

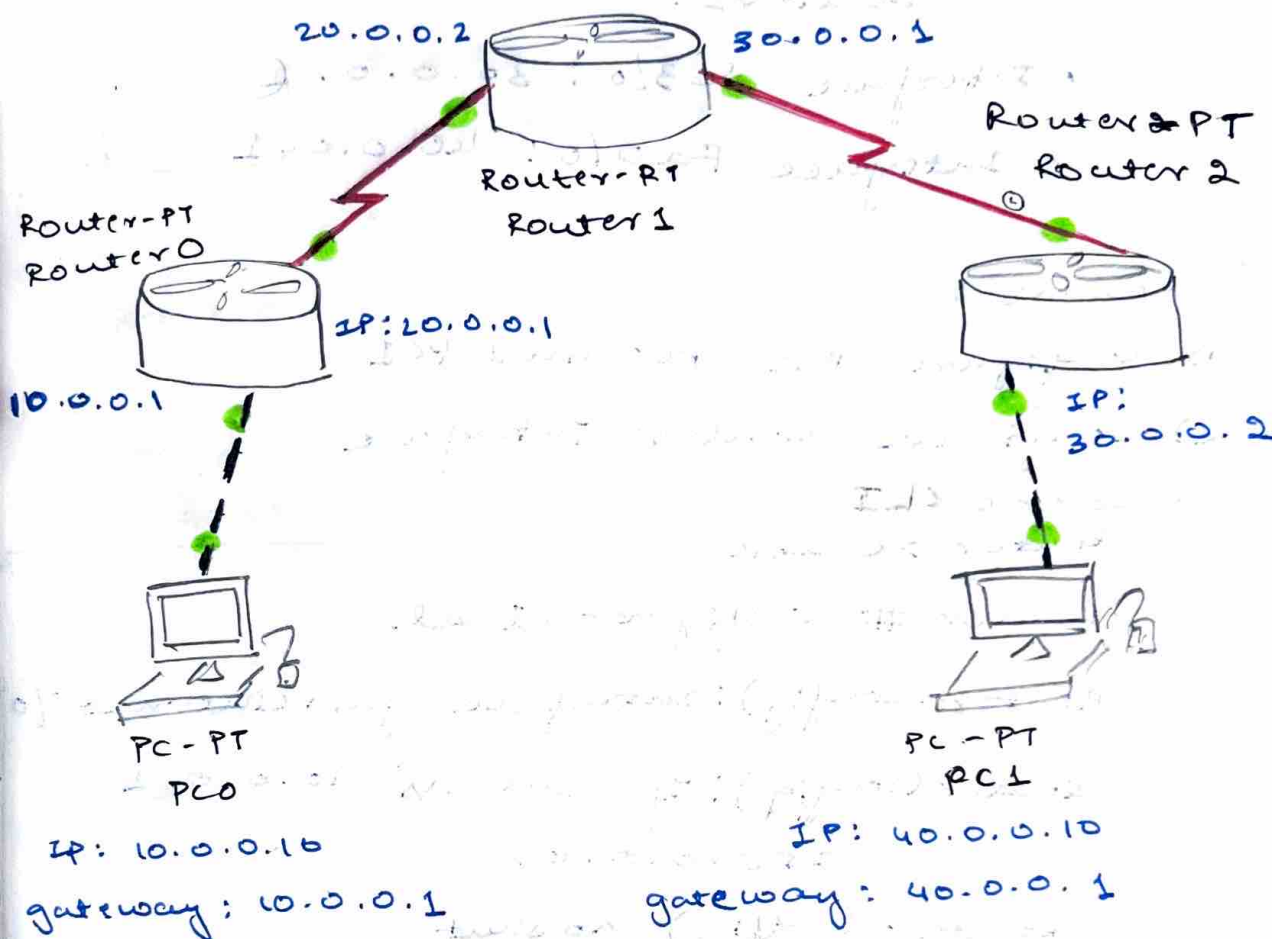
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## Experiment - 3 :

Q7) Static and Default Routing

Aim: <sup>configure</sup> Demonstrate static and Default routing using three routers.

Topology:



### Topology Description:

Two PCs:

• PC0 → IP: 10.0.0.10  
gateway: 10.0.0.1

• PC1 → IP: 40.0.0.10  
gateway: 40.0.0.1

Three routers:

• Router 0: Interface Fa0/0 = 10.0.0.1  
Interface S2/0 = 20.0.0.1

connected to PC0 and Router 1

- Router 1: connects Router 0 and Router 2
  - Interface s2/0 : 20.0.0.2
  - Interface s3/0 : 30.0.0.1
- Router 2; connected to PC2 and Router 1.
  - Interface s3/0 : 30.0.0.2
  - Interface Fa0/0 : 40.0.0.1

### Procedure :

- 1) configure the PC0 and PC1
- 2) configure Router Interface

#### Router 0 CLI

Router > enable

Router # config terminal

Router (config): interface fastEthernet 0/0

Router (config): ip address 10.0.0.1  
255.0.0.0

Router (config) no shut

Router > exit

Router # config terminal

Router # Interface serial s2/0

Router (config): ip address 20.0.0.1  
255.0.0.0

Router (config) no shut

Router > exit

## Router 2 CLI

Router > enable

Router # config terminal

Router (config): interface fastEthernet 0/0

Router (config): ip address 40.0.0.1  
255.0.0.0

Router (config-if): no shut

Router # exit

Router # config terminal

Router (config): interface serial 3/0

Router (config): ip address 30.0.0.2  
255.0.0.0

Router (config): no shut

Router : exit

## Router 1 CLI

Router > enable

Router # config terminal

Router (config): interface serial se 2/0

Router (config): ip address 20.0.0.2  
255.0.0.0

Router (config-if): no shut

Router # exit

Router (config): interface serial se 3/0

Router (config-if) ip address 30.0.0.1

Router (config): no shut

Router : exit



Router 0 (config)# ip route 0.0.0.0 0.0.0.0 20.0.0.1

Router> show ip route

[20.0.0.1]

- C 10.0.0.0/8 is directly connected,  
FastEthernet 0/0
- C 20.0.0.0/8 is directly connected,  
Serial 2/0
- S\* 0.0.0.0/0 [1/0] via 20.0.0.0

Router 2 (config)# ip route 0.0.0.0 0.0.0.0 30.0.0.1

Router> show ip route

- C 30.0.0.0/8 is directly connected,  
Serial 3/0
- C 40.0.0.0/8 is directly connected,  
FastEthernet 0/0
- S\* 0.0.0.0/0 [1/0] via 30.0.0.1

Router 1 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

## outputs:

Router 0: cmd

PC> ping 40.0.0.10

Pinging 40.0.0.10 with 32 bytes of data:

Reply from 40.0.0.10 bytes=32

time=6ms TTL=126

Reply from 40.0.0.10 bytes=32

time=6ms TTL=126

Reply from 40.0.0.10 bytes=32

time=6ms TTL=126

Reply from 40.0.0.10 bytes=32

time=11ms TTL=126

Ping statistics for 40.0.0.10:

Packets: sent = 4 Received = 4,

loss = 0, (0% loss),

## Observation:

If configuration and cabling are correct, you will receive successful ping replies b/w the two PC's.

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