Experiment No: 04

Name of the Experiment: To Configure Enhanced Interior Gateway Routing Protocol (EIGRP).

Apparatus:

i. Cisco Packet Tracer.
ii. Computer.
iii. Switch.
iv. Router.
v. Copper Straight through cable.

Procedure:

Step-1: Start
Step-2: Open Cisco Packet Tracer.
Step-3:

(i) Take [end device]: PC0, PC1, Laptop0, Laptop2.
(ii) Take [Network device]: Switch and use connection wires to connect the devices (copper straight through).
(iii) First we setup a cisco packet tracer according with this figure-4.1.

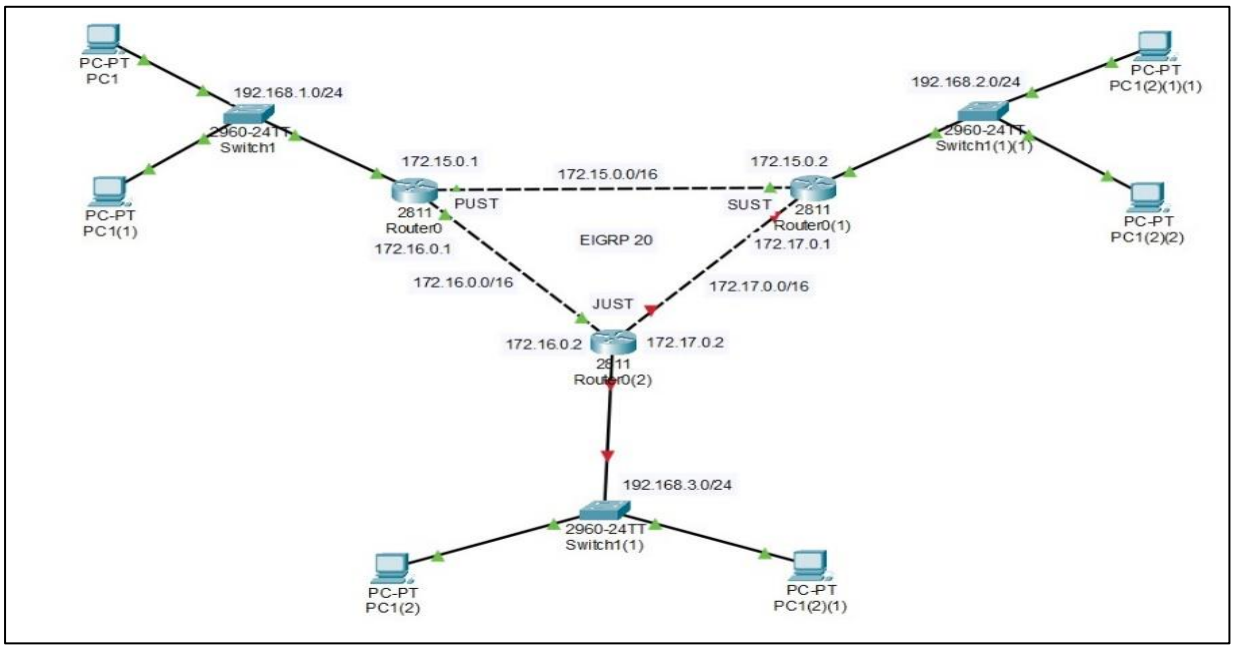

Figure-4.1: Setup Layout

Step-4: IP Address Configuration for PC1, PC1(1), PC1(2), PC1(2)(1), PC3, PC1(2)(2). for PC1, PC1(1) Computers are under **PUST** router. PC1(2), PC1(2)(1) Computers are under **JUST** router. PC3, PC1(2)(2) are under **SUST** router.

Step-5: IP Configuration for PC1, PC1(1), PC1(2), PC1(2)(1), PC3, PC1(2)(2).

Click PC1» Desktop » IP Configuration, and so on.

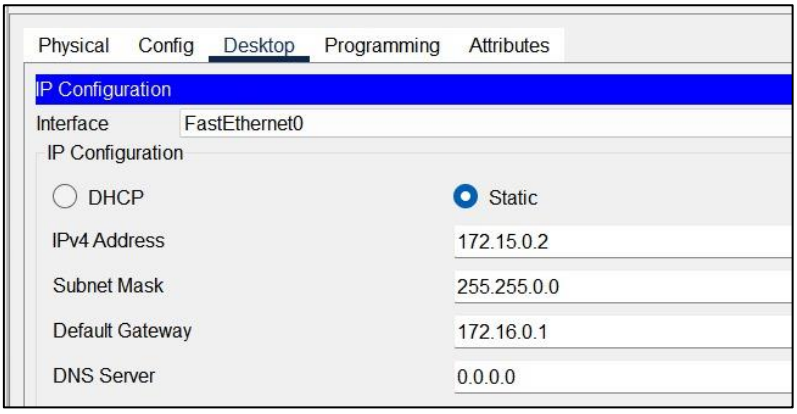

Figure-4.2: PC1 IP address and gateway setup.

Step-6: To set up routers, perform the following command.

For PUST:

```
Router>enable
Router #configure terminal
Router(config) #hostname PUST
PUST (config)#interface FastEthernet0/0
PUST (config-if)#ip address 172.15.0.1 255.255.0.0
PUST (config-if) #duplex auto
PUST (config-if) #speed auto
PUST (config-if) #exit
PUST (config)#interface FastEthernet0/1
PUST (config-if)#ip address 172.14.0.1 255.255.0.0
PUST (config-if) #duplex auto PUST (config-if) #speed auto
PUST (config-if)#exit
PUST (config)#interface Ethernet0/2/0
PUST (config-if)#ip address 172.16.0.1 255.255.0.0
PUST (config-if) #duplex auto
PUST (config-if) #speed auto
PUST (config-if)#exit
PUST (config) #router eigrp 20
PUST (config-router)#network 13.0.0.0
PUST (config-router)#network 10.0.0.0
PUST (config-router)#network 12.0.0.0
PUST (config-router)#exit
PUST (config)#exit
BREATH #
%SYS-5-CONFIG_I: Configured from console by console wr
Building configuration...
[OK]
```

For JUST:

```
Router>enable
Router #configure terminal
Router(config) #hostname JUST
JUST(config)#interface FastEthernet0/0
JUST(config-if)#ip address 172.16.0.2 255.255.0.0
JUST(config-if)#duplex auto
JUST(config-if)#speed auto
JUST(config-if)#exit
JUST(config)#interface Ethernet0/2/0
JUST(config-if)#ip address 172.15.0.2 255.255.0.0
JUST(config-if)#duplex auto
JUST(config-if)#speed auto
JUST(config-if)#exit
JUST(config)#interface Ethernet0/3/0
JUST(config-if)#ip address 172.14.0.2 255.255.0.0
JUST(config-if)#duplex auto
JUST(config-if)#speed auto
JUST(config-if)#exit
JUST(config)#router eigrp 20
JUST(config-router)#network 12.0.0.0
JUST(config-router)#network 11.0.0.0 JUST(config-router)# network 15.0.0.0
JUST(config-router)#exit
JUST(config)#exit
JUST#
You sent
%SYS-5-CONFIG_I: Configured from console by console
Wr
Building configuration...
[OK]
```

For SUST:

```
Router>enable
Router #configure terminal
Router(config) #hostname SUST
SUST(config)#interface FastEthernet0/0
SUST(config-if)#ip address 172.15.0.1 255.255.0.0
SUST(config-if)#duplex auto
SUST(config-if)# speed auto
SUST(config-if)#exit
SUST(config)#interface FastEthernet0/1
SUST(config-if)#ip address 172.16.0.2 255.255.0.0
SUST(config-if)#duplex auto
SUST(config-if)#speed auto
SUST(config-if)#exit
SUST(config)#interface Ethernet0/3/0
SUST(config-if)#ip address 172.16.0.2 255.255.0.0
SUST(config-if)#duplex auto
SUST(config-if)#speed auto
SUST(config-if)#exit
SUST(config)#router eigrp 20
```

```
SUST(config-router)#network 10.0.0.0
SUST(config-router)#network 14.0.0.0
SUST(config-router)#network 11.0.0.0
SUST(config-router)#exit
SUST(config)#exit
SLOW#
%SYS-5-CONFIG_I: Configured from console by console
Wr
Building configuration.
[OK]
```

Step-6: Open Command Prompt of PC1 and send Ping to PC1(2).

Output:

```
Packet Tracer PC Command Line 1.0

C:\>ping 172.168.3.1
Pinging 172.168.3.1 with 32 bytes of data:
Reply from 172.168.3.1: bytes=32 time<1ms TTL-125
Reply from 172.168.3.1: bytes=32 time=10ms TTL-125
Reply from 172.168.3.1: bytes=32 time 10ms TTL-125
from 172.168.3.1: bytes=32 time 10ms TTL-125
Ping statistics for 172.168.3.1:
Packets: Sent 4, Received 4, Lost 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum Oms, Maximum 10ms, Average 7ms
```