Antoine Rocha
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CE 150 lab1

1)

```
        switch1 = self.addSwitch('s1')    ## Adds a Switch
        switch2 = self.addSwitch('s2')
        switch3 = self.addSwitch('s3')



        host1 = self.addHost('h1')       ## Adds a Host
        host2 = self.addHost('h2')
        host3 = self.addHost('h3')
        host4 = self.addHost('h4')
        host5 = self.addHost('h5')
        host6 = self.addHost('h6')


        self.addLink(host1, switch1)      ## Add a link
        self.addLink(host2, switch2)
        self.addLink(host3, switch1)
        self.addLink(host4, switch2)
        self.addLink(host5, switch3)
        self.addLink(host6, switch3)
        self.addLink(switch1, switch3)
        self.addLink(switch2, switch3)
                                                        13,1
```

2) What is being shown is pingall a ping is used to verify that a particular IP address exist and can accept request. Pingall is a ping between all host and returns ploss packet loss percentage. Dump is a command that gives information about all nodes in this case the host name and pid and IP addresses.

```
mininet> pingall
*** Ping: testing ping reachability
h1 -> h2 h3 h4 h5 h6
h2 -> h1 h3 h4 h5 h6
h3 -> h1 h2 h4 h5 h6
h4 -> h1 h2 h3 h5 h6
h5 -> h1 h2 h3 h4 h6
h6 -> h1 h2 h3 h4 h5
*** Results: 0% dropped (30/30 received)
mininet> dump
<Host h1: h1-eth0:10.0.0.1 pid=2124>
<Host h2: h2-eth0:10.0.0.2 pid=2128>
<Host h3: h3-eth0:10.0.0.3 pid=2130>
<Host h4: h4-eth0:10.0.0.4 pid=2132>
<Host h5: h5-eth0:10.0.0.5 pid=2134>
<Host h6: h6-eth0:10.0.0.6 pid=2136>
<OVSSwitch s1: lo:127.0.0.1,s1-eth1:None,s1-eth2:None,s1-eth3:None pid=2141>
<OVSSwitch s2: lo:127.0.0.1,s2-eth1:None,s2-eth2:None,s2-eth3:None pid=2144>
<OVSSwitch s3: lo:127.0.0.1,s3-eth1:None,s3-eth2:None,s3-eth3:None,s3-eth4:No
ne pid=2147>
<Controller c0: 127.0.0.1:6633 pid=2117>
mininet>
```

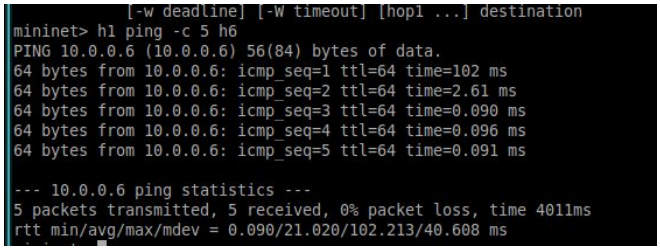
mininet@minine... 14:30

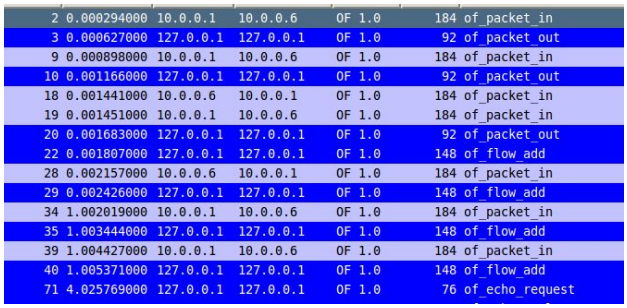
The connect is 28.4 Gbits/sec

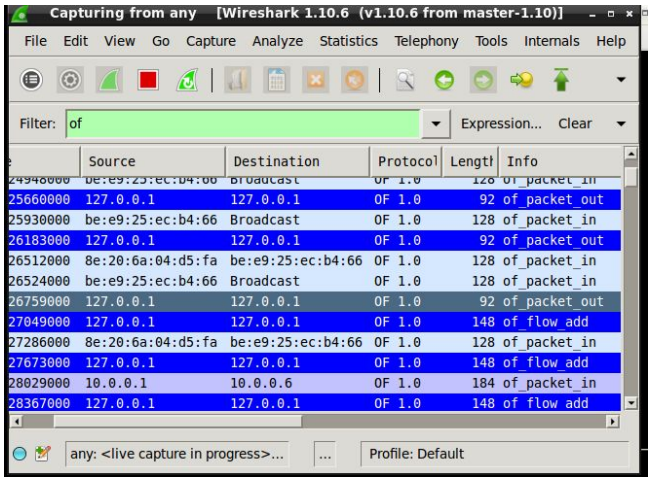
3)

```
mininet> iperf
*** Iperf: testing TCP bandwidth between h1 and h6
*** Results: ['28.4 Gbits/sec', '28.4 Gbits/sec']
mininet>
```

4a) There are 5 packets transmitted in the terminal and there are 7 packets in messages in wireshark.







4b)

1) For *Packet in* the source IP address are host1(10.0.0.1) and host4(10.0.0.6) and the destination IP addresses are reversed ex: host1 ping host 6.

Source(10.0.0.1) ->destination(10.0.0.6).

2)For *packet out* the source IP(127.0.0.1) and Destination IP (127.0.0.1) are the same.

4c) there are over 30 entries generated in wireshark. And echo ping and echo(ping) and rely Entries are shown between the hosts.