

<https://github.com/MrJimbo2002/CWM-ProgNets/tree/main/assignment3>

Sending MAC address of 00:00:00:00:00:02 from local machine to Raspberry Pi will not trigger any action from P4 scripts except returning back. As expected, Wireshark captures exact 200 packets as displayed in Fig 1.

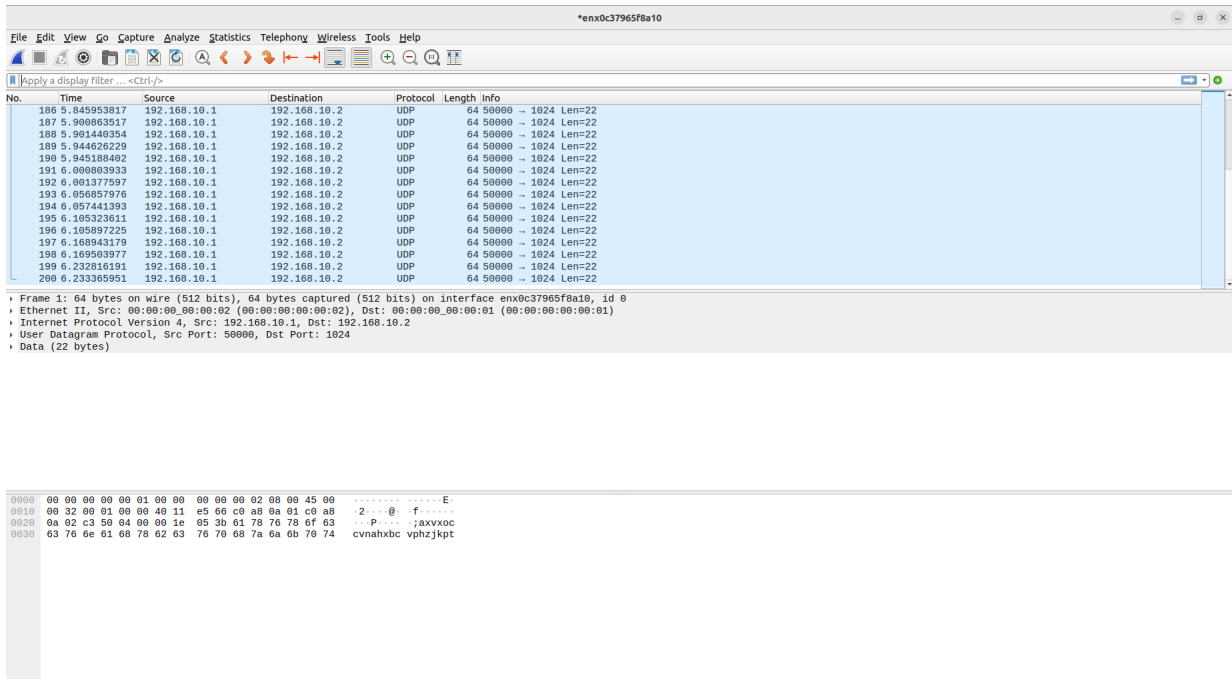


Fig 1

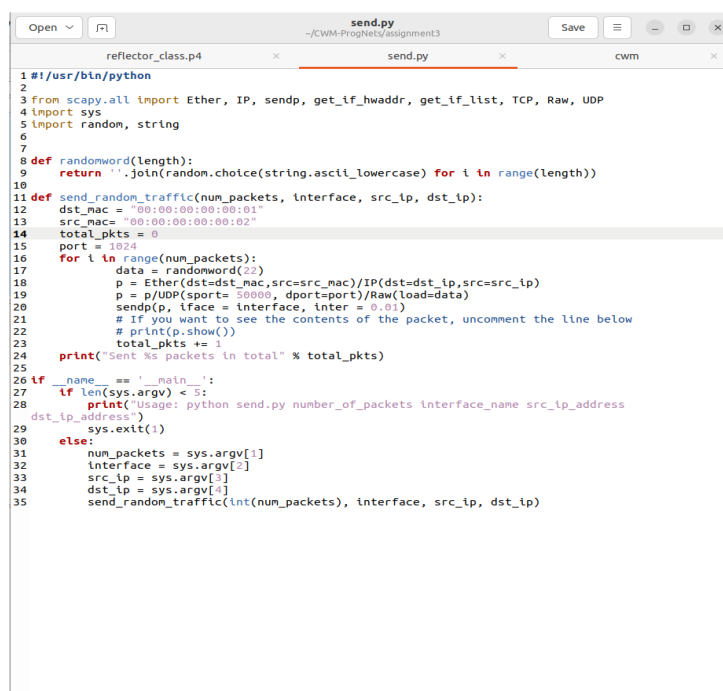


Fig 2 (Original send.py)

The image shows a Wireshark packet capture analysis. The top toolbar includes File, Edit, View, Go, Capture, Analyze, Statistics, Telephony, Wireless, Tools, and Help. The main display area shows a list of captured packets, with packet 64 selected. The packet details pane shows the following information:

- Frame 1: 64 bytes on wire (512 bits), 64 bytes captured (512 bits) on interface enx8c37965f8a10, id 0
- Ethernet II, Src: 00:00:00:00:00:02 (00:00:00:00:00:02), Dst: 00:00:00:00:00:01 (00:00:00:00:00:01)
- Internet Protocol Version 4, Src: 192.168.10.1, Dst: 192.168.10.2
- User Datagram Protocol, Src Port: 50000, Dst Port: 1924
- Data (22 bytes)
 - Data: 66676473786361726a6277736b646778697170608164
 - [Length: 22]

The packet bytes pane shows the raw data in hexadecimal and ASCII:

```
0000  00 00 00 00 00 00 01 00 00 00 00 02 08 00 45 00  .....E:
0010  00 32 00 01 00 00 46 11 e5 66 c0 a0 0a 01 c9 a8  2...@.f...
0020  0a c3 c3 50 04 00 00 1e 0e 0c 66 67 64 73 78 63  .P...lfgdxc
0030  61 72 6a 62 77 73 6b 64 67 78 69 71 70 68 61 64  arjbskdgxiqphad
```

```

pi@p4pi:~/CWM-ProgNets/assignment3 $ ^C
pi@p4pi:~/CWM-ProgNets/assignment3 $ sudo simple_switch -i 0@eth0 reflector.json &
[2] 24043
pi@p4pi:~/CWM-ProgNets/assignment3 $ Calling target program-options parser
Nanomsg returned a exception when trying to bind to address 'ipc:///tmp/bmv2-0-notifications.ipc'.
The exception is: Address already in use
This may happen if
1) the address provided is invalid,
2) another instance of bmv2 is running and using the same address, or
3) you have insufficient permissions (e.g. you are using an IPC socket on Unix, the file already exists and you don't have permission to access it)
sudo simple_switch -i 0@eth0 reflectorimple_switch_CLI
Obtaining JSON from switch...
Done
Control utility for runtime P4 table manipulation
RuntimeCmd: table_add MyIngress.src_mac_drop MyIngress.drop CA:FE:CA:FE:CA:FE =>
Adding entry to exact match table MyIngress.src_mac_drop
match key:          EXACT-ca:fe:ca:fe:ca:fe
action:             MyIngress.drop
runtime data:
Invalid table operation (DUPLICATE_ENTRY)
RuntimeCmd: table_add MyIngress.src_mac_drop MyIngress.drop 00:00:00:00:00:02 =>
Adding entry to exact match table MyIngress.src_mac_drop
match key:          EXACT-00:00:00:00:00:02
action:             MyIngress.drop
runtime data:
Entry has been added with handle 1
RuntimeCmd:

```

Fig 4