

786

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Subject: Computer Network Lab

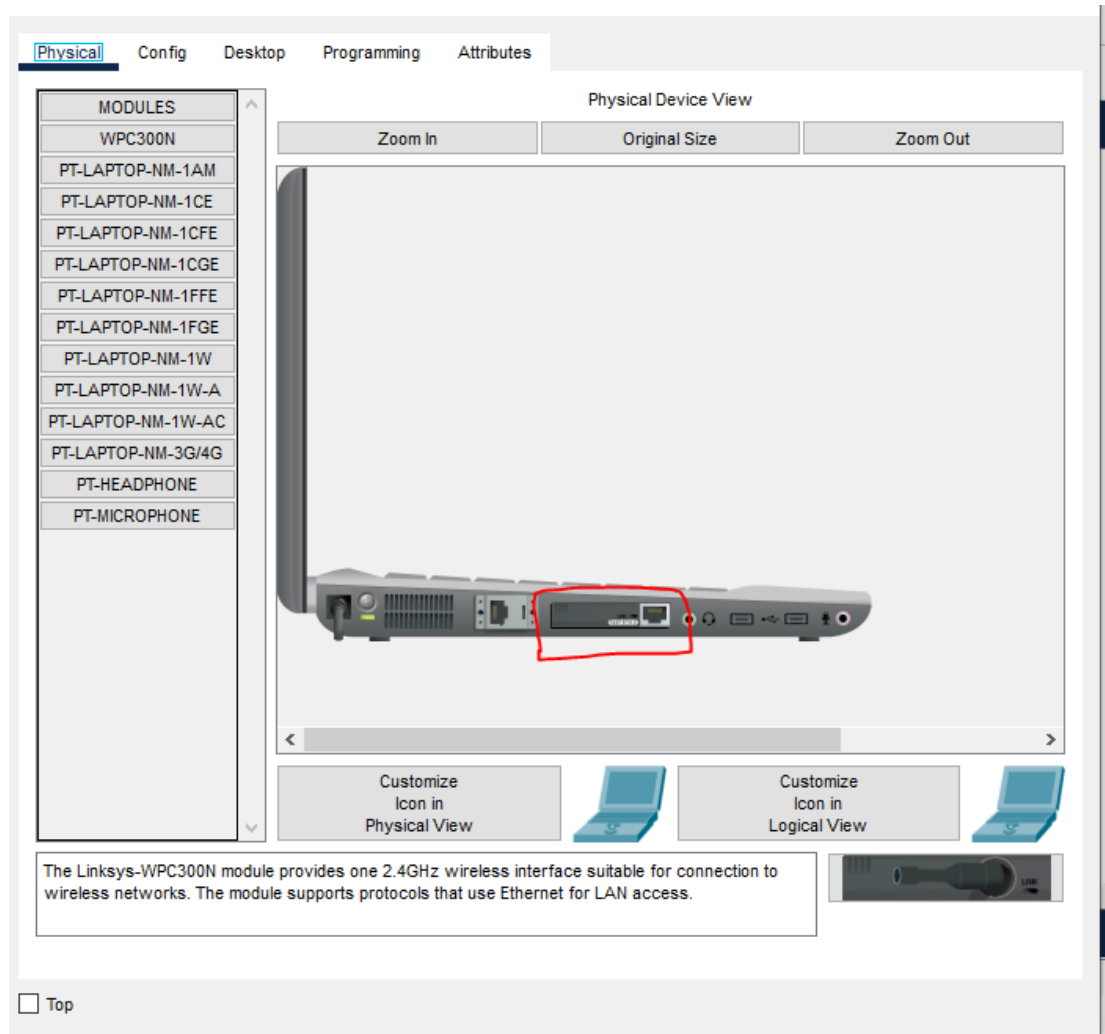
Task No: 07

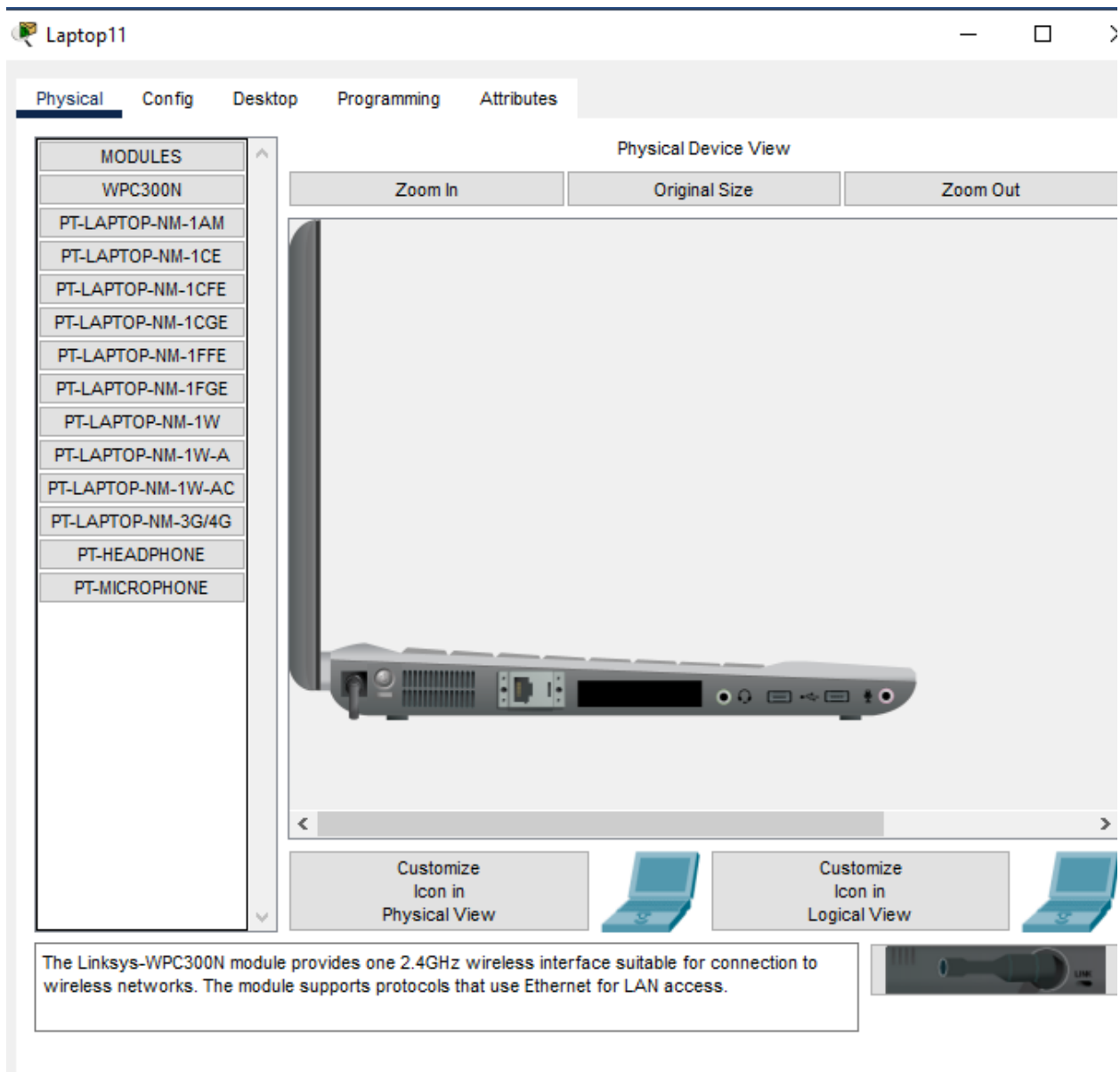
Submitted To Respect Ma'am: **Miss Hurmat Hidayat**

Section: B

Task 1: WLAN Configuration on Packet Tracer

Our laptop doesn't have a wireless connection so first we turn off our laptop and remove the following parts by shutting down our laptop.





Adding The Wireless Network Adapter:

Physical Config Desktop Programming Attributes

MODULES
WPC300N
PT-LAPTOP-NM-1AM
PT-LAPTOP-NM-1CE
PT-LAPTOP-NM-1CFE
PT-LAPTOP-NM-1CGE
PT-LAPTOP-NM-1FFE
PT-LAPTOP-NM-1FGE
PT-LAPTOP-NM-1W
PT-LAPTOP-NM-1W-A
PT-LAPTOP-NM-1W-AC
PT-LAPTOP-NM-3G/4G
PT-HEADPHONE
PT-MICROPHONE

Physical Device View

Zoom In

Original Size

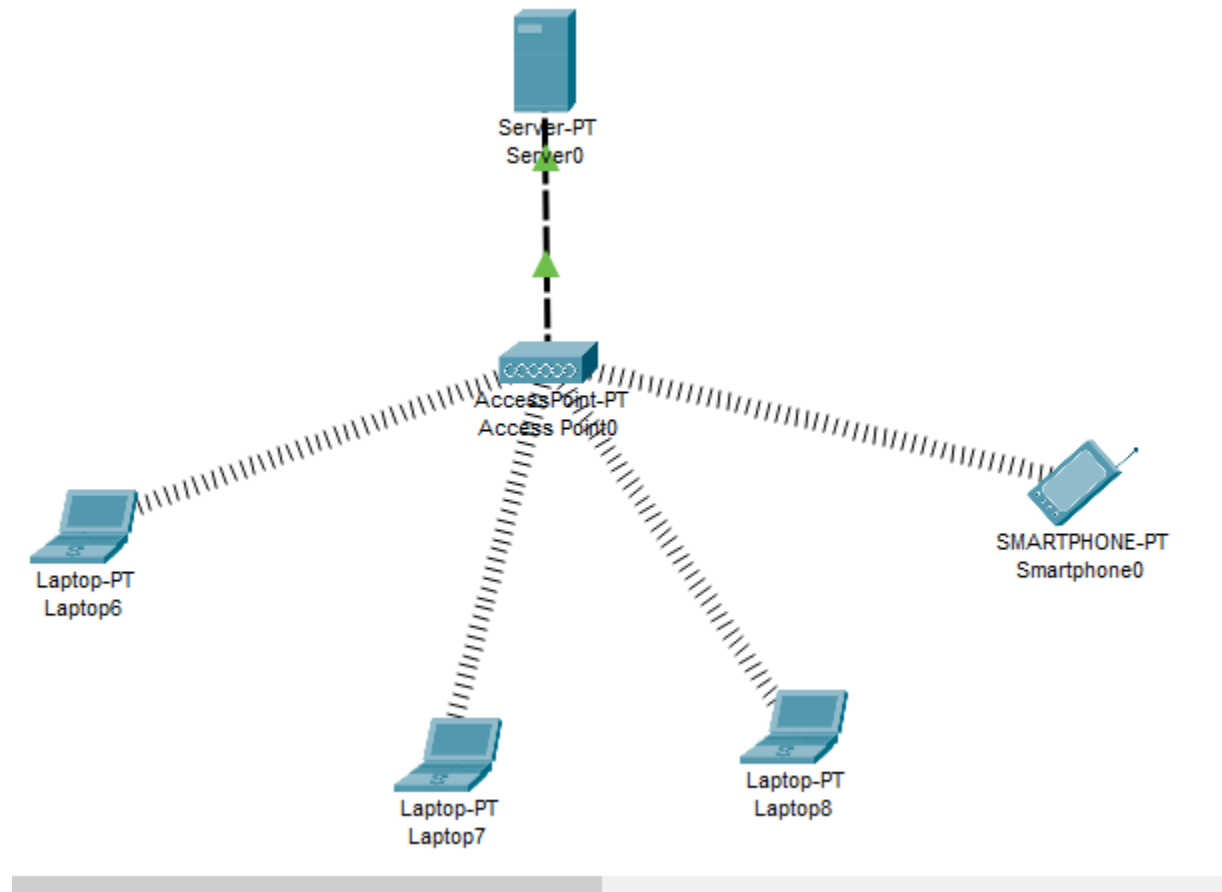
Zoom Out

Customize
Icon in
Physical ViewCustomize
Icon in
Logical View

The Linksys-WPC300N module provides one 2.4GHz wireless interface suitable for connection to wireless networks. The module supports protocols that use Ethernet for LAN access.



Topology:



Now after connecting all the wireless devices to the access point then after that when we check the DHCP connection it is failing so we set our DHCP server

Server Configuration:

This server will give IP addresses to our devices who are connected to the Access Point.

Services Tab Setting:

In the Services tab of Server, we will go through the DHCP at the left hand. In here, we will define

IP Pool:

Our IP Pool. For this configuration example our DHCP Pool's name is "IPCisco Pool". Beside, we will

Default Gateway Configuration:

Configure the Default Gateway, DNS Server IP addresses. After that we will configure the starting

IP And Subnet Mask Assignment:

IP and Subnet Mask. DHCP server will start IP assignation with this IP. And for this example, we have

Created 254 IP for our IP Pool. We also assign this value on this screen.

Server0

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: Pciscopool

Default Gateway: 172.16.0.1

DNS Server: 172.16.0.1

Start IP Address: 172.16.0.0

Subnet Mask: 255.255.255.0

Maximum Number of Users: 254

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add Save Remove

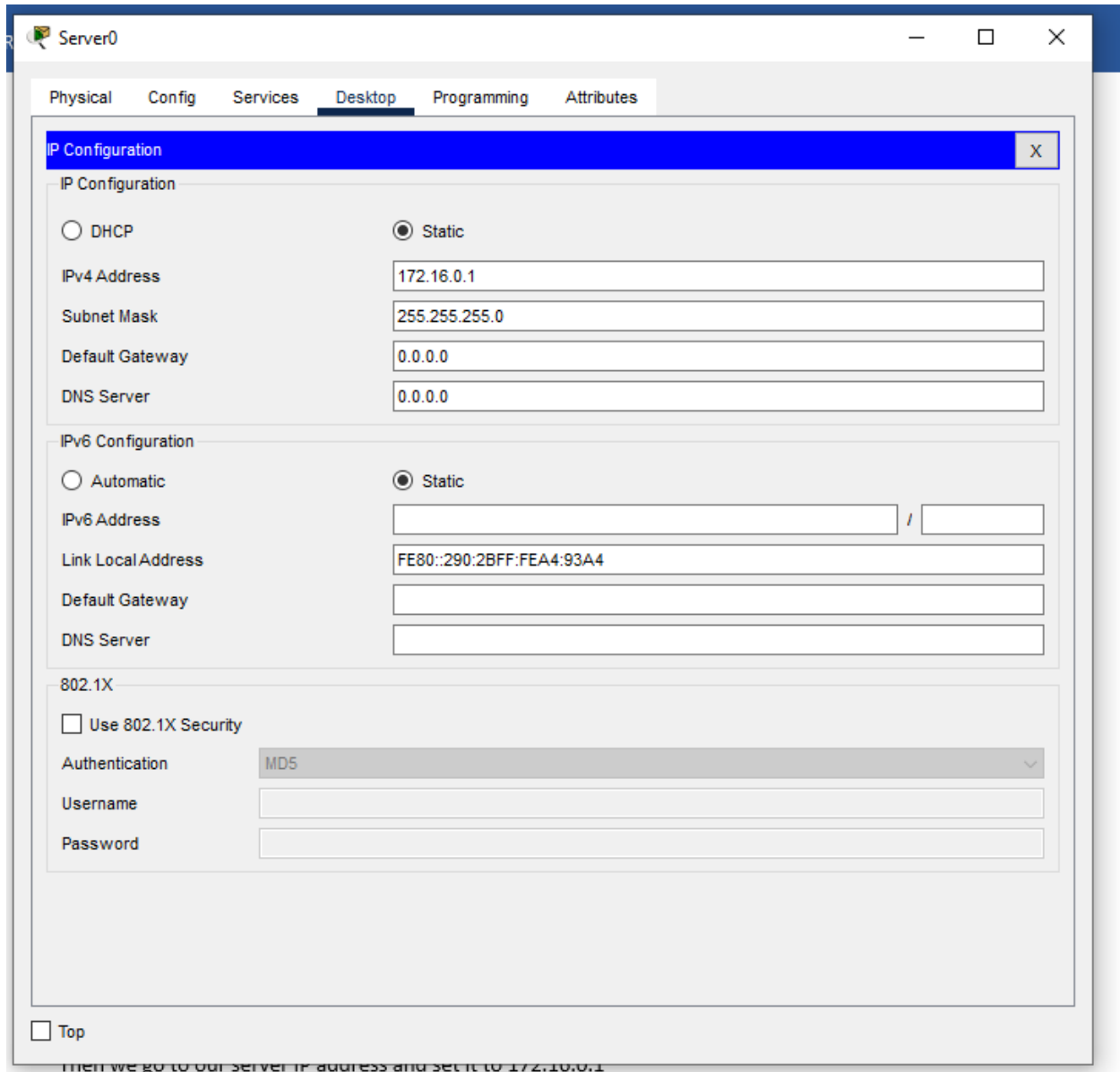
Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
Pciscopool	172.16.0.1	172.16.0.1	172.16.0.0	255.255.255.0	254	0.0.0.0	0.0.0.0
serverPool	0.0.0.0	0.0.0.0	172.0.0.0	255.255.255.0	255	0.0.0.0	0.0.0.0

< >

☐ Top

“Turning On The DHCP Services.”

Set the server IP Address to “172.16.0.1”.



The screenshot shows the 'Server0' configuration window with the 'Desktop' tab selected. The 'IP Configuration' section is expanded, showing the following settings:

Section	Option	Value
IP Configuration	<input type="radio"/> DHCP	
	<input checked="" type="radio"/> Static	
	IPv4 Address	172.16.0.1
	Subnet Mask	255.255.255.0
	Default Gateway	0.0.0.0
IPv6 Configuration	<input type="radio"/> Automatic	
	<input checked="" type="radio"/> Static	
	IPv6 Address	
	Link Local Address	FE80::290:2BFF:FEA4:93A4
	Default Gateway	
802.1X	<input type="checkbox"/> Use 802.1X Security	
	Authentication	MD5
	Username	
	Password	

At the bottom left, there is a checkbox labeled 'Top'.

Check DHCP Connection On Laptops.

Laptop6

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

Wireless0

▼

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

172.16.0.5

Subnet Mask

255.255.255.0

Default Gateway

172.16.0.1

DNS Server

172.16.0.1

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

Link Local Address

FE80::290:2BFF:FE88:C055

Default Gateway

DNS Server

☐ Top

New

Delete

Laptop7

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

Wireless0

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

172.16.0.6

Subnet Mask

255.255.255.0

Default Gateway

172.16.0.1

DNS Server

172.16.0.1

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

Link Local Address

FE80::20D:BDFF:FEE2:6442

Default Gateway

DNS Server

☐ Top

New

Delete

Smartphone0

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceWireless0

IP Configuration

☒ DHCP☐ Static

IPv4 Address172.16.0.3

Subnet Mask255.255.255.0

Default Gateway172.16.0.1

DNS Server172.16.0.1

IPv6 Configuration

☐ Automatic☒ Static

IPv6 Address /

Link Local AddressFE80::202:16FF:FE10:E55D

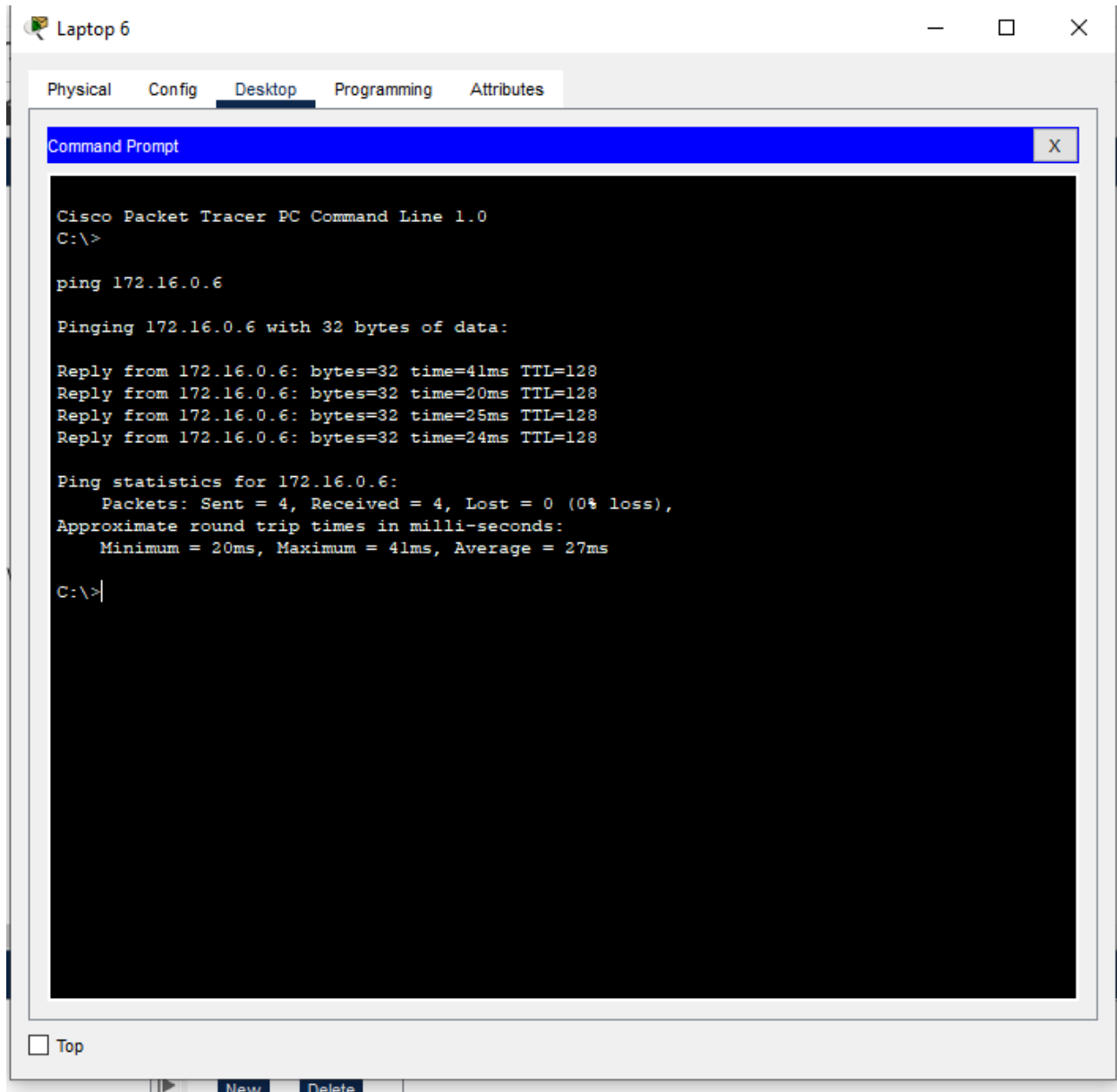
Default Gateway

DNS Server

☐ Top

NewDelete

Pinging PC To Test The Connection:

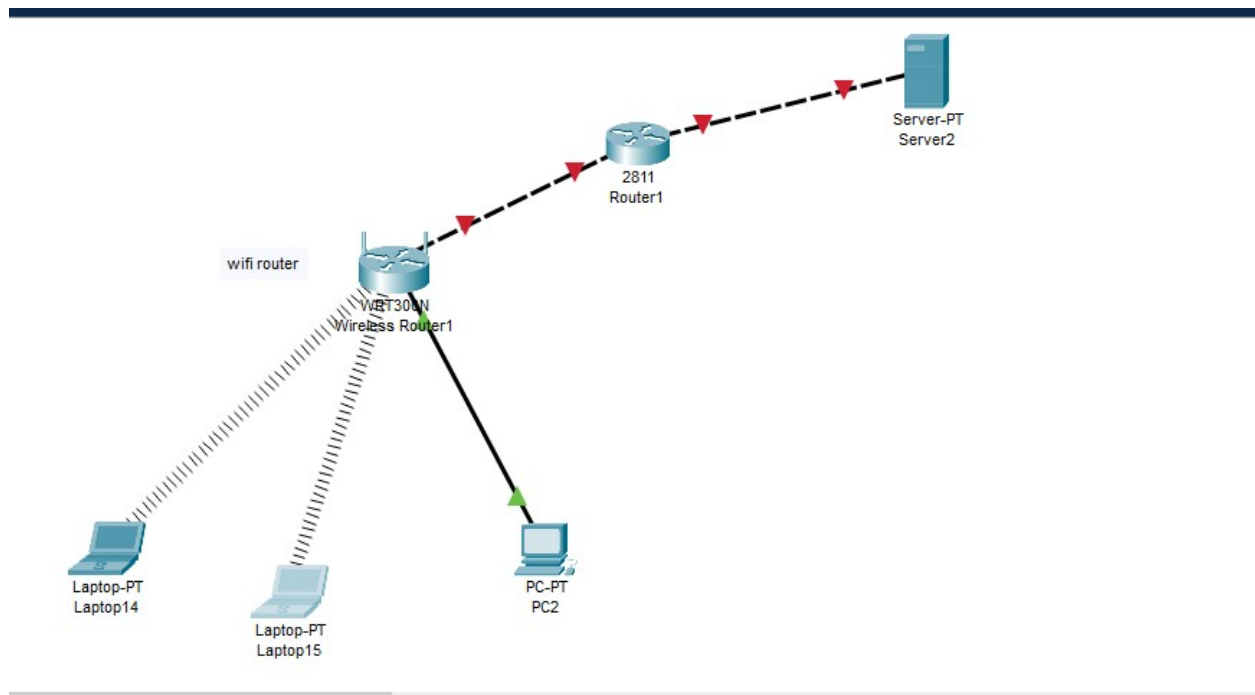


Task 2: WAN Router configuration in Cisco Packet Tracer

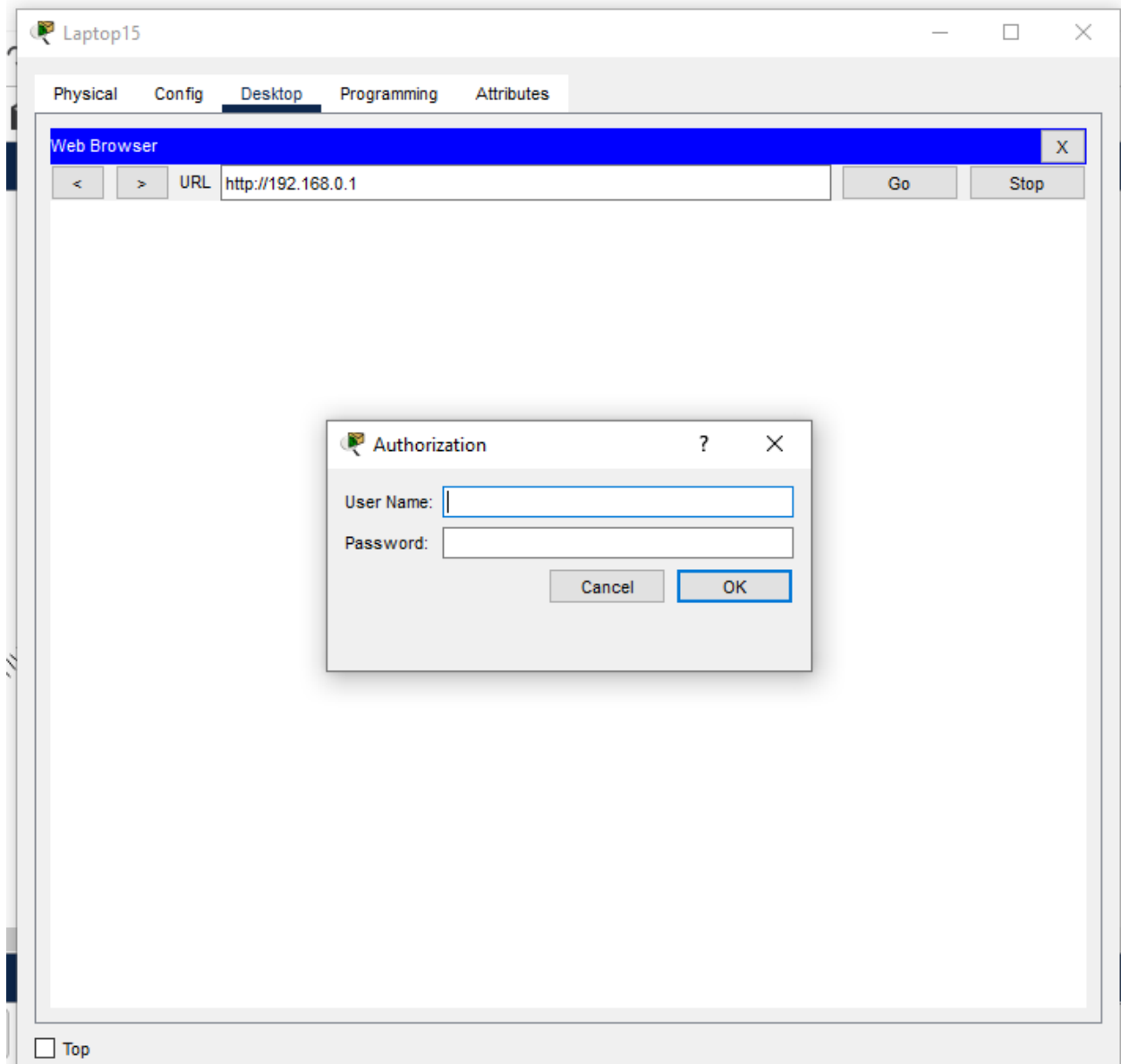
First we pick a wireless router and two laptops, a PC, a generic server and a 2800-series router(or just any other router other than wireless).

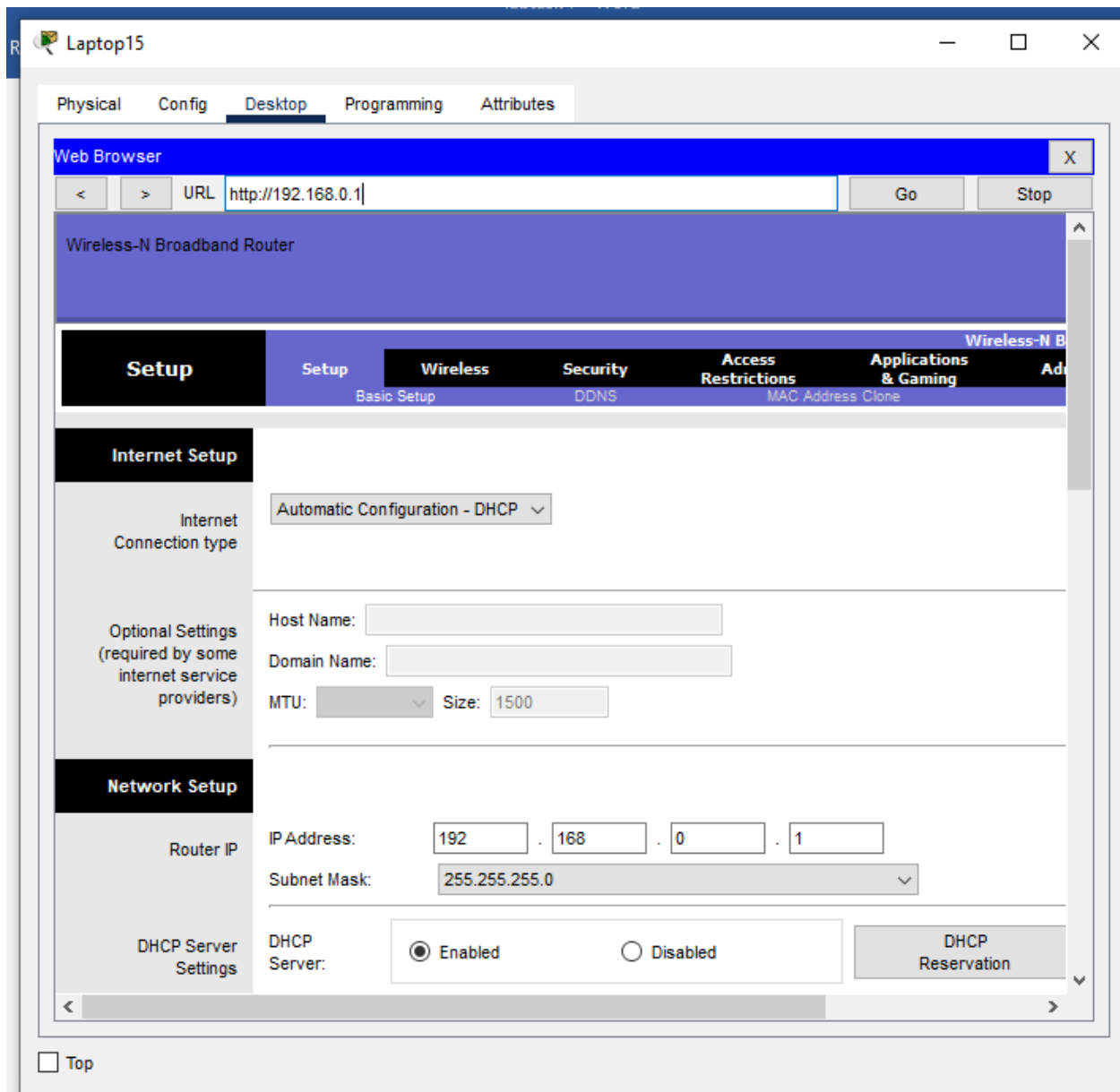
Make sure that you first power off each laptop before you make any replacement then restore the Power back after replacement.

Once you have the wireless modules in place, you'll see the wireless connections come up between the laptops and the wireless router as shown below.



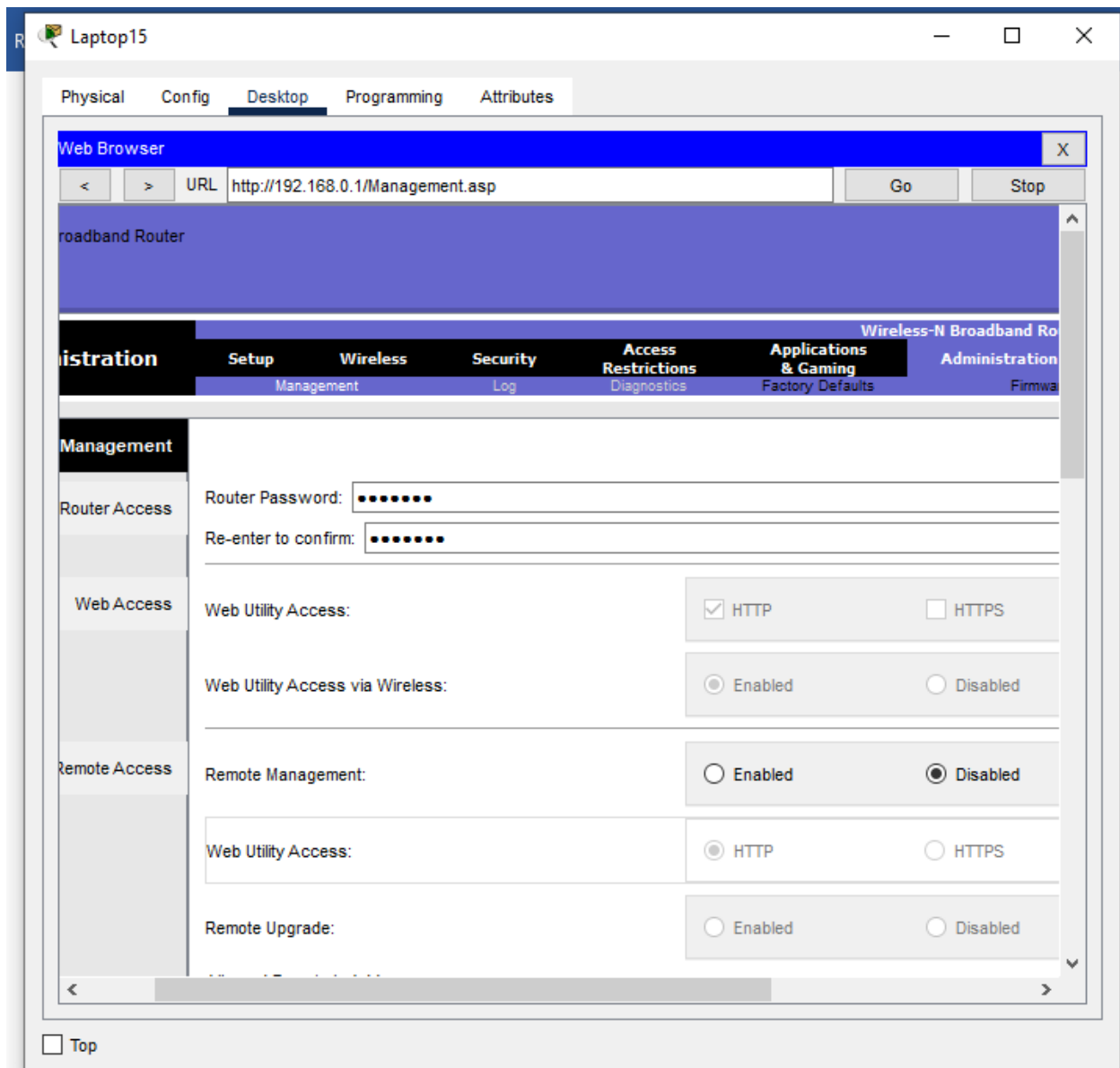
Then we open our laptop and go to browser and click on the default IP of the wireless router. So we go on web and search the IP address it will display a page asking for username and password which is default admin and admin





We logged in to the wireless router GUI .

And now we are going to change the password for the wireless router



Changing Password:

We change our password from admin to fast123

LAN Setup and Internet Setup:

Network Setup Already, we have a PC and three laptops in the LAN. We'll assign

The them IP addresses either statically or dynamically (using a DHCP pool set up in the wireless

Router we will go to the network setup then we change start IP address to 192.168.0.50 and max users to 50 and save settings

Wireless Router1

Physical Config **GUI** Attributes

providers) MTU: Size: 1500

Network Setup

Router IP

IP Address: 192 . 168 . 0 . 1

Subnet Mask: 255.255.255.0

DHCP Server: ☒ Enabled ☐ Disabled **DHCP Reservation**

Start IP Address: 192.168.0. 50

Maximum number of Users: 50

IP Address Range: 192.168.0. 50 - 99

Client Lease Time: 0 minutes (0 means one day)

Static DNS 1: 0 . 0 . 0 . 0

Static DNS 2: 0 . 0 . 0 . 0

Static DNS 3: 0 . 0 . 0 . 0

WINS: 0 . 0 . 0 . 0

Top

And then go to check let's enable DHCP on each PC for dynamic configuration. Go to the IP Configuration tab for each PC and enable DHCP. Each PC should automatically obtain an IP address from the router.

Laptop14

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

Wireless0

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

192.168.0.99

Subnet Mask

255.255.255.0

Default Gateway

192.168.0.1

DNS Server

0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

Link Local Address

FE80::2E0:B0FF:FEEC:9330

Default Gateway

DNS Server

Top

Laptop15

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

Wireless0

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

192.168.0.50

Subnet Mask

255.255.255.0

Default Gateway

192.168.0.1

DNS Server

0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

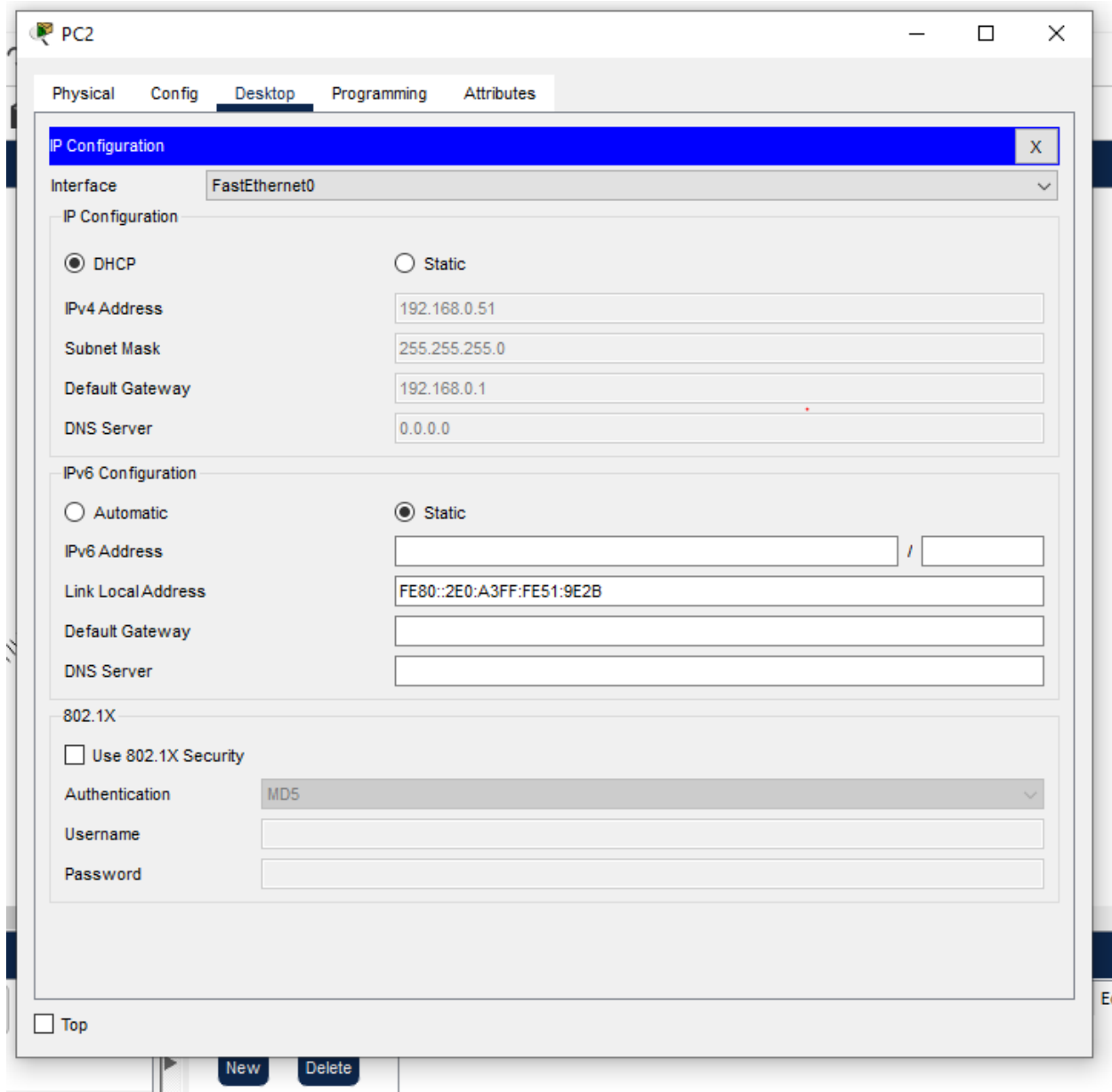
Link Local Address

FE80::260:70FF:FE01:592B

Default Gateway

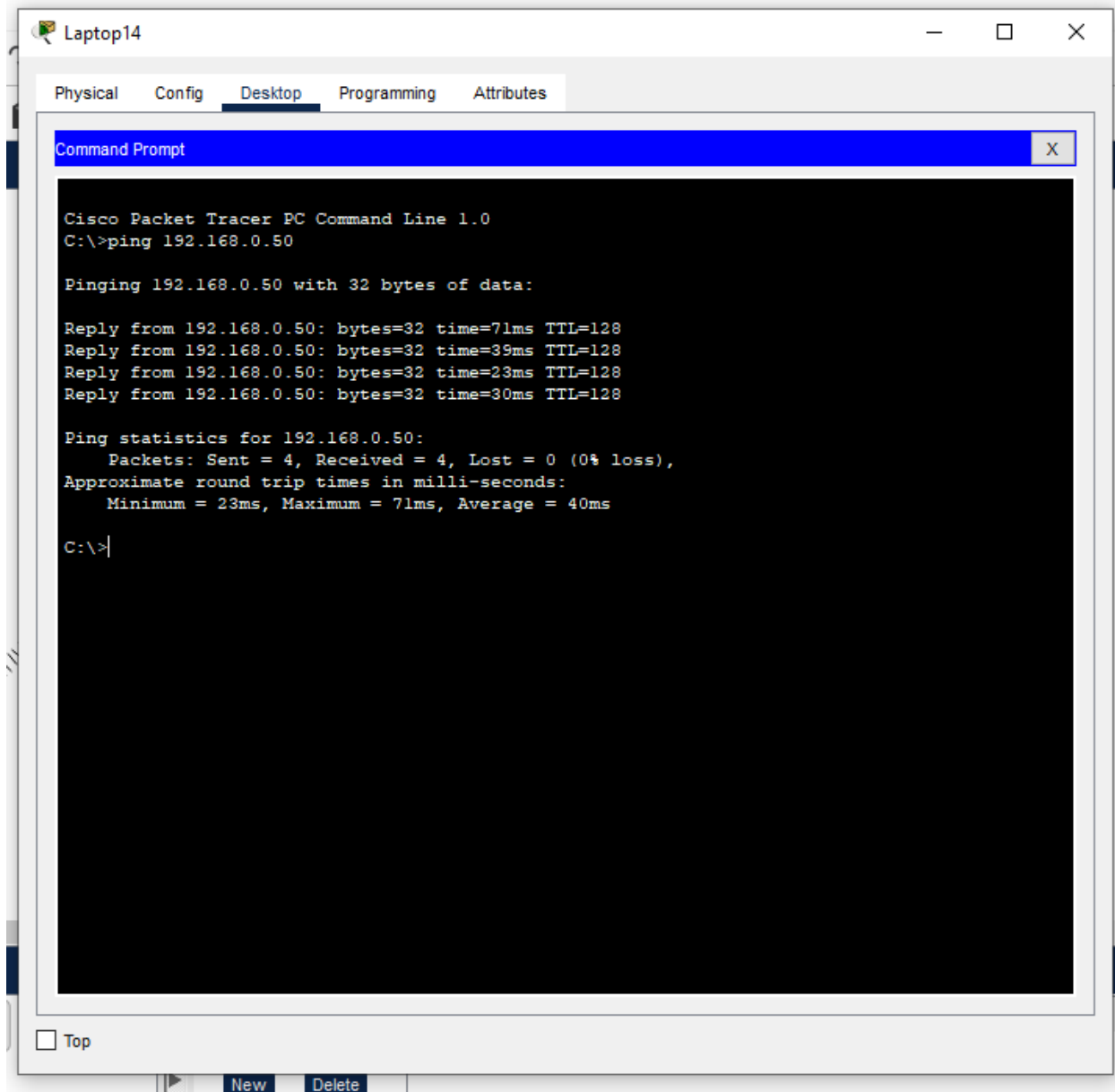
DNS Server

☐ Top



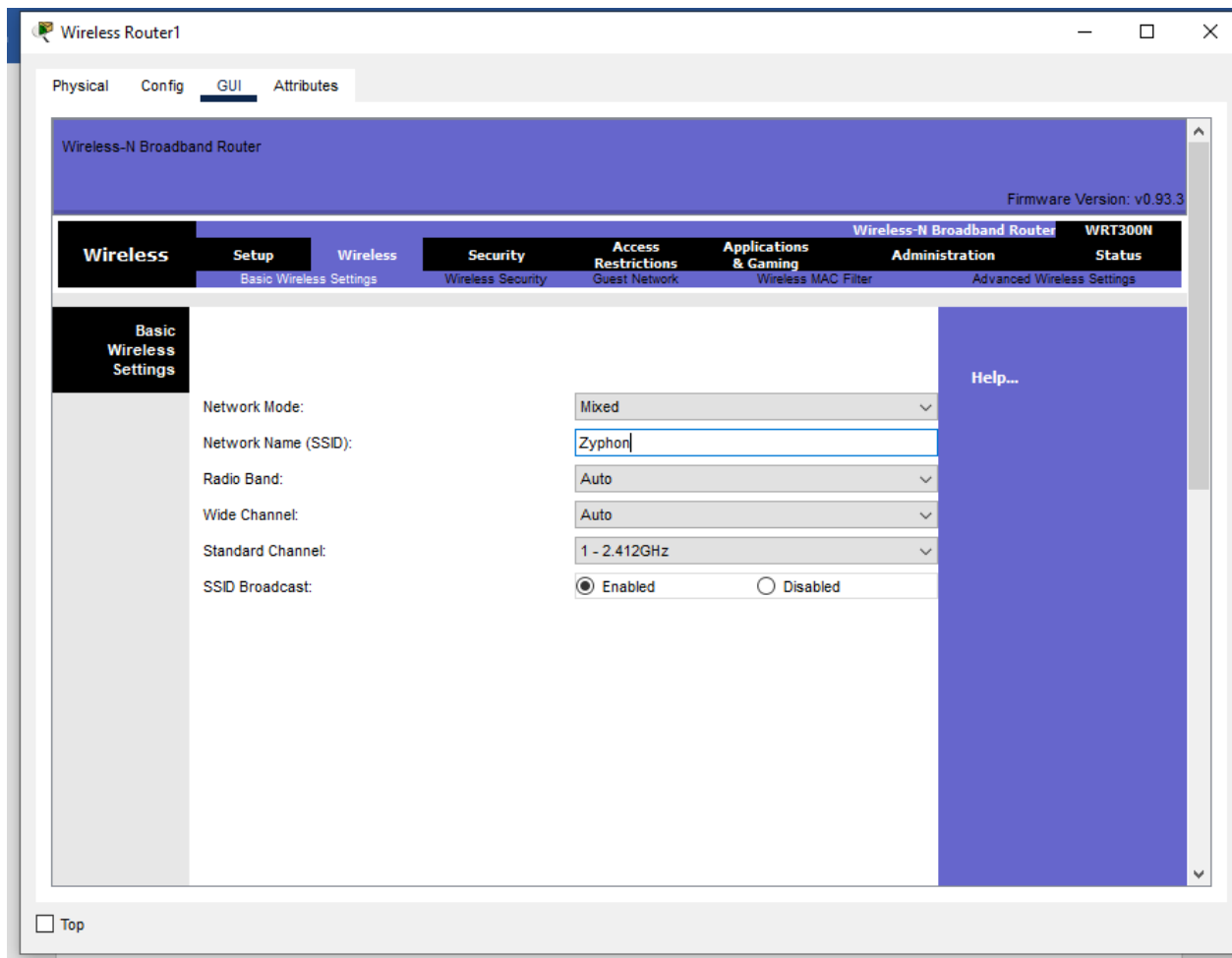
Ping Test Between Laptops:

Then we ping from laptop 1 to laptop 2



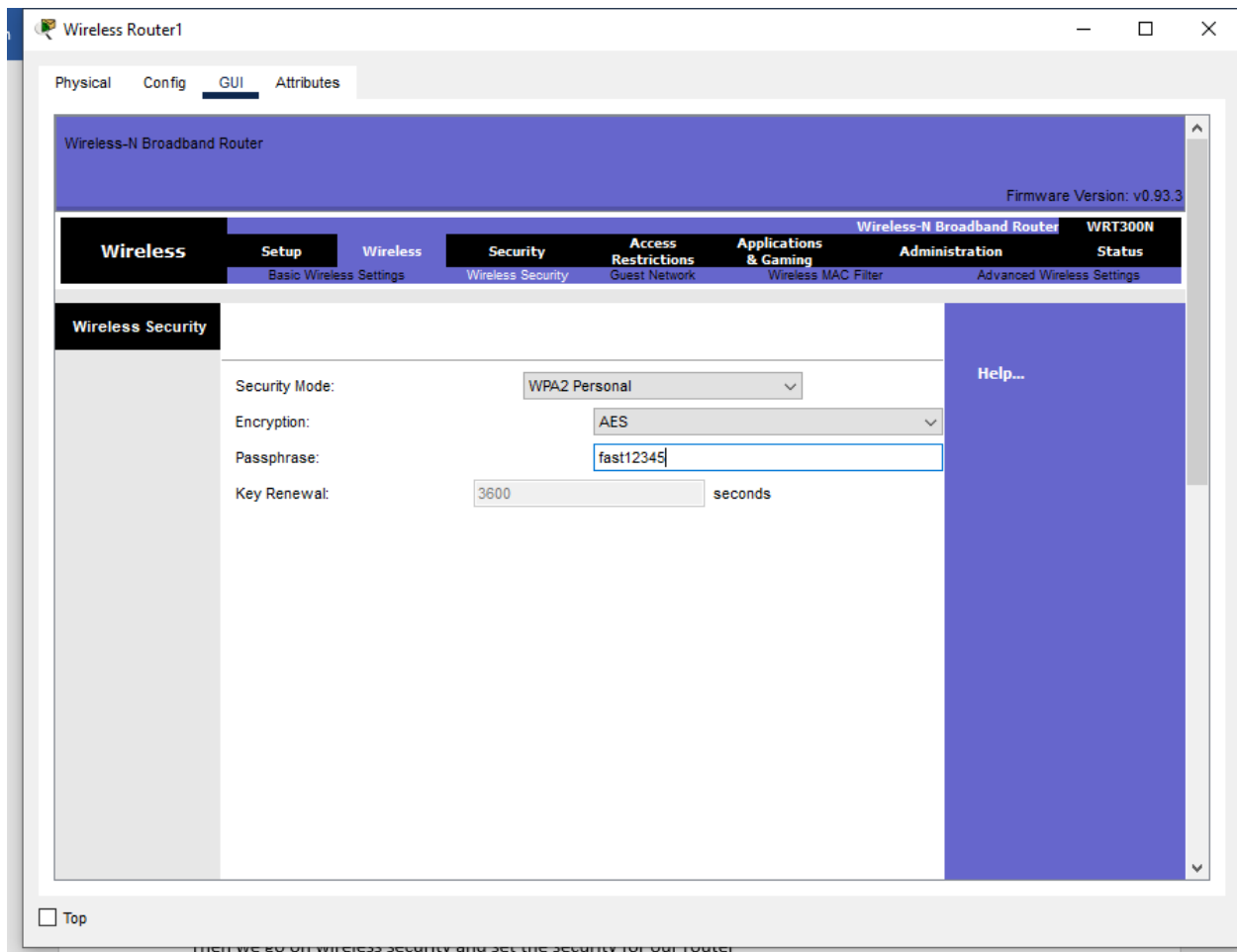
Changing Name Of The Router:

Then we move on to wireless portion and change the name of the router



Setting Security For The Router:

Then we go on wireless security and set the security for our router



And click **save**.

Then to check if our wireless router is their we go on laptop go to Desktop and then go to wireless and we get a page like this which shows our router name.

Laptop14

Physical

Config

Desktop

Programming

Attributes

Link Information

Connect

Profiles

Below is a list of available wireless networks. To search for more wireless networks, click the **Refresh** button. To view more information about a network, select the wireless network name. To connect to that network, click the **Connect** button below.

Wireless Network Name	CH	Signal
Zyphon	1	100%
Default	1	42%

Wireless Mode

Infrastructure

Network Type

Mixed B/G/N

Radio Band

Auto

Security

WPA2-PSK


MAC Address

0001.42B9.5106

Refresh

Connect

2.4GHz



Adapter is Active

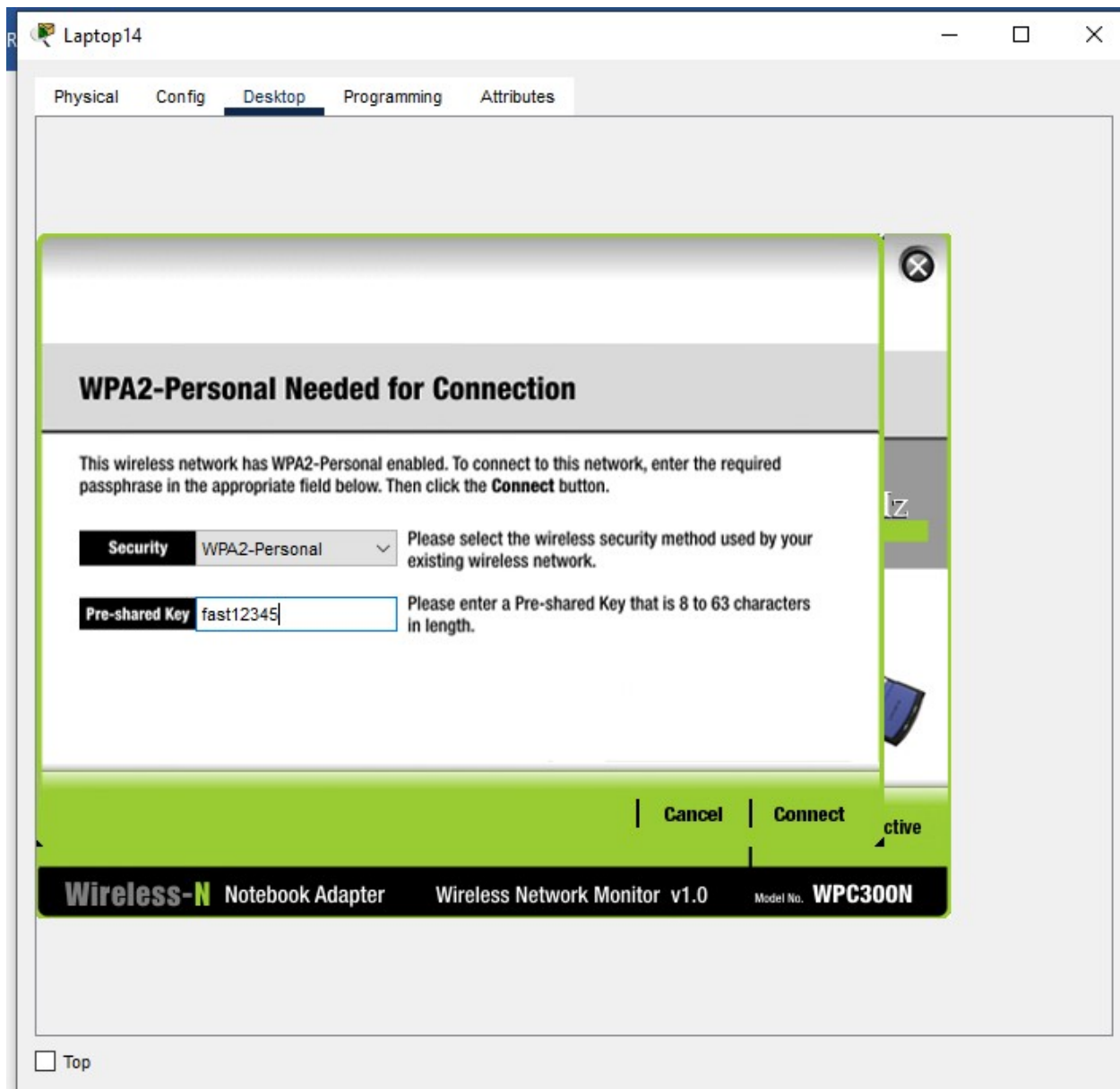
Wireless-N Notebook Adapter

Wireless Network Monitor v1.0

Model No. WPC300N

☐ Top

Now we connect to it.



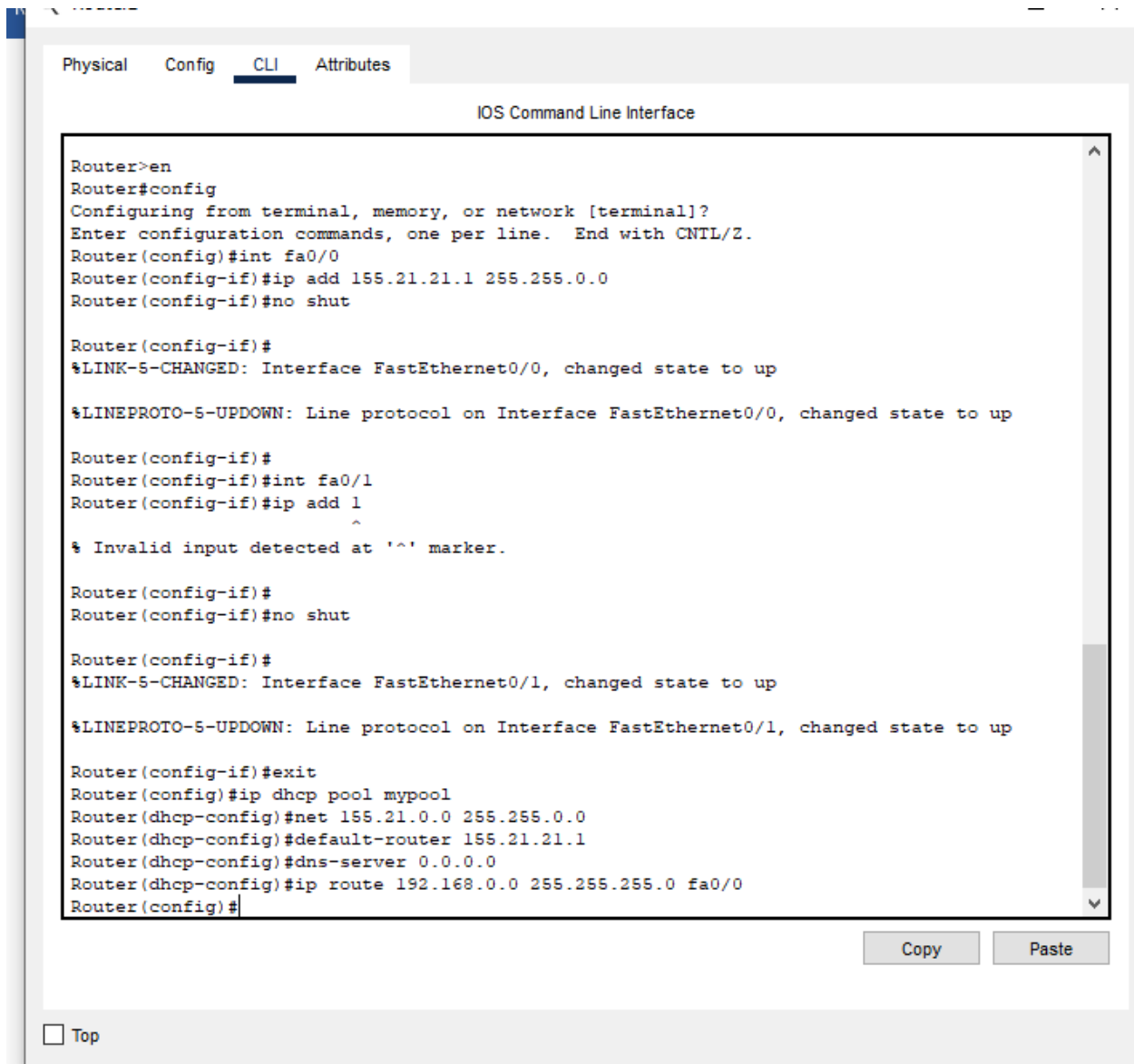
And we have successfully connected to the wireless connection.

Internet Setup Settings:

For this part, we'll configure the internet interface on the router so as to connect our LAN to the internet. Here, we'll connect the internet interface to an ISP router which then connects to an internet server

we choose to configure a static IP address for the internet interface, we can also specify the default gateway and a DNS server .

now, we'll set the internet interface to act as a DHCP client (with the DHCP server configured on the ISP router we open our router and then go to cli and type in the following



The screenshot shows a network management application with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the IOS Command Line Interface. The terminal output shows the following commands and responses:

```
Router>en
Router#config
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip add 155.21.21.1 255.255.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#
Router(config-if)#int fa0/1
Router(config-if)#ip add 1
^
% Invalid input detected at '^' marker.

Router(config-if)#
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

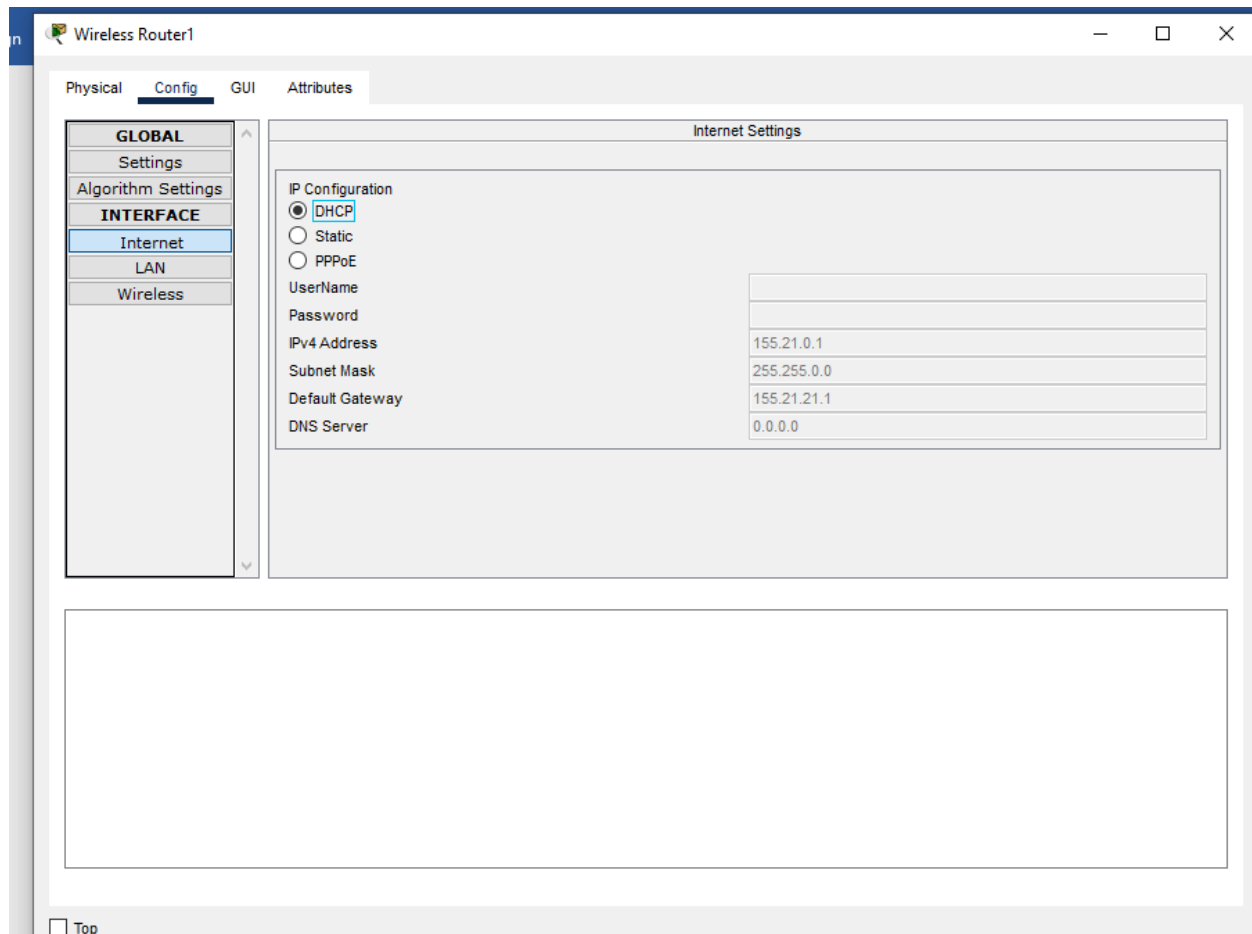
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router(config-if)#exit
Router(config)#ip dhcp pool mypool
Router(dhcp-config)#net 155.21.0.0 255.255.0.0
Router(dhcp-config)#default-router 155.21.21.1
Router(dhcp-config)#dns-server 0.0.0.0
Router(dhcp-config)#ip route 192.168.0.0 255.255.255.0 fa0/0
Router(config)#
```

At the bottom of the CLI window, there are 'Copy' and 'Paste' buttons. Below the CLI window, there is a 'Top' button with a checkbox.

And make a DHCP connection with the wireless router by following these commands first we add the ip address 155.21.21.1 to the wireless router and then we make a pool name mypool in DHCP giving the ip address and the dns server and at the end we give the ip route through fa0/0

And then when we open our wireless router and go on internet and click on DHCP



Our connection is successful.

Ping Testing The Server:

Then we ping the server.

```
C:\>ping 200.0.0.2
```

```
Pinging 200.0.0.2 with 32 bytes of data:
```

```
Reply from 200.0.0.2: bytes=32 time=29ms TTL=254
```

```
Reply from 200.0.0.2: bytes=32 time=22ms TTL=254
```

```
Reply from 200.0.0.2: bytes=32 time=29ms TTL=254
```

```
Reply from 200.0.0.2: bytes=32 time=30ms TTL=254
```

```
Ping statistics for 200.0.0.2:
```

```
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
    Minimum = 22ms, Maximum = 30ms, Average = 27ms
```

```
C:\>|
```

END.