

Learn Mininet

计算机网络 CS339

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1 第一节

Listing 1: [lab02/task1.py](#)

```
1  # 1. Simulate the following topology in Mininet. Set the link bandwidth for (
    s1,s2) and (s1,s3) as 10Mbps. Use Iperf to test the TCP throughput
    between every host pair.
2  #
3  # h1--s1--s2--h2
4  #      |
5  #      s3
6  #      |
7  #      h3
8
9  from mininet.link import TCLink
10 from mininet.topo import Topo
11 from mininet.net import Mininet
12 from mininet.log import lg, info
13 from mininet.util import dumpNodeConnections
14
15 class NetworkTopo(Topo):
16     "Topology of task 1."
17
18     def build(self):
19         # Create switches and hosts
20         h1, h2, h3 = [self.addHost(h) for h in ('h1','h2','h3')]
21         s1, s2, s3 = [self.addSwitch(s) for s in ('s1','s2','s3')]
22
23         # Wire up switches with constraints
24         self.addLink(s1, s2, bw=10)
25         self.addLink(s1, s3, bw=10)
26
27         self.addLink(h1, s1)
28         self.addLink(h3, s3)
29         self.addLink(h2, s2)
30
31     def perfTest():
32         "Use Iperf to test the TCP throughput between every host pair."
33         topo = NetworkTopo()
34         # The constructor of TCLink is required
35         # to get the constraints from topo.
36         net = Mininet(topo=topo,link=TCLink,autoStaticArp=True)
37         net.start()
38         dumpNodeConnections(net.hosts)
39         h1, h2, h3 = net.getNodeByName('h1','h2','h3')
40         net.iperf((h1,h2))
41         net.iperf((h1,h3))
42         net.iperf((h2,h3))
43         net.stop()
44
45 if __name__ == "__main__":
46     # lg.setLogLevel('info')
47     perfTest()
```