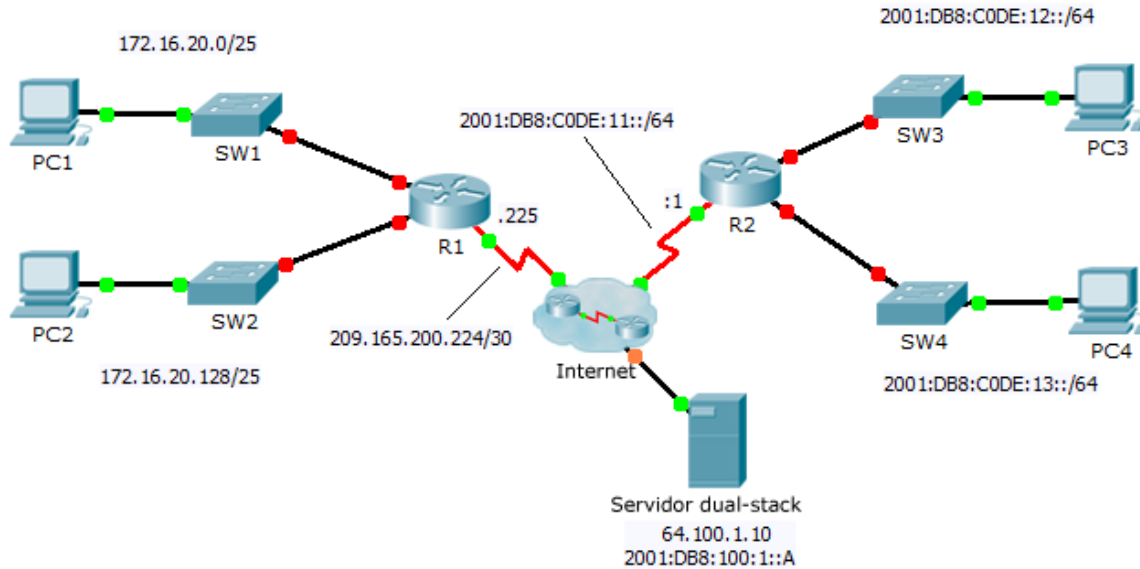


# Packet Tracer: Configuración de interfaces IPv4 e IPv6

## Topología



## Tabla de direccionamiento

El administrador	Interfaz	Dirección IPv4	Máscara de subred	Gateway predeterminado
		Dirección/Prefijo IPv6		
R1	G0/0	172.16.20.1	255.255.255.128	N/D
	G0/1	172.16.20.129	255.255.255.128	N/D
	S0/0/0	209.165.200.225	255.255.255.252	N/D
PC1	NIC	172.16.20.10	255.255.255.128	172.16.20.1
PC2	NIC	172.16.20.138	255.255.255.128	172.16.20.129
R2	G0/0	2001:DB8:C0DE:12::1/64		N/D
	G0/1	2001:DB8:C0DE:13::1/64		N/D
	S0/0/1	2001:DB8:C0DE:11::1/64		N/D
	Link-local	FE80::2		N/D
PC3	NIC	2001:DB8:C0DE:12::A/64		FE80::2
PC4	NIC	2001:DB8:C0DE:13::A/64		FE80::2

### Objetivos

Parte 1: Configurar el direccionamiento IPv4 y verificar la conectividad

Parte 2: Configurar el direccionamiento IPv6 y verificar la conectividad

### Aspectos básicos

Los routers R1 y R2 tienen dos LAN cada uno. Su tarea es configurar el direccionamiento adecuado en cada dispositivo y verificar la conectividad entre las LAN.

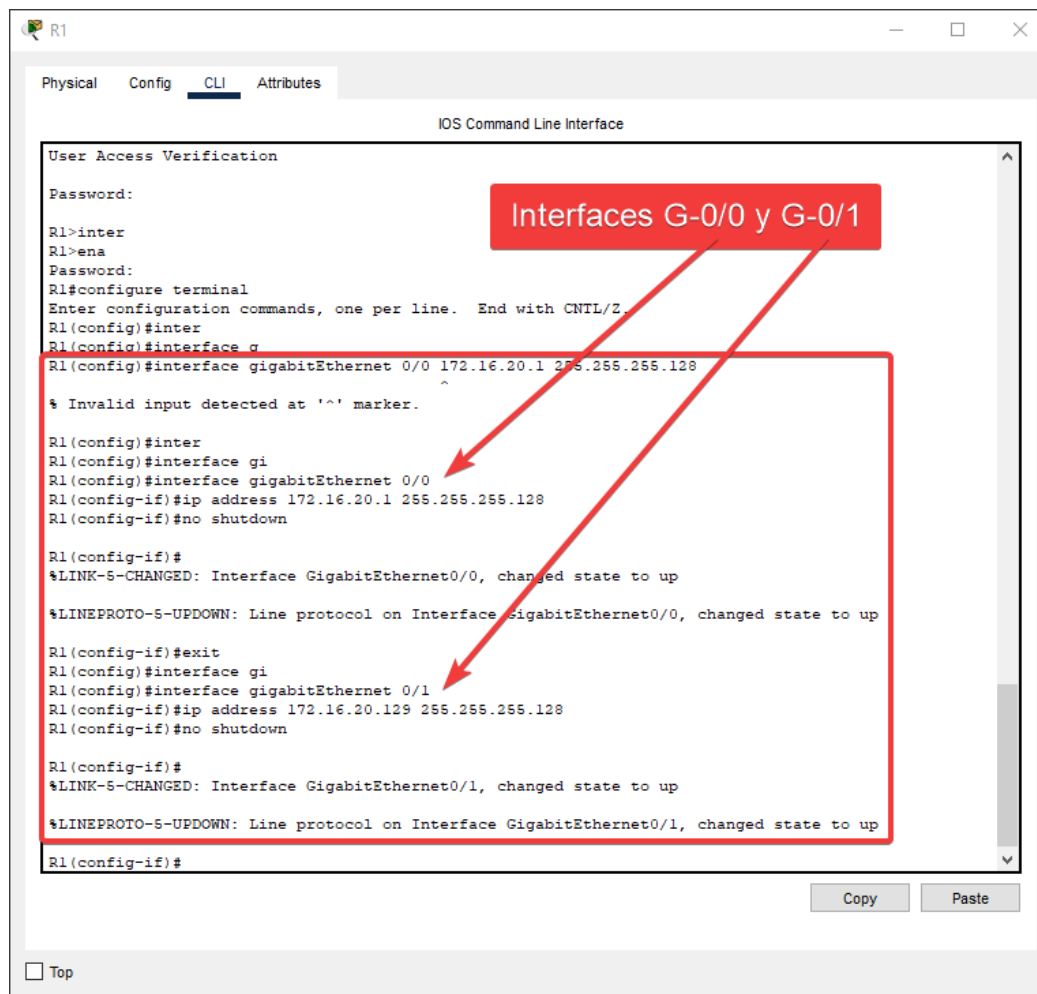
**Nota:** La contraseña de EXEC del usuario es **cisco**. La contraseña de EXEC privilegiado es **class**.

## Parte 1. Configurar el direccionamiento IPv4 y verificar la conectividad

### Paso 1. Asignar direcciones IPv4 al R1 y a los dispositivos en la LAN

Consulte la **tabla de direccionamiento** para configurar el direccionamiento IP de las interfaces LAN del R1, la PC1 y la PC2. La interfaz serial ya está configurada.

### ROUTER R1



The screenshot shows the Packet Tracer interface for router R1. The 'CLI' tab is selected, displaying the IOS Command Line Interface. The configuration process is as follows:

- GigabitEthernet0/1 Configuration:**
  - Command: `R1(config)#interface gigabitEthernet 0/1`
  - Command: `R1(config-if)#ip address 172.16.20.129 255.255.255.128`
  - Command: `R1(config-if)#no shutdown`
  - Status messages: `%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up` and `%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up`
  - Command: `R1(config-if)#exit`
- Serial0/0/0 Configuration:**
  - Command: `R1(config)#inter` (partially visible)
  - Command: `R1(config)#interface serial 0/0/0` (highlighted with a red box)
  - Command: `R1(config-if)#ip address 209.165.200.255 255.255.255.252` (error: `Bad mask /30 for address 209.165.200.255`)
  - Command: `R1(config-if)#ip address 209.165.200.255 255.255.255.252` (error: `Bad mask /30 for address 209.165.200.255`)
  - Command: `R1(config-if)#ip address 209.165.200.225 255.255.255.252` (highlighted with a red box)
  - Command: `R1(config-if)#no shutdown`
  - Command: `R1(config-if)#exit`
- Verification:**
  - Command: `R1(config)#show ru`
  - Command: `R1(config)#exit`
  - Command: `R1#`
  - Status message: `%SYS-5-CONFIG_I: Configured from console by console`
  - Command: `R1#show ru`
  - Command: `R1#show running-config`
  - Output: `Building configuration...`
  - Output: `Current configuration : 973 bytes`
  - Output: `!`
  - Output: `version 15.1`
  - Output: `no service timestamps log datetime msec`
  - Output: `no service timestamps debug datetime msec`
  - Output: `no service password-encryption`

A red box highlights the command `R1(config)#interface serial 0/0/0`. A red callout box with the text **SERIAL 0/0/0** points to the configuration steps for the serial interface. At the bottom right, there are 'Copy' and 'Paste' buttons. At the bottom left, there is a 'Top' link.

## PC1

PC1

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 172.16.20.10

Subnet Mask: 255.255.255.128

Default Gateway: 172.16.20.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::290:21FF:FE98:B18C

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

## PC2

PC2

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 172.16.20.138

Subnet Mask: 255.255.255.128

Default Gateway: 172.16.20.129

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::2D0:D3FF:FE08:D65E

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

### Paso 2. Verificar la conectividad

La **PC1** y la **PC2** deberían poder hacer ping entre sí y al **servidor dual-stack**.

```
Physical  Config  Desktop  Programming  Attributes

Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.20.138

Pinging 172.16.20.138 with 32 bytes of data:

Request timed out.
Reply from 172.16.20.138: bytes=32 time<1ms TTL=127
Reply from 172.16.20.138: bytes=32 time<1ms TTL=127
Reply from 172.16.20.138: bytes=32 time<1ms TTL=127

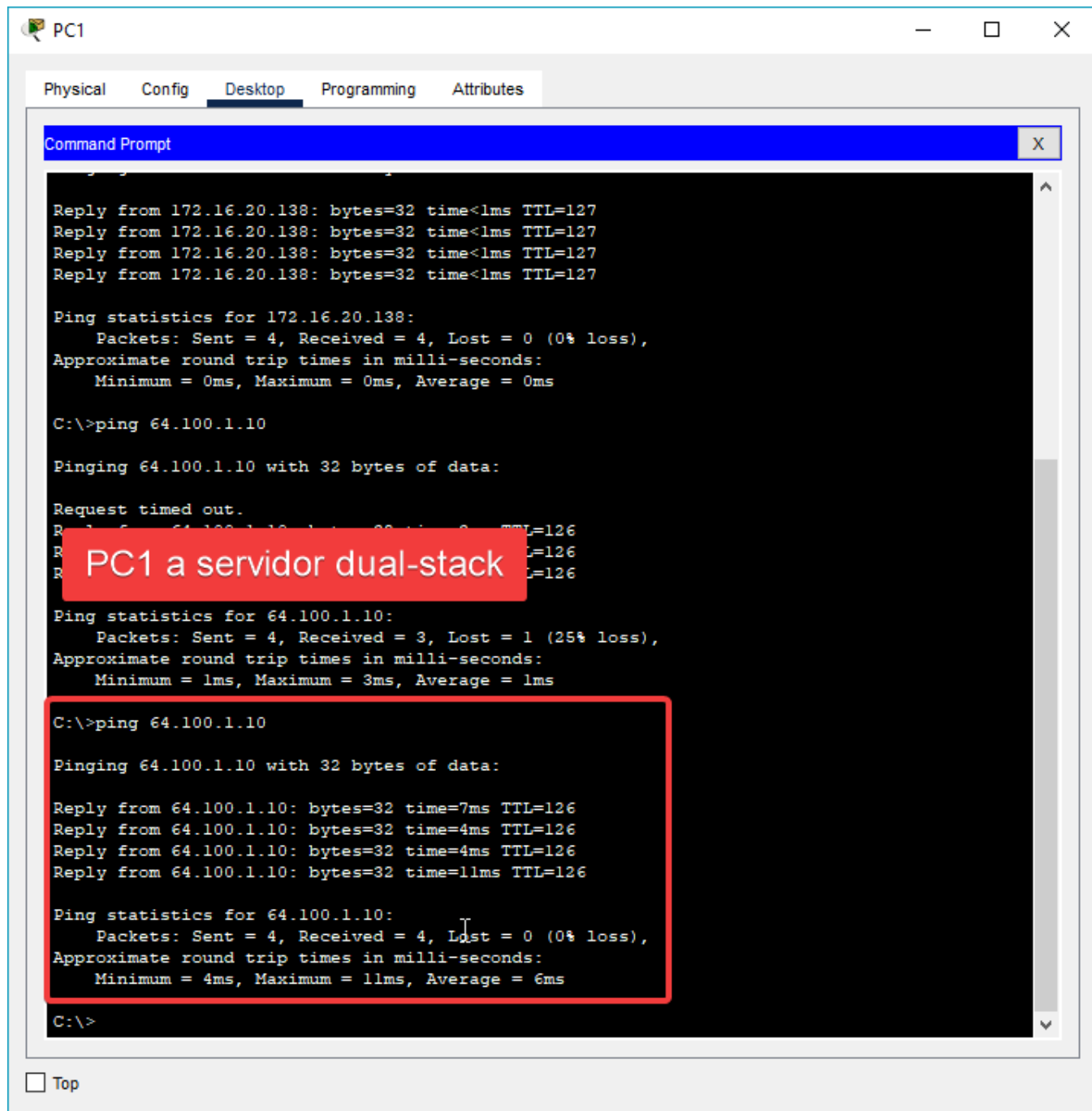
Ping statistics for 172.16.20.138:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 172.16.20.138

Pinging 172.16.20.138 with 32 bytes of data:

Reply from 172.16.20.138: bytes=32 time<1ms TTL=127
Reply from 172.16.20.138: bytes=32 time<1ms TTL=127
Reply from 172.16.20.138: bytes=32 time<1ms TTL=127
Reply from 172.16.20.138: bytes=32 time<1ms TTL=127

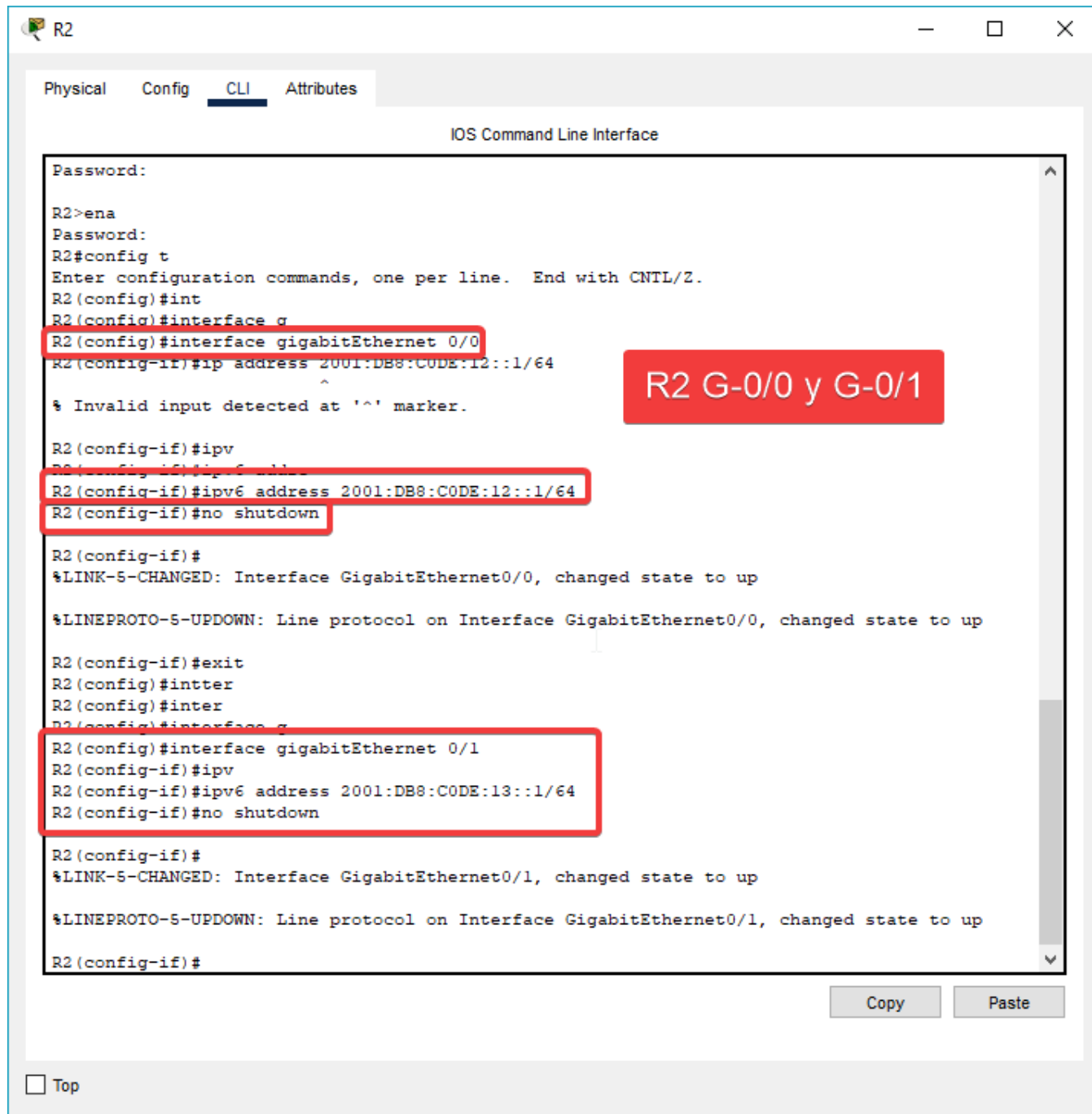
Ping statistics for 172.16.20.138:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```



## Parte 2. Configurar el direccionamiento IPv6 y verificar la conectividad

### Paso 1. Asignar direcciones IPv6 al R2 y a los dispositivos en la LAN

Consulte la **tabla de direccionamiento** para configurar el direccionamiento IP de las interfaces LAN del **R2**, la **PC3** y la **PC4**. La interfaz serial ya está configurada.



Physical Config **CLI** Attributes

IOS Command Line Interface

```
Password:
R2>ena
Password:
R2#config t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#int
R2(config)#interface g
R2(config)#interface gigabitEthernet 0/0
R2(config-if)#ip address 2001:DB8:CODE:12::1/64
^
% Invalid input detected at '^' marker.
R2(config-if)#ipv
R2(config-if)#ipv6 address 2001:DB8:CODE:12::1/64
R2(config-if)#no shutdown
R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
R2(config-if)#exit
R2(config)#intter
R2(config)#inter
R2(config)#interface g
R2(config)#interface gigabitEthernet 0/1
R2(config-if)#ip
R2(config-if)#ipv6 address 2001:DB8:CODE:13::1/64
R2(config-if)#no shutdown
R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
R2(config-if)#
```

R2 G-0/0 y G-0/1

Copy Paste

☐ Top



Physical

Config

CLI

Attributes

IOS Command Line Interface

```
R2(config-if)#ipv
R2(config-if)#ipv6 addre
R2(config-if)#ipv6 address 2001:DB8:CODE:12::1/64
R2(config-if)#no shutdown

R2(config-if)#
%LINK-S-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-S-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

R2(config-if)#exit
R2(config)#intter
R2(config)#inter
R2(config)#interface g
R2(config)#interface gigabitEthernet 0/1
R2(config-if)#ipv
R2(config-if)#ipv6 address 2001:DB8:CODE:13::1/64
R2(config-if)#no shutdown

R2(config-if)#
%LINK-S-CHANGED: Interface GigabitEthernet0/1, changed state to up

%LINEPROTO-S-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

R2(config-if)#exit
R2(config)#inter
R2(config)#inter
R2(config)#interface s
R2(config)#interface serial 0/0/1
R2(config-if)#iv
R2(config-if)#ipv
R2(config-if)#ipv6 address 2001:DB8:CODE:11::1/64
R2(config-if)#no shutdown
R2(config-if)#exit
R2(config)#inter
R2(config)#interface l
R2(config)#interface link
R2(config)#interface
```

Serial 0/0/1

Copy

Paste

☐ Top

PC3

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address

Subnet Mask

Default Gateway 0.0.0.0

DNS Server

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address 2001:DB8:C0DE:11::A / 64

Link Local Address FE80::2E0:B0FF:FE66:2D40

Default Gateway FE80::2

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

**Configuración PC3**

PC4

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address

Subnet Mask

Default Gateway

DNS Server

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address  /

Link Local Address

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

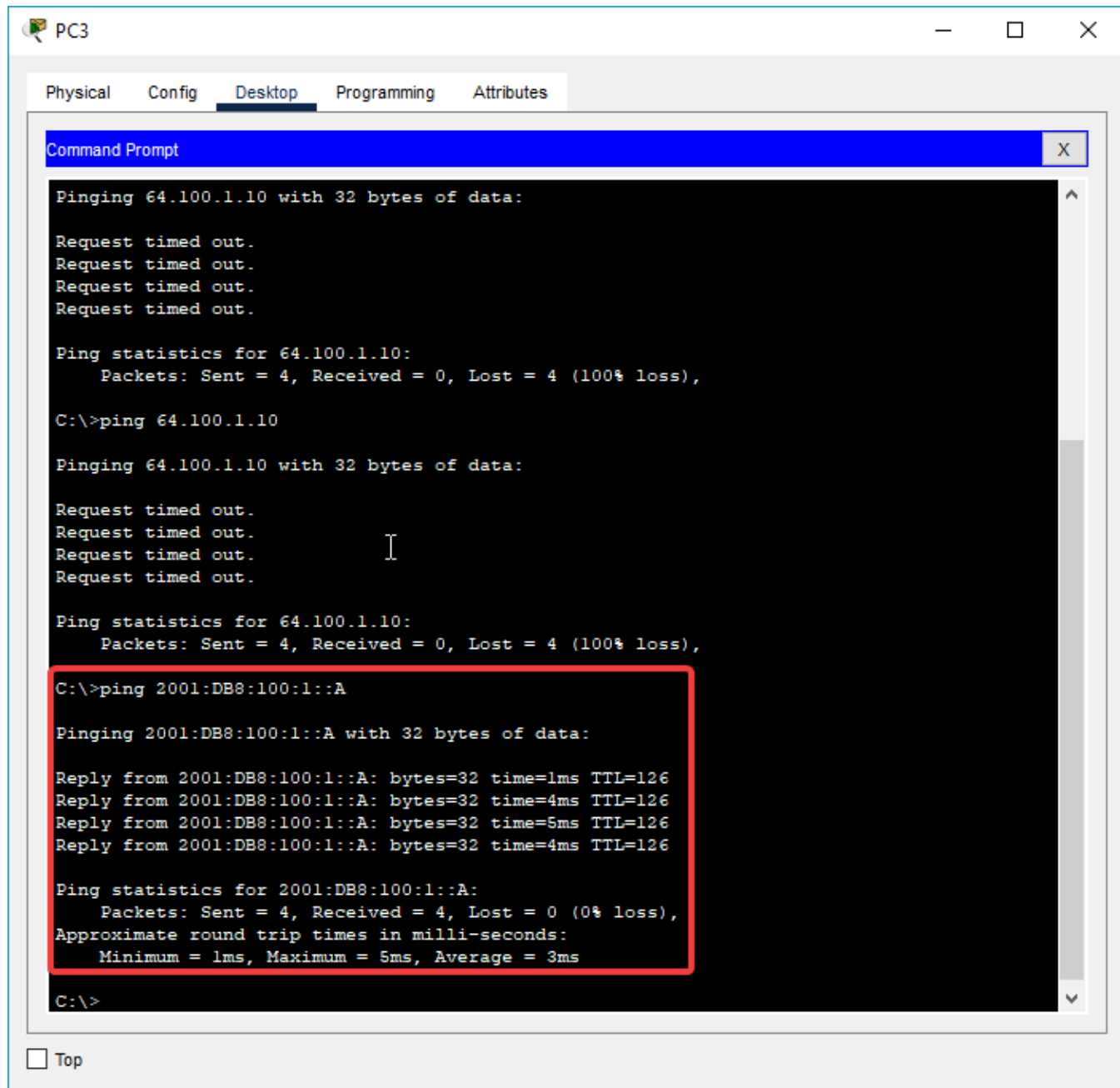
☐ Top

**Configuración PC4**

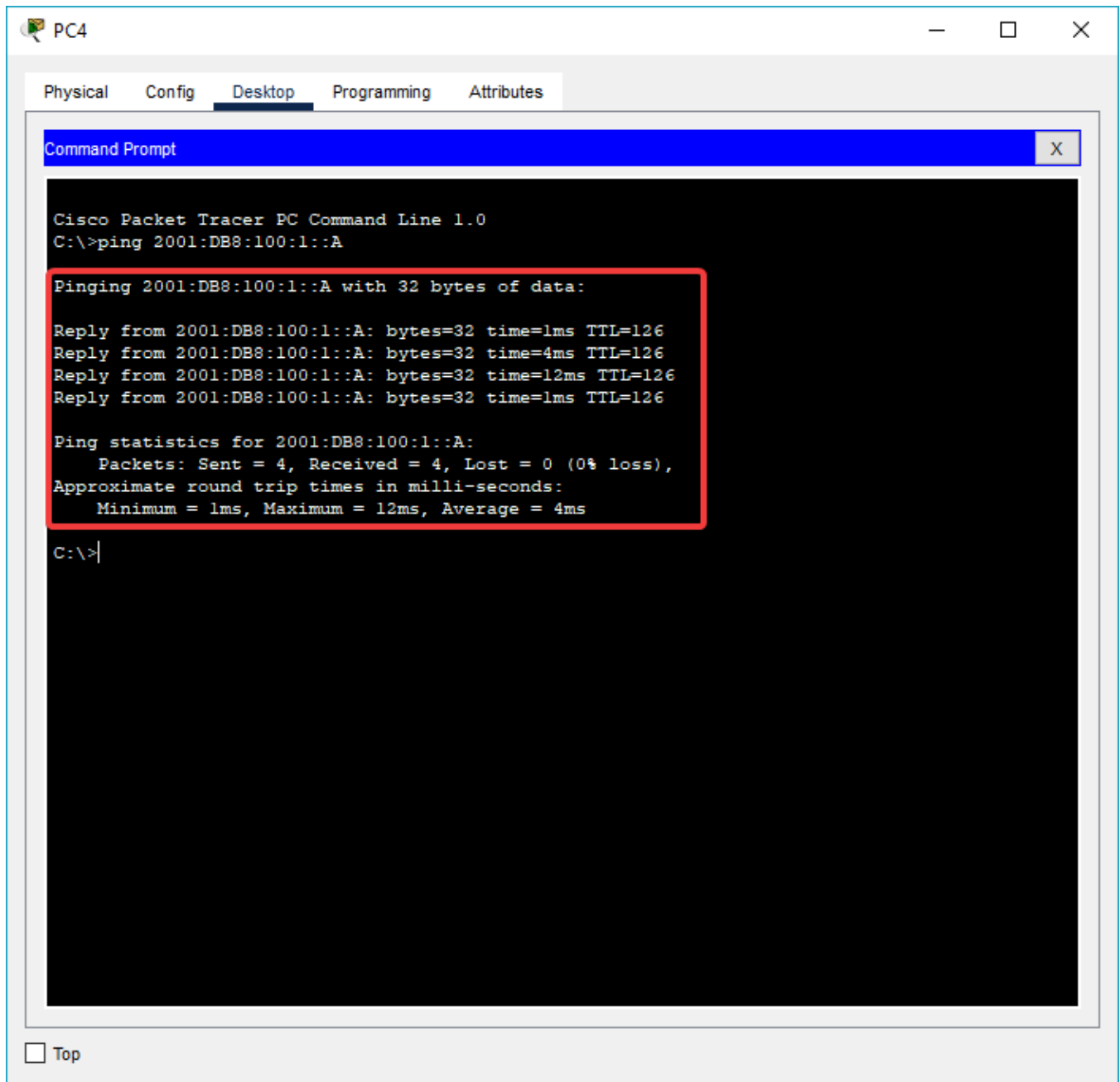
### Paso 2. Verificar la conectividad.

La **PC3** y la **PC4** deberían poder hacer ping entre sí y al **servidor dual-stack**.

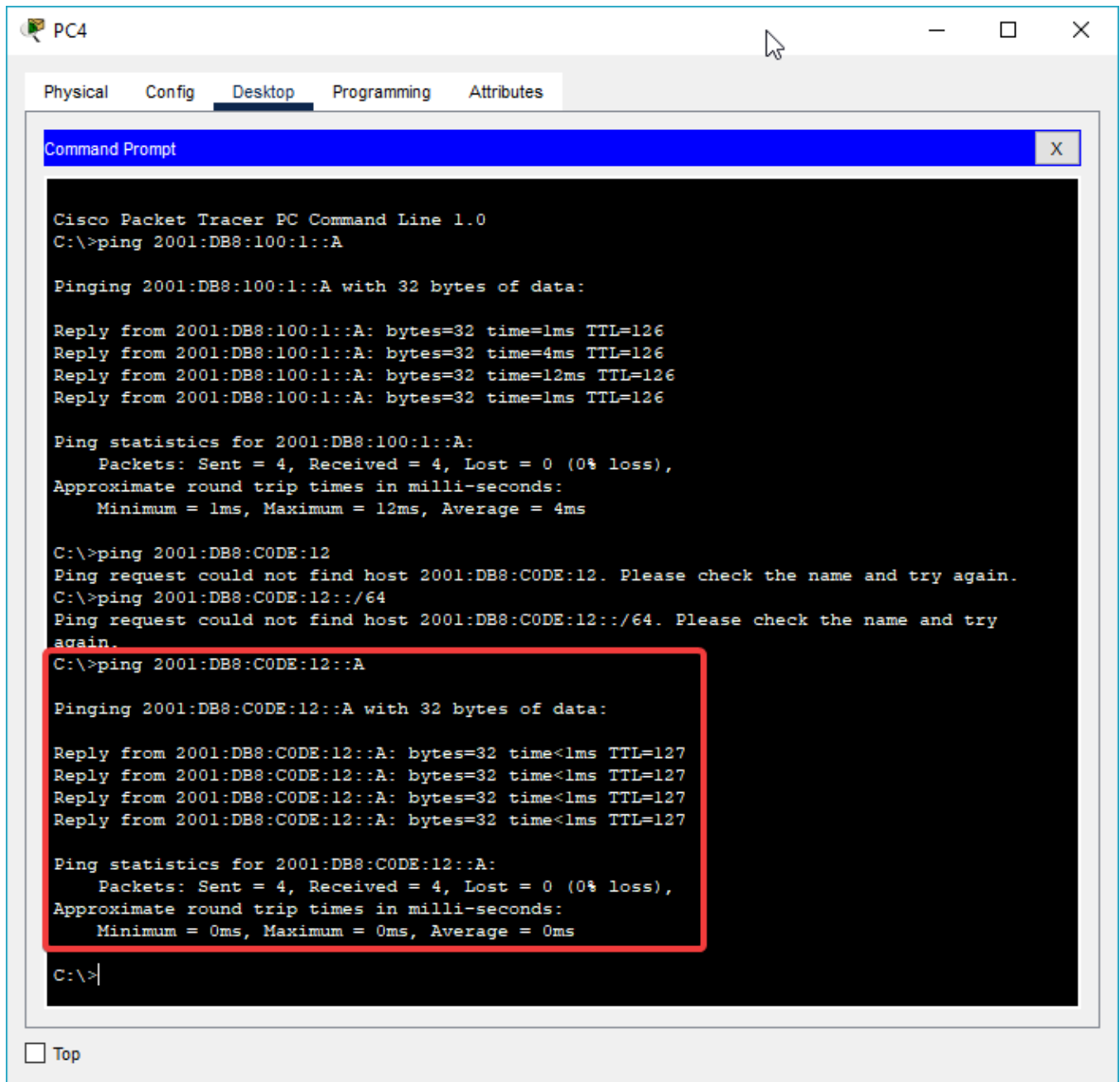
**Ping PC3 al servidor.**



Ping PC4 al servidor.



Ping PC4 al PC3.



## Packet Tracer: Configuración de interfaces IPv4 e IPv6

Cisco Packet Tracer - C:\Users\cire7\Downloads\Practica 4, Packet Tracer - 1.4.7 Packet Tracer - Configuring IPv4 and IPv6 Interfaces.pka

File Edit Options View Tools Extensions Window Help

Time Elapsed: 01:05:53

**Activity Results**

Congratulations Eric! You completed the activity.

Overall Feedback **Assessment Items** Connectivity Tests

Expand/Collapse All Show Incorrect Items

Assessment Items	Status	Points	Component(s)	Feedback
Network				
PC1				
Default Gateway	Correct	2	IPv4 Address Co...	
Ports				
FastEthernet0				
IP Address	Correct	2	IPv4 Address Co...	
Subnet Mask	Correct	1	IPv4 Address Co...	
PC2				
Default Gateway	Correct	2	IPv4 Address Co...	
Ports				
FastEthernet0				
IP Address	Correct	2	IPv4 Address Co...	
Subnet Mask	Correct	1	IPv4 Address Co...	
PC3				
Default Gateway IPv6	Correct	2	IPv6 Address Co...	
Ports				
FastEthernet0				
IPv6 Addresses				
2001:DB8:CODE:12::A				
IP Address	Correct	2	IPv6 Address Co...	
Prefix Length	Correct	1	IPv6 Address Co...	
PC4				
Default Gateway IPv6	Correct	2	IPv6 Address Co...	
Ports				
FastEthernet0				
IPv6 Addresses				
2001:DB8:CODE:13::A				
IP Address	Correct	2	IPv6 Address Co...	
Prefix Length	Correct	1	IPv6 Address Co...	
R1				
Ports				

Score : 100/100  
Item Count : 24/24

Component	Items/Total	Score
IPv4 Address Configuration	12/12	50/50
IPv6 Address Configuration	12/12	50/50

Close