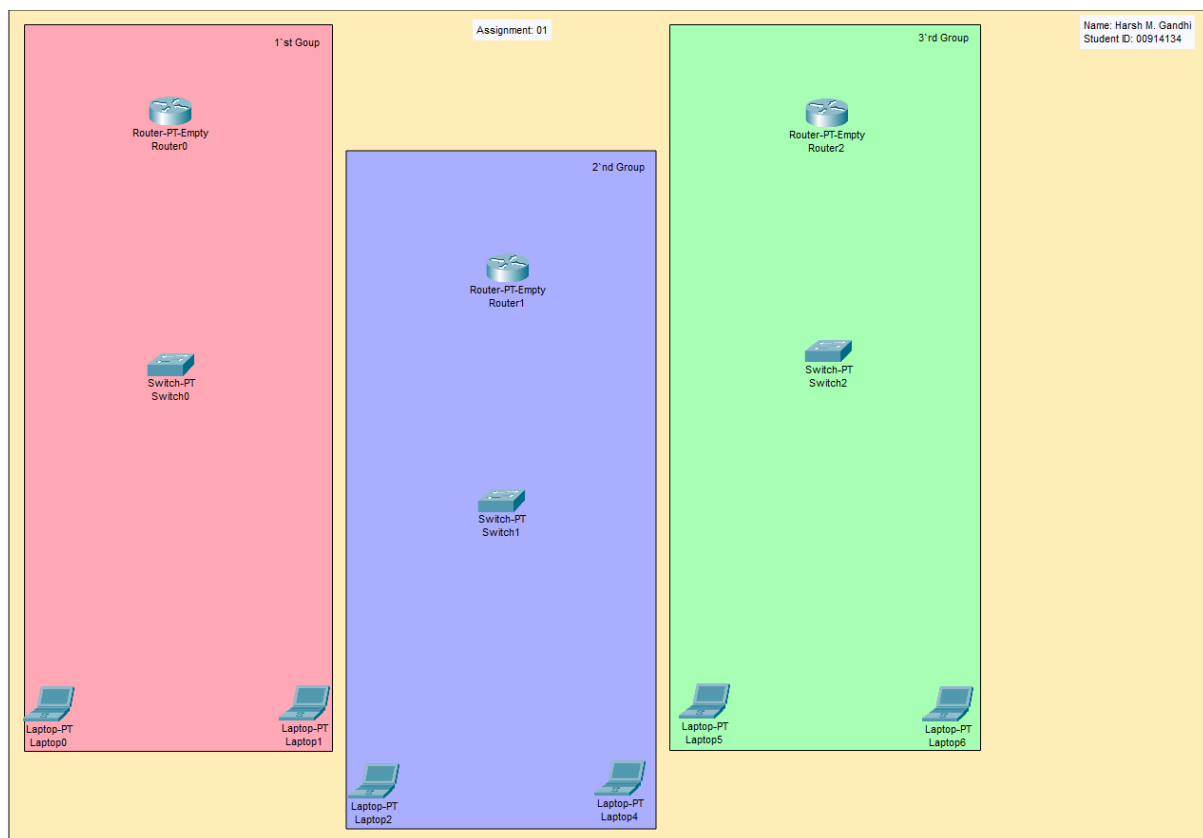


**Title: Configure the below network with the Routing Information Protocol (RIP) to adopt dynamic routing. Ensure that the packets have been transmitting through any path if shortest path gets failed.**

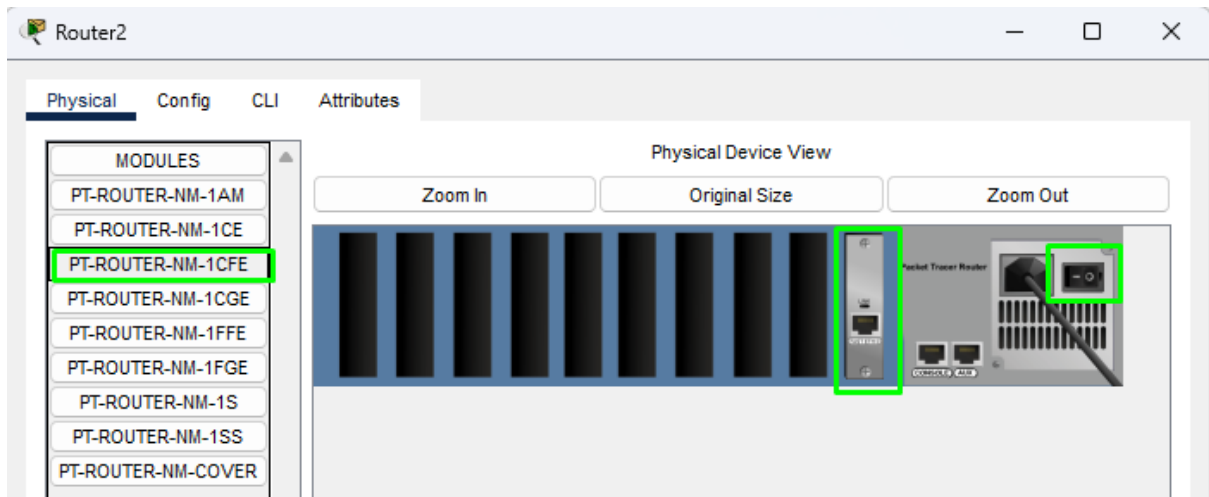
### Placing Devices.

- ❖ First of all, open the blank file in CISCO packet tracer.
- ❖ Create a 3 group, each group contain 1 PTE-empty route and 1 PT switch and 2 laptops.
- ❖ After Place device in 3 group it will look like as follow image.

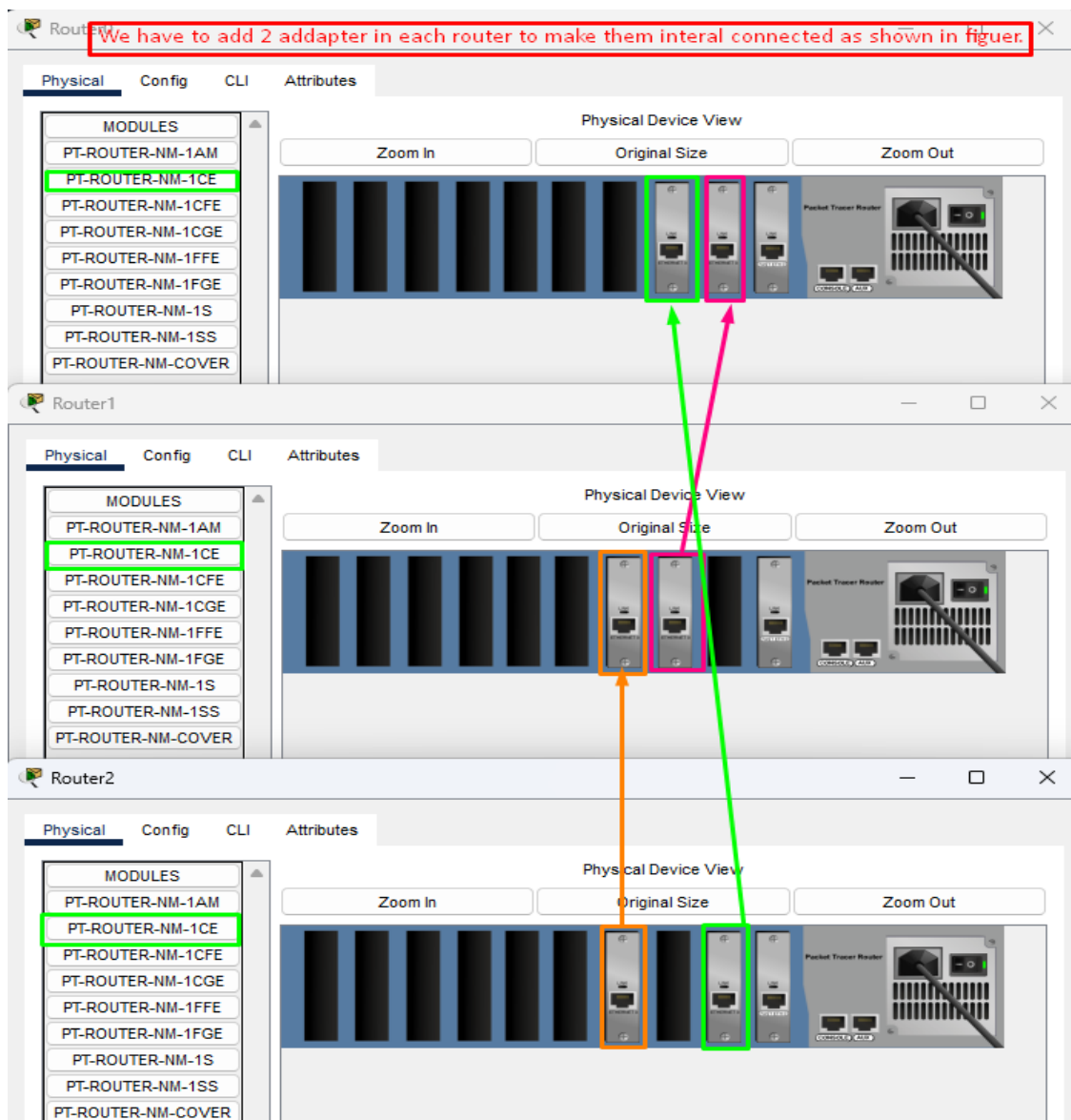


### Connect all the devices.

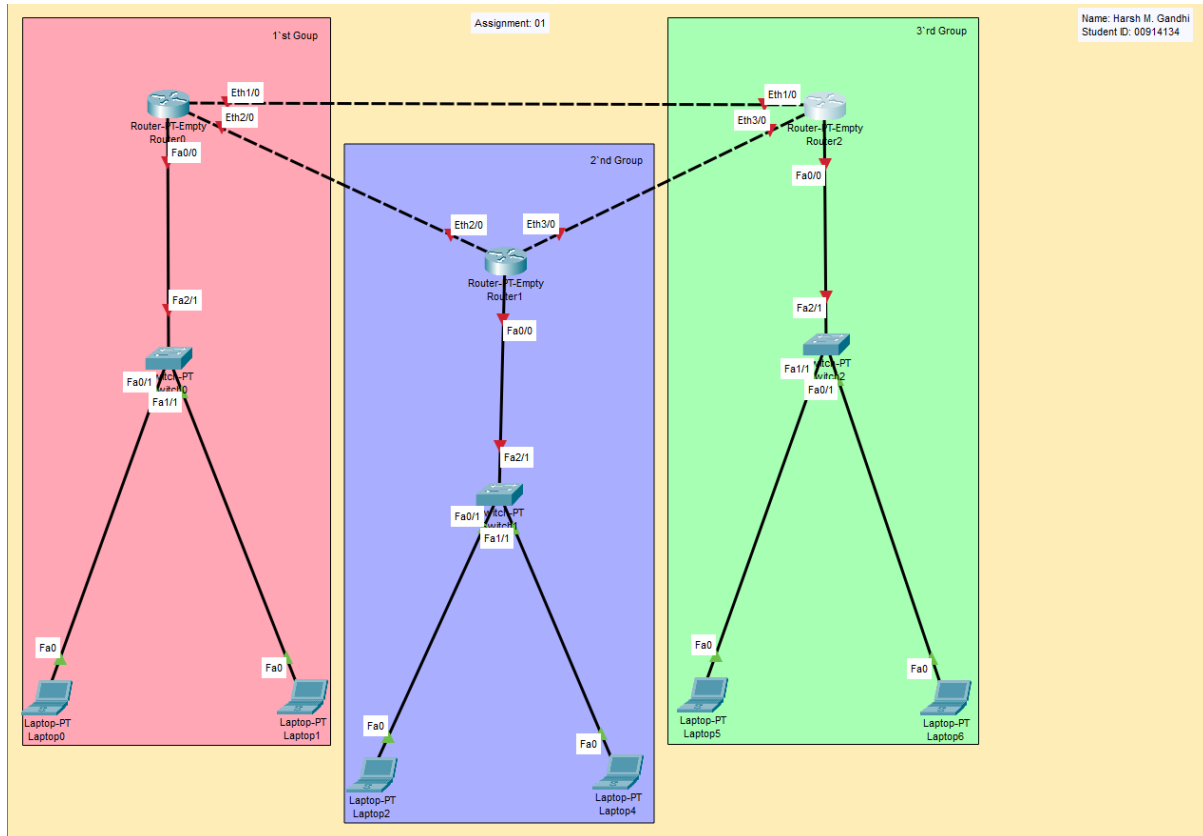
- ❖ In each group first connect Laptop to Switch and Switch to Router.
- ❖ Connect the laptop to switch b using copper straight through cable.
- ❖ Before connecting the switches to router we have to turn off the router.
- ❖ Add PT-ROUTER-NM-1CFE adapter in router to connect with the switch as shown in the figure. Then turn on the router back.



- ❖ Now we have to connect the router with each other for that we have to add PT-ROUTER-NM-1CE in each router as shown in the figure. Perform same installation for each router for make a perfect connection.

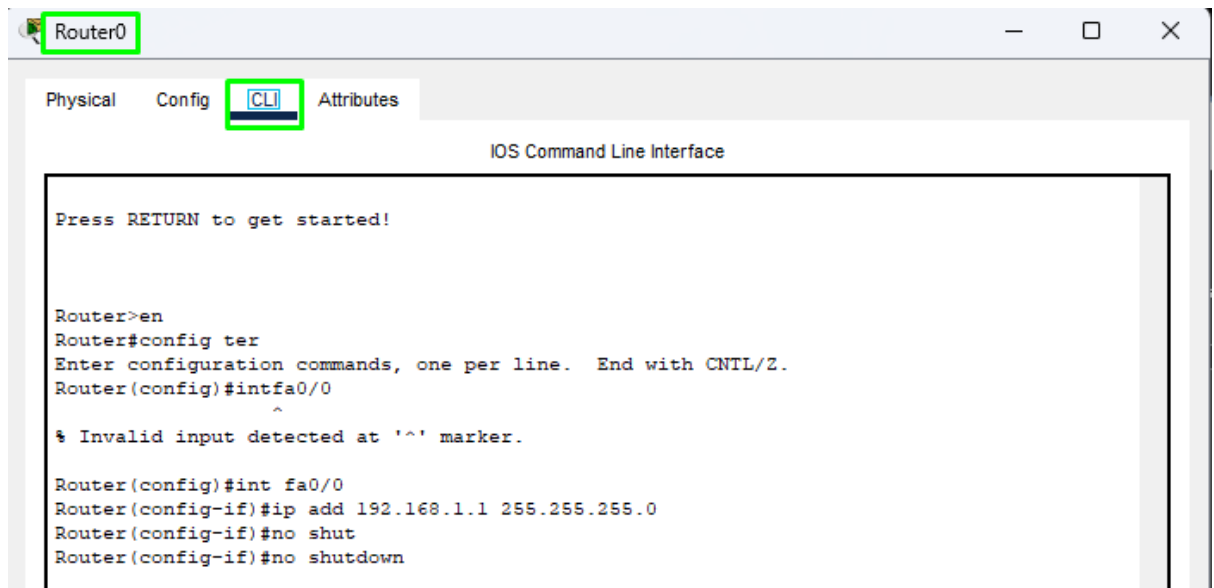


- ❖ After installation of adapter in router kindly turn on the router.
- ❖ Use Copper-Case Over cable to connect the router's with each other.
- ❖ After connecting all the n device with each other it will look like as follows:



## Configure the Router.

- ❖ Single click on the Router PT-empty 0 in “1<sup>st</sup> group” and move to CLI panel and add the following command as given below.



## Apply the following command.

```
Router>en
Router#config ter
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip add 192.168.1.1 255.255.255.0
Router(config-if)#no shut
Router(config-if)#no shutdown
```

```
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
```

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
```

```
Router(config-if)#int eth1/0
Router(config-if)#ip add 192.168.12.1 255.255.255.0
Router(config-if)#no shut
Router(config-if)#no shutdown
```

```
Router(config-if)#
%LINK-5-CHANGED: Interface Ethernet1/0, changed state to up
```

```
Router(config-if)#int eth2/0
Router(config-if)#ip add 192.168.22.1 255.255.255.0
Router(config-if)#no shut
Router(config-if)#no shutdown
```

- ❖ Now use follow same step for Router PT-empty 1 in “**2`nd group**” and move to CLI panel and add the following command as given below.

Apply the following command.

```
Router>en
Router#config
Router#configure t
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip add 192.168.3.1 255.255.255.0
Router(config-if)#no shu
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to
up

Router(config-if)#int eth2/0
Router(config-if)#ip add 192.168.22.2 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Ethernet2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet2/0, changed state to up

Router(config-if)#int eth3/0
Router(config-if)#ip add 192.168.32.1 255.255.255.0
Router(config-if)#no shut
Router(config-if)#no shutdown
```

- ❖ Now use follow same step for Router PT-empty 2 in “**3`rd group**” and move to CLI panel and add the following command as given below.

Apply the following command.

```
Router>en
Router#config t
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip add 192.168.2.1 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
```

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

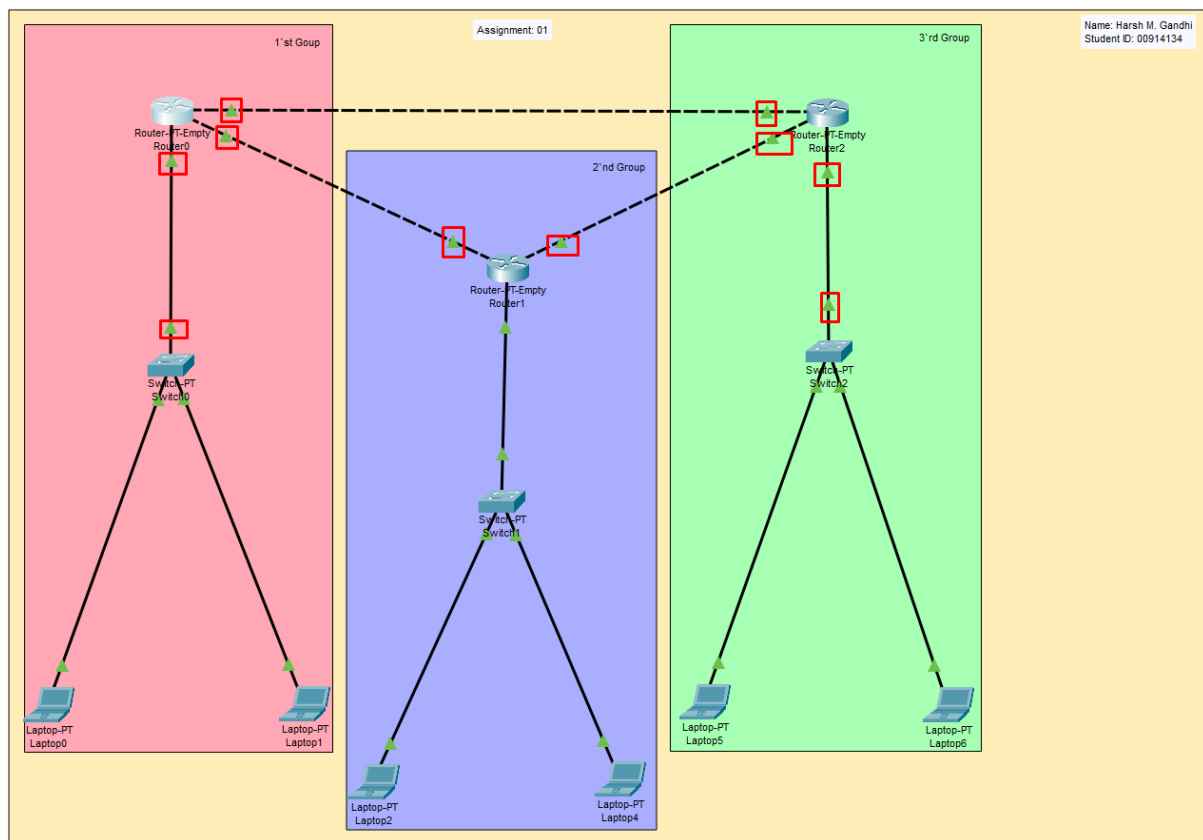
```
Router(config-if)#int eth1/0
Router(config-if)#ip add 192.168.12.2 255.255.255.0
Router(config-if)#no shut
Router(config-if)#no shutdown
```

```
Router(config-if)#
%LINK-5-CHANGED: Interface Ethernet1/0, changed state to up
```

%LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/0, changed state to up

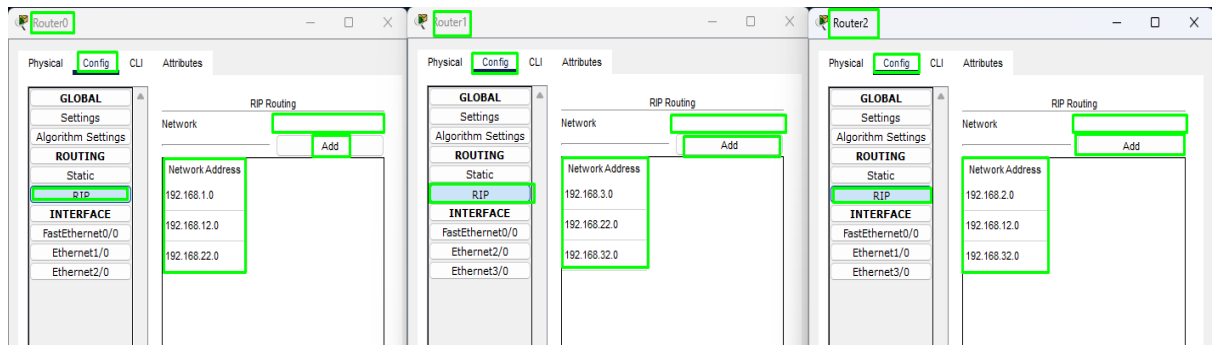
```
Router(config-if)#int eth3/0
Router(config-if)#ip add 192.168.32.2 255.255.255.0
Router(config-if)#no shutdown
```

If all the Router configuration is done properly then the triangle color changed from red to green as shown in the below figure.



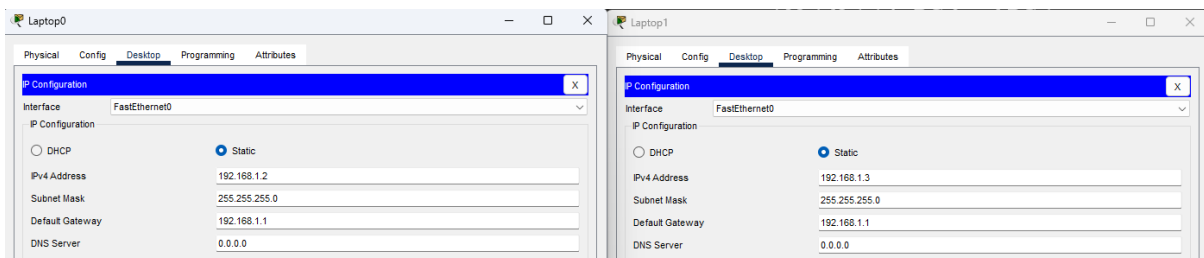
Adding RIP IP's Router.

- ❖ Single click on the router and open the Config Panel. Then click on the RIP tab under the Routing Model.
- ❖ Now under the RIP tab in both the routers, add the respective network address and click add.

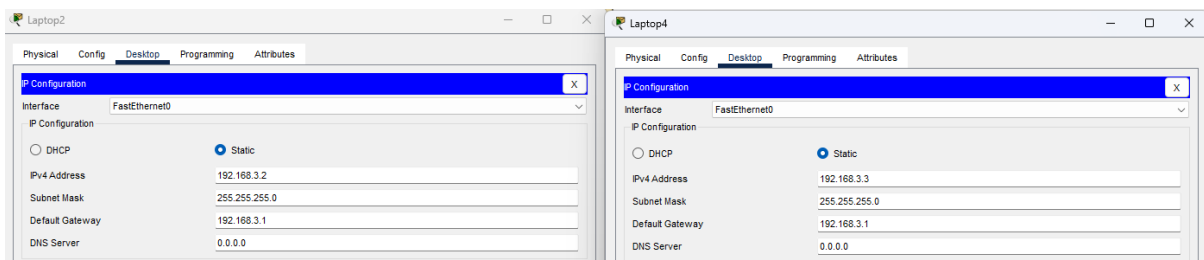


## Configure the Laptop IP.

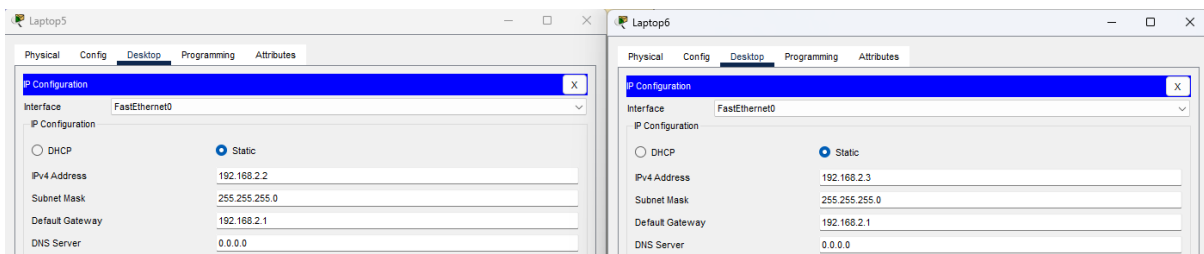
- ❖ Open the Laptop and move to Desktop panel and open the IP Config and enter the Static IP in each pc's.
- ❖ Use the IP add 192.168.1.2 and 192.168.1.3 which having the default gateway 192.168.1.1 in Laptop 0 and Laptop 1 in 1'st group.



- ❖ Use the IP add 192.168.3.2 and 192.168.3.3 which having the default gateway 192.168.3.1 in Laptop 2 and Laptop 4 in 2'rd group.



- ❖ Use the IP add 192.168.2.2 and 192.168.2.3 which having the default gateway 192.168.2.1 in Laptop 5 and Laptop 6 in 3'rd group.



## Checking the Connectivity.

- ❖ Now try to share the Packet from the device of “1<sup>st</sup> Group” to “2<sup>nd</sup> Group”, “2<sup>nd</sup> Group” to “3<sup>rd</sup> Group” or vice versa.

