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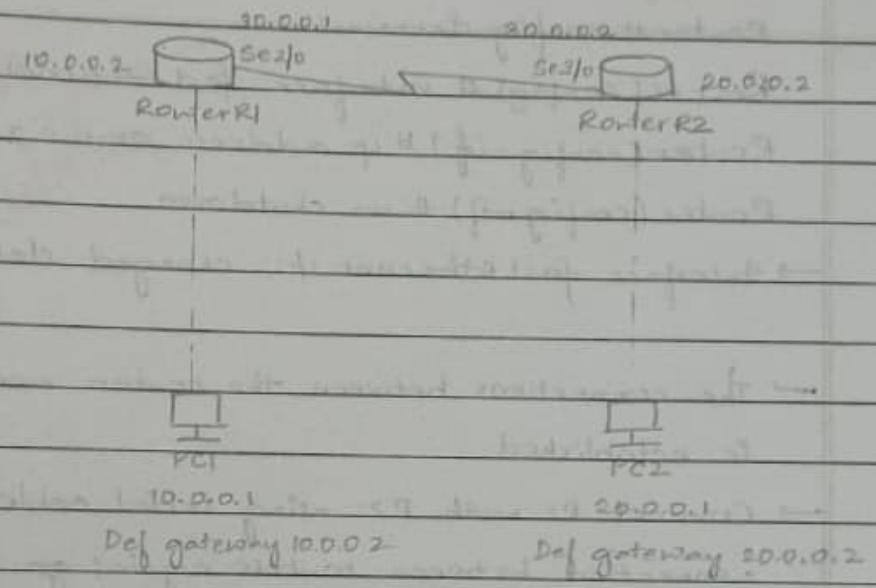
LAB-03

01. **Objective:**

To create a network consisting of two end devices and simulating connection between them using a router for each end devices.

Topology:



Procedure:

→ Select a generic router R1.

→ Connect an end device PC1 to R1 through parallel connection fastEthernet 0/0.

→ Configure PC1 with IP address 10.0.0.1 and gateway 10.0.0.2

→ Similarly select another generic router R2 and connect an end device PC2 fastEthernet 1/0.

→ Configure PC2 with IP address 20.0.0.1 and gateway 20.0.0.2

→ Now, select router R1, go to CLI and execute the following:

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Router > enable
Router # configure terminal
Router (config) # interface fastEthernet 0/0
Router (config-if) # ip address 10.0.0.2 255.0.0.0
Router (config-if) # no shutdown
→ Interface fastEthernet 0/0, changed state to up
→ Similarly select router R2, go to CLI and execute
Router > enable
Router # config terminal
Router (config) # interface fastEthernet 1/0
Router (config-if) # ip address 20.0.0.2 255.0.0.0
Router (config-if) # no shutdown
→ Interface fastEthernet 1/0, changed state to up

→ The connections between the routers and end devices is established
→ Connect R1 with R2 using serial cable. To setup connection between routers again; go
→ Select router R1 and go to CLI
Router (config) # interface serial 2/0
Router (config-if) # ip address 30.0.0.1 255.0.0.0
Router (config-if) # no shutdown
→ Select router R2 and go to CLI and enable similar commands
→ Interface serial 2/0 changed state to up
3/0

Observations

→ After setting up the mentioned topology, an attempt was made to ping PC2 from PC1
→ In the command prompt of PC1, type ping 20.0.0.1
→ Destination host unreachable
Packets sent: 4 received: 0 lost: 4 loss: 100%

→ It is also observed that the end system PC1 was only pinged with the following IPs

ping 30.0.0.1

ping 10.0.0.2

⇒ ping ~~30~~ successful

Packets sent: 4 received: 4 lost: 0 loss = 0.0%

→ Hence, although the routers were connected serially, the end devices were unable to ping each other.

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