

ThreatQuotient



ThreatQ Connector for Microsoft Active Directory

Version 1.1.1

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 ThreatQ Supported

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Integration Details

ThreatQuotient provides the following details for this integration:

Current Integration Version	1.1.1
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Compatible with ThreatQ Versions	>= 4.51.0
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Python Version	3.6
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Support Tier	ThreatQ Supported
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Introduction

The ThreatQ Connector for Microsoft Active Directory provides a way for users to import their active directory identities into ThreatQ.

Prerequisites

Review the following requirements before attempting to install the connector.

Time Zone

You should ensure all ThreatQ devices are set to the correct time, time zone, and date (UTC is recommended), and using a clock source available to all.

To identify which time zone is closest to your present location, use the `timedatectl` command with the `list-timezones` command line option.

For example, enter the following command to list all available time zones in Europe:

```
timedatectl list-timezones | grep Europe
Europe/Amsterdam
Europe/Athens
Europe/Belgrade
Europe/Berlin
```

Enter the following command, as root, to change the time zone to UTC:

```
timedatectl set-timezone UTC
```

Generating a Certificate

If you are using SSL/TLS with your LDAP server (`ldaps://`), you can enable the use of a certificate by generating one, then entering the full path into the configuration. Use the following command to generate a certificate:

```
openssl s_client -connect <LDAP SERVER>:636 -showcerts -tls1 < /dev/null >
cacerts.pem 2> /dev/null
```

Integration Dependencies

 The integration must be installed in a python 3.6 environment.

The following is a list of required dependencies for the integration. These dependencies are downloaded and installed during the installation process. If you are an Air Gapped Data Sync (AGDS) user, or run an instance that cannot connect to network services outside of your infrastructure, you

will need to download and install these dependencies separately as the integration will not be able to download them during the install process.



Items listed in bold are pinned to a specific version. In these cases, you should download the version specified to ensure proper function of the integration.

DEPENDENCY	VERSION	NOTES
threatqsdk	>=1.8.2	N/A
threatqcc	>=1.4.1	N/A
psasn1-modules	>=0.1.5	N/A
python-ldap	N/A	N/A
python-dateutil	N/A	N/A

Installation

The following provides you with steps on installing a Python 3 Virtual Environment and installing the connector.

Creating a Python 3.6 Virtual Environment

Run the following commands to create the virtual environment:

```
mkdir /opt/tqvenv/  
sudo yum install -y python36 python36-libs python36-devel python36-pip  
python3.6 -m venv /opt/tqvenv/<environment_name>  
source /opt/tqvenv/<environment_name>/bin/activate  
pip install --upgrade pip  
pip install threatqsdk threatqcc setuptools==59.6.0
```

Proceed to [Installing the Connector](#).

Installing the Connector

⚠ 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. Navigate to the ThreatQ Marketplace and download the .whl file for the integration.
2. Activate the virtual environment if you haven't already:

```
source /opt/tqenv/<environment_name>/bin/activate
```

3. Transfer the whl file to the /tmp directory on your ThreatQ instance.
4. Install the connector on your ThreatQ instance:

```
pip install /tmp/tq_conn_active_directory-<version>-py3-none-any.whl
```



A driver called `tq-conn-tq_conn_active_directory` will be installed. After installing, a script stub will appear in `/opt/tqenv/<environment_name>/bin/tq-conn-tq_conn_active_directory`.

5. 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/
```

6. Perform an initial run using the following command:

```
/opt/tqenv/<environment_name>/bin/tq-conn-active-directory -ll /var/  
log/tq_labs/ -c /etc/tq_labs/ -v3
```

7. Enter the following parameters when prompted:

PARAMETER	DESCRIPTION
ThreatQ Host	This is the host of the ThreatQ instance, either the IP Address or Hostname as resolvable by ThreatQ.
ThreatQ Client ID	This is the OAuth id that can be found at Settings Gear → User Management → API details within the user's details.

PARAMETER	DESCRIPTION
ThreatQ Username	This is the Email Address of the user in the ThreatQ System for integrations.
ThreatQ Password	The password for the above ThreatQ account.

Example Output

```
/opt/tqvenv/<environment_name>/bin/tq-conn-active-directory -ll /var/log/tq_labs/ -c /etc/tq_labs/ -v3
ThreatQ Host: <ThreatQ Host IP or Hostname>
ThreatQ Client ID: <ClientID>
ThreatQ Username: <EMAIL ADDRESS>
ThreatQ Password: <PASSWORD>
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).
3. Click on the integration entry to open its details page.
4. Enter the following parameters under the **Configuration** tab:

PARAMETER	DESCRIPTION
Active Directory Server	The address to your LDAP server.  ldap:// or ldaps:// must be included.
Active Directory Domain	The domain used by your LDAP server
Certificate Path	The path to your certificate associated with your LDAP server. See the Generating a Certificate section for more details.  This path must be accessible by the connector. This path is the full path to the .pem file. Leaving this blank will result in not using a certificate.
Use TLS	Enable/disable TLS for your connection.
Active Directory Username	The username to use to authenticate with your LDAP server.
Active Directory Password	The password used to authenticate with your LDAP server.

PARAMETER	DESCRIPTION
Common Names	A list of common names to pull users from.  The connector pulls all subtrees of a common name, configure accordingly. This list must be in level order (top-most to bottom-most)
Organizational Units	A list of organizational units to pull users from.  The connector pulls all subtrees of a OU, configure accordingly. This list must be in level order (top-most to bottom-most)
Active Directory Version	Set your version of Active Directory. The default setting is v3.
Import Emails and Usernames as Indicators	Configure where email addresses and username are imported as indicators into ThreatQ. Emails and usernames are added as attributes to identify objects by default. Selecting Yes will result in emails and usernames being imported as related indicators.
Additional Identity Information	Enter any additional identity information to import in this field. By default, basic identity information such as username, name, manager, position, company, office location, etc. is included.

- Review any additional settings, make any changes if needed, and click on **Save**.
- Click on the toggle switch, located above the *Additional Information* section, to enable it.

Usage

Use the following command to execute the driver:

```
/opt/tqvenv/<environment_name>/bin/tq_conn_active_directory -v3 -ll /var/log/tq_labs/ -c /etc/tq_labs/
```

Command Line Arguments

This connector supports the following custom command line arguments:

ARGUMENT	DESCRIPTION
<code>-h, --help</code>	Shows this help message and exits.
<code>-ll LOGLOCATION, --loglocation LOGLOCATION</code>	Sets the logging location for the connector. The location should exist and be writable by the current. A special value of 'stdout' means to log to the console (this happens by default).
<code>-c CONFIG, --config CONFIG</code>	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.)
<code>-v {1,2,3}, --verbosity {1,2,3}</code>	This is the logging verbosity level where 3 means everything. The default setting is 1 (Warning).
<code>-n, --name</code>	This allows you to change the name of the connector.
<code>-d, --no-differential</code>	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.

ARGUMENT	DESCRIPTION
<code>-ep, --external-proxy</code>	This enables a proxy to be used to connect to the internet for the data required by this connector. This specifies an internet facing proxy, NOT a proxy to the TQ instance.
<code>-cache CACHE, --cache CACHE, -cc, --clear-cache</code>	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 * * * /opt/tqenv/<environment_name>/bin/  
tq_conn_active_directory -c /etc/tq_labs/ -ll /var/log/tq_labs/ -v3
```

4. Save and exit CRON.

Change Log

- **Version 1.1.1**
 - Added pagination to API requests.
- **Version 1.1.0**
 - Added Python 3 support.
- **Version 1.0.0**
 - Initial Release