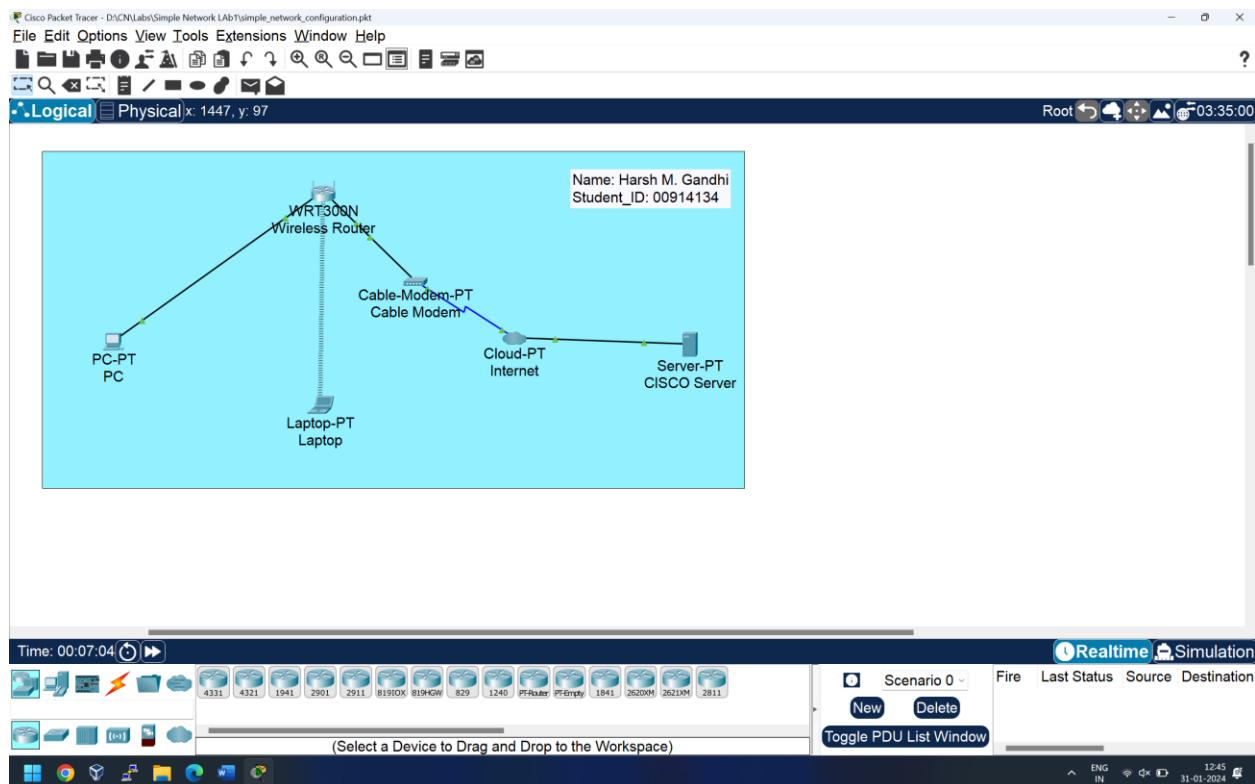


Packet Tracer – Create a simple network using Packet Tracer

Topology



Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
PC	Ethernet0	DHCP		192.168.0.1
Wireless Router	LAN	192.168.0.1	255.255.255.0	
Wireless Router	Internet	DHCP		
Cisco.com Server	Ethernet0	208.67.220.220	255.255.255.0	
Laptop	Wireless0	DHCP		

Objectives

Part 1: Build a simple network in the logical topology Workspace.

Part 2: Configure the Network Device.

Part 3: Test Connectivity between Network Devices.

Part 4: Save File and Close Packet Tracer.

Background / Scenario

In this activity you have to build a simple network in Packet Tracer from the beginning and then save the network as a packet tracer Activity File (.pkt)

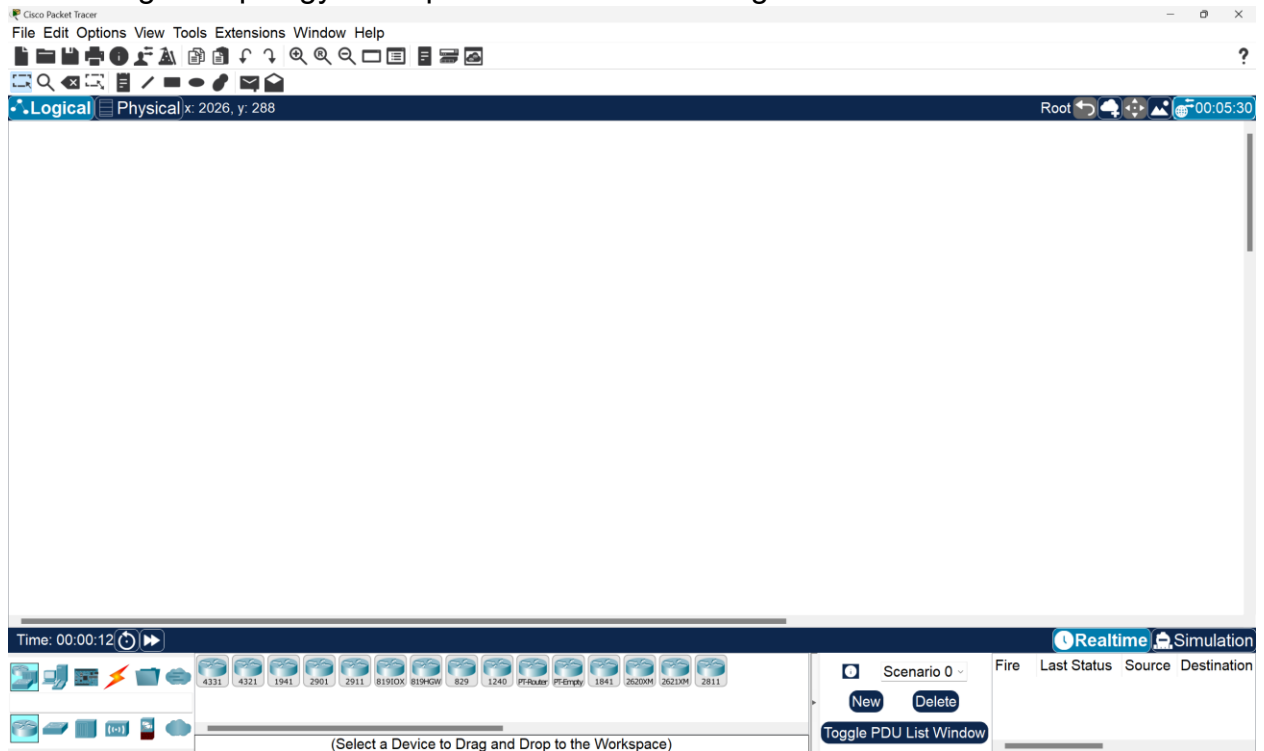
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Part 1: Build a simple Network in the Logical Topology Workspace.

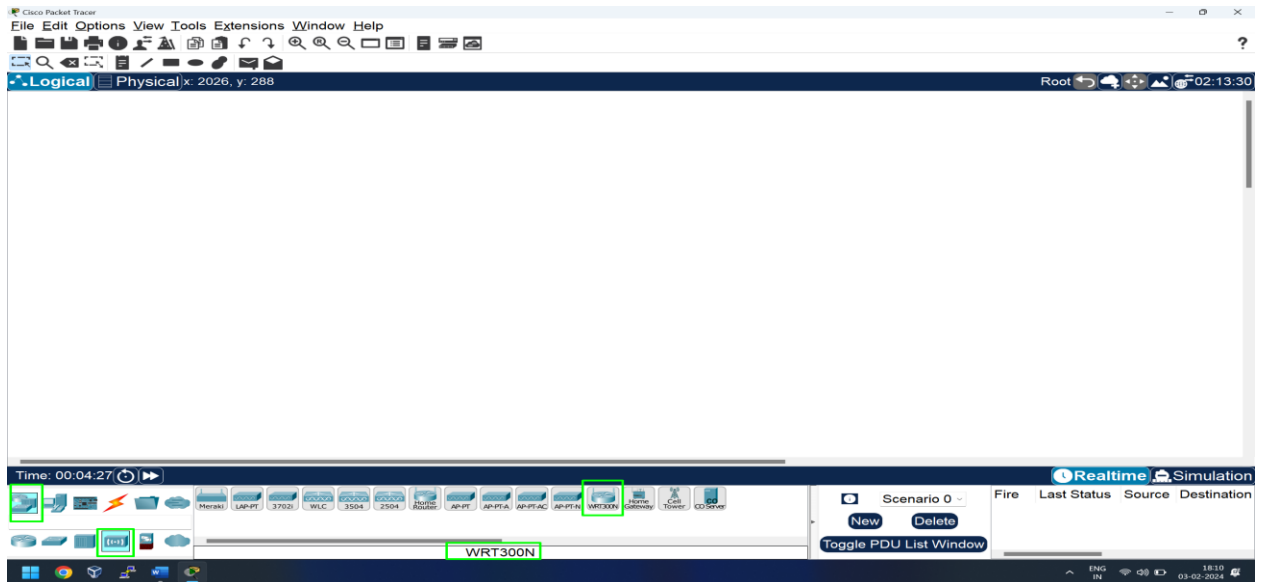
Step 1: Launch Packet Tracer.

- Launch Packet Tracer in Your System
- Create a New File for make fresh project, so we can design the network from the beginning(Scratch) Or we can set the Packet Tracer to always open with a blank default logical topology workspace as shown in the figure below.

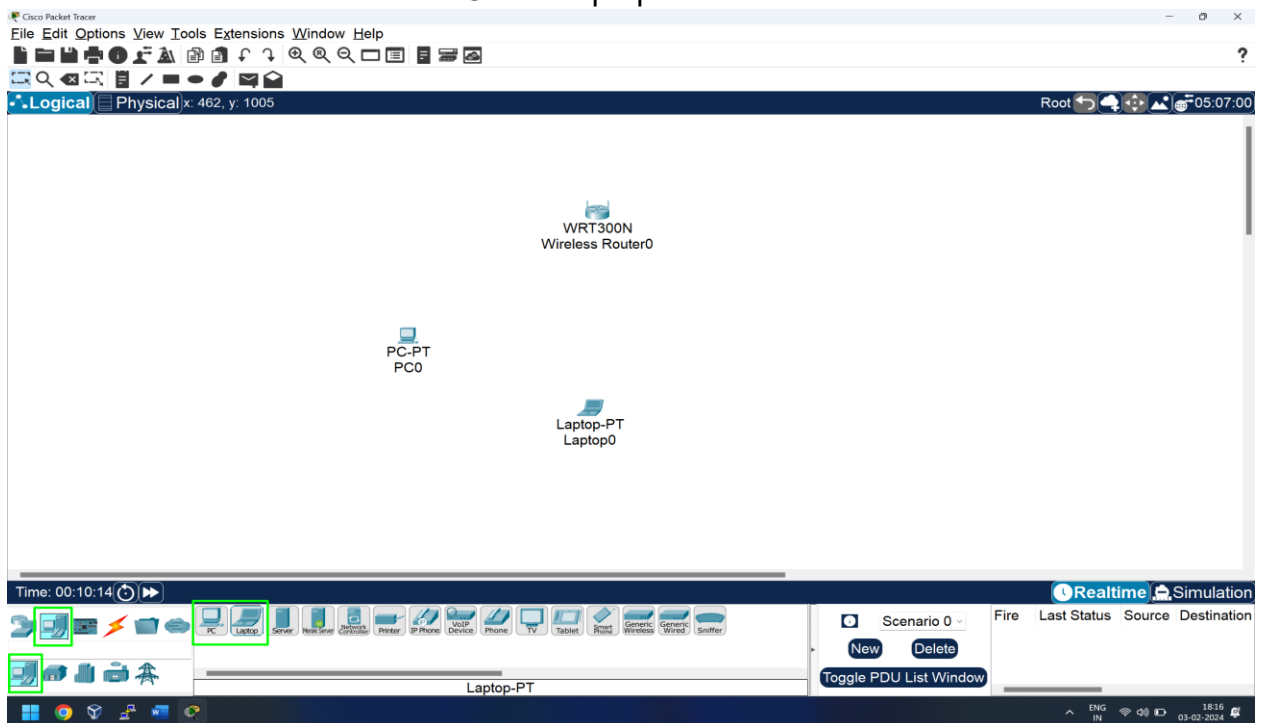


Step 2: Build the Topology.

- Add Network device to the workspace as provide at the question.
- First of all add the Network Device from the Wireless Device use the specific router type **WRT300N** as shown in figure.

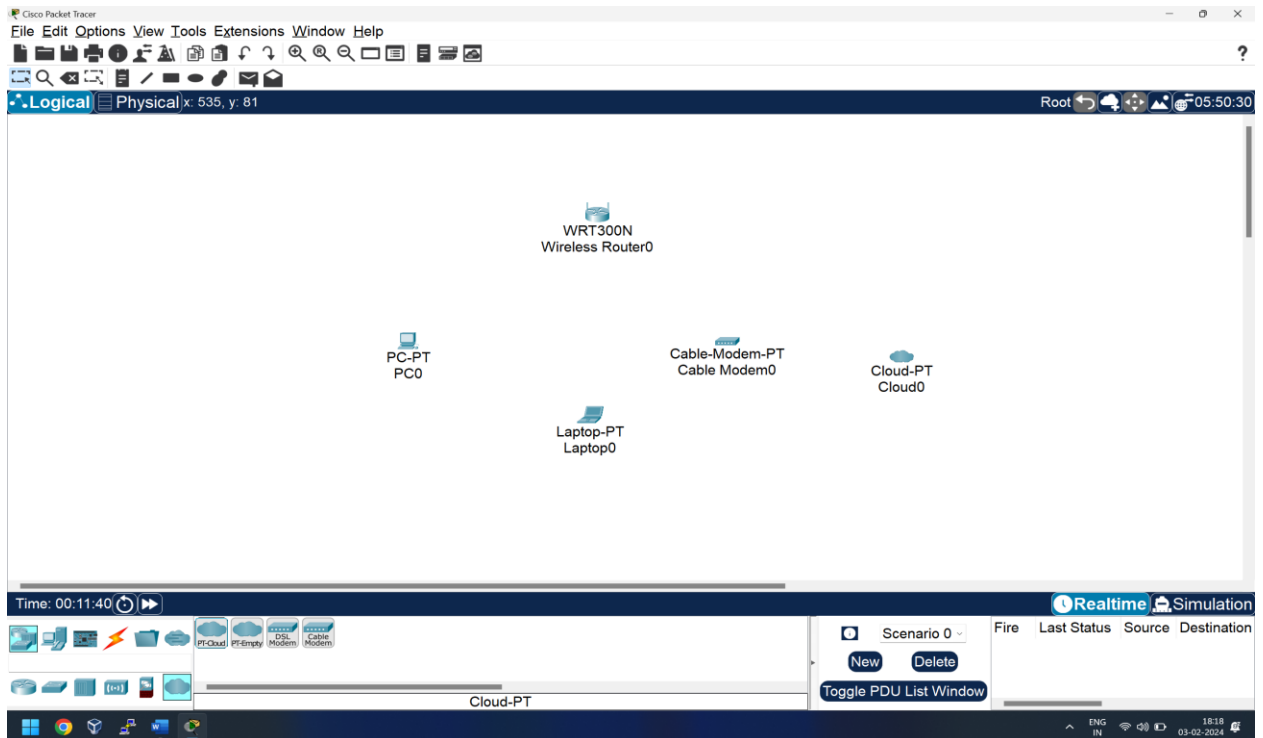


- Now add the End Devices like PC and Laptop.

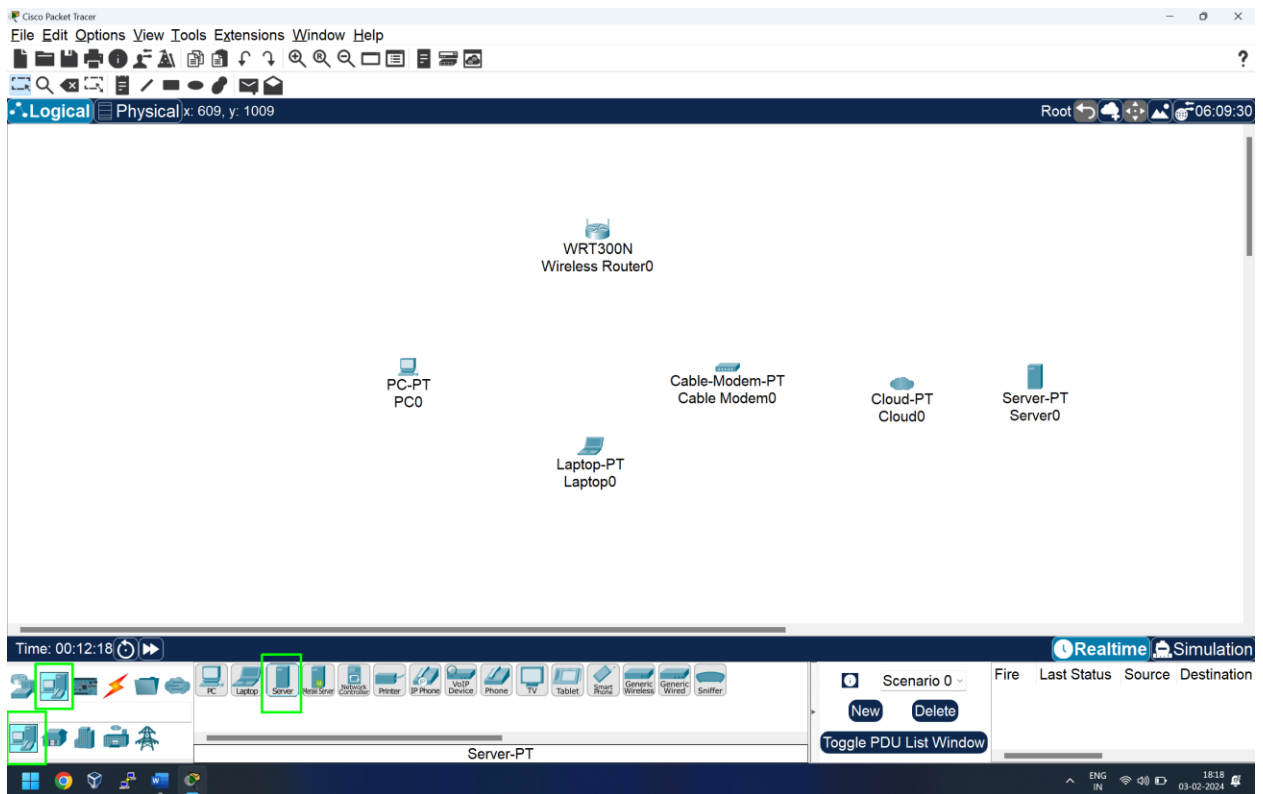


- Then add Cable Modern from the Network Device.

- Then add Pt-Cloud from the Network Device.

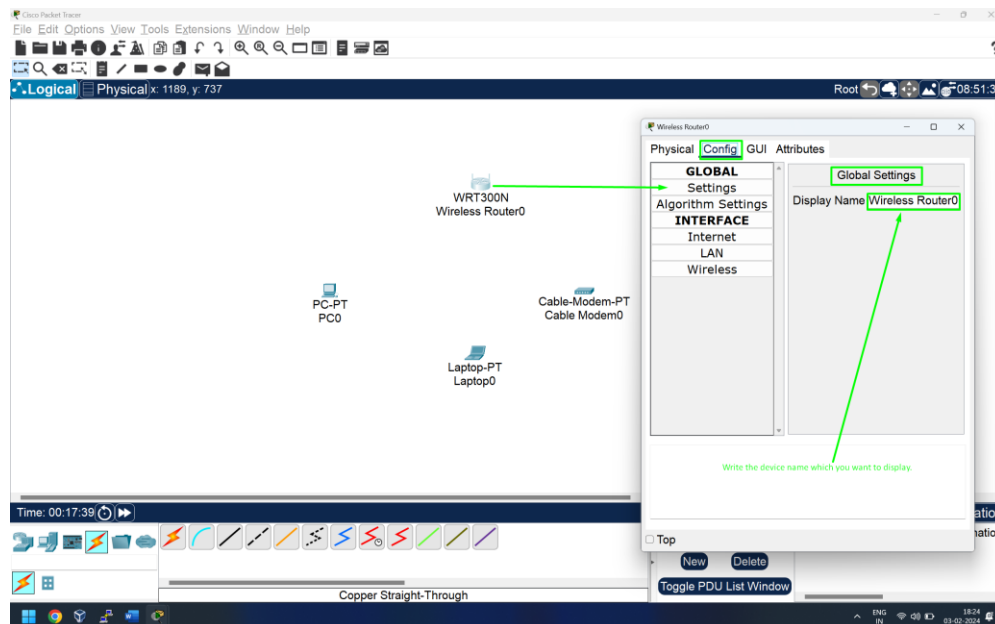


- In last add the Server from the End Devices.



B. Change the Display name of the Network Devices.

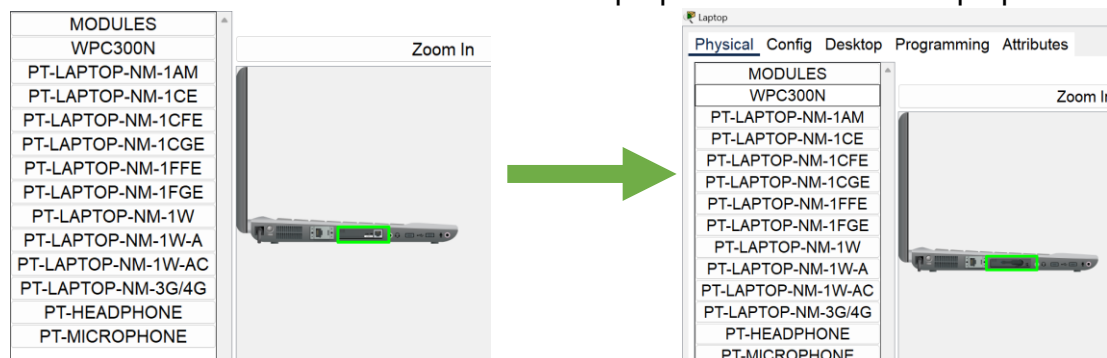
- For change the display name just double click on the device and select the Config tab and select the global setting and change the display name for all the devices as shown in the figure.



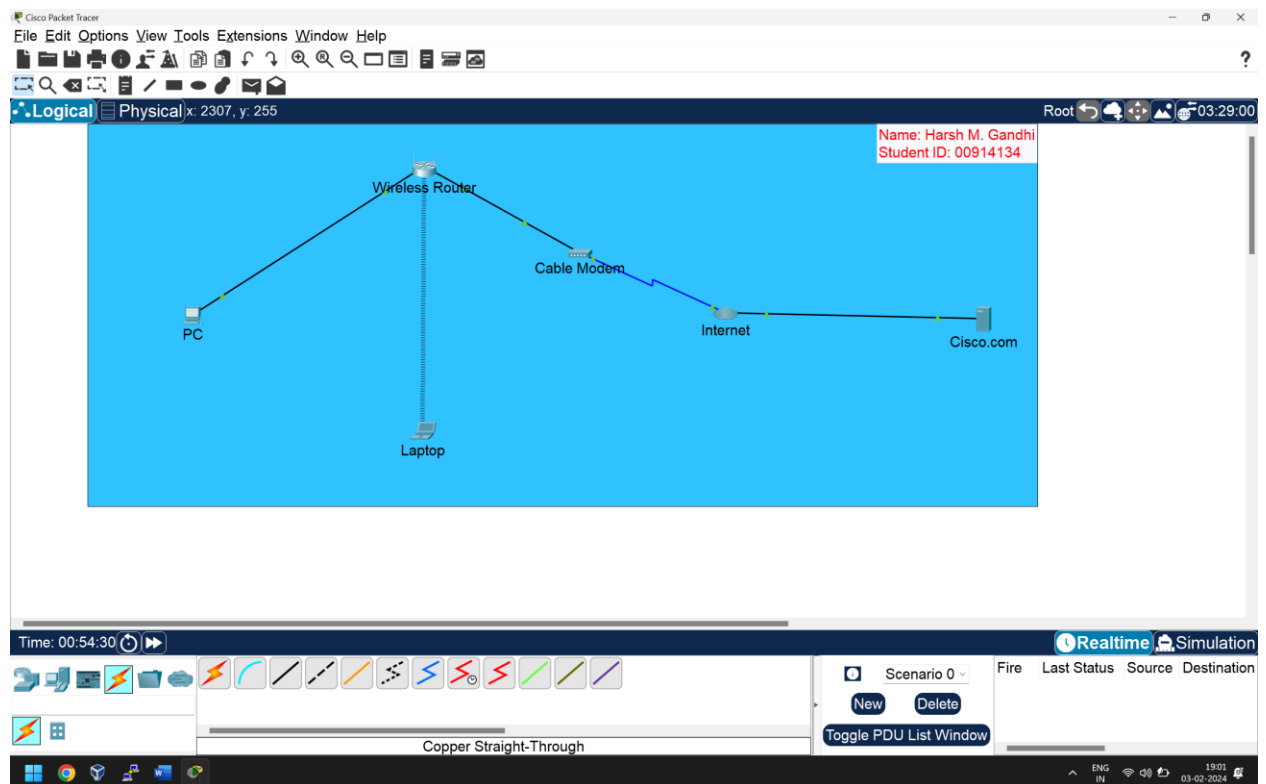
- And then from Preference Tab unchecked the Show device model name, so it look better.

C. Make a connection for all the devices.

- Now make a connection from router to all other end devices.
- Use **Copper-Straight-Through** to make connection between **Router** and **PC**. Select the **FastEthernet0** port from the PC and Select the **Ethernet1** from the Router.
- For laptop we are using **WIFI(Wireless Connection)** for that we have to make changes in the hardware of the Laptop. For that double click on the Laptop and move to physical tab. Then Power off the Laptop and remove the **PT-LAPTOP-NM-1AM** and attached the **WPC300N** to laptop and Turn-on the Laptop.



- To make connections between **router** and **cable modem** we required the Copper-Straight-Through, select **Internet** from router and **Port 1** from the Cable Modern.
- Then Select the **Coaxial Cable** to make connections between **Cable Modern** and **Internet**. Select **Port0** from the Cable Modern and **Coaxial 7** from the Internet device.
- Now again select the **Copper-Straight-Through** to make connection between the **Internet** and **Cisco.Com (Server)**, select the **Ethernet** from Internet and select the **FastEthernet0** from the Server. as Shown in the figure make all the connection.

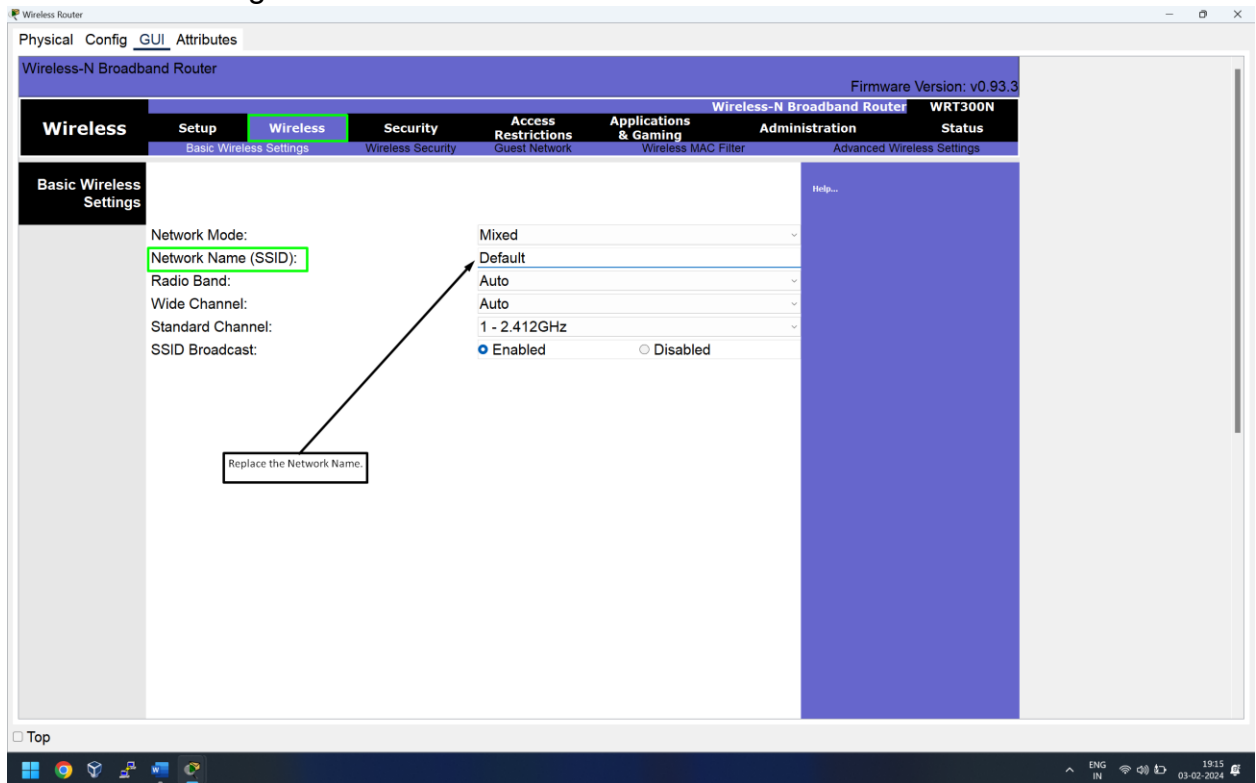


Part 2: Configure the Network Devices.

Step 1: Configure the Wireless Router.

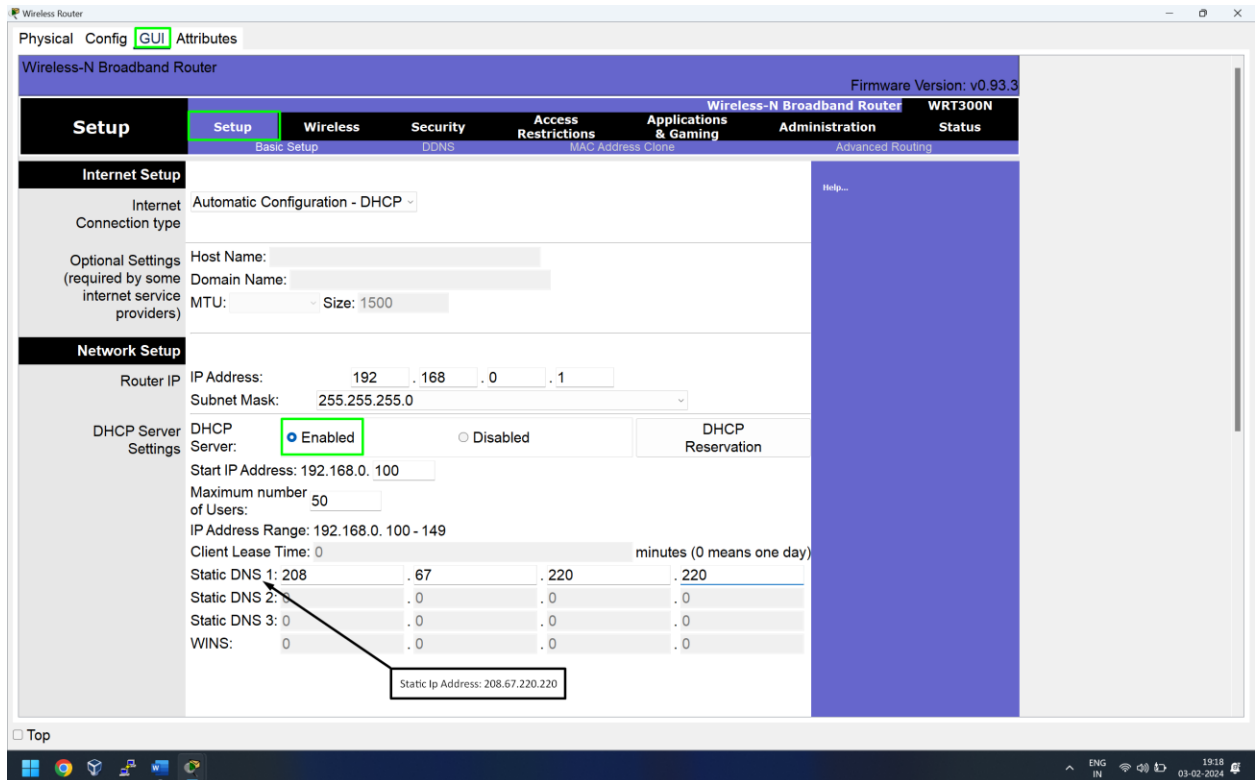
A. Create the wireless network on the wireless router.

- Click on the **Wireless Router** icon and open the GUI tab to view configuration options for the wireless router.
- We need to change the Network Name from default to HomeNetwork.



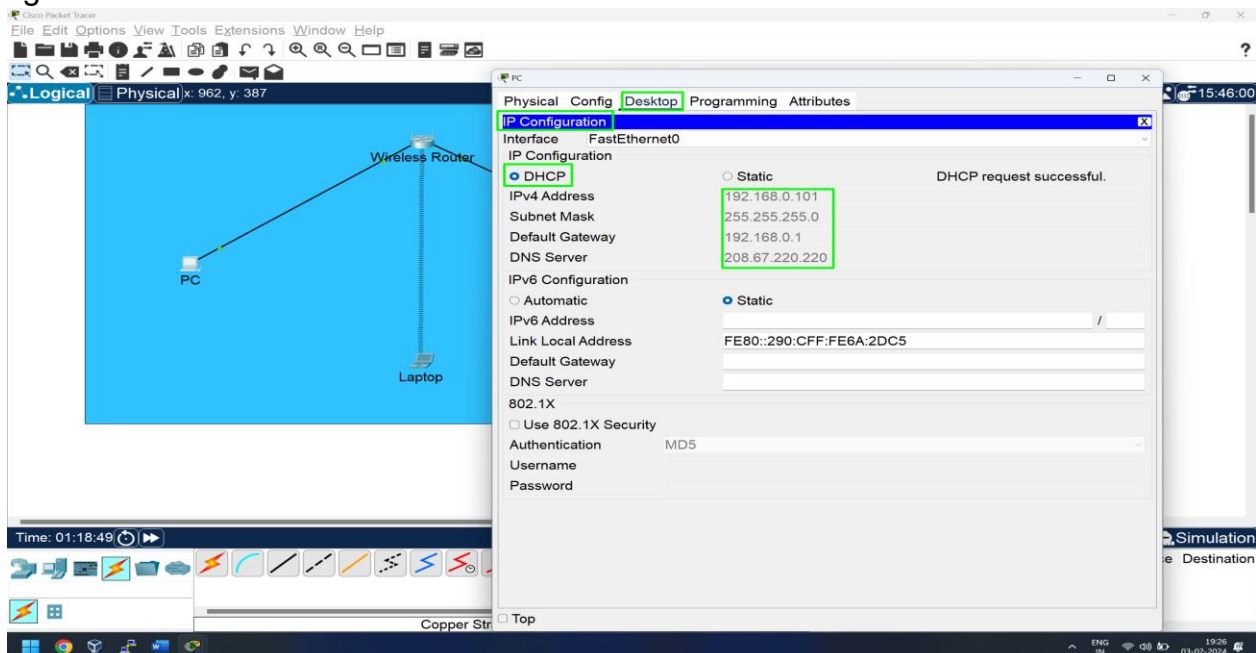
B. Configure the Network Setup.

- Now open the Setup tab in wireless router GUI interface.
- Verify the DHCP Server is enable or not and configure the Static IP address of the DNS server as 208.67.220.220 as shown in the Figure.

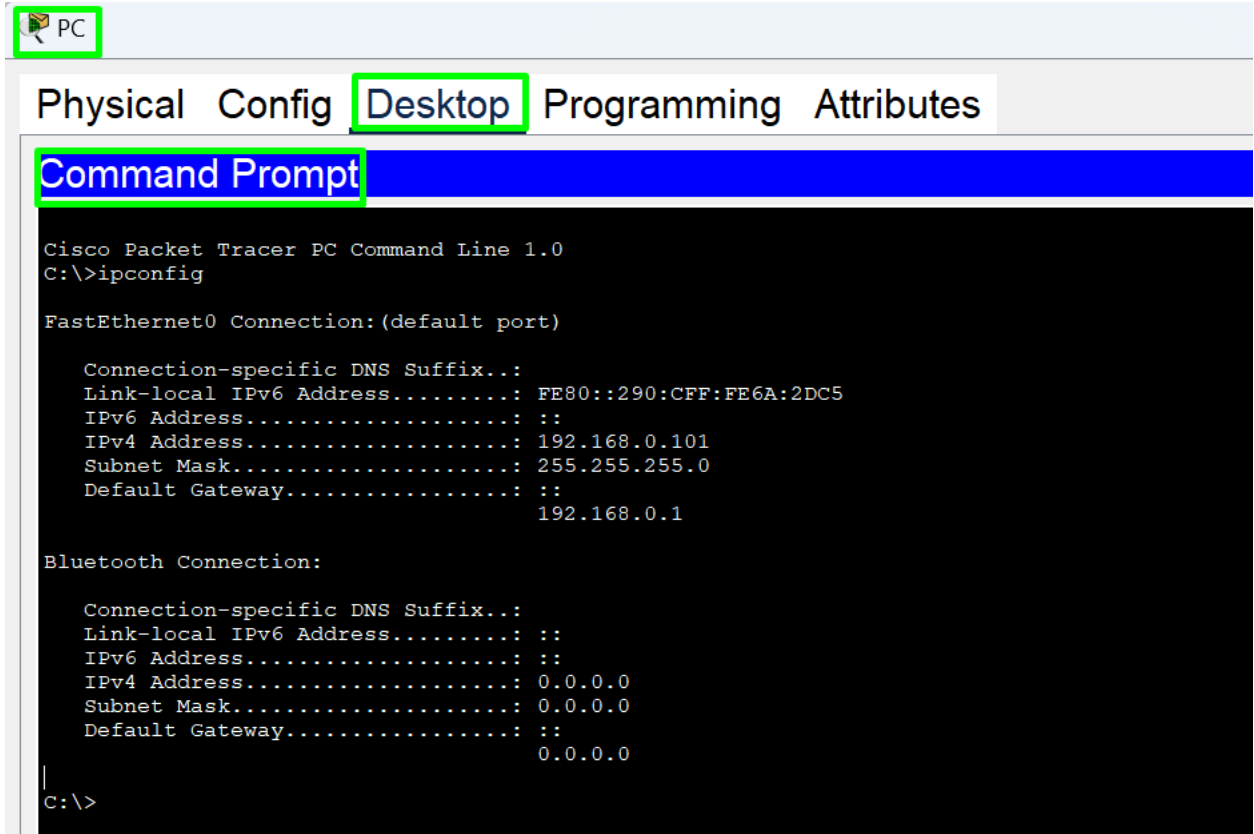


Step 2: Configure the PC.

- Double Click on the **PC** icon and Open the **Desktop Tab** and then Open the **IP Configuration Window**.
- Select the DHCP radio button to allocate the IPv4 address from the wireless router automatically and close the window after Ip been seen as shown in the figure.

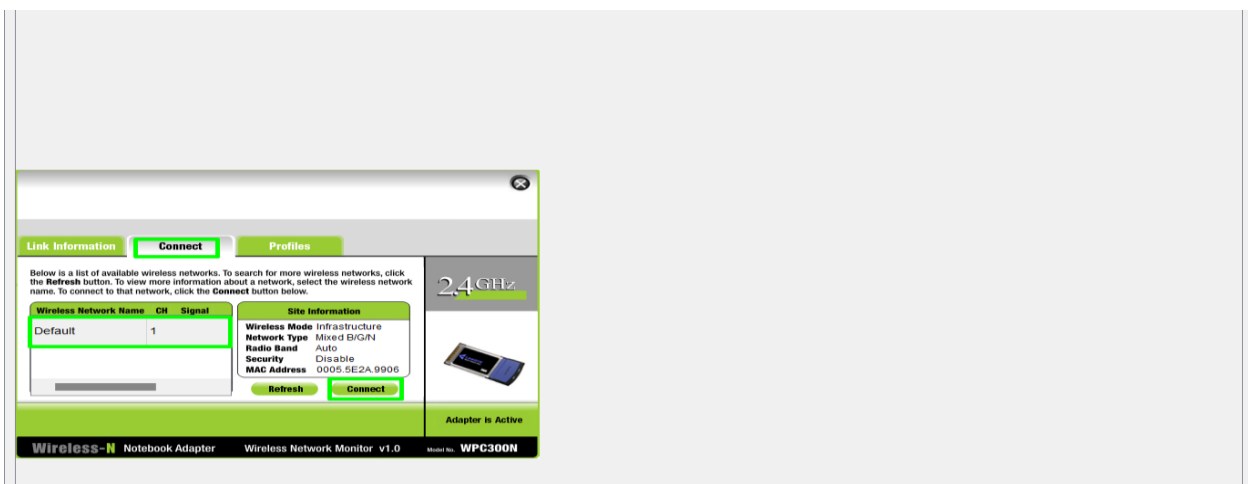


- For verify the Ip we have to open the command prompt from the Desktop Tab of PC. And type Ipconfig to see the IP address of the PC.



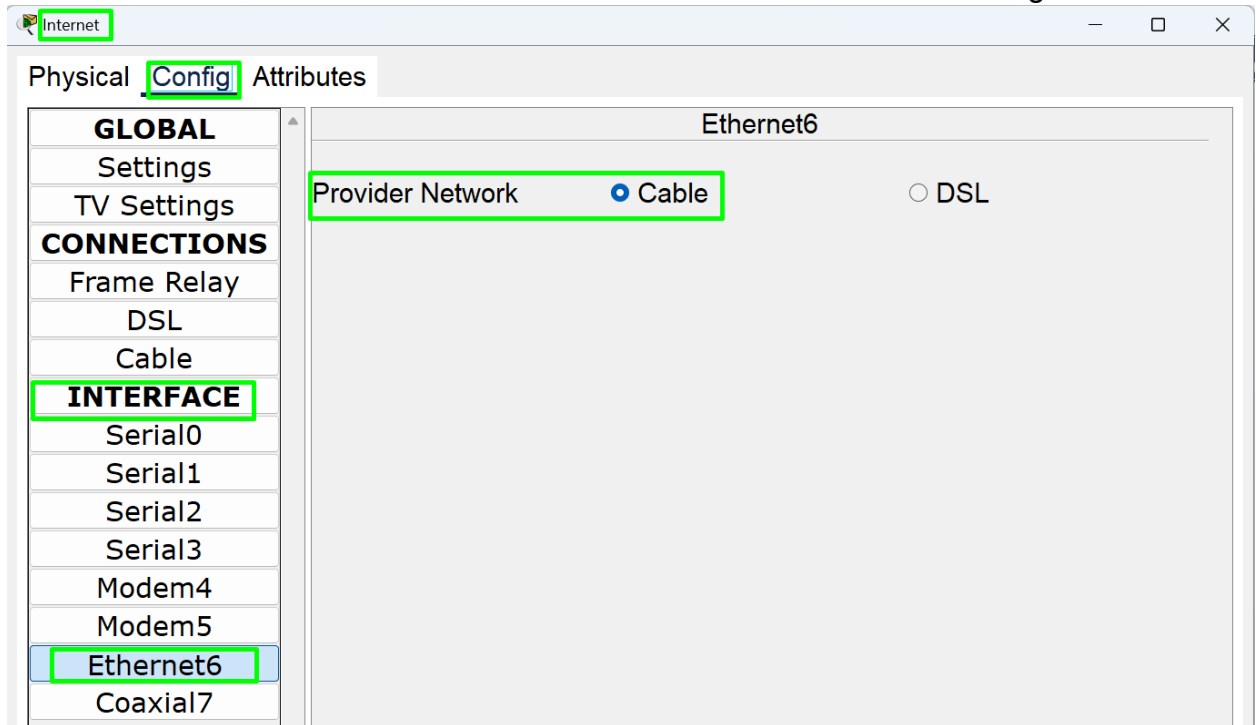
Step 3: Configure the Laptop.

- Double click on the Laptop Icon and Open the Desktop Tab and Click on the PC-Wireless Icon to connect the wireless Network of the Wireless Router.
- Once the PC-Wireless window open move to Connect tab, refresh the page then you get the wireless network “**Home Network**” should be visible in the list select it and press the Connect Button as shown in the figure.

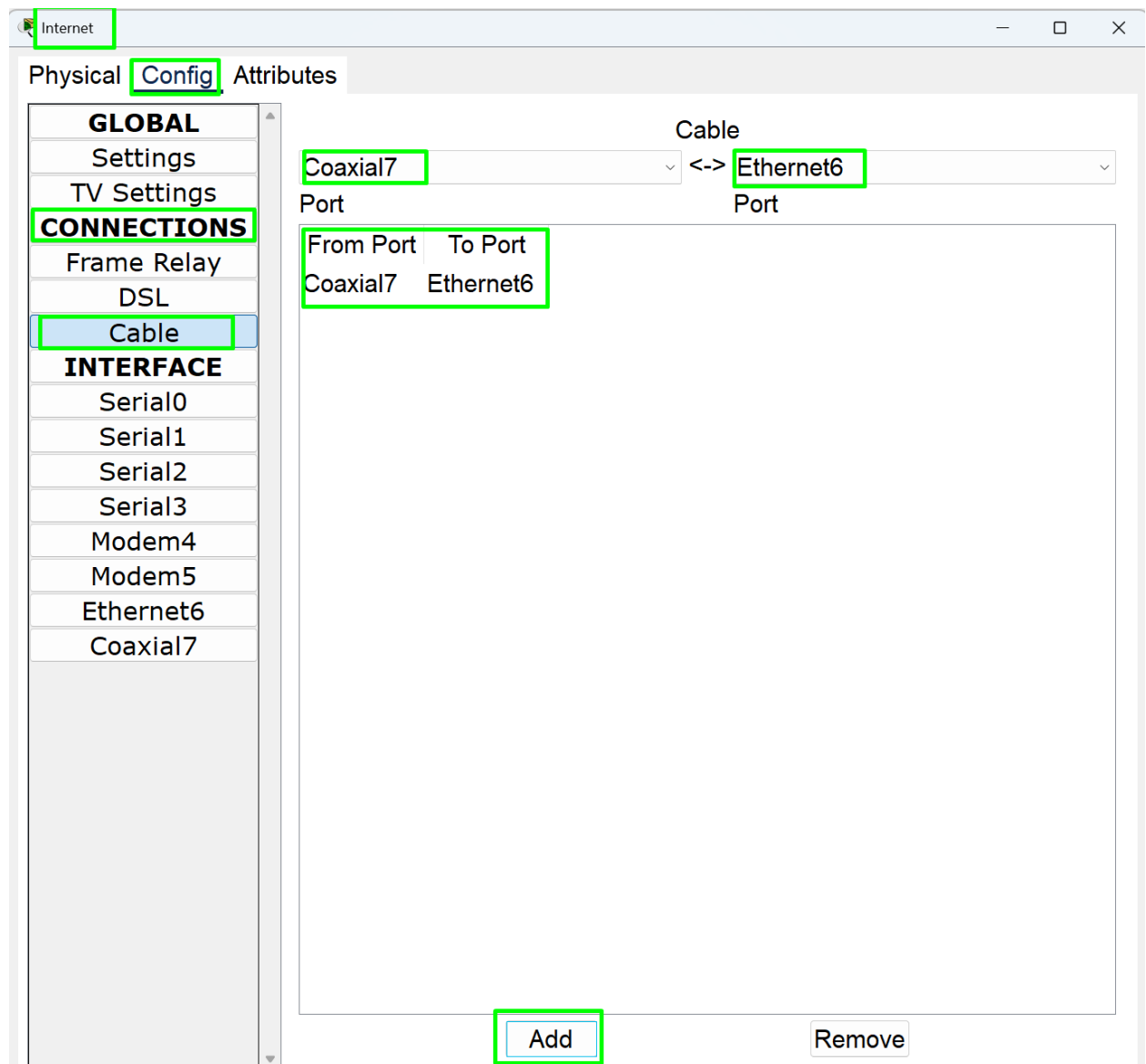


Step 4: Configure the Internet Cloud.

- Click on the Config tab in the Cloud device
- Identify the type of provider, Click on the Ethernet under the INTERFACE in the Left Panel. Select the Cable as the Network Provider as shown in the figure.



- Identify the from and To Ports.
- Click on the **Cable** under the **CONNECTION** on the left panel of the Config Tab, In the **First** drop down box choose the **Coaxial** and in the **Second** drop down box choose **Ethernet** then click the **ADD** button as shown in the figure.



Step 5: Configure the Cisco.com Server.

- A. Configure the Cisco.com server as a DHCP server.
- Double click on the Cisco.com icon and open the Service tab. Select the **DHCP** from the **Service** list in the left panel.
 - In **DHCP** configuration window, configure a DHCP as mention in the Question.
 - Click **ON** to turn on the **DHCP** Services.
 - Pool Name: DHCP Pool
 - Default Gateway: 208.67.220.220
 - DNS server: 208.67.220.220
 - Starting IP Address: 208.67.220.1
 - Subnet Mask: 255.255.255.0
 - Maximum number of User: 50

- Click on add to Add the Pool.

Cisco.com

Physical Config **Services** Desktop Programming Attributes

SERVICES

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DHCP

Interface: FastEthernet0 Service ☒ On ☐ Off

Pool Name: DHCPpool

Default Gateway: 208.67.220.220

DNS Server: 208.67.220.220

Start IP Address : 208 67 220 1

Subnet Mask: 255 255 255 0

Maximum Number of Users : 50

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
DHCPpool	208.6...	208.6...	208.6...	255.2...	50	0.0.0.0	0.0.0.0

B. Configure the DNS service.

- Select the **DNS** from the **SERVICE** listed on the Left panel.
- Configure the **DNS** service as mention over here.
 - Click **ON** to turn on the DNS service.
 - Name: Cisco.com
 - Type: A Record.
 - Address: 208.67.220.220
- Click on add to Add the DNS services settings.

The screenshot shows the Cisco.com configuration window with the 'Services' tab selected. On the left, the 'SERVICES' list has 'DNS' highlighted. The main area shows the 'DNS' configuration. The 'DNS Service' is turned 'On'. Below, the 'Resource Records' section shows a record for 'Name: cisco.com' with 'Type: A Record' and 'Address: 208.67.220.220'. At the bottom, a table lists the configured records.

No.	Name	Type	Detail
0	cisco.com	A Record	208.67.220.220

C. Configure the Cisco.com Server Global Setting.

- Select the **Config** tab.
- Open the Setting Window under the Global Setting.
 - Select **Static** radio button.
 - Gateway: 208.67.220.1
 - DNS server: 208.67.220.220

The screenshot shows the Cisco.com configuration window with the 'Config' tab selected. The left panel shows 'GLOBAL Settings' and 'INTERFACE FastEthernet0'. The main area shows 'Global Settings' for 'Display Name: Cisco.com'. Under 'Gateway/DNS IPv4', the 'Static' radio button is selected. The 'Default Gateway' is set to '208.67.220.1' and the 'DNS Server' is set to '208.67.220.220'.

D. Configure the FastEthernet0 Interface setting.

- Open the FastEthernet0 window
 - Select **Static** under the IP configuration.
 - IP Address: 208.67.220.220
 - Subnet Mask: 255.255.255.0

The screenshot shows a web browser window with the Cisco logo in the top left corner. The browser's address bar is empty. The main content area has a navigation bar with tabs: Physical, Config, Services, Desktop, Programming, and Attributes. Below the navigation bar, there is a sidebar on the left with a tree view. The tree view has two main sections: 'GLOBAL' and 'INTERFACE'. Under 'GLOBAL', there are 'Settings' and 'Algorithm Settings'. Under 'INTERFACE', there is 'FastEthernet0', which is currently selected and highlighted in blue. The main content area on the right is titled 'FastEthernet0' and contains several configuration fields. The 'Port Status' field is set to 'On' with a checked checkbox. The 'Bandwidth' field is set to '10 Mbps' with a radio button selected. The 'Duplex' field is set to 'Full Duplex' with a radio button selected. The 'MAC Address' field is set to '00E0.8F82.D6A6'. The 'IP Configuration' section has two options: 'DHCP' and 'Static'. The 'Static' option is selected with a radio button. Below the 'Static' option, the 'IPv4 Address' field is set to '208.67.220.220' and the 'Subnet Mask' field is set to '255.255.255.0'.

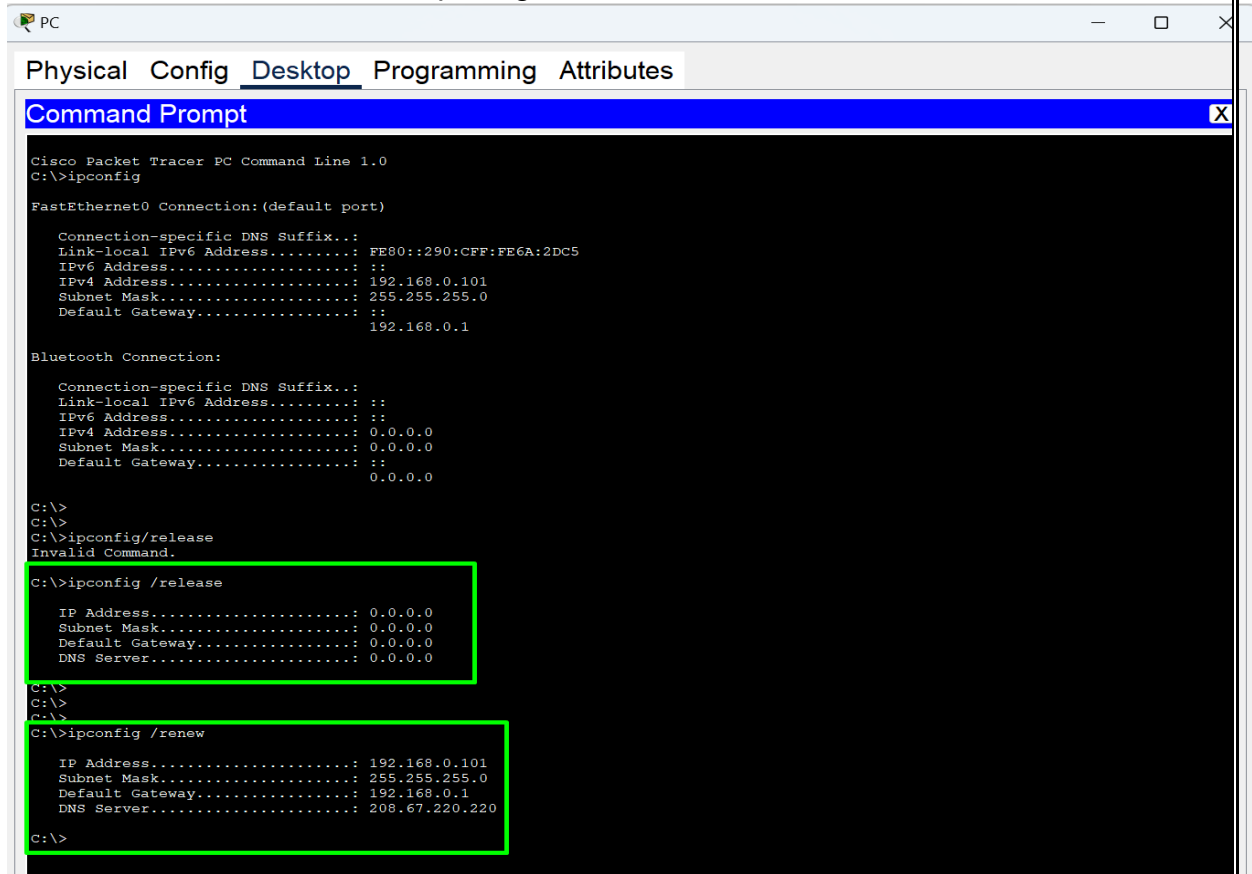
FastEthernet0	
Port Status	<input checked="" type="checkbox"/> On
Bandwidth	<input type="radio"/> 100 Mbps <input checked="" type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
Duplex	<input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
MAC Address	00E0.8F82.D6A6
IP Configuration	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
IPv4 Address	208.67.220.220
Subnet Mask	255.255.255.0

Part 3: Verify Connectivity.

Step 1: Refresh the IPv4 setting on the PC.

A. Renew the IPv4 Setting on the PC.

Open the Command Prompt and type ipconfig/release to precheck the given IP setting and after viewing that type ipconfig/renew for update the IP setting. You can see the difference of Ip in figure.



The screenshot shows a PC window with tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is active, displaying a Command Prompt window titled "Command Prompt". The Command Prompt shows the output of the following commands:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig

FastEthernet0 Connection: (default port)

    Connection-specific DNS Suffix...: 
    Link-local IPv6 Address . . . . .: FE80::290:CFF:FE6A:2DC5
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 192.168.0.101
    Subnet Mask . . . . .: 255.255.255.0
    Default Gateway . . . . .: ::
                               192.168.0.1

Bluetooth Connection:

    Connection-specific DNS Suffix...: 
    Link-local IPv6 Address . . . . .: ::
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 0.0.0.0
    Subnet Mask . . . . .: 0.0.0.0
    Default Gateway . . . . .: ::
                               0.0.0.0

C:\>
C:\>
C:\>ipconfig/release
Invalid Command.

C:\>ipconfig /release

IP Address . . . . .: 0.0.0.0
Subnet Mask . . . . .: 0.0.0.0
Default Gateway . . . . .: 0.0.0.0
DNS Server . . . . .: 0.0.0.0

C:\>
C:\>
C:\>
C:\>ipconfig /renew

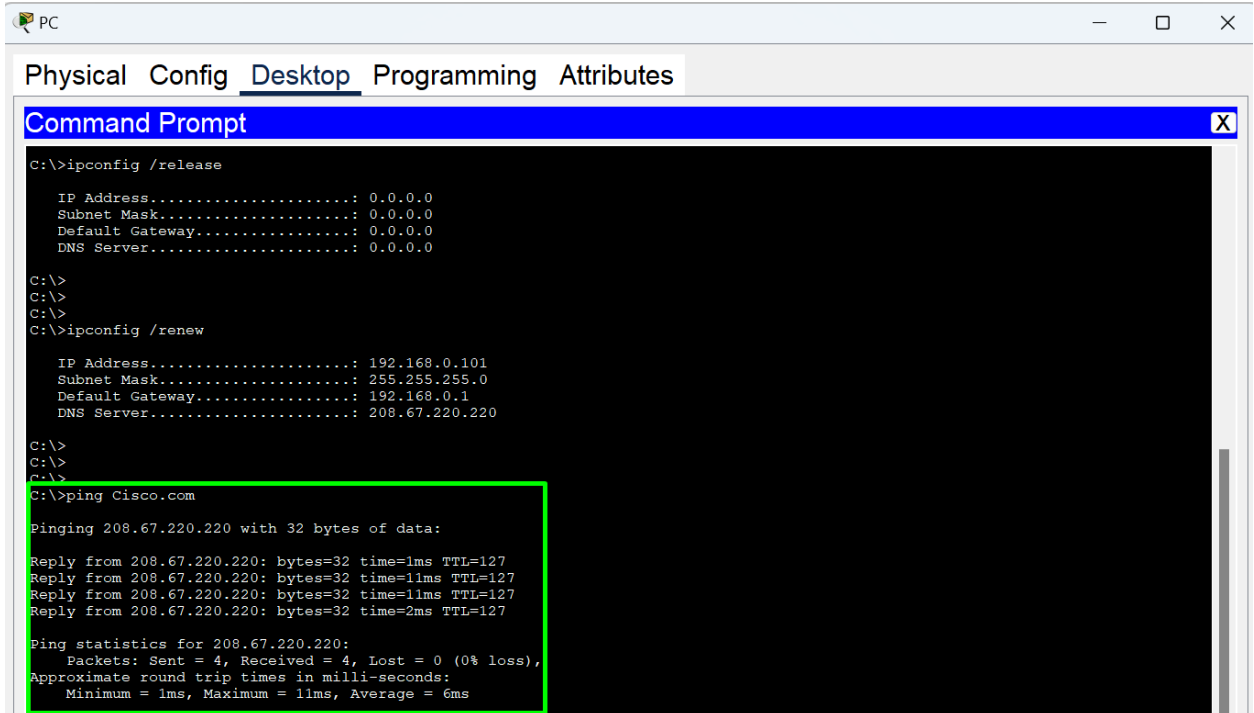
IP Address . . . . .: 192.168.0.101
Subnet Mask . . . . .: 255.255.255.0
Default Gateway . . . . .: 192.168.0.1
DNS Server . . . . .: 208.67.220.220

C:\>
```

The output of the `ipconfig /release` command is highlighted with a green box, showing all IP-related settings reset to 0.0.0.0. The output of the `ipconfig /renew` command is also highlighted with a green box, showing the IP address renewed to 192.168.0.101 and the DNS server set to 208.67.220.220.

B. Test the Connectivity to the Cisco.com server from the PC.

- For check the connectivity we have to share the traffic to the server by ping the Cisco.com.
- If we obtain the below Output in Command prompt than the connection is established perfectly other wise we have to configure the network again.



The screenshot shows a PC window with a tabbed interface. The 'Desktop' tab is active, displaying a Command Prompt window. The Command Prompt shows the following commands and output:

```
C:\>ipconfig /release

IP Address. . . . .: 0.0.0.0
Subnet Mask. . . . .: 0.0.0.0
Default Gateway. . . . .: 0.0.0.0
DNS Server. . . . .: 0.0.0.0


C:\>
C:\>
C:\>ipconfig /renew

IP Address. . . . .: 192.168.0.101
Subnet Mask. . . . .: 255.255.255.0
Default Gateway. . . . .: 192.168.0.1
DNS Server. . . . .: 208.67.220.220

C:\>
C:\>
C:\>ping Cisco.com

Pinging 208.67.220.220 with 32 bytes of data:
Reply from 208.67.220.220: bytes=32 time=1ms TTL=127
Reply from 208.67.220.220: bytes=32 time=11ms TTL=127
Reply from 208.67.220.220: bytes=32 time=11ms TTL=127
Reply from 208.67.220.220: bytes=32 time=2ms TTL=127

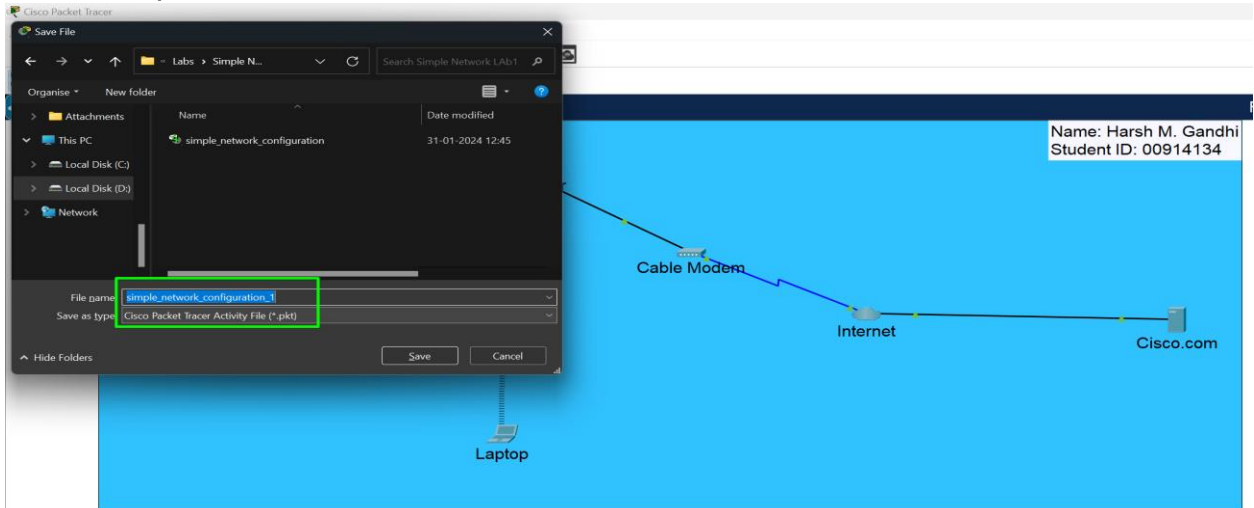
Ping statistics for 208.67.220.220:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 11ms, Average = 6ms
```

Simulation Panel			
Event List			
Vis.	Time(sec)	Last Device	At Device
	5.941	Cable Modem	Wireless
	5.942	Wireless Router	PC
	5.942	--	PC
	5.943	PC	Wireless
	5.944	Wireless Router	Cable Mo
	5.945	Cable Modem	Internet
	5.946	Internet	Cisco.com

Part 4: Save and Close the Packet Tracer file.

A. Save the file as Packet Tracer Activity file (*.pkt).

- To save the completed network, click on the **File** in packet tracer menu bar and then select **SaveAs** from the drop-down menu. Select the Directory where you want to store the file and give the appropriate file name. By default the file will save with .pkt extension.



B. Close the Packet Tracer.

- Press Alt+F4 to close the Packet tracer or Press the X button over the right side of the laptop edge.

Discussion or Analysis

- At starting I'm baffled about the lab, and in initial tries i have gone through many mistakes, but at the end I realized all my mistakes and set right them.
- I have a bit confused while configuring the server and get wrong many times over there.
- Starting I have facing problem while the configuring the devices and I corrected them.
- I tries many times then I found my mistake finally I create a network without any mistakes.

Conclusions

- I have successfully build a network by using some network devices and connected them.
- Through this lab I have gained a valuable information and learned how to create a network.
- With the cisco packet tracer can gain hands on experience.