Lab-03

23/06/2023

⇒ Configure Ip address to routers in packet tracer. explore the following messages: ping responses, destination unreachable, request timed out, reply.

Steps involved:

Step1: Drag and drop 2 pc's and a generic router. Set the Ip addresses of 2 pc's as 10.0.0.1 and 20.0.0.1 respectively. set the gateway of 2 pc's as 10.0.0.3 and 20.0.0.3 respectively and connect them to the router.

Step2: Configure the router 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 fastEthernet 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 fastEthernet 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) # exit
Router #
```

Step 3: Send a simple PDU from pc0 with ip address 10.0.0.1 to pc1 with ip address 20.0.0.1 and confirm 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 router 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:

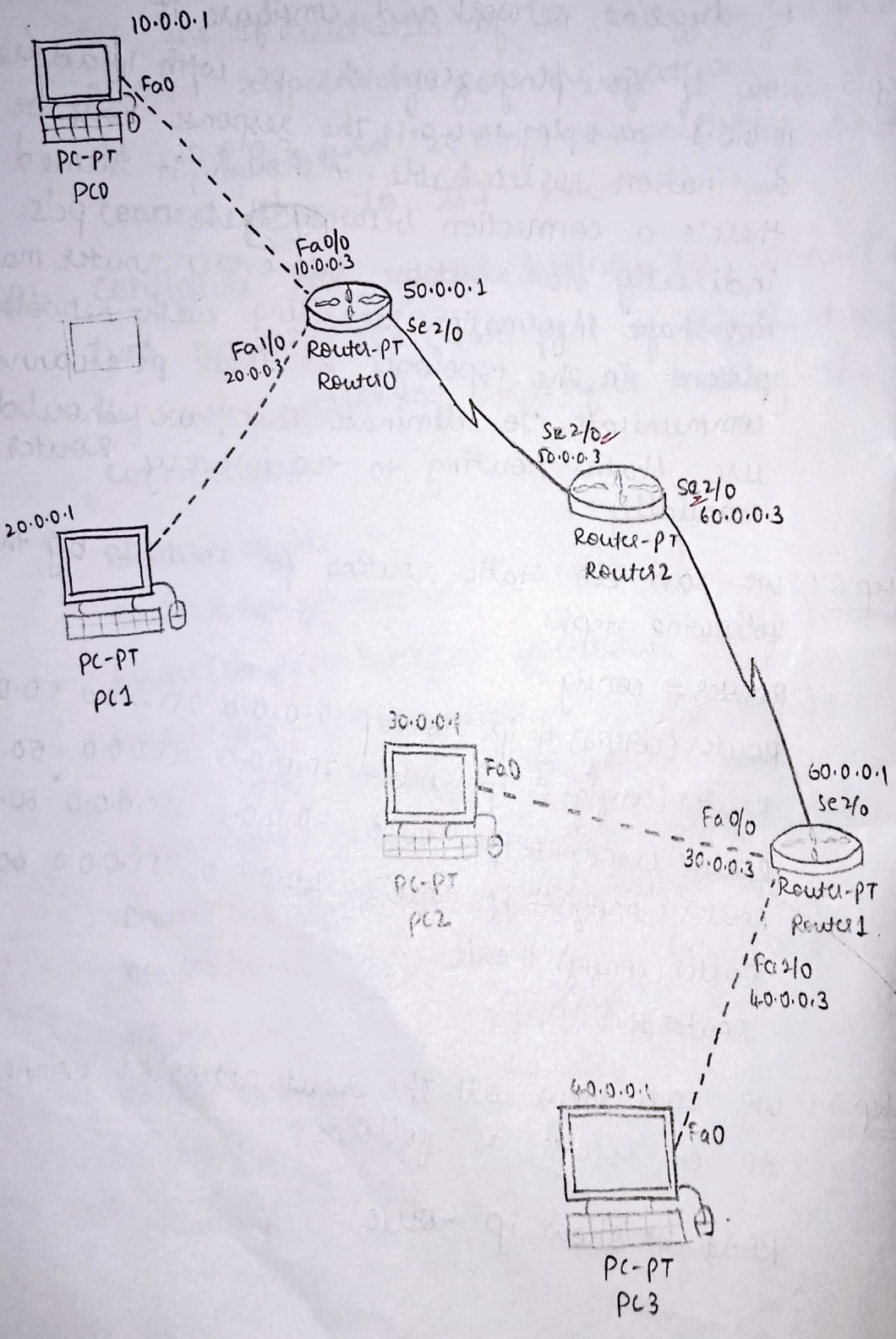
```
Router # config t
Router (config) # ip route 10.0.0.0 255.0.0.0 50.0.0.1
Router (config) # ip route 20.0.0.0 255.0.0.0 50.0.0.1
Router (config) # ip route 30.0.0.0 255.0.0.0 60.0.0.1
Router (config) # ip route 40.0.0.0 255.0.0.0 60.0.0.
Router (config) # exit
Router #
```

Step 7: We can view all the ~~rout~~ networks connected to a router as follows:

Router # show ip route.

Codes: C - connected, S - static

S 10.0.0.0/8 [1/0] via 50.0.0.1
S 20.0.0.0/8 [1/0] via 50.0.0.1
S 30.0.0.0/8 [1/0] via 60.0.0.1
S 40.0.0.0/8 [1/0] via 60.0.0.1
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, Recieved = 0, Lost = 4 (100% loss).
```

After static route,
from PC1 ping PC3

Command prompt:

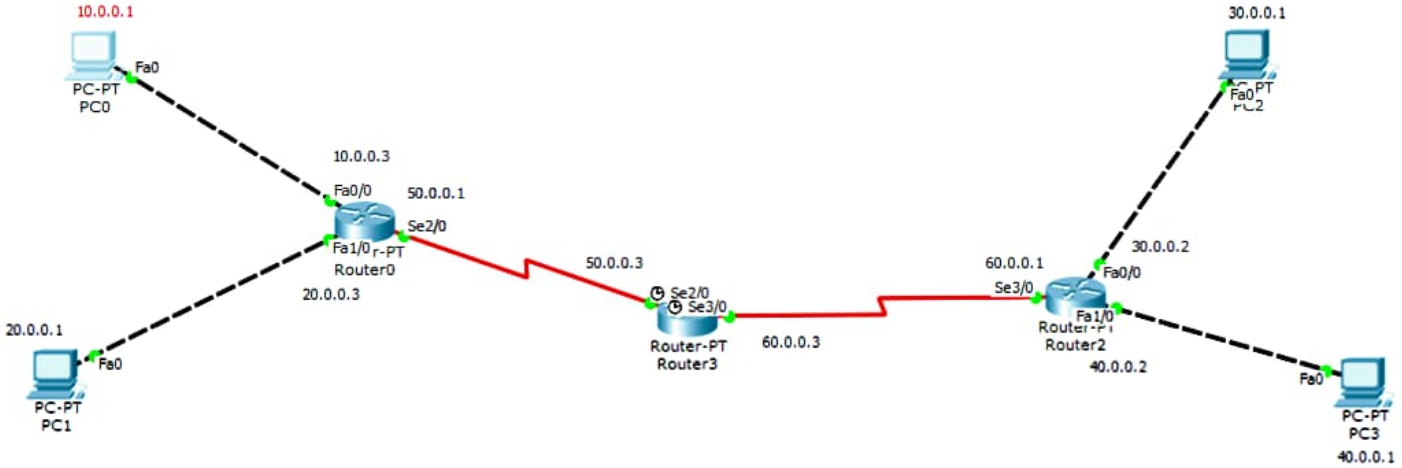
```
PC> ping 40.0.0.1

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, Recieved = 3, Lost = 1 (25% Loss)
```

26/6/23

Cisco Packet Tracer Student - C:\Users\SWETHA\Downloads\router (1).pkt

File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background



Time: 00:01:43 Power Cycle Devices Fast Forward Time

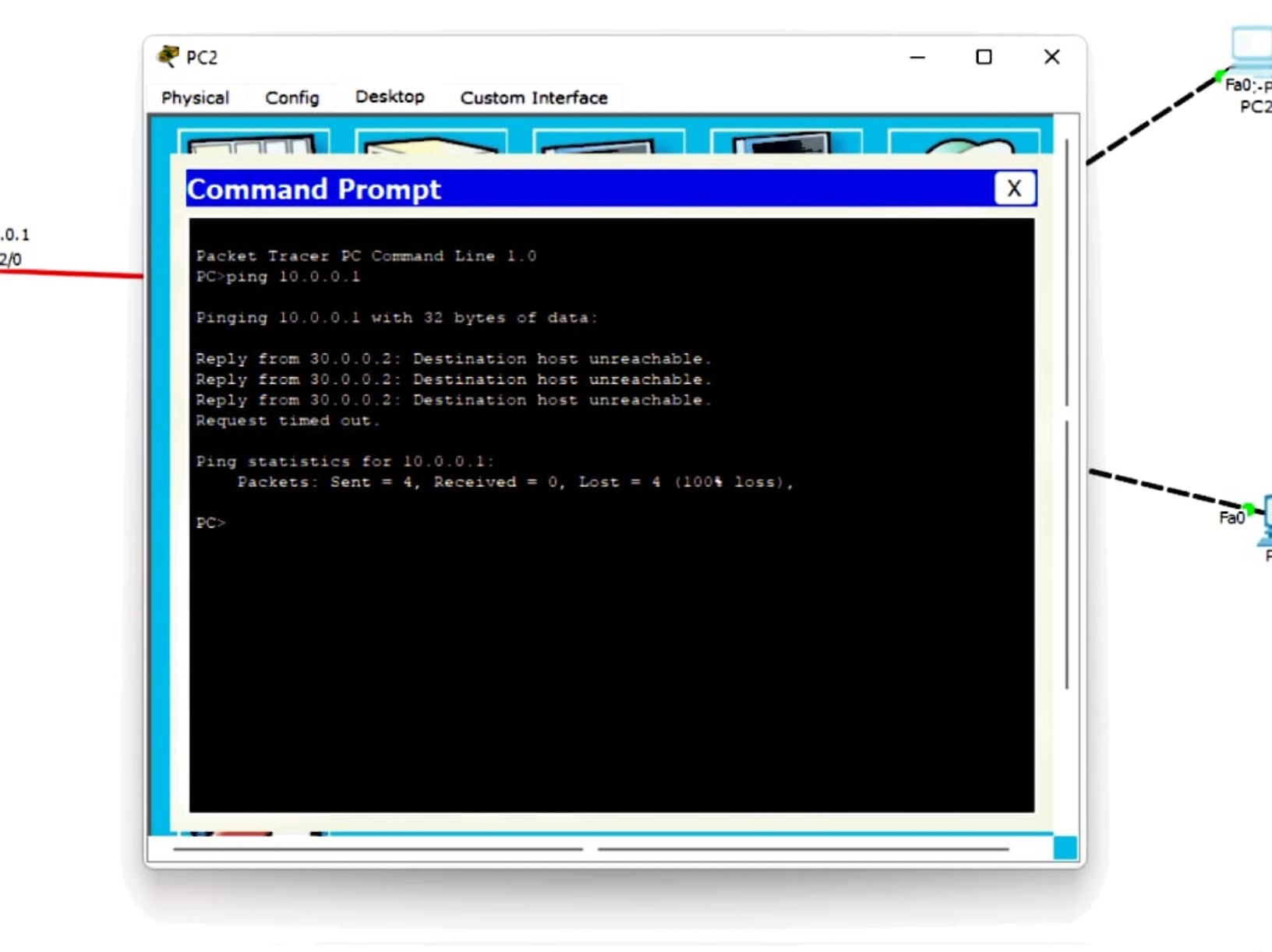
Routers

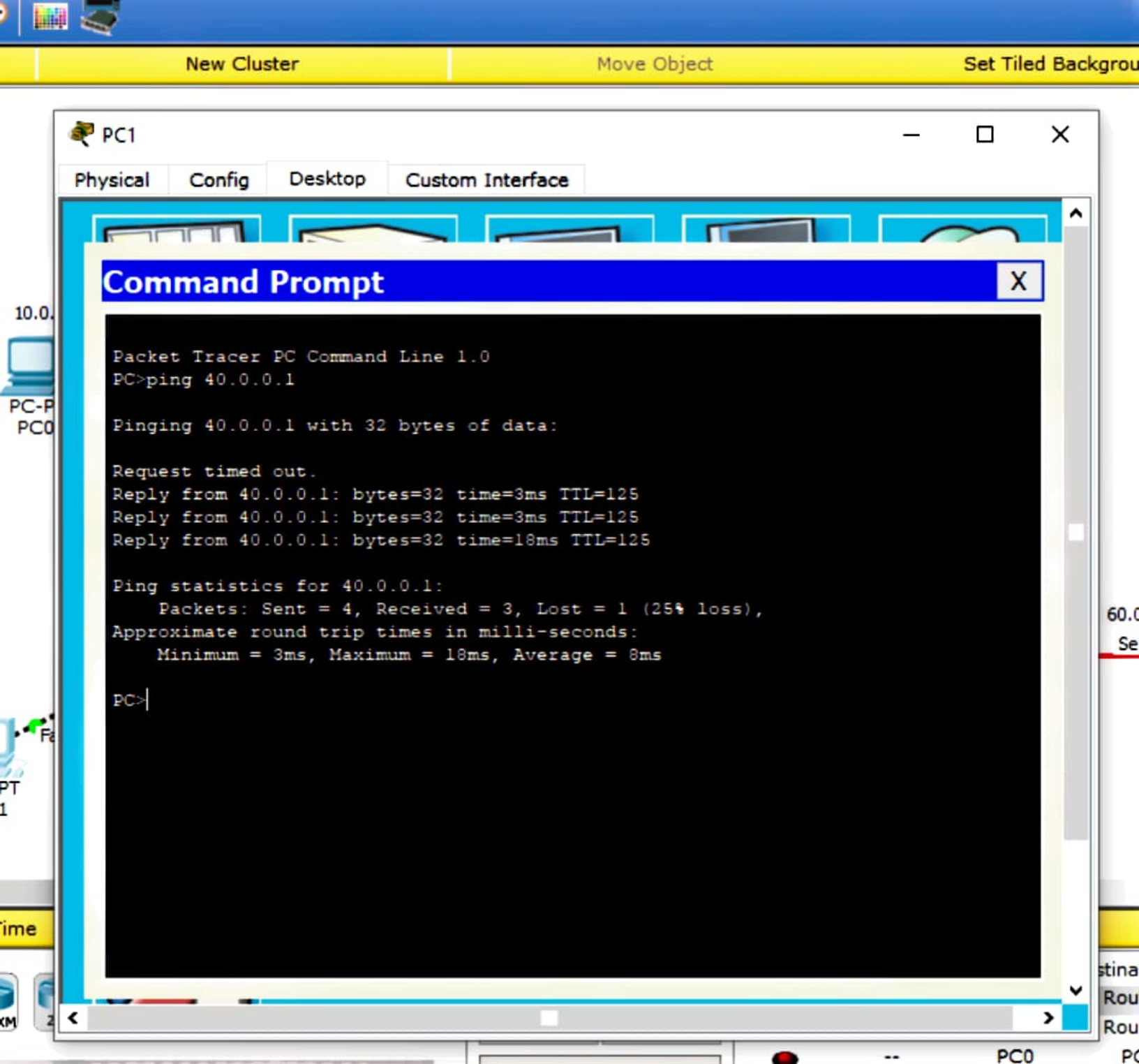
1841 1941 2620XM 2621XM 2811 2901 2911 819 Generic Generic

Scenario 0

New Delete

Fire	Last Status	Source	Destination	Type	Color
	--	PC0	Router0	ICMP	
	--	PC1	Router0	ICMP	
	--	PC0	PC1	ICMP	


PC2
Physical
Config
Desktop
Custom Interface
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 30.0.0.2: Destination host unreachable.
Reply from 30.0.0.2: Destination host unreachable.
Reply from 30.0.0.2: Destination host unreachable.
Request timed out.
Ping statistics for 10.0.0.1:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
PC>
.0.1
2/0
Fa0
PC2
Fa0


New Cluster
Move Object
Set Tiled Backgrou
PC1
Physical
Config
Desktop
Custom Interface
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:
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=18ms 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 = 3ms, Maximum = 18ms, Average = 8ms
PC>
PC-P
PC0
PC0