Tools for Networkers v2.1

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Introduction

➢ Intro

While working as a Network engineer, I've experienced some common needs. It's about small programs which helpful & convenient at a practical usage perspective. This is to help others who are not good at operating Juniper router product or troubleshooting.

1) How to collect system outputs continuously without using shell script.
2) What/how to collect syslog log messages at a production, when problem occurred.
3) How to simulate packets to troubleshoot
4) ……various reasons

➢ Building Environment.

- Based on Juniper Router products.(MX/T/PTX series). Other vendor's would not work properly.
- Building environment : You have to have installed python 3.7.2, pyqt5, and scapy module
    1) Install python 3.7.2 or higher version. Then set PATH env properly.
    2) In the directory, install pyqt5 and scapy module
       Move into the directory where all files are exist.
       #cd C:\Python37\studyrootm\project\Tools for networks_V2

```
PS C:\Python37\studyrootm\project\Tools for networks_V2> pip3 install pyqt5
PS C:\Python37\studyrootm\project\Tools for networks_V2> pip3 install scapy
```

- Download : **https://github.com/HyungKwangChoi/My-programing**
- Released 3 files
    1) **"Tools for networkers.py"**
    2) **"Window_ui.zip"** (GUI application designed with PYQT5)
    3) **"Release_note_v2.1"**

```
디렉터리: C:\Python35\studyrootm\project\Tools for networks


Mode                LastWriteTime        Length Name
----                -------------        ------ ----
-a----      2019-08-13    오후 3:12       12103 release_note_v1.0.docx
-a----      2019-08-13    오후 3:52        7028 Tools for Networkers.py.py
-a----      2019-08-13    오후 3:35       11842 Window.ui
```

- How to Run
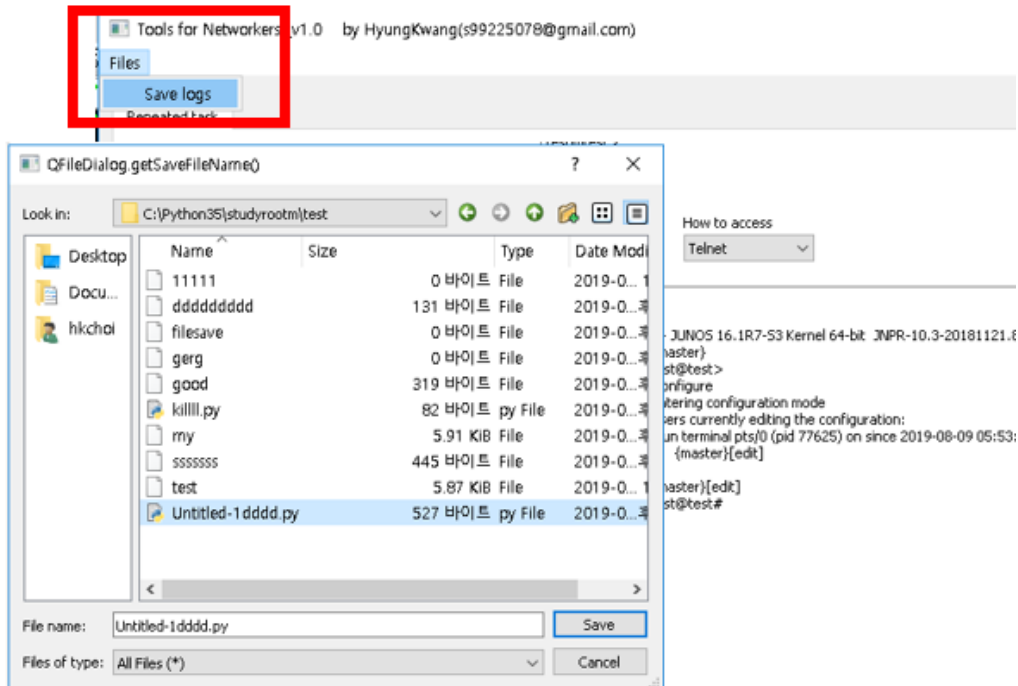 To run it, you need 2 files exist in the same dir "**Tools for Networkers and Window.ui**".

```
PS C:\Python35\studyrootm\project\Tools for networks> py.exe '.\Tools for Networkers.py.py'
```

Tools

➢ How to save logs

Go to 'Files' -> 'Save logs'.
- Logs are being saved on the display right screen.

➢ Repetitive Tasks

- To help someone who feels hard to create a Shell script or other scripts to run commands repetitively or tasks.
- (Current Version) Task performed via Telnet access

How to run (follow the red sequence)

1. Once the Tool popped-up, Put ip & id & pw

  -Telnet connection Timeout = 3
  - In my source-code, login/Password prompts are "login", "Password" coded.
   So If your device doesn't return the Char as "login", "Password", please modify my source-code.

2~3. If connection successful, go to '2. Running a test'
  -Take a look at "1). commands to execute (for multiple command, append ";")"
   If you want to run several commands, you have to add ";" among commands

Ex) set interface ge-0/0/0 mtu 9000; commit; delete interface ge-0/0/0 mtu 9000;run show interface terse | match ge-0/0/0

-If possible, try to append 'no-more' after commands. To avoid logs are stuck in buffer just like the same as Telnet session.

Ex) show version **| no-more**, show log messages **| no-more**

4. please put the time-sleep which is time interval between commands executed.

5. put the number at "how many time to run". This is a kind of loop.

6. "Running"

How to login system and execute shell or cli commands.

-As this 'Repetitive Tasks' works on Telnet session, you can do the same thing as what you do in Telnet. (Accessing to System, and executing shell command or whatever)

Ex)

0). "1).commands to execute", in case, your system root pw is 'juniper'

1). "**start shell user root;juniper**" , if you login to the system successfully, then put the commands/ execute again

2). "**/usr/sbin/cli -c "set cli timestamp**" and so on

2. Running test

1). What commands to execute

```
/usr/sbin/cli -c "set cli timestamp"
```

2). Time sleep (sec) Interleaving between commands (default 1sec)

```
1
```

3). How many times runnning

```
1
```

4) Running Schedule between (if not specified, skipping)

> Beginning   > End

```
2000-01-01 00:00.00              2000-01-01 00:00.00
```

[Running or Enter key]   [Stop or Ctrl+c]

```
delete  interfaces ge-0/0/0 description

commit complete

{master}[edit]
test@test# delete •interfaces ge-0/0/0 description

{master}[edit]
test@test#

{master}[edit]
test@test#
run start shell user root
Password:

su: Sorry

{master}[edit]
test@test#
run start shell user root
Password:

root@test:/var/home/test #
/usr/sbin/cli -c "set cli timestamp"
Aug 13 17:21:13
CLI timestamp set to: %b %d %T
root@test:/var/home/test #
whoami
root
root@test:/var/home/test #
date
Tue Aug 13 17:21:33 KST 2019
root@test:/var/home/test #
/usr/sbin/cli -c "set cli timestamp"
Aug 13 17:22:20
CLI timestamp set to: %b %d %T
root@test:/var/home/test #
```

➢ Packet Builder

How to run (follow the red sequence)

1. Once the Tool popped-up, "Loading PCAP" file
   - It must load only PCAP file, which you want to simulate.
   - PCAP files will be displayed on the screen right.

2. Modify packets items.

3. You must run 'CheckSum'. After checksum done, new modify packet would be refreshed on the right screen.

4. put how many packets you want to send

5. put 'PPS'
   - if you put '0', it means infinity flood

6. Running

7. Stopping.

Error

➢ "ImportError : cannot import name 'qtwidgets' from 'PyQt5' (unknown location)"
   - While you are running the script, if you meet the error like that, PYQT5 is not installed properly with a right PATH. So please check path environment set properly.

```
Traceback (most recent call last):
  File "c:\Users\hkchoi\.vscode\extensions\ms-python.python-2019.10.41019\pythonFiles\ptvsd_launcher.py", line 43, in <module>
    main(ptvsdArgs)
  File "c:\Users\hkchoi\.vscode\extensions\ms-python.python-2019.10.41019\pythonFiles\lib\python\old_ptvsd\ptvsd\__main__.py", line 432, in main
    run()
  File "c:\Users\hkchoi\.vscode\extensions\ms-python.python-2019.10.41019\pythonFiles\lib\python\old_ptvsd\ptvsd\__main__.py", line 316, in run_file
    runpy.run_path(target, run_name='__main__')
  File "C:\Python37\lib\runpy.py", line 263, in run_path
    pkg_name=pkg_name, script_name=fname)
  File "C:\Python37\lib\runpy.py", line 96, in _run_module_code
    mod_name, mod_spec, pkg_name, script_name)
  File "C:\Python37\lib\runpy.py", line 85, in _run_code
    exec(code, run_globals)
  File "C:\Python37\studyrootm\project\Tools for networks_V2\new candidate.py", line 1, in <module>
    from PyQt5 import QtWidgets, uic, QtCore
ImportError: cannot import name 'QtWidgets' from 'PyQt5' (unknown location)
```

➢ How to resolve
   - Move to the directory which "Window.ui" and the script located.
   - And install pyqt5 under the directory.

Future Release

1. Easy lab replication on Q1 2020
2. DHCP shooter.v1 (DHCP/Release)' expected on Q2 2020
3. Collecting system outputs when problem occurred' expected on Q3 2020

Revision History

v1.1 : Modified some Telnet bug at 'Repetitive Tasks'   (12.2019)
v2.1 : New feature added naming 'Packet Builder'   (01.2020)