MININET Simulation

INSTALLATION

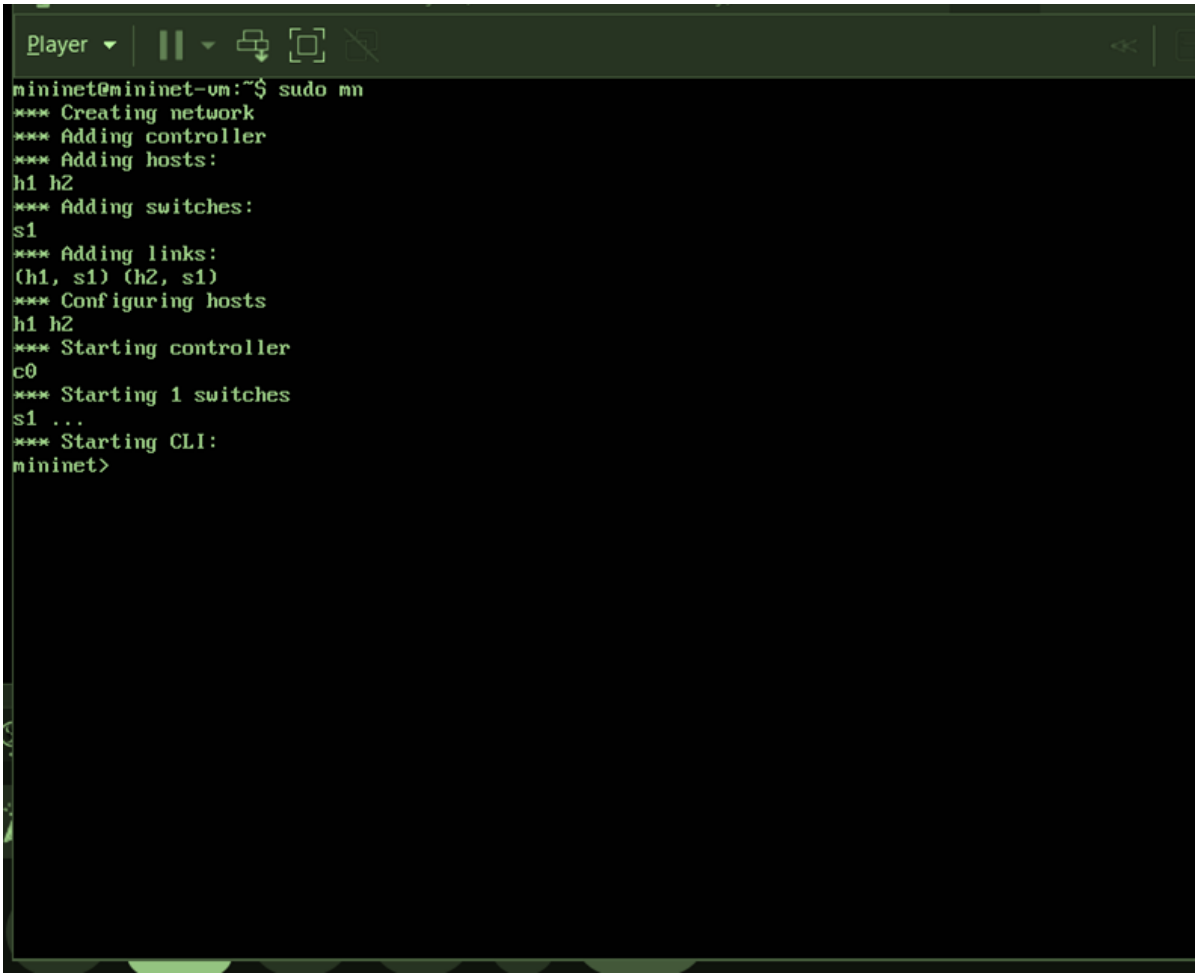
```
user@test:~$ git clone https://github.com/mininet/mininet
Cloning into 'mininet'...
remote: Enumerating objects: 11, done.
remote: Counting objects: 100% (11/11), done.
remote: Compressing objects: 100% (9/9), done.
remote: Total 10165 (delta 2), reused 3 (delta 1), pack-reused 10154
Receiving objects: 100% (10165/10165), 3.19 MiB | 5.15 MiB/s, done.
Resolving deltas: 100% (6784/6784), done.
user@test:~$ mininet/util/install.sh -a
Detected Linux distribution: Ubuntu 20.04 focal amd64
sys.version_info(major=2, minor=7, micro=18, releaselevel='final', serial=0)
Detected Python (python) version 2
Installing all packages except for -eix (doxypy, ivs, nox-classic)...
Install Mininet-compatible kernel if necessary
```

Login Details

Username: mininet

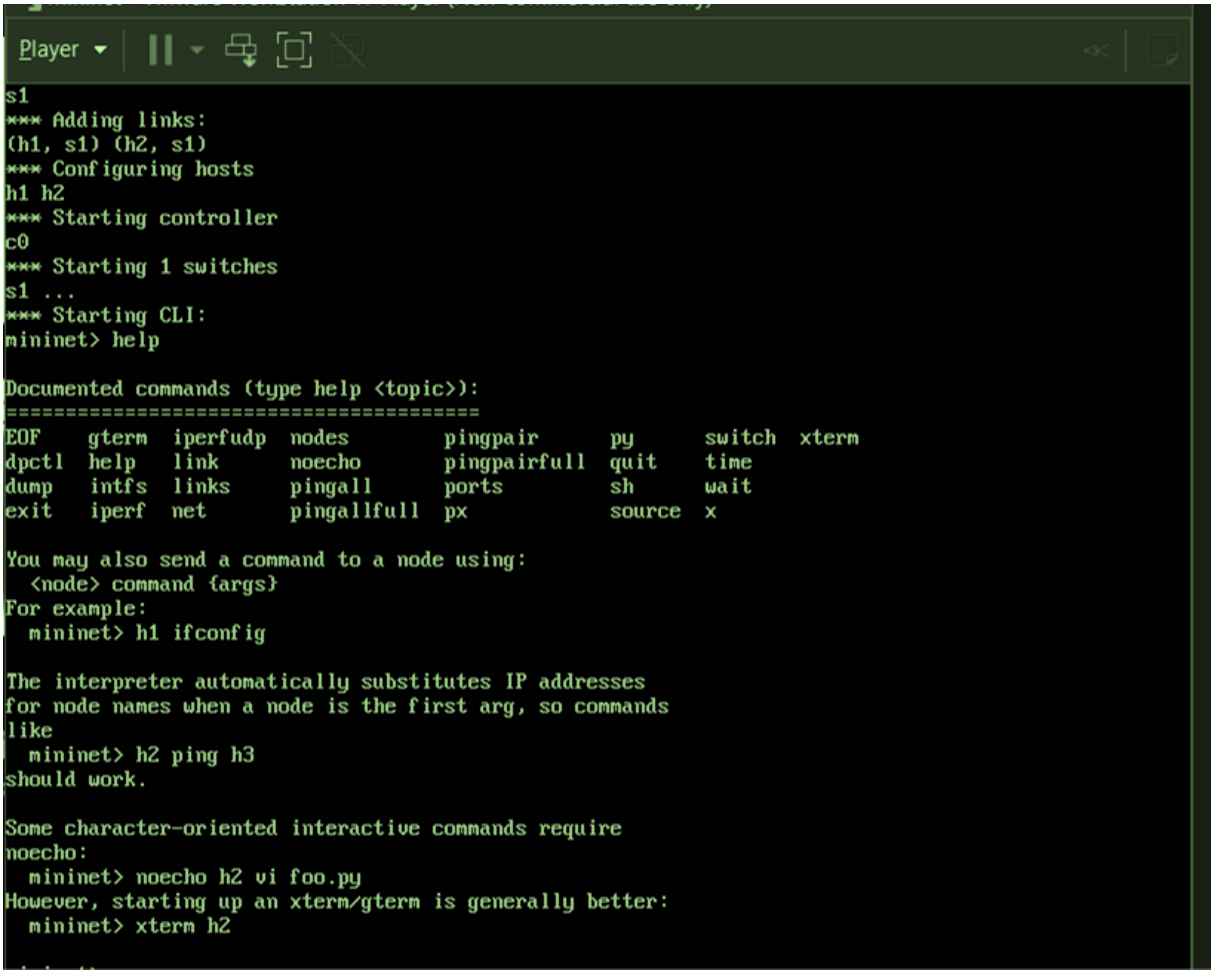
Password: mininet

```
Player

Ubuntu 20.04.1 LTS mininet-vm tty1

 ininet-vm login:
mininet-vm login: mininet
Password:
Welcome to Ubuntu 20.04.1 LTS (GNU/Linux 5.4.0-42-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

Last login: Wed Feb 10 21:03:31 PST 2021 on ttyS0
mininet@mininet-vm:~$ _
```



Opening mininet topology

Sudo mn

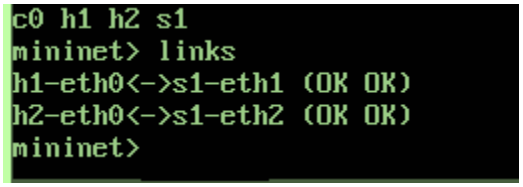


Command: help or ?

Shows the operations that we can perform

Command nodes

Shows the connected devices



Command: links

Shows the connections between nodes, which node is connected to other and by which interface

```
mininet> net
h1 h1-eth0:s1-eth1
h2 h2-eth0:s1-eth2
s1 lo:  s1-eth1:h1-eth0 s1-eth2:h2-eth0
c0
mininet>
```

Command: net

Show the links between the nodes

```
mininet> h1 ifconfig
h1-eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.0.0.1  netmask 255.0.0.0  broadcast 10.255.255.255
        ether 32:f4:91:d6:13:50  txqueuelen 1000  (Ethernet)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

mininet>
```

Command: h1 ifconfig

Show the description of h1 like ip address netmask connected ports and so on

```
mininet> h1 ping h2
PING 10.0.0.2 (10.0.0.2) 56(84) bytes of data.
64 bytes from 10.0.0.2: icmp_seq=1 ttl=64 time=3.26 ms
64 bytes from 10.0.0.2: icmp_seq=2 ttl=64 time=0.547 ms
64 bytes from 10.0.0.2: icmp_seq=3 ttl=64 time=0.085 ms
64 bytes from 10.0.0.2: icmp_seq=4 ttl=64 time=0.087 ms
64 bytes from 10.0.0.2: icmp_seq=5 ttl=64 time=0.086 ms
64 bytes from 10.0.0.2: icmp_seq=6 ttl=64 time=0.087 ms
64 bytes from 10.0.0.2: icmp_seq=7 ttl=64 time=0.087 ms
^C
--- 10.0.0.2 ping statistics ---
7 packets transmitted, 7 received, 0% packet loss, time 6120ms
rtt min/avg/max/mdev = 0.085/0.606/3.264/1.096 ms
mininet> _
```

Command: h1 ping h2

Tests the connection of node h1 with node h2 and in this case it is successful connection.