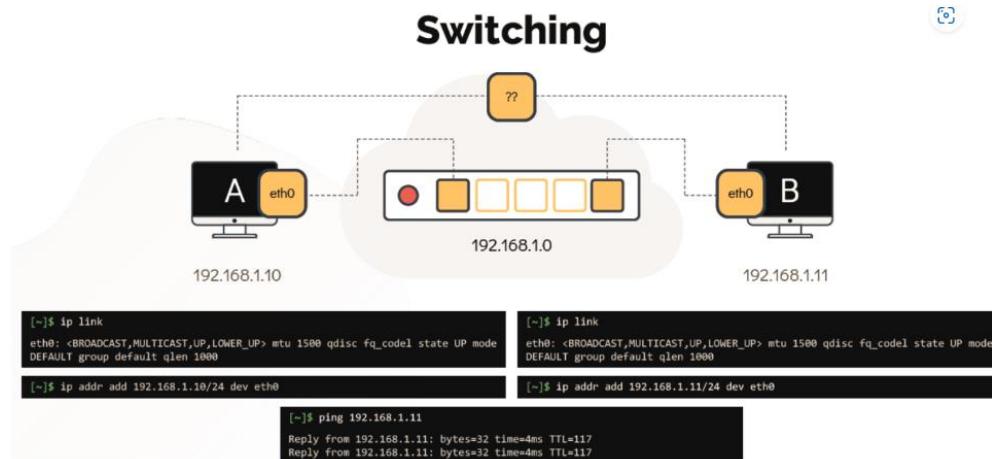


# Switching & Routing

## Switching

- Switching helps to connect the interface within same network.



- To see the interfaces on the hosts use `ip link` command

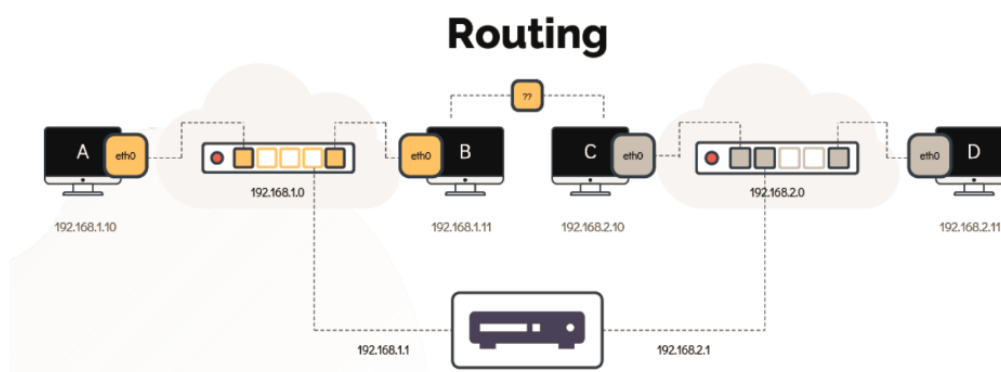
```
[~]$ ip link
eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP mode
DEFAULT group default qlen 1000
```

- To connect to the switch we use `ip addr add` command

```
[~]$ ip addr add 192.168.1.10/24 dev eth0
```

## Routing

- Router helps to connect to two separate networks together.



- To see the existing routing table configuration run the `route` command.

```
[~]$ route
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
```

- To configure a gateway on system B to reach the system on other network run

```
[~]$ ip route add 192.168.2.0/24 via 192.168.1.1
```

```
[~]$ route
```

```
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
192.168.2.0 192.168.1.1 255.255.255.0 UG 0 0 0 eth0
```

- To see the ip addresses assign to interfaces use

```
[~]$ ip addr
```

- 

```
[~]$ ip route
```

- To make this changes permanent you must set them in `/etc/network/interfaces` file.