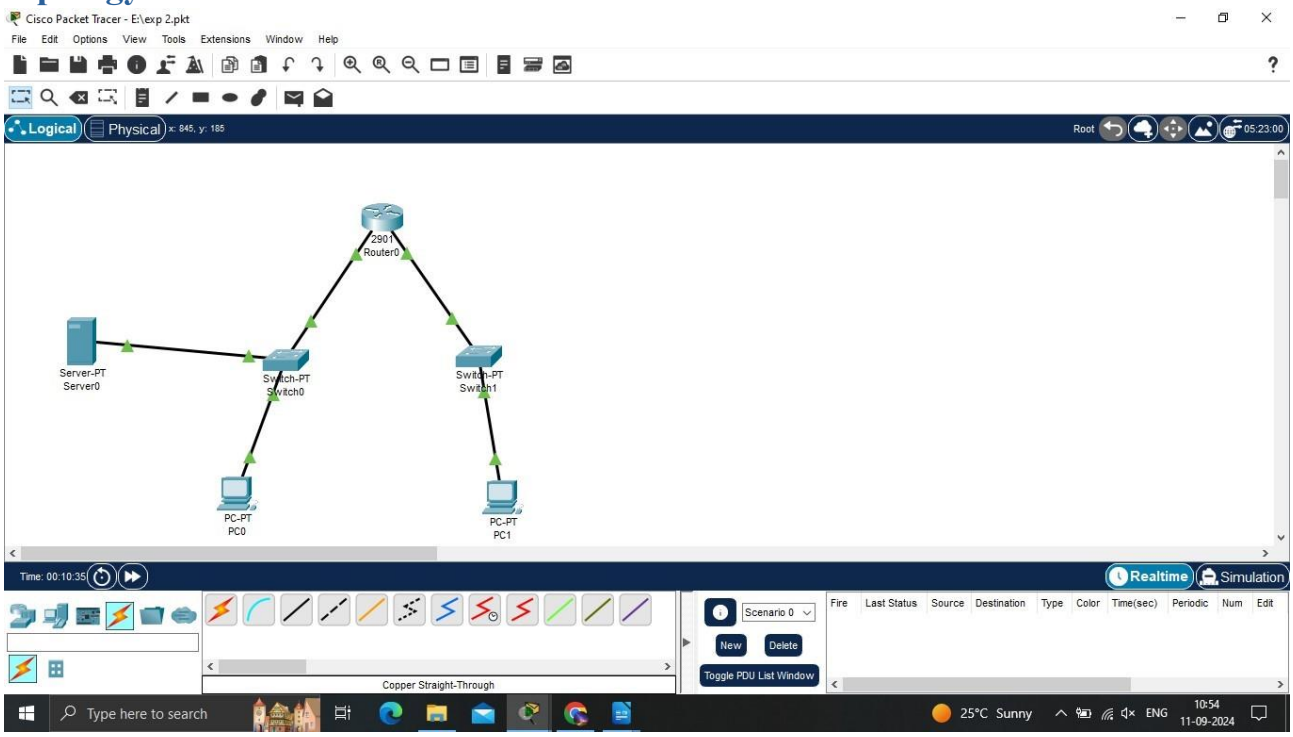
Name: Syed Mannan
section:7
Roll no:2320030131

Exp: 2: Execute the following networking commands like ipconfig, tracert, telnet, netsh, ping, nslookup and netstat in the command prompt with simple topology.



Step 2: Create a Simple Network Topology

1. **Add Devices**:
   - **Routers and Switches**: Drag and drop a router and a switch from the device list onto the workspace.
   - **PCs**: Drag and drop two PCs onto the workspace.
2. **Connect Devices**:
   - Use the **Connection** tool to connect the devices:
     - Connect one PC to the switch using a copper straight-through cable.
     - Connect the switch to the router using another copper straight-through cable. ▪ Connect the second PC to the switch using a copper straight-through cable. **Step 3: Configure Devices**

1.Configure the Router:

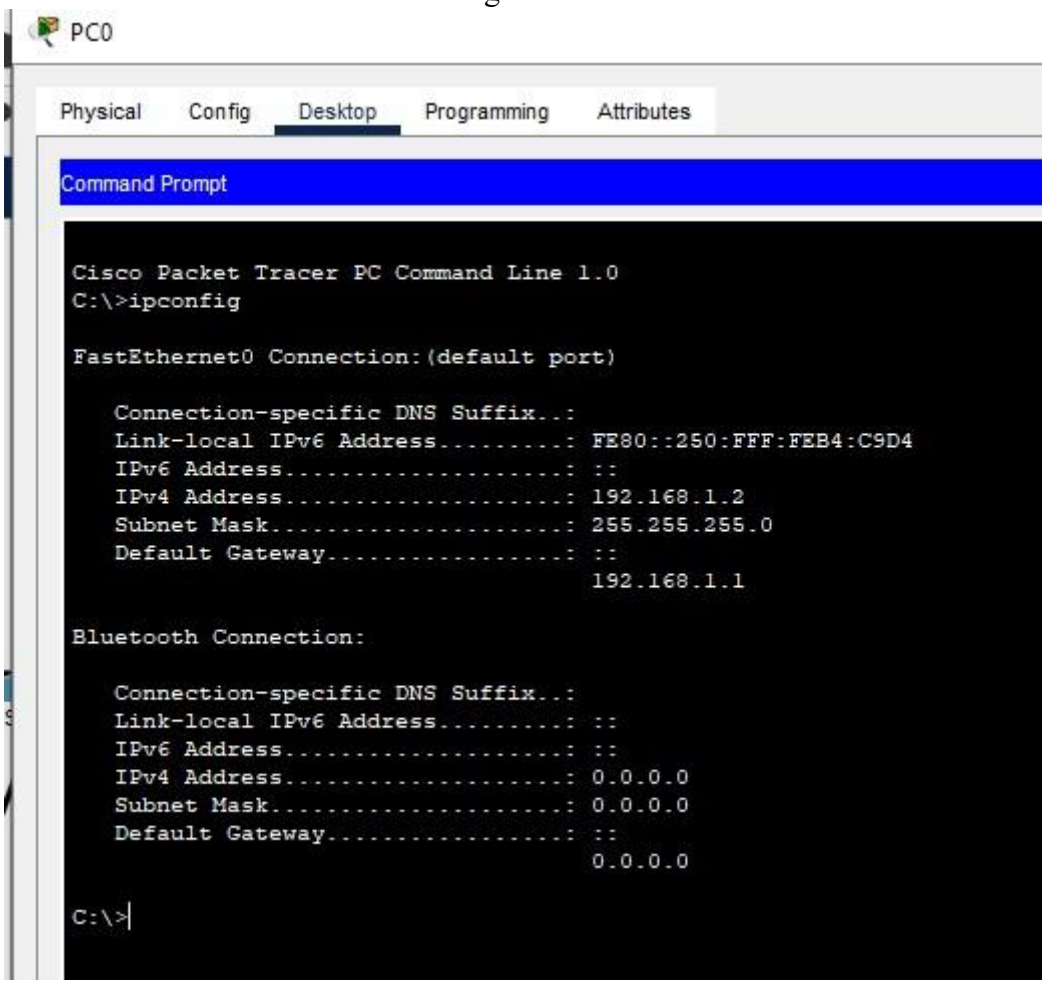
- Click on the router. ○ Go to the **Config** tab. ○ Assign IP addresses to the router interfaces. ▪ Interface G0/0: IP address 192.168.1.1, Subnet Mask 255.255.255.0

- Interface G0/1: IP address 192.168.2.1, Subnet Mask 255.255.255.0

2. **Configure the PCs**:
   - Click on each PC. ○ Go to the **Desktop** tab and then **IP Configuration**.
   - Assign IP addresses to each PC.
     - PC0: IP address 192.168.1.2, Subnet Mask 255.255.255.0, Default Gateway 192.168.1.1
     - PC1: IP address 192.168.2.2, Subnet Mask 255.255.255.0, Default Gateway 192.168.2.1

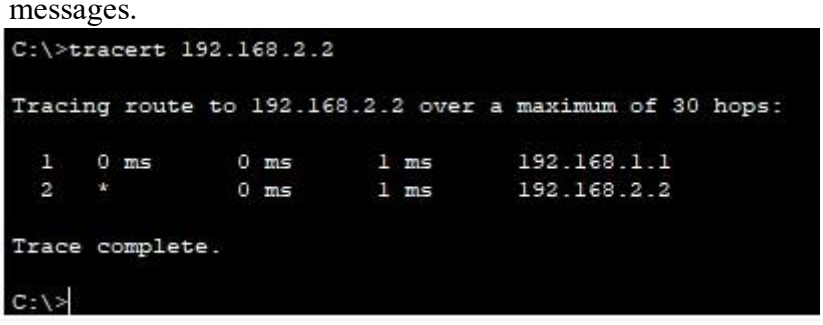
1. ipconfig:

This command displays all current TCP/IP network configuration values and refreshes DHCP and DNS settings.



2. tracert:

This command traces the path taken to a destination by sending ICMP Echo Request messages.



Configure the Router

1. **Assign IP Address**:
   - Click on the router. ○ Go to the **Config** tab.
   - Select the interface connected to the switch (e.g., G0/0).
     Assign IP address: `192.168.1.1`, Subnet Mask: `255.255.255.0`

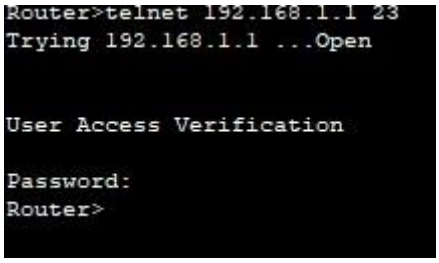
```
Router(config-if)#line vty 04
Router(config-line)#password cisco
Router(config-line)#login
Router(config-line)#exit
Router(config)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console

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

3.Telnet from PC to Router

1. **Open Command Prompt**: ○ On the PC0, go to the **Desktop** tab and open the **Command Prompt**.

2. **Execute Telnet Command**:

telnet <destination IP> <port>



3. Router configuration and Brief Ip Interface
   This command is a scripting utility that allows you to display or modify the network configuration of a computer.

```
Router#show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     192.168.1.1     YES manual up                    up
GigabitEthernet0/1     192.168.2.1     YES manual up                    up
Vlan1                  unassigned      YES unset  administratively down down
Router#
```

4.Ping 192.168.2.2

Configure the DNS Server

1. **Assign IP Address**:

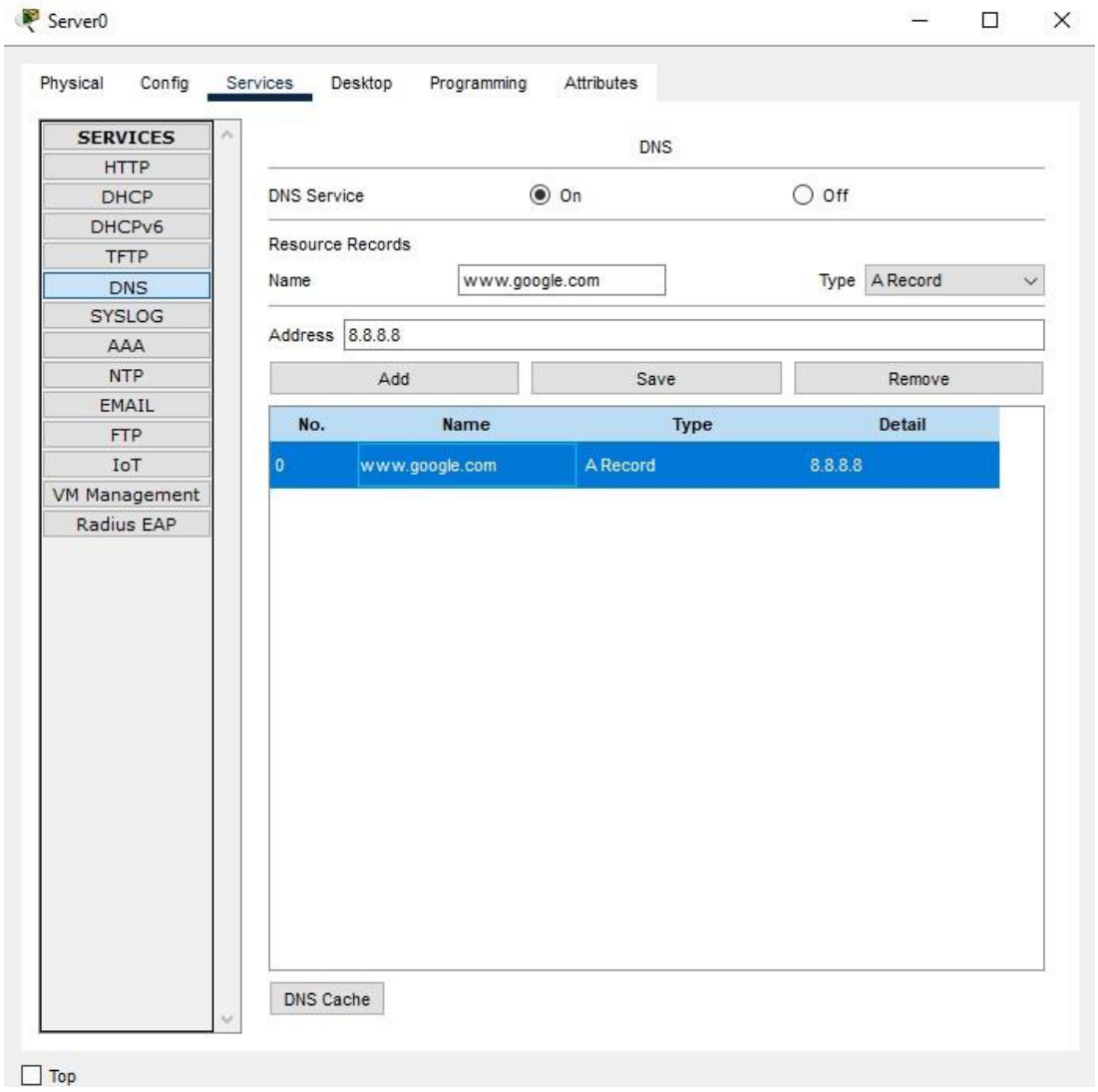
```
Pinging 192.168.2.2 with 32 bytes of data:

Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time=1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

- Click on the server. ○ Go to the **Config** tab and select the **FastEthernet0** interface.
- Assign IP address: `192.168.1.3`, Subnet Mask: `255.255.255.0`, Default Gateway:

`192.168.1.1`.

Configure DNS Service:

- Select **DNS** and turn the service **On**.
- Add an entry for `www.google.com` with an IP address (e.g., `8.8.8.8`).



5.Use the `nslookup` Command

1. **Open Command Prompt on PC0**:
   - Go to the **Desktop** tab on PC0. ○ Open the **Command Prompt**.
2. **Execute the `nslookup` Command**:

   `nslookup www.google.com`

6.Netstat

This command displays network connections for the Transmission Control Protocol (TCP), routing tables, and a number of network interface and network protocol statistics.

The `netstat` command is used to display network connections, routing tables, interface statistics, masquerade connections, and multicast memberships.