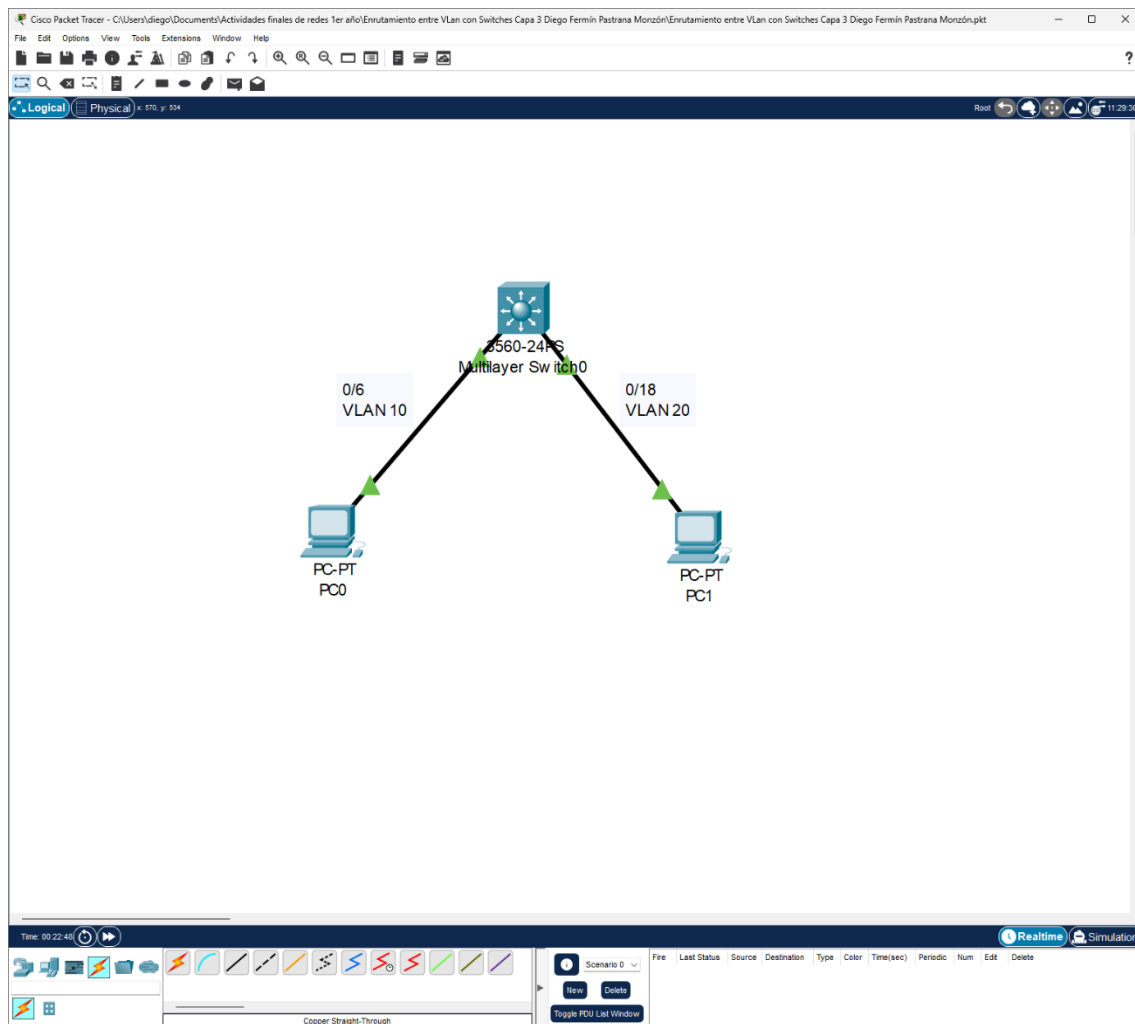


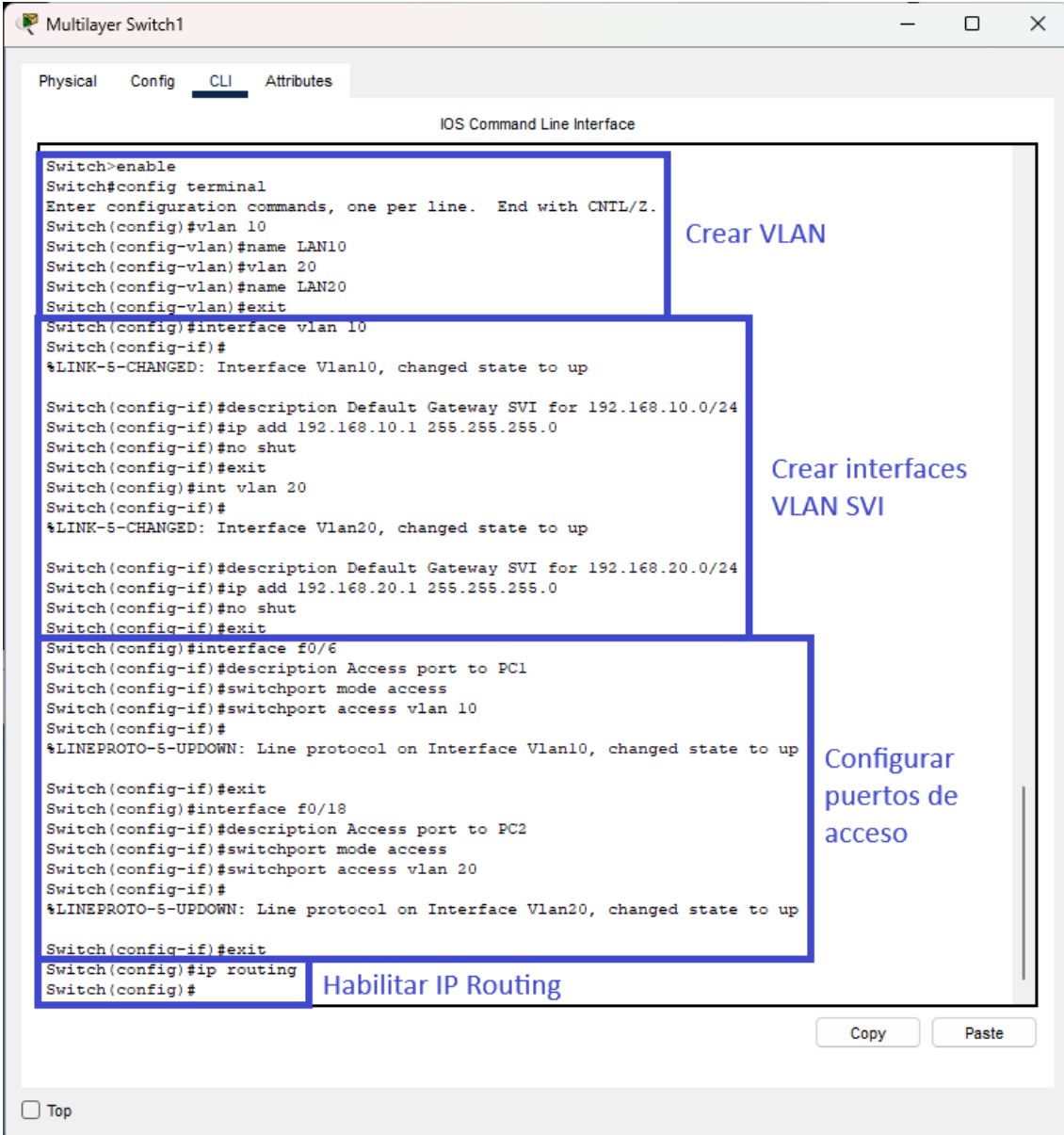
## Enrutamiento entre VLAN con Switches Capa 3



The screenshot shows the configuration windows for PC1 and PC2. Both are configured with static IP addresses and static IPv6 addresses.

Interface	IP Configuration	IPv6 Configuration
FastEthernet0	<ul style="list-style-type: none"><li>Static</li><li>IPv4 Address: 192.168.10.10</li><li>Subnet Mask: 255.255.255.0</li><li>Default Gateway: 192.168.10.1</li><li>DNS Server: 0.0.0.0</li></ul>	<ul style="list-style-type: none"><li>Static</li><li>IPv6 Address: FE80::207:ECFF:FE4B:3882</li><li>Link Local Address: FE80::207:ECFF:FE4B:3882</li><li>Default Gateway: 192.168.10.1</li><li>DNS Server: 0.0.0.0</li></ul>

## Configuración de Switch de Capa 3

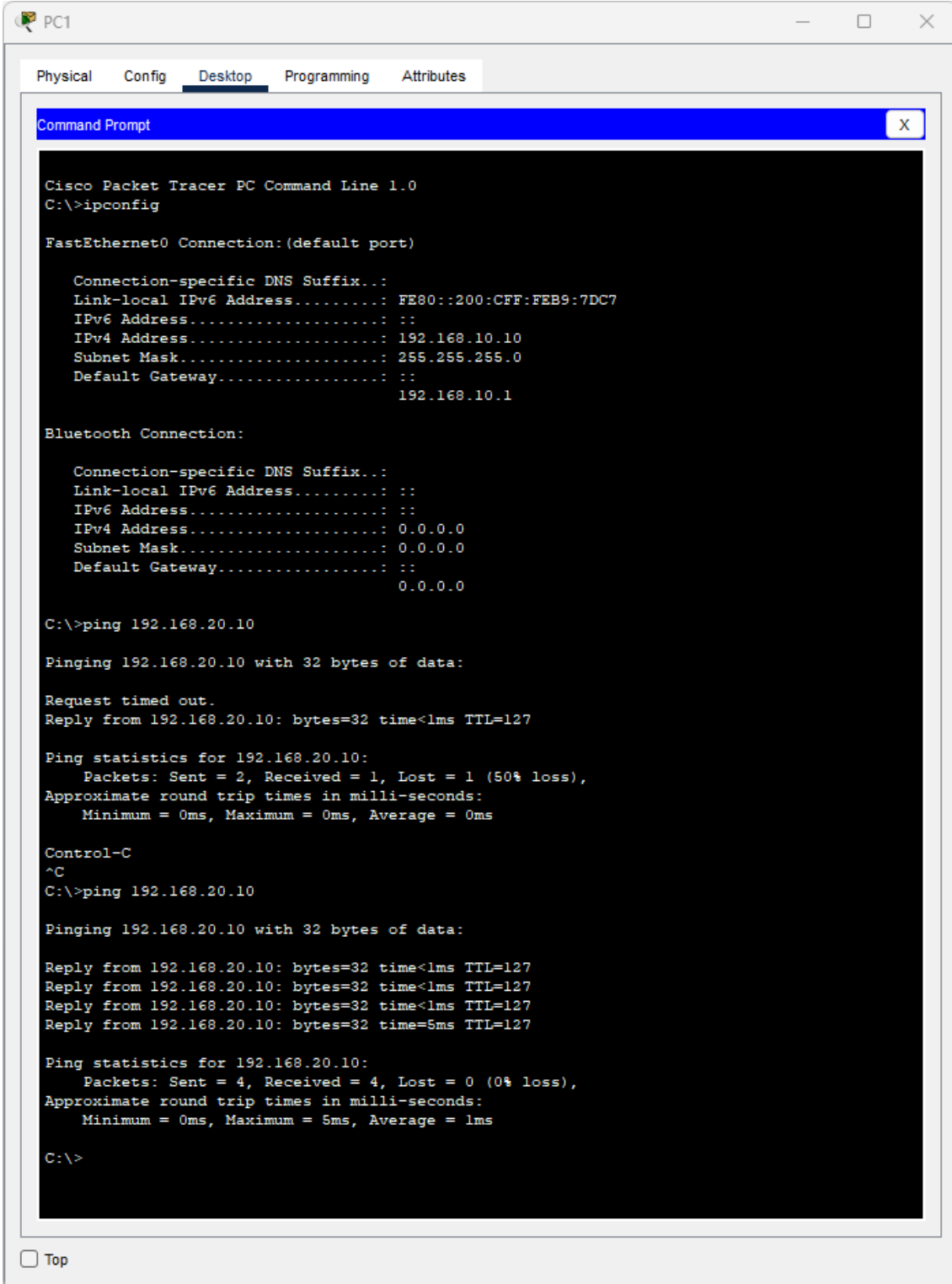


The screenshot displays the CLI interface of a Multilayer Switch. The configuration is organized into four distinct sections, each highlighted with a blue box and a corresponding label on the right:

- Crear VLAN:** This section includes the commands to enable the switch, enter terminal mode, and create two VLANs: VLAN 10 named LAN10 and VLAN 20 named LAN20.
- Crear interfaces VLAN SVI:** This section shows the configuration of two SVI interfaces. For each VLAN, an interface is created, described as a 'Default Gateway SVI', and assigned an IP address (192.168.10.1 for VLAN 10 and 192.168.20.1 for VLAN 20) with a 255.255.255.0 subnet mask.
- Configurar puertos de acceso:** This section configures two physical interfaces (f0/6 and f0/18) as access ports. Each port is assigned to a specific VLAN (VLAN 10 for f0/6 and VLAN 20 for f0/18).
- Habilitar IP Routing:** The final step is enabling IP routing on the switch.

The CLI output shows the status of each configuration step, such as 'Interface Vlan10, changed state to up' and 'Line protocol on Interface Vlan10, changed state to up'. At the bottom of the window, there are 'Copy' and 'Paste' buttons, and a 'Top' link.

## Verificación Routing Inter-VLAN de Switch de Capa 3



The screenshot shows a PC1 window in Cisco Packet Tracer with the 'Desktop' tab selected. A 'Command Prompt' window is open, displaying the following text:

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

FastEthernet0 Connection: (default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: FE80::200:CFF:FEB9:7DC7
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 192.168.10.10
    Subnet Mask . . . . .: 255.255.255.0
    Default Gateway . . . . .: ::
                                   192.168.10.1

Bluetooth Connection:

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: ::
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 0.0.0.0
    Subnet Mask . . . . .: 0.0.0.0
    Default Gateway . . . . .: ::
                                   0.0.0.0

C:\>ping 192.168.20.10

Pinging 192.168.20.10 with 32 bytes of data:

Request timed out.
Reply from 192.168.20.10: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.20.10:
    Packets: Sent = 2, Received = 1, Lost = 1 (50% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

Control-C
^C
C:\>ping 192.168.20.10

Pinging 192.168.20.10 with 32 bytes of data:

Reply from 192.168.20.10: bytes=32 time<1ms TTL=127
Reply from 192.168.20.10: bytes=32 time<1ms TTL=127
Reply from 192.168.20.10: bytes=32 time<1ms TTL=127
Reply from 192.168.20.10: bytes=32 time=5ms TTL=127

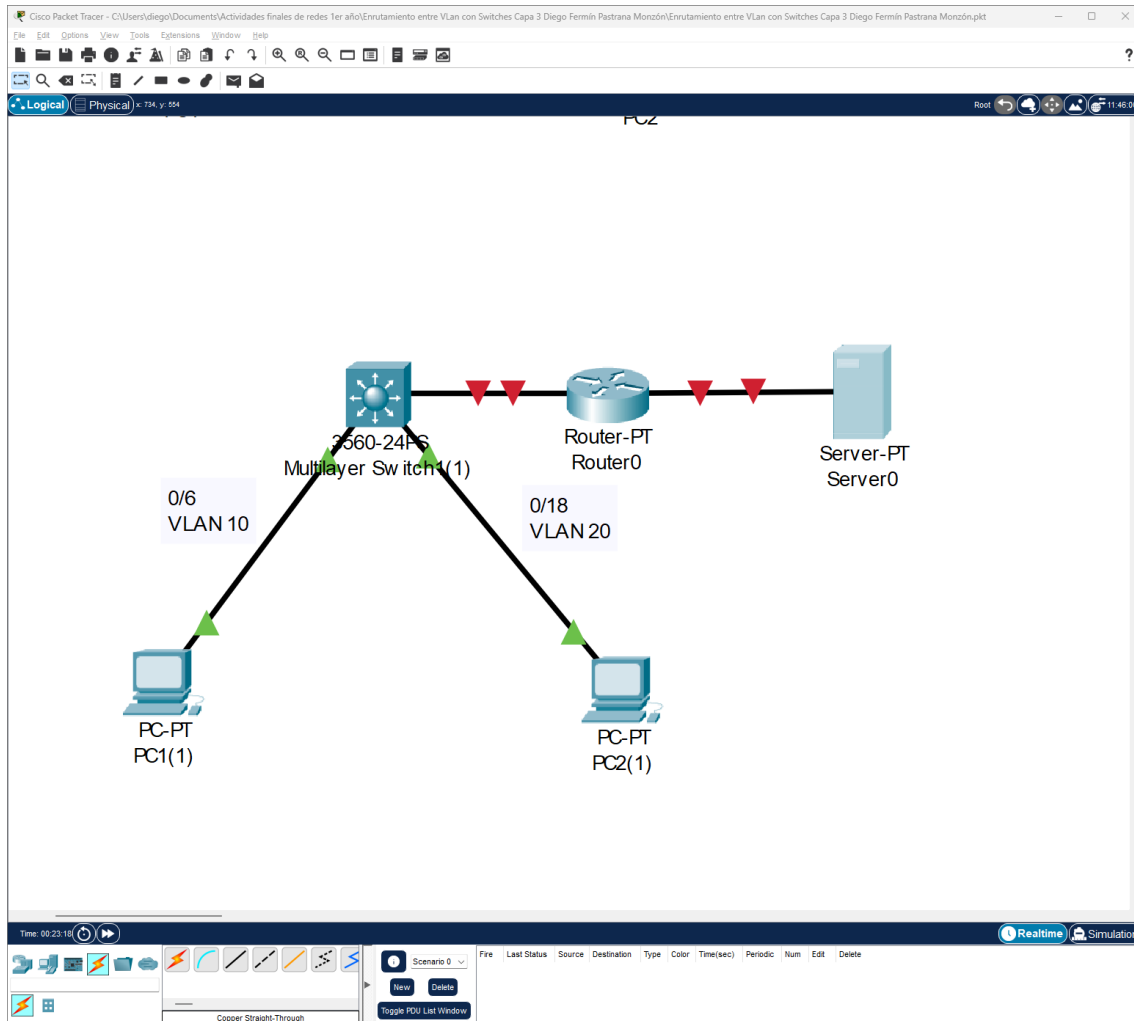
Ping statistics for 192.168.20.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 5ms, Average = 1ms

C:\>
```

At the bottom left of the Command Prompt window, there is a checkbox labeled 'Top' which is currently unchecked.

Verificamos y hacemos ping PC2

## Escenario Enrutamiento en Switch de Capa 3



Router0

Physical Config CLI Attributes

**GLOBAL**

- Settings
- Algorithm Settings
- ROUTING**
  - Static
  - RIP
- INTERFACE**
  - FastEthernet0/0**
  - FastEthernet1/0
  - Serial2/0
  - Serial3/0
  - FastEthernet4/0
  - FastEthernet5/0

**FastEthernet0/0**

Port Status: ☒ On

Bandwidth: ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex: ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address: 0002.1710.3A25

IP Configuration

IPv4 Address: 10.10.10.1

Subnet Mask: 255.255.255.0

Tx Ring Limit: 10

Equivalent IOS Commands

```

Router(config)#ip address 10.10.10.1 255.255.255.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
  
```

☐ Top

Router0

Physical

Config

CLI

Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

INTERFACE

FastEthernet0/0

FastEthernet1/0

Serial2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

FastEthernet1/0

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IPv4 Address

Subnet Mask

Tx Ring Limit

On

100 Mbps

10 Mbps

Auto

Half Duplex

Full Duplex

Auto

0090.21C2.A211

10.10.20.1

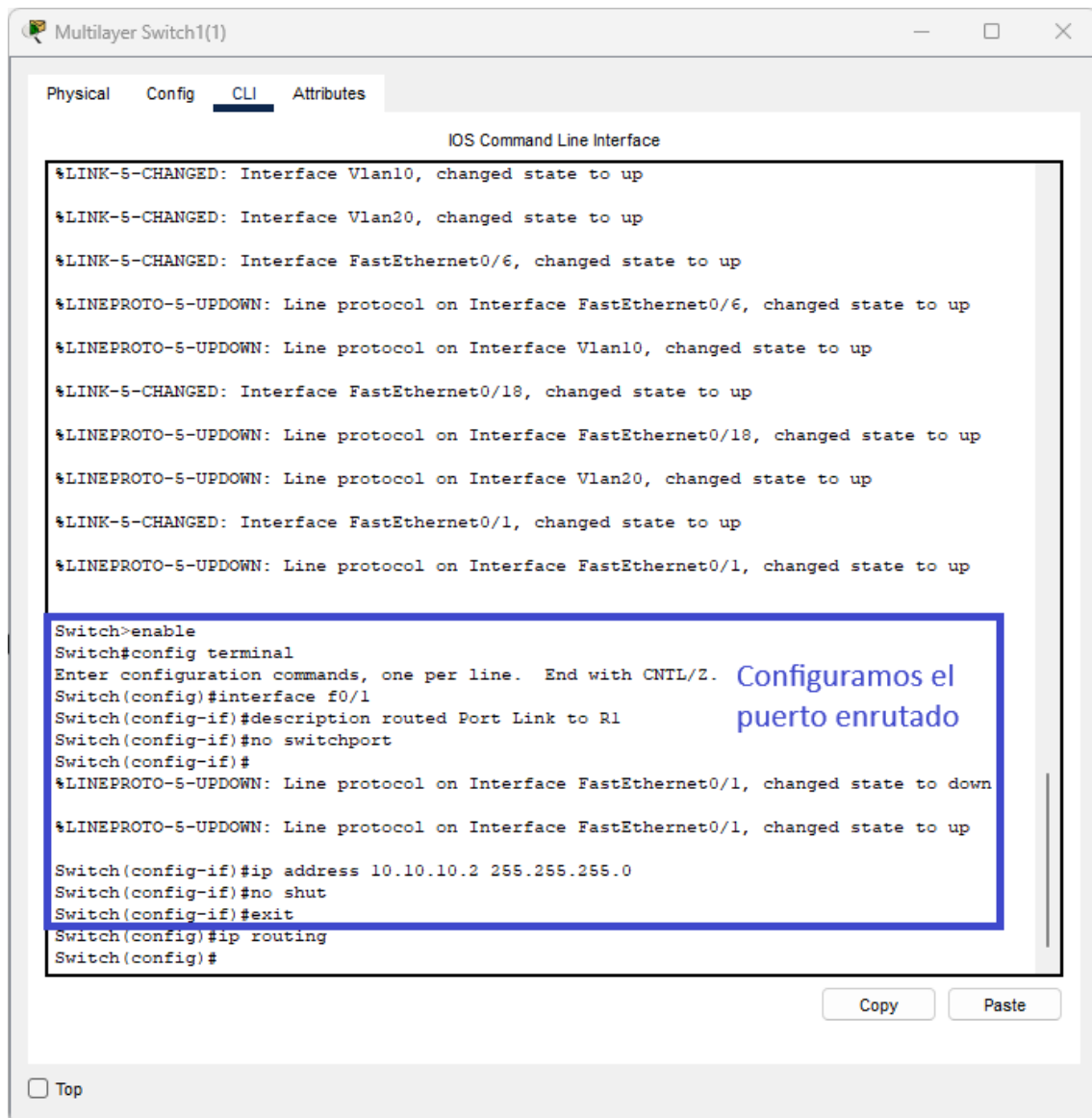
255.255.255.0

10

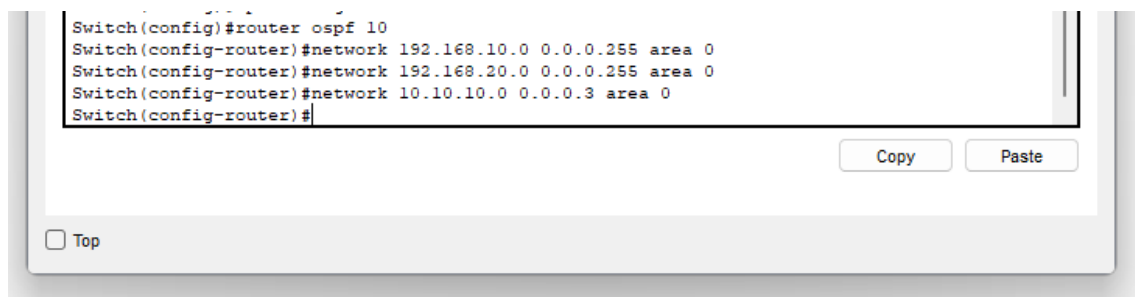
Equivalent IOS Commands

Router(config)#interface FastEthernet0/0  
Router(config-if)#  
Router(config-if)#exit  
Router(config)#interface Serial2/0  
Router(config-if)#  
Router(config-if)#exit  
Router(config)#interface FastEthernet1/0  
Router(config-if)#  
Router(config-if)#exit  
Router(config)#interface FastEthernet0/0  
Router(config-if)#  
Router(config-if)#exit  
Router(config)#interface FastEthernet1/0  
Router(config-if)#

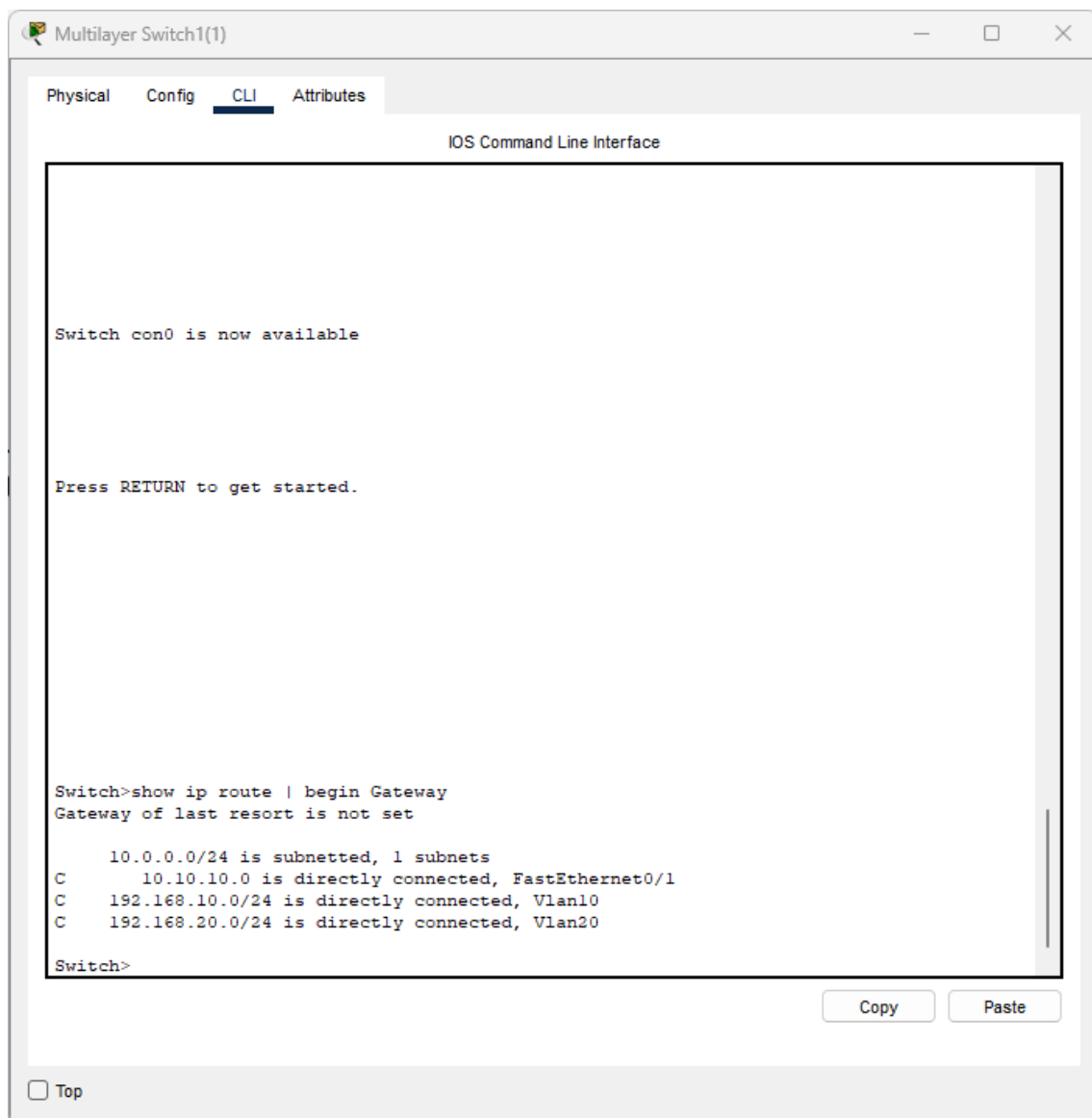
Top



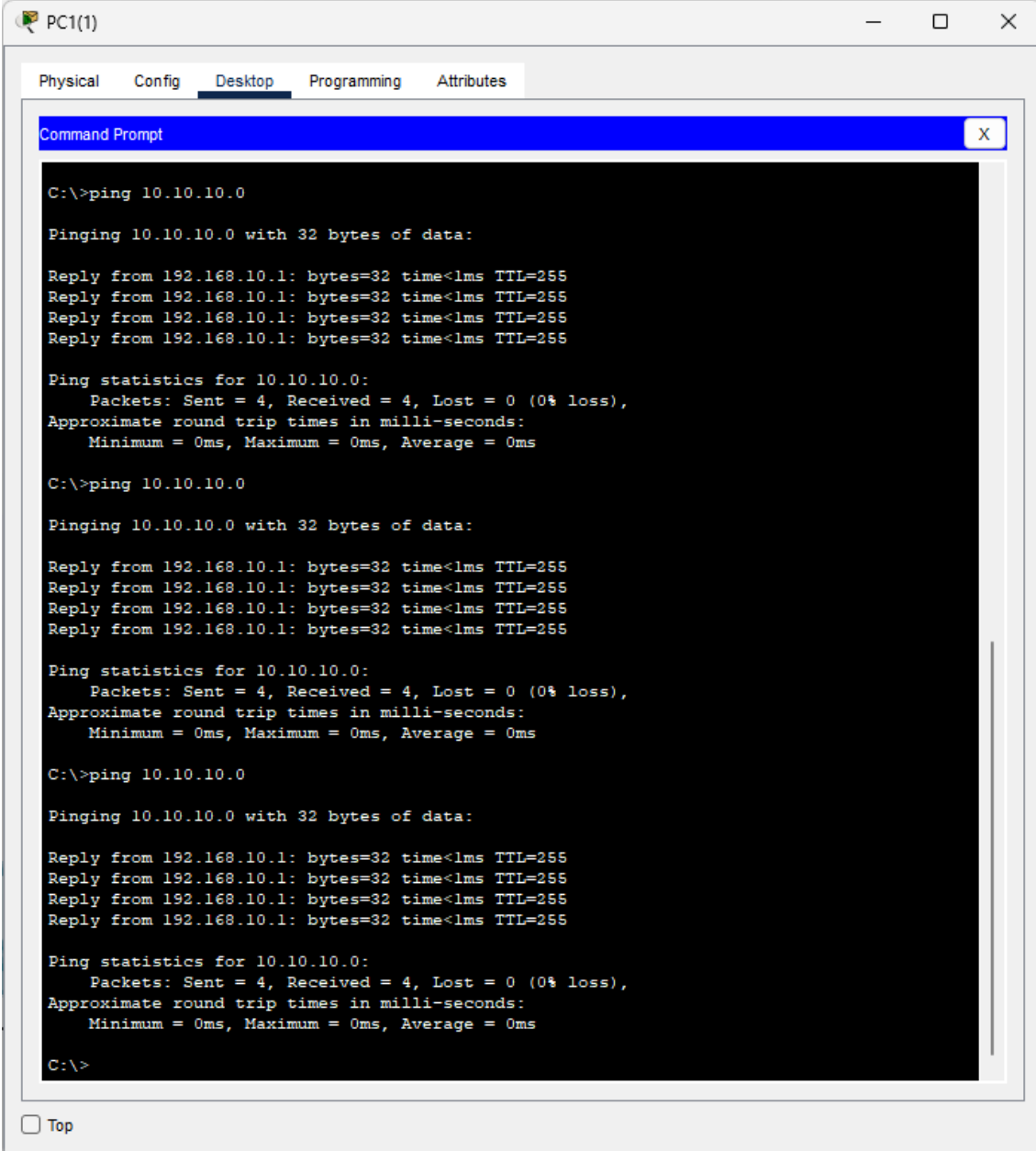
Y después activamos el IP Routing



Configurar el enrutamiento



Verificamos el enrutamiento



The screenshot shows a Windows desktop environment with a window titled "PC1(1)". The window has tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes", with "Desktop" currently selected. Inside the window is a "Command Prompt" application. The Command Prompt displays three consecutive ping commands and their results, all showing 100% success with 0ms round trip times.

```
C:\>ping 10.10.10.0

Pinging 10.10.10.0 with 32 bytes of data:

Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.10.10.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 10.10.10.0

Pinging 10.10.10.0 with 32 bytes of data:

Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.10.10.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 10.10.10.0

Pinging 10.10.10.0 with 32 bytes of data:

Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255
Reply from 192.168.10.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.10.10.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

At the bottom left of the Command Prompt window, there is a "Top" button.

Verificamos la conectividad