Lab - 2

Communication Between 2 different Networks

Objective:

We are going to perform communication between 2 different broadcast domains through a router.

Procedure:

Step 1: Simply design 2 networks as the one designed in Lab-1.

Step 2: First network ID is 192.168.1.0 with default subnet mask 255.255.255.0

Step 3: Second network ID is 192.168.2.0 with default subnet mask 255.255.255.0

Step 4: Connect the switch of 1st network with interface Fa 0/0 of router

Step 5: Connect the switch of 2nd network with interface Fa 0/1 of router

Step 6: Assign the valid IPs to the hosts in each network according to the respective network ID

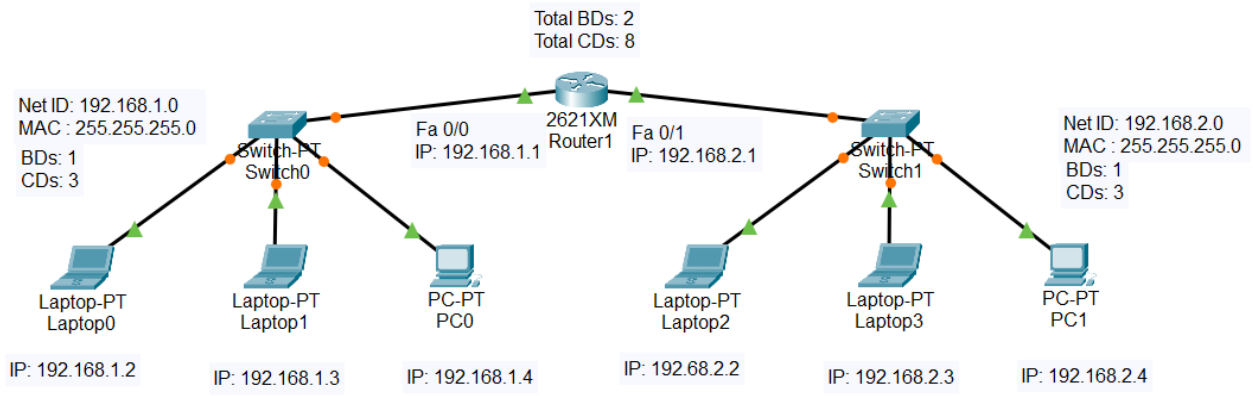

Figure 2.1: Designing network

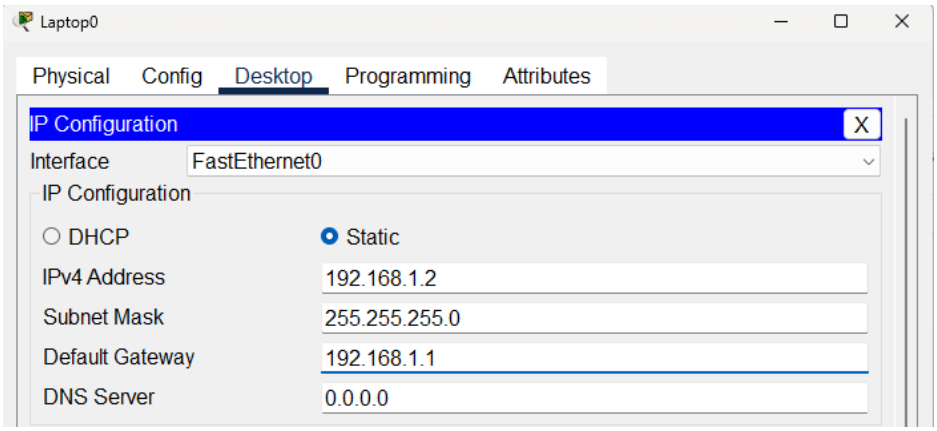

Figure 2.2: Assigning IPs

Step 7: Configure the interfaces to router according to the network with which it is connected

Step 8: Single click on router and then go to CLI mode and use commands as shown in Figure: 2.3

Step 9: First interface Fa 0/0 is connected to NetID 192.168.1.0 so the first valid IP of this network i.e., 192.168.1.1 will be assigned to this interface

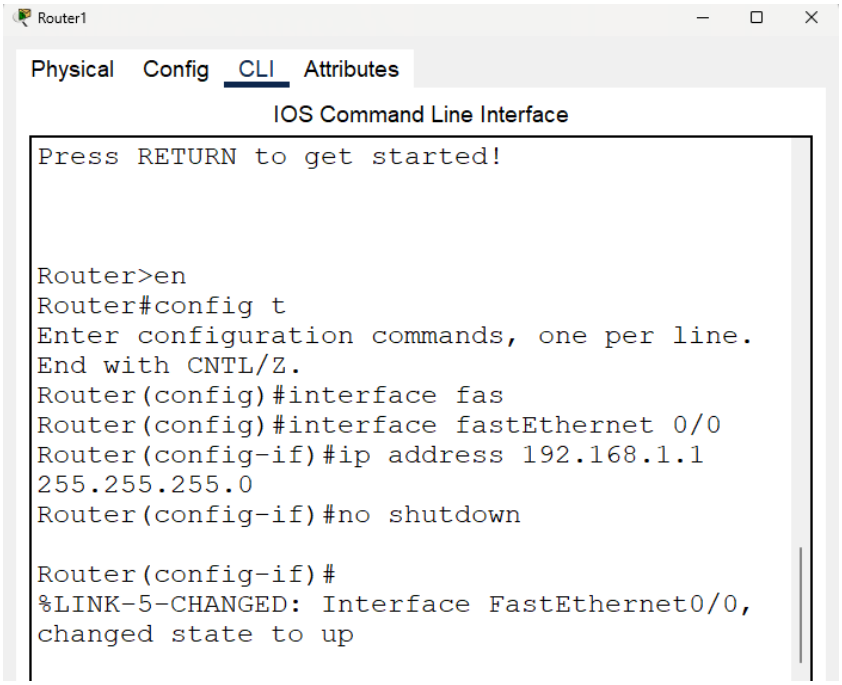

Figure 2.3: Configuring the Interface of Router

Step 10: Similarly, 1st valid IP of 2nd network i.e., 192.168.2.1 will be assigned to interface Fa 0/1

Step 11: After correct configuration of interfaces the interfaces will be changed to state up (green)

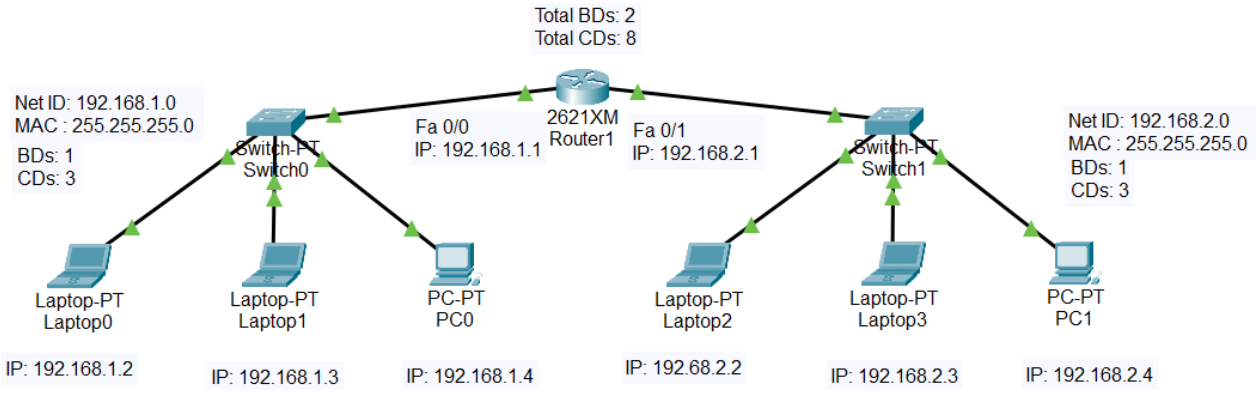

Figure 2.4: Interface State Up Successful

Step 12: Now the network is ready for communication.

Step 13: Try to Ping from one host to other as shown in Figure 4.5

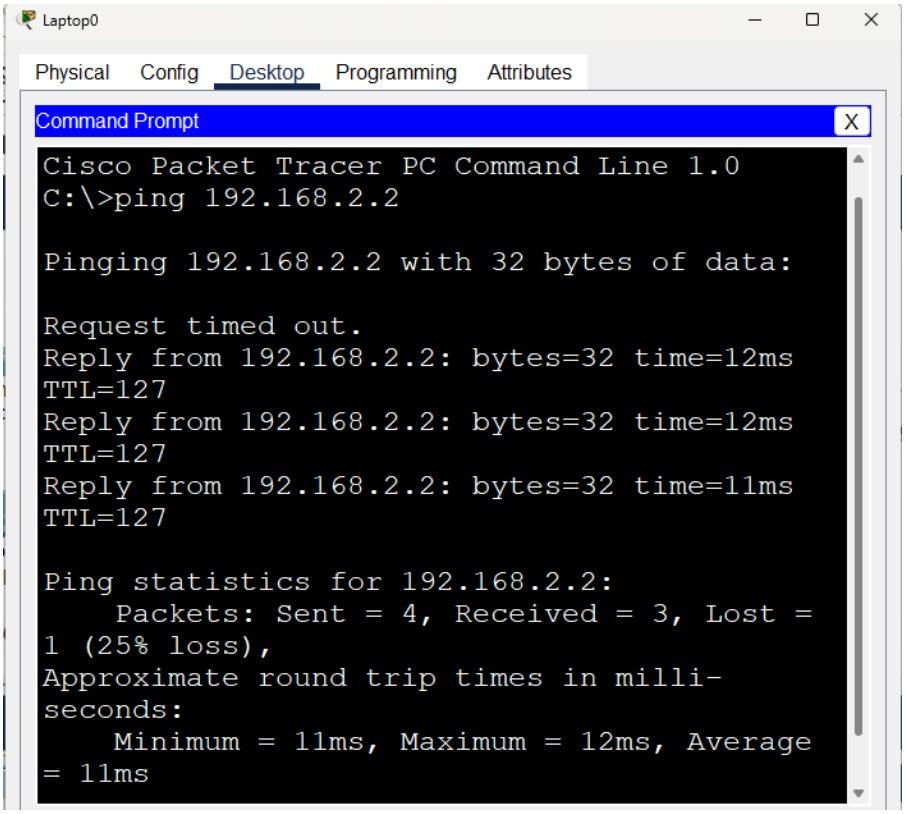

Figure 2.5: Trying to Ping from Laptop0 to Laptop2

Step 14: The replies received which means that network is working properly

Step 15: Now Drag and drop a Simple PDU from top menu to Laptop0 (Sender) and similarly to Laptop2 (Receiver)

Step 16: Goto Simulation Panel from bottom right corner and start the simulation.

Step 17: The acknowledgement at the end means the packet sent and received successfully.

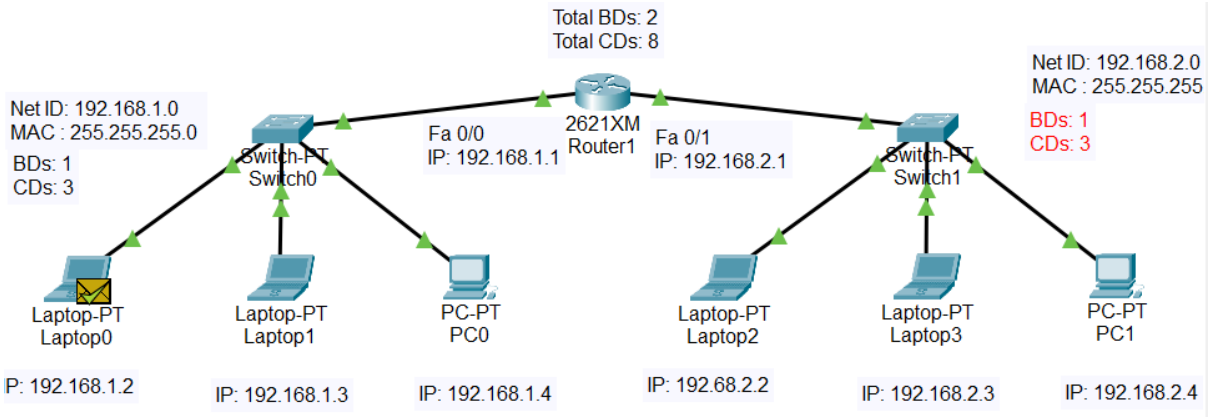

Figure 1.6: Acknowledgement of Successful Packet sent

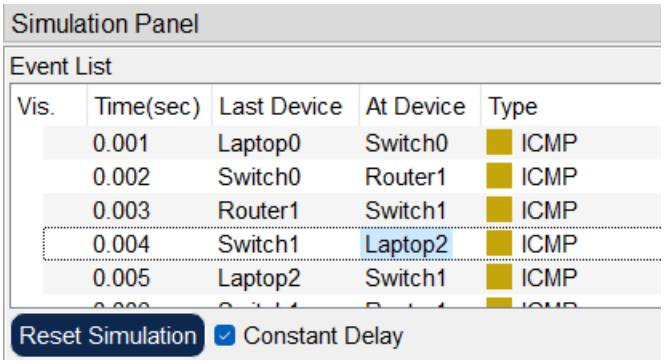

Figure 2.7: Simulation Pannel