

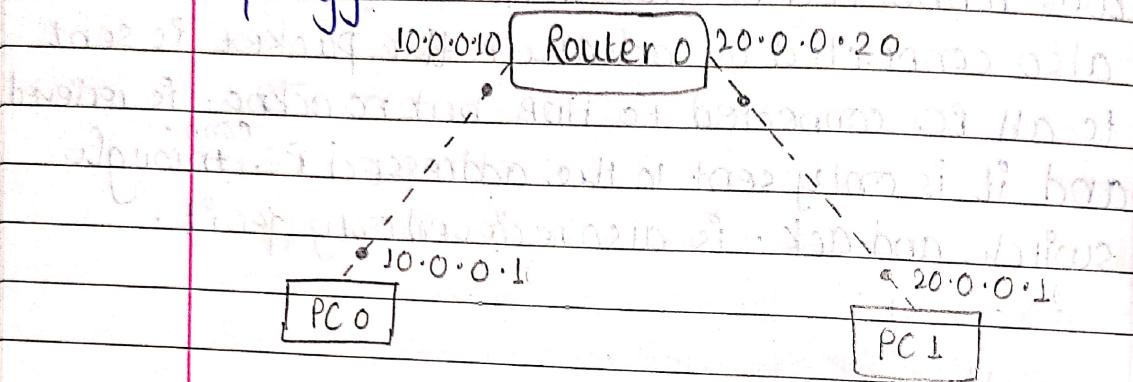
Configure IP address to routers in packet tracer.

Explore the following messages: ping responses, destination unreachable, request timed out, reply.

Solution: '2a' mapping 29 between 211

Aim: To config/ configure IP address to routers in packet tracer and get ping responses - timed out, reply.

Topology:



Procedure:

- 2 PC's are connected to a router using copper cross-over.
- IP addresses are set for PC's and router.
- IP address for routers is set by giving following commands:

router >enable

router # configt

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 fastethernet 1/0

router (config-if)# ip address 20.0.0.10

255.0.0.0

router (config-if)# no shut

router (config-if)# exit

• after all IP are set, ping message is sent.

Result: PC > ping 20.0.0.10

pinging 20.0.0.10 with 32 bytes of data

Request timed out

Reply from 20.0.0.10 bytes = 32 time = 0ms TTL = 127

Reply from 20.0.0.10 bytes = 32 time = 0ms TTL = 127

Reply from 20.0.0.10 bytes = 32 time = 0ms TTL = 127

Ping statistics for 20.0.0.10:

Packet sent = 4, received = 3, lost = 1 (25% loss),
approximate round trip times in milli-seconds.

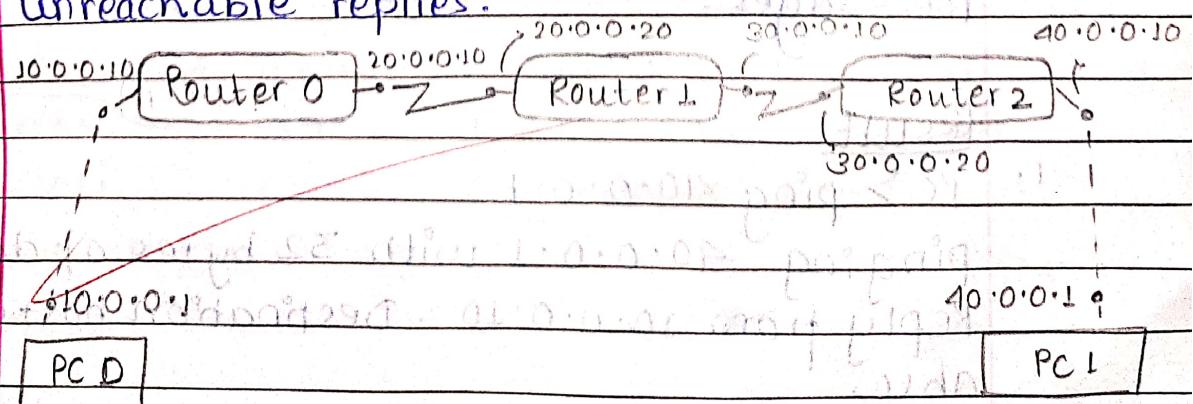
Minimum = 0ms, Maximum = 0ms, Average = 0ms.

Observation

PC 0 is in network 10.0.0.0 and PC 1 is in 20.0.0.0. Hence we use router to connect them. When a ping message is sent from PC 10.0.0.1 to 20.0.0.1, the message reaches the destination through router. When a message is sent, the router captures it and sends to the destination PC which is in another network.

Solution: 2b

Aim: To configure IP address to routers in packet tracer and get ping responses, destination host unreachable replies.



Procedure

- connect to corresponding routers using copper cross-over.
- connect routers using serial - DCE.
- set IP address for PCs
- configure IP address to routers by giving commands in CLI.
- After all IP's are set, ping PC to get destination host unreachable message.
- route the IP's to the adjacent IP's using following command -
for router 0 - router(config)# ip route 30.0.0.0
255.0.0.0 20.0.0.20
- for router 1 - router(config)# ip route 40.0.0.0
255.0.0.0 20.0.0.20
- for router 2 - router(config)# ip route 10.0.0.0
255.0.0.0 20.0.0.10
- for router 3 - router(config)# ip route 40.0.0.0
255.0.0.0 20.0.0.20
- for router 4 - router(config)# ip route 10.0.0.0
255.0.0.0 20.0.0.10
- for router 5 - router(config)# ip route 20.0.0.0
255.0.0.0 30.0.0.10

• After this is done, ping pc to get reply messages.

Result

1. PC > ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data.

Reply from 10.0.0.10 : Destination host unreachable.

Reply from 10.0.0.10 : Destination host unreachable.

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Reply from 10.0.0.10 Destination host unreachable.

Reply from 10.0.0.10 Destination host unreachable.

Ping statistics for 40.0.0.1:

packets: sent = 4, Received = 0, Lost = 4 (100% loss)

2. PC > Ping 10.0.0.1

Pinging 10.0.0.1 with 32 bytes of data.

Reply from 10.0.0.10 bytes = 32 time = 16ms TTL = 128

Reply from 10.0.0.10 bytes = 32 time = 1ms TTL = 128

Reply from 10.0.0.10 bytes = 32 time = 2ms TTL = 128

Reply from 10.0.0.10 bytes = 32 time = 4ms TTL = 128

Ping statistics for 10.0.0.1

Packet sent = 4, received = 4, loss = 0 (0% loss)

Approximate round trip times in milli-seconds.

Minimum = 1ms, maximum = 10ms, average = 6ms.

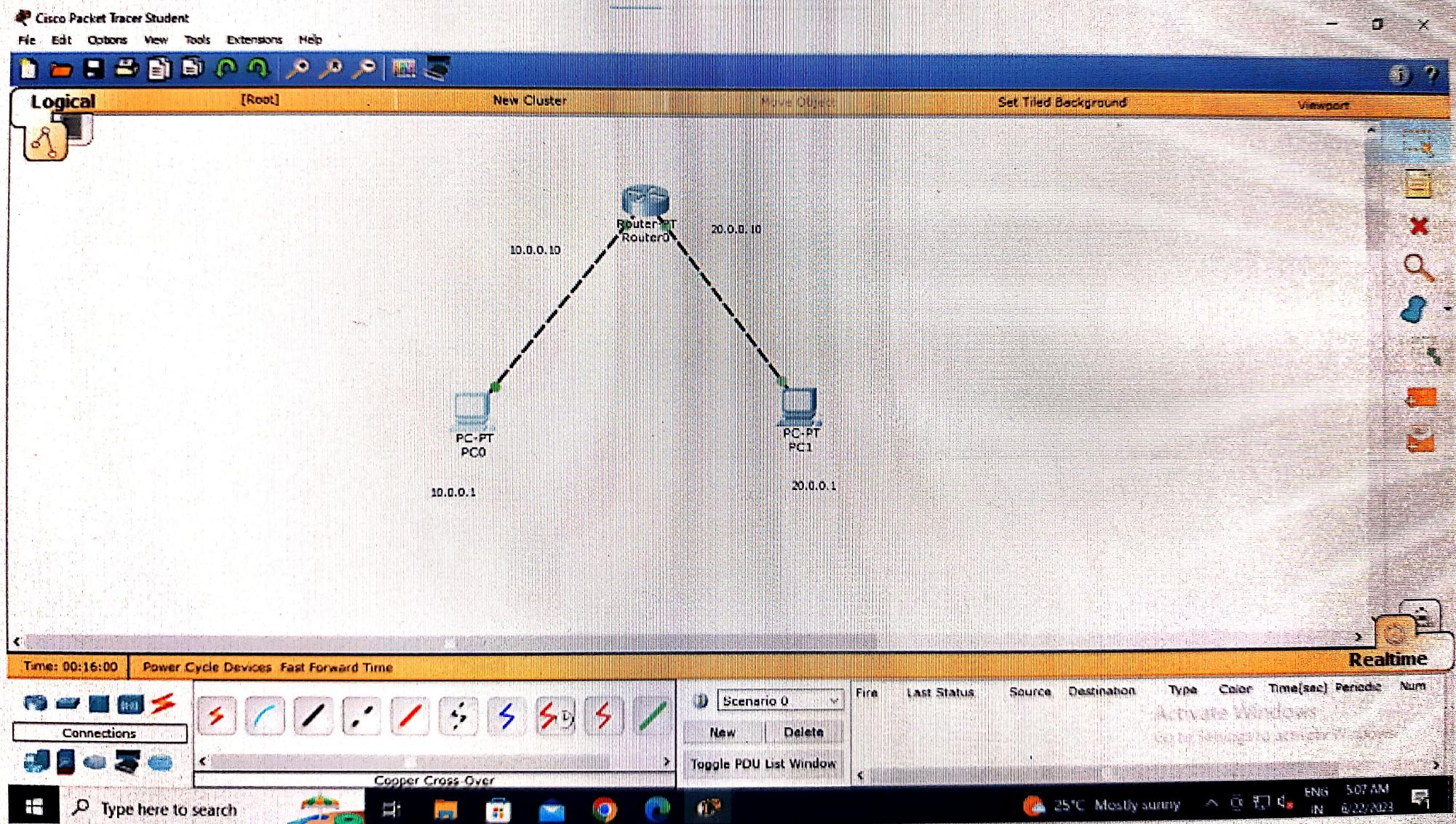
Observations

PC 0 is in network 10.0.0.0 and PC 1 is in network 40.0.0.0. Through the 3 routers in between which initially directly connect 10.0.0.0, 20.0.0.0, 30.0.0.0 and 40.0.0.0. Hence when a ping message is sent from 10.0.0.1 to 40.0.0.1, it doesn't reach the destination. Instead it only reaches the first router and gives destination host unreachable msg.

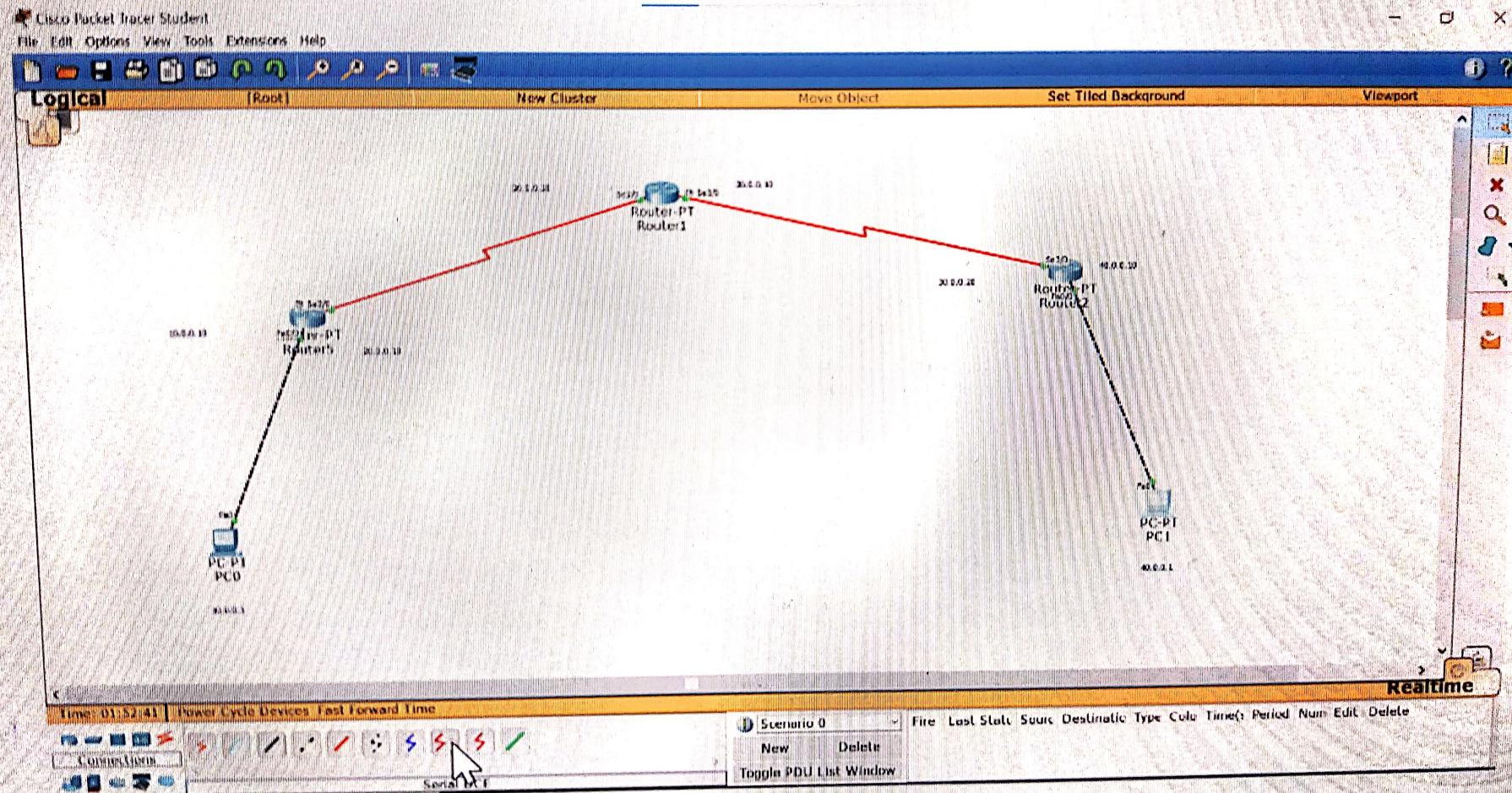
After letting the routers know about other adjacent networks, (next hop) we send a ping message from 40.0.0.1 to 10.0.0.1 to get desired result. The message reaches the destination.

TOPOLOGY:

PROGRAM 2.1



PROGRAM 2.2



Command Prompt

X

Packet Tracer PC Command Line 1.0

PC>ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:

Request timed out.

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=10ms TTL=127

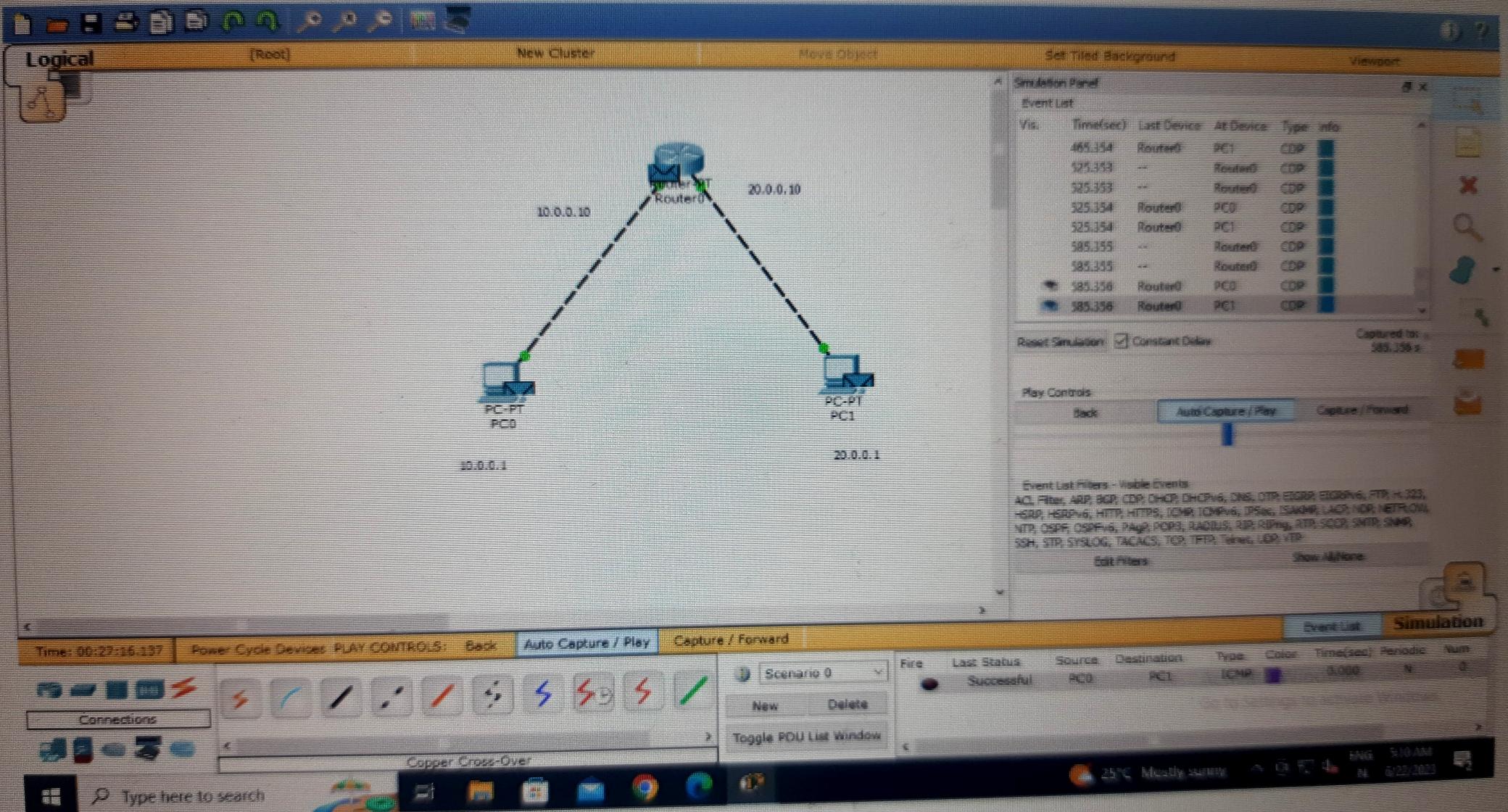
Ping statistics for 20.0.0.1:

Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 10ms, Average = 3ms

PC>

File Edit Options View Tools Extensions Help



Command Prompt

X

Packet Tracer PC Command Line 1.0
PC>ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Reply from 10.0.0.10: Destination host unreachable.
Reply from 10.0.0.10: Destination host unreachable.
Reply from 10.0.0.10: Destination host unreachable.
Request timed out.

Ping statistics for 40.0.0.1:

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

PC>

Command Prompt

X

Packet Tracer PC Command Line 1.0

PC>ping 10.0.0.1

Pinging 10.0.0.1 with 32 bytes of data:

Reply from 10.0.0.1: bytes=32 time=2ms TTL=125

Reply from 10.0.0.1: bytes=32 time=8ms TTL=125

Reply from 10.0.0.1: bytes=32 time=2ms TTL=125

Reply from 10.0.0.1: bytes=32 time=2ms TTL=125

Ping statistics for 10.0.0.1:

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

Approximate round trip times in milli-seconds:

Minimum = 2ms, Maximum = 8ms, Average = 3ms

PC>