POLYSWARM

Malware Intelligence and Enrichment with ThreatConnect

User Guide v1.1.2

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Introduction

As the volume and complexity of cyber threats increase, contextualizing and prioritizing incidents becomes critical. Enterprises struggle to hire enough malware analysts, and enterprise SOC teams are required to deal with an ever-growing queue of alerts. The industry needs to respond to incidents with tools that are effective and simple.

ThreatConnect aggregates and organizes feeds from multiple trusted partners, providing diverse threat intelligence within their platform. PolySwarm seamlessly integrates via API and allows ThreatConnect's users to obtain file reputation services with a single click, in real-time, from a network of independent malware detection engines. PolySwarm enriches samples with diverse threat indicators and allows threat hunters and SOC analysts to search for and identify relationships between diverse malware families and threat indicators. PolySwarm also provides a final score derived from crowdsourced opinions (PolyScore™), a single number that reflects the likelihood that a given file contains malware.

PolySwarm uniquely addresses emergent and 0-day malware by using a network of research-driven engines that compete in real-time to detect malware. These engines are niche, highly specialized, and yield better accuracy rates within their field of expertise. Engines are economically rewarded for early and accurate detection and enterprises benefit from deeper coverage of the malware landscape and 0-day threats.

By using PolySwarm's integration with ThreatConnect's SOAR platform to analyze suspicious artifacts, at scale, millions of times per day. Get real-time threat intelligence from a crowdsourced network of security experts and antivirus companies.

App and Playbook install

ThreatConnect's Github hosts the downloads for the app and the PolySwarm playbook. For installation instructions, refer to the ThreatConnect System Administration Guide (Install an App). For more information, contact your ThreatConnect Customer Success representatives.

Playbook
App

Application

The PolySwarm App provides ThreatConnect users with two action listed below:

search_hash: This action will enrich file data with new information listed in the respective output section.
download_hash: This action enables the download of a sample and storing it in the malware vault built into ThreatConnect's platform.

Configuration

- Verify the PolySwarm App is installed
- Obtain a PolySwarm API Key from https://polyswarm.network/account/api-keys.
  (Create a new account if needed)
- Go to the gear in the top right corner in the ThreatConnect platform then
  Org Settings > **Variables**
- Create a **New Variable**
- Type = **KEYCHAIN**
- Name = **polyswarm_api_key**
- Value = **API key** from **polyswarm.network**

Note: *If using the PolySwarm File Lookup with download playbook. Please change the Owner parameter in the Create Malware Document app to the owner in your Org.*

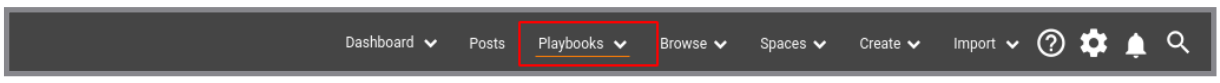
PolySwarm playbook

Quick Overview

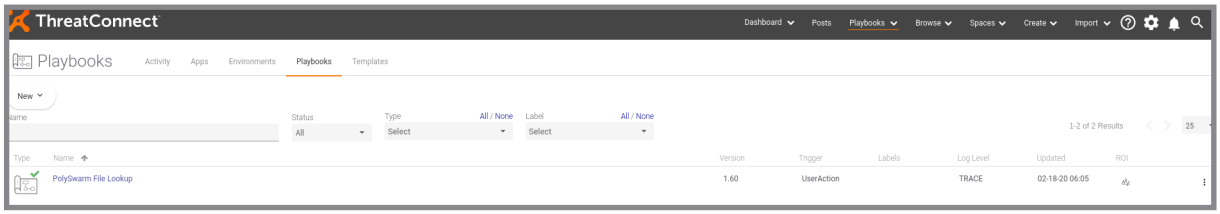
- Verify the PolySwarm playbook is installed
- Import attributes.json file into Org Config for PolySwarm specific variables
- Make sure the playbook is set to active
- Navigate to your list of playbooks
- Create file indicator using hash (MD5 or SHA1 or SHA256)
- Run on the PolySwarm playbook
- Refresh the page for results or browse to the indicator

Making sure the Playbook is set to active

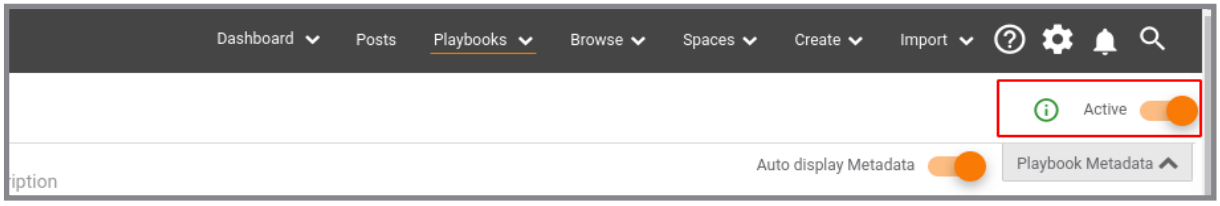
1. Go to the playbook menu in the top banner area to select the PolySwarm playbook



2. Click on the **PolySwarm** playbook

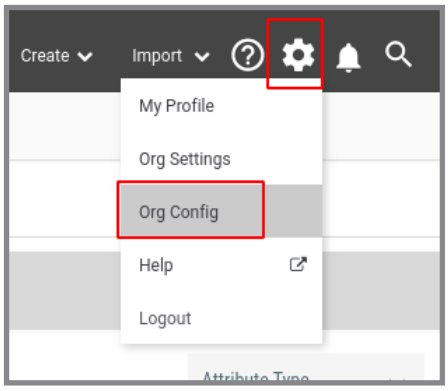


3. Toggle the switch to mark the playbook as active.

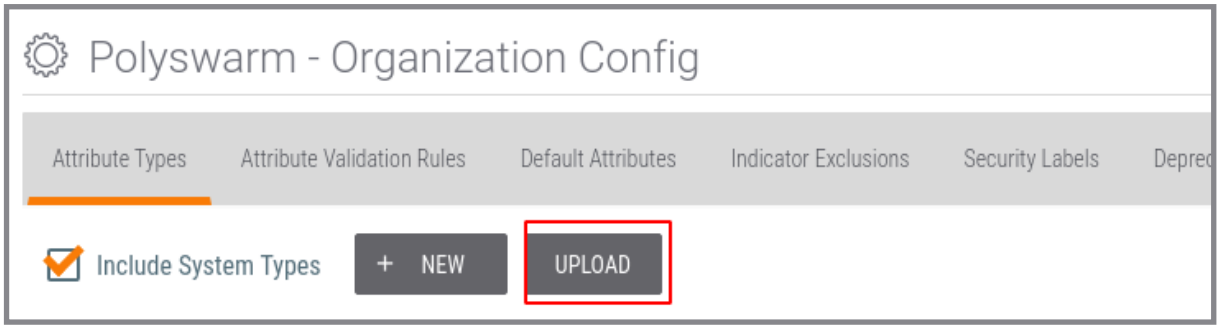


Add PolySwarm Attributes (Optional) **

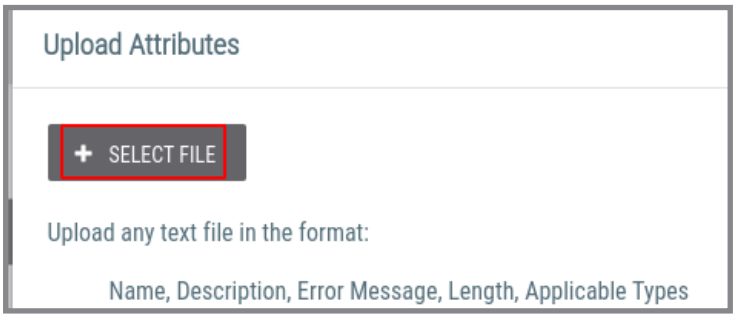
1. Click on the gear icon in the top right to get to your Org Config page.



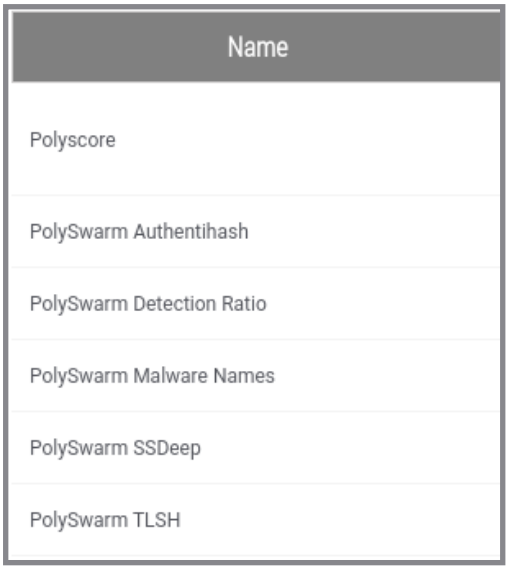
2. Click on the **Upload** button.



3. Click on the **Select File** button and navigate to the attributes.json file distributed with this playbook.

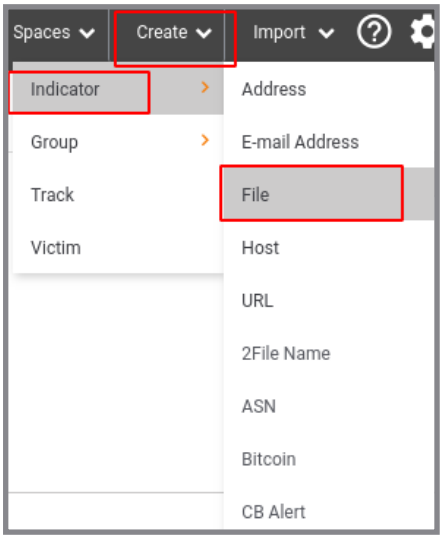


4. New variables should be created. As seen below.

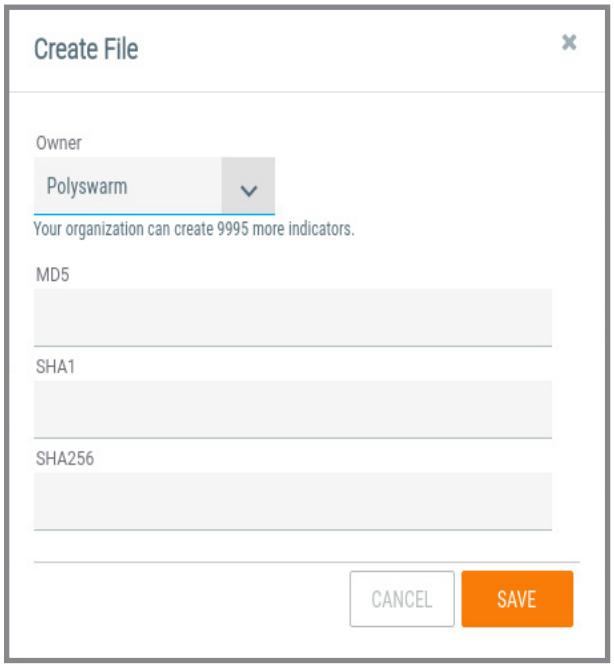


Create a file indicator

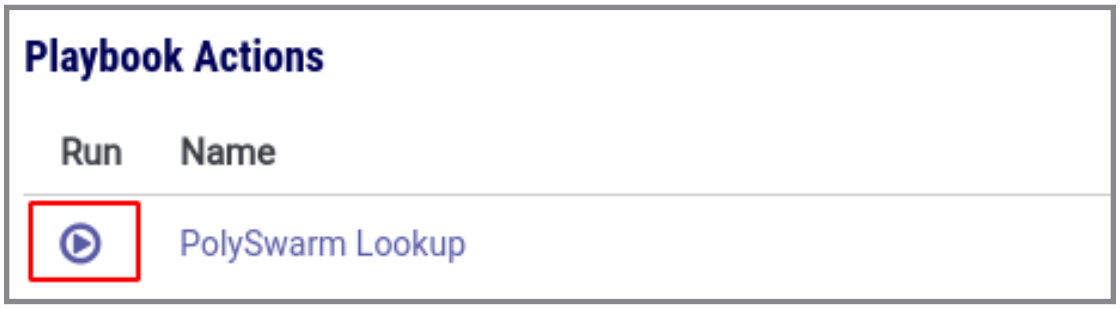
1. Select **Create > Indicator > File**



2. Input a hash value. This can be MD5, SHA1, or SHA256



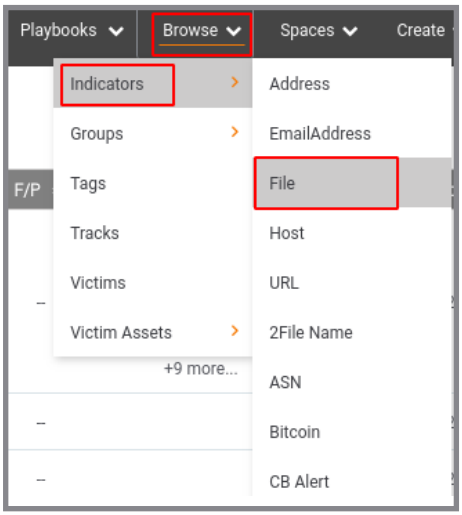
3. Run **PolySwarm Lookup** under playbook Actions in the newly created indicator view



4. The Status for the playbook Action will change to **Completed** when done

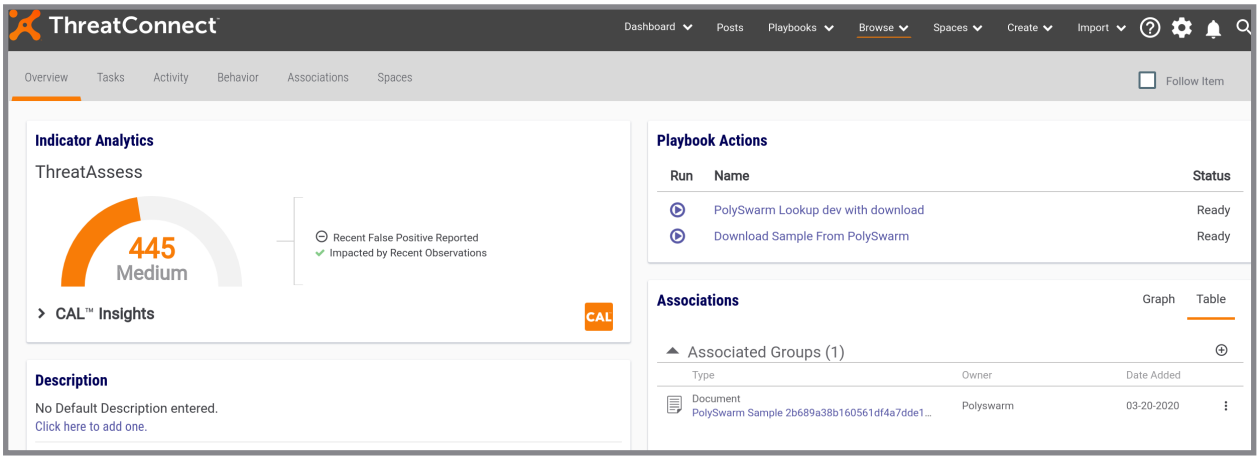
Checking the results

1. Browse to the indicator you created above from the top menu options select **Browse > Indicator > File**



2. Hover over the indicator to get the the option to view the full details of the indicator

3. Review the results of the scan



Results

Example of scan attributes returned when the scan is complete

- **Hashes:** Missing hash values will be populated
- **Fuzzy Hashes:** ssdeep, Authentihash, TLSH: Can be used to pivot to find like files
- **File name:** File names observed at file submission
- **Security Labels:** TLP color
- **Tags:** Malware family returned by the scan engine at the time of file submission
- **PolyScore:** The weighted value between 0-1 based on engine responses and historical engine performance. PolySwarm provides this as an easy number to gauge maliciousness.
- **Overall Confidence Rating:** a scale from 1-100 based off combination of detection ratio and PolyScore
- **Associated Groups**: ThreatConnect Document - A downloaded sample of the hash saved to Malware Vault

Appendix A

Outputs

search_hash action

Polyswarm Field	Possible Values	Notes
polyswarm.response.json.raw	Raw json	Raw JSON response from PolySwarm API
polyswarm.results.assertions.count	number of assertions	total number of engines asserting on an artifact. 0 indicates the hash is benign observed at file submission. You may receive other empty string if this value is 0
polyswarm.results.file.authentihash	Any valid hash for given type	authentihash of artifact
polyswarm.results.file.md5	Any valid hash for given type	MD5 of artifact
polyswarm.results.file.names	string	Filenames observed at file submission time, might be just the hash of the file
polyswarm.results.file.sha1	Any valid hash for given type	sha1 of artifact
polyswarm.results.file.sha256	Any valid hash for given type	sha256 of artifact
polyswarm.results.file.sha3_256	Any valid hash for given type	sha3_256 of artifact
polyswarm.results.file.sha3_512	Any valid hash for given type	sha3_512 of artifact
polyswarm.results.file.sha512	Any valid hash for given type	sha512 of artifact
polyswarm.results.file.ssdeep	Any valid hash for given type	ssdeep of artifact
polyswarm.results.file.tlsh	Any valid hash for given type	tlsh of artifact

Polyswarm Field Cont.	Possible Values Cont.	Notes Cont.
polyswarm.results.longest_malware_family_name	string	The longest malware family name reported by any engine.
polyswarm.results.malicious_detections.confidence	The confidence rating based off polyscore and detection raitio	0-100 confidence based on a combination of detection ratio and PolyScore
polyswarm.results.malicious_detections.count	string	total malicious detections
polyswarm.results.malicious_detections.details	KeyValueArray	Engines, their verdicts, and potential malware families. Empty string value results if the file has no detections
polyswarm.results.malicious_detections.ratio	string	proportion of malicious detections in responding engines
polyswarm.results.malicious_detections_str	string	Engines that detected malicious and reported malware families
polyswarm.results.polyscore	0-1	Score between 0-1 that indicates malintent of artifact takes historical engine performance into account
polyswarm.results.tags.detections	string	Malware families from engines, for tags
polyswarm.results.tags.indicator	string array	Indicator tags provided by engines
polyswarm.results.file.extended_type	string	Extended MIME type values
polyswarm.results.file.mimetype	string	Classified file types
polyswarm.results.file.first_seen	string	Date first seen in the Polyswarm Marketplace
polyswarm.results.file.last_seen	string	Date last seen in the Polyswarm Marketplace
polyswarm.results.metadata.ipv4	string	IPv4 like strings
polyswarm.results.metadata.ipv6	string	IPv6 like strings
polyswarm.results.metadata.urls	string	string| URL like strings
polyswarm.results.metadata.domains	string	Domain like strings

download_hash action

Polyswarm Field	Possible Values	Notes
polyswarm.results.file.authentihash	Any valid hash for given type	authentihash of artifact
polyswarm.results.file.md5	Any valid hash for given type	MD5 of artifact
polyswarm.results.file.names	string	Filenames observed at file submission time
polyswarm.results.file.sha1	Any valid hash for given type	sha1 of artifact
polyswarm.results.file.sha256	Any valid hash for given type	sha256 of artifact
polyswarm.results.file.sha3_256	Any valid hash for given type	sha3_256 of artifact
polyswarm.results.file.sha3_512	Any valid hash for given type	sha3_512 of artifact
polyswarm.results.file.sha512	Any valid hash for given type	sha512 of artifact
polyswarm.results.file.ssdeep	Any valid hash for given type	ssdeep of artifact
polyswarm.results.file.tlsh	Any valid hash for given type	tlsh of artifact
polyswarm.results.file.malware.zipfile	string	Zipfile binary content, encrypted with password
polyswarm.results.file.malware.zippassword	string	Password for malware vault zip file
polyswarm.results.file.size	string	File size in bytes

** Optional Custom Attributes

Attributes needed to allow the **Add ThreatConnect Attribute** app to display the selected outputs available to each action. These are required to run the PolySwarm playbook shown here. If using the attributes.json file provided with the playbooks navigate to your **Org Config** settings click on the **upload** button in the **Attribute type** screen and select the attributes.json file

Key	Values
PolySwarm PolyScore	#polyswarm.results.polyscore
PolySwarm Malware Names	#polyswarm.results.malicious_detections_str
Polyswarm Detection Ratio	#polyswarm.results.malicious_detections.count/#polyswarm.results.assertions.count
PolySwarm Authenihash	#polyswarm.results.file.authentihash
PolySwarm SSDeep	#Polyswarm.results.file.ssdeep
PolySwarm TLSH	#polyswarm.results.file.tlsh
PolySwarm Extended_MIMEType	#polyswarm.results.file.extended_type
PolySwarm MIMEType	#polyswarm.results.file.mimetype
PolySwarm First_Seen	#polyswarm.results.file.first_seen
PolySwarm Last_Seen	#polyswarm.results.file.last_seen
PolySwarm Metadata Domains	#polyswarm.results.metadata.domains
PolySwarm Metadata IPv4	#polyswarm.results.metadata.ipv4
PolySwarm Metadata IPv6	#polyswarm.results.metadata.ipv6
PolySwarm Metadata URL	#polyswarm.results.metadata.urls

Change log

Version	Date	Author	Notes
1.0	March 30th 2020	Matt Bernard, PolySwarm	Initial Release
1.1.1	April 7th 2020	Matt Bernard, PolySwarm	Minor release adding new outputs
1.1.2	April 8th 2020	Matt Bernard, PolySwarm	Minor release with output fix for filename