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GNU nano 4.8                               topo.py
from mininet.topo import Topo

class FiveSwitchTopo(Topo):
    def build(self):
        # Create 5 switches
        switches = []
        for i in range(1, 6):
            switch = self.addSwitch('s{}'.format(i))
            switches.append(switch)

        # Create 10 hosts (2 per switch)
        hosts = []
        for i in range(1, 11):
            host = self.addHost('h{}'.format(i))
            hosts.append(host)

        # Attach 2 hosts per switch
        for i in range(5):
            self.addLink(switches[i], hosts[i*2])           # Host 1
            self.addLink(switches[i], hosts[i*2 + 1])       # Host 2

        # Connect switches in a chain (s1-s2-s3-s4-s5)
        for i in range(4):
            self.addLink(switches[i], switches[i + 1])

Help

```

$\wedge G$ Get Help $\wedge O$ Write Out $\wedge W$ Where Is $\wedge K$ Cut Text $\wedge J$ Justify
 $\wedge X$ Exit $\wedge R$ Read File $\wedge \backslash$ Replace $\wedge U$ Paste Text $\wedge T$ To Spell

```

nkosi-sdnlab@nkosisdnlab-VirtualBox:~$ ryu-manager dynamic_lb.py
loading app dynamic_lb.py
loading app ryu.controller.ofp_handler
instantiating app dynamic_lb.py of DynamicLoadBalancer
instantiating app ryu.controller.ofp_handler of OFPHandler
Switch connected: 4
Switch connected: 5
Switch connected: 3
Switch connected: 2
Switch connected: 1

```

```

nkosi-sdnlab@nkosisdnlab-VirtualBox:~$ sudo mn --custom topo.py --topo fiveswitchtopo --controller=remote --switch ovsk --mac
*** Creating network
*** Adding controller
Unable to contact the remote controller at 127.0.0.1:6653
Unable to contact the remote controller at 127.0.0.1:6633
Setting remote controller to 127.0.0.1:6653
*** Adding hosts:
h1 h2 h3 h4 h5 h6 h7 h8 h9 h10
*** Adding switches:
s1 s2 s3 s4 s5
*** Adding links:
(s1, h1) (s1, h2) (s1, s2) (s2, h3) (s2, h4) (s2, s3) (s3, h5) (s3, h6) (s3, s4)
(s4, h7) (s4, h8) (s4, s5) (s5, h9) (s5, h10)
*** Configuring hosts
h1 h2 h3 h4 h5 h6 h7 h8 h9 h10
*** Starting controller
c0
*** Starting 5 switches
s1 s2 s3 s4 s5 ...
*** Starting CLI:
mininet> 

```

```

mininet> h2 iperf3 -s &
mininet> h1 iperf3 -c 10.0.0.2 -t 30
Connecting to host 10.0.0.2, port 5201
[ 5] local 10.0.0.1 port 36354 connected to 10.0.0.2 port 5201

[ ID] Interval      Transfer     Bitrate      Retr  Cwnd
[ 5]  0.00-1.00   sec  1.27 GBytes  10.9 Gbits/sec   1  5.50 MBytes
[ 5]  1.00-2.00   sec  2.76 GBytes  23.7 Gbits/sec   2  5.50 MBytes
[ 5]  2.00-3.00   sec  2.90 GBytes  24.9 Gbits/sec   2  5.50 MBytes
[ 5]  3.00-4.00   sec  2.84 GBytes  24.4 Gbits/sec   0  5.50 MBytes
[ 5]  4.00-5.00   sec  2.66 GBytes  22.9 Gbits/sec   1  1.38 MBytes
[ 5]  5.00-6.00   sec  2.66 GBytes  22.9 Gbits/sec   1  1.43 MBytes
[ 5]  6.00-7.00   sec  2.01 GBytes  17.2 Gbits/sec   1  4.89 MBytes
[ 5]  7.00-8.00   sec  3.12 GBytes  26.8 Gbits/sec   0  4.89 MBytes
[ 5]  8.00-9.00   sec  3.04 GBytes  26.1 Gbits/sec   1  4.89 MBytes
[ 5]  9.00-10.00  sec  2.68 GBytes  23.0 Gbits/sec   1  5.76 MBytes
[ 5] 10.00-11.00  sec  2.56 GBytes  22.0 Gbits/sec   0  5.46 MBytes
[ 5] 11.00-12.00  sec  3.12 GBytes  26.8 Gbits/sec   1  5.46 MBytes
[ 5] 12.00-13.00  sec  2.72 GBytes  23.2 Gbits/sec   0  5.60 MBytes
[ 5] 13.00-14.00  sec  2.64 GBytes  22.8 Gbits/sec   2  5.60 MBytes
[ 5] 14.00-15.00  sec  2.03 GBytes  17.5 Gbits/sec   6  5.62 MBytes
[ 5] 15.00-16.00  sec  2.24 GBytes  19.2 Gbits/sec   0  5.65 MBytes
[ 5] 16.00-17.00  sec  3.07 GBytes  26.4 Gbits/sec   3  5.67 MBytes
[ 5] 17.00-18.00  sec  3.06 GBytes  26.3 Gbits/sec   1  5.67 MBytes
[ 5] 18.00-19.00  sec  2.57 GBytes  22.1 Gbits/sec   0  5.67 MBytes
[ 5] 19.00-20.00  sec  3.11 GBytes  26.7 Gbits/sec   2  5.67 MBytes
[ 5] 20.00-21.00  sec  2.33 GBytes  20.0 Gbits/sec   8  5.71 MBytes
[ 5] 21.00-22.00  sec  2.47 GBytes  21.2 Gbits/sec   3  5.71 MBytes
[ 5] 22.00-23.00  sec  2.60 GBytes  22.3 Gbits/sec   1  5.71 MBytes
[ 5] 23.00-24.00  sec  1.98 GBytes  17.0 Gbits/sec   0  5.71 MBytes
[ 5] 24.00-25.00  sec  3.03 GBytes  26.0 Gbits/sec   0  5.65 MBytes
[ 5] 25.00-26.00  sec  3.09 GBytes  26.5 Gbits/sec   0  5.73 MBytes
[ 5] 26.00-27.00  sec  2.27 GBytes  19.5 Gbits/sec   3  5.73 MBytes
[ 5] 27.00-28.00  sec  2.83 GBytes  24.3 Gbits/sec   0  5.73 MBytes
[ 5] 28.00-29.00  sec  2.62 GBytes  22.5 Gbits/sec   1  5.74 MBytes
[ 5] 29.00-30.00  sec  2.91 GBytes  25.0 Gbits/sec   2  5.74 MBytes
[ Terminal] .00-30.00 sec  79.2 GBytes  22.7 Gbits/sec  43          sender
[ 5]  0.00-34.25  sec  79.2 GBytes  19.9 Gbits/sec          receiver

iperf Done.
mininet> █

```

