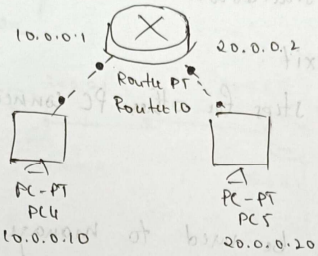
COMPUTER NETWORKS

EXP – 2

TITLE: Configure IP address to routers in packet tracer. Explore the following messages: ping responses, destination unreachable, request timed out, reply.

Experiment 2 (5)

1. PC to routers:



Aim: To create simple network consisting of 2 PCs connected to the router, facilitating communication between the two PCs through router.

Topology: 2 PCs are connected to the router using Copper Cross-Over

Procedure:

1. Connect the 2 PCs to the router using Copper Cross Over.
2. Open Config in the PC and configure the IP address and the gateway.
3. Do the same for the other PC.
4. Open CLI in the router and configure the fast Ethernet Connection by following the commands.
   - > enable
   - > config terminal
   - > interface fastEthernet 0/0

> ip address 10.0.0.1 255.0.0.0 ⑥
gateway subnet mask

> no shutdown

exit.

Repeat the steps for other PC connection.

Observation:

Routers can be used to manage communication and data transfer between two different ~~inte~~ network. While doing ping test, we can observe that ~~one~~ chances of losing one packet are high because the routers will be busy in establishing the connection.

Output:

Router > show ip route

Gateway of last resort is not set

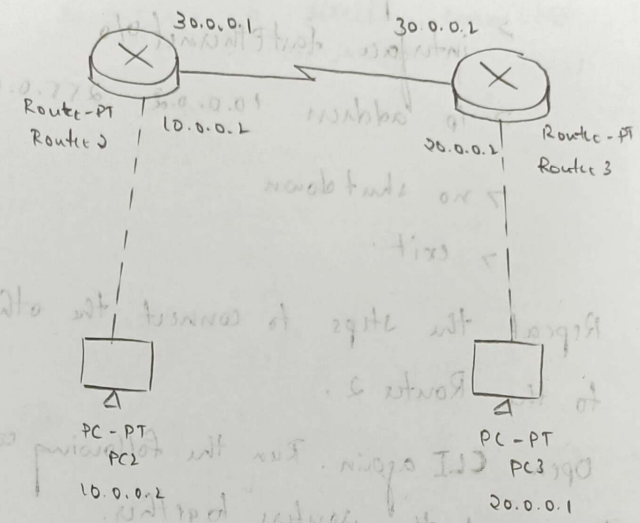
C 10.0.0.0/8 is directly connected, FastEthernet 0/0

C 20.0.0.0/8 is directly connected, FastEthernet 1/0.

Experiment - 2

1. Connection of two Routers:

Configuration



Aim: (i) Configuration of two routers.

(ii) Communication between two end devices of two different router connections.

Topology: Two PCs are connected to two different routers using copper cross over and those two routers are connected to each other using serial DCE.

Procedure:

1. Connect the 2 PCs as mentioned in the Topology.
2. Initialize the ip address of each device as shown in the figure.

3. Open CLI in router 1 and execute the following commands.

> enable
> config terminal
> interface fastethernet 0/0
> ip address 10.0.0.2 255.0.0.0
> no shutdown
> exit.

4. Repeat the steps to connect the other PC to the Router 2.

4. Open CLI again. Run the following commands to connect the routers together.

> interface serial 2/0
> ip address 30.0.0.1 255.0.0.0
> no shutdown
> exit.

5. Repeat the same for other routers with appropriate ip address.

Observation:

Two routers are connected successfully but the packets are ~~not~~ unable to transfer from one PC to the other PC of different Router. When pinged we got Request timed out issue.

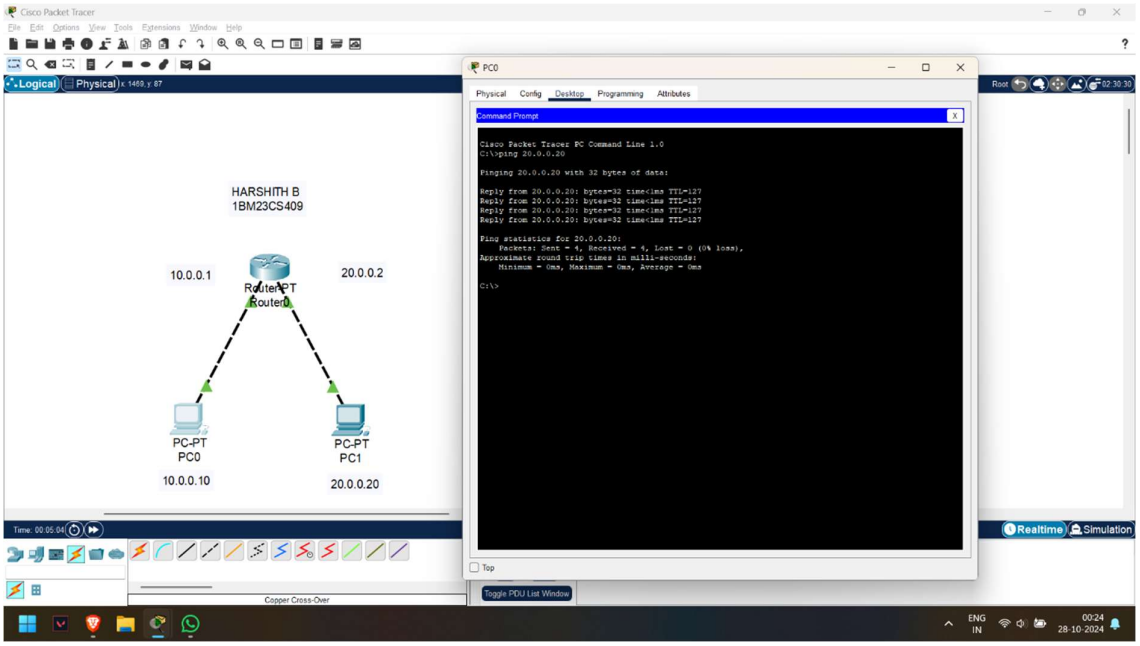
Output:

> show ip route

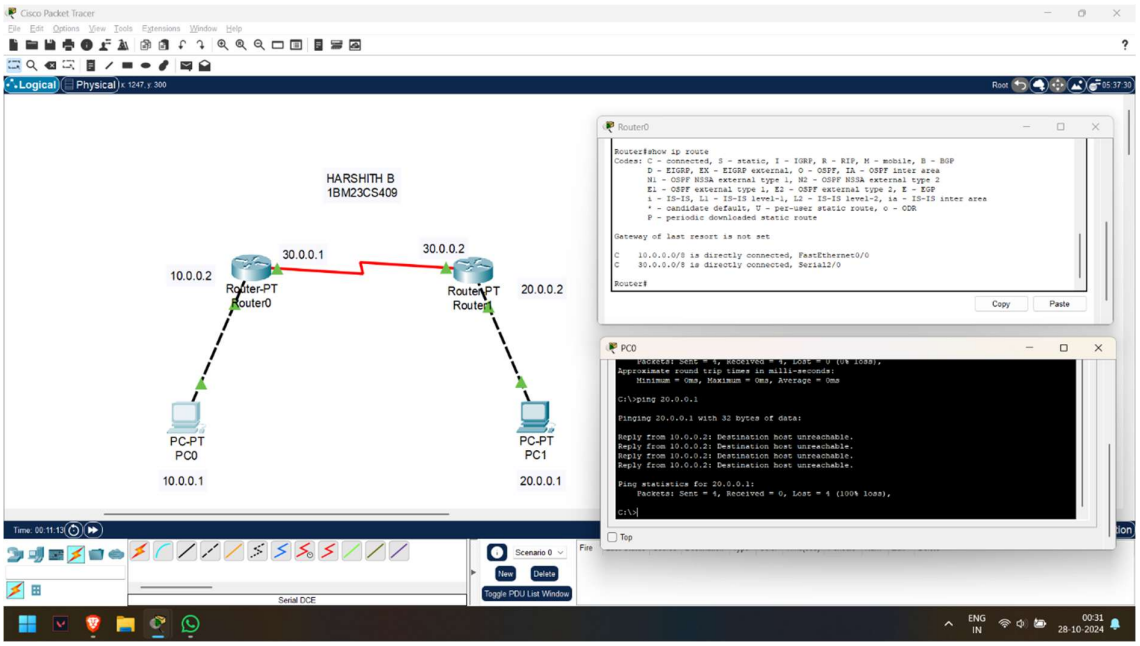
C 10.0.0.0/8 is directly connected, FastEthernet 0/0

C 30.0.0.0/8 is directly connected, Serial 2/0

OUPUT SNAPSHOTS:



1. PCs to Routers Configuration



2. Routers Configuration