ThreatQuotient



ThreatQuotient for LogRhythm Implementation Guide

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Introduction

The LogRhythm integration is a single install Windows based python2 integration between ThreatQ and the LogRhythm Platform Manager (PM).

This integration uses 2 main integration points with LogRhythm, listed below:

- Admin REST API: This REST API (available as of 7.4.x) allows for the creation
 and management of Lists with L ogRhythm using REST. Currently, ThreatQ leverages this to export data from Advanced Se arch Saved Searches to LogRhythm for
 use in correlations.
- SmartResponsePlugins: Several SmartResponsePlugins have been created to allow for the context of an IoC within T hreatQ to be exported to LogRhythm, and to allow LogRhythm to export context around det ections back to ThreatQ.

The required version of LogRhythm for this integration to work is 7.4.x. This is due to the reliance on the Admin REST API.



Requirements

The following are requirements for the ThreatQuotient for LogRhythm integration.

Versioning

- LogRhythm Version 7.4.x or newer
- Python2 version 2.7.12 or newer installed on the LogRhythm Platform Manager



This integration is not compatible with Python3

- ThreatQ Version 4.23.0 or newer
- ThreatQ SDK Version 1.7 or newer (In stalled Automatically)
- ThreatQ CC Version 1.3 or newer (Installed Automatically)
- Indicators loaded into the ThreatQ Appliance
- Saved Searches readied for export

Users

- LogRhythm API User See the <u>Creating an API User for LogRhythm</u> section.
- ThreatQ User of at least Primary Contributor (User to generate saved searches with and to use as connection).
 - It is suggested to create a user for this purpose (username like logrhythm@company.com).
 - Throughout the rest of this documentation, this user will be referred to as the "LogRhythm ThreatQ User" to differentiate it from admin level users.



Pre-installation

As noted in the <u>Requirements</u> section, this integration requires Python2 version 2.7.12 or later and a Log Rhythm API User. This section will provide the steps necessary to meet the requirements.

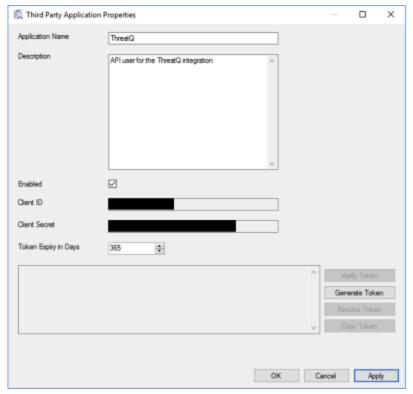
Creating an API User for LogRhythm

This section will describe how to create an API user to use with the ThreatQ integration.

- 1. Log into the VM where your LogRhythm instance is installed.
- 2. Open up your LogRhythm Console Within the LogRhythm Console.
- 3. Go to the Deployment Manager tab and then click on Third Party Applications.
- 4. Select the **Third Party Application** tab
- 5. Right click the page and select "New" to create a new app.



6. Configure your application like so:



7. Click **Generate Token** to generate a new JWT (token) to use for authentication



If the **Generate Token** button is greyed out, Apply your changes and re-open the properties dialog.

8. Copy the JWT down somewhere to use with the ThreatQ integration.

Installing Python2

If Python 2.7.12 or newer has not been installed on the Platform Manager, follow the instructions below to install Python 2.7.12 or newer.



As of the release of this document, Python 2.7.14 is the newest Python2 version.



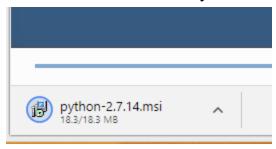


This integration is not compatible with Python3.

- 1. Navigate to The Python Downloads Page https://www.python.org/downloads/.
- 2. Select Download Python 2.7.X.



3. Click on the Downloaded Python MSI.

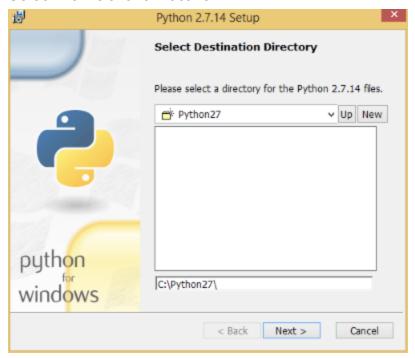




4. Select Install for all users and click Next.



5. Select the installation location.

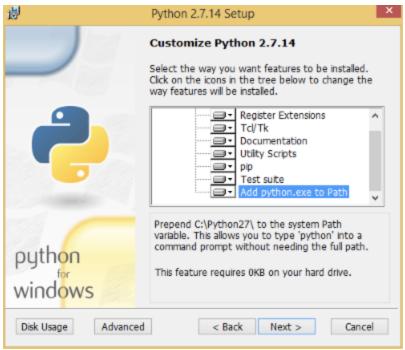






It is suggested that the default C:\Python27 is used.

6. Verify that **Add python.exe to Path** is selected and click **Next**.



7. Click on the **Finish** button after the installation is complete.

Once complete, you should be able to navigate to C:\Python27 and execute the python program



Type exit() to exit the shell.



Installation

The command pip is used to install the ThreatQ Integration on the LogRhythm server.

To install this, open a command prompt Windows Key + R: cmd as an administrator.

The instructions below assume that Python 2.7.12 or newer has been installed on the system. If it has not, please refer to the **Installing Python2** section.



Python must be installed in the Python27 directory for this to operate correctly. If another installation directory is used, replace C:\Python27 with the correct directory. A specific SRP bundle will have to be generated for this configuration. Contact support@threatq.com.

- 1. Log into the VM where LogRhythm is installed.
- 2. Open the command line from the start menu.
- 3. Navigate to the Python Directory C:\Python27.
- 4. Navigate to the **Scripts** directory.
- 5. Execute the following command:

With Internet Access

If your LogRhythm instance has access to the internet:

```
pip install - i
https://<USERNAME>:<PASSWORD>@extensions.threat
q.com/threatq/integrations tqLogRhythm
```



<USERNAME> and <PASSWORD> are the username and password used to get updates from ThreatQ on the main appliance (The ThreatQ Credentials entered during setup).



This will install several command line tools.

Without Internet Access

Download the installable with its dependencies on an instance with access to the internet, transfer all the files to LogRhythm, and run pip install:

```
mkdir /tmp/logrhythm
pip download tqLogRhythm -d /tmp/logrhythm
```

Transfer the tqLogRhythm whl, and its dependencies to the LogRhythm instance in the Downloads folder.

```
pip install C:\Downloads\tqLogRhythm-1.0.1-py2-
none-any.whl --no-index --find-links
C:\Downloads
```

- 6. Optional Add C:\Python27 to your Windows Path. This will allow you to execute commands without having to specify the directory.
- 7. Create a new folder in your **Log Files** disk called **ThreatQ**.

Example Path: L:\ThreatQ

8. Check if there is a route to ThreatQ from LogRhythm.



Do not continue past t his point until you have confirmed that LogRhythm can reach ThreatQ.

C:\ping <ThreatQ Host>



9. Execute the following command:

C:\Python27\Scripts\tq-logrhythm.exe -ll
L:\ThreatQ\ -v 3

10. Complete the following fields:

Field	Description		
ThreatQ Host	This is the hostname or IP Address of the ThreatQ appliance.		
ClientID	This is the OAuth Client ID, found by going to Gear \rightarrow OAuth Credentials in the ThreatQ Appliance.		
Email Address	The e-mail address of the LogRhythm ThreatQ User.		
Password	The password of the LogRhythm ThreatQ User.		
Status	The status of newly created loCs.		
	It is recommended to select the Active status.		

Once complete, the configuration will be stored in HKEY_LOCAL_MACHINE\Software\ThreatQuotient\LogRhythm
and will be available to this system

Once the system has been installed on the LogRhythm Platform Manager, the user must configure the integration in the ThreatQ UI.

Recurring Execution: tq-logrhtyhm.exe

One of the commands provided during the installation is the tq-logrhythm.exe command. This command is what is used to read the configuration set in the UI of the ThreatQ



appliance, generate, and maintain lists.

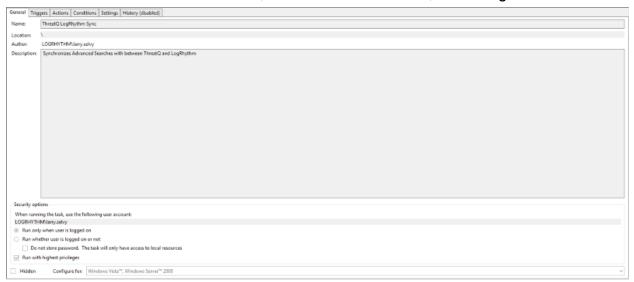
During the execution of tq-logrhythm.exe, the UI fields are read, lists are created, and all lists are compared against what is in the content of the Advanced Search Saved Searches - see the Advanced Search Mapping section.

Each Indicator of Compromise listed in the Saved Advanced Search is compared to the contents of the associated list. If the IoC is not in the list, it is added during the Synchronization step.

When each loC has been compared to the list, those loCs which are no longer in the Advanced Search Saved Search, but are in the list in LogRhythm, are tagged for deletion during the Synchronization step.

Finally, each list is Synchronized.

This must be setup on a recurring basis to keep the data in the lists synchronized to the data in the Advanced Searches. To do this, use the Task Scheduler, and configure it as below:

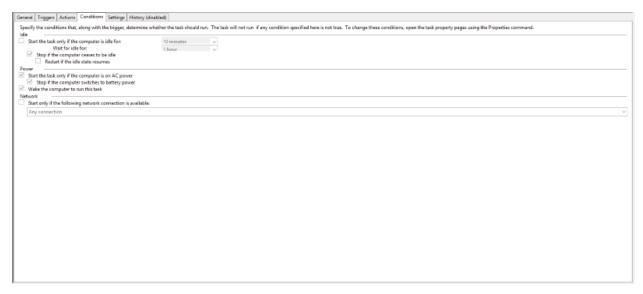




ral Triggers A	Actions Conditions Settings History (disabled)	
en you create a t	task, you can specify the conditions that will trigger the task. To change these triggers, open t	the task property pages using the Properties command.
igger iðy	Details	Status
ay	At 6:25 PM every day - After triggered, repeat every 1 hour for a duration of 1 day.	Enabled

General Triggers Acti	from Conditions Settings History (disabled)		
When you create a task, you must specify the action that will occur when your task starts. To change these actions, open the task property pages using the Properties command.			
Action Start a program	Details CAPythen27/Scriptsltq-logrhythm.xxx-II CAPythen27/Scriptsl -v 3		
Start a program	City/strenz/Scriptsiq-regmyerm.sse-ii City/strenz/Scriptsiq-ii S		









Each list can only have up to 1 Million loCs in it. Anymore than this and the system will be unable to synchronize correctly

The time that this repeats is at the discretion of the user, but should be no shorter than once every hour.

Other schedulers can be used, the syntax of the command above should be used in whatever scheduler is provided.



Configuration

To configure the LogRhythm feed:

- 1. Click on the **Settings** icon and select **Incoming Feeds**.
- 2. Locate the feeds under the **Labs** tab.
- 3. Click on the **Feed Settings** link for the feed.
- 4. Under the **Connection** tab, enter the following configuration parameters:

Parameter	Details
LogRhythm Host	The Hostname of IP Address of the LogRhythm Platform Manager.
LogRhythm Admin/Case API Port	This is port 8501 by default, and should not have to change. This is the port of the REST API not the SOAP API.
JW Token	This is the token that was generated during the creation of the LogRhythm API User (See this article if you need help creating this token)
Advanced Searches	This is the mapping of advanced searches to LogRhythm lists, explained in detail in the Advanced Search Mapping section of this document.

- 6. Click on Save Changes.
- 7. Click on the toggle switch to the left of each feed name to enable the feed.

At this point, log out of ThreatQ as the Admin user and log into the appliance with the LogRhythm ThreatQ User. Go to the magnifying glass and click **Advanced Search**. Once in the advanced search menu, generate a search that you would like to export to LogRhythm. When this is done, save the search by going to **Recent Searches**, selecting the search



created for export, and click **Save**. Remember the name of the saved search as it will be used later.

Advanced Search Mapping

This section explains how to configure an Advanced Search mapping. This is a YAML file. It is assumed that an Advanced Search Saved Search has already been generated. If one has not, please see the Configuration section.

- 1. Delete the filler text that exists, except for the top three characters.
- 2. Once cleared each new line should consist of the name of an Advanced Search Saved Search (generated by the user configured in the <u>Configuration</u> section), a list basename, and optional splitting parameters. The syntax is as follows:

```
---
Interesting IoCs: "ThreatQ: "
```

In the line above, Interesting IoCs is the name of an Advanced Search Saved Search. The phrase "ThreatQ: " is the basename of a family of lists. All of the lists will start with the term ThreatQ: and then have the specific indicator type. For instance, FQDNs in the above list will be put into the ThreatQ: FQDN list, IP Addresses will be in the ThreatQ: IP Address list, and so on.



The splitting of loCs into their specific indicator types is a best practice for LogRhythm, and is enforced in this integration

3. Further splitting of lists is allowed by specifying a splitBy parameter, as below:

```
Interesting IoCs:
    baseName: "ThreatQ: "
    splitBy: scoreRange
```



This will have a similar affect above, except that it will create one more level of list. For instance, FQDNs in the above saved search, Interesting loCs, will be saved by score range in the following lists:

• ThreatQ: FQDN: Very High

ThreatQ: FQDN: High

ThreatQ: FQDN: Medium

ThreatQ: FQDN: Low

• ThreatQ: FQDN: Very Low

ThreatQ: FQDN: Not Scored

The above lists will only be created if an FQDN of that level is in the saved search. For instance, if no Medium FQDNs are in the saved search, there will be no ThreatQ: FQDN: Medium list. At any point in the future, these will be added as necessary.

Other splitBy parameters are below:

Parameter	Details
splitBy: score	Similar to the scoreRange, except that lists are broken out by specific score (1-10).
splitBy: scoreRange	Lists are broken out by the score range on the landing page of the appliance.
splitBy: tqtype	This is the default, and breaks out lists by indicator type only.



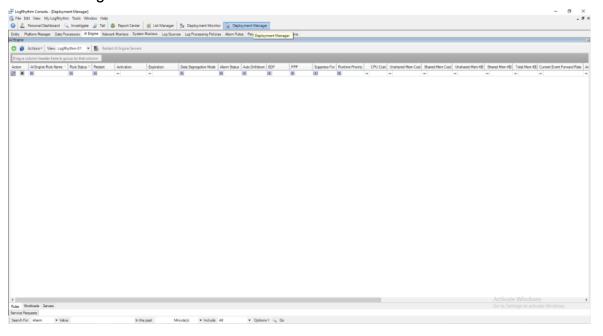
Lists

LogRhythm Lists are the primary interface for which Cyber Threat Intelligence data is stored and used in LogRhythm. These lists can come from many different locations, and can store many different data types. For the purpose of ThreatQ, lists will be dynamically generated at execution time based on configurations given on the "Incoming Feeds" page of ThreatQ. (Gear \rightarrow Incoming Feeds \rightarrow TQ Labs \rightarrow LogRhythm).

These lists can be used in conjunction with the LogRhythm Al Engine to determine correlations against incoming log data.

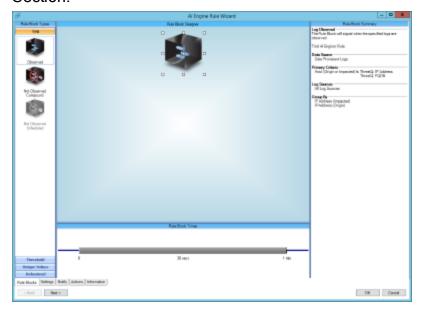
To configure the list to be used in the AI, do the following:

- 1. Open Deployment Manager and go to the **Al Engine** tab.
- 2. Click on the green + button in the toolbar.





When the Al Engine Rule Wizard opens, select the **Observed** block on the Log Section.

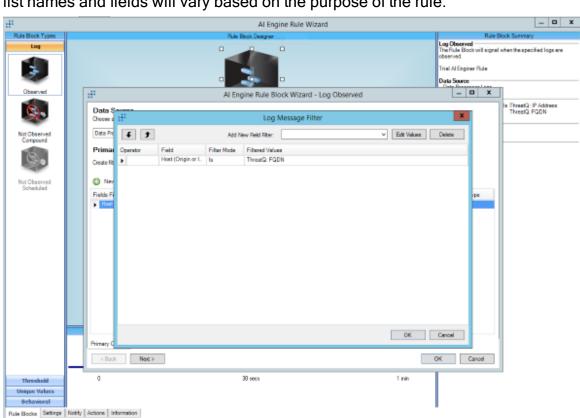


4. Configure it as needed for detection of Cyber Threat Events. In the example given here, the Host (Origin or Impacted) Field must be in the **ThreatQ: FQDN** list. The

OK Cancel



< Book Next >



list names and fields will vary based on the purpose of the rule.

5. Go through the rest of the Wizard and select the required settings based on your Incident Response Manifesto

Once saved and the Al Engine Service restarted, any Log that has a host field with an Origin or Impacted Host in the **ThreatQ: FQDN** list will have the associated log alerted on.

For more information on the Al Engine and its possibilities, please consult the LogRhythm Client Console Reference Guide in the LogRhythm Administration \rightarrow Al Engine Section.



Smart Response Plugins

LogRhythm allows for tools to be added to the platform to enrich data within LogRhythm. Using these tools, IoCs can also be enriched within ThreatQ. The following SmartResponsePlugins are provided with the installation. All of the can be found in the C:\Python27\Scripts directory:

Name of SRP Executable	Name of SRP Action	Description	Enrichment Destination
tq-whitelist- ioc.exe	ThreatQ Whitelist IoC	This changes the status to "Whitelisted" for an IoC within ThreatQ.	Enriches ThreatQ
tq-sight- ing.exe	ThreatQ Add Sighting	This creates a "Sighting" event within ThreatQ that associates IoCs with the LogRhythm AI Engine Event.	Enriches ThreatQ
tq-mark- true-pos- itive.exe	ThreatQ Mark True Positive	Adds an attribute of "True Positive" with a value "Yes" to the IoC within ThreatQ. If the IoC does not exist, this will add it. This is meant to be used during score calculations.	Enriches ThreatQ
tq-mark- false-pos- itive.exe	ThreatQ Mark False Positive	Adds an attribute of "False Positive" with a value "Yes" to the IoC within ThreatQ. If the IoC does not exist, this will add it. This is meant to be used during score calculations.	Enriches ThreatQ
tq-look- up.exe	ThreatQ Lookup IoC	Searches the ThreatQ Threat Library for an indicator with the same type and value as the indicator provided	Enriches LogRhythm



Name of SRP Executable	Name of SRP Action	Description	Enrichment Destination
tq-add-	ThreatQ	Adds an loC of the same type and value to ThreatQ from LogRhythm. If the loC already exists, it adds LogRhythm as a source	Enriches
ioc.exe	Add loC		ThreatQ

Installation of SRPs

The SPR executables are installed during the original installation of the integration.

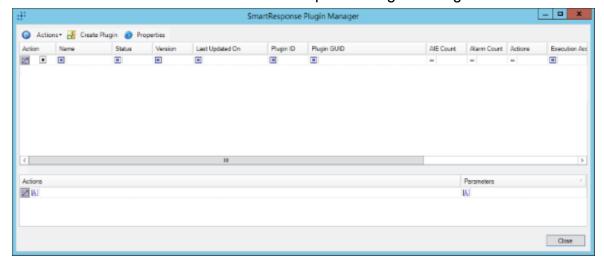
However, to enable these within LogRhythm to be used in the Client or Web Consoles, the SRP bundle has to be added. The bundle is presented as an all in one.

To install the SRP bundle:

1. Open the Deployment Manager.

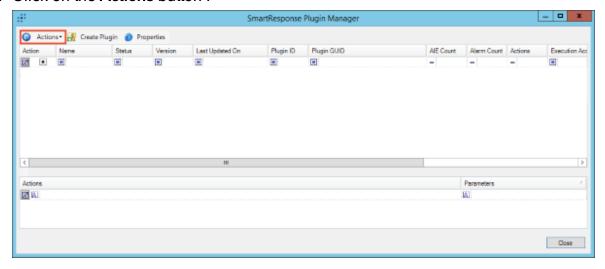


2. Go to Tools → Administration → SmartResponse Plugin Manager.



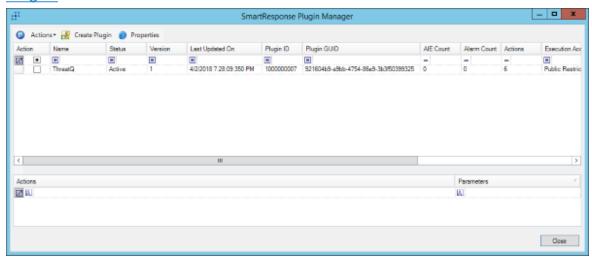


Click on the Actions button.



4. Navigate to the ThreatQ SRP bundle and click **Open**.

Once complete, the ThreatQ Smart Response Plugins list found in <u>Smart Response</u> Plugins.



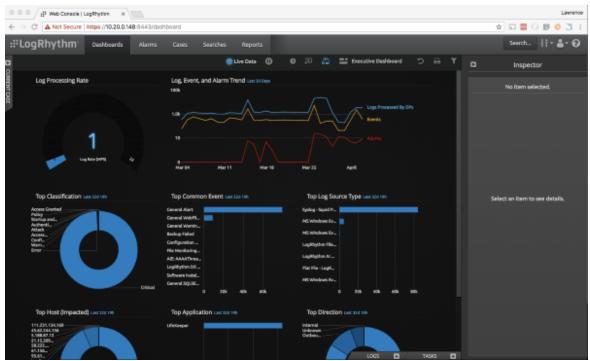
Using a Smart Response Plugin

There are several ways in which a Smart Response Plugin can be used. The first is to configure it as part of an Al Engine Rule. This will not be covered in this documentation as it is covered in depth in the LogRhythm Client Console Reference in the LogRhythm



 $\mbox{Administration} \rightarrow \mbox{Al Engine Section. This section will focus on using the SRPs in the Web Console.}$

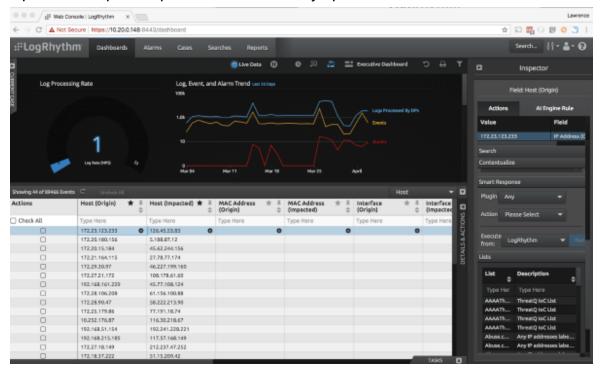
1. Log into the Web Console.



2. Open up the "Logs" pane and Navigate to a log entry that is interesting.



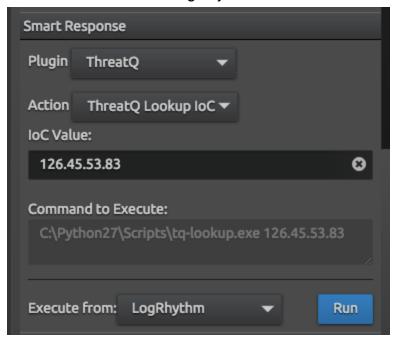
3. Open the "Inspector" pane if it is not already open.



- 4. In the Inspector Pane, Navigate to "Smart Respone."
 - a. Choose "Plugin: ThreatQ"
 - b. Choose the appropriate Action (in this example it will be the ThreatQ Lookup IoC Action).
- 5. Fill in the appropriate Values (here an IP address is used).



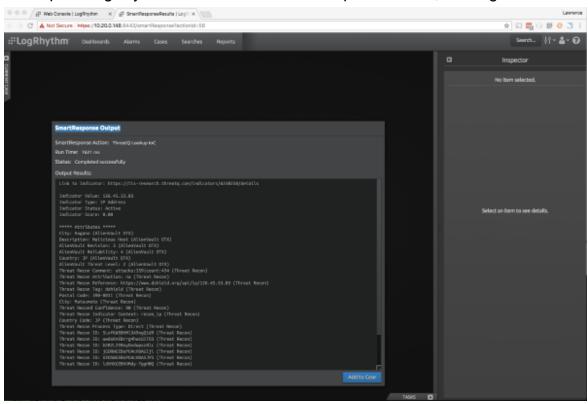
6. Ensure "Execute from: LogRhythm" is selected.





7. Click Run.

At this point LogRhythm will execute action in a separte window, retuning the results.



If a case is currently selected, this can be added to the case by clicking the **Add to Case** button. If it is added to a case, it will appear in that case as Evidence.



The ThreatQ Add Sighting action is accessible through this interface, but is not usable here. This action is to be used only in the Client Console when configuring Al Engine Rules. This is used to bring over a Case as a "Sighting" type Event in ThreatQ, including the observed loCs.

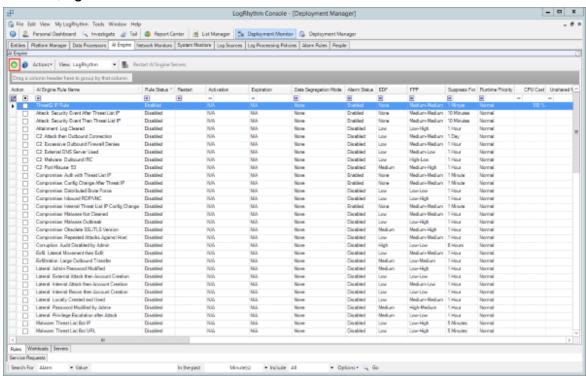


Using the ThreatQ Add Sighting

Tracking the sighting of Indicators of Compromise is an integral piece in the Threat Intelligence feedback loop. This feedback loop alerts Threat Analysts to existence of known Indicators of Compromise that have been observed in LogRhythm. Unlike the other SRPs provided above, this SRP is designed to solely be used as part of an AI Engine rule. When this rule is triggered, it creates an Event within ThreatQ with a type of "Sighting". These sightings have the AlarmID, Alarm Name, and other pieces of information configurable in the AI Engine in the LogRhythm Client Console.

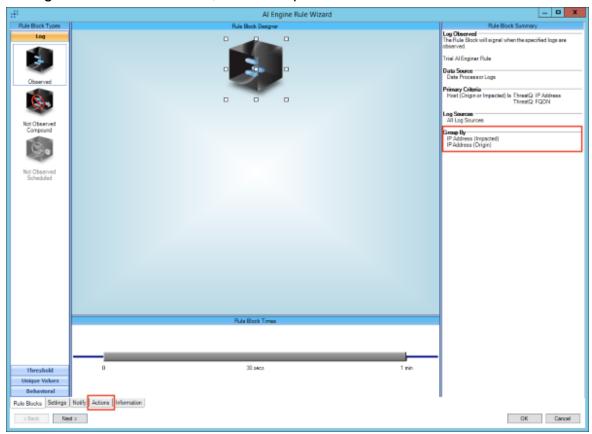
To provide the most flexible solution to capture all possible Sightings, the ThreatQ Add Sighting SRP has options for all known IoC fields. To add a rule that has uses this SRP:

- 1. Open Deployment Manager and go to the "Al Engine" tab.
- 2. Click on the Green "+" Button in the toolbar or navigate to the rule you wish to edit, select it, right click and select edit.





3. Configure the rule as needed, when complete select the actions tab.

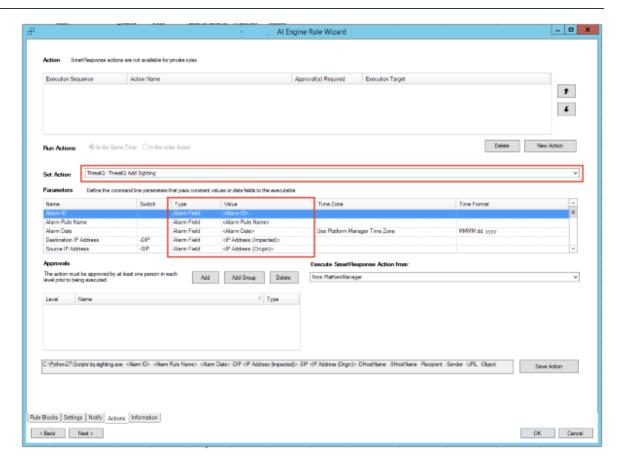




Only the fields listed in the "Group By" section will be available in the Actions Menu.

4. On the Actions screen, use the Set Action drop down and select the ThreatQ: ThreatQ Add Sighting Action.

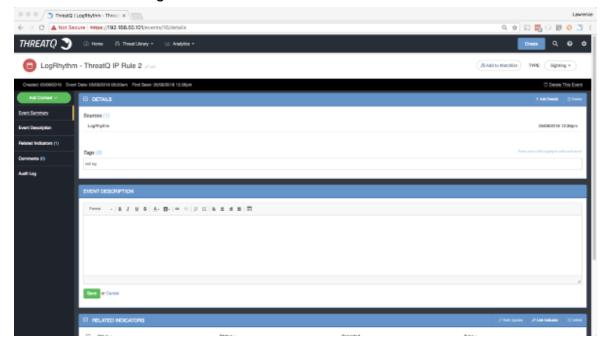




- Make sure the fields that are present in the Group by have the correct value. For instance, the Destination IP Address should have <IP Address (Impacted)> selected.
- 6. For all other fields, change the Type from **Alarm Field** to **Constant Value**.
- 7. Click the Save Action button.
- 8. You will be prompted to restart the Al Engine.



Once completed, when that Rule is executed, a sighting should be added that looks similar to the following:



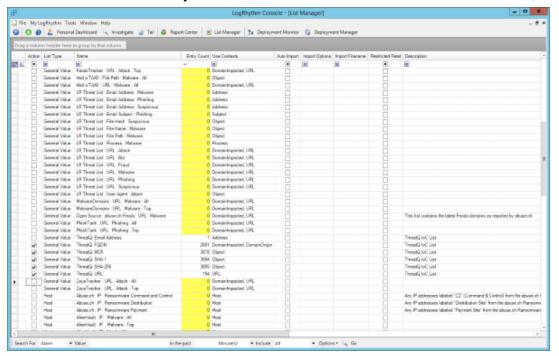
Currently, this only records the actual loCs associated with the sighting itself. In the future, more attributes and details will be added.



Uninstallation

If it is decided that the integration needs to be removed, there are three main steps to uninstalling the integration. Due to audit requirements, however, it is not possible to delete the created Lists. Lists can only be disabled.

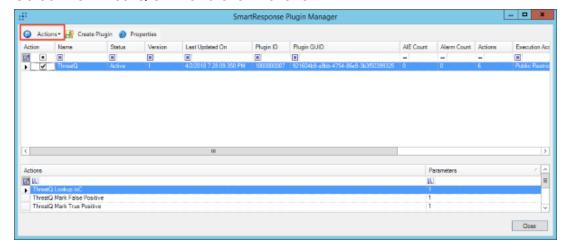
- 1. Stop the Windows Job for synchronization.
- 2. Deactivate all of the Lists created by ThreatQ.
 - a. Open the List Manager.
 - b. Check All Lists created by ThreatQ.



- c. Right Click \rightarrow Actions \rightarrow Retire.
- d. Confirm Retirement.
- 3. Uninstall the SRPs.
 - a. Open the Deployment Manager.
 - b. Naviagte to Tools → Administration → SmartResponse Plugin Manager.



c. Select the ThreatQ SRP and click Actions.



- d. Click Retire.
- 4. Uninstall the integration.
 - a. Open an Administrative cmd session.
 - b. Navigate to C:\Python27\pip.
 - c. Execute pip.exe uninstall tqLogRhythm.
 - d. Confirm removal.
- 5. Clean up Windows Registry.
 - a. Click Windows Key + R and type regedit.
 - b. Navigate to HKEY_LOCAL_MACHINE \rightarrow SOFTWARE.
 - c. Delet the ThreatQuotient key and all sub keys.



Testing the LogRhythm Integration

Prerequisites

- LogRhythm is installed.
- RDP is enabled for LogRhythm.
- ThreatQ integration is installed.
 - Custom connector
 - SRP (Smart Response Plugin) Actions

Testing Custom Connector (Sync)

This part of the integration downloads a ThreatQ saved search (Indicator search; Not Threat Library) and uploads the intelligence to lists in LogRhythm. Here is how to test the integration.

- 1. RDP into the LogRhythm server.
- 2. Install the custom connector if you have not see the <u>Installation</u> section.
- Run the custom connector for the first time to install it into ThreatQ.
 - a. If it's already installed, the custom connector connection settings (client ID, client secret, and host) are stored in the Windows Registry.
 - b. To reset the connected ThreatQ host, you will need to remove the registry keys. See step 5 in the <u>Uninstallation</u> section.
- 4. Configure the connector using this guide: see the Configuration section.





The saved-search field is a YAML, not a comma-separated list of hashes. Follow these instructions to configure the YAML: Advanced Search Mapping.

5. Run the connector using this command

```
C:\Python27\Scripts\tq-logrhythm.exe -ll
L:\ThreatQ\ -v 3
```

- 6. Here is a quick checklist on what to look out for:
 - a. The connector runs with no errors.
 - The connector creates LogRhythm lists to store the indicators (if it hasn't already).
 - i. The lists created will be determined by your YAML configuration.
 - c. Make sure each list contains the same number of indicators as in the saved search (indicator search)



You might need to check the indicator types individually since not all types will get ingested into LogRhythm.



LogRhythm now supports more types, it might be worth updating the integration to support them

Testing the SRP Actions (Contextual Actions)

This part of the integration allows you to execute specific actions on alarms or individual indicators within the LogRhythm platform. They can also be used in the "Al Engine" to perform automatic actions when an alarm is triggered. This is usually the case for the "ThreatQ: Add Sighting" Action. Since logs are slightly complicated to get into the LogRhythm platform,



we can test the actual script directly (as if LogRhythm was calling it).



This testing guide will not require any logs.

- 1. RDP into the LogRhythm server.
- 2. Install the custom connector if you have not then see the Installation section.
- 3. Run the custom connector for the first time to authenticate and install it into ThreatQ.
- 4. Test each of the SRP actions by running the action command (with the required parameters). Here are some examples (replace <> text):

Add Sighting

Add IoC

```
C:\Python27\Scripts\tq-add-ioc.exe "<Indicator
Type>" <Indicator Value> [--attribute "
  [attr1:val1,attr2:val2]"]
```



```
# Example
C:\Python27\Scripts\tq-add-ioc.exe "IP Address"
77.77.77.77 --attribute "False Positive:
Yes, Confidence: High"
```

Lookup IoC

```
C:\Python27\Scripts\tq-lookup.exe <Indicator Value>
# Example
C:\Python27\Scripts\tq-lookup.exe 77.77.77
```

Mark as False Positive

```
C:\Python27\Scripts\tq-mark-false-positive.exe
<Indicator Value>

# Example
C:\Python27\Scripts\tq-mark-false-positive.exe
77.77.77
```

Mark as True Positive

```
C:\Python27\Scripts\tq-mark-true-positive.exe
<Indicator Value>

# Example
C:\Python27\Scripts\tq-mark-true-positive.exe
77.77.77
```



Create Sighting

C:\Python27\Scripts\tq-whitelist-ioc.exe <Indicator
Value>

Example

C:\Python27\Scripts\tq-whitelist-ioc.exe

77.77.77.77