# PRACTICAL-3

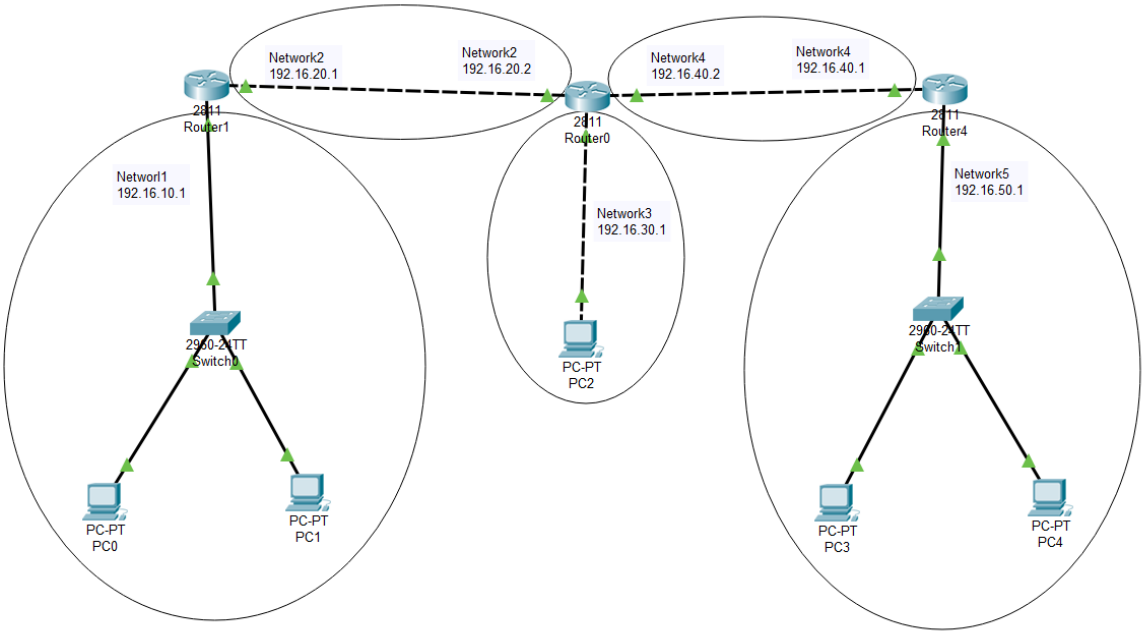
**Aim**: Demonstrate the static routing configuration between 3 router using Cisco packet tracer.

## Theory:

Static Routing:

- Static Routing is a form of routing that occurs when a router uses a manually-configured routing entry.
- Difference between Static and Dynamic routing is that, static routes are fixed and do not change if the network is changed or reconfigured.
- It is used on a router to maximize routing efficiency and to provide backups in the event that dynamic routing information fails to be exchanged.
- Static routing can also be used in stub networks, or to provide a gateway of last resort.

## Topology:



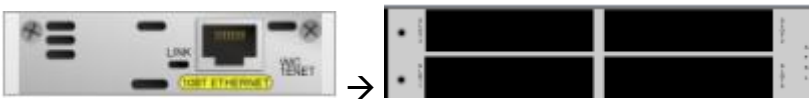

(3.1) Topology of Static Routing

## Steps of Configuration:

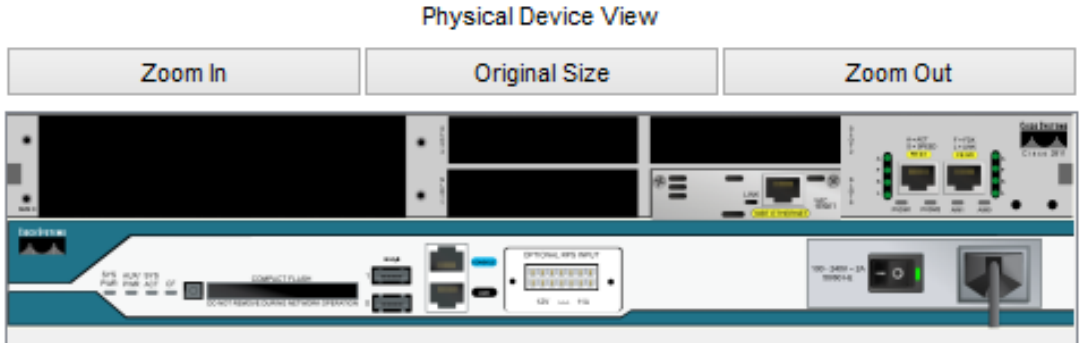
- First step is to create the topology. For that click on the device and drop on workplace and connect all the devices with the necessary cables.
- In order to connect Router2 to Router0;

- Click on Router0 and click on Physical Tab in it. Than select WIC-1ENET from vertical scrollbar.
- Switch off the Router0, click on the switch from Physical View Device;

- Put WIC-1ENET to one of the empty ports of Router0;



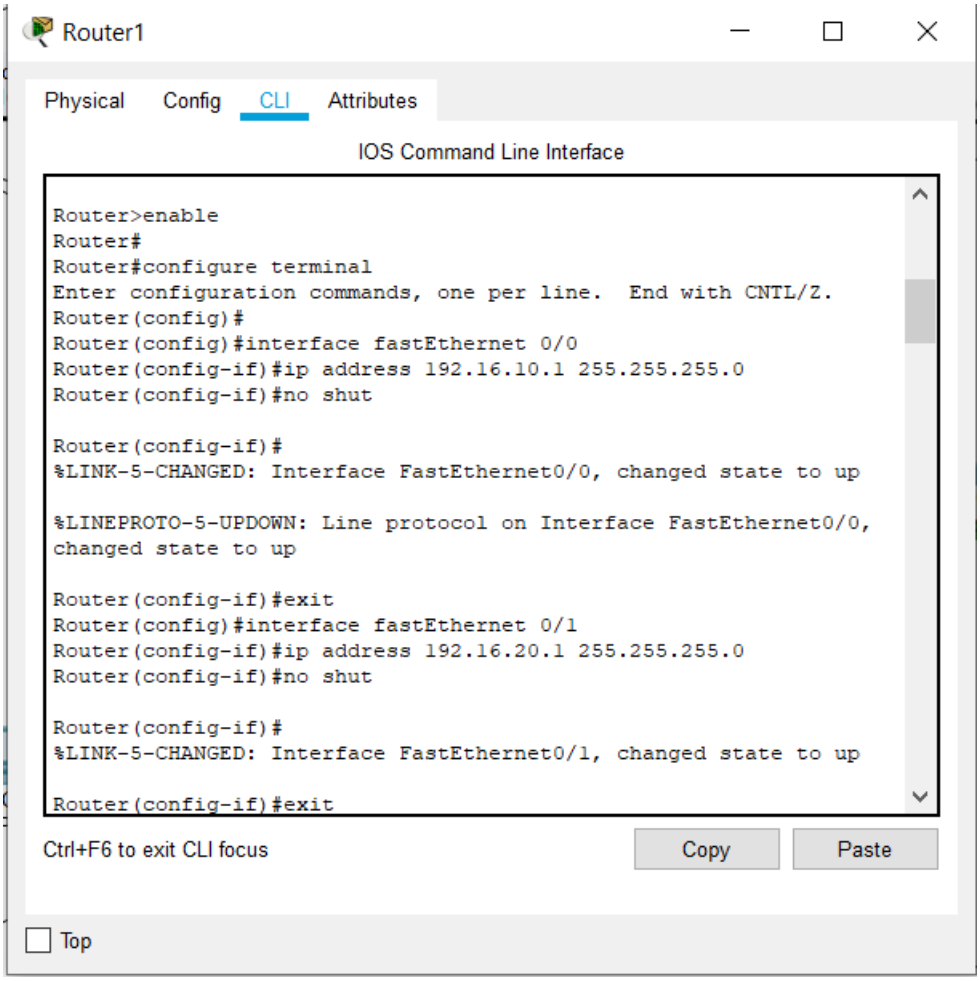
- Now, Switch on the Router0.
- Final view of Router0;




(3.2) Physical Device view of Router0.

- Now, connect Router2 with Router0.
- Provide the IP address and Gateway to Network 1 PCs by clicking on the PC and selecting desktop tab in that IP configuration option;
- PC0 ; IP address : 192.168.10.2
- PC1 ; IP address : 192.168.10.3
- Both; Gateway: 192.168.10.1
- Next step is to configure the Router1 in order to create Static Routing;
- Click on the Router1 and go to CLI tab
- To get into configuration mode, write Router > enable
- To configure the terminal, write Router # configure terminal
- To assign the port to Network 1, write Router(config) # interface fastEthernet 0/0
- To assign IP address to port 0/0, write Router (config-if) # ip address 192.168.10.1 255.255.255.0
- To switch on the router, write Router (config-if) # no shut
- To exit from the interface, write Router (config-if) # exit.
- To assign the port to Network 2, write Router(config) # interface fastEthernet 0/1

- To assign IP address to port 0/1, write Router (config-if) # ip address 192.168.20.1 255.255.255.0
- To switch on the router, write Router (config-if) # no shut
- To exit from the interface, write Router (config-if) # exit.




(3.3) Configure the Router1

- Next step is to configure the Router0 in order to create Static Routing;

✓ Click on the Router0 and go to CLI tab

✓ To get into configuration mode, write
Router > enable

✓ To configure the terminal, write
Router # configure terminal

✓ To assign the port to Network 2, write
Router(config) # interface fastEthernet 0/0

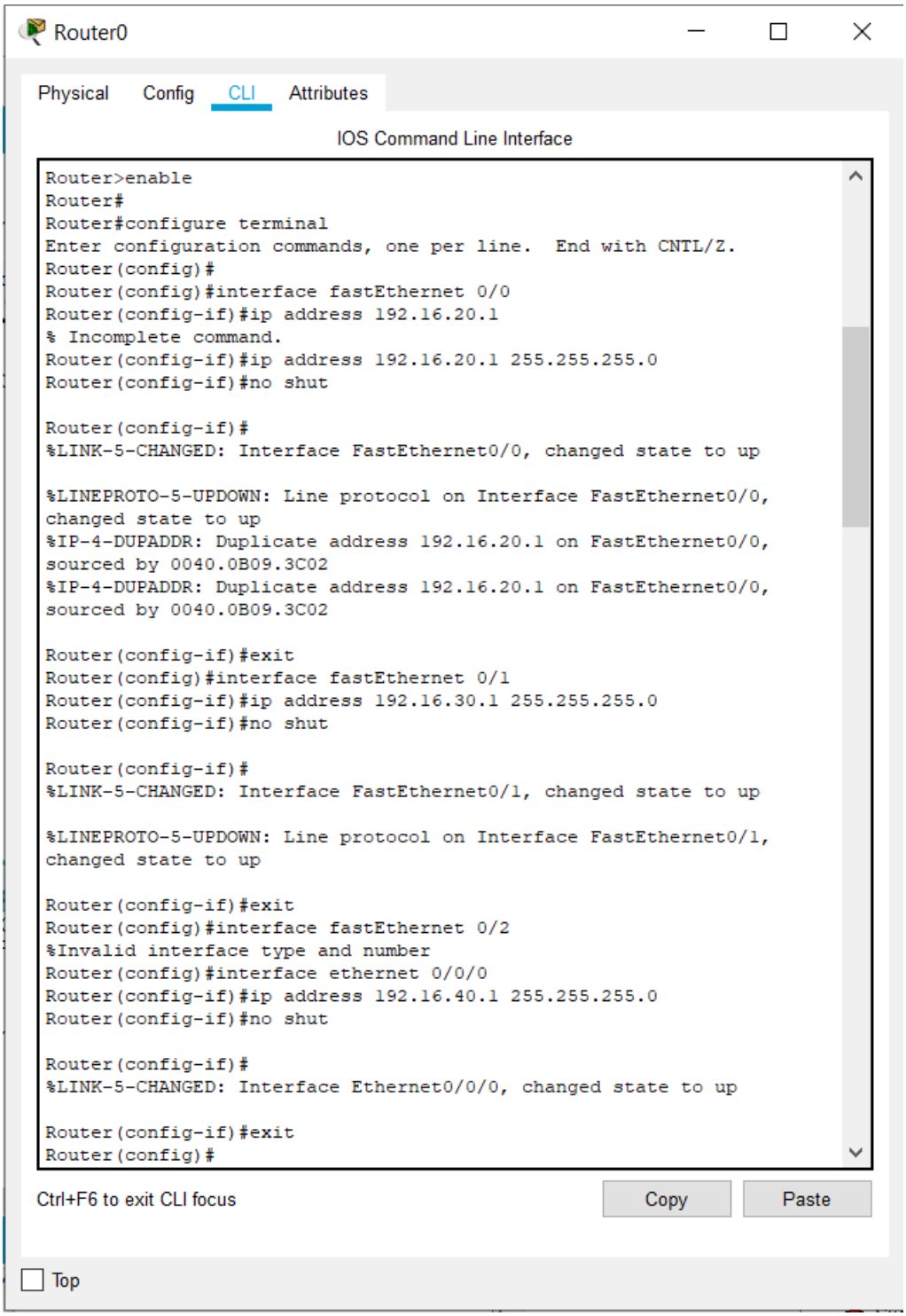
✓ To assign IP address to port 0/0, write
Router (config-if) # ip address 192.168.20.1 255.255.255.0

✓ To switch on the router, write

Router (config-if) # no shut

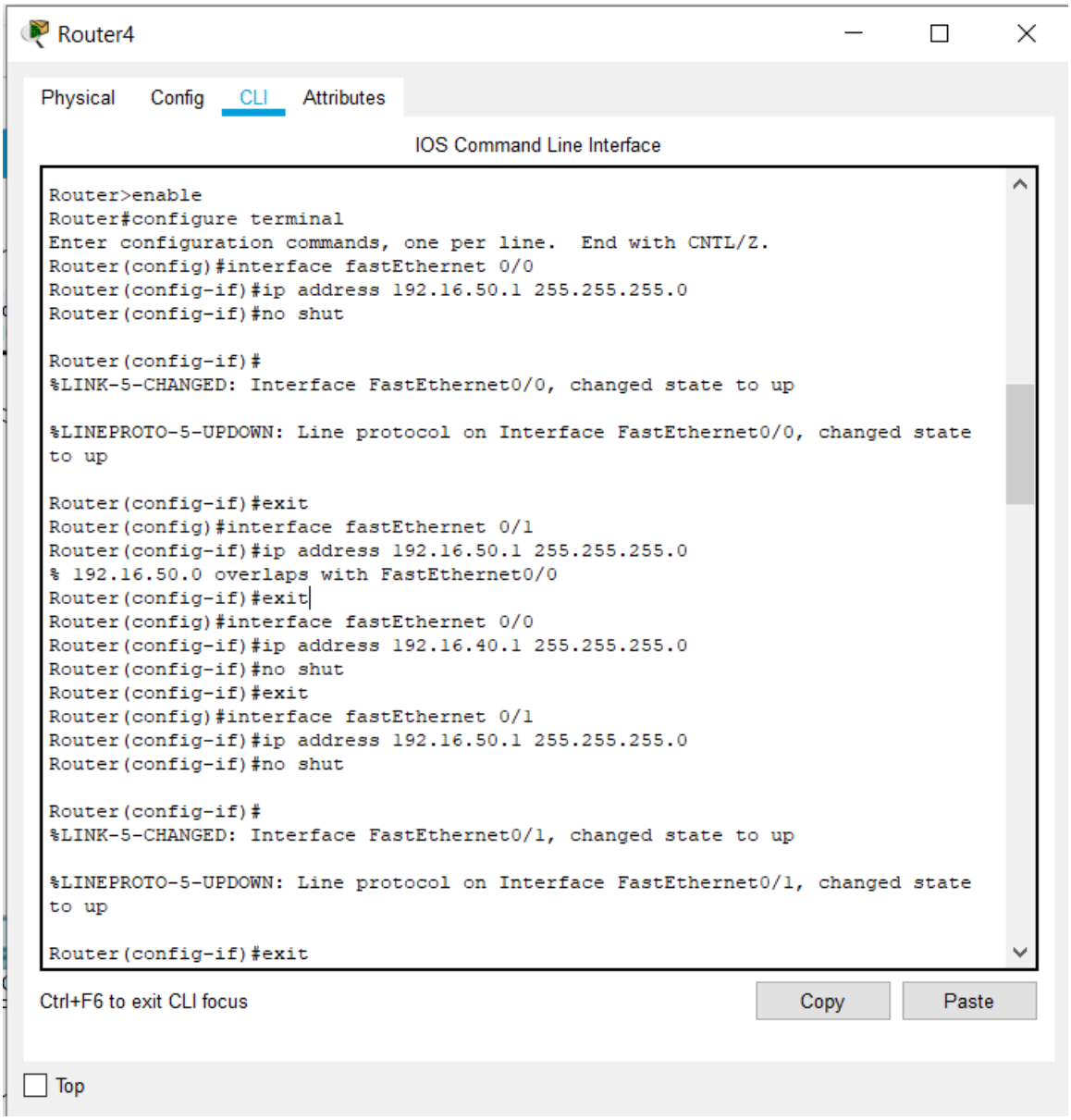
✓ To exit from the interface, write
Router (config-if) # exit.

- Follow the same steps to configure Router 0's other ports (0/1 and 0/0/0).



(3.4) Configure the Router0

- Follow the same steps to configure Router 4.




- Next step is to provide route to message From Router 1 to other Routers in order to create Static Routing;

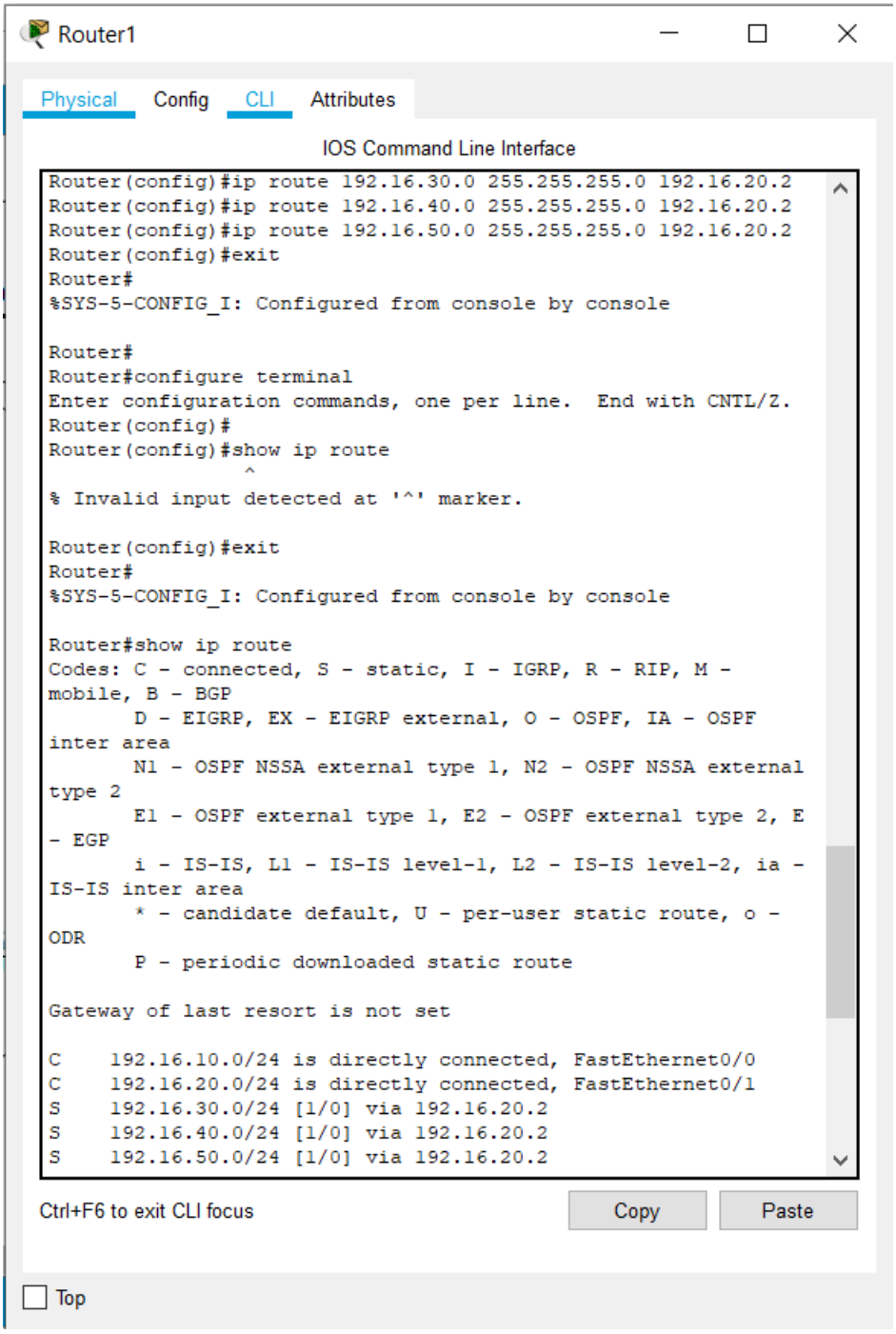
✓ To provide route to message from Network 1 to Network 3;
Router(config)#ip route 192.168.30.0 255.255.255.0 192.168.20.2

✓ To provide route to message from Network 1 to Network 4;

Router(config)#ip route 192.168.40.0 255.255.255.0 192.168.20.2

- ✓ To provide route to message from Network 1 to Network 5;

Router(config)#ip route 192.168.50.0 255.255.255.0 192.168.20.2

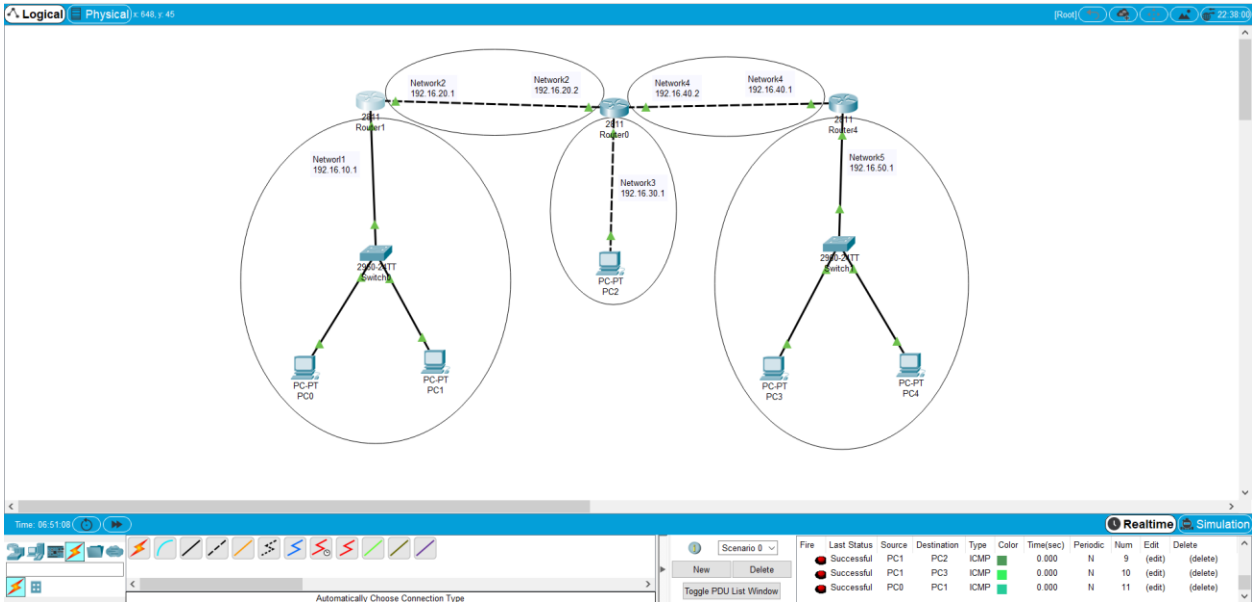



(3.5) Connection b/w Router 1 to Other Routers

- Follow the same steps to provide route to message From Router 0 and Router 4 to other Routers in order to create Static Routing.

## Check Network Topology:

- To check the topology is working or not drop a package on the one PC of Network 1 and try to receive it by the PC of Network 3.
- Now drop the package on PC of Network 3 and try to receive it by the PC of Network 5.




(3.6) Successful Message Passed

## Conclusion:

From this practical, I have learnt about the configuration of Static Routing and what are the advantages and disadvantage of it by doing live configuration of it in Cisco Packet Tracer.