CN LAB ASSIGNMENT – 9

NAME : SOURABH PATEL

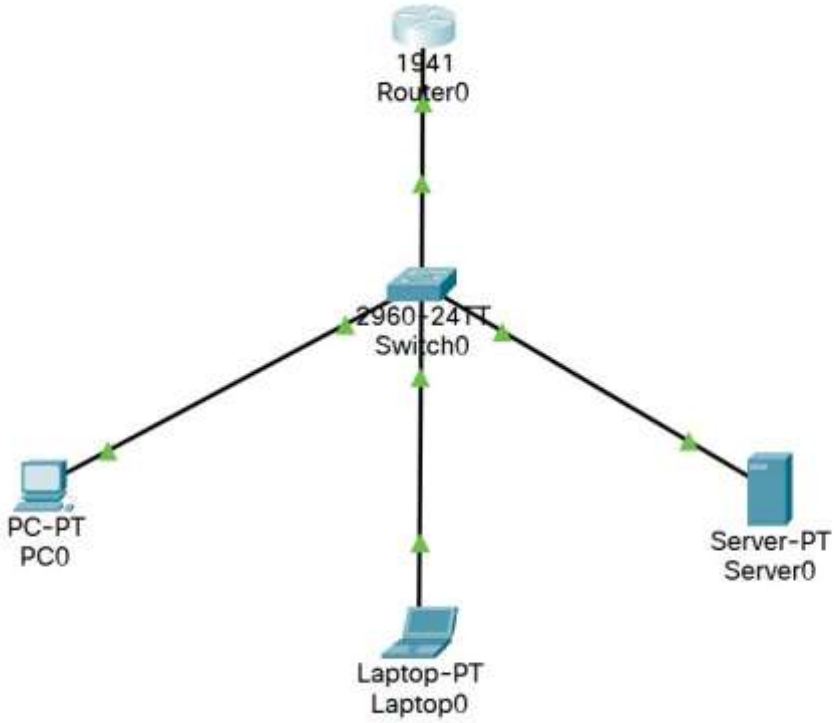
ROLL NO. : U19CS082

Que) single network connected to one Router. Router should work as DHCP server and assign ip address.

DHCP SERVER :

A **DHCP Server** is a network server that automatically provides and assigns IP addresses, default gateways and other network parameters to client devices. It relies on the standard protocol known as Dynamic Host Configuration Protocol or DHCP to respond to broadcast queries by clients.

Lets design the circuit



Step 1 : design the ciruit as given In the above picture

Step 2: then go to the router and click on the cli.

Step 3: first we are going to configure the first port giga-ethernet 0/0 port And give ip address as it is connected to the LAN network using Commands. Like

1. **Interface gigabitEthernet 0/0**
2. **Ip address --- (ip address).**

Step 4: Then we are going to use some commands to enable dhcp server and Create network so that it could give the automatic ip address and default gateway.

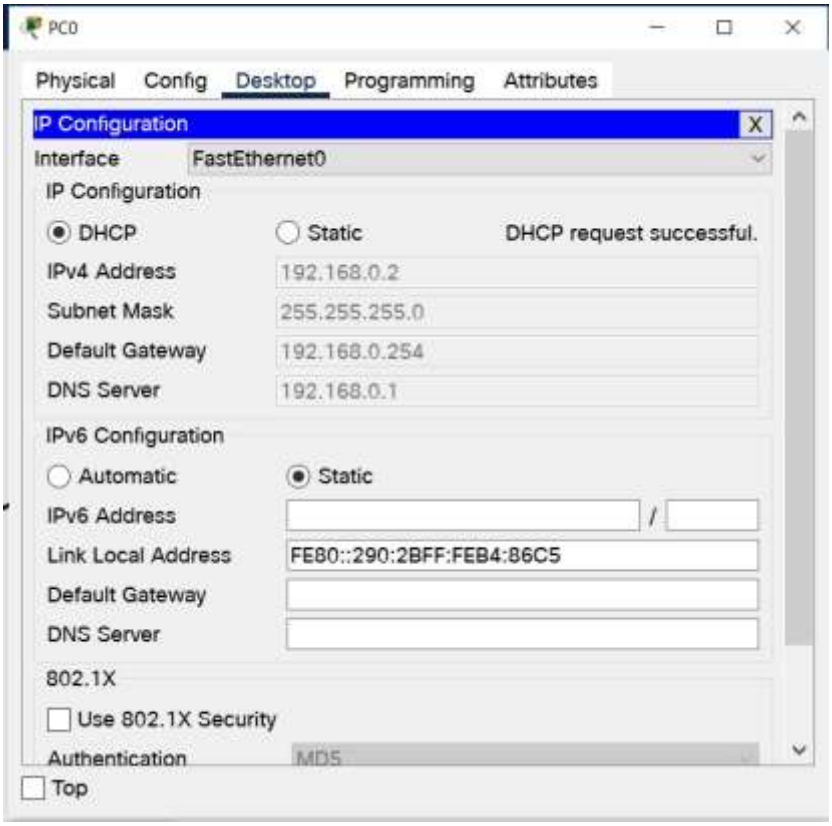
1. **Ip dhcp pool – (network name)**
2. **Network – (ip address)**
3. **Default-router – (default gatway address)**
4. **Dns-server – (ip address).**

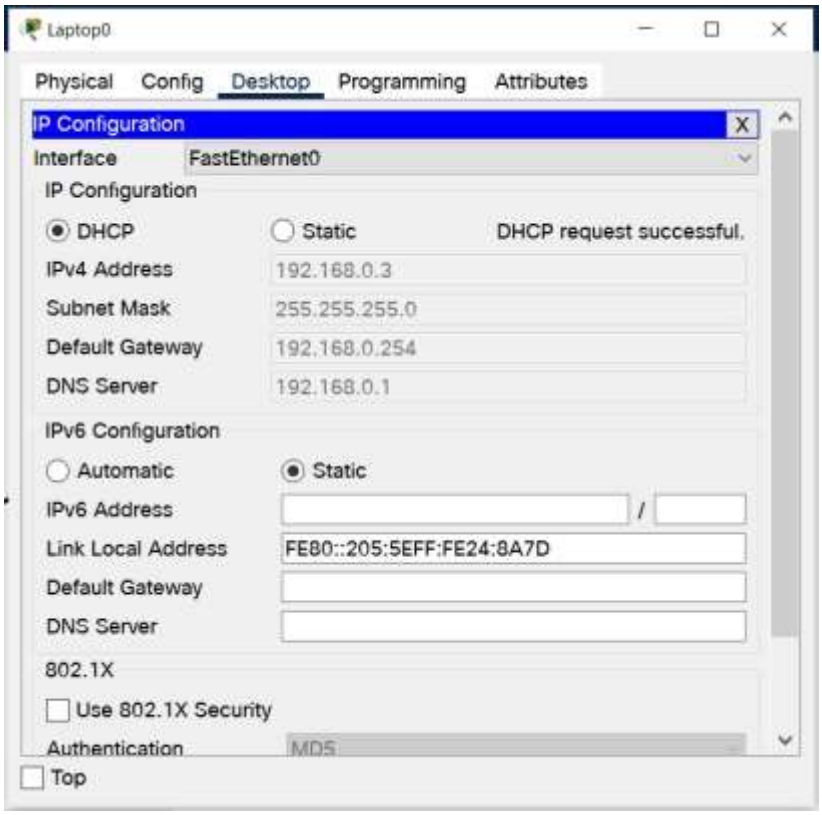
- ✓ Now the network and dhcp server is set to give ip address and default gatways to all the devices.

```
        --- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no


Press RETURN to get started!



Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#
Router(config)#interface gigabitEtehrnate 0/0
                                  ^
% Invalid input detected at '^' marker.

Router(config)#interface gigabitEthernet 0/0
Router(config-if)#ip address 192.168.0.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

Router(config-if)#
Router(config-if)#
Router(config-if)#exit
Router(config)#
Router(config)#ip dhcp pool ABC_POOL
Router(dhcp-config)#network 192.168.0.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.0.254
Router(dhcp-config)#dns-server 192.168.0.1
Router(dhcp-config)#
Router(dhcp-config)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#
Router#write memomry
                ^
% Invalid input detected at '^' marker.

Router#write memory
Building configuration...
[OK]
Router#
Router#
```

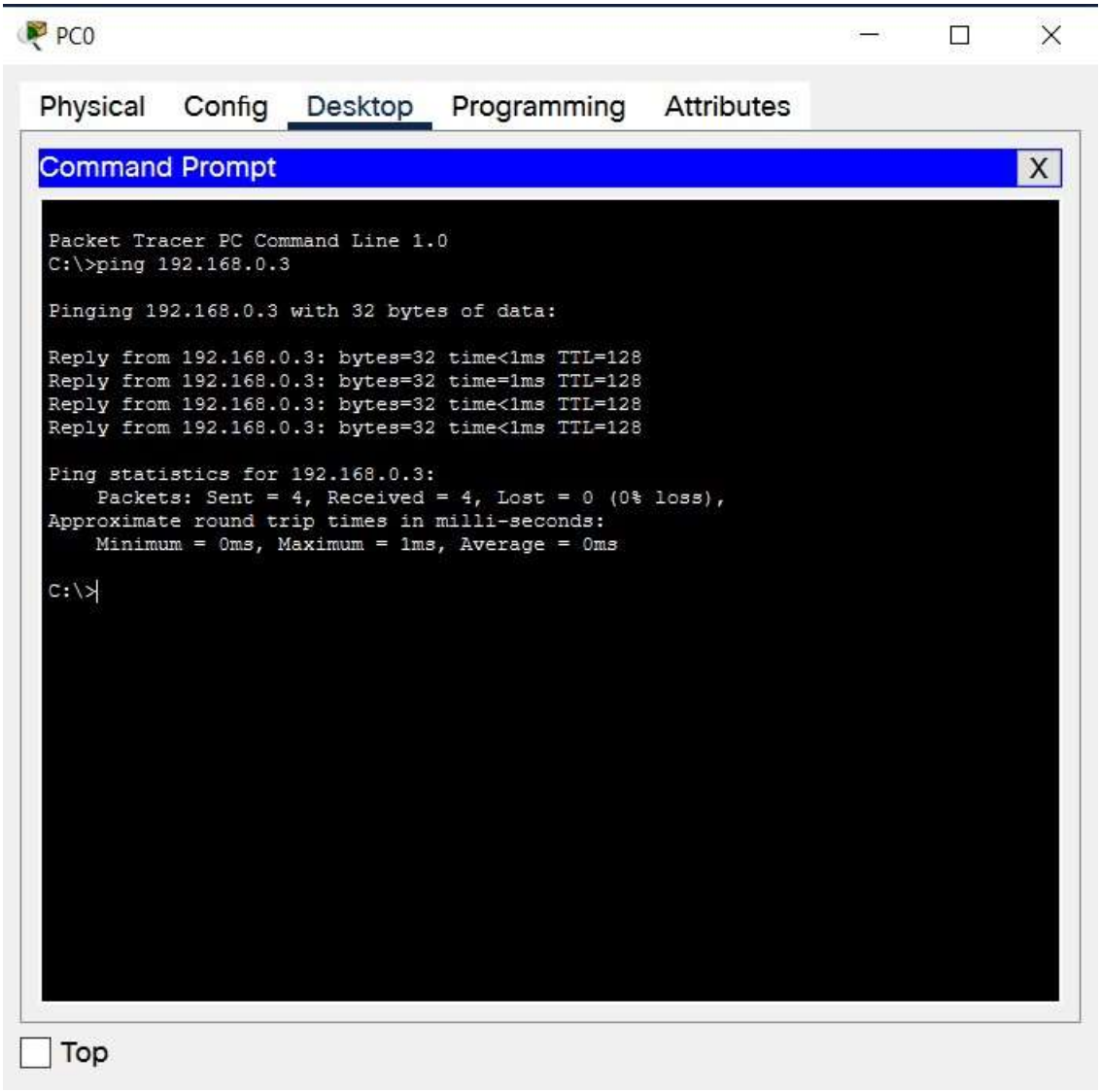
CLI VIEW OF ROUTER.

✓ Automatic Ip address given to the pc in dhcp mode.





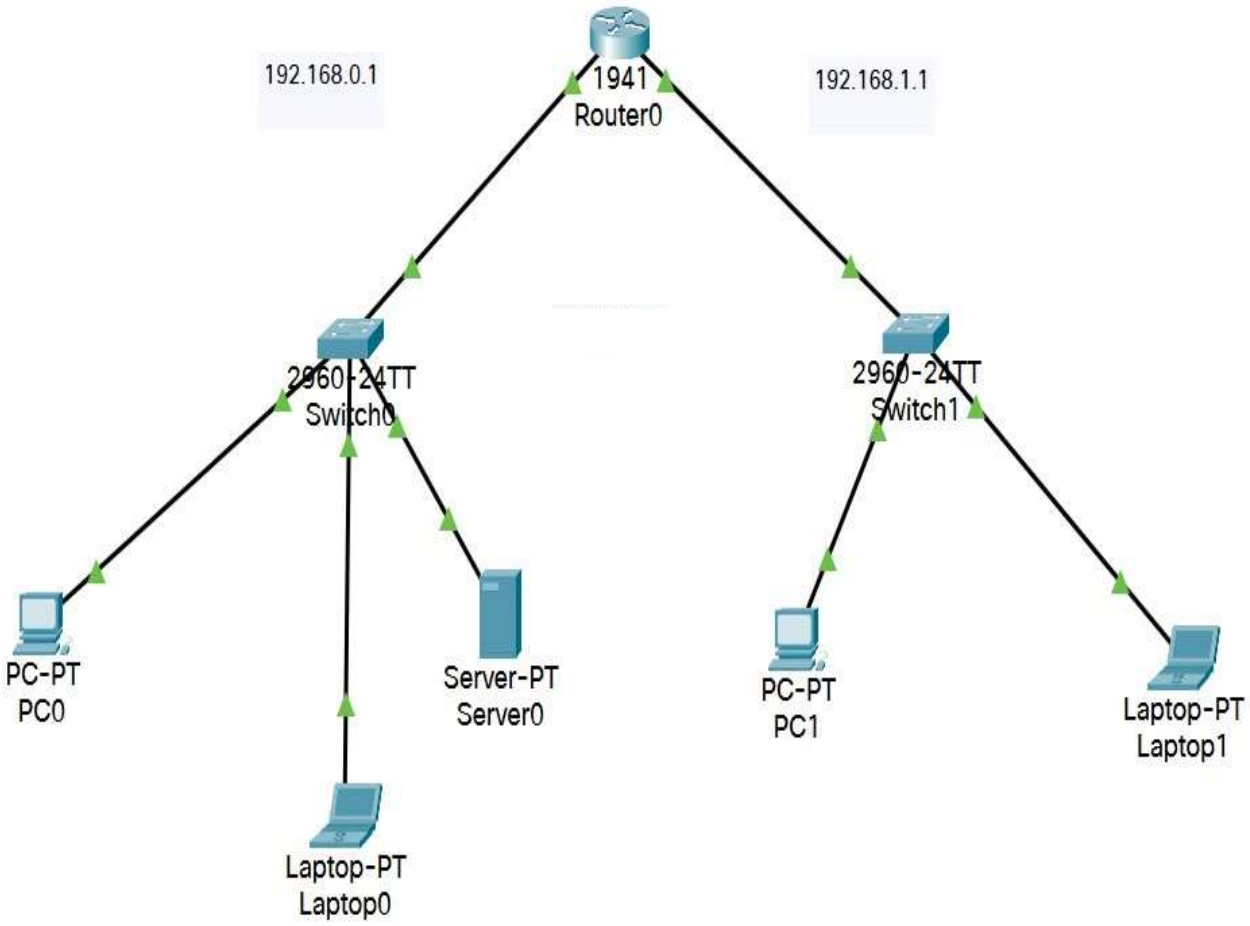
✓ Ping the two pc's and getting reply.



✓

Que) more than 1 network are connected to one router. Router should work as DHCP server and assign ip address.

Lets design the circuit



Step 1 : design the ciruit as given In the above picture

Step 2: then go to the router and click on the cli.

Step 3: first we are going to configure the first port gigaethernet 0/0 port

And give ip address as it is connected to the lan network using Commands. Like

3. **Interface gigabitEthernet 0/0**
4. **Ip address --- (ip address).**

Step 4: Then we are going to use some commands to enable dhcp server and Create network so that it could give the automatic ip address and default gateway.

5. **Ip dhcp pool – (network name)**
6. **Network – (ip address)**
7. **Default-router – (default gatway address)**

Step 3: first we are going to configure the first port gigaethernet 0/1 port

And give ip address as it is connected to the 2nd lan network using Commands. Like

5. **Interface gigabitEthernet 0/1**
6. **Ip address --- (ip address).**

Step 4: Then we are going to use some commands to enable dhcp server and

Create the network-2 so that it could give the automatic ip address and default gateway.

8. **Ip dhcp pool – (network name)**
9. **Network – (ip address)**
10. **Default-router – (default gatway address)**

Now the network is set to give the Ip addresses and default gateway to all network.

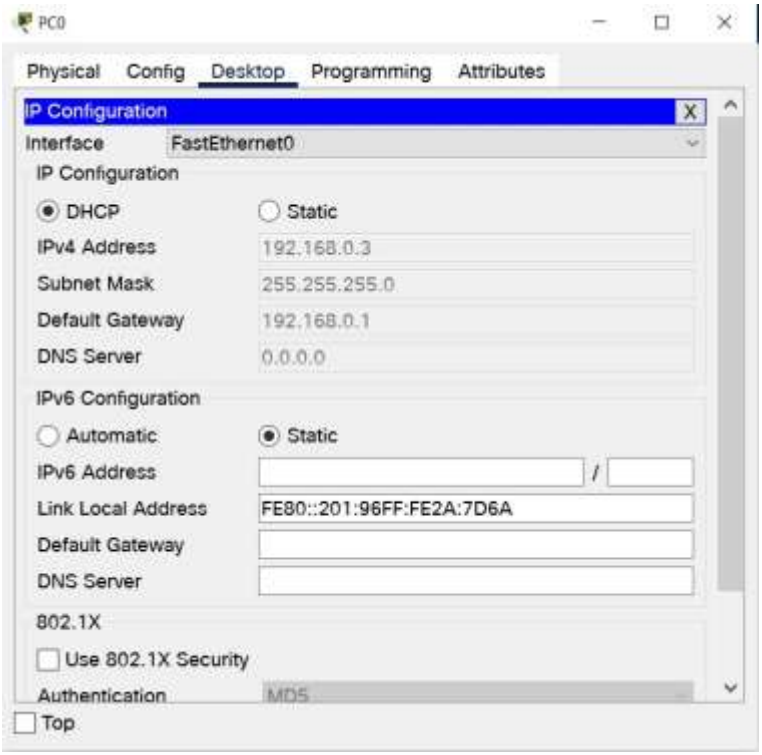
- ✓ **CLI view of router.**

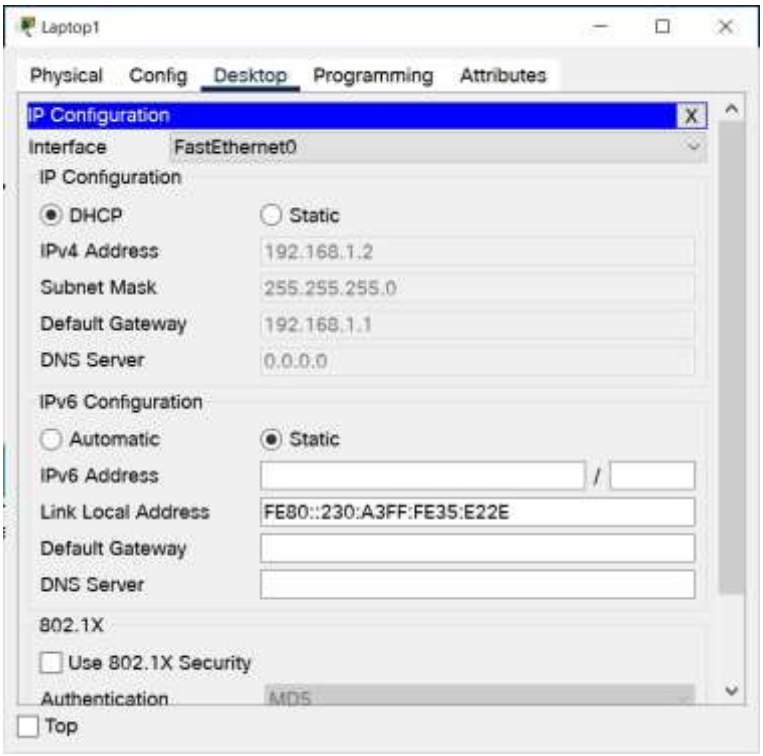
```
         --- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no


Press RETURN to get started!



Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa0/0
%Invalid interface type and number
Router(config)#interface gigabitEthernet 0/0
Router(config-if)#ip address 192.168.0.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

Router(config-if)#do write memory
Building configuration...
[OK]
Router(config-if)#ip dhcp pool net1
Router(dhcp-config)#network 192.168.0.1 255.255.255.0
Router(dhcp-config)#exit
Router(config)#interface gigabitEthernet 0/1
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

Router(config-if)#do write memory
Building configuration...
[OK]
Router(config-if)#dhddip dhcep pool net2
                   ^
% Invalid input detected at '^' marker.

Router(config-if)#ip dhcp pool net 2
                   ^
% Invalid input detected at '^' marker.

Router(config-if)#ip dhcp pool net2
Router(dhcp-config)#nwnetwork 192.168.1.1 255.255.255.0
Router(dhcp-config)#eiexit
Router(config)#exit
```

The default address is given seperatly..

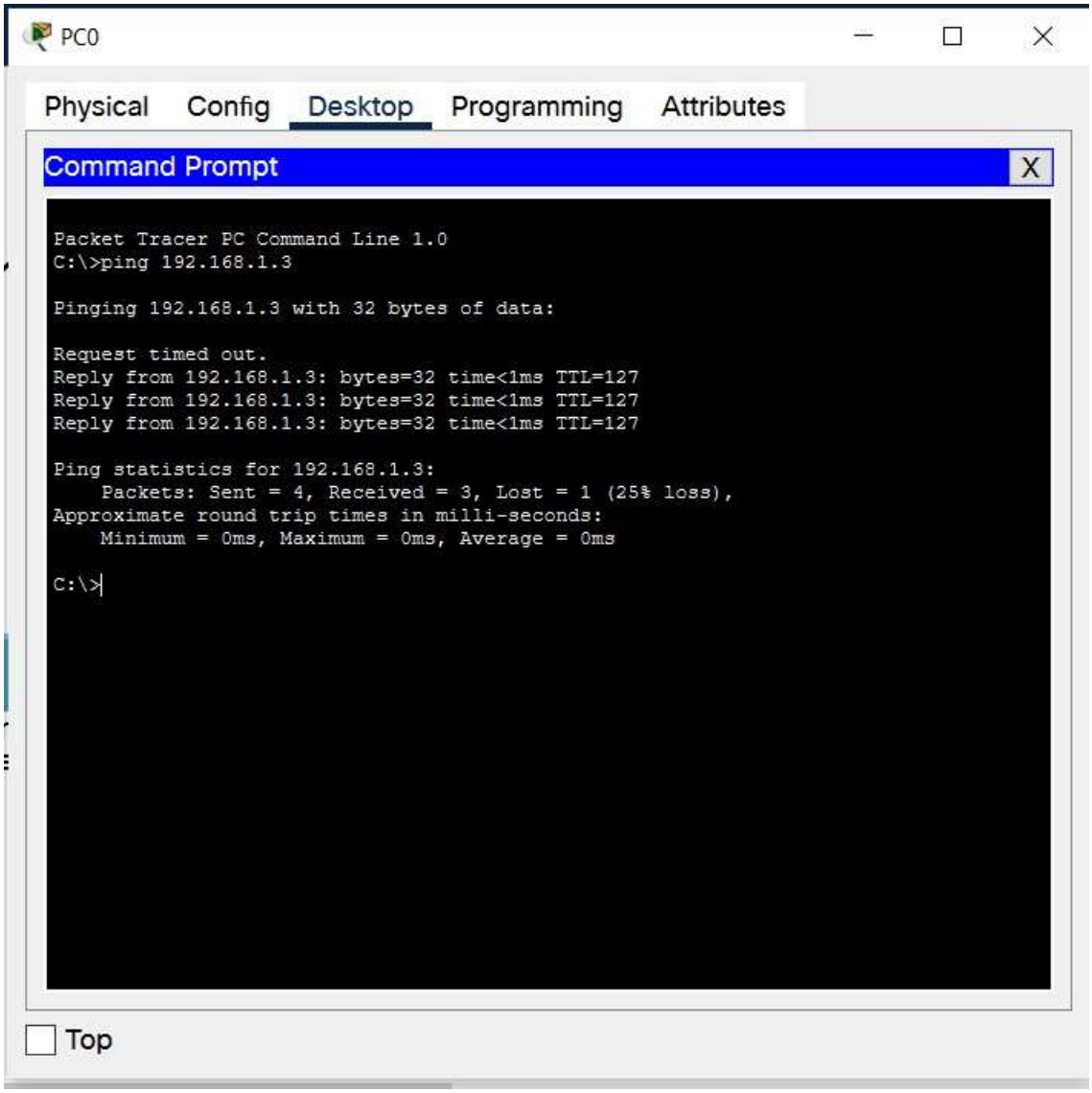
```
Router(config-if)#exit
Router(config)#interface gigabitEthernet 0/0
Router(config-if)#ip dhcp pool net1
Router(dhcp-config)#default-router 192.168.0.1
Router(dhcp-config)#%DHCPD-4-PING_CONFLICT: DHCP address conflict:  server pinged 192.168.0.1.

Router(dhcp-config)#exit
Router(config)#interface gigabitEthernet 0/1
Router(config-if)#default-router 192.168.1.1
                  ^
% Invalid input detected at '^' marker.

Router(config-if)#ip dhcp pool net2
Router(dhcp-config)#default-router 192.168.1.1
Router(dhcp-config)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

✓ **Automatic Ip address given to the pc in dhcp mode.**





✓ **Ping the two pc's of different lan network and getting reply.**


PC0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.3
Pinging 192.168.1.3 with 32 bytes of data:
Request timed out.
Reply from 192.168.1.3: bytes=32 time<1ms TTL=127
Reply from 192.168.1.3: bytes=32 time<1ms TTL=127
Reply from 192.168.1.3: bytes=32 time<1ms TTL=127
Ping statistics for 192.168.1.3:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
Top