LAB-4 HIGH SPEED NETWORKS

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Some Screen Shots: Task 1

1. **Iperf Result:**

```
prasad@prasad-Ideapad-Z570: ~/Desktop
(h1, s1) (h2, s2) (s1, s2)
*** Configuring hosts
h1 h2
*** Starting controller
*** Starting 2 switches
s1 s2
h1 h1-eth1:s1-eth1
h2 h2-eth1:s2-eth2
------------------------------------------------------------
Client connecting to 10.0.0.2, TCP port 10001
TCP window size: 21.0 KByte (default)
------------------------------------------------------------
[  3] local 10.0.0.1 port 54750 connected with 10.0.0.2 port 10001
[ ID] Interval       Transfer     Bandwidth
[  3]  0.0-10.0 sec  19.9 GBytes  17.1 Gbits/sec

*** Stopping 2 hosts
h1 h2
*** Stopping 2 switches
s1 ...s2 ...
*** Stopping 1 controllers
c0
*** Done
prasad@prasad-Ideapad-Z570:~/Desktop$
```

2. **Controller Output**

```
prasad@prasad-Ideapad-Z570: ~/Desktop
prasad@prasad-Ideapad-Z570:~$ cd Desktop
prasad@prasad-Ideapad-Z570:~/Desktop$ ryu-manager --verbose change.py
loading app change.py
loading app ryu.controller.ofp_handler
instantiating app ryu.controller.ofp_handler of OFPHandler
instantiating app change.py of SimpleSwitch13
BRICK SimpleSwitch13
  CONSUMES EventOFPPacketIn
  CONSUMES EventOFPSwitchFeatures
BRICK ofp_event
  PROVIDES EventOFPPacketIn TO {'SimpleSwitch13': set(['main'])}
  PROVIDES EventOFPSwitchFeatures TO {'SimpleSwitch13': set(['config'])}
  CONSUMES EventOFPHello
  CONSUMES EventOFPPortDescStatsReply
  CONSUMES EventOFPSwitchFeatures
  CONSUMES EventOFPErrorMsg
  CONSUMES EventOFPEchoRequest
  CONSUMES EventOFPEchoReply
connected socket:<eventlet.greenio.base.GreenSocket object at 0x9c285ec> address
:('127.0.0.1', 57688)
connected socket:<eventlet.greenio.base.GreenSocket object at 0x9c2870c> address
:('127.0.0.1', 57689)
hello ev <ryu.controller.ofp_event.EventOFPHello object at 0x9c28b0c>
move onto config mode
```

3. **Installing Rules**

```
prasad@prasad-Ideapad-Z570: ~/Desktop
EVENT ofp_event->SimpleSwitch13 EventOFPPacketIn
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```

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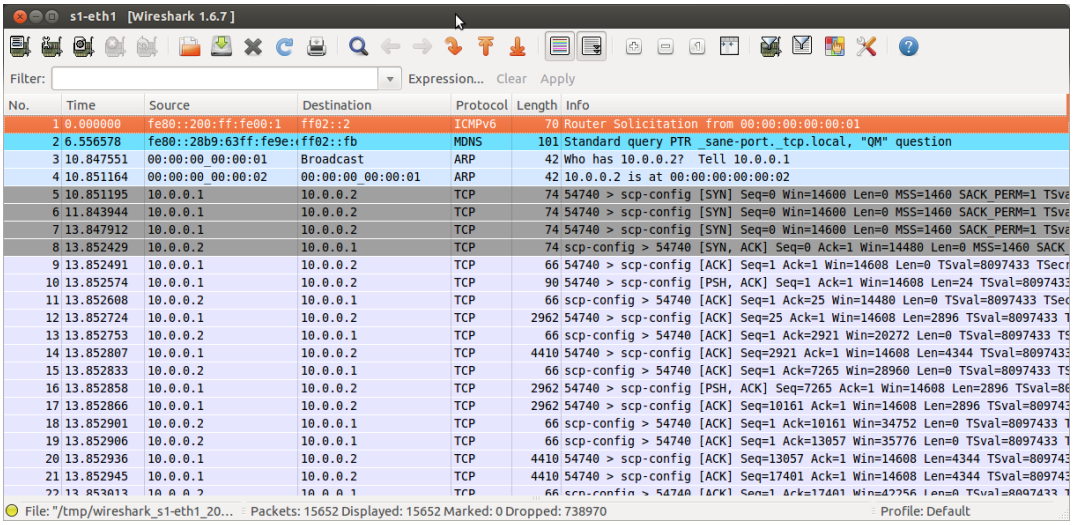
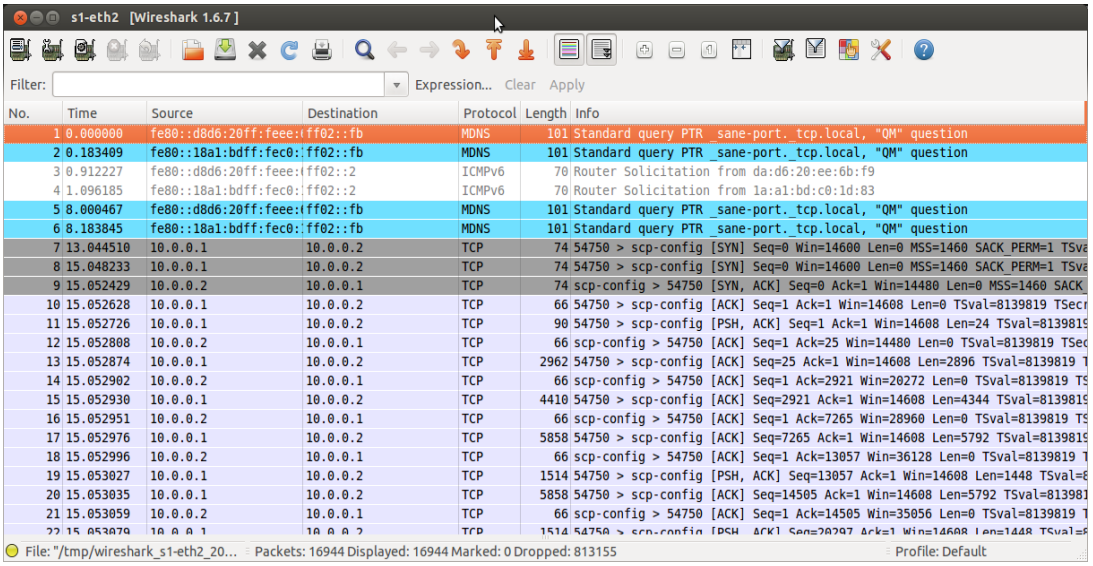
4. **S1 eth 1:** *ARP only at eth1=> Packets going to controller*



5. **S1 eth2:**



I have implemented task 1 in 2 ways-

1. Separate topology file and controller file: Iperf should be switched on manually : (lab4topoh.py and cont_prog.py)
2. Topology file that includes iperf and connection to remote host:(iperf_prog.py and cont_prog.py)

Comments are included in the code.

Task 2- I didn't understand much, tried to hardcode it (for LPR.py). I have submitted this file.