

1. My **pingall** output:

```
mininet> pingall
*** Ping: testing ping reachability
h1 -> X X X
h2 -> X X X
h3 -> X X X
h4 -> X X X
*** Results: 100% dropped (0/12 received)
```

This shows that all the ICMP packets were dropped as expected since they were blocked by the firewall

2. My **dpctl dump-flows** output:

```
mininet> dpctl dump-flows
*** s1
cookie=0x0, duration=24.900s, table=0, n_packets=2, n_bytes=84, priority=65535,arp,in_port="s1-eth1",vlan_tci=0x0000,dl_src=00:00:00:00:01,dl_dst=ff:ff:ff:ff,arp_spa=10.0.1.10,arp_tpa=10.0.1.40,arp_op=1 actions=FL000
cookie=0x0, duration=23.896s, table=0, n_packets=1, n_bytes=42, priority=65535,arp,in_port="s1-eth4",vlan_tci=0x0000,dl_src=00:00:00:00:04,dl_dst=00:00:00:00:01,arp_spa=10.0.1.40,arp_tpa=10.0.1.10,arp_op=2 actions=FL000
cookie=0x0, duration=22.871s, table=0, n_packets=4, n_bytes=272, priority=65535,tcp,in_port="s1-eth1",vlan_tci=0x0000,dl_src=00:00:00:00:01,dl_dst=00:00:00:00:04,nw_src=10.0.1.10,nw_dst=10.0.1.40,nw_tos=16,tp_src=50460,tp_dst=5001 actions=FL000
cookie=0x0, duration=21.874s, table=0, n_packets=2, n_bytes=140, priority=65535,tcp,in_port="s1-eth4",vlan_tci=0x0000,dl_src=00:00:00:00:04,dl_dst=00:00:00:00:01,nw_src=10.0.1.40,nw_dst=10.0.1.10,nw_tos=0,tp_src=5001,tp_dst=50460 actions=FL000
cookie=0x0, duration=20.842s, table=0, n_packets=469328, n_bytes=22638600076, priority=65535,tcp,in_port="s1-eth1",vlan_tci=0x0000,dl_src=00:00:00:00:01,dl_dst=00:00:00:00:04,nw_src=10.0.1.10,nw_dst=10.0.1.40,nw_tos=0,tp_src=50470,tp_dst=5001 actions=FL000
cookie=0x0, duration=19.831s, table=0, n_packets=258583, n_bytes=17066982, priority=65535,tcp,in_port="s1-eth4",vlan_tci=0x0000,dl_src=00:00:00:00:04,dl_dst=00:00:00:00:01,nw_src=10.0.1.40,nw_dst=10.0.1.10,nw_tos=0,tp_src=5001,tp_dst=50470 actions=FL000
```

This shows all the flows installed on my switch with *indefinite* idle and hard timeouts

3. Since **iperf** hangs on my system but **iperfudp** does not (which is a *known issue* with the latest version of mininet), I temporarily let UDP traffic through my firewall in order to run **iperfudp**, which gave me the following output:

```
mininet> iperfudp
*** Iperf: testing UDP bandwidth between h1 and h4
*** Results: ['10M', '10.5 Mbits/sec', '10.5 Mbits/sec']
```

I also cannot get an older version of mininet working on my Ubuntu virtual machine in order to use *iperf*, and the computer lab Linux computers don't seem to have mininet installed, so my hands are tied and this is the best I can do at the moment with the time I have left. The submitted controller code, however, still blocks all UDP traffic as it should and only allows TCP/IP and ARP protocol traffic through. I hope this is ok.

Also as proof that *iperf* is itself hanging, I do receive the TCP/IP packets sent as seen below:

```
packet= [ARP REPLY hw:1 p:2048 00:00:00:00:00:04>00:00:00:00:00:01 10.0.1.40>10.0.1.10]
packet= [IP+TCP 10.0.1.10>10.0.1.40 (cs:dd8c v:4 hl:5 l:60 t:64)]
packet= [IP+TCP 10.0.1.40>10.0.1.10 (cs:248b v:4 hl:5 l:60 t:64)]
packet= [IPv6 fe80::200:ff:fe00:3>ff02::2 ICMP6]
drop!
packet= [IPv6 fe80::200:ff:fe00:2>ff02::2 ICMP6]
drop!
packet= [IPv6 fe80::200:ff:fe00:4>ff02::2 ICMP6]
drop!
packet= [IPv6 fe80::200:ff:fe00:1>ff02::2 ICMP6]
drop!
packet= [IP+TCP 10.0.1.10>10.0.1.40 (cs:a1a5 v:4 hl:5 l:60 t:64)]
packet= [IP+TCP 10.0.1.40>10.0.1.10 (cs:248b v:4 hl:5 l:60 t:64)]
```

So *iperf* is just not returning when I run it in mininet, leading me to use *iperfudp* which was allowed in lab 1 for the same reason