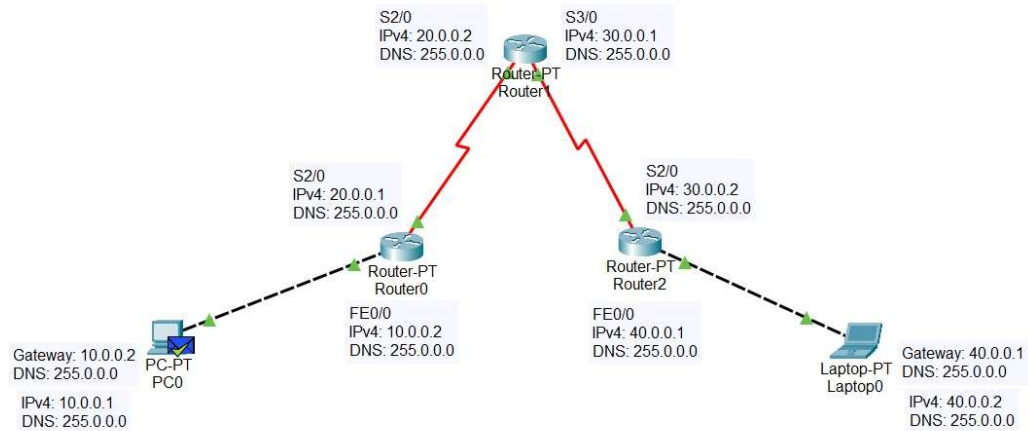


## LABORATORY PROGRAM – 3

Configure static route to the Router.



```
C 10.0.0.0/8 is directly connected, FastEthernet0/0
C 20.0.0.0/8 is directly connected, Serial2/0
S 30.0.0.0/8 [1/0] via 20.0.0.2
S 40.0.0.0/8 [1/0] via 20.0.0.2
S 10.0.0.0/8 [1/0] via 20.0.0.1
C 20.0.0.0/8 is directly connected, Serial2/0
C 30.0.0.0/8 is directly connected, Serial3/0
S 40.0.0.0/8 [1/0] via 30.0.0.2

S 10.0.0.0/8 [1/0] via 30.0.0.1
S 20.0.0.0/8 [1/0] via 30.0.0.1
C 30.0.0.0/8 is directly connected, Serial2/0
C 40.0.0.0/8 is directly connected, FastEthernet0/0
```

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	Laptop0	ICMP		0.000	N	0	(edit)	

⑤ Router Config → CLI

```

enable
conf t
interface FastEthernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit

repeat for second device with
interface FastEthernet 1/0
ip address 20.0.0.1 255.0.0.0

```

⑥ device → Desktop → Command prompt → ping 20.0.0.10

Observation:

we observe that initially when the ping request is sent we get a forward error but after sometime we get 3 replies and the message that packets have been sent and received will display.

7/10/24 Routing has been observed as follows:

```

C 10.0.0.0/8 is directly connected, FastEthernet0/0
C 20.0.0.0/8 is directly connected, FastEthernet1/0

```

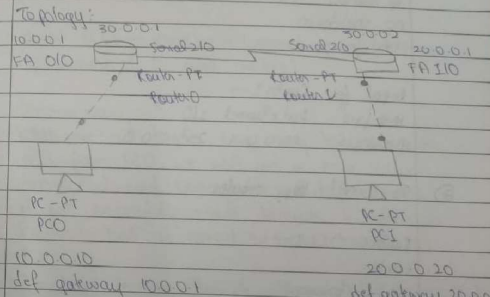
Lab 3

Date: 15/10/24  
Page: \_\_\_\_\_

(on laptop 1 I address to routers in packet tracer (Two Routers))

Aim: To demonstrate the connection between 2 end devices using 2 different routers.

Topology:



```

10.0.0.10 PC0
10.0.0.10 def gateway 10.0.0.1

20.0.0.10 PC1
20.0.0.10 def gateway 20.0.0.1

```

Procedure:

- Launch Cisco packet tracer
- Add two end device and two routers from left hand icon menu
- Connect PC0 to Router1 and PC1 to Router2 using copper cross over
- Connect Router1 and 2 using Serial DCE
- Ip config on device → help address

```

PC0: 10.0.0.10 255.0.0.0
PC1: 20.0.0.10 255.0.0.0

```

→ gateway PC0: 10.0.0.1  
PC1: 20.0.0.1

⑥ Router 1 config → CLI →

```

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

Repeat for Router 2 →
interface FastEthernet 1/0
ip address 20.0.0.1 255.0.0.0

```

⑦ To connect two routers

Router 1 → CLI →

```

enable
config terminal
interface Serial 2/0
ip address 30.0.0.1 255.0.0.0
no shutdown
exit

Repeat for Router 2 →
interface Serial 2/0
ip address 30.0.0.2 255.0.0.0

```

⑧ Router 1 config → CLI →

```

enable
config terminal
ip router 20.0.0.0 255.0.0.0 30.0.0.0
exit

```

Repeat same for Router 2 → CLI →

```

enable
config terminal
ip router 10.0.0.0 255.0.0.0 30.0.0.1
exit

```

⑨ Select PC0 → Desktop → Command prompt → ping (ip address of PC and routers)

Observation:

When we 1<sup>st</sup> try to ping msg to Router 2 on PC1 from PC0 we will get a msg saying timed out and unreachable, but for Router it will successfully reach because it identifies Router 1 but it cannot recognise Router 2 of PC1.

We have to manually do it and tell Router that Router 2 exist and vice versa with (8) command.

Before:

```

ping 20.0.0.10
unreachable x4
Received = 0    Lost = 4

ping 30.0.0.2
timed out x4
Received = 0    Lost = 4

ping 10.0.0.1
Received = 4    Lost = 0

```

After:

```

ping 20.0.0.10
Received = 4    Lost = 0

ping 30.0.0.2
Received = 4    Lost = 0

```

Routing has been observed as follows for Router 1:

```

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

```

Routing has been observed as follows for Router 2:

```

S 10.0.0.0/8 [1/0] via 30.0.0.1
C 20.0.0.0/8 is directly connected, FastEthernet 1/0
C 30.0.0.0/8 is directly connected, Serial 2/0

```

Lab 4

Configure default route, static route to the Router

Aim: To demonstrate static and default route using 3 routers and 2 PCs

Topology:

PC-PT: PC0 10.0.0.10, PC1 20.0.0.10

def gateway 10.0.0.1, def gateway 20.0.0.1

Procedure:

- Launch Cisco Packet Tracer
- Add 2 end devices and 3 routers
- Connect PC0 to Router 0 and PC1 to Router 2 using Copper cross-over
- Connect Router 0 to Router 1 using Serial DCE 2/0 and Router 1 to Router 2 using Serial DCE 3/0
- IP config on device → IP address
 

```

PC0: 10.0.0.10 255.0.0.0
PC1: 20.0.0.10 255.0.0.0

```