C115
Trabalho de Mininet

(Aprendizado)

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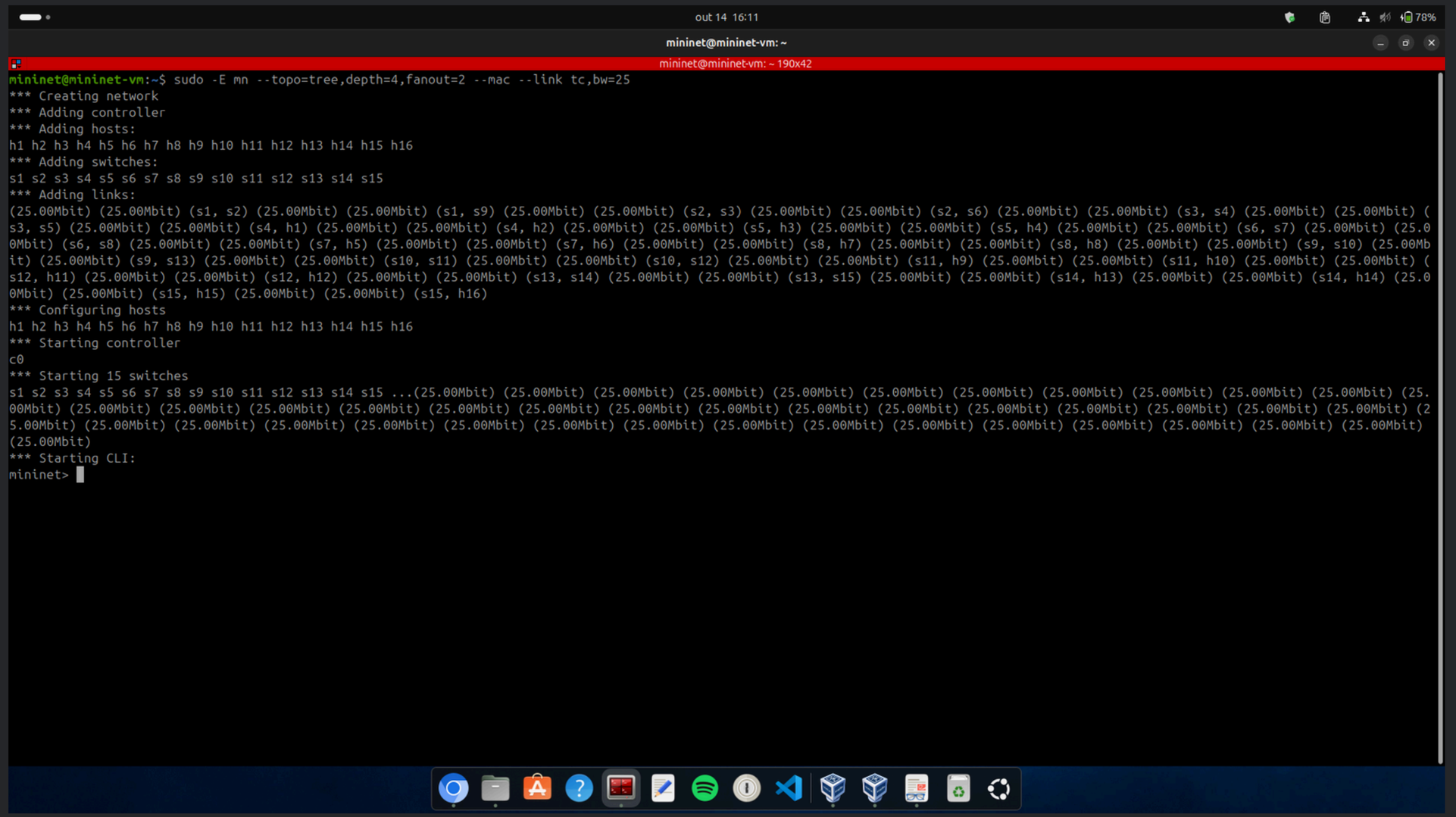
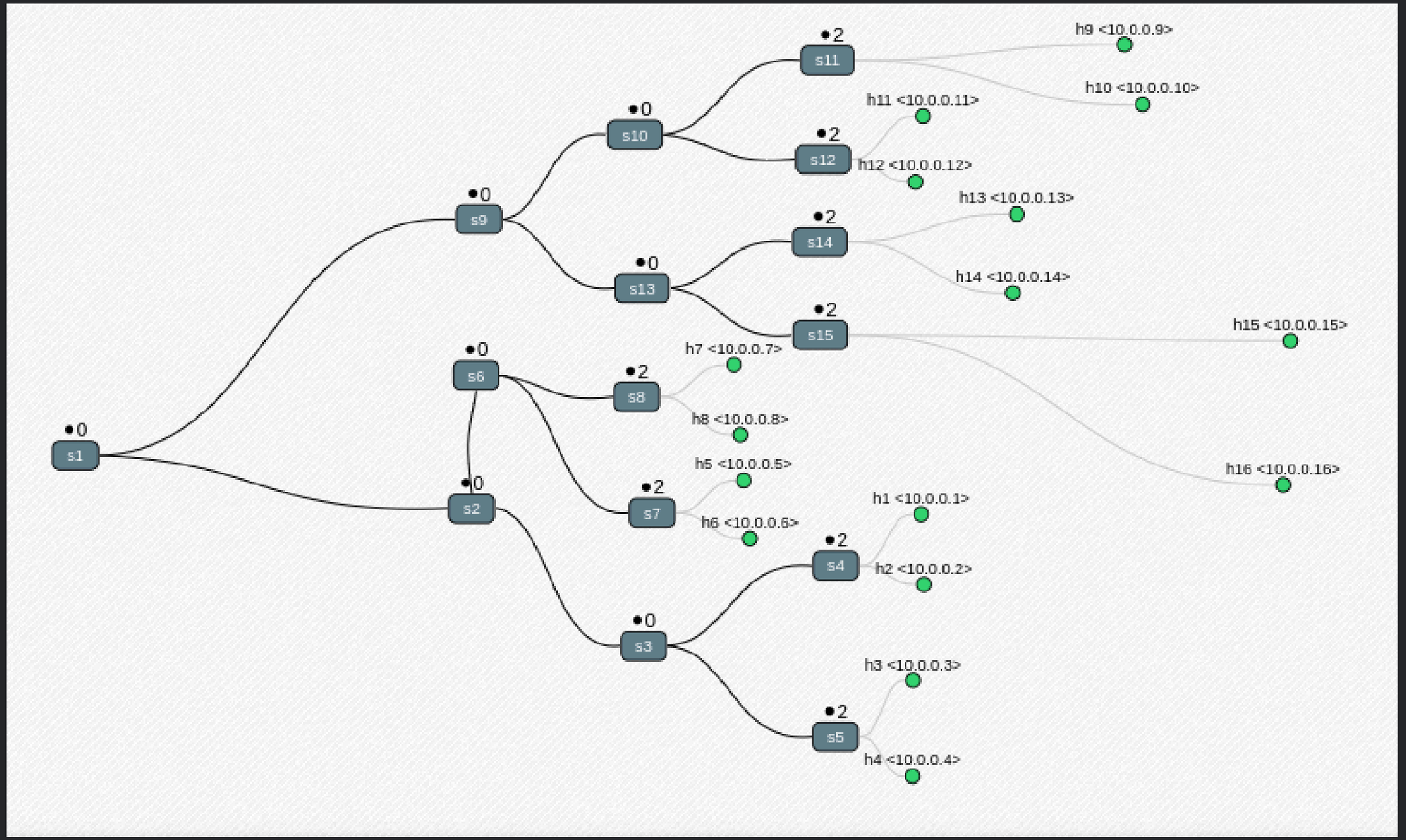
Criando a topologia

MAC padronizado| bandwidth = 35Mbps | controlador mininet


out 14 16:11
78%
mininet@mininet-vm: ~
mininet@mininet-vm: ~ 190x42
mininet@mininet-vm:~$ sudo -E mn --topo=tree,depth=4,fanout=2 --mac --link tc,bw=25
*** Creating network
*** Adding controller
*** Adding hosts:
h1 h2 h3 h4 h5 h6 h7 h8 h9 h10 h11 h12 h13 h14 h15 h16
*** Adding switches:
s1 s2 s3 s4 s5 s6 s7 s8 s9 s10 s11 s12 s13 s14 s15
*** Adding links:
(25.00Mbit) (25.00Mbit) (s1, s2) (25.00Mbit) (25.00Mbit) (s1, s9) (25.00Mbit) (25.00Mbit) (s2, s3) (25.00Mbit) (25.00Mbit) (s2, s6) (25.00Mbit) (25.00Mbit) (s3, s4) (25.00Mbit) (25.00Mbit) (s3, s5) (25.00Mbit) (25.00Mbit) (s4, h1) (25.00Mbit) (25.00Mbit) (s4, h2) (25.00Mbit) (25.00Mbit) (s5, h3) (25.00Mbit) (25.00Mbit) (s5, h4) (25.00Mbit) (25.00Mbit) (s6, s7) (25.00Mbit) (25.00Mbit) (s6, s8) (25.00Mbit) (25.00Mbit) (s7, h5) (25.00Mbit) (25.00Mbit) (s7, h6) (25.00Mbit) (25.00Mbit) (s8, h7) (25.00Mbit) (25.00Mbit) (s8, h8) (25.00Mbit) (25.00Mbit) (s9, s10) (25.00Mbit) (25.00Mbit) (s9, s13) (25.00Mbit) (25.00Mbit) (s10, s11) (25.00Mbit) (25.00Mbit) (s10, s12) (25.00Mbit) (25.00Mbit) (s11, h9) (25.00Mbit) (25.00Mbit) (s11, h10) (25.00Mbit) (25.00Mbit) (s12, h11) (25.00Mbit) (25.00Mbit) (s12, h12) (25.00Mbit) (25.00Mbit) (s13, s14) (25.00Mbit) (25.00Mbit) (s13, s15) (25.00Mbit) (25.00Mbit) (s14, h13) (25.00Mbit) (25.00Mbit) (s14, h14) (25.00Mbit) (25.00Mbit) (s15, h15) (25.00Mbit) (25.00Mbit) (s15, h16)
*** Configuring hosts
h1 h2 h3 h4 h5 h6 h7 h8 h9 h10 h11 h12 h13 h14 h15 h16
*** Starting controller
c0
*** Starting 15 switches
s1 s2 s3 s4 s5 s6 s7 s8 s9 s10 s11 s12 s13 s14 s15 ...(25.00Mbit) (25.00Mbit) (25.00Mbit) (

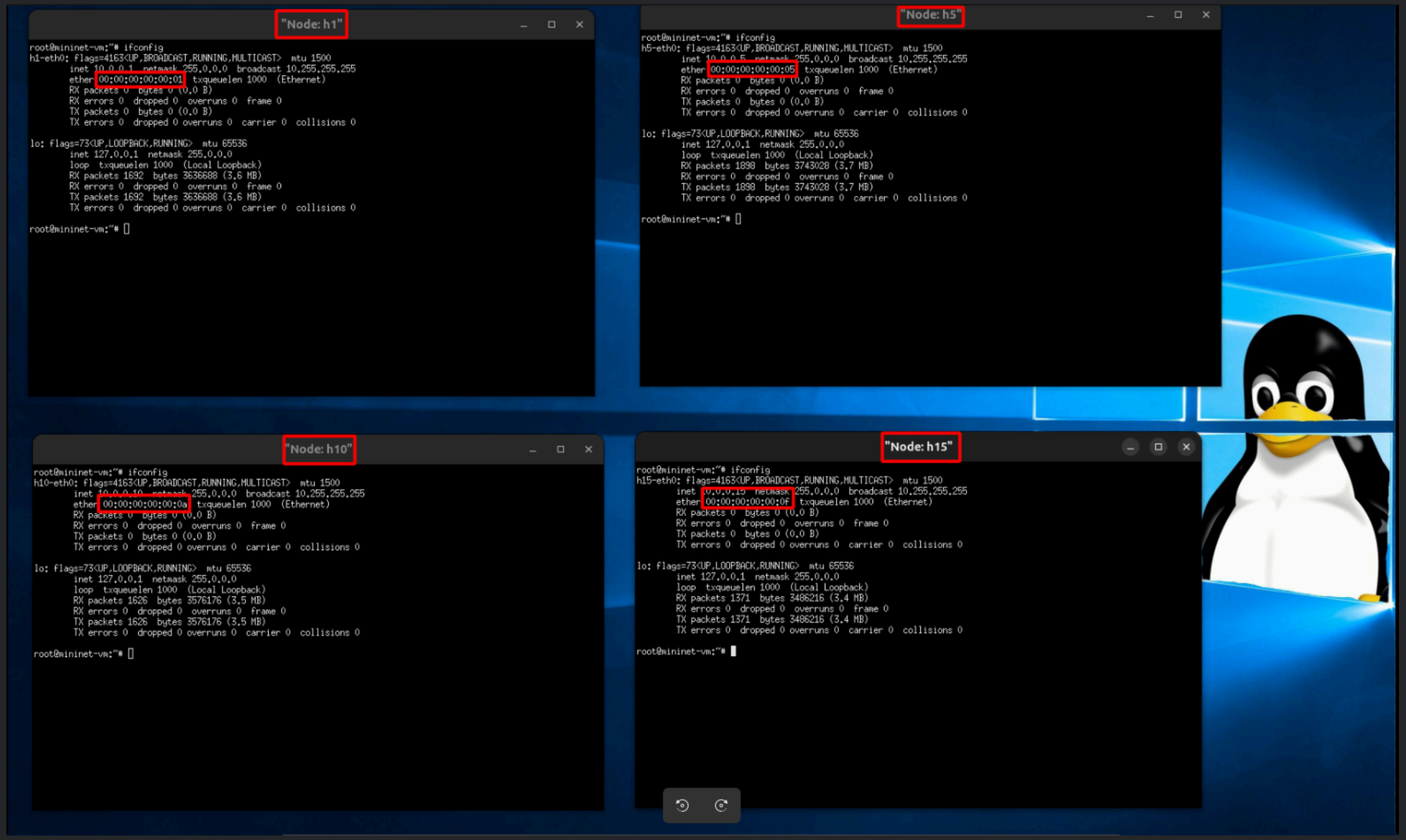


Link: Mininet Topology Visualizer

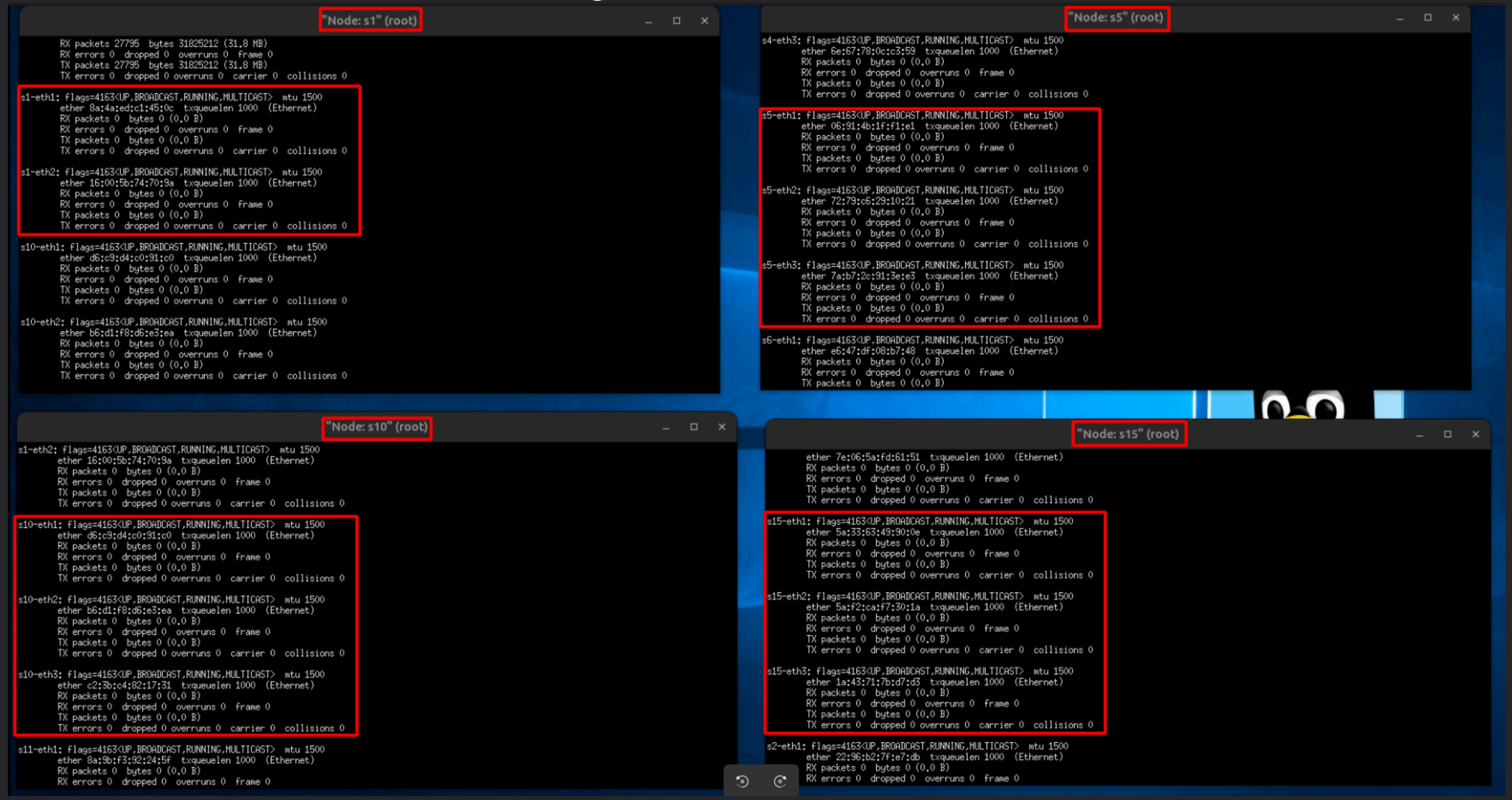
Endereços IP

```
mininet> dump
<Host h1: h1-eth0:10.0.0.1 pid=3413>
<Host h2: h2-eth0:10.0.0.2 pid=3415>
<Host h3: h3-eth0:10.0.0.3 pid=3417>
<Host h4: h4-eth0:10.0.0.4 pid=3419>
<Host h5: h5-eth0:10.0.0.5 pid=3421>
<Host h6: h6-eth0:10.0.0.6 pid=3423>
<Host h7: h7-eth0:10.0.0.7 pid=3425>
<Host h8: h8-eth0:10.0.0.8 pid=3427>
<Host h9: h9-eth0:10.0.0.9 pid=3429>
<Host h10: h10-eth0:10.0.0.10 pid=3431>
<Host h11: h11-eth0:10.0.0.11 pid=3433>
<Host h12: h12-eth0:10.0.0.12 pid=3435>
<Host h13: h13-eth0:10.0.0.13 pid=3437>
<Host h14: h14-eth0:10.0.0.14 pid=3439>
<Host h15: h15-eth0:10.0.0.15 pid=3441>
<Host h16: h16-eth0:10.0.0.16 pid=3443>
<OVSSwitch s1: lo:127.0.0.1,s1-eth1:None,s1-eth2:None pid=3448>
<OVSSwitch s2: lo:127.0.0.1,s2-eth1:None,s2-eth2:None,s2-eth3:None pid=3451>
<OVSSwitch s3: lo:127.0.0.1,s3-eth1:None,s3-eth2:None,s3-eth3:None pid=3454>
<OVSSwitch s4: lo:127.0.0.1,s4-eth1:None,s4-eth2:None,s4-eth3:None pid=3457>
<OVSSwitch s5: lo:127.0.0.1,s5-eth1:None,s5-eth2:None,s5-eth3:None pid=3460>
<OVSSwitch s6: lo:127.0.0.1,s6-eth1:None,s6-eth2:None,s6-eth3:None pid=3463>
<OVSSwitch s7: lo:127.0.0.1,s7-eth1:None,s7-eth2:None,s7-eth3:None pid=3466>
<OVSSwitch s8: lo:127.0.0.1,s8-eth1:None,s8-eth2:None,s8-eth3:None pid=3469>
<OVSSwitch s9: lo:127.0.0.1,s9-eth1:None,s9-eth2:None,s9-eth3:None pid=3472>
<OVSSwitch s10: lo:127.0.0.1,s10-eth1:None,s10-eth2:None,s10-eth3:None pid=3475>
<OVSSwitch s11: lo:127.0.0.1,s11-eth1:None,s11-eth2:None,s11-eth3:None pid=3478>
<OVSSwitch s12: lo:127.0.0.1,s12-eth1:None,s12-eth2:None,s12-eth3:None pid=3481>
<OVSSwitch s13: lo:127.0.0.1,s13-eth1:None,s13-eth2:None,s13-eth3:None pid=3484>
<OVSSwitch s14: lo:127.0.0.1,s14-eth1:None,s14-eth2:None,s14-eth3:None pid=3487>
<OVSSwitch s15: lo:127.0.0.1,s15-eth1:None,s15-eth2:None,s15-eth3:None pid=3490>
<Controller c0: 127.0.0.1:6653 pid=3406>
mininet>
```

Endereços MAC (hosts)



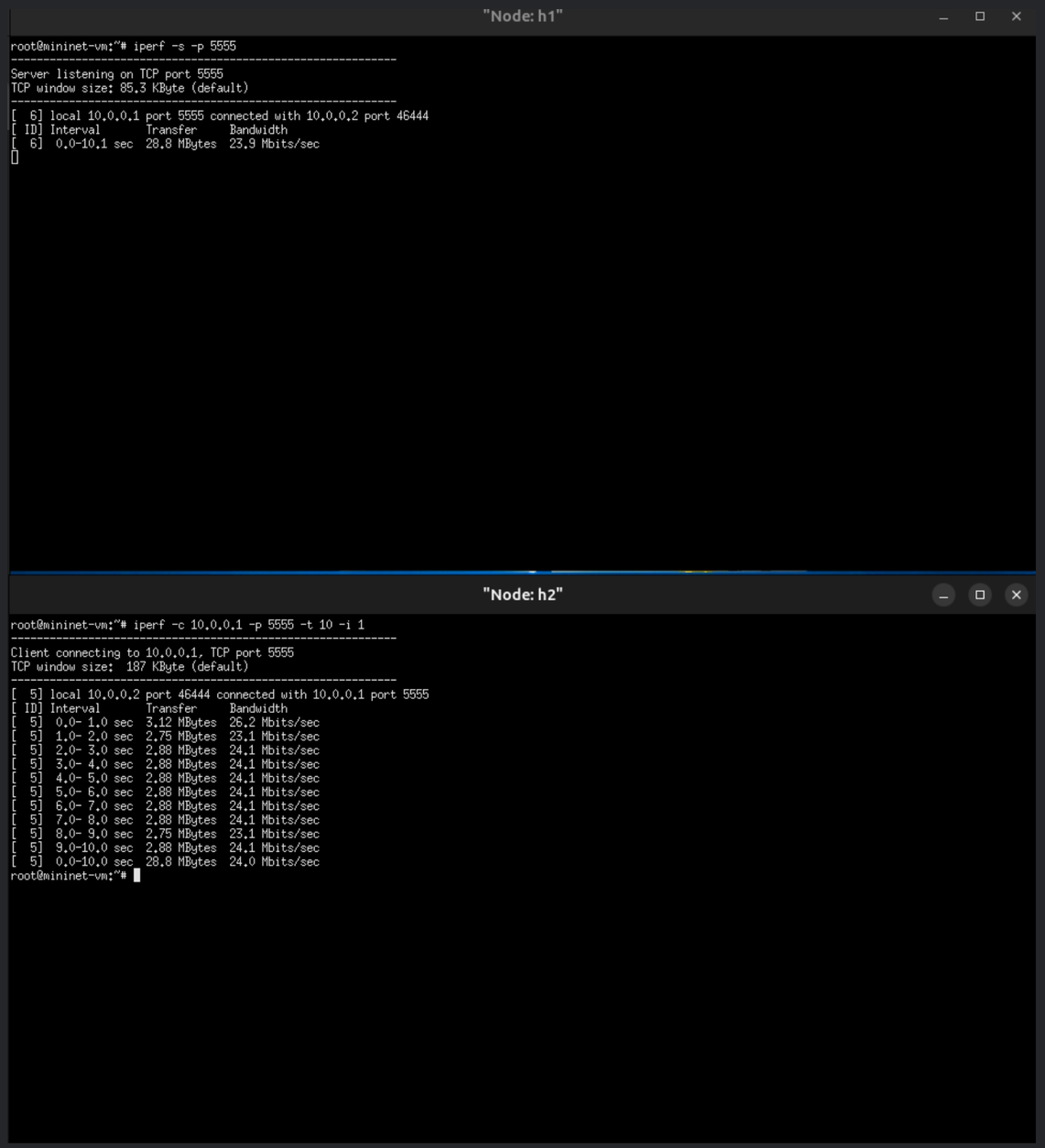
Endereços MAC (switch)



Pings

```
mininet> pingall
*** Ping: testing ping reachability
h1 -> h2 h3 h4 h5 h6 h7 h8 h9 h10 h11 h12 h13 h14 h15 h16
h2 -> h1 h3 h4 h5 h6 h7 h8 h9 h10 h11 h12 h13 h14 h15 h16
h3 -> h1 h2 h4 h5 h6 h7 h8 h9 h10 h11 h12 h13 h14 h15 h16
h4 -> h1 h2 h3 h5 h6 h7 h8 h9 h10 h11 h12 h13 h14 h15 h16
h5 -> h1 h2 h3 h4 h6 h7 h8 h9 h10 h11 h12 h13 h14 h15 h16
h6 -> h1 h2 h3 h4 h5 h7 h8 h9 h10 h11 h12 h13 h14 h15 h16
h7 -> h1 h2 h3 h4 h5 h6 h8 h9 h10 h11 h12 h13 h14 h15 h16
h8 -> h1 h2 h3 h4 h5 h6 h7 h9 h10 h11 h12 h13 h14 h15 h16
h9 -> h1 h2 h3 h4 h5 h6 h7 h8 h10 h11 h12 h13 h14 h15 h16
h10 -> h1 h2 h3 h4 h5 h6 h7 h8 h9 h11 h12 h13 h14 h15 h16
h11 -> h1 h2 h3 h4 h5 h6 h7 h8 h9 h10 h12 h13 h14 h15 h16
h12 -> h1 h2 h3 h4 h5 h6 h7 h8 h9 h10 h11 h13 h14 h15 h16
h13 -> h1 h2 h3 h4 h5 h6 h7 h8 h9 h10 h11 h12 h14 h15 h16
h14 -> h1 h2 h3 h4 h5 h6 h7 h8 h9 h10 h11 h12 h13 h15 h16
h15 -> h1 h2 h3 h4 h5 h6 h7 h8 h9 h10 h11 h12 h13 h14 h16
h16 -> h1 h2 h3 h4 h5 h6 h7 h8 h9 h10 h11 h12 h13 h14 h15
*** Results: 0% dropped (240/240 received)
```

Especificando que o host 1 na porta 5555 vai ser um servidor TCP e o host 2 um cliente e executando testes de iperf, considerando um relatório por segundo com teste de 10 segundos. Fazendo os testes para a largura de banda de 25 Mbps



Obrigado!