EXPERIMENT-3

Configure default route, static route to the Router.

13/7/23

SURYA Gold

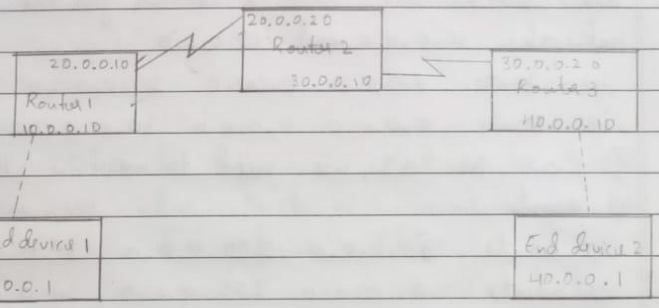
Date Page

Experiment-3

Aim:

Configure default route and static route to the router.

Topology:



Procedure:

① Add two end devices and three routers to the workspace.

② Connect routers through Serial DTE cable and end devices and routers through copper crossover cable.

③ Configure IP addresses of end devices. ~~and~~
IP address of End device 1 : 10.0.0.1
IP address of End device 2 : 40.0.0.1

④ Configure routers. Use the following commands to set IP address to routers.

Router > enable
Router # config t
Router (config) # interface <port>
Router (config-if) # ip address <ip address> <subnet mask>

Router(config-if)# no shut
Router(config-if)# exit

⑤ Set gateways for end devices
End device 1 : 10.0.0.10
End device 2 : 40.0.0.10

⑥ Default routing is possible for networks 10.0.0.0 and 40.0.0.0. Following commands are used to set default routes for the ab networks 10.0.0.0 and 40.0.0.0
ip route 0.0.0.0 0.0.0.0 20.0.0.20
ip route 0.0.0.0 0.0.0.0 30.0.0.20

⑦ For router2, we need to mention the ip route.
ip route 40.0.0.0 255.0.0.0 30.0.0.10
ip route 10.0.0.0 255.0.0.0 20.0.0.10

⑧ Ping from one end device to another.

Result :

Pinging 40.0.0.1 with 32 bytes of data:

Request timed out.
Reply from 40.0.0.1 : bytes=32 time=15ms TTL=125
Reply from 40.0.0.1 : bytes=32 time=11ms TTL=125
Reply from 40.0.0.1 : bytes=32 time=2ms TTL=125

Ping statistics for 40.0.0.1 :
Packets: Sent=4, Recieved=3, Lost=1 (25% loss)

Approximate round trip times in milli-seconds :
Minimum=2ms, Maximum=15ms, Average=9ms

IP route of Router 1

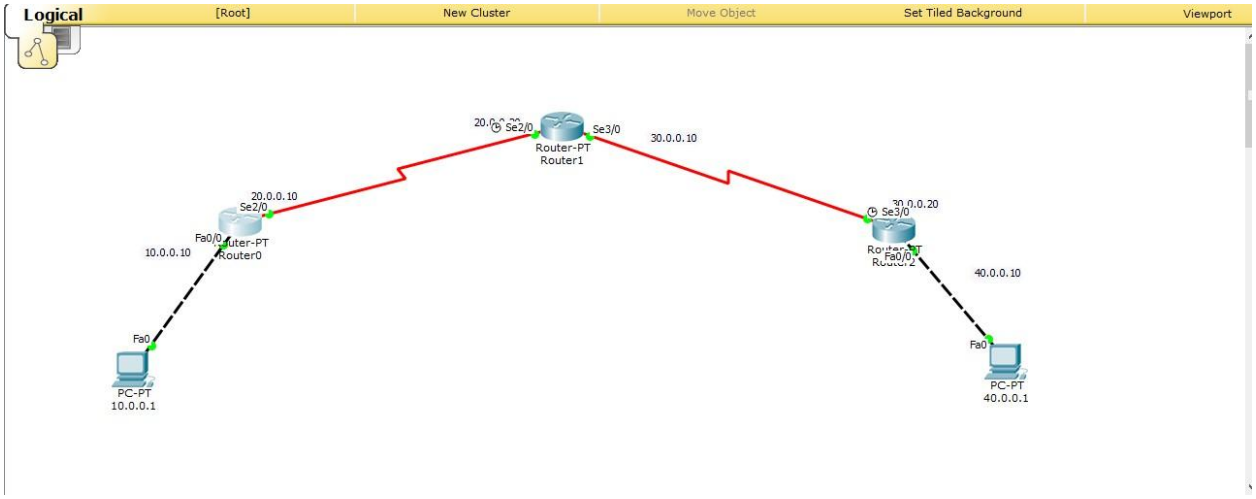
Gateway of last resort is 20.0.0.10 to network 0.0.0.0

C 10.0.0.0/8 is directly connected, FastEthernet0/0
C 20.0.0.0/8 is directly connected, Serial2/0
S* 0.0.0.0/0 [1/0] via 20.0.0.10
[1/0] via 20.0.0.20

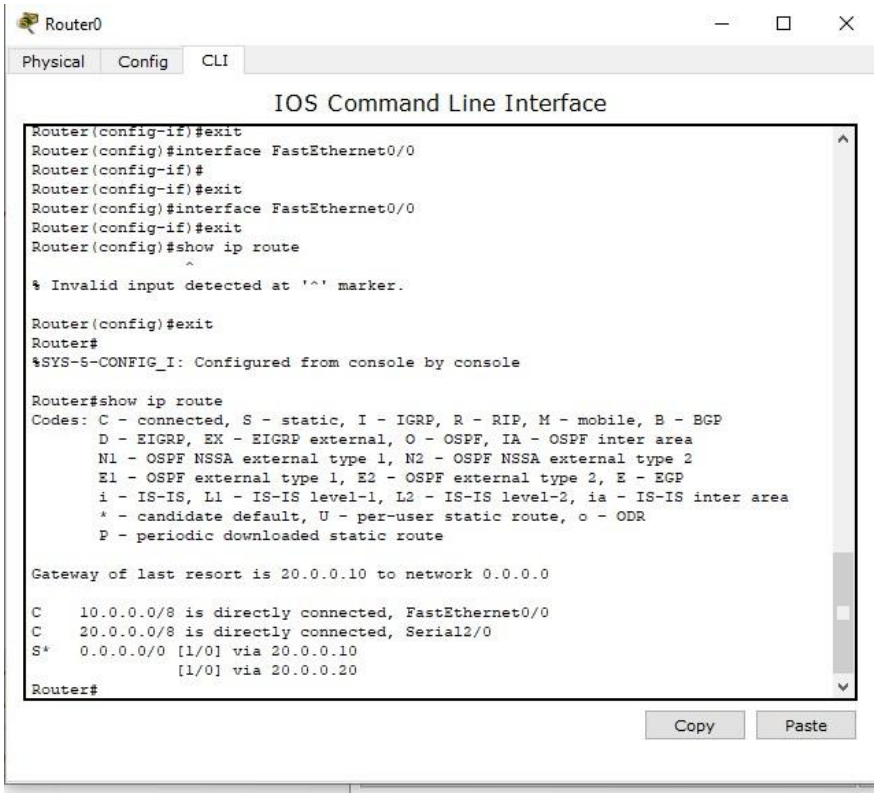
Observation:

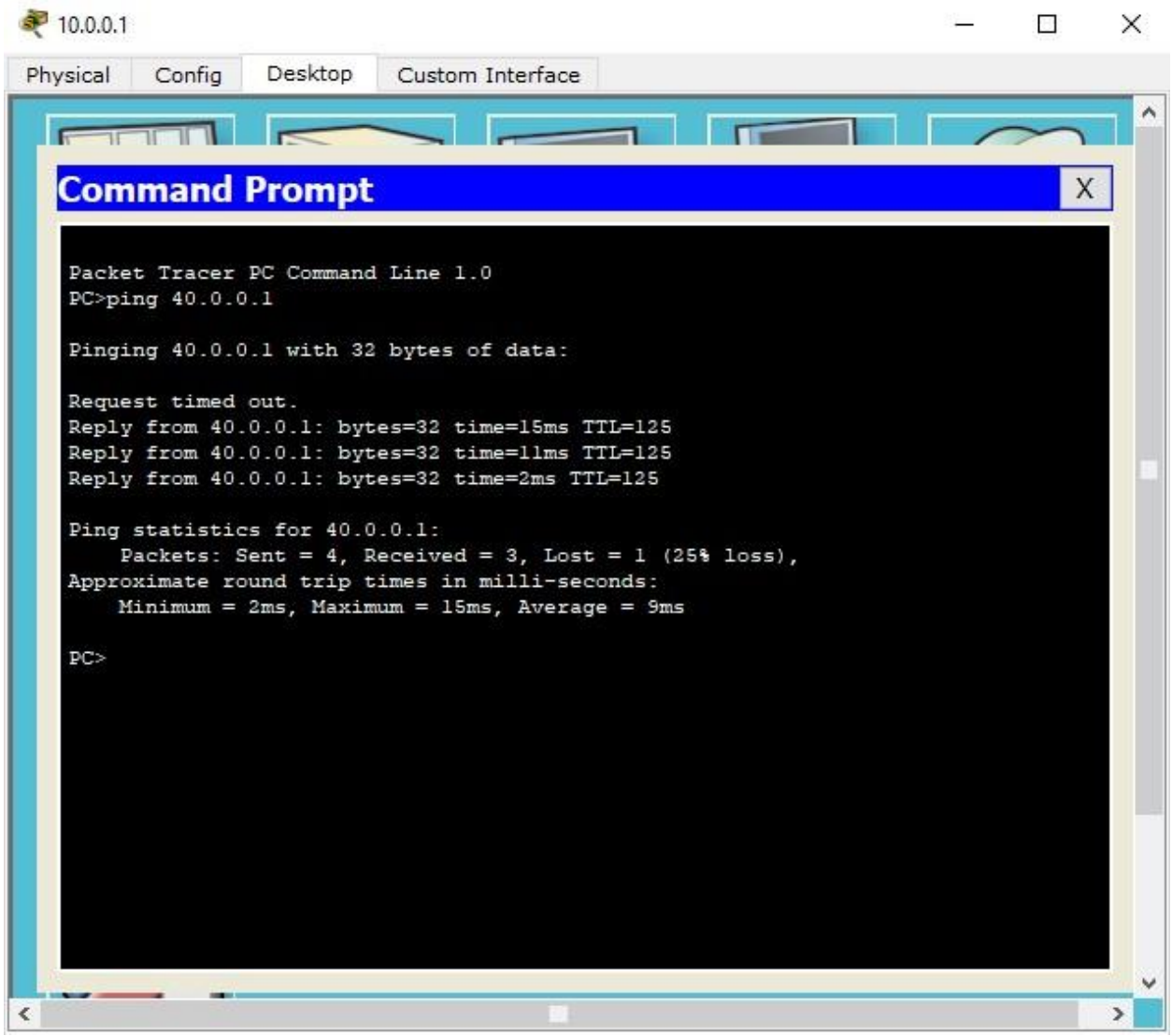
Default route refers to the route taken when no other route is available for the given IP destination address.
When a packet is recieved, it is de capsulated and destination IP address of packet is checked. If there is no registered path to the destination IP address, the packet is transmitted onto the default route.
Static routing refers to specifying a route that for a given destination IP address.
The destination IP address of a packet is checked. For a given destination IP address, the next hop is stored in the routing table.

Topology:



Result:




10.0.0.1
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=15ms TTL=125
Reply from 40.0.0.1: bytes=32 time=11ms 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 = 15ms, Average = 9ms
PC>