ThreatQuotient

ServiceNow Connector Guide

Version 2.5.0

August 17, 2021

ThreatQuotient
11400 Commerce Park Dr., Suite 200
Reston, VA 20191

Support
Email: support@threatq.com
Web: support.threatq.com
Phone: 703.574.9893

Contents

Warning and Disclaimer

ThreatQuotient, Inc. provides this document “as is”, without representation or warranty of any kind, express or implied, including without limitation any warranty concerning the accuracy, adequacy, or completeness of such information contained herein. ThreatQuotient, Inc. does not assume responsibility for the use or inability to use the software product as a result of providing this information.

Versioning

- Current integration version: `2.5.0`
- Supported on ThreatQ versions >= `4.3.0`

There are two versions of this integration:

- Python 2 version
- Python 3 version

Introduction

The ServiceNow Connector allows you to sync ServiceNow's default Service Desk Incidents, as well as Security Incidents, Security Cases, and Observables (indicators) to ThreatQ. You can also add ThreatQ related objects to ServiceNow.

> ⚠ The ServiceNow connector requires that your ThreatQ instance use the **same timezone** as your ServiceNow instance. See the Prerequisites section for more details.

Use Cases

This section will detail how the connector interacts with both platforms.

- If a new incident (security, case, service desk, etc.) is detected in ServiceNow, it will be added to ThreatQ with it's ServiceNow number appended to the title
  - If there are any parent or related incidents, they will be added and related in ThreatQ.
  - Problems and Change requests will *not* be added to ThreatQ.
- If an observable (indicator) is added to ServiceNow, it will be added to ThreatQ.
- If there has been any new relationships created between incidents and other incidents or incidents and observables, those relationships will be added to ThreatQ.
- If you add related indicators (observables) or events to a ThreatQ event (from ServiceNow), those related indicators/events will be added to ServiceNow and related to the incident.
  - Related events will only sync if they fall under the supported tables
  - Related indicators will only sync if they fall under the supported indicator types
- ThreatQ attributes and metadata for Indicators will be added to ServiceNow as an Observable's security annotations
  - Please see the 'Sync Security Annotations Immediately' option in the ThreatQ UI
- Workflow comments/work_notes will *not* be added to ThreatQ
  - They have been excluded because they provide unneeded information and clutter the comments section in ThreatQ.
- Occasionally, ServiceNow will not update the 'sys_updated_on property of incidents immediately. It could take 30 seconds. Keep that in mind while testing

- Due to syncing security annotations (indicator attributes), syncing will take longer
  - ServiceNow only supports 1 HTTP request per added security annotation at a time

ThreatQ Event Types

The following are the ThreatQ event types that are created when installing the integration

- ServiceNow Service Desk Incident
- ServiceNow Security Incident
- ServiceNow Security Case

Permissions

This section will list tables that the integration will need read/write access to. This may vary depending on which options you have enabled in the ThreatQ UI configuration.

- incident
- sn_si_incident
- sn_ti_case
- sn_ti_m2m_task_observable
- sn_ti_m2m_case_task
- sn_ti_observable
- sn_ti_m2m_task_observable
- sys_journal_field (only before v2.0.2)

Supported Observable Types

The following are supported observable (indicator) types from ServiceNow. If you would like a type supported and it is not listed, please contact ThreatQ support and we can add support for those types.

- IP Address (V4) -> IP Address
- Email address -> Email Address
- Unknown -> String
- SHA512 hash -> SHA-512
- Filename -> Filename

- File path -> File Path
- CIDR rule -> CIDR Block
- SHA1 hash -> SHA-1
- Registry key -> Registry Key
- Domain name -> FQDN
- MUTEX name -> Mutex
- URI -> URL Path
- SHA256 hash -> SHA-256
- MD5 hash -> MD5
- CVE number -> CVE
- URL -> URL
- Top-level domain name: FQDN

Prerequisites

The ServiceNow connector requires that your ThreatQ instance use the **same timezone** as your ServiceNow instance. You must ensure that both your ThreatQ and ServiceNow instances are using the same timezone before installing the connector.

You can update your ThreatQ instance's timezone setting using the `timedatectl set-timezone` command. In the example below, the timezone will be updated to UTC.

Example

```
<> timedatectl set-timezone UTC
```

Installation

The connector can be installed from the ThreatQuotient repository with YUM credentials or offline via a .whl file.

> **Upgrading Users** - Review the Change Log for updates to configuration parameters before updating. If there are changes to the configuration file (new/removed parameters), you must first delete the previous version's configuration file before proceeding with the install steps listed below. Failure to delete the previous configuration file will result in the connector failing.

1. Install the connector using one of the following methods:

   ThreatQ Repository

   a. Run the following command:

   ```
   <> pip install tq_conn_servicenow
   ```

   Offline via .whl file

   To install this connector from a wheel file, the wheel file (.whl) will need to be copied via SCP into your ThreatQ instance.

   a. Download the connector whl file with its dependencies:

   ```
   <> mkdir /tmp/tq_conn_servicenow

      pip download tq_conn_servicenow -d

      /tmp/tq_conn_servicenow/
   ```

   b. Archive the folder with the .whl files:

   ```
   <> tar -czvf tq_conn_servicenow.tgz /tmp/tq_conn_servicenow/
   ```

   c. Transfer all the whl files, the connector and all the dependencies, to the ThreatQ instance.

   d. Open the archive on ThreatQ:

   ```
   <> tar -xvf tq_conn_servicenow.tgz
   ```

   e. Install the connector on the ThreatQ instance.

> The example assumes that all the whl files are copied to `/tmp/conn` on the ThreatQ instance.

```
<> pip install /tmp/conn/tq_conn_servicenow-<version>-<python
   version>-none-any.whl --no-index --find-links /tmp/conn/
```

> A driver called `tq-conn-servicenow` is installed. After installing with `pip` or `setup.py`, a script stub will appear in `/usr/bin/tq-conn-servicenow`.

2. Once the application has been installed, a directory structure must be created for all configuration, logs and files, using the `mkdir -p` command. Use the commands below to create the required directories:

```
<> mkdir -p /etc/tq_labs/
   mkdir -p /var/log/tq_labs
```

3. Perform an initial run using the following command:

```
<> tq-conn-servicenow -c /etc/tq_labs/ -ll /var/log/tq_labs/ -v3
```

4. Enter the following parameters when prompted:

PARAMETER	DESCRIPTION
ThreatQ Host	This is the hostname or IP address for the ThreatQ instance. Enter `127.0.0.1` if installing on the ThreatQ instance.
ThreatQ CID (Client ID)	This is the OAuth ID that can be found in your user profile in ThreatQ. Your account must have Administrative or Maintenance privileges
Email	The username that you use to log into ThreatQ.
Password	The password associated with the username above.
Status	The default status for system objects that are created by this integration. Organization SOPs should be respected when setting this field.

Example Output

```
tq-conn-servicenow -c /etc/tq_labs/ -ll /var/log/tq_labs/ -v3
ThreatQ Host: <ThreatQ Host IP or Hostname>
ThreatQ CID: <ClientID>
EMail A: <EMAIL ADDRESS>
Password: <PASSWORD>
Status: Active
Connector configured. Set information in UI
```

You will still need to configure and then enable the connector.

Configuration

> ThreatQuotient does not issue API keys for third-party vendors. Contact the specific vendor to obtain API keys and other integration-related credentials.

To configure the integration:

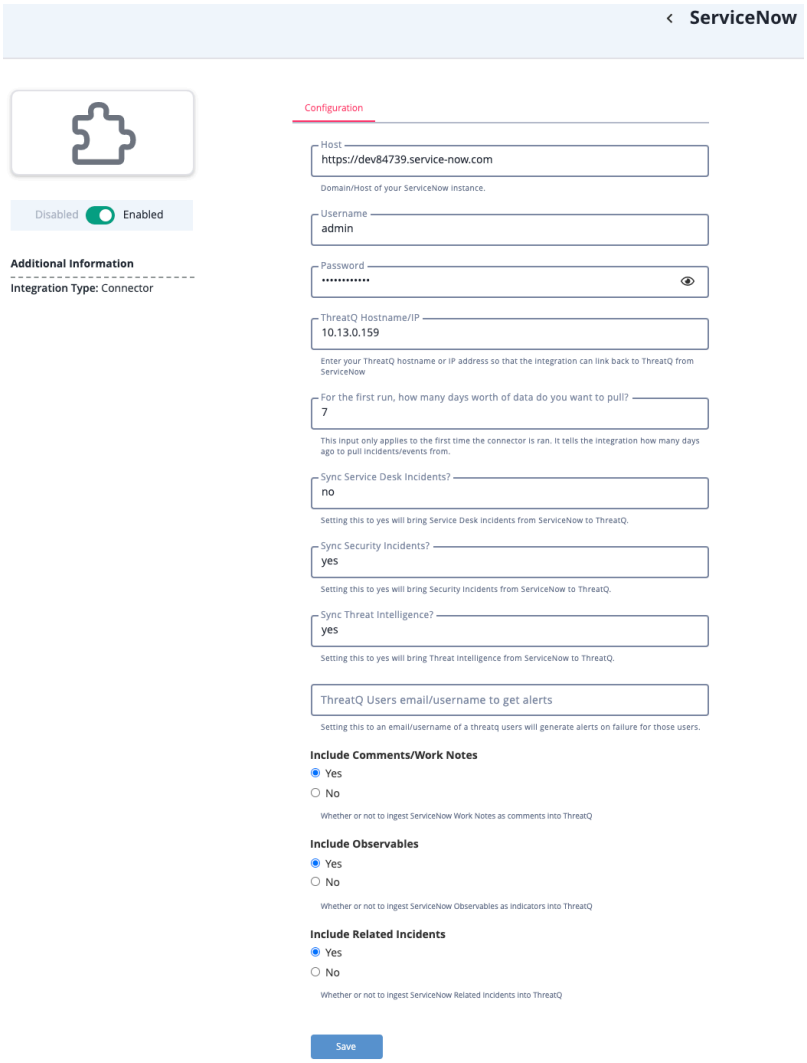
1. Navigate to your integrations management page in ThreatQ.
2. Select the **Labs** option from the *Category* dropdown (optional).

   > If you are installing the connector for the first time, it will be located under the **Disabled** tab.

3. Click on the integration to open its details page.
4. Enter the following parameter under the **Configuration** tab:

PARAMETER	DESCRIPTION
Host	Your ServiceNow hostname. **https://** is optional.
Username	The ServiceNow username of the user that will be interacting with ServiceNow/ThreatQ.
Password	The password associated with the user listed above.
ThreatQ Hostname/IP	The ThreatQ IP address that Servicenow will connect with. This is the IP address in the address bar at the top of your ThreatQ window.
For the first run, how many days worth of data do you want to pull	This option will determine how many days in the past to pull information from. It must be a positive integer (no decimals).
Sync Service Desk Incidents	Select whether to sync Service Desk Incidents from ServiceNow to ThreatQ.

PARAMETER	DESCRIPTION
Sync Security Incidents	Select whether to sync Security Incidents from ServiceNow to ThreatQ. You must have the **Security Incident Response** plugin in order to select this option.
Sync Threat Intelligence	Select whether to sync Threat Intelligence from ServiceNow to ThreatQ. This also includes observables (indicators) and Security Cases (campaigns, adversaries, etc.) You must have the **Threat Intelligence** plugin in order to select this option.
ThreatQ Users email/ username to get alerts	The email/username of a ThreatQ user will generate alerts on failure for those users.
Include Comments/ Work notes	Select whether to ingest ServiceNow Work Notes into ThreatQ as comments.
Include Observables	Select whether to ingest ServiceNow Observables into ThreatQ as indicators.
Include Related Incidents	Select whether to ingest ServiceNow Related Incidents into ThreatQ.



5. Review the **Settings** configuration, make any changes if needed, and click on **Save**.
6. Click on the toggle switch, located above the *Additional Information* section, to enable it.

Usage

Use the following command to execute the driver:

```
<> tq-conn-servicenow -v3 -ll /var/log/tq_labs/ -c /etc/tq_labs/
```

Command Line Arguments

This connector supports the following custom command line arguments:

ARGUMENT	DESCRIPTION
`-h`, `--help`	Shows this help message and exits.
`-n`, `--name NAME`	This sets the name for this connector. In some cases, it is useful to have multiple connectors of the same type executing against a single TQ instance. For example, the Syslog Exporter can be run against multiple target and multiple exports, each with their own name and configuration.
`-ll LOGLOCATION`, `--loglocation LOGLOCATION`	This sets the logging location for this connector. The location should exist and be writable by the current user. A special value of 'stdout' means to log to the console (this happens by default).
`-d`, `--no-differential`	If exports are used in this connector, this will turn 'off' the differential flag for the execution. This allows debugging and testing to be done on export endpoints without having to rebuild the exports after the test. THIS SHOULD NEVER BE USED IN PRODUCTION.
`-c CONFIG`, `--config CONFIG`	This is the location of the configuration file for the connector. This location must be readable and writable by the current user. If no config file path is given, the current directory will be used. This file is also where some information from each run of the connector may be put (last run time, private oauth, etc.)

ARGUMENT	DESCRIPTION
`-v {1,2,3}, --verbosity {1,2,3}`	This is the logging verbosity level. The default setting is **1** (Warning).
`-ep, --external-proxy`	This allows you to use the proxy that is specified in the ThreatQ UI. This specifies an internet facing proxy, NOT a proxy to the TQ instance.
`-i, --import`	N/A
`-e, --export`	N/A
`-pt PID_TIMEOUT, --pid-timeout PID_TIMEOUT`	N/A

CRON

Automatic CRON configuration has been removed from this script. To run this script on a recurring basis, use CRON or some other jobs scheduler. The argument in the CRON script must specify the config and log locations.

Add an entry to your Linux crontab to execute the connector at a recurring interval. Depending on how quickly you need updates, this can be run multiple times a day (no more than once an hour) or a few times a week.

In the example below, the command will execute the connector every two hours.

1. Log into your ThreatQ host via a CLI terminal session.
2. Enter the following command:

   ```
   <> crontab -e
   ```

   This will enable the editing of the crontab, using vi. Depending on how often you wish the cronjob to run, you will need to adjust the time to suit the environment.

3. Enter the commands below:

   Every 2 Hours Example

   ```
   <> 0 */2 * * * tq-conn-servicenow -c /etc/tq_labs/ -ll /var/log/
      tq_labs/ -v3
   ```

4. Save and exit CRON.

Change Log

- **Version 2.5.0**
  - Added user fields to allow the user to choose whether to ingest observables, comments/work notes, or related incidents
  - Fixed dependency issues for configparser.
- **Version 2.4.0**
  - Added functionality to allow the program to be run in both Python 2 and Python 3.
  - Alphabetized the imports in all .py files.
  - Removed requests from requirements.
- **Version 2.3.2**
  - Fixed a bug that caused indicators without a type from ServiceNow to not be synced properly.
- **Version 2.3.1**
  - Added more logging.
  - Fixed issues with syncing unicode from ServiceNow to ThreatQ.
  - Added the ability to get a notification in the ThreatQ UI when a failure in the ThreatQ app has occurred.
- **Version 2.3.0**
  - Fixed issues that may arise with timezone props.
  - Improved comment handling.
  - Added pagination to fetch tickets.
  - Added PID timeout.
- **Version 2.2.0**
  - Fixed issue with duplicates and updating new Tasks.
  - Added support for Security Incident Response Tasks.
  - Fixed issue with invalid observable link.
  - Fixed issue where child incidents were not related to the parent object in ThreatQ.
  - Fixed formatting when adding comments from workflow actions.
  - Added support for “updating” security tags that change.
  - Added the ability to run import/export separately.

- Version 2.1.2
  - Fixed a bug that stopped data from being synced due to missing data.
  - Improved timezone handling and date formatting.
  - Fixed some instances of unicode characters not being synced to ThreatQ.
- Version 2.1.1
  - Fixed an issue where an empty observable created in ServiceNow would break the sync to ThreatQ.
- Version 2.1.0
  - Fixed several issues with syncing security annotations to ThreatQ.
  - Fixed several issues with creating comments in ThreatQ.
- Version 2.0.2
  - Removed need to use sys_journal_field since only admins can access it.
  - Fixed comment differential.
- Version 2.0.1
  - Created a fallback happened_at date so there are no crashes when sys_created_on is not available.
- Version 2.0.0
  - Sync Service Desk Incidents.
  - Sync Threat Intelligence (Threat Intelligence Plugin).
  - Sync Security Incidents (Security Incident Response Plugin).
  - Sync relationships between incidents/cases and observables.
  - Add related indicators and events from ThreatQ to ServiceNow.
- Version 1.0.0
  - Initial Release