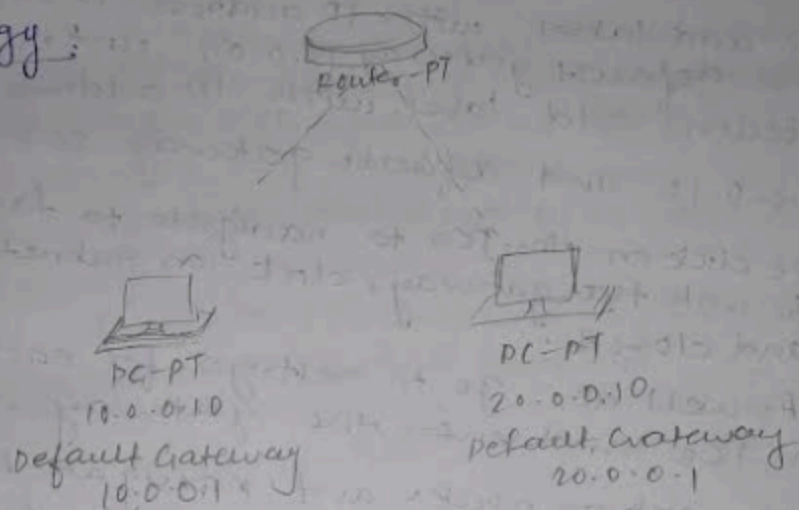Observation Book:

Lab # 2 (9/10/24)

Q: Configure IP Addresses to a single router in packet trace

Aim: To create a network consisting of 2 PCs connected to a router. This connection will help observe the behaviour of data transmission using router.

Topology:

PC-PT
10.0.0.10
Default Gateway
10.0.0.1

PC-PT
20.0.0.10
Default Gateway
20.0.0.1

2 PCs are connected to a router using copper cross-over ethernet cables.

Procedure:

PC0: configured with gateway 10.0.0.1
IP address: 10.0.0.10

PC1: configured with gateway 20.0.0.1
IP address: 20.0.0.10

Router:
→ Interface Fa 0/0 connected to PC0
IP address: 10.0.0.1

→ Interface Fa1/0 connected to PC1
IP address: 20.0.0.1

Procedure:

PTO →

1. One router : generic and two PCs (also generic) are selected and placed on the screen.

2. Connection of type : cross-over, is established between PC0 and router, as well as between PC1 and router.

3. We add label with IP address 10.0.0.10 and default gateway 10.0.0.1 under PC0. Likewise, add label with IP address 20.0.0.10 and default gateway 20.0.0.1

4. We click on the PCs to navigate to fastethernet to write the gateway, click on subnet mask and close it.

5. As well as, go to settings for each of the PCs and enter the gateway.

6. Now click on router and navigate to CLI. Run the following commands :-

```
enable
config terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit

interface fastethernet 0/0
ip address 20.0.0.1 255.0.0.0
no shutdown
exit
```

7. Navigate to command prompt and ping PC1 from PC0 and PC0 from PC1.

Observation :—

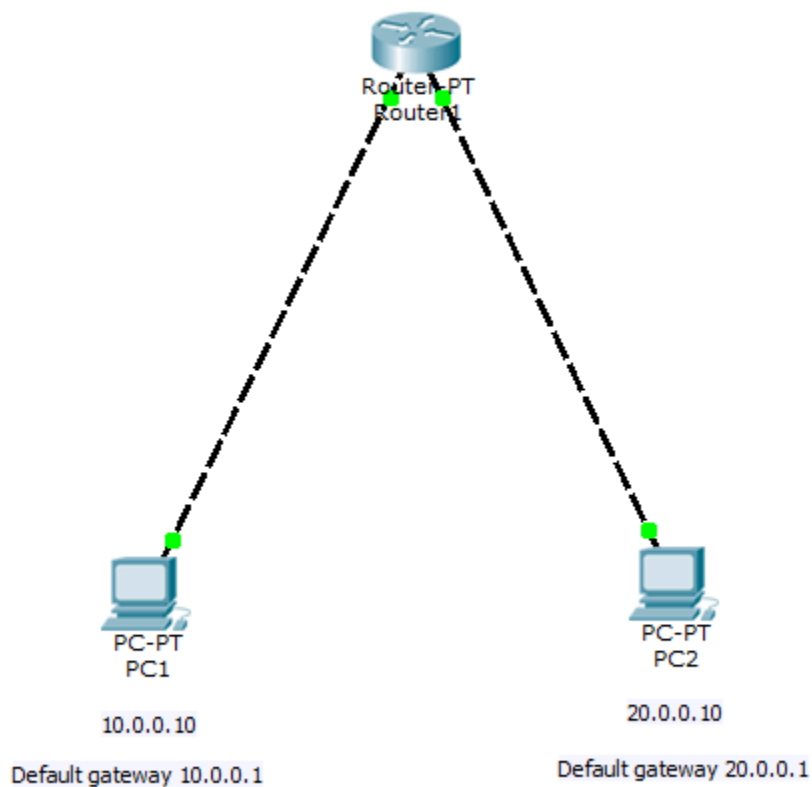1. Ping results :- The 2 PCS are connected to each other.

- show
. IP route :-

codes : C - connected, S - static, I - IGRP, R - RTP, H - mobile, B - BGP, D - EIGRP, Ex - EIGRP extend, O - OSPF, IA - OSPF inner area, N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

I - IS - IS, Li - IS-IS level-1, L2 - IS-IS - level-2, ia - IS-IIS inter area, t - candidate default, U - per-user static route, O - ODR, P - periodic download static route

C 10.0.0.0/0 is directly connected, FastEthernet 0/0
C 20.0.0.0/0 is directly connected, FastEfrnet 1/0

N
9/10/24

>
#

Typology:

Output:


```
PC>ping 20.0.0.10

Pinging 20.0.0.10 with 32 bytes of data:

Reply from 20.0.0.10: bytes=32 time=0ms TTL=127
Reply from 20.0.0.10: bytes=32 time=0ms TTL=127
Reply from 20.0.0.10: bytes=32 time=0ms TTL=127
Reply from 20.0.0.10: bytes=32 time=0ms TTL=127

Ping statistics for 20.0.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

PC2

Physical | Config | Desktop | Custom Interface

Command Prompt

```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.10

Pinging 10.0.0.10 with 32 bytes of data:

Request timed out.
Reply from 10.0.0.10: bytes=32 time=0ms TTL=127
Reply from 10.0.0.10: bytes=32 time=0ms TTL=127
Reply from 10.0.0.10: bytes=32 time=0ms TTL=127

Ping statistics for 10.0.0.10:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>
```