



Integrating with ServiceNow

OnCommand Insight

NetApp
June 10, 2024

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Integrating with ServiceNow

OnCommand Insight integrates with ServiceNow management software to provide greater value than the products have separately.

Using a Python script, Insight can integrate data with ServiceNow, synchronizing the following information:

- Storage asset data for ServiceNow servers
- Host and VM URLs for ServiceNow servers
- Relationships between Hosts/VMs and Storage

Preparation and prerequisites for Service Now integration

The necessary preparations and prerequisites must be satisfied for ServiceNow, Insight, and the Python middleware connector prior to integration.

Recommended workflow

The following workflow is strongly recommended when integrating ServiceNow with Insight:

1. Deploy the Python middleware connector in your development instance first.
2. Once you have confirmed all faults have been identified and corrected in your development instance, deploy the connector in your test/stage instance.
3. Once you have confirmed correct operation in your staging instance, deploy the connector in your production instance.

If problems are found during any of these stages, follow your rollback steps and disable the connector, then troubleshoot the problem and re-deploy.

General prerequisites:

- You can use either a standalone host or VM (recommended) or the Insight server host/VM to host the python middleware connector.
- It is highly recommended to backup the production Insight server and deploy it on a development instance.
- ServiceNow must be accurately discovering servers in the CMDB.
- Insight must be accurately discovering your storage and compute environments.
- Port 443 and 80 to the Insight Server and ServiceNow Instance.

ServiceNow prerequisites:

- It is highly recommended to use a development/test instance.
- Permission to load ServiceNow update sets.
- Permission to create users.
- ServiceNow version Jakarta or later

Insight prerequisites:

- It is highly recommended to use a development/test instance.
- Permission to create users (Admin permissions).
- Insight version 7.3.1 or later is supported, but to get the most out of Insight, use the latest version.

Python middleware connector prerequisites:

- Python version 3.6 or greater installed.
- When installing Python, check the box to enable all users. This sets Python for standard application install locations.
- When installing Python, check the box to enable the installer to update the path. Otherwise, you will have to update the path manually.
- Download the Python **pysnow** and **requests** libraries.

Downloading the ServiceNow Python connector

You must download the Python connector for ServiceNow integration and extract it to a location of your choosing.

Steps

1. Download the **ServiceNow Integration connector** from the [NetApp Storefront](#).
2. Extract the .zip file to a folder, for example `c:\OCI2SNOW`.

The integration connector script is named `oci_snow_sync.pyz`.

Configuring ServiceNow for integration

Integrating ServiceNow with Insight requires several setup tasks.

About this task

The following tasks must be performed when integrating ServiceNow with Insight:

On the ServiceNow side:

- Elevate Role
- Install Update Sets
- Set up users

On the Insight side:

- Add the ServiceNow user

On the Python connector side:

- Install Python

- Install additional libraries
- Initialize the connector
- Edit the config.ini file
- Test the connector
- Synchronize the connector
- Schedule daily task execution

Each of these is explained in greater detail in the following sections.

Elevate role

You must elevate your ServiceNow role to `security_admin` before you can integrate with insight.

Steps

1. Log into your ServiceNow instance with administrator permissions.
2. Under the **System Administrator** drop-down, choose **Elevate Roles** and elevate your role to `security_admin`. Click OK.

Install update set

As part of the integration between ServiceNow and OnCommand Insight you must install an Update Set, which loads pre-configured data into ServiceNow in order to provide the connector with specific fields and tables for extracting and loading data.

Steps

1. Navigate to the remote update sets table in ServiceNow by searching for "Retrieved update sets".
2. Click on **Import Update Set from XML**.
3. The update set is in the Python connector .zip file previously downloaded to your local drive (in our example, the `C:\OCI2SNOW` folder) in the `\update_sets` sub-folder. Click on **Choose File** and select the .xml file in this folder. Click **Upload**.
4. Once the Update Set is loaded, open it and click on **Preview Update Set**.

If errors are detected, you must correct them before you can commit the Update Set.

5. If there are no errors, click **Commit Update Set**.

Once the Update Set has been committed it will show on the **System Update Sets > Update Sources** page.

ServiceNow integration - Set up user

You must set up a ServiceNow user for Insight to connect with and synchronize data.

About this task

Steps

1. Create a services account in ServiceNow. Login to ServiceNow and navigate to **system security > users and groups > users**. Click on **New**.
2. Enter a user name. In this example, we will use “OCI2SNOW” as our integration user. Enter a password for this user.



In this How-to we use a services account user named “OCI2SNOW” across the documentation. You may use a different services account, but be sure it is consistent across your environment.

3. Right-click on the menu bar and click **Save**. This will allow you to stay on this user in order to add roles.
4. Click **Edit** and add the following roles to this user:
 - asset
 - import_transformer
 - rest_service
5. Click **Save**.
6. This same user must be added to OnCommand Insight. Log in to Insight as a user with Administrator permissions.
7. Navigate to **Admin > Setup** and click on the **Users** tab.
8. Click the **Actions** button and select **Add user**.
9. For name, enter “OCI2SNOW”. If you used a different user name above, enter that name here. Enter the same password you used for the ServiceNow user above. You may leave the email field blank.
10. Assign this user the **User** role. Click **Save**.

Install Python and libraries

Python can be installed on the Insight server or on a standalone host or VM.

Steps

1. On your VM or host, download Python 3.6 or later.
2. Choose custom installation and choose the following options. These are either necessary for proper connector script operation or are highly recommended.
 - Install launcher for all users
 - Add Python to the PATH
 - Install pip (which allows Python to install other packages)
 - Install tk/tcl and IDLE
 - Install the Python test suite
 - Install py launcher for all users
 - Associate files with Python
 - Create shortcuts for installed applications
 - Add python to environment variables

- Precompile standard library
3. After Python is installed, install the “requests” and “psnow” Python libraries. Run the following command:

```
python -m pip install requests pysnow
```

NOTE: This command might fail when you are operating in a proxy environment. To work around this issue, you need to manually download each one of the Python Libraries and run the install requests one by one and in the correct order.

The command will install several files.

4. Verify the Python libraries are installed correctly. Start Python using one of the following methods:
 - Open a cmd prompt and type `python`
 - On Windows, open **Start** and choose **Python > python-<version>.exe**
5. At the Python prompt, type `modules`

Python will ask you to wait a moment while it gathers a list of modules, which it will then display.

Setup Python middleware

Now that Python and the necessary libraries are installed, you can configure the middleware connector to communicate with OnCommand Insight and ServiceNow.

Steps

1. On the host or VM where you downloaded the connector software, open a cmd window as administrator and change to the `\OCI2SNOW\` folder.
2. You must initialize the script to generate an empty **config.ini** file. Run the following command:

```
oci_snow_sync.pyz init
```
3. Open the **config.ini** file in a text editor and make the following changes in the [OCI] section:
 - Set **url** to `<a href="https://<name.domain>" class="bare">https://<name.domain>` or `<a href="https://<ip" class="bare">https://<ip" address">https://<ip" address">` for the Insight instance.
 - Set **user** and **password** to the Insight user created, for example, OCI2SNOW.
 - Set **include_off_vms** to **false**
4. In the [SNOW] section, make the following changes:
 - Set **Instance** to the FQDN or ip address for your ServiceNow instance
 - Set **User** and **Password** to the ServiceNow service account user, for example, the OCI2SNOW.
 - Under **Field for the OCI URL**, set the **url** field to “u_oci_url”. This field is created as part of the connector OCI update set. You can change this in the customer environment, but if you do so, you need to modify it here and in ServiceNow. Best practice is to leave this field as is.
 - Set the **filter_status** field to “Installed, In Stock”. If you have a status that is different, you must set that status here in order to get all the records to match with Insight records prior to upload of new records. In most cases this field should remain unchanged.
 - Set **stale_status** to “Retired”.
5. The [Proxy] section is only required if you use a proxy server. If you need to use this section, ensure the

following settings:

- ;https = <http://<host>:<port>>;
- ;http = <http://<host>:<port>>;
- ;include_oci = True
- ;include_snow = True

6. Edit the [Log] section only if you need deeper debug information.
7. To test the connector, open a cmd prompt as administrator and change to the \OCI2SNOW folder. Run the following command: `oci_snow_sync.pyz test`

Details can be seen in the `logs\` folder.

Syncing the connector

Once ServiceNow, Insight and the connector are properly configured, you can synchronize the connector.

Steps

1. Open a cmd prompt and change to the \OCI2SNOW folder.
2. Run the following command twice. The first sync updates the items, the second sync updates the relationships: `oci_snow_sync.pyz sync`
3. Verify that the Storage Server table in your ServiceNow instance is populated. Open a storage server and verify that resources related to that storage are listed.

Scheduling synchronization to occur daily

You can use the Windows task scheduler to automatically sync the ServiceNow connector.

About this task

Automatic synchronization ensures that Insight data is regularly moved to ServiceNow. You can use any method for scheduling. The following steps use the Windows task scheduler to accomplish automatic syncing.

Steps

1. On the Windows screen, click **Start** and enter `run > task scheduler`.
2. Click **Create Basic Task...**
3. Enter a meaningful name, such as "OCI2SNOW Connector Sync". Enter a description of the task. Click **Next**.
4. Select to run the task **Daily**. Click **Next**.
5. Choose a time of day to run the task. Click **Next**.
6. For Action, select **Start a program**. Click **Next**.
7. In the **Program/script** field, enter `C:\OCI2SNOW\oci_snow_sync.pyz`. In the **Arguments** field, enter `sync`. In the **Start in** field, enter `C:\OCI2SNOW`. Click **next**.

8. Review the Summary details, and click **Finish**.

The synchronization is now scheduled to run daily.

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