

VxLEARN Networks

Networking & Cybersecurity Track
Simulated Employment Program

Lab Report: Connect to a Web Server

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1. Objective

The purpose of this lab is to observe how devices use IP addresses to communicate with a web server across a network.

Connectivity is verified first using ICMP (ping) and then using HTTP in a web browser.

2. Background

PC0 is connected to a network that allows access to a remote web server at IP address 172.33.100.50.

By sending ping requests and accessing the server's webpage, we verify that the network path is functioning correctly at both the network layer and the application layer.

3. Part 1 – Verify Connectivity to the Web Server

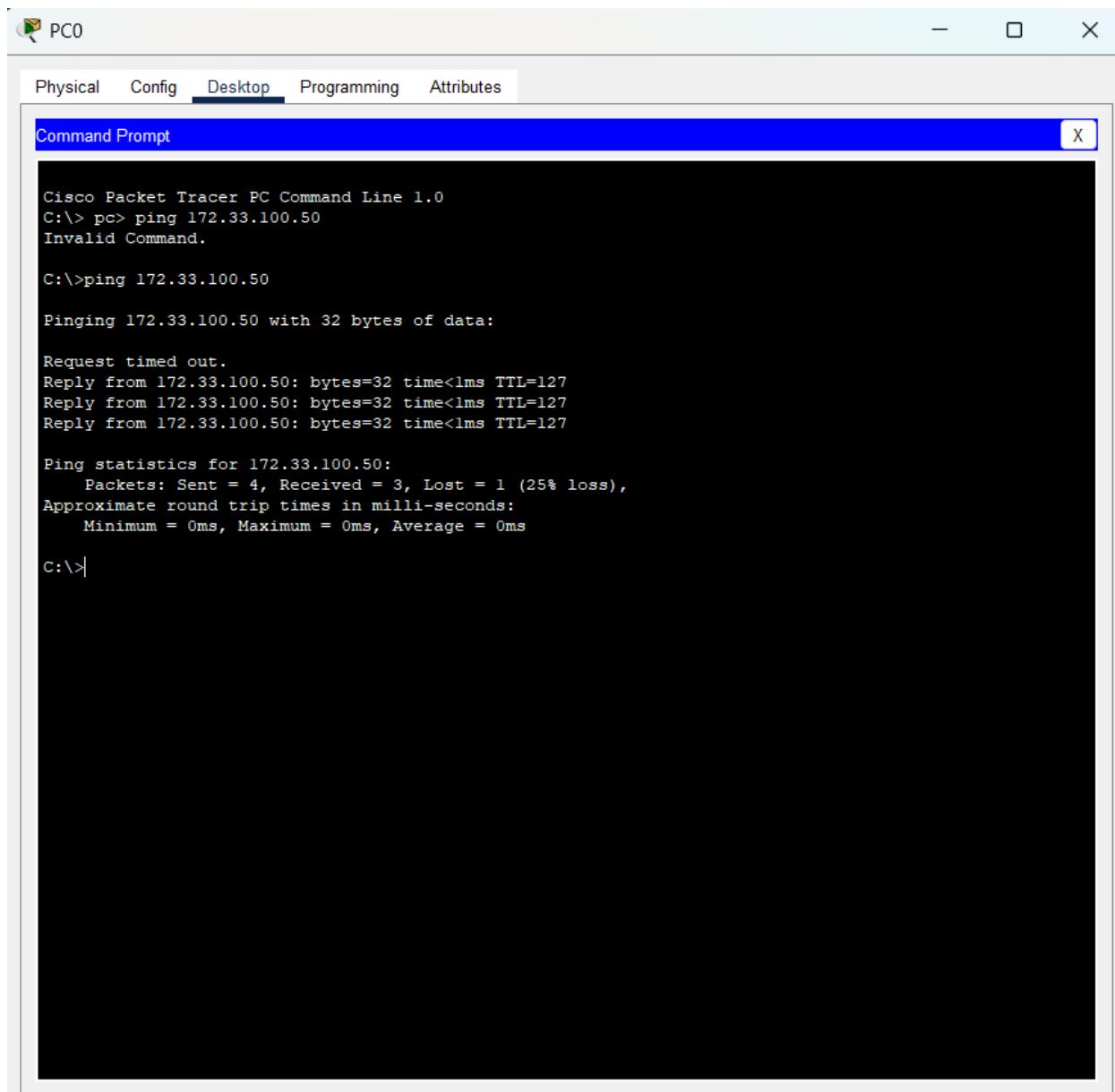
1. On PC0, open: Desktop → Command Prompt
2. Enter the command:

```
ping 172.33.100.50
```

Output:

```
Reply from 172.33.100.50: bytes=32 time=0ms TTL=127
```

- Successful replies confirm that packets are reaching the web server.
- Any initial timeouts may occur due to ARP resolving MAC addresses.



The image shows a screenshot of the Cisco Packet Tracer PC Command Line interface. The window title is "PC0". The menu bar includes "Physical", "Config", "Desktop" (which is underlined), "Programming", and "Attributes". Below the menu is a toolbar with icons for "File", "Edit", "View", "Tools", and "Help". A "Command Prompt" window is open, showing the following text:

```
Cisco Packet Tracer PC Command Line 1.0
C:\> pc> ping 172.33.100.50
Invalid Command.

C:\>ping 172.33.100.50

Pinging 172.33.100.50 with 32 bytes of data:

Request timed out.
Reply from 172.33.100.50: bytes=32 time<1ms TTL=127
Reply from 172.33.100.50: bytes=32 time<1ms TTL=127
Reply from 172.33.100.50: bytes=32 time<1ms TTL=127

Ping statistics for 172.33.100.50:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```

Figure 1: Successful Ping Output

4. Part 2 – Verify Connectivity to the Web Server via Web Browser

1. On PC0, go to: Desktop → Web Browser
2. Enter the server IP in the URL field:

172.33.100.50

3. Press go

The webpage loads, confirming HTTP communication is working.

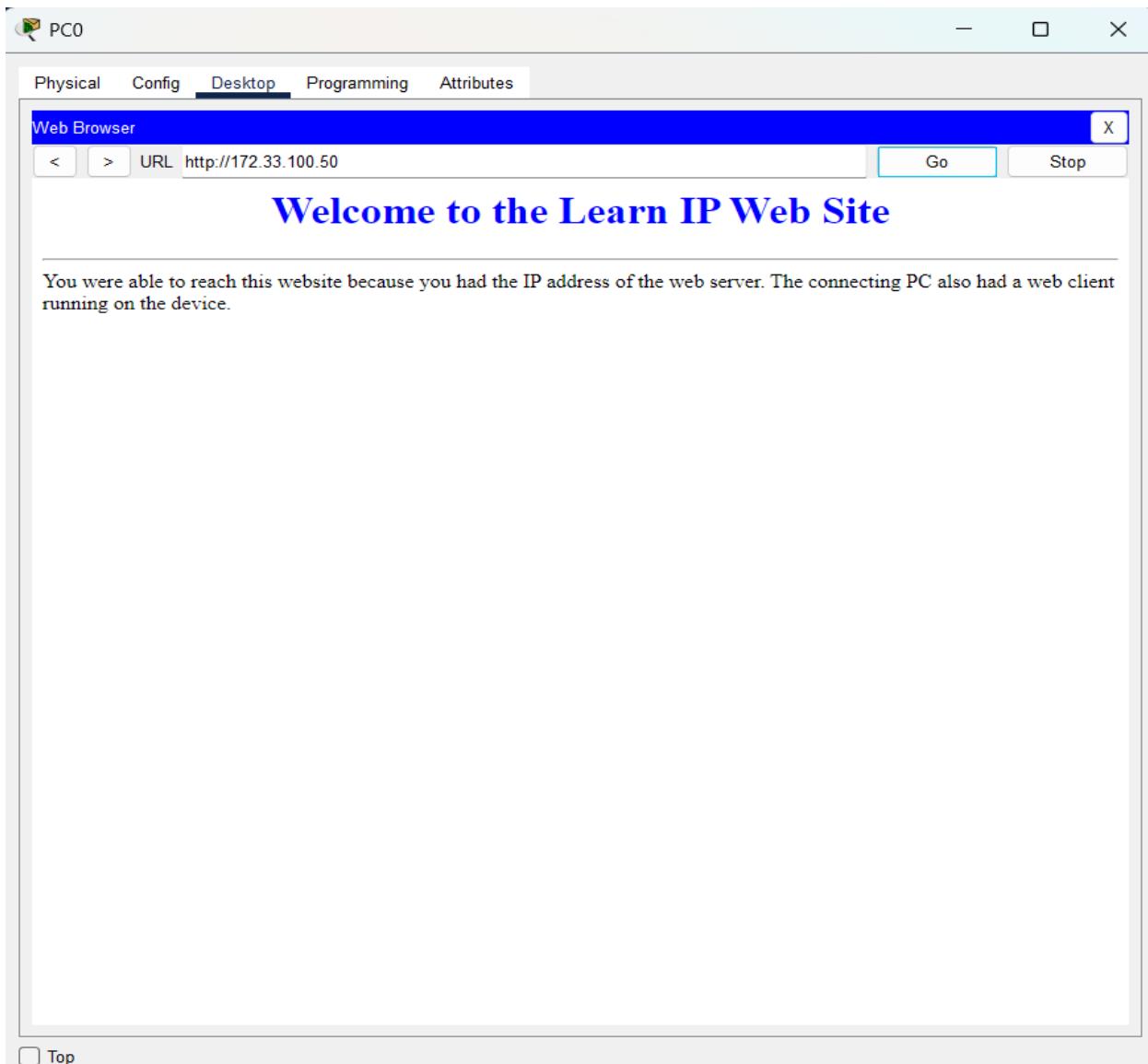


Figure 2: Web Page Displayed Successfully

5. Verification and Results

Test	Result	Meaning
Ping Test	Successful with replies	PC0 can reach at the network at the network layer (ICMP)
Web Browser Test	Web page loads	Application layer (HTTP) connectivity is functioning

6. Reflection and Conclusion

This lab demonstrated how devices communicate using IP addressing and how connectivity can be tested at multiple network layers.

I learned to:

- Verify network reachability using ping
- Confirm application-level communication using HTTP
- Understand how ARP and ICMP assist in establishing communication

This improved my practical understanding of how data travels across a network to web-based services.

7.Sign-Off

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