

**Q10. Use Linux to view the MAC address table of a switch (if using a Linux-based network switch). Use the bridge or ip link commands to inspect the MAC table and demonstrate a basic switch's operation.**

Mac table

```
sarimila@sarimila-VMware-Virtual-Platform:~$ bridge fdb show
00:0c:29:ab:b6:c1 dev ens33 master br0
00:0c:29:1e:28:9b dev ens33 master br0
00:50:56:f6:4d:bc dev ens33 master br0
00:50:56:c0:00:01 dev ens33 master br0
00:0c:29:f1:3b:f4 dev ens33 vlan 1 master br0 permanent
00:0c:29:f1:3b:f4 dev ens33 master br0 permanent
01:00:5e:00:00:01 dev ens33 self permanent
33:33:00:00:00:01 dev ens33 self permanent
33:33:ff:f1:3b:f4 dev ens33 self permanent
01:00:5e:00:00:fb dev ens33 self permanent
33:33:00:00:00:fb dev ens33 self permanent
33:33:00:00:00:01 dev br0 self permanent
01:00:5e:00:00:6a dev br0 self permanent
33:33:00:00:00:6a dev br0 self permanent
01:00:5e:00:00:01 dev br0 self permanent
33:33:ff:03:53:5b dev br0 self permanent
33:33:00:00:00:fb dev br0 self permanent
f6:e4:6b:03:53:5b dev br0 vlan 1 master br0 permanent
f6:e4:6b:03:53:5b dev br0 master br0 permanent
sarimila@sarimila-VMware-Virtual-Platform:~$ bridge fdb show dev ens33
00:0c:29:ab:b6:c1 master br0
00:0c:29:1e:28:9b master br0
00:50:56:f6:4d:bc master br0
00:50:56:c0:00:01 master br0
00:0c:29:f1:3b:f4 vlan 1 master br0 permanent
00:0c:29:f1:3b:f4 master br0 permanent
01:00:5e:00:00:01 self permanent
33:33:00:00:00:01 self permanent
33:33:ff:f1:3b:f4 self permanent
01:00:5e:00:00:fb self permanent
33:33:00:00:00:fb self permanent
sarimila@sarimila-VMware-Virtual-Platform:~$ ip -d link show dev ens33
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast master br0 state UP mode DEFAULT group default qlen 1000
    link/ether 00:0c:29:f1:3b:f4 brd ff:ff:ff:ff:ff:ff promiscuity 1 allmulti 1 minmtu 46 maxmtu 16110
    bridge_slave state forwarding priority 32 cost 5 hairpin off guard off root_block off fastleave off learning on flood on port_id 0x8001 port_no 0x1 designated_
```

use pointer inside or press Ctrl+G.

Ping request successs

```
sarimila@sarimila-VMware-Virtual-Platform:~$ ping -c 3 192.168.1.17
PING 192.168.1.17 (192.168.1.17) 56(84) bytes of data.
From 192.168.1.100 icmp_seq=1 Destination Host Unreachable
From 192.168.1.100 icmp_seq=2 Destination Host Unreachable
From 192.168.1.100 icmp_seq=3 Destination Host Unreachable

--- 192.168.1.17 ping statistics ---
3 packets transmitted, 0 received, +3 errors, 100% packet loss, time 2068ms
pipe 3
sarimila@sarimila-VMware-Virtual-Platform:~$ ping 192.168.1.20
PING 192.168.1.20 (192.168.1.20) 56(84) bytes of data.
64 bytes from 192.168.1.20: icmp_seq=1 ttl=64 time=0.841 ms
64 bytes from 192.168.1.20: icmp_seq=2 ttl=64 time=0.473 ms
64 bytes from 192.168.1.20: icmp_seq=3 ttl=64 time=0.523 ms
64 bytes from 192.168.1.20: icmp_seq=4 ttl=64 time=0.837 ms
64 bytes from 192.168.1.20: icmp_seq=5 ttl=64 time=0.511 ms
64 bytes from 192.168.1.20: icmp_seq=6 ttl=64 time=0.699 ms
^C
--- 192.168.1.20 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5058ms
rtt min/avg/max/mdev = 0.473/0.647/0.841/0.153 ms
sarimila@sarimila-VMware-Virtual-Platform:~$ S
```