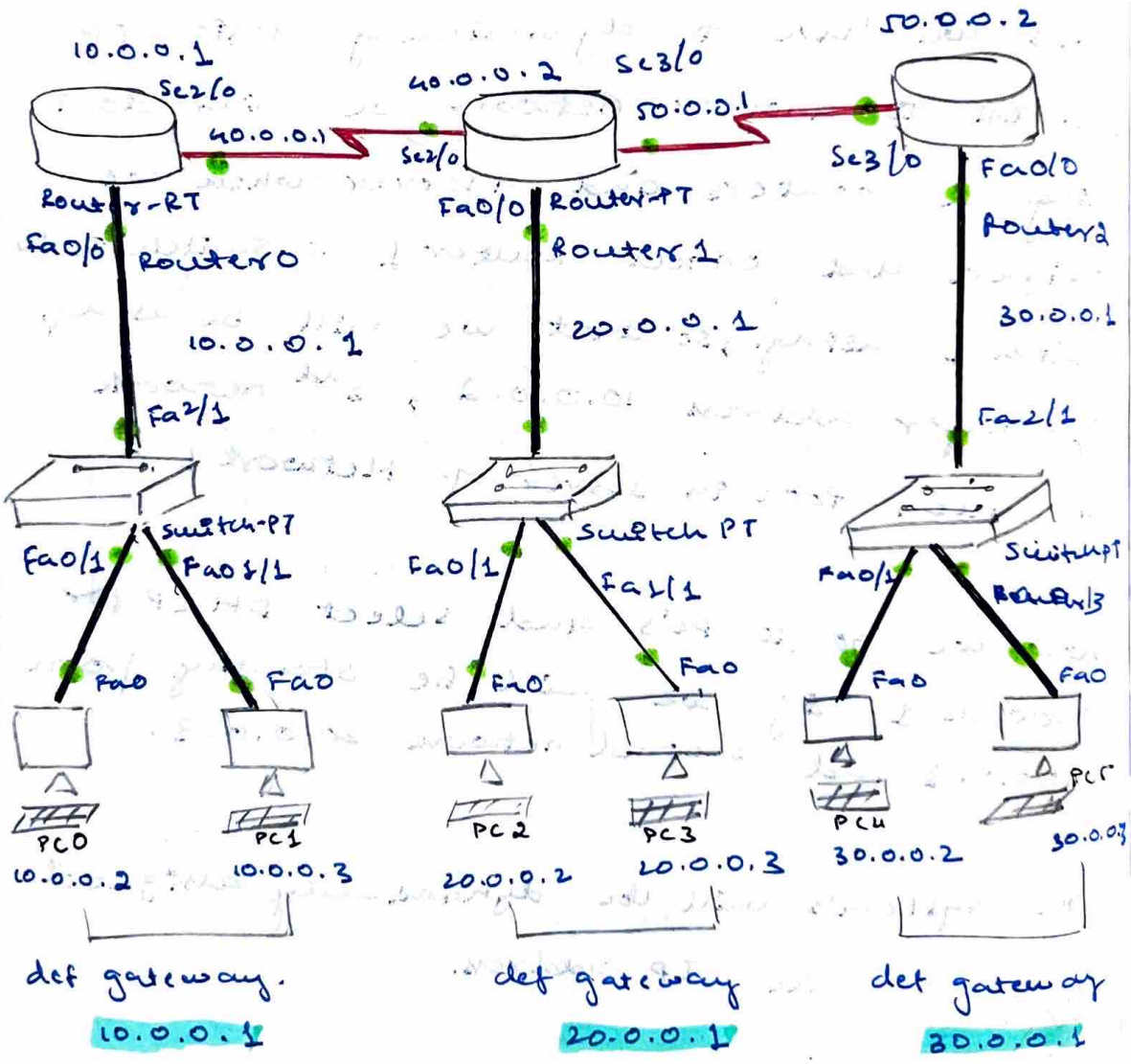
20-11-24

Experiment - 5

a) configure routing information protocol in Router. [R.I.P]

Aim: To configure routing information protocol through routing tables.

Topology:



Topology Description:

We have 3 routers, 3 switches and 6 end devices.

① Router1 → ip → 10.0.0.1

switch1 → Fa0/1 → PC0 : ip : 10.0.0.2
subnet : 255.0.0.0

Fa1/1 → PC1 : ip : 10.0.0.3
subnet : 255.0.0.0

gateway for PC0 and PC1 is 10.0.0.1

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② Router 2 — ip1 → 40.0.0.2
ip2 → 50.0.0.1

switch2 → Fa0/0 → 20.0.0.1

Fa0/1 → PC2 → ip : 20.0.0.2
subnet : 255.0.0.0

Fa1/1 → PC3 → ip : 20.0.0.3
subnet : 255.0.0.0

gateway for PC2 and PC3 is 20.0.0.1

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③ Router 3 → ip → 50.0.0.2

switch3 → Fa0/0 → 30.0.0.1

Fa0/1 → PC4 → ip : 30.0.0.2
subnet : 255.0.0.0

Fa1/1 → PC5 → ip : 30.0.0.3
subnet : 255.0.0.0

gateway for PC4 and PC5 is 30.0.0.1

Procedure: ① connect the end devices to the switches through copper-straight-Through

② connect the routers to the other routers through serial DCE

③ Routers — switches [copper-straight-Through]

→ configure all the 3 routers:

Router 0:

CLI

```
Router > enable
Router # > config terminal
Router (config) # interface serial 2/0
Router ( config-if) ip address 40.0.0.1
                                255.0.0.0
Router (config-if) no shut
Router ( config-if) exit
Router ( config) Interface Fastethernet 0/0
Router ( config) ip address 10.0.0.1
                            255.0.0.0
Router ( config-if) no shut.
Router # exit
```

Router 1:

CLI

```
Router > enable
Router # > config terminal
Router (config) # interface serial 2/0
Router (config) # ip address 40.0.0.1 255.0.0.0
Router (config-if) no shut
Router (config-if) exit
Router (config) # interface Se 3/0
Router (config) # ip address 50.0.0.1
                            255.0.0.0
Router (config) # no shut.
```

Router 2:

CLI

```
Router (config) # interface Fa 0/0
Router (config) # ip address 30.0.0.1
                             255.0.0.0
Router (config) # interface Se 2/0
Router (config) # ip address 50.0.0.2
                             255.0.0.0
```

→ configure the route.

Router 0:

```
Router (config) # router rip
Router (config) # network 10.0.0.0
Router (config) # network 30.0.0.0.
```

Router 1:

```
Router (config) # router rip
Router (config) # network 40.0.0.0
Router (config) # network 20.0.0.0
Router (config) # network 50.0.0.0
```

Router 3:

```
Router (config) # router rip
Router (config) # network 30.0.0.0
Router (config) # network 50.0.0.0
```

Test connectivity:

PC0

```
Ping 30.0.0.1
Sent = 4    Loss = 0.    100 %.
```

Observation:

The routers communicate with each other, share a common routing table
Once RIP is installed/activated on routers, Every router shares it's routing protocol with it's neighbours. Hence in iterations every router will know about all info that their neighbours are connected to.