

ServiceNow CMDB Integration how to guide

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What is ServiceNow CMDB?

ServiceNow CMDB (Configuration Management Database) is a central repository that stores information about all the configuration items (CIs) in an organization's IT infrastructure. Configuration items include hardware, software, networking components, documentation, and more. The CMDB is a comprehensive database that provides a detailed and up-to-date representation of the IT environment.

By maintaining a reliable and up-to-date CMDB, organizations can improve their IT service management processes, enhance decision-making, and reduce the impact of changes and incidents on the IT environment.

Forward Enterprise ServiceNow CMDB Integration

The Forward Enterprise ServiceNow CMDB Integration enables Forward Networks users to augment their ServiceNow CMDB with data stored in the Forward Enterprise database (AKA Network Query Engine or NQE).

The wizard-based workflow in the Forward Enterprise allows customers to:

- Add a ServiceNow instance connection and test it
- Choose a ServiceNow discovery source
- Define the data to be exported from Forward Enterprise

- Pull the list of CI configured in the ServiceNow CMDB instance
- Map the Forward data to the ServiceNow CMDB CIs' attributes
- Define which Networks configured in the Forward platform to synchronize from.

Once the integration is saved, Forward Enterprise will synchronize the data with the ServiceNow CMDB and provide a report after each successful snapshot collection.

Pre-requisites

Following is a set of mandatory, recommended, and optional prerequisites for the integration. Take a look at them before configuring the integration in the Forward Enterprise platform.

Summary

Following is a summary of the requirements.

Mandatory requirements:

- Add read-only access to **sys_choice** and **sys_db_object** system tables.
It's required to pull the discovery source and CIs list.
- Create or identify an existing user with **Asset Manager (itil)**, **Model Manager (model_manager)**, and **User Administrator (user_admin)** roles.
Required to push CMDB updates to the ServiceNow CMDB.
- Add a **Forward Enterprise** Discovery Source. Alternatively, identify an existing one to be used in the integration.

Recommended requirements:

- Configure the ServiceNow CMDB IRE rules for each CI to be updated.

Optional requirements:

- Create an OAuth API endpoint for external clients.
To optionally add **ClientID** and **Client secret** to the integration connection in Forward Enterprise for add Security
- Add new CIs or CI attributes.
To allow users to map data that is not currently present in the ServiceNow CMDB (e.g. device CVE information)

Refer to the following chapters for more details on each requirement.

Add read-only access to system tables (mandatory)

To enhance the integration's smoothness, Forward Enterprise imports the list of discovery sources and CIs from ServiceNow system tables to reduce the likelihood of errors during the configuration process.

By default, only a ServiceNow administrator can access this information.

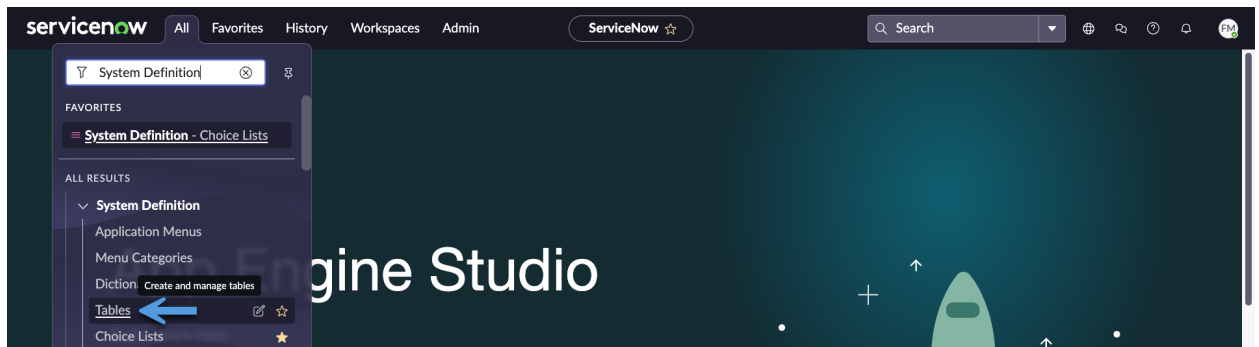
An ACL (Access Control List) is needed to provide read-only access to the Forward user used for the integration.

Following are the tables that require read-only access:

- **sys_choice**: to get the list of Discovery Sources
- **sys_db_object**: to get the list of CIs

To check if an ACL is already present for a given table:

1. Navigate to “System Definition” → “Tables”



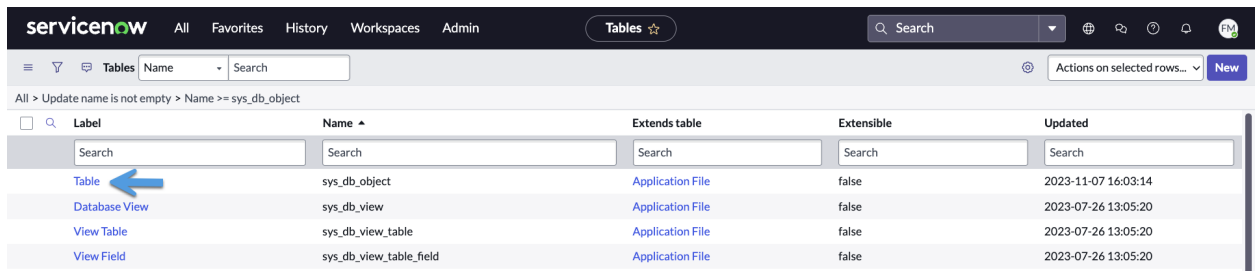
2. Type the table name (e.g. sys_db_object)

A screenshot of the ServiceNow 'Tables' page. The top navigation bar includes 'All', 'Favorites', 'History', 'Workspaces', 'Admin', and a 'Tables' button. A search bar is on the right. The left sidebar shows a search filter 'Tables' and a list of results. The 'Tables' dropdown is expanded, showing options like 'Agent Assist Recommendation', 'MID Server File', 'Record Producer Configuration', 'Search Actions', 'AI Search ACL Overrides', and 'AI Search Active Table Ingestion Tracker'. The 'sys_db_object' table name is entered in the search field, and a blue arrow points to it. The table list below shows columns for 'Label', 'Name', 'Extends table', 'Extensible', and 'Updated'.

Label	Name	Extends table	Extensible	Updated
Agent Assist Recommendation	agent_assist_recommendation	Application File	false	2023-07-26 13:36:45
MID Server File	agent_file	(empty)	false	2023-07-26 13:23:40
Record Producer Configuration	aisa_rp_config	Application File	false	2023-07-26 13:39:39
Search Actions	aisa_ui_action	Application File	false	2023-07-26 13:39:39
AI Search ACL Overrides	ais_acl_overrides	Application File	false	2023-07-26 13:10:07
AI Search Active Table Ingestion Tracker	ais_active_table_ingestion_tracker	(empty)	false	2023-07-26 13:10:05

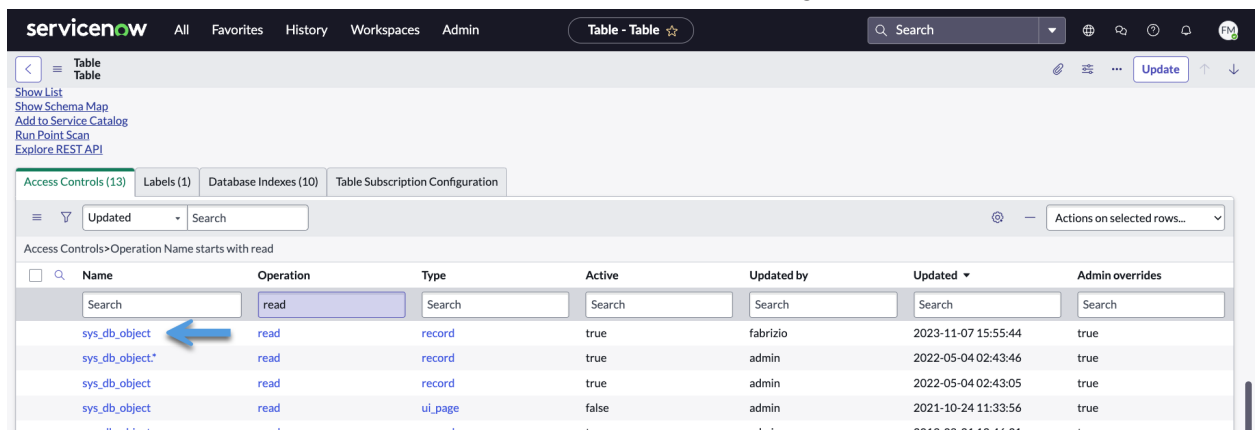
Then, press enter.

3. Click on “Table”



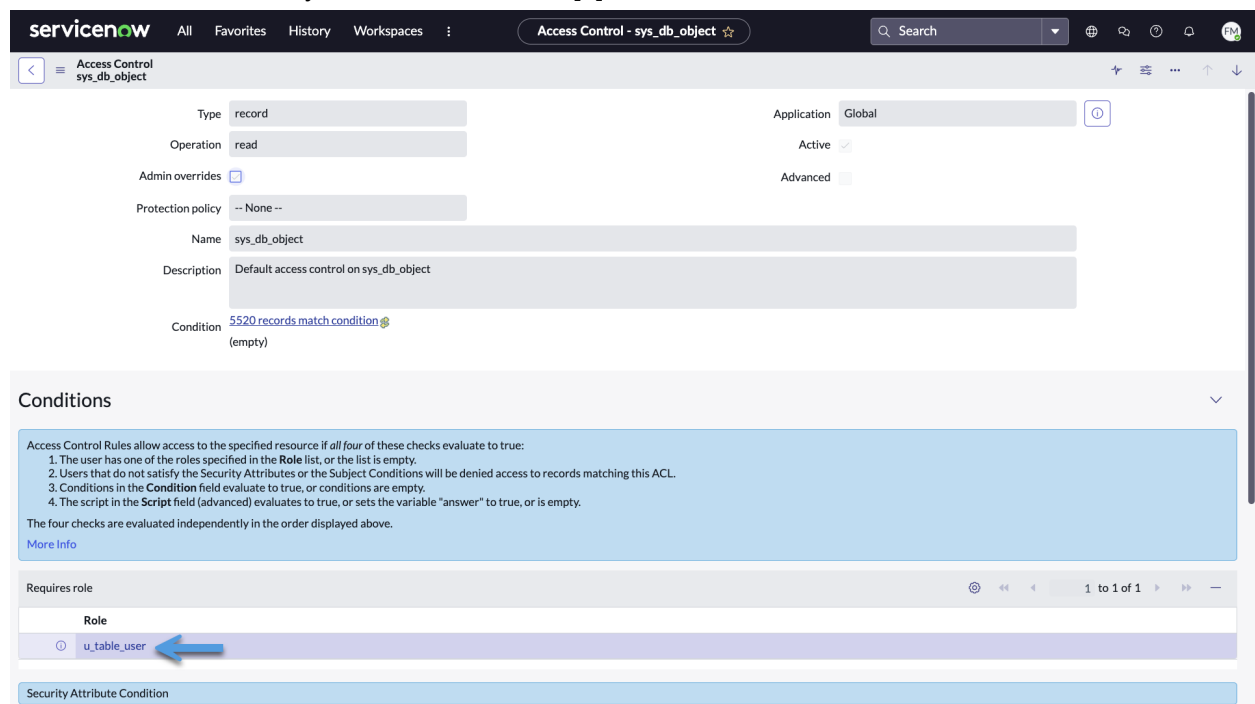
Label	Name	Extends table	Extensible	Updated
Search	Search	Search	Search	Search
Table	sys_db_object	Application File	false	2023-11-07 16:03:14
Database View	sys_db_view	Application File	false	2023-07-26 13:05:20
View Table	sys_db_view_table	Application File	false	2023-07-26 13:05:20
View Field	sys_db_view_table_field	Application File	false	2023-07-26 13:05:20

4. Select “Controls” → “Access Controls” at the bottom of the page



Name	Operation	Type	Active	Updated by	Updated	Admin overrides
Search	read	Search	Search	Search	Search	Search
sys_db_object	read	record	true	fabrizio	2023-11-07 15:55:44	true
sys_db_object*	read	record	true	admin	2022-05-04 02:43:46	true
sys_db_object	read	record	true	admin	2022-05-04 02:43:05	true
sys_db_object	read	ui_page	false	admin	2021-10-24 11:33:56	true
sys_db_object	read	record	true	admin	2021-08-21 13:46:21	true

Click the ACL and verify the associated role[s].



Access Control Rules allow access to the specified resource if all four of these checks evaluate to true:

1. The user has one of the roles specified in the Role list, or the list is empty.
2. Users that do not satisfy the Security Attributes or the Subject Conditions will be denied access to records matching this ACL.
3. Conditions in the Condition field evaluate to true, or conditions are empty.
4. The script in the Script field (advanced) evaluates to true, or sets the variable "answer" to true, or is empty.

The four checks are evaluated independently in the order displayed above.

More Info

Requires role

Role
u_table_user

Security Attribute Condition

The following curl commands can be used to verify the access to those tables:

```

curl --request GET \
--url
'https://<your_instance>.service-now.com/api/now/table/sys_choice?element=discovery_source' \
--user '<username>:<password>' \
--header 'Accept: application/json'

curl --request GET \
--url
'https://<your_instance>.service-now.com/api/now/table/sys_db_object?sysparm_query=nameSTARTSWITHcmdb_ci&sysparm_fields=name' \
--user '<username>:<password>' \
--header 'Accept: application/json'

```

Authentication (mandatory)

Create or Assign ServiceNow user credentials

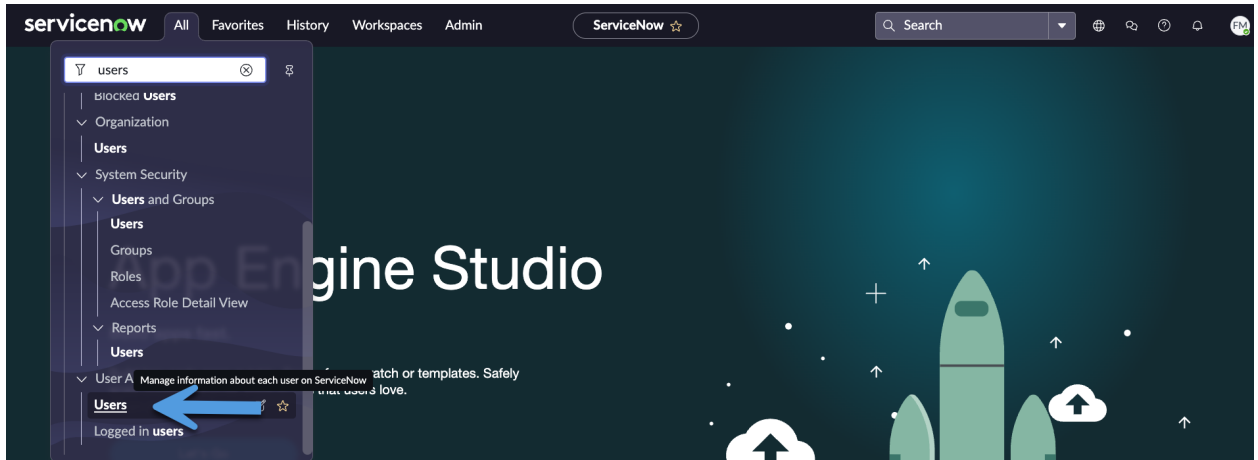
A set of ServiceNow credentials will be required when configuring the ServiceNow CMDB integration in Forward Enterprise, so that the system can send data to ServiceNow.

The credentials needed to update the CMDB in ServiceNow need the following roles:

- **Asset Manager (itil)**: This role provides access to Asset Management features, allowing users to manage configuration items in the CMDB.
- **Model Manager (model_manager)**: This role grants permissions specifically for managing configuration items in the CMDB.
- **User Administrator (user_admin)**: This role is responsible for controlling access to CMDB data and configuration.

To add a new user:

1. log in to the ServiceNow instance with an Administrator account, and navigate to “User Administration” → “Users”.



Then, click on “New” on the upper right.

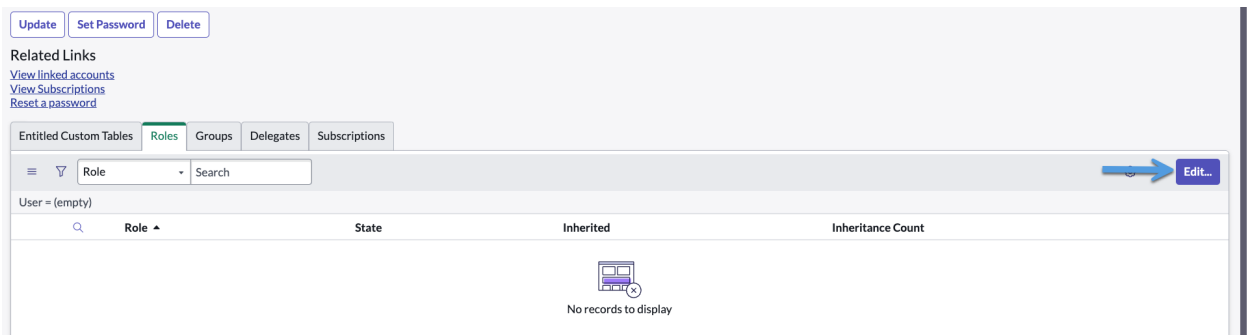
2. Provide a “User ID” (e.g. forward), and select “web service access only”.
Ensure “Active” is selected, and “password needs reset” is disabled.

3. To set up the User's password, save the record and click “Set Password”.

Click “Generate”, copy the password (it will be used in Forward Enterprise later), then click “Save Password”.

To assign the roles described above:

1. Open the user record, select the “Roles” tab at the bottom, and click on “Edit”



Update Set Password Delete

Related Links
[View linked accounts](#)
[View Subscriptions](#)
[Reset a password](#)

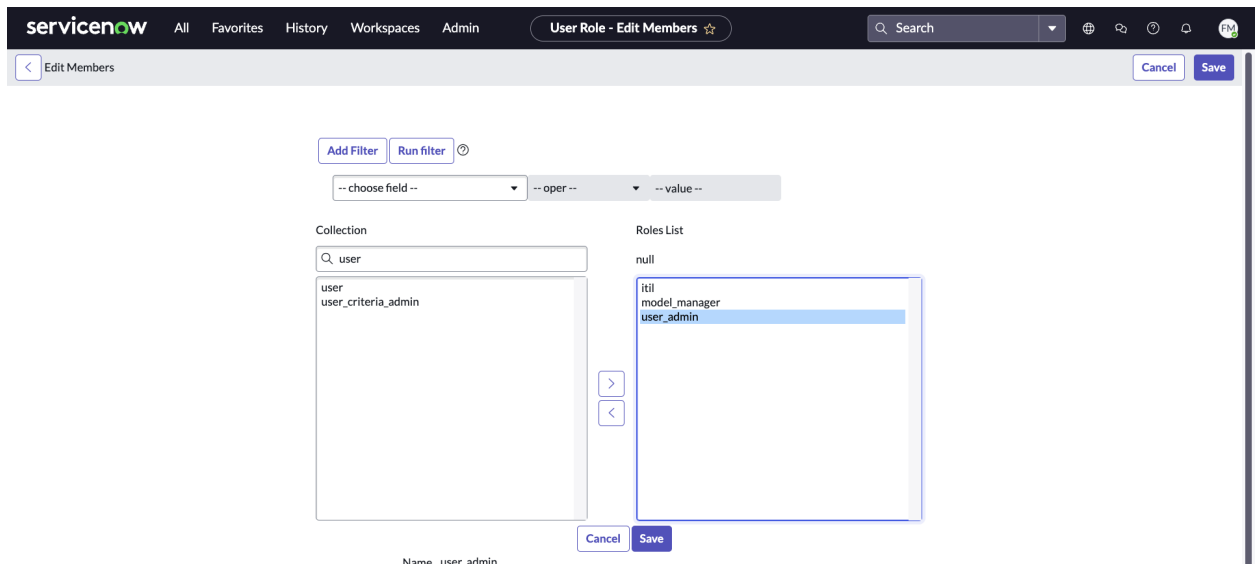
Entitled Custom Tables Roles Groups Delegates Subscriptions

Role Search Edit...

User = (empty)

Role	State	Inherited	Inheritance Count
No records to display			

2. Search and add the **itil**, **model_manager**, and **user_admin** roles, then click “Save”



servicenow All Favorites History Workspaces Admin User Role - Edit Members Search

Edit Members Cancel Save

Add Filter Run filter

-- choose field -- -- oper -- -- value --

Collection

user

user_criteria_admin

Roles List

null

itil

model_manager

user_admin

>

<

Cancel Save

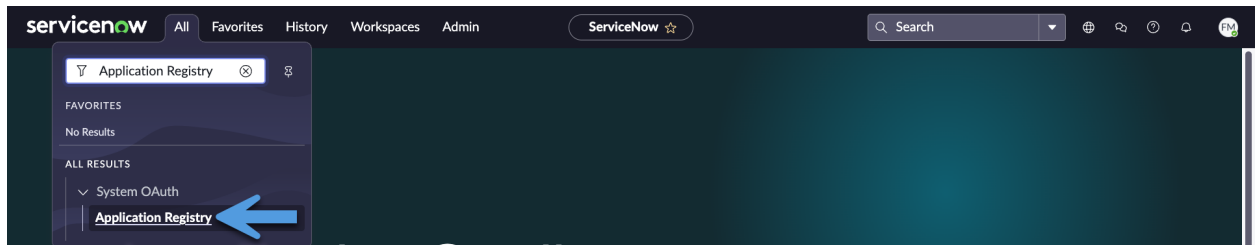
Name user_admin

Several sub-roles associated with the roles selected are automatically added by ServiceNow.

Create an OAuth API endpoint for external clients (optional)

Create an OAuth API endpoint to allow Forward Enterprise to access system resources in the ServiceNow CMDB.

1. Log in to the ServiceNow instance using an administrator account, navigate to “System OAuth” → “Application Registry”



Application Registries

Name	Active	Type	Client ID	Comments
ADFS	true	External OIDC Provider	{adfs-application-client-identifier-here}	
Auth0	true	External OIDC Provider	{auth0-application-client-id-here}	
Azure AD	true	External OIDC Provider	{azure-ad-application-id-here}	
Google	true	External OIDC Provider	{google-application-client-identifier-here}	
Mobile API	true	OAuth Client	ac0dd3408c1031006907010c2cc6ef6d	Used by the mobile app to allow access L...
Okta	true	External OIDC Provider	{okta-application-client-id-here}	
ServiceNow Agent	true	OAuth Client	ff97fbb4da3313004591cc3a291b47fd	
ServiceNow Classic Mobile App	false	OAuth Client	3e57bb02663102004d010ee8f561307a	
ServiceNow Request	true	OAuth Client	5c54dc934a022300cb7946e6ec6ec172	
ServiceNow Virtual Agent Example App	true	OAuth Client	2c403f19ac901300b303eef6c8b842d3	
Sidebar Microsoft Teams Graph	true	OAuth Provider		
Sidebar Teams Token Auth	true	External OIDC Provider	common	
WebKit HTML to PDF	true	OAuth Client	1624ac93b46221009eb8191f0e41680d	Used by the service WebKit HTML to PDF

2. Then, click “New” → “Create an OAuth API endpoint for external clients”.

Application Registries - New Record

OAuth client application details.

- Name:** A unique name.
- Client ID:** Client ID automatically generated by ServiceNow OAuth server.
- Client Secret:** Client secret for the OAuth application. Leave it empty for auto-generation.
- Refresh Token Lifespan:** Time in seconds the Refresh Token will be valid.
- Access Token Lifespan:** Time in seconds the Access Token will be valid.
- Redirect URL:** The redirect URLs authorization server redirect to. They must be absolute URLs and they are comma separated.
- Enforce Token Restriction:** Restricts the access token usage to the API's defined in the [REST API Access Policies](#). Unselecting this option would allow access token usage across other REST API's. [Learn more.](#)

More Info

* Name: forward

* Client ID: 1a53d6b47916f5108188e8df4be1595

Client Secret: [Leave Client Secret blank to automatically generate a string](#)

Redirect URL: [Add](#)

Logo URL: [Add](#)

Public Client: ☐

Comments:

Application: Global

Accessible from: All application scopes

Active: ☒

* Refresh Token Lifespan: 8,640,000

* Access Token Lifespan: 1,800

Login URL:

Auth Scopes

Auth Scope

Insert a new row...

Submit

OAuth client application details:

- Name:** A unique name. It's the only required field.
- Client ID:** Client ID is automatically generated by the ServiceNow OAuth server. Save the Client ID. It will be needed to configure the instance connection in Forward Enterprise.

- **Client Secret:** Client secret for the OAuth application. Leave it empty for auto-generation.
3. Click “Submit”.
 4. To copy an auto-generated **Client Secret**, select the forward application from the application list, use the “Toggle Password Visibility” icon to show the client secret, and copy it.

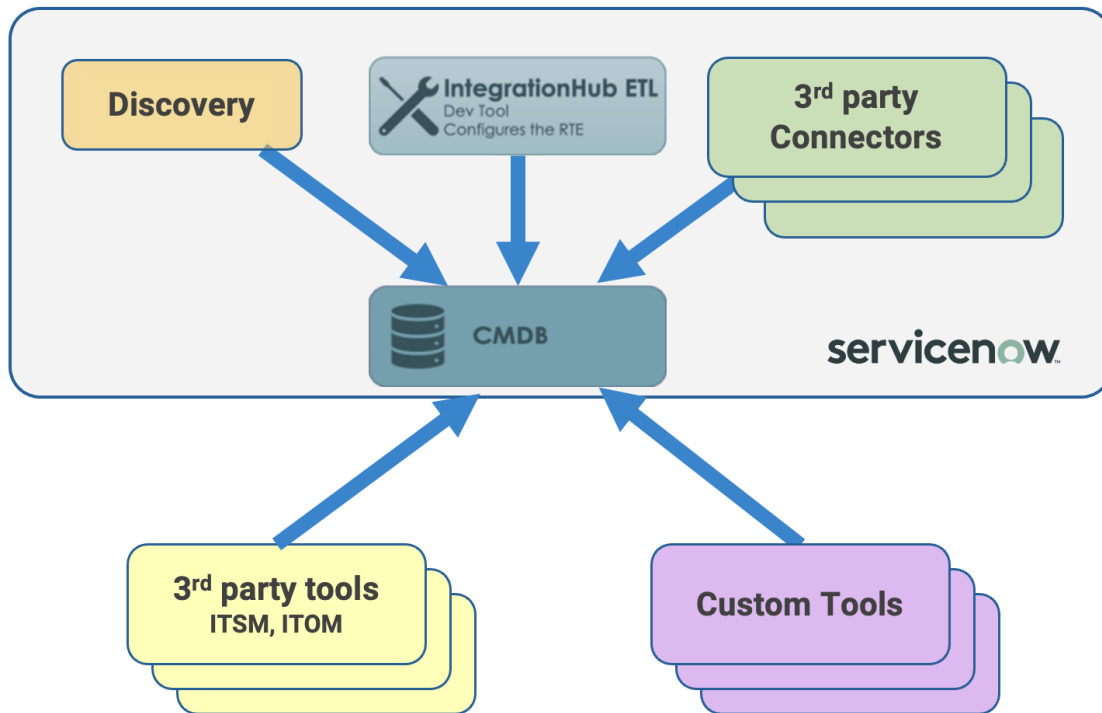
The screenshot shows the ServiceNow 'Application Registries' page for an application named 'forward'. The interface includes a top navigation bar with 'servicenow', 'All', 'Favorites', 'History', and 'Workspaces'. A search bar and a 'Toggle Password Visibility' button are visible. The main content area displays the following details:

- Name:** forward
- Client ID:** 1a53d6b47916f5108188e81df4be1
- Client Secret:** ^yO:Uhk:w (with a 'Toggle Password Visibility' icon)
- Application:** Global
- Accessible from:** All application scopes
- Active:** ☒
- * Refresh Token Lifespan:** 8,640,000

A 'More Info' link is located at the bottom left of the configuration area.

Add or Identify a Discovery Source (mandatory)

ServiceNow CMDB CIs can be created and updated by different sources. Common sources are the ServiceNow Discovery, ServiceNow Graph Connector, 3rd party external applications, and custom tools.



To see the Data Sources configured in a ServiceNow instance, navigate to “System Definition” → “Choice Lists”.

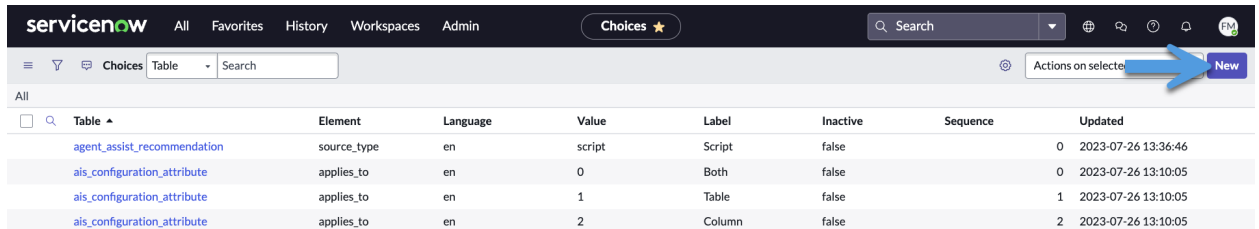
Table	Element	Language	Value	Label	Inactive	Sequence	Updated
cmdb_ci	discovery_source	en	ACC-Visibility	ACC-Visibility	false		2023-07-26 13:11:20
cmdb_ci	discovery_source	en	AgentClientCollector	AgentClientCollector	false		2023-07-26 13:11:20
cmdb_ci	discovery_source	en	Altiris	Altiris	false		2023-07-26 13:11:20
cmdb_ci	discovery_source	en	Cloud Insights Billing	Cloud Insights Billing	false		2023-07-26 13:11:20
cmdb_ci	discovery_source	en	CredentiallessDiscovery	CredentiallessDiscovery	false		2023-07-26 13:11:20
cmdb_ci	discovery_source	en	EventManagement	EventManagement	false		2023-07-26 13:11:20
cmdb_ci	discovery_source	en	Health Log Analytics	Health Log Analytics	false		2023-07-26 13:11:20

Forward recommends creating a new Data Source in ServiceNow to differentiate Forward Enterprise from the other data sources and assign it the highest priority.

New sources can be added from the “Choice Lists” page or using a script.

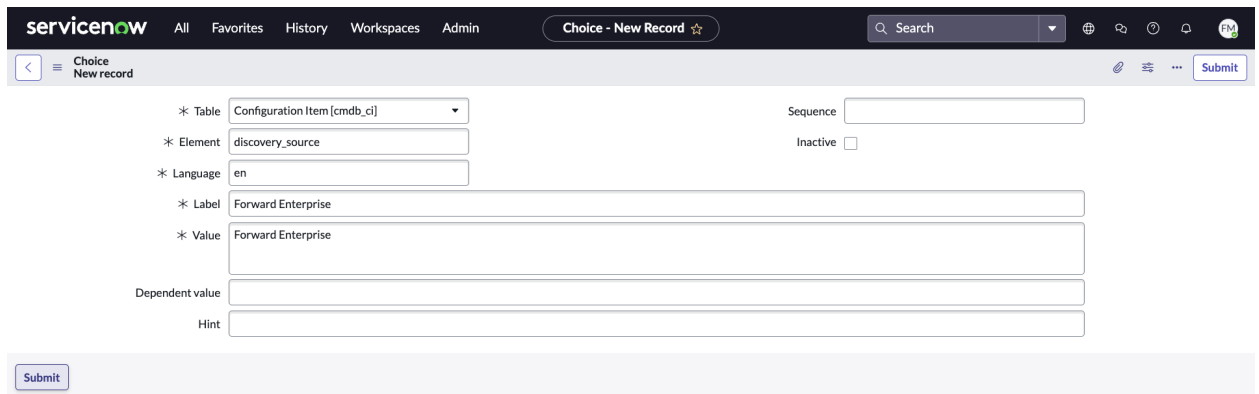
Add a new Data Source from the “Choice Lists” page

1. Navigate to the Choice Lists page and click on “New”



servicenow								
All Favorites History Workspaces Admin				Choices ☆		Search		
Choices Table Search				Actions on selected rows...		New		
Table	Element	Language	Value	Label	Inactive	Sequence	Updated	
agent_assist_recommendation	source_type	en	script	Script	false	0	2023-07-26 13:36:46	
ais_configuration_attribute	applies_to	en	0	Both	false	0	2023-07-26 13:10:05	
ais_configuration_attribute	applies_to	en	1	Table	false	1	2023-07-26 13:10:05	
ais_configuration_attribute	applies_to	en	2	Column	false	2	2023-07-26 13:10:05	

2. Input “Configuration Item [cmdb_ci]” in “Table”, “discovery_source” in “Element” and “Forward Enterprise” in both “Label” and “Value”.



Choice - New Record ☆

Search

Choice New record

* Table: Configuration Item [cmdb_ci] Sequence:

* Element: discovery_source Inactive: ☐

* Language: en

* Label: Forward Enterprise

* Value: Forward Enterprise

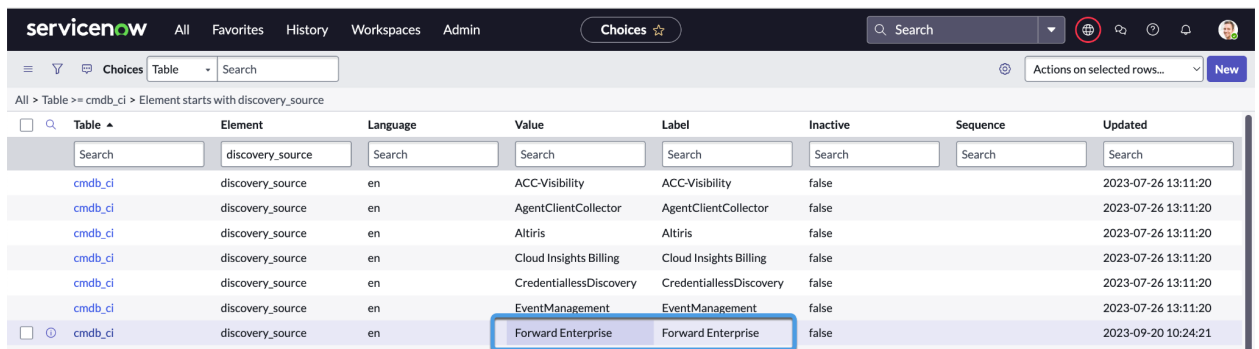
Dependent value:

Hint:

Submit

Then, click “Submit”

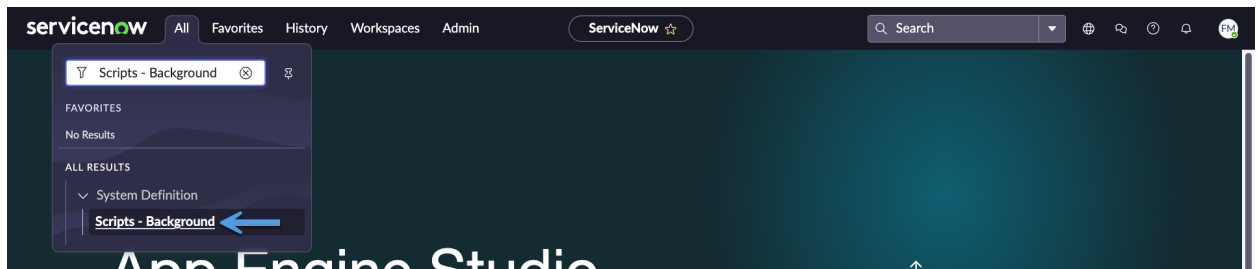
3. Verify the Source is present in the Sources List



servicenow								
All Favorites History Workspaces Admin				Choices ☆		Search		
Choices Table Search				Actions on selected rows...		New		
All > Table >> cmdb_ci > Element starts with discovery_source								
Table	Element	Language	Value	Label	Inactive	Sequence	Updated	
Search	discovery_source	Search	Search	Search	Search	Search	Search	
cmdb_ci	discovery_source	en	ACC-Visibility	ACC-Visibility	false		2023-07-26 13:11:20	
cmdb_ci	discovery_source	en	AgentClientCollector	AgentClientCollector	false		2023-07-26 13:11:20	
cmdb_ci	discovery_source	en	Altiris	Altiris	false		2023-07-26 13:11:20	
cmdb_ci	discovery_source	en	Cloud Insights Billing	Cloud Insights Billing	false		2023-07-26 13:11:20	
cmdb_ci	discovery_source	en	CredentiallessDiscovery	CredentiallessDiscovery	false		2023-07-26 13:11:20	
cmdb_ci	discovery_source	en	EventManagerment	EventManagerment	false		2023-07-26 13:11:20	
cmdb_ci	discovery_source	en	Forward Enterprise	Forward Enterprise	false		2023-09-20 10:24:21	

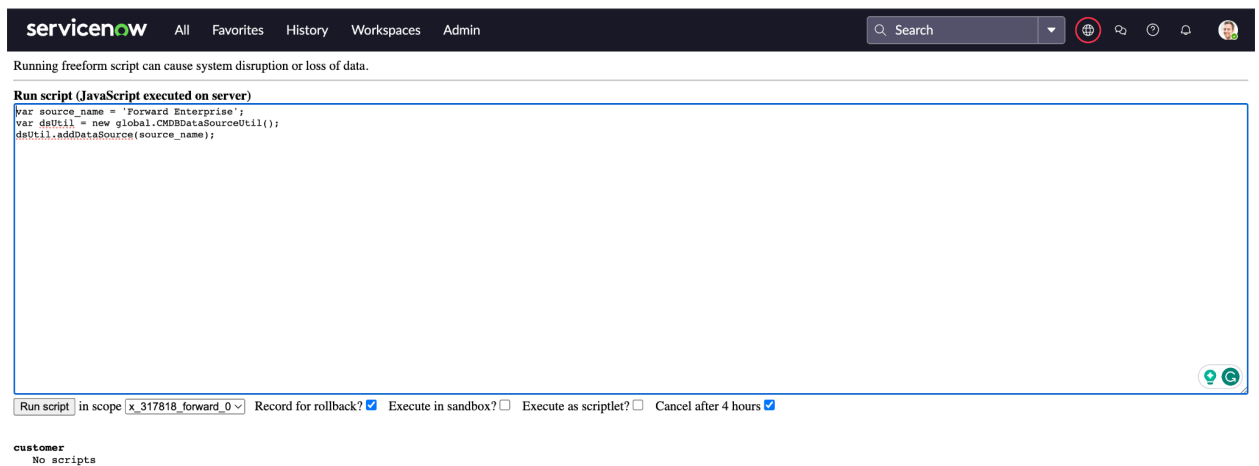
Add a new source using script

1. Navigate to “System Definition” → “Scripts - Background”

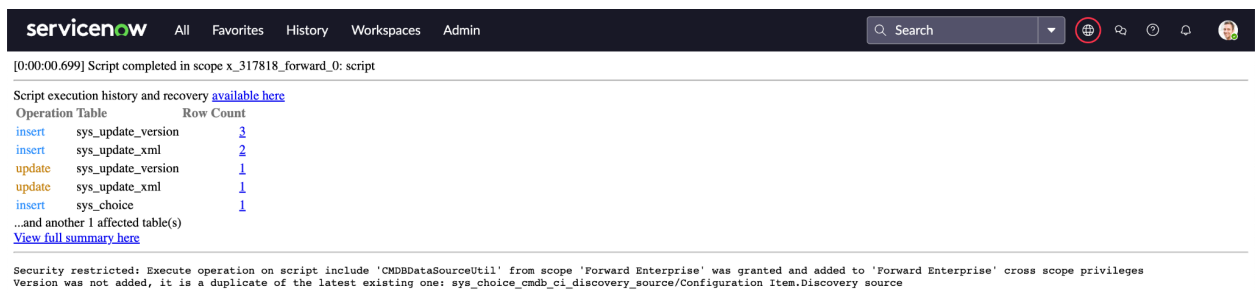


2. Copy the following JavaScript code and paste it into the “Run Script (JavaScript executed on server)” window

```
var source_name = 'Forward Enterprise';  
var dsUtil = new global.CMDBDataSourceUtil();  
dsUtil.addDataSource(source_name);
```



3. Click “Run Script” in the bottom left. Check the output. It should be similar to the following screenshot:



4. Verify the Source is present in the Sources List

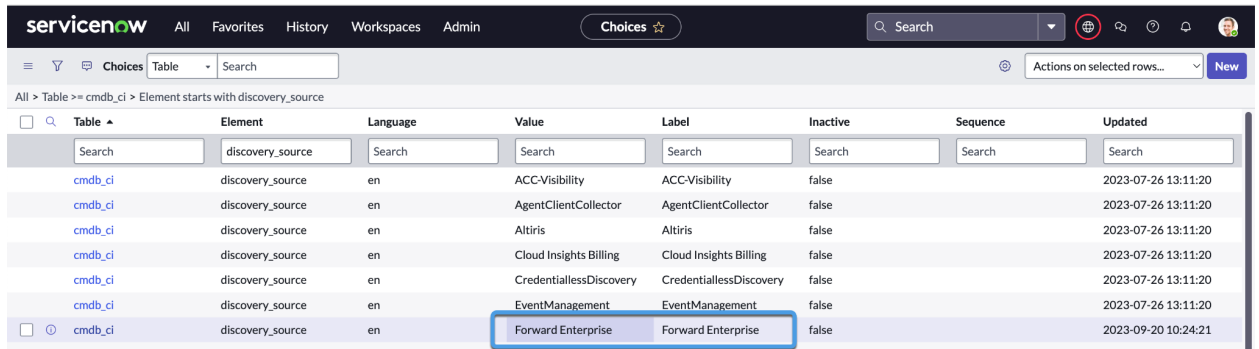


Table	Element	Language	Value	Label	Inactive	Sequence	Updated
Search	discovery_source	Search	Search	Search	Search	Search	Search
cmdb_ci	discovery_source	en	ACC-Visibility	ACC-Visibility	false		2023-07-26 13:11:20
cmdb_ci	discovery_source	en	AgentClientCollector	AgentClientCollector	false		2023-07-26 13:11:20
cmdb_ci	discovery_source	en	Altiris	Altiris	false		2023-07-26 13:11:20
cmdb_ci	discovery_source	en	Cloud Insights Billing	Cloud Insights Billing	false		2023-07-26 13:11:20
cmdb_ci	discovery_source	en	CredentiallessDiscovery	CredentiallessDiscovery	false		2023-07-26 13:11:20
cmdb_ci	discovery_source	en	EventManagement	EventManagement	false		2023-07-26 13:11:20
cmdb_ci	discovery_source	en	Forward Enterprise	Forward Enterprise	false		2023-09-20 10:24:21

Configure the ServiceNow CMDB IRE (recommended)

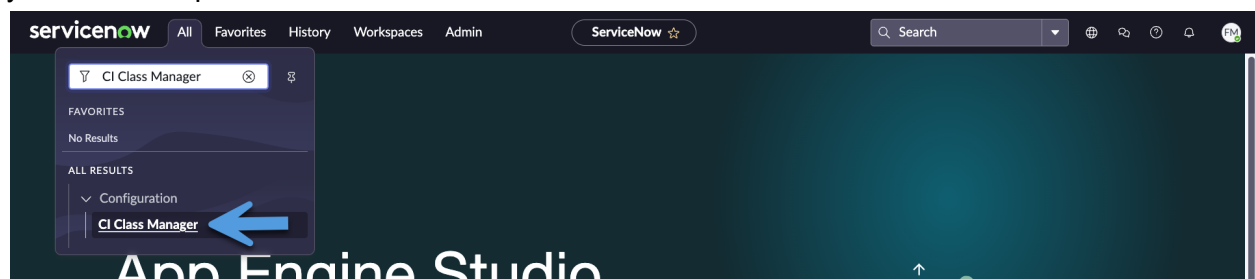
The ServiceNow CMDB Identification and Reconciliation Engine (IRE) is a powerful tool that helps organizations identify and reconcile configuration items (CIs) from multiple data sources. This is essential for maintaining an accurate and up-to-date CMDB, which is critical for effective IT service management.

The IRE works by matching CIs from different data sources based on a set of configurable criteria. These criteria can include attributes such as serial number, MAC address, IP address, and hostname.

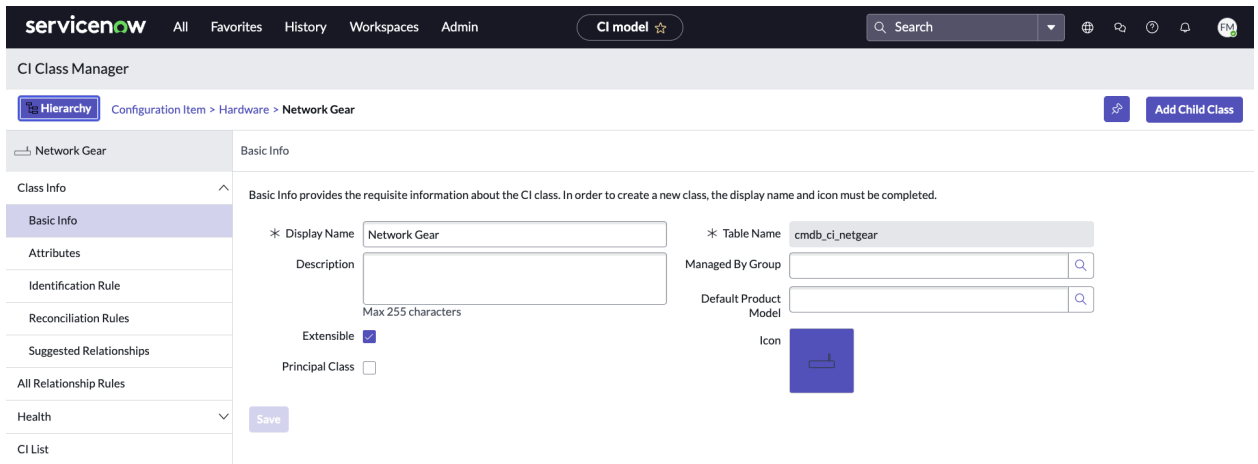
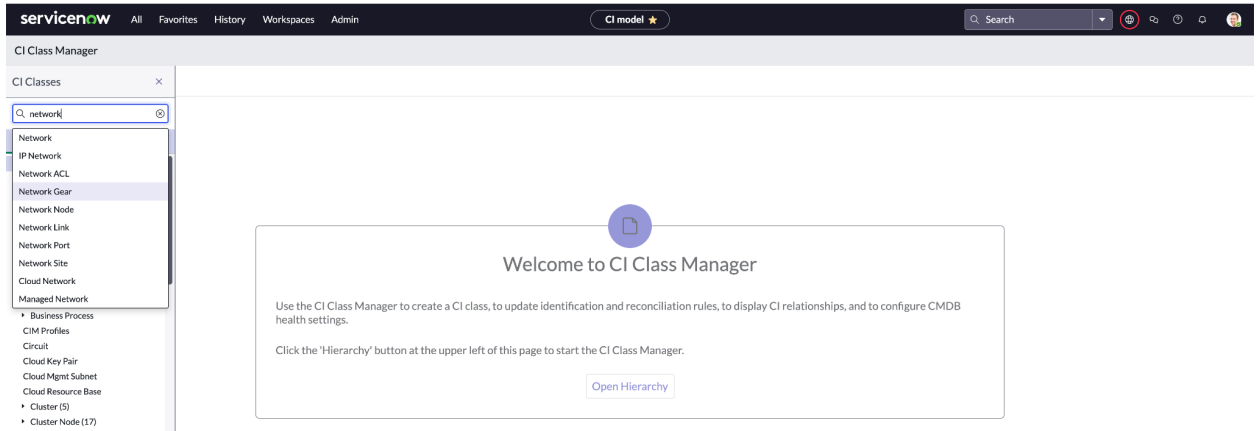
The IRE can also be configured to prioritize certain data sources over others and to handle duplicate CIs in a variety of ways.

Once the IRE has identified and reconciled CIs, it can update the CMDB with the most accurate and up-to-date information. This can help to improve the accuracy of IT service reporting and analytics and reduce the risk of incidents and outages.

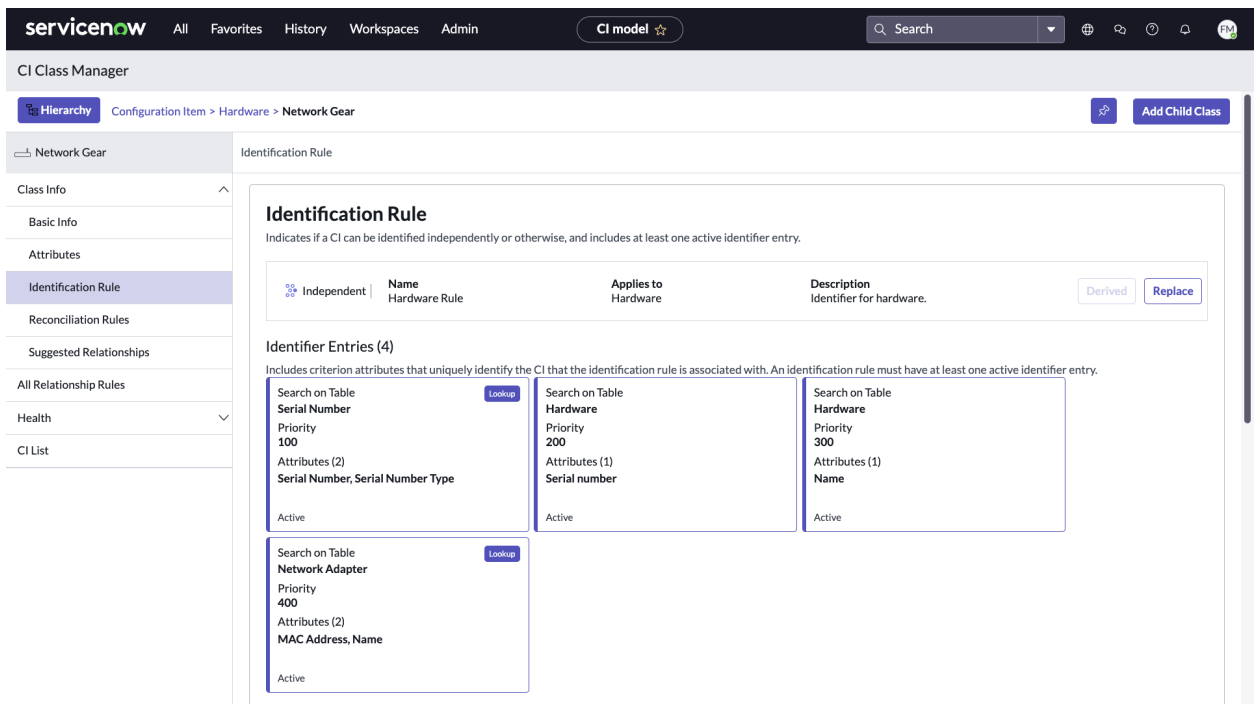
To configure the IRE, open the “CI Class Manager” and follow the instructions below for each CI you want to import data into



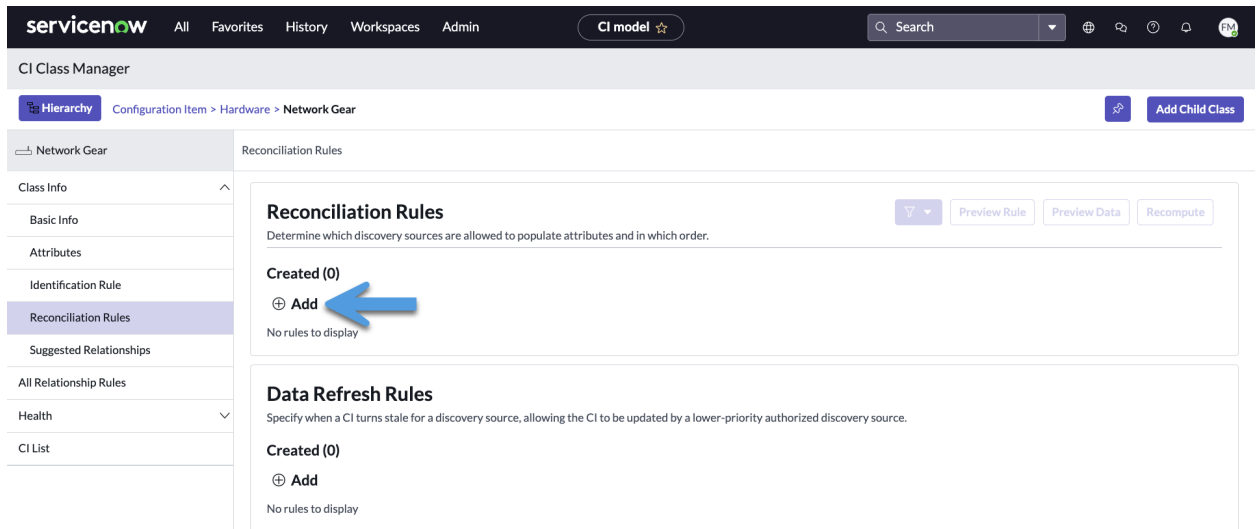
1. Click on “Open Hierarchy” and select the CI you want to configure using the “Search CI Classes” on the left



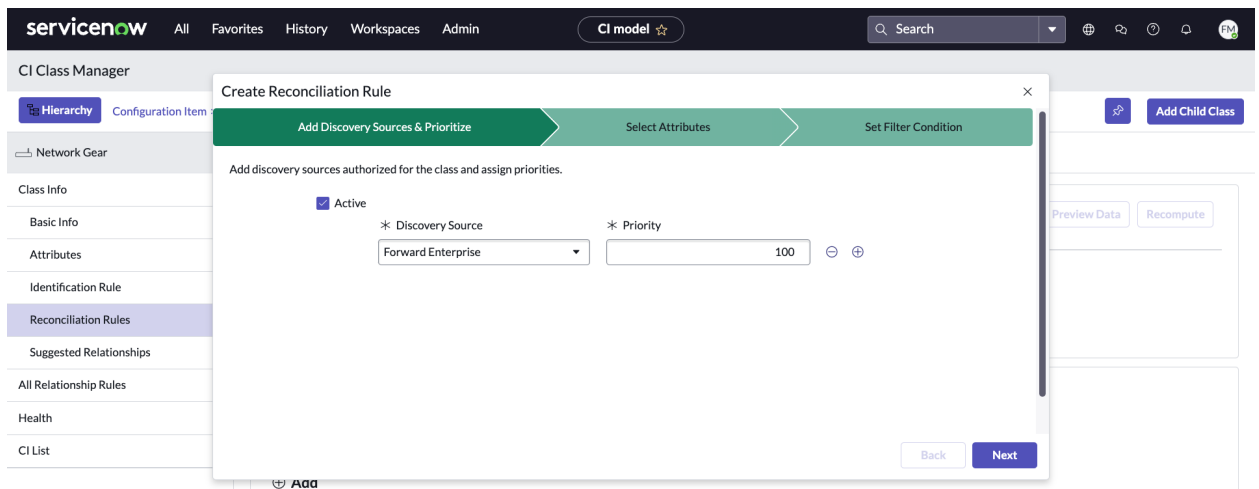
2. Navigate to “Identification Rule”.
Optionally, modify the set of criteria used to uniquely identify the CI.



3. Navigate to “Reconciliation Rules”.
Click “Add” in the “Reconciliation Rules” section.



4. Select “Forward Enterprise” from the “Discovery Source” list, provide a source priority (e.g. 100), and click “Next”



5. Select the attributes, and click “Next”.

servicenow All Favorites History Workspaces Admin **CI model** Search

Create Class Configuration Item > Hardware > Network Gear

Provide Basic Info ✓

Reconciliation Rule

Determine which discovery source is authoritative for a class.

Created (0)
 Add

Derived (1)
 Attributes
 All
 Discovery Source & Priority
 Forward Enterprise[100]
 Applies to
 Network Gear
 Active

Apply to all attributes ☐

Attributes

Available

- Attestation score
- Attestation Status
- Attested
- Attested By
- Attested Date
- Attributes
- Business Unit
- Can hub IP
- Can partition VLANs
- Can Print
- Can route IP
- Can switch IP
- Category
- Change Group
- Channels
- Checked in
- Checked out

Selected

- base
- CVE ID
- IS Vulnerable

Back Save

Data Refresh Rules
 Specify when a CI turns stale for a discovery source, allowing the CI to be updated by a lower-priority authorized discovery source.

Created (0)
 Add
 No rules to display

Cancel Back Next

6. Optionally, set a “Filter Condition” (e.g. a vendor), then click “Save”.

servicenow All Favorites History Workspaces Admin **CI model** Search

CI Class Manager Hierarchy Configuration Item

Network Gear

Class Info

Basic Info

Attributes

Identification Rule

Reconciliation Rules

Suggested Relationships

All Relationship Rules

Health

CI List

Create Reconciliation Rule

Add Discovery Sources & Prioritize ✓ Select Attributes ✓ Set Filter Condition

Authorized discovery sources can update only those CIs that meet the following conditions.

Filter Condition

All of these conditions must be met

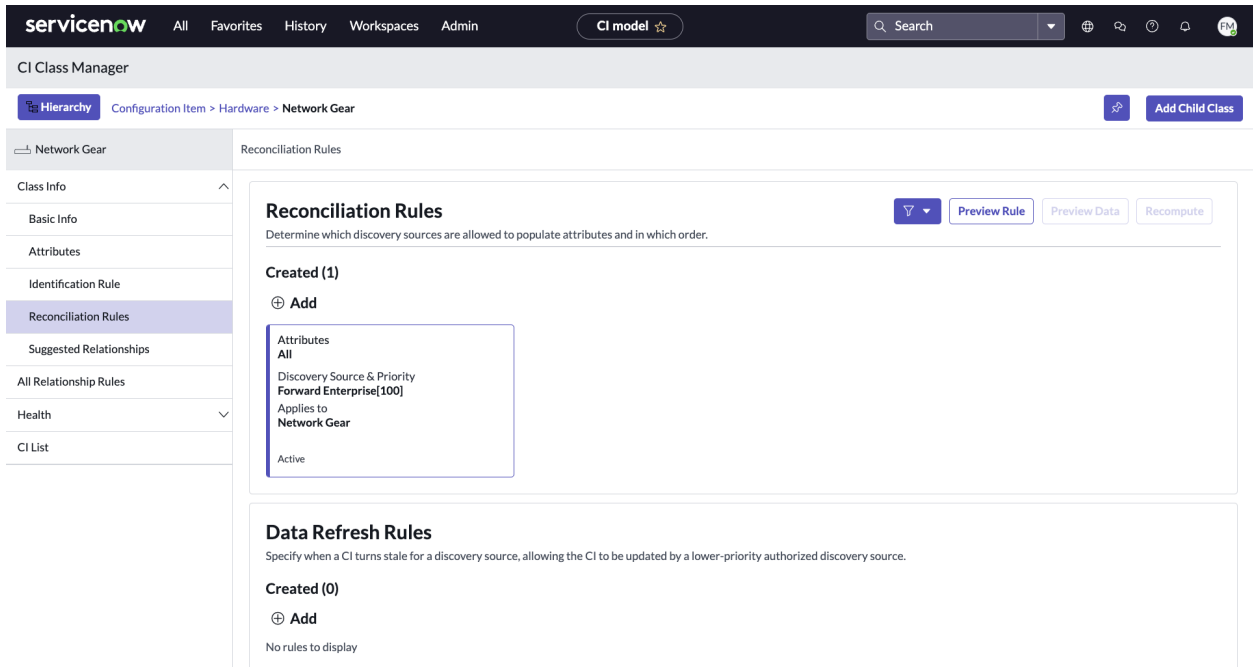
-- choose field --

AND OR

Back Save

Add Child Class

Preview Data Recompute

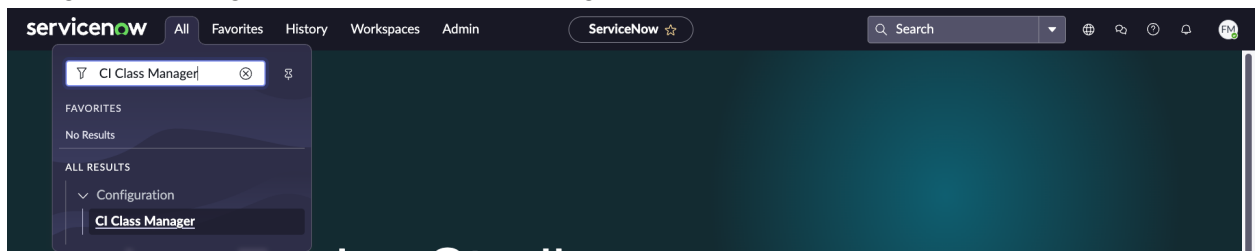


Add new CIs (Optional)

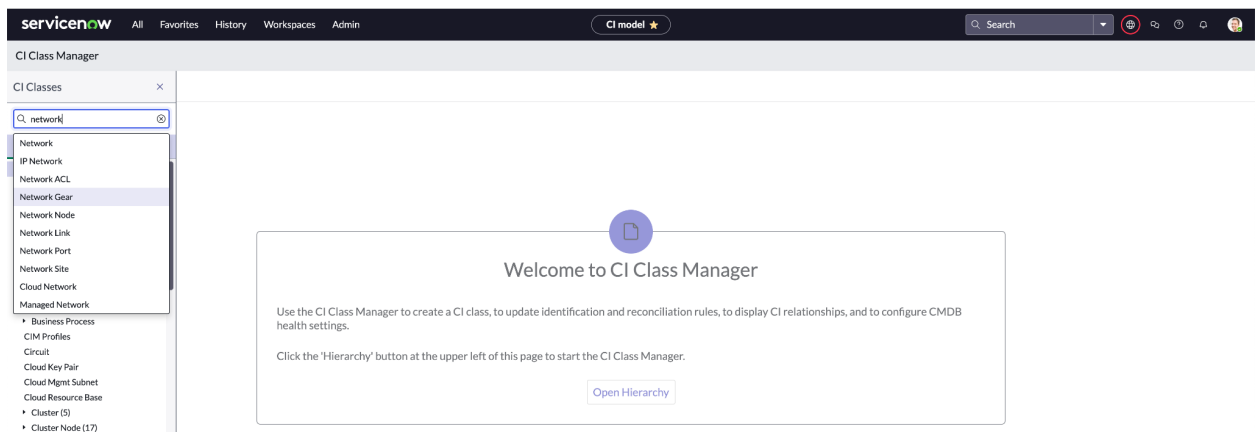
The ServiceNow CMDB provides a comprehensive list of CIs and attributes commonly used in IT environments. If you want to import Forward Enterprise data into CIs that are not present in ServiceNow CMDB, you need to create the CIs and their attributes first.

Before adding a new CI, you need to define its parent CI. Then follow these steps:

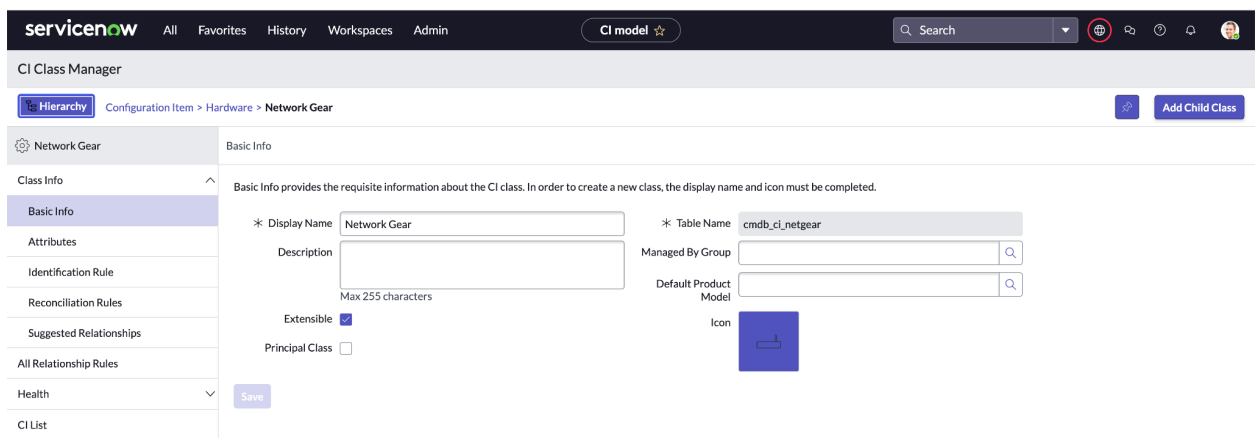
1. Navigate to Configuration → “CI Class Manager”



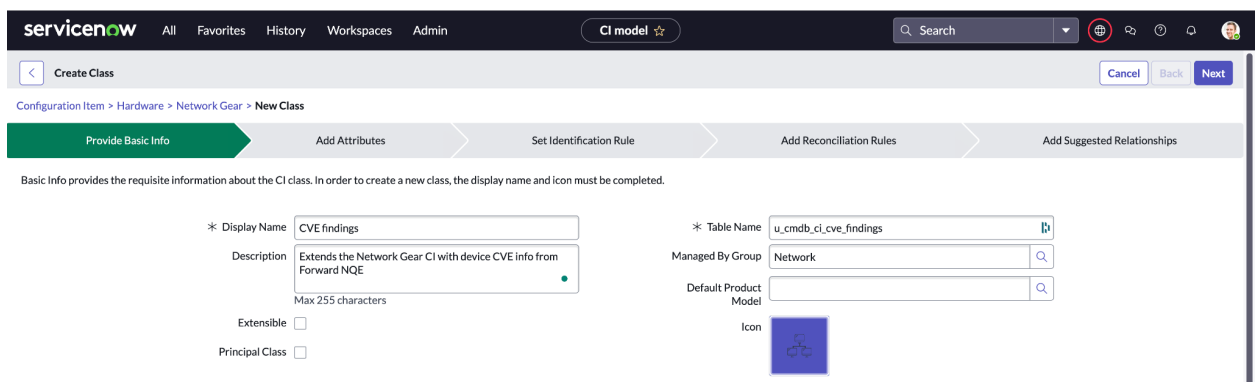
- Click on “Open Hierarchy” and select the parent CI (e.g. Network Gear)



- Click on “Add Child Class” on the upper right



- “Provide Basic Info”



- “Add Attributes”.

To add an attribute, double click “Insert a new row...”, as a “Column label”. By default, the attributes have a “String” type with a length of 40 characters. Modify it as needed. Click

“Next”.

The screenshot shows the 'Create Class' page in ServiceNow, specifically the 'Add Attributes' step. The breadcrumb trail is 'Configuration Item > Hardware > Network Gear > New Class'. The progress bar shows five steps: 'Provide Basic Info', 'Add Attributes' (current), 'Set Identification Rule', 'Add Reconciliation Rules', and 'Add Suggested Relationships'. Below the progress bar, there are tabs for 'Added', 'Derived', and 'All'. A text block states: 'Attributes that are created specifically for the CI class. Select true in the identification column if you want to use an attribute as an identifier criterion'. A table lists attributes with columns: Column label, Column name, Type, Reference, Max length, Default value, Mandatory, Display, and Identification Rule. The table contains three rows: 'CVE ID' with column name 'u_cve_id', type 'String', max length 40, mandatory false, display false, and identification rule false; 'Is Vulnerable' with column name 'u_is_vulnerable', type 'String', max length 40, mandatory false, display false, and identification rule false; and 'basis' with column name 'u_basis', type 'String', max length 40, mandatory false, display false, and identification rule false. At the bottom, there is a '+ Insert a new row...' link.

Column label	Column name	Type	Reference	Max length	Default value	Mandatory	Display	Identification Rule
CVE ID	u_cve_id	String		40		false	false	false
Is Vulnerable	u_is_vulnerable	String		40		false	false	false
basis	u_basis	String		40		false	false	false

6. “Set Identification Rule”.

By default, the new CI inherits the Identification Rules from its parent CI.

Forward recommends keeping the default values.

The screenshot shows the 'Create Class' page in ServiceNow, specifically the 'Set Identification Rule' step. The breadcrumb trail is 'Configuration Item > Hardware > Network Gear > New Class'. The progress bar shows five steps: 'Provide Basic Info', 'Add Attributes', 'Set Identification Rule' (current), 'Add Reconciliation Rules', and 'Add Suggested Relationships'. The 'Identification Rule' section has a title 'Identification Rule' and a description 'Indicates if a CI can be identified independently or otherwise, and includes at least one active identifier entry.' Below this, there is a table with columns: Independent (checked), Name (Hardware Rule), Applies to (Hardware), and Description (Identifier for hardware). There are 'Derived' and 'Replace' buttons. Below the table, there is a section 'Identifier Entries (4)' with a description 'Includes criterion attributes that uniquely identify the CI that the identification rule is associated with. An identification rule must have at least one active identifier entry.' There are four identifier entry cards, each with a 'Lookup' button. The first card is 'Search on Table Serial Number' with priority 100, attributes (2) 'Serial Number, Serial Number Type', and is active. The second card is 'Search on Table Hardware' with priority 200, attributes (1) 'Serial number', and is active. The third card is 'Search on Table Hardware' with priority 300, attributes (1) 'Name', and is active. The fourth card is 'Search on Table Network Adapter' with priority 400, attributes (2) 'MAC Address, Name', and is active.

7. “Add Reconciliation Rules”

Click “Add” in the Reconciliation Rules section.

By default, the new CI inherits the Reconciliation Rules from its parent CI.

To add a new one, click “Add”

The screenshot shows the 'Create Class' page in ServiceNow. The breadcrumb trail is 'Configuration Item > Hardware > Network Gear > New Class'. The progress bar indicates the following steps: 'Provide Basic Info' (checked), 'Add Attributes' (checked), 'Set Identification Rule' (checked), 'Add Reconciliation Rules' (current step), and 'Add Suggested Relationships'. The 'Reconciliation Rules' section has a description: 'Determine which discovery sources are allowed to populate attributes and in which order.' It shows 'Created (0)' with an 'Add' button highlighted by a blue arrow, and 'Derived (1)' with a list of attributes: 'All', 'Discovery Source & Priority', 'Forward Enterprise[100]', 'Applies to', and 'Network Gear'. The 'Data Refresh Rules' section has a description: 'Specify when a CI turns stale for a discovery source, allowing the CI to be updated by a lower-priority authorized discovery source.' It shows 'Created (0)' with an 'Add' button. At the bottom are 'Cancel', 'Back', and 'Next' buttons.

8. Select “Forward Enterprise” from the “Discovery Source” list, provide a source priority (e.g. 100), and click “Next”

The screenshot shows the 'Create Reconciliation Rule' dialog box. The 'Add Discovery Sources & Prioritize' tab is active, with the description 'Add discovery sources authorized for the class and assign priorities.' The 'Active' checkbox is checked. The 'Discovery Source' dropdown is set to 'Forward Enterprise' and the 'Priority' input field is '100'. There are 'Back' and 'Next' buttons at the bottom right of the dialog. The background shows the 'Create Class' page with the 'Reconciliation Rules' section, where the 'Add' button is visible.

9. Select the attributes, and click “Next”.

The screenshot shows the 'Create Reconciliation Rule' dialog box in ServiceNow. The dialog has a title bar with 'Create Reconciliation Rule' and a close button. Below the title bar, there is a section 'Select attributes that can be updated by the authorized discovery sources.' with a toggle for 'Apply to all attributes'. The main area is divided into 'Attributes' and 'Selected' columns. The 'Attributes' column lists various attributes like 'Attestation score', 'Attestation Status', 'Attested', 'Attested By', 'Attested Date', 'Attributes', 'Business Unit', 'Can hub IP', 'Can partition VLANs', 'Can Print', 'Can route IP', 'Can switch IP', 'Category', 'Change Group', 'Channels', 'Checked in', and 'Checked out'. The 'Selected' column contains 'Basis', 'CVE ID', and 'IS Vulnerable'. There are 'Back' and 'Save' buttons at the bottom right of the dialog. In the background, the 'Create Class' form is visible, showing the 'Provide Basic Info' step completed and the 'Add' button for 'Derived (1)' attributes.

10. Skip the “Set Filter Condition”, and click “Save”

11. “Add Suggested Relationships”

This part is optional.

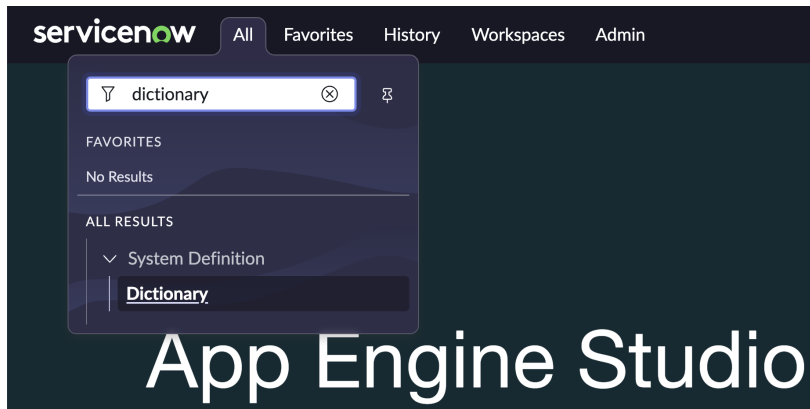
The screenshot shows the 'Add Suggested Relationships' screen in ServiceNow. The screen has a title bar with 'Add Suggested Relationships' and a search bar. Below the title bar, there is a section 'Create a list of relationship types to select from when building relationships for this class.' with a 'New' button. The main area displays a diagram showing relationships between various entities. The entities are represented by boxes with icons and labels: 'Windows Server' (labeled 'Derived'), 'Service' (labeled 'Derived'), 'UNIX Server' (labeled 'Derived'), 'CVE findings' (labeled 'Derived'), and 'Unique Certificate' (labeled 'Derived'). The relationships are indicated by arrows and labels: 'Exchanges data with' (between Windows Server and Service), 'Connects to' (between Service and UNIX Server), 'Depends on' (between Service and UNIX Server), 'CVE findings' (between UNIX Server and CVE findings), and 'Uses' (between CVE findings and Unique Certificate). There are 'Cancel', 'Back', and 'Done' buttons at the bottom left of the screen.

12. Click “Done” to complete the process

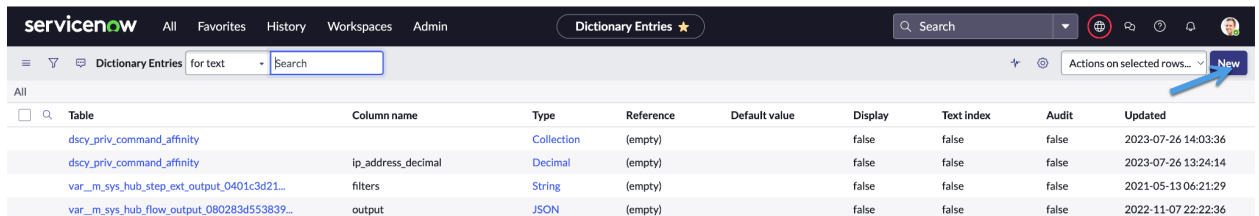
Add attributes to an existing CI (Optional)

To add one or more attributes to an existing CI

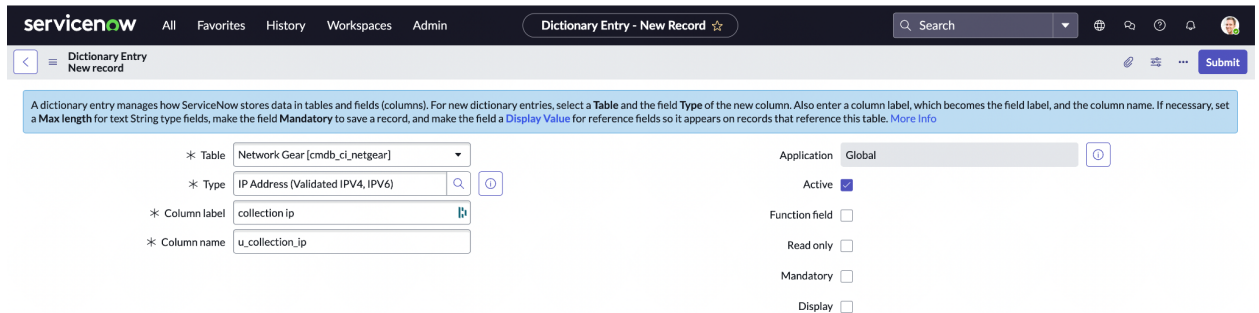
1. Navigate to “System Definition” → “Dictionary”



2. Click on “New” on the upper right



3. Provide the CI table name, the new attribute type, and all the required fields for the given type. The example below shows how to add an IP attribute to the cmdmb_ci_network_gear CI:



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

* Table	Network Gear [cmdmb_ci_netgear]	Application	Global
* Type	IP Address (Validated IPv4, IPv6)	Active	☒
* Column label	collection ip	Function field	☐
* Column name	u_collection_ip	Read only	☐
		Mandatory	☐
		Display	☐