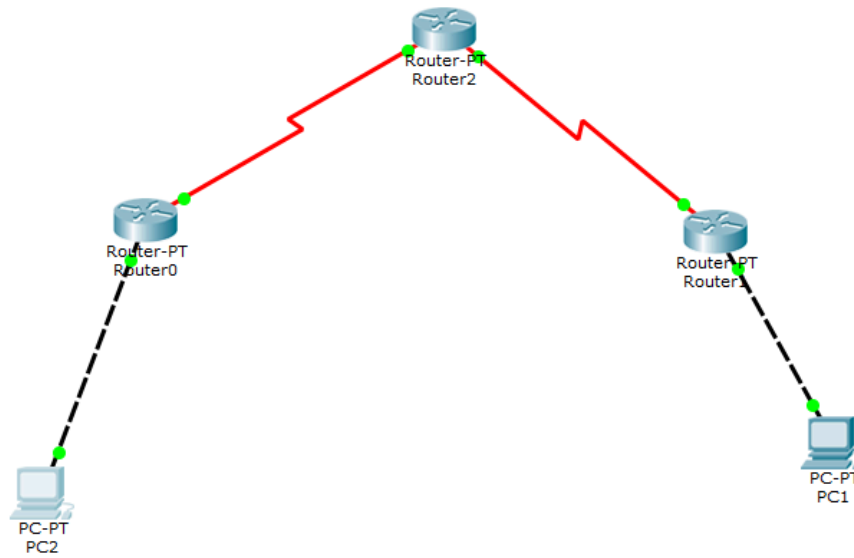


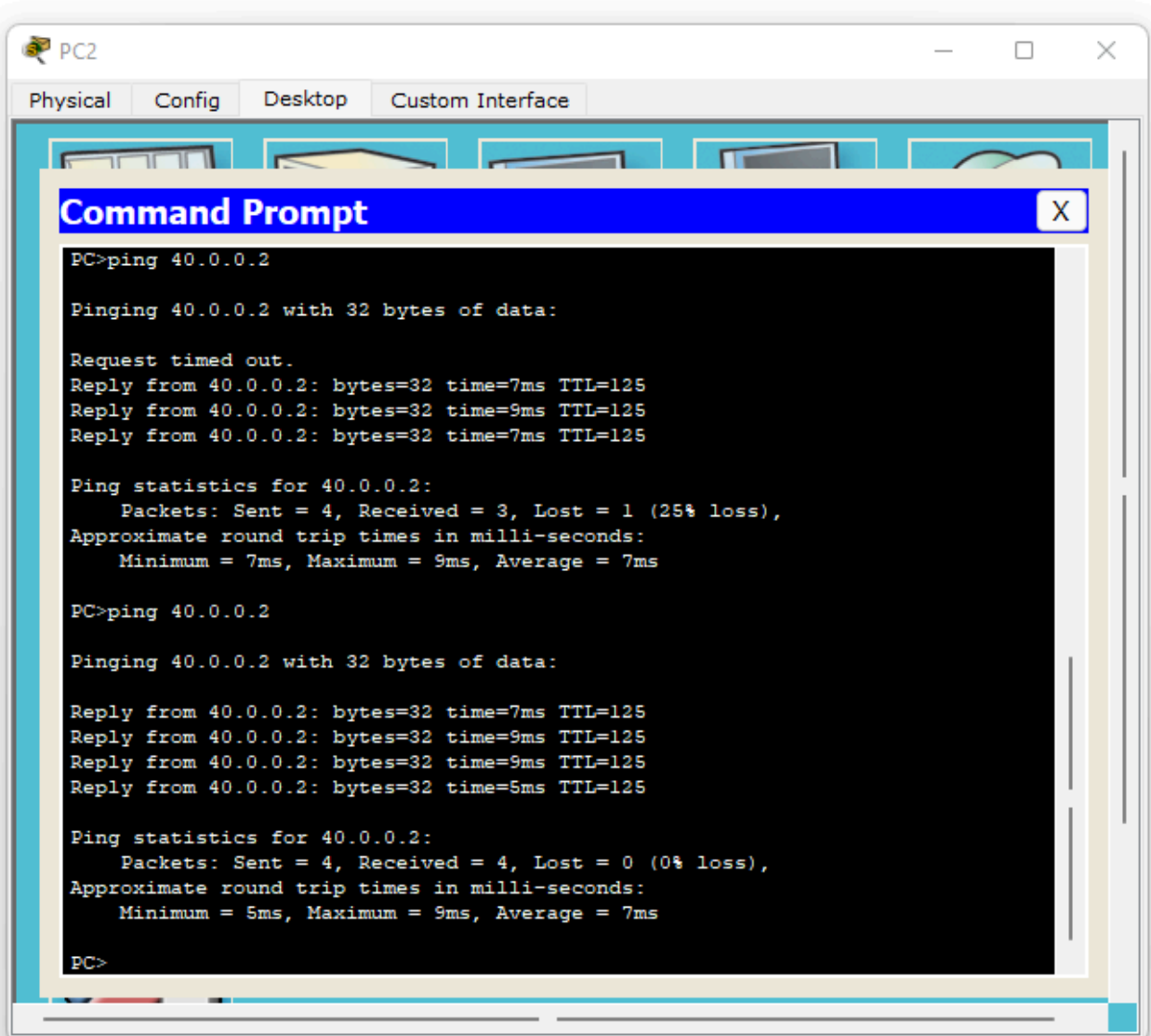
Experiment - 3

Aim: To demonstrate the configuration of static routes to the router

Topology:



Output:



The screenshot shows a window titled "PC2" with tabs for "Physical", "Config", "Desktop", and "Custom Interface". The "Desktop" tab is active, displaying a desktop environment. A "Command Prompt" window is open, showing the results of two ping commands to the IP address 40.0.0.2. The first ping attempt shows a 25% packet loss, while the second attempt shows 0% loss.

```
PC>ping 40.0.0.2

Pinging 40.0.0.2 with 32 bytes of data:

Request timed out.
Reply from 40.0.0.2: bytes=32 time=7ms TTL=125
Reply from 40.0.0.2: bytes=32 time=9ms TTL=125
Reply from 40.0.0.2: bytes=32 time=7ms TTL=125

Ping statistics for 40.0.0.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 7ms, Maximum = 9ms, Average = 7ms

PC>ping 40.0.0.2

Pinging 40.0.0.2 with 32 bytes of data:

Reply from 40.0.0.2: bytes=32 time=7ms TTL=125
Reply from 40.0.0.2: bytes=32 time=9ms TTL=125
Reply from 40.0.0.2: bytes=32 time=9ms TTL=125
Reply from 40.0.0.2: bytes=32 time=5ms TTL=125

Ping statistics for 40.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 5ms, Maximum = 9ms, Average = 7ms

PC>
```

Observation:

8/10/24

classmate

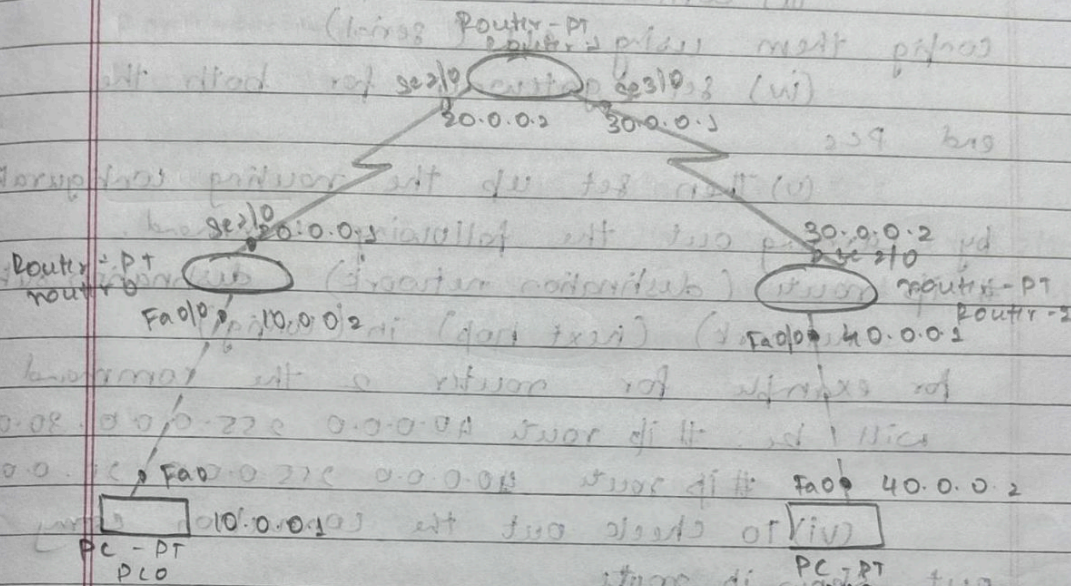
Date

Page

Experiment-3

Aim: To demonstrate the configuration of default routes to the router

Topology:



To setup routing configuration:
 → To reach the unknown networks (current network)
 # ip route destination network ip destination mask
 next hop

ip route 20.0.0.0 255.0.0.0 20.0.0.2

show ip route → shows the connected networks

Configuration:

(i) select two generic PC and 3 generic routers and config the IP address for the two generic PCs

(ii) make a connection b/w the PC and router using the CLI (fast ethernet 0/0)

(iii) connect the two routers and config them using CLI (serial)

(iv) set gateway for both the end PCs

(v) Then set up the routing configuration by carrying out the following command.

ip route (destination network) (destination sub-network) (next hop) in (config)

for example for router 2 the command

will be: # ip route 40.0.0.0 255.0.0.0 30.0.0.2

ip route 40.0.0.0 255.0.0.0 30.0.0.1

(vi) To check out the connection carry out show ip route

(vii) Then Ping the destination IP address from the source PC under command prompt in desktop.

(viii) carry out ping command.

OBSERVATION:

PC > ping 40.0.0.2

Pinging 40.0.0.2 with 32 bytes of data

Reply from 40.0.0.2: bytes = 32 time = 7ms TTL = 125

Reply from 40.0.0.2: bytes = 32 time = 7ms TTL = 125

Reply from 40.0.0.2: bytes = 32 time = 7ms TTL = 125

Reply from 40.0.0.2 : bytes = 32 time = 9ms TTL = 125

Ping statistics for 40.0.0.2

Packets: sent = 4, Received = 4, lost = 0 (0% loss)

Approximate round trip times in milli-seconds:

minimum = 5ms Maximum = 9ms, Average = 7ms.

For router 2

Router > show ip route

```
S    10.0.0.0/8 [1/0] via 20.0.0.1
C    20.0.0.0/8 is directly connected, serial 2/0
C    30.0.0.0/8 is directly connected, serial 3/0
S    40.0.0.0/8 [1/0] via 30.0.0.2
```

For Router 0

```
C    10.0.0.0/8 is directly connected, FastEthernet0/0
C    20.0.0.0/8 is directly connected, serial 2/0
S    30.0.0.0/8 [1/0] via 20.0.0.2
S    40.0.0.0/8 [1/0] via 20.0.0.2
```

For router 1

```
S    10.0.0.0/8 [1/0] via 30.0.0.1
S    20.0.0.0/8 [1/0] via 30.0.0.1
C    30.0.0.0/8 is directly connected, serial 2/0
C    40.0.0.0/8 is directly connected, FastEthernet0/0
```

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