [Major.]
[and no time has elapsed]
[since the first occurrence.]
[and event is NOT cleared]
[and all times are valid]

Match Logic: [Text search]
Match Syntax:
Repeat Time: [Only once]
Align With: [Devices]

☐ Include events for entities other than devices (organizations, assets, etc.)

☑ Trigger on Child Rollup

Available Devices:
System
ServiceNow: Instance: ven01056

Aligned Devices:
(All devices)

Available Events:
[3569] Critical: AKCP: AC Voltage sensor detects no current
[3578] Critical: AKCP: DC Voltage sensor High Critical
[3579] Critical: AKCP: DC Voltage sensor Low Critical
[3568] Critical: AKCP: Dry Contact Sensor Low Critical
[3574] Critical: AKCP: Smoke Detector Alert!
[3572] Critical: AKCP: Water Sensor has detected water

Aligned Events:
(All events)

Available Actions:
Snippet [5]: Cisco: VOS Component to Physical Merge
Snippet [5]: Cisco: VOS Node Classification and Cluster Crea
Snippet [5]: Dell EMC: Unity Classify Root Device Class
Snippet [5]: Dell EMC: VMAX Unisphere Classify Root Device
Snippet [5]: EM7 Ping Snippet
Snippet [5]: Example Passthrough EM7_RESULT

Aligned Actions:
1. Snippet [5]: Example Passthrough EM7_RESULT
2. ServiceNow: Create, Update, Clear Incident [100]: Se

NOTE: The output of this new Run Book Action will be consumed by the "ServiceNow: Create, Update, Clear Incident" Run Book Action, ensuring that the EM7_RESULT dictionary is passed through to ServiceNow. The "ServiceNow: Create, Update, Clear Incident" Run Book Action automatically populates the passthrough values with any values from EM7_LAST_RESULT. The passthrough overwrites any other previously defined fields, such as assignment group.

7. You can add additional Run Book Actions to the Run Book Automation Policy for any additional workflows that you might want to run. The Automation Policy execute these Actions in a sequential, top-down order. However, the "ServiceNow: Create, Update, Clear Incident" Run Book Action only consumes the EM7_RESULT dictionary from the Run Book Action directly above it.

Snippet Code Example

The following snippet code example shows how to pull additional information and make it available for passthrough. All of the additional information that is going to be sent is contained in a dictionary variable called EM7_RESULT. You can pass through multiple items through in a single Run Book Action by adding additional keys to the EM7_RESULT dictionary.

This example lets you assign assignment groups to an Incident based on certain criteria, such as event policy IDs:

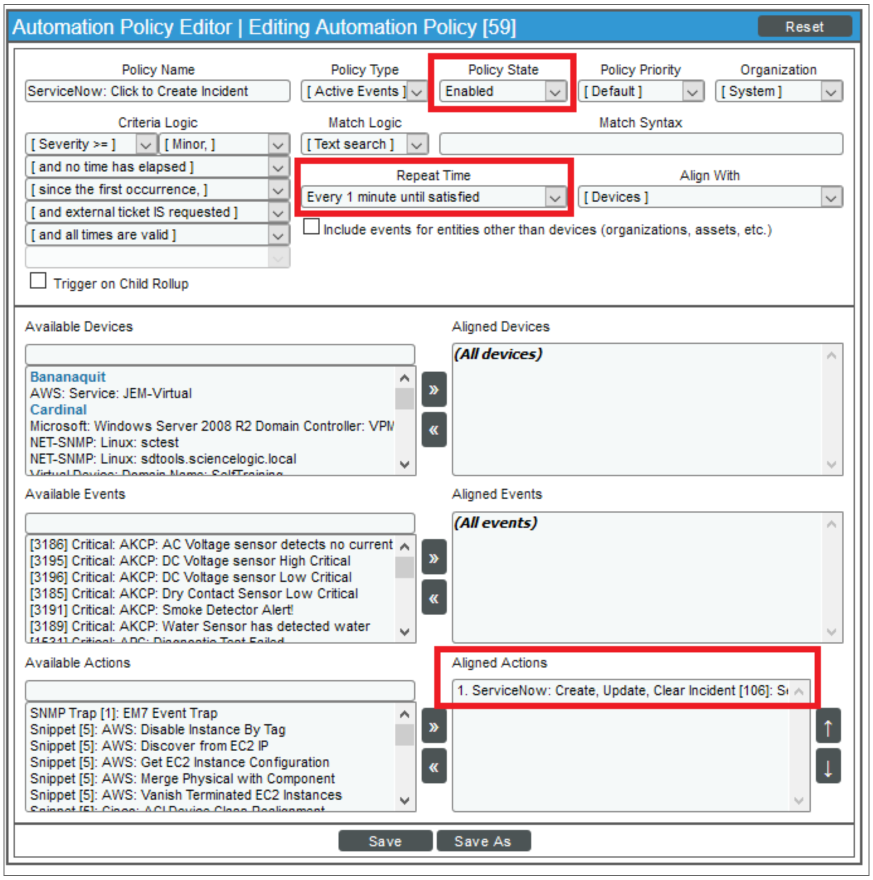
```
from future.utils import iteritems


def invert_mappings(mappings):
    """
    Invert received one-to-many mappings and converts it into a one-to-one
    mapping.

    Args:
        mappings (dict): Dictionary of mapped values

    Returns:
        dict: inverted dictionary.

    """
    inverted_mappings = dict()
    for key, values in iteritems(mappings):
        for sub_value in values:
            invert_mappings[sub_value] = key
    return inverted_mappings


# Example of assignment group to list of event policy ids mapping.
assignment_groups_to_event_policies = {
    "sys_id_1": [1, 2, 3, 4, 5],
    "sys_id_2": [6, 7, 8, 9, 10],
}
# which sys_id to use if the current event_policy_id isn't mapped
default_sys_id = "sys_id_3"

# invert the mappings
event_policy_to_assignment_group = invert_mappings(assignment_groups_to_event_
policies)

# Send assignment group sys_id to IS RBA
EM7_RESULT = {
    "assignment_group": event_policy_to_assignment_group.get(
        EM7_VALUES["%3"], default_sys_id
    )
}
```

Configuring the "ServiceNow: Click to Create Incident" Automation Policy

The "ServiceNow: Click to Create Incident" Run Book Automation policy lets you manually create an incident in ServiceNow by clicking the life-preserver icon (🛟) in SL1. This policy is available in the *ServiceNow Base Pack* PowerPack.

To configure the "ServiceNow: Click to Create Incident" policy:

1. In SL1, go to the Behavior Settings page (System > Settings > Behavior) and set the ***Event Console Ticket Life Ring Button Behavior*** option to *Create/View External Ticket*.
2. Click **[Save]** to save your changes.
3. Go to the **Automation Policy Manager** page (Registry > Run Book > Automation).
4. Locate the **ServiceNow: Click to Create Incident** policy and click its wrench icon (🔧). The **Automation Policy Editor** page appears:



Automation Policy Editor | Editing Automation Policy [59]

Policy Name: ServiceNow: Click to Create Incident
Policy Type: [Active Events]
Policy State: Enabled
Policy Priority: [Default]
Organization: [System]

Criteria Logic:
[Severity >=] [Minor,]
[and no time has elapsed]
[since the first occurrence,]
[and external ticket IS requested]
[and all times are valid]

Match Logic: [Text search]
Match Syntax:
Repeat Time: Every 1 minute until satisfied
Align With: [Devices]

□ Include events for entities other than devices (organizations, assets, etc.)

□ Trigger on Child Rollup

Available Devices
Bananaquit
AWS: Service: JEM-Virtual
Cardinal
Microsoft: Windows Server 2008 R2 Domain Controller: VPN
NET-SNMP: Linux: sctest
NET-SNMP: Linux: sdtools.sciencelogic.local
Virtual Device: Domain Name: SelfTraining

Aligned Devices
(All devices)

Available Events
[3186] Critical: AKCP: AC Voltage sensor detects no current
[3195] Critical: AKCP: DC Voltage sensor High Critical
[3196] Critical: AKCP: DC Voltage sensor Low Critical
[3185] Critical: AKCP: Dry Contact Sensor Low Critical
[3191] Critical: AKCP: Smoke Detector Alert!
[3189] Critical: AKCP: Water Sensor has detected water
[1531] Critical: APC: Diagnostic Test Failed

Aligned Events
(All events)

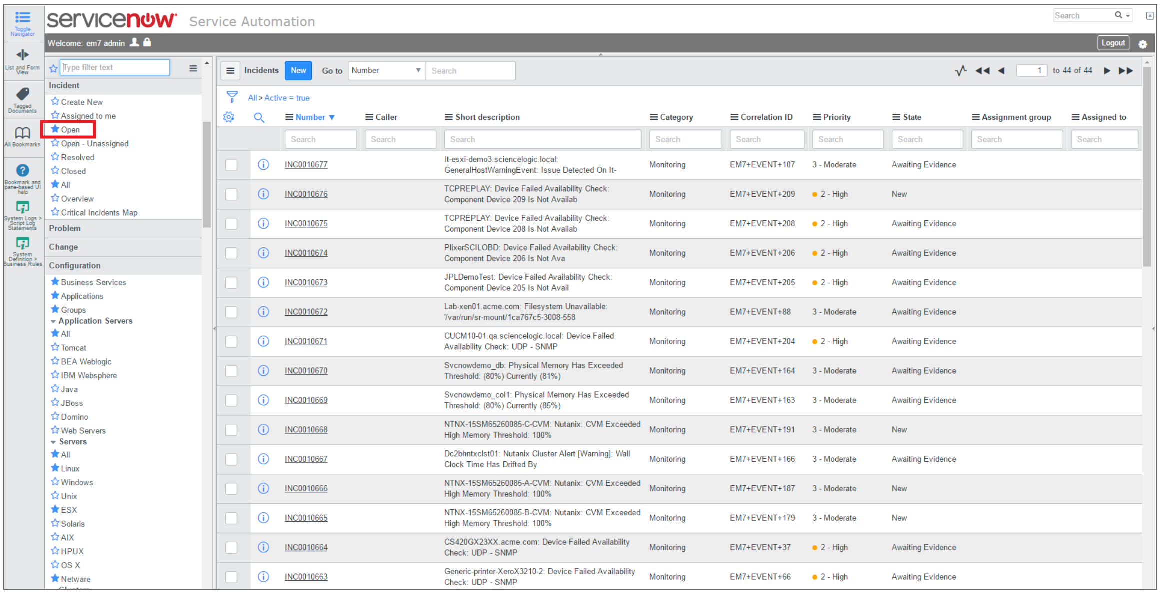
Available Actions
SNMP Trap [1]: EM7 Event Trap
Snippet [5]: AWS: Disable Instance By Tag
Snippet [5]: AWS: Discover from EC2 IP
Snippet [5]: AWS: Get EC2 Instance Configuration
Snippet [5]: AWS: Merge Physical with Component
Snippet [5]: AWS: Vanish Terminated EC2 Instances
Snippet [5]: Cisco: ACI Device Clean Realignment

Aligned Actions
1. ServiceNow: Create, Update, Clear Incident [106]: S

5. Update the following fields:
   - ***Policy State***. Select *Enabled*.
   - ***Repeat Time***. Specify the frequency at which SL1 should execute the automation policy while the conditions are still met. The choices range from "every 30 seconds until satisfied" to "every 2 hours until satisfied", or "only once". By default, the policy only runs once.
   - ***Available Actions***. If it is not already selected, select the corresponding ServiceNow Run Book Action policy to add it to the ***Aligned Actions*** field.
6. Click **[Save]**.

Viewing Incidents and Events

To view SL1-created incidents in ServiceNow, go to the **Incidents** page (Incident > Open) in the ServiceNow application:

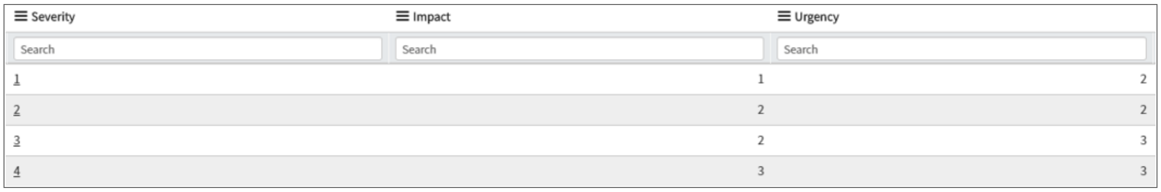


Incidents | All > Active = true | 1 to 44 of 44

Number	Caller	Short description	Category	Correlation ID	Priority	State	Assignment group	Assigned to
INC0010677		It-esxi-demo3.sciencelogic.local: GeneralHostWarningEvent: Issue Detected On It-	Monitoring	EM7+EVENT+107	3 - Moderate	Awaiting Evidence		
INC0010676		TCPREPLAY: Device Failed Availability Check: Component Device 209 Is Not Availab	Monitoring	EM7+EVENT+209	● 2 - High	New		
INC0010675		TCPREPLAY: Device Failed Availability Check: Component Device 208 Is Not Availab	Monitoring	EM7+EVENT+208	● 2 - High	Awaiting Evidence		
INC0010674		PlixerSCILOBD: Device Failed Availability Check: Component Device 206 Is Not Ava	Monitoring	EM7+EVENT+206	● 2 - High	Awaiting Evidence		
INC0010673		JPLDemoTest: Device Failed Availability Check: Component Device 205 Is Not Avail	Monitoring	EM7+EVENT+205	● 2 - High	Awaiting Evidence		
INC0010672		Lab-xen01.acme.com: Filesystem Unavailable: '/var/run/sr-mount/1ca767c5-3008-558	Monitoring	EM7+EVENT+88	3 - Moderate	Awaiting Evidence		
INC0010671		CUCM10-01.qa.sciencelogic.local: Device Failed Availability Check: UDP - SNMP	Monitoring	EM7+EVENT+204	● 2 - High	Awaiting Evidence		
INC0010670		Svcnowdemo_db: Physical Memory Has Exceeded Threshold: (80%) Currently (81%)	Monitoring	EM7+EVENT+164	3 - Moderate	Awaiting Evidence		
INC0010669		Svcnowdemo_col1: Physical Memory Has Exceeded Threshold: (80%) Currently (85%)	Monitoring	EM7+EVENT+163	3 - Moderate	Awaiting Evidence		
INC0010668		NTNX-15SM65260085-C-CVM: Nutanix: CVM Exceeded High Memory Threshold: 100%	Monitoring	EM7+EVENT+191	3 - Moderate	New		
INC0010667		Dc2bhntxclst01: Nutanix Cluster Alert [Warning]: Wall Clock Time Has Drifted By	Monitoring	EM7+EVENT+166	3 - Moderate	Awaiting Evidence		
INC0010666		NTNX-15SM65260085-A-CVM: Nutanix: CVM Exceeded High Memory Threshold: 100%	Monitoring	EM7+EVENT+187	3 - Moderate	New		
INC0010665		NTNX-15SM65260085-B-CVM: Nutanix: CVM Exceeded High Memory Threshold: 100%	Monitoring	EM7+EVENT+179	3 - Moderate	New		
INC0010664		CS420GX23XX.acme.com: Device Failed Availability Check: UDP - SNMP	Monitoring	EM7+EVENT+37	● 2 - High	Awaiting Evidence		
INC0010663		Generic-printer-XeroX3210-2: Device Failed Availability Check: UDP - SNMP	Monitoring	EM7+EVENT+66	● 2 - High	Awaiting Evidence		

All SL1 incidents use the event message from the SL1 **Events** page as the incident description in ServiceNow. The SL1 **Events** also links to the Incident record if you click the life-preserver icon (🛟) under the **External Ticket** column. Note that you might need to enable the **External Ticket** column by modifying the Console preferences.

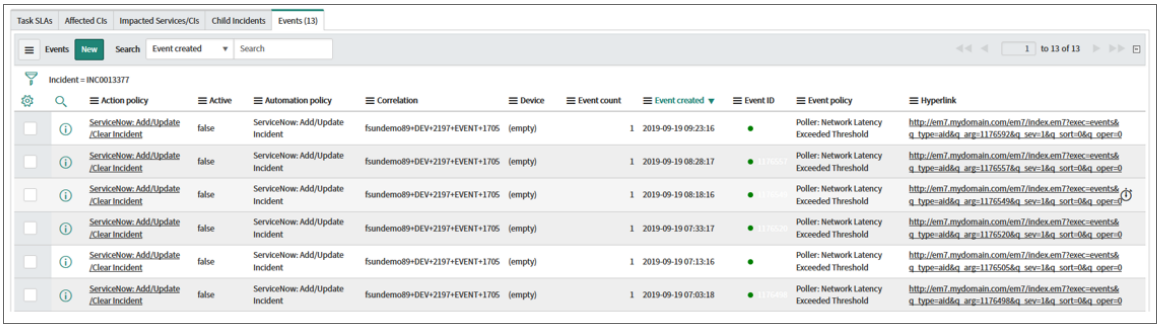
SL1 and ServiceNow use slightly different methods for designating the severity or priority of an event or incident. A custom data lookup table handles the conversion by translating the SL1 event severity into ServiceNow ***Impact***, ***Urgency***, and ***Priority*** fields. This severity data lookup table for automatically deploys with the "ScienceLogic SL1: CMDB & Incident Automation Application", also called the Scoped or Certified Application:



Severity	Impact	Urgency
1	1	2
2	2	2
3	2	3
4	3	3

If a second event for the same incident occurs, that event will update the ***Impact*** and ***Urgency*** values, based on the severity lookup table.

When the SL1 Run Book Automation creates a ServiceNow incident, the action taken depends on the ***Correlation Type*** you specified in the "ServiceNow Add/Update/Clear Incident" Run Book Action. If one or more events are aligned to the same incident, those events will show up in the **[Events]** tabs at the bottom of the Incident record in ServiceNow. All event-specific information for an incident is listed on this page:



Incident = INC0013377

Action policy	Active	Automation policy	Correlation	Device	Event count	Event created	Event ID	Event policy	Hyperlink
ServiceNow: Add/Update /Clear Incident	false	ServiceNow: Add/Update Incident	fsundemo89+DEV+2197+EVENT+1705	(empty)	1	2019-09-19 09:23:16	●	Poller: Network Latency Exceeded Threshold	http://em7.mydomain.com/em7/index.em7?exec=events&q_type=aid&q_arg=1176592&q_sev=1&q_sort=0&q_oper=0
ServiceNow: Add/Update /Clear Incident	false	ServiceNow: Add/Update Incident	fsundemo89+DEV+2197+EVENT+1705	(empty)	1	2019-09-19 08:28:17	● 1176557	Poller: Network Latency Exceeded Threshold	http://em7.mydomain.com/em7/index.em7?exec=events&q_type=aid&q_arg=1176557&q_sev=1&q_sort=0&q_oper=0
ServiceNow: Add/Update /Clear Incident	false	ServiceNow: Add/Update Incident	fsundemo89+DEV+2197+EVENT+1705	(empty)	1	2019-09-19 08:18:16	● 1176549	Poller: Network Latency Exceeded Threshold	http://em7.mydomain.com/em7/index.em7?exec=events&q_type=aid&q_arg=1176549&q_sev=1&q_sort=0&q_oper=0
ServiceNow: Add/Update /Clear Incident	false	ServiceNow: Add/Update Incident	fsundemo89+DEV+2197+EVENT+1705	(empty)	1	2019-09-19 07:33:17	● 1176520	Poller: Network Latency Exceeded Threshold	http://em7.mydomain.com/em7/index.em7?exec=events&q_type=aid&q_arg=1176520&q_sev=1&q_sort=0&q_oper=0
ServiceNow: Add/Update /Clear Incident	false	ServiceNow: Add/Update Incident	fsundemo89+DEV+2197+EVENT+1705	(empty)	1	2019-09-19 07:13:16	●	Poller: Network Latency Exceeded Threshold	http://em7.mydomain.com/em7/index.em7?exec=events&q_type=aid&q_arg=1176505&q_sev=1&q_sort=0&q_oper=0
ServiceNow: Add/Update /Clear Incident	false	ServiceNow: Add/Update Incident	fsundemo89+DEV+2197+EVENT+1705	(empty)	1	2019-09-19 07:03:18	● 1176498	Poller: Network Latency Exceeded Threshold	http://em7.mydomain.com/em7/index.em7?exec=events&q_type=aid&q_arg=1176498&q_sev=1&q_sort=0&q_oper=0

TIP: If the **[Events]** tab does not display at the bottom of the Incident record, you can add it by opening the Incident record, clicking the Additional actions icon (≡), and selecting *Configure* > *Related Lists*. Add *Event->Incident* to the **Selected** column and click **[Save]**.

For more information about ServiceNow incident management, see https://docs.servicenow.com/bundle/newyork-it-service-management/page/product/incident-management/concept/c_IncidentManagement.html.

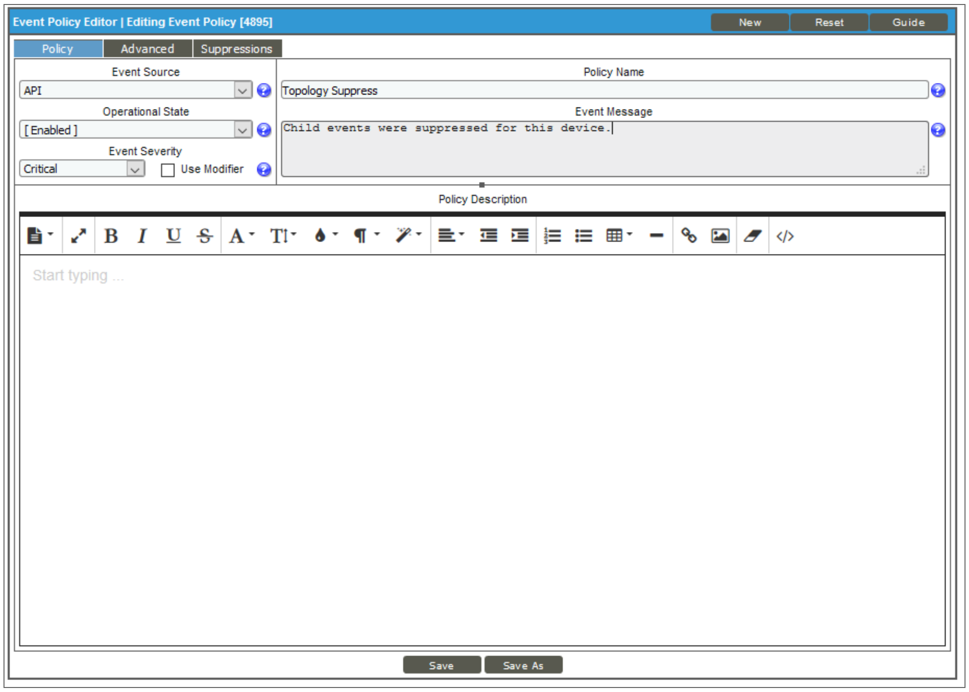
Incident Topology Suppression

Incident topology suppression is used when ServiceNow incidents that have been synced with SL1 devices occur on devices that have a parent/child relationship. If you choose to enable incident topology suppression in SL1, child events synced with ServiceNow incidents do not appear in the SL1 **Event Console** as separate events. Instead, the child events are nested under the parent event.

NOTE: The steps in this process use the Classic user interface for SL1.

To enable incident topology suppression:

1. In SL1, navigate to the **Event Policy Manager** page (Registry > Events > Event Manager) and click the **[Create]** button. The **Event Policy Editor** modal appears:



Event Source: API

Operational State: [Enabled]

Event Severity: Critical

☐ Use Modifier

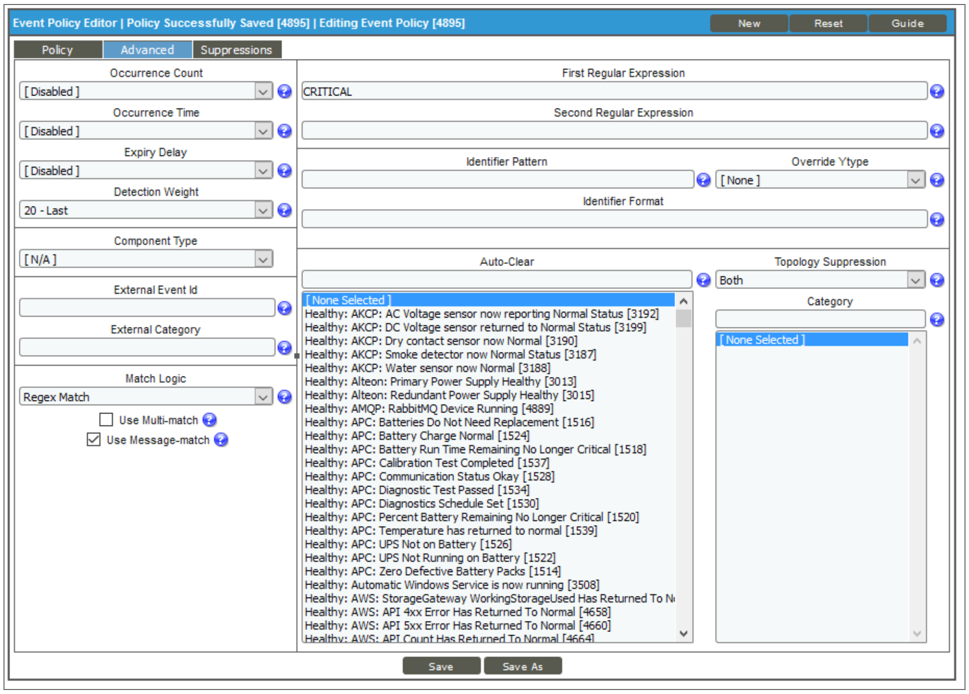
Policy Name: Topology Suppress

Event Message: Child events were suppressed for this device.

2. On the **[Policy]** tab, update the following fields:

   - ***Event Source***: Select *API*.
   - ***Operational State***: Select *Enabled*.
   - ***Event Severity***: Select *Critical* as the severity of the event.
   - ***Policy Name***. Type the name of the event. Can be any combination of alphanumeric characters, up to 48 characters in length
   - ***Event Message***. Type the message that will appear when this event occurs.

3. Click the **[Advanced]** tab.



Event Policy Editor | Policy Successfully Saved [4895] | Editing Event Policy [4895]
New
Reset
Guide
Policy
Advanced
Suppressions
Save
Save As

Occurrence Count: [Disabled]

Occurrence Time: [Disabled]

Expiry Delay: [Disabled]

Detection Weight: 20 - Last

Component Type: [N/A]

External Event Id:

External Category:

Match Logic: Regex Match

□ Use Multi-match

☑ Use Message-match

First Regular Expression: CRITICAL

Second Regular Expression:

Identifier Pattern:

Override Ytype: [None]

Identifier Format:

Auto-Clear:

[None Selected]
Healthy: AKCP: AC Voltage sensor now reporting Normal Status [3192]
Healthy: AKCP: DC Voltage sensor returned to Normal Status [3199]
Healthy: AKCP: Dry contact sensor now Normal [3190]
Healthy: AKCP: Smoke detector now Normal Status [3187]
Healthy: AKCP: Water sensor now Normal [3188]
Healthy: Alteon: Primary Power Supply Healthy [3013]
Healthy: Alteon: Redundant Power Supply Healthy [3015]
Healthy: AMQP: RabbitMQ Device Running [4889]
Healthy: APC: Batteries Do Not Need Replacement [1516]
Healthy: APC: Battery Charge Normal [1524]
Healthy: APC: Battery Run Time Remaining No Longer Critical [1518]
Healthy: APC: Calibration Test Completed [1537]
Healthy: APC: Communication Status Okay [1528]
Healthy: APC: Diagnostic Test Passed [1534]
Healthy: APC: Diagnostics Schedule Set [1530]
Healthy: APC: Percent Battery Remaining No Longer Critical [1520]
Healthy: APC: Temperature has returned to normal [1539]
Healthy: APC: UPS Not on Battery [1526]
Healthy: APC: UPS Not Running on Battery [1522]
Healthy: APC: Zero Defective Battery Packs [1514]
Healthy: Automatic Windows Service is now running [3508]
Healthy: AWS: StorageGateway WorkingStorageUsed Has Returned To N
Healthy: AWS: API 4xx Error Has Returned To Normal [4658]
Healthy: AWS: API 5xx Error Has Returned To Normal [4660]
Healthy: AWS: API Count Has Returned To Normal [4664]

Topology Suppression: Both

Category:

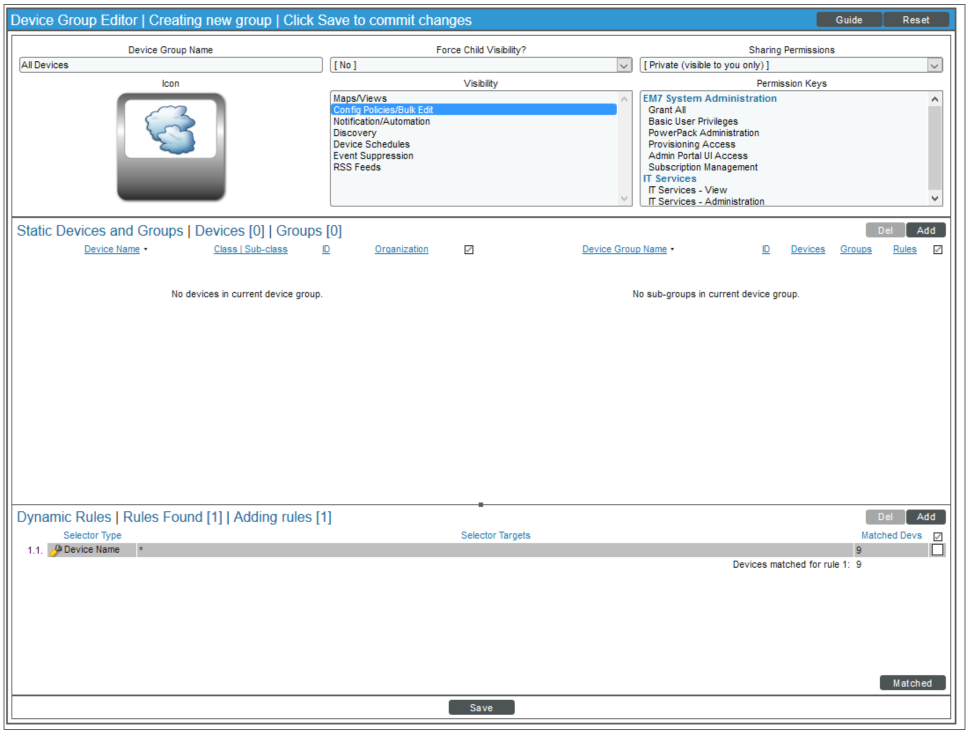
[None Selected]

4. On the **[Advanced]** tab, update the following fields:

- ***Detection Weight***. Select *20 - Last*. If two event definitions are very similar, the weight field specifies the order in which SL1 should match messages against the similar event definitions. The event definition with the lowest weight will be matched first. This field is most useful for events that use expression matching. Options range from 0 (first) - 20 (last).
- ***Match Logic***. Select *Regex Match*. Specifies whether SL1should process the First Match String field and Second Match String as regular expressions or as simple text matches. Because you selected *Regex Match*, you cannot define a "match all" expression by leaving the First Match String and Second Match String fields empty.
- ***Use Message-match***. Select this option. If SL1 has generated an event and then a second log message or alert matches the same event policy for the same entity, SL1 will not generate a second event, but will increase the count value for the original event. This behavior will occur only if the log messages or alerts contain the same message.
- ***First Regular Expression***. Type "CRITICAL" as the string used to correlate the event with a log message.
- ***Topology Suppression***. Select *Both*. If this event occurs on a parent device, it behaves as a suppressing event. If this event occurs on a child device, it behaves as a suppressible event.

5. Click **[Save]** and close the **Event Policy Editor** modal.

6. Next, go to the **Device Groups** page (Registry > Device Groups) and click the **[Create]** button. A **Device Group Editor** page appears:



Device Group Editor | Creating new group | Click Save to commit changes

Device Group Name: All Devices

Force Child Visibility?: [No]

Sharing Permissions: [Private (visible to you only)]

Visibility:
- Maps/Views
- Config Policies/Bulk Edit
- Notification/Automation
- Discovery
- Device Schedules
- Event Suppression
- RSS Feeds

Permission Keys:
- EM7 System Administration
  - Grant All
  - Basic User Privileges
  - PowerPack Administration
  - Provisioning Access
  - Admin Portal UI Access
  - Subscription Management
- IT Services
  - IT Services - View
  - IT Services - Administration

Static Devices and Groups | Devices [0] | Groups [0]

Device Name	Class | Sub-class	ID	Organization	☑

No devices in current device group.

Device Group Name	ID	Devices	Groups	Rules	☑

No sub-groups in current device group.

Dynamic Rules | Rules Found [1] | Adding rules [1]

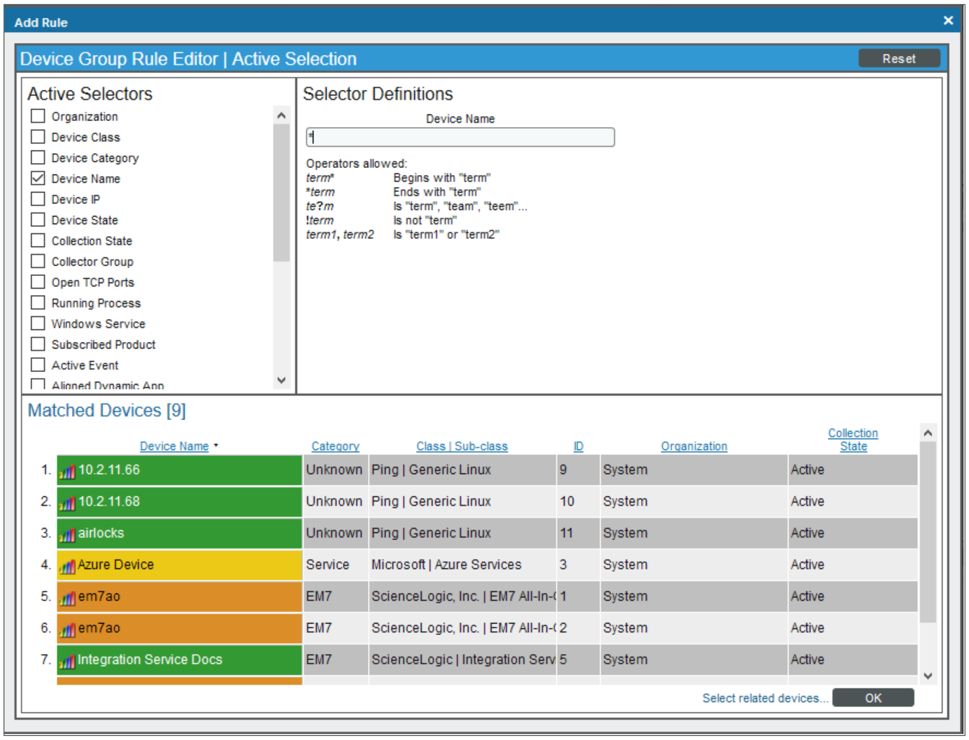
	Selector Type	Selector Targets	Matched Devs	☑
1.1.	Device Name	*	9	□

Devices matched for rule 1: 9

7. Complete the following fields, and leave the default settings for the remaining fields:

- ***Template Name***. Specify the name of the new device group.
- ***Force Child Visibility***. Select "No".
- ***Visibility***. Select *Config Policies/Bulk Edit* to let you configure all the devices in the new device group using a device template.

8. Click the **[Save]** button and then click the **[Add]** button in the **Dynamic Rules** pane to add dynamic rules to the new device group. The Device Group Rule Editor modal page appears:



Device Group Rule Editor | Active Selection

Active Selectors

☐ Organization
☐ Device Class
☐ Device Category
☑ Device Name
☐ Device IP
☐ Device State
☐ Collection State
☐ Collector Group
☐ Open TCP Ports
☐ Running Process
☐ Windows Service
☐ Subscribed Product
☐ Active Event
☐ Aligned Dynamic App

Selector Definitions

Device Name: *

Operators allowed:

*term**	Begins with "term"
**term*	Ends with "term"
te?m	Is "term", "team", "teem"...
!term	Is not "term"
term1, term2	Is "term1" or "term2"

Matched Devices [9]

	Device Name	Category	Class | Sub-class	ID	Organization	Collection State
1.	10.2.11.66	Unknown	Ping | Generic Linux	9	System	Active
2.	10.2.11.68	Unknown	Ping | Generic Linux	10	System	Active
3.	airlocks	Unknown	Ping | Generic Linux	11	System	Active
4.	Azure Device	Service	Microsoft | Azure Services	3	System	Active
5.	em7ao	EM7	ScienceLogic, Inc. | EM7 All-In-(	1	System	Active
6.	em7ao	EM7	ScienceLogic, Inc. | EM7 All-In-(	2	System	Active
7.	Integration Service Docs	EM7	ScienceLogic | Integration Serv	5	System	Active

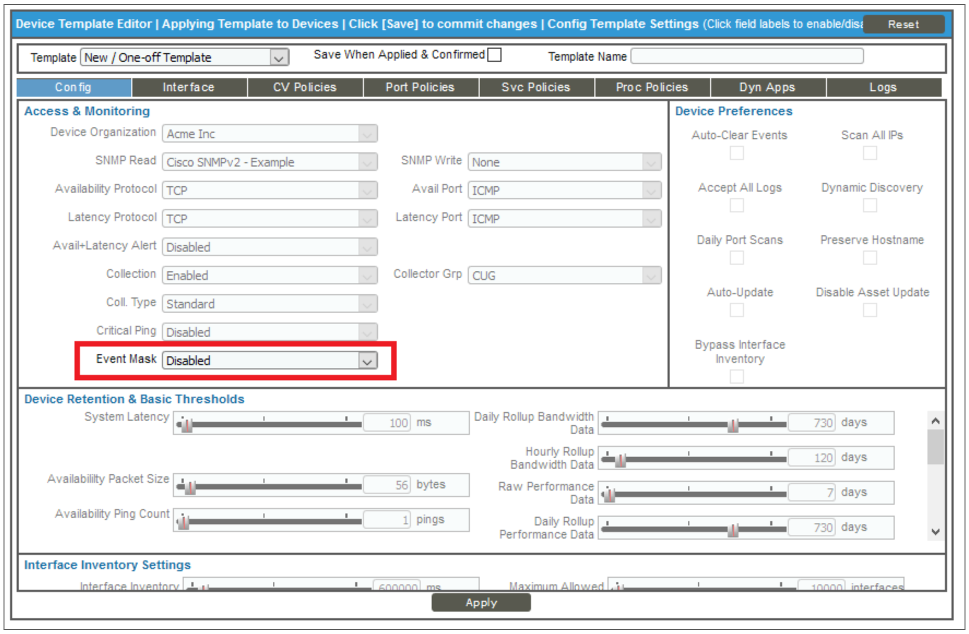
9. In the **Active Selectors** pane, select *Device Name*.

10. Optionally, in the **Selector Definitions** pane, type an asterisk (*) in the ***Device Name*** field. Using the * includes all devices by Device Name. In the **Matched Devices** pane, a list of all devices appears.

11. Click **[OK]** to close the modal page.

12. On the **Device Group Editor** modal page, click **[Save]** and close the page.

13. Next, create a Device Group Template that will disable Event Masking for all devices in the new Device Group. Click the building blocks icon (🧱) for the new device group. A **Device Template Editor** page appears:



Device Template Editor | Applying Template to Devices | Click [Save] to commit changes | Config Template Settings (Click field labels to enable/disa

Template: New / One-off Template

Save When Applied & Confirmed □

Template Name:

Access & Monitoring

Device Organization: Acme Inc

SNMP Read: Cisco SNMPv2 - Example

SNMP Write: None

Availability Protocol: TCP

Avail Port: ICMP

Latency Protocol: TCP

Latency Port: ICMP

Avail+Latency Alert: Disabled

Collection: Enabled

Collector Grp: CUG

Coll. Type: Standard

Critical Ping: Disabled

Event Mask: Disabled

Device Preferences

Auto-Clear Events □

Scan All IPs □

Accept All Logs □

Dynamic Discovery □

Daily Port Scans □

Preserve Hostname □

Auto-Update □

Disable Asset Update □

Bypass Interface Inventory □

Device Retention & Basic Thresholds

System Latency: 100 ms

Daily Rollup Bandwidth Data: 730 days

Hourly Rollup Bandwidth Data: 120 days

Availability Packet Size: 56 bytes

Raw Performance Data: 7 days

Availability Ping Count: 1 pings

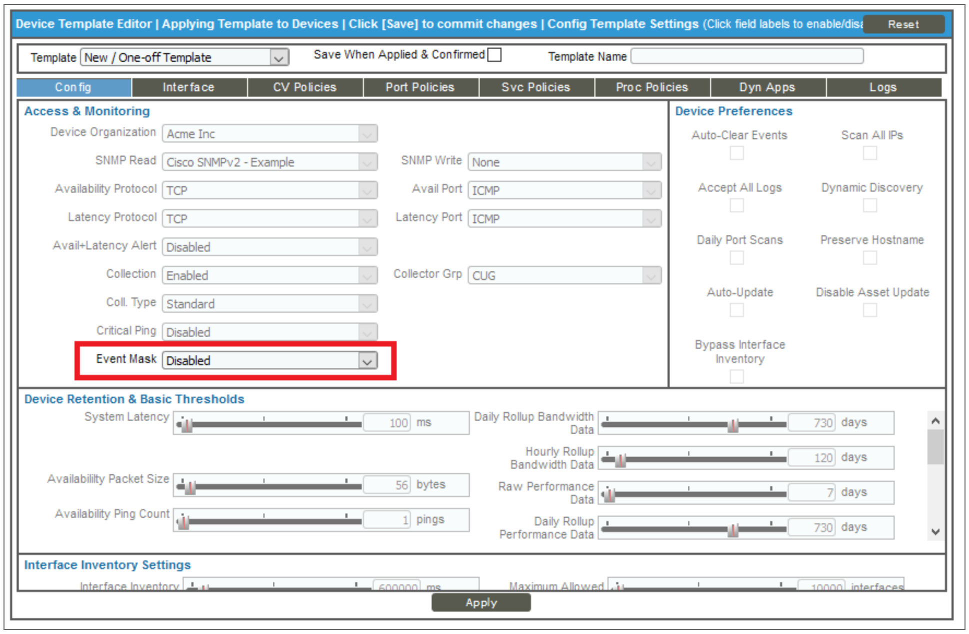
Daily Rollup Performance Data: 730 days

Interface Inventory Settings

Interface Inventory: 600000 ms

Maximum Allowed: 10000 interfaces

14. Because all of the fields are disabled (grayed-out) by default, click the ***Event Mask*** field name to enable the field. Use the default setting of *Disabled*.
15. Click **[Apply]** and click **[Confirm]** on the **Device Template Editor** page.
16. Next, turn off the *Trigger on Child Rollup* option on the "ServiceNow: Add/Update Incident" Run Book Automation. Go to the **Automation Policy Manager** page (Registry > Run Book > Automation) and click the wrench icon (🔧) for the "ServiceNow: Add/Update Incident" Run Book Automation. The **Automation Policy Editor** page appears:



Device Template Editor | Applying Template to Devices | Click [Save] to commit changes | Config Template Settings (Click field labels to enable/dis

Template: New / One-off Template
Save When Applied & Confirmed ☐
Template Name:

Access & Monitoring

Device Organization: Acme Inc
SNMP Read: Cisco SNMPv2 - Example
SNMP Write: None
Availability Protocol: TCP
Avail Port: ICMP
Latency Protocol: TCP
Latency Port: ICMP
Avail+Latency Alert: Disabled
Collection: Enabled
Collector Grp: CUG
Coll. Type: Standard
Critical Ping: Disabled
Event Mask: Disabled

Device Preferences

Auto-Clear Events ☐
Scan All IPs ☐
Accept All Logs ☐
Dynamic Discovery ☐
Daily Port Scans ☐
Preserve Hostname ☐
Auto-Update ☐
Disable Asset Update ☐
Bypass Interface Inventory ☐

Device Retention & Basic Thresholds

System Latency: 100 ms
Daily Rollup Bandwidth Data: 730 days
Hourly Rollup Bandwidth Data: 120 days
Availability Packet Size: 56 bytes
Raw Performance Data: 7 days
Availability Ping Count: 1 pings
Daily Rollup Performance Data: 730 days

Interface Inventory Settings

Interface Inventory: 600000 ms
Maximum Allowed: 10000 interfaces

17. Make sure the *Trigger on Child Rollup* option is not selected and click **[Save]**. Close the **Automation Policy Editor** page.

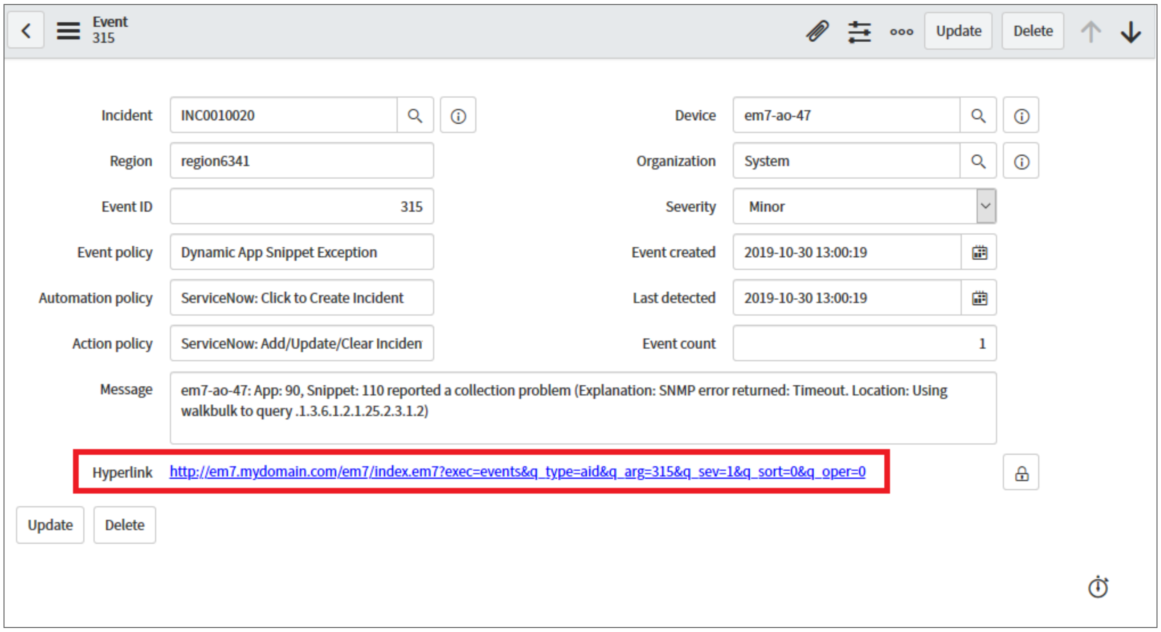
Hyperlinking Events

Both ServiceNow and SL1 provide mechanisms for hyperlinking to multiple active events and incidents. This section describes those processes.

ServiceNow Hyperlinking

Each incident in ServiceNow will have one or more events aligned with it through the Related List of events, which you can view in the **[Events]** tab at the bottom of the Incident record.

By default the ***Hyperlink*** field appears on the custom event table provided with the Certified application (*x_sclo_scilogic_event*). Each event shown in the **[Events]** tab at the bottom of the Incident record will have its own URL associated. The following image shows the Event record for an event aligned with an Incident:



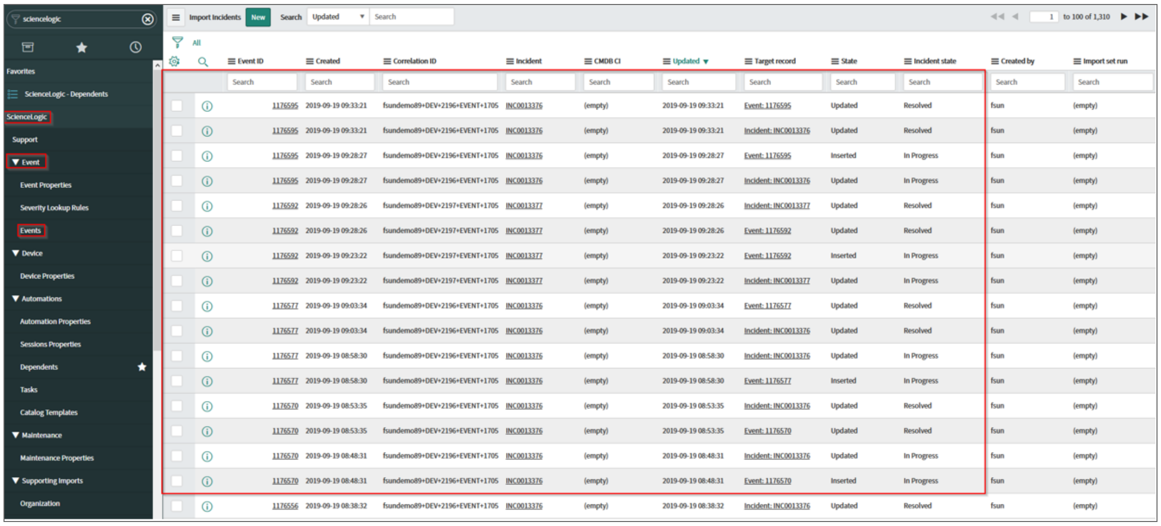
Incident	INC0010020	Device	em7-ao-47
Region	region6341	Organization	System
Event ID	315	Severity	Minor
Event policy	Dynamic App Snippet Exception	Event created	2019-10-30 13:00:19
Automation policy	ServiceNow: Click to Create Incident	Last detected	2019-10-30 13:00:19
Action policy	ServiceNow: Add/Update/Clear Inciden	Event count	1
Message	em7-ao-47: App: 90, Snippet: 110 reported a collection problem (Explanation: SNMP error returned: Timeout. Location: Using walkbulk to query .1.3.6.1.2.1.25.2.3.1.2)		
Hyperlink	http://em7.mydomain.com/em7/index.em7?exec=events&q_type=aid&q_arg=315&q_sev=1&q_sort=0&q_oper=0		

TIP: If the **[Events]** tab does not display at the bottom of the Incident record, you can add it by opening the Incident record, clicking the Additional actions icon (☰), and selecting *Configure > Related Lists*. Add *Event->Incident* to the **Selected** column and click **[Save]**.

Viewing the Incident Import Table in ServiceNow

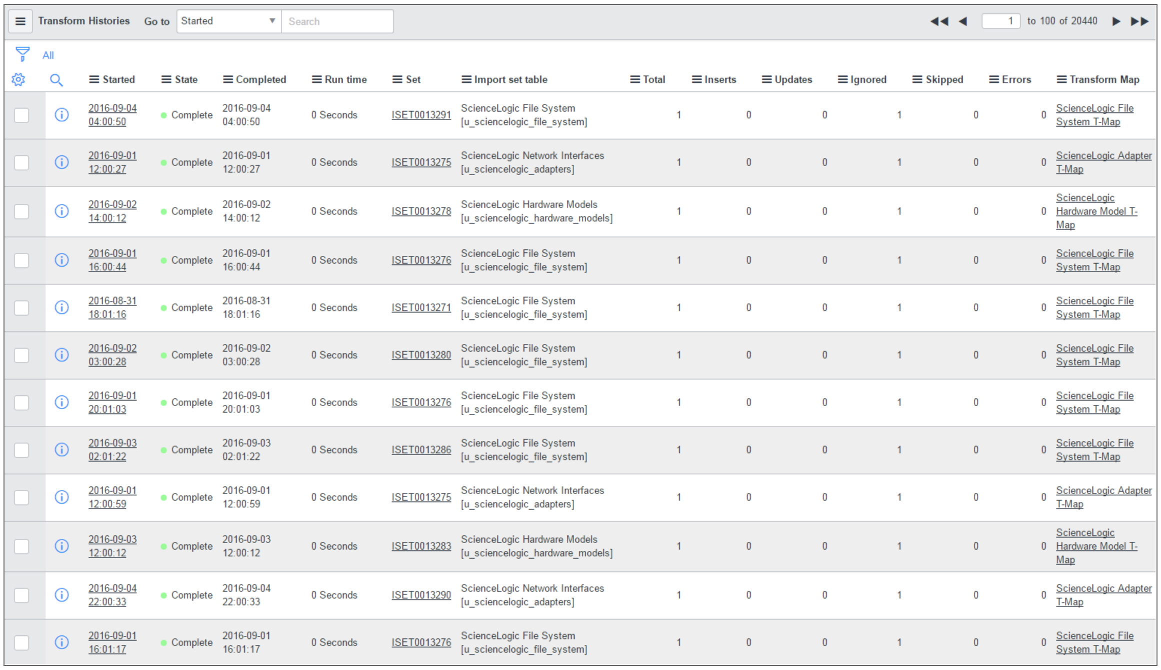
Each time SL1 creates or changes an incident in ServiceNow, data is inserted into a temporary import table on the ServiceNow system. This table displays all inbound data from SL1 and is a useful tool to determine what data is being sent and imported. The incident import table is created automatically when you install the ScienceLogic Certified (Scoped) Application.

To view the data and the status of the import process, go to the **Import Incidents** page (ScienceLogic > Event > Events) in ServiceNow:



Event ID	Created	Correlation ID	Incident	CMDB CI	Updated ▼	Target record	State	Incident state	Created by	Import set run
Search	Search	Search	Search	Search	Search	Search	Search	Search	Search	Search
1176595	2019-09-19 09:33:21	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 09:33:21	Event: 1176595	Updated	Resolved	fsun	(empty)
1176595	2019-09-19 09:33:21	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 09:33:21	Incident: INC0013376	Updated	Resolved	fsun	(empty)
1176595	2019-09-19 09:28:27	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 09:28:27	Event: 1176595	Inserted	In Progress	fsun	(empty)
1176595	2019-09-19 09:28:27	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 09:28:27	Incident: INC0013376	Updated	In Progress	fsun	(empty)
1176592	2019-09-19 09:28:26	fsundemo89+DEV+2197+EVENT+1705	INC0013377	(empty)	2019-09-19 09:28:26	Incident: INC0013377	Updated	Resolved	fsun	(empty)
1176592	2019-09-19 09:28:26	fsundemo89+DEV+2197+EVENT+1705	INC0013377	(empty)	2019-09-19 09:28:26	Event: 1176592	Updated	Resolved	fsun	(empty)
1176592	2019-09-19 09:23:22	fsundemo89+DEV+2197+EVENT+1705	INC0013377	(empty)	2019-09-19 09:23:22	Event: 1176592	Inserted	In Progress	fsun	(empty)
1176592	2019-09-19 09:23:22	fsundemo89+DEV+2197+EVENT+1705	INC0013377	(empty)	2019-09-19 09:23:22	Incident: INC0013377	Updated	In Progress	fsun	(empty)
1176577	2019-09-19 09:03:34	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 09:03:34	Event: 1176577	Updated	Resolved	fsun	(empty)
1176577	2019-09-19 09:03:34	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 09:03:34	Incident: INC0013376	Updated	Resolved	fsun	(empty)
1176577	2019-09-19 08:58:30	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 08:58:30	Incident: INC0013376	Updated	In Progress	fsun	(empty)
1176577	2019-09-19 08:58:30	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 08:58:30	Event: 1176577	Inserted	In Progress	fsun	(empty)
1176570	2019-09-19 08:53:35	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 08:53:35	Incident: INC0013376	Updated	Resolved	fsun	(empty)
1176570	2019-09-19 08:53:35	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 08:53:35	Event: 1176570	Updated	Resolved	fsun	(empty)
1176570	2019-09-19 08:48:31	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 08:48:31	Incident: INC0013376	Updated	In Progress	fsun	(empty)
1176570	2019-09-19 08:48:31	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 08:48:31	Event: 1176570	Inserted	In Progress	fsun	(empty)
1176556	2019-09-19 08:38:32	fsundemo89+DEV+2196+EVENT+1705	INC0013376	(empty)	2019-09-19 08:38:32	Incident: INC0013376	Updated	Resolved	fsun	(empty)

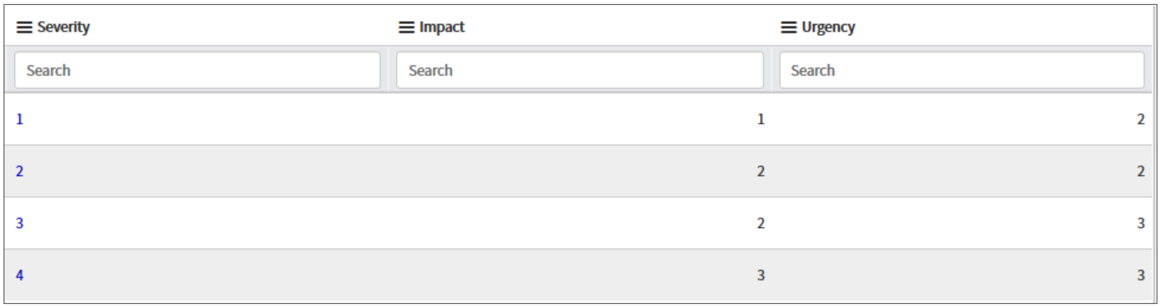
You can view a complete audit of all import data and transforms by going to the **Transform Histories** page (System Import Sets > Advanced > Transform History):



Started	State	Completed	Run time	Set	Import set table	Total	Inserts	Updates	Ignored	Skipped	Errors	Transform Map
2016-09-04 04:00:50	Complete	2016-09-04 04:00:50	0 Seconds	ISET0013291	ScienceLogic File System [u_sciencelogic_file_system]	1	0	0	1	0	0	ScienceLogic File System T-Map
2016-09-01 12:00:27	Complete	2016-09-01 12:00:27	0 Seconds	ISET0013275	ScienceLogic Network Interfaces [u_sciencelogic_adapters]	1	0	0	1	0	0	ScienceLogic Adapter T-Map
2016-09-02 14:00:12	Complete	2016-09-02 14:00:12	0 Seconds	ISET0013278	ScienceLogic Hardware Models [u_sciencelogic_hardware_models]	1	0	0	1	0	0	ScienceLogic Hardware Model T-Map
2016-09-01 16:00:44	Complete	2016-09-01 16:00:44	0 Seconds	ISET0013276	ScienceLogic File System [u_sciencelogic_file_system]	1	0	0	1	0	0	ScienceLogic File System T-Map
2016-08-31 18:01:16	Complete	2016-08-31 18:01:16	0 Seconds	ISET0013271	ScienceLogic File System [u_sciencelogic_file_system]	1	0	0	1	0	0	ScienceLogic File System T-Map
2016-09-02 03:00:28	Complete	2016-09-02 03:00:28	0 Seconds	ISET0013280	ScienceLogic File System [u_sciencelogic_file_system]	1	0	0	1	0	0	ScienceLogic File System T-Map
2016-09-01 20:01:03	Complete	2016-09-01 20:01:03	0 Seconds	ISET0013276	ScienceLogic File System [u_sciencelogic_file_system]	1	0	0	1	0	0	ScienceLogic File System T-Map
2016-09-03 02:01:22	Complete	2016-09-03 02:01:22	0 Seconds	ISET0013286	ScienceLogic File System [u_sciencelogic_file_system]	1	0	0	1	0	0	ScienceLogic File System T-Map
2016-09-01 12:00:59	Complete	2016-09-01 12:00:59	0 Seconds	ISET0013275	ScienceLogic Network Interfaces [u_sciencelogic_adapters]	1	0	0	1	0	0	ScienceLogic Adapter T-Map
2016-09-03 12:00:12	Complete	2016-09-03 12:00:12	0 Seconds	ISET0013283	ScienceLogic Hardware Models [u_sciencelogic_hardware_models]	1	0	0	1	0	0	ScienceLogic Hardware Model T-Map
2016-09-04 22:00:33	Complete	2016-09-04 22:00:33	0 Seconds	ISET0013290	ScienceLogic Network Interfaces [u_sciencelogic_adapters]	1	0	0	1	0	0	ScienceLogic Adapter T-Map
2016-09-01 16:01:17	Complete	2016-09-01 16:01:17	0 Seconds	ISET0013276	ScienceLogic File System [u_sciencelogic_file_system]	1	0	0	1	0	0	ScienceLogic File System T-Map

ServiceNow, ScienceLogic Event, and Incident Priority Matrix

By default, when SL1 triggers an event, it is sent to ServiceNow through the Integration Service. The following mappings are currently in place for mapping an SL1 Event to a ServiceNow Incident (ScienceLogic > Event > Severity Lookup Rules):



≡ Severity	≡ Impact	≡ Urgency
Search	Search	Search
1	1	2
2	2	2
3	2	3
4	3	3

NOTE: This severity lookup table handles all Severity conversions.

A ***transformation script*** that translates the SL1 event severity into the ServiceNow ***Impact***, ***Urgency***, and ***Priority*** fields automatically deploys with the ScienceLogic Certified (Scoped) Application.

By default, the ***Priority*** field is read-only and must be set by selecting the ***Impact*** and ***Urgency*** values.

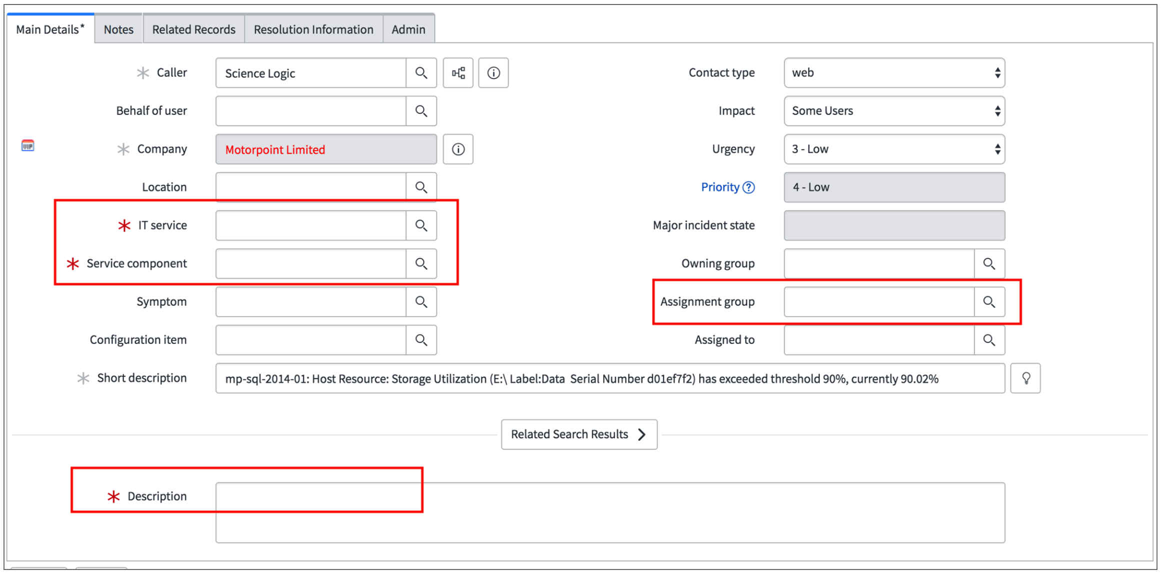
Priority is calculated according to the following data lookup rules:

Impact	Urgency	Priority
1 - High	1 - High	1 - Critical
1 - High	2 - Medium	2 - High
1 - High	3 - Low	3 - Moderate
2 - Medium	1 - High	2 - High
2 - Medium	2 - Medium	3 - Moderate
2 - Medium	3 - Low	4 - Low
3 - Low	1 - High	3 - Moderate
3 - Low	2 - Medium	4 - Low
3 - Low	3 - Low	5 - Planning

Adding Additional Fields to the Transform Map

If you require additional mandatory fields to be filled out to resolve an incident, you can add those fields to the ***transform map*** in ServiceNow.

For example, if you require four mandatory fields in the ServiceNow Incident—***Assignment Group***, ***IT Service***, ***Service Component***, and ***Description***—to be filled out before that incident can be resolved in SL1, you would perform the following steps.


Caller: Science Logic

Company: Motorpoint Limited

Contact type: web

Impact: Some Users

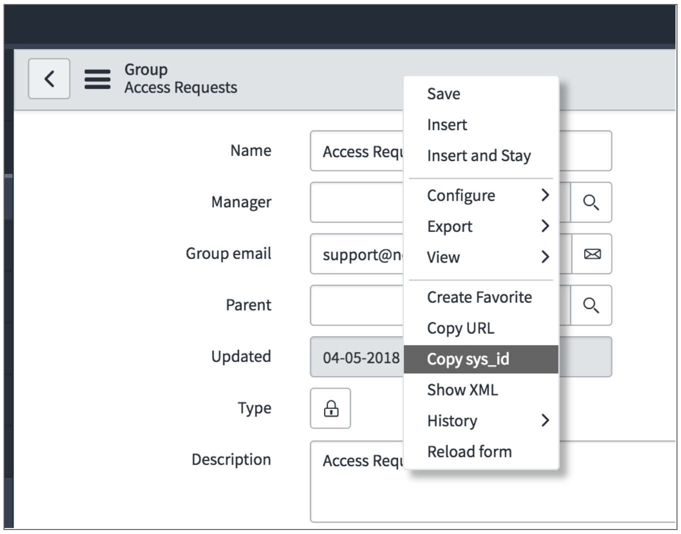
Urgency: 3 - Low

Priority: 4 - Low

Short description: mp-sql-2014-01: Host Resource: Storage Utilization (E:\ Label:Data Serial Number d01ef7f2) has exceeded threshold 90%, currently 90.02%

To add an assignment group:

1. Navigate to **User Administration > Groups** and select the assignment group you want to add. The Group record appears.
2. Right-click the gray task bar at the top and select ***Copy sys_id***.



Group
Access Requests

Name: Access Requ
Manager:
Group email: support@n
Parent:
Updated: 04-05-2018
Type:
Description: Access Requ

3. In SL1, open to the "ServiceNow: Add/Update/Clear Incident" Run Book Action (Registry > Run Book > Actions).
4. Edit the **Input Parameters** of the Run Book Action to add the ***sys_id*** to the relevant parameter or parameters to assign the assignment group to one of the new, acknowledged, or cleared incidents that are mapped. After an incident is created, the assignment group value will not be changed by the Run Book Action.

   In the following example, the assignment group is assigned to incidents that are *cleared*:

   ```
   "assignment_group_new": "",
   "assignment_group_ack": "",
   "assignment_group_clear": "sys_id"
   ```

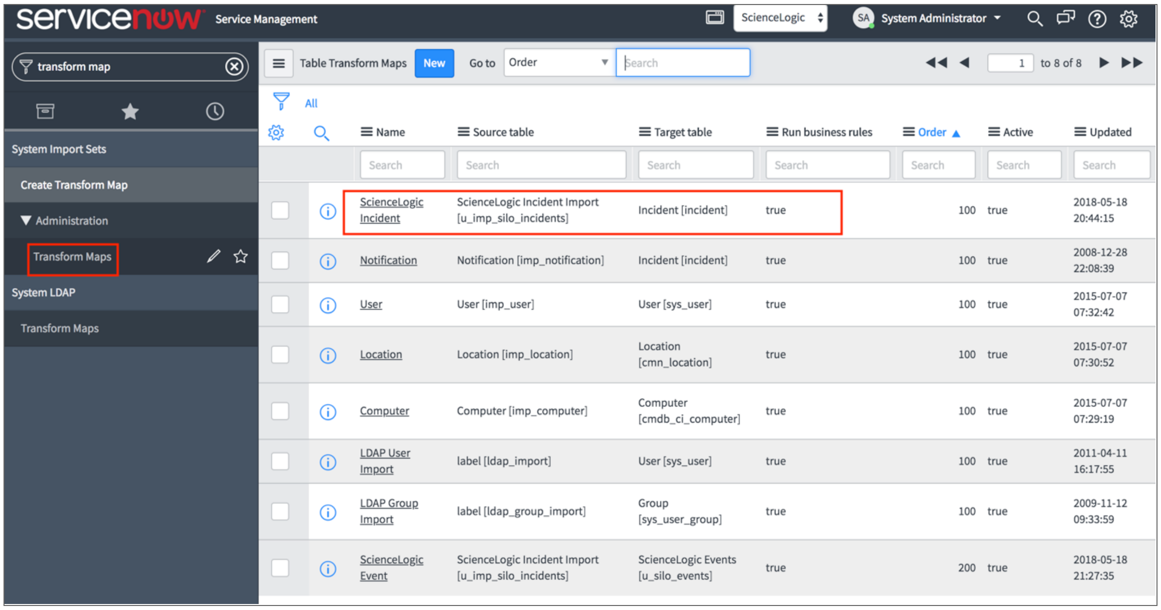
The ***IT Service***, ***Service Component***, and ***Description*** fields in our example must be filled in before an Incident can be closed. To do this, changes must be made in the transform maps that are provided in the form of update sets from ScienceLogic.

TIP: For more information about mapping new fields and other mappings options, see https://docs.servicenow.com/bundle/newyork-platform-administration/page/script/server-scripting/concept/c_MappingOptions.html.

To add the ***Description*** field:

1. In your ServiceNow instance, search for "transform map" in the left-hand menu. Click **Transform Maps**.
2. In the list of transform maps, search for "ScienceLogic" in the field above the ***Name*** column.

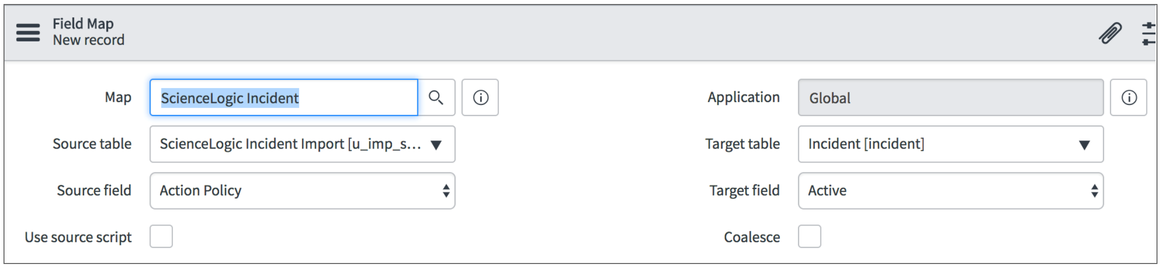
3. Open the "ScienceLogic Incident" map:



Name	Source table	Target table	Run business rules	Order ▲	Active	Updated
Search	Search	Search	Search	Search	Search	Search
ScienceLogic Incident	ScienceLogic Incident Import [u_imp_silo_incidents]	Incident [incident]	true	100	true	2018-05-18 20:44:15
Notification	Notification [imp_notification]	Incident [incident]	true	100	true	2008-12-28 22:08:39
User	User [imp_user]	User [sys_user]	true	100	true	2015-07-07 07:32:42
Location	Location [imp_location]	Location [cmn_location]	true	100	true	2015-07-07 07:30:52
Computer	Computer [imp_computer]	Computer [cmdb_ci_computer]	true	100	true	2015-07-07 07:29:19
LDAP User Import	label [ldap_import]	User [sys_user]	true	100	true	2011-04-11 16:17:55
LDAP Group Import	label [ldap_group_import]	Group [sys_user_group]	true	100	true	2009-11-12 09:33:59
ScienceLogic Event	ScienceLogic Incident Import [u_imp_silo_incidents]	ScienceLogic Events [u_silo_events]	true	200	true	2018-05-18 21:27:35

4. The **Field Maps** table at the bottom of the page allows you to edit or create mappings from the ScienceLogic Incident Import table to the ServiceNow Incident table. Click **[New]** to create a new field mapping.

5. The ***Source table*** field should contain the ScienceLogic Incident Import and the ***Target table*** should include the ServiceNow Incident table:



Field Map
New record

Map	ScienceLogic Incident	Application	Global
Source table	ScienceLogic Incident Import [u_imp_s...	Target table	Incident [incident]
Source field	Action Policy	Target field	Active
Use source script	□	Coalesce	□

6. To create a new mapping to copy the contents of the ***Short description*** field to the ***Description*** field, select *Short description* from the ***Source field*** drop-down menu.

7. In the ***Target field*** drop-down menu, select *Description*.

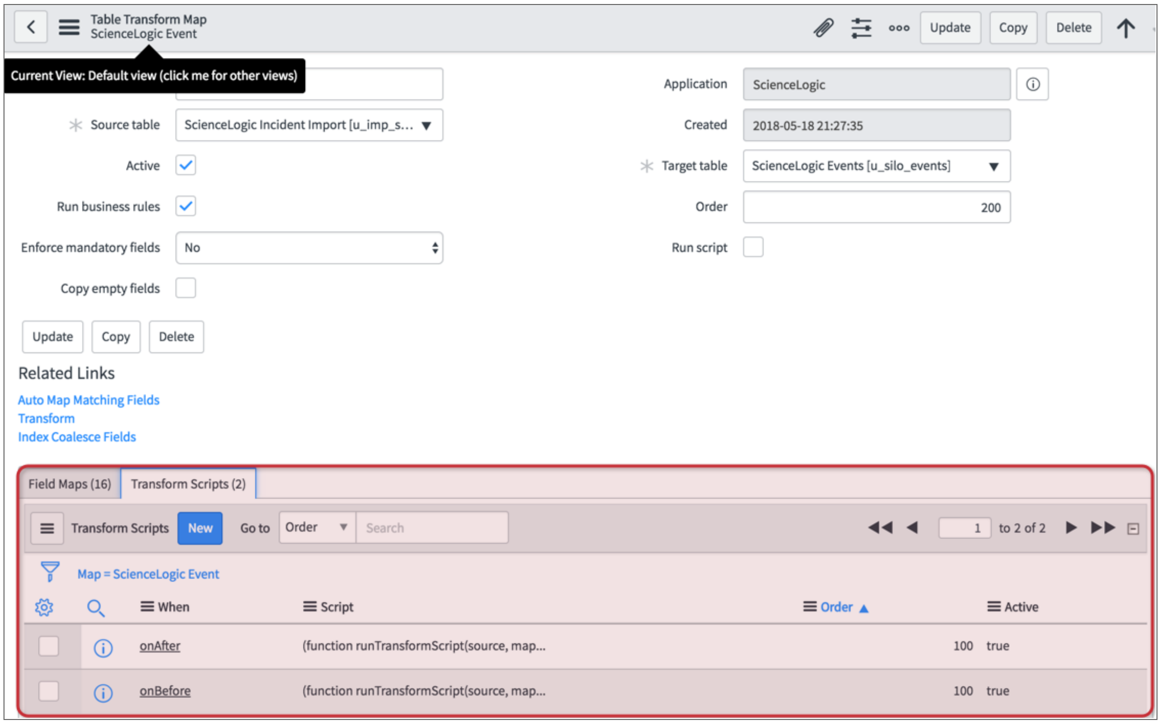
8. Click **Update** to save your changes.

The ***IT Service*** and ***Service Component*** fields in our example are set in the Transform Script in the "ScienceLogic Event" transform map. To set the fields:

1. Make sure you have the sys_id for the target fields. These can be found in ServiceNow. If a field contains a magnifying glass, it will require a sys_id. If a field has a drop-down, then type in the field you wish to apply from the drop-down. In the case of our example, the sys_ids of the two fields are required.

2. In your ServiceNow instance, navigate to the **Transform Maps** table and select "ScienceLogic Event".

3. In the ScienceLogic Event transform map page, click the **Transform Script** tab and open the "onAfter" script.

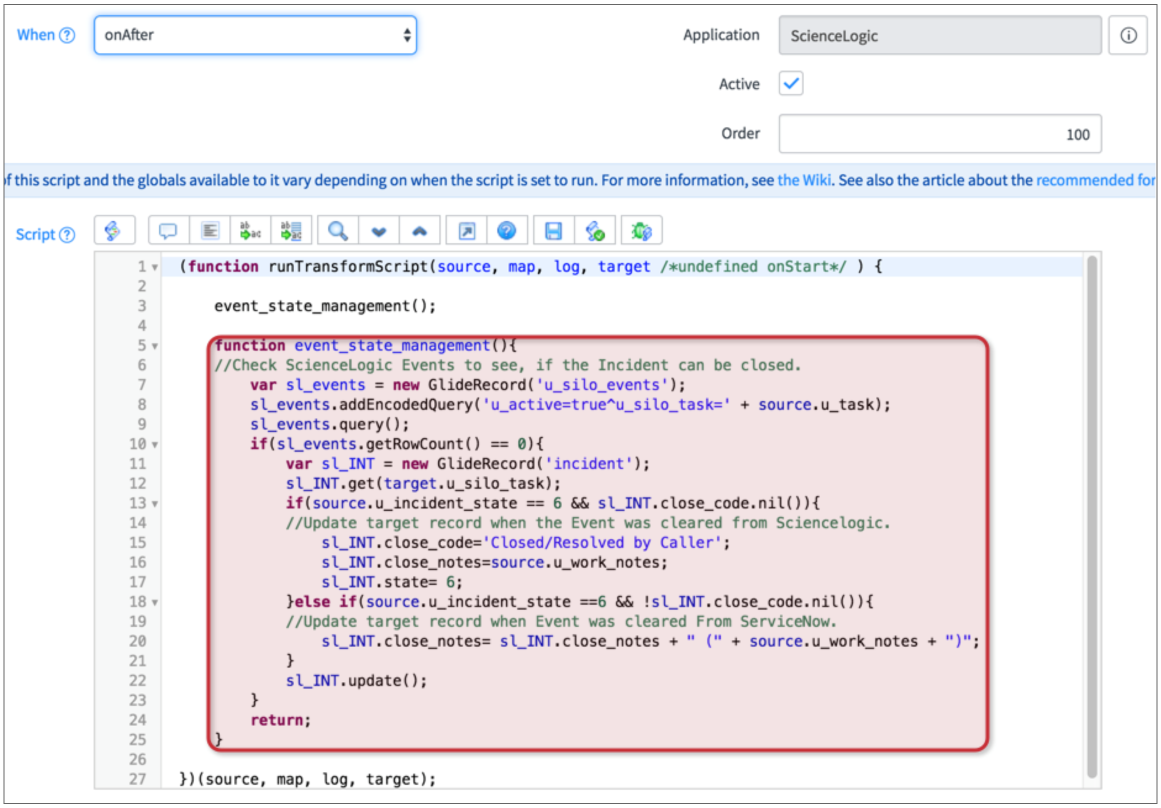


Source table	ScienceLogic Incident Import [u_imp_s...
Active	☑
Run business rules	☑
Enforce mandatory fields	No
Copy empty fields	□
Application	ScienceLogic
Created	2018-05-18 21:27:35
Target table	ScienceLogic Events [u_silo_events]
Order	200
Run script	□

When	Script	Order ▲	Active
onAfter	(function runTransformScript(source, map...	100	true
onBefore	(function runTransformScript(source, map...	100	true

4. Add the following under the "//Update target record when the Event was cleared from Sciencelogic" text:

```
sl_INT.(target field) = '[sys_id of the source field]'; //(IT service field)
sl_INT.(target field) = '[sys_id of the source field]'; //(Service component)
```



When: onAfter

Application: ScienceLogic

Active: ☑

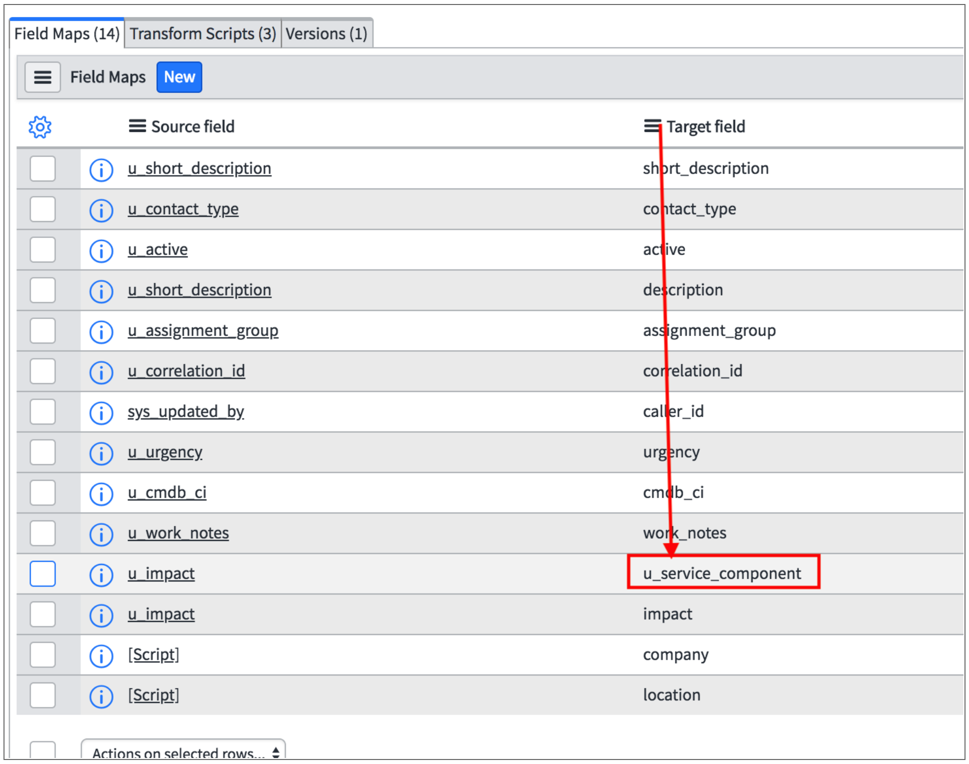
Order: 100

f this script and the globals available to it vary depending on when the script is set to run. For more information, see the Wiki. See also the article about the recommended for

Script

```
(function runTransformScript(source, map, log, target /*undefined onStart*/ ) {

    event_state_management();

    function event_state_management(){
    //Check ScienceLogic Events to see, if the Incident can be closed.
        var sl_events = new GlideRecord('u_silo_events');
        sl_events.addEncodedQuery('u_active=true^u_silo_task=' + source.u_task);
        sl_events.query();
        if(sl_events.getRowCount() == 0){
            var sl_INT = new GlideRecord('incident');
            sl_INT.get(target.u_silo_task);
            if(source.u_incident_state == 6 && sl_INT.close_code.nil()){
            //Update target record when the Event was cleared from Sciencelogic.
                sl_INT.close_code='Closed/Resolved by Caller';
                sl_INT.close_notes=source.u_work_notes;
                sl_INT.state= 6;
            }else if(source.u_incident_state ==6 && !sl_INT.close_code.nil()){
            //Update target record when Event was cleared From ServiceNow.
                sl_INT.close_notes= sl_INT.close_notes + " (" + source.u_work_notes + ")";
            }
            sl_INT.update();
        }
        return;
    }

})(source, map, log, target);
```

5. To find the target field, make a temporary mapping to see what the target field is. This mapping can be deleted once you know the target field.



Source field	Target field
u_short_description	short_description
u_contact_type	contact_type
u_active	active
u_short_description	description
u_assignment_group	assignment_group
u_correlation_id	correlation_id
sys_updated_by	caller_id
u_urgency	urgency
u_cmdb_ci	cmdb_ci
u_work_notes	work_notes
u_impact	u_service_component
u_impact	impact
[Script]	company
[Script]	location

6. Click **[Update]** to save your changes. The selected fields will be added into an Incident on closure.

Chapter 3

CMDB Sync Solution

Overview

This chapter describes the ScienceLogic integration with the ServiceNow Configuration Management Database (CMDB). This integration maintains and enhances the ServiceNow CMDB by sharing discovered device information, importing and exporting data bi-directionally between SL1 and ServiceNow, and by automatically maintaining ServiceNow Configuration Item (CI) relationships.

This chapter covers the following topics:

Workflows for Installing and Configuring CMDB Sync

Use the following workflows to help you set up CMDB Sync between SL1 and ServiceNow.

Workflow 1: Initial Installation and Configuration

This workflow covers how to install and configure CMDB Sync:

1. *Review the CMDB Sync prerequisites*
2. *Install the ScienceLogic SL1: CMDB & Incident Automation application in ServiceNow*
3. *Install the ServiceNow SyncPack in the Integration Service*
4. *Install and activate the CMDB plugin in ServiceNow*
5. *Enable the ServiceNow Identification and Reconciliation Module*
6. For domain-separated ServiceNow instances only, *install the ScienceLogic Domain Separation (Global) update set in ServiceNow*
7. *Create a ServiceNow update set with containment rules and hosting rules for Device Sync*

Workflow 2: Configure Integration Applications for Syncing

This workflow covers how to configure the integration applications in the Integration Service user interface. Depending on your environment, you might not run every integration application on the list, but ScienceLogic recommends that for the applications you run, you should run them in the following order:

- *Sync organizations from SL1 to ServiceNow*
- *Sync devices from SL1 to ServiceNow*
- *Sync CI attributes from ServiceNow to SL1*
- *Sync advanced topologies from SL1 to ServiceNow*
- *Sync network interfaces from SL1 to ServiceNow*
- *Sync file systems from SL1 to ServiceNow*
- *Sync business services from SL1 to ServiceNow*
- *Sync installed software between SL1 and ServiceNow*
- *Sync device maintenance from ServiceNow to SL1*
- *Discovery sync for a standard device or a virtual device*
- Optionally, *remove one or more devices from monitoring*

NOTE: For checklists that cover installation and deployment steps for specific configurations of the Integration Service, ServiceNow, and SL1, see *Appendix D: Checklists for Deployment*.

CMDB Sync Prerequisites

This section describes the prerequisites that apply when you integrate ServiceNow with SL1 using the CMDB Sync solution.

For more information about the specific software versions required by the CMDB Sync solution, see the ***Integration Service: ServiceNow SyncPack Release Notes***.

For checklists that cover installation and deployment steps for specific configurations of the Integration Service, ServiceNow, and SL1, see ***Appendix D: Checklists for Deployment***.

To install the ScienceLogic ServiceNow CMDB Sync integration solution, you must have administrator access to both the SL1 Management Platform and ServiceNow. Specifically, you will need:

- ScienceLogic root SSH access
- SSH access to the Integration Service
- ScienceLogic administrator access to the Administration Portal
- ServiceNow administrator access

The following table lists the port access required by the Integration Service for the ServiceNow CMDB Sync integration:

Source IP	Integration Service Destination	Integration Service Source Port	Destination Port	Requirement
Integration Service	SL1 Database	Any	TCP 7706	SL1 Database Access
Integration Service	SL1 API	Any	TCP 443	SL1 API Access
Integration Service	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.

Installing the ScienceLogic SL1: CMDB & Incident Automation Application in ServiceNow

You must install the "ScienceLogic SL1: CMDB & Incident Automation" application on your ServiceNow instance to enable the *Integration Service ServiceNow SyncPack*. The "ScienceLogic SL1: CMDB & Incident Automation" application is also known as the "Certified Application" or the "Scoped Application".

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

WARNING: Integration Service instances running version 2.0.0 or later of the ServiceNow integration applications are not backwards-compatible with the previous ServiceNow update sets or with SyncServer. After you install the "ScienceLogic SL1: CMDB & Incident Automation" application on your ServiceNow instance, you need to upgrade your ServiceNow integration applications to version 2.0.0 or later on all Integration Service instances. The "ScienceLogic SL1: CMDB & Incident Automation" application is also not backwards-compatible with SyncServer. This change cannot be reverted.

Before you can use the *Integration Service ServiceNow SyncPack*, you must first request the "ScienceLogic SL1: CMDB & Incident Automation" application from the ServiceNow Store and then install it.

To request and install the Certified Application:

1. Go to the ServiceNow Store at https://store.servicenow.com and search for "ScienceLogic SL1".
2. Select the "ScienceLogic SL1: CMDB & Incident Automation" application. The detail page for the application appears.
3. Click the **[Get]** button 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 ServiceNow Integration" application listing to make sure you are using the correct version of the application that is compatible with your version of the *Integration Service ServiceNow SyncPack*.
7. Click the **[Install]** button for the "ScienceLogic ServiceNow Integration" 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 left-hand navigation menu.

Installing the ServiceNow SyncPack

A ***SyncPack*** contains all of the necessary steps, integration applications, and configurations needed for a release. After you install the "ScienceLogic SL1: CMDB & Incident Automation" application, you need to upload and install the *Integration Service: ServiceNow SyncPack* to your Integration Service.

TIP: Before upgrading or installing the *ServiceNow SyncPack*, or before upgrading your version of the Integration Service, ScienceLogic recommends that you make a backup of your Integration Service. For more information, see the "Backing up Data" topic in the ***Integration Service Platform*** manual.

NOTE: The complete *ServiceNow SyncPack* component will be added to the Integration Service platform in a future release. For this release, the SyncPack is a .tgz archive file.

To upgrade to this version:

1. Download the .tgz archive file containing the integration applications from the ScienceLogic Customer Portal. Save the file on your Integration Service instance.
2. SSH to your Integration Service instance and locate the .tgz archive file.
3. Run the following command to extract or "untar" the files:

   ```
   tar -xvf ServiceNow_SyncPack-x.x.0.tgz
   ```

4. On your Integration Service instance, change the directory to the new **servicenow_syncpack** directory.
5. Using the iscli tool, run the following command ***twice*** to ensure the upload of all integration applications that depend on other integration applications:

   ```
   iscli -usf util/ -p <password>
   ```

   where `<password>` is the Integration Service administrator password that you set during installation.

NOTE: When importing objects from the SyncPack onto the Integration Service instance, you might see the following message: "ERROR uploading __init__.pyc files to the API." You can ignore any error messages specific to posting the __init__.pyc file to the API.

6. To upload the latest steps, run the following command:

   ```
   iscli -usf steps/ -p <password>
   ```

7. To upload the latest integration applications, run the following command ***twice*** to ensure the upload of all integration applications that depend on other integration applications:

   ```
   iscli -uaf apps/ -p <password>
   ```

8. To upload the latest configurations, run the following command:

   ```
   iscli -ucf configs/ -p <password>
   ```

   After you finish this process, all of the integration applications on your Integration Service will be updated to version 2.0.0 or later. You can view the applications in the Integration Service user interface.

9. To create the configuration object that you will use with the SyncPack, see ***Creating and Aligning a Configuration Object***.

TIP: After installing the SyncPack, create a *new* configuration object and copy the variables from the new "ServiceNow SyncPack" configuration object on the **Configurations** page of the Integration Service user interface. This new configuration contains the updated set of variables used by the Certified Application, including ***region***, along with the required block of hostname code needed for version 2.3.0 and later of the SyncPack. Do not save over the existing "ServiceNow SyncPack" configuration, as that configuration might get overwritten by future SyncPack updates.

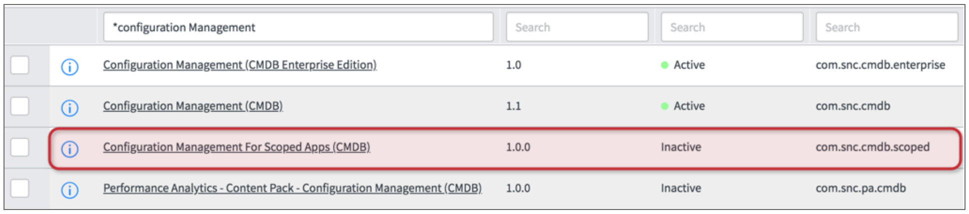
NOTE: You might need to individually upload the "Sync Devices from SL1 to ServiceNow" integration application a second time after the bulk upload to ensure that the application picks up the correct application variable formatting in the user interface.

Installing and Activating the CMDB Plugin in ServiceNow

Installing the ServiceNow Configuration Management for Scoped Apps (CMDB) Plugin is required to manage your Configuration Items. This involves activating the Configuration Management For Scoped Apps (CMDB) Plugin on your ServiceNow instance.

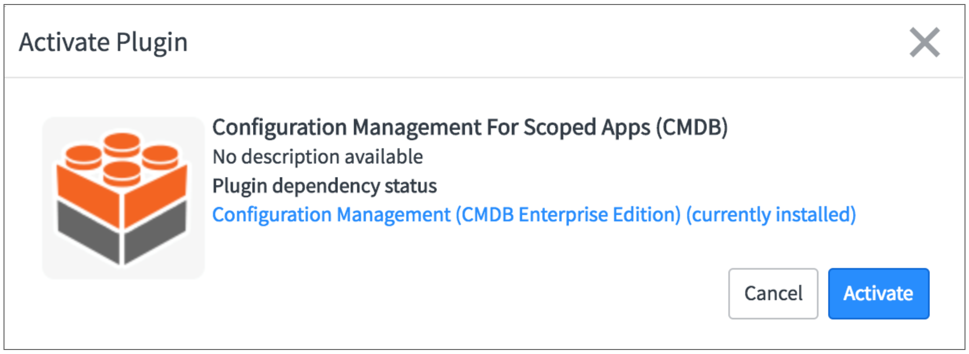
To activate the Configuration Management for Scoped Apps (CMDB) plugin:

1. Log in to ServiceNow as an administrator, and then navigate to **Plugins** (System Definition > Plugins).
2. Search for **Configuration Management For Scoped Apps (CMDB)** and click on it.



		*configuration Management	Search	Search	Search
□	ⓘ	Configuration Management (CMDB Enterprise Edition)	1.0	● Active	com.snc.cmdb.enterprise
□	ⓘ	Configuration Management (CMDB)	1.1	● Active	com.snc.cmdb
□	ⓘ	Configuration Management For Scoped Apps (CMDB)	1.0.0	Inactive	com.snc.cmdb.scoped
□	ⓘ	Performance Analytics - Content Pack - Configuration Management (CMDB)	1.0.0	Inactive	com.snc.pa.cmdb

3. Click *Activate/Upgrade* in the ***Related Links*** section.
4. In the Activate Plugin notification, click **[Activate]**.



Activate Plugin

Configuration Management For Scoped Apps (CMDB)

No description available

Plugin dependency status

Configuration Management (CMDB Enterprise Edition) (currently installed)

Enabling the ServiceNow Identification and Reconciliation Module

The ServiceNow SyncPack uses the ServiceNow Identification and Reconciliation module to create and de-duplicate CI records. The Integration Service builds a JSON-formatted string that is sent to the ServiceNow Identification and Reconciliation module. The following link provides additional detail about the formatting of the JSON-formatted string: IdentificationEngineScriptableApi.

The JSON-formatted string is sent directly to a custom-scripted API endpoint and run through the IdentificationEngineScriptable API. Identification (Insert or Update) of Configuration Items (CIs) is handled by the ServiceNow Identification and Reconciliation module.

For more information about the Identification and Reconciliation module, see CMDB Identify and Reconcile. See also Reconciliation Rules, CMDB Identification Rules, and Identification engine error messages.

Configuring Service Rules for Device Sync

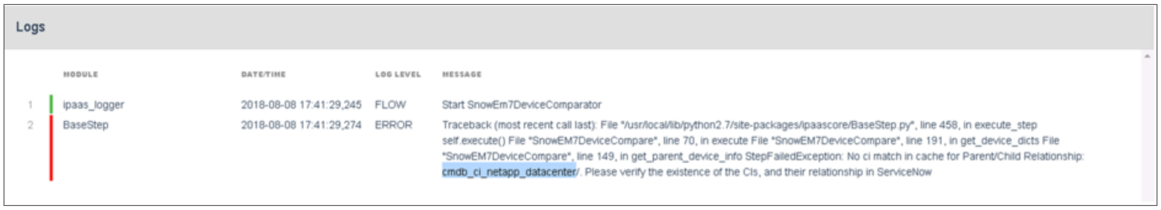
The ServiceNow SyncPack utilizes class hierarchies to build relationships in ServiceNow. This requires building ***service rules*** (containment rules and hosting rules) in ServiceNow to correctly identify dependent CIs during the business discovery process and service mapping. ***Containment rules*** describe which CIs are contained by a given CI. ***Hosting rules*** describe the environment on which a CI runs.

ScienceLogic recommends packaging all of the service rules into a ServiceNow update set so that you can be easily package and deploy these changes across environments. For more information, see ***Creating a ServiceNow Update Set***.

These rules or "mappings" are defined in the "Sync Devices from SL1 to ServiceNow" integration application in the Integration Service user interface. These mappings connect an **SL1 device class** to a **ServiceNow CI class**, which determines the CI class that ServiceNow uses when creating the CI in ServiceNow.

For more information about the Identification and Reconciliation module, see CMDB dependent relationship rules and CMDB Identification Rules at the ServiceNow website.

For example, if you experience error messages about missing relationships in ServiceNow when you run the "Sync Devices from SL1 to ServiceNow" integration application in the Integration Service user interface, you might be missing certain containment rules or mappings that are needed to complete the export process:



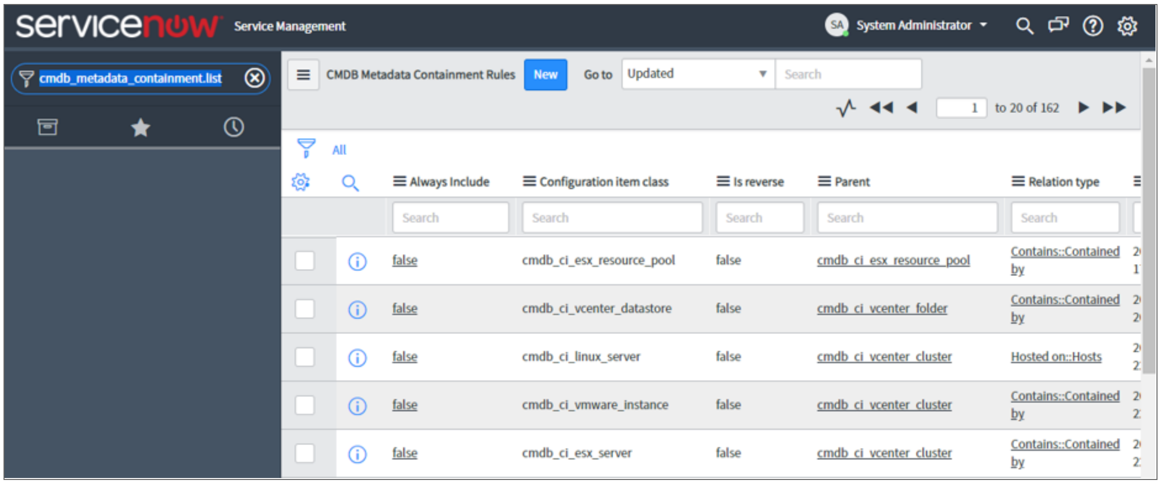
```
    MODULE        DATE/TIME                 LOG LEVEL  MESSAGE
1   ipaas_logger  2018-08-08 17:41:29,245   FLOW       Start SnowEm7DeviceComparator
2   BaseStep      2018-08-08 17:41:29,274   ERROR      Traceback (most recent call last): File "/usr/local/lib/python2.7/site-packages/ipaascore/BaseStep.py", line 458, in execute_step
                                                       self.execute() File "SnowEM7DeviceCompare", line 70, in execute File "SnowEM7DeviceCompare", line 191, in get_device_dicts File
                                                       "SnowEM7DeviceCompare", line 149, in get_parent_device_info StepFailedException: No ci match in cache for Parent/Child Relationship:
                                                       cmdb_ci_netapp_datacenter/. Please verify the existence of the CIs, and their relationship in ServiceNow
```

Containment Rules

Containment rules are chained to each other in a group, with a CI type that is the top-level (root) parent of the group.

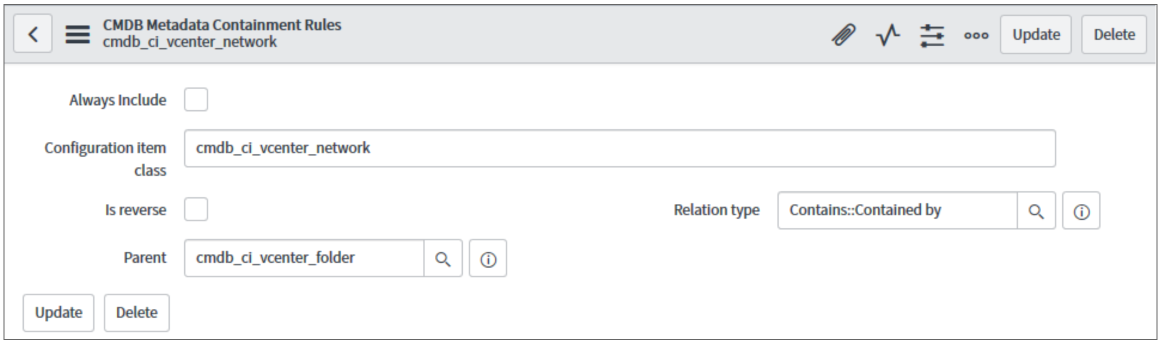
To create containment rules:

1. Log in to your ServiceNow instance.
2. In the filter navigator, type "cmdb_metadata_containment.list" to view the **CMDB Metadata Containment Rules** page:



Always Include	Configuration item class	Is reverse	Parent	Relation type
false	cmdb_ci_esx_resource_pool	false	cmdb_ci_esx_resource_pool	Contains::Contained by
false	cmdb_ci_vcenter_datastore	false	cmdb_ci_vcenter_folder	Contains::Contained by
false	cmdb_ci_linux_server	false	cmdb_ci_vcenter_cluster	Hosted on::Hosts
false	cmdb_ci_vmware_instance	false	cmdb_ci_vcenter_cluster	Contains::Contained by
false	cmdb_ci_esx_server	false	cmdb_ci_vcenter_cluster	Contains::Contained by

3. Click **[New]**. A new CMDB Metadata Containment Rules record appears:



Always Include □

Configuration item class: cmdb_ci_vcenter_network

Is reverse □

Relation type: Contains::Contained by

Parent: cmdb_ci_vcenter_folder

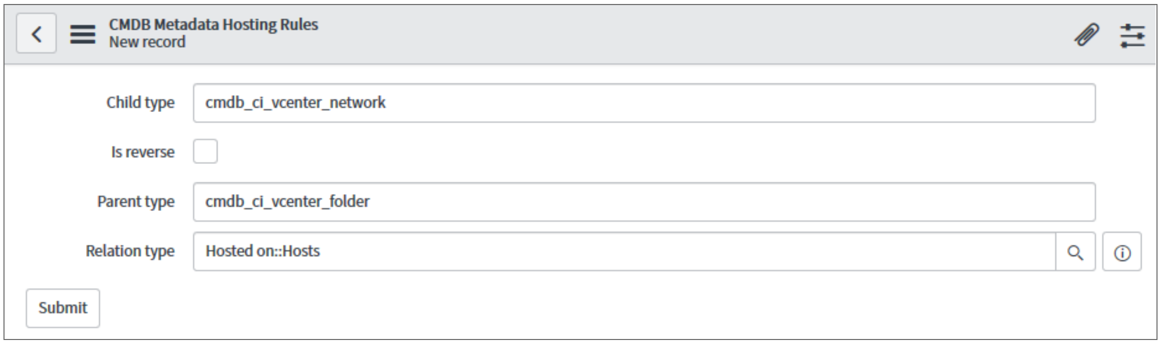
4. In the New Metadata Containment Rules record, complete the following fields:
   - ***Configuration item class***. Specify the child CI class.
   - ***Parent***. Specify the parent CI class.
   - ***Relation type***. Specify the relationship type. The common relationship types used by the ServiceNow integration are "contained" or "contained by", depending on your CMDB. Click the magnifying glass icon to select the correct value.

5. Click **[Submit]**.
6. In the Integration Service user interface, go to the **Integrations** page and manually run the "Cache ServiceNow CIs and SL1 Device Classes" integration application.
7. Run the "Sync Devices from SL1 to ServiceNow" integration application and make sure that no errors exist due to missing CI relationships.

Hosting Rules

Hosting rules can only be one level, and they always involve resources such as physical or virtual hardware.

1. In the ServiceNow filter navigator, type "cmdb_metadata_hosting.list" to view the **CMDB Metadata Hosting Rules** page.
2. Click **[New]**. A new CMDB Metadata Hosting Rules record appears:



CMDB Metadata Hosting Rules
New record

Child type	cmdb_ci_vcenter_network
Is reverse	□
Parent type	cmdb_ci_vcenter_folder
Relation type	Hosted on::Hosts

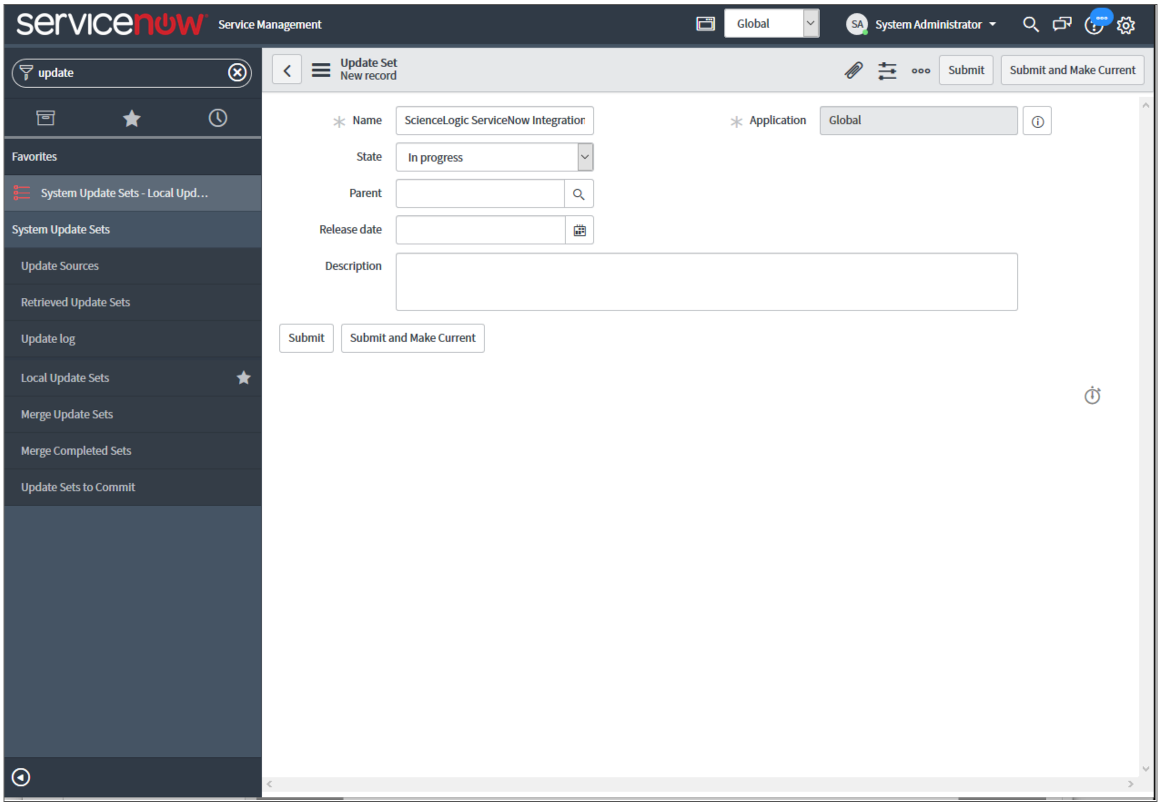
2. In the New Metadata Hosting Rules record, complete the following fields:
   - ***Child type***. Specify the child CI class.
   - ***Parent type***. Specify the parent CI class.
   - ***Relation type***. Specify the relationship type. The common relationship types used by the ServiceNow integration are "Hosts" or "Hosted on", depending on your CMDB. Click the magnifying glass icon to select the correct value.
3. Click **[Submit]**.
4. Add any additional containment and hosting rules that are needed to build the CI relationships in ServiceNow.
5. In the Integration Service user interface, go to the **Integrations** page and manually run the "Cache ServiceNow CIs and SL1 Device Classes" integration application.
6. Run the "Sync Devices from SL1 to ServiceNow" integration application and make sure that no errors exist due to missing CI relationships.

Creating a ServiceNow Update Set

ScienceLogic recommends packaging the service rules into a standalone ServiceNow update set that you can export if needed. An ***update set*** is an XML file containing a group of customizations that can be moved from one ServiceNow instance to another. This update set should include any changes or configurations to the service rules for the ServiceNow Identification and Reconciliation Module.

To create a standalone update set in ServiceNow:

1. Log in to your ServiceNow instance.
2. Enable the Developer Update set picker by clicking the **Settings** icon (⚙) and selecting the **Developer** tab.
3. Select the **Show update set picker in header** toggle to enable it, and then close the **System Settings** page.
4. In the filter navigator, search for local update sets.
5. Under **System Update Sets**, select **Local Update Sets** and click **[New]**. A new Update Set record appears:



Name: ScienceLogic ServiceNow Integration

Application: Global

State: In progress

Parent:

Release date:

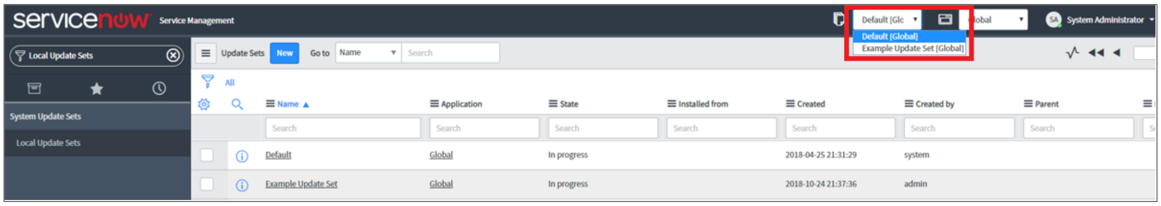
Description:

6. Complete the following fields:
   - ***Name***. Specify a name that describes the rules of this update set.
   - ***Application***. Set the application scope to *Global*.
   - ***State***. Set to *In Progress*.
   - Complete the remaining fields as needed.
7. Click **[Submit]** or **[Submit and Make Current]**. If you selected **[Submit and Make Current]**, go to step 9.
8. If you clicked **[Submit]**, you can select the update set in the picker in the header or navigate to the update set and select *Make This My Current Set* in the **Related links** section.
9. You are ready to make changes in your ServiceNow Instances.
10. When you are done with all updates in the update set, change the update set ***State*** field to *Complete*.

Adding Service Rules to an Update Set

If you submitted your new update set and made it "Current" in ***Creating a ServiceNow Update Set***, skip this step and go to ***Exporting an Update Set***.

If you did not make your update set current, you will need to identify your current update set and move all of the service rules you need into your update set. You can find this information in a dropdown located in the ServiceNow navigation bar:



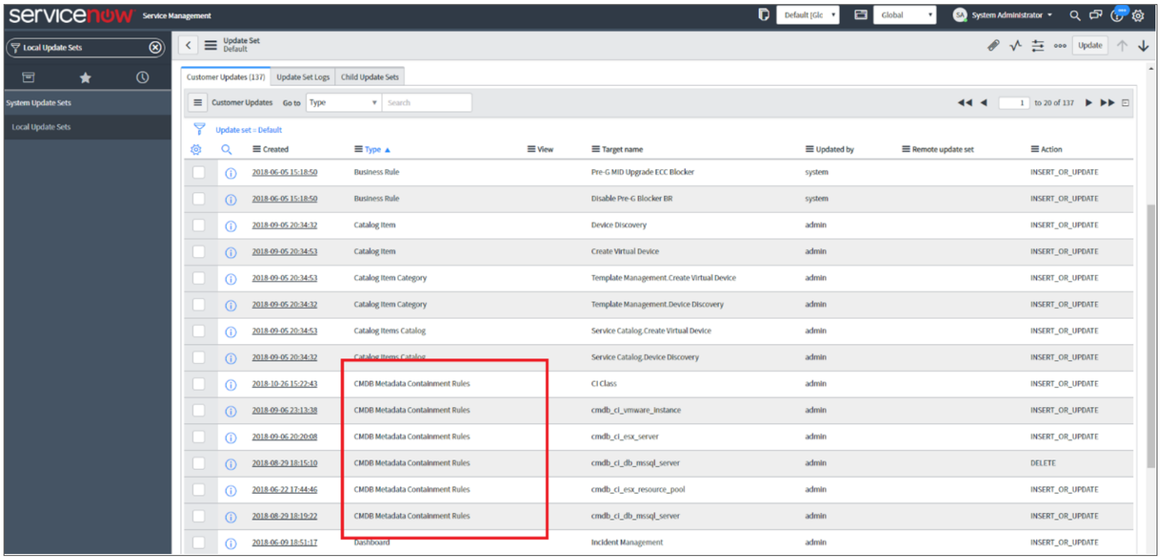
Name ▲	Application	State	Installed from	Created	Created by	Parent
Default	Global	In progress		2018-04-25 21:31:29	system	
Example Update Set	Global	In progress		2018-10-24 21:37:36	admin	

All of the service rules that you defined are tracked in the update set record under the **[Customer Updates]** tab.

To add all created service rules to your update set:

1. Log in to your ServiceNow instance.
2. In the filter navigator, type "local update sets" to view a list of update sets on the ServiceNow instance.
3. Identify your current update set, which should have all of the created service rules tracked.
4. Identify the self-created update set that you want to contain all the service rules. This is the update set that you want to export.
5. Select the current update set that has all of the already-created service rules.

6. On the **[Customer Updates]** tab, identify all of the records with a Type of either *CMDB Metadata Containment Rules* or *CMDB Metadata Hosting Rules*:



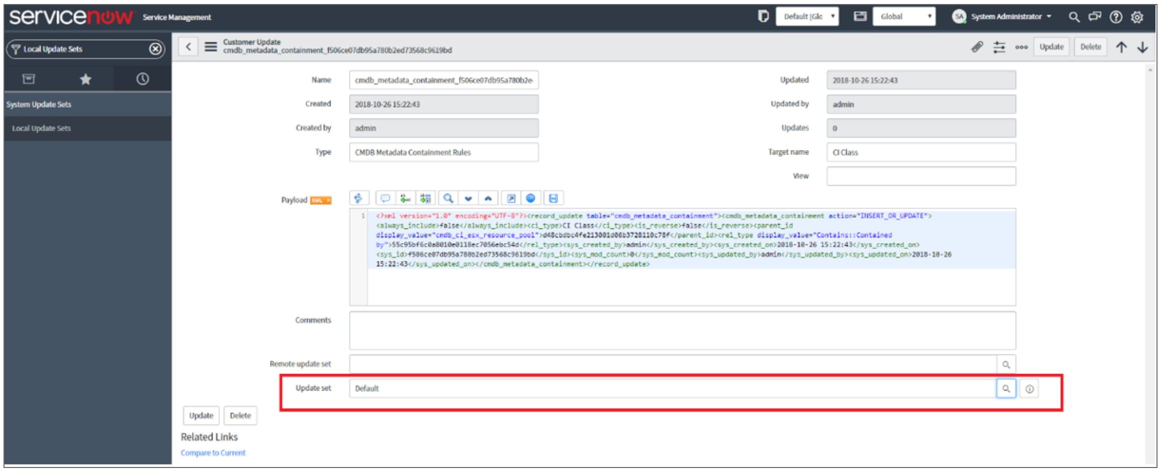
Update Set
Default

Customer Updates

Update set = Default

Created	Type ▲	View	Target name	Updated by	Remote update set	Action
2018-06-05 15:18:50	Business Rule		Pre-G MID Upgrade ECC Blocker	system		INSERT_OR_UPDATE
2018-06-05 15:18:50	Business Rule		Disable Pre-G Blocker BR	system		INSERT_OR_UPDATE
2018-09-05 20:34:32	Catalog Item		Device Discovery	admin		INSERT_OR_UPDATE
2018-09-05 20:34:53	Catalog Item		Create Virtual Device	admin		INSERT_OR_UPDATE
2018-09-05 20:34:53	Catalog Item Category		Template Management.Create Virtual Device	admin		INSERT_OR_UPDATE
2018-09-05 20:34:32	Catalog Item Category		Template Management.Device Discovery	admin		INSERT_OR_UPDATE
2018-09-05 20:34:53	Catalog Items Catalog		Service Catalog.Create Virtual Device	admin		INSERT_OR_UPDATE
2018-09-05 20:34:32	Catalog Items Catalog		Service Catalog.Device Discovery	admin		INSERT_OR_UPDATE
2018-10-26 15:22:43	CMDB Metadata Containment Rules		CI Class	admin		INSERT_OR_UPDATE
2018-09-06 23:13:38	CMDB Metadata Containment Rules		cmdb_ci_vmware_instance	admin		INSERT_OR_UPDATE
2018-09-06 20:20:08	CMDB Metadata Containment Rules		cmdb_ci_esx_server	admin		INSERT_OR_UPDATE
2018-08-29 18:15:10	CMDB Metadata Containment Rules		cmdb_ci_db_mssql_server	admin		DELETE
2018-06-22 17:44:46	CMDB Metadata Containment Rules		cmdb_ci_esx_resource_pool	admin		INSERT_OR_UPDATE
2018-08-29 18:19:22	CMDB Metadata Containment Rules		cmdb_ci_db_mssql_server	admin		INSERT_OR_UPDATE
2018-06-09 18:51:17	Dashboard		Incident Management	admin		INSERT_OR_UPDATE

7. Select each of the relevant service rule records and set the ***Update set*** field to match the update set you want to export. Click the magnifying glass icon to select the correct value.



Customer Update
cmdb_metadata_containment_f506ce07db95a780b2ed73568c9619bd

Name	cmdb_metadata_containment_f506ce07db95a780b2e	Updated	2018-10-26 15:22:43
Created	2018-10-26 15:22:43	Updated by	admin
Created by	admin	Updates	0
Type	CMDB Metadata Containment Rules	Target name	CI Class
		View	

Payload

```
<?xml version="1.0" encoding="UTF-8"?><record_update table="cmdb_metadata_containment"><cmdb_metadata_containment action="INSERT_OR_UPDATE">
<always_include>false</always_include><ci_type>CI Class</ci_type><is_reverse>false</is_reverse><parent_id
display_value="cmdb_ci_esx_resource_pool">d48cbdbc4fe213001d06b3728110c78f</parent_id><rel_type display_value="Contains::Contained
by">55c95bf6c0a8010e0118ec7056ebc54d</rel_type><sys_created_by>admin</sys_created_by><sys_created_on>2018-10-26 15:22:43</sys_created_on>
<sys_id>f506ce07db95a780b2ed73568c9619bd</sys_id><sys_mod_count>0</sys_mod_count><sys_updated_by>admin</sys_updated_by><sys_updated_on>2018-10-26
15:22:43</sys_updated_on></cmdb_metadata_containment></record_update>
```

Comments

Remote update set

Update set: Default

8. Click **[Update]**.

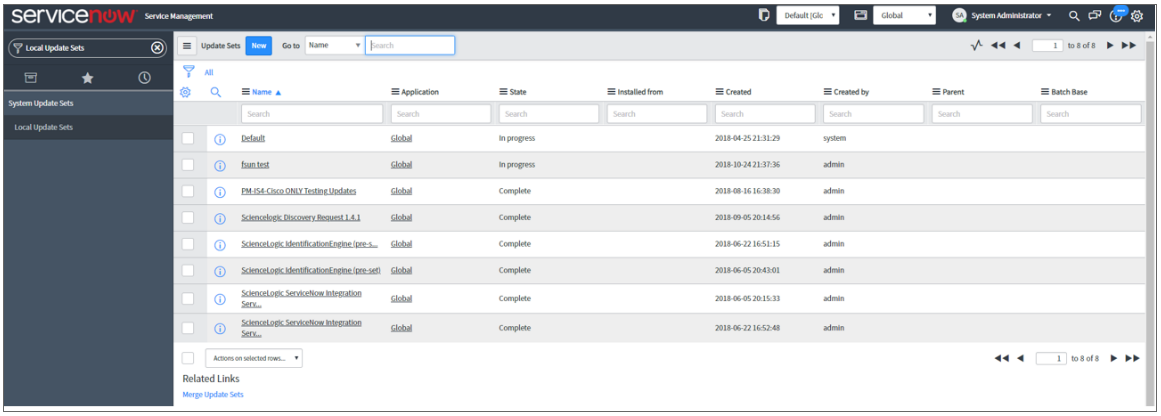
9. Repeat steps 7-8 until all relevant containment and hosting rules are in the new update set, and then go to ***Exporting an Update Set***.

Exporting an Update Set

After you have created your update set and defined the service rules, mark your update set as *Complete* and export it to an XML file.

To export an update set:

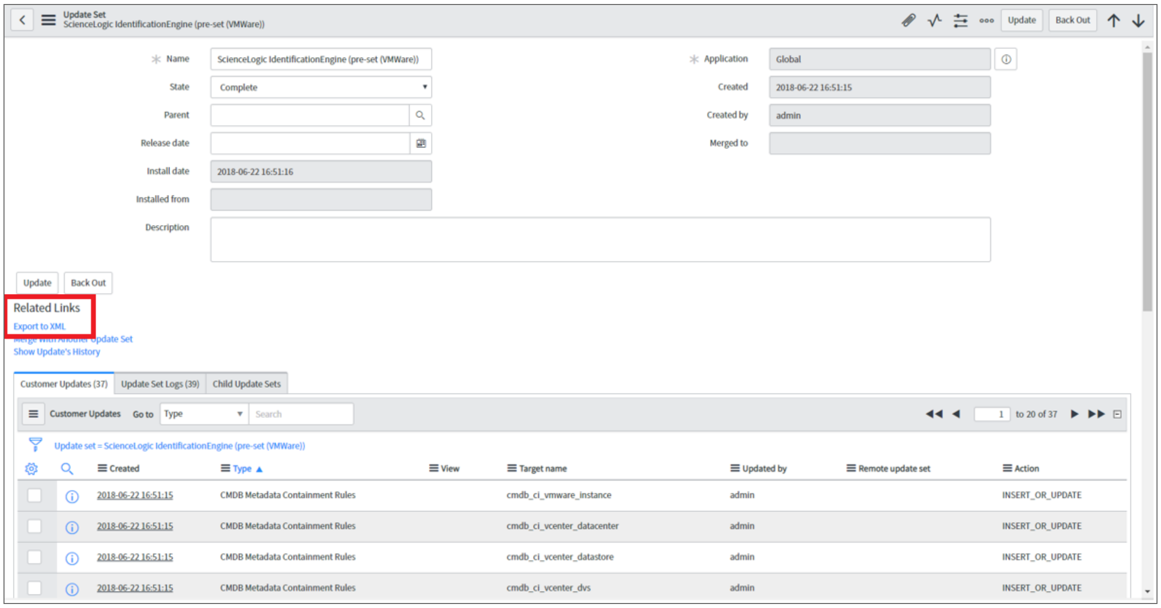
1. Log in to your ServiceNow instance.
2. In the filter navigator, type "Local Update Sets" to view a list of update sets in ServiceNow:



Name ▲	Application	State	Installed from	Created	Created by	Parent	Batch Base
Default	Global	In progress		2018-04-25 21:31:29	system		
fsun test	Global	In progress		2018-10-24 21:37:36	admin		
PM-IS4-Cisco ONLY Testing Updates	Global	Complete		2018-08-16 16:38:30	admin		
Sciencelogic Discovery Request 1.4.1	Global	Complete		2018-09-05 20:14:56	admin		
ScienceLogic IdentificationEngine (pre-s...	Global	Complete		2018-06-22 16:51:15	admin		
ScienceLogic IdentificationEngine (pre-set)	Global	Complete		2018-06-05 20:43:01	admin		
ScienceLogic ServiceNow Integration Serv...	Global	Complete		2018-06-05 20:15:33	admin		
ScienceLogic ServiceNow Integration Serv...	Global	Complete		2018-06-22 16:52:48	admin		

Related Links
Merge Update Sets

3. Select your update set from the list.
4. Set the ***State*** to *Complete* and click **[Update]**.
5. From the **Update Sets** page, select your completed update set from the list.
6. Under the ***Related Links*** section, click **Export to XML**.



Update Set
ScienceLogic IdentificationEngine (pre-set (VMWare))

Name	ScienceLogic IdentificationEngine (pre-set (VMWare))	Application	Global
State	Complete	Created	2018-06-22 16:51:15
Parent		Created by	admin
Release date		Merged to	
Install date	2018-06-22 16:51:16		
Installed from			
Description			

Related Links
Export to XML
Merge with Another Update Set
Show Update's History

Update set = ScienceLogic IdentificationEngine (pre-set (VMWare))

Created	Type ▲	View	Target name	Updated by	Remote update set	Action
2018-06-22 16:51:15	CMDB Metadata Containment Rules		cmdb_ci_vmware_instance	admin		INSERT_OR_UPDATE
2018-06-22 16:51:15	CMDB Metadata Containment Rules		cmdb_ci_vcenter_datacenter	admin		INSERT_OR_UPDATE
2018-06-22 16:51:15	CMDB Metadata Containment Rules		cmdb_ci_vcenter_datastore	admin		INSERT_OR_UPDATE
2018-06-22 16:51:15	CMDB Metadata Containment Rules		cmdb_ci_vcenter_dvs	admin		INSERT_OR_UPDATE

7. Save the downloaded XML file.

Installing the ScienceLogic Domain Separation (Global) Update Set in ServiceNow

If your ServiceNow environment is ***domain-separated***, where the data, processes, and administrative tasks have been organized into logical groupings called domains, you will need to install the latest version of the "ScienceLogic Domain Separation (Global)" update set in ServiceNow. This update set is *not* included in the "ScienceLogic SL1: CMDB & Incident Automation" application (also called the Certified application).

If your ServiceNow environment does *not* use domain separation, you can skip this topic.

TIP: For more information about ServiceNow domain separation, see ***Using ServiceNow Domain Separation with the Integration Service.***

Overview of the Update Set

The "ScienceLogic Domain Separation (Global)" update set contains the following items:

- Scripted REST API
- Scripted REST Resource
- Scripted REST Query Parameter
- Scripted REST Query Parameter Association
- Script Include

This update set completely separates the ServiceNow Identification Engine REST resource that is used in the "ScienceLogic ServiceNow Integration" application and all of the required resources and duplicates it in the Global scope.

A Scripted REST Service in the Global application is a direct copy of the application endpoint with a new name: `api/10693/sciencelogic_domain_separation`. This REST Service includes only one Resource: `Device IdentificationEngine POST`. This resource works exactly like the application version, but it points to the new Script Include "SciLoDomainSepUtil". This version of the REST resource takes the same formatted JSON as the Certified application.

The Script Include "SciLoDomainSepUtil" includes all of the functionality needed to run the ServiceNow Identification Engine API.

Additional resources for the ServiceNow API:

- CMDB Identification and Reconciliation
- identifyCI(String jsonString)
- createOrUpdateCI(String source, String input)
- Identification engine error messages

NOTE: The only resource shared with this update set and the Certified application is the Device Properties page. These properties are located in the Certified application at ScienceLogic > Device > Device Properties.

Limitations of the Identification Engine

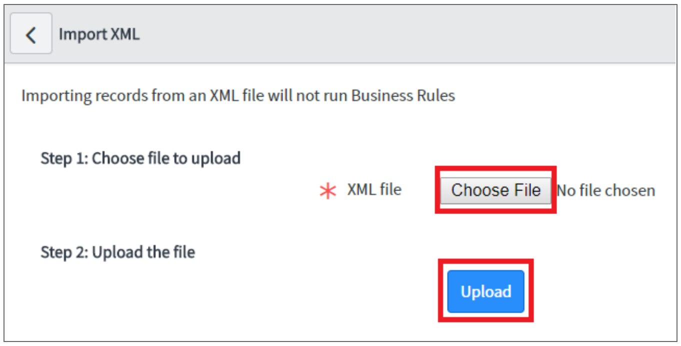
For more information about how the Identification Engine handles incoming payloads in domain-separated systems, see the following ServiceNow Knowledge Base article: KB0695949.

The payload and the user domain must match, or the ServiceNow Identification Engine (IDE) will by default insert the CMDB record. Safeguards within the Integration Service Device Sync integration application were put in place for payloads that have relationships. The integration application will drop the payload if all Configuration Items do not share the same domain.

Installing the Update Set

To install the "ScienceLogic Domain Separation (Global)" update set:

1. Retrieve the latest update set from your ScienceLogic representative and download the file.
2. Log in to ServiceNow as an administrator, and then navigate to the **Retrieved Update Sets** page (System Update Sets > Retrieved Update Sets).
3. Click the **Import Update Set from XML** link under **Related Links**.
4. Click the **[Browse]** button and navigate to the update set XML file you downloaded. Select the XML file and click **[Upload]**.



Importing records from an XML file will not run Business Rules

Step 1: Choose file to upload

Step 2: Upload the file

5. After the file is uploaded, the **Retrieved Update Sets** page appears. Click the link for the "ScienceLogic Domain Separation (Global)" update set. The **Retrieved Update Set** page appears.
6. Click the **[Preview Update Set]** button. After the preview set runs, a status page appears.
7. Ensure that "Success" appears in the ***Completion code*** field.

WARNING: If "Success" does not appear in the ***Completion code*** field, contact ScienceLogic Support to assist with reviewing any conflicts that might exist. Do not proceed until those conflicts are resolved and "Success" appears in the ***Completion code*** field.

8. Click the **[Commit]** button to commit the fix script after running the preview set.
9. Before you start to sync devices, you must select the ***Domain Separation*** option on the **Configuration** pane in the "Sync Devices from SL1 to ServiceNow" integration application. This option ensures that the Integration Service gets re-pointed to the API endpoint after you install the "ScienceLogic Domain Separation (Global)" update set. For more information, see ***Running a Device Sync***.

Using ServiceNow Domain Separation with the Integration Service

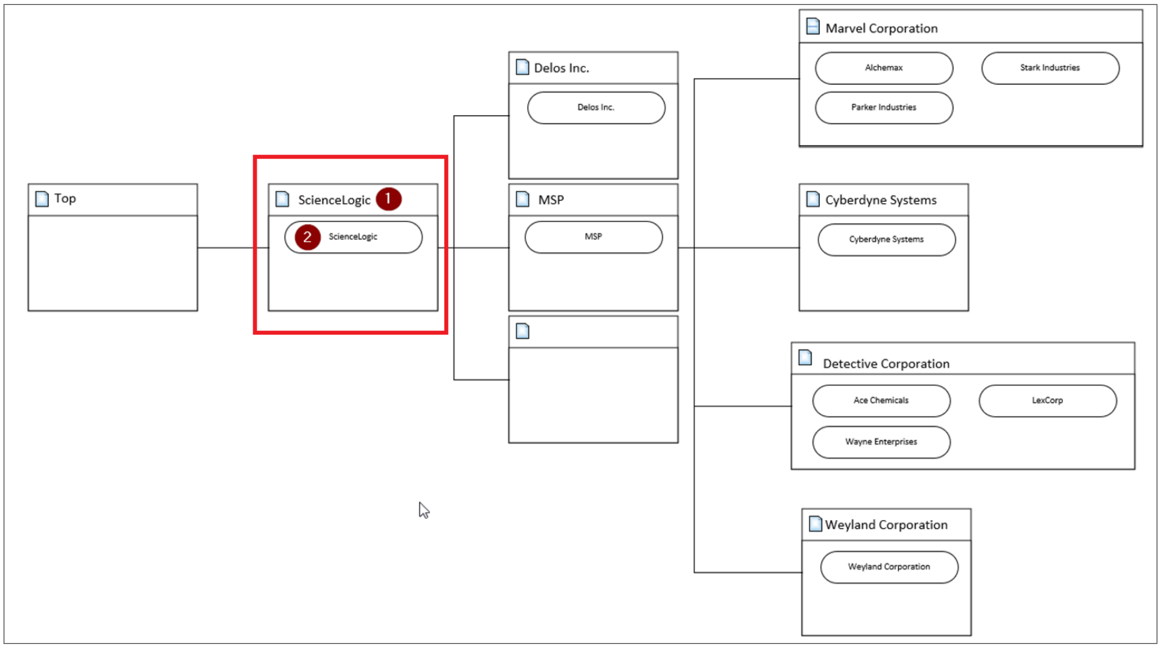
The following topics provide more information about ServiceNow domain separation and how it relates to the Integration Service. For more information, see Domain separation in the ServiceNow Documentation.

User Setup

Company and domain setup is critical for the domain separation integration to work using the Identification Engine provided by ServiceNow. This solution requires only one user and will require proper setup depending on where the user is located within the domain tree.

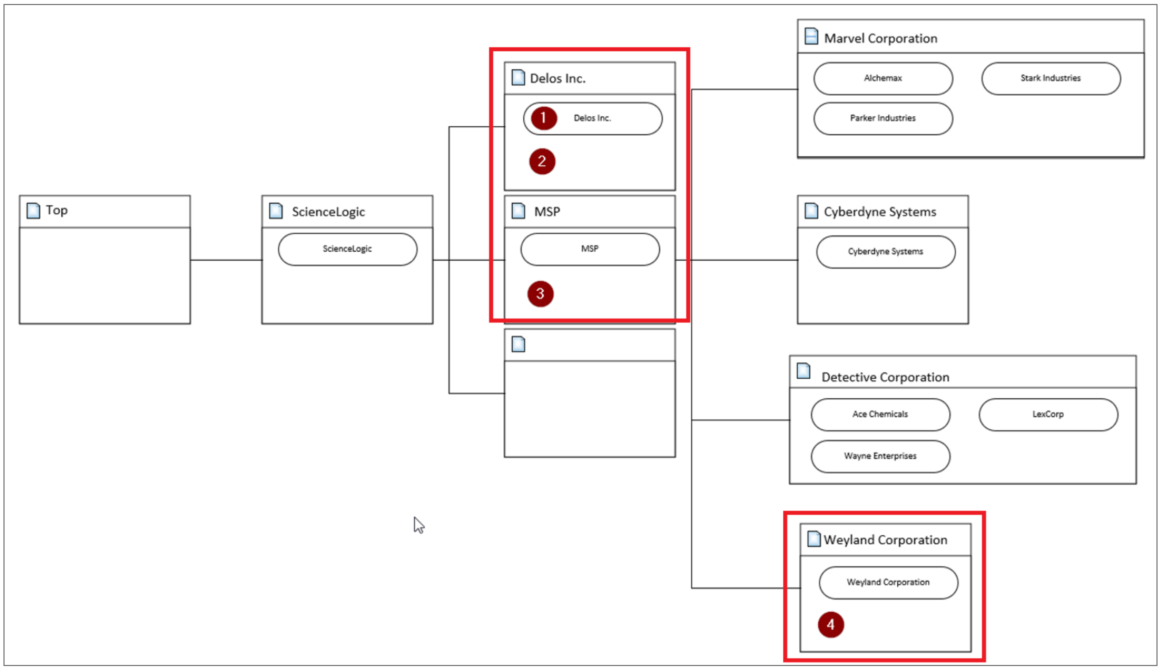
Example 1

In the following example, **ScienceLogic (1)** is both the domain and the company. The ScienceLogic user service account is associated with **ScienceLogic (2)** company, and it will have access to all child domains. You do not need to set visibility to any domain. This is the best way to set up this user, because placing it in the top domain ensures that it always has access to all children:



Example 2

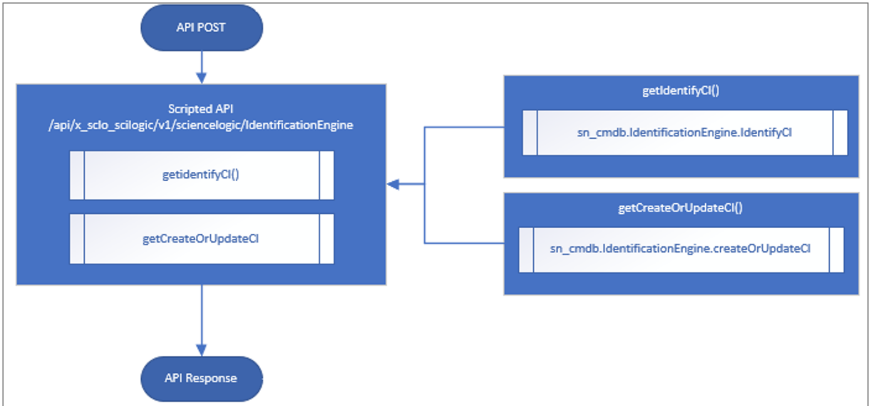
In the following example, **Delos Inc. (1)** is the company within the **Delos Inc.** domain. The Integration Service service account is associated with the **Delos Inc. (1)** company. The **Delos Inc.** domain has no children domains, and if domain visibility is not assigned, the Integration Service will not properly update the CMDB. This setup works, but it requires that proper domain visibility is set up for the service account to work correctly.



NOTE: Assigning visibility to **MSP (3)** will grant the service account access to all child domains. Assigning visibility to **Weyland Corporation (4)** will only allow access to the **Delos Inc.** domain and the **Weyland** domain; all other domains will not work.

Workflow

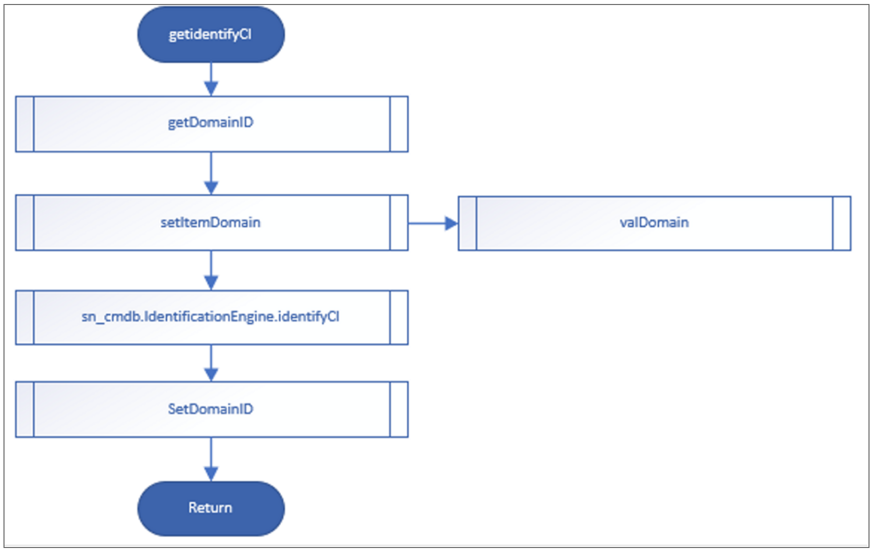
The API endpoint is based on the API query parameter “test” being true or not, which determines which Identification Engine API resource should be used. There are two primary avenues supplied with this REST resource: "createOrUpdateCI" or "identifyCI", and the only difference is that "identifyCI" does not commit the results:


API POST
Scripted API
/api/x_sclo_scilogic/v1/sciencelogic/IdentificationEngine
getidentifyCI()
getCreateOrUpdateCI
getIdentifyCI()
sn_cmdb.IdentificationEngine.IdentifyCI
getCreateOrUpdateCI()
sn_cmdb.IdentificationEngine.createOrUpdateCI
API Response

The "getCreateOrUpdateCI" function uses the following workflow:

1. Retrieves the current session Domain ID (`sys_id`).
2. Sets the user Domain ID by creating an array of domain `sys_id` values and returning only the unique domains, or setting the domain if the array has only one unique domain.
3. Submits the JSON formatted string to "createOrUpdateCI()" or "identifyCI()" API.
4. Sets the user's Domain ID back to the original session ID.

The following image shows this workflow:



Syncing Organizations

If your ServiceNow configuration uses domain separation, the first sync you should run on a new Integration Service system is an ***Organization Sync***. This sync uses the "Sync Organizations from SL1 to ServiceNow" integration application to sync *organizations* from SL1 with ServiceNow *companies*. Be sure to select the ***Domain Separation*** option on the **Configuration** pane in the "Sync Organizations from SL1 to ServiceNow" integration application. You must also select *ServiceNow* from the ***Source of Truth*** field.

If your ServiceNow configuration does *not* use domain separation, ScienceLogic recommends that your first sync on a new Integration Service system is an ***Organization Sync*** as well, but you should not select the ***Domain Separation*** option on the **Configuration** pane in the "Sync Organizations from SL1 to ServiceNow" integration application.

Syncing Organizations from SL1 to ServiceNow

Organization Sync uses the "Sync Organizations from SL1 to ServiceNow" integration application to pull *organizations* from SL1 and sync them with ServiceNow *companies*.

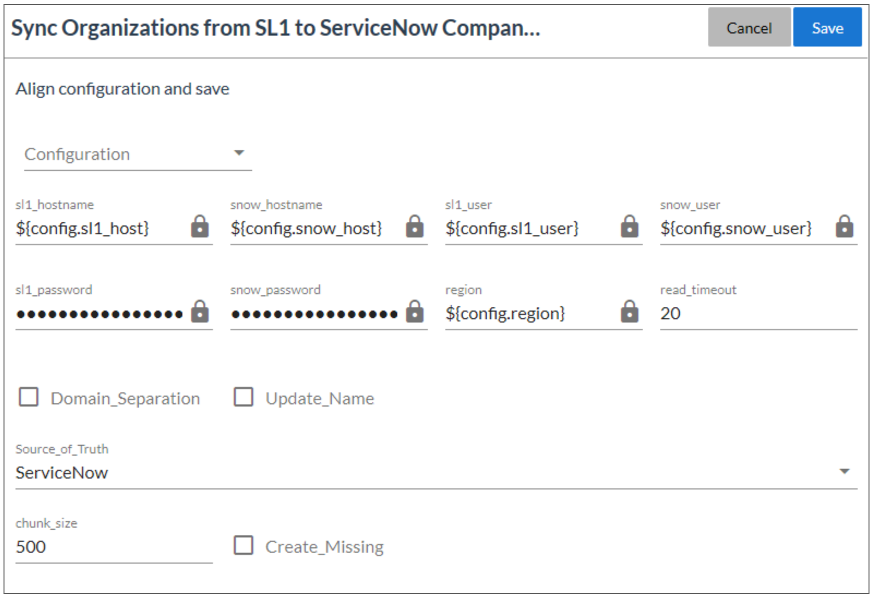
If your ServiceNow environment is domain-separated, you will need to update the following fields in ServiceNow for the companies you want to sync:

- Change the **SL1 Monitored** flag to *true* for the companies you want to sync from ServiceNow.
- Define the **SL1 Region** value to match the **region** value in the configuration object in the Integration Service user interface.
- Set the **SL1 ID** value to match the **Organization ID** in SL1.

Also, for domain-separated ServiceNow environments, you must configure and successfully run the "Sync Organizations from SL1 to ServiceNow" integration application before you can sync any additional CI items. SL1 Organizations that are linked to a ServiceNow Company will have the ***crm_id*** variable populated with the ServiceNow Company ***sys_id*** variable.

To sync SL1 organizations with ServiceNow companies:

1. In the Integration Service user interface, go to the **Integrations** page and select the "Sync Organizations from SL1 to ServiceNow" integration application. The **Integration Application** page for that application appears.
2. Click the **[Configure]** button. The **Configuration** pane appears:



Sync Organizations from SL1 to ServiceNow Compan...
Cancel
Save
Align configuration and save
Configuration

sl1_hostname: ${config.sl1_host}
snow_hostname: ${config.snow_host}
sl1_user: ${config.sl1_user}
snow_user: ${config.snow_user}
sl1_password: ••••••••••••••••
snow_password: ••••••••••••••••
region: ${config.region}
read_timeout: 20
□ Domain_Separation
□ Update_Name
Source_of_Truth: ServiceNow
chunk_size: 500
□ Create_Missing

3. Complete the following fields, as needed:

- ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required. For more information, see *Creating and Aligning a Configuration Object*.
- ***region***. The region value is populated by the configuration object you selected. The region value must match the value in the ***SL_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 integration application, or align a different configuration object that has the correct region value.
- ***Domain_Separation***. Select this option if your ServiceNow environment is *domain-separated*, where the data, processes, and administrative tasks have been organized into logical groupings called *domains*. If your ServiceNow instance is domain-separated, the user listed in the ***snow_user*** field must be a member of the top domain and have access to *all* of the domains you intend to integrate. Also, ServiceNow should be the "source of truth" for organizations if your environment is domain-separated.
- ***Update_Name***. This option addresses the situation where the Integration Service finds a match with an organization and a company, but the names do not match. This option updates a company or organization name based on your selection in the *Source_of_Truth* field, below. For example, if you selected *ScienceLogic* as the source of truth, the Integration Service uses the company name from ScienceLogic as the updated name. This option is unselected by default.

- ***Source_of_Truth***. Select whether you want to use data from ServiceNow or ScienceLogic as the "source of truth" when this integration application encounters duplicate data or data collisions.
  - If you select *ServiceNow* as the source of truth, you must specify the values in the ***SL1 Monitored*** and ***SL1 Region*** fields in ServiceNow. Because these fields do not display by default on the **Companies** page in ServiceNow, navigate to the **Companies** page, click the Update Personalized List icon (⚙), and add the ***SL1 Monitored*** and ***SL1 Region*** columns to that page. If your ServiceNow configuration uses domain separation, you must select *ServiceNow* as the source of truth.
  - If you select *ScienceLogic* as the Source of Truth, you do not need to do anything further.
- ***Chunk_Size***. Specify the number of organizations to include in each chunk sent to ServiceNow when you run this integration application. The default is 500.
- ***Create_Missing***. Select this option if you want the Integration Service to create a new organization or company if that record is missing, based on your selection in the *Source_of_Truth* field. This option is unselected by default.

4. Click the **[Save]** button and close the **Configuration** pane.
5. Click the **[Run Now]** button to run the "Sync Organizations from SL1 to ServiceNow" integration application.

Syncing Devices from SL1 to ServiceNow

The "Sync Devices from SL1 to ServiceNow" integration application syncs devices and virtual device relationships from SL1 to ServiceNow. You can also sync devices based on organization and collector group.

The Device Sync process use rules or "mappings" that you can define in the "Sync Devices from SL1 to ServiceNow" integration application. These mappings connect an **SL1 device class** to a **ServiceNow CI class**, which determines the CI class that ServiceNow uses when creating the CI in ServiceNow.

NOTE: For more information about building ***service rules*** (containment rules and hosting rules) for devices and CIs, see ***Configuring Service Rules for Device Sync***.

The "Sync Devices from SL1 to ServiceNow" integration application can also collect manufacturer and model attributes from asset records aligned with devices in SL1 and sync that information with ServiceNow. The Integration Service only populates the manufacturer and model attributes if the values exist in ServiceNow CIs; the Integration Service does not create new manufacturer values in ServiceNow. The "Sync Devices from SL1 to ServiceNow" integration application uses the ***sys_id*** field as a reference when syncing manufacturer and model information between SL1 and ServiceNow. For more information, see ***Default Device Attribute Mappings***.

Common Fields Used by Device Sync

The "Sync Devices from SL1 to ServiceNow" integration application uses the following fields to determine which devices to sync from SL1 to ServiceNow:

- ***SL1 Monitored***. This field displays a Boolean (true or false) value that is impacted by whether the device is in SL1 or not. The device being found in ServiceNow depends on the ***SL1 Monitored*** field. The device being found in SL1 depends on the class mappings defined in the "Sync Devices from SL1 to ServiceNow" integration application.
  - If the CI is in ServiceNow *and* the device is in SL1 , the ***SL1 Monitored*** flag is set to *true*.
  - If the CI is in ServiceNow but the device is *not* in SL1, the ***SL1 Monitored*** field is set to *false*.
- ***SL1 Region***. This field represents an ID for the SL1 instance or instances being synced to the ServiceNow instance. The ***SL1 Region*** field is determined by the user when configuring the IS applications. In a multi-SL1 environment, ScienceLogic recommends that you make the ***SL1 Region*** field descriptive so the ServiceNow user knows from which SL1 stack the CI originated.
  - If the ***SL1 Region*** field is defined as an identifier by the CI class, ServiceNow will create new CI records with the new ***SL1 Region*** value, and the user must manually delete the duplicate CIs in the old ***SL1 Region*** field.
  - If the ***SL1 Region*** field is *not* defined as an identifier by the CI class, ServiceNow will not treat these devices as new CIs, and the ***SL1 Region*** field will be automatically updated.

NOTE: Changing the ***SL1 Region*** value after an initial run of the "Sync Devices from SL1 to ServiceNow" application will have differing results depending on the service rules defined in ServiceNow that dictate reconciliation of the CI. If you change the ***SL1 Region*** value, you will ll need to run "Sync Devices from SL1 to ServiceNow" twice: once to align the CIs with the new region, and a second time to enable the Integration Service to re-cache the newly updated CIs in the region.

Running a Device Sync

To perform a Device Sync between SL1 and ServiceNow, run the following integration applications in the Integration Service user interface:

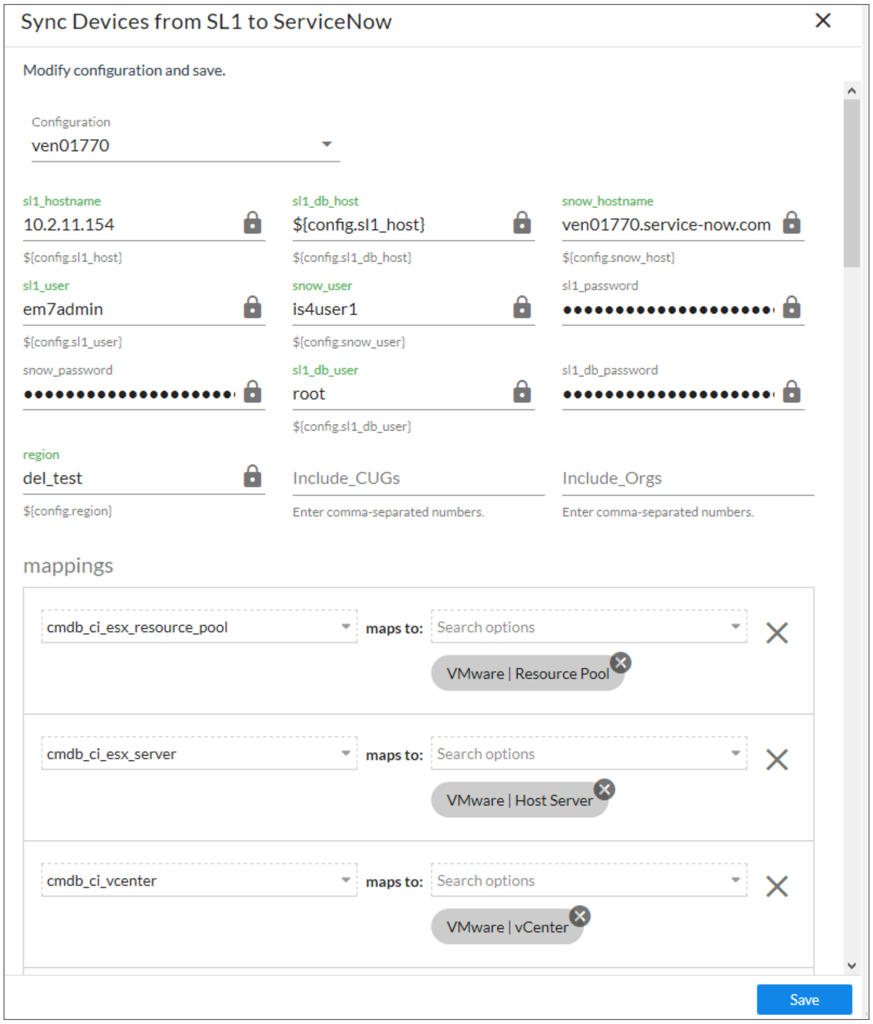
- ***Cache ServiceNow CIs and SL1 Device Classes***. Reads all existing SL1 device classes and ServiceNow CI classes and caches them for the Device Sync. This application uses this data to populate the ***mappings*** drop-down values in the "Sync Devices from SL1 to ServiceNow" integration application.
- ***Sync Devices from SL1 to ServiceNow***. Syncs devices and virtual device relationships from SL1 to ServiceNow. In previous versions, this integration application was named "ScienceLogic To ServiceNow Device Sync using GraphQL".

To sync SL1 devices with ServiceNow:

1. In the Integration Service user interface, select the "Cache ServiceNow CIs and SL1 Device Classes" integration application from the **[Integrations]** tab, align a configuration file with the application, and then click the **[Run]** button to run the application.

> **NOTE:** You will need to run "Cache ServiceNow CIs and SL1 Device Classes" again if you make any relationship rule changes in ServiceNow.

2. After the "Cache ServiceNow CIs and SL1 Device Classes" application completes, select the "Sync Devices from SL1 to ServiceNow" integration application from the **[Integrations]** tab and click the **[Configure]** button. The **Configuration** pane appears:



Sync Devices from SL1 to ServiceNow

Modify configuration and save.

Configuration: ven01770

sl1_hostname: 10.2.11.154
${config.sl1_host}

sl1_db_host: ${config.sl1_host}
${config.sl1_db_host}

snow_hostname: ven01770.service-now.com
${config.snow_host}

sl1_user: em7admin
${config.sl1_user}

snow_user: is4user1
${config.snow_user}

sl1_password: ●●●●●●●●●●●●●●●●●●●●

snow_password: ●●●●●●●●●●●●●●●●●●●●

sl1_db_user: root
${config.sl1_db_user}

sl1_db_password: ●●●●●●●●●●●●●●●●●●●●

region: del_test
${config.region}

Include_CUGs
Enter comma-separated numbers.

Include_Orgs
Enter comma-separated numbers.

mappings

cmdb_ci_esx_resource_pool maps to: VMware | Resource Pool

cmdb_ci_esx_server maps to: VMware | Host Server

cmdb_ci_vcenter maps to: VMware | vCenter

3. Complete the following fields, as needed:

- ***Configuration***. Select the relevant configuration object with the relevant SL1 and ServiceNow credentials to align with this integration application. You cannot edit fields that are populated by the configuration object. Required. For more information, see ***Creating and Aligning a Configuration Object***.

- ***region***. The region value is a unique identifier for the SL1 instance you are syncing with. If you are syncing multiple SL1 stacks to a single ServiceNow instance, each SL1 stack should have its own region value. The region value is populated by the configuration object you selected, and it must match the value in the ***SL_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 integration application, or align a different configuration object that has the correct region value.
- ***Include_CUGs***. If you want to include SL1 collector groups (CUG) in the device sync, add the CUG IDs from SL1 in this field, separated by commas.
- ***Include_Orgs***. If you want to include SL1 Organizations in the device sync, add the Organization IDs from SL1 in this field, separated by commas.
- ***read_timeout***. Specify the maximum amount of time in seconds the integration application should wait for a response before timing out. The default is 20 seconds.
- ***Domain_Separation***. Select this option if your ServiceNow environment is *domain-separated*, where the data, processes, and administrative tasks have been organized into logical groupings called *domains*. If your ServiceNow instance is domain-separated, the user listed in the ***snow_user*** field must be a member of the top domain and have access to *all* of the domains you intend to integrate. Also, ServiceNow should be the "source of truth" for organizations if your environment is domain-separated.
- ***excluded_devices***. Type a list of comma-separated devices that you want to exclude from the device sync. Optional.
- ***lookup_chunk_size***. Specify the number of devices in each chunk when pulling the device cache from Couchbase. The default is 1000 devices.
- ***drop_sys_id***. Select this option if you want to disable sending the ***sys_id*** for CI identification. If you set ***drop_sys_id*** to true, make sure that ServiceNow can correctly identify and correlate your existing CIs with the properties that are available.
- ***chunk_size***. Specify the number of devices to include in each chunk sent to ServiceNow when you run this integration application. The default chunk size is 500 devices.
- ***sl1_url_override***. Update this field if you want to use an URL that is different from the standard SL1 URL that gets sent to the ServiceNow CI record. Optional.
- ***selected_devices***. If you want to sync a sub-set of all discovered devices, type a comma-separated list of the Device IDs for only the devices that you want to sync. If this field is blank, then the Integration Service runs a complete device sync.
- ***Simulation_Mode***. Select this option if you want to perform a simulated run of this integration application to show you the potential results of that run.

4. Scroll to the section for the **mappings** parameter and click **[Add Mapping]** to create a mapping between the SL1 device classes and the ServiceNow CI classes that you want to include in the device sync. ServiceNow CI classes display on the left, and SL1 device classes display on the right. You can map a single ServiceNow CI class with multiple SL1 devices classes.

TIP: Use the **[Tab]** button to move down through the list of options in a **Mapping** dropdown list, press **[Shift]**+ **[Tab]** to move up, and press **[Enter]** to select a highlighted option. You can also add the mappings using *Postman*.

NOTE: The "Sync Devices from SL1 to ServiceNow" integration application will *only* sync a device from SL1 if the device class for that device is mapped to a ServiceNow CI class in this section. The ***mappings*** section on the **Configuration** pane includes some best practices for mapping the two classes, but this section does not cover all technologies. Syncing additional technologies from SL1 to ServiceNow may require additional some research to understand the class structure.

5. Scroll to the section for the **additional_attributes** parameter and create a mapping for any other attributes you want to map between SL1 (the first column) and ServiceNow (the second column). For more information, see *Syncing Custom Device Attributes*.

6. Click the **[Save]** button and close the **Configuration** pane.

7. Before you can run the Device Sync, you need to run the "Generate Required CI Relations for ServiceNow" integration application to determine if you are missing any class mappings or service rules that might be required in ServiceNow. Select the "Generate Required CI Relations for ServiceNow" integration application from the **[Integrations]** tab, click the **[Configure]** button, align a configuration object, and click **[Run Now]**.

NOTE: The Integration Service uses the mappings you configured in step 4 on the "Sync Devices from SL1 to ServiceNow" integration application, so you do not need to configure any mappings on the **Configuration** pane for the "Generate Required CI Relations for ServiceNow" integration application. Any mappings you add to the "Generate Required CI Relations for ServiceNow" Configuration pane will *overwrite* mappings in the "Sync Devices from SL1 to ServiceNow" application.

8. When the "Generate Required CI Relations for ServiceNow" application completes, review the log information in the **Step Log**. For more information, see *Log Messages for the "Generate Required CI Relations for ServiceNow" Application Integration*.

9. Address any missing class mappings or service rules as needed. For more information on service rules, see *Creating a ServiceNow Update Set*.

10. After all the mappings and other configurations are complete, run the "Sync Devices from SL1 to ServiceNow" integration application. If this is the first time you run this integration application, run it a second time to build the internal cache.

Adding Device Mappings with Postman

You can dynamically set the device mappings on a per-run basis using the API. You can also ***persistently save device mappings with the API***.

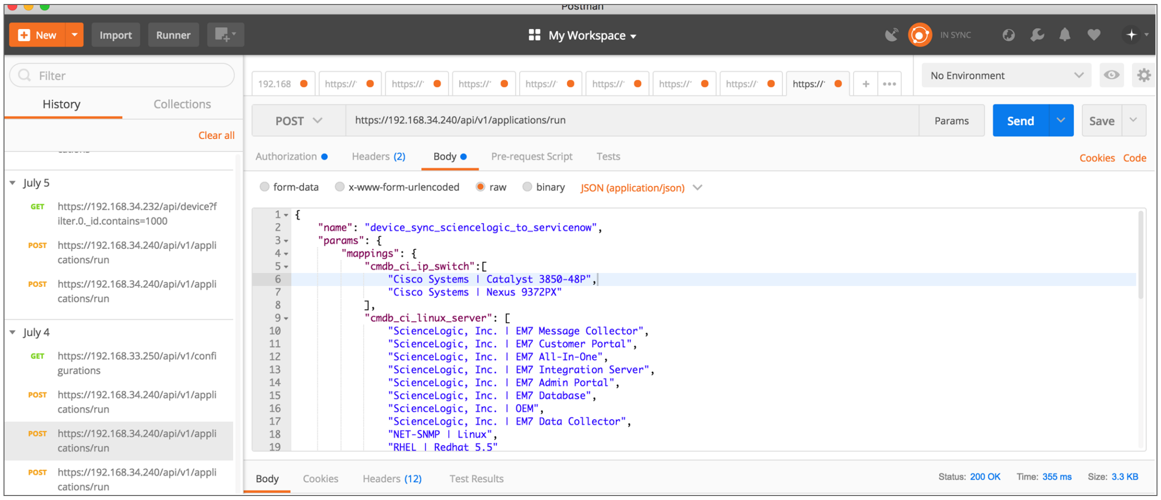
To add device mappings using Postman:

1. In Postman, POST the following JSON file to trigger the required integration applications in the Integration Service user interface to model SL1 devices to ServiceNow:

> **NOTE:** This example only maps VMware device classes to ServiceNow, SL1 devices and a few Cisco Devices. If the customer environment has other device classes, then you must manually create the mappings.

```
{
  "name": "device_sync_sciencelogic_to_servicenow",
  "params": {
    "mappings": {
      "cmdb_ci_ip_switch":[
        "Cisco Systems | Catalyst 3850-48P",
        "Cisco Systems | Nexus 9372PX"
      ],
      "cmdb_ci_linux_server": [
        "ScienceLogic, Inc. | EM7 Message Collector",
        "ScienceLogic, Inc. | EM7 Customer Portal",
        "ScienceLogic, Inc. | EM7 All-In-One",
        "ScienceLogic, Inc. | EM7 Integration Server",
        "ScienceLogic, Inc. | EM7 Admin Portal",
        "ScienceLogic, Inc. | EM7 Database",
        "ScienceLogic, Inc. | OEM",
        "ScienceLogic, Inc. | EM7 Data Collector",
        "NET-SNMP | Linux",
        "RHEL | Redhat 5.5"
      ],
      "cmdb_ci_esx_resource_pool": ["VMware | Resource Pool"],
      "cmdb_ci_esx_server": [
        "VMware | ESXi 5.1 w/HR",
        "VMware | Host Server",
        "VMware | ESX(i) 4.0",
        "VMware | ESX(i) w/HR",
        "VMware | ESX(i) 4.0 w/HR",
        "VMware | ESX(i)",
        "VMware | ESX(i) 4.1 w/HR",
        "VMware | ESXi 5.1 w/HR",
        "VMware | ESXi 5.0 w/HR",
        "VMware | ESX(i) 4.1",
        "VMware | ESXi 5.1",
        "VMware | ESXi 5.0"
      ],
      "cmdb_ci_vcenter_datacenter": ["VMware | Datacenter"],
      "cmdb_ci_vcenter_datastore": ["VMware | Datastore", "VMware | Datastore
      Cluser"],
      "cmdb_ci_vcenter_dv_port_group": ["VMware | Distributed Virtual Portgroup"],
      "cmdb_ci_vcenter_dvs": ["VMware | Distributed Virtual Switch"],
      "cmdb_ci_vcenter_folder": ["VMware | Folder"],
      "cmdb_ci_vcenter_network": ["VMware | Network"],
            "cmdb_ci_vmware_instance": ["VMware | Virtual Machine"],
            "cmdb_ci_vcenter": ["VMware | vCenter", "Virtual Device | Windows Services"],
            "cmdb_ci_vcenter_cluster": ["VMware | Cluster"]
          },
        "configuration": "template_snow_integration" #name your configuration file
        }
  }
```

The following image displays an example of using Postman to send the mapping data to Integration Service:



July 5

GET https://192.168.34.232/api/device?filter.0._id.contains=1000

POST https://192.168.34.240/api/v1/applications/run

POST https://192.168.34.240/api/v1/applications/run

July 4

GET https://192.168.33.250/api/v1/configurations

POST https://192.168.34.240/api/v1/applications/run

POST https://192.168.34.240/api/v1/applications/run

POST https://192.168.34.240/api/v1/applications/run

POST https://192.168.34.240/api/v1/applications/run

```
{
    "name": "device_sync_sciencelogic_to_servicenow",
    "params": {
        "mappings": {
            "cmdb_ci_ip_switch":[
                "Cisco Systems | Catalyst 3850-48P",
                "Cisco Systems | Nexus 9372PX"
            ],
            "cmdb_ci_linux_server": [
                "ScienceLogic, Inc. | EM7 Message Collector",
                "ScienceLogic, Inc. | EM7 Customer Portal",
                "ScienceLogic, Inc. | EM7 All-In-One",
                "ScienceLogic, Inc. | EM7 Integration Server",
                "ScienceLogic, Inc. | EM7 Admin Portal",
                "ScienceLogic, Inc. | EM7 Database",
                "ScienceLogic, Inc. | OEM",
                "ScienceLogic, Inc. | EM7 Data Collector",
                "NET-SNMP | Linux",
                "RHEL | Redhat 5.5"
```

Status: 200 OK Time: 355 ms Size: 3.3 KB

Persistently Saving Device Mappings with the API

You can persistently save device mappings using the API.

1. Use Postman or cURL to do a GET to load the device sync integration application:

   GET *Integration_Service_hostname*/api/v1/applications/device_sync_sciencelogic_to_servicenow

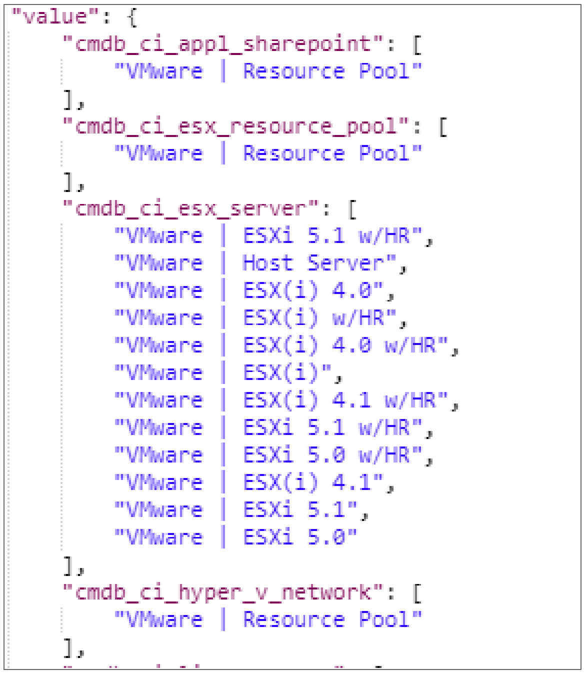
   where:

   - *Integration_Service_hostname* is the IP address or URL for your Integration Service system.

NOTE: The response should contain the entire JSON output for the integration application.

2. Copy the entire JSON code and save it to a file named: "device_sync_sciencelogic_to_servicenow".

3. Open the new file and locate the object with the `"name":"mappings"` property in the "**app_variables**" list. The `"value"` property in this object specifies the mappings to use throughout the integrations:



```
"value": {
    "cmdb_ci_appl_sharepoint": [
        "VMware | Resource Pool"
    ],
    "cmdb_ci_esx_resource_pool": [
        "VMware | Resource Pool"
    ],
    "cmdb_ci_esx_server": [
        "VMware | ESXi 5.1 w/HR",
        "VMware | Host Server",
        "VMware | ESX(i) 4.0",
        "VMware | ESX(i) w/HR",
        "VMware | ESX(i) 4.0 w/HR",
        "VMware | ESX(i)",
        "VMware | ESX(i) 4.1 w/HR",
        "VMware | ESXi 5.1 w/HR",
        "VMware | ESXi 5.0 w/HR",
        "VMware | ESX(i) 4.1",
        "VMware | ESXi 5.1",
        "VMware | ESXi 5.0"
    ],
    "cmdb_ci_hyper_v_network": [
        "VMware | Resource Pool"
    ],
```

4. Modify the `"value"` property of the object to use the mappings you want to use.

5. Ensure that the mappings follow the same JSON data structure, otherwise the sync will not work:

```
{
  "cmdb_ci_class": [
    "ScienceLogic Dev Class| ScienceLogic subclass",
    "Another Silo Dev Class | Another Silo subclass"
  ]
}
```

6. After you update the mappings, use the iscli to upload the updated integration application with your new settings. Type the following command at the command line:

```
iscli -uaf device_sync_sciencelogic_to_servicenow -H hostname_or_IP_address_of_
integration_service_system -p password
```

where:

- *hostname_or_IP_address_of_integration_service_system* is the hostname or IP address of the Integration Service system.
- *password* is password you use to log in to the Integration Service system.

Default Device Attribute Mappings

The "Sync Devices from SL1 to ServiceNow" integration application can also collect manufacturer and model attributes from asset records aligned with devices in SL1 and sync that information with ServiceNow.

The Integration Service only populates the manufacturer and model attributes if the values exist in ServiceNow CIs; the Integration Service does not create new manufacturer values in ServiceNow. "Sync Devices from SL1 to ServiceNow" integration application uses the ***sys_id*** field as a reference when syncing manufacturer and model information between SL1 and ServiceNow.

The following table describes the default mappings between SL1 and ServiceNow device attributes:

SL1 attribute	ServiceNow attribute
assetTag	asset_tag
cat_name	category
cpu	cpu_count
cpu_make	cpu_type
dns_domain	dns_domain
dsk_size	disk_space
function	justification
hostname	fqdn
memory	ram
model	model_number
os	os
p_date	order_date
serial	serial_number
speed	cpu_speed
status	hardware_substatus
virtual	virtual
w_cost	cost
w_date_ex	warranty_expiration
make	manufacturer
a_notes	Not synced by default
array_size	Not synced by default
disk_count integer	Not synced by default
dns_name	Not synced by default
fw_ver (str)	Not synced by default
hostid	Not synced by default

SL1 attribute	ServiceNow attribute
is_snmp	Not synced by default
location	Not synced by default
owner	Not synced by default
purchase order number	Not synced by default
rfid	Not synced by default

NOTE: The values listed as *Not synced by default* above are queried from SL1, but those values do not have default attributes to map to in ServiceNow. As a result, the Integration Service does not sync those attributes by default. If you want to sync these SL1 attributes, you must specify the ServiceNow attributes to be synced by using the key/value mappings.

Syncing Custom Device Attributes

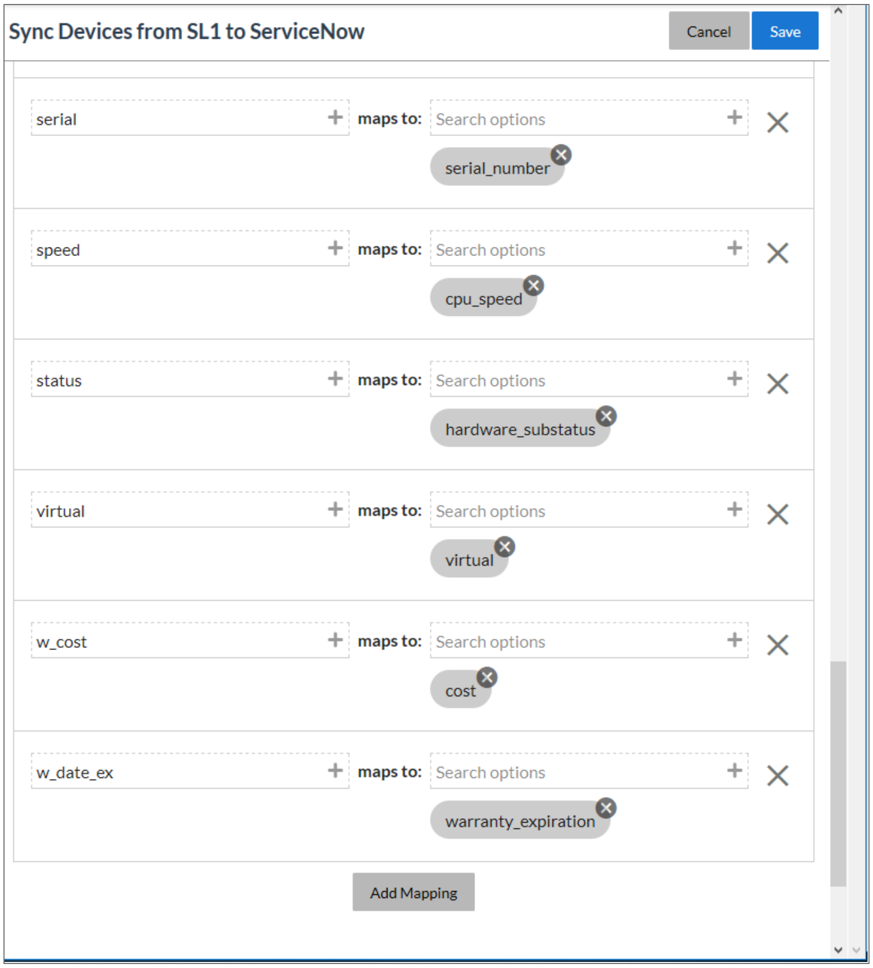
You can sync existing and custom attribute values for devices from ServiceNow to SL1. All custom attributes for each device are synced automatically.

NOTE: When an attribute value is "0" in SL1, the corresponding field in ServiceNow might display as empty.

To map and sync device attributes:

1. In the Integration Service user interface, go to the **[Integrations]** tab and select the "Sync Devices from SL1 to ServiceNow" integration application.
2. Click the **[Configure]** button. The **Configuration** pane appears.
3. From the ***Configuration*** drop-down list, select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.
4. To create a custom device class or asset attribute, scroll down to the **mappings** section and click the **[Add Mapping]** button.
5. Click the mapping name to edit a device class or asset attribute in the **mappings** section. Press **[Enter]** after editing an item to make sure your changes are saved.

6. Scroll down to the **additional_attributes** section:



Sync Devices from SL1 to ServiceNow

serial maps to: serial_number

speed maps to: cpu_speed

status maps to: hardware_substatus

virtual maps to: virtual

w_cost maps to: cost

w_date_ex maps to: warranty_expiration

7. To edit an existing attribute, click the attribute name and either select an attribute from the list or type a new name for the attribute. Press **[Enter]** after editing the attribute to make sure your changes are saved.

TIP: Use the **[Tab]** button to move down through the list of options in a dropdown list, press **[Shift]**+**[Tab]** to move up, and press **[Enter]** to select a highlighted option.

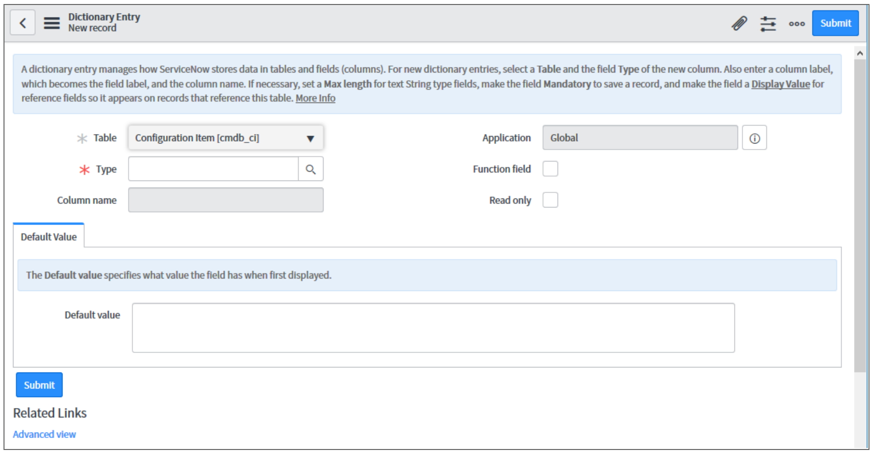
8. To create a custom attribute, click the **[Add Mapping]** button at the bottom of the section and type a name for the attribute in the first field, and then select one or more ServiceNow attributes to which the SL1 attribute should sync in the ***maps to*** field. Press **[Enter]** after editing the attribute to make sure your changes are saved.
9. Click the **[Save]** button and close the **Configuration** pane.
10. Click the **[Run Now]** button to run the integration application.

Adding New Device Attributes to ServiceNow

You can also add one or more new attributes to ServiceNow that you can then sync with SL1.

To add an attribute in ServiceNow:

1. In ServiceNow, search for "Tables" in the filter navigator and select **System Definition** > **Tables**.
2. From the **Tables** page, search for and select the table to which you want to add a field for a new attribute.
3. From the Table page, click the **[New]** button to add a new field on the table. A new record appears:



Dictionary Entry
New record

A dictionary entry manages how ServiceNow stores data in tables and fields (columns). For new dictionary entries, select a **Table** and the field **Type** of the new column. Also enter a column label, which becomes the field label, and the column name. If necessary, set a **Max length** for text String type fields, make the field **Mandatory** to save a record, and make the field a Display Value for reference fields so it appears on records that reference this table. More Info

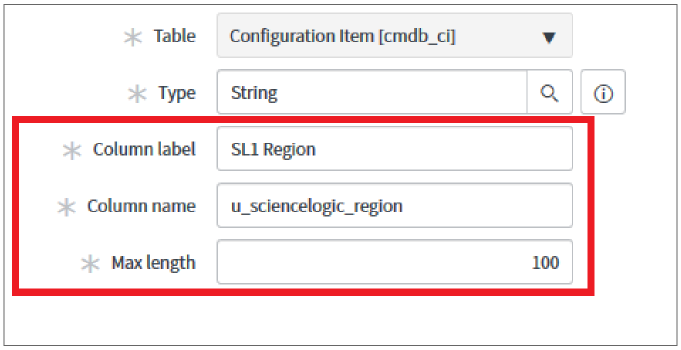
* Table	Configuration Item [cmdb_ci]	Application	Global
* Type		Function field	□
Column name		Read only	□

Default Value

The **Default value** specifies what value the field has when first displayed.

Default value

4. From the ***Type*** drop-down list, select the data type you want to store, such as *String*. Depending on your selection, additional required fields display:



* Table	Configuration Item [cmdb_ci]
* Type	String
* Column label	SL1 Region
* Column name	u_sciencelogic_region
* Max length	100

NOTE: In the *String* example, above, **Column label** contains the text you want to display in ServiceNow, and **Column name** is the exact column name used by the Integration Service or the API.

5. Complete the required fields and any other fields as needed, and then click the **Submit** button. The field is added to ServiceNow.

Syncing CI Attributes from ServiceNow to SL1

The "Sync CI Attributes from ServiceNow to SL1" integration application imports CI attributes from ServiceNow to the relevant asset and attribute fields in SL1. The CI Sync supports assets, asset configuration, asset maintenance, location, production statuses, and custom attributes.

The "Sync CI Attributes from ServiceNow to SL1" integration application can sync the display value and ***sys_id*** of ***Reference*** fields, such as location, as well as the value and label of ***Choice List*** fields, such as operational_status. These values can be accessed by appending **_label** to the desired field name.

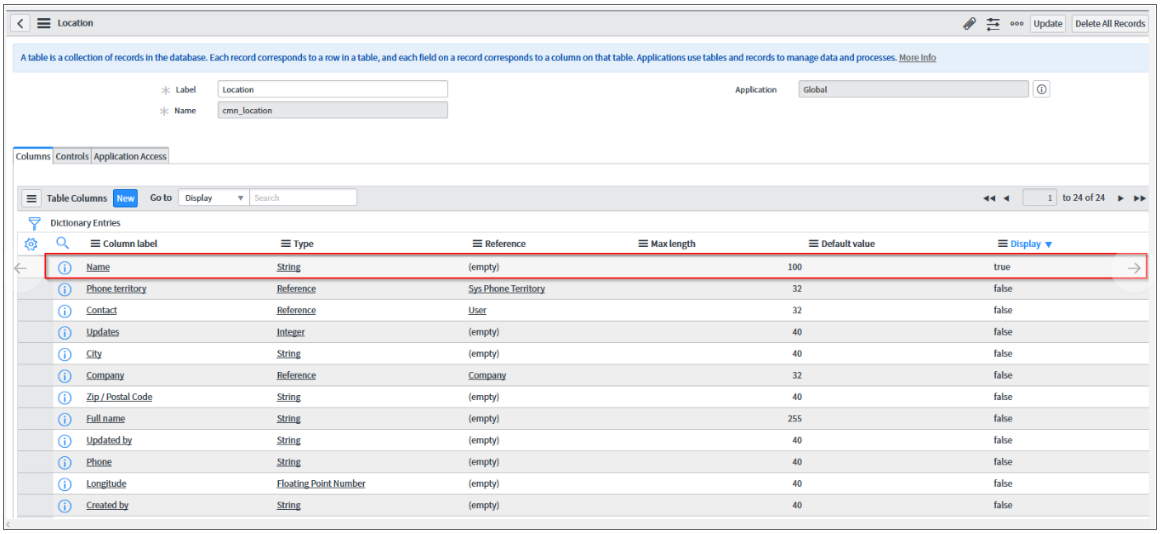
Reference Example:

```
"location": "240f6630db993300dc44f00fbf96196f"
"location_label": "Corporate Headquarters"
```

Choice List Example:

```
"operational_status": "1",
"operational_status_label": "Operational",
```

The following image shows the **Location** table, and the **Display** column shows the ***Name*** marked as *true*. Only one field on the table can be marked as *true*, and that is the field that will be returned to the Integration Service :



A table is a collection of records in the database. Each record corresponds to a row in a table, and each field on a record corresponds to a column on that table. Applications use tables and records to manage data and processes. More Info

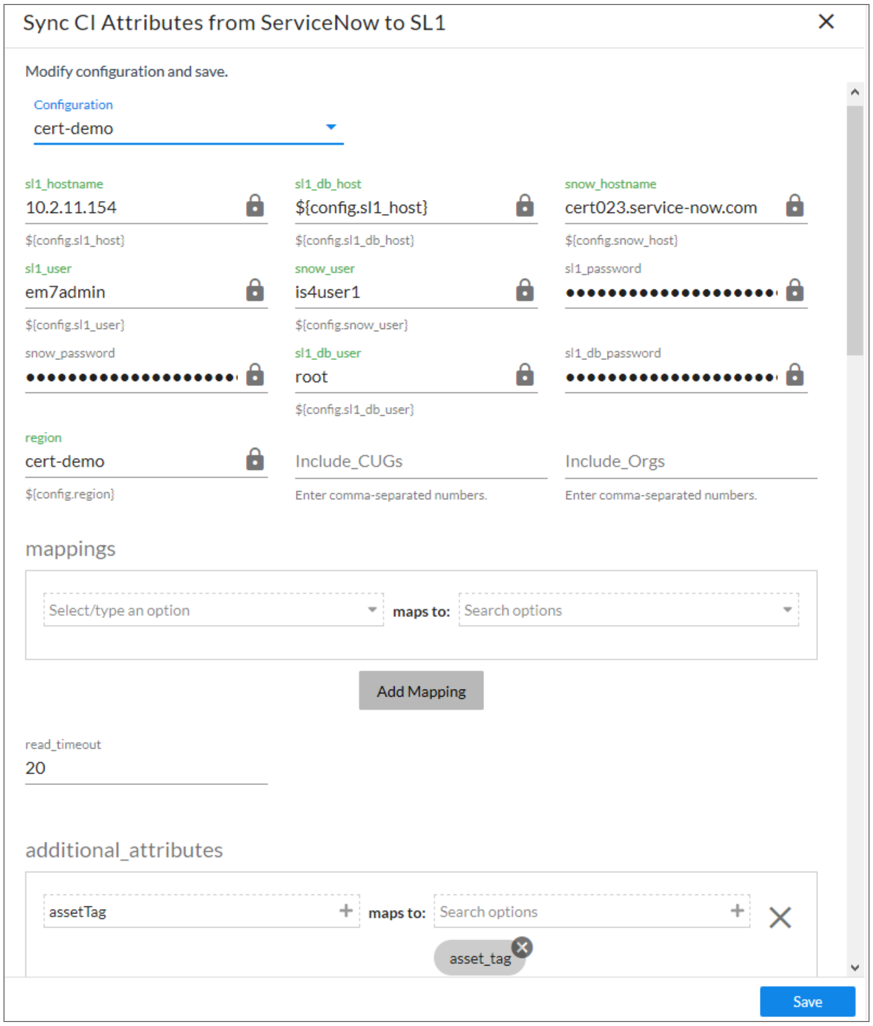
Label: Location
Name: cmn_location
Application: Global

Column label	Type	Reference	Max length	Default value	Display
Name	String	(empty)	100		true
Phone territory	Reference	Sys Phone Territory	32		false
Contact	Reference	User	32		false
Updates	Integer	(empty)	40		false
City	String	(empty)	40		false
Company	Reference	Company	32		false
Zip / Postal Code	String	(empty)	40		false
Full name	String	(empty)	255		false
Updated by	String	(empty)	40		false
Phone	String	(empty)	40		false
Longitude	Floating Point Number	(empty)	40		false
Created by	String	(empty)	40		false

> **NOTE:** When this integration application runs, if no mappings are provided, the Integration Service queries the "Sync Devices from SL1 to ServiceNow" integration application and uses the mappings from that application.

To sync CI attributes from ServiceNow to SL1:

1. Because this integration application uses the mappings and additional attribute options from Device Sync, go to the **[Integrations]** tab of the Integration Service user interface and run the "Sync Devices from SL1 to ServiceNow" integration application.
2. When that application completes, select the "Sync CI Attributes from ServiceNow to SL1" integration application from the **[Integrations]** tab. The **Integration Application** page appears.
3. Click the **[Configure]** button. The **Configuration** pane appears:



Sync CI Attributes from ServiceNow to SL1

Modify configuration and save.

Configuration: cert-demo

sl1_hostname: 10.2.11.154
${config.sl1_host}

sl1_db_host: ${config.sl1_host}
${config.sl1_db_host}

snow_hostname: cert023.service-now.com
${config.snow_host}

sl1_user: em7admin
${config.sl1_user}

snow_user: is4user1
${config.snow_user}

sl1_password: ••••••••••••••••••••

snow_password: ••••••••••••••••••••

sl1_db_user: root
${config.sl1_db_user}

sl1_db_password: ••••••••••••••••••••

region: cert-demo
${config.region}

Include_CUGs
Enter comma-separated numbers.

Include_Orgs
Enter comma-separated numbers.

mappings

Select/type an option maps to: Search options

read_timeout: 20

additional_attributes

assetTag maps to: Search options
asset_tag

4. From the ***Configuration*** drop-down list, select the configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.

NOTE: The ***region*** value is populated by the configuration object you selected in step 3. The region value must match the value in the ***SL_Region*** field in ServiceNow. If you need to update this value, you need to define the ***region*** variable in the configuration object that is aligned with this integration application, or align a different configuration object that has the correct region value.

5. Scroll down to the **additional_attribute** sections to edit an existing attribute, or click the **[Add Mapping]** button to create a new attribute. Press **[Enter]** after editing the attribute to make sure your changes are saved.

TIP: Use the **[Tab]** button to move down through the list of options in an **additional_attribute** dropdown list, press **[Shift]**+**[Tab]** to move up, and press **[Enter]** to select a highlighted option.

6. When you are done adding mappings and attributes, click the **[Save]** button and close the **Configuration** pane.
7. Click the **[Run Now]** button to run the "Sync CI Attributes from ServiceNow to SL1" integration application.

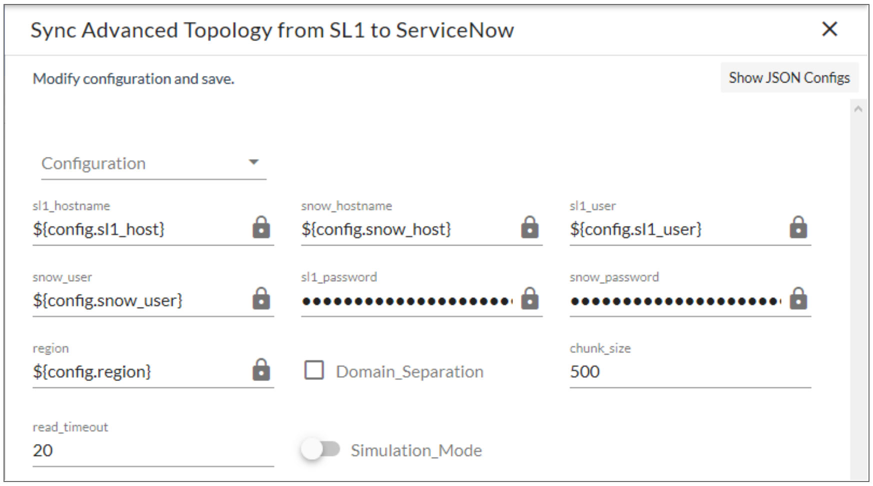
Syncing Advanced Topology Data from SL1 to ServiceNow

The "Sync Advanced Topology from SL1 to ServiceNow" integration application reads Dynamic Component Mapping relationships from SL1 and syncs those relationships with ServiceNow. If this is a new Integration Service system, you must run both the "Sync Devices from SL1 to ServiceNow" application and the "Sync Interfaces from SL1 to ServiceNow" application at least twice on new Integration Service systems to populate the cache for this integration application.

WARNING: The Integration Service only syncs topology data for devices and network interfaces that have already been synced with ServiceNow. Before setting up advanced topology sync, you must first *sync devices* or *sync network interfaces*, depending on your environment.

To sync advanced topology data and relationships from SL1 to ServiceNow:

1. On the **[Integrations]** tab of the Integration Service user interface, click the **[Run Now]** button for the "Sync Devices from SL1 to ServiceNow" integration application. Run the application a second time if this is a new Integration Service system.
2. Click the **[Run Now]** button for the "Sync Interfaces from SL1 to ServiceNow" integration application. Run the application a second time if this is a new Integration Service system.
3. Select the "Sync Advanced Topology from SL1 to ServiceNow" integration application and click the **[Configure]** button on the application detail page. The **Configuration** page appears:



Sync Advanced Topology from SL1 to ServiceNow

Modify configuration and save.

Configuration

sl1_hostname: ${config.sl1_host}

snow_hostname: ${config.snow_host}

sl1_user: ${config.sl1_user}

snow_user: ${config.snow_user}

sl1_password: ••••••••••••••••••••

snow_password: ••••••••••••••••••••

region: ${config.region}

□ Domain_Separation

chunk_size: 500

read_timeout: 20

Simulation_Mode

3. Complete the following fields, as needed:

   - ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.
   - ***region***. The region value is populated by the configuration object you selected. The region value must match the value in the ***SL_Region*** field in ServiceNow. If you need to update this value, you will need to define the ***region*** variable in the configuration that is aligned with this integration application, or align a different configuration that has the correct region value.
   - ***Domain_Separation***. Select this option if your ServiceNow environment is *domain-separated*, where the data, processes, and administrative tasks have been organized into logical groupings called *domains*. If your ServiceNow instance is domain-separated, the user listed in the ***snow_user*** field must be a member of the top domain and have access to *all* of the domains you intend to integrate. Also, ServiceNow should be the "source of truth" for organizations if your environment is domain-separated. This application does not support relationships for devices across domains; all devices in a relation payload must be in the same domain.
   - ***chunk_size***. Specify the number of topologies to include in each chunk sent to ServiceNow when you run this integration application. The default chunk size is 500.
   - ***read_timeout***. Specify the maximum amount of time in seconds the integration application should wait for a response before timing out. The default is 20 seconds.
   - ***Simulation_Mode***. Select this option if you want to perform a simulated run of this integration application to show you the potential results of that run.

4. Click the **[Save]** button and close the **Configuration** pane.

5. Click the **[Run Now]** button to run the integration application.

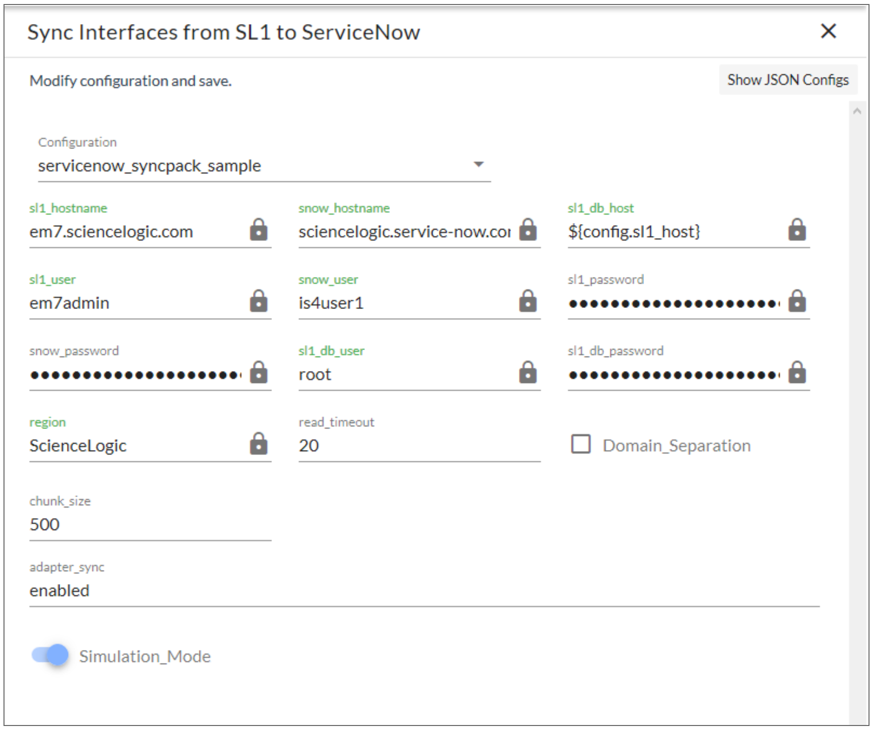
Syncing Network Interfaces from SL1 to ServiceNow

You can map and sync network interfaces in much the same way you sync devices between SL1 and ServiceNow. You run the "Sync Interfaces from SL1 to ServiceNow" integration application, which collects interface data from ServiceNow and SL1 and runs multiple CI syncs for each interface to be synced.

WARNING: The Integration Service only syncs network interfaces that are aligned with devices that are already synced with ServiceNow. Before setting up network interface sync, you must first *sync devices between SL1 and ServiceNow*.

To sync SL1 network interfaces with ServiceNow:

1. In the Integration Service user interface, go to the **[Integrations]** tab and select the "Sync Interfaces from SL1 to ServiceNow" integration application.
2. Click the **[Configure]** button to open the **Configuration** pane:



Sync Interfaces from SL1 to ServiceNow

Modify configuration and save.

Configuration: servicenow_syncpack_sample

sl1_hostname: em7.sciencelogic.com

snow_hostname: sciencelogic.service-now.coı

sl1_db_host: ${config.sl1_host}

sl1_user: em7admin

snow_user: is4user1

sl1_password: ••••••••••••••••••••

snow_password: ••••••••••••••••••••

sl1_db_user: root

sl1_db_password: ••••••••••••••••••••

region: ScienceLogic

read_timeout: 20

☐ Domain_Separation

chunk_size: 500

adapter_sync: enabled

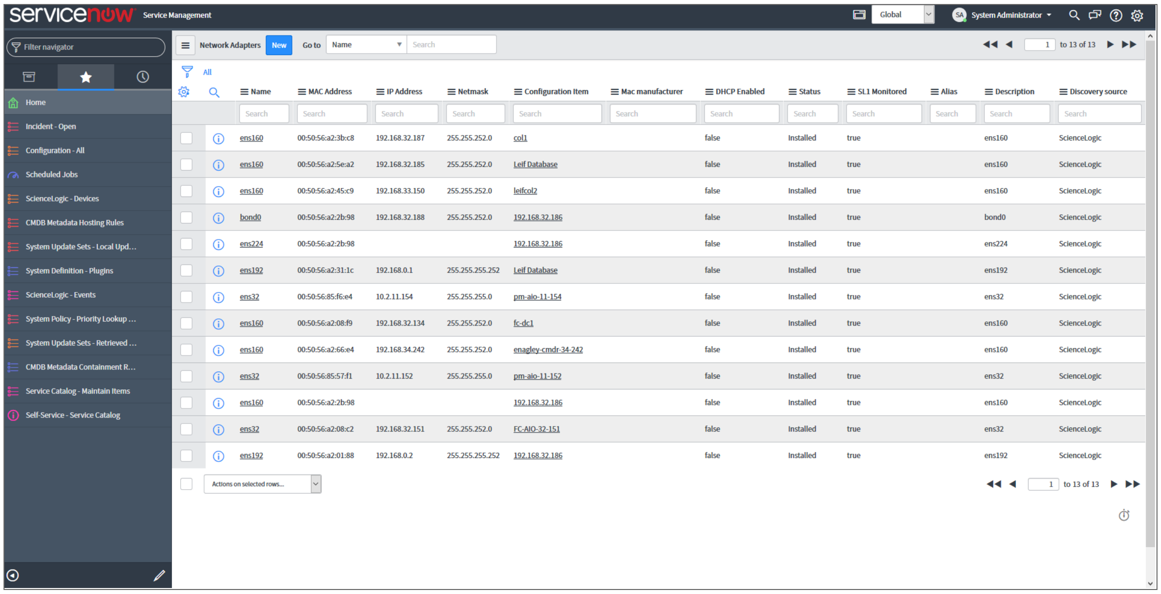
Simulation_Mode

3. Complete the following fields, as needed:

    - ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.

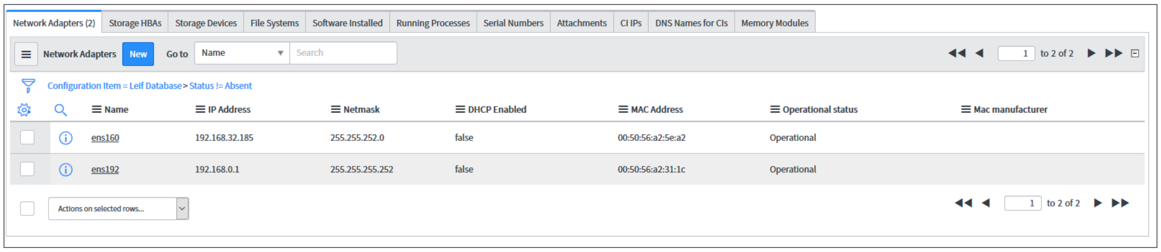
- ***region***. The region value is populated by the configuration object you selected. The region value must match the value in the ***SL_Region*** field in ServiceNow. If you need to update this value, you will need to define the ***region*** variable in the configuration object that is aligned with this integration application, or align a different configuration object that has the correct region value.
- ***read_timeout***. Specify the maximum amount of time in seconds the integration application should wait for a response before timing out. The default is 20 seconds.
- ***Domain_Separation***. Select this option if your ServiceNow environment is *domain-separated*, where the data, processes, and administrative tasks have been organized into logical groupings called *domains*. If your ServiceNow instance is domain-separated, the user listed in the ***snow_user*** field must be a member of the top domain and have access to *all* of the domains you intend to integrate. Also, ServiceNow should be the "source of truth" for organizations if your environment is domain-separated.
- ***chunk_size***. Specify the number of devices to include in each chunk sent to ServiceNow when you run this integration application. The default chunk size is 500 devices.
- ***adapter_sync***. Select one of the following settings:
  - ***off***. Disables interface sync.
  - ***all***. Syncs every interface, regardless of its state.
  - ***enabled***. Syncs only the interfaces that have a state of "admin up". This is the default setting.
- ***Simulation_Mode***. Select this option if you want to perform a simulated run of this integration application to show you the potential results of that run.

4. Click the **[Save]** button at the top of the **Configuration** pane to save your updates, and then click the **[Run Now]** button on the **Integration Application** page to run the integration application.
5. When the application completes, go to ServiceNow and type "cmdb_ci_network_adapter.list". The **Network Adapters** page appears, with a list of synced interfaces:


servicenow
Service Management
Global
System Administrator
Filter navigator
Home
Incident - Open
Configuration - All
Scheduled Jobs
ScienceLogic - Devices
CMDB Metadata Hosting Rules
System Update Sets - Local Upd...
System Definition - Plugins
ScienceLogic - Events
System Policy - Priority Lookup ...
System Update Sets - Retrieved ...
CMDB Metadata Containment R...
Service Catalog - Maintain Items
Self-Service - Service Catalog
Network Adapters
New
Go to
Name
Search
All
1
to 13 of 13
Actions on selected rows...

Name	MAC Address	IP Address	Netmask	Configuration Item	Mac manufacturer	DHCP Enabled	Status	SL1 Monitored	Alias	Description	Discovery source
ens160	00:50:56:a2:3b:c8	192.168.32.187	255.255.252.0	col1		false	Installed	true		ens160	ScienceLogic
ens160	00:50:56:a2:5e:a2	192.168.32.185	255.255.252.0	Leif Database		false	Installed	true		ens160	ScienceLogic
ens160	00:50:56:a2:45:c9	192.168.33.150	255.255.252.0	leifcol2		false	Installed	true		ens160	ScienceLogic
bond0	00:50:56:a2:2b:98	192.168.32.188	255.255.252.0	192.168.32.186		false	Installed	true		bond0	ScienceLogic
ens224	00:50:56:a2:2b:98			192.168.32.186		false	Installed	true		ens224	ScienceLogic
ens192	00:50:56:a2:31:1c	192.168.0.1	255.255.255.252	Leif Database		false	Installed	true		ens192	ScienceLogic
ens32	00:50:56:85:f6:e4	10.2.11.154	255.255.255.0	pm-aio-11-154		false	Installed	true		ens32	ScienceLogic
ens160	00:50:56:a2:08:f9	192.168.32.134	255.255.252.0	fc-dc1		false	Installed	true		ens160	ScienceLogic
ens160	00:50:56:a2:66:e4	192.168.34.242	255.255.252.0	enagley-cmdr-34-242		false	Installed	true		ens160	ScienceLogic
ens32	00:50:56:85:57:f1	10.2.11.152	255.255.255.0	pm-aio-11-152		false	Installed	true		ens32	ScienceLogic
ens160	00:50:56:a2:2b:98			192.168.32.186		false	Installed	true		ens160	ScienceLogic
ens32	00:50:56:a2:08:c2	192.168.32.151	255.255.252.0	FC-AIO-32-151		false	Installed	true		ens32	ScienceLogic
ens192	00:50:56:a2:01:88	192.168.0.2	255.255.255.252	192.168.32.186		false	Installed	true		ens192	ScienceLogic

6. Select a network interface from the list and scroll down to the **Network Adapters** tab to see more information about the interface, such as the **Operational status** value, which is synced from SL1.



Configuration Item = Leif Database > Status != Absent

Name	IP Address	Netmask	DHCP Enabled	MAC Address	Operational status	Mac manufacturer
ens160	192.168.32.185	255.255.252.0	false	00:50:56:a2:5e:a2	Operational	
ens192	192.168.0.1	255.255.255.252	false	00:50:56:a2:31:1c	Operational	

NOTE: The **Operational status** value is different from the **SL1 Monitored** value, but the Integration Service tracks both values.

Syncing File Systems from SL1 to ServiceNow

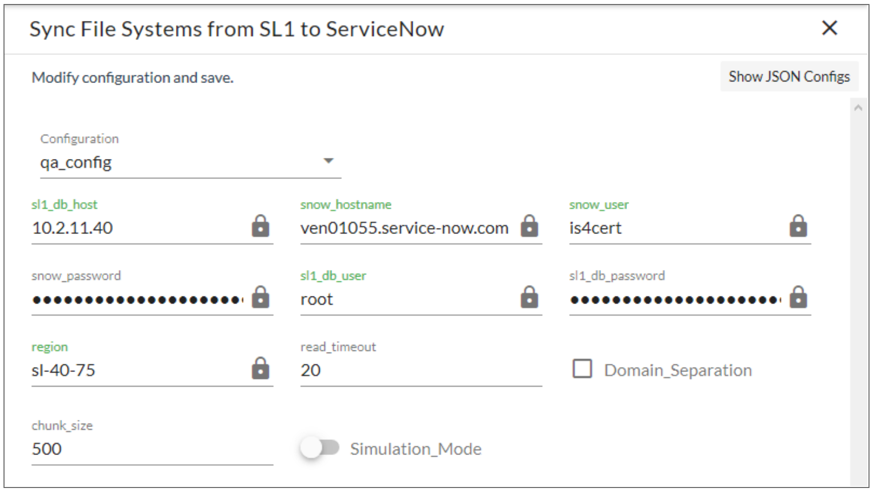
You can map and sync file systems in much the same way you sync devices between SL1 and ServiceNow. The "Sync File Systems from SL1 to ServiceNow" integration application reads file systems discovered in SL1 and then maps them to a parent CI record in ServiceNow.

WARNING: The Integration Service only syncs file systems that are aligned with devices that are already synced with ServiceNow. Before setting up file system sync, you must first ***sync devices between SL1 and ServiceNow***.

To sync SL1 file systems with ServiceNow:

1. In the Integration Service user interface, go to the **[Integrations]** tab and select the "Sync File Systems from SL1 to ServiceNow" integration application.

2. Click the **[Configure]** button to open the **Configuration** pane:



Sync File Systems from SL1 to ServiceNow

Modify configuration and save.

Configuration: qa_config

sl1_db_host: 10.2.11.40

snow_hostname: ven01055.service-now.com

snow_user: is4cert

snow_password: ••••••••••••••••••••

sl1_db_user: root

sl1_db_password: •••••••••••••••••••

region: sl-40-75

read_timeout: 20

□ Domain_Separation

chunk_size: 500

Simulation_Mode

3. Complete the following fields, as needed:

   - ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.
   - ***region***. The region value is populated by the configuration object you selected. The region value must match the value in the ***SL_Region*** field in ServiceNow. If you need to update this value, you will need to define the ***region*** variable in the configuration that is aligned with this integration application, or align a different configuration that has the correct region value.
   - ***read_timeout***. Specify the maximum amount of time in seconds the integration application should wait for a response before timing out. The default is 20 seconds.
   - ***Domain_Separation***. Select this option if your ServiceNow environment is *domain-separated*, where the data, processes, and administrative tasks have been organized into logical groupings called *domains*. If your ServiceNow instance is domain-separated, the user listed in the ***snow_user*** field must be a member of the top domain and have access to *all* of the domains you intend to integrate. Also, ServiceNow should be the "source of truth" for organizations if your environment is domain-separated.
   - ***chunk_size***. Specify the number of file systems to include in each chunk sent to ServiceNow when you run this integration application. The default chunk size is 500.
   - ***Simulation_Mode***. Select this option if you want to perform a simulated run of this integration application to show you the potential results of that run.

4. Click the **[Save]** button and close the **Configuration** pane.

5. Click the **[Run Now]** button to run the integration application.

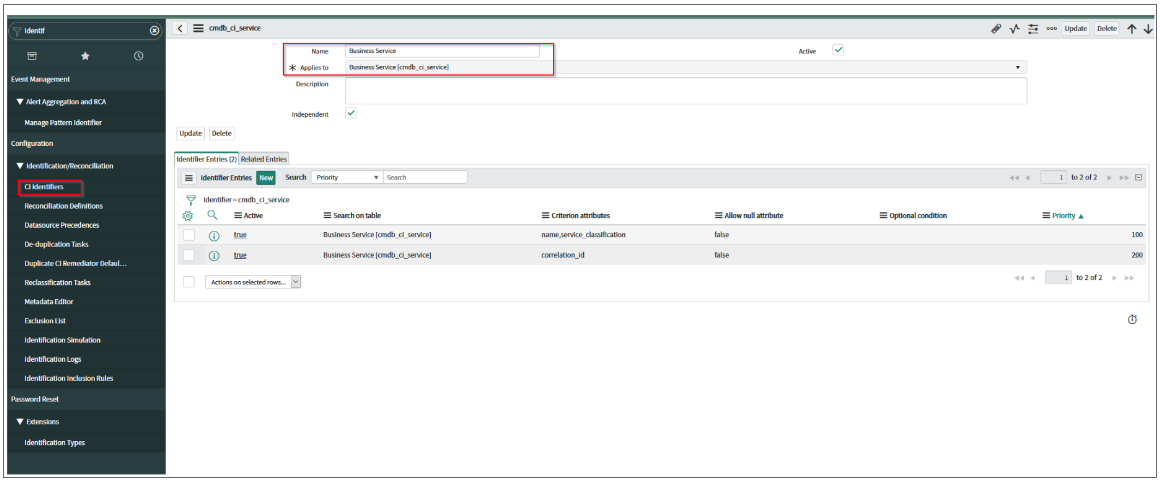
Syncing Business Services from SL1 to ServiceNow

The ***Sync Business Services from SL1 to ServiceNow*** integration application reads Business Services, IT Services, and Device Services from SL1 and syncs them with business services in ServiceNow. This integration application creates and updates services, but it does not delete services. Applications and Application Components from SL1 are *not* synced by the Integration Service from SL1 to ServiceNow.

WARNING: The Integration Service only syncs business services that are aligned with devices that are already synced with ServiceNow. Before setting up business service sync, you must first ***sync devices between SL1 and ServiceNow***.

To sync SL1 business services with ServiceNow:

1. In ServiceNow, create an identifier rule for syncing services by typing "CI Identifiers" in the filter navigator and clicking **[New]** on the **Identifiers** page:



Name: Business Service

Applies to: Business Service [cmdb_ci_service]

Description:

Independent: ✓

Active: ✓

Identifier = cmdb_ci_service

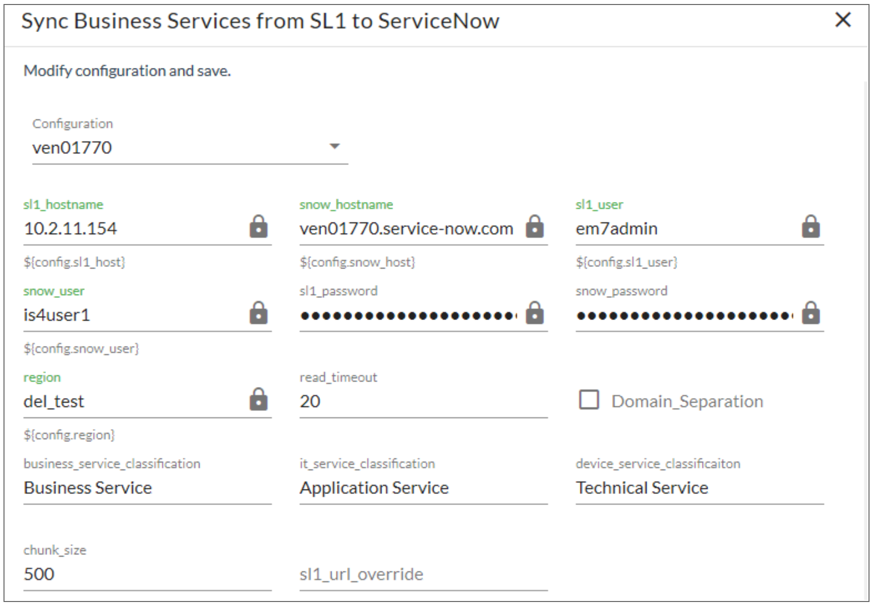
Active	Search on table	Criterion attributes	Allow null attribute	Optional condition	Priority
true	Business Service [cmdb_ci_service]	name,service_classification	false		100
true	Business Service [cmdb_ci_service]	correlation_id	false		200

2. Complete the following fields:

   - ***Name***. Type a relevant name for this rule, such as "Business Service".
   - ***Applies to***. Select *cmdb_ci_service*.
   - ***Independent***. Select this option.

3. Right-click the gray header and click *Save* to save the record.
4. On the **[Identifier Entries]** tab, click **[New]** and add the relevant values from the ***Criterion attributes*** field for this business service, such as *name, service_classification* and *correlation_id*.
5. Click **[Submit]**.
6. Repeat steps 4-5 for each identifier you want to add.
7. In the Integration Service user interface, go to the **[Integrations]** tab and select the "Sync Business Services from SL1 to ServiceNow" integration application.

8. Click **[Configure]** to open the **Configuration** pane:



Sync Business Services from SL1 to ServiceNow

Modify configuration and save.

Configuration
ven01770

sl1_hostname
10.2.11.154
${config.sl1_host}

snow_hostname
ven01770.service-now.com
${config.snow_host}

sl1_user
em7admin
${config.sl1_user}

snow_user
is4user1
${config.snow_user}

sl1_password
••••••••••••••••••••

snow_password
••••••••••••••••••••

region
del_test
${config.region}

read_timeout
20

□ Domain_Separation

business_service_classification
Business Service

it_service_classification
Application Service

device_service_classificaiton
Technical Service

chunk_size
500

sl1_url_override

9. Complete the following fields, as needed:

   - ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.
   - ***region***. The region value is populated by the configuration object you selected. The region value must match the value in the ***SL_Region*** field in ServiceNow. If you need to update this value, you will need to define the ***region*** variable in the configuration that is aligned with this integration application, or align a different configuration that has the correct region value.
   - ***read_timeout***. Specify the maximum amount of time in seconds the integration application should wait for a response before timing out. The default is 20 seconds.
   - ***Domain_Separation***. Select this option if your ServiceNow environment is *domain-separated*, where the data, processes, and administrative tasks have been organized into logical groupings called *domains*. If your ServiceNow instance is domain-separated, the user listed in the ***snow_user*** field must be a member of the top domain and have access to *all* of the domains you intend to integrate. Also, ServiceNow should be the "source of truth" for organizations if your environment is domain-separated.
   - ***business_service_classification***, ***it_service_classification***, and ***device_service_classification***. Use these fields to update the default service classifications. Optional.
   - ***chunk_size***. Specify the number of services to include in each chunk sent to ServiceNow when you run this integration application. The default chunk size is 500.
   - ***sl1_url_override***. Specify a URL that is different from the standard SL1 URL that gets sent to the ServiceNow CI record. Optional.

10. Click the **[Save]** button and close the **Configuration** pane.

11. Click the **[Run Now]** button to run the integration application.

Syncing Installed Software between SL1 and ServiceNow

You can use the following integration applications to sync your installed software assets between and ServiceNow:

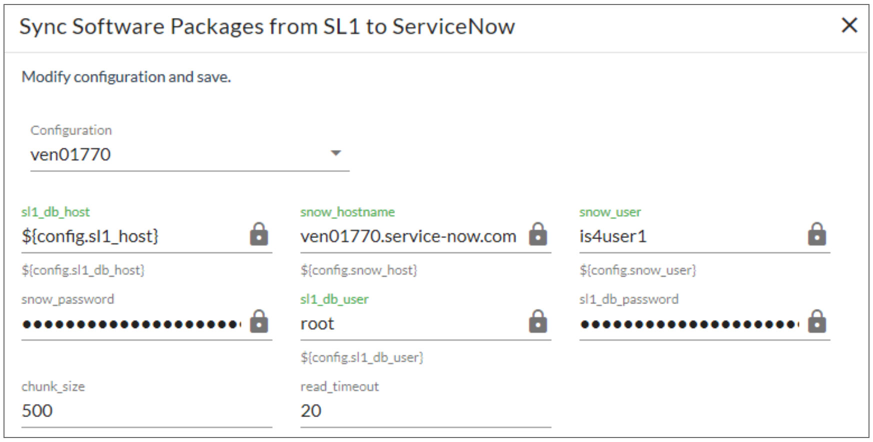
- "Sync Software Packages from SL1 to ServiceNow". Reads all software packages from SL1 and creates new CIs in ServiceNow. Run this integration before running the "Sync Installed Software" integration application.
- "Sync Installed Software from SL1 to ServiceNow". Reads all available software packages from ServiceNow and the devices aligned to that software by region and syncs them with SL1.

The integration applications do not currently support domain separation.

> **NOTE:** The Software Asset Management (SAM) application in ServiceNow is not supported with the current level of installed software data acquired with SL1. As a result, syncing installed software data with ServiceNow Discovery and other Software Asset Management software is not currently supported.

To sync installed software between SL1 and ServiceNow:

1. Make sure that you have recently run the "Sync Devices from SL1 to ServiceNow" integration application to populate the device cache.
2. In the Integration Service user interface, go to the **[Integrations]** tab and select the "Sync Software Packages from SL1 to ServiceNow" integration application.
3. Click the **[Configure]** button to open the **Configuration** pane:



Sync Software Packages from SL1 to ServiceNow

Modify configuration and save.

Configuration
ven01770

sl1_db_host
${config.sl1_host}
${config.sl1_db_host}

snow_hostname
ven01770.service-now.com
${config.snow_host}

snow_user
is4user1
${config.snow_user}

snow_password
•••••••••••••••••••••

sl1_db_user
root
${config.sl1_db_user}

sl1_db_password
•••••••••••••••••••••

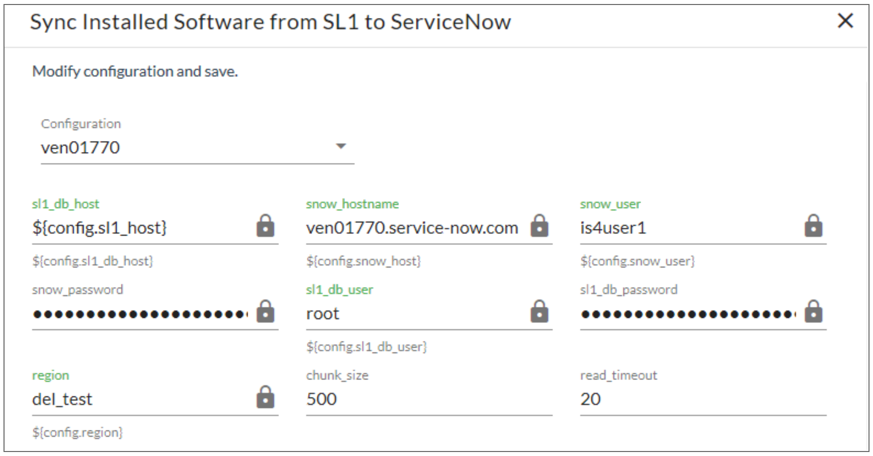
chunk_size
500

read_timeout
20

4. Complete the following fields, as needed:
   - ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.
   - ***chunk_size***. Specify the number of services to include in each chunk sent to ServiceNow when you run this integration application. The default chunk size is 500.

- ***read_timeout***. Specify the maximum amount of time in seconds the integration application should wait for a response before timing out. The default is 20 seconds.

5. Click the **[Save]** button and close the **Configuration** pane.
6. Click the **[Run Now]** button to run the integration application.
7. After the "Sync Software Packages from SL1 to ServiceNow" integration application finishes running, go to the **[Integrations]** tab and select the "Sync Installed Software from SL1 to ServiceNow" integration application.
8. Click the **[Configure]** button to open the **Configuration** pane:



Sync Installed Software from SL1 to ServiceNow ✕

Modify configuration and save.

Configuration
ven01770

sl1_db_host
${config.sl1_host}
${config.sl1_db_host}

snow_hostname
ven01770.service-now.com
${config.snow_host}

snow_user
is4user1
${config.snow_user}

snow_password
••••••••••••••••••••

sl1_db_user
root
${config.sl1_db_user}

sl1_db_password
••••••••••••••••••••

region
del_test
${config.region}

chunk_size
500

read_timeout
20

9. Complete the following fields, as needed:

   - ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.
   - ***region***. The region value is populated by the configuration object you selected. The region value must match the value in the ***SL_Region*** field in ServiceNow. If you need to update this value, you will need to define the ***region*** variable in the configuration that is aligned with this integration application, or align a different configuration that has the correct region value.
   - ***chunk_size***. Specify the number of services to include in each chunk sent to ServiceNow when you run this integration application. The default chunk size is 500.
   - ***read_timeout***. Specify the maximum amount of time in seconds the integration application should wait for a response before timing out. The default is 20 seconds.

10. Click the **[Run Now]** button to run the integration application.

Syncing Device Maintenance from ServiceNow to SL1

You can use two different methods to put one or more devices into maintenance mode from ServiceNow to SL1:

- Use the "Sync Maintenance Schedules from ServiceNow to SL1" integration application if you want to perform *scheduled* maintenance on a set of devices in SL1. For more information, see ***Scheduling Device Maintenance***.

- Use the "Trigger Device Maintenance Updates via MID Server" integration application if you want to *immediately* enable or disable maintenance on a device. For more information, see ***Directly Enabling or Disabling Device Maintenance from ServiceNow***.

Scheduling Device Maintenance

You create a change request to perform *scheduled* maintenance through a maintenance window in ServiceNow.

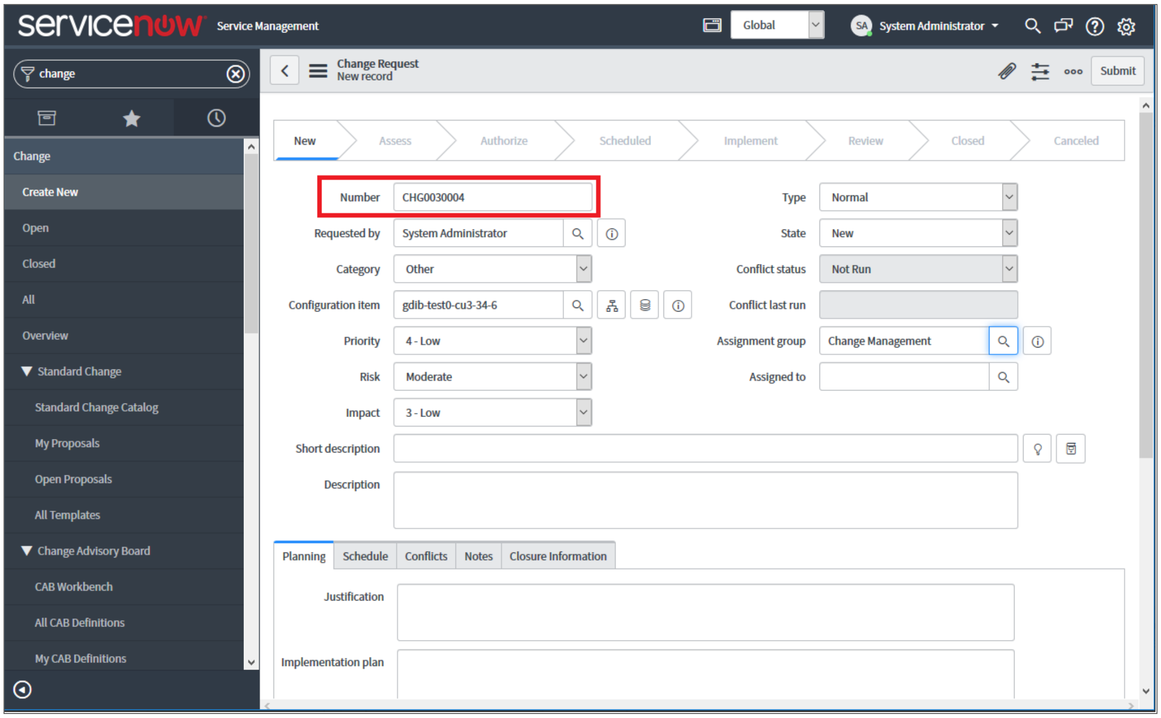
WARNING: The Integration Service only syncs maintenance schedules that are aligned with devices that are already synced with ServiceNow. Before setting up maintenance schedule sync, you must first ***sync devices between SL1 and ServiceNow***.

The CI Maintenance Sync process (non-scheduled) syncs maintenance windows from ServiceNow change requests (CHG)s to SL1 devices to place the synced devices into maintenance mode for the scheduled change window.

NOTE: The SL1 Scheduler supports maintenance windows of at least one minute or more.

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:



Number: CHG0030004

Requested by: System Administrator

Category: Other

Configuration item: gdib-test0-cu3-34-6

Priority: 4 - Low

Risk: Moderate

Impact: 3 - Low

Type: Normal

State: New

Conflict status: Not Run

Conflict last run:

Assignment group: Change Management

Assigned to:

Short description:

Description:

Justification:

Implementation plan:

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*.

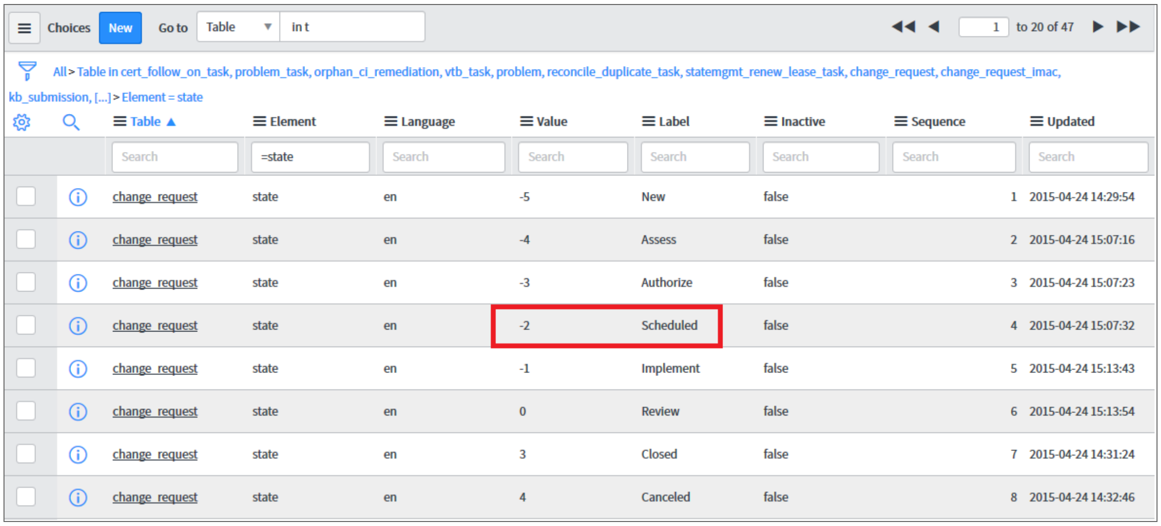
4. Update the following fields in the record:

    - ***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 ***SL1 Monitored*** field selected before the Integration Service 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:



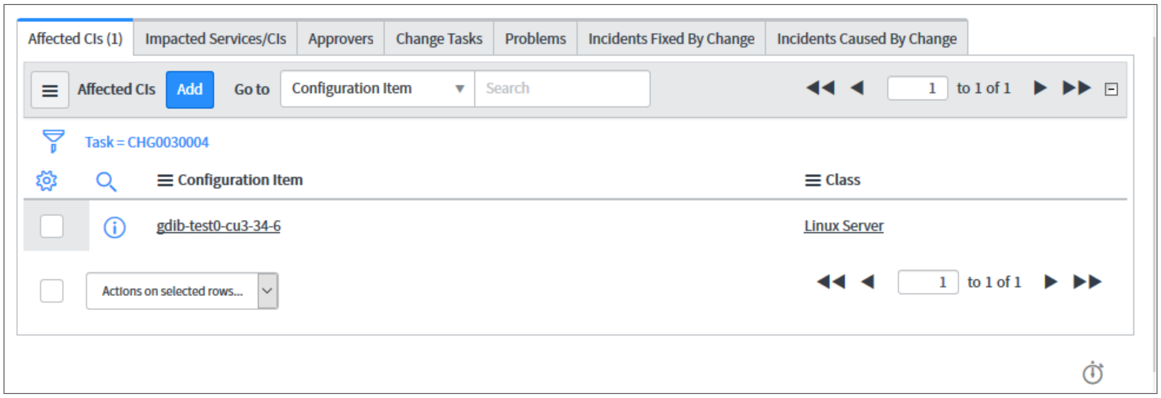
All > Table in cert_follow_on_task, problem_task, orphan_ci_remediation, vtb_task, problem, reconcile_duplicate_task, statemgmt_renew_lease_task, change_request, change_request_imac, kb_submission, [...] > Element = state

Table ▲	Element	Language	Value	Label	Inactive	Sequence	Updated
Search	=state	Search	Search	Search	Search	Search	Search
change_request	state	en	-5	New	false	1	2015-04-24 14:29:54
change_request	state	en	-4	Assess	false	2	2015-04-24 15:07:16
change_request	state	en	-3	Authorize	false	3	2015-04-24 15:07:23
change_request	state	en	-2	Scheduled	false	4	2015-04-24 15:07:32
change_request	state	en	-1	Implement	false	5	2015-04-24 15:13:43
change_request	state	en	0	Review	false	6	2015-04-24 15:13:54
change_request	state	en	3	Closed	false	7	2015-04-24 14:31:24
change_request	state	en	4	Canceled	false	8	2015-04-24 14:32:46

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 SL1" integration application.

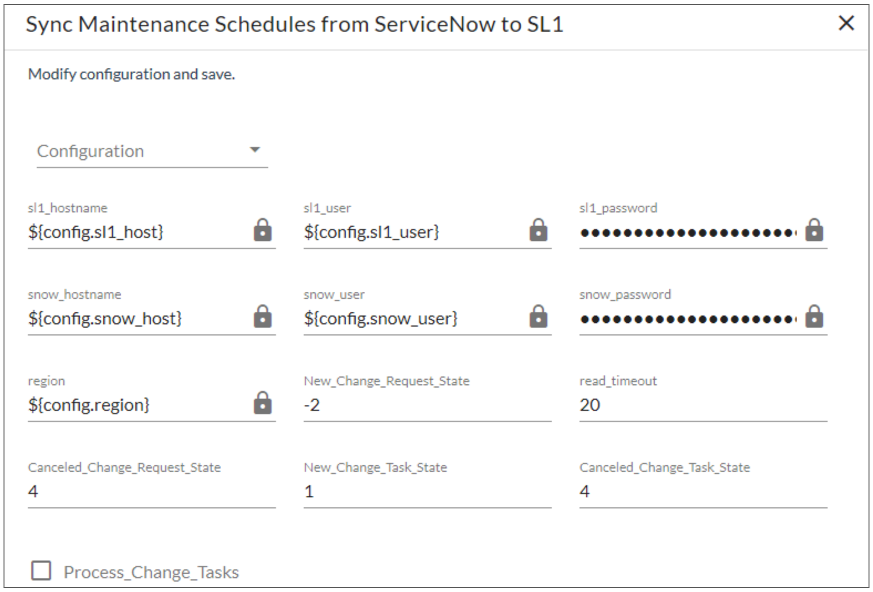
8. Return to your new change request and scroll down in the change request to the **[Affected CIs]** tab, where you can click the **[Add]** button to add additional synced CIs to the maintenance sync:



Task = CHG0030004

Configuration Item	Class
gdib-test0-cu3-34-6	Linux Server

9. In the Integration Service user interface, go to the **[Integrations]** tab and select the "Sync Maintenance Schedules from ServiceNow to SL1" integration application.
10. Click the **[Configure]** button. The **Configuration** pane appears:



Sync Maintenance Schedules from ServiceNow to SL1 ✕

Modify configuration and save.

Configuration ▾

sl1_hostname
${config.sl1_host}

sl1_user
${config.sl1_user}

sl1_password
••••••••••••••••••••

snow_hostname
${config.snow_host}

snow_user
${config.snow_user}

snow_password
••••••••••••••••••••

region
${config.region}

New_Change_Request_State
-2

read_timeout
20

Canceled_Change_Request_State
4

New_Change_Task_State
1

Canceled_Change_Task_State
4

☐ Process_Change_Tasks

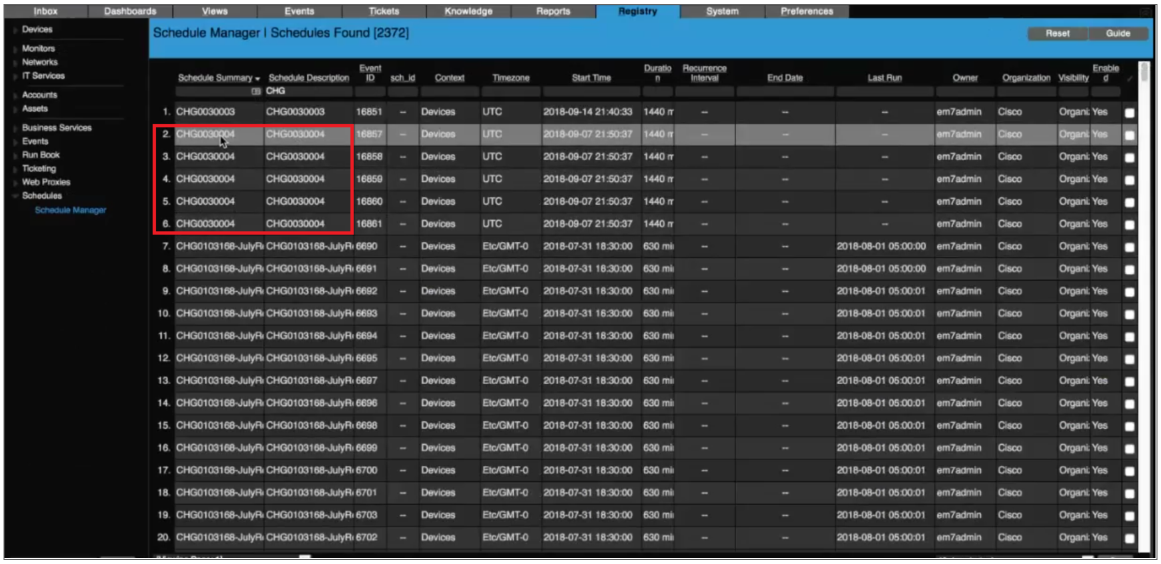
11. As needed, update the following options from the **Configuration** pane:
    - ***New_Change_Request_State***. The State ID from ServiceNow of the scheduled change request that this integration application accesses to pull to schedule maintenance windows in SL1.The default is -2.
    - ***read_timeout***. Specify the maximum amount of time in seconds the integration 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 integration application accesses to pull to schedule maintenance windows in SL1. The default is 4.
    - ***New_Change_Task_State***: The State ID of the scheduled change task that this integration application accesses to pull to cancel maintenance windows in SL1. The default is 1.
    - ***Canceled_Change_Task_State***: The State ID for a canceled change task that this integration application accesses to pull to cancel maintenance windows in SL1. The default is 4.
    - ***Process_Change_Tasks***: Select this option to enable change task processing. The default is unselected.

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 the **[Save]** button and then click the **[Run Now]** button to run the integration application.

14. While the "Sync Maintenance from ServiceNow to SL1" integration 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.

15. After the "Sync Maintenance from ServiceNow to SL1" integration application completes, navigate to the **Schedule Manager** (Registry > Schedules > Schedule Manager) in SL1 to view the change requests.



Schedule Manager | Schedules Found [2372]

	Schedule Summary	Schedule Description	Event ID	sch_id	Context	Timezone	Start Time	Duration	Recurrence Interval	End Date	Last Run	Owner	Organization	Visibility	Enabled	
		CHG														
1.	CHG0030003	CHG0030003	16851	--	Devices	UTC	2018-09-14 21:40:33	1440 m	--	--	--	em7admin	Cisco	Organi:	Yes	□
2.	CHG0030004	CHG0030004	16857	--	Devices	UTC	2018-09-07 21:50:37	1440 m	--	--	--	em7admin	Cisco	Organi:	Yes	□
3.	CHG0030004	CHG0030004	16858	--	Devices	UTC	2018-09-07 21:50:37	1440 m	--	--	--	em7admin	Cisco	Organi:	Yes	□
4.	CHG0030004	CHG0030004	16859	--	Devices	UTC	2018-09-07 21:50:37	1440 m	--	--	--	em7admin	Cisco	Organi:	Yes	□
5.	CHG0030004	CHG0030004	16860	--	Devices	UTC	2018-09-07 21:50:37	1440 m	--	--	--	em7admin	Cisco	Organi:	Yes	□
6.	CHG0030004	CHG0030004	16861	--	Devices	UTC	2018-09-07 21:50:37	1440 m	--	--	--	em7admin	Cisco	Organi:	Yes	□
7.	CHG0103168-JulyR	CHG0103168-JulyR	6690	--	Devices	Etc/GMT-0	2018-07-31 18:30:00	630 mi	--	--	2018-08-01 05:00:00	em7admin	Cisco	Organi:	Yes	□
8.	CHG0103168-JulyR	CHG0103168-JulyR	6691	--	Devices	Etc/GMT-0	2018-07-31 16:30:00	630 mi	--	--	2018-08-01 05:00:00	em7admin	Cisco	Organi:	Yes	□
9.	CHG0103168-JulyR	CHG0103168-JulyR	6692	--	Devices	Etc/GMT-0	2018-07-31 18:30:00	630 mi	--	--	2018-08-01 05:00:01	em7admin	Cisco	Organi:	Yes	□
10.	CHG0103168-JulyR	CHG0103168-JulyR	6693	--	Devices	Etc/GMT-0	2018-07-31 16:30:00	630 mi	--	--	2018-08-01 05:00:01	em7admin	Cisco	Organi:	Yes	□
11.	CHG0103168-JulyR	CHG0103168-JulyR	6694	--	Devices	Etc/GMT-0	2018-07-31 18:30:00	630 mi	--	--	2018-08-01 05:00:01	em7admin	Cisco	Organi:	Yes	□
12.	CHG0103168-JulyR	CHG0103168-JulyR	6695	--	Devices	Etc/GMT-0	2018-07-31 18:30:00	630 mi	--	--	2018-08-01 05:00:01	em7admin	Cisco	Organi:	Yes	□
13.	CHG0103168-JulyR	CHG0103168-JulyR	6697	--	Devices	Etc/GMT-0	2018-07-31 18:30:00	630 mi	--	--	2018-08-01 05:00:01	em7admin	Cisco	Organi:	Yes	□
14.	CHG0103168-JulyR	CHG0103168-JulyR	6696	--	Devices	Etc/GMT-0	2018-07-31 18:30:00	630 mi	--	--	2018-08-01 05:00:01	em7admin	Cisco	Organi:	Yes	□
15.	CHG0103168-JulyR	CHG0103168-JulyR	6698	--	Devices	Etc/GMT-0	2018-07-31 18:30:00	630 mi	--	--	2018-08-01 05:00:01	em7admin	Cisco	Organi:	Yes	□
16.	CHG0103168-JulyR	CHG0103168-JulyR	6699	--	Devices	Etc/GMT-0	2018-07-31 18:30:00	630 mi	--	--	2018-08-01 05:00:01	em7admin	Cisco	Organi:	Yes	□
17.	CHG0103168-JulyR	CHG0103168-JulyR	6700	--	Devices	Etc/GMT-0	2018-07-31 18:30:00	630 mi	--	--	2018-08-01 05:00:01	em7admin	Cisco	Organi:	Yes	□
18.	CHG0103168-JulyR	CHG0103168-JulyR	6701	--	Devices	Etc/GMT-0	2018-07-31 18:30:00	630 mi	--	--	2018-08-01 05:00:01	em7admin	Cisco	Organi:	Yes	□
19.	CHG0103168-JulyR	CHG0103168-JulyR	6703	--	Devices	Etc/GMT-0	2018-07-31 18:30:00	630 mi	--	--	2018-08-01 05:00:01	em7admin	Cisco	Organi:	Yes	□
20.	CHG0103168-JulyR	CHG0103168-JulyR	6702	--	Devices	Etc/GMT-0	2018-07-31 18:30:00	630 mi	--	--	2018-08-01 05:00:01	em7admin	Cisco	Organi:	Yes	□

16. Verify that the **Schedule Summary** field contains the same value from the ServiceNow **Number** field. In this example, the value in SL1 matches the value from ServiceNow: *CHG0030004*.

17. 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.

18. If you want to edit the scheduled time for the maintenance sync, open the change request in ServiceNow, click the **[Schedule]** tab, and update the **Planned start date** and **Planned end date fields** as needed. The next time the "Sync Maintenance from ServiceNow to SL1" integration application runs, the schedule is updated.

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 SL1" integration application runs, the application cancels that maintenance sync.

TIP: As a best practice, schedule the "Sync Maintenance from ServiceNow to SL1" integration application to run every hour or so, depending on your environment. For more information, see *Scheduling Integration Applications*.

Directly Enabling or Disabling Device Maintenance from ServiceNow

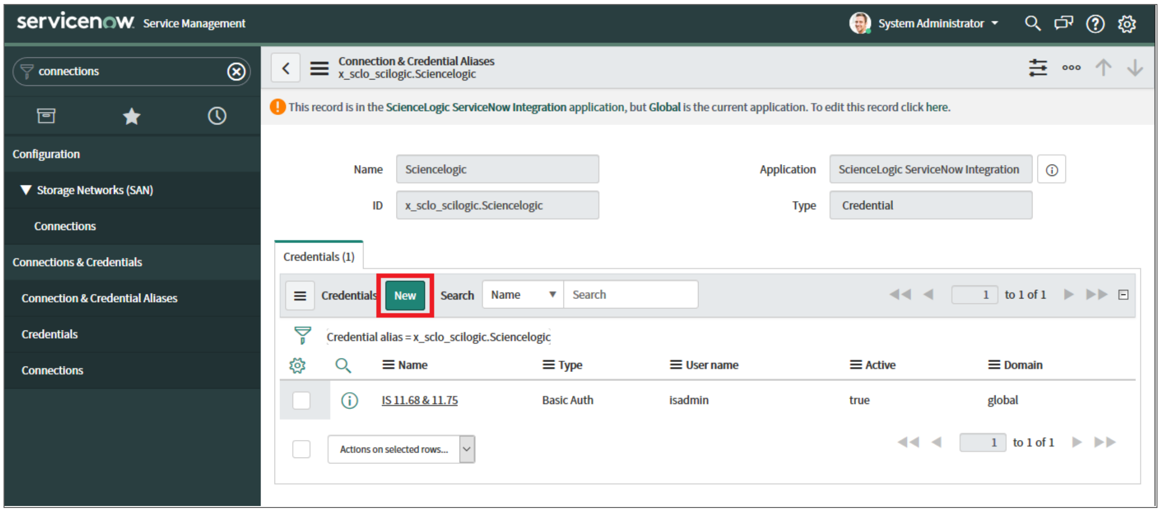
The "Trigger Device Maintenance Updates via MID Server" integration application receives a group of one or more synced devices from the ServiceNow Management, Instrumentation, and Discovery (MID) Server and checks for the *enable_maintenance* and *disable_maintenance* actions on those devices. If the application encounters devices with one of those actions, it will enable or disable the user maintenance status of those devices as needed.

You do *not* need to update any fields on the **Configuration** pane for the "Trigger Device Maintenance Updates via MID Server" integration application. You also do *not* need to run this integration application, as it is 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 *Appendix C: ServiceNow Registered Events*.

Before you can set up maintenance sync with the MID Server, you need to create a credential for the MID Server. You should have access to the "Integration Services" section of the **Discovery Dependents** page in ServiceNow.

To create a credential to connect to the Integration Service:

1. In ServiceNow, go to **Connections & Credentials > Connection & Credential Aliases**.
2. From the **Connection & Credential Aliases** list, select **ScienceLogic**. This record is provided by the Integration Service Certified Application. The **Connection & Credential Aliases page** appears:


servicenow Service Management
System Administrator
connections
Configuration
Storage Networks (SAN)
Connections
Connections & Credentials
Connection & Credential Aliases
Credentials
Connections
Connection & Credential Aliases
x_sclo_scilogic.Sciencelogic
Credentials (1)
Credentials
New
Search
Search
to 1 of 1
Actions on selected rows...

This record is in the ScienceLogic ServiceNow Integration application, but Global is the current application. To edit this record click here.

Name: Sciencelogic
ID: x_sclo_scilogic.Sciencelogic
Application: ScienceLogic ServiceNow Integration
Type: Credential

Credential alias = x_sclo_scilogic.Sciencelogic

Name	Type	User name	Active	Domain
IS 11.68 & 11.75	Basic Auth	isadmin	true	global

3. Click **[New]** to create a new credential. The **Credentials** page appears.
4. From the list of credentials, select **Basic Auth Credentials**. This is currently the only type of credential that is supported. The **Basic Auth Credentials** page appears.

5. Complete the fields related to the Integration Service on the **Basic Auth Credentials** page. Make sure that the ***Credential alias*** field is set to *x_sclo_scilogic.Sciencelogic*.
5. Click **[Submit]**. The credential is added to the **Connection & Credential Aliases** page.
6. Select the new credential. The **Basic Auth Credentials** page for that credential appears.
7. Click **[New]** to create a Discovery IP Affinity record. A new **Credential Affinity** page appears.
8. Complete the following fields:

   - ***MID server***. The name of the Mid Server you want to use.
   - ***IP address***. Use the Integration Service 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.

9. Click **[Submit]**.

Discovery Sync

The Discovery Sync integration lets you use SL1 for discovering and syncing ServiceNow devices. With Discovery Sync, you start an SL1 discovery session from ServiceNow and then sync the newly discovered SL1 devices or virtual devices and their data with ServiceNow.

Before running a Discovery Sync session, you must complete the following steps first:

1. For domain-separated ServiceNow instances, perform a company sync by running the "Sync Organizations from SL1 to ServiceNow" integration application in the Integration Service user interface. For more information, see ***Syncing Organizations from SL1 to ServiceNow***.
2. In ServiceNow, configure a service request for Discovery Sync. For more information, see ***Configuring a ServiceNow Service Request for Discovery Sync***.
3. In the Integration Service user interface, run the integration applications listed in the ***Discovery Sync Workflow***.

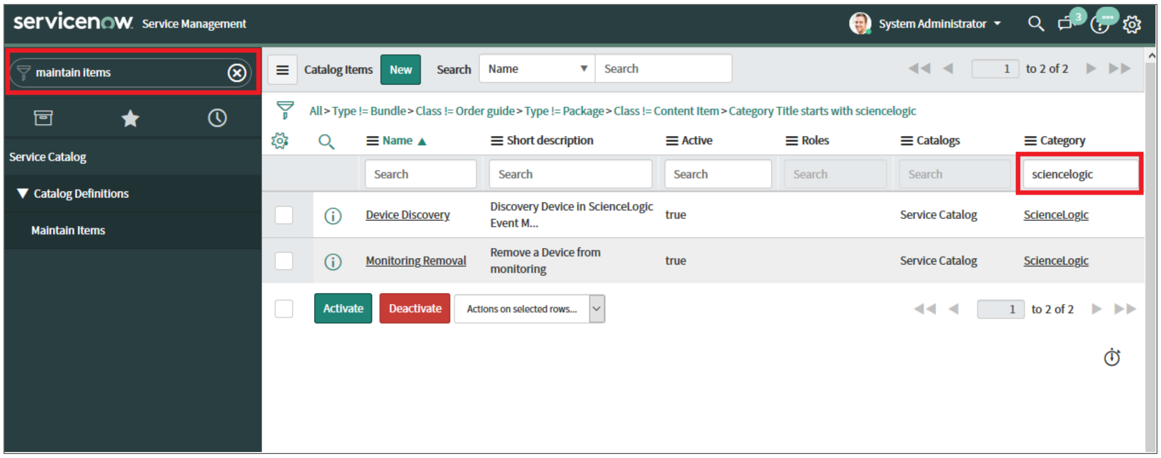
Configuring a ServiceNow Service Request for Discovery Sync

Before you can run a Discovery Sync, you need to configure the catalog and category values in the ServiceNow service request forms. You also need to activate the "Device Discovery" service request in ServiceNow.

NOTE: Because some of the fields in the service request form will only populate if you have completed the previous fields in the form, you need to complete the fields in the service request form in sequential order.

To configure the ServiceNow service requests for Discovery Sync:

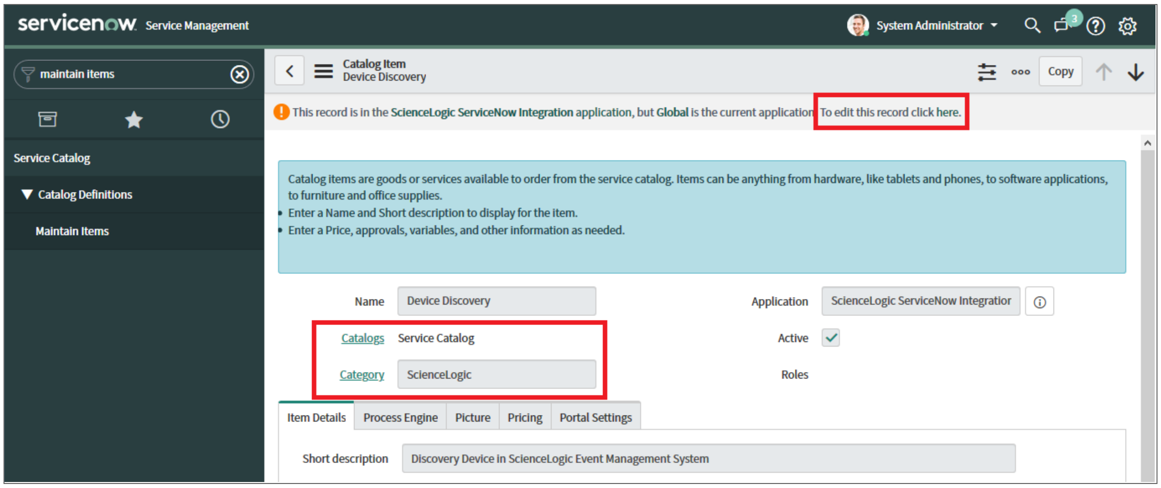
1. In ServiceNow, search for "Maintain Items" in the filter navigator.
2. Go to **Service Catalog > Catalog Definitions > Maintain Items** and type "ScienceLogic" in the Category field. The **Device Discovery** and **Monitoring Removal** service requests appear:



All > Type != Bundle > Class != Order guide > Type != Package > Class != Content Item > Category Title starts with sciencelogic

Name ▲	Short description	Active	Roles	Catalogs	Category
Search	Search	Search	Search	Search	sciencelogic
Device Discovery	Discovery Device in ScienceLogic Event M...	true		Service Catalog	ScienceLogic
Monitoring Removal	Remove a Device from monitoring	true		Service Catalog	ScienceLogic

3. Open the **Device Discovery** service request and ensure that the **Catalogs** and **Category** fields are accurate. For example:



This record is in the ScienceLogic ServiceNow Integration application, but Global is the current application. To edit this record click here.

Catalog items are goods or services available to order from the service catalog. Items can be anything from hardware, like tablets and phones, to software applications, to furniture and office supplies.

- Enter a Name and Short description to display for the item.
- Enter a Price, approvals, variables, and other information as needed.

Name: Device Discovery

Application: ScienceLogic ServiceNow Integratior

Catalogs: Service Catalog

Active: ☑

Category: ScienceLogic

Roles:

Short description: Discovery Device in ScienceLogic Event Management System

NOTE: Do not set the ***Category*** to a *Change Request*.

4. If you need to update these fields, click the "To edit this record click ***here***" link at the top of the detail page.
5. Update the fields and click the **[Update]** button to save your changes.
6. From the **Catalog Items** page, click the check box for the **Device Discovery** service request and click **[Activate]**.

NOTE: This service request is instance-specific, which means that the service request will appear in the same location as the catalogs you specified for that request. In the example, above, the **Catalog** was set to *Service Catalog*.

7. Navigate to the relevant catalog for the service request. For example, if you selected *Service Catalog* for one or both requests, then type "Service Catalog" in the filter navigator, or select **Self-Service > Service Catalog** to view the new service requests. Type "device discovery" in the ***Search catalog*** field to quickly locate the request.

8. Run the integration applications listed in the ***Discovery Sync Workflow*** before creating the Device Discovery service request in ServiceNow.

Discovery Sync Workflow

To prepare SL1 and ServiceNow for a Discovery Sync, run the following integration applications in the Integration Service user interface, in the following order:

1. ***Sync Discovery Requirements***. This application exports information from SL1 to populate the information in the ServiceNow request form. You must run this application before you can create the discovery sync session in ServiceNow. This application uses one or more of the following options from the **Configuration** pane:

   - ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.
   - ***region***. The region value is populated by the configuration you selected. The region value must match the value in the ***SL_Region*** field in ServiceNow. If you need to update this value, you will need to define the ***region*** variable in the configuration that is aligned with this integration application, or align a different configuration that has the correct region value.
   - ***read_timeout***. Specify the maximum amount of time in seconds the integration application should wait for a response before timing out. The default is 20 seconds.
   - ***Chunk_Size***. Specify the number of devices to include in each chunk sent to ServiceNow when you run this integration application. The default is 500.
   - ***Domain_Separation***. Select this option if your ServiceNow environment is *domain-separated*, where the data, processes, and administrative tasks have been organized into logical groupings called *domains*. If your ServiceNow instance is domain-separated, the user listed in the ***snow_user*** field must be a member of the top domain and have access to *all* of the domains you intend to integrate. Also, ServiceNow should be the "source of truth" for organizations if your environment is domain-separated.
   - ***Update_Name***. This option addresses the situation where the Integration Service finds a match with a device or CI, but the names do not match. This option updates a device or CI name based on your selection in the *Source_of_Truth* field, below. For example, if you selected *ScienceLogic* as the source of truth, the Integration Service uses the device name from ScienceLogic as the updated name.
   - ***Source_of_Truth***. Select whether you want to use data from ServiceNow or ScienceLogic as the "source of truth" when this integration application encounters duplicate data or data collisions.

    - ***Create_Missing***. Select this option if you want the Integration Service to create a new device or CI if that record is missing, based on your selection in the *Source_of_Truth* field.
    - ***Sync_Empty_Groups***. Select this option if you want to sync device groups that have no devices, or device groups that have devices but no matching CIs.

2. ***Sync Service Requests from ServiceNow to SL1***. This application sends the request forms to SL1. This application was called "Sync Discovery Session Requests from ServiceNow to SL1" in previous versions of the SyncPack. This application uses one or more of the following options from the **Configuration** pane:

    - ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.
    - ***Open_State***. The State ID from ServiceNow that specifies which Requested Items (RITMs) to pull and process. The default is 1.
    - ***read_timeout***. Specify the maximum amount of time in seconds the integration application should wait for a response before timing out. The default is 20 seconds.
    - ***Closed_Success_State***. The State ID for a successfully created virtual device. The State ID for a successful run changes from 1 to 2 and then ends with 4. The default is 3.
    - ***Closed_Failed_State*** The State ID for failed discoveries or failed virtual device creation, usually caused by invalid payloads. The State ID for a failed run changes from 1 to 2 and then ends with 4. The default is 4.
    - ***In_Progress_State***. The State ID for RITMs for a running discovery. The default is 2.
    - ***recursively_disable_children***. Leave this field blank.
    - ***target_vcug***. Leave this field blank.

3. ***Sync Discovery Session Status from SL1 to ServiceNow***. This application populates the discovery session logs back to ServiceNow. This application uses the following options from the **Configuration** pane:

    - ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.
    - ***read_timeout***. Specify the maximum amount of time in seconds the integration application should wait for a response before timing out. The default is 20 seconds.
    - ***Closed_Success_State***. The State ID for a successfully created discovery. The State ID for a successful run changes from 1 to 2 and then ends with 4. The default is 3.

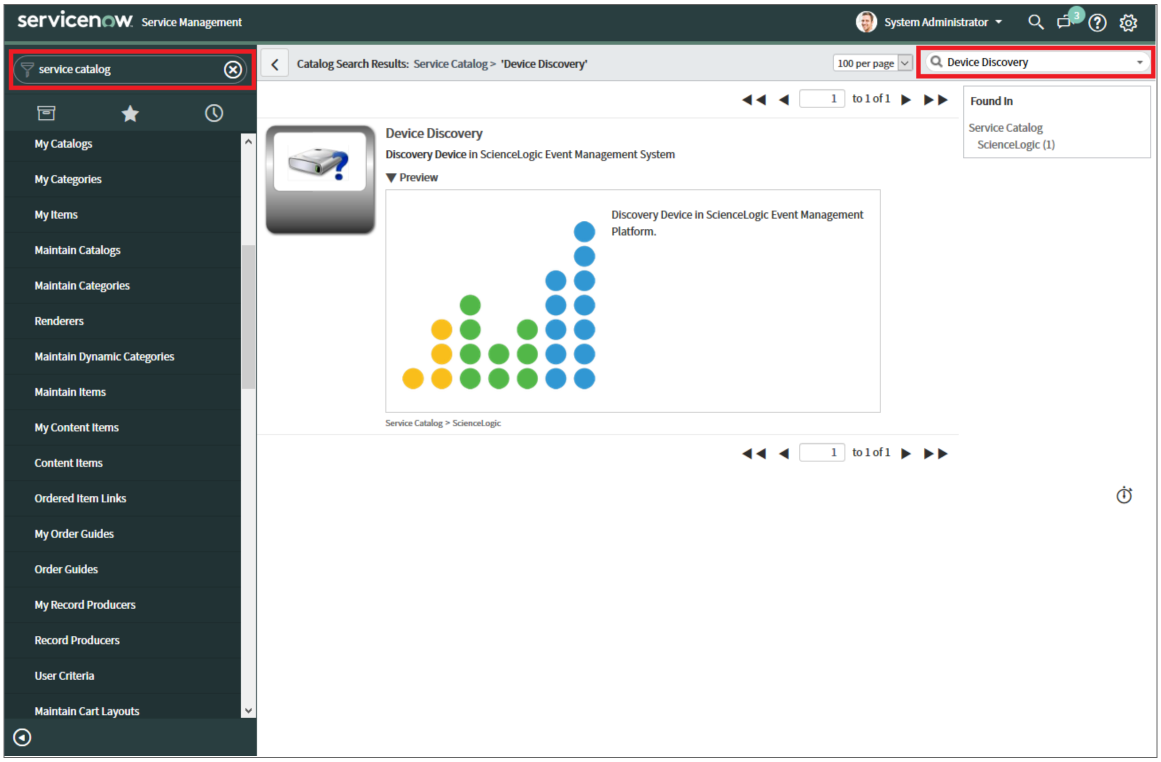
4. ***Sync Devices from SL1 to ServiceNow***. Running this application ensures that the devices discovered by SL1 get synced to ServiceNow.
5. When the integration applications finish running, the Integration Service sends the status of those applications to ServiceNow, and you can ***run a Discovery Sync in ServiceNow***.

Running a Discovery Sync in ServiceNow

The Discovery Sync process starts an SL1 discovery session from ServiceNow and syncs the newly discovered SL1 devices and their data with ServiceNow. You can choose to discover standard devices or virtual devices.

To run a Discovery Sync from the Service Catalog page:

1. In ServiceNow, search for "service catalog" in the filter navigator.
2. Navigate to the **Service Catalog** page (Self-Service > Service Catalog), type "device discovery" in the ***Search catalog*** field at the top right, and press **[Enter]**. The **Device Discovery** catalog entry appears:



service catalog

Device Discovery

Catalog Search Results: Service Catalog > 'Device Discovery'

Device Discovery

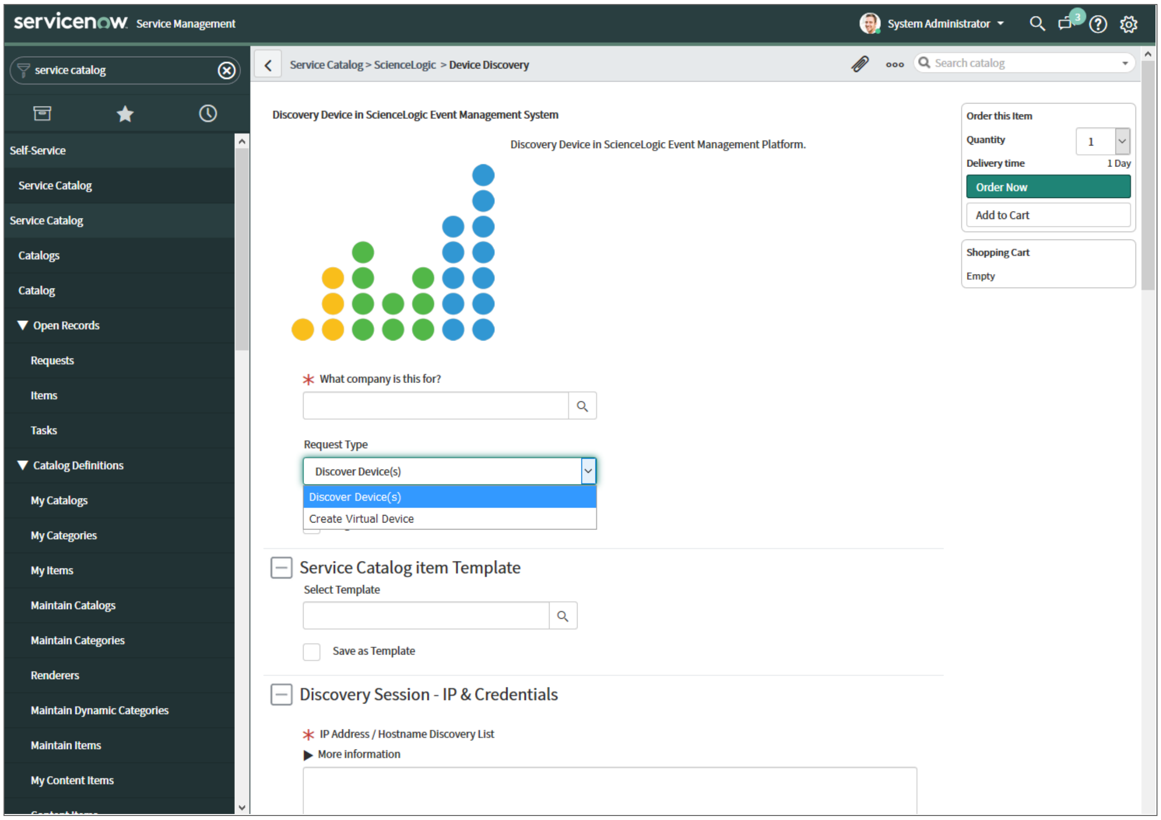
Discovery Device in ScienceLogic Event Management System

Discovery Device in ScienceLogic Event Management Platform.

Service Catalog > ScienceLogic

NOTE: Previous versions of the "ScienceLogic SL1: CMDB & Incident Automation Application" (also called the Certified or Scoped Application) created two separate service requests: **Create Virtual Device** and **Device Discovery**. Both features have been combined into the **Device Discovery** service request.

3. Click **Device Discovery**. The **Device Discovery** service request appears:



Discovery Device in ScienceLogic Event Management System

Discovery Device in ScienceLogic Event Management Platform.

* What company is this for?

Request Type: Discover Device(s)

- Discover Device(s)
- Create Virtual Device

Service Catalog item Template

Select Template

□ Save as Template

Discovery Session - IP & Credentials

* IP Address / Hostname Discovery List

More information

4. In the ***What company is this for?*** field, specify the company. The ***Region*** field updates automatically based on the company you select.

5. In the ***Request Type*** field, select *Discover Device(s)* or *Create Virtual Device*, depending on the type of device you want to discover.

   - If you selected *Discover Device(s)*, go to step 6.
   - If you selected *Create Virtual Device*, go to step 7.

6. If you selected *Discover Device(s)* in the ***Request Type*** field, complete the following fields:

   - ***Log All***. Select this option if you want the discovery session to use verbose logging. When you select this option, SL1 logs details about each IP address or hostname specified in the ***IP Address/Hostname Discovery List*** field, even if the results are "No device found at this address."
   - ***Select Template***. To use a template that contains your device discovery information, select the template from the dropdown.

TIP: You can save the current device discovery as a template by checking ***Save as 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).

   - ***IP Address/Hostname Discovery List***. Provide a list of IP addresses, hostnames, or fully-qualified domain names for SL1 to scan during discovery:

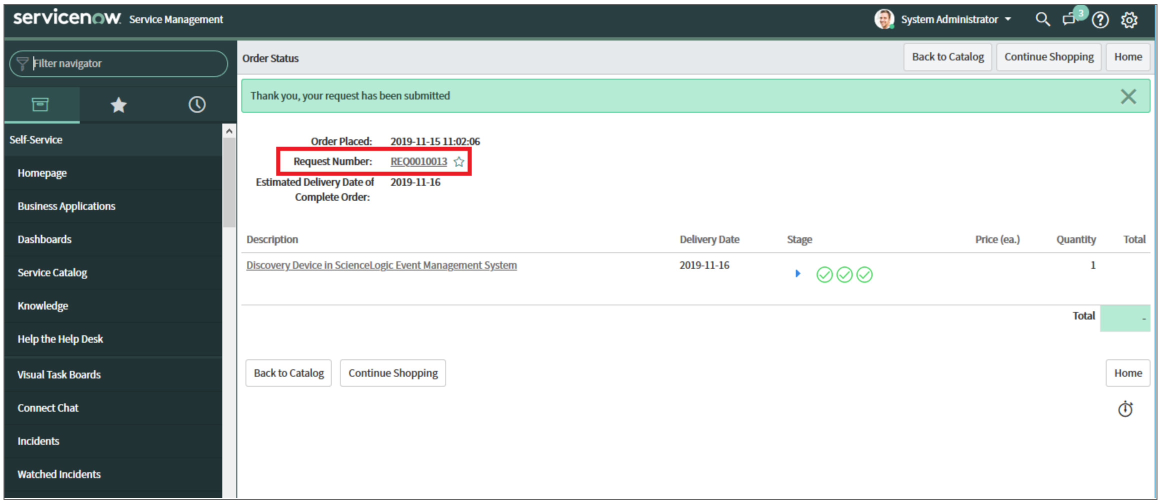
- One or more *single IPv4 addresses* separated by commas and a new line. Each IP address must be in standard IP notation and cannot exceed 15 characters. For example, "10.20.30.1, 10.20.30.2, 10.20."
- One or more *ranges of IPv4 addresses* with "-" (dash) characters between the beginning of the range 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 SL1 to access a device's SNMP data.
- ***Discover Non-SNMP***. Specifies whether or not SL1 should discover devices that don't respond to SNMP requests.
- ***Model Devices***. Determines whether or not the devices that are discovered with this discovery session can be managed through SL1.
- ***DHCP***. Specifies whether or not the specified range of IPs and hostnames use DHCP. If you select this option, SL1 performs a DNS lookup for the device during discovery and each time SL1 retrieves information from the device.
- ***Device Model Cache TTL (h)***. Amount of time, in hours, that SL1 stores information about devices that are discovered but not modeled, either because the ***Model Devices*** option is not enabled or because SL1 cannot determine whether a duplicate device already exists. The cached data can be used to manually model the device from the **Discovery Session** window.
- ***Collection Server***. Select an existing collector to monitor the discovered devices. Required.
- ***What company is this for?***. Specify the company that will use this discovery data. Click the magnifying glass icon to locate a company.
- ***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 SL1 discovers a device in the IP discovery list, that device is configured with the selected device template.
- ***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.
- ***Scan Default Ports***. Select this option to scan the default ports: 21,22,23,25,80. If you de-select this option, you can specify a different list of ports in the ***Custom Port Scan*** field that appears.
- ***Port Scan All IPs***. For the initial discovery session only, specifies whether SL1 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 SL1 should stop trying to scan an IP address for open ports and begin scanning the next IP address (if applicable).
- ***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, SL1 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, SL1 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 SL1 to attempt to discover interfaces for each device in the discovery session.

7. If you selected *Create Virtual Device* in the ***Request Type*** field, complete the following fields:
   - ***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 SL1 collector group to use for the Discovery Sync. Click the magnifying glass icon to locate any collector groups aligned with your organization.

8. Click **[Order Now]**. On the **Order Status** page that appears, make a note of value in the ***Request Number*** field:



Order Status

Thank you, your request has been submitted

Order Placed: 2019-11-15 11:02:06
Request Number: REQ0010013
Estimated Delivery Date of Complete Order: 2019-11-16

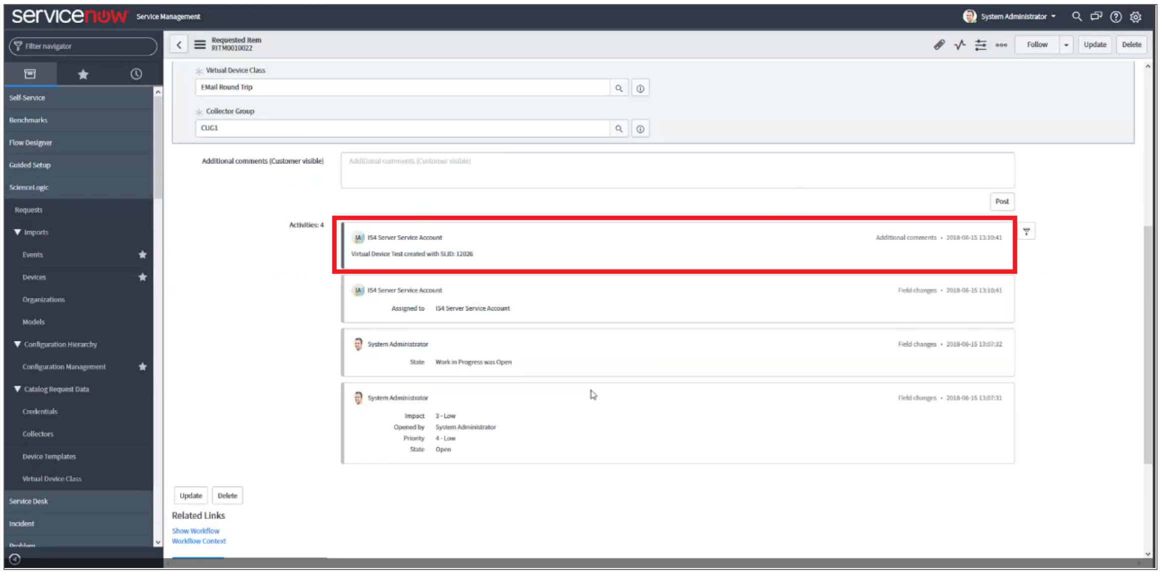
Description	Delivery Date	Stage	Price (ea.)	Quantity	Total
Discovery Device in ScienceLogic Event Management System	2019-11-16	✓✓✓		1	
				Total	-

9. In the Integration Service user interface, go to the **[Integrations]** tab and run the "Sync Service Requests from ServiceNow to SL1" integration 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. In the Integration Service user interface, go to the **[Integrations]** tab and run the "Sync Devices from SL1 to

ServiceNow" integration application to make sure that the device or devices were discovered.

13. 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 SL1, navigate to the **Discovery Control Panel** page (Registry > Manage > Discovery) and verify that SL1 created a new discovery session with that ID.

14. For a virtual device discovery, go to ServiceNow and perform the following:
    - Scroll down to the **Activities** pane to verify that you have a comment stating "Virtual Device <name> Created with SLID: <new id>"



Requested Item RITM0010022

Virtual Device Class: EMail Round Trip

Collector Group: CUG1

Additional comments (Customer visible)

Activities: 4

IS4 Server Service Account — Additional comments • 2018-08-15 13:10:41
Virtual Device Test created with SLID: 12026

IS4 Server Service Account — Field changes • 2018-08-15 13:10:41
Assigned to: IS4 Server Service Account

System Administrator — Field changes • 2018-08-15 13:07:32
State: Work in Progress was Open

System Administrator — Field changes • 2018-08-15 13:07:31
Impact: 3 - Low
Opened by: System Administrator
Priority: 4 - Low
State: Open

    - In SL1, navigate to the **Device Manager** page (Registry > Device Manager) and verify that SL1 created a new device with that device ID.

Discovering One or More Devices from ServiceNow to SL1

If you want to quickly select one or more CIs in ServiceNow for monitoring in SL1, you can use the *Monitor Device List* option from the **Configuration Items** list view, or the *Monitor Device* option from the Configuration Item detail view.

This feature uses registered events in ServiceNow that are queued to ServiceNow Event Management to trigger actions in the Integration Service. Also, this method is just an example of one of many ways to trigger a registered event. For more information about registered events, including examples of other triggering events you can define in ServiceNow, see *Appendix C: ServiceNow Registered Events*.

You will need to create a discovery template for a discovery process created on the **Service Catalog** page before you can discover devices using that template on the **Configuration Items** page. 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).

To discover one or more devices from ServiceNow:

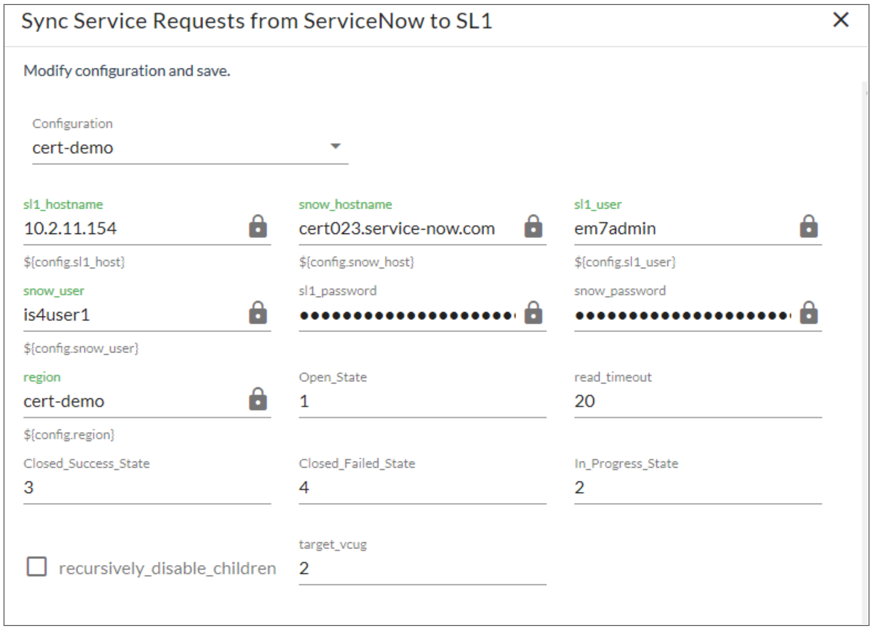
1. In ServiceNow, navigate to the **Configuration Items** page.
2. From the list view, select the CI or CIs (devices) that you want to discover.

> NOTE: A CI in ServiceNow must be aligned with a company in ServiceNow, or the service request will be canceled. Also, that company must be associated with a ScienceLogic Region.

3. Right-click anywhere in the window and select *Monitor Device List* from the pop-up menu. A **Select Discovery Template** dialog box appears.

> TIP: You can also select a specific CI from the list view and click the *Monitor Device* option from the Configuration Item detail view. You will also need to use an existing template for this process.

4. Select a discovery template to use for the current discovery.
5. Click **[OK]** to use the template. ServiceNow generates a new service request for **Device Discovery** for each CI.
6. In the Integration Service user interface, select the "Sync Service Requests from ServiceNow to SL1" integration application and click the **[Configure]** button on the application detail page. The **Configuration** pane appears:



Sync Service Requests from ServiceNow to SL1

Modify configuration and save.

Configuration: cert-demo

sl1_hostname: 10.2.11.154
${config.sl1_host}

snow_hostname: cert023.service-now.com
${config.snow_host}

sl1_user: em7admin
${config.sl1_user}

snow_user: is4user1
${config.snow_user}

sl1_password: ••••••••••••••••••••

snow_password: ••••••••••••••••••••

region: cert-demo
${config.region}

Open_State: 1

read_timeout: 20

Closed_Success_State: 3

Closed_Failed_State: 4

In_Progress_State: 2

☐ recursively_disable_children

target_vcug: 2

7. Complete the following fields, as needed:

- ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.

- ***Open_State***. The State ID from ServiceNow that specifies which Requested Items (RITMs) to pull and process. The default is 1.
- ***read_timeout***. Specify the maximum amount of time in seconds the integration application should wait for a response before timing out. The default is 20 seconds.
- ***Closed_Success_State***. The State ID for a successfully created virtual device. The State ID for a successful run changes from 1 to 2 and then ends with 4. The default is 3.
- ***Closed_Failed_State*** The State ID for failed discoveries or failed virtual device creation, usually caused by invalid payloads. The State ID for a failed run changes from 1 to 2 and then ends with 4. The default is 4.
- ***In_Progress_State***. The State ID for RITMs for a running discovery. The default is 2.
- ***recursively_disable_children***. Leave this field blank.
- ***target_vcug***. Leave this field blank.

8. Click the **[Save]** button and close the **Configuration** pane.
9. Click the **[Run Now]** button to run the integration application.
10. Go to the **[Integrations]** tab and run the "Sync Devices from SL1 to ServiceNow" integration application to make sure that the device or devices were discovered.

Decommissioning Devices

If you want to quickly select one or more CIs in ServiceNow for to remove from monitoring (or "decommission") in SL1, you can use the *Device Monitoring Removal list* option from the **Configuration Items** list view, or the *Monitoring Removal* option from the Configuration Item detail view.

You then use the "Sync Service Requests from ServiceNow to SL1" integration application to decommission the devices that you no longer want to monitor. Running this integration application takes the list of synced devices in the service request and moves them to an SL1 Virtual Collector Group (VCUG). The "Sync Service Requests from ServiceNow to SL1" integration application was formerly named "Sync Discovery Session Requests from ServiceNow to SL1".

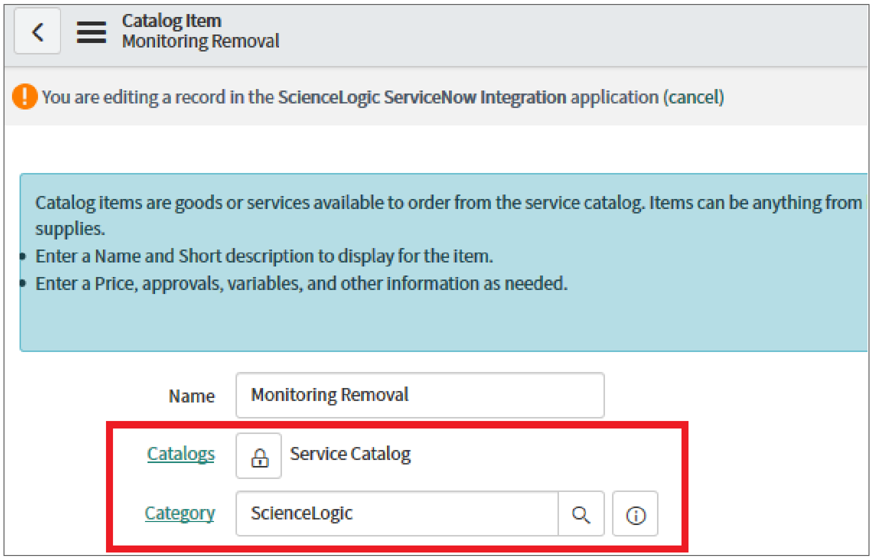
WARNING: If you move a parent device to a new VCUG, then all of its children move as well. If you move a child directly, only the child moves.

This feature uses registered events in ServiceNow that are queued to ServiceNow Event Management to trigger actions in the Integration Service. Also, this method is just an example of one of many ways to trigger a registered event. For more information about registered events, including examples of other triggering events you can define in ServiceNow, see ***Appendix C: ServiceNow Registered Events***.

Activating the ServiceNow Service Request for Monitoring Removal

To activate the ServiceNow service request for Device Decommission:

1. In ServiceNow, search for "Maintain Items" in the filter navigator.
2. Go to **Service Catalog > Catalog Definitions > Maintain Items** and type "ScienceLogic" in the Category field.
3. Open the "Monitoring Removal" service request and ensure that the **Catalogs** and **Category** fields are complete. Add the relevant information if the fields are blank. For example:



Catalog Item
Monitoring Removal

You are editing a record in the ScienceLogic ServiceNow Integration application (cancel)

Catalog items are goods or services available to order from the service catalog. Items can be anything from supplies.
- Enter a Name and Short description to display for the item.
- Enter a Price, approvals, variables, and other information as needed.

Name: Monitoring Removal
Catalogs: Service Catalog
Category: ScienceLogic

NOTE: Do not set the **Category** to a *Change Request*.

4. If you need to update these fields, click the "To edit this record click ***here***" link at the top of the detail page.
5. Update the fields and click the **[Update]** button to save your changes.
6. From the **Catalog Items** page, click the check box for the **Monitoring Removal** service request and click the **[Activate]** button at the bottom of the **Catalog Items** window.
7. Navigate to the relevant catalog for the service request. For example, if you selected *Service Catalog*, then type "Service Catalog" in the filter navigator, or select **Self-Service > Service Catalog** to view the new service requests.

Removing Devices from Monitoring

To decommission Configuration Items (devices) in ServiceNow that you no longer want to monitor:

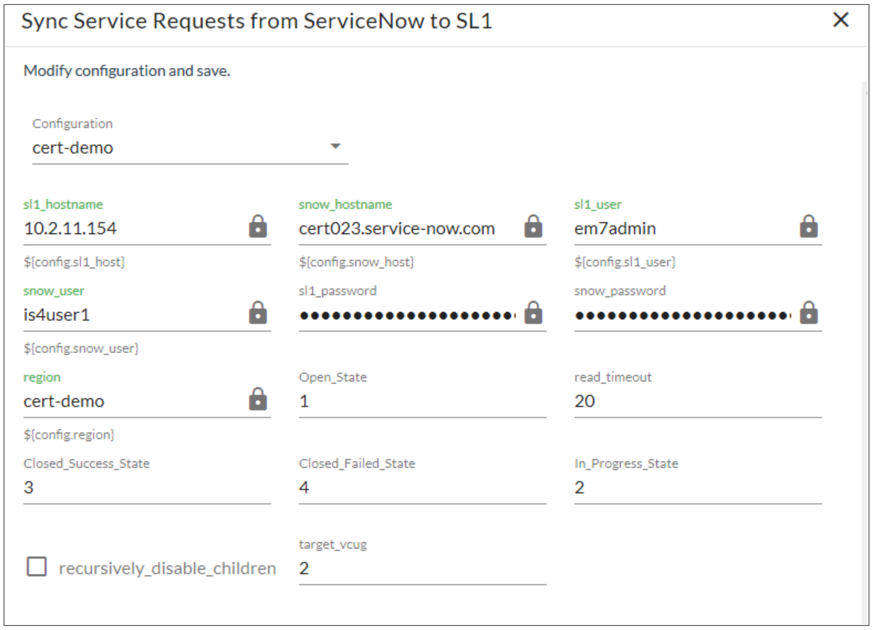
1. In ServiceNow, navigate to the **Configuration Items** window.
2. From the list view, select the CI or CIs (devices) that you want to decommission.

NOTE: A CI in ServiceNow must be aligned with a company in ServiceNow, or the service request will be canceled. Also, a company must be associated with a ScienceLogic Region.

3. Right-click anywhere on the window and select *Device Monitoring Removal list* from the pop-up menu. A dialog box appears.
4. Click **[OK]** to remove the CI or CIs from monitoring. ServiceNow generates a new service request for **Monitoring Removal** for each CI.

TIP: You can also select a specific CI from the list view and click the *Monitoring Removal* option from the Configuration Item detail view.

5. In the Integration Service user interface, select the "Sync Service Requests from ServiceNow to SL1" integration application and click the **[Configure]** button on the application detail page. The **Configuration** pane appears:



Sync Service Requests from ServiceNow to SL1

Modify configuration and save.

Configuration: cert-demo

sl1_hostname: 10.2.11.154
${config.sl1_host}

snow_hostname: cert023.service-now.com
${config.snow_host}

sl1_user: em7admin
${config.sl1_user}

snow_user: is4user1
${config.snow_user}

sl1_password: ••••••••••••••••••••

snow_password: ••••••••••••••••••••

region: cert-demo
${config.region}

Open_State: 1

read_timeout: 20

Closed_Success_State: 3

Closed_Failed_State: 4

In_Progress_State: 2

☐ recursively_disable_children

target_vcug: 2

6. Complete the following field:

   - ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.
   - ***read_timeout***. Specify the maximum amount of time in seconds the integration 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 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 SL1 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 integration application will attempt to pull the value from the ***target_vcug*** field in the "Delete Devices from SL1" integration application.

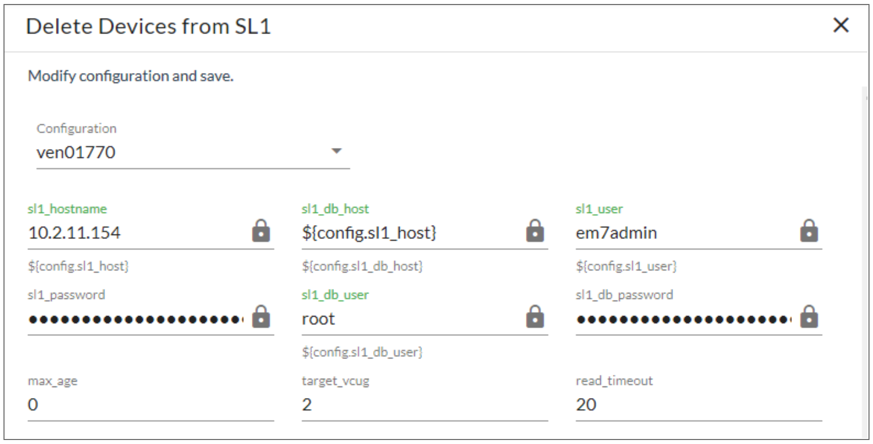
7. Click the **[Save]** button and close the **Configuration** pane.
8. Click the **[Run Now]** button to run the integration application.

Deleting Devices

The "Delete Devices from SL1" integration application lets you delete devices in a specific Virtual Collector Group (VCUG) if those devices have not been modified in SL1 for a specified time, such as one day or five days. You can update this time in the ***max_age*** configuration value, which is described below.

To delete devices from a VCUG:

1. In the Integration Service user interface, run the "Sync Service Requests from ServiceNow to SL1" integration application to pull a list of decommissioned devices that you no longer want to monitor. For more information, see ***Decommissioning Devices***.
2. On the **[Integrations]** tab, select the "Delete Devices from SL1" integration application and click the **[Configure]** button on the application detail page. The **Configuration** page appears:



Delete Devices from SL1

Modify configuration and save.

Configuration
ven01770

sl1_hostname
10.2.11.154
${config.sl1_host}

sl1_db_host
${config.sl1_host}
${config.sl1_db_host}

sl1_user
em7admin
${config.sl1_user}

sl1_password
••••••••••••••••••••••

sl1_db_user
root
${config.sl1_db_user}

sl1_db_password
••••••••••••••••••••••

max_age
0

target_vcug
2

read_timeout
20

3. Complete the following fields, as needed:

- ***Configuration***. Select the relevant configuration object to align with this integration application. You cannot edit fields that are populated by the configuration object. Required.
- ***max_age***. Specify how long (in days) that you want to keep the devices in the VCUG before deleting the devices. The default is 0 days. If this setting is 0, all devices in the VCUG will be deleted as soon as this application runs. If this setting is null, the application will fail. If all device children are in the same VCUG, the application will delete the target device and all of its children.
- ***target_vcug***. Specify the ID of the SL1 Virtual Collection Group (VCUG) you created to hold the devices on the **Collector Group Settings** page (System > Settings > Collector Groups). Set this value to **-1** if you want this integration applications to use the ***target_vcug*** value from the "Sync Service Requests from ServiceNow to SL1" integration application.

WARNING: If you specify a value to ***target_vcug*** here, the "Delete Devices from SL1" application will use that value instead of the ***target_vcug*** value from the "Sync Service Requests from ServiceNow to SL1" application.

- ***read_timeout***. Specify the maximum amount of time in seconds the integration application should wait for a response before timing out. The default is 20 seconds.

4. Click the **[Save]** button and close the **Configuration** pane.
5. Click the **[Run Now]** button to run the integration application.

Scheduling Integration Applications

Using the Integration Service user interface, you can configure integration applications to run on a schedule instead of manually running the applications. As a best practice, if you use any of these applications, ScienceLogic recommends that you schedule those applications, in the following order:

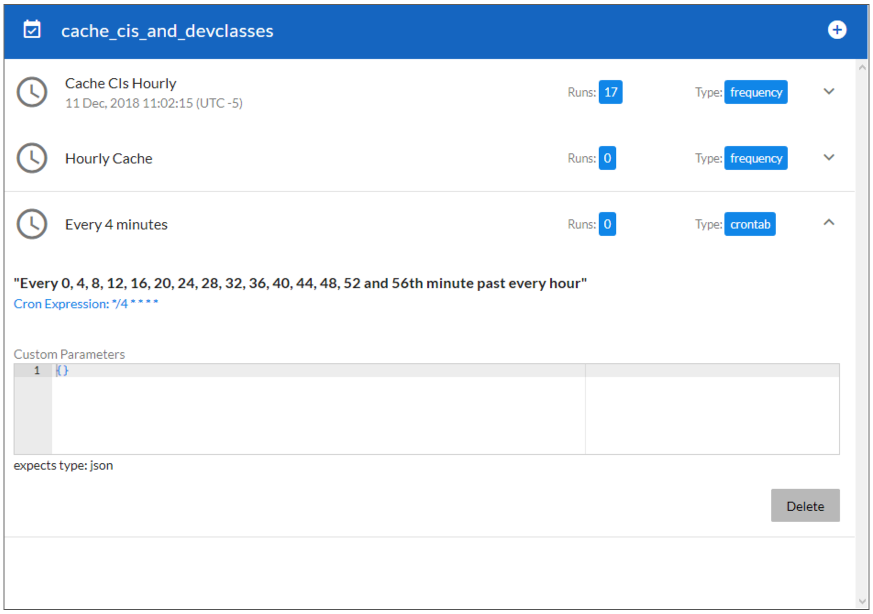
- "Cache ServiceNow CIs and SL1 Device Classes"
- "Sync Devices from SL1 to ServiceNow"
- "Sync Interfaces from SL1 to ServiceNow"

TIP: ScienceLogic recommends that you schedule these integration applications to run at least every 23 hours. You can also schedule additional applications as needed.

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

To schedule an integration application:

1. On the **Integrations** page ( ), click **[Schedule]** for the integration application you want to schedule. The **Schedule** window appears, displaying any existing schedules for that application:



cache_cis_and_devclasses

Cache CIs Hourly 11 Dec, 2018 11:02:15 (UTC -5)	Runs: 17	Type: frequency	
Hourly Cache	Runs: 0	Type: frequency	
Every 4 minutes	Runs: 0	Type: crontab	

"Every 0, 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52 and 56th minute past every hour"

Cron Expression: */4 * * * *

Custom Parameters

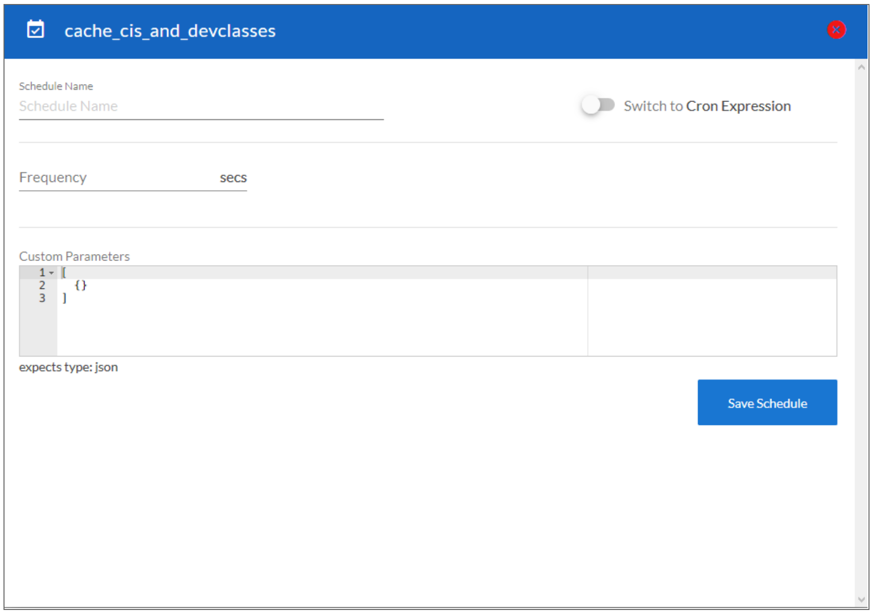
```
{}
```

expects type: json

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:

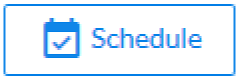


```
[
  {}
]
```

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

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

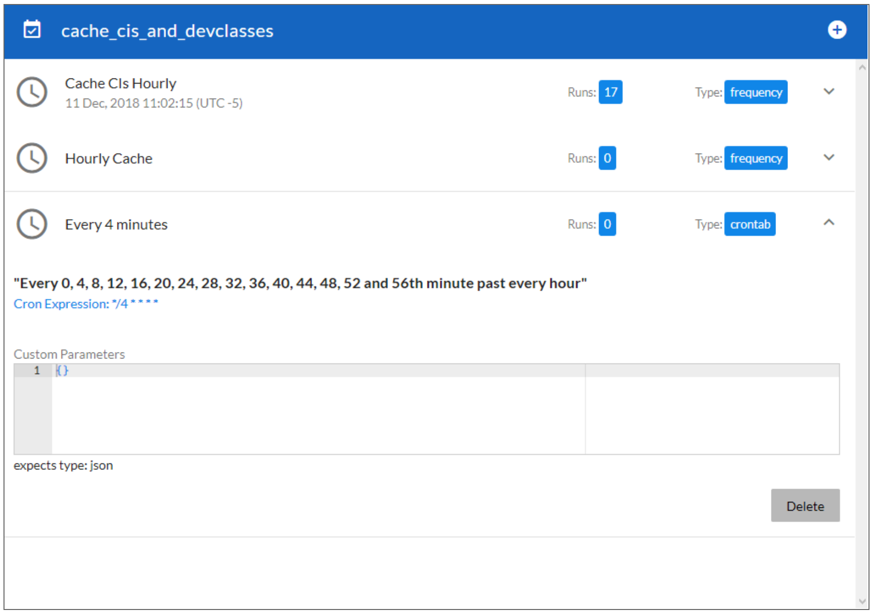


> **NOTE:** After you create a schedule, it continues to run until you delete it. Also, you cannot edit an existing schedule, but you can delete it and create a similar schedule if needed.

To view or delete an existing schedule:

1. On the **Integrations** page , click **[Schedule]** for the integration 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:



cache_cis_and_devclasses

Cache CIs Hourly
11 Dec, 2018 11:02:15 (UTC -5)
Runs: 17 Type: frequency

Hourly Cache
Runs: 0 Type: frequency

Every 4 minutes
Runs: 0 Type: crontab

"Every 0, 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52 and 56th minute past every hour"
Cron Expression: */4 * * * *

Custom Parameters

```
{}
```

expects type: json

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

Troubleshooting CMDB Sync

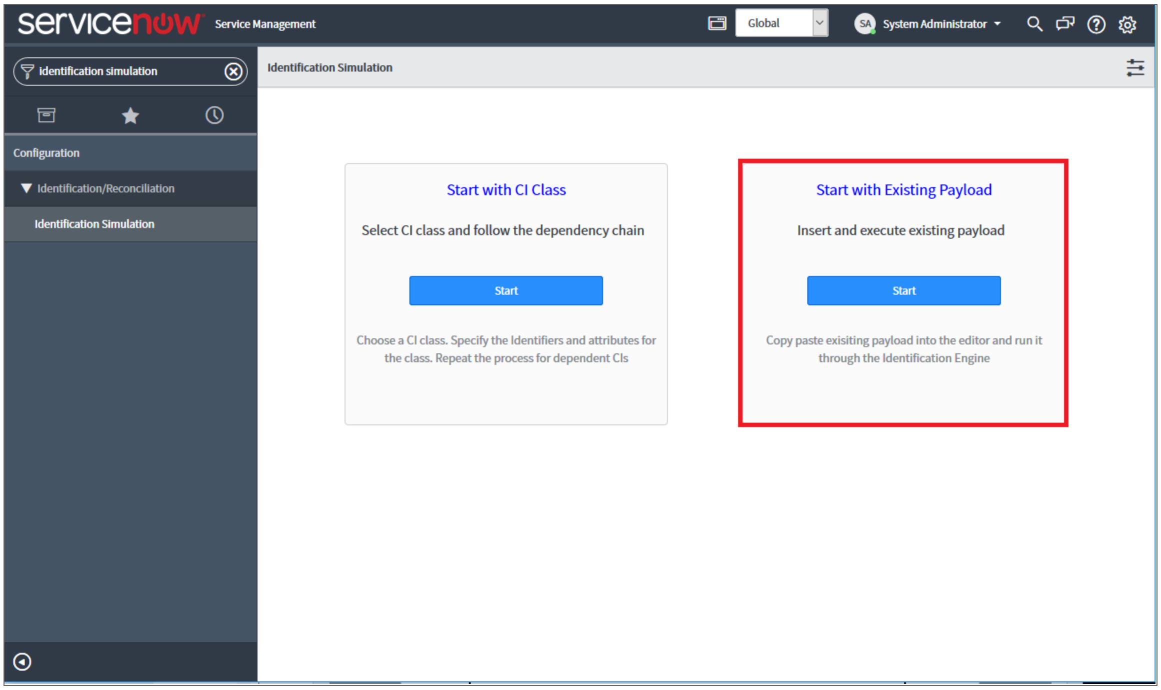
This section contains troubleshooting processes that you can use to address issues with CMDB Sync.

Issues Creating CIs in ServiceNow

If you can successfully send data to your ServiceNow system, but you encounter issues with creating CIs in the ServiceNow CMDB, this section provides troubleshooting steps to help you test the payload and identify possible issues. These steps might be helpful if you have set up datasource precedence rules.

1. In ServiceNow, search for "import" in the filter navigator.
2. Select **ScienceLogic > Device > Imports**. The **Device Import** window appears.
3. From the list, select the Device Import log entry you want to view.

4. Copy the data from the **Payload** field in the log entry and decode the data from its Base64 encoding.
5. In the decoded string of data, remove the square brackets from the first and last line: ("[", "]")
6. Copy this modified JSON payload, and then use the filter navigator to search for "Identification Simulation" or select **Configuration > Identification Simulation**.


servicenow Service Management
Global
System Administrator
Identification simulation
Configuration
Identification/Reconciliation
Identification Simulation

Identification Simulation

Start with CI Class

Select CI class and follow the dependency chain

Start

Choose a CI class. Specify the Identifiers and attributes for the class. Repeat the process for dependent CIs

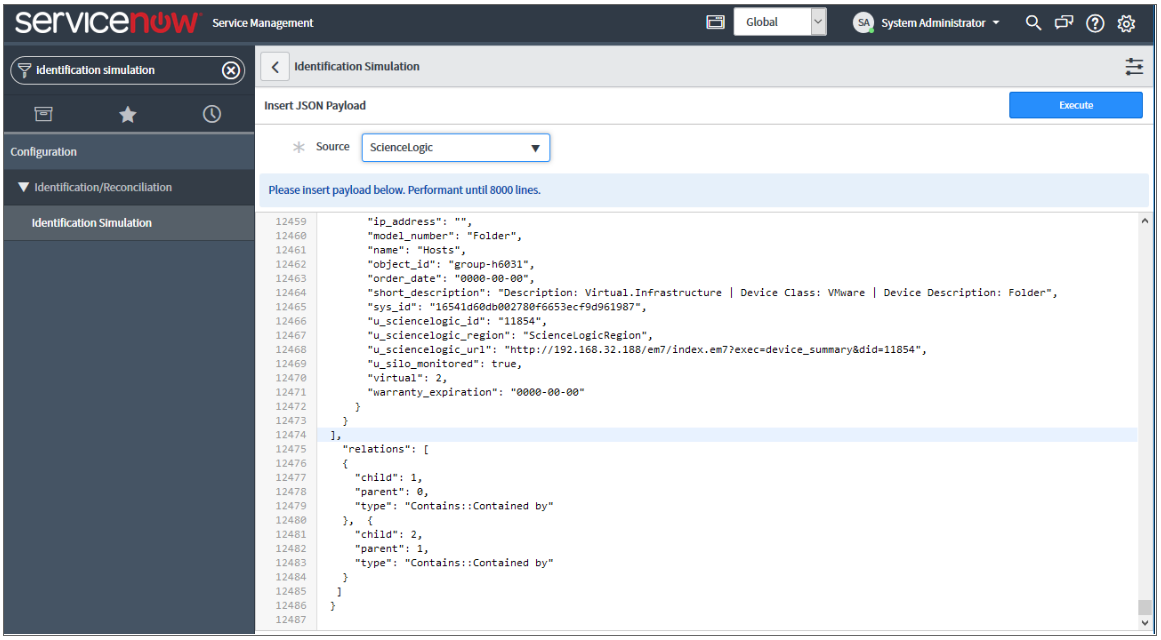
Start with Existing Payload

Insert and execute existing payload

Start

Copy paste exisiting payload into the editor and run it through the Identification Engine

7. On the **Identification Simulation** page, click the **[Start]** button in the **Start with Existing Payload** section. The Insert JSON Payload page appears:


servicenow Service Management
Global
System Administrator
Identification simulation
Configuration
Identification/Reconciliation
Identification Simulation
Execute

Identification Simulation

Insert JSON Payload

Source: ScienceLogic

Please insert payload below. Performant until 8000 lines.

```
      "ip_address": "",
      "model_number": "Folder",
      "name": "Hosts",
      "object_id": "group-h6031",
      "order_date": "0000-00-00",
      "short_description": "Description: Virtual.Infrastructure | Device Class: VMware | Device Description: Folder",
      "sys_id": "16541d60db002780f6653ecf9d961987",
      "u_sciencelogic_id": "11854",
      "u_sciencelogic_region": "ScienceLogicRegion",
      "u_sciencelogic_url": "http://192.168.32.188/em7/index.em7?exec=device_summary&did=11854",
      "u_silo_monitored": true,
      "virtual": 2,
      "warranty_expiration": "0000-00-00"
    }
  }
],
  "relations": [
  {
    "child": 1,
    "parent": 0,
    "type": "Contains::Contained by"
  },  {
    "child": 2,
    "parent": 1,
    "type": "Contains::Contained by"
  }
 ]
}
```

8. In the ***Source*** field, select *ScienceLogic* as the data source.
9. In the ***Please insert payload below*** field, paste the JSON payload you edited in step 5.
10. Click the **[Execute]** button and review the payload to identify any potential issues.

Enabling Debugging of the Configuration Item Payload

You must have administrator-level permissions in ServiceNow to access the system properties and enable debugging of the Configuration Item payload in the ***ServiceNow Identification and Reconciliation module***.

To enable debugging of the Configuration Item payload in ServiceNow:

1. On the ServiceNow system, check to see if the `glide.cmdb.logger.source.identification_engine` record exists in `sys_properties.list`.

   - If the record exists, set this value to `(* or debugVerbose)`
   - If the record does not exist, you will need to create the record.

2. To create the record, complete the following fields:

   - **Name**. glide.cmdb.logger.source.identification_engine
   - ***Description***. Enable and configure the type of details the system logs when using the Identification and Reconciliation module outside the scope of identification simulation, such as when using an API, an ECC queue, or scheduled jobs (info, warn, error, debug, or debugVerbose).
   - ***Type***. String.
   - ***Value***: `* or debugVerbose`

> **NOTE:** Set the system property of ***Value*** back to `error` when troubleshooting is complete.

3. Run the "Sync Devices from SL1 to ServiceNow" integration application. The system logs will have “identfication_engine” as the source, and the log messages will contain `identification_engine : Input`.
4. Copy the payload beginning from `{“items”` to the end of the message. For example:

```
Message: {"items":[{"className":"","values":{"discovery_
source":"ScienceLogic","mac_address":"9E:0F:04:0A:12:C7","name":"Postman Test
Server 1","x_sclo_scilogic_id":"1","serial_number":"gJ3Bwkzc8r","model_id":"","ip_
address":"10.10.10.102","manufacturer":"ScienceLogic, Inc.","ram":"16000","x_sclo_
scilogic_region":"Postman"},"lookup":[],"related":[]}],"relations":[]}
```

5. You can run this message through the ScienceLogic endpoint by putting the `{“items”}` bracket within `[]`. For example, send the following message to the endpoint `/api/x_sclo_scilogic/v1/sciencelogic/IdentificationEngine`:

```
Message: [{"items":[{"className":"","values":{"discovery_
source":"ScienceLogic","mac_address":"9E:0F:04:0A:12:C7","name":"Postman Test
Server 1","x_sclo_scilogic_id":"1","serial_number":"gJ3Bwkzc8r","model_id":"","ip_
address":"10.10.10.102","manufacturer":"ScienceLogic, Inc.","ram":"16000","x_sclo_
scilogic_region":"Postman"},"lookup":[],"related":[]}],"relations":[]}]
```

NOTE: The endpoint is different in a domain-separated environment.

After the identification run is complete, the ServiceNow logs contain additional data about the run.

Appendix

A

ServiceNow API Endpoints

Overview

This appendix describes the customized ServiceNow API Endpoints that were created for the Integration Service ServiceNow SyncPack. These scripted endpoints reduce the amount of REST calls that the Integration Service makes to ServiceNow.

Please note that for pagination, the following Query parameters are not required: `sysparm_offset` and `sysparm_limit`. The default settings are:

- `sysparm_offset=0`
- `sysparm_limit` = ServiceNow defines the default upper limits for data export. It will check the following properties at *System Properties* > *Import Export*: `glide.json.export.limit`, `glide.ui.export.limit`, and then `glide.ui.export.war.threshold`.

For example, if you have 200 total records and you want to pull the records in 100-record chunks, then the first pull would be `sysparm_offset=0 & sysparm_limit=100` and the second pull would be `sysparm_offset=100 & sysparm_limit=100`. For more information, see the ServiceNow documentation for Export Limits.

This appendix includes the following topics:

Business Services

HTTP Method

GET

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/business_service
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/business_service
```

This operation pulls all the fields from just the Business Service (**cmdb_ci_service**) table. The return is ordered by **sys_id**, so the results display in the same order every time. The results are filtered by the ***SL1 monitored*** and ***SL1 ID*** field on the ServiceNow side. This operation requires the region to be supplied by the requester, and it will only return region-supplied configuration items.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
region (required)	ScienceLogic
sysparm_offset	0
sysparm_limit	glide.json.export.limit, glide.ui.export.limit, glide.ui.export.war.threshold

Example (Request URL)

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/ sciencelogic/business_
service
```

Example (Response)

```
{
  "results": [
    {
      "operational_status": "1",
      "sys_updated_on": "2019-02-06 19:32:34",
      "discovery_source": "Other Automated",
      "first_discovered": "2019-02-06 19:31:19",
      "sys_updated_by": "admin",
      "sys_created_on": "2019-02-06 19:31:19",
      "sys_domain": "global",
      "used_for": "Production",
      "sys_created_by": "is4user1",
      "sys_domain_path": "/",
      "install_status": "1",
      "name": "One Service to rule them",
      "subcategory": "Service",
      "busines_criticality": "1 - most critical",
      "last_discovered": "2019-02-06 19:31:19",
      "sys_class_name": "cmdb_ci_service",
      "sys_id": "52da95dcdb6323009f7dd7a0cf961918",
      "sys_class_path": "/!!/#C",
      "comments": "Postman",
      "sys_mod_count": "1",
      "x_sclo_scilogic_id": "1570",
      "model_id": "e8aaeb3f3763100044e0bfc8bcbe5d20",
      "cost_cc": "USD",
      "x_sclo_scilogic_monitored": "true",
      "category": "Business Service",
      "service_classification": "Technical Service",
      "x_sclo_scilogic_region": "ScienceLogic"
    }
  ],
  "sysparm_offset": 0,
  "sysparm_limit": 100,
  "return_count": 1,
  "total_count": 1
}
```

Change Requests

HTTP Method

GET

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/change_requests?record_type=change_
request&state=1&region=ScienceLogic
```

Default Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/change_requests?record_type=change_
request&state=1&region=ScienceLogic
```

This scripted API was built for pulling Change Requests or Change Tasks and formatting a JSON object response with the required information to create a maintenance schedule in SL1. The GET queries the **task_ci** table to find configuration items that are monitored by SL1 and are the correct record type. The GET operation returns all records with their configuration items in formatted JSON strings that include planned start and end time.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
record_type (required)	change_request
state	-5
region (required)	ScienceLogic
sysparm_offset	0
sysparm_limit	glide.json.export.limit, glide.ui.export.limit, glide.ui.export.war.threshold

HTTP Status

Code	Value
200	OK
400	Query parameter \'region\' is not defined and is required.

Fixed Internal Query

State:

```
‘task.sys_class_name=’ + recordType + ‘task.state=’ + state + ‘^ci_item.x_sclo_
scilogic_monitored=true^ci_item.x_sclo_scilogic_region=’ + region
```

Non-State:

```
‘task.active=true^task.sys_class_name=’ + recordType + ‘ci_item.x_sclo_scilogic_
monitored=true^ci_item.x_sclo_scilogic_region=’ + region
```

Example

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/sciencelogic/change_
requests?record_type=change_request&state=-5&region=ScienceLogic
```

Example (Response)

```
{
  "results": [
    {
      "sys_id": "48ebaba0db962f00dc44f00fbf961961",
      "number": "CHG0030001",
      "state_value": "-5",
      "state": "New",
      "short_description": "Test Change",
      "planned_start_date": "2019-01-01 06:00:01",
      "planned_end_date": "2019-01-01 18:00:01",
      "device": [
        {
          "sys_id": "d83dac0adb4dab00dc44f00fbf961919",
          "name": "Postman Test Server 11",
          "id": "11",
          "region": "ScienceLogic"
        }
      ]
    }
  ]
}
```

Classification version 1

HTTP Method

GET

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/classification
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/classification
```

To support the identification and reconciliation framework, SL1 requires a large amount of information to know how to correctly fill out the JSON formatted string defined by the Identification Engine documentation. This operation uses the **getTableExtension()** function to find all the tables extended from the **cmdb_ci** table and then goes through each table one by one. This operation collects information about each class, such as which fields are required to identify and if it is considers another class to help find uniqueness. This operation then finds all the associated metadata. Finally, the operation pulls a list of all field names from the table. By default the **criterion_attributes** and **attributes** are not included and require "action=attributes" as a parameter in the API call to be passed.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
action	attributes

Attributes require x_sclo_scilogic.Admin be added to **sys_dictionary.*** (read) ACL to allow the API to access field names on each class table.

Fixed Internal Query

Example

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/sciencelogic/
classification
```

Example (Response)

```
{
  "results": [
  {
    "class_label": "Storage Area Network",
    "class_table": "cmdb_ci_san",
    "criterion_attributes": [
    ""
  ],
    "independent": "false",
    "containment_rule": [

  ],
  "hosting_rule": [

  ],
  "reference_rule": [

  ],
  "attributes": [
    "asset",
    "asset_tag",
    "assigned",
    "assigned_to",
    "assignment_group",
    "attributes",
    "can_print",
    "category",
    "change_control",
    "checked_in",
    "checked_out",
    "comments",
    "company",
    "correlation_id",
    "cost",
    "cost_cc",
    "cost_center",
    "delivery_date",
    "department",
    "discovery_source",
    "dns_domain",
    "due",
    "due_in",
    "fault_count",
    "first_discovered",
    "fqdn",
    "gl_account",
    "install_date",
    "install_status",
    "invoice_number",
    "ip_address",
    "justification",
    "last_discovered",
    "lease_id",
    "location",
    "mac_address",
    "maintenance_schedule",
    "managed_by",
    "manufacturer",
    "model_id",
    "model_number",
    "monitor",
    "name",
    "operational_status",
    "order_date",
    "owned_by",
    "po_number",
    "purchase_date",
    "san_id",
    "schedule",
    "serial_number",
    "short_description",
    "skip_sync",
    "start_date",
    "subcategory",
    "supported_by",
    "support_group",
    "sys_class_name",
    "sys_class_path",
    "sys_created_by",
    "sys_created_on",
    "sys_domain",
    "sys_domain_path",
    "sys_id",
    "sys_mod_count",
    "sys_updated_by",
    "sys_updated_on",
    "unverified",
    "vendor",
    "warranty_expiration",
    "x_sclo_scilogic_id",
    "x_sclo_scilogic_monitored",
    "x_sclo_scilogic_region",
    "x_sclo_scilogic_url"
    ]
  }
  ]
}
```

Classification version 2

HTTP Method

GET

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v2/sciencelogic/classification
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/classification
```

To support the identification and reconciliation framework, SL1 requires a large amount of information to know how to correctly fill out the JSON formatted string defined by the Identification Engine documentation. This operation uses the **getTableExtension()** function to find all the tables extended from the **cmdb_ci** table and then goes through each table one by one. This operation collects information about each class, such as which fields are required to identify and if it is considers another class to help find uniqueness. This operation then finds all the associated metadata. Finally, the operation pulls a list of all field names from the table. By default the **criterion_ attributes** and **attributes** are not included and require "action=attributes" as a parameter in the API call to be passed.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
action	attributes
sysparm_offset	0
sysparm_limit	glide.json.export.limit, glide.ui.export.limit, glide.ui.export.war.threshold

Attributes require x_sclo_scilogic.Admin be added to **sys_dictionary.*** (read) ACL to allow the API to access field names on each class table.

Fixed Internal Query

Example

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v2/sciencelogic/
classification
```

Example (Response)

```
{
  "results": [
  {
    "class_label": "Storage Area Network",
    "class_table": "cmdb_ci_san",
    "criterion_attributes": [
    ""
  ],
    "independent": "false",
    "containment_rule": [

  ],
  "hosting_rule": [

  ],
  "reference_rule": [

  ],
  "attributes": [
    "asset",
    "asset_tag",
    "assigned",
    "assigned_to",
    "assignment_group",
    "attributes",
    "can_print",
    "category",
    "change_control",
    "checked_in",
    "checked_out",
    "comments",
    "company",
    "correlation_id",
    "cost",
    "cost_cc",
    "cost_center",
    "delivery_date",
    "department",
    "discovery_source",
    "dns_domain",
    "due",
    "due_in",
    "fault_count",
    "first_discovered",
    "fqdn",
    "gl_account",
    "install_date",
    "install_status",
    "invoice_number",
    "ip_address",
    "justification",
    "last_discovered",
    "lease_id",
    "location",
    "mac_address",
    "maintenance_schedule",
    "managed_by",
    "manufacturer",
    "model_id",
    "model_number",
    "monitor",
    "name",
    "operational_status",
    "order_date",
    "owned_by",
    "po_number",
    "purchase_date",
    "san_id",
    "schedule",
    "serial_number",
    "short_description",
    "skip_sync",
    "start_date",
    "subcategory",
    "supported_by",
    "support_group",
    "sys_class_name",
    "sys_class_path",
    "sys_created_by",
    "sys_created_on",
    "sys_domain",
    "sys_domain_path",
    "sys_id",
    "sys_mod_count",
    "sys_updated_by",
    "sys_updated_on",
    "unverified",
    "vendor",
    "warranty_expiration",
    "x_sclo_scilogic_id",
    "x_sclo_scilogic_monitored",
    "x_sclo_scilogic_region",
    "x_sclo_scilogic_url"
    ]
  }
  ]
}
```

CMDB Group

HTTP Method

POST

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/cmdb_group
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/cmdb_group
```

This operation handles the intake of groups of devices from SL1 and converts the device groups to CMDB groups. This operation uses a standard formatted JSON string, and it checks for a ***sys_id*** of the group first by searching for a matching group. This process creates a group if a group is not supplied or found, and then it passes the JSON object to the ServiceNow CMDBGroupAPI, which sets the manual CI list of the group.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Example (Request URL

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/sciencelogic/cmdb_group
```

Example (Body)

```
[
  {
    "items": [
      {
        "name": "test",
        "description": "",
        "group": "",
        "manualCIList":
        "d83dac0adb4dab00dc44f00fbf961919,2e6b7046db8dab00dc44f00fbf961929,7fb39667db
        a
        12380dc44f00fbf961901,77b39667dba12380dc44f00fbf961917,7bb39667dba12380dc44f0
        0
        fbf96191c",
        "region": "Cisco",
        "id": "1"
      }
    ]
  }
]
```

Example (Response)

```
{
  "result": [
    {
      "idList": [

      ],
      "partialCIListDueToACLFlag": false,
      "nextBatchStart": 0,
      "result": true
    },
    {
      "idList": [

      ],
      "partialCIListDueToACLFlag": false,
      "nextBatchStart": 0,
      "result": true
    }
  ]
}
```

Companies

HTTP Method

GET

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/companies
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/companies
```

This operation supports Domain Separation enabled or not enabled. This operation pulls all the fields for from the company table that are not NULL values. The return is ordered by ***sys_id***, so the results display in the same order every time. The results are filtered by the ***SL1 Monitored*** and ***region*** values. The region mus be supplied by the requester, and it will only return region-specific companies.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
region (required)	ScienceLogic
domainSep	false
sysparm_offset	0
sysparm_limit	glide.json.export.limit, glide.ui.export.limit, glide.ui.export.war.threshold

HTTP Status

Code	Value
200	OK
400	Query parameter \'region\' is not defined and is required.

Fixed Internal Query

Domain:

```
'x_sclo_scilogic_region=’ + region + ‘^x_sclo_scilogic_monitored=true^sys_
domain!=global'
```

Non-Domain:

```
'x'_sclo_scilogic_monitored=true^x_sclo_scilogic_idISNOTEMPTY^x_sclo_scilogic_region'’
+ region
```

Example

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/sciencelogic/
companies?region=ScienceLogic&sysparm_offset=0&sysparm_limit=100
```

Example (Response)

```
{
  "results": [
    {
      "country": "USA",
      "notes": "What's on your digital horizon?",
      "city": "San Jose",
      "sys_updated_on": "2018-11-30 16:03:45",
      "sys_class_name": "core_company",
      "sys_id": "1ac84f95dbce2700dc44f00fbf9619c8",
      "sys_updated_by": "is4user1",
      "market_cap": "0",
      "street": "170 West Tasman Dr.",
      "sys_created_on": "2018-11-27 16:32:33",
      "state": "CA",
      "sys_created_by": "admin",
      "zip": "95134",
      "profits": "0",
      "revenue_per_year": "0",
      "sys_mod_count": "4",
      "x_sclo_scilogic_id": "1",
      "x_sclo_scilogic_monitored": "true",
      "phone": "18005532447",
      "name": "Cisco Systems, Inc.",
      "x_sclo_scilogic_region": "Cisco"
    }
  ],
  "sysparm_offset": 0,
  "sysparm_limit": 1,
  "return_count": 1,
  "total_count": 1
}
```

Configuration Items

HTTP Method

GET

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/configuration_item
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/configuration_item
```

This operation pulls all the fields for any configuration item or class that are not Null values. The return is ordered by **sys_id**, so the results display in the same order every time. The results are filtered by the ***SL1 monitored*** and ***SL1 ID*** field on the ServiceNow side. This operation requires the region to be supplied by the requester and will only return region-supplied configuration items. Two classes have been filtered out: the network adapter (**cmdb_ci_network_adapte**r) and file system (**cmdb_ci_file_system**). All devices require specific fields that must be populated to be included in the query. Two specific classes, the network adapter and file systems, have been separated out from the main configuration item pull. All requests work the same way. On the response, the operation returns all non-empty fields associated with each configuration item.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
region (required)	ScienceLogic
sysparm_offset	0
sysparm_limit	glide.json.export.limit, glide.ui.export.limit, glide.ui.export.war.threshold

HTTP Status	
Code	*Value*
200	OK
400	Query Parameter \'region\' is not defined and is required.

Fixed Internal Query

```
‘x_sclo_scilogic_monitored=true^x_sclo_scilogic_idISNOTEMPTY^x_sclo_scilogic_region=’
+ region + ‘sys_class_name!=cmdb_ci_network_adapter^ORsys_class_name!=cmdb _file_
system’
```

Example

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/sciencelogic/
configuration_Items?region=ScienceLogic&sysparm_offset=5&sysparm_limit=11
```

Example (Response)

```
{
  "results": [
    {
      "operational_status": "1",
      "sys_updated_on": "2018-12-13 12:16:17",
      "discovery_source": "Other Automated",
      "first_discovered": "2018-10-10 21:06:23",
      "sys_updated_by": "admin",
      "sys_domain": "global",
      "sys_created_by": "is4user1",
      "sys_domain_path": "/",
      "install_status": "1",
      "name": "Test Class 1",
      "subcategory": "Computer",
      "last_discovered": "2018-12-13 12:16:17",
      "sys_class_name": "cmdb_ci_linux_server",
      "sys_id": "2e6b7046db8dab00dc44f00fbf961929",
      "sys_class_path": "/!!/!2/!(/!!/!0",
      "mac_address": "77:55:33:4C:2A:A3",
      "sys_mod_count": "1",
      "x_sclo_scilogic_id": "200",
      "serial_number": "HGFE6789",
      "model_id": "143d608edb4dab00dc44f00fbf9619f6",
      "ip_address": "10.10.10.0",
      "cost_cc": "USD",
      "x_sclo_scilogic_monitored": "true",
      "asset": "666b7046db8dab00dc44f00fbf96192a",
      "category": "Hardware",
      "x_sclo_scilogic_region": "ScienceLogic"
    }
  ],
  "sysparm_offset": 0,
  "sysparm_limit": 1,
  "return_count": 1,
  "total_count": 16
}
```

Device Identification Engine

HTTP Method

POST

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/IdentificationEngine
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/IdentificationEngine
```

This operation handles all creates and updates to the CMDB. This operation incorporates Identification Engine and uses the Identification and Reconciliation framework to properly import devices into the CMDB as a configurable discovery source. SL1 uses the classification GET to populate the JSON object.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
test	true

Example (Request URL)

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/sciencelogic/
IdentificationEngine?test=true
```

Example (Body)

```
[
  {
    "items": [
      {
        "className": "cmdb_ci_linux_server",
        "values": {
          "name": "Postman Test Server 1",
          "serial_number": "9876EFGH",
          "mac_address": "BF:D4:D6:6E:56:F1",
          "ip_address": "10.10.10.4",
          "ram": "16000",
          "x_sclo_scilogic_region": "ScienceLogic",
          "x_sclo_scilogic_id": "1"
        }
      }
    ]
  },
  {
    "items": [
      {
        "className": "cmdb_ci_linux_server",
        "values": {
          "name": "Postman Test Server 2",
          "serial_number": "HGFE6789",
          "mac_address": "87:54:3C:8C:2A:A3",
          "ip_address": "10.10.10.5",
          "ram": "16000",
          "x_sclo_scilogic_region": "ScienceLogic",
          "x_sclo_scilogic_id": "2"
        }
      }
    ]
  }
]
```

Example Business Service (Body)

```
[
  {
    "items": [
      {
        "className": "cmdb_ci_service",
        "values": {
          "name": "Integration Service",
          "busines_criticality": "1 - most critical",
          "used_for": "Production",
          "operational_status": "1",
          "service_classification": "Technical Service",
          "comments": "Postman",
          "x_sclo_scilogic_region": "ScienceLogic",
          "x_sclo_scilogic_id": "1570"
      }
    },
      {
        "className": "cmdb_ci_linux_server",
        "values": {
          "name": "Postman Test Server",
          "serial_number": "7MDvqrSNyd",
          "manufacturer": "ScienceLogic, Inc.",
          "model_id": "",
          "mac_address": "EE:D6:0B:79:32:C7",
          "ip_address": "10.10.10.224",
          "ram": "16000",
          "x_sclo_scilogic_region": "ScienceLogic",
          "x_sclo_scilogic_id": "10"
      }
    }
  ],
    "relations": [
      {
        "type": "Depends on::Used by",
        "parent": 0,
        "child": 1
      }
    ]
  }
]
```

Example (Response)

```
{
  "result": [
    {
      "items": [
        {
          "className": "cmdb_ci_linux_server",
          "operation": "NO_CHANGE",
          "sysId": "7fb39667dba12380dc44f00fbf961936",
          "identifierEntrySysId": "fb27f69cc3000200d8d4bea192d3ae67",
          "identificationAttempts": [
          {
            "identifierName": "Hardware Rule",
            "attemptResult": "SKIPPED",
            "attributes": [
            "serial_number",
            "serial_number_type"
          ],
          "searchOnTable": "cmdb_serial_number"
        },
        {
          "identifierName": "Hardware Rule",
          "attemptResult": "MATCHED",
          "attributes": [
          "serial_number"
        ],
        "searchOnTable": "cmdb_ci_hardware"
        }
      ]
    }
  ],
  "relations": [

  ]
  }
  ]
}
```

File Systems

HTTP Method

GET

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/file_systems
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/file_systems
```

This operation pulls all the fields from the File System table. The return is ordered by **sys_id**, so the results display in the same order every time. The results are filtered by the ***SL1 monitored*** and ***SL1 ID*** field on the ServiceNow side. This operation requires the region to be supplied by the requester, it returns only region-supplied configuration items.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
region (required)	ScienceLogic
sysparm_offset	0
sysparm_limit	glide.json.export.limit, glide.ui.export.limit, glide.ui.export.war.threshold

HTTP Status	
Code	***Value***

200	OK
400	Query Parameter \'region\' is not defined and is required.

Fixed Internal Query

```
'x_sclo_scilogic_monitored=true^x_sclo_scilogic_idISNOTEMPTY^x_sclo_scilogic_region='
+ region
```

Example

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/sciencelogic/file_
systems?region=ScienceLogic&sysparm_offset=0&sysparm_limit=100
```

Example (Response)

```
{
  "results": [
    {
      "operational_status": "1",
      "sys_updated_on": "2018-11-12 21:59:52",
      "media_type": "fixed",
      "sys_created_by": "admin",
      "sys_domain_path": "/",
      "sys_class_name": "cmdb_ci_file_system",
      "computer": "d83dac0adb4dab00dc44f00fbf961919",
      "x_sclo_scilogic_monitored": "true",
      "x_sclo_scilogic_region": "ScienceLogic",
      "sys_updated_by": "admin",
      "sys_created_on": "2018-11-12 21:59:06",
      "sys_domain": "global",
      "install_status": "1",
      "name": "/root",
      "subcategory": "File Share",
      "sys_id": "afd30ba0dbf5a380dc44f00fbf961951",
      "file_system": "ntfs",
      "sys_class_path": "/!!/!K/!!",
      "mount_point": "/root",
      "sys_mod_count": "3",
      "x_sclo_scilogic_id": "31",
      "label": "/root",
      "cost_cc": "USD",
      "category": "Resource"
    }
  ],
  "sysparm_offset": 0,
  "sysparm_limit": 100,
  "return_count": 1,
  "total_count": 1
}
```

Import Set

HTTP Method

POST

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/import_set
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/import_set
```

This operation handles the custom intake of import sets before it reaches the transform map staging table, such as x_sclo_scilogic_import_installed_software. This operations is currently only used for importing installed software (x_sclo_scilogic_import_installed_software).

Headers	
Key	***Value***
Accept	application/json
Content-Type	application/json

Parameters	
Key	***Value***
record_type (required)	x_sclo_scilogic_import_installed_software

Example (Request URL)

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/sciencelogic/import_set
```

Example (Body)

```
[
  {
  "records": [
    {
      "name": "acl-2.2.51-12.el7",
      "software": "671bafd8dba13700dc44f00fbf961953",
      "cmdb_ci": [
        "ff01a81edb1df300dc44f00fbf961947",
        "4011a81edb1df300dc44f00fbf961958",
        "f301a81edb1df300dc44f00fbf96193d",
        "7b01a81edb1df300dc44f00fbf961942",
        "c411a81edb1df300dc44f00fbf96195d",
        "7701a81edb1df300dc44f00fbf961922",
        "7b01681edb1df300dc44f00fbf9619e7",
        "fb01a81edb1df300dc44f00fbf961927"
      ],
      "active": true
    }
    ]
  }
]
```

Incidents

HTTP Method

GET

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/incidents
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/incidents
```

This operation pulls all records from the incident table that are created by a specific **user_id** and its related events. The results are ordered by the **sys_id** of the incident, so the results display in the same order every time. This operation is also based on the incident being in an active state. This operation returns a pre-set of data and does not return everything on the Incident and Event (x_sclo_scilogic_event) tables.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
user_id (required)	is4user1
sysparm_offset	0
sysparm_limit	glide.json.export.limit, glide.ui.export.limit, glide.ui.export.war.threshold

HTTP Status	
Code	***Value***

200	OK
400	Query Parameter \'user_id\' is not defined and is required.

Fixed Internal Query

```
'sys_created_by=' +  user_id + 'active=true'
```

Example

```
https://<your Instance>.service-now.com/api/x_sclo_
scilogic/v1/sciencelogic/incidents?user_id=is4user1&sysparm_offset=0&sysparm_limit=100
```

Example (Response)

```
{
  "results": [
  {
    "sys_id": "0141807bdbb16300dc44f00fbf9619fc",
    "number": "INC0010135",
    "state": "2",
    "state_label": "In Progress",
    "events": [
    {
      "event_id": "16908",
      "device": {
      "sys_id": {

      }
    }
  },
  {
      "event_id": "16874",
      "device": {
      "sys_id": {

      }
    }
  },
  {
      "event_id": "16865",
      "device": {
      "sys_id": {

      }
      }
      }
    ]
    }
  ],
  "sysparm_offset": 0,
  "sysparm_limit": 1,
  "return_count": 1,
  "total_count": 44
}
```

Installed Software

HTTP Method

GET

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/installed_software
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/installed_software
```

This operation pulls all the fields from the software (cmdb_ci_spkg) table. The return is ordered by **sys_id**, so the results display in the same order every time. The results are filtered by the ***SL1 monitored*** field on the ServiceNow side. This operation requires the ***region*** to filter the installed software on devices.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
region	ScienceLogic
sysparm_offset	0
sysparm_limit	glide.json.export.limit, glide.ui.export.limit, glide.ui.export.war.threshold

HTTP Status	
Code	***Value***
200	OK

400	Query parameter \'region\' is not defined and are required.

Fixed Internal Query

'x_sclo_scilogic_monitored=true'

Example (Request URL)

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/sciencelogic/installed_
software?sysparm_offset=0&sysparm_limit=100&region=ScienceLogic
```

Example (Response)

```
{
  "results": [
    {
      "operational_status": "1",
      "operational_status_label": "Operational",
      "sys_updated_on": "2019-05-01 06:00:09",
      "install_count": "2",
      "sys_updated_by": "system",
      "sys_created_on": "2019-03-29 19:42:58",
      "sys_domain": "global",
      "sys_created_by": "admin",
      "sys_domain_path": "/",
      "install_status": "1",
      "install_status_label": "Installed",
      "name": "Test_31",
      "subcategory": "Package",
      "sys_class_name": "cmdb_ci_spkg",
      "sys_class_name_label": "Software",
      "sys_id": "1e9608fcdb2cb740dc44f00fbf961949",
      "sys_class_path": "/!!/#$",
      "key": "Test_31_:::_NULL",
      "license_available": "-2",
      "sys_mod_count": "1",
      "x_sclo_scilogic_id": "31",
      "model_id": "2c146728dbe8b740dc44f00fbf9619c6",
      "model_id_label": "Unknown",
      "cost_cc": "USD",
      "cost_cc_label": "USD",
      "x_sclo_scilogic_monitored": "true",
      "package_name": "Test_31",
      "category": "Software",
      "x_sclo_scilogic_region": "AutoGenerateClass",
      "installed_on": [
      {
        "sys_id": "5a271407dbfe6300dc44f00fbf96190f",
        "id": "10",
        "region": "ScienceLogic",
        "monitored": "true"
      },
      {
        "sys_id": "5a271407dbfe6300dc44f00fbf96190f",
        "id": "10",
        "region": "ScienceLogic",
        "monitored": "true"
      }
    ]
  }
    ],
      "sysparm_offset": 0,
      "sysparm_limit": 100,
      "return_count": 4,
      "total_count": 4
}
```

Manufacturer

HTTP Method

POST

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/manufacture
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/manufactures
```

This operation does not populate any data into ServiceNow. Instead, this operation takes an array of manufacturer names and attempts to line them up with manufacturers already in ServiceNow. Then the operation returns the sys_id of manufacturers it was able find based on matching name. If the Normalization Data Services Client is active on the target instance, this operation uses those tables to find a matching company record; otherwise the operation will match on whether name and manufacturer is true on the core_company table.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
region (required)	ScienceLogic

Example (Request URL)

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/sciencelogic/
manufacture
```

Example (Body)

```
{
  "manufactures": [
  "Cisco Systems Inc",
  "Cisco Systems, Incorporated",
  "CiscoSystems",
  "American Power Conversion Inc.",
  "APC Corp",
  "Apc",
  "IBM",
  "IBM CORP",
  "International Business Machines",
  "Juniper Systems",
  "Juniper Networks,Inc",
  "Juniper Solutions"
  ]
}
```

Example (Response)

```
  {
    "result": {
    "Cisco Systems Inc": "",
    "Cisco Systems, Incorporated": "",
    "CiscoSystems": "",
    "American Power Conversion Inc.": "",
    "APC Corp": "",
    "Apc": "",
    "IBM": "",
    "IBM CORP": "",
    "International Business Machines": "",
    "Juniper Systems": "",
    "Juniper Networks,Inc": "",
    "Juniper Solutions": ""
    }
  }
```

Model

HTTP Method

POST

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/model
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/models
```

This operation does not populate any data into ServiceNow. Instead, this operation takes an array of model names and attempts to line them up with models already in ServiceNow and returns the sys_id of models it was able to find based on matching name.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
region (required)	ScienceLogic

Example (Request URL)

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/sciencelogic/models
```

Example (Body)

```
{
  "models": [
  "4331 ISR",
  "7206VXR",
  "7609S",
  "AS5300",
  "ASR5000",
  "Catalyst 3560G-24TS",
  "Catalyst 4948",
  "Catalyst 6509-CatOS",
  "BIG-IP Viprion B4300",
  "F5 BIG-IP DNS",
  "BIG-IP Wide IP Container",
  "BIG-IP Data Center Container"
  ]
}
```

Example (Response)

```
{
  "result": {
  "4331 ISR": "",
  "7206VXR": "",
  "7609S": "",
  "AS5300": "",
  "ASR5000": "",
  "Catalyst 3560G-24TS": "",
  "Catalyst 4948": "",
  "Catalyst 6509-CatOS": "",
  "BIG-IP Viprion B4300": "",
  "F5 BIG-IP DNS": "",
  "BIG-IP Wide IP Container": "",
  "BIG-IP Data Center Container": ""
  }
}
```

Network Adapters

HTTP Method

GET

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/network_adapters
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/network_adapters
```

This operation pulls all the fields from the network adapter table. The return is ordered by **sys_id**, so the results display in the same order every time. The results are filtered by the ***SL1 monitored*** and ***SL1 ID*** field on the ServiceNow side. This operation requires the region to be supplied by the requester, and it only returns region-supplied configuration items.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
region (required)	ScienceLogic
sysparm_offset	0
sysparm_limit	glide.json.export.limit, glide.ui.export.limit, glide.ui.export.war.threshold

HTTP Status	
Code	***Value***

200	OK
400	Query Parameter \'region\' is not defined and is required.

Fixed Internal Query

```
‘x_sclo_scilogic_monitored=true^x_sclo_scilogic_idISNOTEMPTY^x_sclo_scilogic_region=’
+ region
```

Example (Request URL)

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/sciencelogic/network_
adapters?region=ScienceLogic&sysparm_offset=0&sysparm_limit=100
```

Example (Response)

```
{
  "results": [
    {
      "operational_status": "1",
      "sys_updated_on": "2018-11-12 21:29:23",
      "sys_updated_by": "admin",
      "sys_created_on": "2018-11-12 21:27:48",
      "sys_domain": "global",
      "sys_created_by": "admin",
      "cmdb_ci": "d83dac0adb4dab00dc44f00fbf961919",
      "sys_domain_path": "/",
      "install_status": "1",
      "name": "eth0",
      "subcategory": "Network",
      "sys_class_name": "cmdb_ci_network_adapter",
      "sys_id": "33ac36acdbb5a380dc44f00fbf961963",
      "netmask": "255.255.255.0",
      "sys_class_path": "/!!/!8",
      "mac_address": "BF:D4:D6:6E:56:F1",
      "sys_mod_count": "3",
      "x_sclo_scilogic_id": "20",
      "ip_address": "10.10.10.4",
      "cost_cc": "USD",
      "x_sclo_scilogic_monitored": "true",
      "category": "Hardware",
      "x_sclo_scilogic_region": "ScienceLogic"
    }
  ],
  "sysparm_offset": 0,
  "sysparm_limit": 1,
  "return_count": 1,
  "total_count": 5
}
```

Service Requests

HTTP Method

GET

Pagination

Enabled

Resource Path

```
/api/x_sclo_scilogic/v1/sciencelogic/service_request
```

Default Resource Path

```
/api/x_sclo_scilogic/sciencelogic/service_request
```

This operation pulls all service requests that are tied to specific catalog item. Based on the request type it returns a formatted JSON object. It pulls all the required information for an SL1 Discovery session and creating a virtual device in SL1. Both requests require different information and are formatted accordingly.

The basic catalog item Device Discovery is set up as information collection to support the process within SL1. The Service Catalog has been simplified to its most basic form. The workflow moves the request into the correct state to be picked up by the GET request and then waits for its return before completing the workflow.

Headers	
Key	***Value***
Content-Type	application/json
Accept	application/json

Parameters	
Key	***Value***
region (required)	ScienceLogic
state	2
sysparm_offset	0
sysparm_limit	glide.json.export.limit, glide.ui.export.limit, glide.ui.export.war.threshold

HTTP Status	
Code	*Value*
200	OK
400	Query Parameter \'region\' is not defined and is required.

Fixed Internal Query

State:

```
‘request_item.active=true^request_item.cat_item=’ + catalog + ‘^sc_item_option.item_
option_new.name=Region^sc_item_option.value=’ + region
```

Non-State:

```
‘request_item.active=true^request_item.cat_item=’ + catalog + ‘^sc_item_option.item_
option_new.name=Region^sc_item_option.value=’ + region + ‘^request_item.state=’ +
state
```

Example

```
https://<your Instance>.service-now.com/api/x_sclo_scilogic/v1/sciencelogic/ service_
request?region=Cisco
```

Example (Response)

```
{
  "results": [
  {
    "number": "RITM0010018",
    "sysid": "00365de2db1a2340dc44f00fbf961941",
    "state": "2",
    "request_type": "Discover Device",
    "region": "Cisco",
    "log_all": "false",
    "ip_hostname_list": "167.132.14.15",
    "credentials": [
    {
      "Category": "Linux",
      "ID": "1"
    }
  ],
    "discover_non_snmp": "false",
    "model_devices": "true",
    "dhcp": "false",
    "device_model_cache_ttl_h": "2",
    "collection_server": "1",
    "organization": "1",
    "add_devices_to_device_groups": [
    "test"
  ],
    "device_template": "1",
    "initial_scan_level": "System Default (Recommended)",
    "scan_throttle": "System Default (Recommended)",
    "scan_ports": "21,22,23,25,80",
    "port_scan_all": "System Default (Recommended)",
    "port_scan_timeout": "System Default (Recommended)",
    "interface_inventory_timeout": "600000",
    "maximum_allowed_interfaces": "10000",
    "bypass_interface_inventory": "false"
  },
  {
    "number": "RITM0010016",
    "sysid": "194447e8db162f00dc44f00fbf96195b",
    "state": "2",
    "request_type": "Discover Device",
    "region": "Cisco",
    "log_all": "false",
    "ip_hostname_list": "192.168.1.1",
    "credentials": [
    {
      "Category": "Linux",
      "ID": "1"
    }
  ],
    "discover_non_snmp": "false",
    "model_devices": "false",
    "dhcp": "false",
    "device_model_cache_ttl_h": "2",
    "collection_server": "1",
    "organization": "1",
    "add_devices_to_device_groups": [

  ],
    "device_template": "1",
    "initial_scan_level": "System Default (Recommended)",
    "scan_throttle": "System Default (Recommended)",
    "scan_ports": "21,22,23,25,80",
    "port_scan_all": "System Default (Recommended)",
    "port_scan_timeout": "System Default (Recommended)",
    "interface_inventory_timeout": "600000",
    "maximum_allowed_interfaces": "10000",
    "bypass_interface_inventory": "false"
  },
  {
    "number": "RITM0010014",
    "sysid": "250dae2cdbd22f00dc44f00fbf961954",
    "state": "2",
    "request_type": "create_virtual_device",
    "region": "Cisco",
    "collection_server": "1",
    "virtual_device_class": "1"
    }
  ]
}
```

Appendix B

Certified Application Objects

Overview

This appendix describes the tables, endpoints, and roles that were created in ServiceNow as part of the "ScienceLogic SL1: CMDB & Incident Automation" application. This application is also known as the "Certified Application" or the "Scoped Application".

This appendix includes the following topics:

Roles

Two Roles were added with the ScienceLogic update set, Admin (x_sclo_scilogic.Admin) and User (x_sclo_scilogic.User). Both give access to SL1.

Role	Inherited Roles	Other Inherited Roles	Role Definition
x_sclo_scilogic.Admin			Role for ScienceLogic Service Accounts.
	itil		Can perform standard actions for an ITIL help desk technician. This is the default "Technician" role. Can open, update, close incidents, problems, changes, config management items. By default, only users with the itil role can have tasks assigned to them
		Dependency_view	A special role to be applied both on the $ngbsm UI page and on the BSMProcessor. This role is required to access the dependency views module. By default, ITIL includes this role to avoid regressions.
		cmdb_query_builder	Can access the CMDB Query Builder application to create, run, and save queries on the CMDB.
		template_editor	
		view_changer	Can switch active views.
		app_service_user	Can view and retrieve information using API from application service maps (cmdb_ci_service_discovered).
		certification	Can work on Certification tasks.
	import_ transformer		Can manage Import Set Transform Maps and run transforms.
x_sclo_scilogic.User			General user account that allows read-only access to SL1.

Tables

Name	Label	Extends	Comments
x_sclo_scilogic_event	Event	(empty)	Event information
x_sclo_scilogic_event_ severity	Event Severity Look Rules	Data Lookup Matcher Rules	Look up table for event Severity
x_sclo_scilogic_incident	Import Incident	Import Set Row	Import / staging events before transform to Event and Incident
x_sclo_scilogic_import_ installed_software	Import Installed Software	Import Set Row	Import / staging events before transform to Software Instance
x_sclo_scilogic_org_ven_ mfg	Import ORG VEN MFG	Import Set Row	Import / staging events before transform to core_company
x_sclo_scilogic_import_ discovery_dependent	Import Discovery Dependent	Import Set Row	Import / staging events before transform to Discovery Dependent table
x_sclo_scilogic_discovery_ dependent	Discovery Dependent	(empty)	Discovery Dependent Information
x_sclo_scilogic_catalog_ item_templates	Catalog item Templates	(empty)	Templates use to fill out catalog items
x_sclo_scilogic_import_ service_request	Import Service Request	Import Set Row	Import / staging events before transform to Service Requests

Table Columns (cmdb_ci)

Name	Label	Type	Comments
x_sclo_scilogic_id	SL1 ID	Integer	Unique ID
x_sclo_scilogic_region	SL1 Region	String	Unique String of SL1 Platform
x_sclo_scilogic_url	SL1 URL	URL	URL to SL1 Platform
x_sclo_scilogic_monitored	SL1 Monitored	True/False	Device currently synced with SL1 Platform

Table Columns (core_company)

Name	Label	Type	Comments
x_sclo_scilogic_id	SL1 ID	String	Unique ID
x_sclo_scilogic_region	SL1 Region	String	Unique String of SL1 Platform
x_sclo_scilogic_monitored	SL1 Monitored	True/False	Organization currently synced with SL1 Platform

Table Columns (cmdb_group)

Name	Label	Type	Comments
x_sclo_scilogic_id	SL1 ID	String	Unique ID
x_sclo_scilogic_region	SL1 Region	String	Unique String of SL1 Platform

Script Includes

Name	API Name	Comments
CatalogUtils	x_sclo_scilogic.catalogUtils	Catalog Script include scripts
ChangeUtils	x_sclo_scilogic.changeUtils	Change Script include scripts
DeviceUtils	x_sclo_scilogic.DeviceUtils	Device Script include scripts
EventUtils	x_sclo_scilogic.EventUtils	Event Script include scripts
GeneralUtils	x_sclo_scilogic.GeneralUtils	General Script include scripts

Event Registry

Suffix	Event name	Table	Comments
device_monitoring	x_sclo_scilogic.device_monitoring	Configuration Item [cmdb_ci]	Event for Device Monitoring
Remove_monitoring	x_sclo_scilogic.remove_monitoring	Configuration Item [cmdb_ci]	Event for Remove Monitoring

Scripted Actions

Name	Event name	Comments
Device Monitoring Catalog item	x_sclo_scilogic.device_monitoring	Action used to submit Catalog item via Event.
Device Removal Catalog item	x_sclo_scilogic.remove_monitoring	Action used to submit Catalog item via Event.

Data Lookup Definitions

Name	Source Table	Matcher Table	Comments
Event Severity	Import Incident [x_sclo_scilogic_incident]	Event Severity Lookup Rules [x_sclo_scilogic_event_severity]	Lookup for ScienceLogic Severity to Impact and Urgency

System Properties

Suffix	Name	Comments
CatalogItemDiscovery	x_sclo_scilogic.CatalogItemDiscovery	Unique value (sys_id)
CatalogItemRemove	x_sclo_scilogic.CatalogItemRemove	Unique value (sys_id)
closeCode	x_sclo_scilogic.closeCode	Value to use for Close Code for Incident Transform
Contact type	x_sclo_scilogic.Contact Type	Value to use for Contact type for Incident Transform
deviceLogging	x_sclo_scilogic.deviceLogging	Turn on Logging
deviceLoggingParam	x_sclo_scilogic.deviceLoggingParm	Add additional parameters beyond the default errors
discoverySource	x_sclo_scilogic.discoverySource	Discovery Source to be used by Integration Service
notResolved	x_sclo_scilogic.notResolved	Value of Reopened Incident
stateNew	x_sclo_scilogic.stateNew	Value of New Incident
StateResolved	x_sclo_scilogic.stateResolved	Value of Resolved Incident

Catalog Item

Name	Comments
Device Discovery	Role for ScienceLogic Service Accounts.
Monitoring Removal	General user account that allows read only access to ScienceLogic Application.

Catalog UI Policies

Catalog item	Short description	Comments
Device Discovery	Catalog Template	Updates form based on Select template
Device Discovery	Create Virtual Device	Updates form based on Request type
Device Discovery	Create Virtual Device (Retired)	
Device Discovery	Device Discovery	Updates form based on Request type
Device Discovery	Device Discovery (Retired)	
Monitoring Removal	Hide Overview variables not required	Hide variables not required for the Monitoring Removal request
Device Discovery	Port Scan	Hide scan ports that are not default
Device Discovery	Port Scan (Retired)	
Device Discovery	Region	Updates form based on Organization
Device Discovery	Region (Retired)	
Monitoring Removal	Region via Organization	Updates form based on Organization
Device Discovery	Save as Template	Updates form based on Save as template

Variable Sets

Title	Internal name	Comments
Create_virtual_device	create_virtual_device	
Discovery Overview	discovery_overview	

Title	Internal name	Comments
Discovery Sesion - Basic Settings	discovery_sesion_basic_settings	
Discovery Session - Detection and Scanning	discovery_session_detection_and_scanning	
Discovery Session - IP & Credentials	discovery_session_ip_credentials	
Monitoring Removal	monitoring _removal	
Service Catalog item Template	service_catalog_item_template	

Catalog Client Scripts

Name	Catalog item	Type	Comments
Hide Request Type Options	Monitoring Removal	onLoad	Shared variable hide options that don't apply
Hide Request Type Options	Device Discovery	onLoad	Shared variable hide options that don't apply
Region	Monitoring Removal	onChange	Update Region field based on Company Region
Region	Monitoring Removal	onChange	Update Region field based on Company Region

Workflows

Name	Table	Comments
SL1 Monitoring Removal	Requested Item [sc_req_item]	Workflow for Removal of devices from SL1 process
SL1 Discovery Session	Requested Item [sc_req_item]	Workflow for Discovery session process

Scripted REST Resources

Name			Comments
Business Services	/api/x_sclo_scilogic/v1/sciencelogic/business_service	GET	This GET api will pull all ScienceLogic monitored Configuration items specific to Business Services class from the CMDB. It will be ordered via the sys_id field to ensure the same order every time.
CMDB Group	/api/x_sclo_scilogic/v1/sciencelogic/cmdb_group	POST	Use this API to create cmdb_groups & add a CI to them.
Change Requests	/api/x_sclo_scilogic/v1/sciencelogic/change_requests	GET	This GET api will pull Active Change Requests or Change Tasks based on the record_type supplied that have ScienceLogic monitored CI attached. It will be ordered via the sys_id field to ensure the same order every time.
Classification	/api/x_sclo_scilogic/v1/sciencelogic/classification	GET	This GET api will pull all required CMDB information to build JSON payloads.
Companies	/api/x_sclo_scilogic/v1/sciencelogic/companies	GET	This GET api will pull all Active Companies that are ScienceLogic monitored. It will be ordered via the sys_id field to ensure the same order every time.
Configuration Items	/api/x_sclo_scilogic/v1/sciencelogic/configuration_Items	GET	This GET api will pull all ScienceLogic monitored Configuration items from the CMDB. It will be ordered via the sys_id field to ensure the same order every time.
Device IdentificationEngine	/api/x_sclo_scilogic/v1/sciencelogic/IdentificationEngine	POST	Use this API to create or update configuration items within the CMDB via ScienceLogic.

Name			Comments
File Systems	/api/x_sclo_scilogic/v1/sciencelogic/file_systems	GET	This GET api will pull all ScienceLogic monitored Configuration items specific to File systems class from the CMDB. It will be ordered via the sys_id field to ensure the same order every time.
Import Set	/api/x_sclo_scilogic/v1/sciencelogic/import_set	POST	This POST API will post to the target import set table and create a record for each cmdb_ci.
Incidents	/api/x_sclo_scilogic/v1/sciencelogic/incidents	GET	This GET api will pull all incidents. It will be ordered via the sys_id field to ensure the same order every time.
Installed Software	/api/x_sclo_scilogic/v1/sciencelogic/installed_software	GET	This GET api will pull all Servicenow Software packages and installed instances from the CMDB. It will be ordered via the sys_id field to ensure the same order every time.
Manufacture	/api/x_sclo_scilogic/v1/sciencelogic/manufactures	POST	This POST API will pull all Manufactures.
Model	/api/x_sclo_scilogic/v1/sciencelogic/models	POST	This POST API will pull all Model.
Network Adapters	/api/x_sclo_scilogic/v1/sciencelogic/network_adapters	GET	This GET api will pull all ScienceLogic monitored Configuration items specific to Network Adapter class from the CMDB. It will be ordered via the sys_id field to ensure the same order every time.
Service Request	/api/x_sclo_scilogic/v1/sciencelogic/service_request	GET	This GET api will pull all ServiceRequest items from the CMDB associated with Device Discovery Catalog item. It will be ordered via the sys_id field to ensure the same order every time.
Classification	/api/x_sclo_scilogic/v2/sciencelogic/classification	GET	This GET api will pull all required CMDB information to build JSON payloads.

Transform Maps

Name	Source Table	Target Table	Comments
ScienceLogic Discovery Dependent	Import Discovery Dependent	Discovery Dependent	Import / staging table for Catalog Dependents
ScienceLogic Event	Import Incident	Event	Import / staging table for Events.
ScienceLogic Incident	Import Incident	Incident [incident]	Import / staging table for Incident
ScienceLogic Organization	Import ORG VEN MFG []	Company [core_company]	Import / staging table for Organization
ScienceLogic Service Request	Import Service Request []	Request Item [sc_req_item]	Import / staging table for Request item

Transform Scripts

Name	Transform Map	Order	Comments
onBefore	ScienceLogic Event	100	Check Action
onAfter	ScienceLogic Event	100	Check Action; Get Resolved Validation script include
onBefore	ScienceLogic Incident	100	Check Action, event workflow script include
onAfter	ScienceLogic Incident	100	Check Action, Affected CI script include

Appendix C

ServiceNow Registered Events

Overview

This appendix describes the commands and data you can use to generate registered events in ServiceNow that are queued to ServiceNow Event Management. These events can trigger actions in the Integration Service, such as specifying one or more CIs for monitoring, or putting a CI into maintenance.

These events use the `gs.eventQueue` command, using the following format:

```
eventQueue(String name, Object instance, String parm1, String parm2)
```

You can use examples found in the following ServiceNow update sets to help you customize the `gs.eventQueue` command to specify which ServiceNow events can trigger Integration Service actions:

- ScienceLogic ServiceNow Integration (Catalog UI)
- ScienceLogic ServiceNow Integration (Maintenance Mode)

You will need to install these update sets in ServiceNow.

NOTE: This appendix is recommended for advanced ServiceNow administrators.

This appendix includes the following topics:

Catalog Item Events

The following events are available through the "ScienceLogic ServiceNow Integration (Catalog UI)" update set in ServiceNow.

x_sclo_scilogic.device_monitoring

This event takes the selected Configuration Items in ServiceNow, files a catalog request using the template selected by the user, and submits the catalog request.

Trigger

Custom requirement supplied by ScienceLogic implementation or the Customer directly.

Command

```
gs.eventQueue('x_sclo_scilogic.device_monitoring', region, ip_list.toString(),
region.getUniqueValue() + "," + region.x_sclo_scilogic_region + "," + silo_template);
```

Event Fields

Name	*Type*	*Field*	*Description*
Name	String	`x_sclo_scilogic.device_monitoring`	Unique name of the event.
glideRecord	Object	`region`	The table to which the event applies.
parm1	String	`ip_list.toString()`	Parm1: The IP, or a comma-separated list of IP addresses, that is pulled from the `ip_address` field on the **cmdb_ci** table.
parm2	String	`getCompany.getUniqueValue(), silo_template`	Parm2: List of three requirements that the `sys_id` of the company associated with the Configuration Item and the catalog template selected through the user interface action.

Example

The UI action / UI page is available through the ScienceLogic ServiceNow Integration (Catalog UI Action) update set.

x_sclo_scilogic.remove_monitoring

This action takes the selected Configuration Item or Items and submits a request through the ServiceNow service catalog for each Configuration Item.

Trigger

Custom requirement supplied by ScienceLogic implementation or the Customer directly.

Command

```
gs.eventQueue('x_sclo_scilogic.remove_monitoring',current, current.getUniqueValue(),
current.company);
```

Event Fields

Name	*Type*	*Field*	*Description*
Name	String	`x_sclo_scilogic.remove_monitoring`	Unique name of the event.
glideRecord	Object	`current`	The table to which the event applies.
parm1	String	`current.getUniqueValue()`	Parm1: The `sys_id` of the Configuration Item that needs to be removed
parm2	String	`current.company);`	Parm2: The `sys_id` of the company that is associated with the Configuration Item.

Example

The UI action / UI page is available through the ScienceLogic ServiceNow Integration (Catalog UI Action) update set.

Maintenance Mode Events

The following event is available through the "ScienceLogic ServiceNow Integration (Maintenance Mode)" update set in ServiceNow.

x_sclo_scilogic.device_maintenance

This event submits a list of devices to be put in to Maintenance via Mid Server.

Trigger

Custom requirement supplied by ScienceLogic implementation or the Customer directly.

Command

```
gs.eventQueue('x_sclo_scilogic.device_maintenance',current, action, affected_ci);
```

Event Fields

Name	*Type*	*Field*	*Description*
Name	String	`x_sclo_scilogic.device_maintenance`	Unique name of the event.
glideRecord	Object	`current`	The table to which the event applies.
parm1	String	`action`	Parm1: An array that includes action to be performed (enable_maintenance or disable_maintenance) and the sys_id of the task. Task is not required the action is.
parm2	String	`affected_ci`	Parm2: An array of device sys_ids that need to be enable or disabled maintenance mode.

Example

Business rule (ScienceLogic ServiceNow Integration (Maintenance Mode Business rule)).

Appendix D

Checklists for Deployment

Overview

This appendix describes the checklists for deploying the Integration Service and the ServiceNow SyncPack, based on your environment and configuration.

This appendix includes the following topics:

CMDB-Only ServiceNow Integration with Single SL1, no Domain Separation in ServiceNow

1. Deploy the Integration Service ISO:
   - IP address, Netmask, Gateway, DNS, Hostname provided
   - Root password provided (this is the root user for the OS)
   - Start Docker services after installation:

     ```
     /opt/iservices/scripts/pull_start_iservices.sh
     ```

   - Validate that iservices are running:

     ```
     docker service ls
     ```

2. Activate the Configuration Management For Scoped Apps (CMDB) Plugin.
3. Install the ScienceLogic Certified Application and create a ServiceNow group and user account:
   - Username
   - Password
   - Web Service Access Only
   - GMT Time Zone
   - x_sclo_scilogic.Admin role assigned
4. Install the ServiceNow SyncPack on the Integration Service.
5. Create the Integration Service configuration object using the "ServiceNow SyncPack" configuration object as a template.

Sync Devices from SL1 to ServiceNow

1. Align the configuration object to the following integration applications:
   - Cache ServiceNow CIs and SL1 Device Classes
   - Sync Devices from SL1 to ServiceNow
2. Run "Cache ServiceNow CIs and SL1 Device Classes" to retrieve all device class information from SL1 and ServiceNow. This will populate the device class mapping in the following step. This integration should be run at least every 23 hours.
3. Configure class and attribute mappings in "Sync Devices from SL1 to ServiceNow".
4. Run "Generate Required CI Relations for ServiceNow" to see if you are missing any service rules or class mappings and create any required maps, containment rules, and hosting rules.
5. Run "Sync Devices from SL1 to ServiceNow" either manually or on a schedule. This integration should be run at least every 23 hours. See documentation for more information.

Discover Devices from ServiceNow in SL1

1. Align the configuration object to the following integration applications:
   - Sync Discovery Requirements
   - Sync Discovery Session Requests from ServiceNow to SL1
   - Sync Discovery Session Status from SL1 to ServiceNow
2. Set additional configuration variables for each of the integrations applications above in the respective **Configuration** pane.
3. Run "Sync Discovery Requirements" to sync all discovery-dependent information from SL1 to ServiceNow.
4. Make sure that the Discovery request RITM is successfully created and approved in ServiceNow using the provided Service Catalogs.
5. Run "Sync Discovery Session Requests from ServiceNow to SL1" either manually or on a schedule to create and execute the discovery session in SL1.
6. After the discovery session has completed in SL1, run "Sync Discovery Session Status from SL1 to ServiceNow" either manually or on a schedule to update the status of the RITM in ServiceNow.

NOTE: The following integration applications only sync CIs that are aligned with the devices that are already synced with ServiceNow. Before syncing any of the CIs below, you must first sync devices between SL1 and ServiceNow.

Sync Business Services from SL1 to ServiceNow

1. Align the configuration object to the following integration application:
   - Sync Business Services from SL1 to ServiceNow
2. Configure the service classification mappings in "Sync Business Services from SL1 to ServiceNow". These are defined in the **Configuration** pane.
3. Run "Sync Business Services from SL1 to ServiceNow" either manually or on a schedule.

Sync File Systems from SL1 to ServiceNow

1. Align the configuration object to the following integration application:
   - Sync File Systems from SL1 to ServiceNow
2. The parent CI must be synced in order to see these related CIs.
3. Run "Sync File Systems from SL1 to ServiceNow" either manually or on a schedule.

Sync Network Interfaces from SL1 to ServiceNow

1. Align the configuration object to the following integration application:

- Sync Network Interfaces from SL1 to ServiceNow

2. Determine additional filters for syncing network interfaces using the ***adapter_sync*** variable defined in the **Configuration** pane.
3. The parent CI must be synced in order to see these related CIs.
4. Run "Sync Network Interfaces from SL1 to ServiceNow" either manually or on a schedule. This integration application should be run at least every 23 hours if you would like to sync interface-level relationships with "Sync Advanced Topology from SL1 to ServiceNow".

Sync Installed Software from SL1 to ServiceNow

1. Align the configuration object to the following integration application:

   - Sync Software Packages from SL1 to ServiceNow
   - Sync Installed Software from SL1 to ServiceNow

2. The parent CI must be synced in order to see these related CIs.
3. First, run "Sync Software Packages from SL1 to ServiceNow". Verify that the integration has run successfully.
4. Run "Sync Installed Software from SL1 to ServiceNow" either manually or on a schedule.

Sync Maintenance Schedules from ServiceNow to SL1

1. Align the configuration object to the following integration application:

   - Sync Maintenance Schedules from ServiceNow to SL1

2. The parent CI must be synced in order to see these related CIs. The affected CI must have ***SL1 Monitored*** set to *True*.
3. If needed, configure the ***Request*** and ***Task state*** IDs in the **Configuration** pane. This is needed if the customer has custom IDs for certain change request or change task states.
4. Run "Sync Maintenance Schedules from ServiceNow to SL1" either manually or on a schedule.

Sync Advanced Topology from SL1 to ServiceNow

1. Align the configuration object to the following integration application:

   - Sync Advanced Topology from SL1 to ServiceNow

2. The parent CI must be synced in order to see these related CIs. Syncing Interface-level relationships (Layer 2, LLDP, and CDP) will require that "Sync Network Interfaces from SL1 to ServiceNow" is set to run at least every 23 hours.
3. Run "Sync Advanced Topology from SL1 to ServiceNow" either manually or on a schedule.

CMDB-Only ServiceNow Integration with Single SL1 and Domain-Separated ServiceNow

1. Deploy the Integration Service ISO:
   - IP address, Netmask, Gateway, DNS, Hostname provided
   - Root password provided (this is the root user for the OS)
   - Start Docker services after installation:

     ```
     /opt/iservices/scripts/pull_start_iservices.sh
     ```

   - Validate that iservices are running:

     ```
     docker service ls
     ```

2. Activate the Configuration Management For Scoped Apps (CMDB) Plugin.
3. Install the ScienceLogic Certified Application and create a ServiceNow group and user account:
   - Username
   - Password
   - Web Service Access Only
   - GMT Time Zone
   - x_sclo_scilogic.Admin role assigned
4. Install the ServiceNow SyncPack on the Integration Service.
5. Create the Integration Service configuration object using the "ServiceNow SyncPack" configuration object as a template.

Sync Devices from SL1 to ServiceNow

1. Align the configuration object to following integration applications:
   - Sync Organizations from SL1 to ServiceNow Companies
   - Cache ServiceNow CIs and SL1 Device Classes
   - Sync Devices from SL1 to ServiceNow
2. In "Sync Organizations from SL1 to ServiceNow Companies" **Configuration** pane, set the ***Source_of_Truth*** to *ServiceNow* and set the ***Domain_Separation*** flag to *True*.
3. Run "Sync Organizations from SL1 to ServiceNow Companies".
4. Run "Cache ServiceNow CIs and SL1 Device Classes" to retrieve all device class information from SL1 and ServiceNow. This will populate the device class mapping in the following step. This integration application should be run at least every 23 hours.

5. Configure class and attribute mappings in "Sync Devices from SL1 to ServiceNow". Set ***Domain_ Separation*** to *True*.
6. Run "Generate Required CI Relations for ServiceNow" to see if you are missing any service rules or class mappings, and then create any required maps, containment rules, and hosting rules.
7. Run "Sync Devices from SL1 to ServiceNow" either manually or on a schedule. This integration application should be run at least every 23 hours.

Discover Devices from ServiceNow in SL1

1. Align Configuration Object to following integration applications:
    - Sync Discovery Requirements
    - Sync Discovery Session Requests from ServiceNow to SL1
    - Sync Discovery Session Status from SL1 to ServiceNow
2. In "Sync Discovery Requirements" **Configuration** pane, set the ***Source_of_Truth*** to *ServiceNow*. Set ***Domain_Separation*** to *True*.
3. Run "Sync Discovery Requirements" to sync all discovery-dependent information from SL1 to ServiceNow and back to SL1.
4. Set additional configuration variables for each of the other integration applications above in the respective **Configuration** pane.
5. Discovery request RITM is successfully created and approved in ServiceNow using the provided Service Catalogs.
6. Run "Sync Discovery Session Requests from ServiceNow to SL1" either manually or on a schedule to create and execute the discovery session in SL1.
7. After the discovery session completes in SL1, run "Sync Discovery Session Status from SL1 to ServiceNow" either manually or on a schedule to update the status of the RITM in ServiceNow.

NOTE: Domain separation requires that "Sync Organizations from SL1 to ServiceNow Companies" is configured with ***Domain_Separation*** enabled and ***Source_of_Truth*** set to *ServiceNow*. In a domain-separated ServiceNow environment, this integration application must be properly configured and run successfully before syncing any additional CI items. SL1 organizations that are linked to a ServiceNow company will have the ***crm_id*** populated with the ServiceNow Company ***sys_id***.

NOTE: The following integrations only sync CIs that are aligned with the devices that are already synced with ServiceNow. Before syncing any of the CIs below, you must first sync devices between SL1 and ServiceNow.

Sync Business Services from SL1 to ServiceNow

1. Align the configuration object to the following integration application:

- Sync Business Services from SL1 to ServiceNow

2. Configure the service classification mappings in "Sync Business Services from SL1 to ServiceNow". These are defined in the **Configuration** pane.
3. Ensure that ***Domain_Separation*** is set to *True* in the **Configuration** pane.
4. Run "Sync Business Services from SL1 to ServiceNow" either manually or on a schedule.

Sync File Systems from SL1 to ServiceNow

1. Align the configuration object to the following integration application:

    - Sync File Systems from SL1 to ServiceNow

2. Ensure that ***Domain_Separation*** is set to *True* in the **Configuration** pane.
3. The parent CI must be synced in order to see these related CIs.
4. Run "Sync File Systems from SL1 to ServiceNow" either manually or on a schedule.

Sync Network Interfaces from SL1 to ServiceNow

1. Align the configuration object to the following integration application:

    - Sync Network Interfaces from SL1 to ServiceNow

2. Determine additional filters for syncing network interfaces using the ***adapter_sync*** variable defined in the **Configuration** pane.
3. Ensure that ***Domain_Separation*** is set to *True* in the **Configuration** pane.
4. The parent CI must be synced in order to see these related CIs.
5. Run "Sync Network Interfaces from SL1 to ServiceNow" either manually or on a schedule. This integration application should be run at least every 23 hours if you would like to sync interface-level relationships with "Sync Advanced Topology from SL1 to ServiceNow".

Sync Installed Software from SL1 to ServiceNow

1. Align the configuration object to the following integration application:

    - Sync Software Packages from SL1 to ServiceNow
    - Sync Installed Software from SL1 to ServiceNow

2. The parent CI must be synced in order to see these related CIs.
3. First, run "Sync Software Packages from SL1 to ServiceNow". Verify that the integration has run successfully.
4. Run "Sync Installed Software from SL1 to ServiceNow" either manually or on a schedule.

Sync Maintenance Schedules from ServiceNow to SL1

1. Align the configuration object to the following integration application:

    - Sync Maintenance Schedules from ServiceNow to SL1

2. The parent CI must be synced in order to see these related CIs. The affected CI must have ***SL1 Monitored*** set to *True*.
3. If needed, configure the ***Request*** and ***Task state*** IDs in the **Configuration** pane. This is needed if the customer has custom IDs for certain change request or change task states.
4. Run "Sync Maintenance Schedules from ServiceNow to SL1" either manually or on a schedule.

Sync Advanced Topology from SL1 to ServiceNow

1. Align the configuration object to the following integration application:
    - Sync Advanced Topology from SL1 to ServiceNow
2. Ensure that ***Domain_Separation*** is set to *True* in the **Configuration** pane.
3. The parent CI must be synced in order to see these related CIs. Syncing Interface-level relationships (Layer 2, LLDP, and CDP) will require that "Sync Network Interfaces from SL1 to ServiceNow" is set to run at least every 23 hours.
4. Run "Sync Advanced Topology from SL1 to ServiceNow" either manually or on a schedule.

CMDB-Only ServiceNow Integration with Multiple SL1 Systems, no Domain-Separated ServiceNow

NOTE: Depending on the size of your SL1 stacks and the number of SL1 stacks you have, you may need to consider a "multi-tenant" configured IS. This is a more advanced deployment model. Please contact a ScienceLogic representative for more information.

1. Deploy the Integration Service ISO:
   - IP address, Netmask, Gateway, DNS, Hostname provided
   - Root password provided (this is the root user for the OS)
   - Start Docker services after installation:

     ```
     /opt/iservices/scripts/pull_start_iservices.sh
     ```

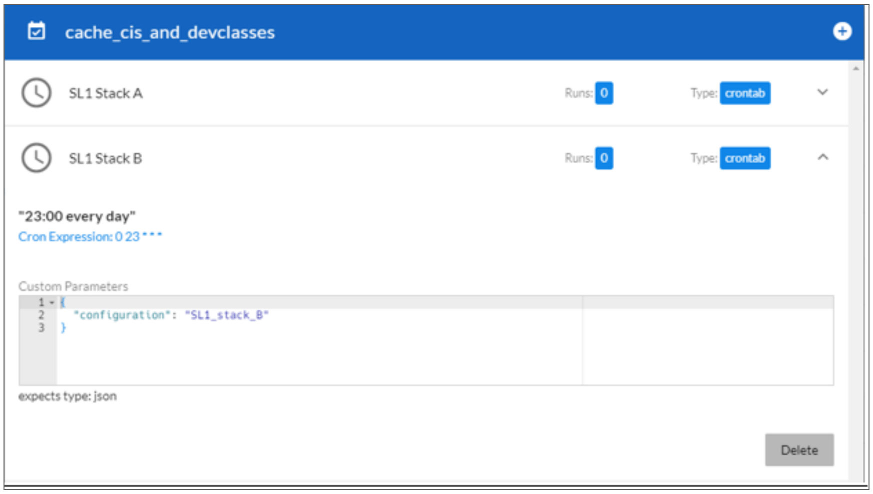
   - Validate that iservices are running:

     ```
     docker service ls
     ```

2. Activate the Configuration Management For Scoped Apps (CMDB) Plugin.
3. Install the ScienceLogic Certified Application and create a ServiceNow group and user account:
   - Username
   - Password
   - Web Service Access Only
   - GMT Time Zone
   - x_sclo_scilogic.Admin role assigned
4. Install the ServiceNow SyncPack on the Integration Service.
5. Create the Integration Service configuration object using the "ServiceNow SyncPack" configuration object as a template:

NOTE: The key difference between integrating a single SL1 stack on the Integration Service and integrating multiple SL1 stacks on the Integration Service is how you run the integration application. Running the integration application with multiple SL1 stacks involves creating an individual configuration object for each SL1 stack. Then, create an individual schedule for each configuration object. Each schedule should use a configuration object that is specific to a single SL1 stack.

When creating the schedule, populate the custom parameters with the configuration object ID. For example:



"23:00 every day"
Cron Expression: 0 23 * * *

Custom Parameters

```
{
  "configuration": "SL1_stack_B"
}
```

expects type: json

Sync Devices from SL1 to ServiceNow

1. Create a schedule for each SL1 stack for the following Integrations following the note above:

   - Cache ServiceNow CIs and SL1 Device Classes
   - Sync Devices from SL1 to ServiceNow

2. Wait for the "Cache ServiceNow CIs and SL1 Device Classes" to retrieve all device class information from SL1 and ServiceNow. This will populate the device class mapping in the following step. This integration should be run at least every 23 hours.
3. Configure class and attribute mappings in "Sync Devices from SL1 to ServiceNow". If each SL1 stack has different class and attribute mapping requirements, you will need to specify the mappings in each schedule’s custom parameters for this application.
4. Run "Generate Required CI Relations for ServiceNow" to see if you are missing any service rules or class mappings and create any required maps, containment rules, and hosting rules. By default, these will pull from the mappings set in "Sync Devices from SL1 to ServiceNow". If you have defined different mappings for each SL1 stack, you will need to also specify these mappings in each schedule’s custom parameters for this application.
5. Run "Sync Devices from SL1 to ServiceNow" with a schedule where each schedule uses the configuration object for a SL1 stack. This integration application should be run at least every 23 hours.

Discover Devices from ServiceNow in SL1

1. Create a schedule for each SL1 stack for the following integration applications:

   - Sync Discovery Requirements
   - Sync Discovery Session Requests from ServiceNow to SL1

- Sync Discovery Session Status from SL1 to ServiceNow

2. If any additional configuration variables are needed, these will need to be set in the custom parameters section for each schedule
3. Run "Sync Discovery Requirements" on a schedule to sync all discovery-dependent information from SL1 to ServiceNow.
4. Verify that the discovery request RITM is successfully created and approved in ServiceNow using the provided Service Catalogs.
5. Run "Sync Discovery Session Requests from ServiceNow to SL1"on a schedule where each schedule uses the configuration object for a SL1 stack to create and execute the discovery session in SL1.
6. Once the discovery session has completed in SL1, run "Sync Discovery Session Status from SL1 to ServiceNow" via schedule where each schedule uses the configuration object for a SL1 stack to update the status of the RITM in ServiceNow.

> The following integration applications only sync CIs that are aligned with the devices that are already synced with ServiceNow. Before syncing any of the CIs below, you must first sync devices between SL1 and ServiceNow.

Sync Business Services from SL1 to ServiceNow

1. Create a schedule for each SL1 stack for the following integration application:
   - Sync Business Services from SL1 to ServiceNow
2. Configure service classification mappings in "Sync Business Services from SL1 to ServiceNow" application. These are defined in the **Configuration** pane.
3. Run "Sync Business Services from SL1 to ServiceNow" on a schedule where each schedule uses the configuration object for a SL1 stack.

Sync File Systems from SL1 to ServiceNow

1. Create a schedule for each SL1 stack for the following integration application:
   - Sync File Systems from SL1 to ServiceNow
2. The parent CI must be synced in order to see these related CIs.
3. Run "Sync File Systems from SL1 to ServiceNow" on a schedule where each schedule uses the configuration object for a SL1 stack.

Sync Network Interfaces from SL1 to ServiceNow

1. Create a schedule for each SL1 stack for the following integration application:
   - Sync Network Interfaces from SL1 to ServiceNow

2. Determine additional filters for syncing network interfaces using the ***adapter_sync*** variable defined in the **Configuration** pane.
3. The parent CI must be synced in order to see these related CIs.
4. Run "Sync Network Interfaces from SL1 to ServiceNow" on a schedule where each schedule uses the configuration object for a SL1 stack. This integration application should be run at least every 23 hours if you would like to sync interface-level relationships with "Sync Advanced Topology from SL1 to ServiceNow".

Sync Installed Software from SL1 to ServiceNow

1. Create a schedule for each SL1 stack for the following integration application:
    - Sync Software Packages from SL1 to ServiceNow
    - Sync Installed Software from SL1 to ServiceNow
2. The parent CI must be synced in order to see these related CIs.
3. "Sync Software Packages from SL1 to ServiceNow" must run on a schedule before "Sync Installed Software from SL1 to ServiceNow". Verify that the software packages have been synced before continuing.
4. After the software packages have been synced, run "Sync Installed Software from SL1 to ServiceNow" on a schedule where each schedule uses the configuration object for a SL1 stack.

Sync Maintenance Schedules from ServiceNow to SL1

1. Create a schedule for each SL1 stack for the following integration application:
    - Sync Maintenance Schedules from ServiceNow to SL1
2. The parent CI must be synced in order to see these related CIs. The affected CI must have the ***SL1 Monitored*** field set to *True*.
3. If needed, configure the ***Request*** and ***Task state*** IDs in the **Configuration** pane. This is needed if the customer has custom IDs for certain change request or change task states.
4. Run "Sync Maintenance Schedules from ServiceNow to SL1" on a schedule where each schedule uses the configuration object for a SL1 stack.

Sync Advanced Topology from SL1 to ServiceNow

1. Create a schedule for each SL1 stack for the following integration application:
    - Sync Advanced Topology from SL1 to ServiceNow
2. The parent CI must be synced in order to see these related CIs. Syncing Interface-level relationships (Layer 2, LLDP, and CDP) will require that you set "Sync Network Interfaces from SL1 to ServiceNow" to run at least every 23 hours.
3. Run "Sync Advanced Topology from SL1 to ServiceNow" on a schedule where each schedule uses the configuration object for a SL1 stack.

Incident-Only ServiceNow Integration with Single SL1, no Domain Separation in ServiceNow

1. Deploy the Integration Service ISO:

   - IP address, Netmask, Gateway, DNS, Hostname provided
   - Root password provided (this is the root user for the OS)
   - Start Docker services after installation:

     ```
     /opt/iservices/scripts/pull_start_iservices.sh
     ```

   - Validate that iservices are running:

     ```
     docker service ls
     ```

2. Install the ScienceLogic Certified Application and create a ServiceNow group and user account:

   - Username
   - Password
   - Web Service Access Only
   - GMT Time Zone

3. Install the ServiceNow SyncPack on the Integration Service.
4. Create the Integration Service configuration object using the "ServiceNow SyncPack" configuration object as a template:

   - Align the configuration object to the following integration applications:

     - Create or Update ServiceNow Incident from SL1 Event
     - Update ServiceNow Incident when SL1 Event is Acknowledged
     - Update ServiceNow Incident when SL1 Event is Cleared
     - Sync Incident State from ServiceNow to SL1 Event

   - Only the following Integration should be run manually or scheduled:

     - Sync Incident State from ServiceNow to SL1 Event

5. Install the ServiceNow Base PowerPack and configure SL1:

   - Use the "ServiceNow RBA – Example" credential as a template to create a new credential that points to the Integration Service instance.
   - Align the newly-created credential to the "ServiceNow – Add/Update/Clear Incident" Run Book Action.
   - Ensure that all Run Book Actions and Run Book Policies are enabled.

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