Program 3
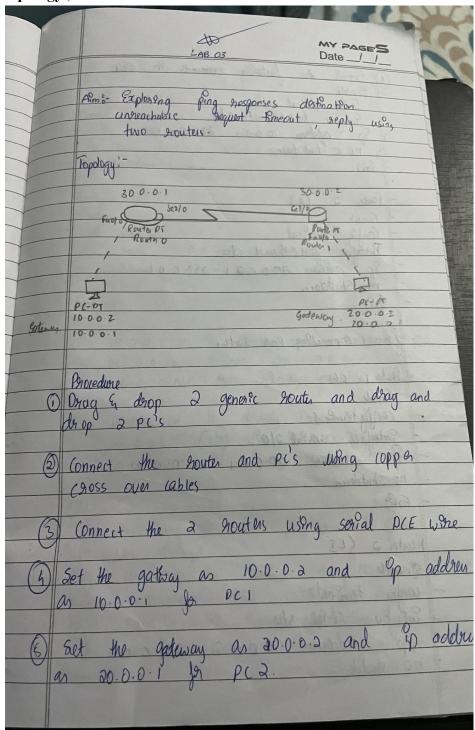
Aim: Configure default route, static route to the Router(Part 1).

Topology , Procedure and Observation:

Aim:- Exploring ping responses destination unreachable request timeout, reply using two routers.

Topology:-

30.0.0.1   30.0.0.2

    Se2/0   Se3/0

Fa0/0 Router P7   Port PC
  Router 0   Fa0/0
                                  Router 1

PC-PT   PC-PC
10.0.0.2   Gateway 20.0.0.2
Gateway   20.0.0.1
10.0.0.1

Procedure

① Drag & drop 2 generic router and drag and drop 2 PC's

② Connect the router and PC's using copper cross over cables

③ Connect the 2 routers using serial DCE wire

④ Set the gateway as 10.0.0.2 and ip address as 10.0.0.1 for PC1

⑤ Set the gateway as 20.0.0.2 and ip address as 20.0.0.1 for PC2.

⑥ Execute the following commands in CLI
→ Enable
  → Config terminal
  → Interface fast Ethernet 0/0
→ Ip address 10.0.0.1 255.0.0.0
  → no Shutdown
  – Exit.

– Router 2 (LI
– Enable
– Config terminal
– Interface fast Ethernet 0/0
– Ip address 20.0.0.21 255.0.0.0
– no Shutdow.
– Exit

for connecting Both routes

Router 1 CLI
– Enable
– config terminal
– interface serial 2/0
– Ip address 30.0.0.1 255.0.0.0
– no shutdown
– Exit

Router 2 CLI
– Enable
– config terminal
– interface serial 3/0
– ip address 30.0.0.2 255.0.0.0
– no shutdown.

for connecting 10.0.0.1 to 20.0.0.1

router 1 CLI
- Enable
- config terminal
- ip route 20.0.0.0 255.0.0.0 30.0.0.2
- no shutdown

router 2 CLI
- Enable
- config terminal
- ip route 10.0.0.0 255.0.0.0 30.0.0.1
- no shutdown.

Output

C   10.0.0.0/8   is directly connected, FastEthernet d/o
S   20.0.0.0/8   [1/0] via 30.0.0.2
C   30.0.0.0/8   is directly connected, serial 2/0

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

Observation
1) The connection were done properly and green lights were displayed.
2) Ping 10.0.0.1 to 30.0.0.1 and 10.0.0.1 worked where as 20.0.0.1 didnt work from PC1
3) for resolving this issue we have to use ip route with 20.0.0.1 from router 1 for connecting it once connected it works.

Screen Shots: