PyMISP - (ab)using MISP API with PyMISP

MISP - Malware Information Sharing Platform & Threat Sharing

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PyMISP - Basics

- Installation (v2.4.49 - Python 3 recommended):
  - pip3 install pymisp
- Get your auth key from:
  - https://misppriv.circl.lu/events/automation
- Fetch the repository to get the examples:
  - git clone https://github.com/MISP/PyMISP.git

PyMISP - Examples

- **PyMISP needs to be installed**
- Usage:
  - Create examples/keys.py with the following content

```
misp_url = "https://misppriv.circl.lu"
misp_key = "<API_KEY>"
misp_verifycert = True
```

- Proxy support:

```
proxies = {
'http': 'http://127.0.0.1:8123',
'https': 'http://127.0.0.1:8123',
}
PyMISP(misp_url, misp_key, misp_verifycert, 'json', proxies=proxies)
```

PyMISP - Examples

- All the examples have help if you do **script.py -h**
- **searchall.py**: Search in the whole database for a value
- **last.py**: Returns all the most recent events (on a timeframe)
- **get.py**: Return a specific event
- **yara.py**: Get Yara rules
- **suricata.py**: Get Suricata rules
- **tags.py**: Returns all the tags activted on the platform
- **get_network_activity.py**: Returns network indicators

PyMISP - Examples

- **copy_list.py**: Copy files from one MISP instance to an other
- **create_events.py**: Create an event
- **up.py**: Update an event
- **upload.py**: Upload a malware sample
- **sighting.py**: Update sightings on an attribute
- **stats.py**: Returns the stats of a MISP instance

PyMISP - Usage

- Basic example

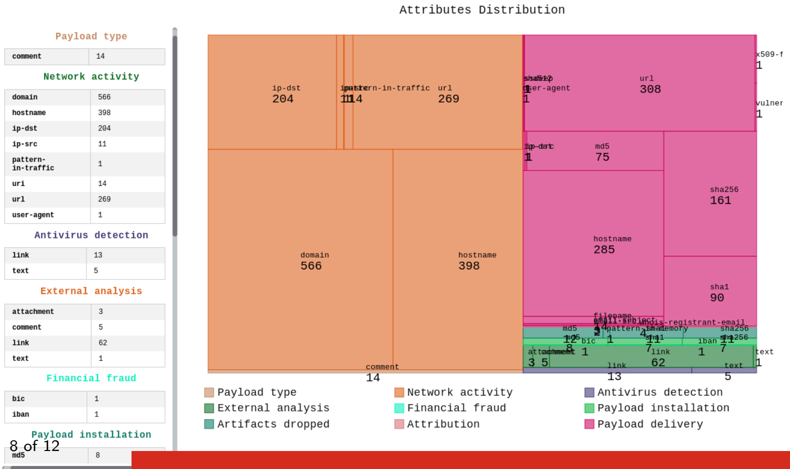
```
from pymisp import PyMISP
api = PyMISP(url, apikey, verifycert=True, 'json', debug=False, proxies=None)
response = api.<function>
if response['error']:
    # <something went wrong>
else:
    # <do something with the output>
```

PyMISP - Capabilities

- Events: get, add, update, publish, delete, add/remove tag, ...
- Add file attributes: hashes, registry key, patterns, pipe, mutex
- **Update sightings**
- Add network attributes: IP dest/src, hostname, domain, url, UA, ...
- Add Email attributes: source, destination, subject, attachment, ...
- Upload/download samples
- Proposals: add, edit, accept, discard
- **Full text search** and search by attributes
- Get **STIX** event
- Export **statistics**
- And more, look at the api file

PyMISP - Situational Awareness (WiP)

- High level view of the type of attributes
- Searchable over a timeframe & tag



Payload type

comment	14

Network activity

domain	566
hostname	398
ip-dst	204
ip-src	11
pattern-in-traffic	1
uri	14
url	269
user-agent	1

Antivirus detection

link	13
text	5

External analysis

attachment	3
comment	5
link	62
text	1

Financial fraud

bic	1
iban	1

Payload installation

md5	8

PyMISP - Feed generator

- Used to generate the **CIRCL OSINT feed**
- Export events as json based on tags, organisation, events, ...
- Automatically update the dumps and the metadata file
- Comparable to a lighweight **TAXII interface**

PyMISP - Feed generator - Config file

```
url = ''

key = ''

ssl = True

outputdir = 'output'

# filters = {'tag':'tlp:white|feed-export|!privint','org':'CIRCL'}
filters = {}


valid_attribute_distribution_levels = ['0', '1', '2', '3', '4', '5']
```

PyMISP - OpenIOC to MISP

- Easy **import of OpenIOC** files into MISP
- Possible to set specific tags
- Batch import

Q&A

MISP Threat Sharing

- https://github.com/MISP/PyMISP
- https://github.com/MISP/
- We welcome new functionalities and pull requests.