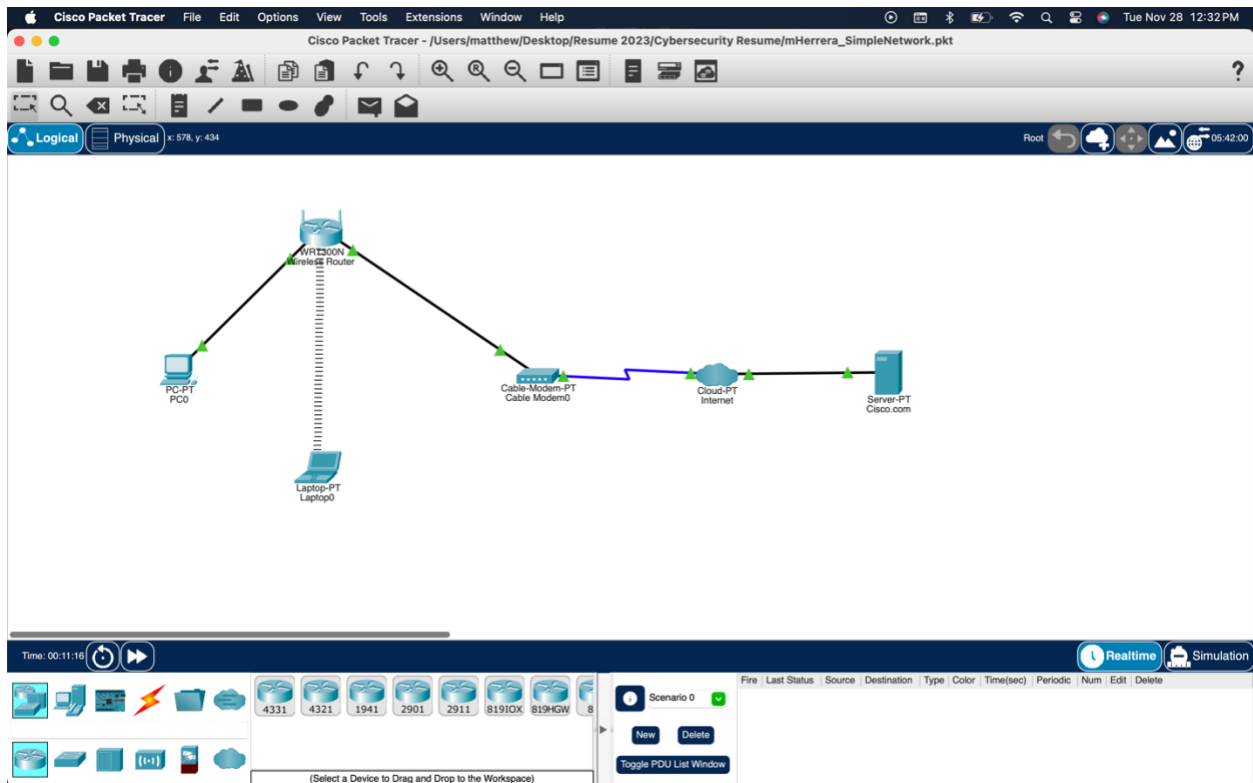


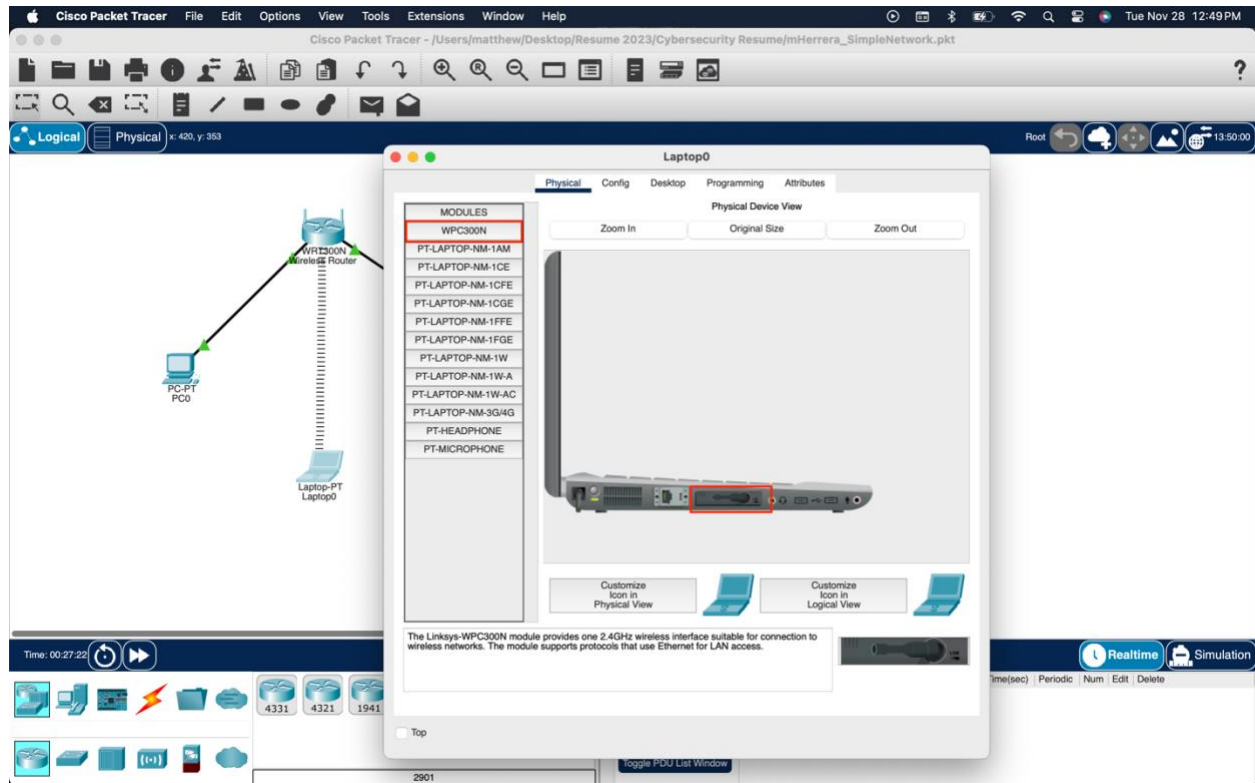
## My Simple Network w/ Cisco Packet Tracer

Yeah, that's right you know the drill. Here's the topology of the network:



You can see that there's two end user devices: the pc and the laptop. The laptop, along with the modem, and the internet to the cisco.com server, are connected using a copper straight-through cable.

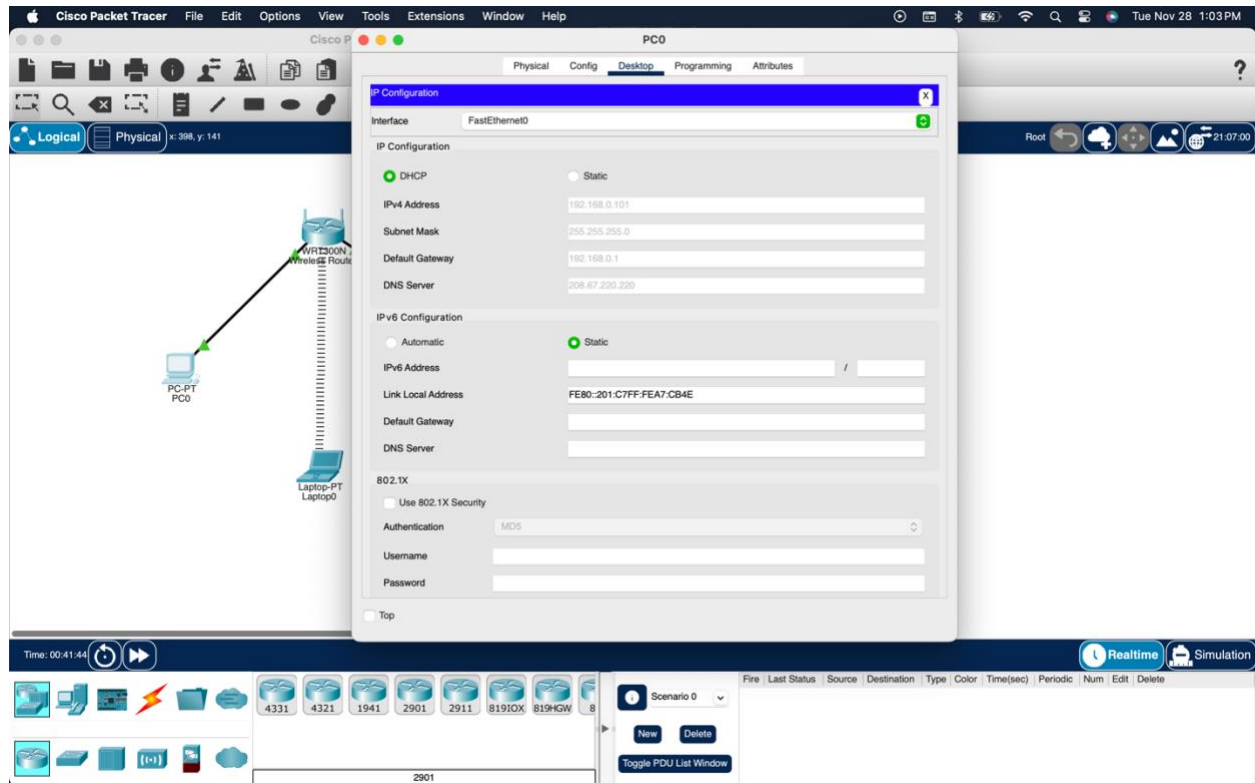
While the laptop has been configured to accept Wi-Fi connectivity with a WPC300N wireless module as shown below.



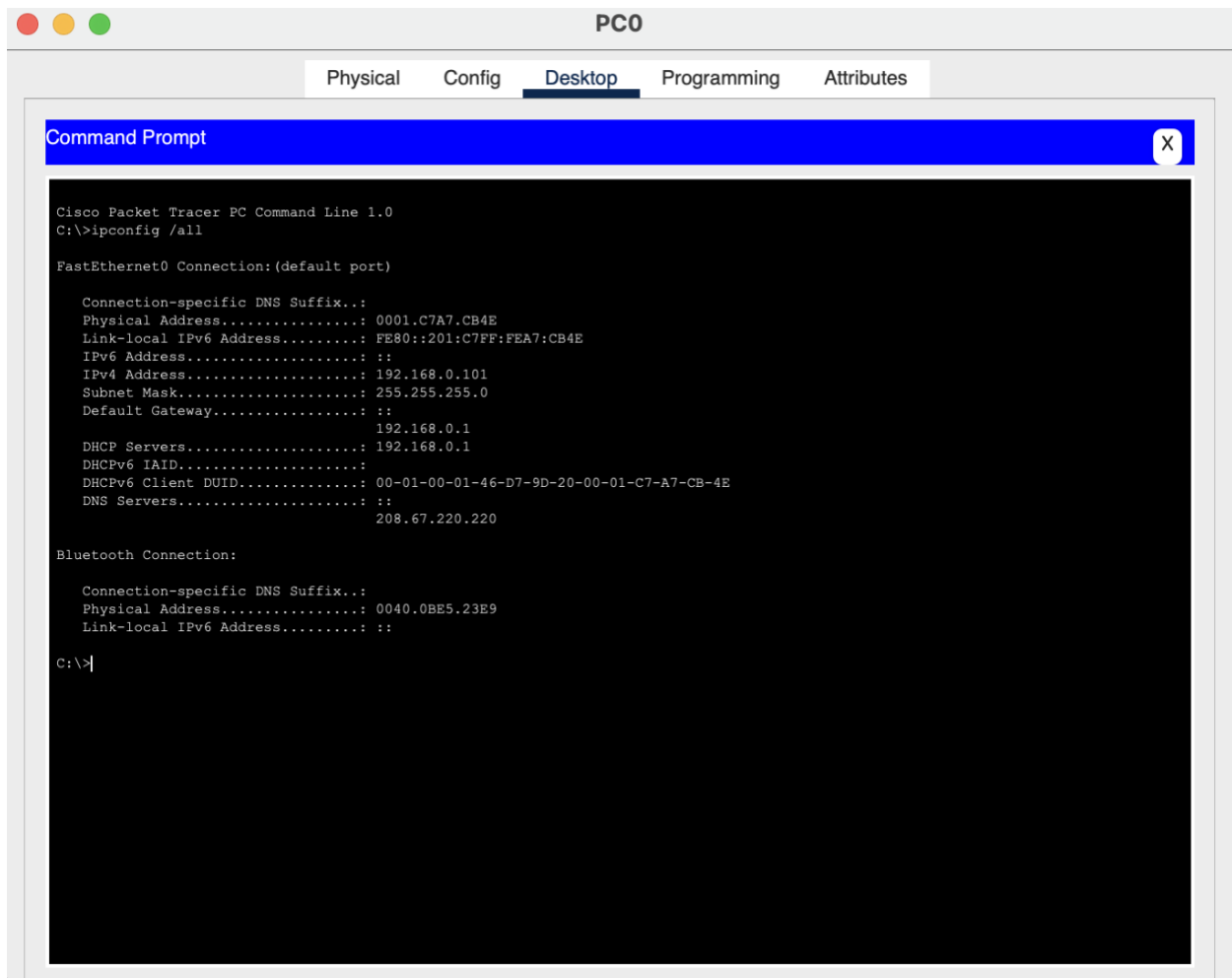
And now it looks like we're ready to connect to the network wirelessly:



Now how about we configure the PC. We'll need to select DHCP so that the PC will receive an IPv4 address from the wireless router.



And if we check, we can see that we're now receiving an IPv4 address in the 192.168.0.x range.



The screenshot shows a window titled "PC0" with 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 the "ipconfig /all" command, detailing network configuration for both FastEthernet0 and Bluetooth connections. The FastEthernet0 section shows an IPv4 address of 192.168.0.101, which is in the 192.168.0.x range. The Bluetooth section shows no IP address assigned.

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

FastEthernet0 Connection: (default port)

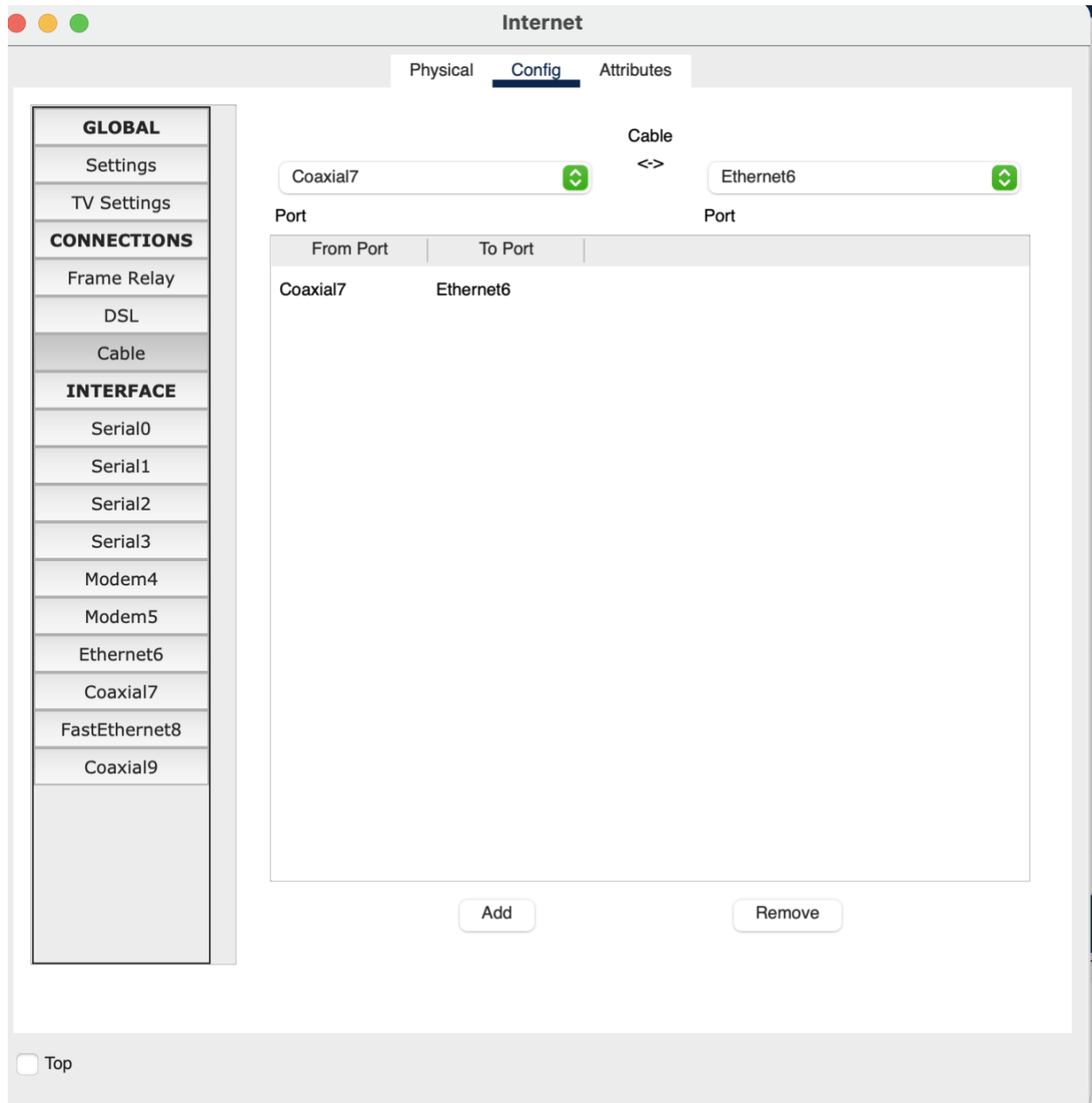
    Connection-specific DNS Suffix.:
    Physical Address.....: 0001.C7A7.CB4E
    Link-local IPv6 Address.....: FE80::201:C7FF:FEA7:CB4E
    IPv6 Address.....: ::
    IPv4 Address.....: 192.168.0.101
    Subnet Mask.....: 255.255.255.0
    Default Gateway.....: ::
                                192.168.0.1
    DHCP Servers.....: 192.168.0.1
    DHCPv6 IAID.....:
    DHCPv6 Client DUID.....: 00-01-00-01-46-D7-9D-20-00-01-C7-A7-CB-4E
    DNS Servers.....: ::
                                208.67.220.220

Bluetooth Connection:

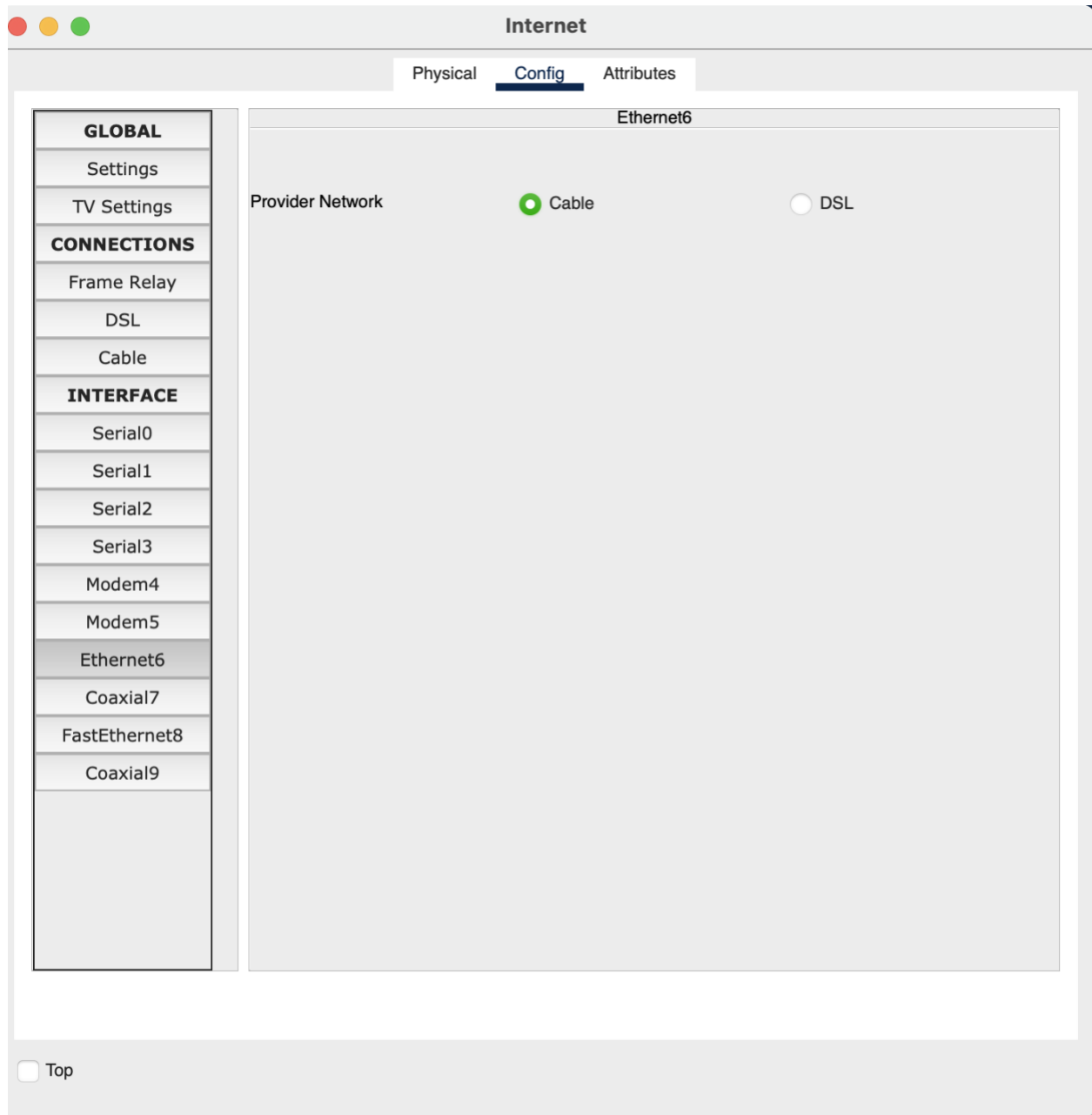
    Connection-specific DNS Suffix.:
    Physical Address.....: 0040.0BE5.23E9
    Link-local IPv6 Address.....: ::

C:\>
```

Now we're just going to check the cable connections for the internet cloud. For the connection from the modem to the cloud, we're using a coaxial cable.



Alrighty. While we're still here in the Config tab, let's check the ethernet interface. We're doing this to identify the type of provider we currently have. Let's make sure it's Cable.



Now let's see configure the Cisco.com server as a DHCP 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

0

0

0

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.... | 208.0.0.0        | 255.255...  | 50       | 0.0.0.0     | 0.0.0.0     |
| serverPool | 0.0.0.0         | 0.0.0.0    | 208.67....       | 255.255...  | 255      | 0.0.0.0     | 0.0.0.0     |

☐ Top



Let's configure the Cisco.com server as a DNS server to provide a domain name to the IPv4 address.

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

Address

Add

Save

Remove

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

DNS Cache

☐ Top

Almost done with the Cisco server. Let's configure the Global settings. We want the Gateway to be static.

The screenshot shows a web browser window titled "Cisco.com" with a navigation bar containing "Physical", "Config", "Services", "Desktop", "Programming", and "Attributes". The "Config" tab is selected. On the left, a sidebar menu has "GLOBAL" and "INTERFACE" sections. Under "GLOBAL", "Settings" is selected. Under "INTERFACE", "FastEthernet0" is selected. The main content area is titled "Global Settings" and contains the following fields:

- 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:** [empty field]
  - DNS Server:** [empty field]

At the bottom left, there is a "Top" link with a small square icon next to it.

Cisco.com

PhysicalConfigServicesDesktopProgrammingAttributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Global Settings

Display NameCisco.com

Gateway/DNS IPv4

DHCP

Static

Default Gateway208.67.220.1

DNS Server208.67.220.220

Gateway/DNS IPv6

Automatic

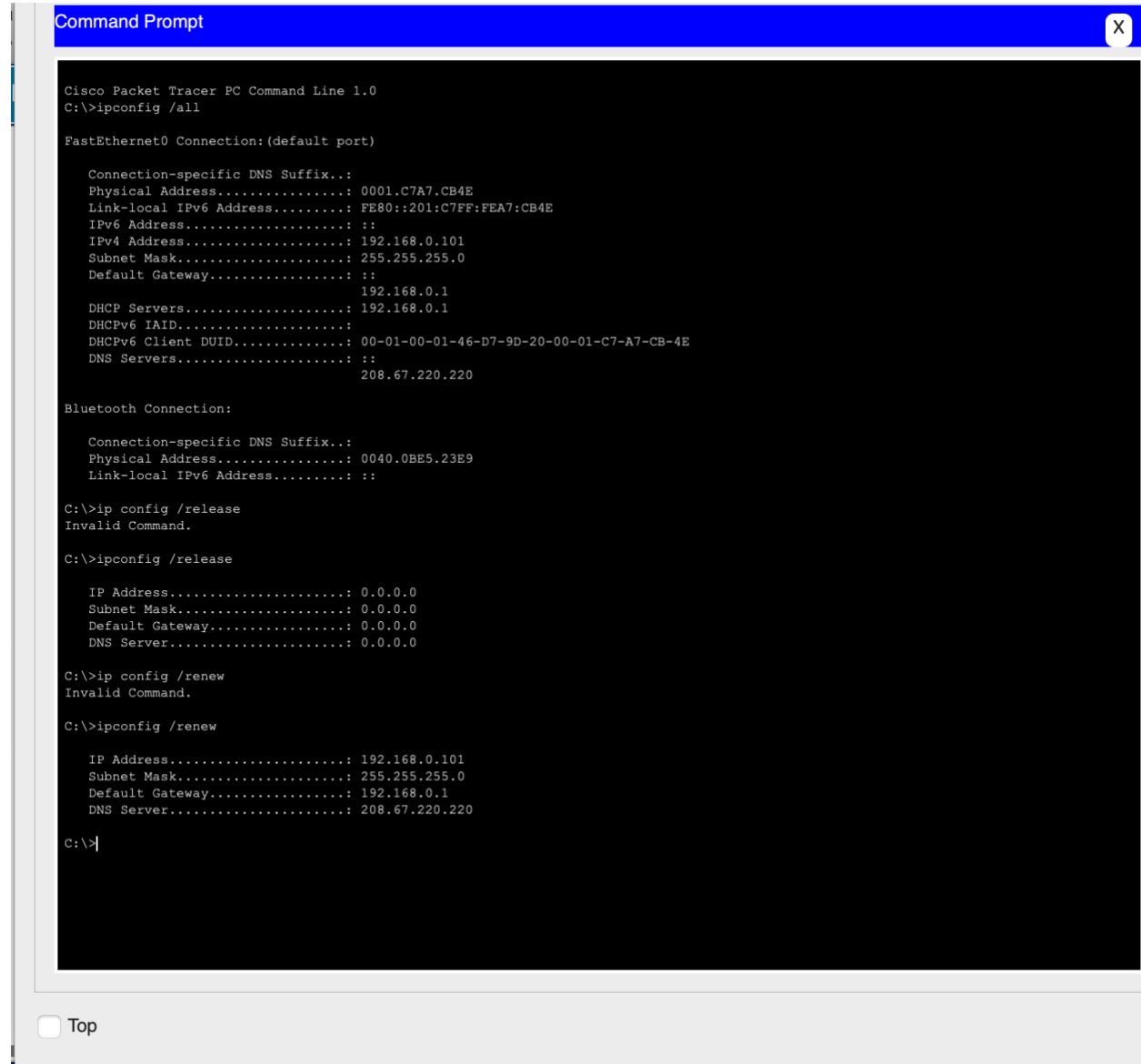
Static

Default Gateway

DNS Server

☐ Top

Finally, let's see if this network really works. We can see that the output shows that the PC has an address in the 192.168.0 range, along with a subnet mask, a Default Gateway, and DNS server.



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

FastEthernet0 Connection: (default port)

    Connection-specific DNS Suffix...:
    Physical Address. . . . .: 0001.C7A7.CB4E
    Link-local IPv6 Address . . . . .: FE80::201:C7FF:FEA7:CB4E
    IPv6 Address. . . . .: ::
    IPv4 Address. . . . .: 192.168.0.101
    Subnet Mask . . . . .: 255.255.255.0
    Default Gateway. . . . .: ::
                           192.168.0.1
    DHCP Servers. . . . .: 192.168.0.1
    DHCPv6 IAID. . . . .:
    DHCPv6 Client DUID. . . . .: 00-01-00-01-46-D7-9D-20-00-01-C7-A7-CB-4E
    DNS Servers. . . . .: ::
                           208.67.220.220

Bluetooth Connection:

    Connection-specific DNS Suffix...:
    Physical Address. . . . .: 0040.0BE5.23E9
    Link-local IPv6 Address . . . . .: ::

C:\>ip config /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:\>ip config /renew
Invalid Command.

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:\>|
```

☐ Top

Now let's ping the Cisco.com server!

PC0

Physical Config Desktop Programming Attributes

Command Prompt

```
Physical Address.....: 0001.C7A7.CB4E
Link-local IPv6 Address.....: FE80::201:C7FF:FEA7:CB4E
IPv6 Address.....: ::
IPv4 Address.....: 192.168.0.101
Subnet Mask.....: 255.255.255.0
Default Gateway.....: ::
                  192.168.0.1
DHCP Servers.....: 192.168.0.1
DHCPv6 IAID.....:
DHCPv6 Client DUID.....: 00-01-00-01-46-D7-9D-20-00-01-C7-A7-CB-4E
DNS Servers.....: ::
                  208.67.220.220

Bluetooth Connection:

Connection-specific DNS Suffix.:
Physical Address.....: 0040.0BE5.23E9
Link-local IPv6 Address.....: ::

C:\>ip config /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:\>ip config /renew
Invalid Command.

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:\>ping Cisco.com

Pinging 208.67.220.220 with 32 bytes of data:

Reply from 208.67.220.220: bytes=32 time=3ms TTL=127
Reply from 208.67.220.220: bytes=32 time=38ms TTL=127
Reply from 208.67.220.220: bytes=32 time=1ms 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 = 38ms, Average = 10ms

C:\>
```

☐ Top