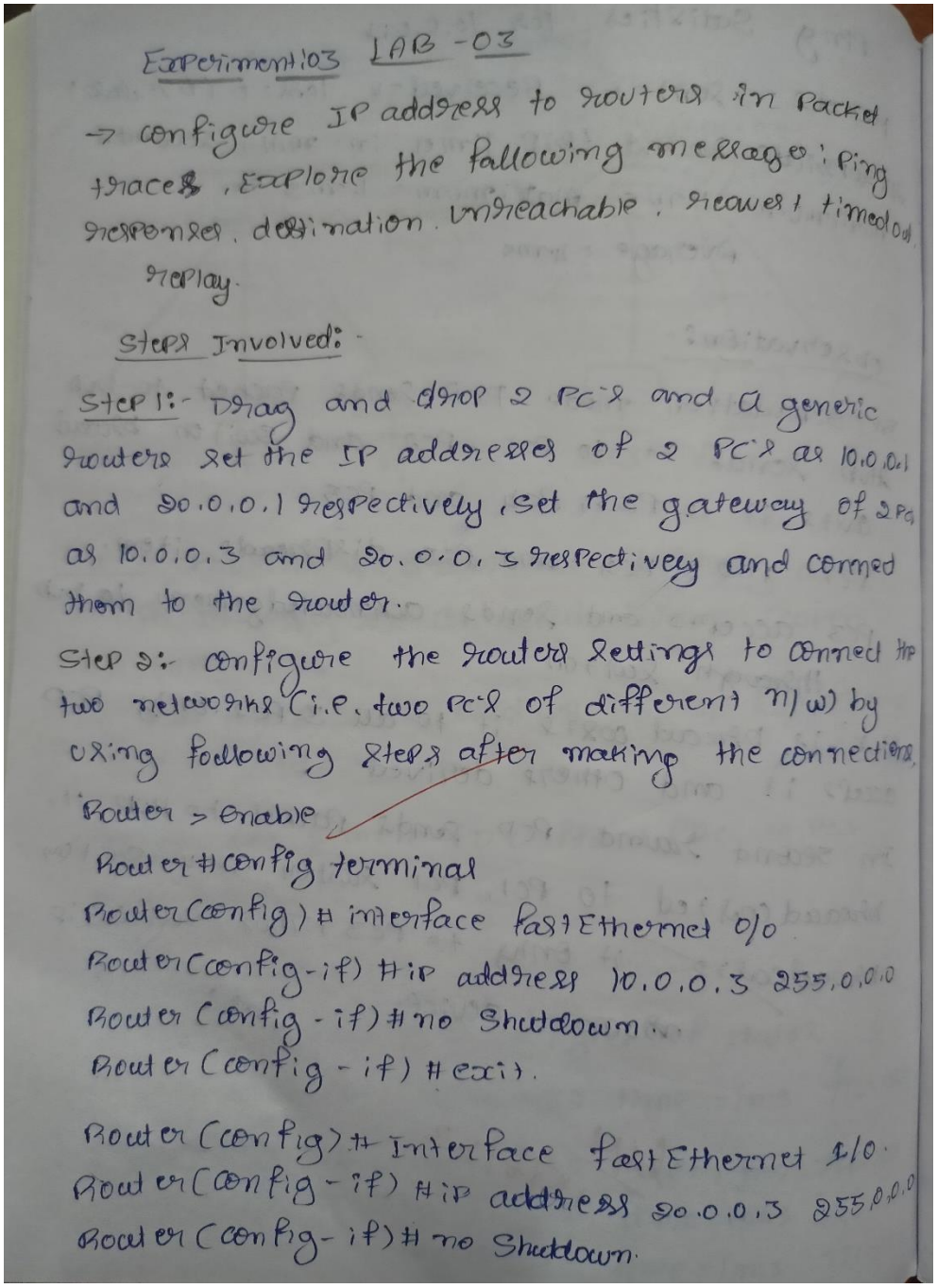
LAB 3

Configure default route to the Router.

OBSERVATION:



Experiment:03 LAB - 03

→ configure IP address to routers in Packet tracer. Explore the following message: Ping responses, destination unreachable, request timed out, reply.

Steps Involved:

Step 1:- Drag and drop 2 PC's and a generic routers set the IP addresses of 2 PC's as 10.0.0.1 and 20.0.0.1 respectively, set the gateway of 2 PCs as 10.0.0.3 and 20.0.0.3 respectively and connect them to the router.

Step 2:- configure the routers settings to connect the two networks (i.e. two PC's of different n/w) by using following steps after making the connections.

Router > Enable
Router # config terminal
Router(config) # interface fast Ethernet 0/0
Router(config-if) # ip address 10.0.0.3 255.0.0.0
Router (config - if) # no Shutdown.
Router (config - if) # exit.

Router (config) # Interface fast Ethernet 1/0.
Router(config - if) # ip address 20.0.0.3 255.0.0.0
Router (config - if) # no Shutdown.

Router (config-if) # Exit
Router (config-if) # Exit
Router #

Step 3: Send a simple PDU from with IP address 10.0.0.1 to PC1 with IP address 30.0.0.1 and confirms how many Packets sent by using Ping command.

Step 4:
Similarly, connect two more Pc's with a router and configure by following above mentioned steps. Introduce one more router and connect it to the existing two routers of different network and configure it.

Step 5:
Now if you Ping from the Pc with IP address 10.0.0.1 as → Ping 40.0.0.1 the response will be destination unreachable, Although it seemed there's a connection between these two Pc's indirectly via routers. But every routers may not have information regarding every network present in the topology so these Pc's cannot communicate, To eliminate this, we should use static routing to teach every router manually.

Step 6:

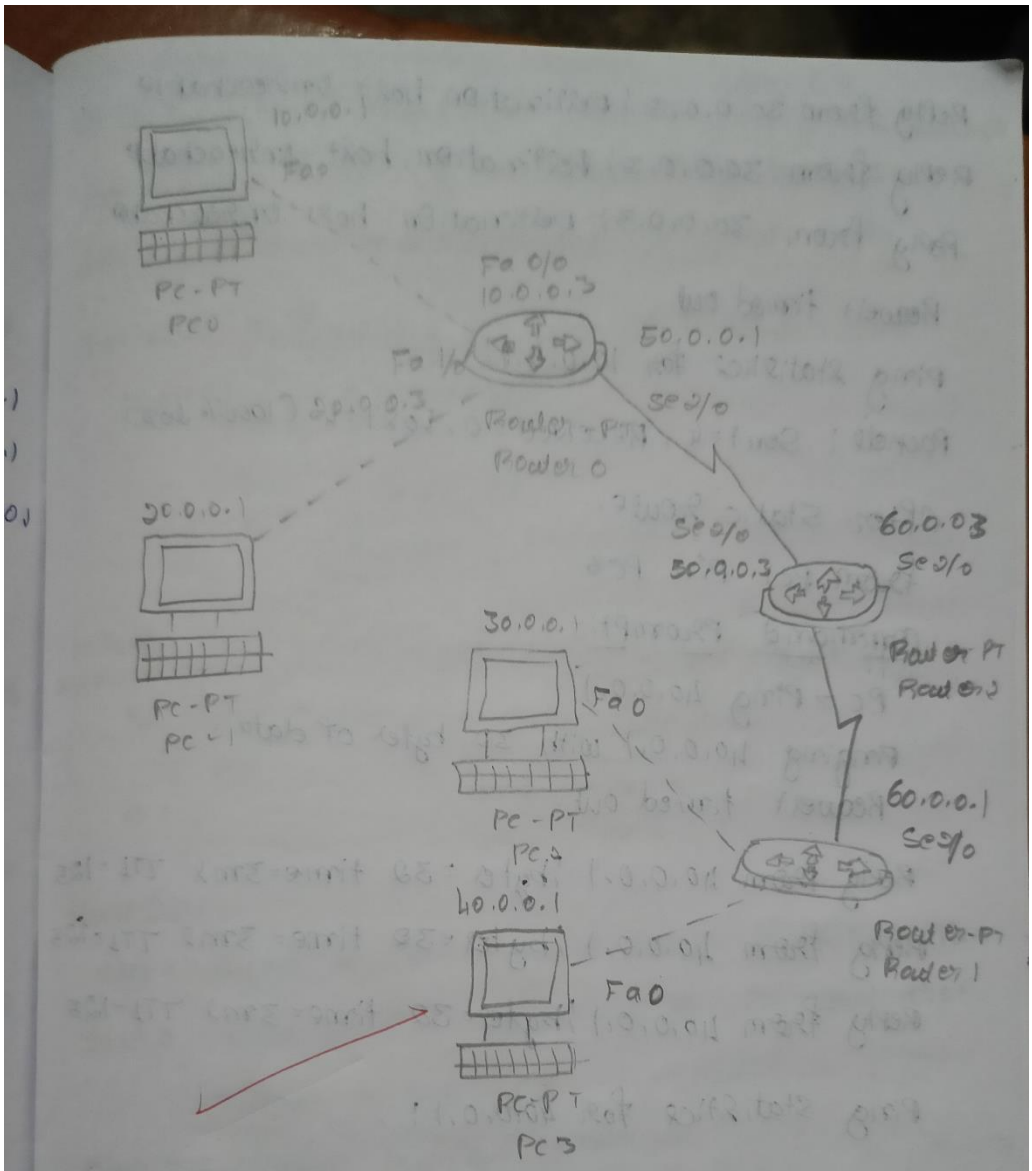
We can do static routing for router2 by the following steps.

```
Router # config t
Router (config)# ip route 10.0.0.0 255.0.0.0 50.0.0.1
Router (config) # ip route 20.0.0.0 255.0.0.0 50.0.0.1
Router (config) # ip route 30.0.0.0 255.0.0.0 60.0.0.1
Router (config) # ip route 40.0.0.0 255.0.0.0 60.0.0.1
Router (config) # exit
Router #
```

Step 7:

We can view all the networks connected to a router as follows:

```
Router # show IP route
codec  C - connected, S - Static
S  10.0.0.0/8 [2/0] via 50.0.0.1
S  20.0.0.0/8 [2/0]
S  30.0.0.0/8 [2/0]
S  40.0.0.0/8 [2/0]
C  50.0.0.0/8 is directly connected. Serial 2/0
C  60.0.0.0/8 is directly connected Serial 2/0
```



Before making Static route from PC2

Ping 10.0.0.1

Command Prompt

Pc -> Ping 10.0.0.1

Pinging 10.0.0.1 with 32 bytes of data:

Reply from 30.0.0.3 : Destination host unreachable

Reply from 30.0.0.3 : Destination host unreachable

Reply from 30.0.0.3 : Destination host unreachable

Request timed out.

Ping statistics for 10.0.0.1 :

Packets : Sent = 4, Received = 0, Lost = 4 (100% loss)

After Static route.

from PC1 Pin PC3

Command Prompt :-

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 = 3ms TTL = 125

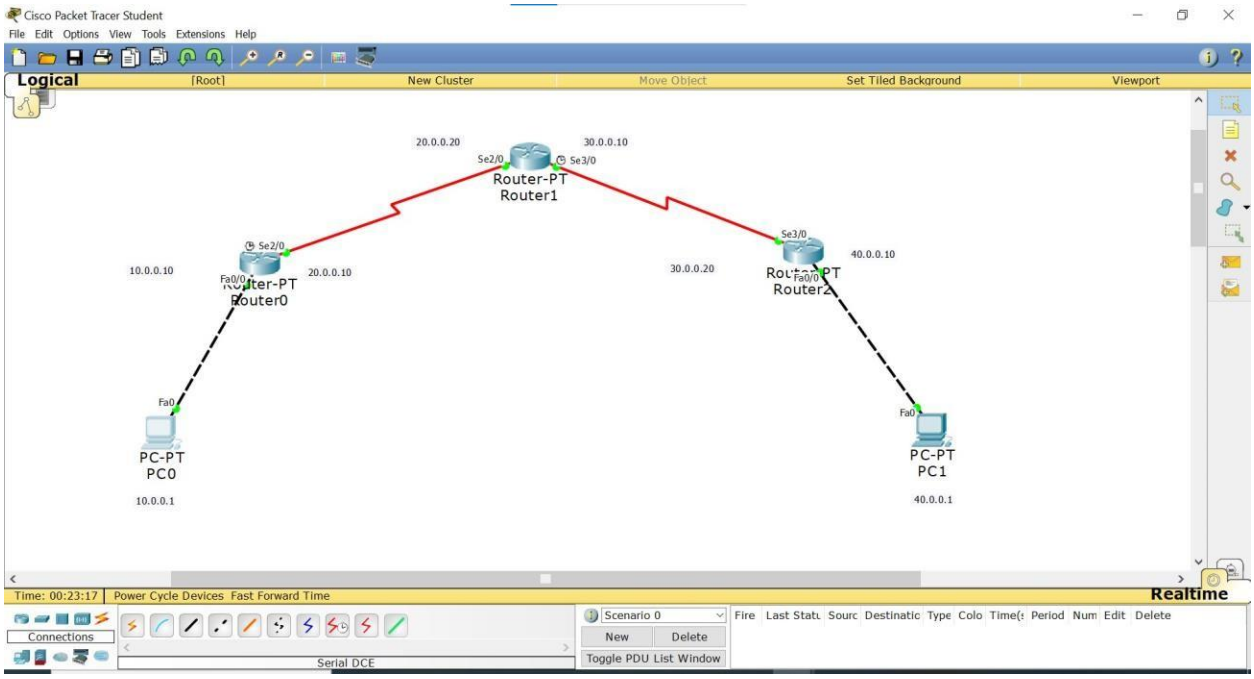
Reply from 40.0.0.1 : bytes = 32 time = 3ms TTL = 125

Reply from 40.0.0.1 : bytes = 32 time = 3ms TTL = 125

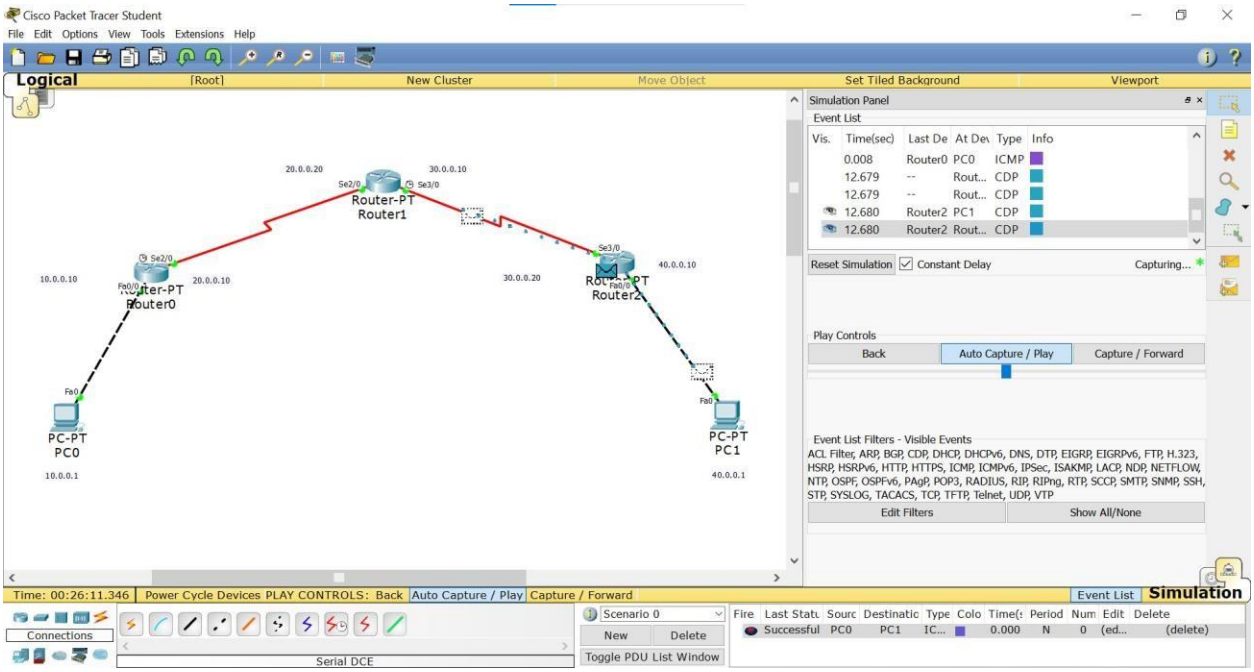
Ping statistics for 40.0.0.1 :

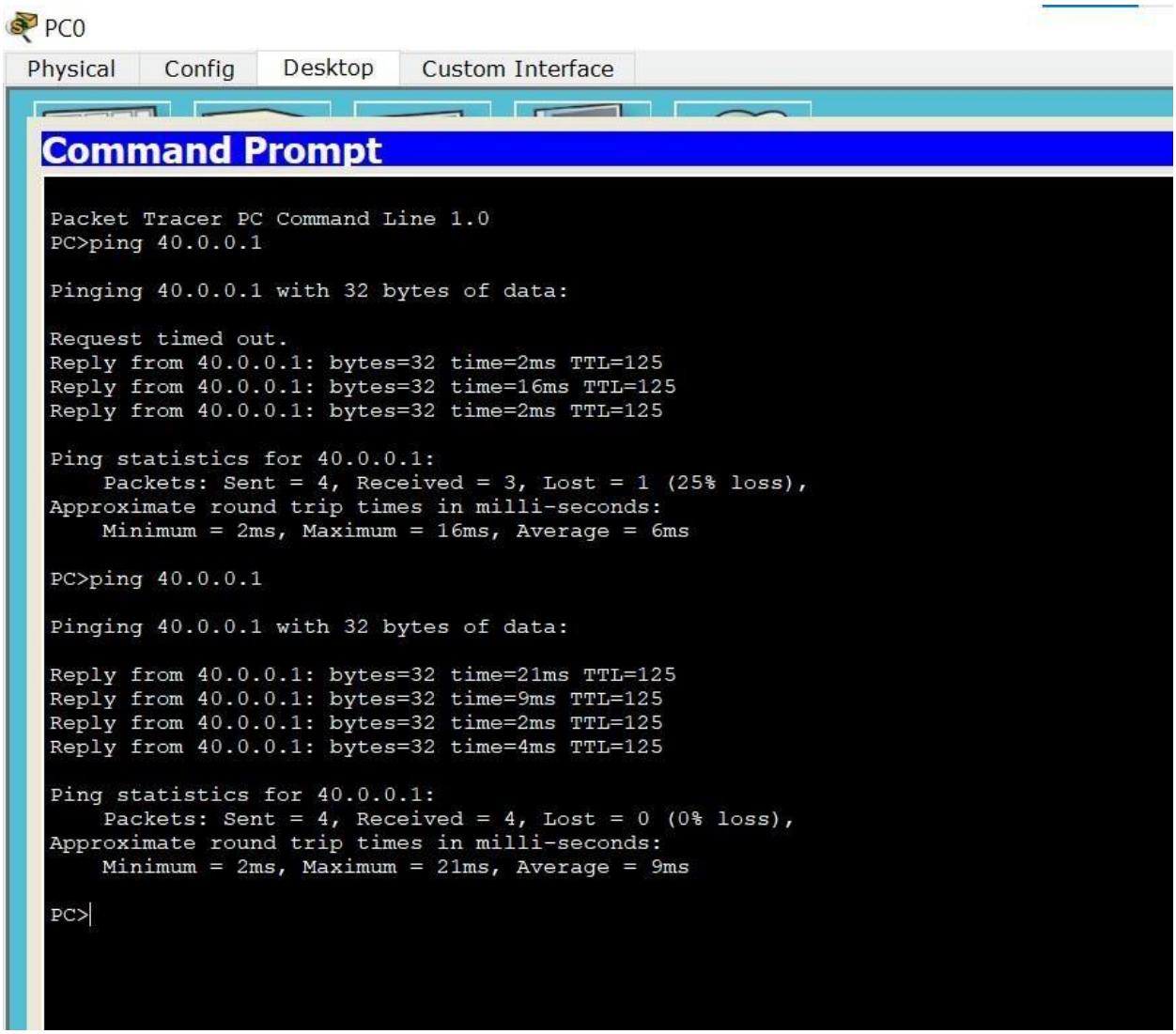
Packets : Sent = 4, Received = 3, Lost = 1 (25% loss)

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>