WEEK 3

Configure default route, static route to the Router.
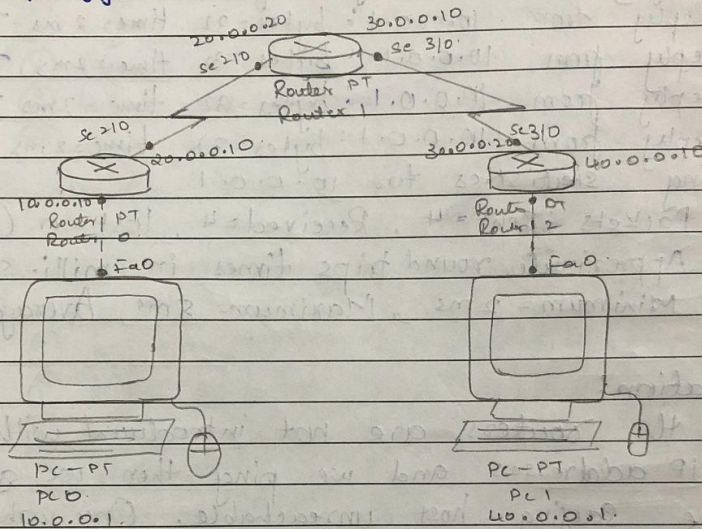
OBSERVATION:

Lab - 3.

Aim: Configure default route, static route to router.

Topology:

Procedure:

1. Connect 3 routers and 2 PC's using copper cross over cables for PC to router and Serial DcE cable to connect router to router.
2. Set the IP address of both PC's and respective gateway.
3. For all 3 routers set the respective IP addresses in CLI mode using following commands.

    (i) Enable

    (ii) config t

    (iii) Interface fastethernet 0/0.

    (iv) IP address 10.0.0.10 255.0.0.0.

    (v) No Shut.

    (vi) Exit.

    (vii) Interface Se 2/0

    (viii) ip address 20.0.0.10 255.0.0.0.

    (ix) No Shut

(x) exit

(xi) exit

4. Repeat these commands. for other two routers.

5. For Router 1, set IP route of its adjacent routers statically

    (i) config t.

    (ii) ip route   10.0.0.0   255.0.0.0   20.0.0.10.

    (iii) ip route   40.0.0.0   255.0.0.0   30.0.0.20.

    (iv) exit

    (v) exit

    (vi) Show ip route (to view route table).

6. We set default ip routes to router 0 & router 2 which tells it can access any ip addresses with any Subnetmask address.

7. Set default ip route by following commands.

    (i) config t.

    (ii) ip route   0.0.0.0   0.0.0.0   20.0.0.20   (Router 0)

    (iii) ip route   0.0.0.0   0.0.0.0   30.0.0.10 . (Router 1)

8. Go to pc0 command prompt & give ping to send message

Ping Output:

pc > ping 40.0.0.1

pinging 40.0.0.1 with 32 bytes of data:

Request timed out.

Reply from 40.0.0.1 : bytes = 32   time -2 ms   TTL = 125.

Reply from 40.0.0.1 : bytes = 32   time = 4 ms   TTL = 125.

Reply from 40.0.0.1 : bytes = 32   time = 2 ms   TTL = 125

ping statistics for 40.0.0.1

     packets: Sent = 4, Received = 3, lost = 1 (25% loss).

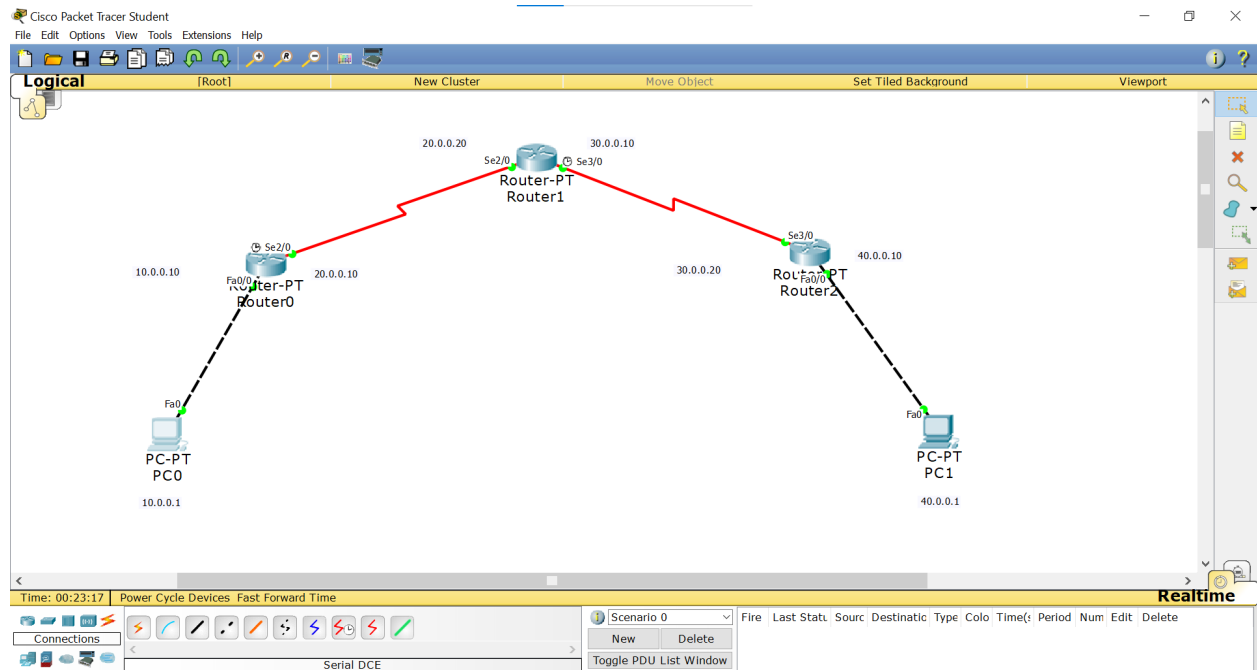Approximate round trip time in milli-seconds:

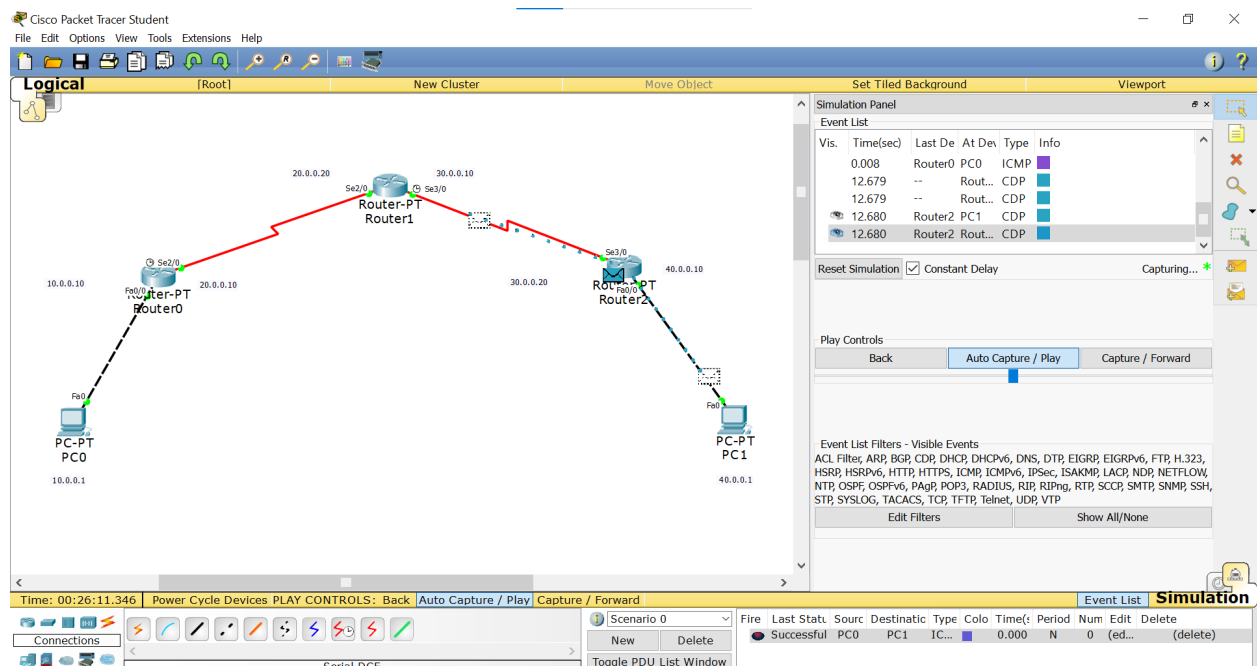   Minimum = 2ms , Maximum = 4ms , Average = 4ms.

Observation:

A default route is given to routers which takes effect when no other route is available for an ip address destination. If packet is received, defta first checks ip destination address, if it is not available it checks its routing table packet is forwarded to next hop towards destination. Process repeats until packet is delivered.

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TOPOLOGY:

OUTPUT:

PC0

Physical | Config | **Desktop** | Custom Interface

Command Prompt

```
Packet Tracer PC Command Line 1.0
PC>ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Request timed out.
Reply from 40.0.0.1: bytes=32 time=2ms TTL=125
Reply from 40.0.0.1: bytes=32 time=16ms TTL=125
Reply from 40.0.0.1: bytes=32 time=2ms TTL=125

Ping statistics for 40.0.0.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 16ms, Average = 6ms

PC>ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Reply from 40.0.0.1: bytes=32 time=21ms TTL=125
Reply from 40.0.0.1: bytes=32 time=9ms TTL=125
Reply from 40.0.0.1: bytes=32 time=2ms TTL=125
Reply from 40.0.0.1: bytes=32 time=4ms TTL=125

Ping statistics for 40.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 21ms, Average = 9ms

PC>
```