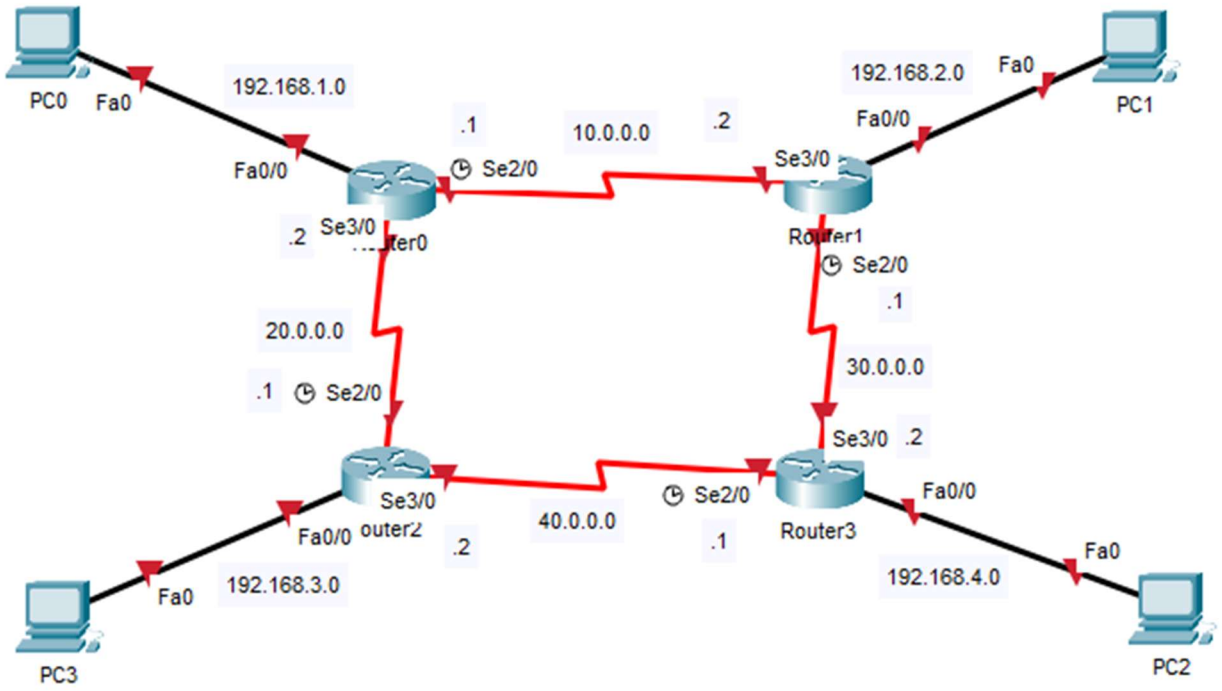
LAB3: EIGRP Configuration Lab

Topology
Implement the following topology as it is.



IP Configurations for EIGRP Configuration

Firstly, we should configure IP addresses. So, in this EIGRP Configuration, let's firstly configure IP addresses of the routers and PCs. GW-Gateway

- PC0: 192.168.1.2 255.255.255.0 GW:192.168.1.1
- PC1: 192.168.2.2 255.255.255.0 GW:192.168.2.1
- PC2: 192.168.4.2 255.255.255.0 GW:192.168.4.1
- PC3: 192.168.3.2 255.255.255.0 GW:192.168.3.1

Configure Router Interfaces

R0:

Router0(config)# interface FastEthernet0/0
Router0(config-if)# ip address 192.168.1.1 255.255.255.0
Router0(config-if)# no shutdown
Router0(config-if)# exit
Router0(config)# interface Serial2/0
Router0(config-if)#Clock rate 64000
Router0(config-if)# ip address 10.0.0.1 255.0.0.0

```
Router0(config-if)# no shutdown
Router0(config-if)# exit
Router0(config)# interface Serial3/0
Router0(config-if)# ip address 20.0.0.2 255.0.0.0
Router0(config-if)# no shutdown
Router0(config-if)# end
Router0# copy running-config startup-config
```

R1:

```
Router1(config)# interface FastEthernet0/0
Router1(config-if)# ip address 192.168.2.1 255.255.255.0
Router1(config-if)# no shutdown
Router1(config-if)# exit
Router1(config)# interface Serial2/0
Router1(config-if)#Clock rate 64000
Router1(config-if)# ip address 30.0.0.1 255.0.0.0
Router1(config-if)# no shutdown
Router1(config-if)# exit
Router1(config)# interface Serial3/0
Router1(config-if)# ip address 10.0.0.2 255.0.0.0
Router1(config-if)# no shutdown
Router1(config-if)# end
Router1# copy running-config startup-config
```

R2:

```
Router2(config)# interface FastEthernet0/0
Router2(config-if)# ip address 192.168.3.1 255.255.255.0
Router2(config-if)# no shutdown
Router2(config-if)# exit
Router2(config)# interface Serial2/0
Router2(config-if)#Clock rate 64000
Router2(config-if)# ip address 20.0.0.1 255.0.0.0
Router2(config-if)# no shutdown
Router2(config-if)# exit
Router2(config)# interface Serial3/0
Router2(config-if)# ip address 40.0.0.2 255.0.0.0
Router2(config-if)# no shutdown
Router2(config-if)# end
Router2# copy running-config startup-config
```

R3:

```
Router3(config)# interface FastEthernet0/0
Router3(config-if)# ip address 192.168.4.1 255.0.0.0
Router3(config-if)# no shutdown
```

```
Router3(config-if)# exit
Router3(config)# interface Serial2/0
Router3(config-if)#Clock rate 64000
Router3(config-if)# ip address 40.0.0.1 255.0.0.0
Router3(config-if)# no shutdown
Router3(config-if)# exit
Router3(config)# interface Serial3/0
Router3(config-if)# ip address 30.0.0.2 255.0.0.0
Router3(config-if)# no shutdown
Router3(config-if)# end
Router3# copy running-config startup-config
```

EIGRP Configuration on Routers

For EIGRP Configuration, we will use Autonomous System Number. We will use this number with **"router eigrp"** command. After this command, we will be under router configuration mode. We will add networks that run EIGRP one by one. Lastly, we will add "**no auto-summary**" command to avoid automatic summarization on routing table.

Our EIGRP Autonomous number will be 100. And for Router0, 192.168.1.0, 10.0.0.0, 20.0.0.0 network will be added under this EIGRP process. These are the directly connected networks to Router0.

R0:

```
Router0(config)# router eigrp 100
Router0(config-router)# network 192.168.1.0
Router0(config-router)# network 10.0.0.0
Router0(config-router)# network 20.0.0.0
Router0(config-router)# no auto-summary
Router0(config-router)# end
Router0# copy running-config startup-config
```

R1:

```
Router1(config)# router eigrp 100
Router1(config-router)# network 192.168.2.0
Router1(config-router)# network 10.0.0.0
Router1(config-router)# network 30.0.0.0
Router1(config-router)# no auto-summary
Router1(config-router)# end
Router1# copy running-config startup-config
```

R2:

```
Router2(config)# router eigrp 100
Router2(config-router)# network 192.168.3.0
Router2(config-router)# network 20.0.0.0
```

```
Router2(config-router)# network 40.0.0.0
Router2(config-router)# no auto-summary
Router2(config-router)# end
Router2# copy running-config startup-config
```

R3:

```
Router3(config)# router eigrp 100
Router3(config-router)# network 192.168.4.0
Router3(config-router)# network 30.0.0.0
Router3(config-router)# network 40.0.0.0
Router3(config-router)# no auto-summary
Router3(config-router)# end
Router3# copy running-config startup-config
```

Configuration Verification

Now let's verify our EIGRP Configuration with EIGRP Show Commands. Here, we will check this only on some routers, not on all of them. Some of thes eEIGRP verification commands are given below:

- show ip eigrp
- show ip eigrp neighbors
- show ip eigrp interfaces
- show ip eigrp topology
- show ip route eigrp
- show ip protocols

Google online and see the functions of each verification command.