servicenow

Scoped Certified Application Administration Guide

Illumio App for CMDB (2.1.0)

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1 Overview

The Illumio application for ServiceNow provides enriched workload collection on the Illumio PCE (Policy Compute Engine) instance using the database of workloads discovered by ServiceNow.

The application features allow you to use the ServiceNow® tables as a customized source for workloads as well as synchronize the data to PCE both automatically and manually. Choose the source tables for workload discovery and fields for label mapping flexibly.

The application allows for the periodic discovery of workloads from ServiceNow to keep the data set updated. It sends the information about newly found workloads from ServiceNow to PCE and allows updates of the already known workloads with modified labels if required.

1.1 ServiceNow Integration

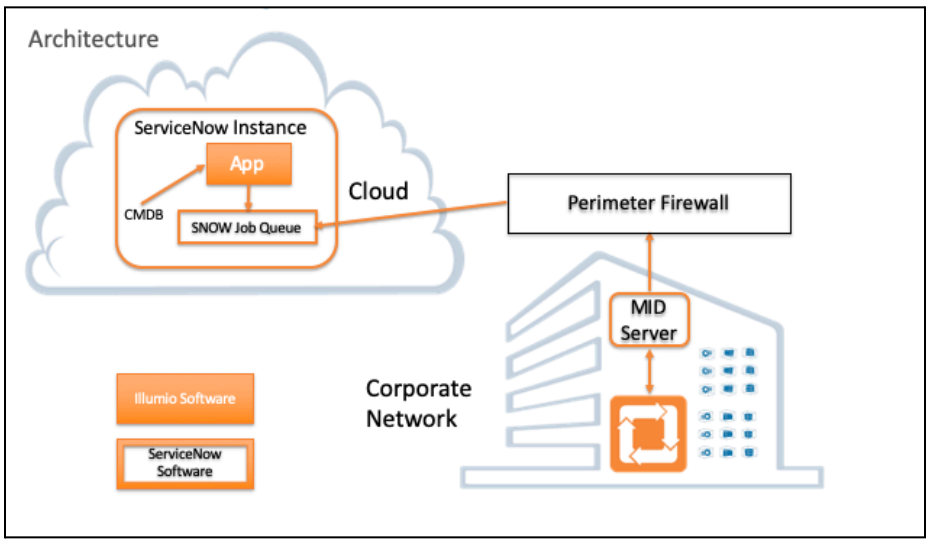


Figure 1. **Integration of ServiceNow and Illumio Application**

The architecture diagram in Figure 1 shows how the Illumio and ServiceNow components interact.

As a ServiceNow user, you know that the ServiceNow CMDB (Configuration Management Database), when paired with ServiceNow Service Mapping, becomes service-aware, enabling your ServiceNow applications to be service-aware as well. The CMDB identifies managed and unmanaged workloads in a ServiceNow application. That CMDB workload data needs to become available in the Illumio PCE.

The PCE can ingest CMDB workload data by sending a request through the MID Server to pull data from the ServiceNow job queue. In the ServiceNow instance itself, the Illumio application directs the CMDB workload data to the ServiceNow job queue. →

1.2 Data Flow Between the CMDB to PCE

The diagram in Figure 2 shows the flow of data between the CMDB to PCE:

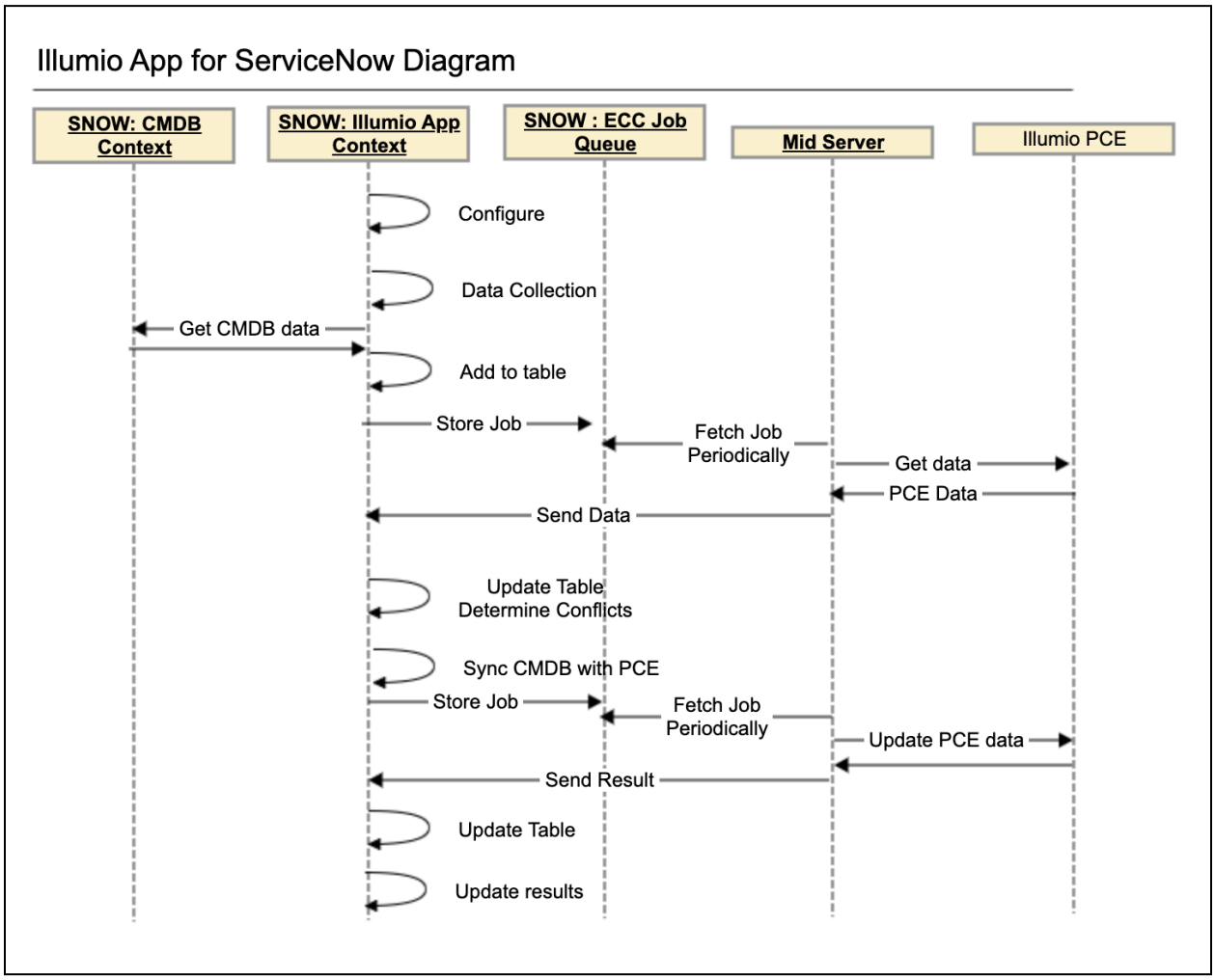


Figure 2. **Diagram of ServiceNow and Illumio integration**

1. **CMDB**: The workflow data from CMDB is drawn in the SN ECC job queue through the Illumio application.
2. **Illumio application**: The application collects and configures the data and adds it to a table. It also does the following:
   - Updates the tables to determine any conflicts.
   - Syncs the data from CMDB with PCE.
   - Stores the job in the ECC job queue after performing the updating and syncing.

   In general, the Illumio application initially collects, configures, and adds the new job data to tables in the ECC job queue, and then also continuously updates these tables resolving conflicts and syncing it with PCE.
3. **ECC job queue**: Both the new job data coming from the Illumio application and the updated data coming from PCE gets stored in the ECC queue.

4. **MID Server**: The server fetches the new and updated job data periodically from the ECC queue and sends it to PCE.
   It also draws the data from the PCE and sends it directly to the Illumio application.
5. **PCE**: The engine forwards the data to the MID Server, which then can send it to the Illumio application on ServiceNow.

1.3 Illumio Application

The Illumio application has these features:

- Dashboard, used to view the CMDB data
- Configuration Screen
  - Automatic sync job scheduler
  - Threshold Limit
  - Retry Mechanism
  - Illumio Label Dimensions
    i. Create Label Dimension
    ii. Update Label Dimension
  - Illumio Config Class Mappings
    i. ServiceNow CMDB table selection
    ii. Specify criteria to exclude CIs
    iii. Specify criteria to delete CIs
    iv. Specify criteria to create incident
    v. Illumio Class Field Mappings
      - Mapping to PCE label
  - Illumio Critical Label Group Configurations
    i. Specify critical label groups for Label Dimensions
- PCE Workloads table
  - Workload managed, unmanaged or unknown to PCE – used for creating unmanaged workloads
  - Conflicts – used for updating PCE labels using the CMDB as a source of truth.
  - Perform “Sync to PCE”, “Sync Server to PCE” and “Sync selected server with PCE” UI actions.
  - Create manual and auto Incidents.
- Scheduled Jobs
  - Process monitor.

- Incident is created when schedule job are completed with following job status :
    i. Failed
    ii. Completed with errors
    iii. Partial success
- Critical Label Groups

2 Installation

This section describes how to download/install the Illumio application from the store.

2.1 Supported Illumio Versions

The supported Illumio application versions:

- v22.5
- v23.2.30
- SaaS
- v23.5.20
- v24.2.10

2.2 Supported ServiceNow Versions

The ServiceNow versions compatible with the Illumio application:

- Vancouver
- Washington DC
- Xanadu

2.3 Prerequisites

Provide the following prerequisites before installing the Illumio application:

2.3.1 Plugins

Activate the following plugins for the integration:

- Configuration Management (CMDB) (com.snc.cmdb)
- Text Index (com.glide.text_index)
- System Import Sets (com.glide.system_import_set)

To install the required plugins:

1. Log in to your instance with your HI credentials.
2. Verify you have the system administrator (admin) role.
3. Navigate to **System Definition > Plugins** in your instance.
4. Search and install the listed plugins.

2.3.2 Connectivity

- Connectivity to Illumio PCE via MID Server must be available.
- The Illumio application supports proxy between the MID server and ServiceNow and between the MID server and Illumio PCE.
- Whether to use a proxy between the MID server and PCE is based on the user's choice.

2.3.3 MID Server

Make sure the following prerequisites for discovering the PCE Workloads are in place:

- The MID Server is accessible from the ServiceNow instance.
- The MID Server can communicate with the ServiceNow instance directly or via a proxy.
- Proxies are correctly set.
- Illumio PCE is accessible through the proxy defined in the MID server (If the user wants to have a proxy between PCE and MID server)
- Illumio PCE APIs are accessible from the MID Server.

2.4 Permissions and Roles

ServiceNow requires the listed roles, and these roles need specific permissions to perform various activities:

- The system administrator (admin) can install the integration application plugins, can view application logs, can create Illumio admin and users.
- Illumio Admin can configure the “PCE Configuration”, collect workloads from PCE, Sync workloads to PCE, can create Incidents and can access the Dashboard.
- Illumio User can sync workloads to PCE, and an access Dashboard.

2.5 Application Download/Install

- Get the Illumio App from the ServiceNow Store to the ServiceNow instance.

  Go to the following URL: https://store.servicenow.com/sn_appstore_store.do#!/store/application/15314f1ddb882700dc9fabc5ca961943/, click on “Get” and enter your HI Credentials to get the application for your instance.

1. Log to the instance to which you want to install the application.

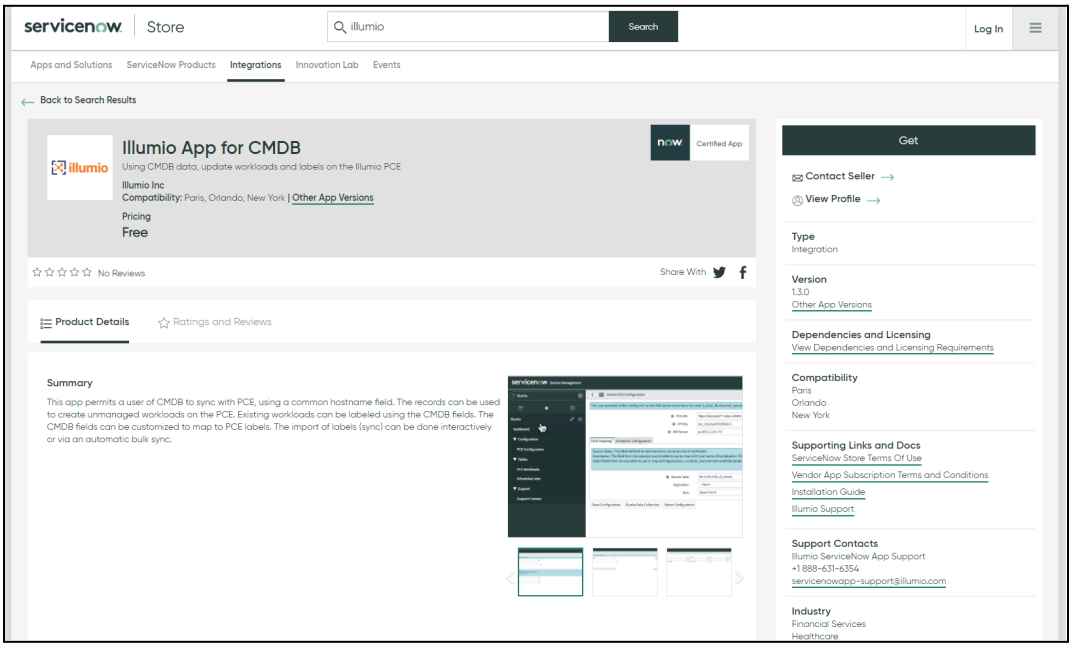


Figure 3. **Illumio application on the ServiceNow store**

2. Navigate to “System Applications” –> “All Available Applications” –> “All”.

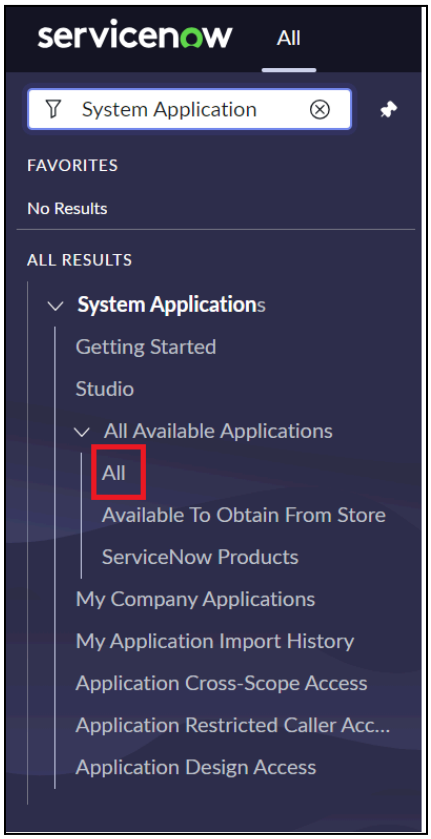


Figure 4. **ServiceNow Navigation**

3. Search for the Illumio App for CMDB application, select it, and click on “Install”.
4. A progress bar will appear while the application is being installed onto your instance.
5. Once your application is installed onto your instance, you can navigate to it by searching “Illumio” in the navigation bar, as shown below.

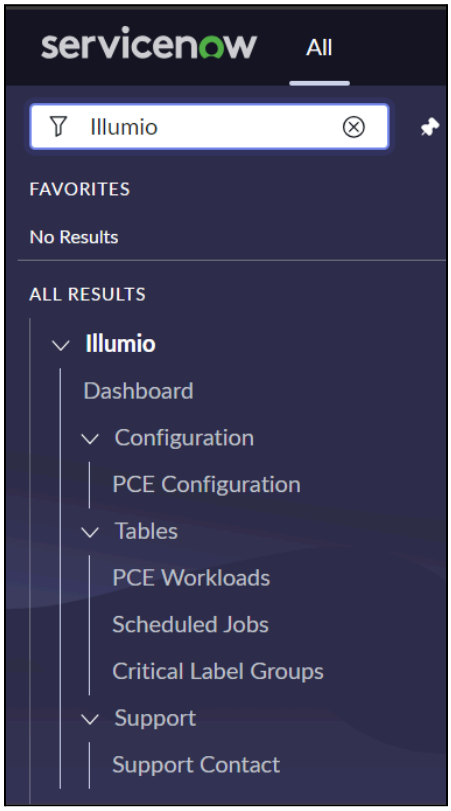


Figure 5**. List of Illumio application modules**

2.6 Upgrade Application

Steps to upgrade application from the store:

- Log in to the instance, Navigate to **System Applications** → **All Available Applications** → **All**.
- Find the application in the filter criteria or search bar.
- Select the version you want to install from the dropdown, next to the application.
- Click **Install**.

2.6.1 Upgrading the application to 2.1.0

- If the System Administrator upgrades the Illumio application to 2.1.0 from an older version, the user has to run Illumio data collection in order to fill the required data in the PCE workloads.
- On Successful installation of the new version of the application, the PCE Configuration module would have the below configurations in the new version:
    - The PCE Configuration details such as Name, PCE URL, API Key, Secret Key, Mid-Server and Organization ID will be the same as the older version configuration.

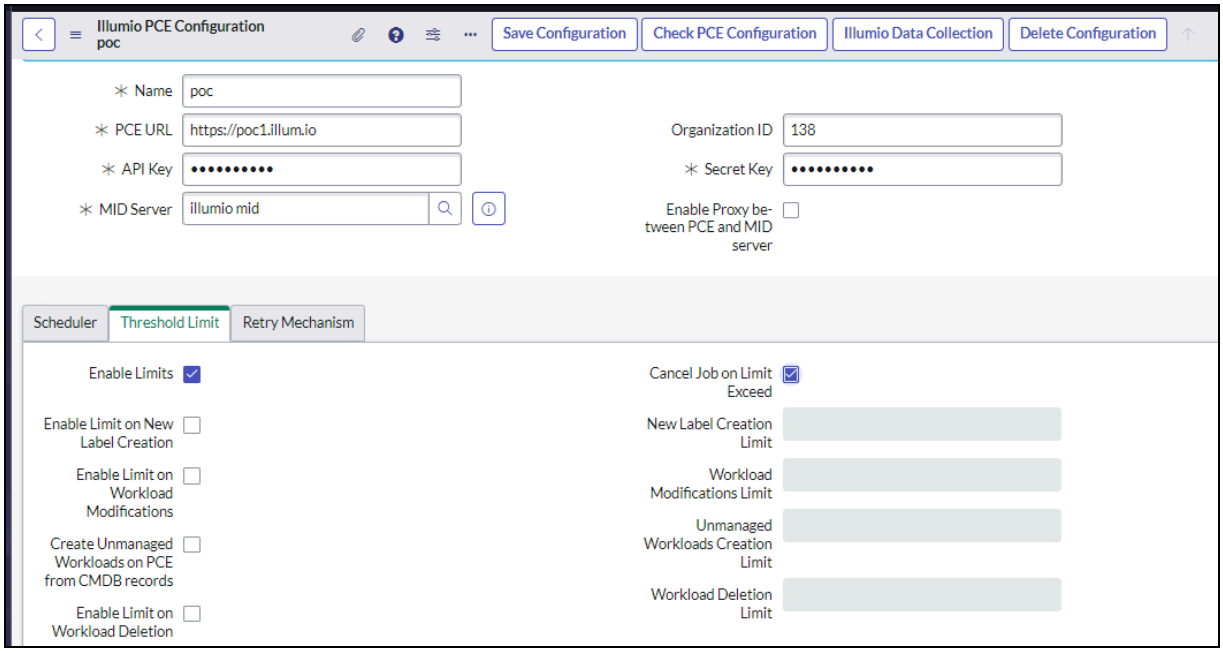


Figure 6. **Illumio PCE Configuration Form view**

Note: The Cancel Job in Limit Exceed will be by default checked after upgrade.

- Users have to configure the related list view from the PCE Configuration for having Illumio Label Dimensions, Illumio Config Class Mapping and Illumio Critical Label Groups Configurations related list in the PCE Configuration.

  To view the related list, follow the steps :

  1. Click on the Hamburger icon on top and then Navigate to Configure -> Related Lists based on the below image.

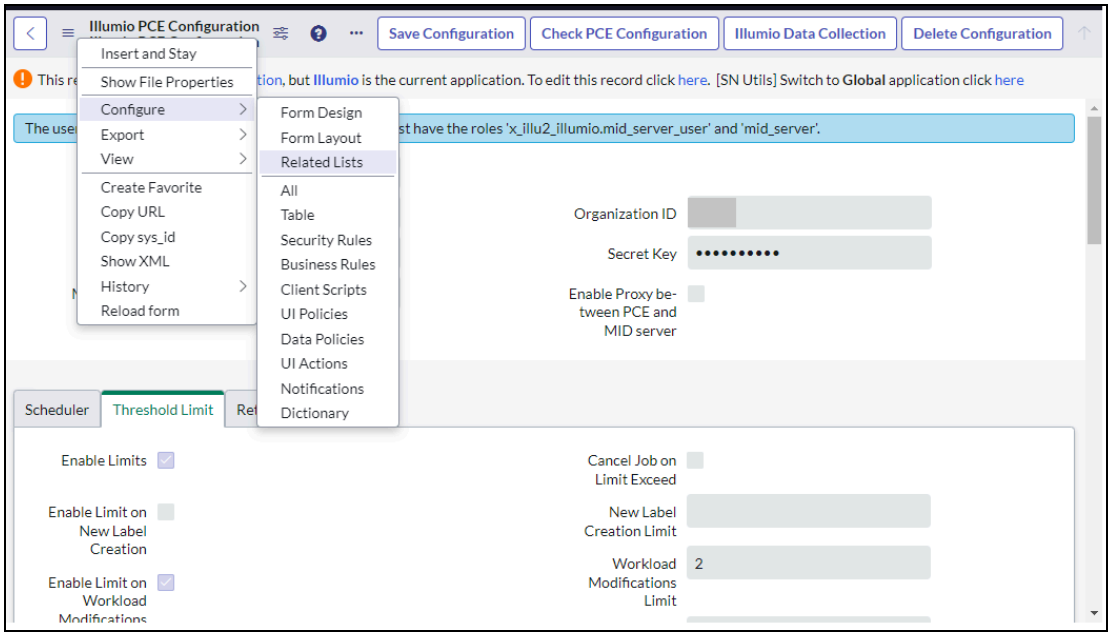


Figure 7. **Illumio PCE Configuration form view**

2. Select **Illumio Label Dimensions → Illumio PCE Configuration** , **Illumio Config Class Mapping –>Illumio PCE Configuration** and **Illumio Critical Label Group Configuration → Illumio PCE Configuration** from the “Available” choices on the left side and move them to the “Selected” list as shown in the below image.

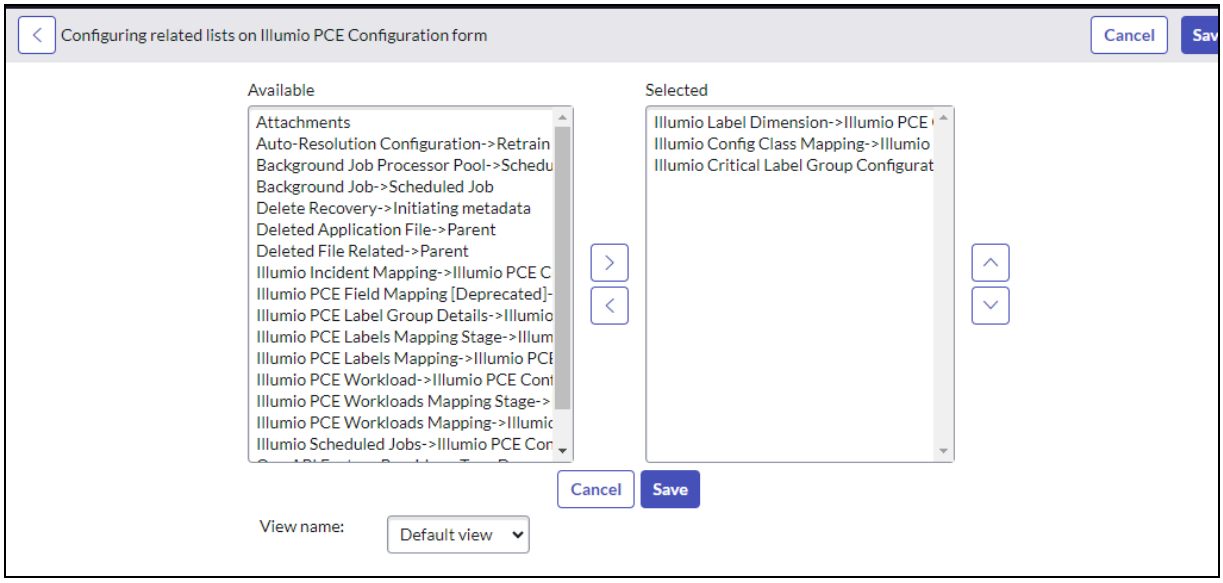


Figure 8. **Related List View**

3. After the Related List View is saved, then the PCE Configuration would look like below:

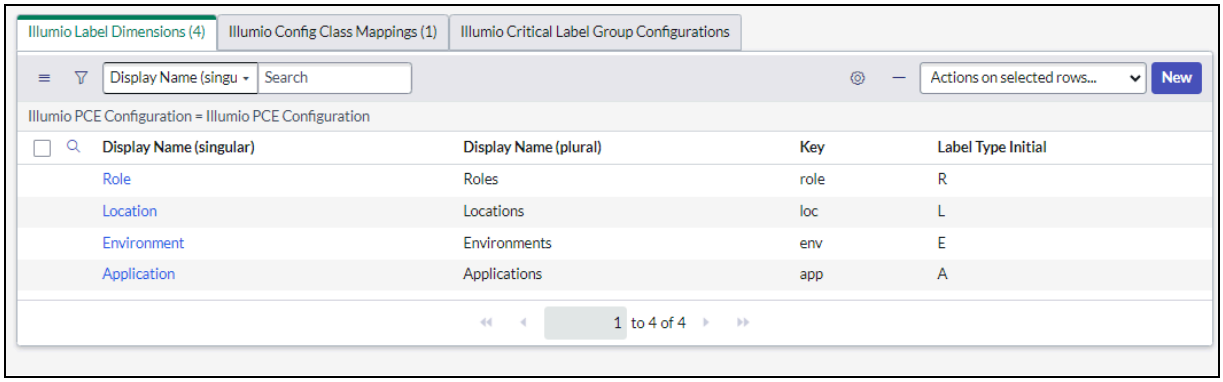


Figure 9. **Related List of Illumio Label Dimensions**

- **Label Dimensions** :
    - The Illumio Label Dimensions list in the PCE Configuration would be populated with the default label dimensions of the older version that are : Application, Environment, Location, Role.
    - The Label Dimensions would be listed in the following format.

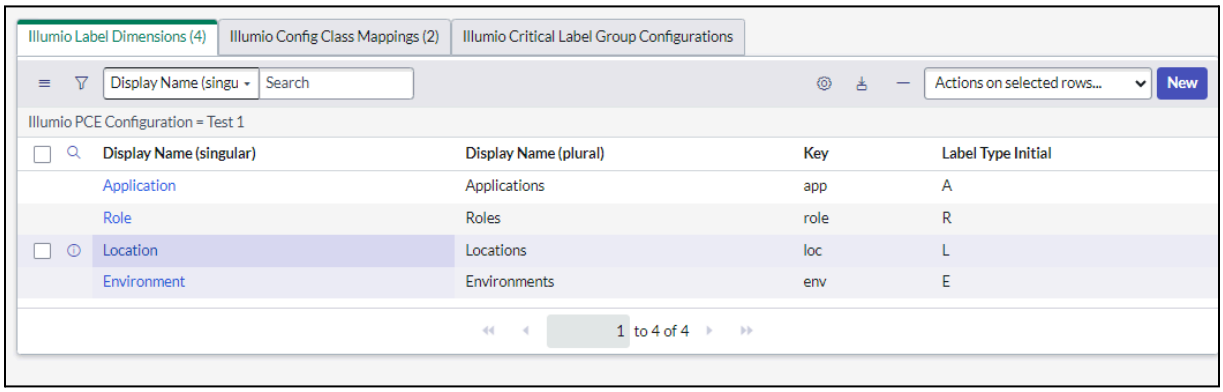


Figure 10. **Related list of Illumio Label Dimensions**

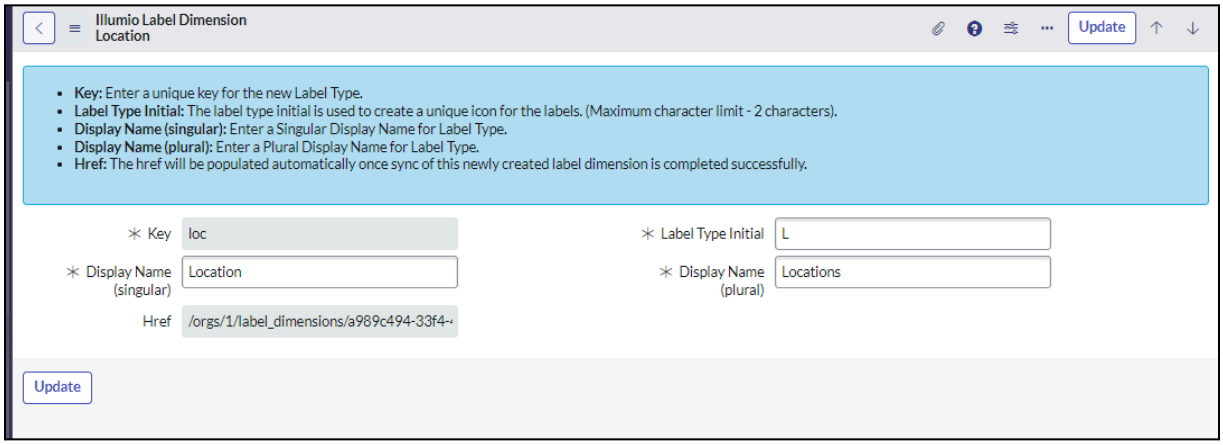


Figure 11. **Form view of Illumio Label Dimensions**

- **Config Class Mappings** :
    - The Illumio Config Class Mappings list section will have the class mappings from the previous version and all the classes that were mapped will be mapped in the current version along with all its config class field mappings.

Note: There would be a difference that will be seen in the config class field mappings for multiple config class mapping if configured by the user.

- Ex: If there are two config class field mapping configured in the older version, that can be **cmdb_ci_appl_dot_net** and **cmdb_ci_lb_a10** .

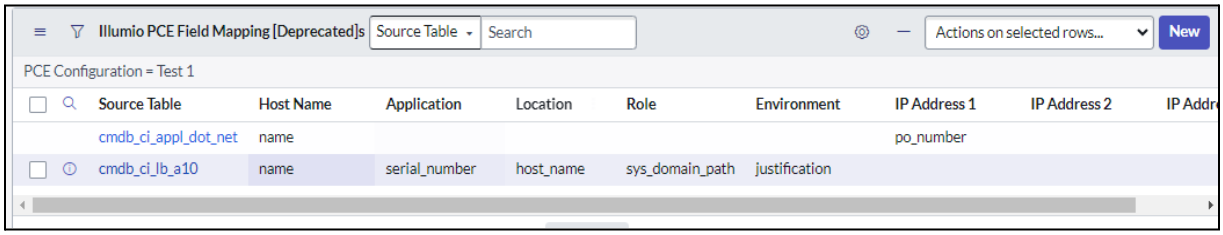


Figure 12.**List view of PCE Field Mapping**

- **cmdb_ci_appl_dot_net** is configured with following class field mappings :

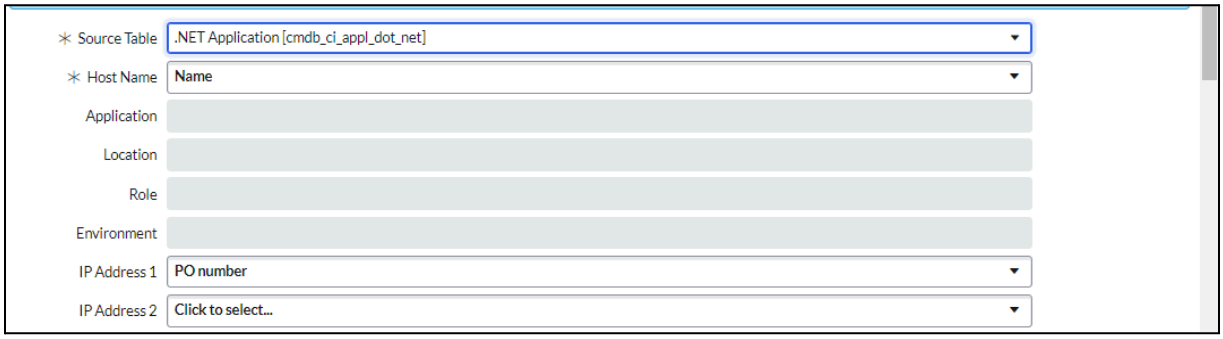


Figure 13. **Form view of PCE Field Mapping**

- **cmdb_ci_lb_a10** is configured with following class field mappings :

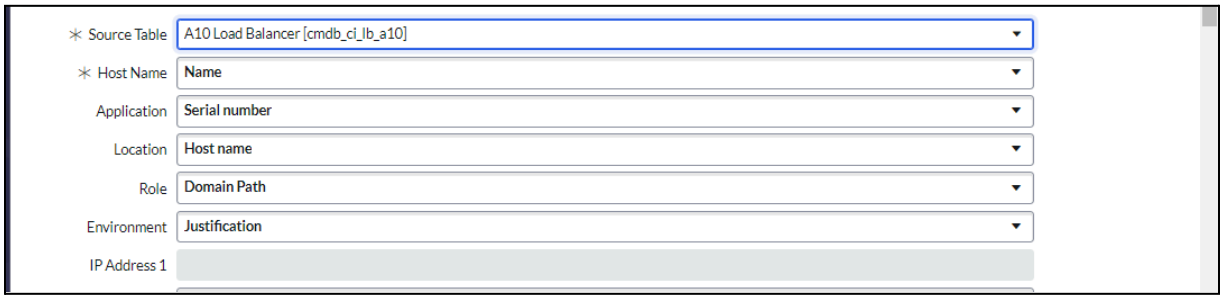


Figure 14. **Form view of PCE Field Mapping**

When the New version is installed, the PCE Configuration related lists would have config class Field Mapping with the below format :

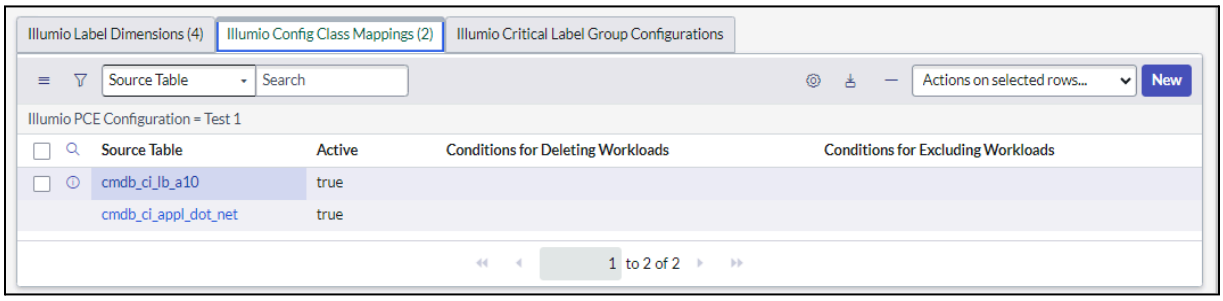


Figure 15. **Related list of Illumio Config Class Mapping**

- In the above example, the cmdb_ci_appl_dot_net class has mapping field of Hostname and PCE Public IP Address only mapped with dot_net and the cmdb_ci_lb_a10 had mapping of all four label dimensions and Hostname mapped in the class fields.

- After the new version of the application is installed, each class would contain the field mappings of all its corresponding classes in them, as shown in the below figure.

1. cmdb_ci_appl_dot_net :

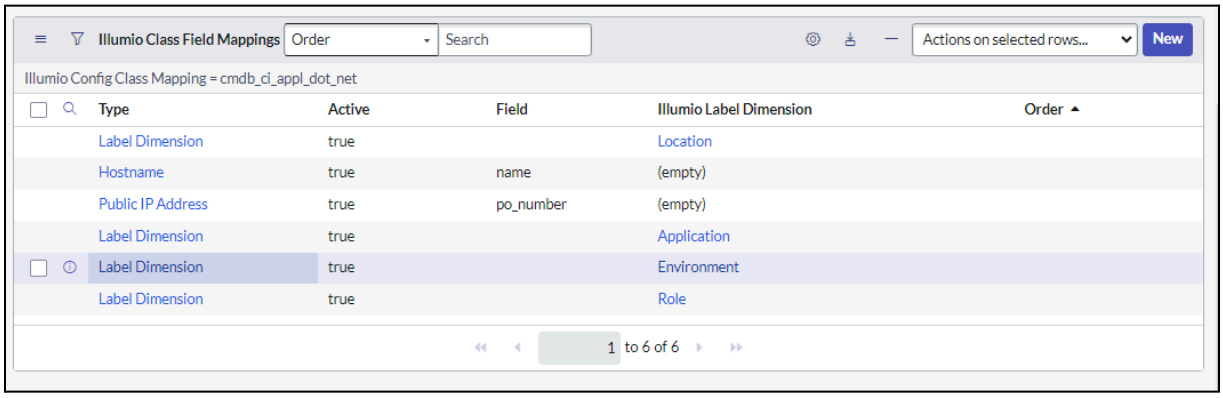


Figure 16. **Related List view of Illumio Class Field Mapping**

2. cmdb_ci_lb_a10 :

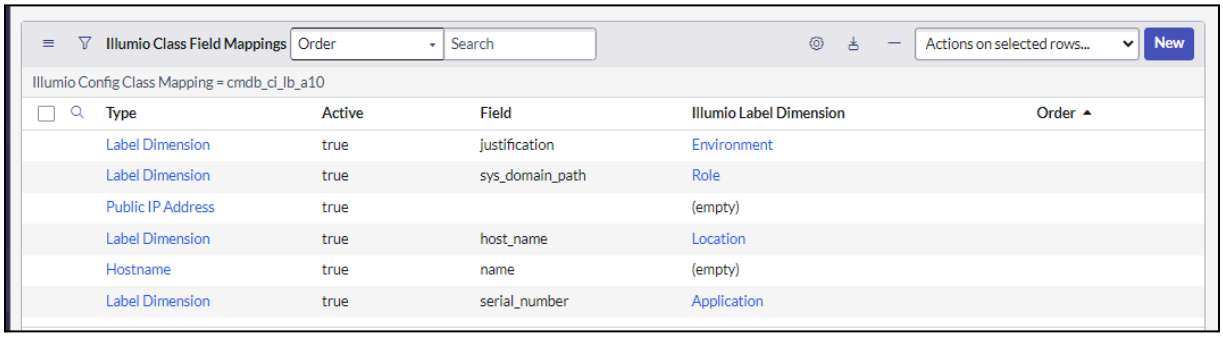


Figure 17. **Related List view of Illumio Class Field Mapping**

Note : For a scenario where there were same hostname data available in two different configured Source Tabe class and with different label dimensions mapped in both the configurations then after upgrade to avoid any type of data loss both the Config Class Mapping would be having one another Config Class Field Mapping with Advanced script option.

The cmdb_ci_appl_dot_net class would have the Config Class Field Mapping of label dimensions from another class with each of them having their own advance script as shown below.

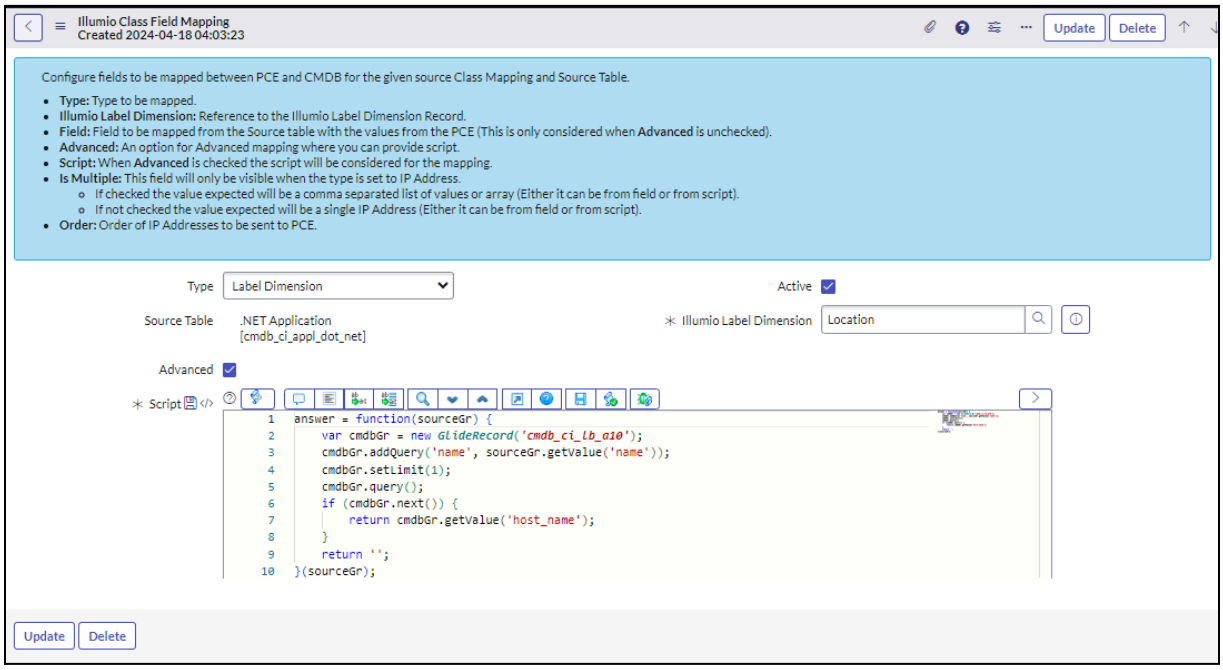


Figure 18. **Form View ofConfig Class Field Mappings with Script**

In the same way the cmdb_ci_lb_a10 would have the Config Class Field Mapping of the Hostname and IP Address 1 of cmdb_ci_appl_dot_net in there Config Class Field Mapping with each one of them from other table having there own advance script as below.

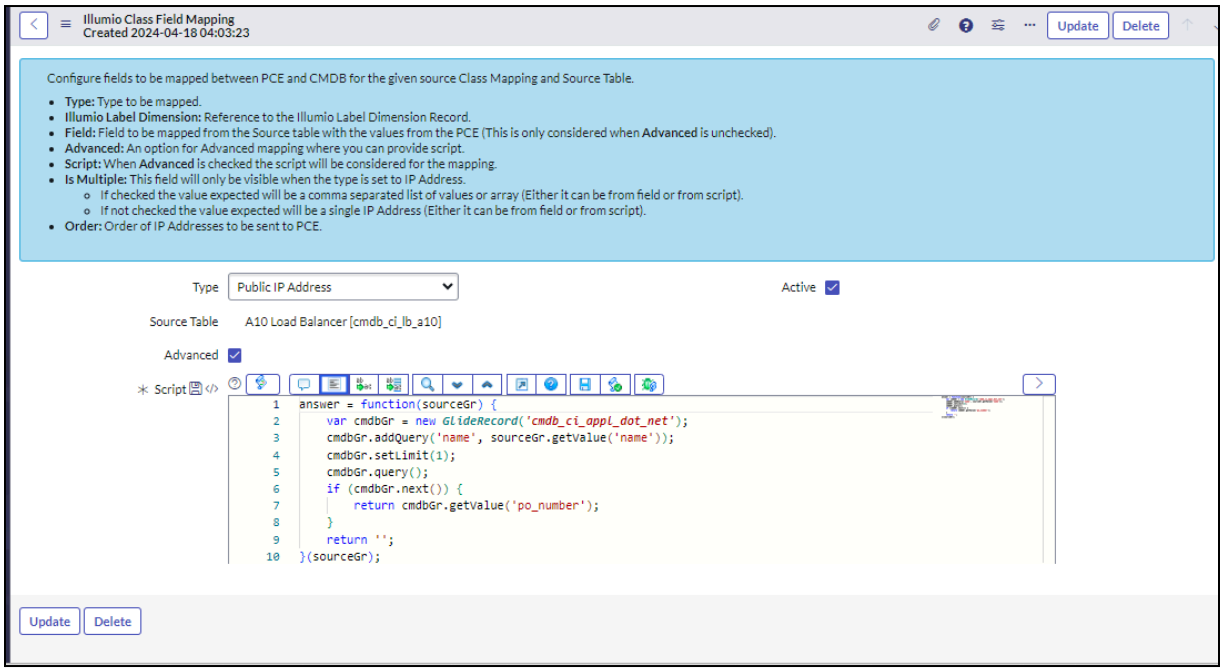


Figure 19. **Form View of Config Class Field Mappings**

- **Critical Label Group Configurations :**

The critical label group configured in the older version would get aligned in the below format in the new version PCE Configuration.

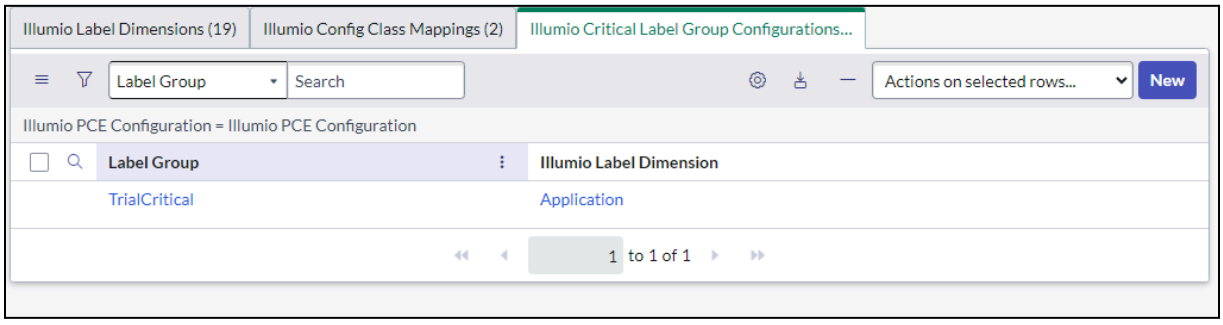


Figure 20. **Related List view of Illumio Critical Label Group Configuration**

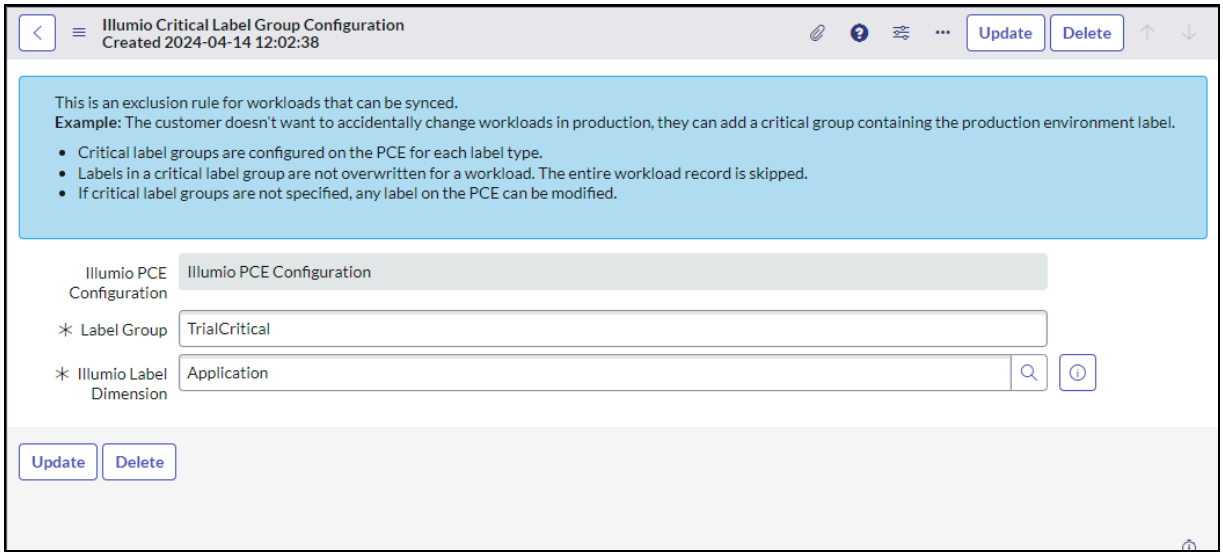


Figure 21. **Form View of Illumio Critical Label Group Configuration**

2.6.2 Upgrading the application from a version older than 1.3.1 to 1.4.4

- If the System Administrator upgrades the Illumio application to 1.4.4 from a version older than 1.3.1, and is not running Illumio data collection the System Administrator needs to run the fixed script(mentioned in the below steps) in the Background script of ServiceNow instance in order to fill the required data in the PCE workloads.
    - If a user is running the Illumio data collection, then there is no need to run the script after upgrading to 1.4.4 from a version older than 1.3.1.
- Steps to run the script:
    1. The admin role is required to run the below script.
    2. Go to System Definition - > Script – Background.
    3. Select global from the scope.

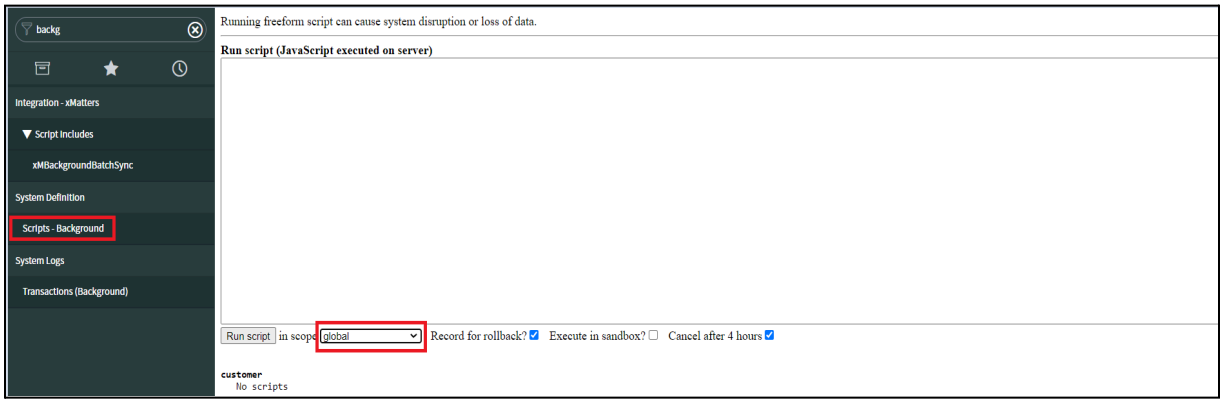


Figure 22**. Run background script after app upgrade**

4. Copy the following script and add it in the Run script.

```
// Fetching workloads from the table
var grWorkload = new GlideRecord('x_illu2_illumio_illumio_servicenow_servers');
grWorkload.query();

if (!grWorkload.hasNext()) {
 // No workloads found in the table
 gs.info("No workloads found in the table. Hence skipping the record updates")
} else {
 gs.info("Started updating the workloads");

 while (grWorkload.next()) {
 // Updating the workloads
 grWorkload.servicenow_cmdb_identifiers_list = grWorkload.getValue('cmdb_reference_field');
 if (!grWorkload.update()) {
 gs.error("Error while updating the record having sys_id: " + grWorkload.sys_id);
 }
 }
 gs.info("Successfully updated the workloads");
}
```

5. Click on **Run script** to run the script.

3 Configuration

This section lists the required configuration steps for the Illumio application.

3.1 Configure the MID Server

You need to install the MID Server to communicate with Illumio PCE and ServiceNow. Deploy the MID Server in the local network and install its agent in the same network with the product with which you want to communicate.

3.1.1 The required role

System Administrator (admin)

3.1.2 Pre-requisites

The MID Server user configured on the agent should have these roles:

- mid_server
- x_illu2_illumio.mid_server_user(Illumio MID Server User)

Details on How to Configure MID Server are also provided in
https://docs.servicenow.com/?context=CSHelp:MID_Server

3.1.3 Sizing Considerations

In addition to the ServiceNow MID server system requirements, it is recommended to scale the MID server's heap size based on CMDB CI and PCE workload counts as below.

- 50K workloads on PCE: 6GB heap memory
- 100K workloads on PCE: 8GB heap memory

3.1.4 Configuration steps

Follow these steps:

1. Set up a host within the local network as a MID Server agent.
2. In the left navigation pane, type **mid server** in the search box and select **Servers** in the "MID Server" section.

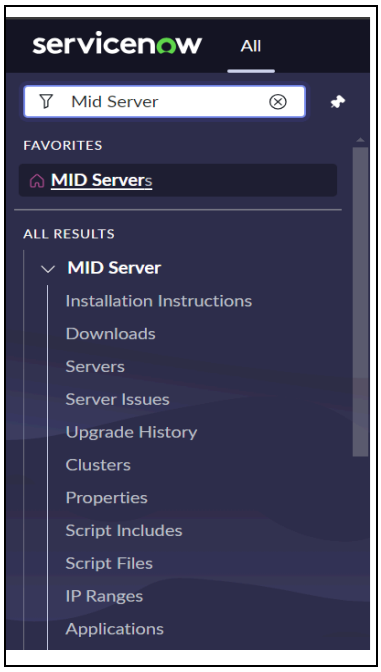


Figure 23. **MID Server module in the navigation menu**

3. The VM/mid-server details will automatically show in the list of MID Servers.

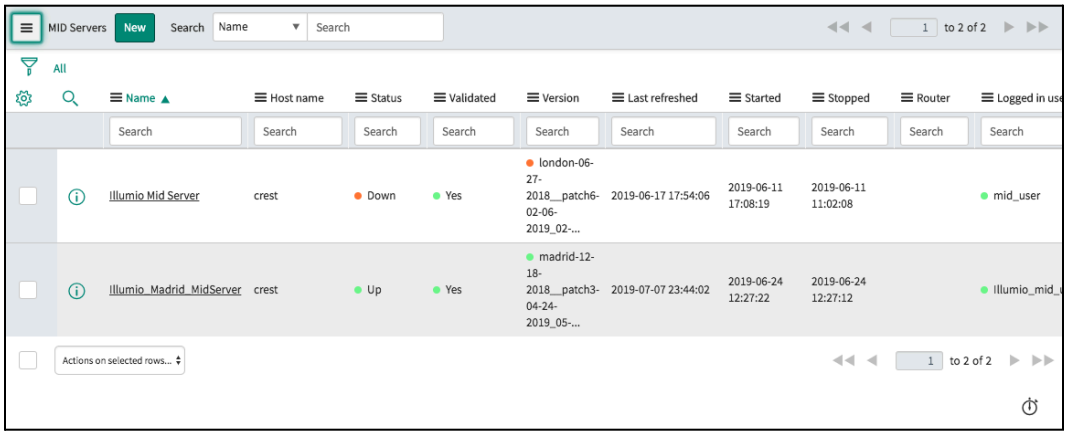


Figure 24**. List view of the available MID Servers**

4. The form view of the MID Server record shows the current status of the MID server.

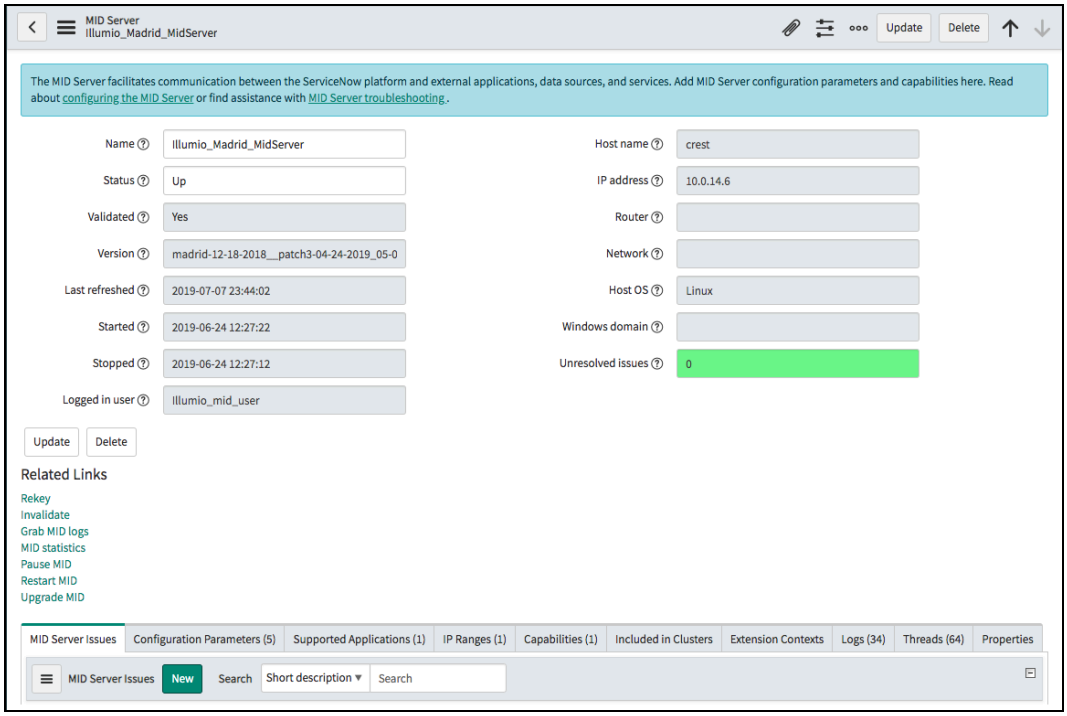


Figure 25**. Form view of the MID Server record**

5. You can validate the MID Server using the links in the Related Links section.

3.2 Configure User Roles

The Illumio application comes with two custom roles out of the box. As a one time configuration, you must add the required system roles to these two custom roles.

3.2.1 The required role

System Administrator (admin)

Below are the roles you need to add to each custom role:

Custom Role	System Roles to be added
Illumio Application Admin (x_illu2_illumio.illumio_admin)	x_illu2_illumio.illumio_user, export_set_scheduler, itil
Illumio Application User (x_illu2_illumio.illumio_user)	itil

3.2.2 Procedure

1. Navigate to “System Roles” and filter a custom role.

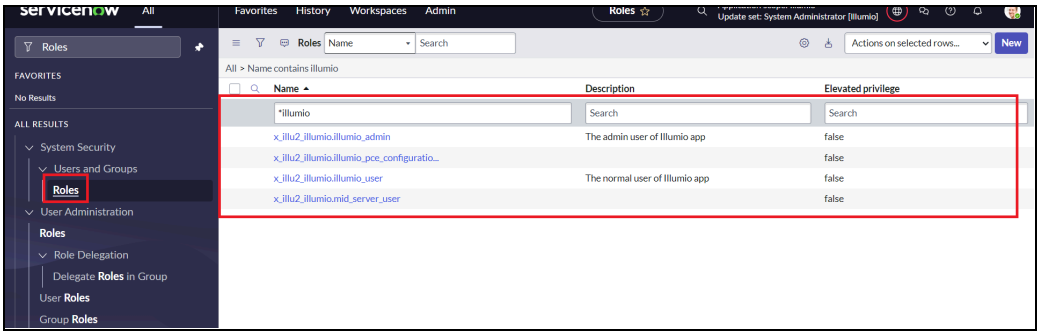


Figure 26. **List view of the ServiceNow custom roles**

2. Select the custom role for which you want to add the system roles.

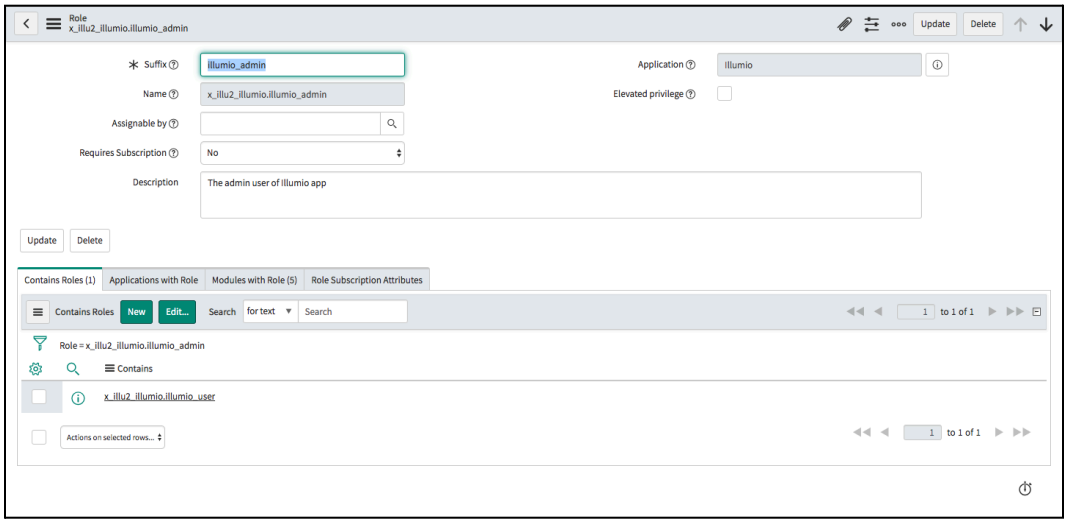


Figure 27. **Form view of the custom role's record**

3. Assign the system roles mentioned in the table by clicking **Edit** under the tab "Contains Roles".

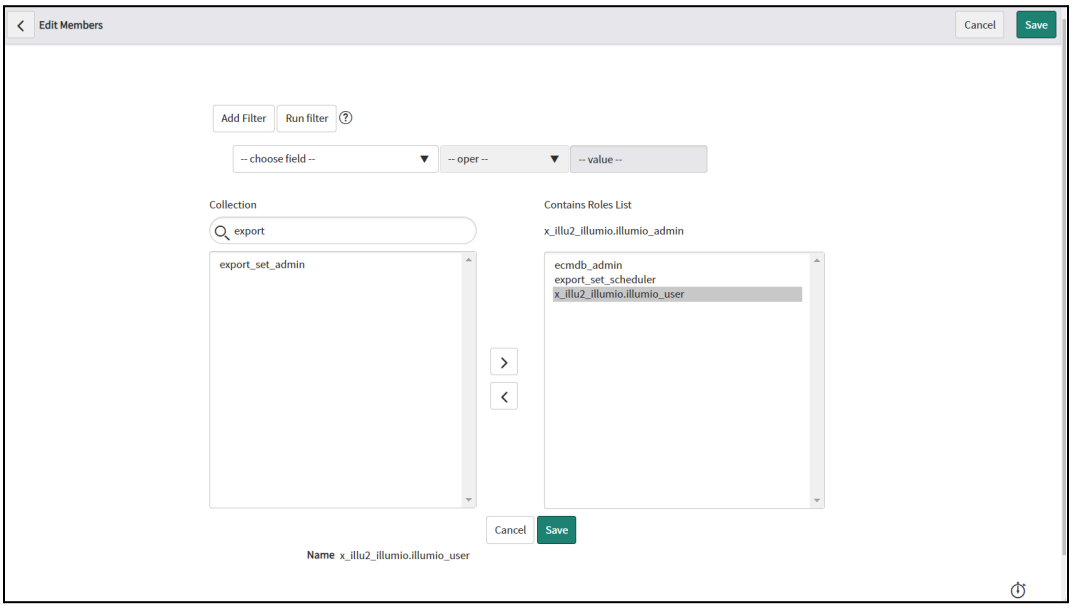


Figure 28. **Multi-select OOB Role window to add the custom role**

4. Select the desired roles from the Collection list and move them to the Contain Roles List.

3.3 Create Illumio Admin

The System Administrator creates an Illumio application Admin user, which can configure the application that sets up Illumio configurations in ServiceNow.

3.3.1 The required role

System Administrator (admin)

3.3.2 Procedure

1. Navigate to **Organization > Users.**
2. Click the **Users** module.

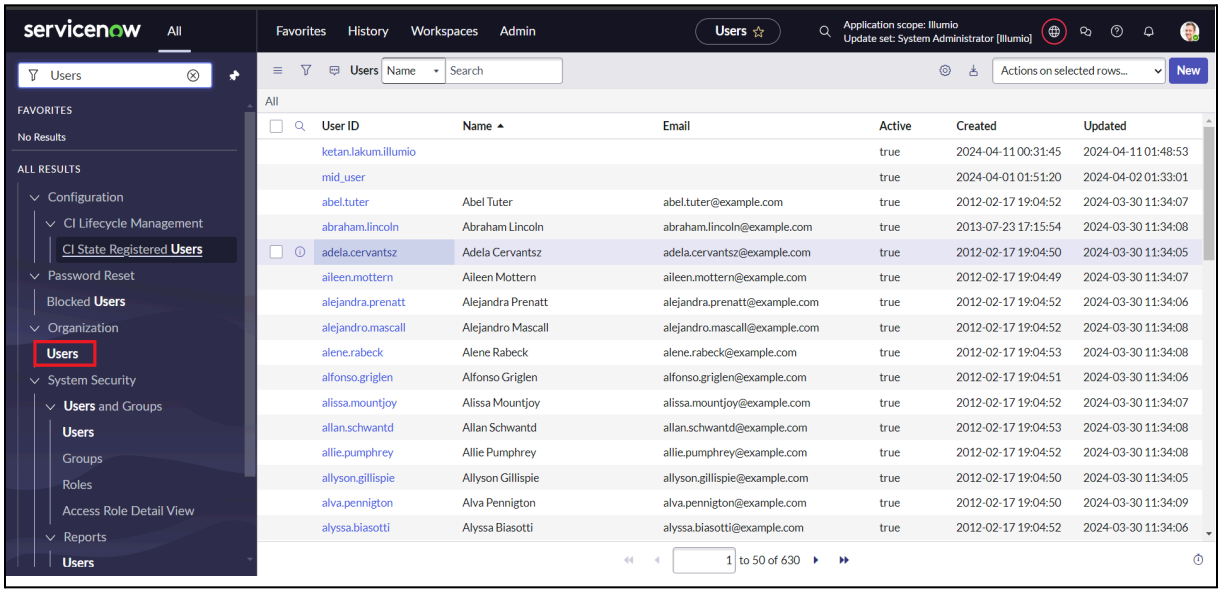


Figure 29**. List view of the USER table**

3. On the Users list that is displayed, click **New**. A new user form is displayed.

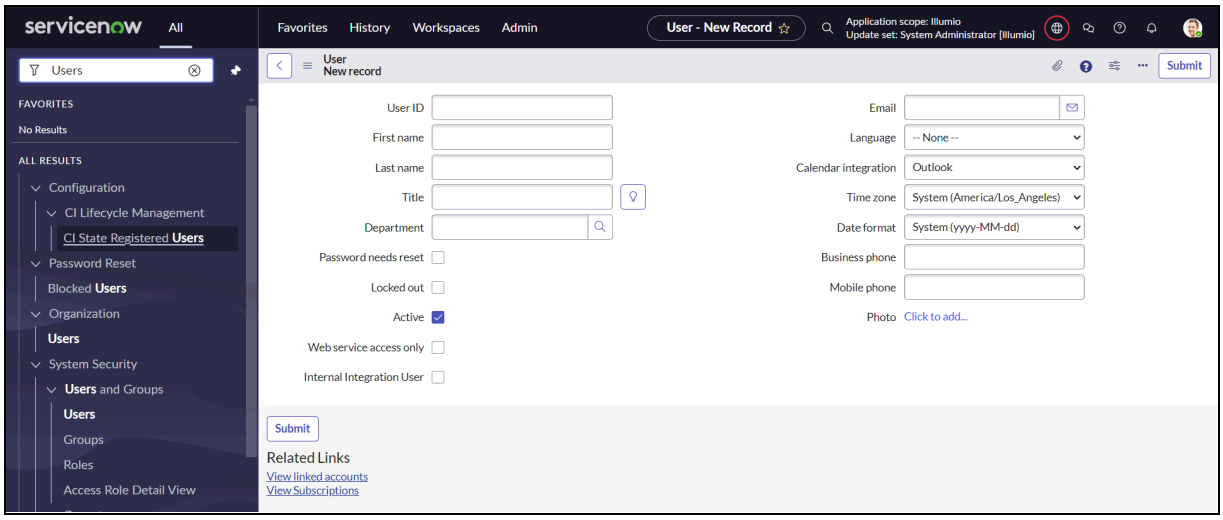


Figure 30**. Form view of the new user record**

4. Fill out the form.

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

Field	Description
User ID	A unique User ID for the role in your Now Platform instance, such as illumio_admin.
First Name	The first name of the user you are assigning to be an Illumio application Admin user
Last Name	The last name of the user you are assigning to be an Illumio application Admin user
Title	The job title of the user, such as Illumio Admin.
Password	A unique password created for this role.
Email	A unique email address of the Illumio application Admin user

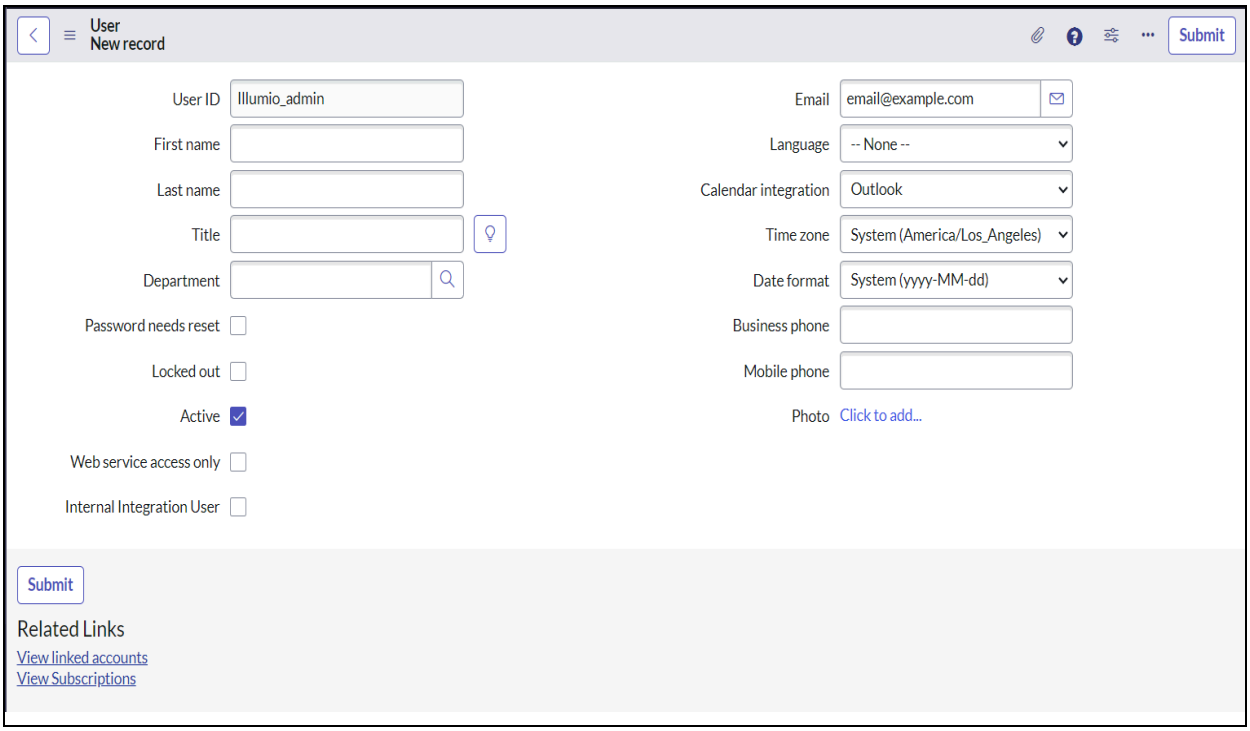


Figure 31**. An example of a filled form**

5. Click on **Submit**. Once the form is submitted, you can assign the role.
6. On the Users list in the User ID column, click on the name of the new user you created, for example, **illumio_admin**.
7. Once the record is open, go to the Roles section and click on **Edit**.
8. Enter **x_illu2_illumio.illumio_admin** in the Collection field.
9. In the Collection column, select and move **x_illu2_illumio.illumio_admin** to the Roles List.

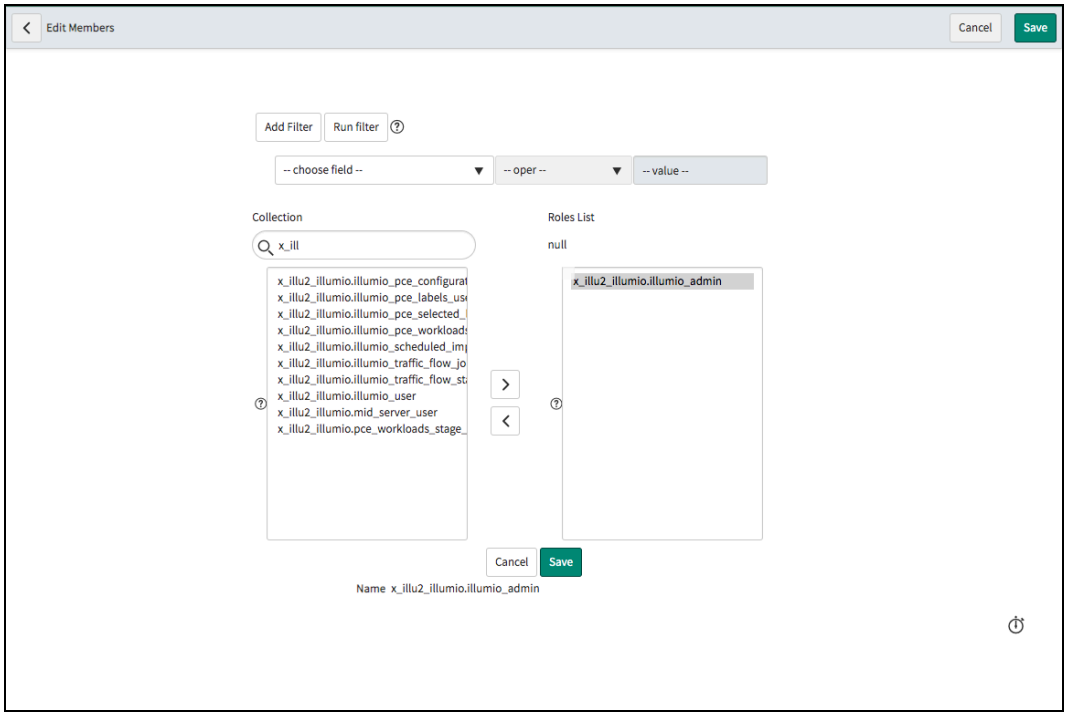


Figure 32. **Multi-select window to select a role**

10. Click on **Save.**

3.4 Configure Illumio PCE

The PCE Configuration runs the discovery and pulls existing workloads from the PCE populating the fetched data into the Illumio PCE Workloads table.

Note : Please check required role(Global Administrator) on the PCE side

3.4.1 The required Role

x_illu2_illumio.illumio_admin

3.4.2 Configure PCE

1. Login to the ServiceNow instance.
2. In the search menu in the top left-hand corner, enter **Illumio**. The Illumio application menu will be opened.
3. In the navigation menu, click on “Configuration” → “PCE Configuration”.

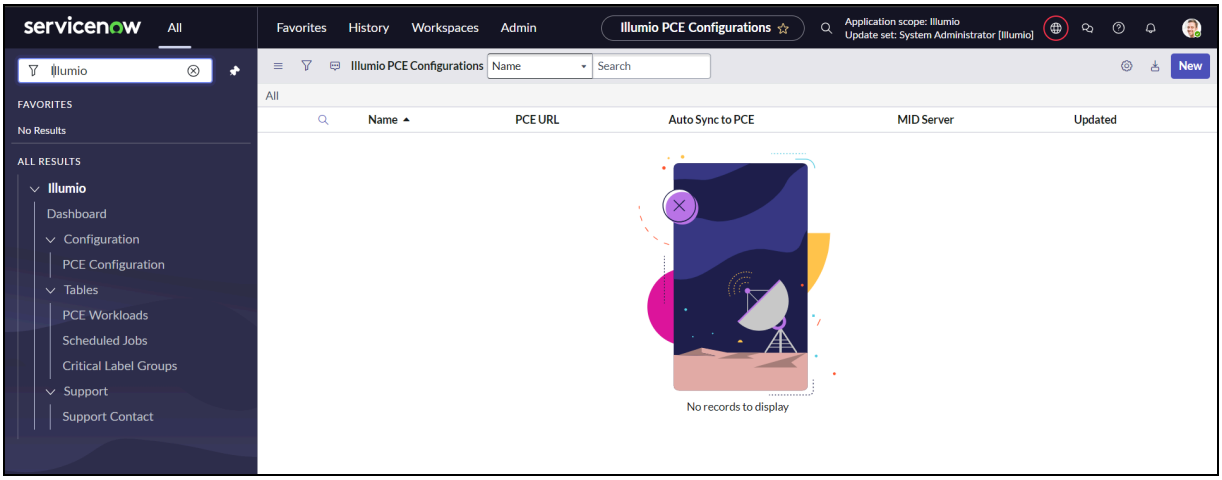


Figure 33**. List view of the PCE Configuration**

4. Click on the **New** button on the top. The configuration form is displayed.

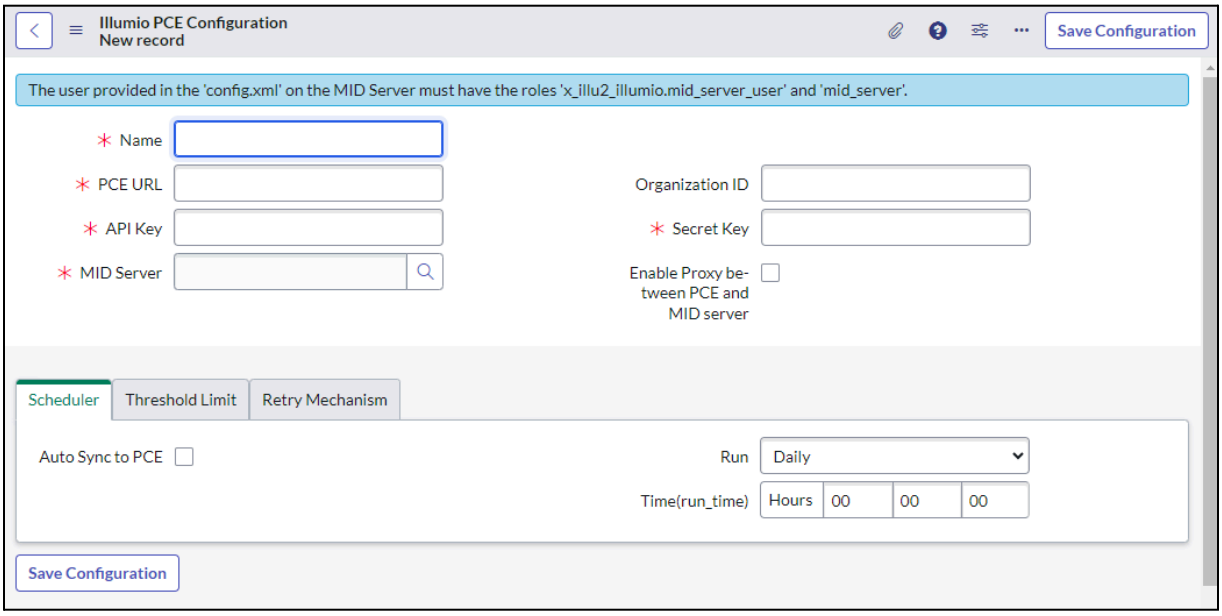


Figure 34**. Form view of the Illumio Configuration**

5. Fill the form and click on **Save Configuration**.

Field	Description
Name	Unique name of user for identifying configuration.
PCE URL	URL of the Illumio PCE instance to fetch the workloads.
API Key	Unique Illumio API ID for authentication.

MID Server	The MID Server is a ServiceNow component installed between the cloud and the data center.
Organization ID	Unique Illumio ID for your Organization.
API Secret	Illumio API secret key for authentication.

3.4.3 Illumio label dimensions

1. Login to the ServiceNow instance.
2. In the search menu in the top left-hand corner, enter **Illumio**.The Illumio application menu will be opened.
3. In the navigation menu, click on “Configuration” → “PCE Configuration”
4. Open the PCE configuration record which is already added.
5. Click the **new** button on related list of “Illumio label dimension” on PCE Configuration form new form of Illumio label dimension will be opened

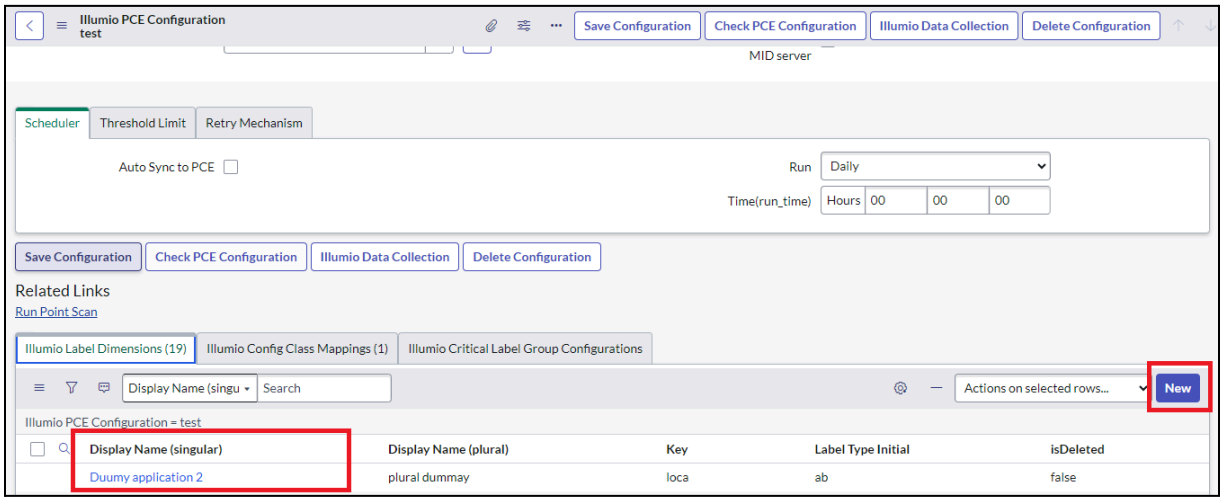


Figure 35. **Related list of Illumio label dimensions**

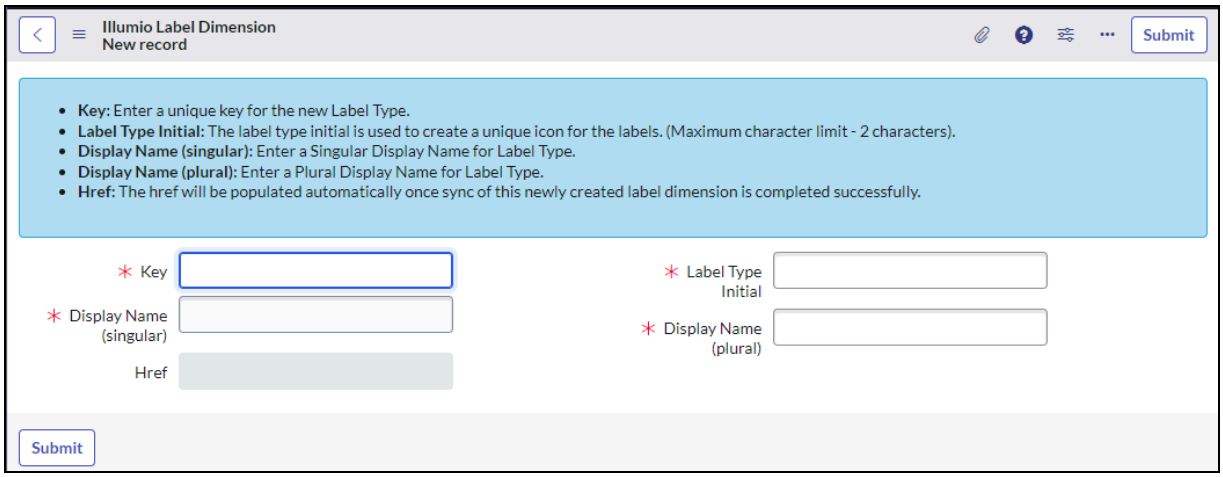


Figure 36. **Form view of Illumio label dimensions**

6. Fill the form and click on the Submit button.

Field	Description
Key	Unique key of label dimension for identifying configuration.
Label Type Initial	Initials for label dimension (maximum length 2).
Display Name (singular)	Display name (singular) for label dimension.
Display Name (plural)	Display Name (plural) for label dimension.
Href	Unique Href will be populated after submission of form.

3.4.4 Illumio Config Class Mappings

For PCE field mapping, users must have to create Illumio Config Class Mappings after that user has to create Illumio Class Field Mappings.

Procedure:

1. Login to the ServiceNow instance.
2. In the search menu in the top left-hand corner, enter **Illumio**. The Illumio application menu will be opened.
3. In the navigation menu, click on “Configuration” → “PCE Configuration”.
4. Open the PCE configuration record which is already added.
5. Click on the new button of Illumio Config Class Mappings related list.

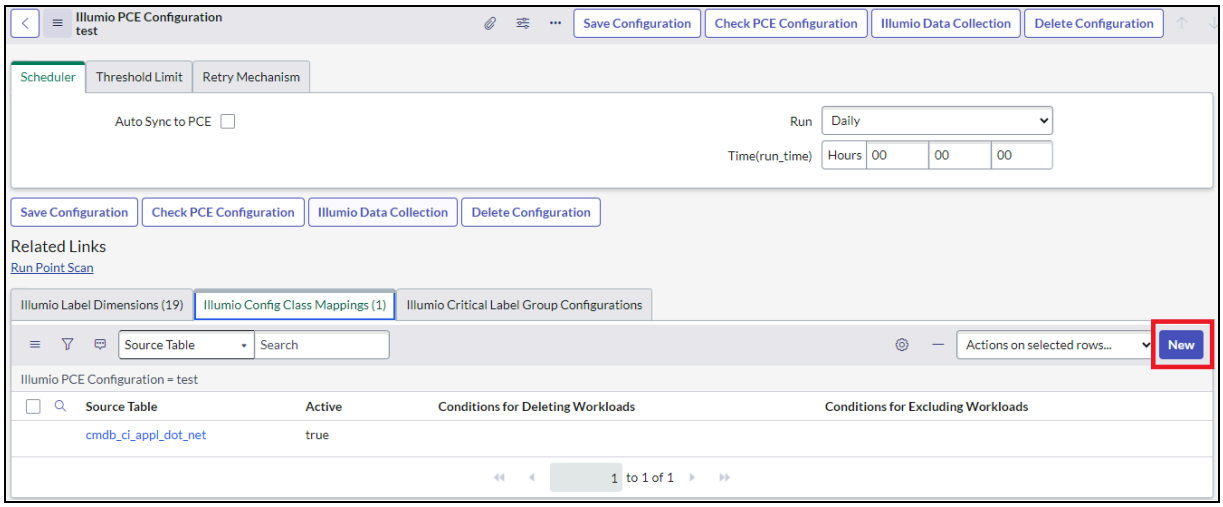


Figure 37. **Form view of Illumio PCE Configuration**

6. Form of Illumio Config Class Mappings will be opened.

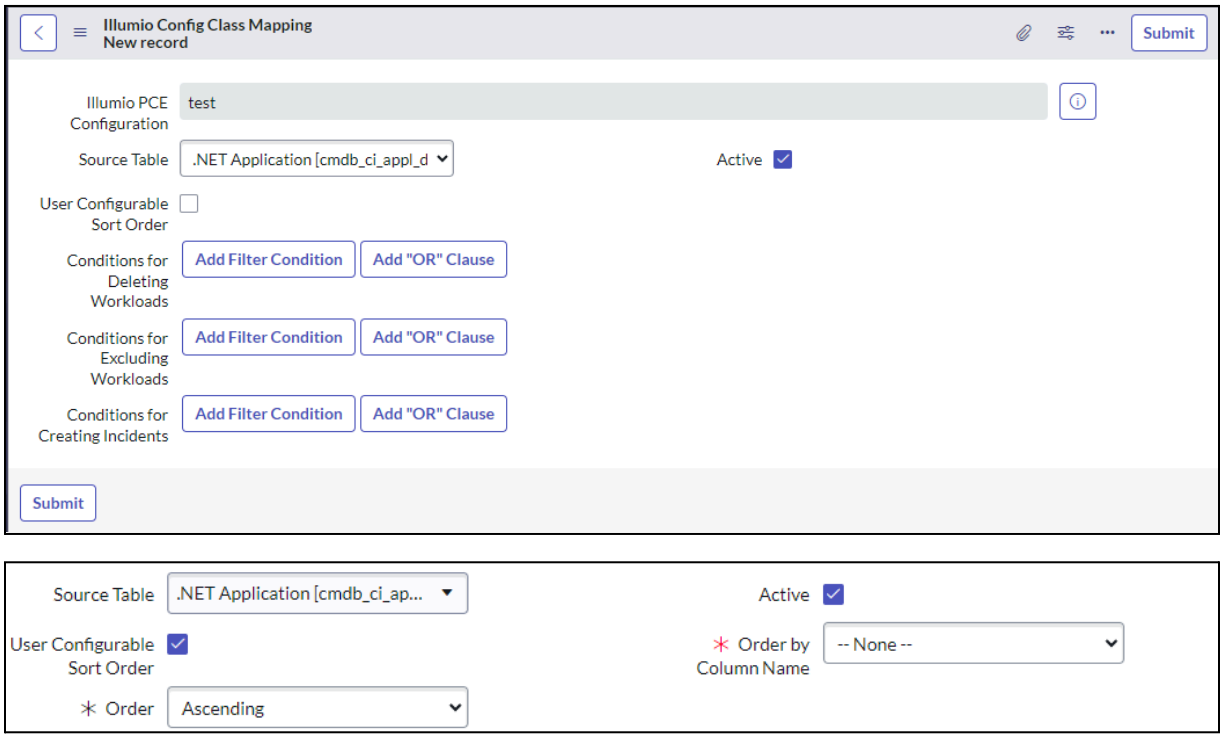


Figure 38. **Form view of Config Class Mapping**

Field	Description
Illumio PCE Configuration	Name of Illumio PCE configuration for which new class mapping is being created.
Source Table	Select Source table from CMDB for mapping.
Active	Checkbox to activate or deactivate class mapping (default value checked).
User Configurable Sort Order	User Configurable Sort Order: Whether to use sort order or not to identify the primary workload. Enabling this checkbox will populate the following fields: ● Order: Select order for creating workload. ● Order By Column Name: Column on which the CMDB records will be sorted to identify the primary workload.
Conditions for Deleting Workloads	Provide conditions for deleting workloads from the selected source table.
Conditions for Excluding Workloads	Provide conditions for excluding workloads from the selected source table.
Conditions for Creating Incidents	Provide conditions to automatically create Incidents for the workloads from the selected source table. Note: If the workloads are deleted then, the Incident linked to that workloads will not be deleted and if the same workload is fetched again that the respective Incident will get linked to it.

3.4.4.1 Illumio Class Field Mappings

1. Login to the ServiceNow instance.
2. In the search menu in the top left-hand corner, enter **Illumio**.

   The Illumio application menu will be opened.
3. In the navigation menu, click on “Configuration” → “PCE Configuration”
4. Open the PCE configuration record which is already added.
5. Open the existing record from Illumio Config Class Mapping, or create a new one
6. Form view of Illumio Config Class Mapping will be opened

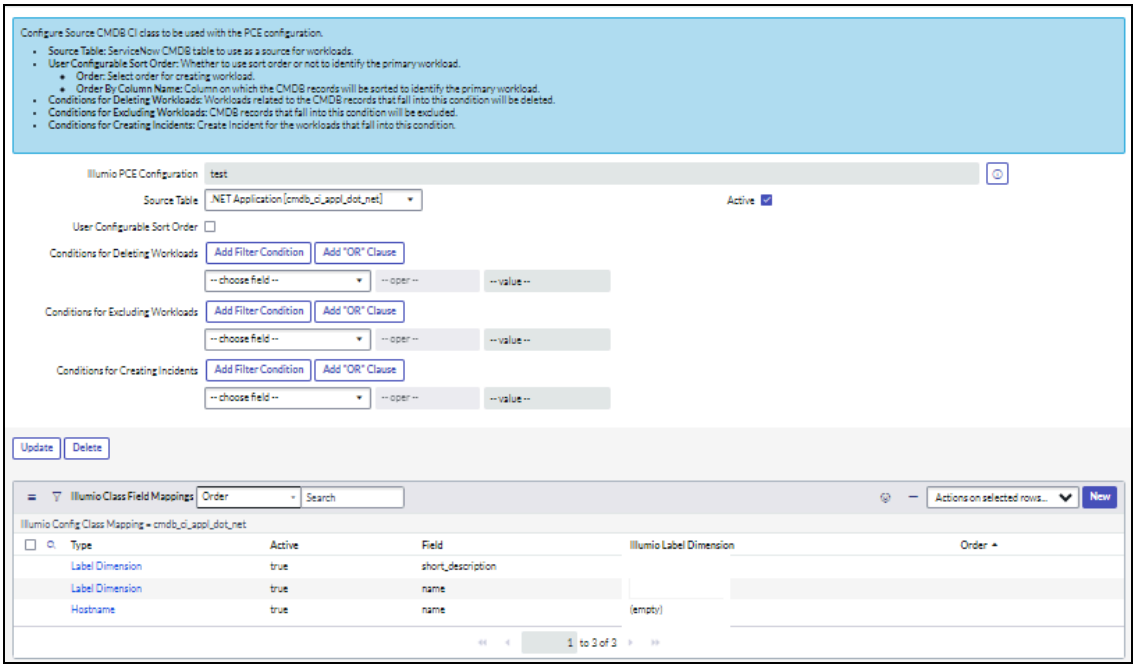


Figure 39. **Form view of Config Class Mapping**

7. Click on the New button of Illumio Class Field Mappings or select the existing one.
8. Form view of Illumio Class Field Mapping will be opened

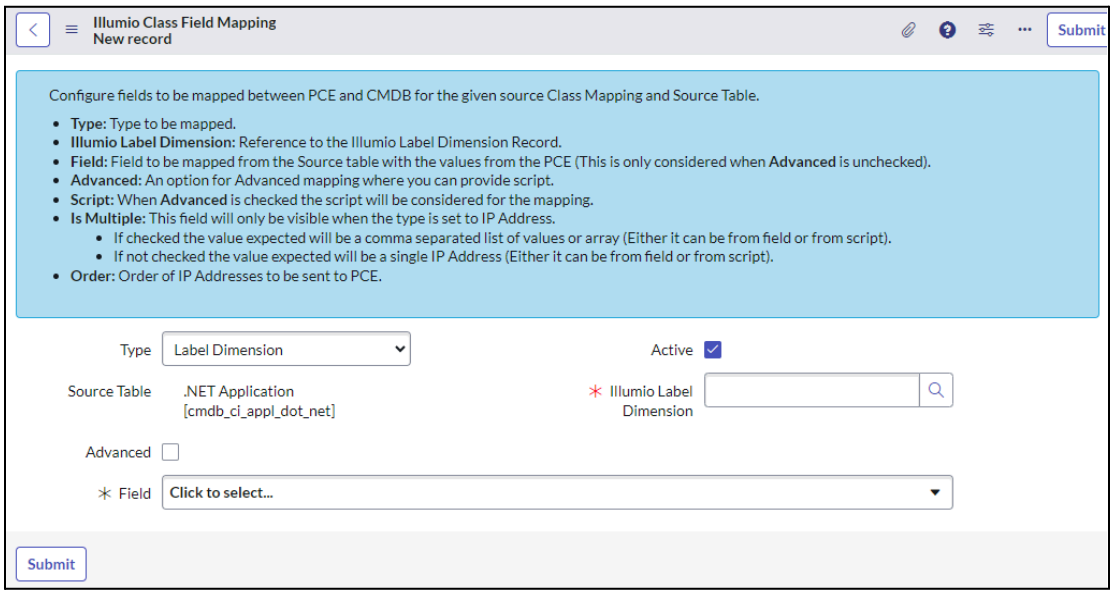


Figure 40. **Form view of Illumio Class Field Mapping**

Field	Description
Type	Type to be mapped. 1. Hostname 2. IP Address 3. Label Dimension 4. Public IP Address
Source Table	Source table from CMDB for mapping already configured from Illumio Config Class Mappings.
Active	Check box for activate or deactivate class field mapping (default value checked).
Field	Select a particular field from the source table to be mapped with type.
Advanced	An option for Advanced mapping where you can provide a script.
Script	When Advanced is checked, the script will be considered for the mapping.

Dynamic fields based on Type field:

- **Selected Type Field:** Hostname / Public IP Address

  Default view of Illumio Class Field Mapping form

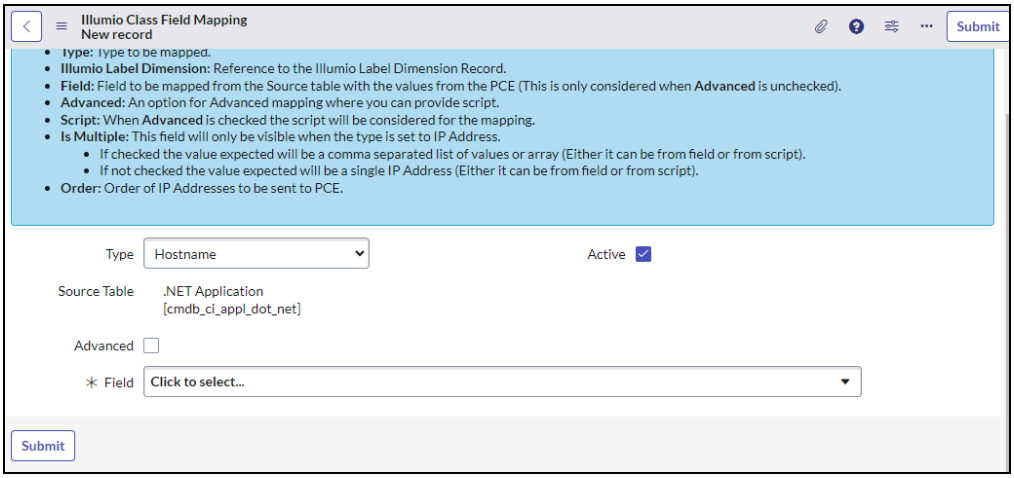


Figure 41**. Default view of Illumio Class Field Mapping form**

- **Selected Type Field:** IP Address

  An additional field Order will be created for Ordering of IP Addresses to be sent to PCE.

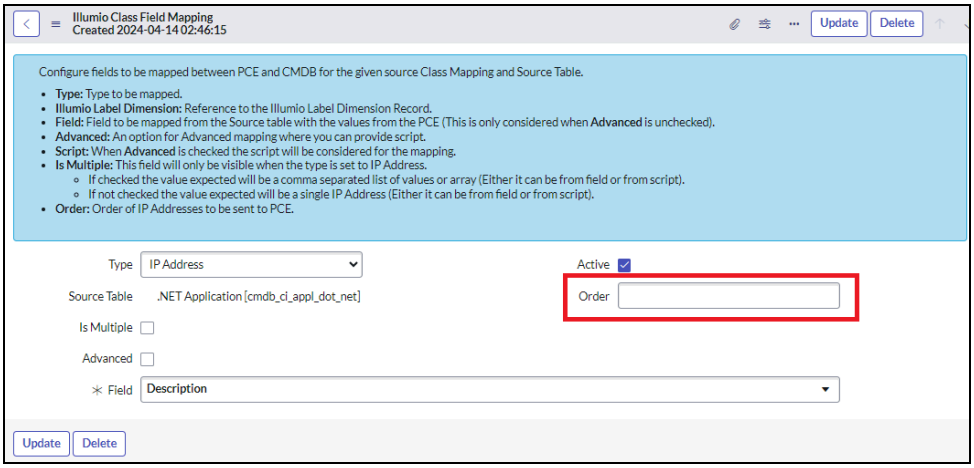


Figure 42. **Class Field Mapping Form for Type -" IP Address"**

- **Selected Type Field:** Label Dimension

Additional reference field will be created to add reference of existing label dimensions with given configuration.

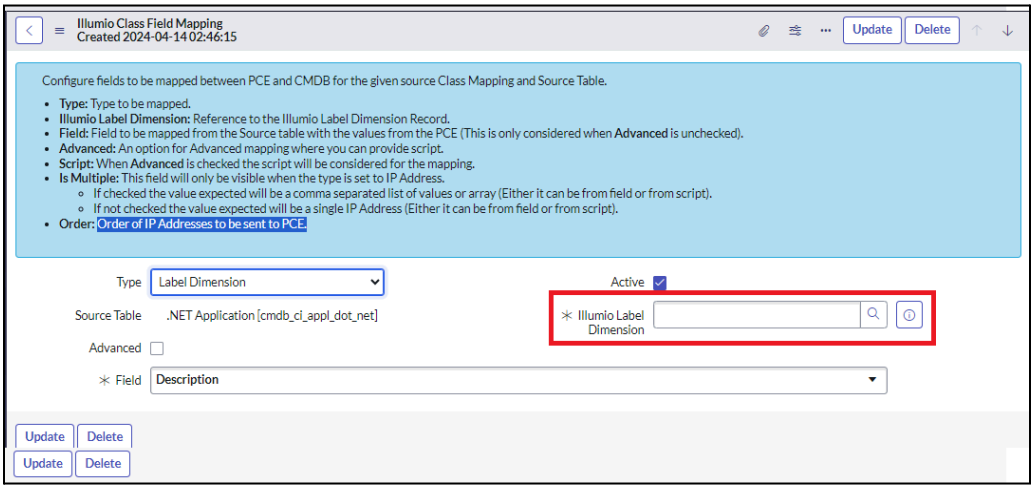


Figure 43. **Class Field Mapping Form for Type - "Label Dimensions"**

In case if a user wants to configure multiple source tables and multiple class field mappings then, then follow the same steps as mentioned above for another table.

Note

1. The Source Table list will be visible only if the "Itil" role is provided to the user.
2. Users can add multiple source tables as per their need, but he/she cannot map the same label twice. And once all PCE labels are mapped, then the user cannot create a new field mapping configuration.

3.5 Configure Critical Label Groups

This feature prevents Label Changes to the defined Core Service or Critical labels. If a user has configured the critical label group for a particular label, then the app will fetch all the labels which are available under that critical label group. And while syncing the workloads to PCE if any of the CMDB labels are under the critical label group then the entire workload would be skipped from sync.

3.5.1 The required Role

x_illu2_illumio.illumio_admin

3.5.2 Configure Critical Label Groups

1. Login to the ServiceNow instance.
2. In the search menu in the top left-hand corner, enter **Illumio**. The Illumio application menu will be opened.
3. In the navigation menu, click on “Configuration” → “PCE Configuration”
4. Open the PCE configuration record which is already added.

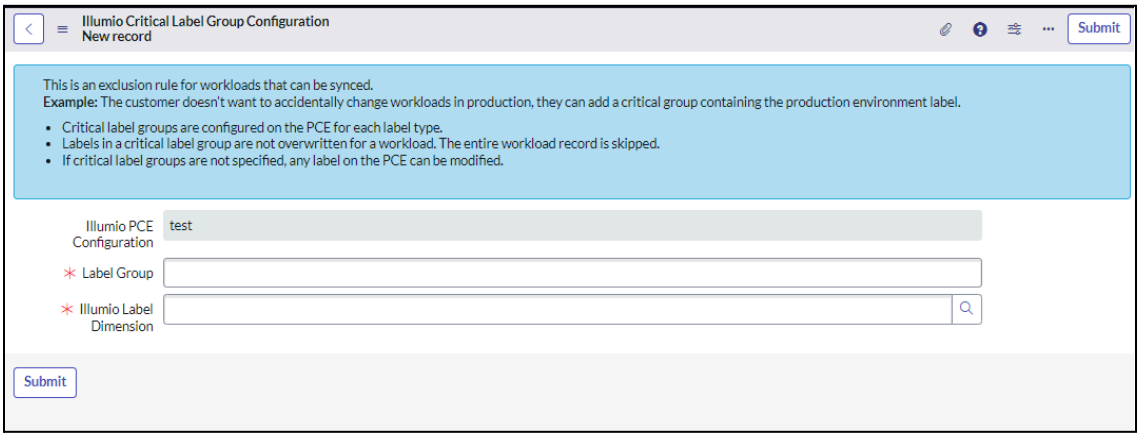


Figure 44**. Form view of the Critical label groups configuration**

5. Click on the “**Critical Label Groups**” tab.
6. Fill in the ”Label Groups” name and click on **Save**.

   Note: When a user enters the Critical label group name in ServiceNow, then the app will only consider the labels of that group as critical. The application will ignore the subgroups and labels of the subgroups.

Field	Description
Illumio PCE configuration	Reference of PCE configuration for which the Critical Label Group is being made.
Label Group	Name of Label Group.

Illumio Label Dimension	Reference of Illumio Label dimension to include it in Label Group.

3.6 Configure Threshold Limit

This feature limits the number of changes to be applied for each sync, either manual sync or auto-sync. If any of the configured limits exceeds, then the entire sync would be prevented.

3.6.1 The required Role

x_illu2_illumio.illumio_admin

3.6.2 Configure Threshold Limit

1. Login to the ServiceNow instance.
2. In the search menu in the top left-hand corner, enter **Illumio**.

   The Illumio application menu will be opened.

3. In the navigation menu, click on “Configuration” → “PCE Configuration”
4. Open the PCE configuration record which is already added.

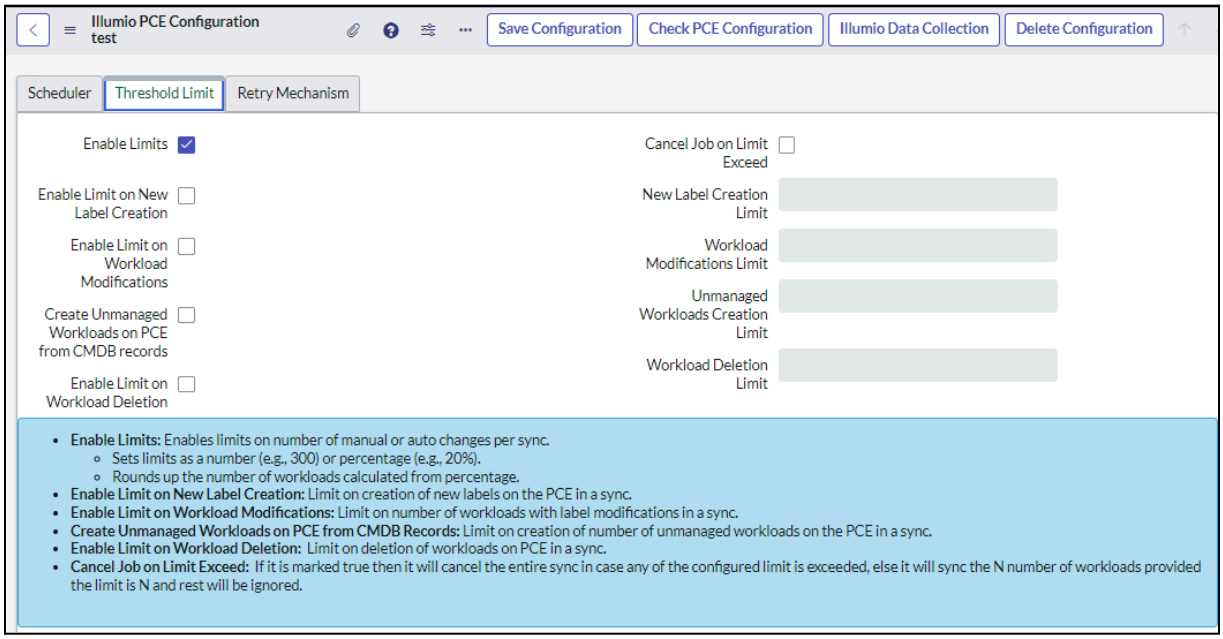


Figure 45. **Form view of the threshold limit configuration**

5. Mark checked the “Enable Limit” checkbox to enable the threshold limit feature.
6. If “Enable Limit” is unchecked, it will not consider any threshold limit configured in fields.
7. Select the checkboxes for which the user wants to set the limit and then specify the limits in respective text boxes and click on **Save**.

Field	Description
Enable Limit on New Label Creation	Mark this field checked and define numbers or percentage in the “New Label Creation Limit” field to set a limit on the creation of new labels in each sync.
Enable Limit on Workload Modifications	Mark this field checked and define numbers or percentage in the “Workload Modifications Limit” field to set a limit on the number of workloads to be modified in each sync.
Create Unmanaged workloads on PCE from CMDB records	Mark this field checked and define numbers or percentage in the “Unmanaged Workloads Creation Limit” field to set a limit on how much workload can be created in each sync.
Enable limit on workload deletion	Mark this field checked and define numbers or percentage in the “Workload Deletion Limit” field to set a limit on how much workload can be deleted in each sync.
Cancel Job on Limit Exceed	Mark this field checked to cancel the whole job if any of the enabled limits exceeds.

Note

1. Users are allowed to set limits in numbers or percentage. For example, a user wants to set a limit in numbers, then he/she needs to specify the value in a text box with an integer format Like 90. And in the case of percentage, users can specify the value like 50%.
2. If any of the limits exceeds during the synchronization of workloads to PCE and “Cancel Job on Limit Exceed” is marked unchecked, then the workloads within the specified limits will be synced and the rest of the workloads will be skipped. If the “Cancel Job on Limit Exceed” is marked checked then, the entire sync process would be prevented.
3. Label creation and workload modifications limit will be counted after filtering out the workloads which have critical labels as conflict.

3.7 Configure Retry Mechanism

This feature allows the user to configure the different parameters for the retry mechanism in case of any API failure with either 429 status code or server error

3.7.1 The required Role

x_illu2_illumio.illumio_admin

3.7.2 Configure Retry Mechanism

1. Login to the ServiceNow instance.
2. In the search menu in the top left-hand corner, enter **Illumio**. The Illumio application menu will be opened.
3. In the navigation menu, click on “Configuration” → “PCE Configuration”

4. Open the PCE configuration record which is already added.

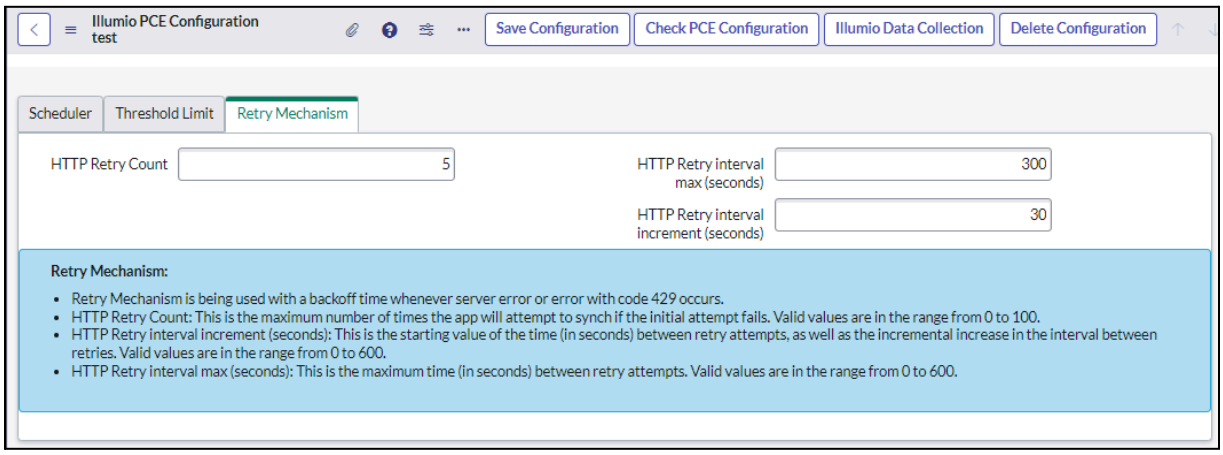


Figure 46**. Form view of the retry mechanism configuration**

5. Click on the “Retry Mechanism” tab.
6. Fill in the fields and click **Save**.

Field	Description
HTTP Retry Count	This is the maximum number of times the app will attempt to sync if the initial attempt fails. Valid values are in the range from 0 to 100.
HTTP Retry Interval increment (seconds)	This is the starting value of the time (in seconds) between retry attempts, as well as the incremental increase in the interval between retries. Valid values are in the range from 0 to 600. For example, if the Retry Interval is 10, the Retry Interval Max is 35, and the retry count is 5, then the first retry attempt will be after 10 seconds; the next retry will be 20 seconds later; the third retry will be 30 seconds later; the fourth retry will be 35 seconds later, and the last retry will be 35 seconds later.
HTTP Retry Interval Max (seconds)	This is the maximum time (in seconds) between retry attempts. Valid values are in the range from 0 to 600.

4 Illumio Dashboard

Use the Illumio dashboard to manage the Illumio application.

4.1.1 The required role

These two users are permitted to work with the Illumio dashboard:

x_illu2_illumio.illumio_admin,x_illu2_illumio.illumio_user

4.1.2 Access the Illumio dashboard

To access the Illumio dashboard, do the following:

1. Log in to a ServiceNow instance.
2. To see the Illumio application, search “Illumio” in the search field in the upper-left corner.
3. From the navigation panel, select “Illumio” → “Dashboard”.

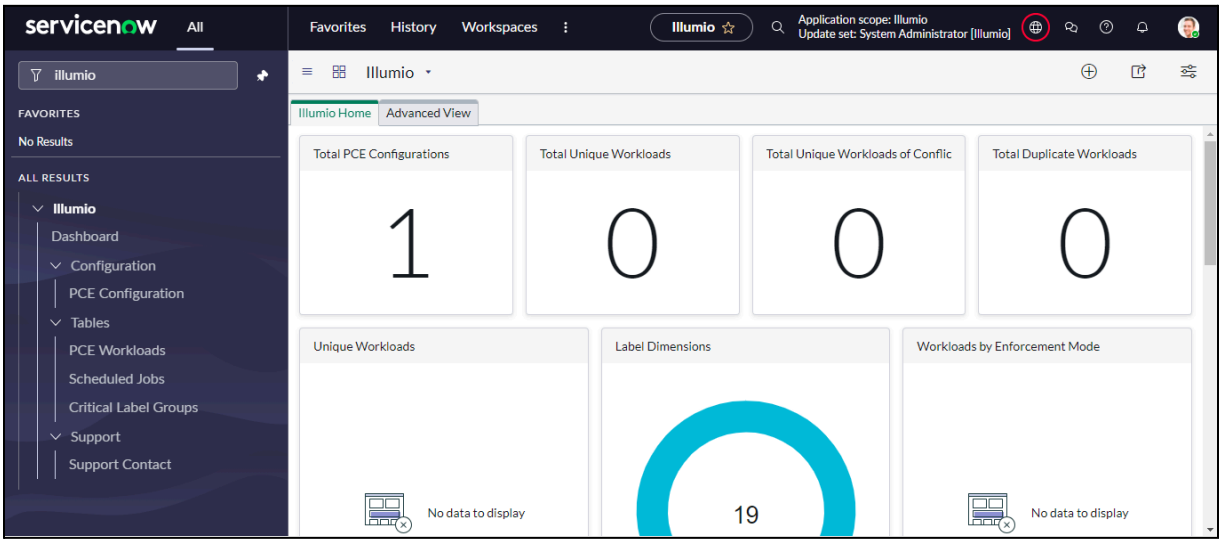


Figure 47. **Dashboard**

4.1.3 Dashboard home page

The Dashboard has 2 tabs named “Illumio Home” and “Advanced View”.

4.1.3.1 Illumio Home

When you open the Illumio dashboard, it shows up in the default admin view.

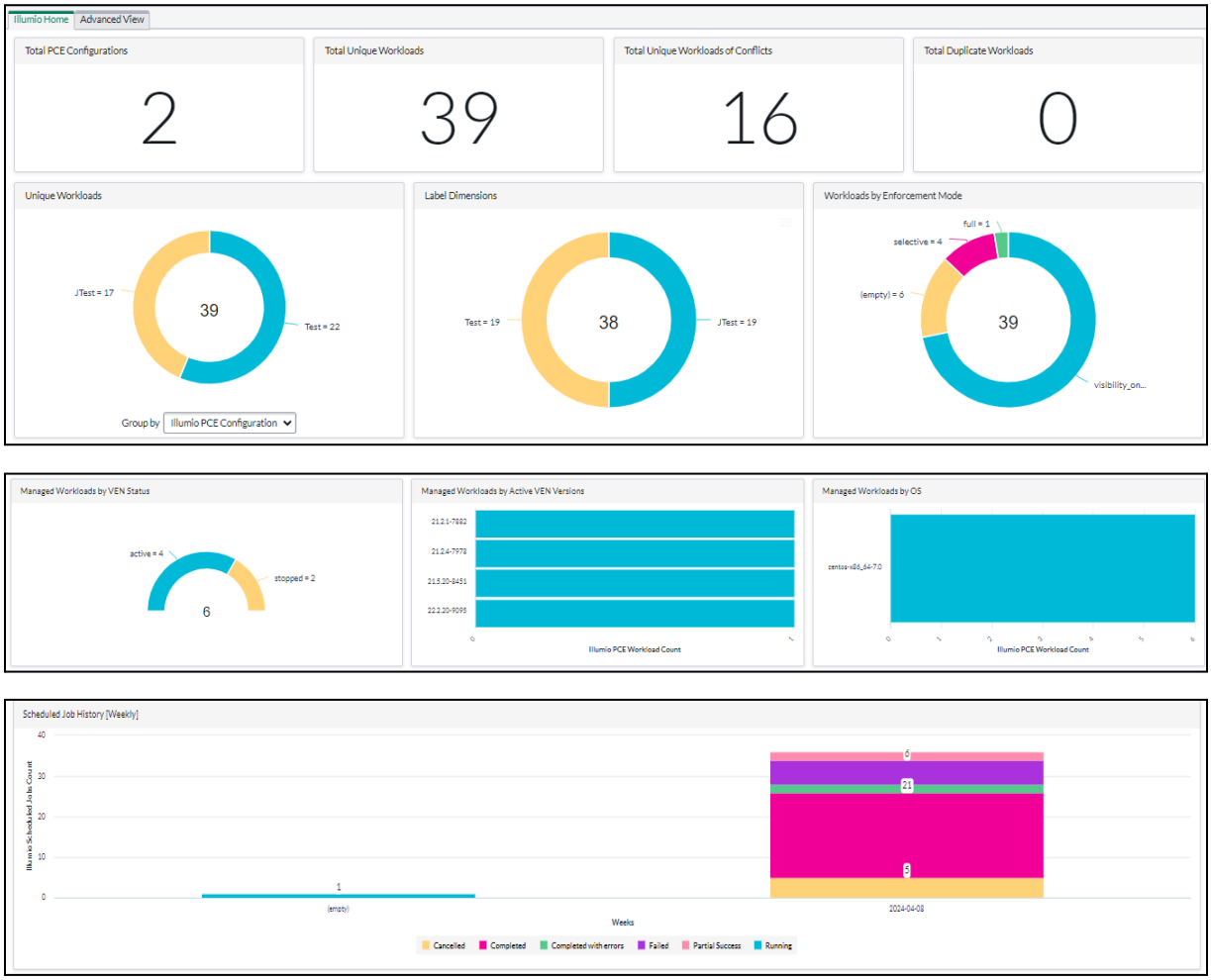


Figure 48. **Illumio dashboard (Illumio Home Tab)**

The Illumio dashboard opens with a set of reports. The dashboard reports in Illumio Home are:

1. Total PCE Configdurations: Number of PCE configurations on Illumio application.
2. Total Unique Workloads: Number of unique workloads on the PCE Workloads table.
3. Total Unique Workloads of conflicts: Number of unique workloads with conflicts (Label conflicts).
4. Total Duplicate workloads: Number of duplicate workloads on the PCE Workloads table.
5. Unique Workloads:
    a. Unique workloads by Illumio PCE configurations
    b. Unique workloads by Illumio Known to PCE
    c. Unique workloads by Illumio Duplicate
    d. Unique workloads by Illumio Conflicts

6. Label Dimensions: Number of Label dimensions per PCE configuration
7. Workloads By Enforcement Mode
8. Managed Workloads By VEN status
9. Managed Workloads by Active VEN Versions
10. Managed Workloads By OS
11. Scheduled Job History [Weekly]: Bar chart of scheduled job history configured weekly on job completion time, stacked by job status. Clicking on the data bar will redirect to thePie chart of selected job status grouped by job type.

4.1.3.2 Advanced View

Select Advanced view tab from dashboard to see Advanced View Tab

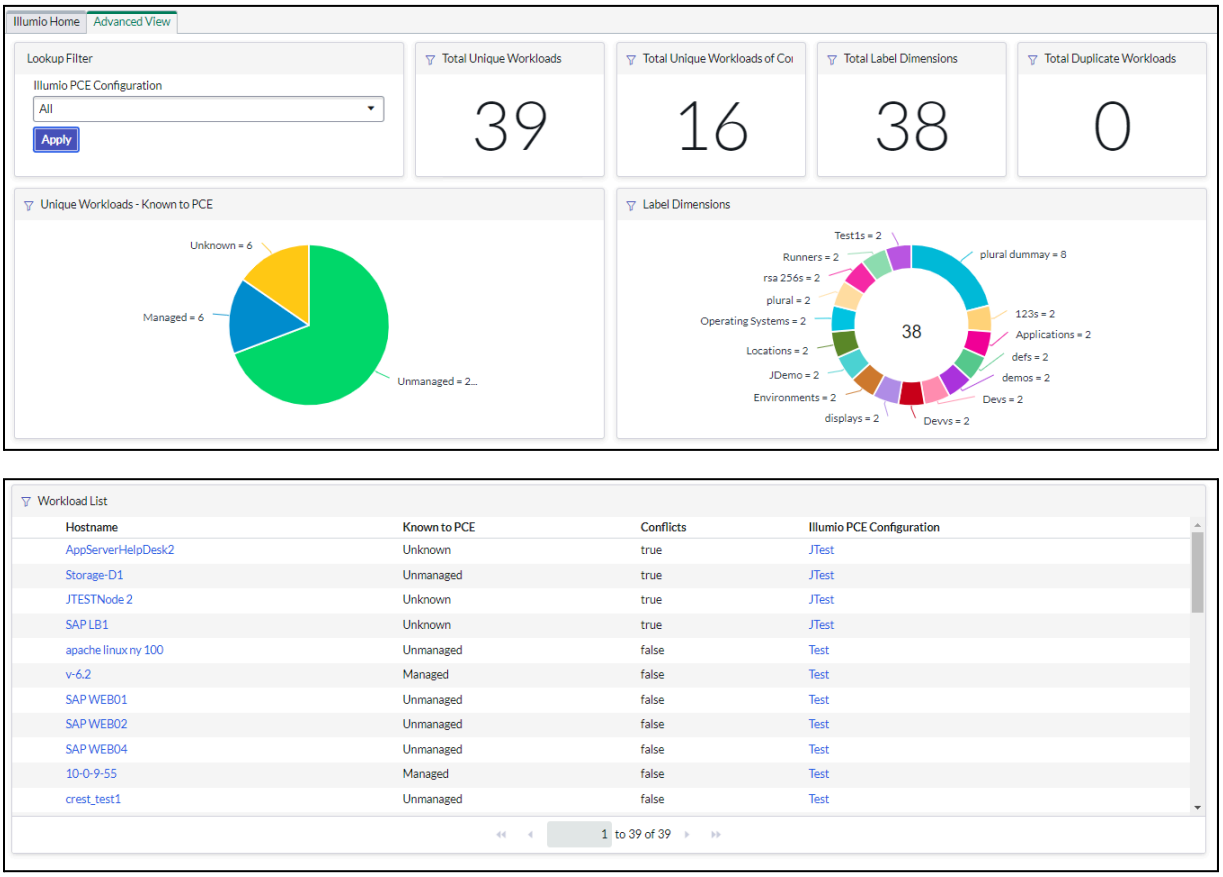


Figure 49. **Advance View tab of Dashboard**

The Advanced View opens with a set of reports The dashboard reports of Advanced View are as follows:

1. Lookup Filter: Filter to apply on all the reports in the Advanced View tab, based on selected PCE configuration, Default value for all PCE configurations.
2. Total Unique Workloads: Number of total unique workloads existing in all / selected PCE configuration.
3. Total Unique Workloads of Conflicts: Number of total unique conflicting workloads existing in all / selected PCE configuration
4. Total Label Dimensions: Number of total Label Dimensions existing in all / selected PCE

configuration
5. Total Duplicate Workloads: Number of total Duplicate Workloads existing in all / selected PCE configuration
6. Unique Workloads - Known to PCE: Pie chart of Total unique workloads grouped by Known to PCE value existing in all / selected PCE configuration
7. Label Dimensions: Donut chart of total Label Dimensions existing in all / selected PCE configuration
8. Workloads List: List view of Workloads existing in all / selected PCE configuration

4.1.4 Configuration

- PCE Configuration is a list of current configurations, with the following fields:
    - Name, such as Illumio PCE Configuration
    - PCE URL
    - Auto Sync to PCE, whether it is allowed or not (true or false)
    - MID Server, such as ip-10-1-1-10
    - Updated, a time stamp
- Illumio Label Dimensions is a list of label Dimensions, With the following fields:
    - Key
    - Label Type Initial
    - Display Name (singular)
    - Display name (plural)
    - Href
- Illumio Config Class Mapping is a list of Class Mapping, with the following fields:
    - Source Table
    - Condition for Deleting/Excluding workloads
    - Condition for creating Incidents
    - Illumio Class Field Mapping
        - Host Name
        - Ip Address
        - Label Dimensions
        - public Ip Address

4.1.5 Tables

- PCE Workloads is a list of current managed and unmanaged workloads, with the following fields:
    - Hostname, such as IP999999

- ServiceNow Record Identifiers, source of CMDB records (in related list)
- Known to PCE, which is defined as Unmanaged, Managed or Unknown
- Duplicate, true(Duplicate CMDB record based on hostname matching) or false
- Primary workload, which reflects the associated primary workload (If Duplicate is true) or empty
- Label Conflicts, true (with RAEL conflicts) or false
- Href
- PCE Public Ip Address
- Interfaces
- Incident
- Illumio PCE Workload Field Values
  - Created, a time stamp
  - Illumio Label Dimensions
  - CMDB Value
  - PCE Value

- Scheduled Jobs:
  - Job type, such as Data collection or Data sync
  - Current Operation, such as Completed discovery
  - Job Status, such as completed
  - Job Started, a time stamp
  - Job Completed, a time stamp
  - Logs
  - Incident
  - Illumio PCE Configuration

4.1.6 Support: Contact for Illumio

Website: https://www.illumio.com/support

E-mail: support@illumio.com

5 Workflow and User Action

This section describes different use cases of the Illumio integration with ServiceNow.

5.1 Illumio Discovery

The Illumio Discovery application pulls a PCE workload from a PCE instance and compares it to a ServiceNow CMDB table you select.

5.1.1 The required role

x_illu2_illumio.illumio_admin

5.1.2 Procedure

1. Log into a ServiceNow instance.
2. In the navigation menu, select **PCE Configuration**.
3. Click on the existing configurations or click **New** to create a new configuration (refer to the section for creating a new configuration: Configure Illumio PCE).

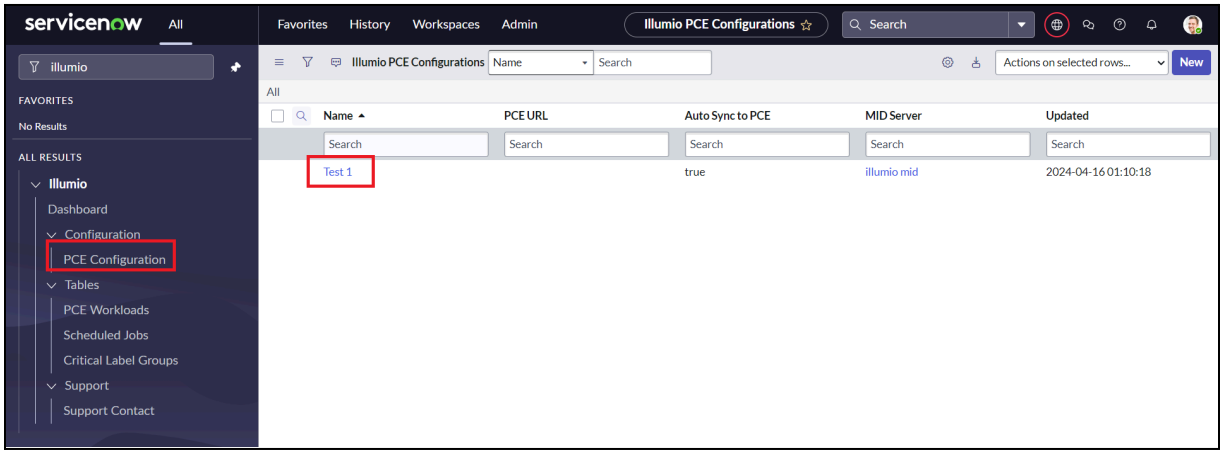


Figure 50. **Illumio configuration record to run discovery**

4. Click **Illumio Data Collection** to start Illumio Discovery.

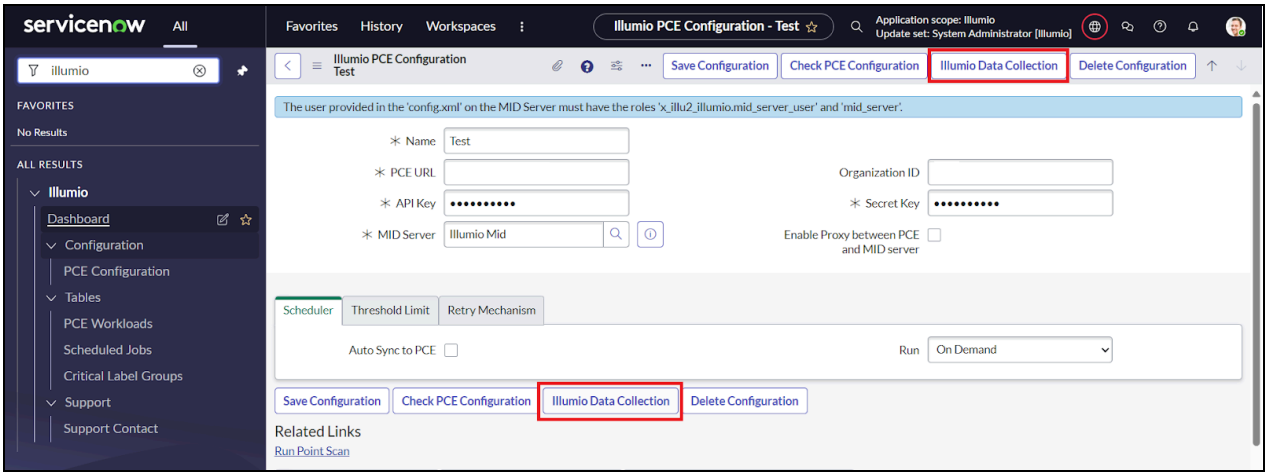


Figure 51. **Form view of the Illumio configuration record**

5. Schedule discovery by filling in the required data in the Scheduler tab.

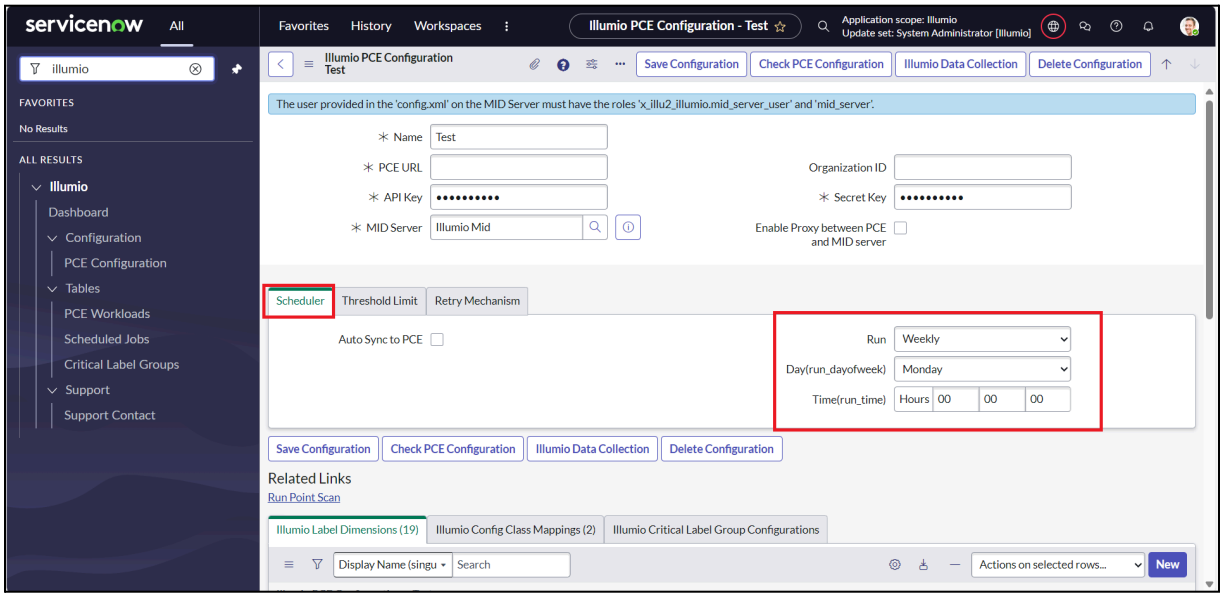


Figure 52. **The "Scheduler" tab for PCE configuration**

6. Select **Scheduled Jobs** to check the discovery status.

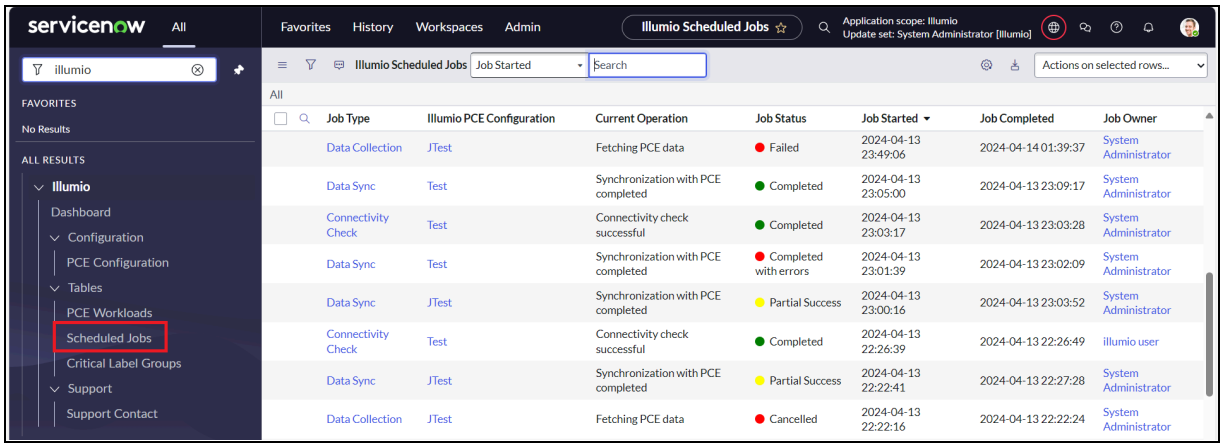


Figure 53. **List view of the Scheduled Jobs**

7. Check the logs to monitor the status of discovery.

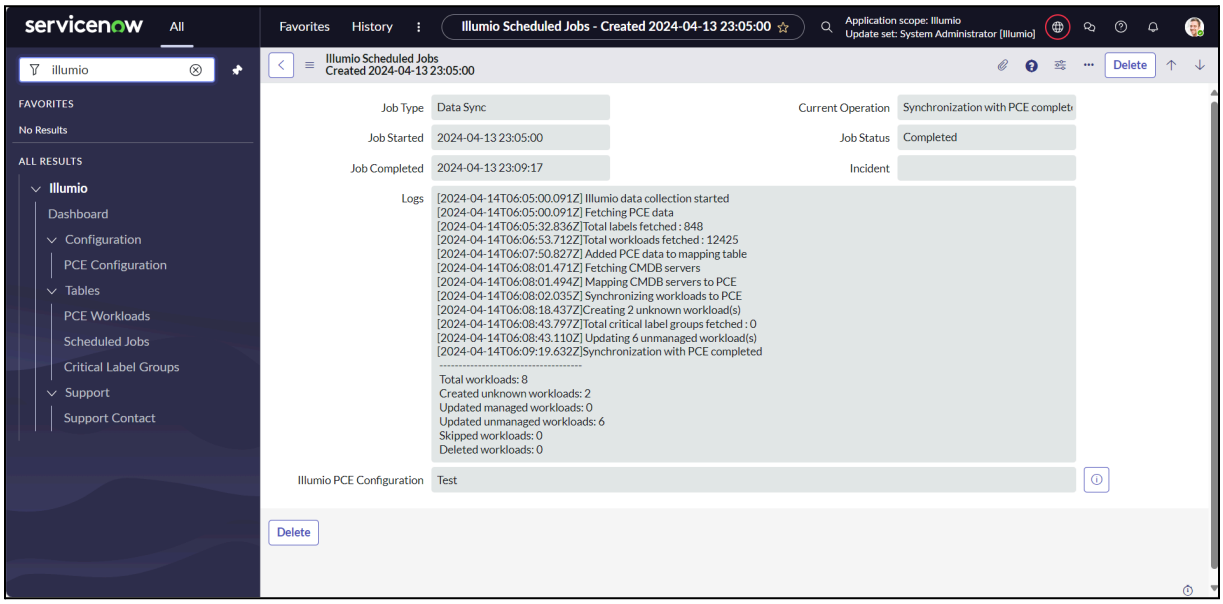


Figure 54. **Form view of the Scheduled Jobs**

8. Once the discovery is completed, verify the workloads in the Illumio PCE Workloads table.

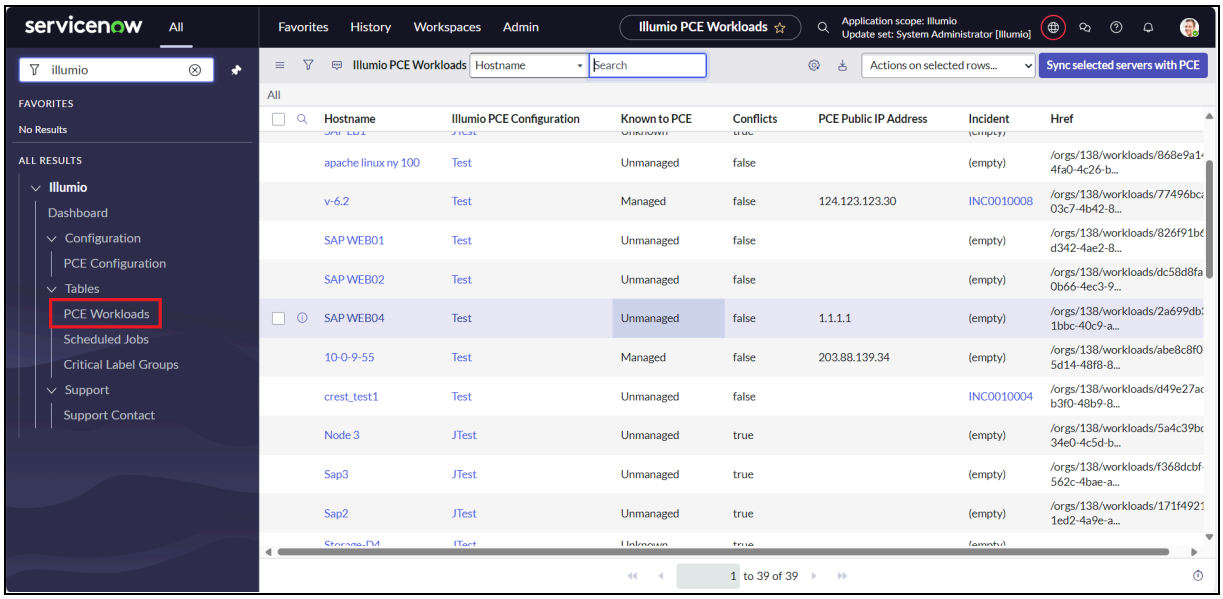


Figure 55. **Illumio PCE Workload table with the populated data**

5.2 Sync to PCE

5.2.1 The required role

x_illu2_illumio.illumio_admin or

x_illu2_illumio.illumio_user

5.2.2 Procedure

1. Log in to a ServiceNow instance.
2. Sync to PCE in one of these three ways:
   - Configure Auto “Sync to PCE”
   - UI action from the workload’s Form view
   - UI action from the PCE workload table list view

5.2.2.1 Configure Auto “Sync to PCE”

1. In the navigation menu select **PCE Configuration**

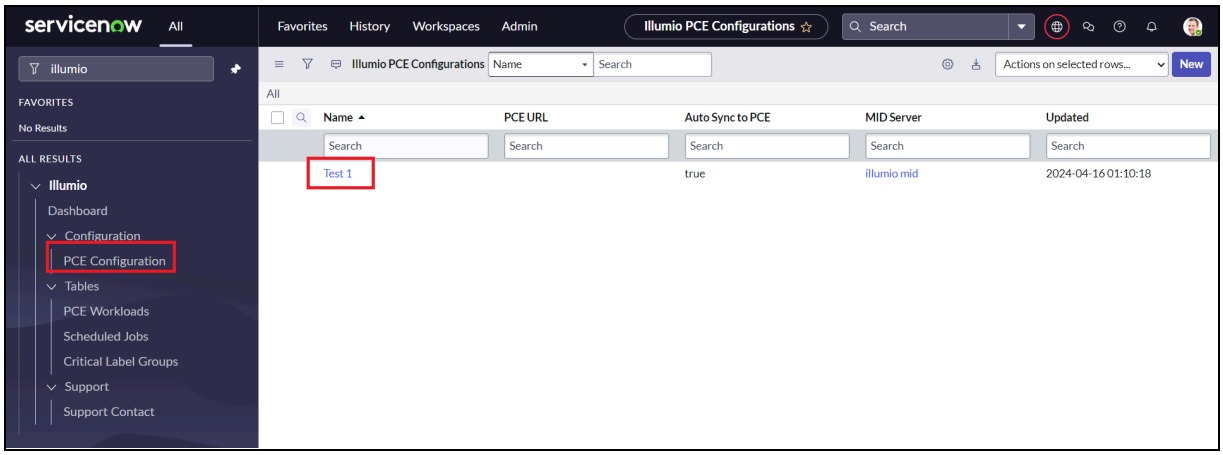


Figure 56. **Illumio configuration record list view**

2. Select the “Auto Sync to PCE” checkbox.

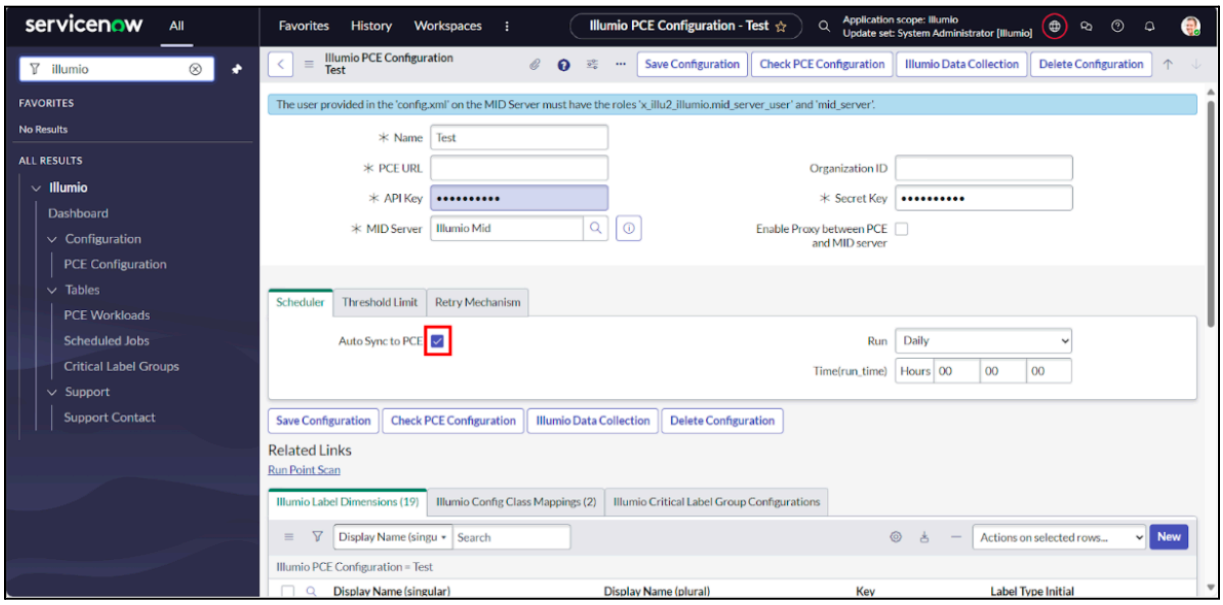


Figure 57. **“Scheduler” tab of PCE Configuration**

This configuration syncs all the non-duplicate known, Managed and Unmanaged workloads and creates Unknown workloads in PCE automatically.

3. The Job Type of the discovery process is changed to “Data Collection” → “Data Sync” after the auto-sync process starts. Check the logs to get statistics of the sync process.

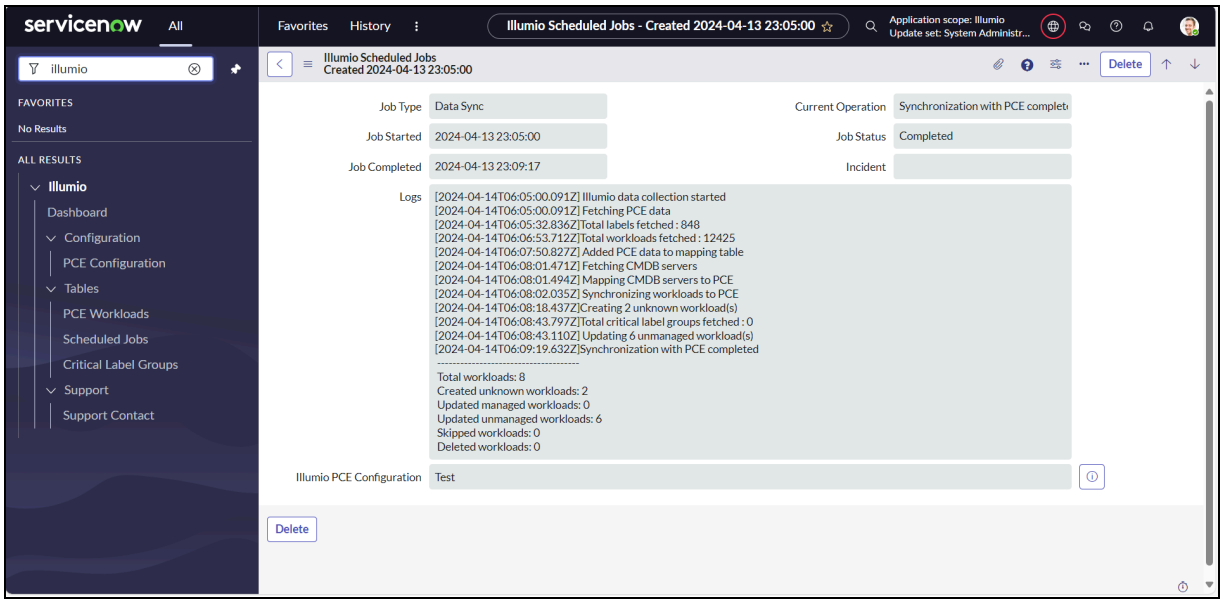


Figure 58. **Schedule job form view for job type Data Sync**

5.2.2.2 UI action from the workload's Form view (Update workload on PCE)

1. Select the Illumio PCE Workloads table.
2. Click on any managed/unmanaged workload that has a flag in the Label Conflicts column as "true". (Note: Only non-duplicate workloads can be synced to PCE)

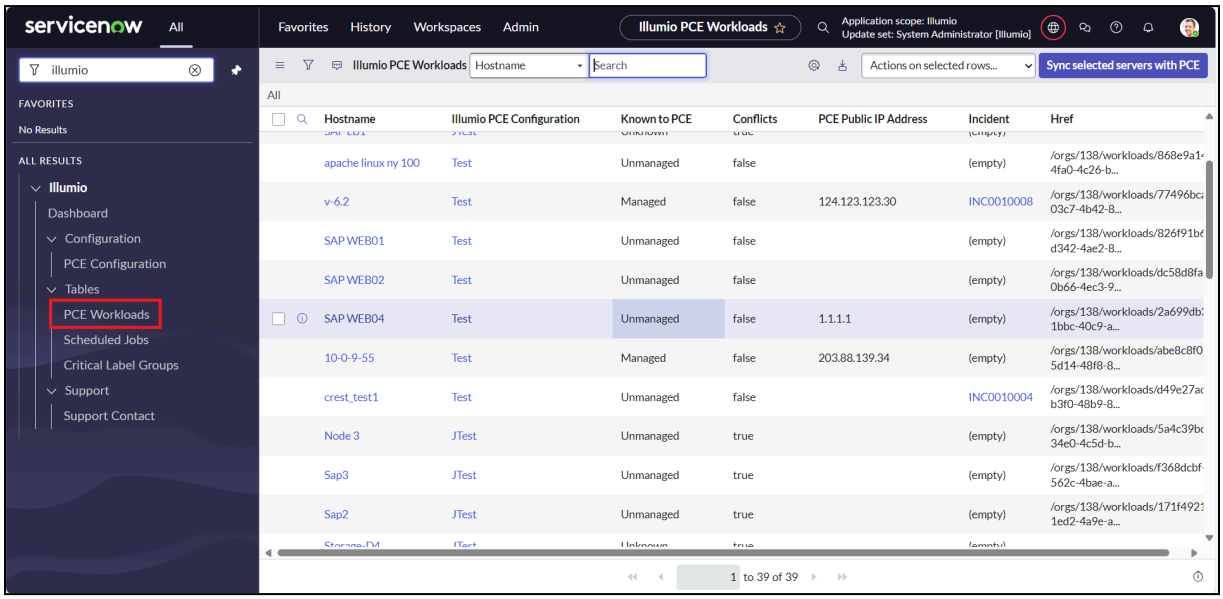


Figure 59. **PCE workload table with populated data**

3. Click **Sync Server to PCE** to update the label information of this particular workload.

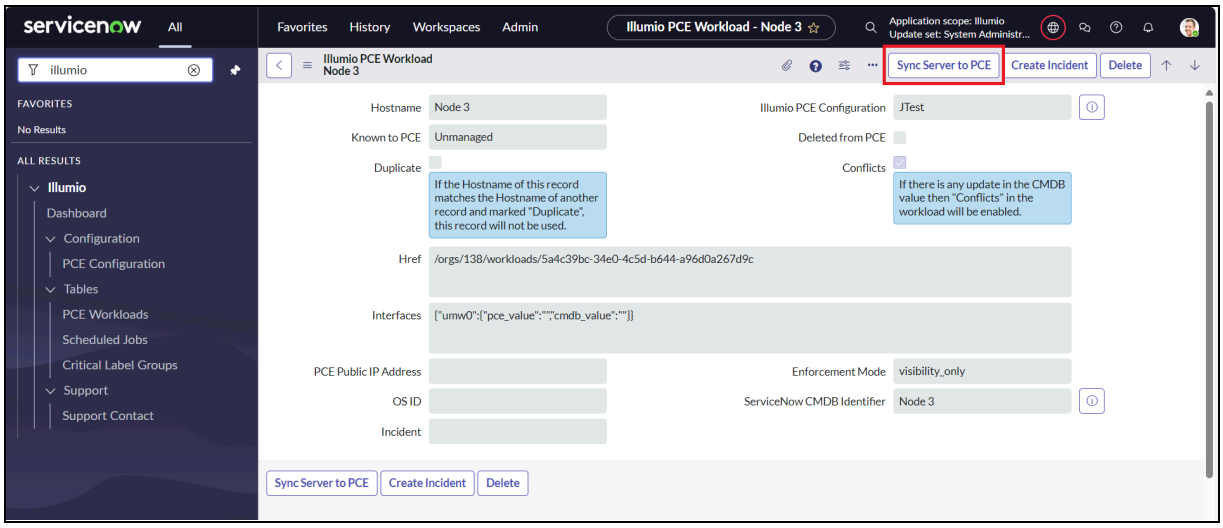


Figure 60. **Form view of the managed/unmanaged workload record**

5.2.2.3 UI action from the workload's Form view (Create workload on PCE)

1. Select the Illumio PCE Workloads table.
2. Click on any unknown workload. (Note: Only non-duplicate workloads can be synced to PCE)

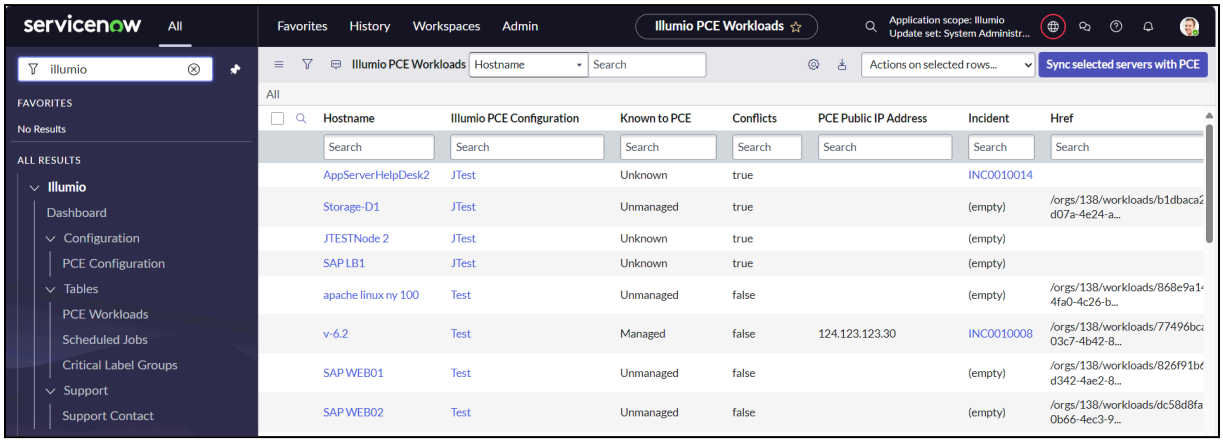


Figure 61. **PCE workload table with populated data**

3. Click **Sync to PCE** to create the particular workload as an unmanaged workload on PCE with the given label information.

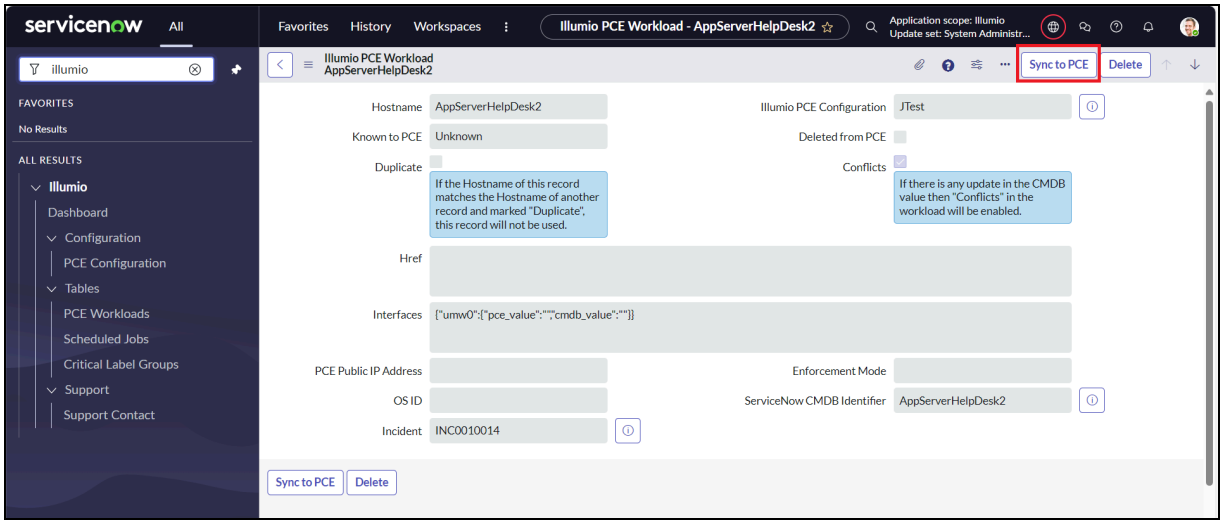


Figure 62. **Form view of the unknown workload record**

5.2.2.4 UI action from the PCE workload table list view

1. Select the Illumio PCE Workloads table.
2. Select a workload from the list view and click **Sync selected servers with PCE** to update all the selected workload labels/IPs on the PCE. (Note: Only non-duplicate workloads can be synced to PCE)
3. In case of unmanaged workload, we can append up to 32 IP addresses in PCE IP addresses. The same IP address which is present in the PCE IP address list will be ignored. PCE public IP address will always be replaced with CMDB IP address if it has value.

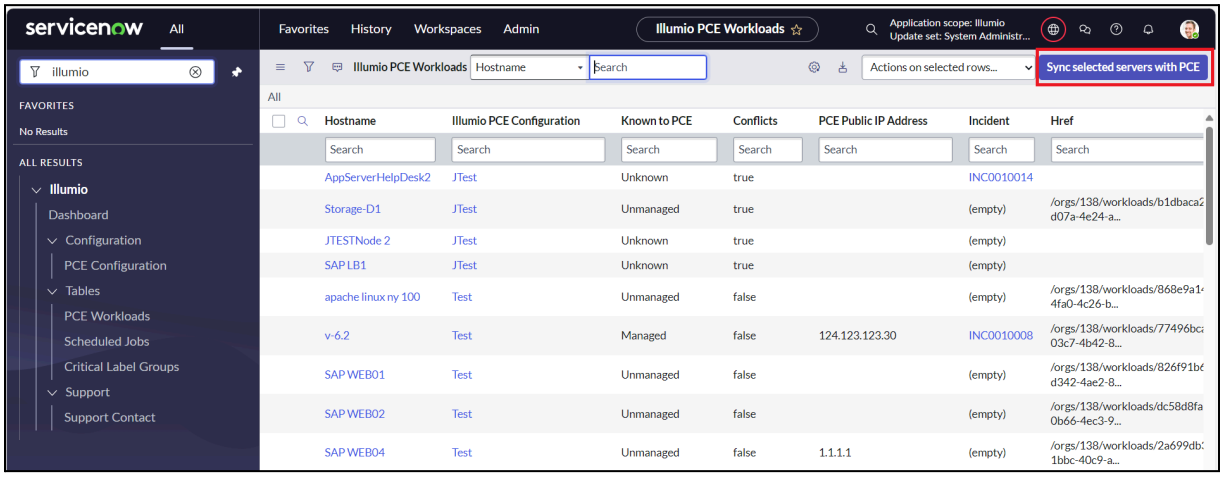


Figure 63. **Manual Sync multiple records**

5.3 Sync IP addresses for workloads

1. We can sync up to 32 CMDB IP addresses to PCE IP addresses using **Auto Sync**, **Sync To PCE,** and **Sync Selected Server to PCE** functionality.

2. We can view CMDB IP addresses and PCE IP addresses in the workload as follows.

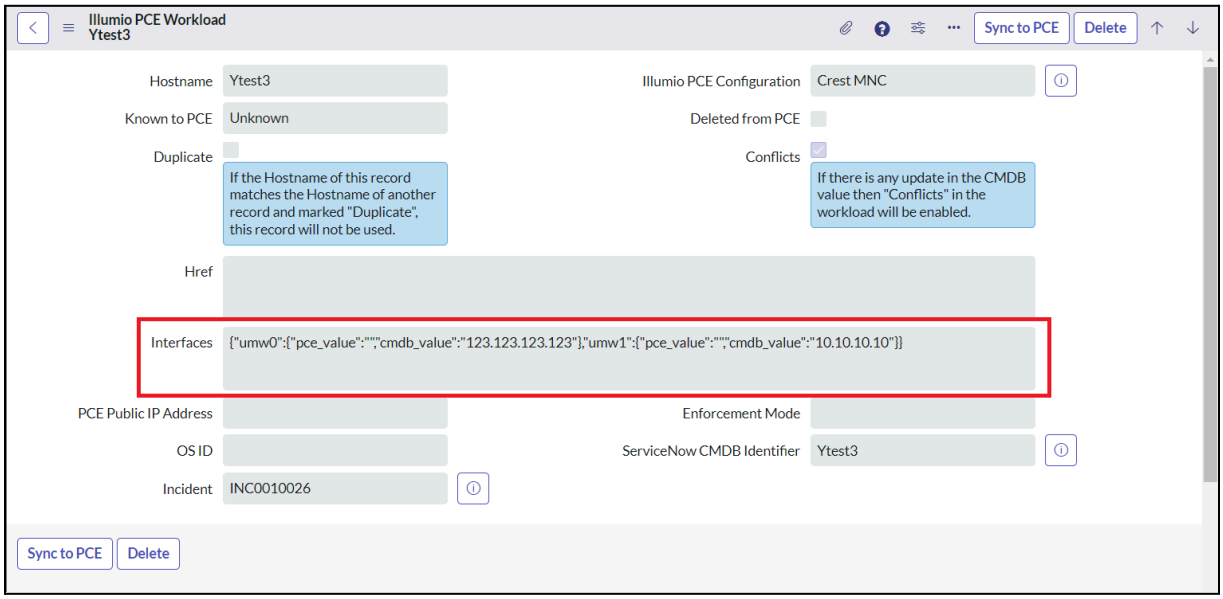


Figure 64. **CMDB and PCE IP address listing**

3. In case of an **Unmanaged workload**, we can append up to 32 CMDB IP addresses into PCE IP addresses. The CMDB IP addresses which are already present in the PCE will be ignored.

5.4 Check PCE Configuration

1. To check end-to-end connectivity between ServiceNow, **MID server,** and **PCE**, click on **Check PCE Configuration** in PCE configuration.

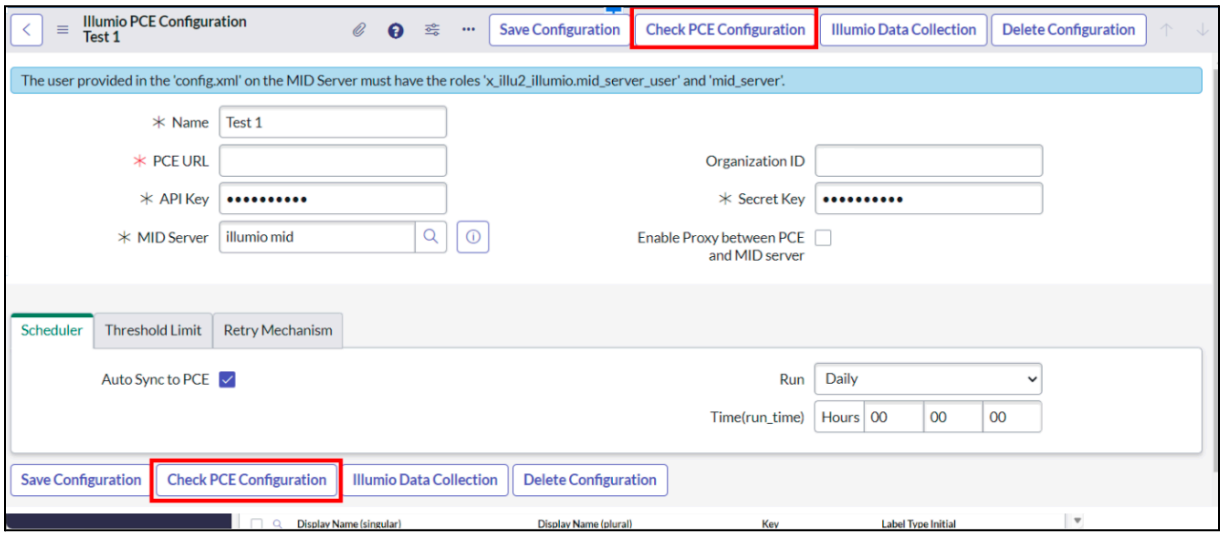


Figure 65. **Check PCE configuration**

2. The status of the connectivity can be seen in the Schedule jobs.

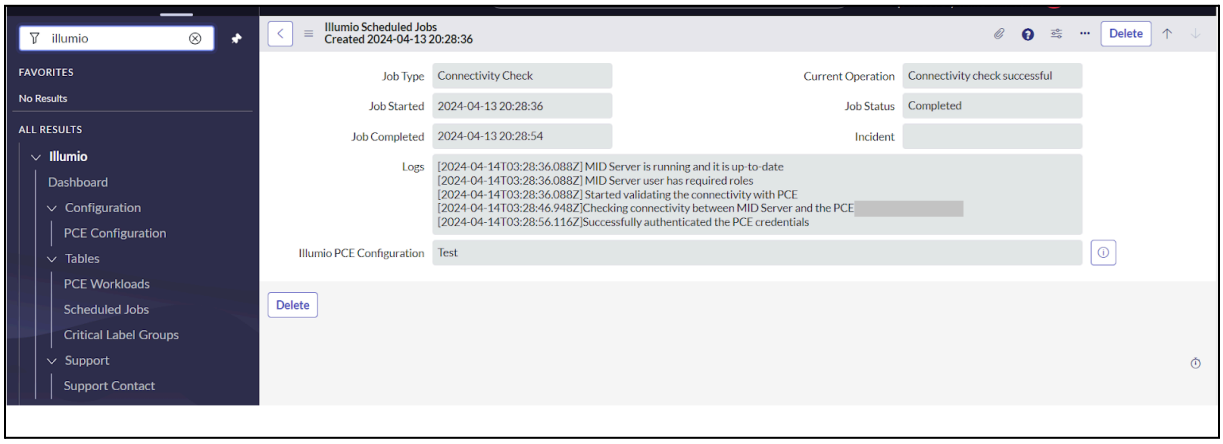


Figure 66. **Check PCE Configuration status**

5.5 Configure sort order for duplicate workloads (with the same hostname)

1. In Illumio PCE field mapping, the **User Configurable Sort Order** checkbox is available for sorting workloads.
2. To enable sorting select the **User Configurable Sort Order** checkbox.
3. Select **Ascending** or **Descending** to sort the selected column in ascending and descending order respectively.
4. Select the field name in **Order by Column Name** to sort workloads according to this field.

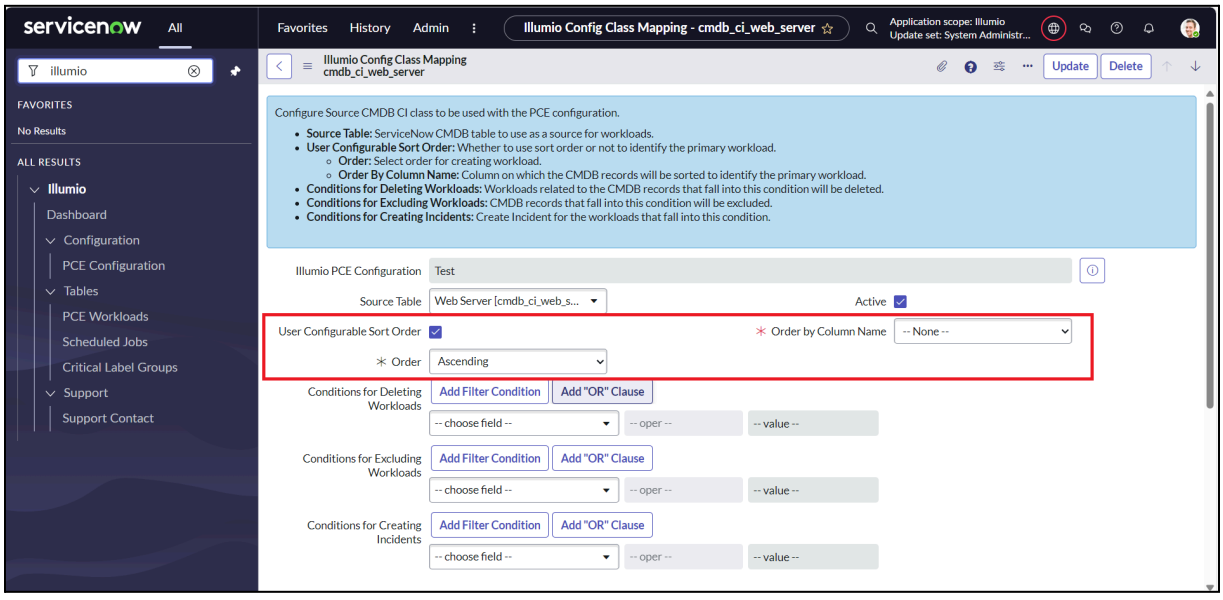


Figure 67. **Sorting workload**

5.6 Dot walking for easier field mapping

1. While mapping fields in Configuration, we can also get fields of the reference table to easily

map fields of reference tables.

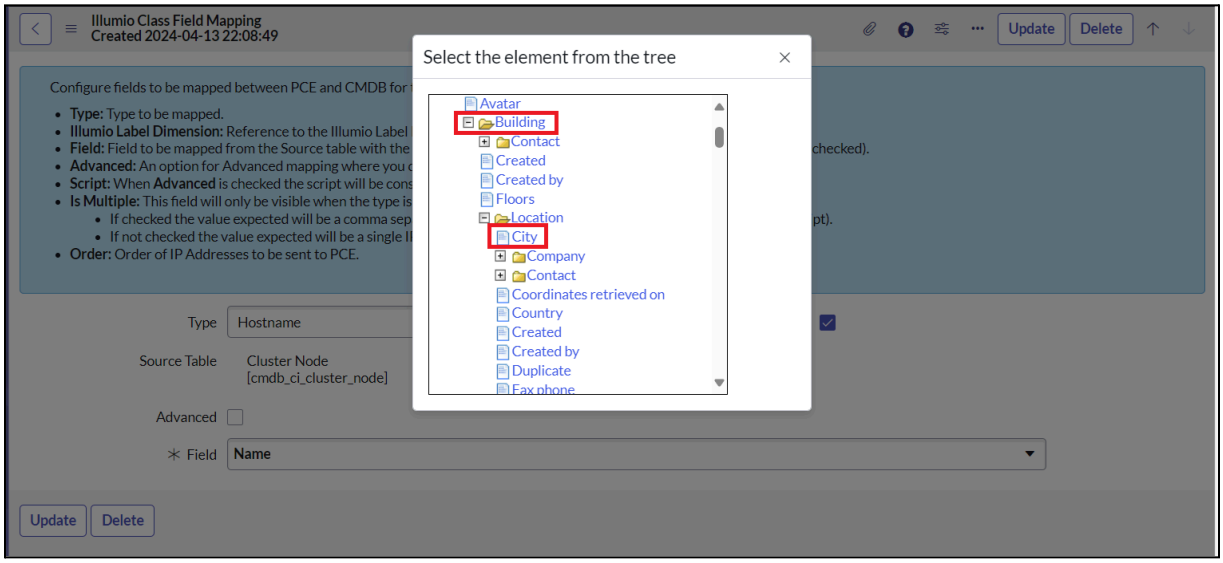


Figure 68.**Dot walking for field selection in Class field mapping**

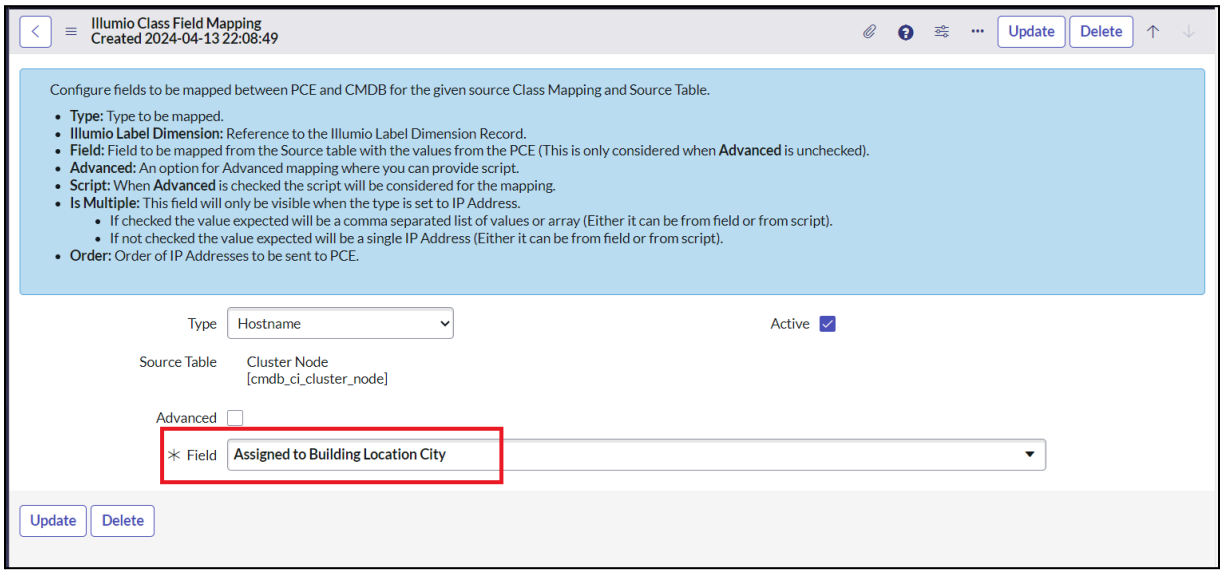


Figure 69. **Selection of other table field in mapping**

5.7 Add proxy between ServiceNow ⇔ MID server and MID server ⇔ PCE

1. In the Configuration, select the checkbox named **Enable proxy between MID server and PCE** to enable proxy for connection between ServiceNow and MID server / MID server and PCE.
2. Proxy server information should be stored in the MID server config file.

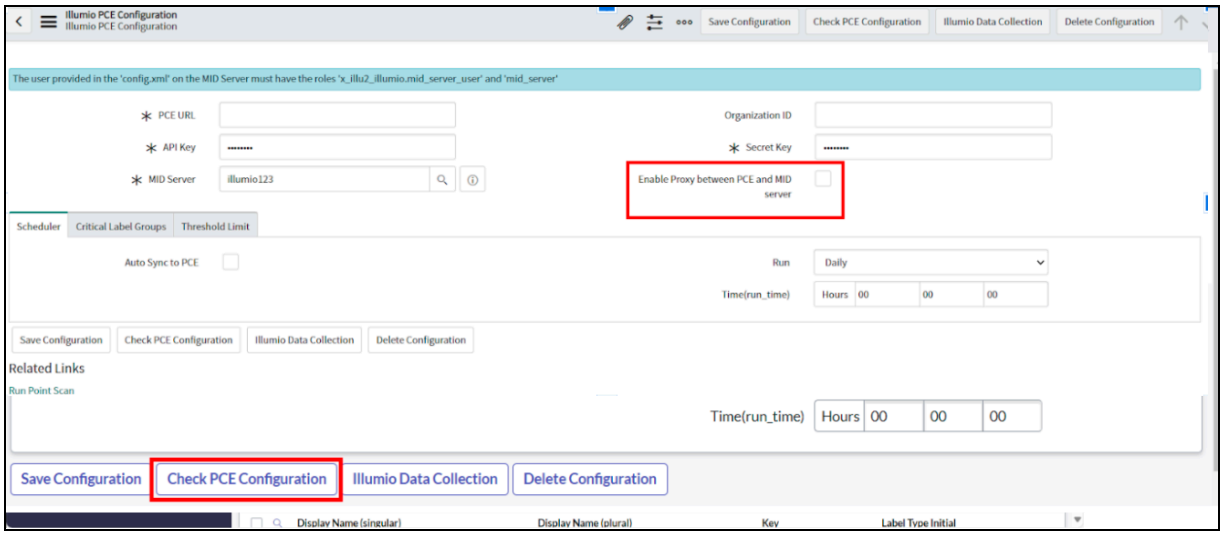


Figure 70. **Enable proxy server**

5.8 Delete unmanaged workload:

1. In the Configuration field mapping, set conditions for workloads that we want to delete.

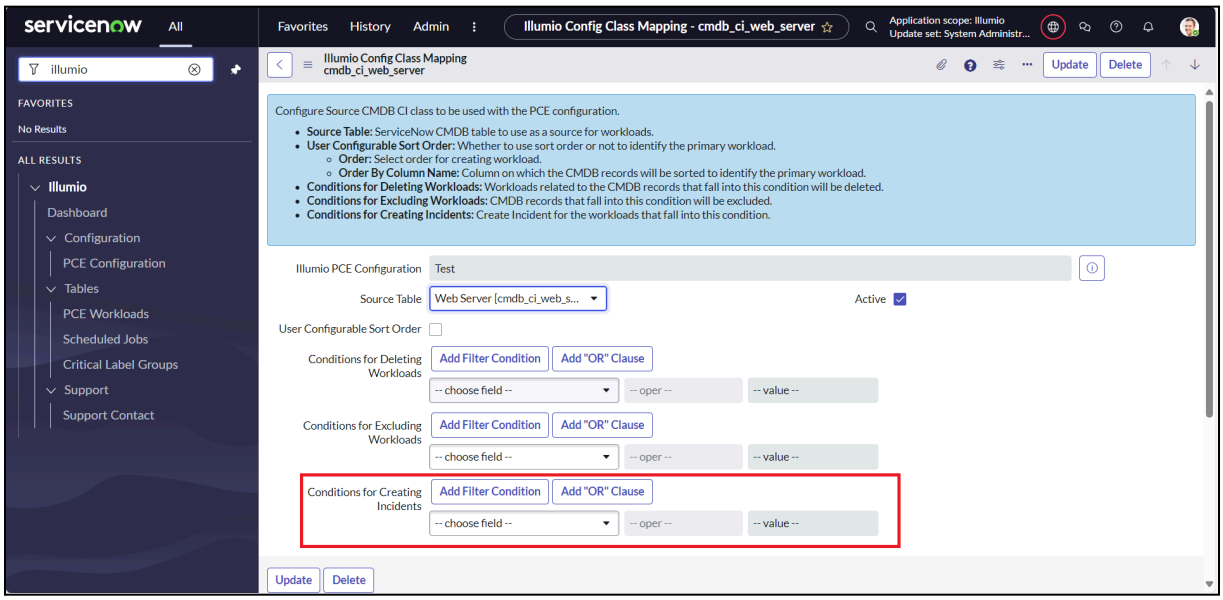


Figure 71.**Enable condition for deletion**

2. In the Configuration, under the **Threshold** tab we can set the limit of workload deletion by selecting the checkbox named **Enable limit on workload deletion** and provide the limit value.(limit value should be in integer or percentage).

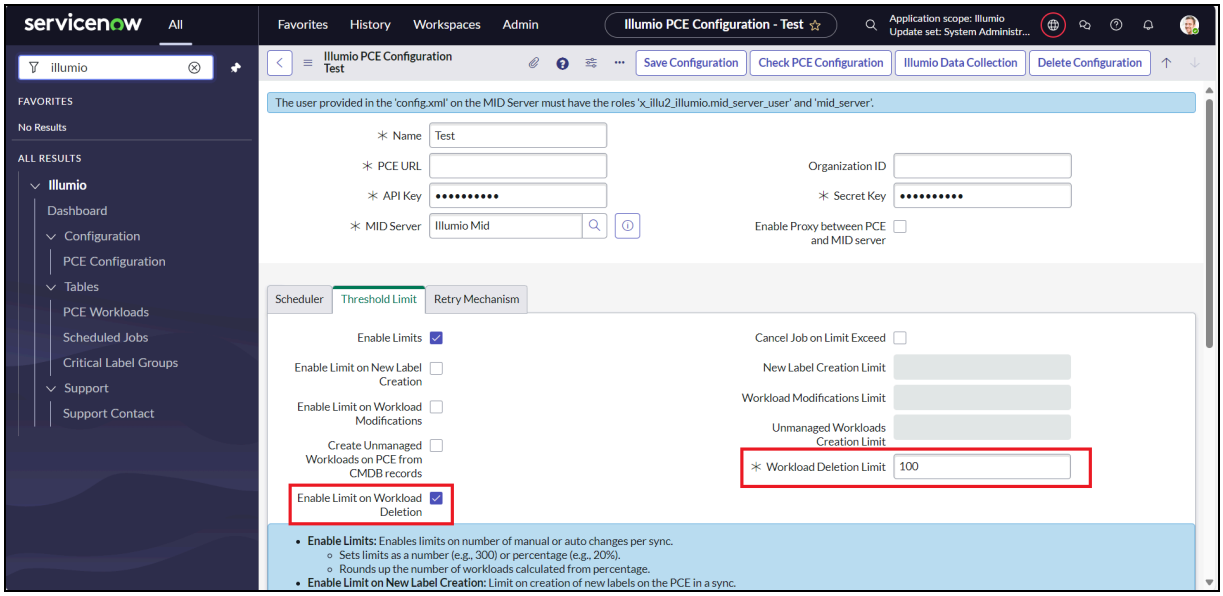


Figure 72. **Limit of record deletion**

3. In the auto-sync process, workloads that match the condition for deletion will be marked as **Retired** workloads, and those workloads will be deleted.
4. If the **Enable limit on workload deletion** limit exceeds, then the sync process will be stopped.

5.9 Create Incident

There are three ways to create incident

The required role

x_illu2_illumio.illumio_admin ,x_illu2_illumio.illumio_user and

itil

a. Manual Incident Creation for workload:

Procedure:

An incident can be created manually for a workload using UI Action named “**Create Incident**” in workload form.

1. Log in to a ServiceNow instance.
2. To see the Illumio application, search “Illumio” in the search field in the upper-left corner.
3. From the navigation panel, select “Illumio” → “PCE Workloads”.
4. Table named “Illumio PCE Workloads” will be opened.
5. Open a Workload.

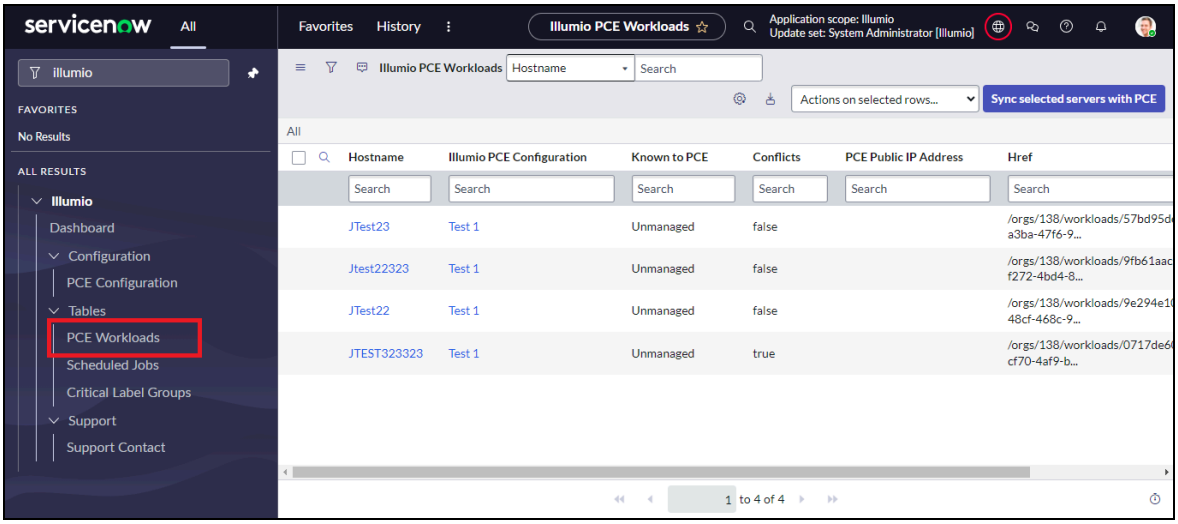


Figure 73. **PCE Workloads List View**

Form view of workload will be opened, an incident can be created of workload if it doesn't have any existing incident.

Note: workload without incident will have empty incident field and UI action of Create Incident will be visible

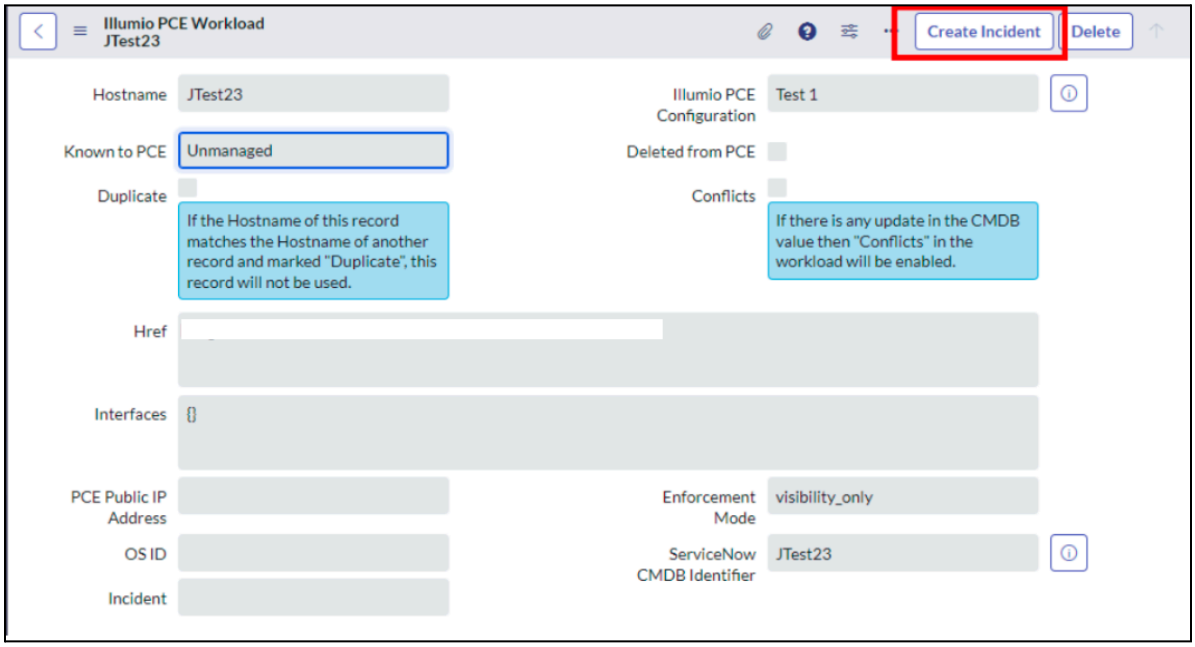


Figure 74. **Form view of PCE Workload Record**

6. Click on “Create Incident”, a new incident will be created and its reference number will be populated on the Incident field.

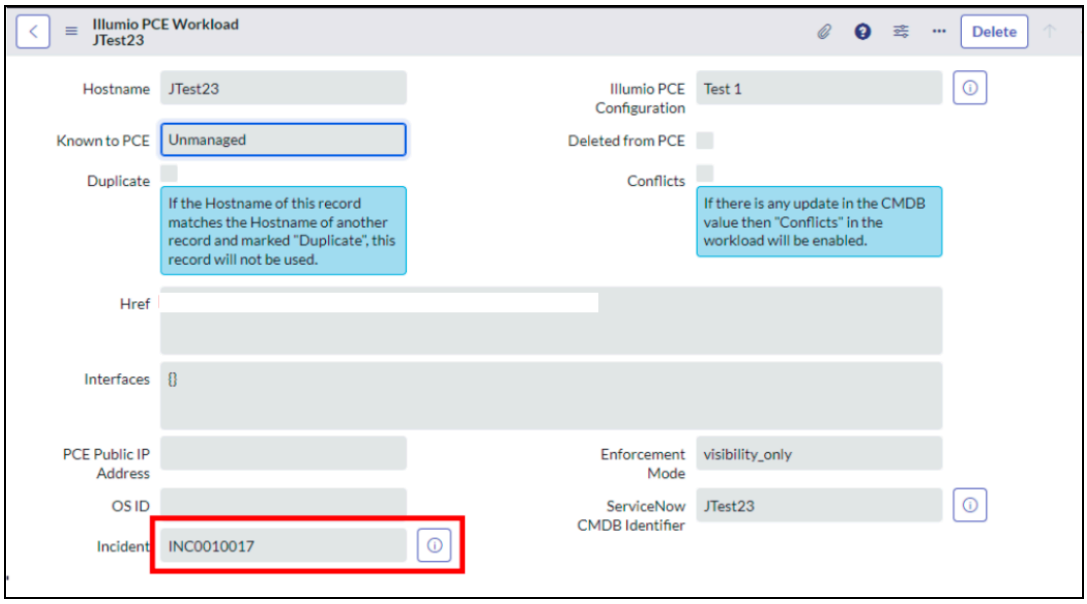


Figure 75. **PCE Workload form**

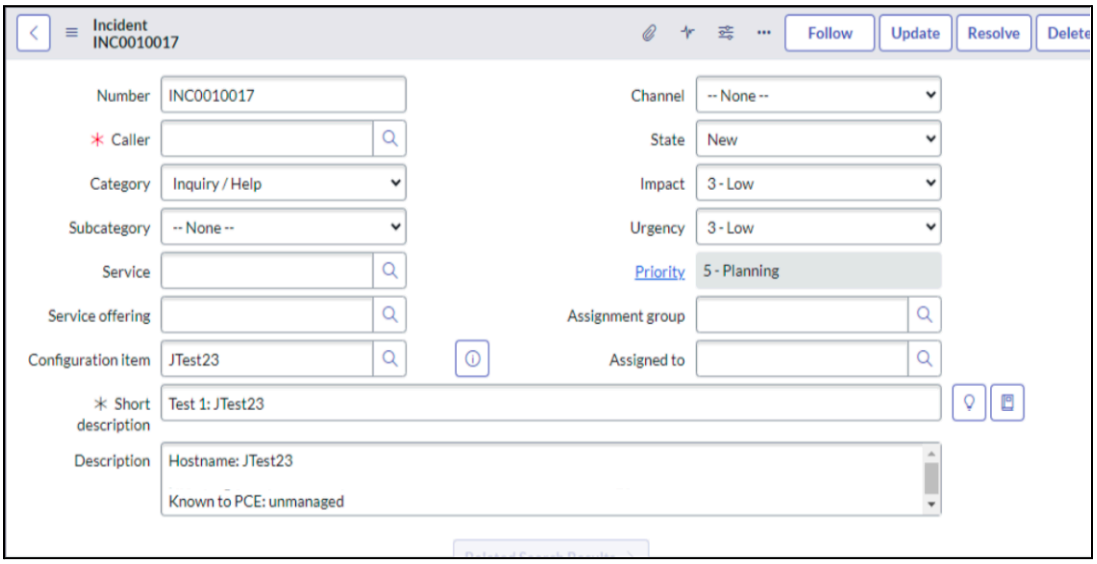


Figure76. **Incident form view**

b. Auto Incident Creation for workload:

Procedure:

Incident can be created automatically based on condition of Config Class Mapping form

1. Log in to a ServiceNow instance.
2. To see the Illumio application, search “Illumio” in the search field in the upper-left corner.
3. From the navigation panel, select “Illumio” → “PCE Configuration”.
4. Open any existing PCE Configuration and navigate to any existing Illumio Config Class.

Mapping record from Illumio Config Class Mapping related list.

5. Configure the Condition on Source table on Conditions for Creating Incidents field and save the Config Class Mapping.

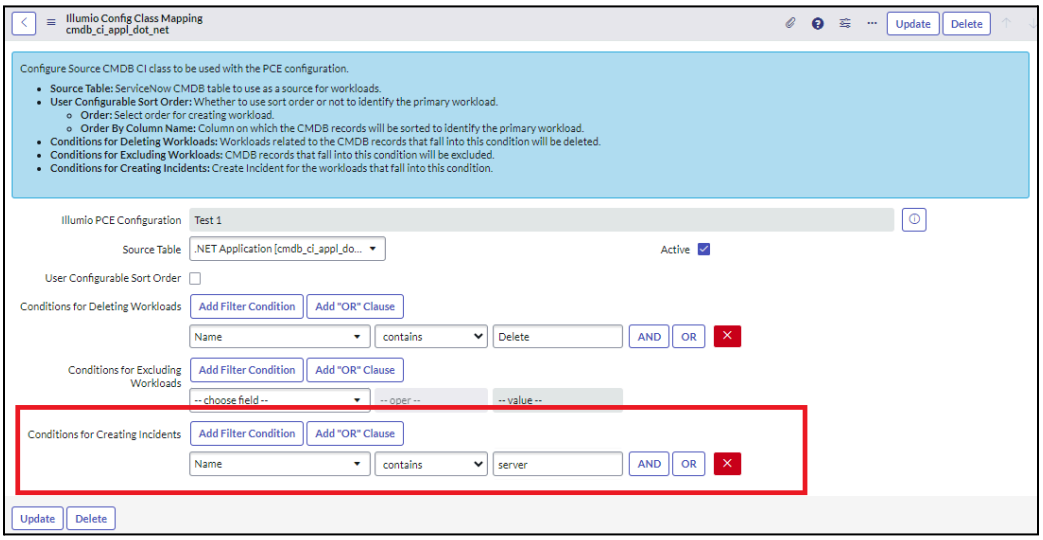


Figure 77. **Illumio Config Class Mapping form**

6. Perform the Data Collection by clicking on Data Collection UI action on PCE Configuration.
7. As a result, Incidents will be created for the Workloads containing “server” in its name.

c. Auto Incident Creation for Scheduled Job Table:

Procedure:

1. For creating Incident for Scheduled Job, Users have to Update System property.
2. Login to ServiceNow Portal and type “**sys_properties.list**” press enter., a table named “System Properties” will be opened.

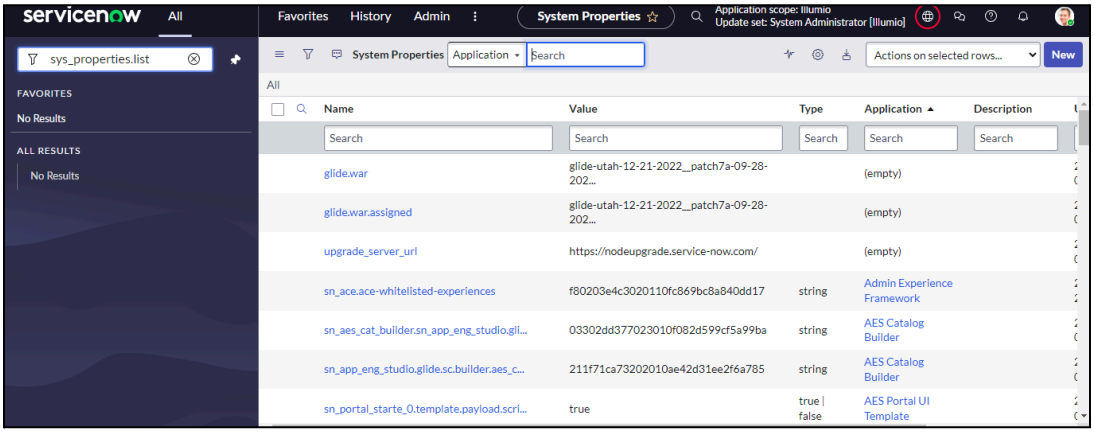


Figure 78. **System Properties list view**

3. Search property named: **“x_illu2_illumio.incident_creation_for_scheduled_job”** and

open it.

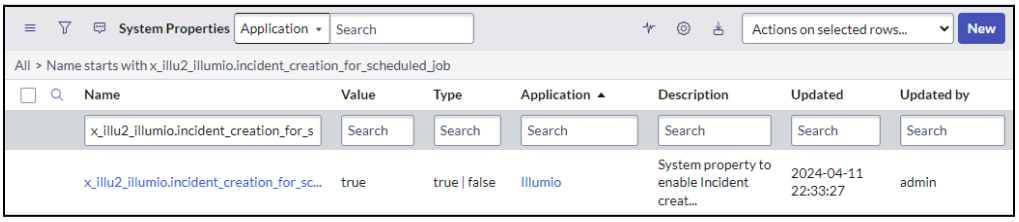


Figure 79. **Search result in System properties**

4. The view of "x_illu2_illumio.incident_creation_for_scheduled_job" will be opened.

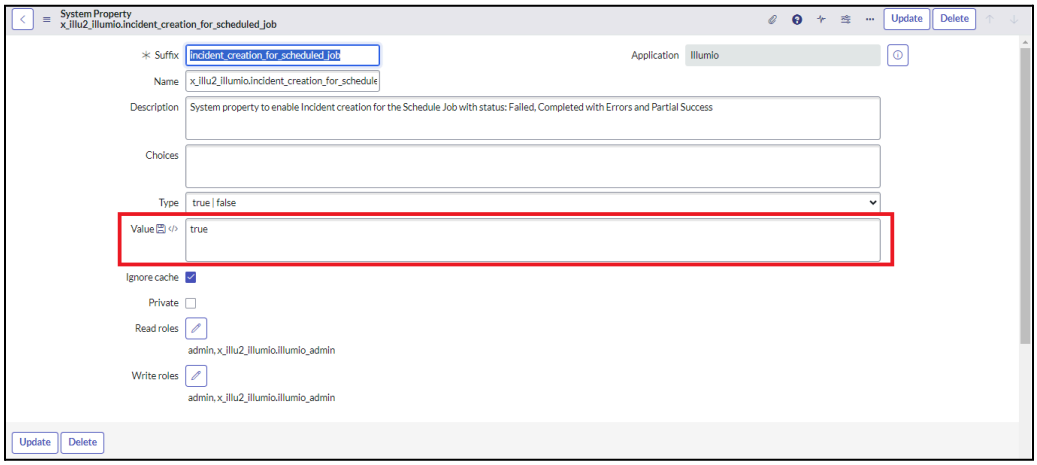


Figure 80. **Form view of System Property**

5. To activate / deactivate Incident creation for Scheduled Job, set the Value field as true and false respectively
6. Incidents for Scheduled Jobs will be created only for the job status: **Failed**, **Partial Success** and **Completed With Errors.**
7. A reference of the incident will be automatically populated in the form view of a particular Scheduled Job.

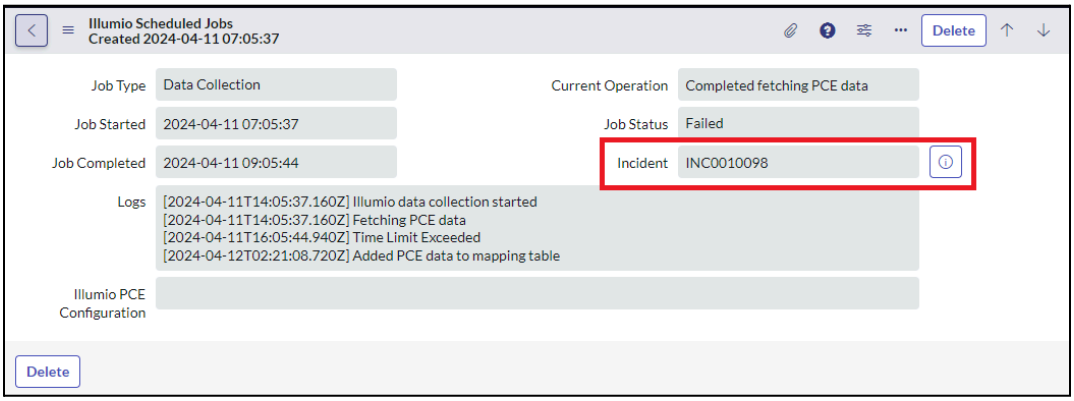


Figure 81**. Incident Form for Scheduled Job**

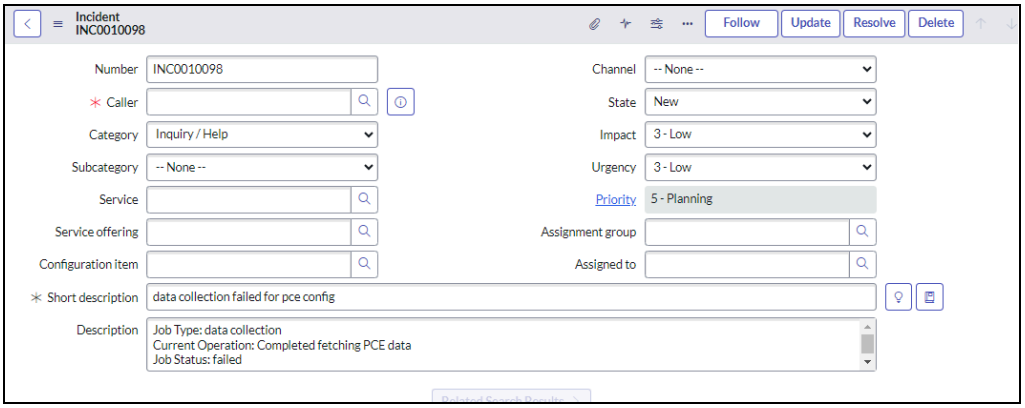


Figure 82. **Incident Form for Scheduled Job**

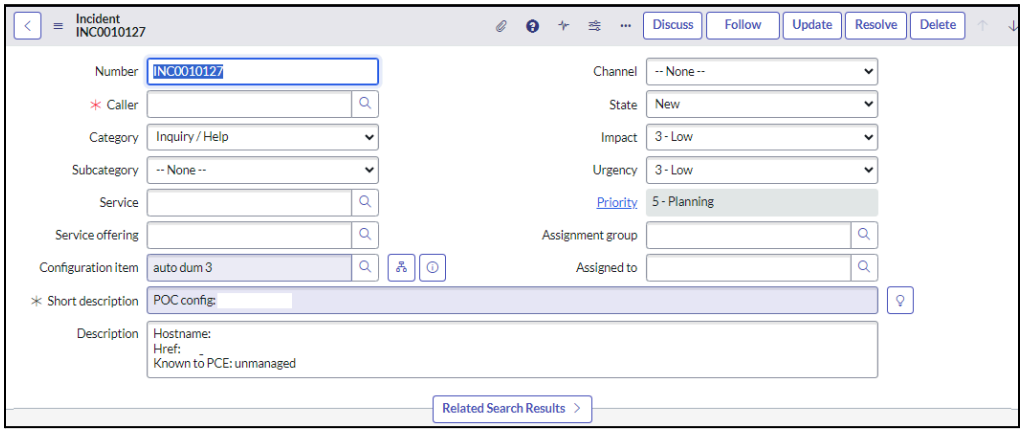


Figure 83**. Incident Form for Workloads**

5.10 Modularization and ServiceNow Spoke

Using ServiceNow Spoke actions, users can receive a response from a different API call from ServiceNow to PCE.

The required role

These two users are permitted to work with the ServiceNow Spoke.

x_illu2_illumio.illumio_admin ,x_illu2_illumio.illumio_user and

flow_operator

Procedure

1. Log into a ServiceNow instance.
2. To see the Flow Designer, search “Flow Designer” in the search field in the upper-left corner.
3. Go to the “Actions” tab and search the action Name that you want to perform.

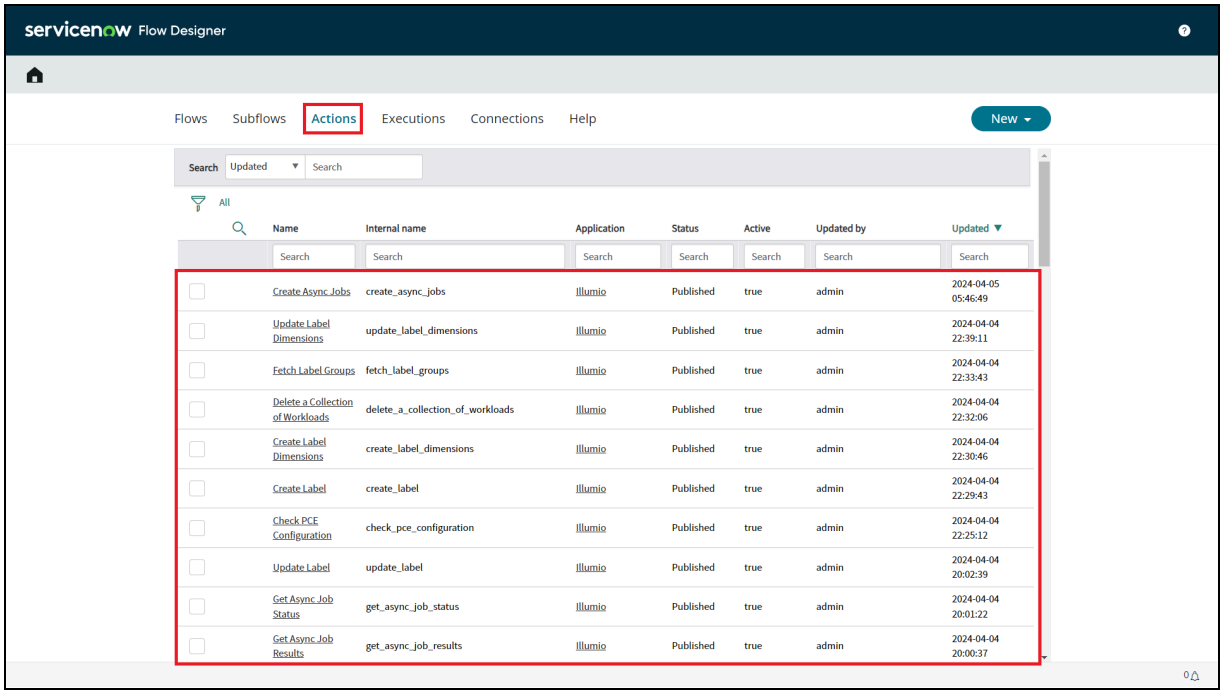


Figure 84. **Flow Action list view**

4. Click on the **Test** button to perform action.

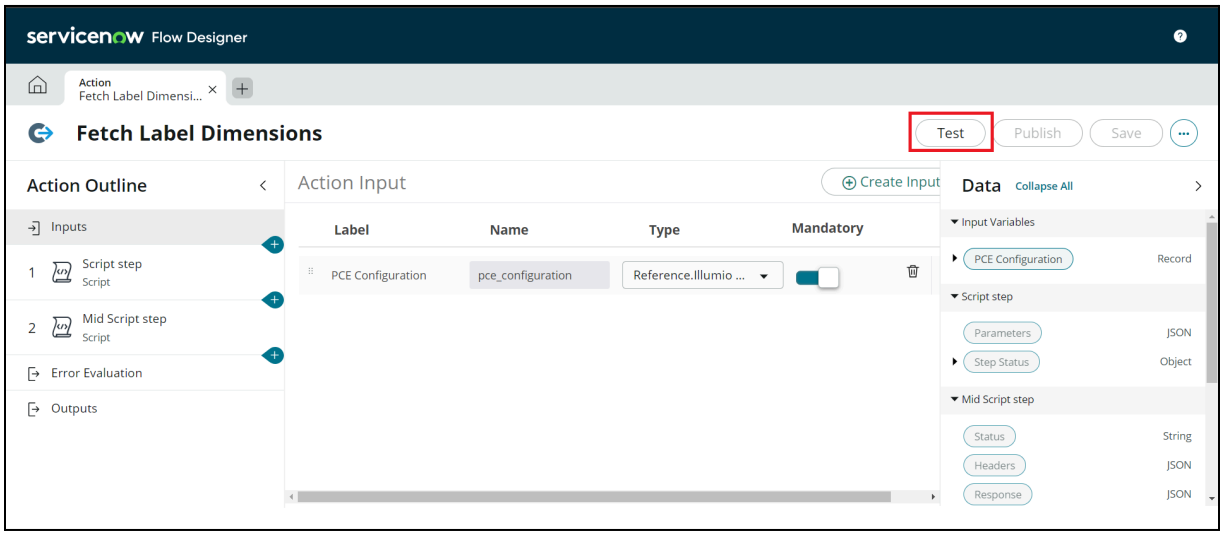


Figure 85. **Fetch Label Dimension Action**

5. Provide the required parameters for each action as mentioned below in Required Parameter with Example and click on the **Run Test.**

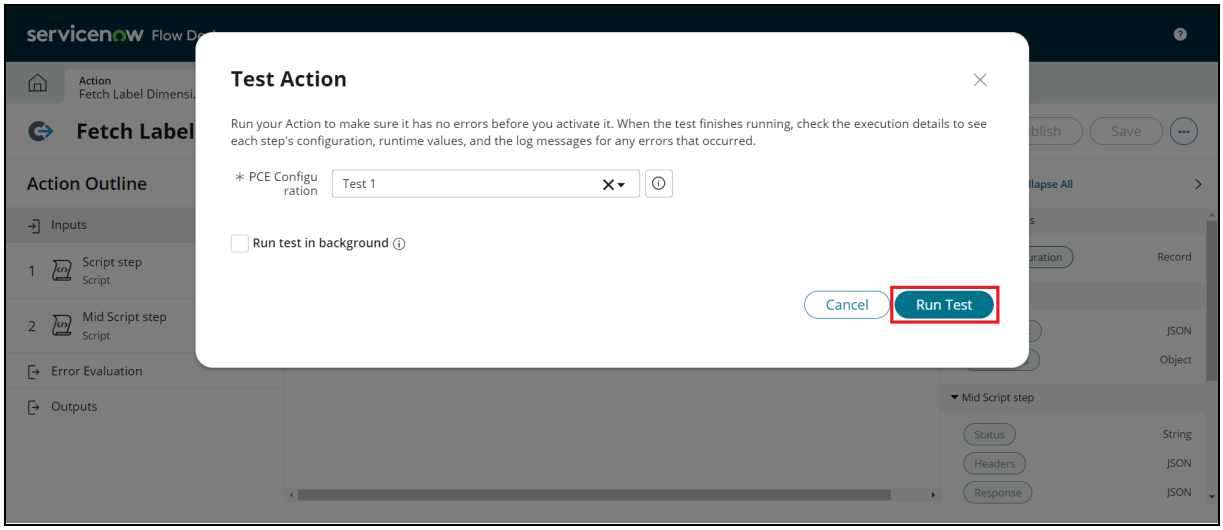


Figure 86. **Test Action**

6. To see the execution of the action, click on the "**Your test has finished running. View the Action execution details".**

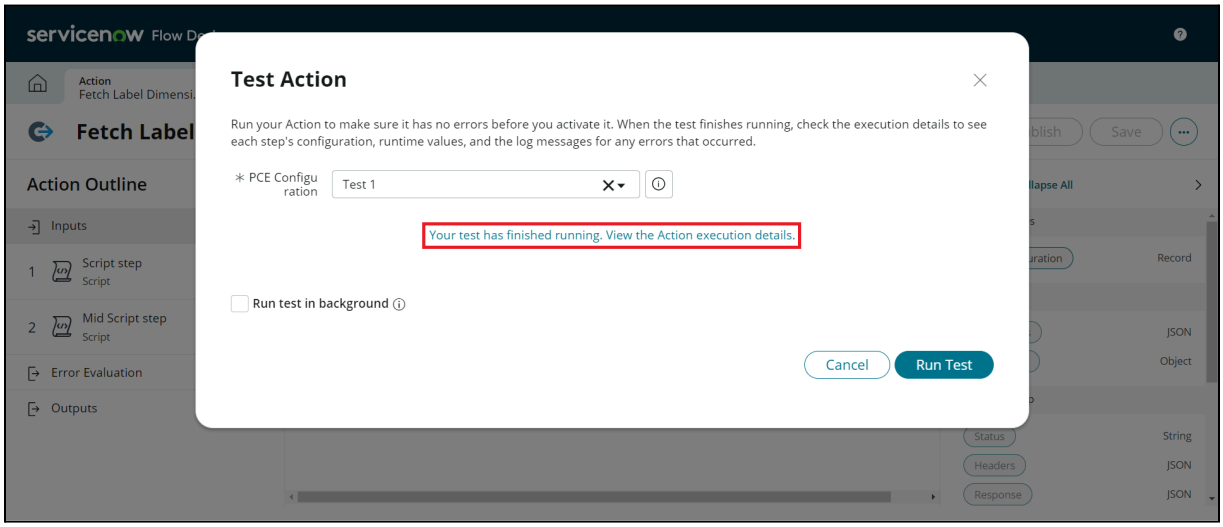


Figure 87. **Action Test Execution Result Link**

7. Upon successful completion of the action, you can view the status code, headers and response of the API call.

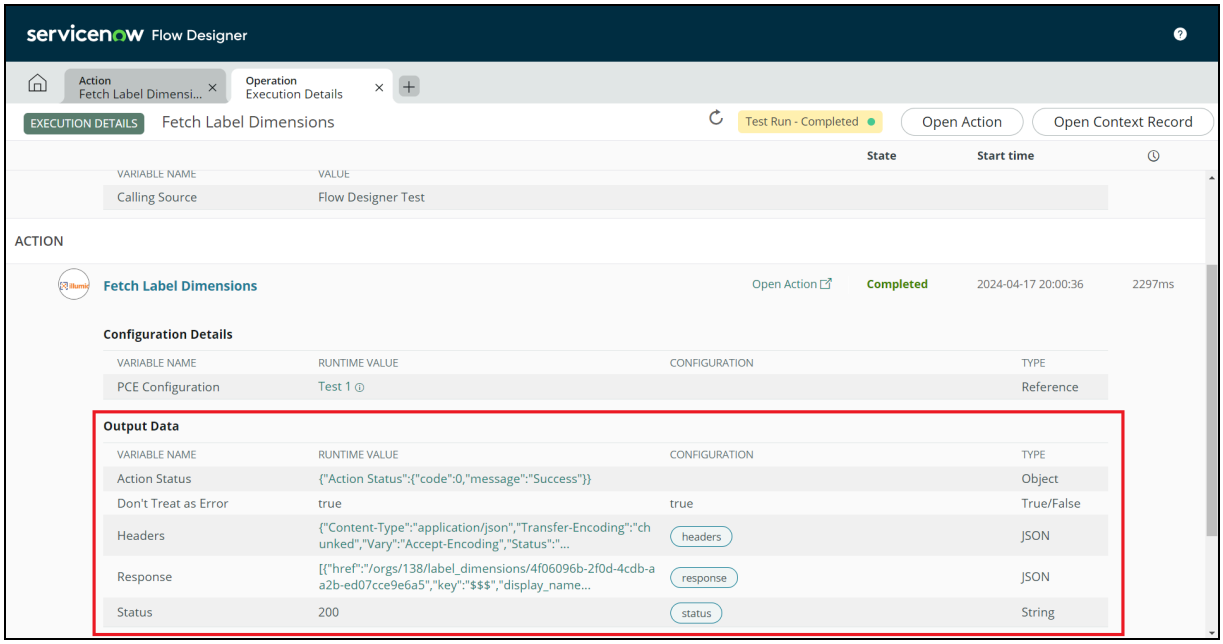


Figure 88. **Action Test Execution Result**

Required Parameters with Example:

1. **Check PCE Configuration**

API call to refer for Check PCE Configuration

API Name	Endpoint	HTTP Method
Product Version	/api/v2/product_version	GET

Parameters

Field	Required	Description
PCE Configuration	yes	Select anyone PCE Configuration from the drop-down.

2. **Create Async Job**

API call to refer for Create Async Job

API Name	Endpoint	HTTP Method

Create an Async Job Request	/api/v2/orgs/{org_id}/{workloads/labels}	GET

Parameters

Field	Required	Type	Description
PCE Configuration	yes	-	Select anyone PCE Configuration from drop-down.
Type	yes	-	Select anyone type from drop-down.
Query Parameters	no	string	Use query parameters for a filtered job request. For Example : key=role (return only the 'role' labels).

3. **Get Async Job Status**

API call to refer for Get Async Job Status.

API Name	Endpoint	HTTP Method
Get Async Job Status	/api/v2/[href]	GET

Parameters

Field	Required	Type	Description
PCE Configuration	yes	-	Select anyone PCE Configuration from drop-down.
Async Job Location	yes	string	href of Job location. For example : "/orgs/138/jobs/1b1045ae-955e-42f7-a6e2-c8aacfde7efa"

4. **Get Async Job Result**

API call to refer for Get Async Job Result.

API Name	Endpoint	HTTP Method
Get Async Job Result	/api/v2/[href]	GET

Parameters

Field	Required	Type	Description
PCE Configuration	yes	-	Select anyone PCE Configuration from drop-down.
Async Job Result Location	yes	string	href of Job Result. for example : "/orgs/138/datafiles/8faec520-da1c-013c-f357-02e08809c359"

5. **Fetch Label Dimensions**

API call to refer for Fetch label Dimensions.

API Name	Endpoint	HTTP Method
Fetch Label Dimensions	/api/v2/orgs/{org_id}/ label_dimensions	GET

Parameters

Field	Required	Description
PCE Configuration	yes	Select anyone PCE Configuration from drop-down.

6. **Create Label Dimensions**

API call to refer for Create Label Dimension

API Name	Endpoint	HTTP Method
Create Label Dimension	/api/v2/orgs/{org_id}/ label_dimensions	POST

Parameters

Field	Required	Type	Description
PCE Configuration	yes	-	Select anyone PCE Configuration from the drop-down.
Request Body	yes	Object	Example request body: { "key":"sha", "display_name": "SHA 256", "display_info": {"initial": "ALg", "display_name_plural": "SHA 256s" }}

7. **Update Label Dimensions**

API call to refer for Update Label Dimension

API Name	Endpoint	HTTP Method
Update Label Dimension	/api/v2/orgs/{org_id}/ label_dimensions	PUT

Parameters

Field	Required	Type	Description
PCE Configuration	yes	-	Select anyone PCE Configuration from the drop-down.
Label Dimension href	yes	string	href of label dimension for example : “/orgs/138/label_dimensions/afc16fa2-7d03-4af3-b62a-e12b921166a2”
Request Body	yes	Object	Example request body: { "display_name":"Dummy 2", "display_info": { "initial": "ab", "display_name_plural": "plural dummy"}}

8. **Fetch Label Groups**

API call to refer for Fetch Label Groups

API Name	Endpoint	HTTP Method
Fetch Label Groups	/api/v2/orgs/{org_id}/ sec_policy/active/label_groups	GET

Parameters

Field	Required	Type	Description
PCE Configuration	yes	-	Select anyone PCE Configuration from the drop-down.
Query Parameters	no	string	Use query parameters for filtered label groups. For Example : “key=app” (return only the ‘app’ labels).

9. Create Label

API call to refer for Create Label

API Name	Endpoint	HTTP Method
Create Label	/api/v2/orgs/{org_id}/ labels/	POST

Parameters

Field	Required	Type	Description
PCE Configuration	yes	-	Select anyone PCE Configuration from the drop-down.
Request Body	yes	Array of Object (length=1)	Example request body: [{ "key": "role", "value": "New role"}]

10. Update Label

API call to refer for Update Label

API Name	Endpoint	HTTP Method
Update Label	/api/v2/ [href]	PUT

Parameters

Field	Required	Type	Description
PCE Configuration	yes	-	Select anyone PCE Configuration from the drop-down.
Label href	yes	string	href of label
Request Body	yes	Array of Object	Example request body:

		(length=1)	[{"value": "update label"}]

11. Create Collection Workload

API call to refer for Create Collection Workload

API Name	Endpoint	HTTP Method
Create Collection Workload	/api/v2/orgs/{org_id} /workloads/bulk_create	PUT

Parameters

Field	Required	Type	Description
PCE Configuration	yes	-	Select anyone PCE Configuration from the drop-down.
Request Body	yes	Array of Objects (Max length=1000)	Example request body: [{"name":"dummy name1","hostname":"dummy_hostname1"},{"name":"dummy name2","hostname":"dummy_hostname2"}]

12. Update Collection Workload

API call to refer for Update Collection Workload

API Name	Endpoint	HTTP Method
Update Collection Workload	/api/v2/orgs/{org_id} /workloads/bulk_update	PUT

Parameters

Field	Required	Type	Description
PCE Configuration	yes	-	Select anyone PCE Configuration from the drop-down.
Request Body	yes	Array of Objects	Example request body: [{"href":"/orgs/138/workloads/9d416475-

		(max length=1000)	4d53-470b-95be-b900756a015c", "hostname": "dummy_hostname" }, {"href":"/orgs/138/workloads/76d46475-4d53-470b-95be-b900756a015c", "hostname": "dummy_hostname2"}]

13. **Delete Collection Workload**

API call to refer for Delete Collection Workload

API Name	Endpoint	HTTP Method
Delete Collection Workload	/api/v2/orgs/{org_id} /workloads/bulk_delete	PUT

Parameters

Field	Required	Type	Description
PCE Configuration	yes	-	Select anyone PCE Configuration from the drop-down.
Request Body	yes	Array of Objects (length=1000)	Example request body: [{"href":"/orgs/138/workloads/32d21c7d-f237-4871-a604-bacefed3bcf5"},{“href”:”/orgs/138/workloads/67d45c7d-f237-4871-a564-abcdfed3bcf5”}]

5.11 Cancellation of Scheduled Job

The required role

x_illu2_illumio.illumio_admin or

x_illu2_illumio.illumio_user

Procedure

1. Login to ServiceNow instance.
2. To see the Illumio application, search “Illumio” in the search field in the upper-left corner.
3. From the navigation panel, select “Illumio” → “Scheduled Jobs”
4. Open any scheduled job having job status “Running".
5. Click on “Cancel Scheduled Job” to stop execution of the current job.

Note: Canceling the Scheduled Job might not cancel it immediately in case of bulk synchronization, it will first perform the process of one chunk and then cancel the rest of the jobs.

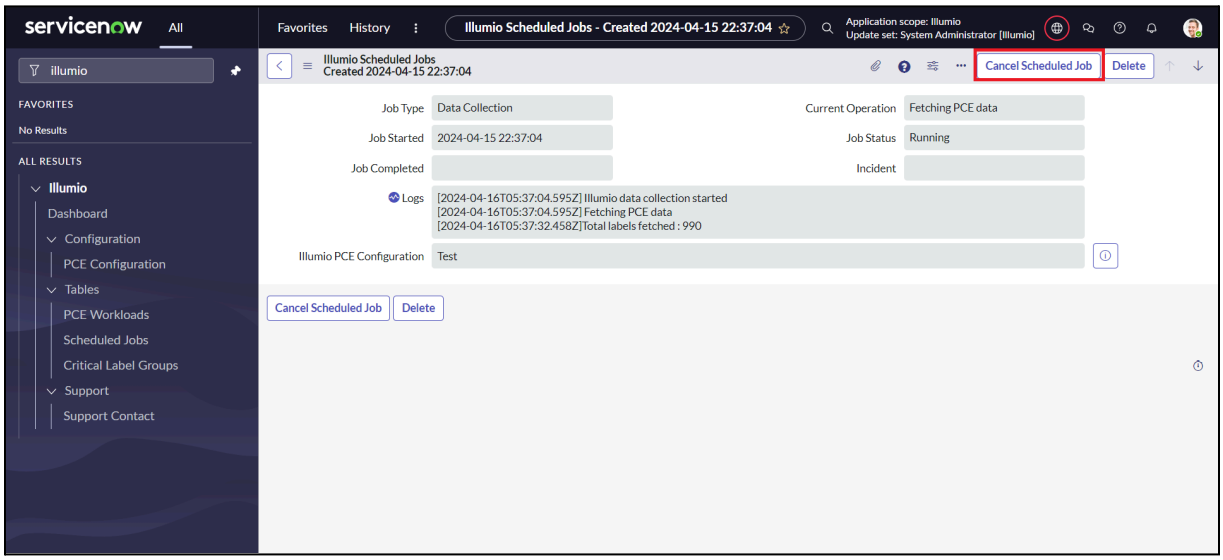


Figure 89. **Cancel Scheduled Job UI action**

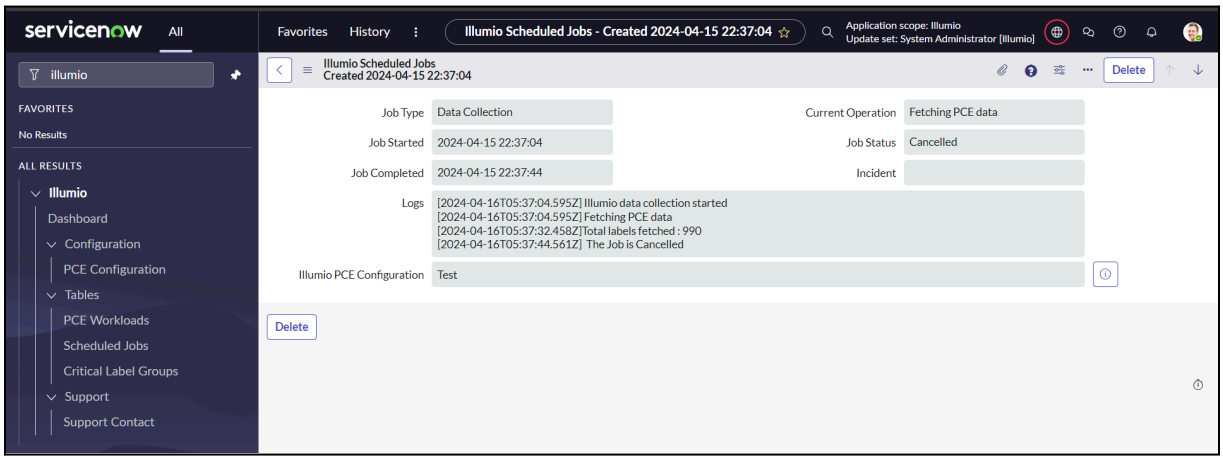


Figure 90. **Form View Canceled Scheduled Job**

6 Upgrade

The ServiceNow application gets upgraded on occasion, and this change affects the Illumio application as well.

Upgrading is similar to installation, and the Illumio application should function normally after the ServiceNow upgrade.

Keep the following steps in consideration while upgrading:

- Verify the upgrade steps so that they do not impact working integration with the Illumio application.
- Connect the test instance of ServiceNow to the test instance of PCE.
- Run the Discovery once before performing any actions, as there might be changes in field choice values and some new fields may be added.
- Update the application on the ServiceNow instance and perform manual sync of labels to one or two workloads. If these tests are successful, you can put the application into production.
- If you upgrade a version of ServiceNow supported by the Illumio application, such as Vancouver, Washington DC, and Xanadu the application continues to function with no additional changes.
- The PCE versions supported by the Illumio application are also published. Upgrading the PCE to a version supported by the application is transparent to you as a customer.
- If you upgrade ServiceNow to a version that the Illumio application does not support, there is no guarantee that the application will function properly.
  As a practice, the Illumio application is updated soon after every ServiceNow release, and it is recommended to upgrade your ServiceNow version to the one for which the Illumio application is tested and certified.
- Before upgrading the application, please make sure there is no scheduled job in the running state in order to avoid unexpected results.

7 Uninstallation

To uninstall the Illumio Application from the ServiceNow UI:

1. In the navigation menu, go to **System Applications -> My Company Applications -> Installed.**

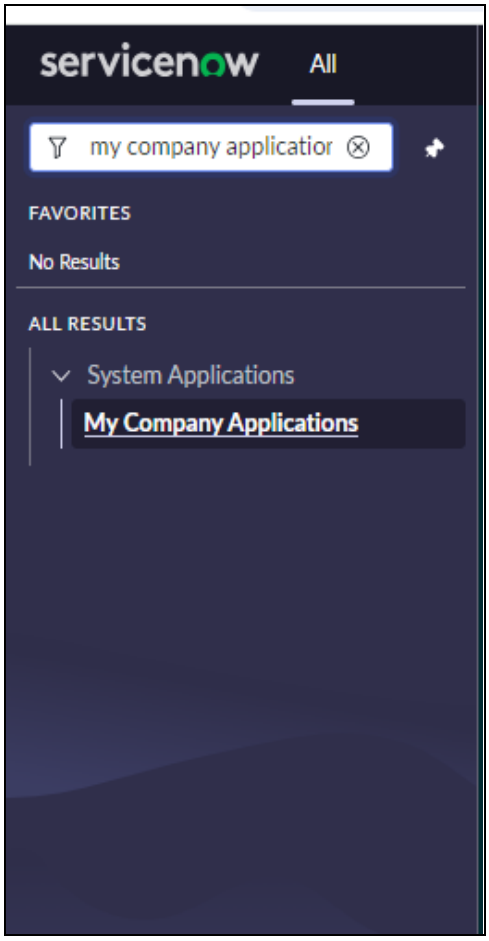


Figure 91. **Navigation menu**

2. On the Application Manager screen, go to the **Installed** tab**.**

Figure 92. **Uninstall an application**

3. Open the application, scroll down to the related links and click on **Uninstall**.

Figure 93.**Form view of Store Application**

4. Click on **OK** in the confirmation popup.

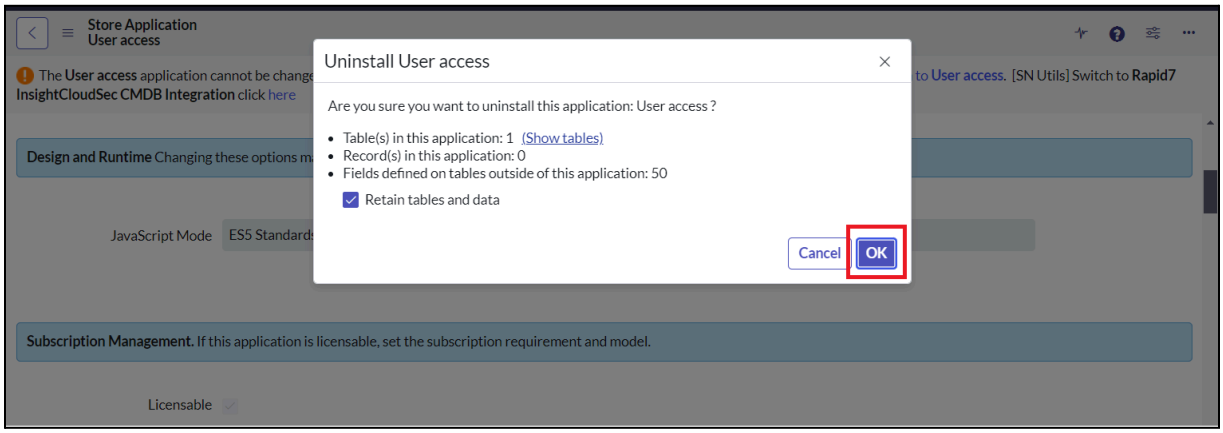


Figure 94. **Pop-up of Uninstall User access**

8 Support & Troubleshooting

8.1 Support

- Contact details for Illumio Support: https://www.illumio.com/support

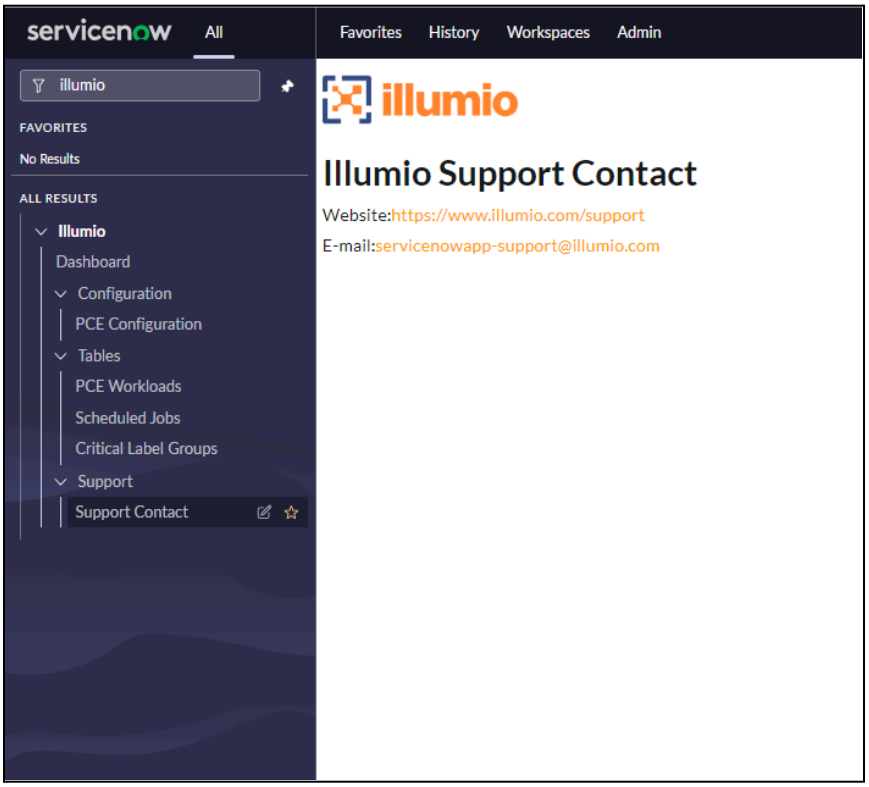


Figure 95. **Support Contact**

8.2 Troubleshooting

8.2.1 Check ServiceNow logs

To print error messages, use the following methods: gr.warn() and gs.error().

To print information messages use gs.info().
Go to Application logs from the navigation menu to analyze all the logs related to the application.

Note: Keep in mind that the critical error messages are listed as “Error”, and debug statements are listed as “Information”.

8.2.2 Check MID Server Logs

The error logs are populated in the file Agent0.log on the MIDServer under

/servicenow/<mid server name>/agent_folder/logs/agent0.log.0

Logs are also available from the ServiceNow instance. To view the logs:

1. Go to **MID Server -> Server -> [*Specific Record*] MID Server**.
2. Click **Grab MID Logs** under the Related Links.
3. Click on the Agent Files under the Related Links.
4. Open a record with name agent.log0.0
5. View the attachment **payload.txt**.

8.2.3 Not able to execute Illumio PCE discovery

If data is not populated or the PCE discovery is failing:

1. Check whether the MID Server is up-and-running.
2. Check if the proper roles are assigned to the configured users.
3. Check the status of the PCE discovery.
    a) Navigate to “Scheduled Jobs” and verify the discovery status.
    b) If the discovery status failed or is in error state, check the MID Server logs for that time.
4. Check if the integration is configured with the proper credentials;
    a) Navigate to **Illumio” > “PCE Configurations.**
    b) Check the API Key and Secret.

8.2.4 Application modules are not visible

1. If a user is unable to find the application-related modules from the navigation bar.

Check the roles available to the ServiceNow user:

- The Illumio Admin and Illumio Mid Server User has access to all modules.
- The Illumio User does not have access to configuration modules.

2. How to check the user role.

The ServiceNow platform administrator can check the user role by navigating to **System** → **Users**. Select the user from the list and check the granted roles from the Roles tab.

8.2.5 Workloads skipped while updating on PCE

While performing auto-sync if the workloads are not updated on PCE and all are marked as skipped, there is a possibility that the threshold limit set for that particular PCE Configuration has exceeded for any one of the parameters:

1. Label Creation.
2. Workload Modification Limit.
3. Workload Deletion Limit.
4. Unmanaged Workloads update on PCE from CMDB records.

Role Required : x_illu2_illumio.mid_server_user or x_illu2_illumio.illumio_admin

Procedure :

- Navigate to the PCE Configuration -> Select any one of the Configuration.
- Click on the Threshold Limit section and set the specific limit by selecting the parameter in the left side and specify the corresponding value in the right hand side field for specifying the limit.

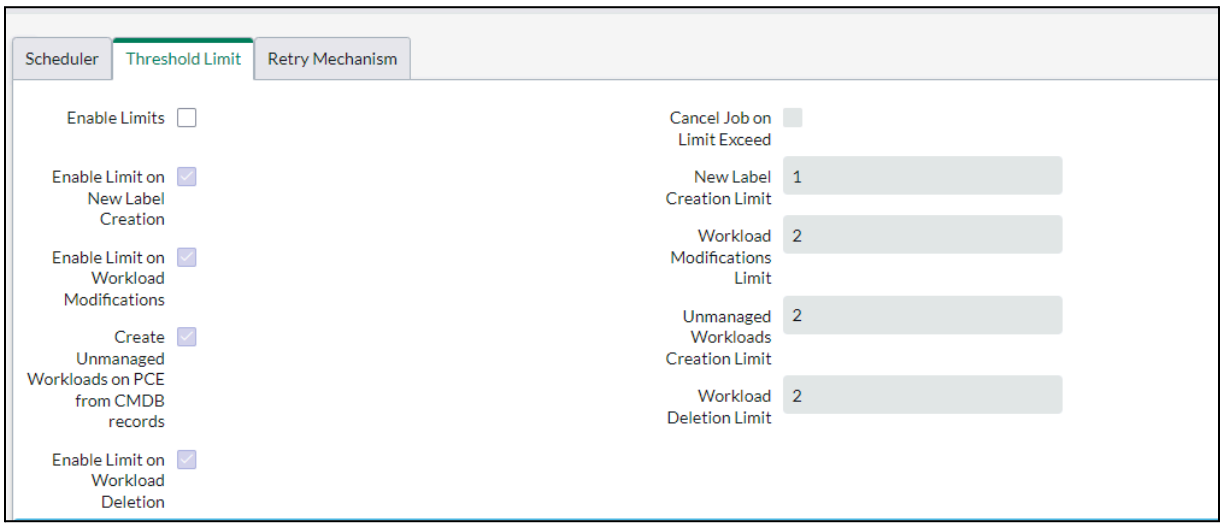


Figure 96. **PCE Configuration form for Threshold Limit tab**

The second reason can be the number of workloads to be sent for sync has exceeded the maximum limit defined in API schema. Change the batch size property in system property to create smaller batches of workloads while creating payload for updating workloads on PCE.

Role Required: System Administrator

Procedure:

1. Navigate to System Properties -> “bulk_operation_batch_size”
2. Change the batch limit to required number

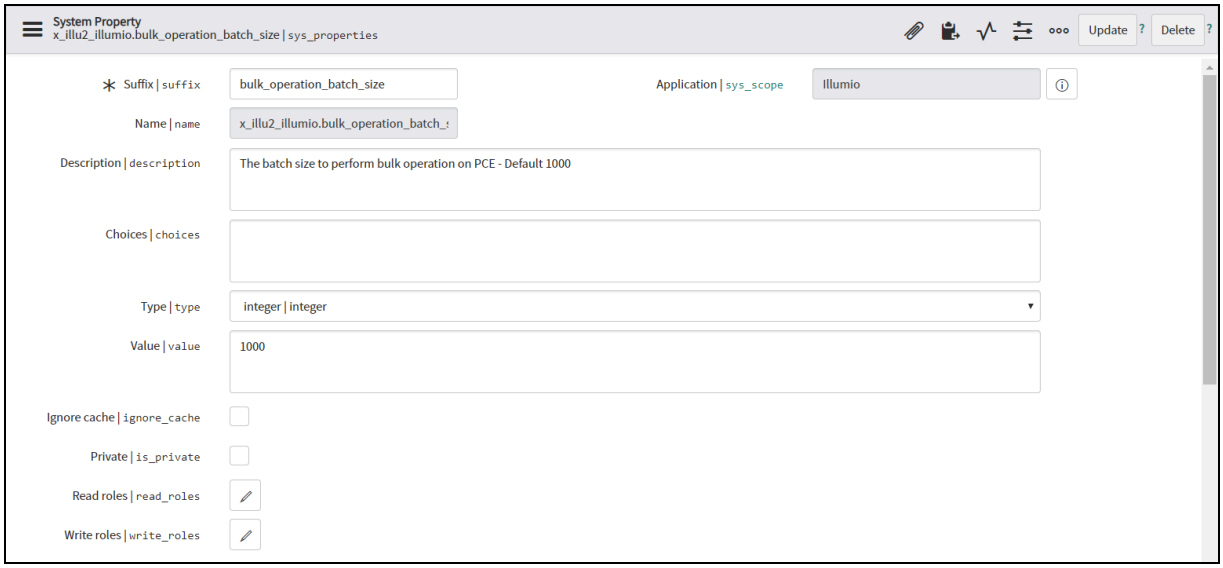


Figure 97. **System Property form view**

8.2.6 Data collection failed

The data collection might fail when there is a large amount of data in the CMDB table to map with the PCE workloads data, and the MID Server logs contain transaction canceled message as shown below:

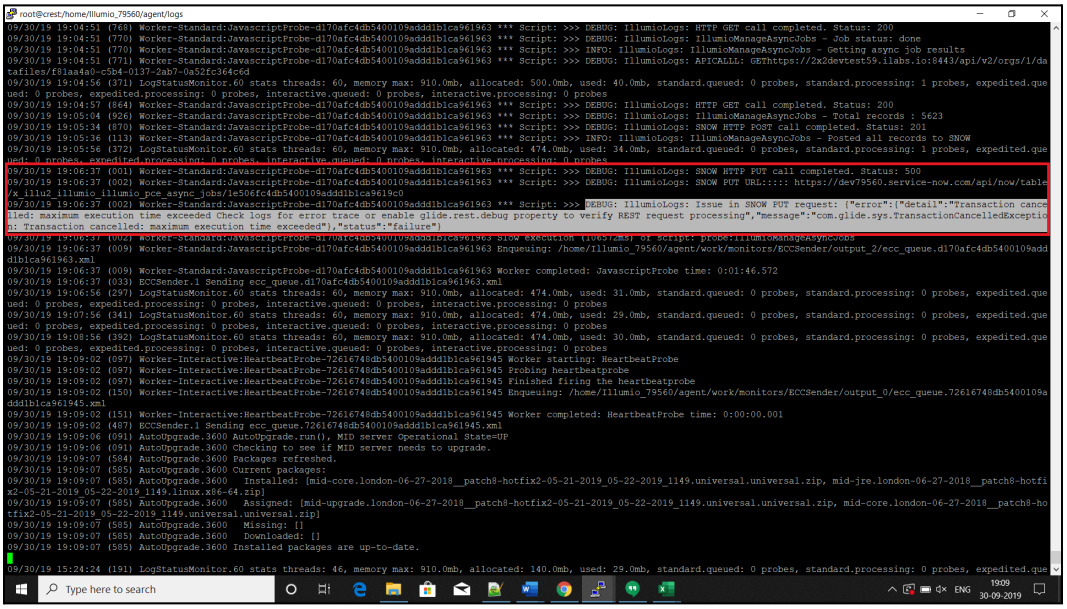


Figure 98. Data collection failed

In this case, you need to change ServiceNow's "Transaction Quota Rule", the "REST Table API request timeout" and "REST and JSON Catch All".

Role Required: System Administrator

Procedure:

1. Navigate to **System Definition -> Transaction Quota Rules**.

2. Click “**REST Table API request timeout” and “REST and JSON Catch All**”.

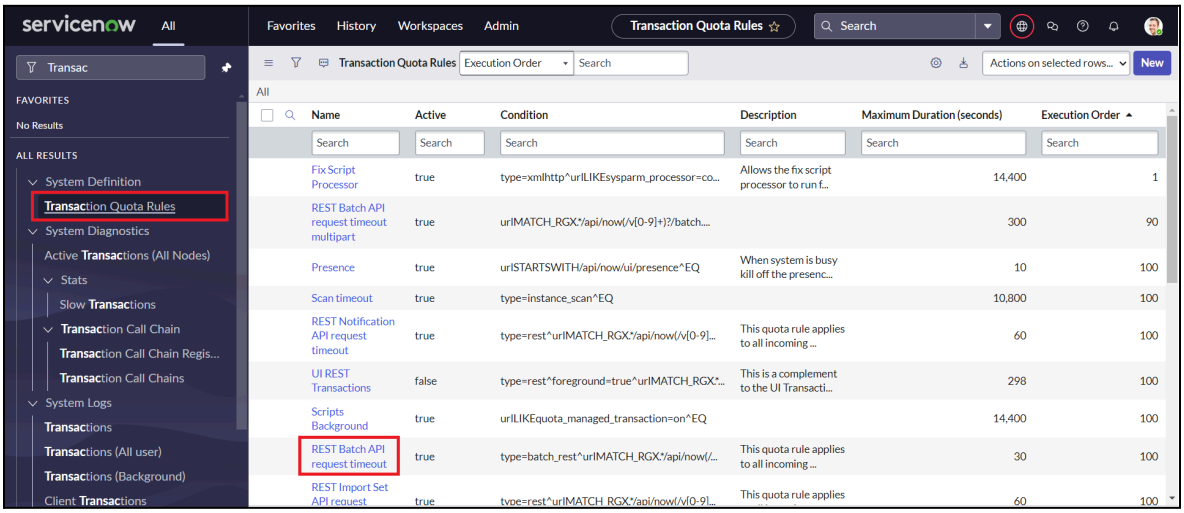


Figure 99. **REST Table API request**

3. Change the Maximum Duration (seconds) to 120 or higher, depending on the transaction duration.

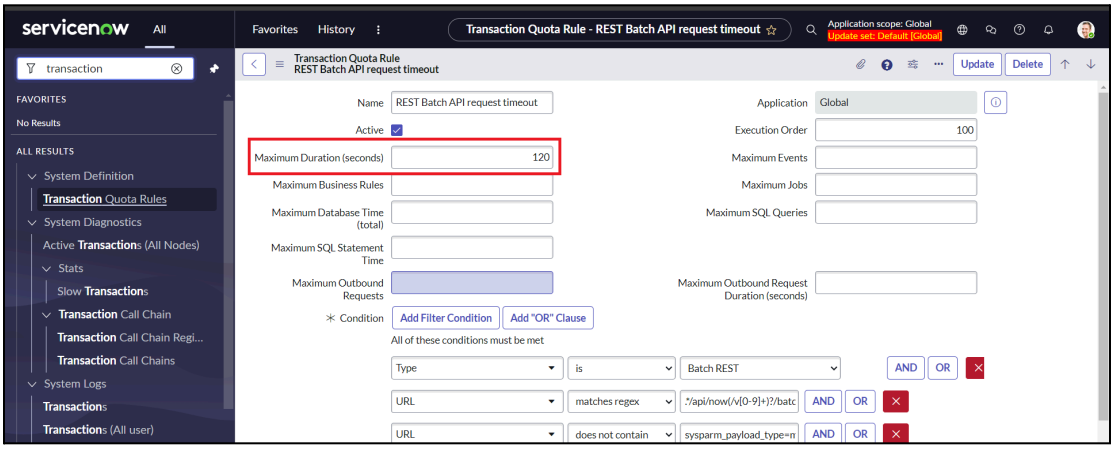


Figure 100**. Update Maximum Duration record**

4. Click **Update**.

When the user had not added the cross scope of the config class then there will be error in mapping data to CMDB Table and the error will be as follows :

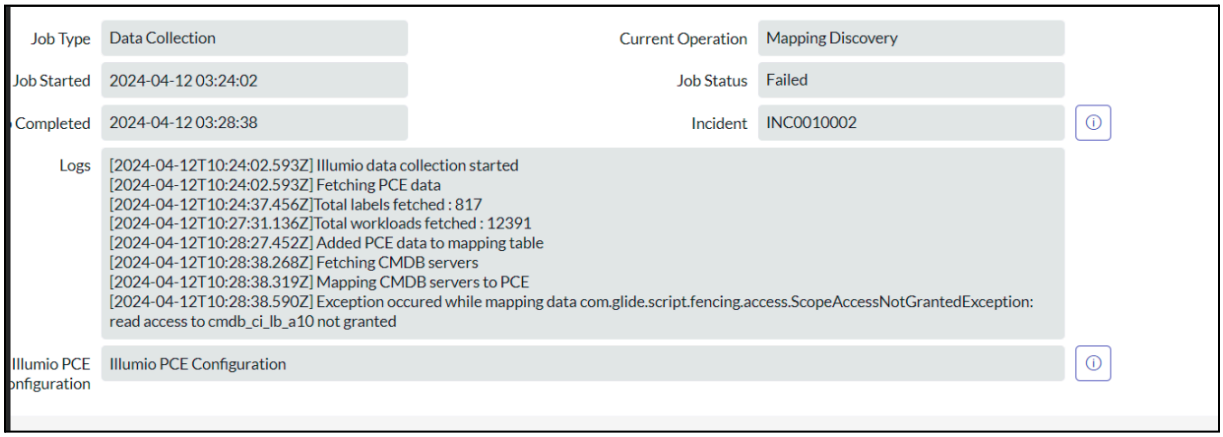


Figure 101. **Schedule Job form view**

To resolve the error, follow the below procedure

Role Required: System Administrator

Procedure :

1. Select "**Illumio**" as application scope

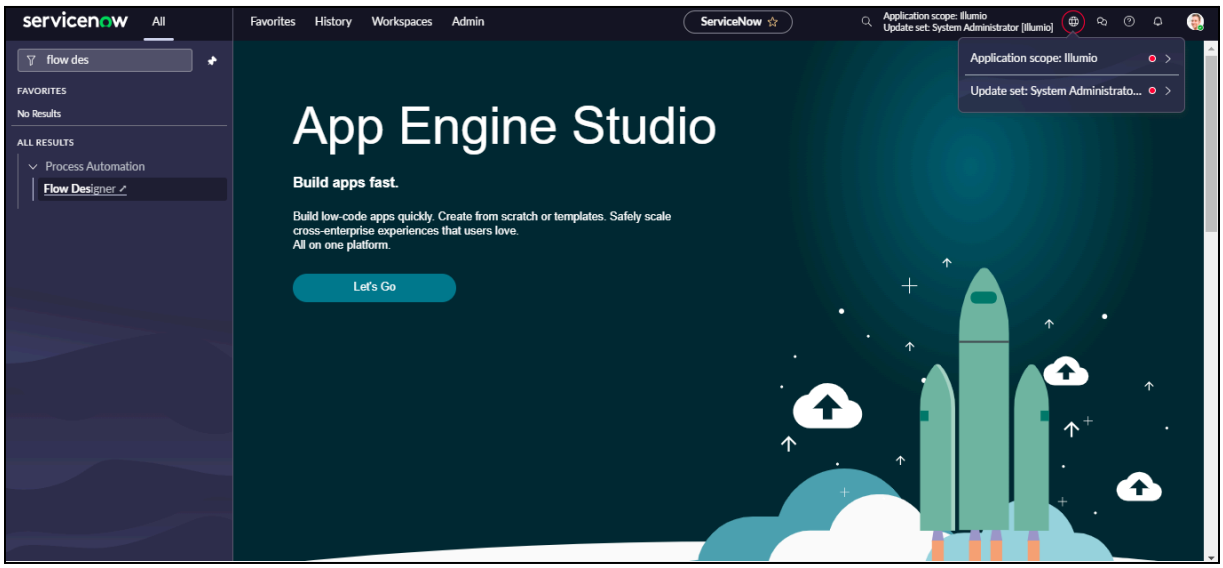


Figure 102. **Homepage**

2. Navigate to "**System Applications > Application Cross-Scope Access**" and create the new scope by clicking on the "**New**" button in the top right corner.

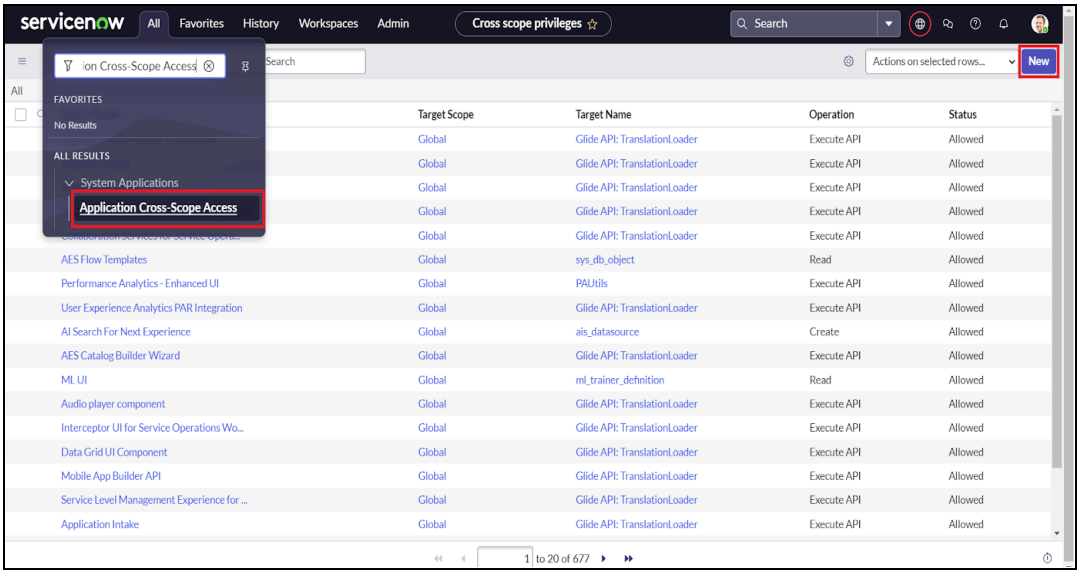


Figure 103. **List view of "Application Cross-Scope Access"**

3. Fill in the details below and submit it.

   - **Target Scope:** Global
   - **Target Name:** CMDB table name for which read access needs to be granted.
   - **Target Type:** Table
   - **Operation:** Read
   - **Status:** Allowed

Figure 104. **Form view of Cross scope privilege**

When such type of exception is encountered during data collection

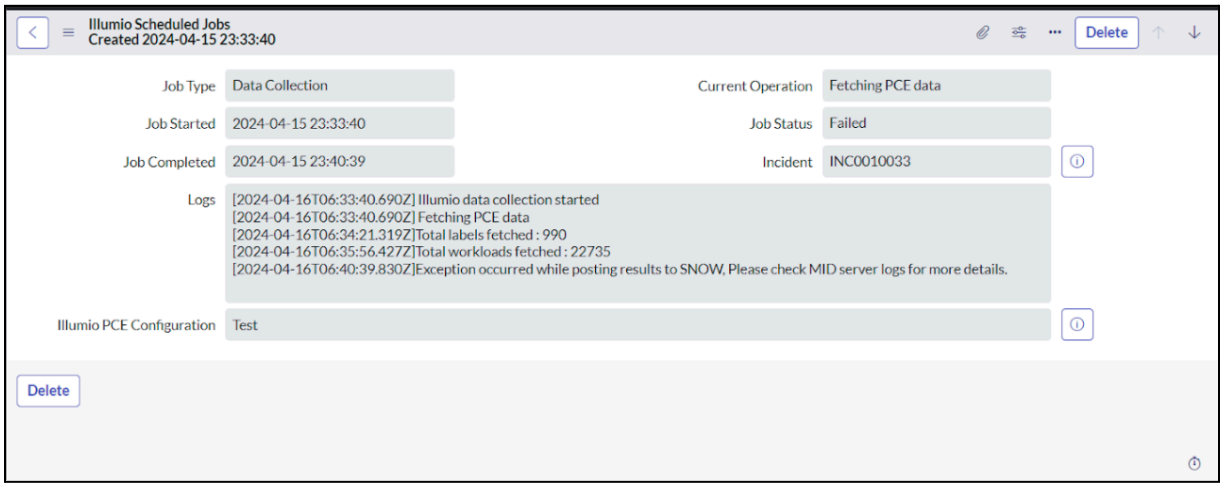
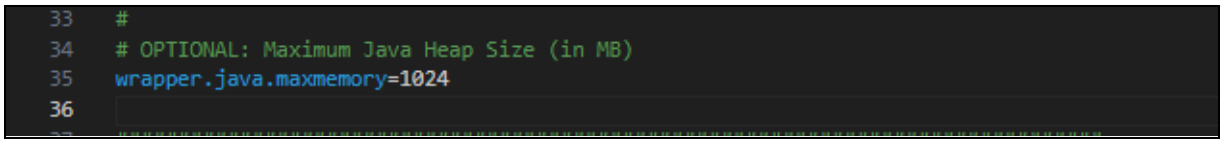


Figure 105. **Scheduled jobs form view**

Follow the below steps to resolve the error :

1. Go to the mid server downloaded folder in the system where the mid server is configured.
2. Then go to the **agent→conf→wrapper-override.conf** file.
3. Uncomment the line with “wrapper.java.maxmemory=1024”.



4. Increase the size of heap memory(in MB), restart the MID server and again execute the Illumio Data Collection job.

8.2.7 Check PCE Connectivity

User can go to the PCE configuration and click on the Check PCE configuration button to check if there is any issue in connectivity between ServiceNow and PCE.

1. To check end-to-end connectivity between ServiceNow , **MID server** and **PCE** , click on **Check PCE Configuration** in PCE configuration.

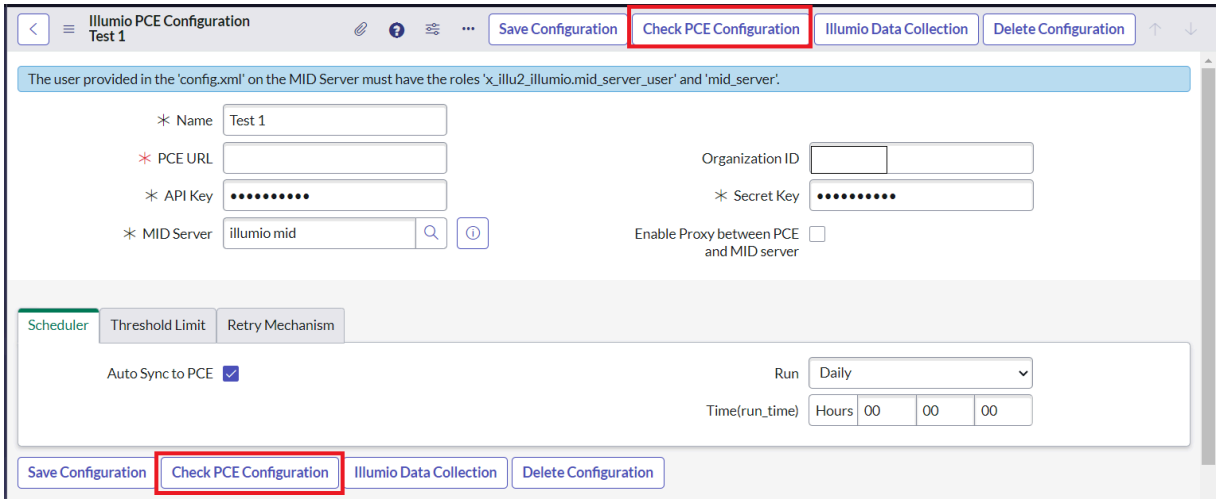


Figure 106. **Check PCE configuration**

2. The status of the connectivity can be seen in the Schedule jobs.

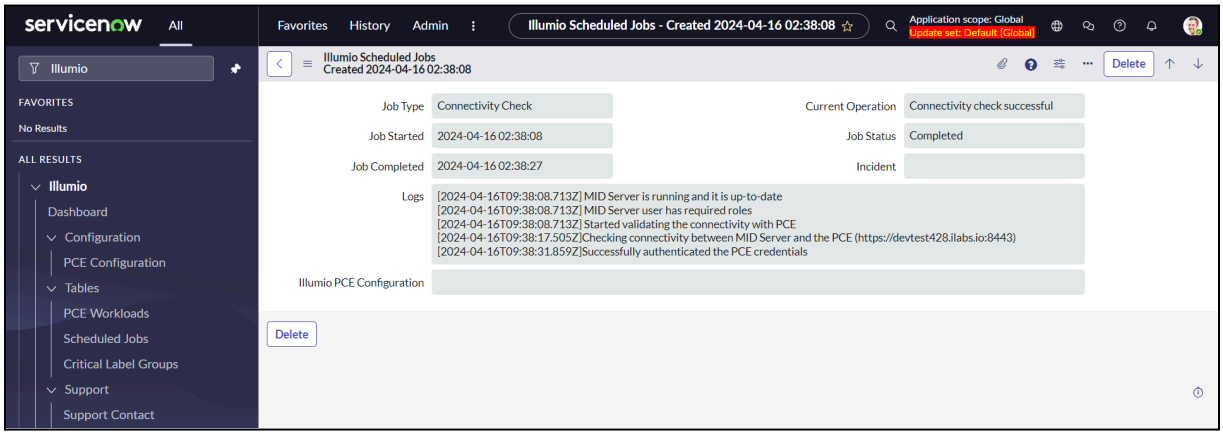


Figure 107. **Check PCE Configuration status**

Note: If the connectivity check is not successful do check the Organization ID , PCE URL , API Key , Secret Key are properly configured.

8.2.8 Modularization ServiceNow Spoke :

The user can get the below error in the Flow Designer Actions whenever the JSON data given in the input field of the Action is in invalid JSON format.

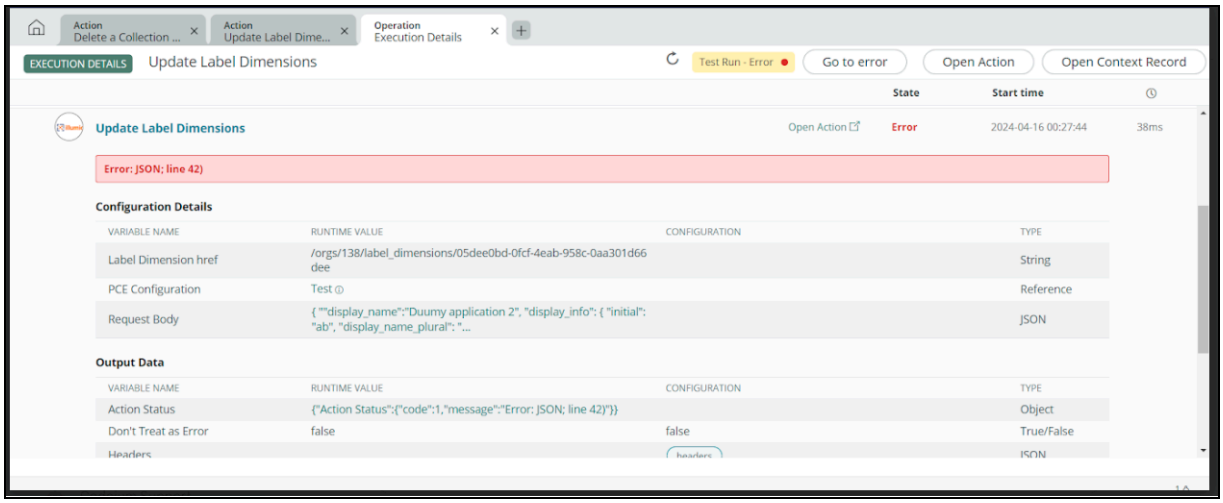
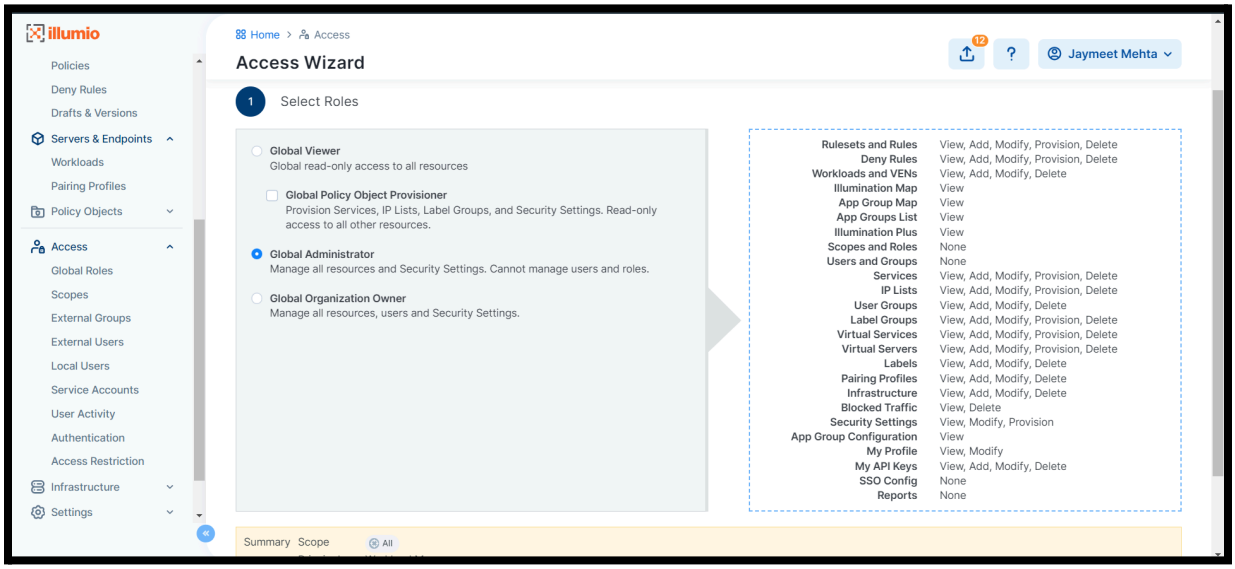


Figure 108**. Execution Details tab**

8.2.9 403 error while creating or updating labels :

Please check required role(Global Administrator) on the PCE side

Mid Server Log:

2024-08-22 00:00:41 INFO (Worker-Standard:JavascriptProbe-d903182f1b085a10ceb6da88b04bcba5) [MIDSystem:35] *** Script: >>> ERROR: IllumioLogs: Exception occurred while getting async job status from PCE, Response Code: 403