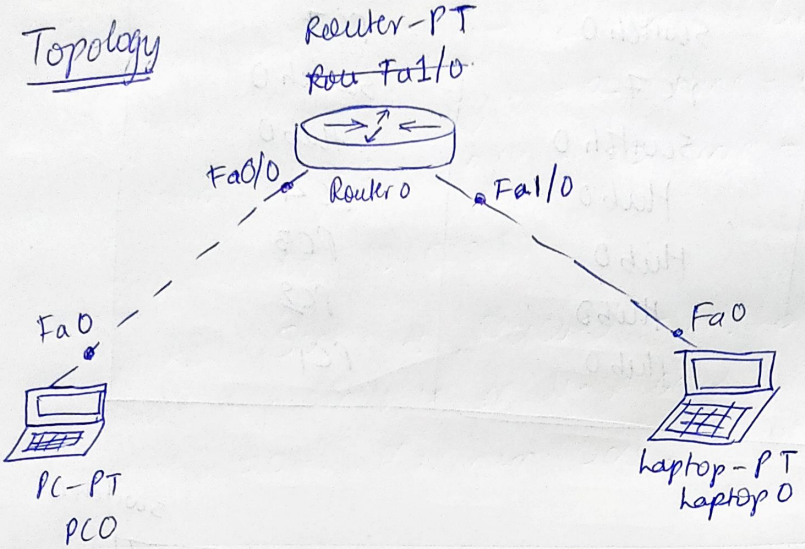
Lab - 3

17-11-22

Configuring IP address to Routers in Packet Tracer. Explore the following messages: Ping response, Destination unreachable, Request timed out, Reply.

Topology



Routers are sophisticated multi-port devices. They operate at Network layer and use a Routing table to determine which path from src to dest should be selected.

Procedure:

* Select 2 generic end devices from the device-type selection box. We give source device IP address as 10.0.0.1 and 20.0.0.1 to the other device. Subnet mask 255.0.0.0
* We then select a generic Router-PT and connect it to the end devices using copper cross-over connections.
* We see interface b/w end devices and router denoted by a red dot (not functioning).
* To configure the router type the follg. commands in Router's CLI.

Continue with configuration dialog ? [yes/no] : no

1st side configuration

Router > enable
Router # config terminal
Router (config) # interface fastEthernet 0/0
Router (config-if) # IP address 10.0.0.10 255.0.0.0
Router (config-if) # no shutdown
Router (config-if) # exit.

2nd side configuration

Router (config-if) # interface fastEthernet 1/0
Router (config-if) # IP address 20.0.0.10 255.0.0.0
Router (config-if) # no shutdown
Router (config-if) # exit.

* Now the interfaces turn to green color indicating network is functional.
* Select a end device (10.0.0.1), and in command prompt

PC > ping 20.0.0.1

Output

Pinging 20.0.0.1 with 32 bytes of data
Request timed out
Request timed out
Request timed out
Request timed out

* Gateway address has to be added for end devices to know where to send PDU when router is present.

For 10.0.0.1 → set gateway 10.0.0.10
20.0.0.1 → set gateway 20.0.0.10

After setting gateway, now in command line.

PC > ping 10.0.0.1

Or

Pinging 10.0.0.1 with 32 bytes of data:

Reply from 10.0.0.1: bytes = 32 time = 0ms TTL = 127

Reply from 10.0.0.1: bytes = 32 time = 0ms TTL = 127

Reply from 10.0.0.1: bytes = 32 time = 0ms TTL = 127

Reply from 10.0.0.1: bytes = 32 time = 0ms TTL = 127

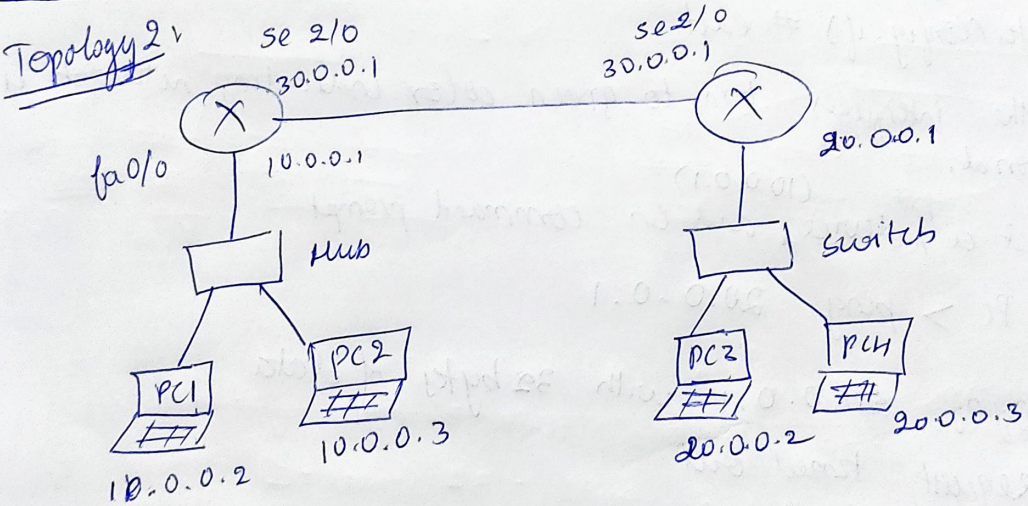
Ping statistics for 10.0.0.1:

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

Approx round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Avg = 0 ms

Topology 2:



Router 1 config:

```
interface fastEthernet 0/0
ip address 10.0.0.10 255.0.0.0
no shutdown
exit
interface serial 2/0
ip address 30.0.0.10 255.0.0.0
no shutdown
exit
```

Router 2 config :

```
interface fastEthernet 0/0
ip address 20.0.0.10 255.0.0.0
no shutdown
exit
interface serial 2/0
ip address 30.0.0.10 255.0.0.0
no shutdown
exit
```

from 10.0.0.1

PC\> Ping 30.0.0.10

O/P:

Packets : Sent = 4, Recieved = 4, Lost = 0

From 10.0.0.1

PC\> Ping 20.0.0.1

O/P :

Reply from 10.0.0.10 :
Destination host unreachable

Packets : sent = 4 , Recieved = 0
Lost = 4 (100% Loss)

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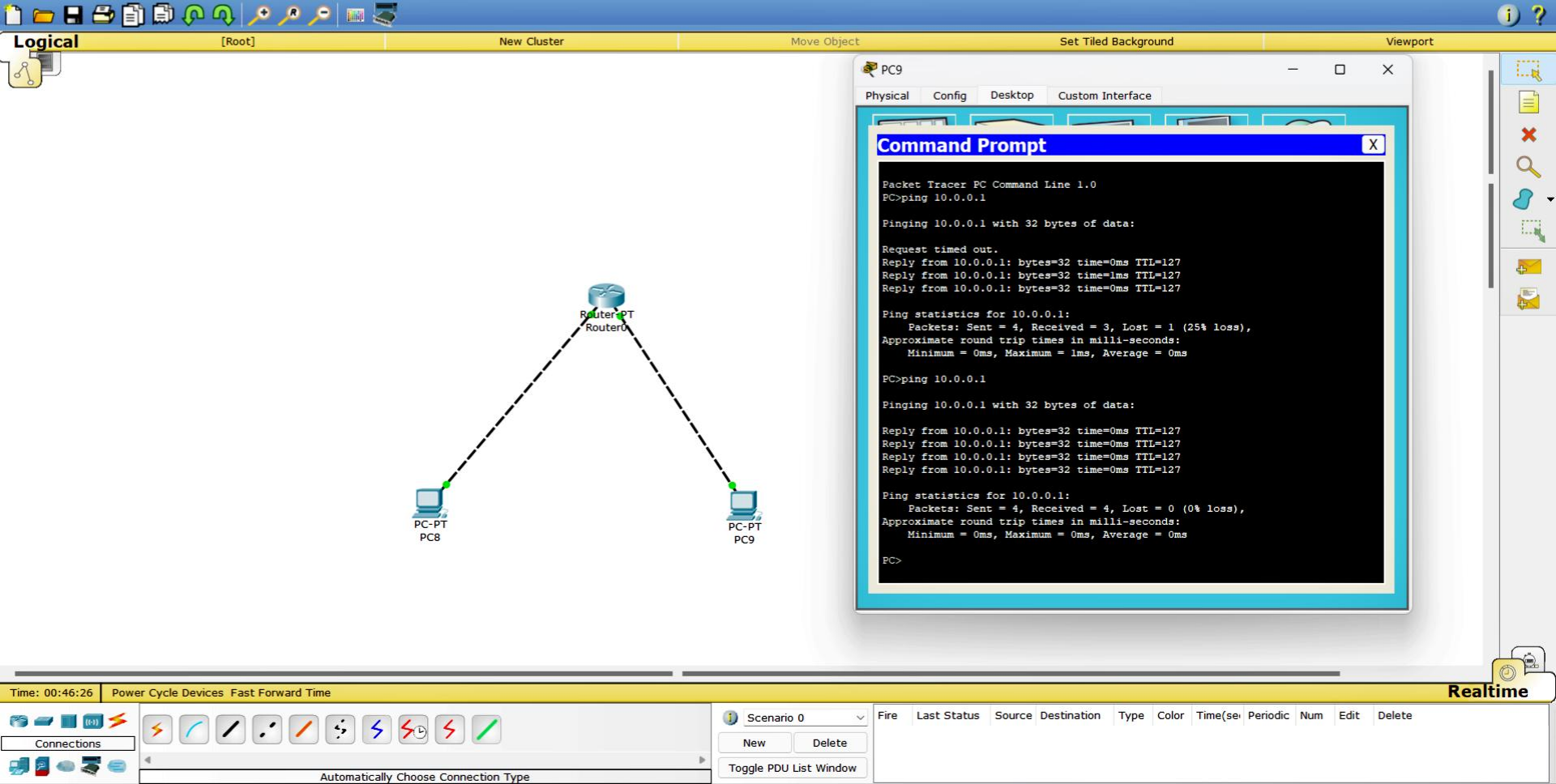
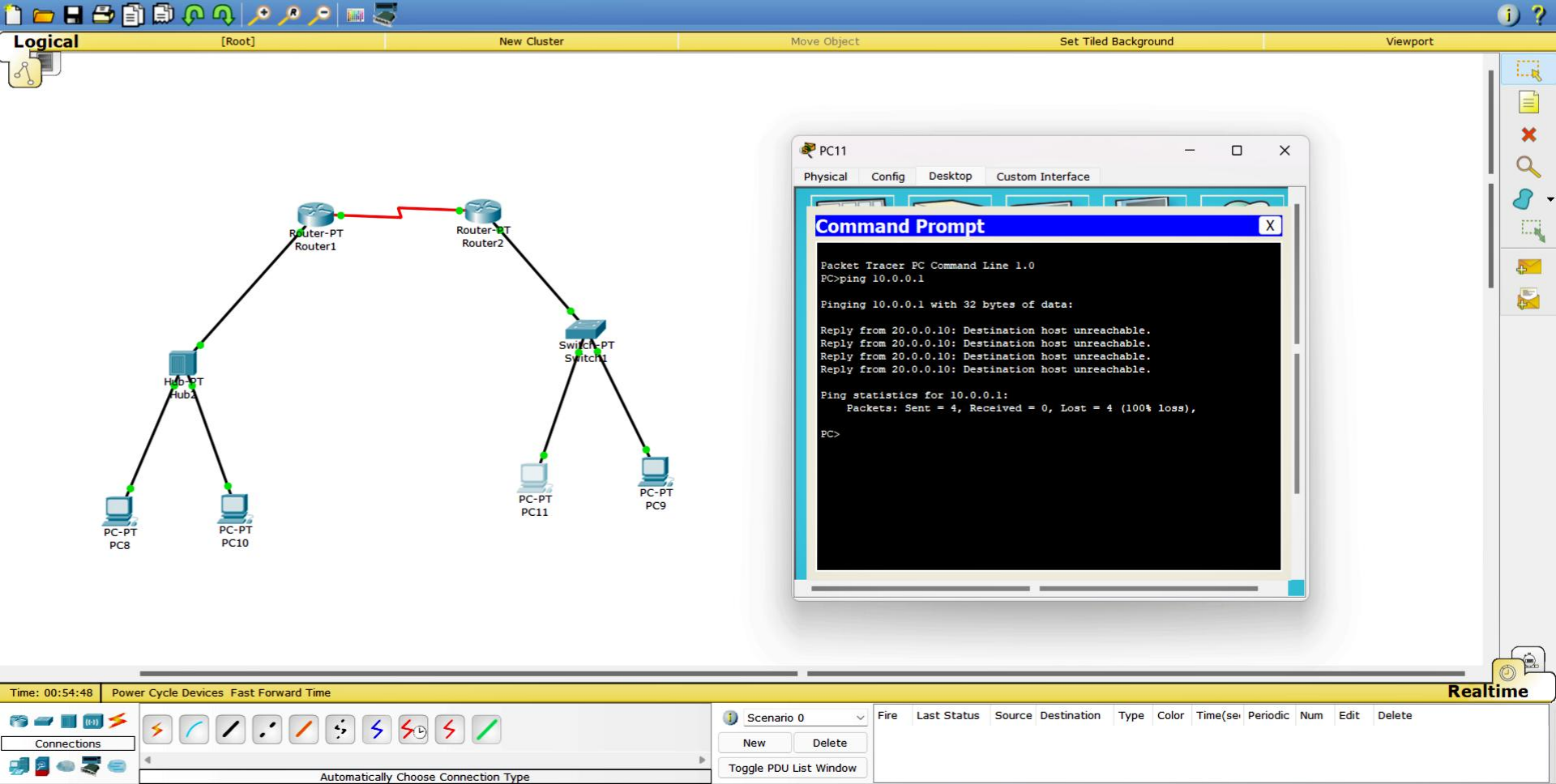

Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Router-PT
Router0
PC-PT
PC8
PC-PT
PC9
PC9
Physical
Config
Desktop
Custom Interface
Command Prompt
X
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.1
Pinging 10.0.0.1 with 32 bytes of data:
Request timed out.
Reply from 10.0.0.1: bytes=32 time=0ms TTL=127
Reply from 10.0.0.1: bytes=32 time=1ms TTL=127
Reply from 10.0.0.1: bytes=32 time=0ms TTL=127
Ping statistics for 10.0.0.1:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
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=0ms TTL=127
Reply from 10.0.0.1: bytes=32 time=0ms TTL=127
Reply from 10.0.0.1: bytes=32 time=0ms TTL=127
Reply from 10.0.0.1: bytes=32 time=0ms TTL=127
Ping statistics for 10.0.0.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>
Time: 00:46:26
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(se
Periodic
Num
Edit
Delete


Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Router-PT
Router1
Router-PT
Router2
Hub-PT
Hub1
Switch-PT
Switch1
PC-PT
PC8
PC-PT
PC10
PC-PT
PC11
PC-PT
PC9
PC11
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 20.0.0.10: Destination host unreachable.
Reply from 20.0.0.10: Destination host unreachable.
Reply from 20.0.0.10: Destination host unreachable.
Reply from 20.0.0.10: Destination host unreachable.
Ping statistics for 10.0.0.1:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
PC>
Time: 00:54:48
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(se
Periodic
Num
Edit
Delete