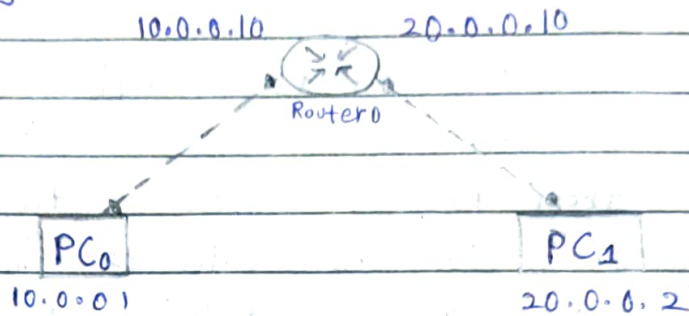


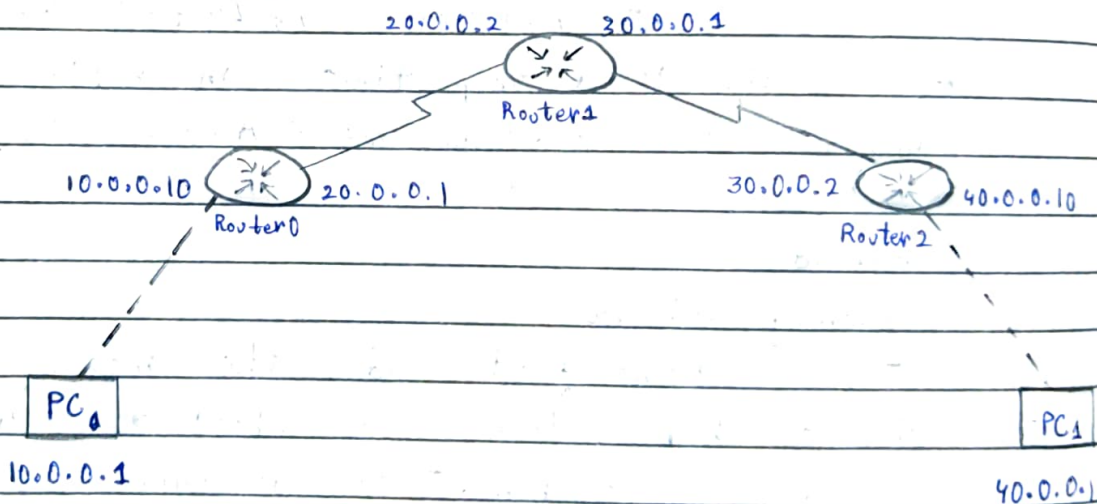
## Lab-2

AIM: Configure IP address to Router in packet tracer. Elpoxe the following messages ping Responses, Destination unreachable, Request time out, Reply

Topology:



Final Topology:



## Procedure:

### For single Router and Two PC's

1) 2 PC's and one router are inserted to the workspace, ~~and~~ connect them by using copper cross-over

2) Each PC is configured by a specific IP address and IP address is given by clicking on a specific pc, after entering IP address now enter Gateway for both PC's

3) In the router go to CLI and type the following commands

➤ First enter no

\*) Router > enable

Router # Config t

Router(config)# interface FastEthernet 0/0

Router(config-if)# ip address 10.0.0.1 255.0.0.0

Router(config-if)# no shut

Router(config-if)# exit

Router(config)# interface FastEthernet 1/0

Router(config-if)# ip address 20.0.0.1 255.0.0.0

Router(config-if)# no shut

Router(config-if)# exit

Router(config)# exit

Router # exit

Router >



\*) After entering these commands the lights between PC and Router will become green

### For Three Router and Two PC's

- 1) Add three Router's and two PC's to the workspace and connect PC's with the Router by using copper cross over and connect Router's by using Serial DCE.
- 2) Each PC is configured by a specific IP address and IP address is given by clicking specific PC after that enter gateway for both PC's
- 3) After entering IP address and gateways enter the following commands for all three Routers. In the router0 go to CLI and follow these commands

Router > enable

Router # config t

Router(config) # interface FastEthernet 0/0

Router(config-if) # ip address 10.0.0.10 255.0.0.0

Router(config-if) # no shut

Router(config-if) # exit

Router(config) # interface serial 2/0

Router(config-if) # ip address 20.0.0.1 255.0.0.0

Router(config-if) # no shut

Router(config-if) # exit

Router(config) # exit

Router # exit

Router >





for router1

4) Now follow the similarly follow the the same above commands with ip address as ~~30~~ 20.0.0.2 for se2/0 and 30.0.0.1 for se3/0

5) Now for router2 follow same commands with ip address as 30.0.0.2 for se3/0 and 40.0.0.10 for fastethernet 0/0

6) After entering all these commands all the lights are turned green. so that circuit is completed.

7) In next step we have to teach the router of all the networks (static routing)

For Router 0;

```
ip route 30.0.0.0 255.0.0.0 20.0.0.2
```

```
ip route 40.0.0.0 255.0.0.0 20.0.0.2
```

For Router 1;

```
ip route 10.0.0.0 255.0.0.0 20.0.0.1
```

```
ip route 40.0.0.0 255.0.0.0 30.0.0.2
```

For Router 2;

```
ip route 10.0.0.0 255.0.0.0 30.0.0.1
```

```
ip route 20.0.0.0 255.0.0.0 30.0.0.1
```

8) After these commands pinging can be done between PC0 and PC1



## Observation

1) For single Router

Learning Outcome:

We used router to set a connection b/w two end devices at first it shows "Request timed out" after we ping from one end device to another before showing the result.

## Result

Ping 20.0.0.2

Pinging 20.0.0.1 with 32 bytes of data

Reply from 20.0.0.1: bytes=32 time=0ms TTL=127

Reply from 20.0.0.1: bytes=32 time=0ms TTL=127

Reply from 20.0.0.1: bytes=32 time=0ms TTL=127

Reply from 20.0.0.1: bytes=32 time=0ms TTL=127

~~2) For~~ Ping statistics for 20.0.0.1:

Packets: Sent=4, Received=4, Lost=0 (0% Loss)

Approximate round trip time in milli-seconds:

Minimum=0ms, Maximum=0ms, Average=0ms



2) For three Routers

Learning outcome:

\* When we first try to ping 40.0.0.1 from 10.0.0.1 we get a message destination host unreachable

\* When we try to ping 20.0.0.2 from PC we get Request timed out.

Result :

Initially only 3 packets is sent 1 packet is lost and after that Reply can be seen

Ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Reply from 40.0.0.1: bytes = 32 Time = 7ms TTL = 125

Reply from 40.0.0.1: bytes = 32 Time = 8ms TTL = 125

Reply from 40.0.0.1: bytes = 32 Time = 5ms TTL = 125

Reply from 40.0.0.1: bytes = 32 Time = 11ms TTL = 125

Ping statistics for 40.0.0.1:

Packets: Sent = 4, Received = 4, Lost = 0 (0% Loss),

Approximate round trip time in milliseconds:

Minimum = 5ms, Maximum = 11ms, Average = 7ms

24/11/22