



NETWORK TOPOLOGY IN PACKET TRACER

CSE1004(NETWORK AND COMMUNICATION)LAB:L53-L54



**JANUARY 26, 2022
ANIRUDH VADERA
20BCE2940**

ANIRUDH VADERA

NETWORK TOPOLOGY IN PACKET TRACER

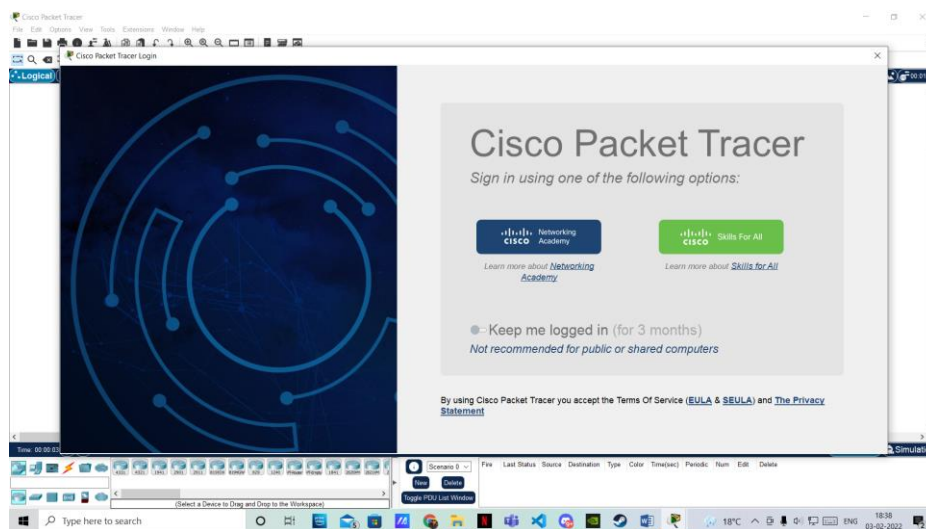
QUESTION:

Create different types of Network Topology in Cisco Packet Tracer.

DESCRIPTION:

Getting started:

- **Open your packet tracer and first login through your Netcad credentials:**



- **Adding Pcs in Cisco Packet Tracer:**

To add PCs in Cisco Packet Tracer, you need to perform the following steps:

1. In the Cisco Packet Tracer console, click on the PC icon, click Generic, and then click in the logical view area to add a Generic PC.
2. Repeat the same step to add three more Generic PCs in the logical view area, as shown in the following figure.

- **Adding Swicthes in Cisco Packet Tracer:**

1. To add a switch in Cisco Packet Tracer, click the Switch icon, select a switch type, such as 2960, and then add the selected switch in the logical view area.
2. Repeat the same step to add one more switch.

- **Connection Types in Cisco Packet Tracer:**

To connect devices in Cisco Packet Tracer, first, you need to understand the various types of cables (connections) used to connect network devices. Some of the common types of cables are:

ANIRUDH VADERA
NETWORK TOPOLOGY IN PACKET TRACER

1. **Straight-through:** Used to connect different types of devices (devices that use different wiring standards), such as Router-to-Switch and Switch-to-PC.
 2. **Cross-over:** Used to connect same types of devices, such as router-to-router, PC-to-PC, and switch-to-Switch.
 3. **Serial DCE:** Used to connect router-to-router in a WAN network.
 4. **Console:** Used to take console (using hyper terminal) of a router on a PC.
- **Connecting Devices in Cisco Packet Tracer:**
 - To connect devices in Cisco Packet Tracer, click the connection type icon, and select an appropriate cable. For example, to connect PC0 to Switch0, select the straight-through cable, click on PC0, select the FastEthernet0 interface.
 - Next, click on Switch0, and then select the FastEthernet0/1 interface. The following figure displays how to connect a PC to a switch in Cisco Packet Tracer.
 - Now, add PC1 to Switch0 using the FastEthernet0/2 interface. Also, add PC2 and PC3 to the FastEthernet0/1 and FastEthernet0/2 interfaces of Switch1, respectively.
 - If you have connected a wrong device to a wrong interface, you can use the Delete option to delete a connection or device. The following figure displays how to use the Delete option to delete a device or connection in Cisco Packet Tracer.
 - Connect switch to each other using cross-over connection.
 - Then after the connections are done, open a PC and configure the ip address and make sure no two ip addresses in a network is same.
 - Then to test the connection use “ping” in the console of the PC and use appropriate ip address.
 - If the ping message sending is successful it means that the connection is successful.

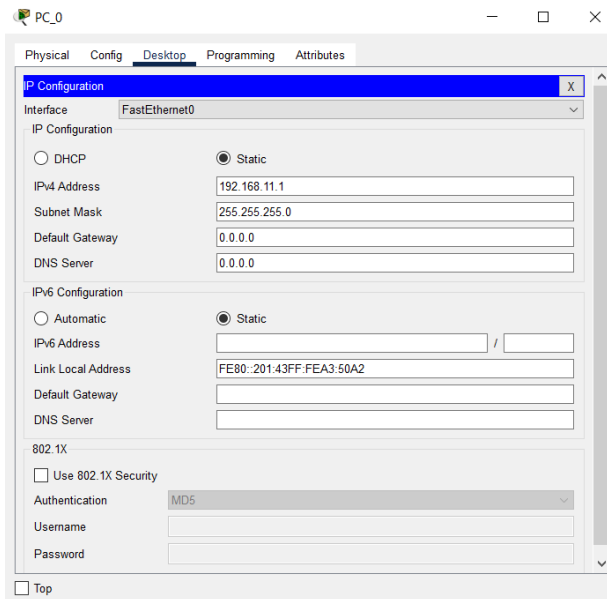
Configuration of a PC in Cisco Packet Tracer:

IP of a particular PC in a connection:

Double click on the pc -> Desktop -> IP Configuration

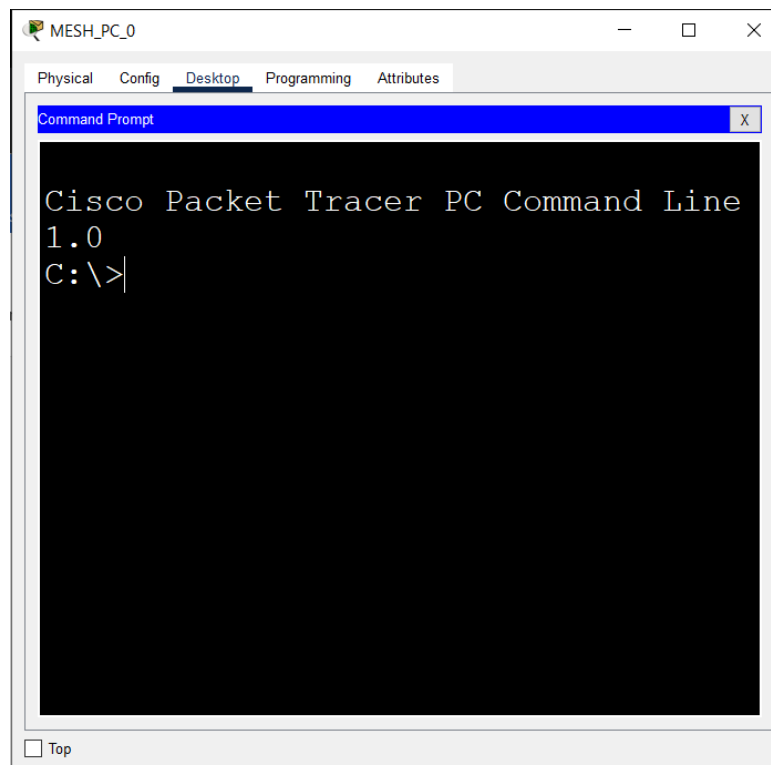
ANIRUDH VADERA

NETWORK TOPOLOGY IN PACKET TRACER



- **Ip chosen: 192.168.11.1**
- **For subsequent pc 192.168.11.2 and so on**
- **192.168.11.1: First PC of Bus Topology**
- **192.168.12.1: First PC of Ring Topology**
- **192.168.13.1: First PC of Star Topology**
- **192.168.14.1: First PC of Mesh Topology**

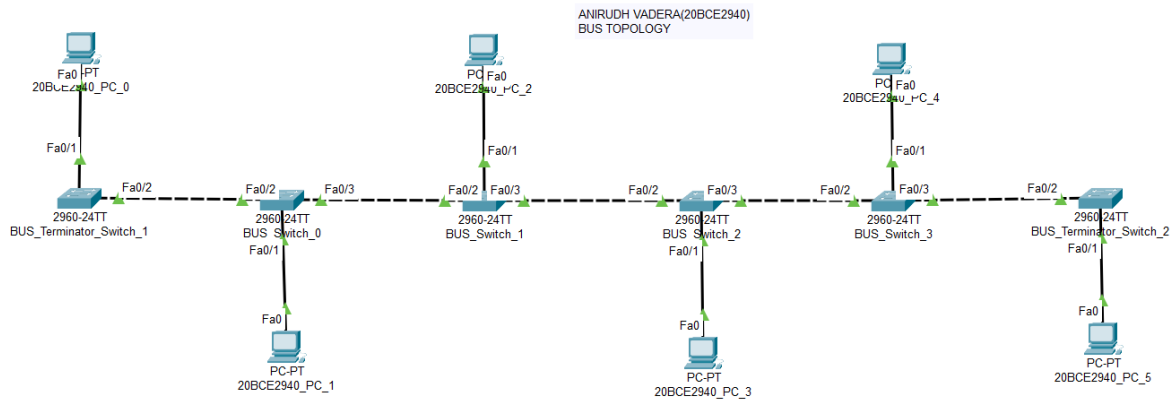
A Pc Terminal:



ANIRUDH VADERA NETWORK TOPOLOGY IN PACKET TRACER

Connection Types:

Bus Topology:



IP OF PC0: 192.168.11.1

Name Format of a PC: 20BCE2940_PC_(PC_Number)

Name Format of a Switch: BUS_Terminal_Switch / BUS_Switch

SUBNETMASK OF PC0: 255.255.255.0

Number of PC's Connected in the topology: 6

OUTPUT:

Pinging from PC0 to PC3:

```
20BCE2940_PC_0
Physical Config Desktop Programming Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.11.4

Pinging 192.168.11.4 with 32 bytes of data:

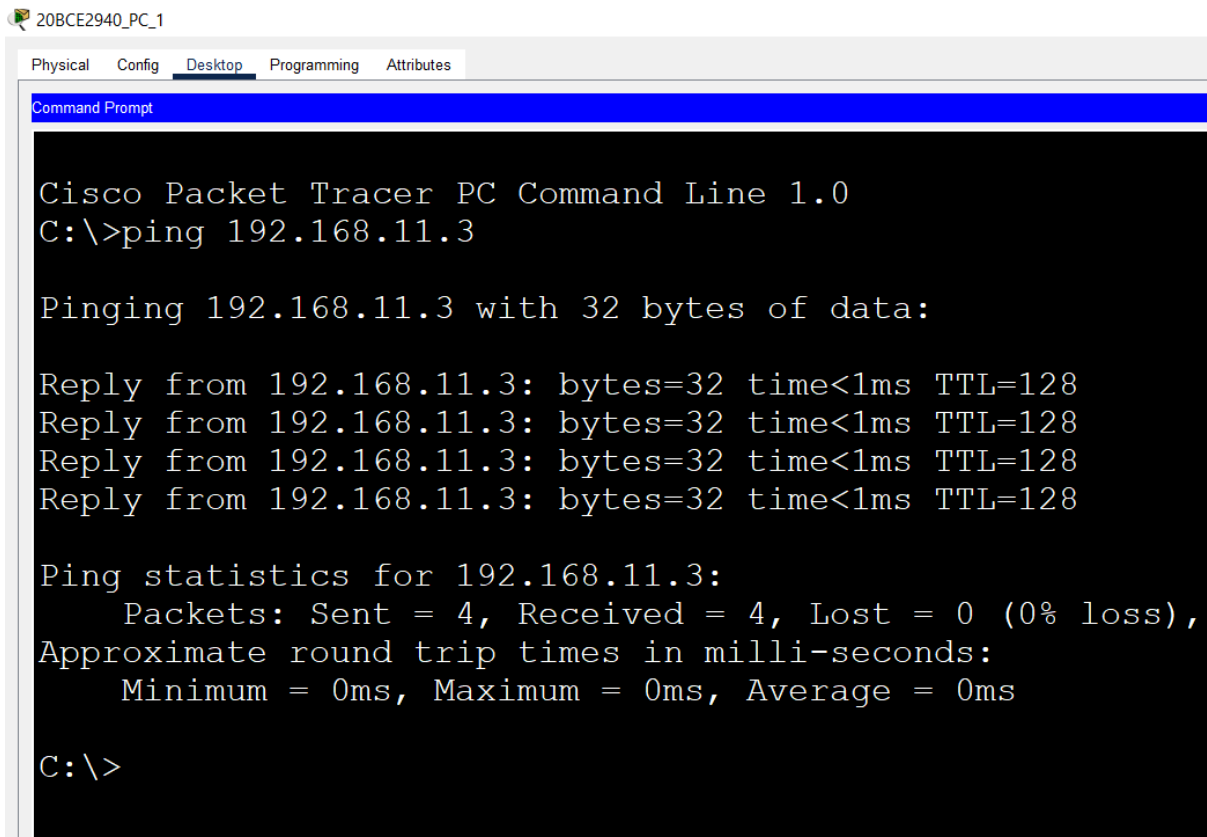
Reply from 192.168.11.4: bytes=32 time<1ms TTL=128
Reply from 192.168.11.4: bytes=32 time<1ms TTL=128
Reply from 192.168.11.4: bytes=32 time<1ms TTL=128
Reply from 192.168.11.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.11.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

ANIRUDH VADERA
NETWORK TOPOLOGY IN PACKET TRACER

Pinging from PC1 to PC2:



The screenshot shows the 'Command Prompt' window of PC1 (20BCE2940_PC_1) in Cisco Packet Tracer. The window has tabs for Physical, Config, Desktop (selected), Programming, and Attributes. The command prompt displays the following text:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.11.3

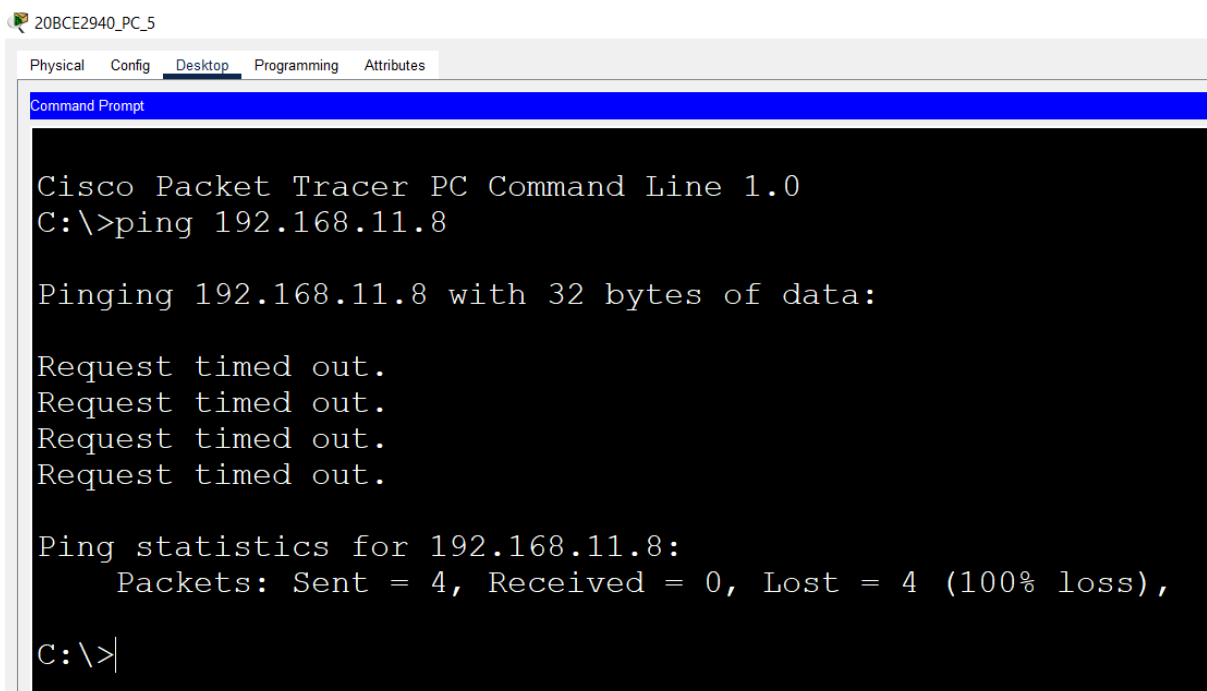
Pinging 192.168.11.3 with 32 bytes of data:

Reply from 192.168.11.3: bytes=32 time<1ms TTL=128
Reply from 192.168.11.3: bytes=32 time<1ms TTL=128
Reply from 192.168.11.3: bytes=32 time<1ms TTL=128
Reply from 192.168.11.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.11.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Pinging from PC5 to PC7(This doesn't exist in server so Loss should be 100%):



The screenshot shows the 'Command Prompt' window of PC5 (20BCE2940_PC_5) in Cisco Packet Tracer. The window has tabs for Physical, Config, Desktop (selected), Programming, and Attributes. The command prompt displays the following text:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.11.8

Pinging 192.168.11.8 with 32 bytes of data:

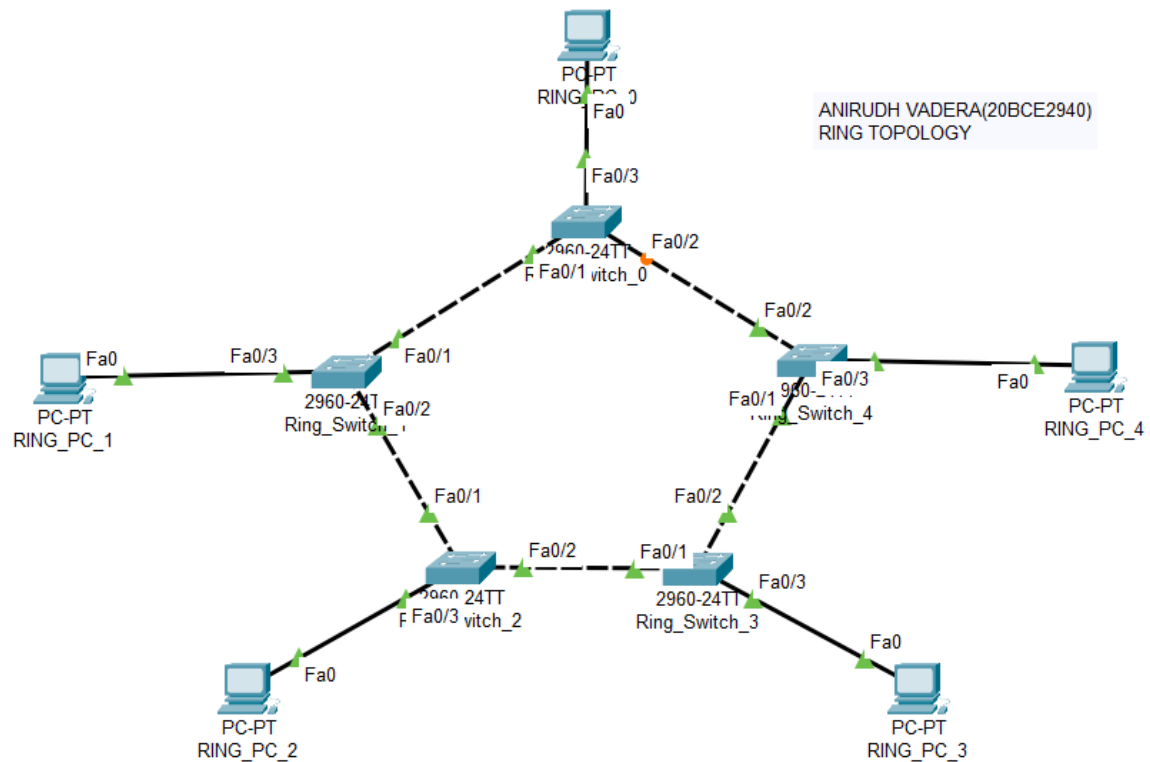
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.11.8:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>|
```

ANIRUDH VADERA
NETWORK TOPOLOGY IN PACKET TRACER

Ring Topology:



IP OF PC0: 192.168.12.1

Name Format of a PC : RING_PC_(PC_Number)

Name Format of a Switch : Ring_Switch_(Switch_Number)

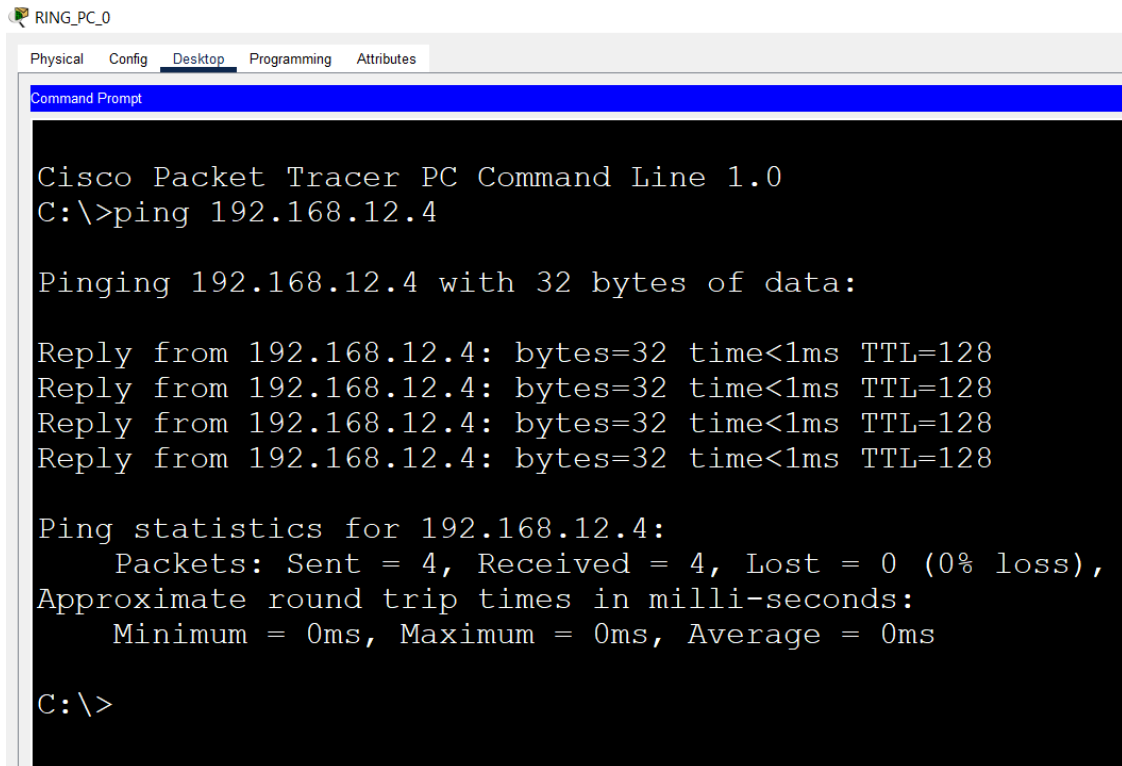
SUBNETMASK OF PC0: 255.255.255.0

Number of PC's Connected in the topology: 5

ANIRUDH VADERA
NETWORK TOPOLOGY IN PACKET TRACER

OUTPUT:

Pinging from PC0 to PC3:



```
RING_PC_0
Physical Config Desktop Programming Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.12.4

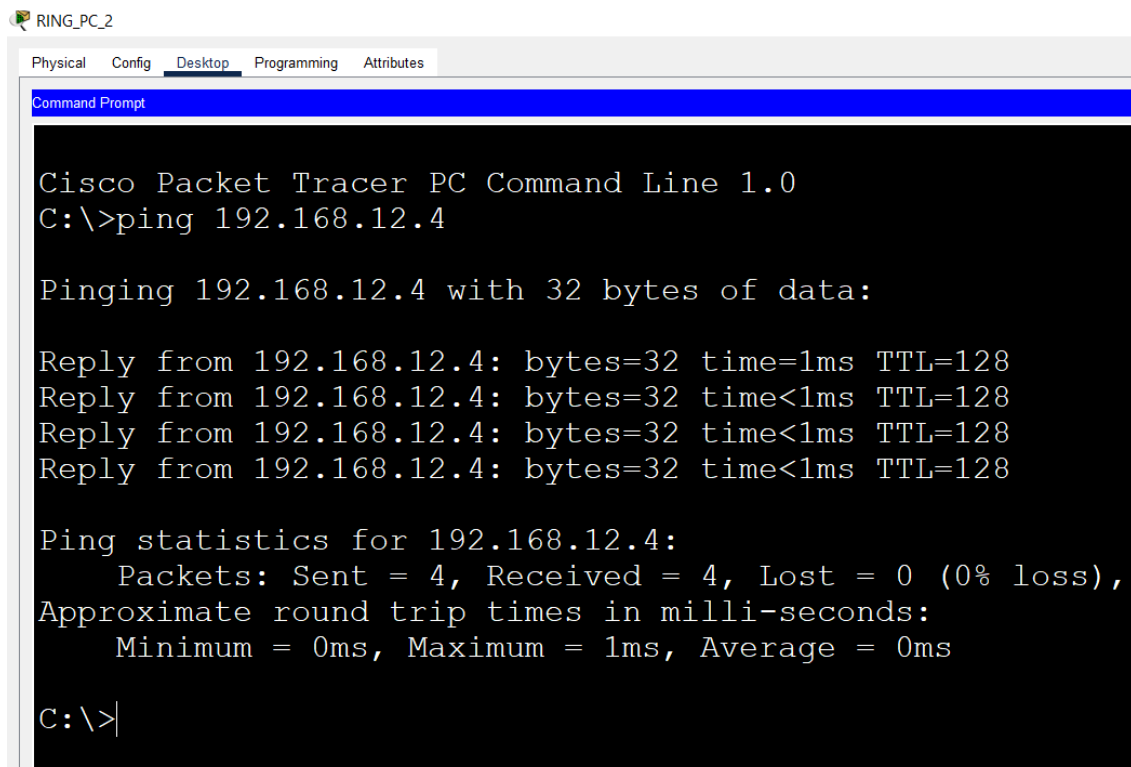
Pinging 192.168.12.4 with 32 bytes of data:

Reply from 192.168.12.4: bytes=32 time<1ms TTL=128
Reply from 192.168.12.4: bytes=32 time<1ms TTL=128
Reply from 192.168.12.4: bytes=32 time<1ms TTL=128
Reply from 192.168.12.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.12.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Pinging from PC2 to PC3:



```
RING_PC_2
Physical Config Desktop Programming Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.12.4

Pinging 192.168.12.4 with 32 bytes of data:

Reply from 192.168.12.4: bytes=32 time=1ms TTL=128
Reply from 192.168.12.4: bytes=32 time<1ms TTL=128
Reply from 192.168.12.4: bytes=32 time<1ms TTL=128
Reply from 192.168.12.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.12.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```


ANIRUDH VADERA
NETWORK TOPOLOGY IN PACKET TRACER

Pinging from PC4 to PC7(This doesn't exist in server so Loss should be 100%):

```
RING_PC_4
Physical Config Desktop Programming Attributes
Command Prompt

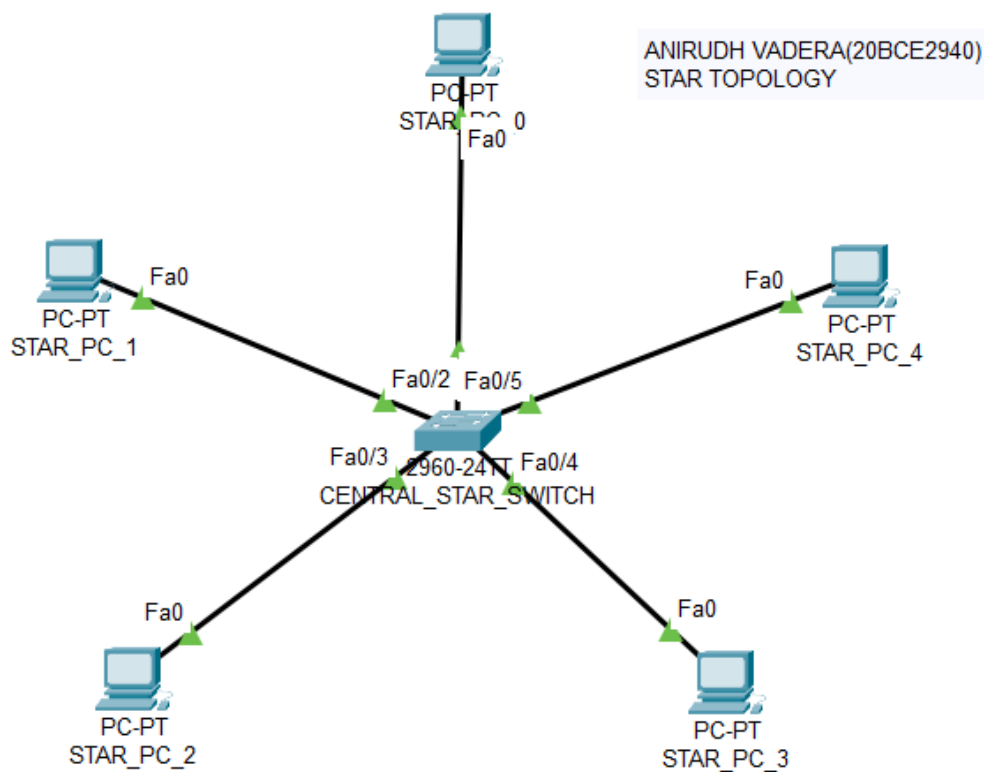
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.12.8

Pinging 192.168.12.8 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.12.8:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>|
```

Star Topology:



ANIRUDH VADERA
NETWORK TOPOLOGY IN PACKET TRACER

IP OF PC0: 192.168.13.1

Name Format of a PC : STAR_PC_(PC_Number)

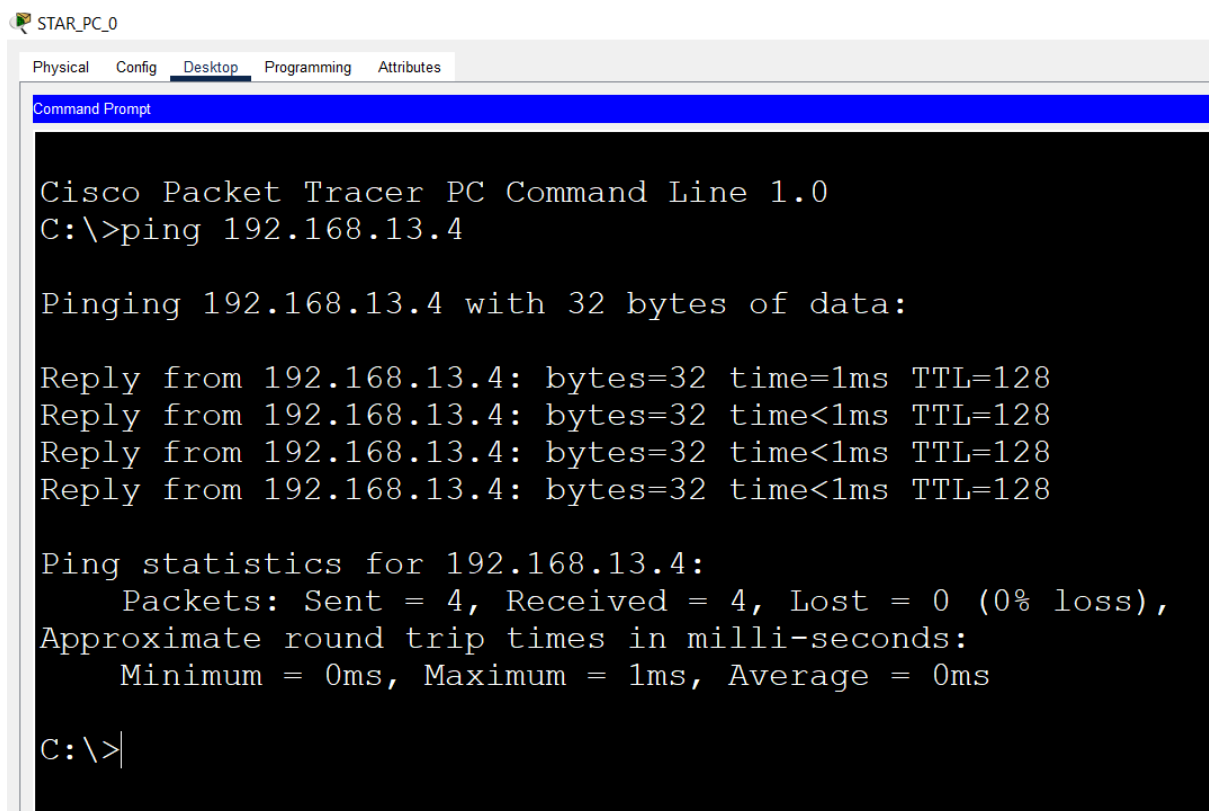
Name Format of a Switch : CENTRAL_STAR_SWITCH

SUBNETMASK OF PC0: 255.255.255.0

Number of PC's Connected in the topology: 5

OUTPUT:

Pinging from PC0 to PC3:



```
STAR_PC_0
Physical  Config  Desktop  Programming  Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.13.4

Pinging 192.168.13.4 with 32 bytes of data:

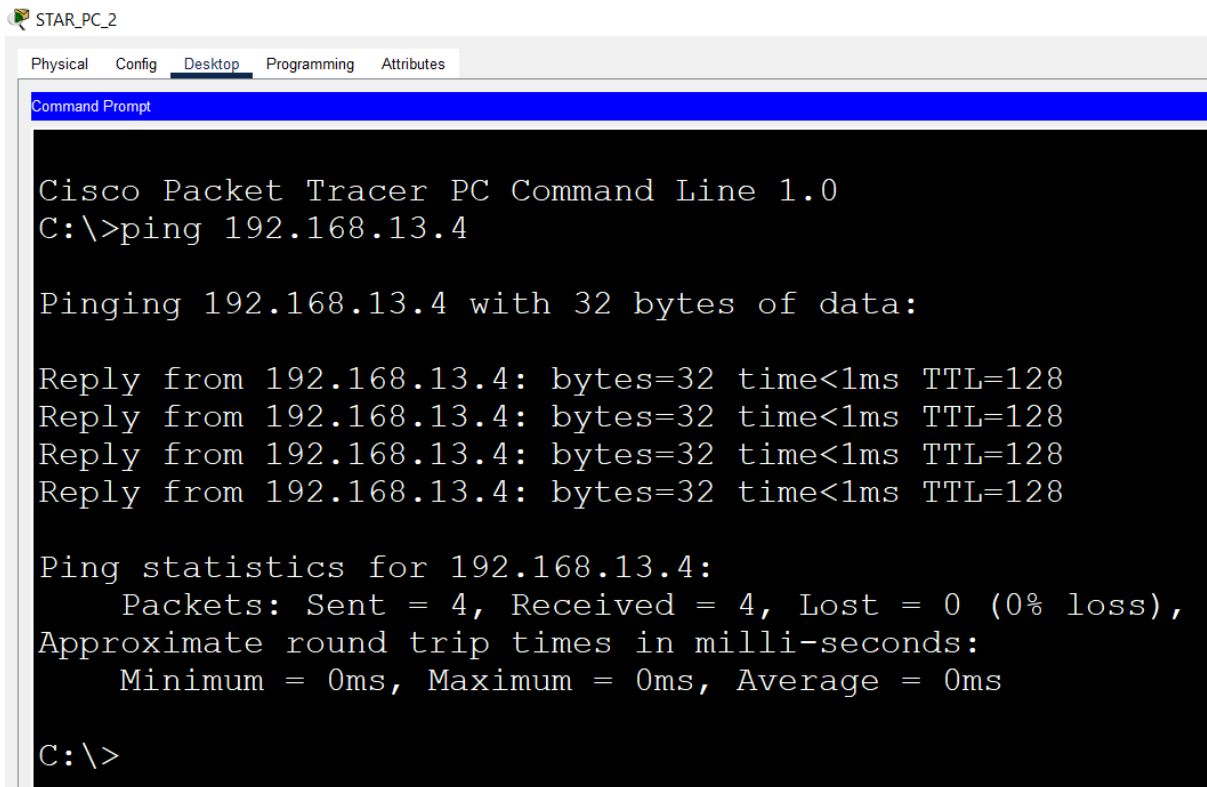
Reply from 192.168.13.4: bytes=32 time=1ms TTL=128
Reply from 192.168.13.4: bytes=32 time<1ms TTL=128
Reply from 192.168.13.4: bytes=32 time<1ms TTL=128
Reply from 192.168.13.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.13.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>|
```

ANIRUDH VADERA
NETWORK TOPOLOGY IN PACKET TRACER

Pinging from PC2 to PC3:



```
STAR_PC_2
Physical Config Desktop Programming Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.13.4

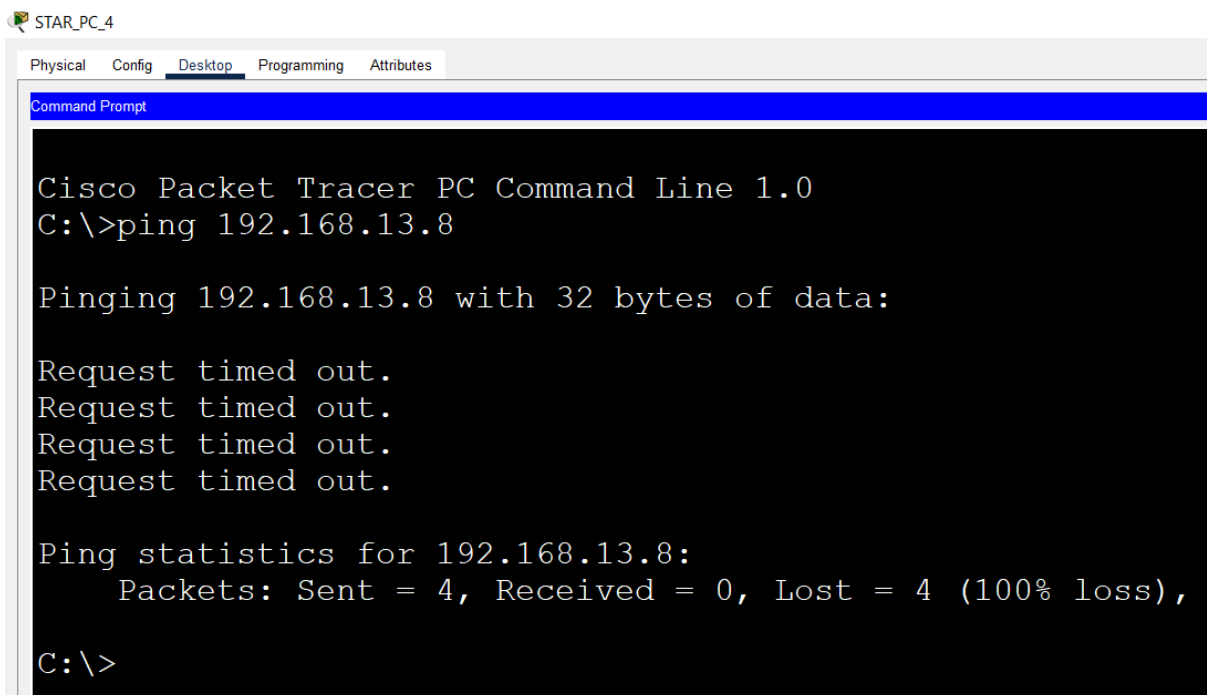
Pinging 192.168.13.4 with 32 bytes of data:

Reply from 192.168.13.4: bytes=32 time<1ms TTL=128
Reply from 192.168.13.4: bytes=32 time<1ms TTL=128
Reply from 192.168.13.4: bytes=32 time<1ms TTL=128
Reply from 192.168.13.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.13.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Pinging from PC4 to PC7(This doesn't exist in server so Loss should be 100%):



```
STAR_PC_4
Physical Config Desktop Programming Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.13.8

Pinging 192.168.13.8 with 32 bytes of data:

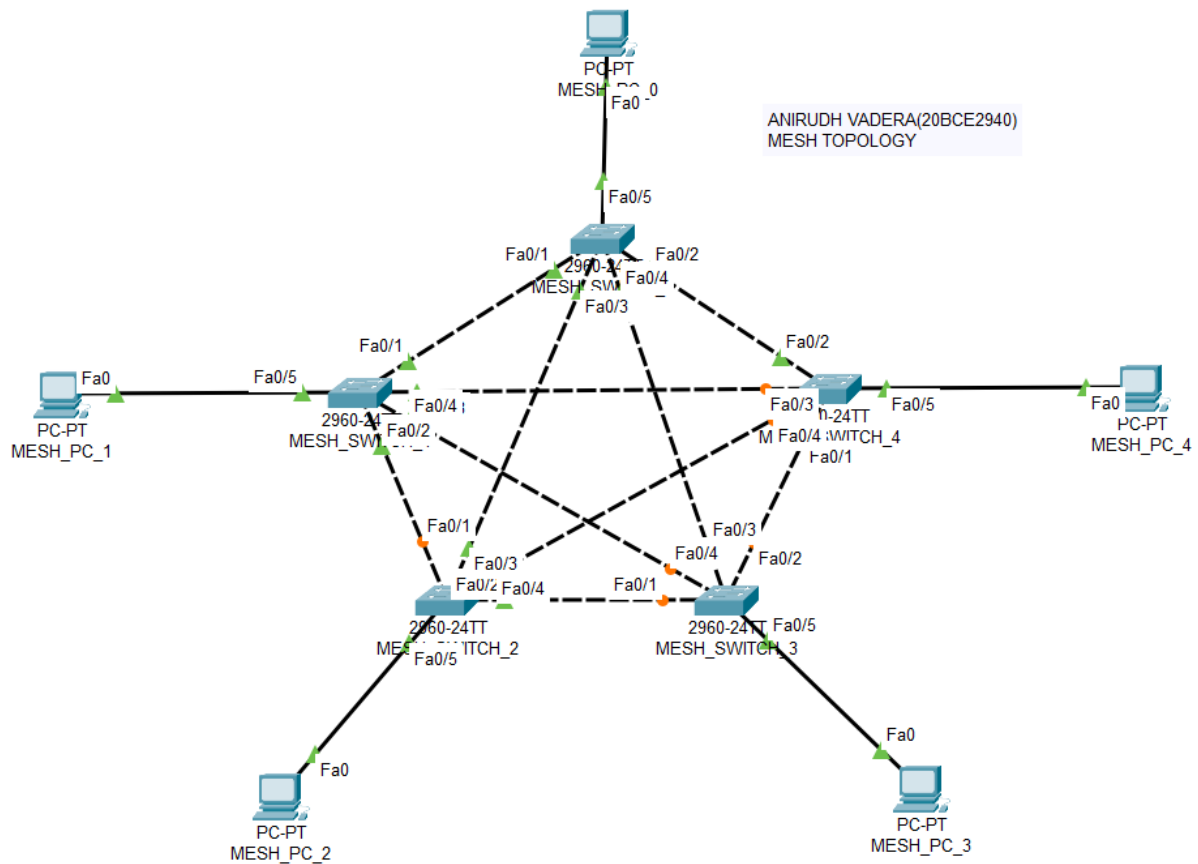
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.13.8:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

ANIRUDH VADERA
NETWORK TOPOLOGY IN PACKET TRACER

Mesh Topology:



IP OF PC0: 192.168.14.1

Name Format of a PC : MESH_PC_(PC_Number)

Name Format of a Switch : MESH_SWITCH_(Switch_Number)

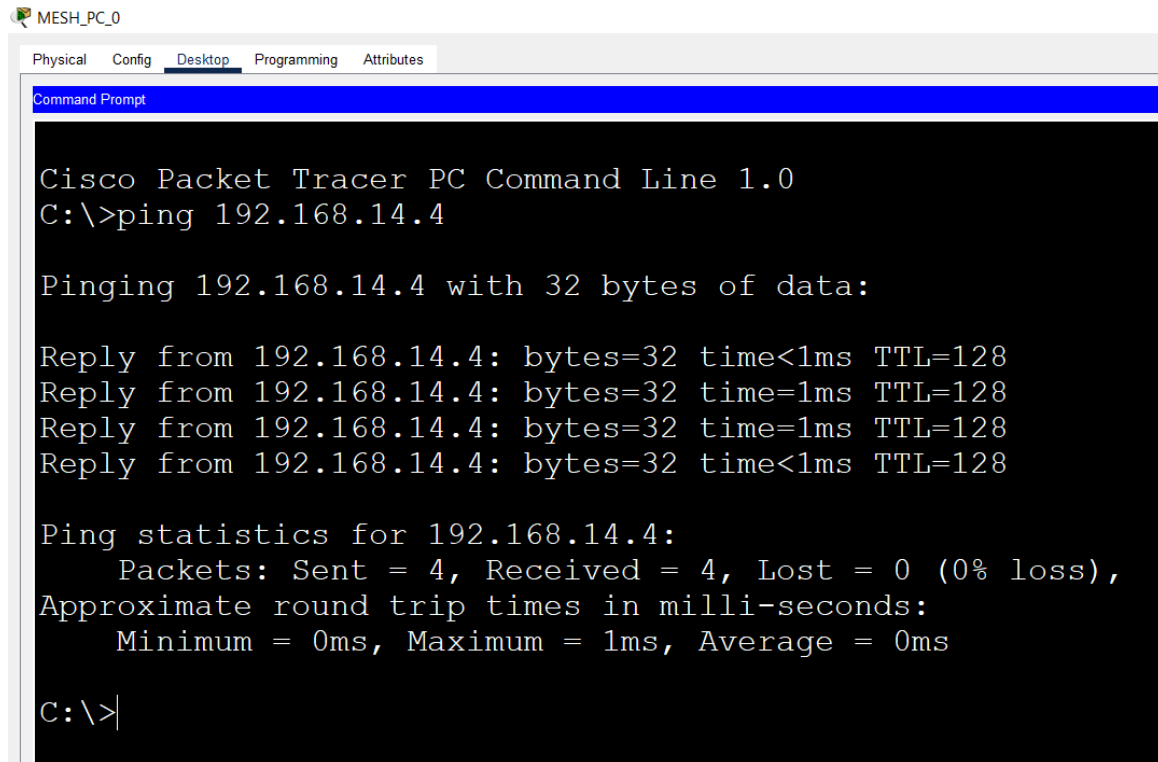
SUBNETMASK OF PC0: 255.255.255.0

Number of PC's Connected in the topology: 5

ANIRUDH VADERA
NETWORK TOPOLOGY IN PACKET TRACER

OUTPUT:

Pinging from PC0 to PC3:



The screenshot shows the Command Prompt window for MESH_PC_0. The window has tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is active, showing a black command prompt with white text. The text shows the execution of a ping command to 192.168.14.4, resulting in four successful replies and a summary of ping statistics.

```
MESH_PC_0
Physical Config Desktop Programming Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.14.4

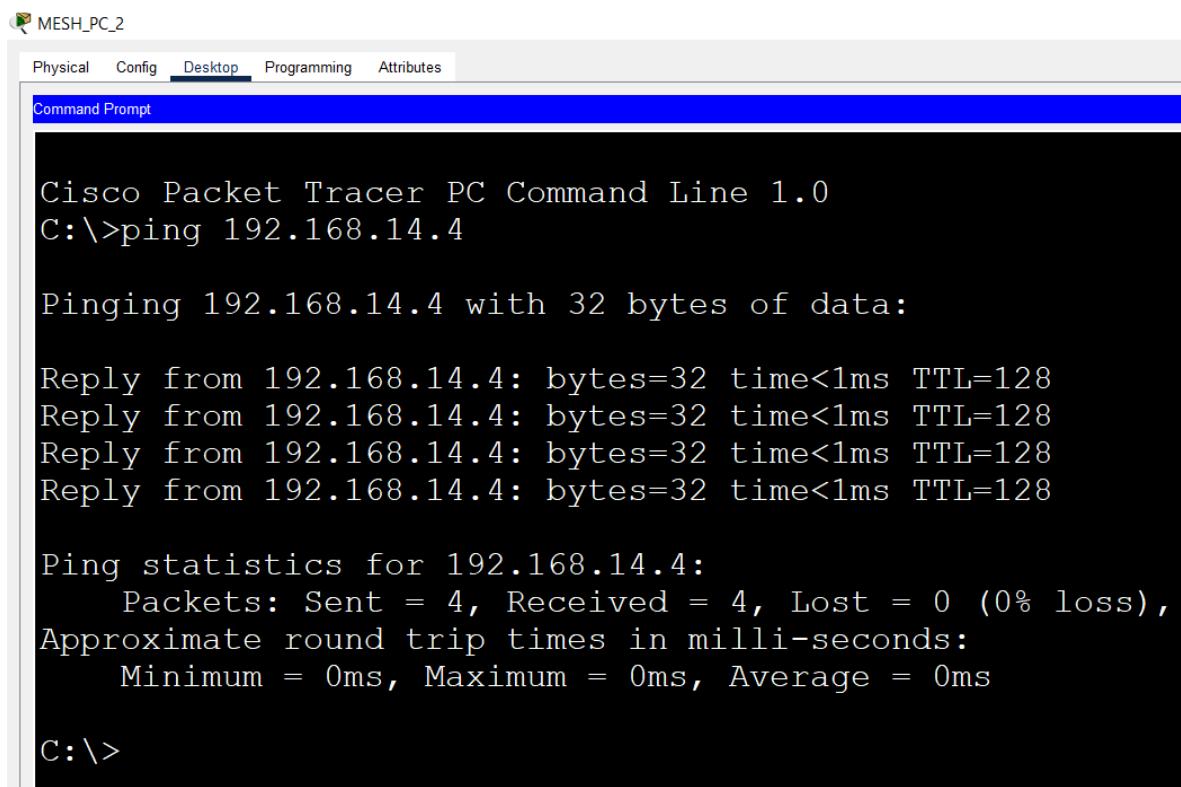
Pinging 192.168.14.4 with 32 bytes of data:

Reply from 192.168.14.4: bytes=32 time<1ms TTL=128
Reply from 192.168.14.4: bytes=32 time=1ms TTL=128
Reply from 192.168.14.4: bytes=32 time=1ms TTL=128
Reply from 192.168.14.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.14.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>|
```

Pinging from PC2 to PC3:



The screenshot shows the Command Prompt window for MESH_PC_2. The window has tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is active, showing a black command prompt with white text. The text shows the execution of a ping command to 192.168.14.4, resulting in four successful replies and a summary of ping statistics.

```
MESH_PC_2
Physical Config Desktop Programming Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.14.4

Pinging 192.168.14.4 with 32 bytes of data:

Reply from 192.168.14.4: bytes=32 time<1ms TTL=128
Reply from 192.168.14.4: bytes=32 time<1ms TTL=128
Reply from 192.168.14.4: bytes=32 time<1ms TTL=128
Reply from 192.168.14.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.14.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

ANIRUDH VADERA
NETWORK TOPOLOGY IN PACKET TRACER

Pinging from PC4 to PC7(This doesn't exist in server so Loss should be 100%):

MESH_PC_4

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.14.8

Pinging 192.168.14.8 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.14.8:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>|
```