ATTACK DEFENSE

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Name	PyPi Server: Configuration Basics
URL	https://www.attackdefense.com/challengedetails?cid=1062
Type	Code Repository : Python PyPi

Important Note: This document illustrates all the important steps required to complete this lab. This is by no means a comprehensive step-by-step solution for this exercise. This is only provided as a reference to various commands needed to complete this exercise and for your further research on this topic. Also, note that the IP addresses and domain names might be different in your lab.

Q1. Configure the Ubuntu machine to use PyPi server present on the same network for package download and install. Then, install pywinwifi package.

Solution:

Step 1: Check the IP address of Ubuntu machine

Command: ip addr

```
root@attackdefense:~# ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
13967: eth0@if13968: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:0a:01:01:04 brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet 10.1.1.4/24 brd 10.1.1.255 scope global eth0
       valid_lft forever preferred_lft forever
13970: eth1@if13971: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:c0:f0:4b:02 brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet 192.240.75.2/24 brd 192.240.75.255 scope global eth1
       valid_lft forever preferred_lft forever
root@attackdefense:~#
```

Step 2: Check the packages listed on PyPi server which should be on 192.240.75.3 (as per challenge guidelines). This can be verified by using Nmap.

Command: curl http://192.240.75.3/simple/

```
root@attackdefense:~# curl http://192.240.75.3/simple/
    <html>
        <head>
            <title>Simple Index</title>
        </head>
        <body>
            <h1>Simple Index</h1>
                    <a href="awscli/">awscli</a><br>
                    <a href="docutils/">docutils</a><br>
                    <a href="pywinwifi/">pywinwifi</a><br>
                    <a href="requests/">requests</a><br>
                    <a href="s3transfer/">s3transfer</a><br>
                    <a href="systat/">systat</a><br>
                    <a href="urllib3/">urllib3</a><br>
        </body>
    </html>
    root@attackdefense:~#
root@attackdefense:~#
```

Step 3: To configure Ubuntu machine to use this PyPi server, create or edit /etc/pip.conf file with following content:

File content:
[global]
index = http://192.240.75.3
index-url = http://192.240.75.3
trusted-host = 192.240.75.3

```
root@attackdefense:~# cat /etc/pip.conf
[global]
index = http://192.240.75.3
index-url = http://192.240.75.3
trusted-host = 192.240.75.3
root@attackdefense:~#
```

Step 4: The Ubuntu machine will use the local PyPi server. Install pywinwifi.

Command: pip install pywinwifi

```
root@attackdefense:~# pip install pywinwifi
Collecting pywinwifi
  Downloading http://192.240.75.3/packages/pywinwifi-1.0.0.zip
Building wheels for collected packages: pywinwifi
  Running setup.py bdist_wheel for pywinwifi ... done
  Stored in directory: /root/.cache/pip/wheels/69/40/84/218987f9fb51fba4e4db
Successfully built pywinwifi
Installing collected packages: pywinwifi
Successfully installed pywinwifi-1.0.0
root@attackdefense:~#
```

Q2. Configure the Ubuntu machine to use PyPi server present on the same network for package upload. Then, download systat package and upload it again to PyPi server.

Solution:

Step 1: Download systat package from PyPi server

Command: pip download systat

```
root@attackdefense:~# pip download systat
Collecting systat
  Downloading http://192.240.75.3/packages/systat-1.0.tar.gz
  Saved ./systat-1.0.tar.gz
Successfully downloaded systat
root@attackdefense:~#
```

Upload is protected by credentials. The credentials for this server are following:

- Username: admin
- Password: welcome

Step 2: Create .pypirc file with following content:

File content:
[distutils]
index-servers =
  local

[local]
repository=http://192.240.75.3
username=admin
password=welcome

```
root@attackdefense:~# cat .pypirc
[distutils]
index-servers =
  local

[local]
repository=http://192.240.75.3
username=admin
password=welcome
root@attackdefense:~#
```

Step 3: To upload a package, first extract it, change to extracted directory and run the upload command.

Commands:
tar -zxf systat-1.0.tar.gz
cd systat-1.0
python setup.py sdist register -r local upload -r local

One can observe that in upload command, reference repo is "local" which is refers to [local] section present in .pypirc

```
root@attackdefense:~# tar -zxf systat-1.0.tar.gz
root@attackdefense:~# cd systat-1.0
root@attackdefense:~/systat-1.0# python setup.py sdist register -r local upload -r local
running sdist
running egg_info
writing systat.egg-info/PKG-INFO
writing top-level names to systat.egg-info/top_level.txt
writing dependency_links to systat.egg-info/dependency_links.txt
reading manifest file 'systat.egg-info/SOURCES.txt'
writing manifest file 'systat.egg-info/SOURCES.txt'
warning: sdist: standard file not found: should have one of README, README.rst, README.txt, README.md
```

And, the package will be uploaded to PyPi server

Q3. Create wheel archive for systat package and upload that to PyPi server.

Step 1: To create wheel archive for the package, change to extracted directory and run the command.

Command: python setup.py bdist_wheel

```
root@attackdefense:~/systat-1.0# python setup.py bdist_wheel
running bdist_wheel
running build
running build_py
creating build
creating build/lib.linux-x86_64-2.7
creating build/lib.linux-x86_64-2.7/systat
copying systat/__init__.py -> build/lib.linux-x86_64-2.7/systat
copying systat/systat.py -> build/lib.linux-x86_64-2.7/systat
installing to build/bdist.linux-x86_64/wheel
```

Step 2: Upload the wheel package using twine.

Command: twine upload -r local dist/systat-1.0-py2-none-any.whl

Here, local repo refers to [local] section of .pypirc config file

```
root@attackdefense:~/systat-1.0# twine upload -r local dist/systat-1.0-py2-none-any.whl
Uploading distributions to http://192.240.75.3
Uploading systat-1.0-py2-none-any.whl
100%|#######################################################################
root@attackdefense:~/systat-1.0#
```

References:

1. pypi (https://pypi.org)
2. pip (https://pypi.org/project/pip/)