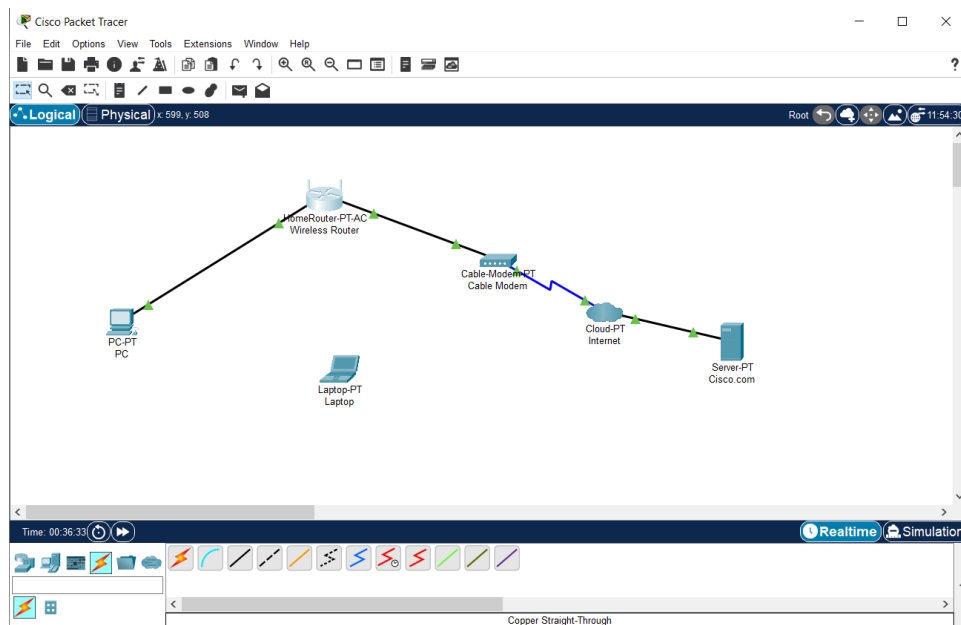


Part 1: Building the Topology



Adding the network devices to the workspace, configuring their display names and adding physical cabling between them.

Part 2: Configuring the Network Devices

Step 1: Configure the wireless router

The image displays two screenshots of a Wireless Router configuration interface, showing the 'Wireless' and 'Setup' tabs.

Wireless Router - Wireless Tab:

- Basic Wireless Settings:**
- 2.4 GHz:**
 - Network Mode: Auto
 - Network Name (SSID): HomeNetwork
 - SSID Broadcast: ☒ Enabled ☐ Disabled
 - Standard Channel: 1 - 2.412GHz
 - Channel Bandwidth: Auto
- 5 GHz - 2:**
 - Network Mode: Auto
 - Network Name (SSID): Default
 - SSID Broadcast: ☒ Enabled ☐ Disabled
 - Standard Channel: Auto
 - Channel Bandwidth: Auto
- 5 GHz - 1:**
 - Network Mode: Auto

Wireless Router - Setup Tab:

- Internet Setup:**
 - Internet Connection type: Automatic Configuration - DHCP
 - Optional Settings (required by some internet service providers):
 - Host Name:
 - Domain Name:
 - MTU: Size: 1500
- Network Setup:**
 - Router IP:**
 - IP Address: 192.168.0.1
 - Subnet Mask: 255.255.255.192
 - DHCP Server Settings:**
 - DHCP Server: ☒ Enabled ☐ Disabled
 - Start IP Address: 192.168.0.1
 - Maximum number of Users: 50
 - IP Address Range: 192.168.0.1 - 50
 - Client Lease Time: 0 minutes (0 means one day)

Configuring the SSID and DHCP settings

Step 2: Configure the laptop

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 View

Customize 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.

Top

Cisco Packet Tracer

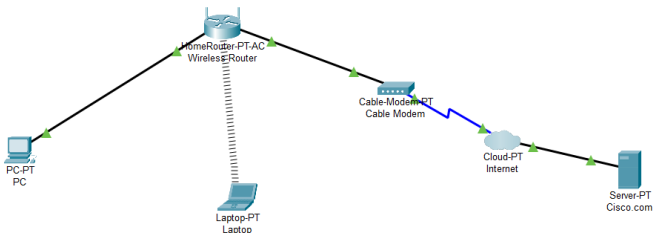
File Edit Options View Tools Extensions Window Help

Logical

Physical

Root

20:44:30

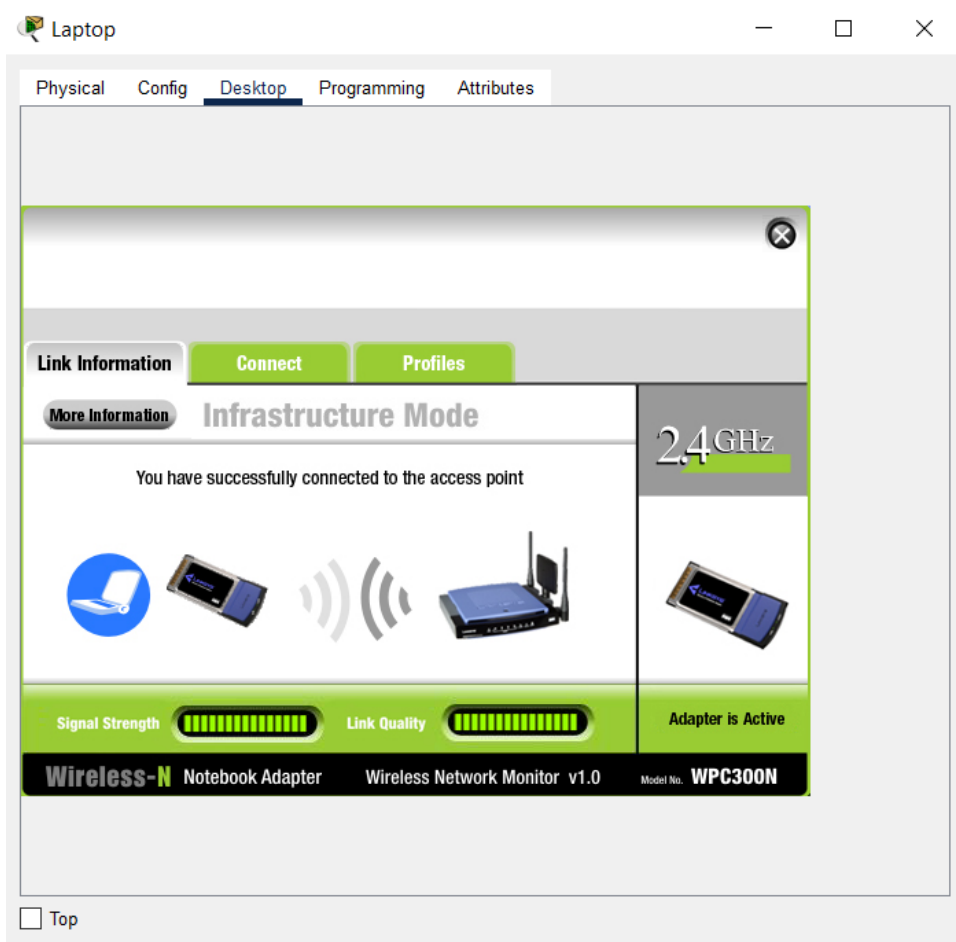


```
graph LR; PC[PC-PT PC] --- WirelessRouter[WirelessRouter-PT-AC WirelessRouter]; WirelessRouter --- CableModem[Cable-Modem-PT Cable Modem]; CableModem --- Cloud[Cloud-PT Internet]; Cloud --- Server[Server-PT Cisco.com]; WirelessRouter --- Laptop[Laptop-PT Laptop];
```

Time: 00:54:01

Realtime Simulation

Copper Straight-Through



Replacing the ethernet module with a wireless one and establishing a connection with the wireless router

Step 3: Configure the PC

PC

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IPv4 Address 192.168.0.3

Subnet Mask 255.255.255.192

Default Gateway 192.168.0.1

DNS Server 208.67.220.220

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2E0:B0FF:FED1:B713

Default Gateway

DNS Server

802.1X

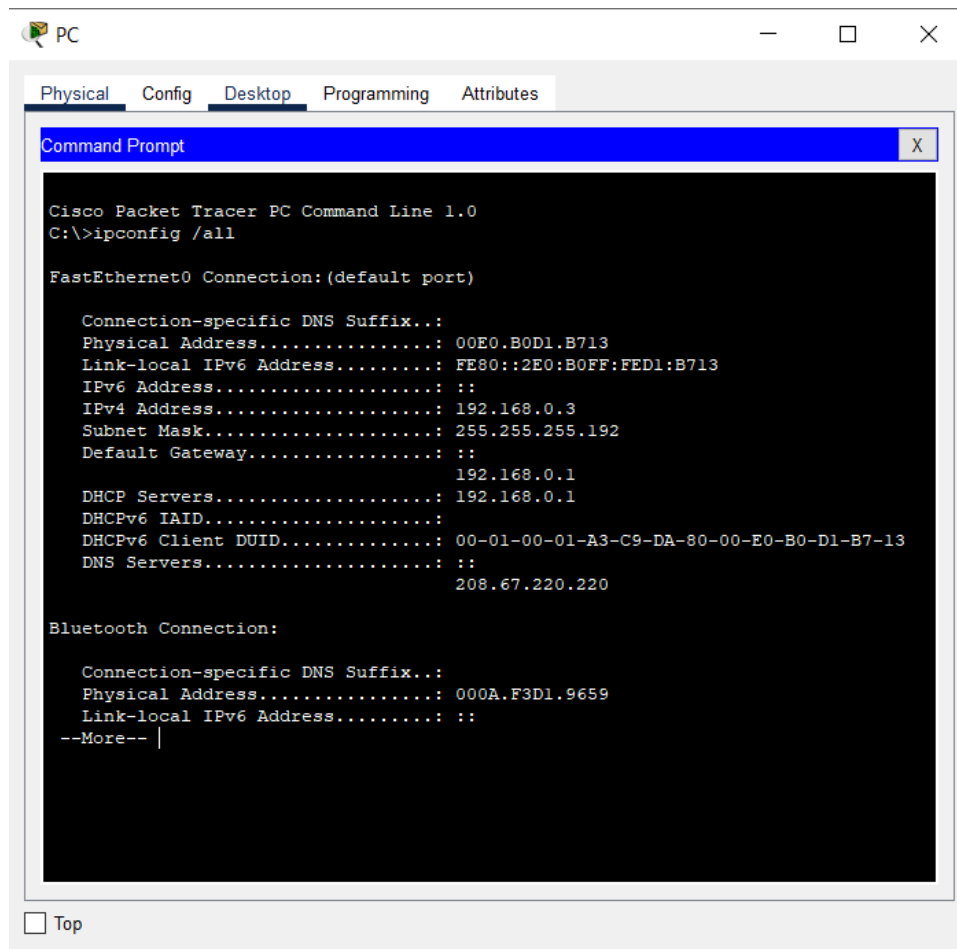
☐ Use 802.1X Security

Authentication MD5

Username


Password

☐ Top



Setting the IP Configuration to DHCP and verification

Step 4: Configuring the internet cloud

 Internet

Physical Config Attributes

MODULES

PT-CLOUD-NM-1AM

PT-CLOUD-NM-1CE

PT-CLOUD-NM-1CFE

PT-CLOUD-NM-1CGE

PT-CLOUD-NM-1CX

PT-CLOUD-NM-1FFE

PT-CLOUD-NM-1FGE

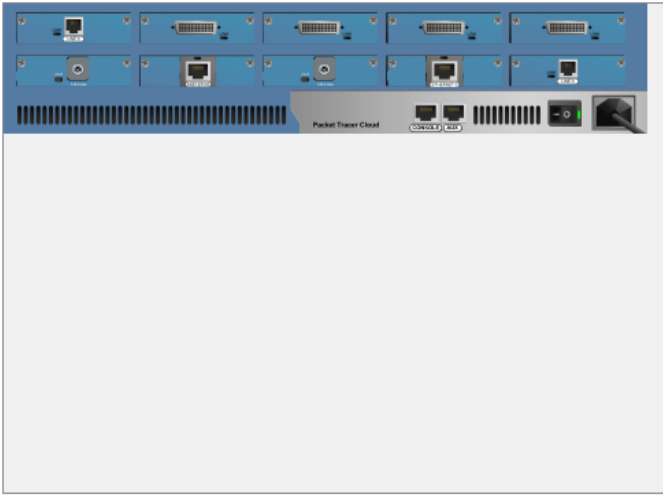
PT-CLOUD-NM-1S

Physical Device View

Zoom In

Original Size


Zoom Out



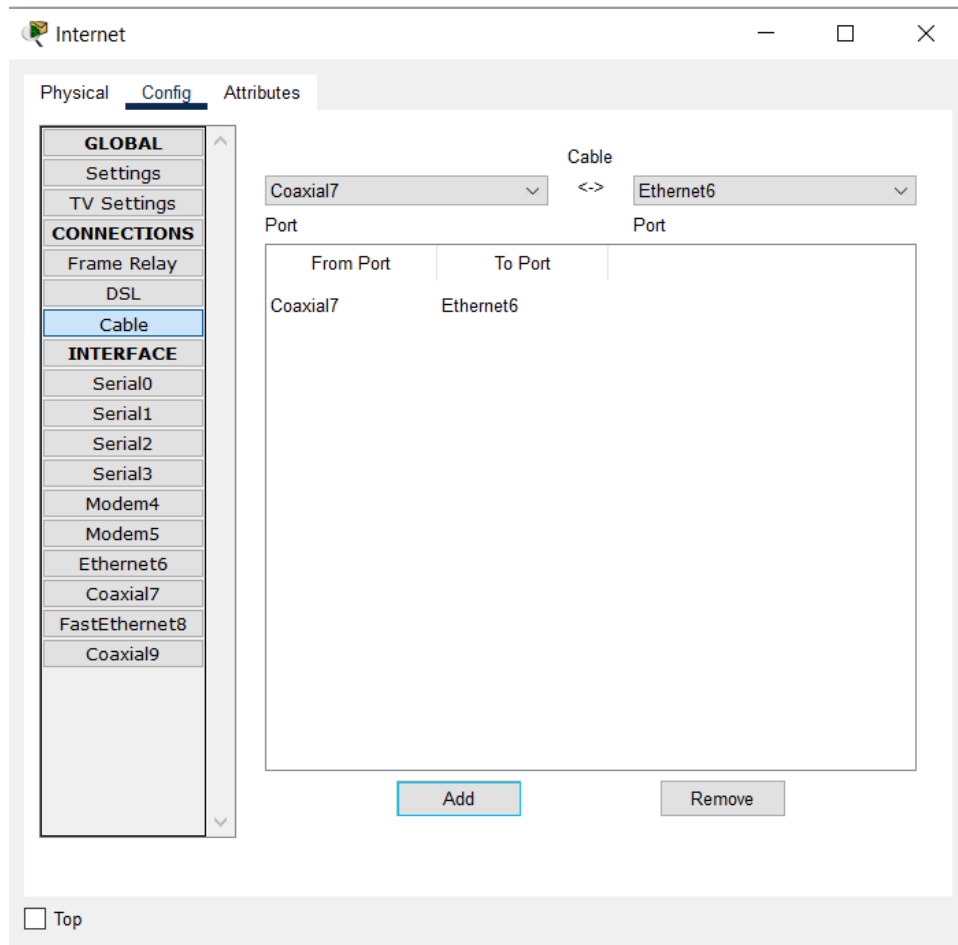
Customize Icon in Physical View

Customize Icon in Logical View

The PT-CLOUD-NM-1CFE Module provides one Fast-Ethernet interface for use with copper media. Ideal for a wide range of LAN applications, the Fast Ethernet network modules support many internetworking features and standards. Single port network modules offer autosensing 10/100BaseTX or



☐ Top



Installing necessary modules and configuring the from and to ports

Step 5: Configure the server

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	208.67...	208.67...	208.67...	255.25...	50	0.0.0.0	0.0.0.0
serverPool	0.0.0.0	0.0.0.0	0.0.0.0	0.0.0.0	512	0.0.0.0	0.0.0.0

< >

☐ Top

Cisco.com

Physical

Config

Services

Desktop

Programming

Attributes

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

Radius EAP

DNS

DNS Service

☒ On

☐ Off

Resource Records

Name

Type

A Record

Address

Add

Save

Remove

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

DNS Cache

☐ Top

Cisco.com

Physical

Config

Services

Desktop

Programming

Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Global Settings

Display Name

Cisco.com

Gateway/DNS IPv4

☐ DHCP

☒ Static

Default Gateway

208.67.220.1

DNS Server

208.67.220.220

Gateway/DNS IPv6

☐ Automatic

☒ Static

Default Gateway

DNS Server

☐ Top

Cisco.com

Physical **Config** Services Desktop Programming Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

FastEthernet0

Port Status ☒ On

Bandwidth ☐ 100 Mbps ☒ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0002.175B.1815

IP Configuration

☐ DHCP

☒ Static

IPv4 Address 208.67.220.220

Subnet Mask 255.255.255.0

IPv6 Configuration

☐ Automatic

☒ Static

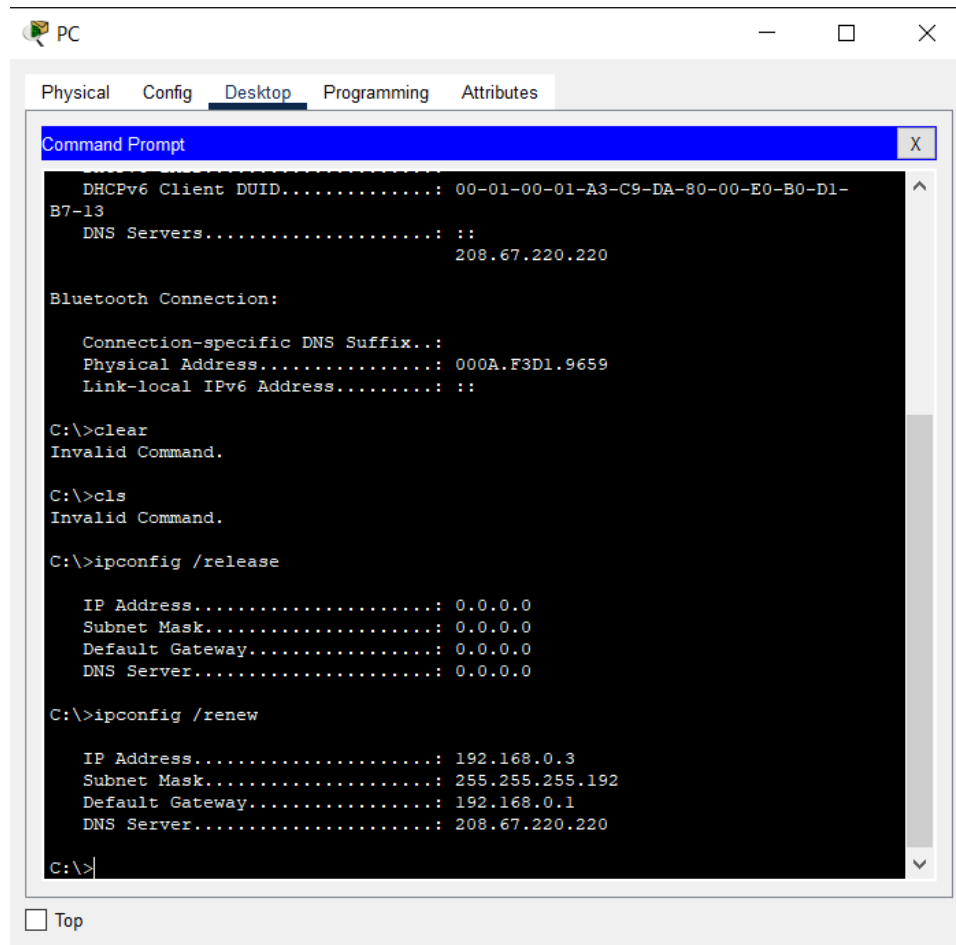
IPv6 Address

Link Local Address: FE80::202:17FF:FE5B:1815

☐ Top

DHCP and Service Configuration, Global Configuration and Ethernet Interface Configuration

Part 3: Verifying Connectivity



The screenshot shows a PC window with a title bar and standard Windows window controls. Inside the window, there are tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The Command Prompt shows the output of several commands: 'ipconfig /all' (partially visible), 'ipconfig /release', and 'ipconfig /renew'. The output for 'ipconfig /all' shows DHCPv6 Client DUID, DNS Servers, and Bluetooth connection details. The output for 'ipconfig /release' shows all IP-related fields set to 0.0.0.0. The output for 'ipconfig /renew' shows the assigned IP address 192.168.0.3, subnet mask 255.255.255.192, default gateway 192.168.0.1, and DNS server 208.67.220.220.

```
PC
Physical Config Desktop Programming Attributes
Command Prompt
DHCPv6 Client DUID.....: 00-01-00-01-A3-C9-DA-80-00-E0-B0-D1-
B7-13
DNS Servers.....: ::
208.67.220.220

Bluetooth Connection:

Connection-specific DNS Suffix..:
Physical Address.....: 000A.F3D1.9659
Link-local IPv6 Address.....: ::

C:\>clear
Invalid Command.

C:\>cls
Invalid Command.

C:\>ipconfig /release

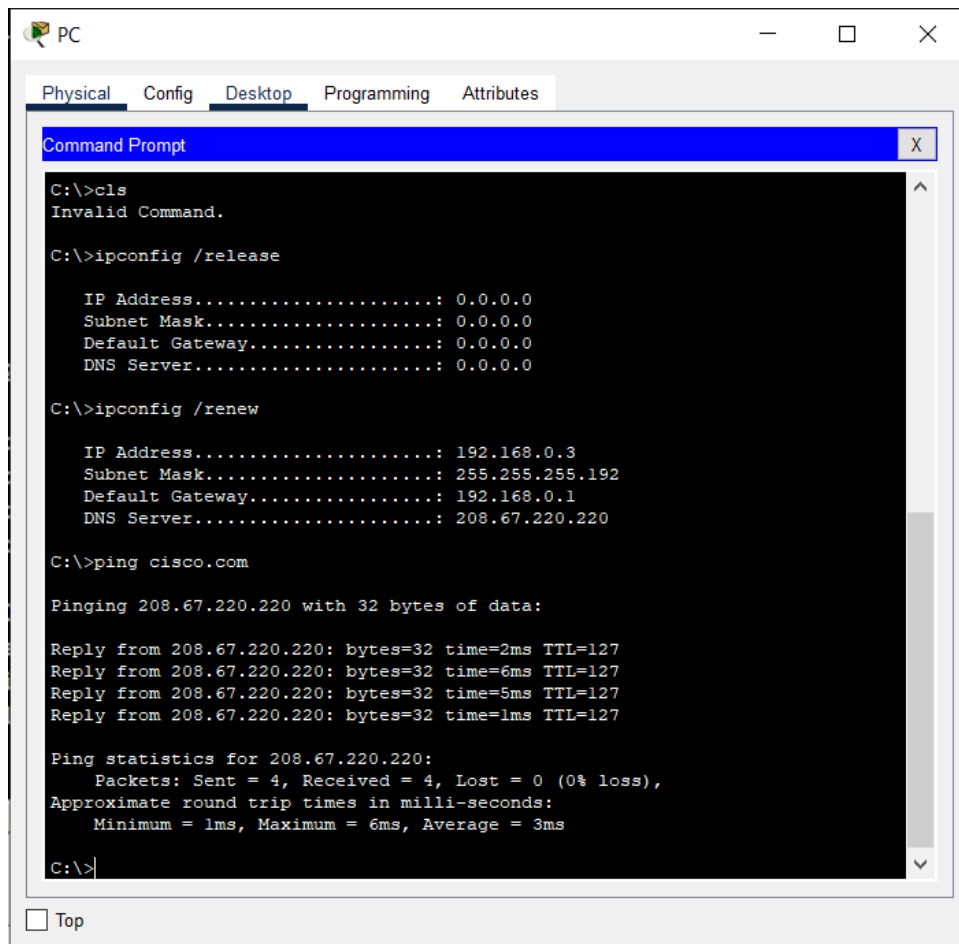
IP Address.....: 0.0.0.0
Subnet Mask.....: 0.0.0.0
Default Gateway.....: 0.0.0.0
DNS Server.....: 0.0.0.0

C:\>ipconfig /renew

IP Address.....: 192.168.0.3
Subnet Mask.....: 255.255.255.192
Default Gateway.....: 192.168.0.1
DNS Server.....: 208.67.220.220

C:\>
```

☐ Top



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 sequence of commands and their outputs:

```
C:\>cls
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:\>ipconfig /renew

    IP Address.....: 192.168.0.3
    Subnet Mask.....: 255.255.255.192
    Default Gateway...: 192.168.0.1
    DNS Server.....: 208.67.220.220

C:\>ping cisco.com

Pinging 208.67.220.220 with 32 bytes of data:

Reply from 208.67.220.220: bytes=32 time=2ms TTL=127
Reply from 208.67.220.220: bytes=32 time=6ms TTL=127
Reply from 208.67.220.220: bytes=32 time=5ms TTL=127
Reply from 208.67.220.220: bytes=32 time=1ms TTL=127

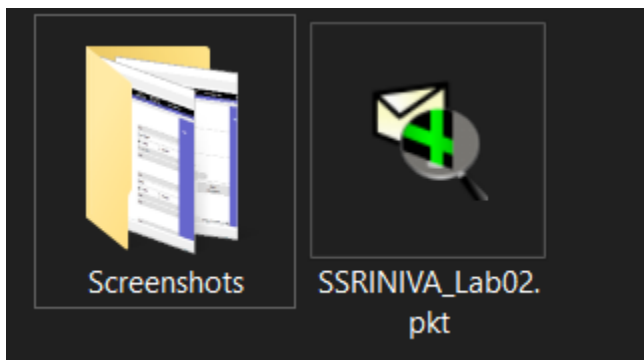
Ping statistics for 208.67.220.220:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 6ms, Average = 3ms

C:\>
```

At the bottom of the window, there is a 'Top' button with a checkbox.

Renew ipconfig and ping the cisco.com server

Part 4: Saving the file



File is saved as SSRINIVA_Lab02.pkt on the filesystem