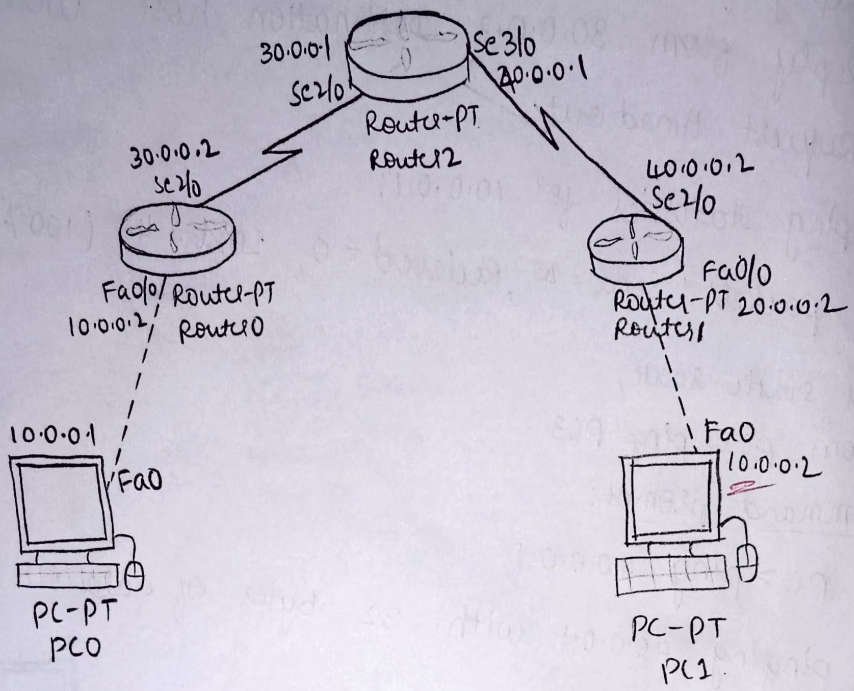
Lab-04

30/06/2021

Default Routing and Static Routing

Aim: To configure default route, static route to the router.

Topology:



Procedure:

Step 1: Drag and drop 2 PC's and 3 routers to the workspace and connect them as shown in the above figure to construct a topology.

Step 2: Set the ip address of 1st PC0 as 10.0.0.1 and 2nd PC1 as 20.0.0.1. Also, set the gateway of two PCs as 10.0.0.2 and 20.0.0.2 respectively.

Step 3: Place different n/w ip addresses as 30.0.0.1 and 40.0.0.1 to the left and right of Router2 and start configuring the router interfaces.

for Router0,

Router > enable
Router # config t
Router (config) # interface fastethernet 0/0
Router (config-if) # ip address 10.0.0.2 255.0.0.0
Router (config-if) # no shut
Router (config-if) # exit
Router (config) # interface serial
Router (config-if) # ip address
Router (config-if) # no shut
Router (config-if) # exit
Router (config) # exit

Similarly, configure Router1 and Router2

Step 4: Do the static routing for router2 and default routing for router0 and router1 as -

for Router0,

Router > enable
Router # config t
Router (config) # ip route 0.0.0.0 0.0.0.0 30.0.0.1

for Router1,

Router # config t
Router (config) # ip route 0.0.0.0 0.0.0.0 40.0.0.1

for Router2,

Router # config t
Router (config) # ip route 10.0.0.0 255.0.0.0 30.0.0.2
Router (config) # ip route 20.0.0.0 255.0.0.0 40.0.0.2
Router (config) # exit
Router #

Now, you can check the routing information as follows-

Router0,

Router1# show ip route

C - connected S - static * - candidate default

Gateway of last resort is 30.0.0.1 to network 0.0.0.0

C 10.0.0.0/8 is directly connected, FastEthernet 0/0
C 30.0.0.0/8 is directly connected, Serial 2/0
S* 0.0.0.0/0 [1/0] via 30.0.0.1

Router2,

Router1# show ip route

C - connected S - static

S 10.0.0.0/8 [1/0] via 30.0.0.2
S 20.0.0.0/8 [1/0] via 40.0.0.2
C 30.0.0.0/8 is directly connected, Serial 2/0
C 40.0.0.0/8 is directly connected, Serial 3/0

ping operations : (Result):

from pc0 ping pc1
(10.0.0.1) (20.0.0.1)

PC> ping 20.0.0.1

pinging 20.0.0.1 with 32 bytes of data:

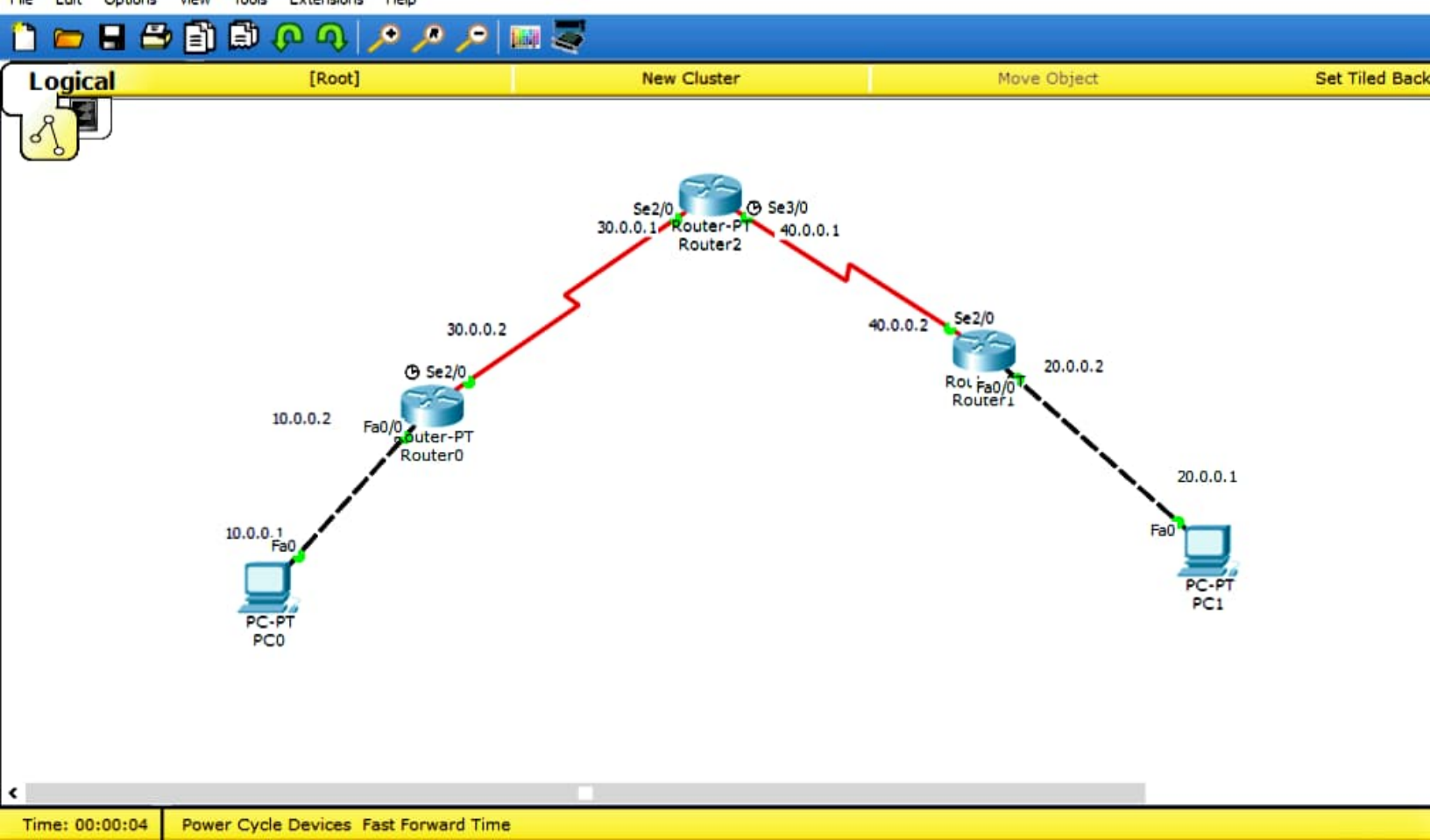
Reply from 20.0.0.1 : bytes = 32 time = 2ms TTL = 125
Reply from 20.0.0.1 : bytes = 32 time = 4ms TTL = 125
Reply from 20.0.0.1 : bytes = 32 time = 17ms TTL = 125
Reply from 20.0.0.1 : bytes = 32 time = 25ms TTL = 125

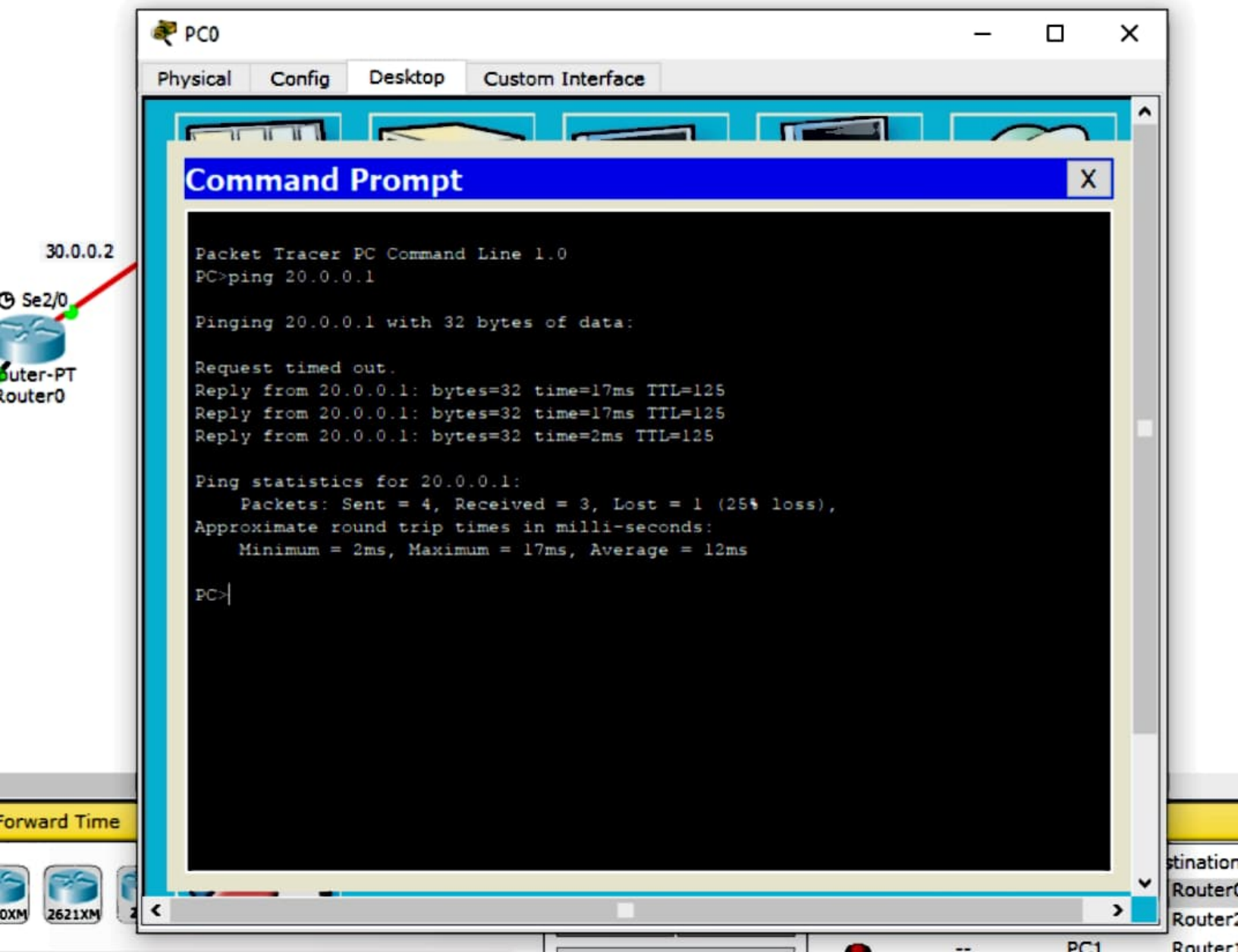
Ping statistics for 20.0.0.1:

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

Approximate round trip times in milli-seconds:

Minimum = 2ms, Maximum = 25ms, Average = 12ms


File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Back
Se2/0
30.0.0.1
Router-PT
Router2
Se3/0
40.0.0.1
30.0.0.2
40.0.0.2
Se2/0
Se2/0
Fa0/0
20.0.0.2
10.0.0.2
Fa0/0
Router-PT
Router0
Router1
20.0.0.1
10.0.0.1
Fa0
Fa0
PC-PT
PC0
PC-PT
PC1
Time: 00:00:04
Power Cycle Devices Fast Forward Time


PC0
Physical
Config
Desktop
Custom Interface
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=17ms TTL=125
Reply from 20.0.0.1: bytes=32 time=17ms TTL=125
Reply from 20.0.0.1: bytes=32 time=2ms TTL=125
Ping statistics for 20.0.0.1:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 2ms, Maximum = 17ms, Average = 12ms
PC>
30.0.0.2
Se2/0
Router0
Forward Time
2621XM