

Vectra Integration for ServiceNow CMDB v1.0.0 Respond User Experience (RUX)

Version: October 2024

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1. Overview

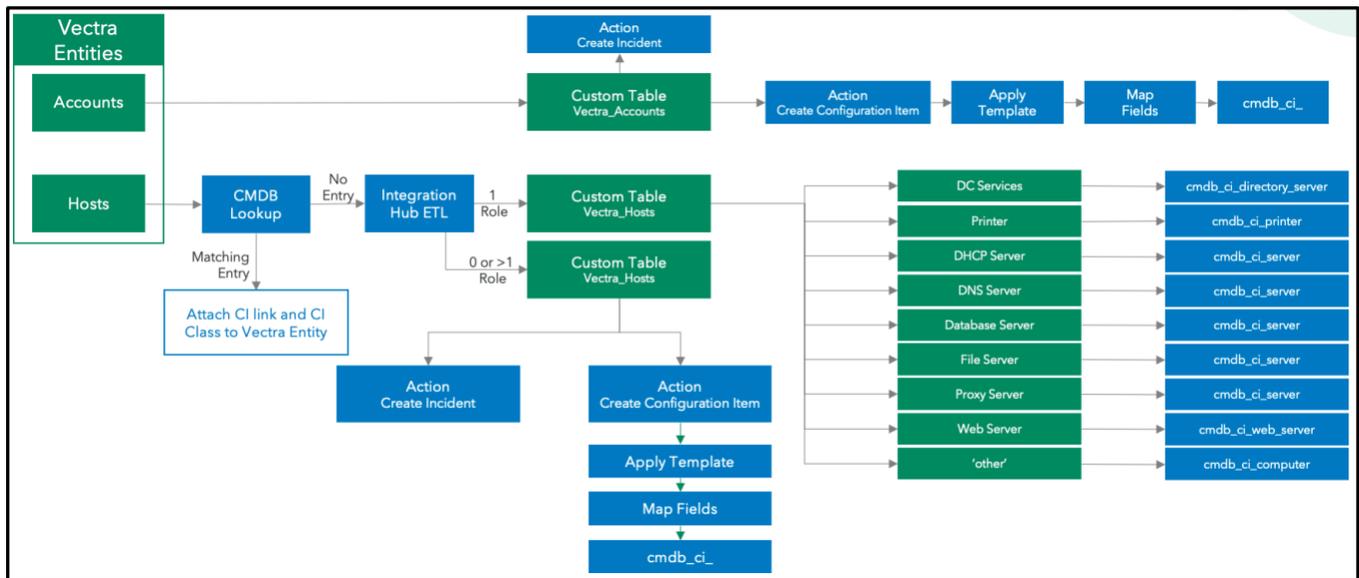
The Vectra Integration for CMDB facilitates the periodic retrieval of entities from the Vectra platform and populates the data into the CMDB and custom tables. It also tags the entities in Vectra with the Configuration Inventory (CI) Class for items already in the CMDB.

1.1. Application Features

- Add new items (Vectra entities) to Configuration Inventory (CI).
- Update changed items (Vectra entities) in CI.
- Enrich Vectra entities with Note containing CI link and Tag for CI class.
- Map unclassified items (Vectra entities not in CI) to CI class.
- Create ITSM tickets to review unclassified items (Vectra entities not in CI).
- Provides foundation to script adding Vectra entities to Vectra groups based on CI class.

1.2. Application Architecture

This integration works by periodically pulling hosts and accounts (entities) from Vectra and checking if the entity already exists in CDMB. If the entity already exists, then it's CI link and CI class are added to the Vectra entity. If the entity doesn't exist and the entity is a host then it's handed off to the IntegrationHub ETL. At this point the entity is interrogated to determine if Vectra has given it a defined role. If so, the entity is added and mapped into the corresponding CI class as per the configuration. If the entity has no defined role or has multiple roles then the entity is added to the Vectra table and from there the operator can generate ITSM incidents to ensure the asset is investigated to determine if it's valid and should belong in the CMDB. The operator can also map the asset into the CI class of their choosing by creating an appropriate mapping template.



2. Application Dependencies

2.1. Required Plugins

- Integration Commons for CMDB (sn_cmdb_int_util).
- IntegrationHub ETL (sn_int_studio).
- Integration Studio API (com.glide.integration_studio).

2.2. Compatibility Matrix

- ServiceNow Version: Vancouver, Washington DC, Xanadu.
- Vectra AI Respond User Experience (RUX) Platform with API v3.3 or higher.

2.3. Required Permission and Roles

The ServiceNow system administrator is required to create a user or provide permissions to an existing user for the Vectra Integration for CMDB.

The ServiceNow system administrator can create two types of users for the Vectra Integration for CMDB. Instructions for creating the users are in the installation section.

User	Role	Permission	Description
System Administrator	admin	<ul style="list-style-type: none"> • Installation of the integration application plugins • User Creation • Application Logs • Guided Setup 	<ul style="list-style-type: none"> • The user of this role will be the admin of the ServiceNow Instance.
Application Admin	x_cdsp_vectra_cmdb.admin	<ul style="list-style-type: none"> • Configuration • Scheduled job configuration for Host and account import • Fetched entities • System Properties • Process Monitor • Support • Create CI Mapping Template 	<ul style="list-style-type: none"> • The user assigned 'Application Admin' role will be the admin of the application, and allowed to configure the guided setup, update the configuration, update Scheduled Data Import, view the fetched hosts, accounts and their relationships, and system properties.
Application User	x_cdsp_vectra_cmdb.user	<ul style="list-style-type: none"> • Read access of configuration • Read access to Process Monitor • Support • Select Mapping Template • Create Configuration Items and Incidents. 	<ul style="list-style-type: none"> • The user assigned 'Application User' will be allowed to read configuration and configurations for scheduled jobs. Application Users will also be able to see the details of imported jobs. Users will also be allowed to access the process monitor and support page.

3. Installation

This section describes how to download and install the “Vectra Integration for CMDB” from the store.

3.1. Install ServiceNow Plugins

These ServiceNow plugins must be activated:

- Integration Commons for CMDB (sn_cmdb_int_util)
- IntegrationHub ETL (sn_int_studio)
- Integration Studio API (com.glide.integration_studio)

Role Required: System Administrator (admin)

- Log in to your instance with your user credentials.
- Verify you have the system administrator (admin) role.
- Navigate to “System Definition → Plugins” in your instance.
- Search and install the above plugins.

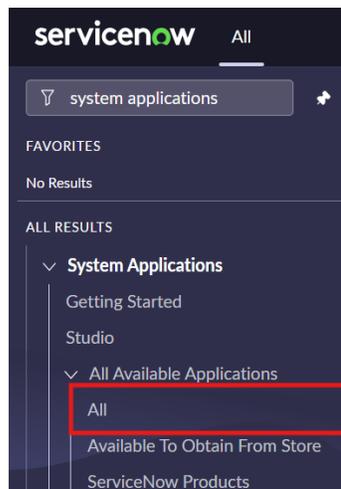
Note: Service Graph Connector would be not visible if the above-mentioned plugins are not installed before the installation of application. If you install the plugins after the installation, then the application will not work as expected

3.2. Application Download and Installation

Steps to install the application from the ServiceNow Store:

Role Required: System Administrator (admin)

- Go to <https://store.servicenow.com>
- Search for the “Vectra Integration for CMDB” on the search tab.
- Click on the Vectra Integration for CMDB.
- Click on the “Get” button and enter the HI credentials of your instance.
- Once it is added successfully, open the instance and Navigate to Applications > All Available Applications > All.
- Find the application using the filter criteria and search bar.
- Next to the application listing, click Install.



3.3. Enable Outbound HTTP logs

Outbound REST functionality enables you to retrieve, create, update, or delete data on a web services server that supports the REST architecture. You can send a REST message by a REST workflow activity or by using the RESTMessageV2 script API.

Role Required: System Administrator (admin)

- Login to ServiceNow.
- In the navigation filter, enter `sys_properties.list` 
- Search and set below system properties:
`glide.outbound_http_log.override.level = all`
`glide.outbound_http.content.max_limit = 10000`
`glide.outbound_http_log.override = true`
- Navigate to the "Outbound HTTP Requests" module under System logs.
- Sort all records by Created Date in descending order.
- You will be able to see the API calls made for the application.

3.4. Create Application Users

The ServiceNow platform admin creates the various Vectra application users.

Username (for example)	Role to be assigned
<code>vectra_cmdb_admin</code>	<code>admin</code> <code>x_cdsp_vectra_cmdb.admin</code> <code>x_cdsp_vectra_cmdb.user</code> <code>cmdb_read</code> <code>cmdb_inst_admin</code>
<code>vectra_cmdb_user</code>	<code>x_cdsp_vectra_cmdb.user</code> <code>cmdb_read</code> <code>cmdb_inst_admin</code>

Below is an example showing how to create a Vectra user and assign the role to it.

Role Required: System Administrator (admin)

- Navigate to "Organization" -> "Users".
- Click the "Users" module.
- On the Users list that is displayed, click "New". A new user form is displayed
- Fill in the form.

Note: The values for User ID title, and email address shown in the following table and figure are example values.

Field	Description
User ID	Unique User ID for the role in your ServiceNow Platform instance.
First Name	First name of the person, you are assigning
Last Name	Last name of the person, you are assigning
Title	Job Title, for example, Vectra CMDB admin
Password	The unique password created for this role
Email	Unique email address
Timezone	Select the time zone from where the user is working.

- Click "Submit". Once submitted, you can assign the role.
- On the Users list in the User ID column, click on the name of the new user you created, for example vectra_cmdb_admin.
- Once the record is open, the Set password UI is visible in the form view of the record.
- Click on the Set Password UI action.
- One pop-up will be displayed. Click on "Generate". This will generate a unique password for the created user that needs to be changed on the first log-in.
- Copy the generated password and close the popup.
- On the Users list in the User ID column, click on the name of the new user you created, for example vectra_cmdb_admin.
- Once the record is open, go to the Roles section, and click "Edit".
- Add all required roles as outlined in Table 1 – Vectra CMDB User Roles.
- Click "Save".
- Repeat for vectra_cmdb_user.

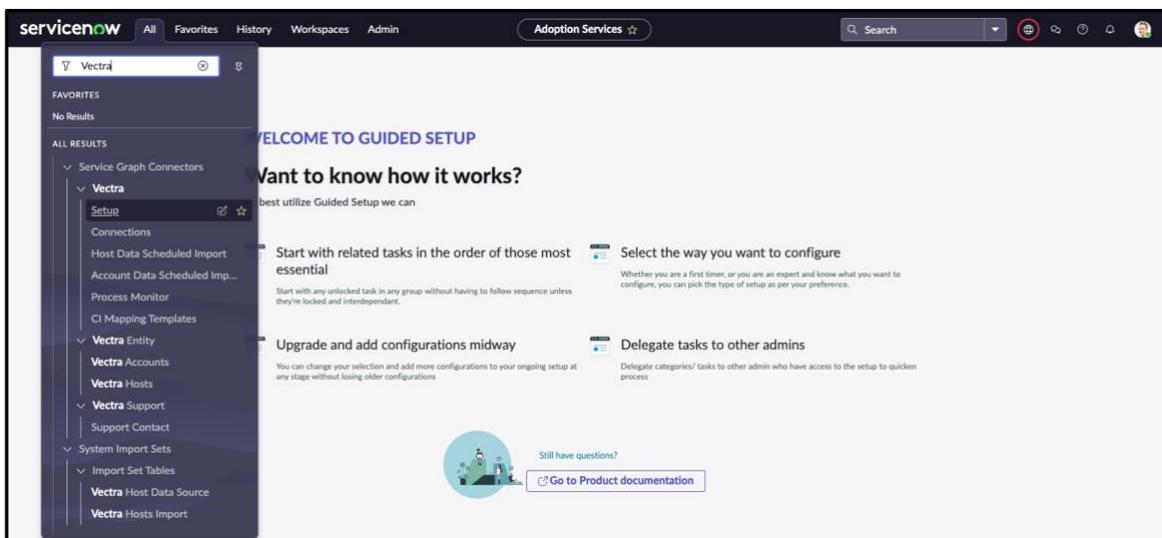
4.Guided Configuration

4.1. Guided Setup

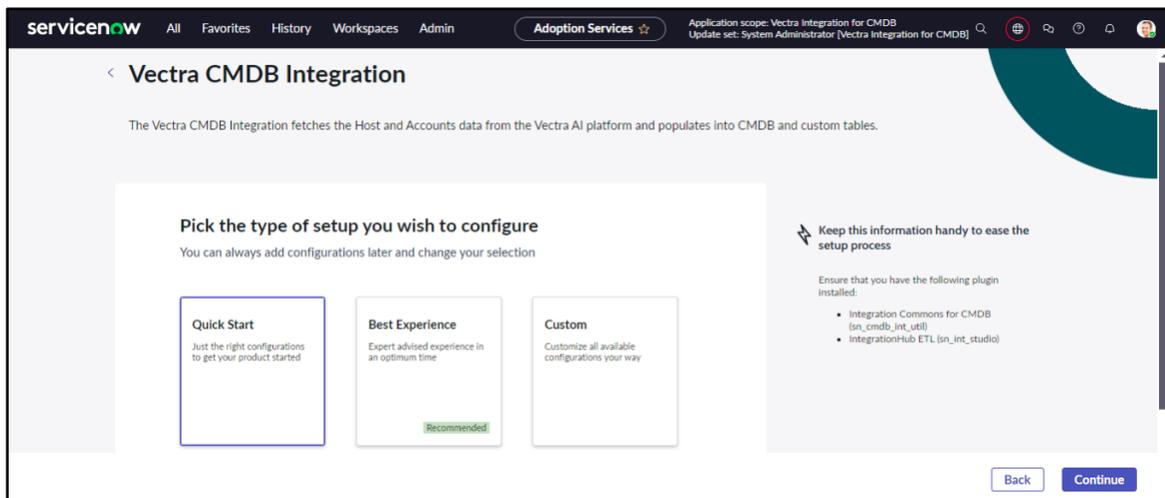
Guided Setup uses ServiceNow’s Adoption Services to facilitate the end-to-end configuration of Vectra Integration for CMDB. There are three guided setup options listed but they all serve the same function. There are three options presented as part of ServiceNow guided setup module and it’s not possible to remove any of the three.

Role Required: System Administrator (admin) or Vectra Application Admin (x_cdsp_vectra_cmdb.admin)

- Navigate to “Vectra Integration for CMDB” → “Setup”
- After this, you can find the guided setup page.
- Follow the steps mentioned in the guided setup to complete configuration



The setup page should open with three types of configurations to set up (from below screenshot). **Best Experience guided setup is recommended.**



Best Experience

- All guided setups will provide the same functionality. Best Experience is the **recommended approach**:
 - Prerequisites
 - Configure Application System Properties
 - Credential Configuration
 - Configure Vectra Auth Credential
 - Configure Vectra HTTP(s) Connection
 - Test Connection
 - Configure Generate Token Scheduled Script
 - Configure Scheduled Import Jobs
 - Configure Scheduled Jobs for Hosts
 - Configure Scheduled Jobs for Accounts

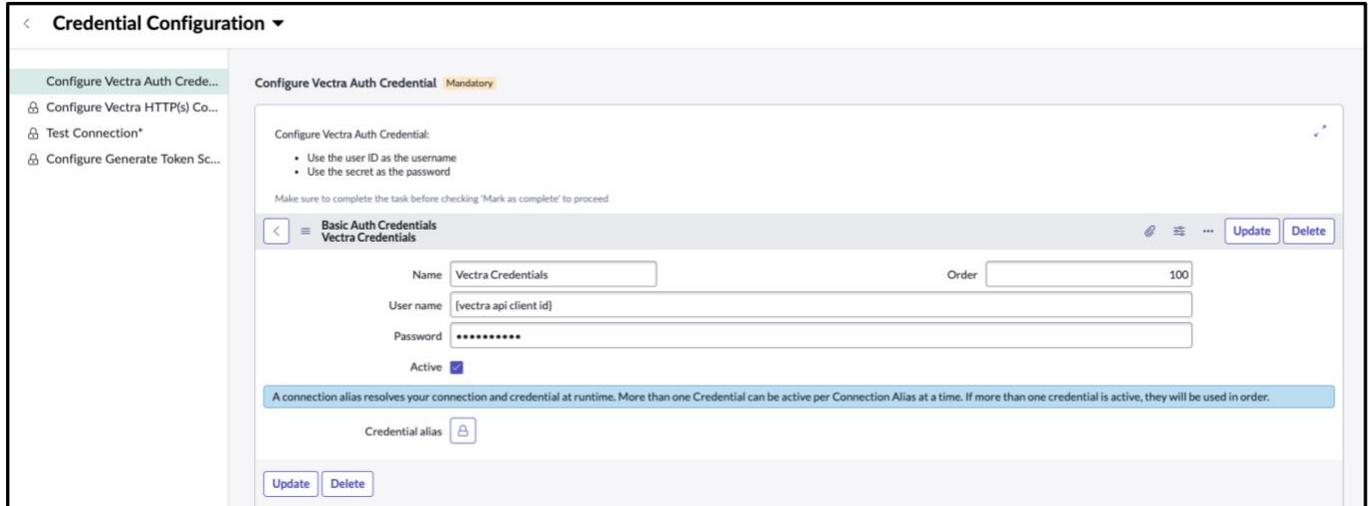
4.2. Prerequisites

- Configure Application System Properties
 - The defaults are sufficient for most deployments.
 - Save (even if there no changes) and Mark as complete.

The screenshot shows the 'Configure Application System Properties' configuration page in ServiceNow. The page has a dark header with 'servicenow' and navigation tabs like 'All', 'Favorites', 'History', 'Workspaces', and 'Admin'. The main content area is titled 'Configure Application System Properties' and includes a 'Properties' section with three input fields. The first field is 'Page size of API call' with a default value of 50 and a max limit of 100, with a value of 100 entered. The second field is 'Maximum number of retries to be performed for API failures' with a default value of 3, with a value of 3 entered. The third field is 'Maximum interval between API calls in seconds when response code 429 or 500 received' with a default value of 30, with a value of 30 entered. There are 'Save' buttons next to each field and a larger 'Save' button at the bottom left of the form. At the bottom right, there are 'Cancel' and 'Continue' buttons. A 'Mark as complete' checkbox is located at the bottom left of the page.

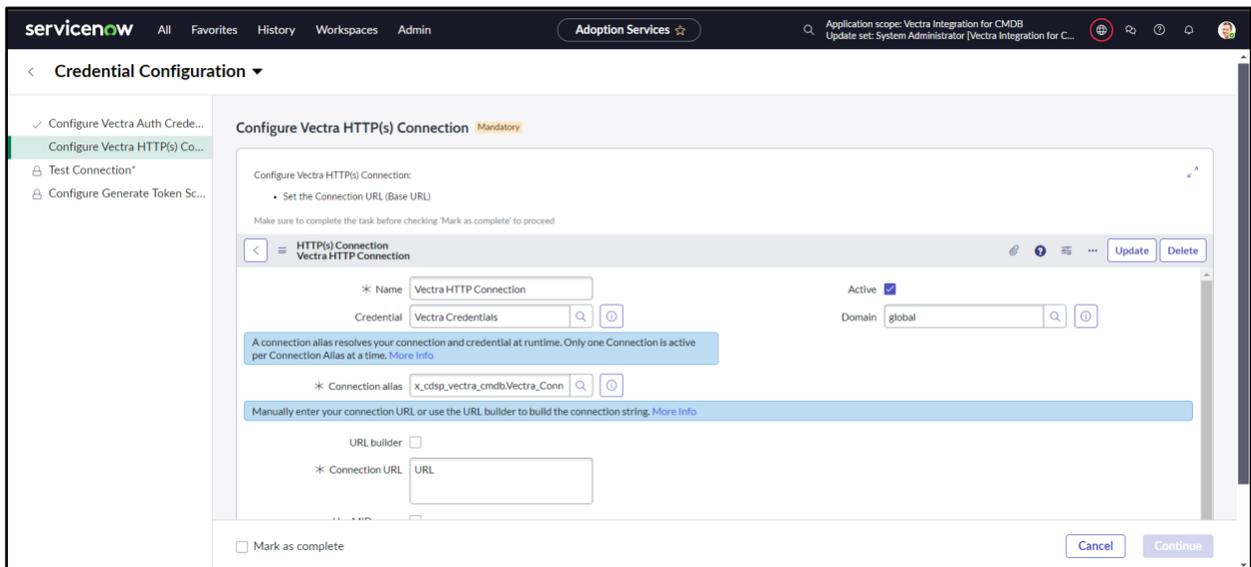
4.3. Credential Configuration

- Configure Vectra Auth Credential
 - Provide valid username(Vectra API client name) and password (Vectra API client secret) in the required fields.
 - Select Update and then Mark as complete.



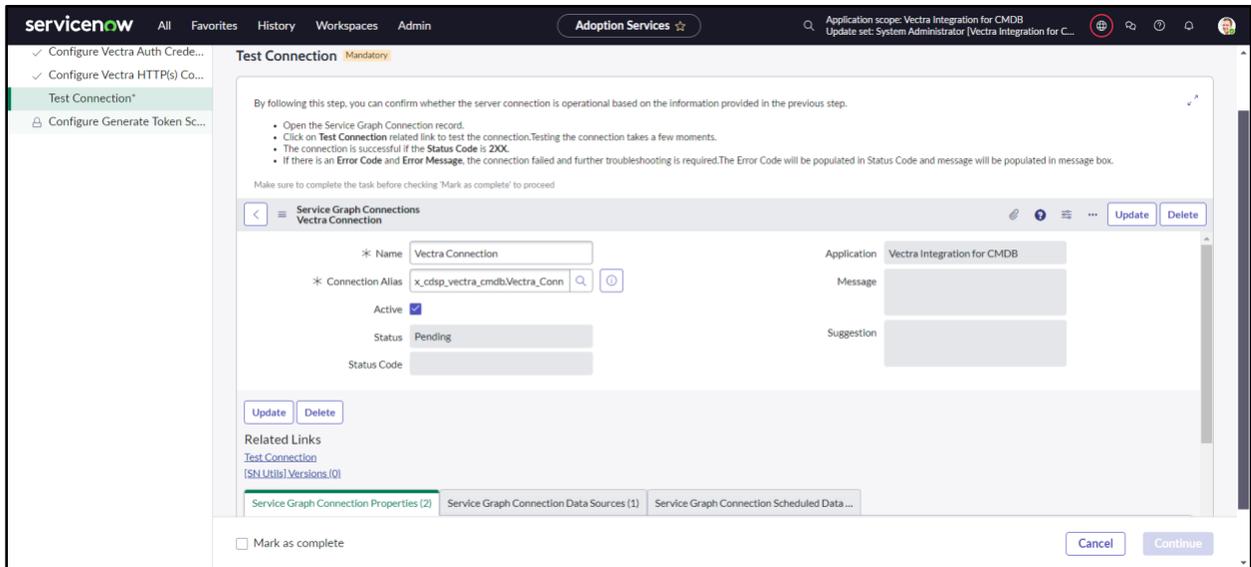
- Configure Vectra HTTP(s) Connection

- User should provide valid Connection URL(below screenshot) for Vectra http connection. Replace the text 'URL' with the Vectra Platform URL in the Connection URL box. The URL should have the format https://serial_number.region.portal.vectra.ai.
- Make sure the connection is Active, then select Update and then Mark as complete.

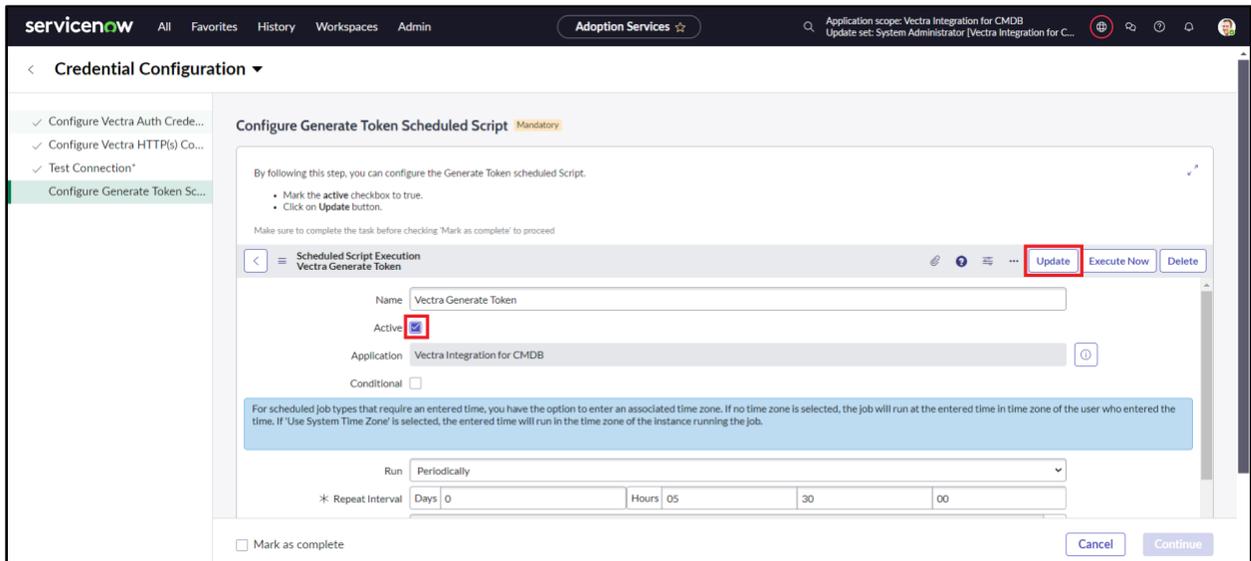


- Vectra Connection

- Test the connection for valid configuration. Use the Test Connection link under Related links.
- Once successful response is returned (Success 200), Mark as complete.

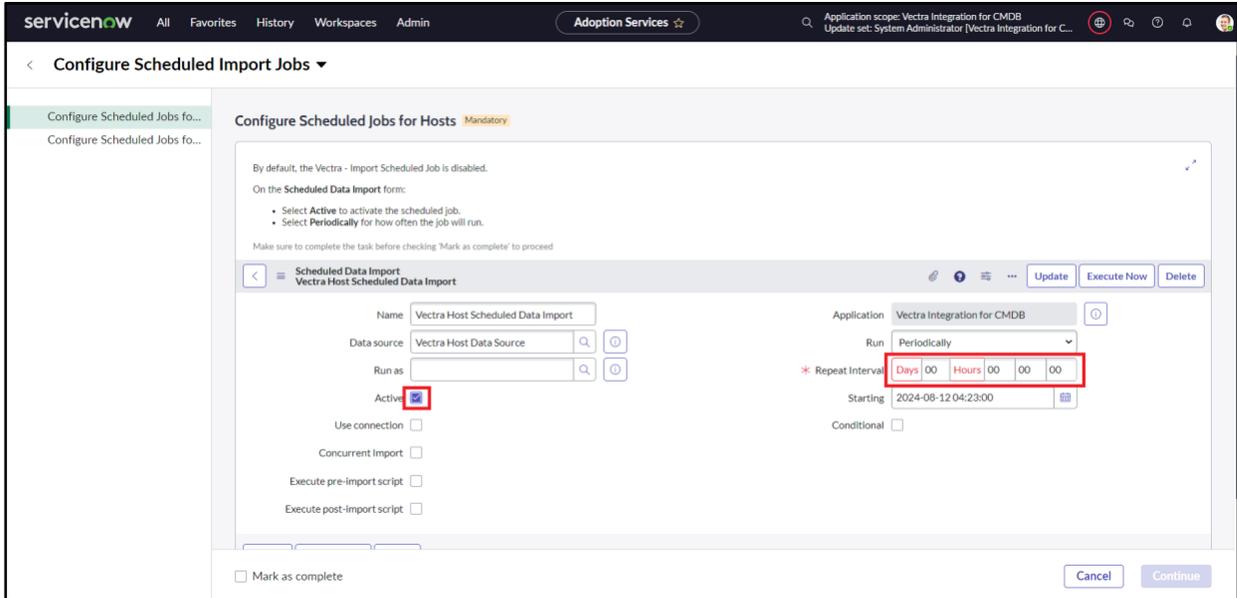


- Configure Generate Token Scheduled Script
 - Set the scheduled job to Active.
 - Select Update and then Mark as complete.

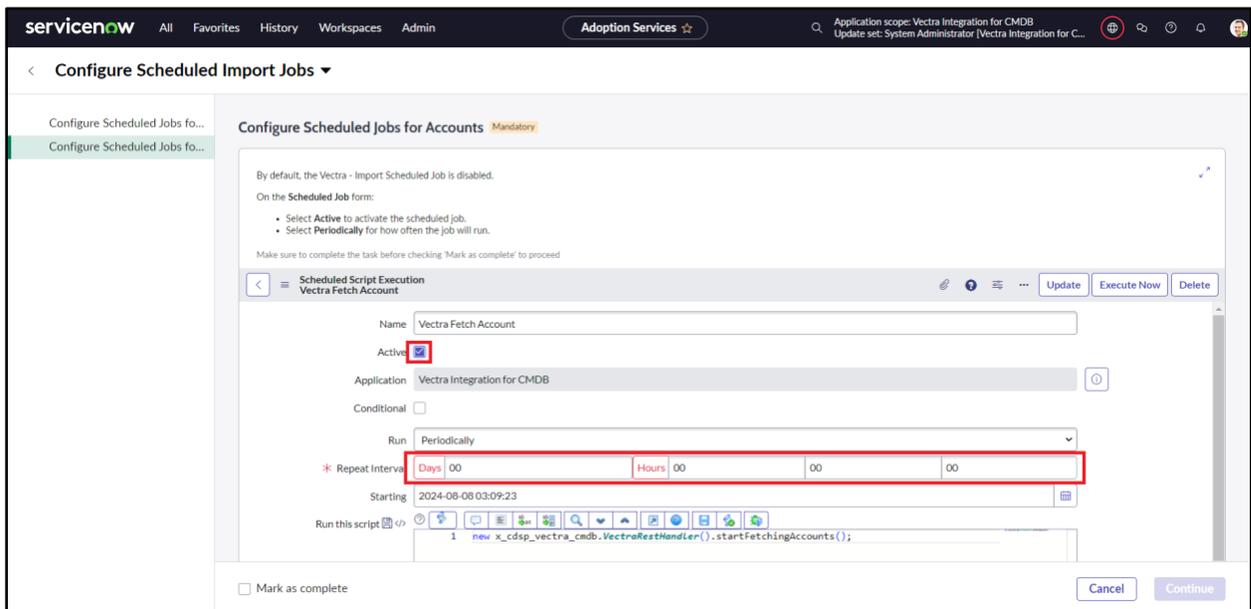


4.4. Configure Scheduled Jobs

- Configure the scheduled jobs for fetching hosts to run periodically by configuring a time interval.
 - Set Run to Periodically.
 - Choose the desired repeat interval (example every 1 hour is a good start).
 - Set Active then Update and Mark as complete.
 - **DO NOT 'Execute Now' as there may be some additional customizations required.**



- Configure the scheduled jobs for fetching accounts to run periodically by configuring a time interval.
 - Set Run to Periodically.
 - Choose the desired repeat interval (example every 1 hour is a good start).
 - Set Active then Update and Mark as complete.
 - Execute Now can be initiated for accounts to start the ingestion if desired or simply wait for the scheduled interval to run.



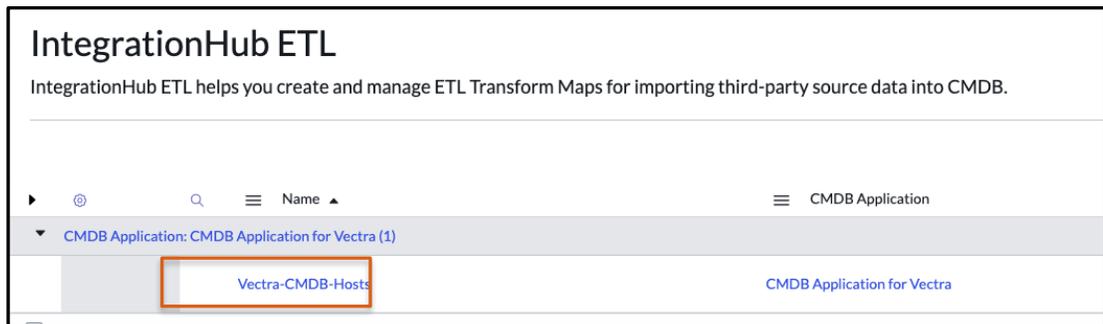
5. Customization and Configuration Updates

5.1. IntegrationHub ETL – Activate Hosts Transform

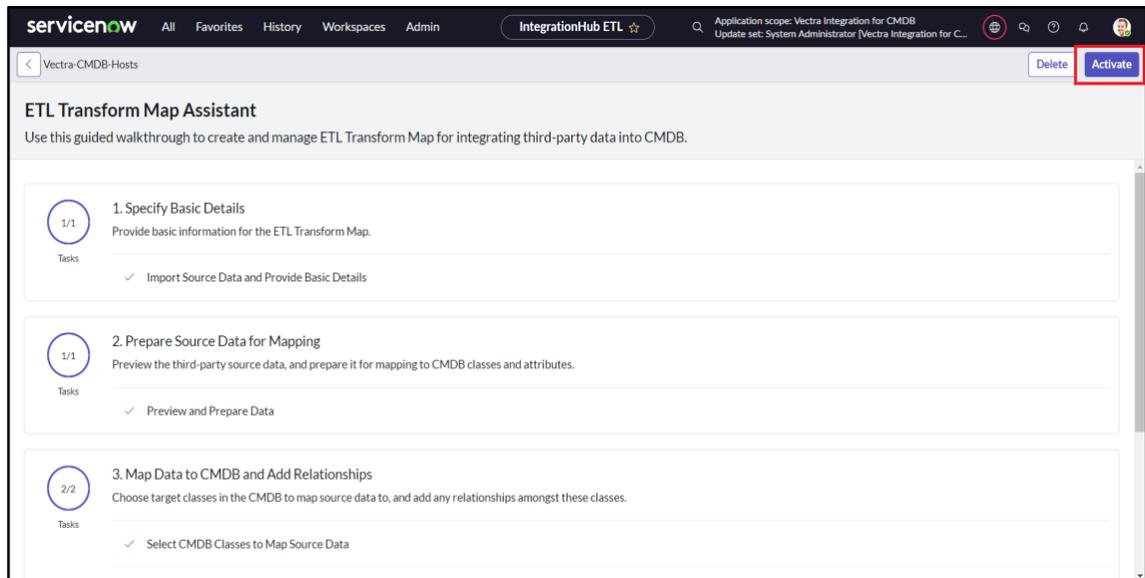
The transform map must be activated to map Vectra entities into CMDB CI classes. The transform is set to disabled during initial install and must be activated.

Role Required: System Administrator (admin) or Vectra Application Admin (x_cdsp_vectra_cmdb.admin)

- Activate transform map
 - Navigate to “IntegrationHub ETL”.
 - Open “CMDB Application: CMDB Application for Vectra” -> “Vectra-CMDB-Hosts”



- Use the Activate button to activate the Vectra-CMDB-Hosts Transform map.



5.2. Customize CI Classes (Optional)

The integration ships with the default mapping of Vectra entity to CI Class based on Vectra role. These are the CI Classes Vectra entities will be automatically added to in the event the entity doesn't already exist in the CMDB. The destination CI Class for each Vectra role can be modified if desired.

Vectra Entity Role	CI Class Used by Default
DC Services	cmdb_ci_directory_server
Printer	cmdb_ci_printer
DHCP Server	cmdb_ci_server
Database Server	cmdb_ci_server
DNS Server	cmdb_ci_server
File Server	cmdb_ci_server
Proxy Server	cmdb_ci_server
Web Server	cmdb_ci_web_server
'other'	cmdb_ci_computer

To modify the CI Class mapping prior to ingesting all the data, the following steps are required.

- Download sample schema file from Vectra Support.
- Load sample schema (import set) into ServiceNow.
- Modify CI Class Mapping.
- Reset import set back to original configuration.

Download Sample Schema

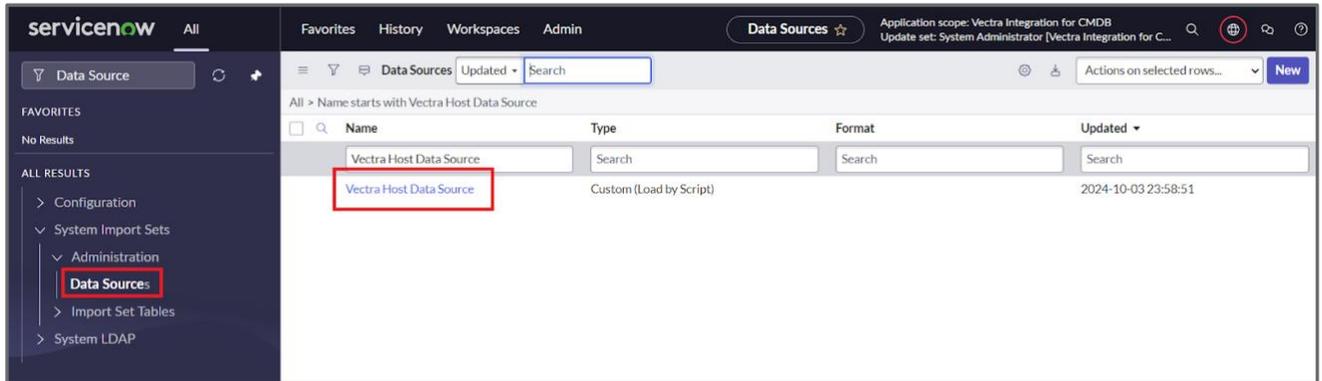
A schema (import set) must be loaded manually. Once the schema has been loaded, it will be possible to modify the pre-configured mapping shown above to modify the destination CI Class as appropriate. A sample schema file is available on the Vectra Support site at this location: <https://support.vectra.ai/s/article/KB-VS-1832>

Navigate to the above link and download the file `sample_host.json` from the bottom of the article and store locally. This is the default schema that will be loaded in the next step.

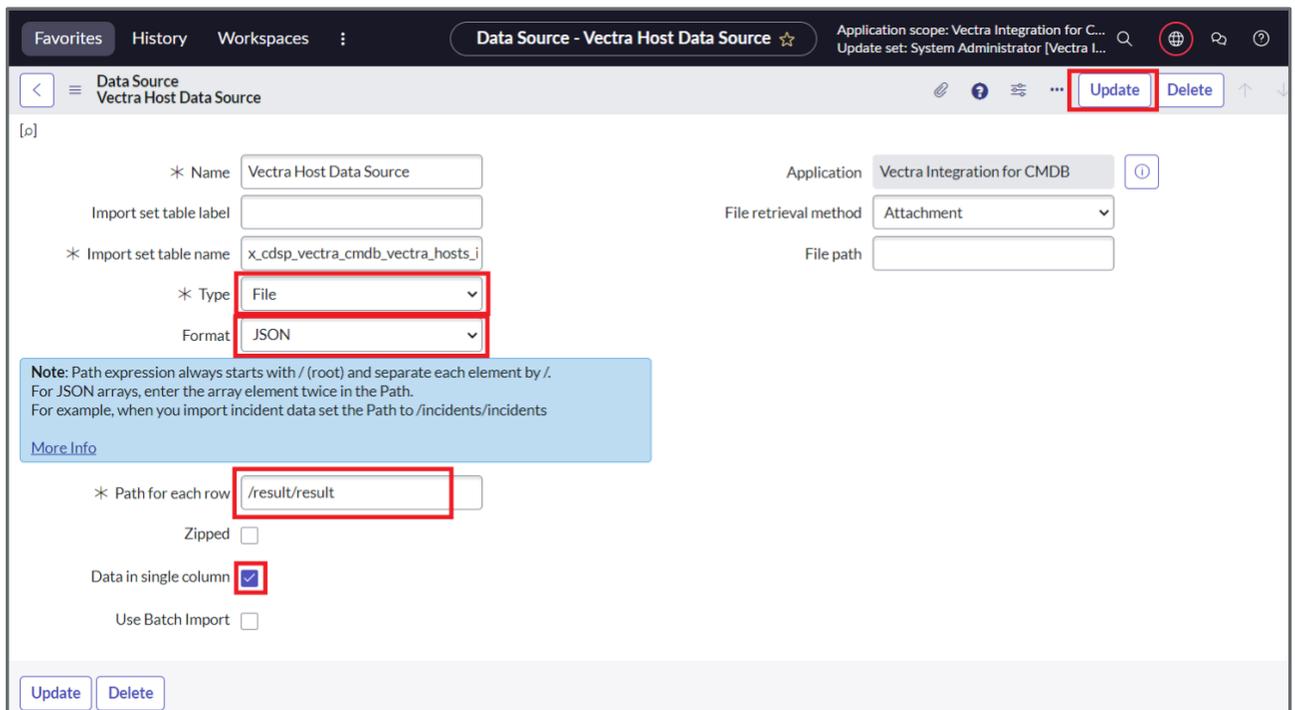
Import Sample Schema

Required role: x_cdsp_vectra_cmdb.admin

- Log in to the ServiceNow instance.
- Navigate to "System Import Sets" → "Administration" → "Data Sources".



- Open the "Vectra Host Data Source" and modify the fields as shown below.
 - Change Type to File
 - Change Format to JSON
 - Set path to /result/result
 - Ensure Data in Single Column is selected
 - Attach JSON sample
 - Update



- Attach the demo file in the Data Source by clicking on the attachment icon on the top bar. After attaching the sample JSON file you will be able to view that file has been attached successfully as shown below.

Data Source
Vectra Host Data Source

Manage Attachments (1): sample_host.json [rename][download]

* Name: Vectra Host Data Source

Application: Vectra Integration for CMDB

File retrieval method: Attachment

* Import set table label:

* Import set table name: x_cdsp_vectra_cmdb_vectra_hosts_i

* Type: File

Format: JSON

Note: Path expression always starts with / (root) and separate each element by /. For JSON arrays, enter the array element twice in the Path. For example, when you import incident data set the Path to /incidents/incidents

[More Info](#)

* Path for each row: /result/result

Zipped:

Data in single column:

Use Batch Import:

[Update](#) [Delete](#)

- Once the sample schema has been loaded, navigate to the IntegrationHub ETL and select “Vectra-CMDB-Hosts” under CMDB Application for Vectra and Open the First Step “Specify Basic Details” by clicking on “Import Source Data and Provide Basic Details”.
- Upon the initial open you must **Mark as Complete** before the sample import set can be modified. This will close the basic details page so re-enter “Import Source Data and Provide Basic Details”.

Specify Basic Details

← **Provide Basic Information for the ETL Transform Map** [Save](#) [Mark as Complete](#)

Unsaved Changes

Provide the template with some basic properties, and select a data source to map to CMDB.

* CMDB Application: CMDB Application for Vectra

* Name: Vectra-CMDB-Hosts

Description: Get all the hosts details

* Data Source: Vectra Host Data Source

Sample Import Set: Auto-pull a new import set

Preview Size Override: 100

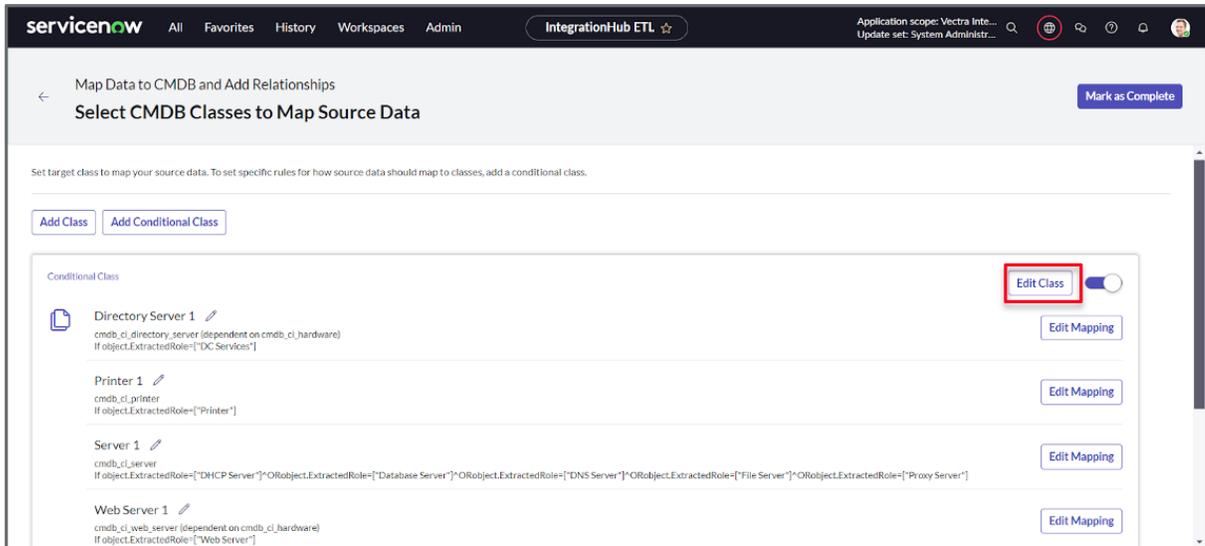
Load Complete Schema:

- Select the Sample Import Set to Auto-pull new import set and save the basic details and click on Mark as Complete.

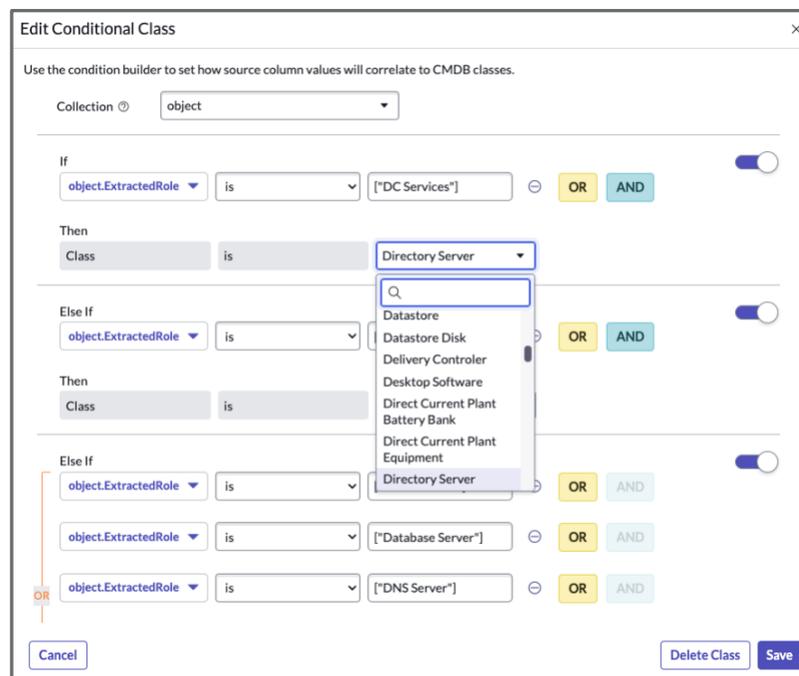
Modify CI Class Mapping

At this stage the system is now ready to modify the CI Class mapping.

- Under 3. Map Data to CMDB and Add Relationships click on “Select CMDB Classes to Map Source Data”.
- Select Edit Class.



- Modify the appropriate ‘Then’ lines as required to instruct the application to map the Vectra role assigned to the entity to the desired CI Class and click Save.

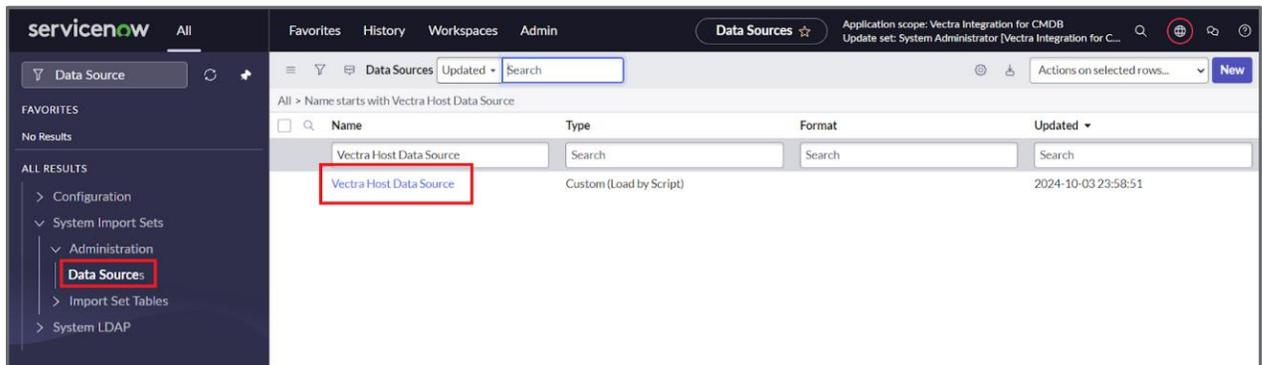


Reset Import Set

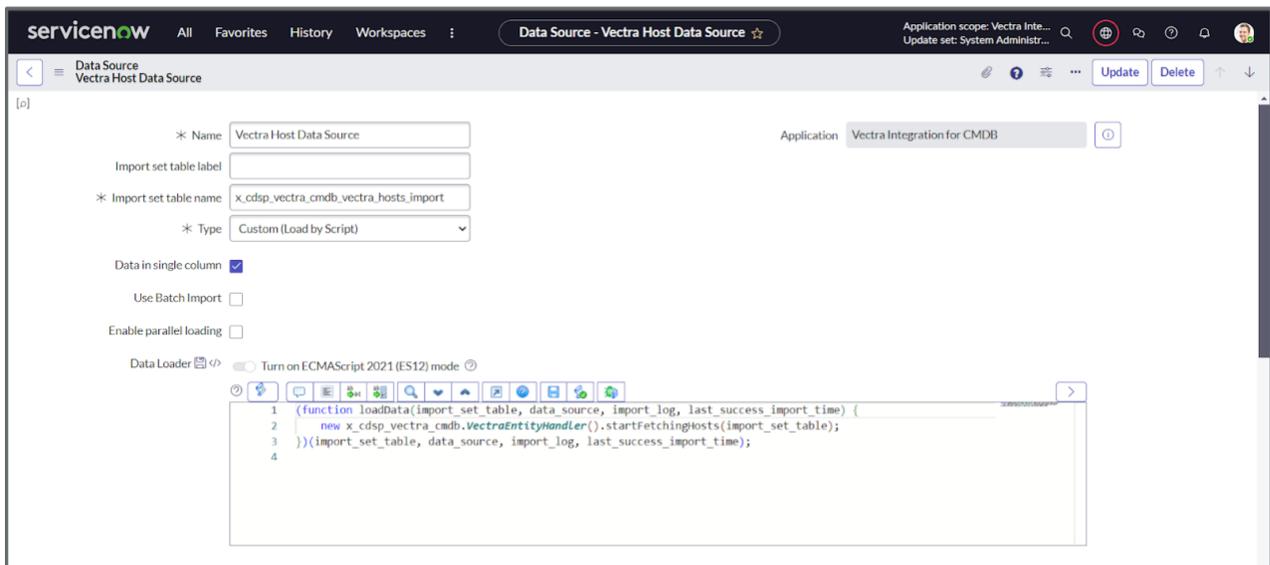
IMPORTANT: After completing the mapping, you need to reset the data source mapping back to its original configuration.

Required role: x_cdsp_vectra_cmdb.admin

- Log in to the ServiceNow instance.
- Navigate to "System Import Sets" → "Administration" → "Data Sources".



- Open the "Vectra Host Data Source" and modify the fields as shown below.
 - Change Type back to "Custom [Load by Script]"



- Click on the update button to save the changes made in this Data Source.

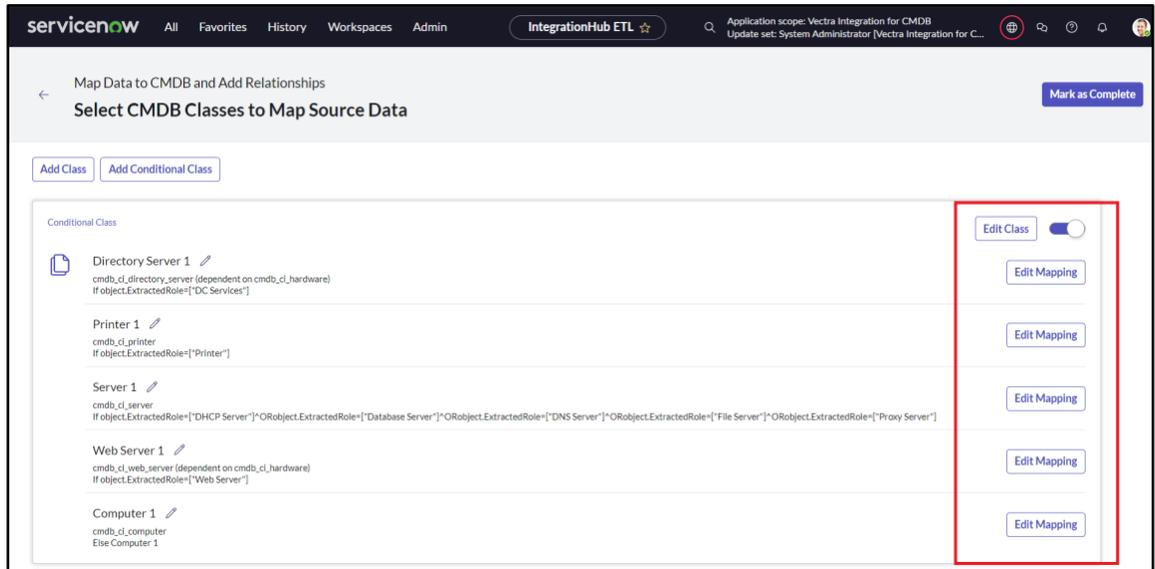
5.3. Customize CI Mapping (Optional)

In the event the destination CI Class has been changed or a different field mapping for the existing destination is required, it's possible to modify which CI Class Fields the Vectra attributes are added to by updating the mapping.

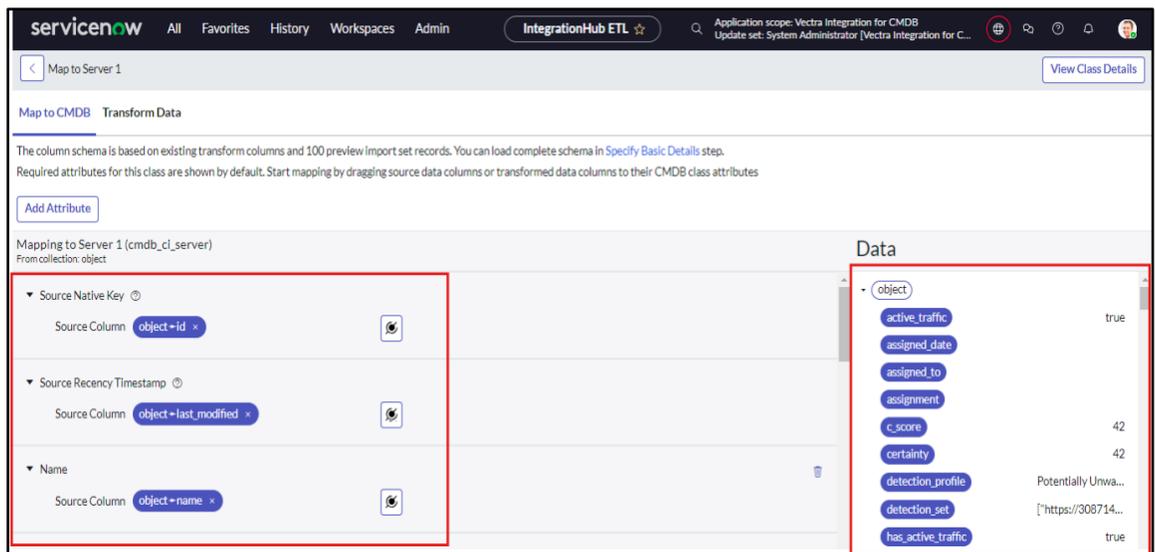
Role Required: System Administrator (admin) or Vectra Application Admin (x_cdsp_vectra_cmdb.admin)

- Update Mapping

- Navigate to “IntegrationHub ETL”.
- Open “CMDB Application: CMDB Application for Vectra” → “Vectra-CMDB-Hosts”
- Click on “Edit Mapping” for the condition that requires a mapping update.



- Users can now map the fields accordingly.



- **Do Not Run a Test:** When this is complete there is an option in the ETL Transform Map Assistant to Preview Sample Integration by running a Test. We recommend NOT running the test at this point as it’s a full execution based on the previously configured items. Instead, wait for the configured polling interval to run or use Vectra – Host Data Scheduled Import and/or Vectra – Account Data Scheduled Import menu items to Execute Now.

5.4. Connections

The Connections module in Vectra ServiceNow offers a structured approach to managing and monitoring connections between various system components. Users can use this to create or update the Vectra connection and test the connection. **This is configured using the Guided Setup so this section is only required if you need to update or test the connection to the Vectra platform.**

Required role: x_cdsp_vectra_cmdb.admin

Key fields in this module include:

- **Name:** The unique identifier for each connection.
- **Active:** Indicates whether the connection is currently active or inactive.
- **Connection Alias:** An alternative name or identifier used to reference the connection.
- **Message:** Contains relevant information or notifications related to the connection.
- **Status:** The current state of the connection, such as operational, degraded, or failed.
- **Status Code:** A specific code that represents the connection's status for precise identification.
- **Suggestion:** Recommendations or actions to address any issues or optimize the connection.
- **Application:** The application or service to which the connection pertains.
- **Updated:** The date and time when the connection record was last modified

The **Status** field indicates the operational state of a connection and can have the following values:

- **Success:** The connection is operating normally and is successfully transmitting data or performing its intended functions.
- **Error:** There is an issue with the connection, which may be affecting its performance or preventing it from functioning as expected.

These status indicators help in quickly assessing the health of connections and prioritizing troubleshooting efforts or corrective actions.

Name	Active	Connection Alias	Message	Status	Status Code	Suggestion	Application	Updated
Vectra Connection	true	x_cdsp_vectra_cmdb.Vectra_Connection_Alias		Pending			Vectra Integration for CMDB	2024-08-12 05:26:12

5.5. Host Data Scheduled Import

The Host Data Scheduled Import module in ServiceNow manages and automates the process of importing host data into the platform on a scheduled basis. This module allows you to set up, configure, and monitor import jobs to ensure data is regularly updated and synchronized. **This is configured using the Guided Setup, so this section is only required if you need to change the polling interval or enable/disable ingestion of Vectra host data.**

Key features of the Scheduled Import Job module include:

- **Automation:** Schedule imports to run at specified intervals, such as daily, weekly, or monthly, reducing the need for manual intervention.
- **Configuration:** Define the parameters for each import job, including data sources, formats, and mapping rules.
- **Monitoring:** Track the status and performance of scheduled import jobs to ensure they complete successfully and address any issues that arise.

By automating data imports, the Scheduled Import Job module helps maintain up-to-date information and streamlines data management processes within ServiceNow.

Role Required: x_cdsp_vectra_cmdb.admin, cmdb_read

- Log in to the ServiceNow instance.
- Navigate to “Service Graph Connector” → “Vectra” → “Host Data Scheduled Import”
- Click on record shipped with application - Vectra Host Scheduled Data Import
- Users can view all the field details of the **Vectra Host Scheduled Import** record and can edit it.

The screenshot displays the ServiceNow configuration page for a Scheduled Data Import job. The interface includes a left-hand navigation pane with a tree view showing the path: Service Graph Connectors > Vectra > Host Data Scheduled Import. The main configuration area contains the following fields and options:

- Name:** Vectra Host Scheduled Data Import
- Application:** Vectra Integration for CMDB
- Data source:** Vectra Host Data Source
- Run as:** (empty field)
- Run:** Daily
- Conditional:**
- Active:**
- Use connection:**
- Concurrent Import:**
- Execute pre-import script:**

The **Pre script** field contains the following JavaScript code:

```

1 var importSetGR = new GlideRecord("sys_import_set");
2 importSetGR.addQuery("data_source",this.data_source.getUniqueValue());
3 importSetGR.addQuery("state","loading");
4 importSetGR.addQuery("number",'=',import_set.number);
5 importSetGR.setLimit(1);
6 importSetGR.query();
7 if(importSetGR.next()){
8   cancel = true;
9   gs.error("Data retrieval for the host is already in progress. Please wait for completing the proces
10 }

```

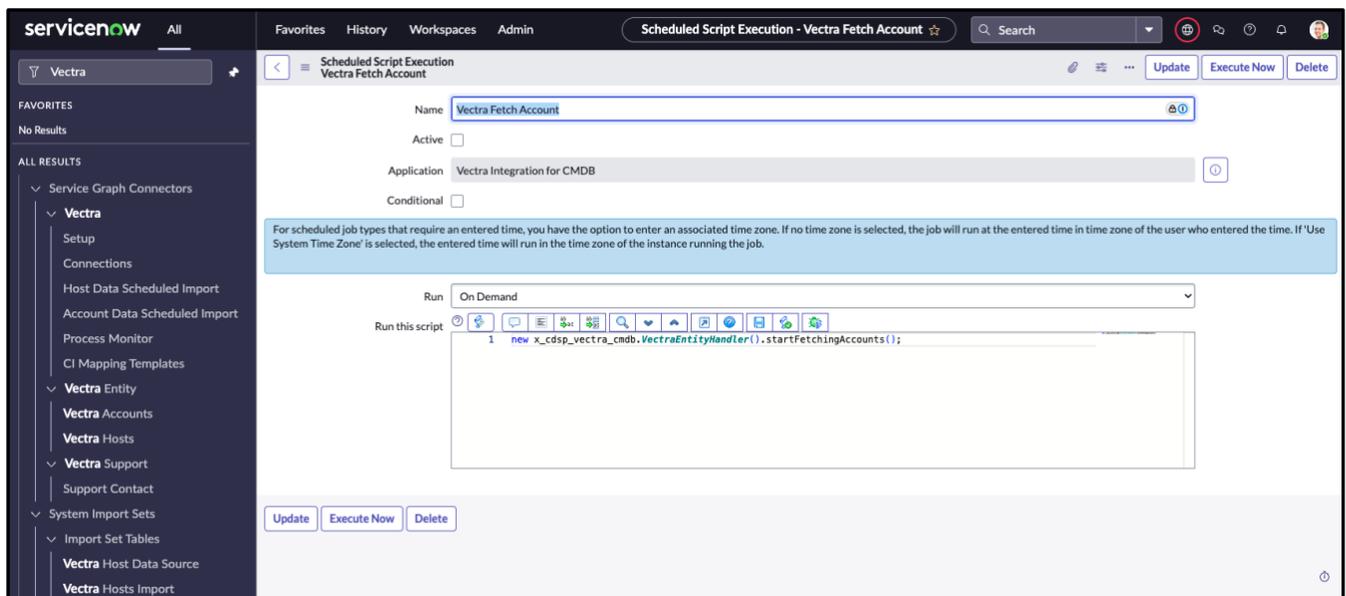
At the bottom of the configuration area, there are buttons for **Update**, **Execute Now**, and **Delete**.

5.6. Account Data Scheduled Import

The Account Data Scheduled Import module in ServiceNow manages and automates the process of importing account data into the platform on a scheduled basis. This module allows you to set up, configure, and monitor import jobs to ensure data is regularly updated and synchronized. **This is configured using the Guided Setup, so this section is only required if you need to change the polling interval or enable/disable ingestion of Vectra account data.**

Role Required: x_cdsp_vectra_cmdb.admin, cmdb_read

- Log in to the ServiceNow instance.
- Navigate to “Service Graph Connector” → “Vectra” → “Account Data Scheduled Import”
- Click on record shipped with application - Vectra Account Scheduled Data Import
- Users can view all the field details of the **Vectra Account Scheduled Import** record and can edit it.

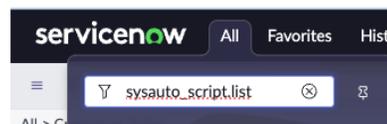


5.7. Manual Configuration

This section includes information on components that have all been configured by the Guided Setup. It's included here to assist with troubleshooting if required.

Activate Scheduler

- Users will have to activate all the scheduled import jobs after configuring the application.
- Steps to activate schedulers of the application:
 - Navigate to the “sysauto_script.list” through navigation.



- Add the “Application” column in the list view. Refer to the [steps](#) to add columns.
- Filter Scheduled scripts with application names - Vectra Integration for CMDB.
- Mark one scheduler(from below screenshot) of the application as “true” in the Active column. (Make sure the scope is Vectra Integration for CMDB.)

Name	Active	Class	Updated
Vectra Fetch Account	false	Scheduled Script Execution	2024-08-08 03:14:46

Activate Schedule data import

- Users will have to activate all Scheduled Data Imports after configuring the application.
- Steps to activate scheduled data import of application:
 - Navigate to scheduled_import_set.LIST through navigation.
 - Add the "Application" column in the list view. Refer to the [steps](#) to add columns.
 - Filter scheduled data import with application names - Vectra Integration for CMDB.

Name	Run	Data source	Active	Updated
Vectra Host Import	Periodically	Vectra Host Import	false	2024-07-31 06:54:40

- Mark Scheduled Data Import(from below screenshot) of the application as true in the Active column. (Make sure the scope is Vectra Integration for CMDB.)

Name	Run	Data source	Active	Updated
Vectra Host Import	Periodically	Vectra Host Import	true	2024-07-31 06:54:40

Global System Properties

To avoid ECC queue timeout related errors, kindly create mentioned system properties in global scope.

Role Required: admin

Steps to create system properties.

- Change the scope to **Global**.
- Navigate to sys_properties.list through the navigation menu.
- Create or change below properties with the given value:
 - glide.http.outbound.max_timeout.enabled = false
- Change the scope back to Vectra Integration for CMDB.
- Run the scheduled job again.

Application System Properties

This module will allow users to make changes as per their requirements.

Role Required: x_cdsp_vectra_cmdb.admin, cmdb_read

List of System Properties:

- Page size of API call (Default Value: 50, Max Limit: 100):
 - Property Name: x_cdsp_vectra_cmdb.page_size
 - Description: Using this system property, the user can set how many records can be fetched during one API call. Users can fetch a maximum of 100 records in a single API call.
- Maximum number of retries to be performed for API failures (Default Value: 3)
 - Property Name: x_cdsp_vectra_cmdb.max_retry_count
 - Description: This system property is used to set the retry count in case of API failures.
- Minimum interval between API calls in seconds when response code 429 or 500 received (Default Value: 30)
 - Property Name: x_cdsp_vectra_cmdb.max_retry_wait_time
 - Description: This system property will set interval time (in seconds) between two API calls, if API receives 429 or 500

6. Operations

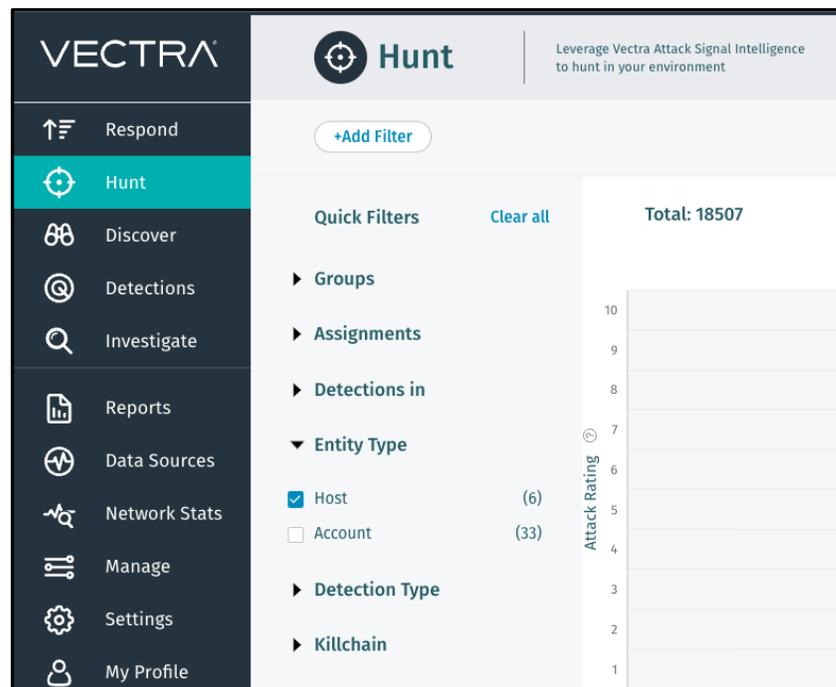
6.1. Initial Ingestion – First Run

It's important to recognize that when the application runs for the first time to ingest and lookup Vectra hosts, the process can/will take a long time to run. This applies to the initial run only as every single entity seen by the Vectra platform is processed one-at-a-time which takes time. Here are some important things to keep in mind:

- The application is designed to process ALL entities. This includes entities that are 'inactive' because inactive means there are no detections, but the asset is still being monitored.
- The initial ingestion can take several hours to several days depending on the number of entities in Vectra.
- Accounts will always process more quickly because there is no CMDB lookup, and no role assigned to accounts.
- The configured polling schedule will not start until the initial run is fully completed.
- Subsequent polling will only target entities that are new or changed so once initial polling is completed, the standard polling schedule will be used.

How to determine how many hosts there are? The easiest way to determine how many hosts need to be processed for the initial run is as follows:

- Logon to the Vectra Platform Respond User Experience UI.
- Navigate to the Hunt page.
- Remove the default filter that looks for only active entities and hit the search button.
- Use the quick filters to view by Entity Type and select Host.
- The total will be displayed. In the following example, there are 18,507 hosts that need to be processed.



How long is long? While every environment is unique, and there are other variables that will impact the time to ingest, the following table should provide a guideline to set expectations for the initial run.

Total Number Hosts	Time Estimate Minutes	Time Estimate Hours	Time Estimate Days
1,000	5.83	0.10	0.00
10,000	58.33	0.97	0.04
50,000	291.67	4.86	0.20
100,000	583.33	9.72	0.41
500,000	2,916.67	48.61	2.03
1,000,000	5,833.33	97.22	4.05
2,000,000	11,666.67	194.44	8.10

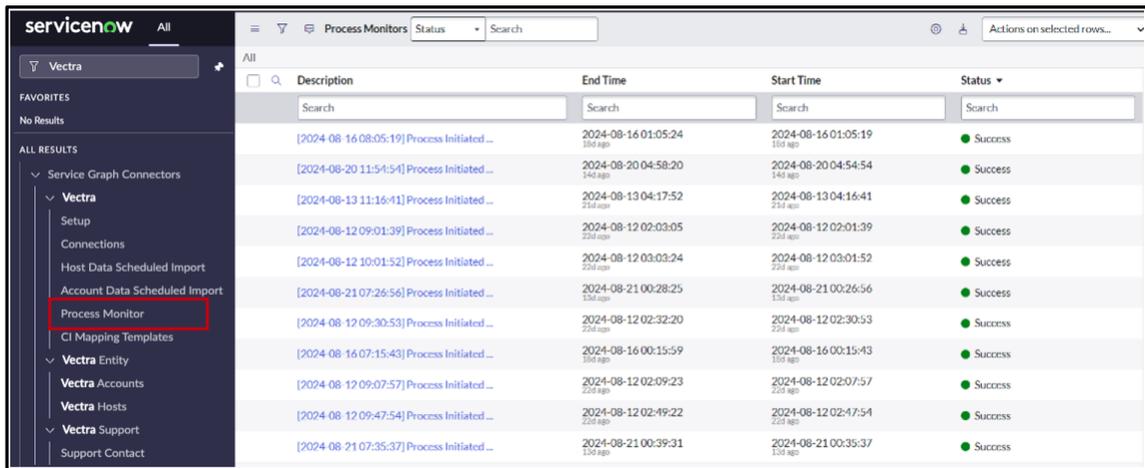
How do I know it's working? While the process monitor will state that it's 'running', the easiest way to ensure things are working smoothly is to view the hosts table which is described in section 6.4. While ingesting, 50 hosts will be bulk loaded at a time in the Vectra table so as long as hosts are continually being added, the ingestion is functioning properly.

6.2. Process Monitor

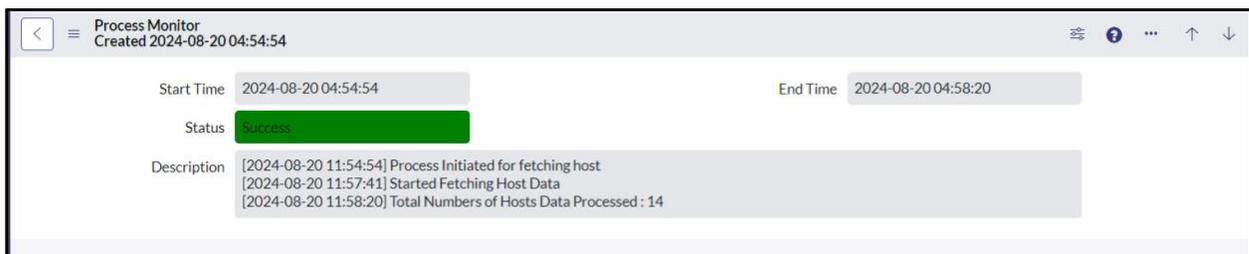
Process Monitor allows users to track the progress of the Vectra Host and Account Fetching Process.

Role Required: x_cdsp_vectra_cmdb.user

- Log in to the ServiceNow instance.
- Navigate to "Service Graph Connector" → "Vectra" → "Process Monitor"



- Users can click on the record and view the Description, end time, start time and status of the process.

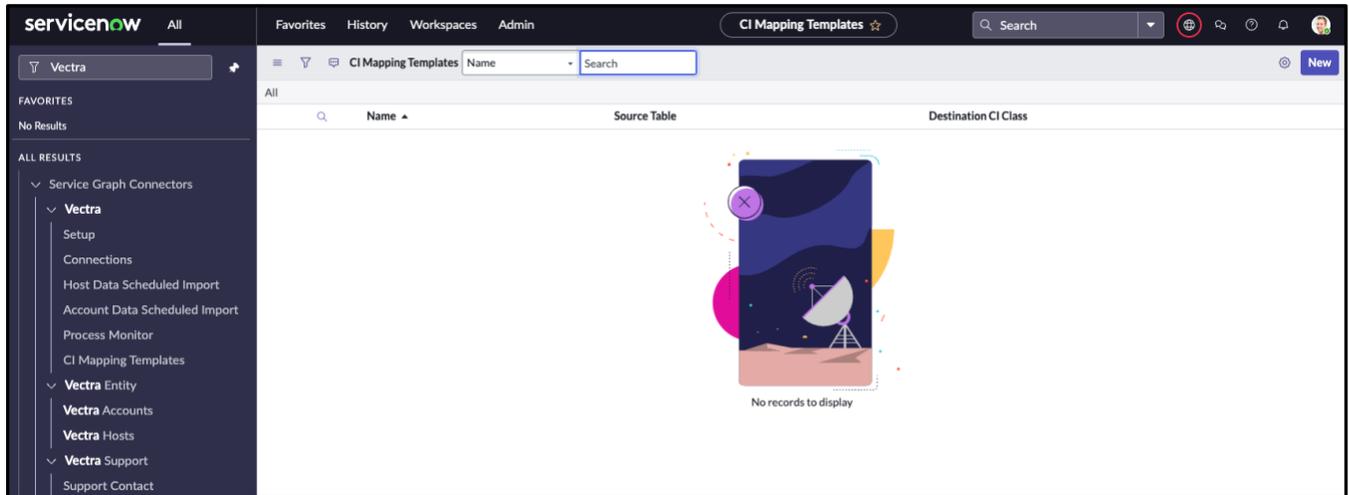


6.3. CI Mapping Template

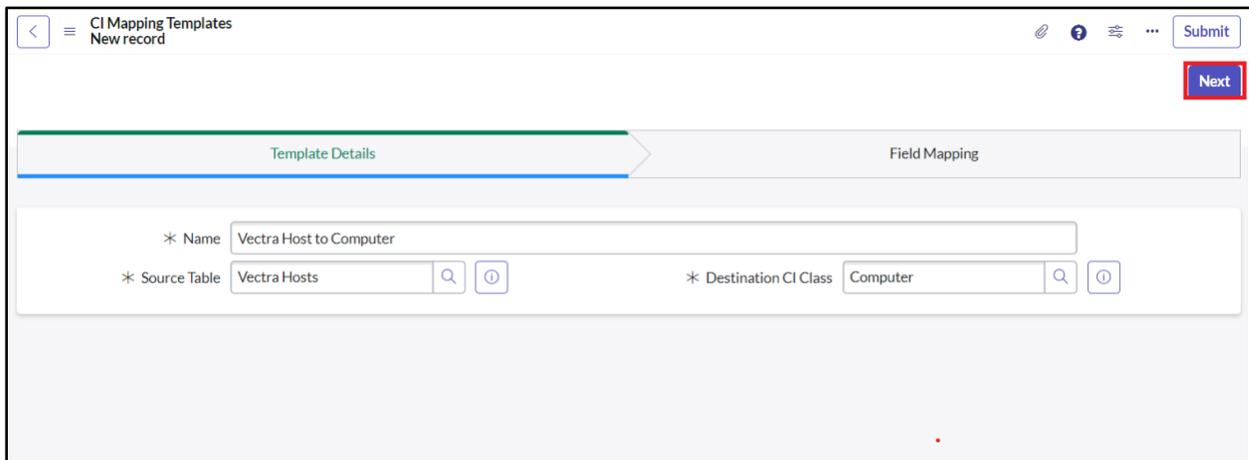
Users will be able to create or edit a CI Mapping template to map the Host or Account data to the selected CMDB Tables. Multiple mapping templates are supported and a mapping template is required to add an unmapped Vectra entity into a CI Class in the CMDB.

Role Required: x_cdsp_vectra_cmdb.admin

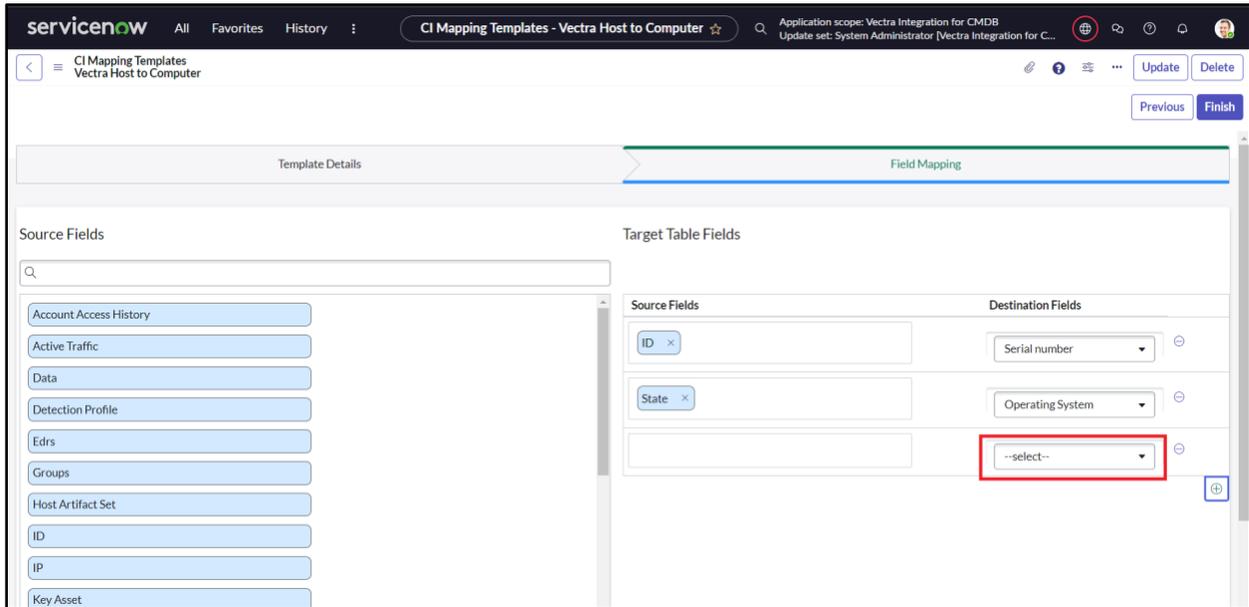
- Log in to the ServiceNow instance.
- Navigate to "Service Graph Connector" → "Vectra" → "CI Mapping Template"



- Click on **New** Button to create a new CI Mapping template, then provide the name for the template and select the Source Table and Destination CI Class, then click on **Next** Button to start the field mappings.



- Drag and Drop the fields of the host/account table from your left side to the Destination Table's selected column (You can select the column of CMDB Table from the dropdown).



- You can also Add new Fields by clicking on the + icon and remove the fields by clicking on – icon.
- After completing the mapping click on **Finish** button to save the mapping.
- Templates can be created in advance or can be created (initiated) from within the Vectra application when attempting to select a template.
 - Note: Please do not keep any empty field as shown above for the Destination fields or Source Fields as that will generate an error.

6.4. View Hosts

Users will be able to view the Hosts data fetched from the Vectra Platform in the ServiceNow table and Map the Data to the Selected CMDB Table as per CI Mapping template.

Role Required: x_cdsp_vectra_cmdb.user

- Log in to the ServiceNow instance.
- Navigate to "Service Graph Connector" → "Vectra" → "Vectra Entity" → "Vectra Hosts".

ID	IP	Name	Host Artifact Set	Data	Last Modified	Incident
31.355	10.12.14.216	sentinel-216	[{"type":"kerberos","value":"sentinel-216"}]	{"id":"31355","name":"sentinel-216","activ..."}	2024-08-21T18:40:05Z	(empty)
31.348	10.12.14.215	sentinel-215	[{"type":"kerberos","value":"sentinel-215"}]	{"id":"31348","name":"sentinel-215","activ..."}	2024-08-26T19:33:39Z	(empty)
31.347	10.12.14.214	sentinel-214	[{"type":"kerberos","value":"sentinel-214"}]	{"id":"31347","name":"sentinel-214","activ..."}	2024-08-26T16:13:23Z	(empty)
27.060	10.12.14.134	v2beta-134	[{"type":"kerberos","value":"v2beta-134"}]	{"id":"27060","name":"v2beta-134","activ..."}		(empty)
31.213	10.12.14.201	v2b-201	[{"type":"kerberos","value":"v2b-201"}]	{"id":"31213","name":"v2b-201","active_tra..."}		(empty)
31.694	10.12.14.220	sentinel-220	[{"type":"kerberos","value":"sentinel-220"}]	{"id":"31694","name":"sentinel-220","activ..."}	2024-08-27T16:33:55Z	(empty)
1.182	192.168.52.103	syslog-univ-fwd	[{"type":"dhcp","value":"syslog-univ-fwd"}]	{"id":"1182","name":"syslog-univ-fwd","act..."}	2023-09-28T19:20:16Z	(empty)
31.760	10.12.14.221	sentinel-221	[{"type":"kerberos","value":"sentinel-221"}]	{"id":"31760","name":"sentinel-221","activ..."}	2024-08-27T16:34:12Z	(empty)

Create Configuration Item

- Click on the record to view the details or create the Configuration Item by selecting the CI Mapping template.
- To Map the Host Data to Configuration Item Click on the **Next** button to select the base CI Mapping Template.

Host Details

ID: 31.355 | Name: sentinel-216

Incident: | State: active

IP: 10.12.14.216 | Previous IPs: |

Severity: high | Key Asset: |

Last Detection Timestamp: 2024-08-26T14:49:55Z | Last Modified: 2024-08-21T18:40:05Z

Sensor Name: |

Url: https://cc1.portal.vectra.ai/hosts/31355?pivot=Vectra-ServiceNow-CMDB-1.0.0

Host Artifact Set: [{"type":"kerberos","value":"sentinel-216","source":null,"siem":false}]

Active Traffic: |

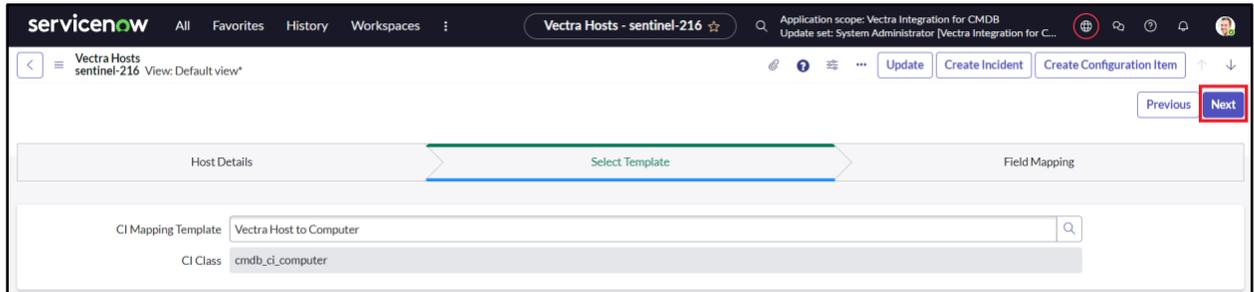
Privilege Category: |

Probable Owner: |

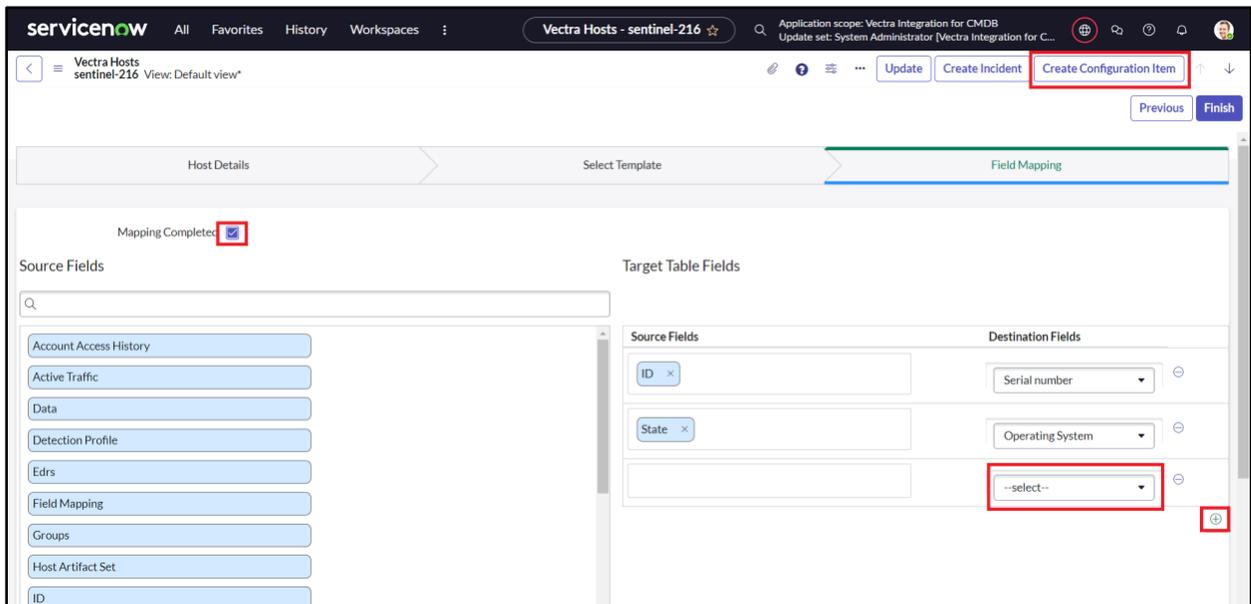
Targets Key Asset: |

Next

- Select the CI Mapping template and click on **Next** Button, if you do not have the CI Mapping template, please refer above for creating the CI Mapping template.

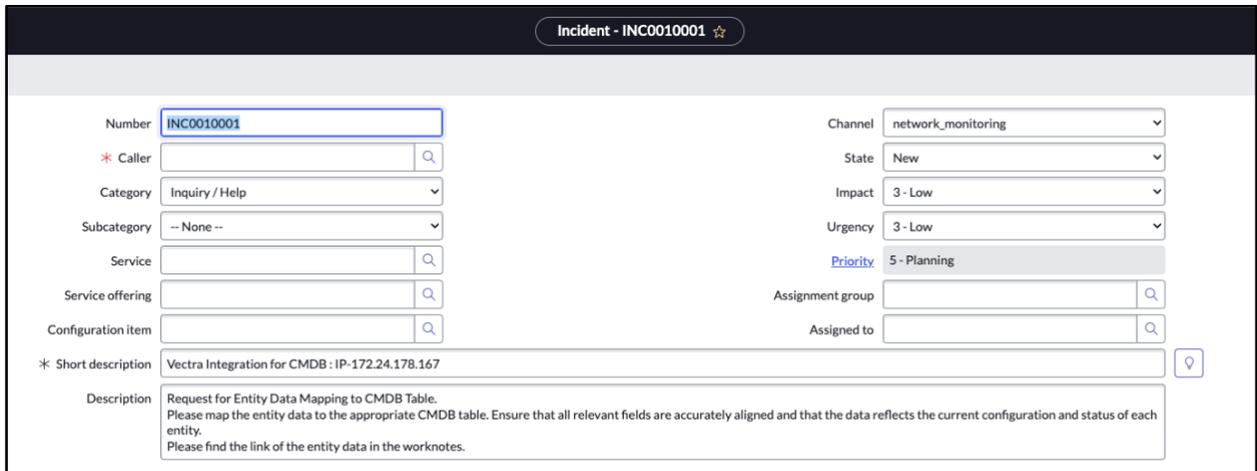


- You will be able to see the predefined Mapping as per CI Mapping template selected. You can add or delete the fields for this specific mapping as required.
- Once the Mapping is Done, check the **Mapping Completed** Checkbox and click on **Create Configuration Item** Button to create the Configuration Item.
 - Note: Please do not keep any empty field as shown below for the Destination fields or Source Fields as this will cause an error.



Create Incident

In many cases, an apparent CI Class is not known for the Vectra entity and additional investigation may be required to determine if the asset is legitimate and where it should be located. To track these, you can create an Incident for it in ITSM. Click on **Create Incident** Button to create the incident and the incident can be viewed in ITSM Service Desk.



Incident - INC0010001 ☆

Number: INC0010001

Channel: network_monitoring

State: New

Impact: 3 - Low

Urgency: 3 - Low

Priority: 5 - Planning

Assignment group: [Search]

Assigned to: [Search]

* Short description: Vectra Integration for CMDB : IP-172.24.178.167

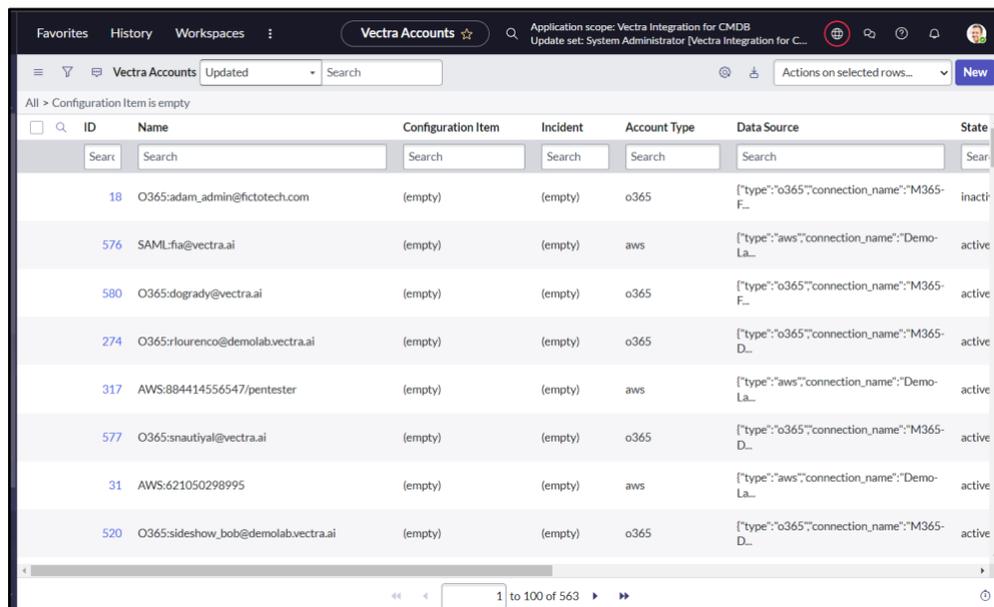
Description: Request for Entity Data Mapping to CMDB Table. Please map the entity data to the appropriate CMDB table. Ensure that all relevant fields are accurately aligned and that the data reflects the current configuration and status of each entity. Please find the link of the entity data in the worknotes.

6.5. View Accounts

Users will be able to view the Accounts data fetched from the Vectra Platform in the ServiceNow table and Map the Data to the Selected CMDB Table as per CI Mapping template.

Role Required: x_cdsp_vectra_cmdb.user

- Log in to the ServiceNow instance.
- Navigate to "Service Graph Connector" → "Vectra" → "Vectra Entity" → "Vectra Accounts".



ID	Name	Configuration Item	Incident	Account Type	Data Source	State
18	O365:adam_admin@fictotech.com	(empty)	(empty)	o365	["type":"o365","connection_name":"M365-F...]	inacti
576	SAML:fa@vectra.ai	(empty)	(empty)	aws	["type":"aws","connection_name":"Demo-La...]	active
580	O365:dogrady@vectra.ai	(empty)	(empty)	o365	["type":"o365","connection_name":"M365-F...]	active
274	O365:rlourenco@demolab.vectra.ai	(empty)	(empty)	o365	["type":"o365","connection_name":"M365-D...]	active
317	AWS:884414556547/pentester	(empty)	(empty)	aws	["type":"aws","connection_name":"Demo-La...]	active
577	O365:snautiyal@vectra.ai	(empty)	(empty)	o365	["type":"o365","connection_name":"M365-D...]	active
31	AWS:621050298995	(empty)	(empty)	aws	["type":"aws","connection_name":"Demo-La...]	active
520	O365:sideshow_bob@demolab.vectra.ai	(empty)	(empty)	o365	["type":"o365","connection_name":"M365-D...]	active

- You can follow the same steps as per Host for the Accounts to create an Incident or Configuration item.

7.Support, Troubleshooting and Known Limitations

7.1. Support

Role Required: x_cdsp_vectra_cmdb.user

Customers are instructed to contact the integration provider “Vectra” for technical support. If a customer first contacts ServiceNow Customer Support, then ServiceNow Customer Support will isolate the problem and instruct the customer to resolve the issue with your organization.

Support Contact Details: <https://Vectra.com>

- Log in to the ServiceNow instance.
- Navigate to “Service Graph Connector” → “Vectra” → “Vectra Support” → “Support Contact”.



7.2. Troubleshooting

Timezone Configuration

The time zone between the ServiceNow platform and your Vectra platform must be the same. A mismatch between the time zones can cause incorrect reporting in the application.

Prerequisites:

- You must be logged in as System Administrator.
- You must be in the Global scope of ServiceNow.
- The “Vectra Integration for CMDB” App should be installed on your ServiceNow instance.

Procedure:

- Login to ServiceNow.
- Navigate to Left Navigation Pane → System Properties → Basic Configuration → Configure available time zones.

- From the Available column, select the GMT zone and move it to the Selected Column
- Click Save.
- The time zone is configured.

Alternative Approach for System Admin:

- Click on the user icon, available in the top right corner
- Select the Preferences option from the drop-down
- Select the Display option from the pop-up box.
- Change the Timezone field value to GMT timezone
- The time zone is configured.

Alternative Approach for Admin:

- Click on the user icon, available in the top right corner
- Select the Profile option from the drop-down
- Change the Timezone field value to GMT timezone
- The time zone is configured.

Application Logs

From the logs window, the ServiceNow system administrator or the Vectra Integration for CMDB admin can configure and view all the App logs. The Vectra Integration for CMDB App displays four types of logs:

- **ERROR:** An error represents serious issues and the failure of an operation in the App.
- **WARN:** The warning logs represent the unusual situation in the App.
- **INFO:** The info log represents the informational messages that highlight the progress of the App.
- **DEBUG:** The debug logs provide details about the application's behavior

Role Required: x_cdsp_vectra_cmdb.admin, workflow_admin

- Login to ServiceNow as System Administrator.
- Navigate to "System Logs" -> "System Log" -> "All" to see the logs.

Log level configuration

The ServiceNow system administrator can configure the log level to view the logs accordingly. This section provides information to update the log level in the application.

Prerequisites:

- You must have the "admin" role.

Procedure:

- Login to ServiceNow.
- Navigate to the system properties table by entering sys_properties.list.
- Click on New button
- Insert value as below and click on submit button:
 - Suffix: logging.verbosity

- Type: choice list
- Choices: Debug, Info, Warn, Error
- Value: debug

Verify the application log, debug logs should be captured.

Enable Outbound HTTP Logs

The ServiceNow system administrator can set the system properties that enable the Outbound HTTP logs. It helps to check outbound logs and API errors.

Prerequisites:

- You must be logged in as System Administrator.
- You must be in the Global scope of ServiceNow.

Procedure:

- Login to ServiceNow
- Type "sys_properties.list" in the left navigation panel and press enter key.
- List view should open find "glide.outbound_http_log.override" record.
- Open and change the value field to "true".
- Next Find "glide.outbound_http_log.override.level" from the same list view.
- Open and change the value field to "All".
- Enable the properties as mentioned.

To check the outbound logs go to System Logs → "Outbound HTTP Requests".

Connection

When user creates new connection that is other than record shipped with application after successful installation on ServiceNow platform i.e "Vectra Connection" then:

- When Users test connection on that record created by his/her side and getting error due to any reason should do troubleshooting from his/her end for the same.

Application

After installation of application ,if application is not visible to user then check for following plugins:

- Integration Commons for CMDB (sn_cmdb_int_util)
- IntegrationHub ETL (sn_int_studio)

Above mentioned plugins should be installed first then only then the application would be visible to the user.

Guided Setup

User gets sub-window after updating any task in guided setup try to reload page and check. (This is a ServiceNow issue that can occur sometimes.)

ECC Queue Timeout Error

Prerequisites:

- You must be logged in as System Administrator.
- You must be in the Global scope of ServiceNow.

Procedure:

- Switch the Application Scope to Global Scope.
- Navigate to the System Property Table by typing sys_properties.LIST in navigator.
- Create a new system property clicking on the new button.
- Create the property as mentioned below :

The screenshot shows the ServiceNow System Property form for the property 'glide.http.outbound.max_timeout.enabled'. The form is set to the 'Global' application scope. The 'Name' field contains 'glide.http.outbound.max_timeout.enabled'. The 'Description' field is empty. The 'Choices' field is empty. The 'Type' dropdown is set to 'true | false'. The 'Value' field contains 'false'. Below the form, there are checkboxes for 'Ignore cache' (checked), 'Private' (unchecked), and 'Read roles' (unchecked). There are also edit icons for 'Read roles' and 'Write roles'.

7.3. FAQs

Unable to install an application from the ServiceNow Store

- Verify you have the system administrator (admin) role.
- Navigate to "System Applications" -> "All Available Applications" -> "All".
- Verify the application appears under the "Installed" Tab.

Unable to create a new user

- Review the following link and execute the steps: [User Administration](#)

I can select past time in the scheduled job once or periodically.

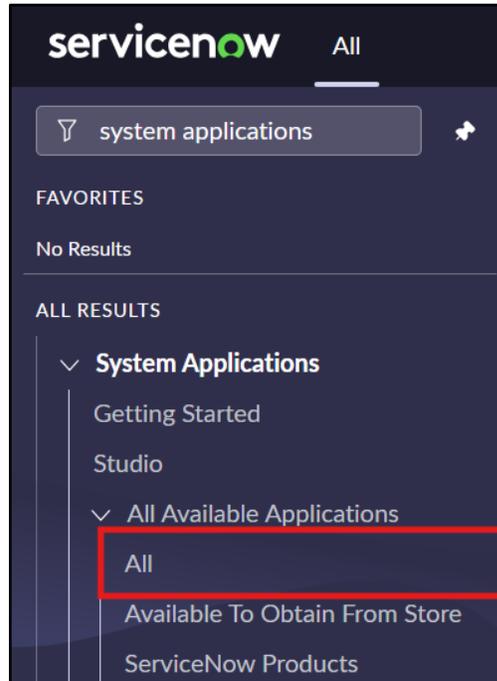
- In the scheduled job, if the user is selecting past time it will directly consider the current time when the user submits the configuration.
- There can be a case where the user has selected the future time and spent some time on the same page before submitting the configuration and still be able to submit the configuration. To avoid such a scenario, a past time will be changed to the current time of configuration submission.

7.4. Uninstallation

This section describes how to uninstall the "Vectra Integration for CMDB" application from a ServiceNow instance.

Role Required: System Administrator (admin)

- Navigate to "System Applications" -> "All Available Applications" -> "All".
- A list of applications installed in the instance is displayed.
- Locate the Vectra Integration for CMDB, select it, and click "Uninstall" under the related links.
- The application will be uninstalled from your instance.



8. Worldwide Support Contact Information

- Support portal: <https://support.vectra.ai/> (preferred contact method)
- Email: support@vectra.ai
- Additional information: <https://www.vectra.ai/support>

End of Document