Prueba de Habilidades CCNA

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Diplomado de Profundización Cisco
Curso: 203092_21
Pasto
2018

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Introducción

El curso de Cisco CCNA, prepara a los estudiantes para obtener los conocimientos básicos y la preparación para rendir de forma satisfactoria los conocimientos en Cisco CCNA Routing & Switching, En este curso podrás realizar prácticas de configuración de dispositivos Cisco, por medio del software de emulación de redes llamado "Cisco Packet Tracer" y enfrentar así de mejor manera el examen de certificación de Cisco.

Este curso se enfoca en la explicación de los tópicos más importantes de la certificación CCNA y práctica simultánea en cada clase. Todo el material de estudio, está pensado para la certificación Cisco, mediante la configuración de Switch y Router Cisco,

Tomado de: https://www.tutellus.com/tecnologia/hardware/cisco-ccna-200-125-practicas-de-configuracion-en-espanol-12790

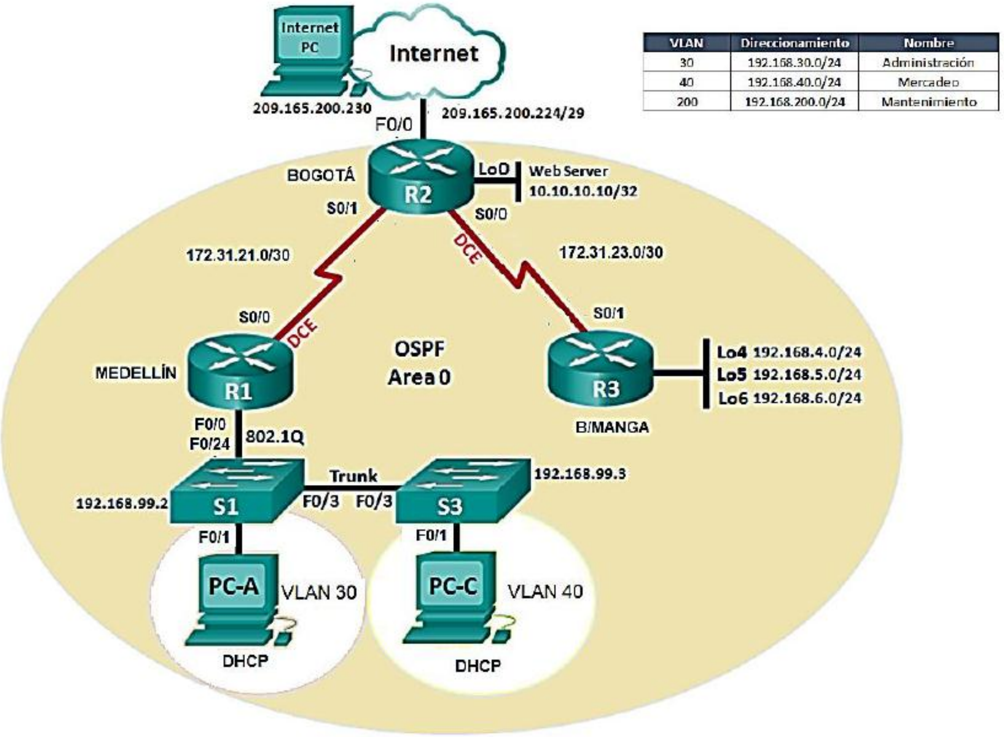
Con el desarrollo del presente trabajo se pretende consolidar de manera práctica las habilidades adquiridas por el estudiante durante el desarrollo del curso, con el fin de poner en conocimiento y evidencia por parte de los ingenieros encargados del proceso educativo que el estudiante adquirió de manera correcta todos los principios y fundamentos teóricos en las configuraciones, características, conexiones y principios que hace posible las conexión de diferentes protocolos y equipos en una red de telecomunicaciones, además de aplicar el manejo de las herramientas de software como lo es el Packet Tracer para el desarrollo de la actividad solicitada. Obteniendo así una calificación positiva referente al conocimiento aplicado en el actual proceso educativo en cada una de las áreas del diplomado Cisco CCNA.

Contenido

Escenario

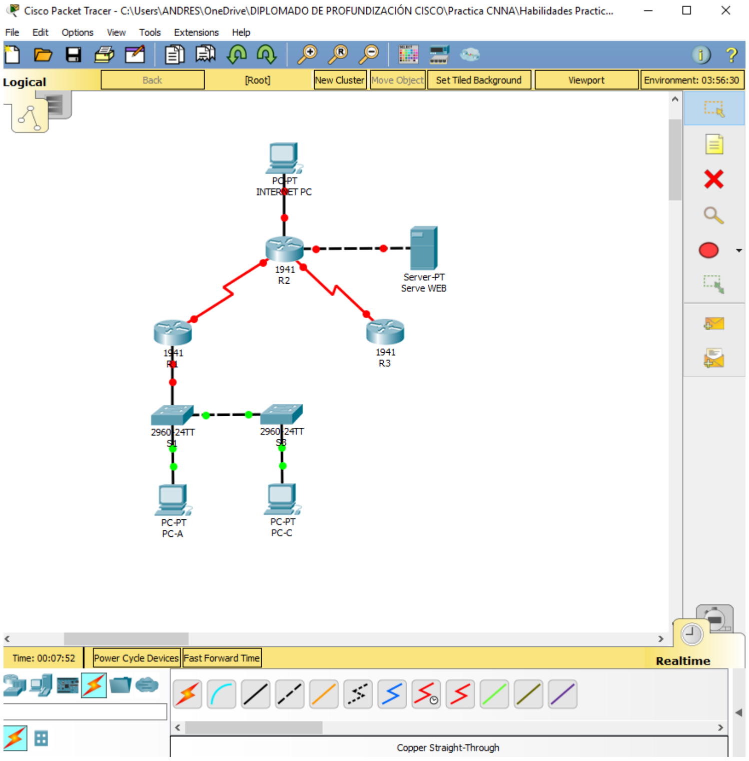
Una empresa de Tecnología posee tres sucursales distribuidas en las ciudades de Bogotá, Medellín y Bucaramanga, en donde el estudiante será el administrador de la red, el cual deberá configurar e interconectar entre sí cada uno de los dispositivos que forman parte del escenario, acorde con los lineamientos establecidos para el direccionamiento IP, protocolos de enrutamiento y demás aspectos que forman parte de la topología de red.

Topología de red



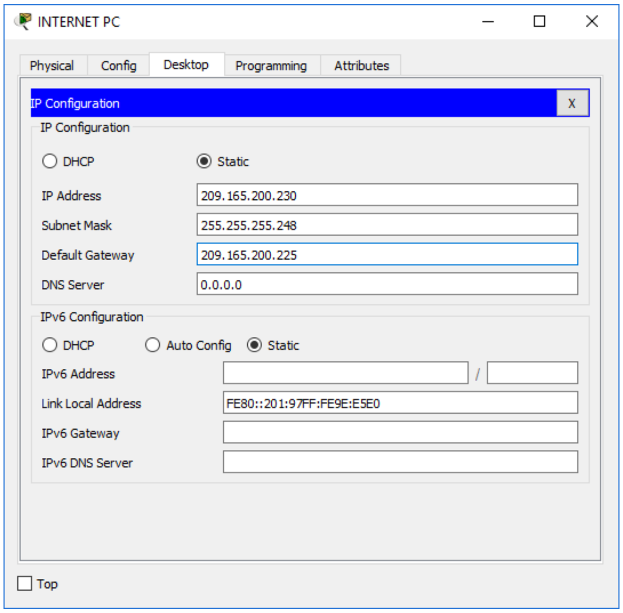
VLAN	Direccionamiento	Nombre
30	192.168.30.0/24	Administración
40	192.168.40.0/24	Mercadeo
200	192.168.200.0/24	Mantenimiento

Internet PC
Internet
209.165.200.230
F0/0
209.165.200.224/29
BOGOTÁ
R2
LoD
Web Server
10.10.10.10/32
S0/1
S0/0
DCE
172.31.21.0/30
172.31.23.0/30
S0/0
S0/1
DCE
OSPF
Area 0
MEDELLÍN
R1
R3
Lo4 192.168.4.0/24
Lo5 192.168.5.0/24
Lo6 192.168.6.0/24
B/MANGA
F0/0
F0/24
802.1Q
Trunk
192.168.99.3
192.168.99.2
S1
F0/3
F0/3
S3
F0/1
F0/1
PC-A
VLAN 30
PC-C
VLAN 40
DHCP
DHCP


Cisco Packet Tracer - C:\Users\ANDRES\OneDrive\DIPLOMADO DE PROFUNDIZACIÓN CISCO\Practica CNNA\Habilidades Practic...
File
Edit
Options
View
Tools
Extensions
Help
Logical
Back
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Environment: 03:56:30
PC-PT
INTERNET PC
1941
R2
Server-PT
Serve WEB
1941
R1
1941
R3
2960-24TT
S1
2960-24TT
S3
PC-PT
PC-A
PC-PT
PC-C
Time: 00:07:52
Power Cycle Devices
Fast Forward Time
Realtime
Copper Straight-Through

1. Configurar el direccionamiento IP acorde con la topología de red para cada uno de los dispositivos que forman parte del escenario.

Internet – PC


INTERNET PC
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X

IP Configuration

○ DHCP ● Static

IP Address: 209.165.200.230
Subnet Mask: 255.255.255.248
Default Gateway: 209.165.200.225
DNS Server: 0.0.0.0

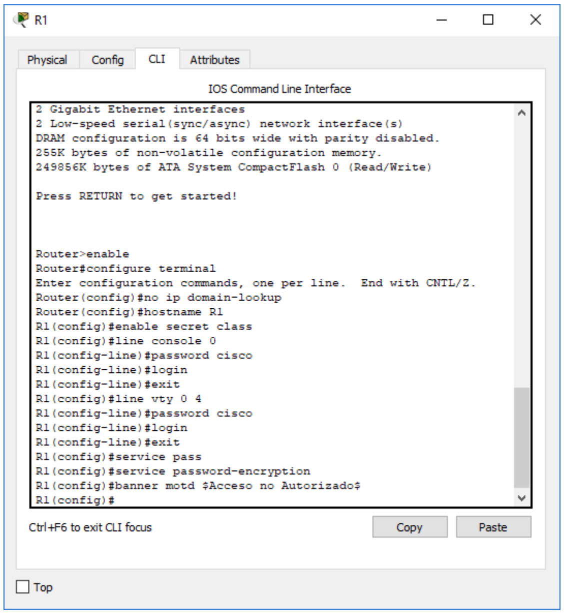
IPv6 Configuration

○ DHCP ○ Auto Config ● Static

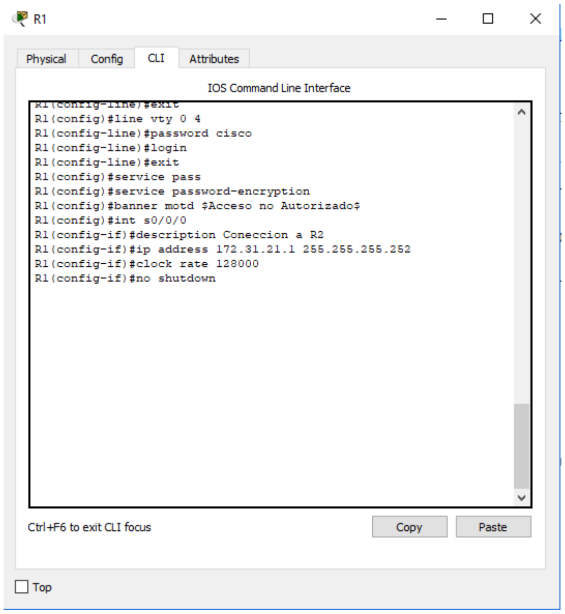
IPv6 Address: /
Link Local Address: FE80::201:97FF:FE9E:E5E0
IPv6 Gateway:
IPv6 DNS Server:

☐ Top

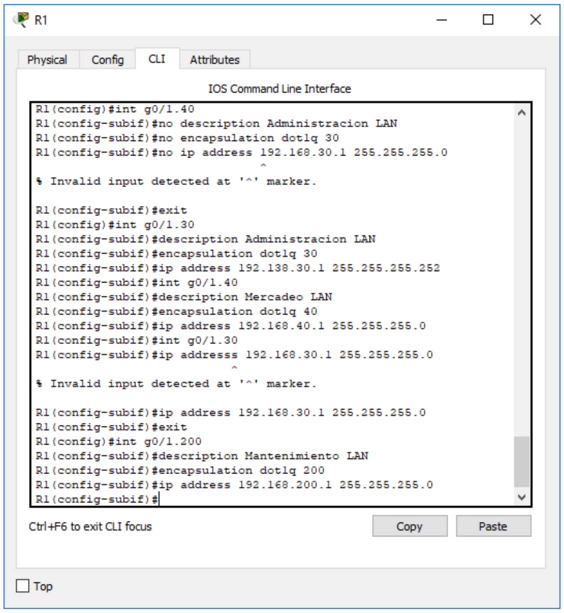
Router 1


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
2 Gigabit Ethernet interfaces
2 Low-speed serial(sync/async) network interface(s)
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!



Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#no ip domain-lookup
Router(config)#hostname R1
R1(config)#enable secret class
R1(config)#line console 0
R1(config-line)#password cisco
R1(config-line)#login
R1(config-line)#exit
R1(config)#line vty 0 4
R1(config-line)#password cisco
R1(config-line)#login
R1(config-line)#exit
R1(config)#service pass
R1(config)#service password-encryption
R1(config)#banner motd $Acceso no Autorizado$
R1(config)#
```

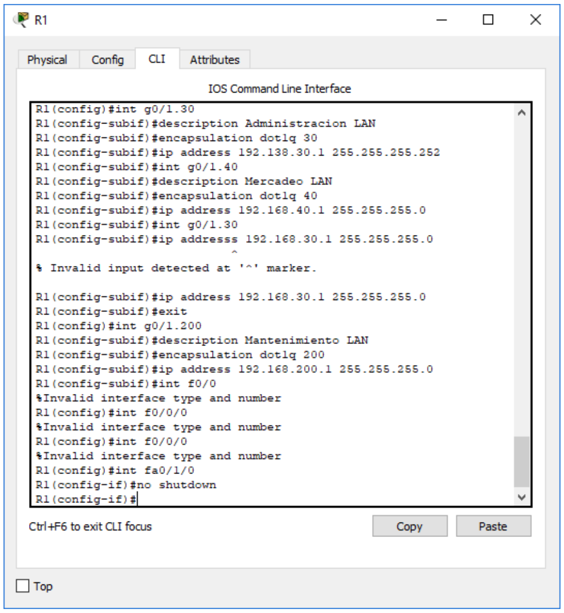

R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
R1(config-line)#exit
R1(config)#line vty 0 4
R1(config-line)#password cisco
R1(config-line)#login
R1(config-line)#exit
R1(config)#service pass
R1(config)#service password-encryption
R1(config)#banner motd $Acceso no Autorizado$
R1(config)#int s0/0/0
R1(config-if)#description Coneccion a R2
R1(config-if)#ip address 172.31.21.1 255.255.255.252
R1(config-if)#clock rate 128000
R1(config-if)#no shutdown
```


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface

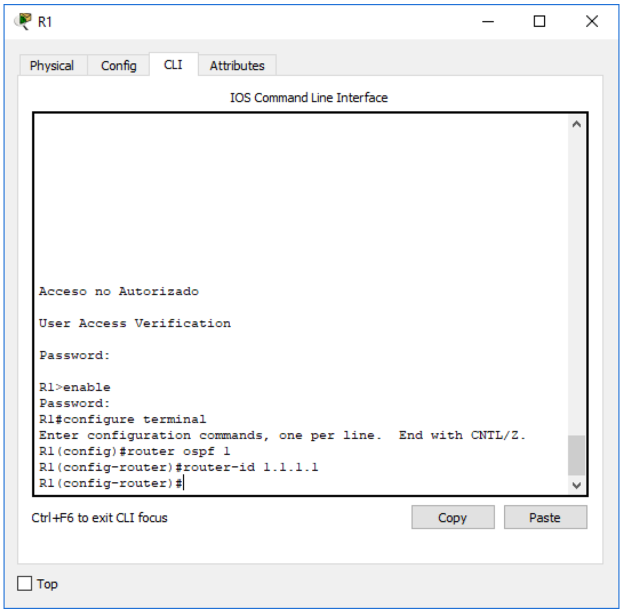
```
R1(config)#int g0/1.40
R1(config-subif)#no description Administracion LAN
R1(config-subif)#no encapsulation dotlq 30
R1(config-subif)#no ip address 192.168.30.1 255.255.255.0
                               ^
% Invalid input detected at '^' marker.

R1(config-subif)#exit
R1(config)#int g0/1.30
R1(config-subif)#description Administracion LAN
R1(config-subif)#encapsulation dotlq 30
R1(config-subif)#ip address 192.138.30.1 255.255.255.252
R1(config-subif)#int g0/1.40
R1(config-subif)#description Mercadeo LAN
R1(config-subif)#encapsulation dotlq 40
R1(config-subif)#ip address 192.168.40.1 255.255.255.0
R1(config-subif)#int g0/1.30
R1(config-subif)#ip addresss 192.168.30.1 255.255.255.0
                           ^
% Invalid input detected at '^' marker.

R1(config-subif)#ip address 192.168.30.1 255.255.255.0
R1(config-subif)#exit
R1(config)#int g0/1.200
R1(config-subif)#description Mantenimiento LAN
R1(config-subif)#encapsulation dotlq 200
R1(config-subif)#ip address 192.168.200.1 255.255.255.0
R1(config-subif)#
```

Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

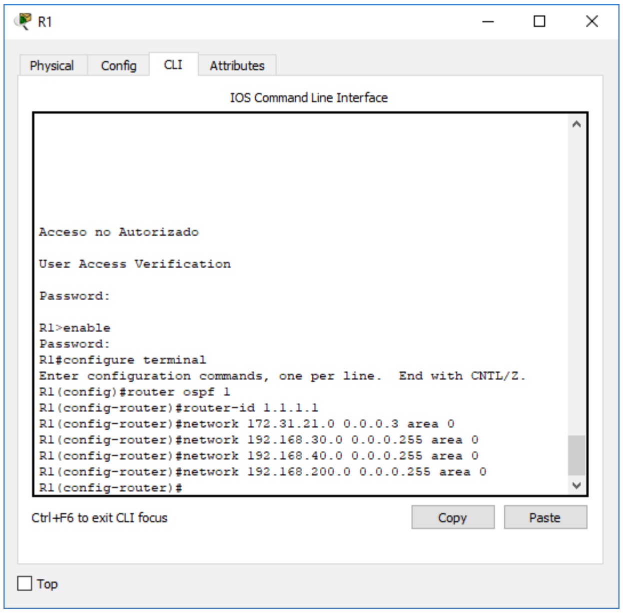

R1
Physical
Config
CLI
Attributes
IOS Command Line Interface

```
R1(config)#int g0/1.30
R1(config-subif)#description Administracion LAN
R1(config-subif)#encapsulation dotlq 30
R1(config-subif)#ip address 192.138.30.1 255.255.255.252
R1(config-subif)#int g0/1.40
R1(config-subif)#description Mercadeo LAN
R1(config-subif)#encapsulation dotlq 40
R1(config-subif)#ip address 192.168.40.1 255.255.255.0
R1(config-subif)#int g0/1.30
R1(config-subif)#ip addresss 192.168.30.1 255.255.255.0
                           ^
% Invalid input detected at '^' marker.

R1(config-subif)#ip address 192.168.30.1 255.255.255.0
R1(config-subif)#exit
R1(config)#int g0/1.200
R1(config-subif)#description Mantenimiento LAN
R1(config-subif)#encapsulation dotlq 200
R1(config-subif)#ip address 192.168.200.1 255.255.255.0
R1(config-subif)#int f0/0
%Invalid interface type and number
R1(config)#int f0/0/0
%Invalid interface type and number
R1(config)#int f0/0/0
%Invalid interface type and number
R1(config)#int fa0/1/0
R1(config-if)#no shutdown
R1(config-if)#
```

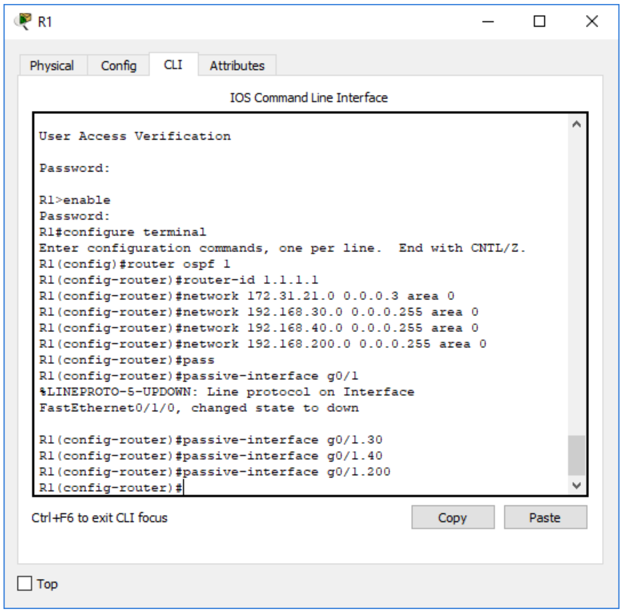
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

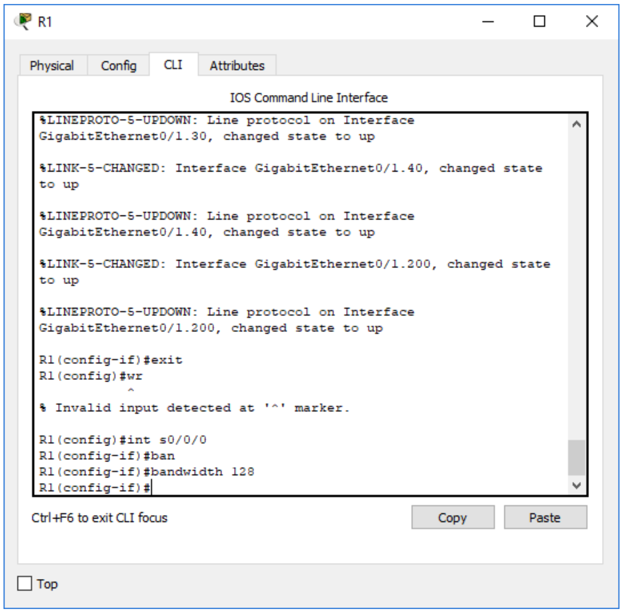
```
Acceso no Autorizado

User Access Verification

Password:

R1>enable
Password:
R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#router ospf 1
R1(config-router)#router-id 1.1.1.1
R1(config-router)#
```


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
Acceso no Autorizado

User Access Verification

Password:

R1>enable
Password:
R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#router ospf 1
R1(config-router)#router-id 1.1.1.1
R1(config-router)#network 172.31.21.0 0.0.0.3 area 0
R1(config-router)#network 192.168.30.0 0.0.0.255 area 0
R1(config-router)#network 192.168.40.0 0.0.0.255 area 0
R1(config-router)#network 192.168.200.0 0.0.0.255 area 0
R1(config-router)#
```

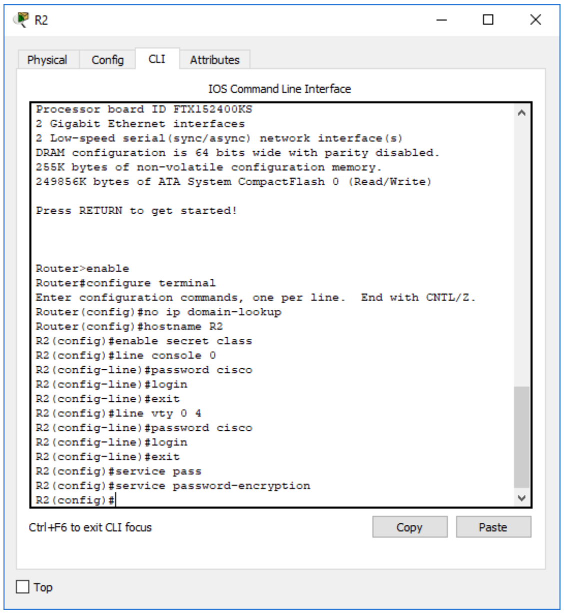

R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
User Access Verification

Password:

R1>enable
Password:
R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#router ospf 1
R1(config-router)#router-id 1.1.1.1
R1(config-router)#network 172.31.21.0 0.0.0.3 area 0
R1(config-router)#network 192.168.30.0 0.0.0.255 area 0
R1(config-router)#network 192.168.40.0 0.0.0.255 area 0
R1(config-router)#network 192.168.200.0 0.0.0.255 area 0
R1(config-router)#pass
R1(config-router)#passive-interface g0/1
%LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/1/0, changed state to down

R1(config-router)#passive-interface g0/1.30
R1(config-router)#passive-interface g0/1.40
R1(config-router)#passive-interface g0/1.200
R1(config-router)#
```

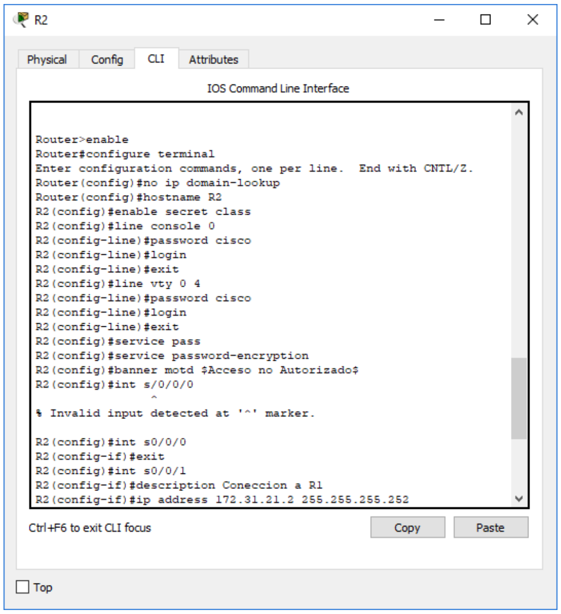

R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/1.30, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/1.40, changed state
to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/1.40, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/1.200, changed state
to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/1.200, changed state to up

R1(config-if)#exit
R1(config)#wr
           ^
% Invalid input detected at '^' marker.

R1(config)#int s0/0/0
R1(config-if)#ban
R1(config-if)#bandwidth 128
R1(config-if)#
```

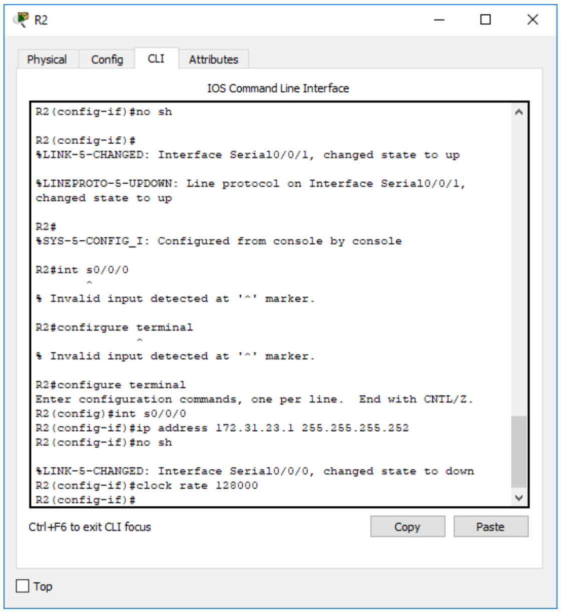
Router 2


R2
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

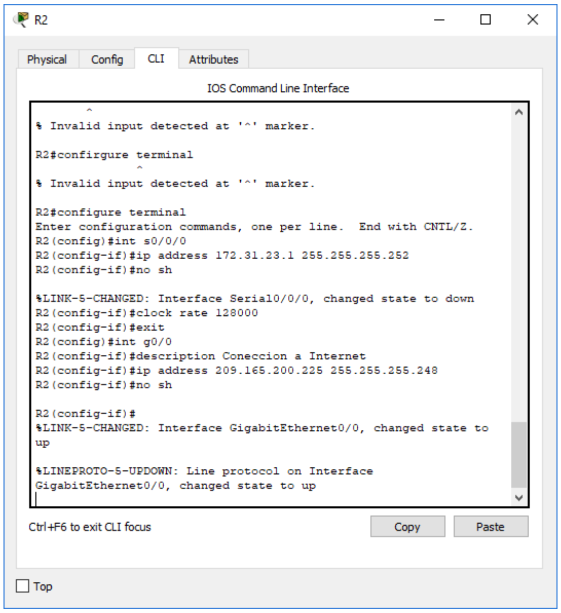
```
Processor board ID FTX152400KS
2 Gigabit Ethernet interfaces
2 Low-speed serial(sync/async) network interface(s)
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!



Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#no ip domain-lookup
Router(config)#hostname R2
R2(config)#enable secret class
R2(config)#line console 0
R2(config-line)#password cisco
R2(config-line)#login
R2(config-line)#exit
R2(config)#line vty 0 4
R2(config-line)#password cisco
R2(config-line)#login
R2(config-line)#exit
R2(config)#service pass
R2(config)#service password-encryption
R2(config)#
```


R2
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

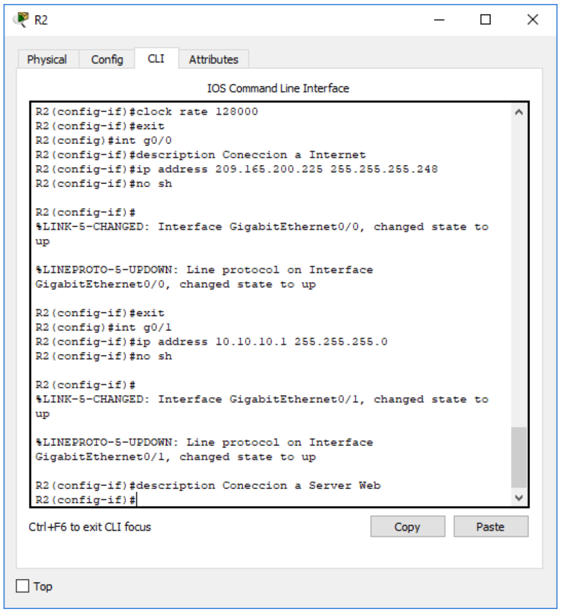
```

Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#no ip domain-lookup
Router(config)#hostname R2
R2(config)#enable secret class
R2(config)#line console 0
R2(config-line)#password cisco
R2(config-line)#login
R2(config-line)#exit
R2(config)#line vty 0 4
R2(config-line)#password cisco
R2(config-line)#login
R2(config-line)#exit
R2(config)#service pass
R2(config)#service password-encryption
R2(config)#banner motd $Acceso no Autorizado$
R2(config)#int s/0/0/0
                ^
% Invalid input detected at '^' marker.

R2(config)#int s0/0/0
R2(config-if)#exit
R2(config)#int s0/0/1
R2(config-if)#description Coneccion a R1
R2(config-if)#ip address 172.31.21.2 255.255.255.252
```


R2
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
R2(config-if)#no sh

R2(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1,
changed state to up

R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#int s0/0/0
       ^
% Invalid input detected at '^' marker.

R2#confirgure terminal
              ^
% Invalid input detected at '^' marker.

R2#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#int s0/0/0
R2(config-if)#ip address 172.31.23.1 255.255.255.252
R2(config-if)#no sh

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to down
R2(config-if)#clock rate 128000
R2(config-if)#
```

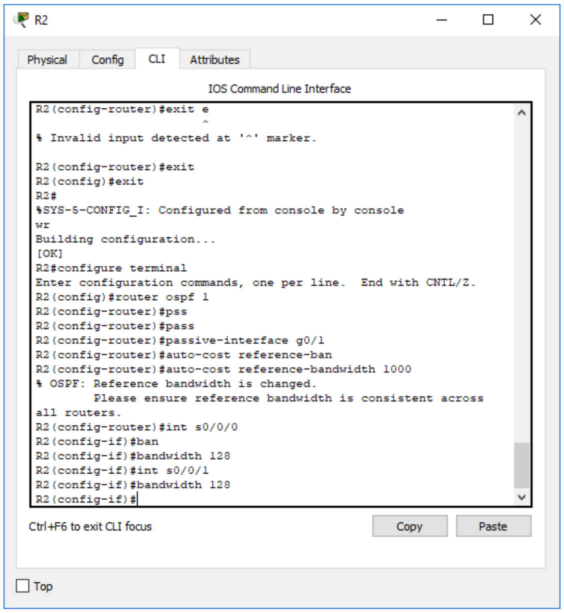

R2
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
       ^
% Invalid input detected at '^' marker.

R2#confirgure terminal
              ^
% Invalid input detected at '^' marker.

R2#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#int s0/0/0
R2(config-if)#ip address 172.31.23.1 255.255.255.252
R2(config-if)#no sh

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to down
R2(config-if)#clock rate 128000
R2(config-if)#exit
R2(config)#int g0/0
R2(config-if)#description Coneccion a Internet
R2(config-if)#ip address 209.165.200.225 255.255.255.248
R2(config-if)#no sh

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
Physical
Config
CLI
Attributes
IOS Command Line Interface

```
R2(config-if)#clock rate 128000
R2(config-if)#exit
R2(config)#int g0/0
R2(config-if)#description Coneccion a Internet
R2(config-if)#ip address 209.165.200.225 255.255.255.248
R2(config-if)#no sh

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)#int g0/1
R2(config-if)#ip address 10.10.10.1 255.255.255.0
R2(config-if)#no sh

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)#description Coneccion a Server Web
R2(config-if)#
```

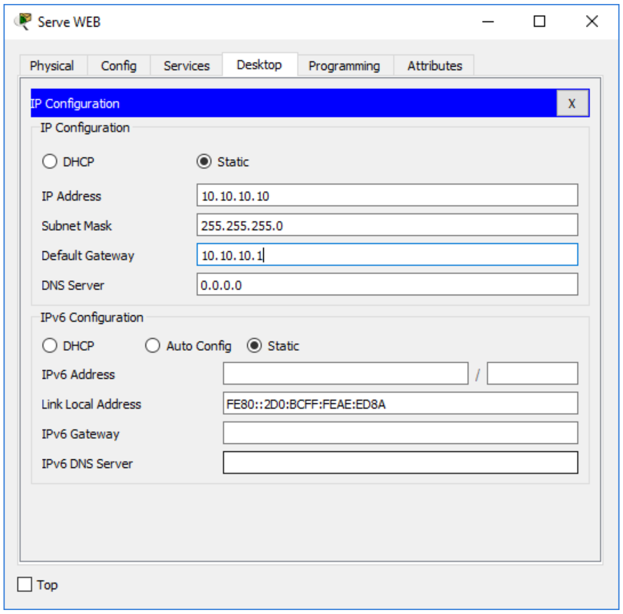
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top


R2
Physical
Config
CLI
Attributes
IOS Command Line Interface

```
R2(config-router)#exit e
                       ^
% Invalid input detected at '^' marker.

R2(config-router)#exit
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
R2#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#router ospf 1
R2(config-router)#pss
R2(config-router)#pass
R2(config-router)#passive-interface g0/1
R2(config-router)#auto-cost reference-ban
R2(config-router)#auto-cost reference-bandwidth 1000
% OSPF: Reference bandwidth is changed.
        Please ensure reference bandwidth is consistent across
all routers.
R2(config-router)#int s0/0/0
R2(config-if)#ban
R2(config-if)#bandwidth 128
R2(config-if)#int s0/0/1
R2(config-if)#bandwidth 128
R2(config-if)#
```

Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

Server WEB


Serve WEB
Physical
Config
Services
Desktop
Programming
Attributes
IP Configuration
X
Top

IP Configuration

○ DHCP ● Static

IP Address: 10.10.10.10

Subnet Mask: 255.255.255.0

Default Gateway: 10.10.10.1

DNS Server: 0.0.0.0

IPv6 Configuration

○ DHCP ○ Auto Config ● Static

IPv6 Address: /

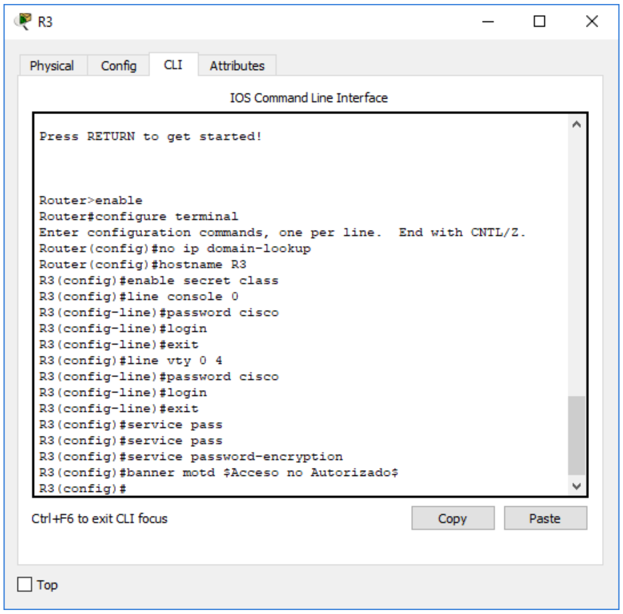
Link Local Address: FE80::2D0:BCFF:FEAE:ED8A

IPv6 Gateway:

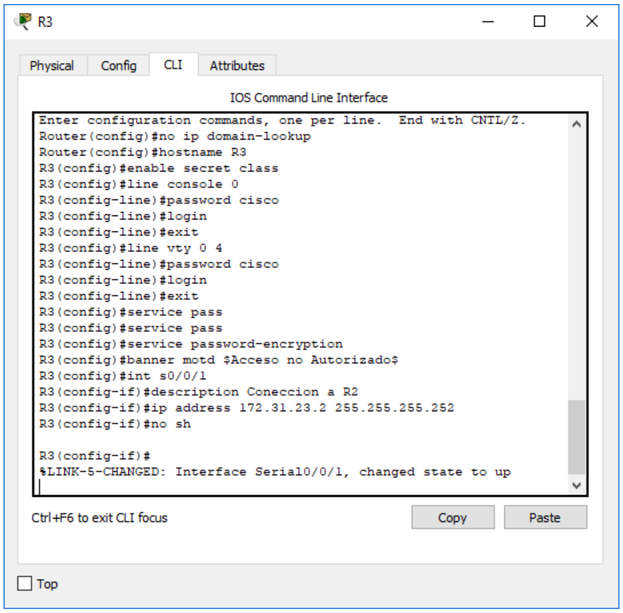
IPv6 DNS Server:

☐ Top

Router 3


R3
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

```
Press RETURN to get started!



Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#no ip domain-lookup
Router(config)#hostname R3
R3(config)#enable secret class
R3(config)#line console 0
R3(config-line)#password cisco
R3(config-line)#login
R3(config-line)#exit
R3(config)#line vty 0 4
R3(config-line)#password cisco
R3(config-line)#login
R3(config-line)#exit
R3(config)#service pass
R3(config)#service pass
R3(config)#service password-encryption
R3(config)#banner motd $Acceso no Autorizado$
R3(config)#
```


R3
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
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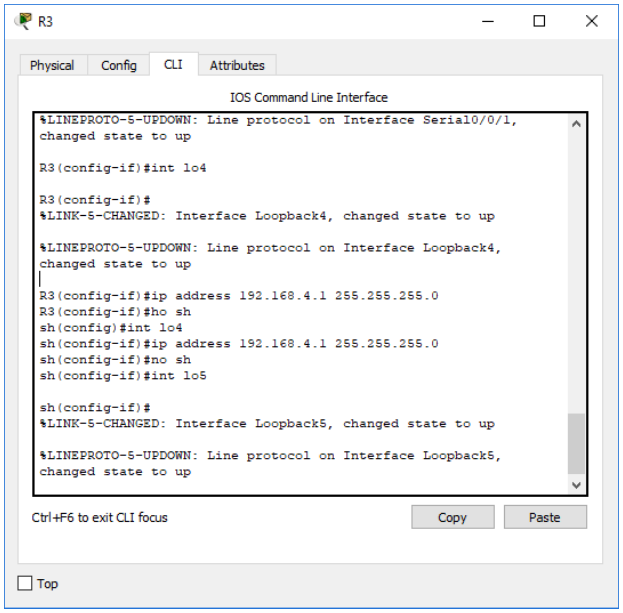
☐ Top

```
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#no ip domain-lookup
Router(config)#hostname R3
R3(config)#enable secret class
R3(config)#line console 0
R3(config-line)#password cisco
R3(config-line)#login
R3(config-line)#exit
R3(config)#line vty 0 4
R3(config-line)#password cisco
R3(config-line)#login
R3(config-line)#exit
R3(config)#service pass
R3(config)#service pass
R3(config)#service password-encryption
R3(config)#banner motd $Acceso no Autorizado$
R3(config)#int s0/0/1
R3(config-if)#description Coneccion a R2
R3(config-if)#ip address 172.31.23.2 255.255.255.252
R3(config-if)#no sh

R3(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
```


R3
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Ctrl+F6 to exit CLI focus
Copy
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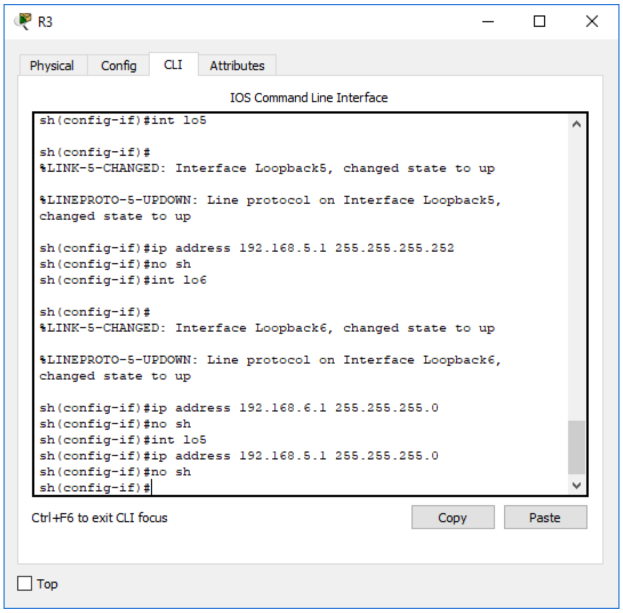
☐ Top

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1,
changed state to up

R3(config-if)#int lo4

R3(config-if)#
%LINK-5-CHANGED: Interface Loopback4, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback4,
changed state to up

R3(config-if)#ip address 192.168.4.1 255.255.255.0
R3(config-if)#ho sh
sh(config)#int lo4
sh(config-if)#ip address 192.168.4.1 255.255.255.0
sh(config-if)#no sh
sh(config-if)#int lo5

sh(config-if)#
%LINK-5-CHANGED: Interface Loopback5, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback5,
changed state to up
```


R3
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Ctrl+F6 to exit CLI focus
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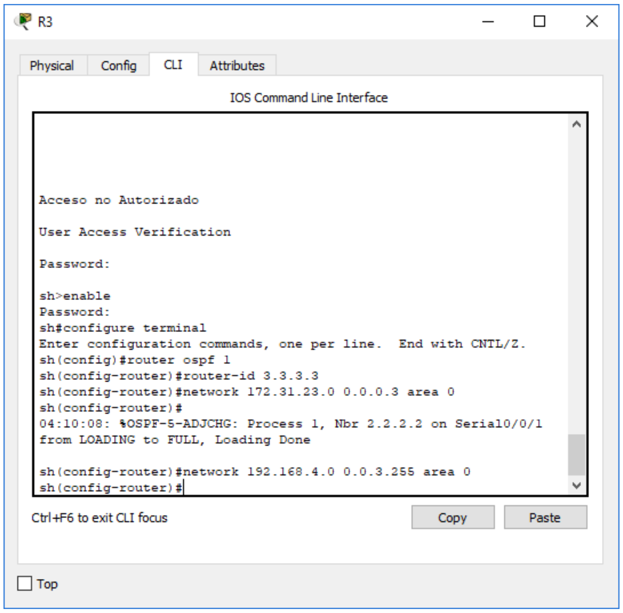
```
sh(config-if)#int lo5

sh(config-if)#
%LINK-5-CHANGED: Interface Loopback5, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback5,
changed state to up

sh(config-if)#ip address 192.168.5.1 255.255.255.252
sh(config-if)#no sh
sh(config-if)#int lo6

sh(config-if)#
%LINK-5-CHANGED: Interface Loopback6, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback6,
changed state to up

sh(config-if)#ip address 192.168.6.1 255.255.255.0
sh(config-if)#no sh
sh(config-if)#int lo5
sh(config-if)#ip address 192.168.5.1 255.255.255.0
sh(config-if)#no sh
sh(config-if)#
```


R3
Physical
Config
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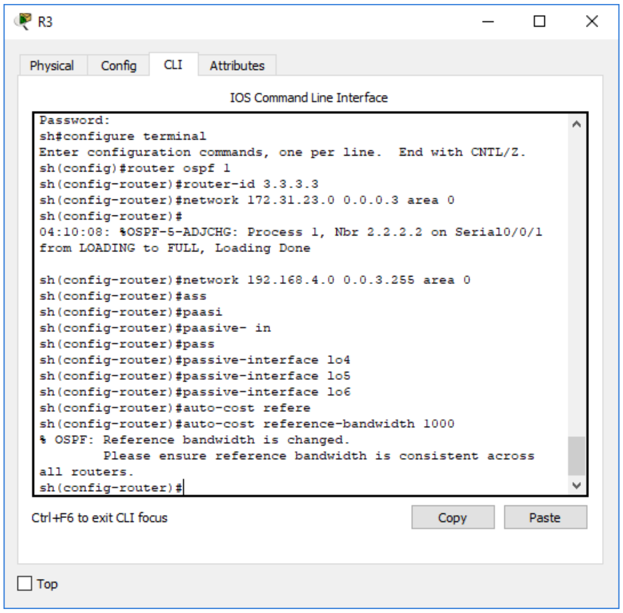
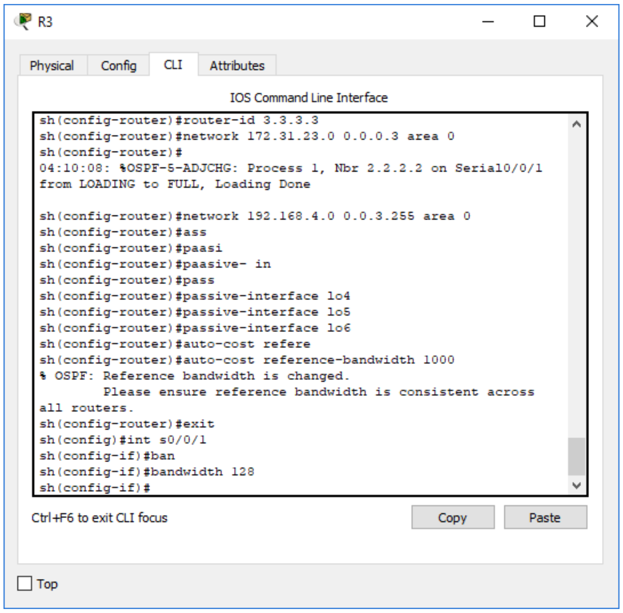
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
Acceso no Autorizado

User Access Verification

Password:

sh>enable
Password:
sh#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
sh(config)#router ospf 1
sh(config-router)#router-id 3.3.3.3
sh(config-router)#network 172.31.23.0 0.0.0.3 area 0
sh(config-router)#
04:10:08: %OSPF-5-ADJCHG: Process 1, Nbr 2.2.2.2 on Serial0/0/1
from LOADING to FULL, Loading Done

sh(config-router)#network 192.168.4.0 0.0.3.255 area 0
sh(config-router)#
```


R3
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
Password:
sh#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
sh(config)#router ospf 1
sh(config-router)#router-id 3.3.3.3
sh(config-router)#network 172.31.23.0 0.0.0.3 area 0
sh(config-router)#
04:10:08: %OSPF-5-ADJCHG: Process 1, Nbr 2.2.2.2 on Serial0/0/1
from LOADING to FULL, Loading Done

sh(config-router)#network 192.168.4.0 0.0.3.255 area 0
sh(config-router)#ass
sh(config-router)#paasi
sh(config-router)#paasive- in
sh(config-router)#pass
sh(config-router)#passive-interface lo4
sh(config-router)#passive-interface lo5
sh(config-router)#passive-interface lo6
sh(config-router)#auto-cost refere
sh(config-router)#auto-cost reference-bandwidth 1000
% OSPF: Reference bandwidth is changed.
        Please ensure reference bandwidth is consistent across
all routers.
sh(config-router)#
```


R3
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Config
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Ctrl+F6 to exit CLI focus
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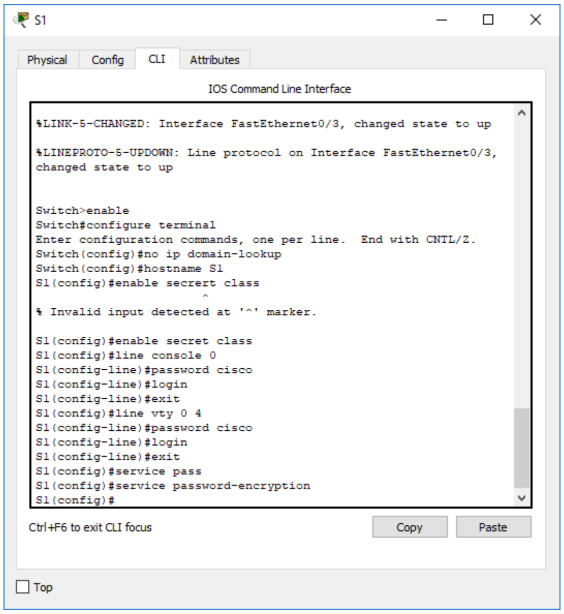
```
sh(config-router)#router-id 3.3.3.3
sh(config-router)#network 172.31.23.0 0.0.0.3 area 0
sh(config-router)#
04:10:08: %OSPF-5-ADJCHG: Process 1, Nbr 2.2.2.2 on Serial0/0/1
from LOADING to FULL, Loading Done

sh(config-router)#network 192.168.4.0 0.0.3.255 area 0
sh(config-router)#ass
sh(config-router)#paasi
sh(config-router)#paasive- in
sh(config-router)#pass
sh(config-router)#passive-interface lo4
sh(config-router)#passive-interface lo5
sh(config-router)#passive-interface lo6
sh(config-router)#auto-cost refere
sh(config-router)#auto-cost reference-bandwidth 1000
% OSPF: Reference bandwidth is changed.
        Please ensure reference bandwidth is consistent across
all routers.
sh(config-router)#exit
sh(config)#int s0/0/1
sh(config-if)#ban
sh(config-if)#bandwidth 128
sh(config-if)#
```

Switch 1

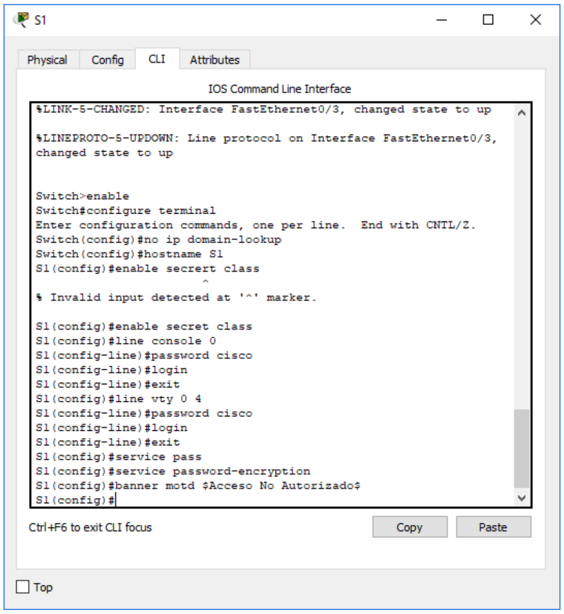

S1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to up


Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#no ip domain-lookup
Switch(config)#hostname S1
S1(config)#enable secrert class
                       ^
% Invalid input detected at '^' marker.

S1(config)#enable secret class
S1(config)#line console 0
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#line vty 0 4
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#service pass
S1(config)#service password-encryption
S1(config)#
```


S1
Physical
Config
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Ctrl+F6 to exit CLI focus
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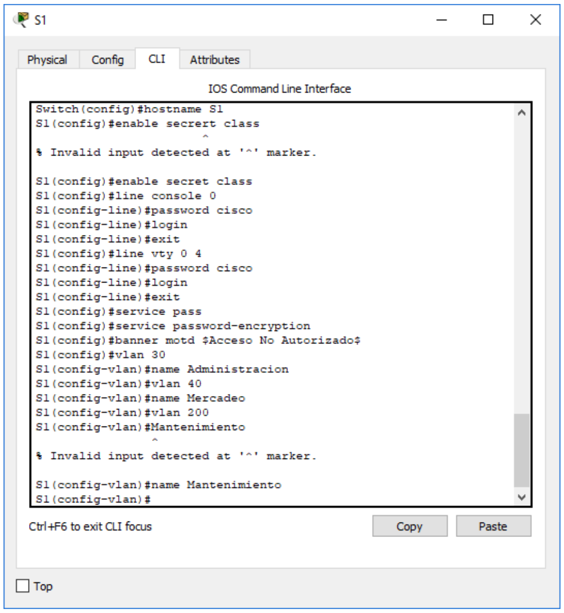
☐ Top

```
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to up


Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#no ip domain-lookup
Switch(config)#hostname S1
S1(config)#enable secrert class
                       ^
% Invalid input detected at '^' marker.

S1(config)#enable secret class
S1(config)#line console 0
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#line vty 0 4
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#service pass
S1(config)#service password-encryption
S1(config)#banner motd $Acceso No Autorizado$
S1(config)#
```


S1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
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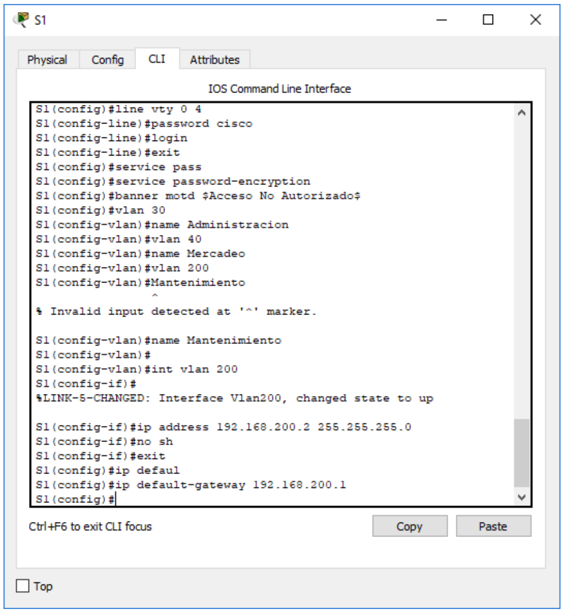
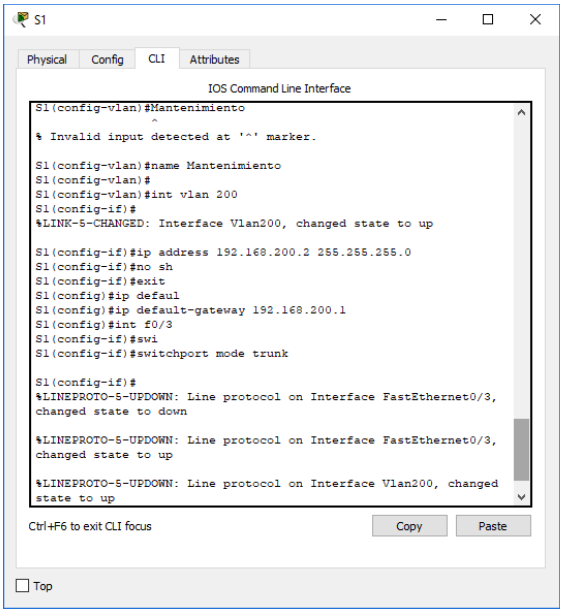
☐ Top

```
Switch(config)#hostname S1
S1(config)#enable secrert class
                       ^
% Invalid input detected at '^' marker.

S1(config)#enable secret class
S1(config)#line console 0
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#line vty 0 4
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#service pass
S1(config)#service password-encryption
S1(config)#banner motd $Acceso No Autorizado$
S1(config)#vlan 30
S1(config-vlan)#name Administracion
S1(config-vlan)#vlan 40
S1(config-vlan)#name Mercadeo
S1(config-vlan)#vlan 200
S1(config-vlan)#Mantenimiento
                ^
% Invalid input detected at '^' marker.

S1(config-vlan)#name Mantenimiento
S1(config-vlan)#
```


S1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
S1(config)#line vty 0 4
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#service pass
S1(config)#service password-encryption
S1(config)#banner motd $Acceso No Autorizado$
S1(config)#vlan 30
S1(config-vlan)#name Administracion
S1(config-vlan)#vlan 40
S1(config-vlan)#name Mercadeo
S1(config-vlan)#vlan 200
S1(config-vlan)#Mantenimiento
                ^
% Invalid input detected at '^' marker.

S1(config-vlan)#name Mantenimiento
S1(config-vlan)#
S1(config-vlan)#int vlan 200
S1(config-if)#
%LINK-5-CHANGED: Interface Vlan200, changed state to up

S1(config-if)#ip address 192.168.200.2 255.255.255.0
S1(config-if)#no sh
S1(config-if)#exit
S1(config)#ip defaul
S1(config)#ip default-gateway 192.168.200.1
S1(config)#
```


S1
Physical
Config
CLI
Attributes
IOS Command Line Interface

```
S1(config-vlan)#Mantenimiento
                ^
% Invalid input detected at '^' marker.

S1(config-vlan)#name Mantenimiento
S1(config-vlan)#
S1(config-vlan)#int vlan 200
S1(config-if)#
%LINK-5-CHANGED: Interface Vlan200, changed state to up

S1(config-if)#ip address 192.168.200.2 255.255.255.0
S1(config-if)#no sh
S1(config-if)#exit
S1(config)#ip defaul
S1(config)#ip default-gateway 192.168.200.1
S1(config)#int f0/3
S1(config-if)#swi
S1(config-if)#switchport mode trunk

S1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan200, changed
state to up
```

Ctrl+F6 to exit CLI focus
Copy
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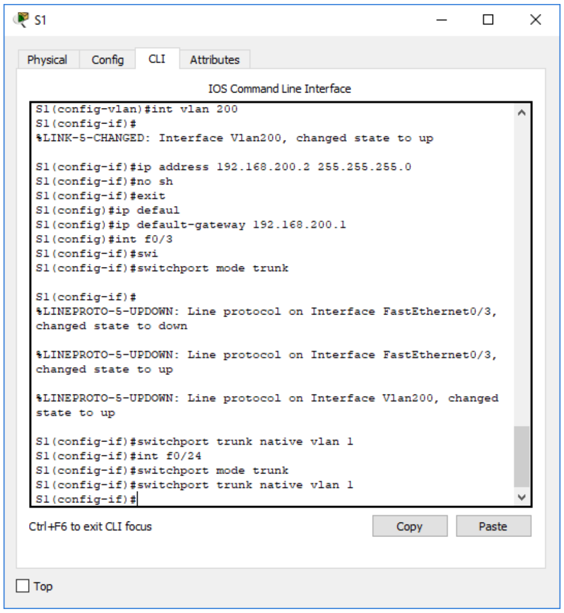
S1
Physical
Config
CLI
Attributes
IOS Command Line Interface

```
S1(config-vlan)#int vlan 200
S1(config-if)#
%LINK-5-CHANGED: Interface Vlan200, changed state to up

S1(config-if)#ip address 192.168.200.2 255.255.255.0
S1(config-if)#no sh
S1(config-if)#exit
S1(config)#ip defaul
S1(config)#ip default-gateway 192.168.200.1
S1(config)#int f0/3
S1(config-if)#swi
S1(config-if)#switchport mode trunk

S1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan200, changed
state to up

S1(config-if)#switchport trunk native vlan 1
S1(config-if)#int f0/24
S1(config-if)#switchport mode trunk
S1(config-if)#switchport trunk native vlan 1
S1(config-if)#
```

Ctrl+F6 to exit CLI focus
Copy
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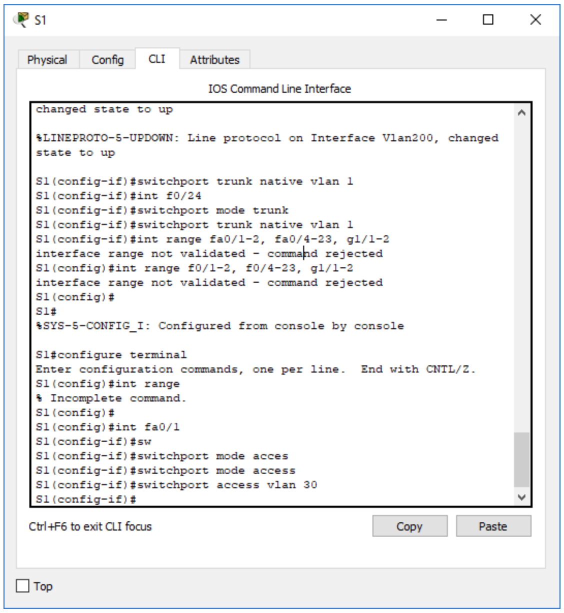
S1
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Ctrl+F6 to exit CLI focus
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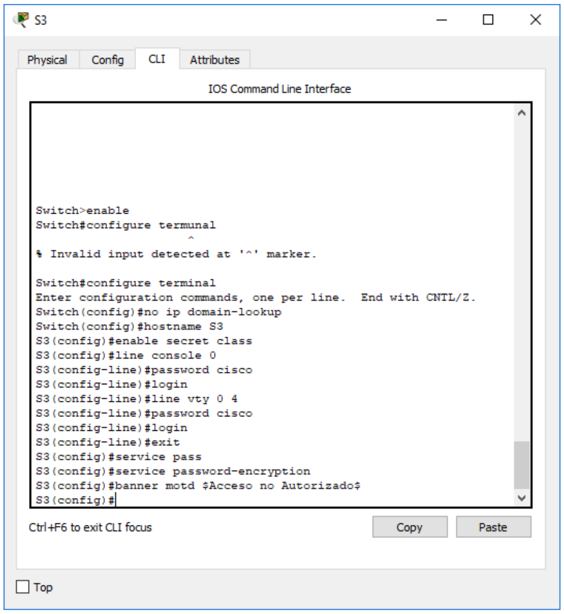
```
changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan200, changed
state to up

S1(config-if)#switchport trunk native vlan 1
S1(config-if)#int f0/24
S1(config-if)#switchport mode trunk
S1(config-if)#switchport trunk native vlan 1
S1(config-if)#int range fa0/1-2, fa0/4-23, g1/1-2
interface range not validated - command rejected
S1(config)#int range f0/1-2, f0/4-23, g1/1-2
interface range not validated - command rejected
S1(config)#
S1#
%SYS-5-CONFIG_I: Configured from console by console

S1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
S1(config)#int range
% Incomplete command.
S1(config)#
S1(config)#int fa0/1
S1(config-if)#sw
S1(config-if)#switchport mode acces
S1(config-if)#switchport mode access
S1(config-if)#switchport access vlan 30
S1(config-if)#
```

Switch 3


S3
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
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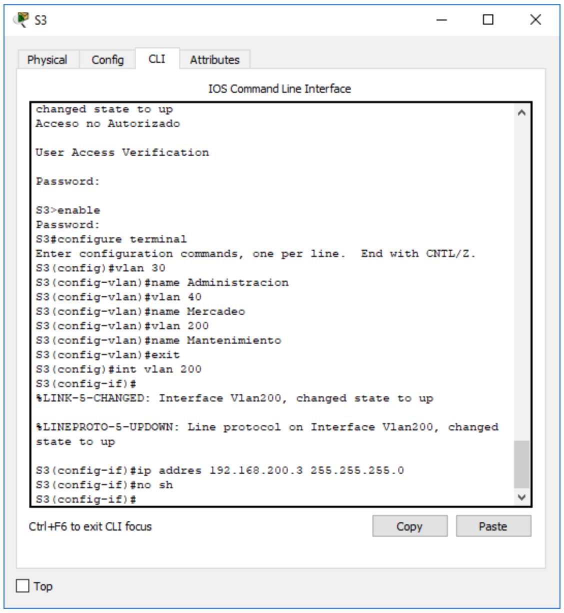
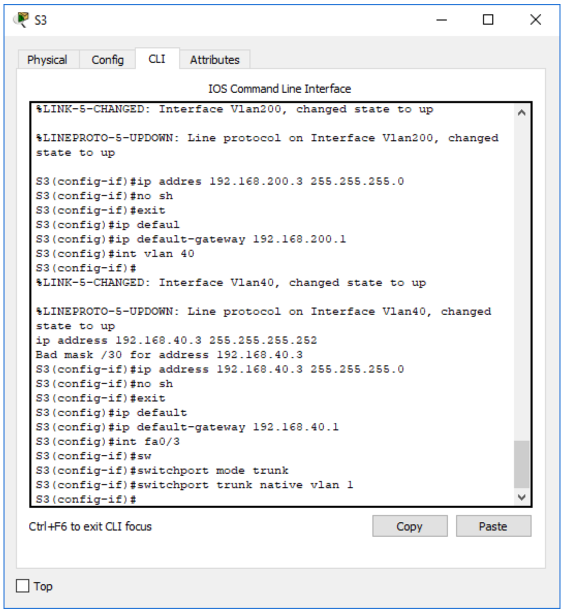
☐ Top

```
Switch>enable
Switch#configure termunal
                     ^
% Invalid input detected at '^' marker.

Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#no ip domain-lookup
Switch(config)#hostname S3
S3(config)#enable secret class
S3(config)#line console 0
S3(config-line)#password cisco
S3(config-line)#login
S3(config-line)#line vty 0 4
S3(config-line)#password cisco
S3(config-line)#login
S3(config-line)#exit
S3(config)#service pass
S3(config)#service password-encryption
S3(config)#banner motd $Acceso no Autorizado$
S3(config)#
```


S3
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
changed state to up
Acceso no Autorizado

User Access Verification

Password:

S3>enable
Password:
S3#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
S3(config)#vlan 30
S3(config-vlan)#name Administracion
S3(config-vlan)#vlan 40
S3(config-vlan)#name Mercadeo
S3(config-vlan)#vlan 200
S3(config-vlan)#name Mantenimiento
S3(config-vlan)#exit
S3(config)#int vlan 200
S3(config-if)#
%LINK-5-CHANGED: Interface Vlan200, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan200, changed
state to up

S3(config-if)#ip addres 192.168.200.3 255.255.255.0
S3(config-if)#no sh
S3(config-if)#
```


S3
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Ctrl+F6 to exit CLI focus
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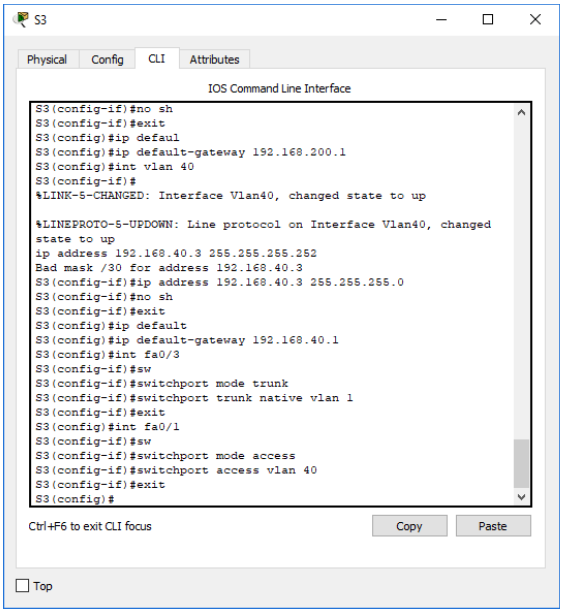
```
%LINK-5-CHANGED: Interface Vlan200, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan200, changed
state to up

S3(config-if)#ip addres 192.168.200.3 255.255.255.0
S3(config-if)#no sh
S3(config-if)#exit
S3(config)#ip defaul
S3(config)#ip default-gateway 192.168.200.1
S3(config)#int vlan 40
S3(config-if)#
%LINK-5-CHANGED: Interface Vlan40, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan40, changed
state to up
ip address 192.168.40.3 255.255.255.252
Bad mask /30 for address 192.168.40.3
S3(config-if)#ip address 192.168.40.3 255.255.255.0
S3(config-if)#no sh
S3(config-if)#exit
S3(config)#ip default
S3(config)#ip default-gateway 192.168.40.1
S3(config)#int fa0/3
S3(config-if)#sw
S3(config-if)#switchport mode trunk
S3(config-if)#switchport trunk native vlan 1
S3(config-if)#
```


S3
Physical
Config
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IOS Command Line Interface

```
S3(config-if)#no sh
S3(config-if)#exit
S3(config)#ip defaul
S3(config)#ip default-gateway 192.168.200.1
S3(config)#int vlan 40
S3(config-if)#
%LINK-5-CHANGED: Interface Vlan40, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan40, changed
state to up
ip address 192.168.40.3 255.255.255.252
Bad mask /30 for address 192.168.40.3
S3(config-if)#ip address 192.168.40.3 255.255.255.0
S3(config-if)#no sh
S3(config-if)#exit
S3(config)#ip default
S3(config)#ip default-gateway 192.168.40.1
S3(config)#int fa0/3
S3(config-if)#sw
S3(config-if)#switchport mode trunk
S3(config-if)#switchport trunk native vlan 1
S3(config-if)#exit
S3(config)#int fa0/1
S3(config-if)#sw
S3(config-if)#switchport mode access
S3(config-if)#switchport access vlan 40
S3(config-if)#exit
S3(config)#
```

Ctrl+F6 to exit CLI focus
Copy
Paste
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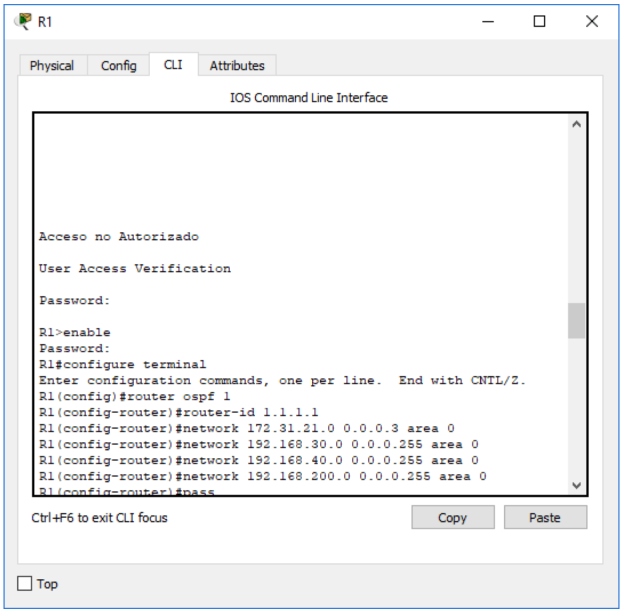
2. Configurar el protocolo de enrutamiento OSPFv2 bajo los siguientes criterios:

OSPFv2 area 0

Configuration Item or Task	Specification
Router ID R1	1.1.1.1
Router ID R2	2.2.2.2
Router ID R3	3.3.3.3
Configurar todas las interfaces LAN como pasivas	
Establecer el ancho de banda para enlaces seriales en	128 Kb/s
Ajustar el costo en la métrica de S0/0 a	7500


R1
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Config
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IOS Command Line Interface

```
Acceso no Autorizado

User Access Verification

Password:

R1>enable
Password:
R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#router ospf 1
R1(config-router)#router-id 1.1.1.1
R1(config-router)#network 172.31.21.0 0.0.0.3 area 0
R1(config-router)#network 192.168.30.0 0.0.0.255 area 0
R1(config-router)#network 192.168.40.0 0.0.0.255 area 0
R1(config-router)#network 192.168.200.0 0.0.0.255 area 0
R1(config-router)#pass
```

Ctrl+F6 to exit CLI focus
Copy
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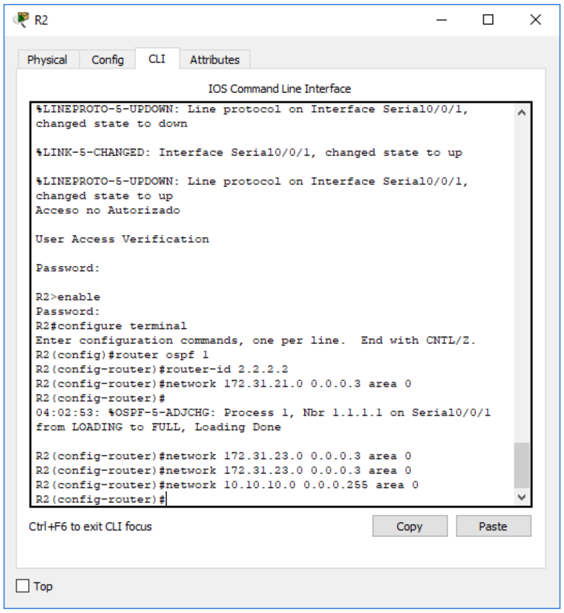
☐ Top


R2
Physical
Config
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IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
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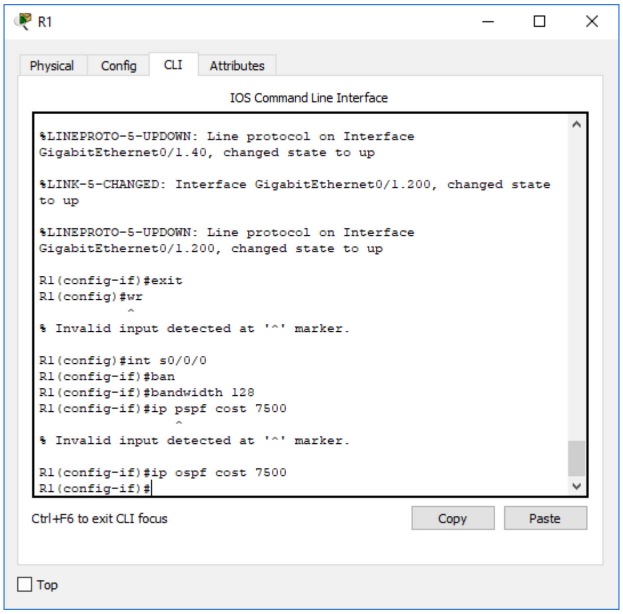
```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1,
changed state to down

%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1,
changed state to up
Acceso no Autorizado

User Access Verification

Password:

R2>enable
Password:
R2#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#router ospf 1
R2(config-router)#router-id 2.2.2.2
R2(config-router)#network 172.31.21.0 0.0.0.3 area 0
R2(config-router)#
04:02:53: %OSPF-5-ADJCHG: Process 1, Nbr 1.1.1.1 on Serial0/0/1
from LOADING to FULL, Loading Done

R2(config-router)#network 172.31.23.0 0.0.0.3 area 0
R2(config-router)#network 172.31.23.0 0.0.0.3 area 0
R2(config-router)#network 10.10.10.0 0.0.0.255 area 0
R2(config-router)#
```


R1
Physical
Config
CLI
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IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
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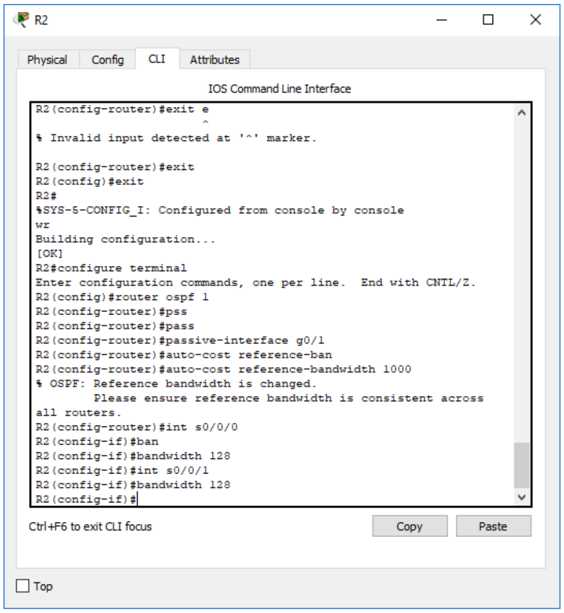
```
%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/1.40, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/1.200, changed state
to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/1.200, changed state to up

R1(config-if)#exit
R1(config)#wr
           ^
% Invalid input detected at '^' marker.

R1(config)#int s0/0/0
R1(config-if)#ban
R1(config-if)#bandwidth 128
R1(config-if)#ip pspf cost 7500
                 ^
% Invalid input detected at '^' marker.

R1(config-if)#ip ospf cost 7500
R1(config-if)#
```


R2
Physical
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IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
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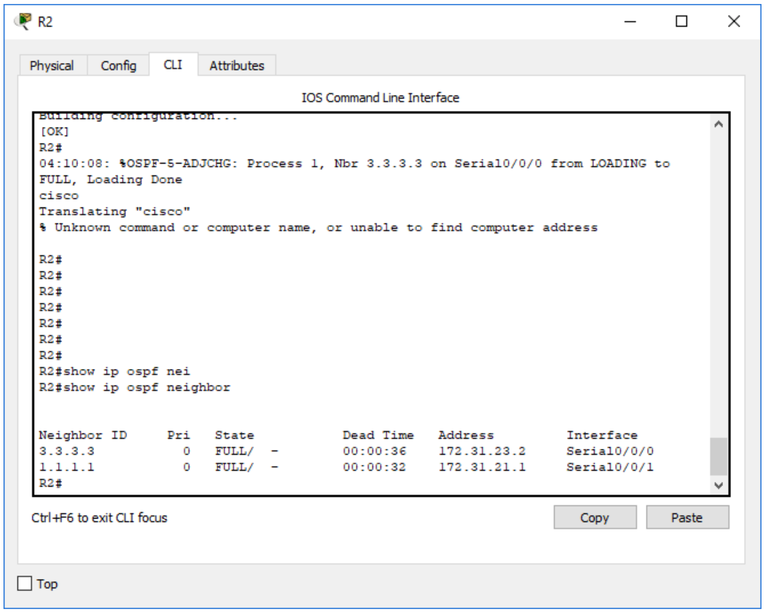
```
R2(config-router)#exit e
                      ^
% Invalid input detected at '^' marker.

R2(config-router)#exit
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
R2#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#router ospf 1
R2(config-router)#pss
R2(config-router)#pass
R2(config-router)#passive-interface g0/1
R2(config-router)#auto-cost reference-ban
R2(config-router)#auto-cost reference-bandwidth 1000
% OSPF: Reference bandwidth is changed.
        Please ensure reference bandwidth is consistent across
all routers.
R2(config-router)#int s0/0/0
R2(config-if)#ban
R2(config-if)#bandwidth 128
R2(config-if)#int s0/0/1
R2(config-if)#bandwidth 128
R2(config-if)#
```

Verificar información de OSPF

- ✓ Visualizar tablas de enrutamiento y routers conectados por OSPFv2


R2
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Ctrl+F6 to exit CLI focus
Copy
Paste
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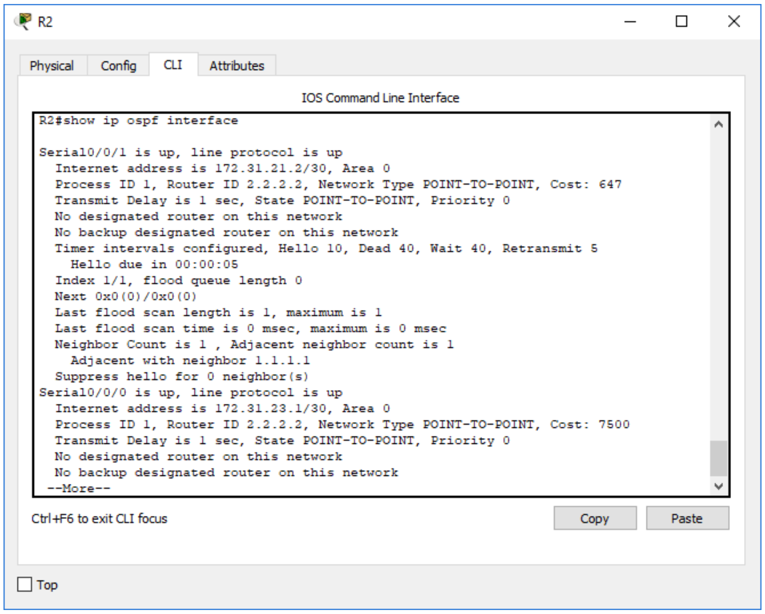
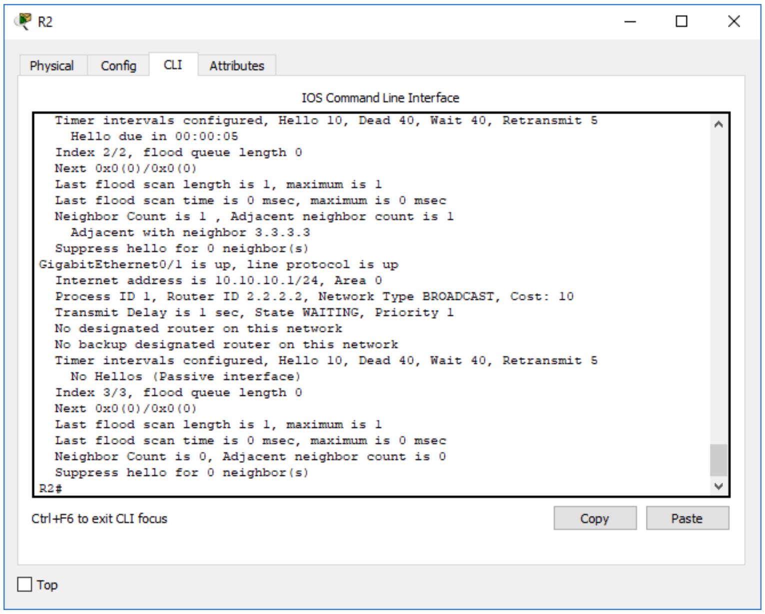
```
Building configuration...
[OK]
R2#
04:10:08: %OSPF-5-ADJCHG: Process 1, Nbr 3.3.3.3 on Serial0/0/0 from LOADING to
FULL, Loading Done
cisco
Translating "cisco"
% Unknown command or computer name, or unable to find computer address

R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#show ip ospf nei
R2#show ip ospf neighbor


Neighbor ID     Pri   State           Dead Time   Address         Interface
3.3.3.3           0   FULL/  -        00:00:36    172.31.23.2     Serial0/0/0
1.1.1.1           0   FULL/  -        00:00:32    172.31.21.1     Serial0/0/1
R2#
```

- ✓ Visualizar lista resumida de interfaces por OSPF en donde se ilustre el costo de cada interface

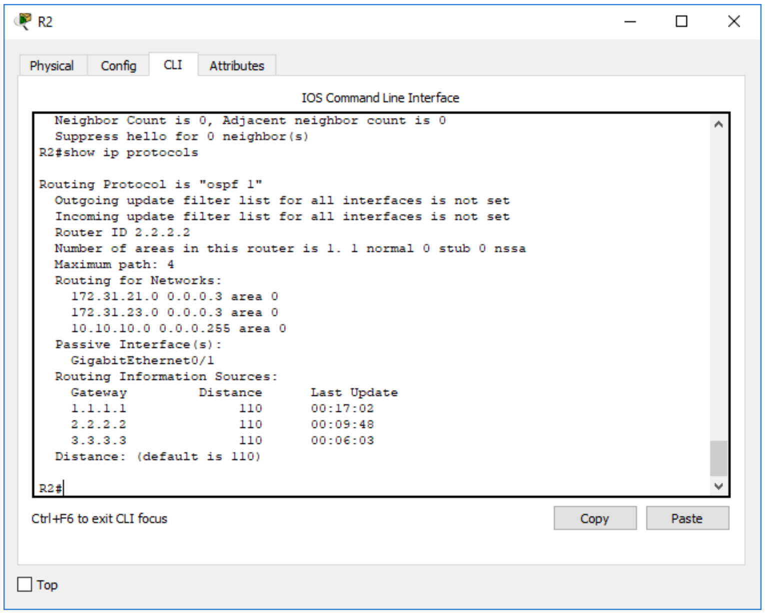


```
R2#show ip ospf interface

Serial0/0/1 is up, line protocol is up
  Internet address is 172.31.21.2/30, Area 0
  Process ID 1, Router ID 2.2.2.2, Network Type POINT-TO-POINT, Cost: 647
  Transmit Delay is 1 sec, State POINT-TO-POINT, Priority 0
  No designated router on this network
  No backup designated router on this network
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    Hello due in 00:00:05
  Index 1/1, flood queue length 0
  Next 0x0(0)/0x0(0)
  Last flood scan length is 1, maximum is 1
  Last flood scan time is 0 msec, maximum is 0 msec
  Neighbor Count is 1 , Adjacent neighbor count is 1
    Adjacent with neighbor 1.1.1.1
  Suppress hello for 0 neighbor(s)
Serial0/0/0 is up, line protocol is up
  Internet address is 172.31.23.1/30, Area 0
  Process ID 1, Router ID 2.2.2.2, Network Type POINT-TO-POINT, Cost: 7500
  Transmit Delay is 1 sec, State POINT-TO-POINT, Priority 0
  No designated router on this network
  No backup designated router on this network
 --More--
```



```
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    Hello due in 00:00:05
  Index 2/2, flood queue length 0
  Next 0x0(0)/0x0(0)
  Last flood scan length is 1, maximum is 1
  Last flood scan time is 0 msec, maximum is 0 msec
  Neighbor Count is 1 , Adjacent neighbor count is 1
    Adjacent with neighbor 3.3.3.3
  Suppress hello for 0 neighbor(s)
GigabitEthernet0/1 is up, line protocol is up
  Internet address is 10.10.10.1/24, Area 0
  Process ID 1, Router ID 2.2.2.2, Network Type BROADCAST, Cost: 10
  Transmit Delay is 1 sec, State WAITING, Priority 1
  No designated router on this network
  No backup designated router on this network
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    No Hellos (Passive interface)
  Index 3/3, flood queue length 0
  Next 0x0(0)/0x0(0)
  Last flood scan length is 1, maximum is 1
  Last flood scan time is 0 msec, maximum is 0 msec
  Neighbor Count is 0, Adjacent neighbor count is 0
  Suppress hello for 0 neighbor(s)
R2#
```

- ✓ Visualizar el OSPF Process ID, Router ID, Address summarizations, Routing Networks, and passive interfaces configuradas en cada router.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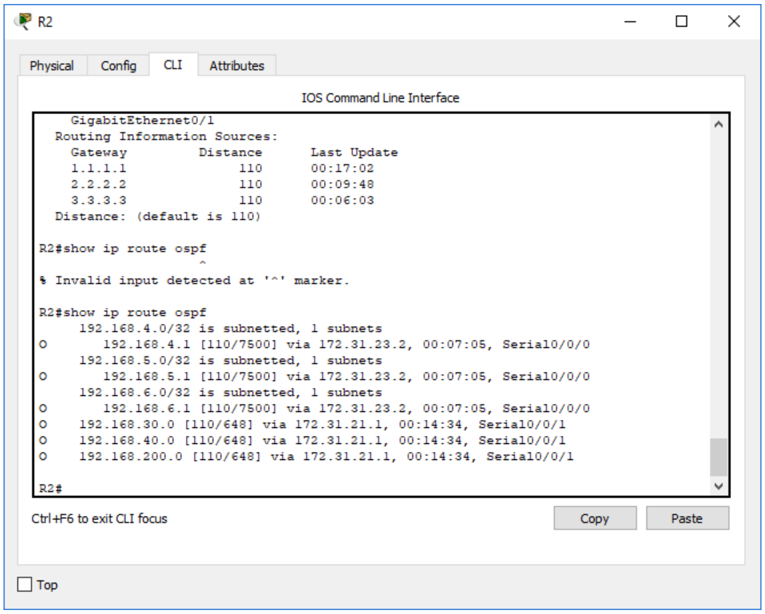
```
  Neighbor Count is 0, Adjacent neighbor count is 0
  Suppress hello for 0 neighbor(s)
R2#show ip protocols

Routing Protocol is "ospf 1"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Router ID 2.2.2.2
  Number of areas in this router is 1. 1 normal 0 stub 0 nssa
  Maximum path: 4
  Routing for Networks:
    172.31.21.0 0.0.0.3 area 0
    172.31.23.0 0.0.0.3 area 0
    10.10.10.0 0.0.0.255 area 0
  Passive Interface(s):
    GigabitEthernet0/1
  Routing Information Sources:
    Gateway         Distance      Last Update
    1.1.1.1              110      00:17:02
    2.2.2.2              110      00:09:48
    3.3.3.3              110      00:06:03
  Distance: (default is 110)

R2#
```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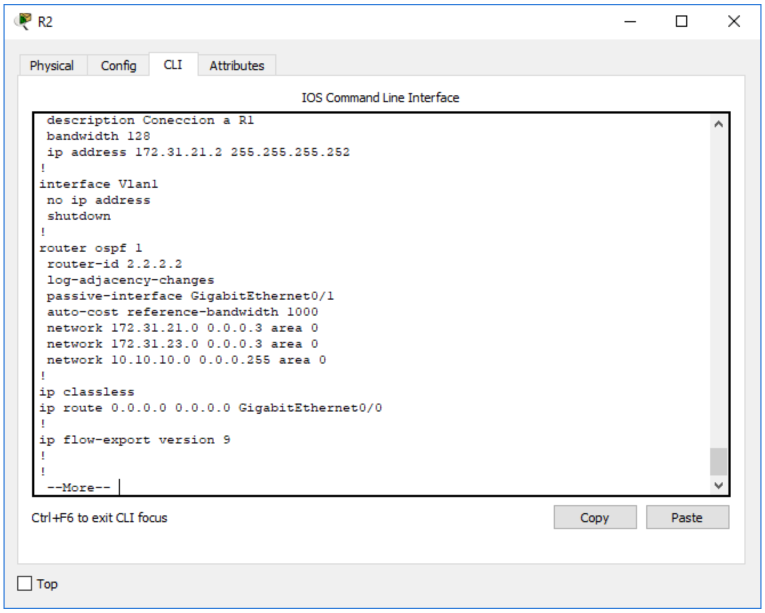
```
    GigabitEthernet0/1
  Routing Information Sources:
    Gateway         Distance      Last Update
    1.1.1.1              110      00:17:02
    2.2.2.2              110      00:09:48
    3.3.3.3              110      00:06:03
  Distance: (default is 110)

R2#show ip route ospf
                    ^
% Invalid input detected at '^' marker.

R2#show ip route ospf
     192.168.4.0/32 is subnetted, 1 subnets
O       192.168.4.1 [110/7500] via 172.31.23.2, 00:07:05, Serial0/0/0
     192.168.5.0/32 is subnetted, 1 subnets
O       192.168.5.1 [110/7500] via 172.31.23.2, 00:07:05, Serial0/0/0
     192.168.6.0/32 is subnetted, 1 subnets
O       192.168.6.1 [110/7500] via 172.31.23.2, 00:07:05, Serial0/0/0
O    192.168.30.0 [110/648] via 172.31.21.1, 00:14:34, Serial0/0/1
O    192.168.40.0 [110/648] via 172.31.21.1, 00:14:34, Serial0/0/1
O    192.168.200.0 [110/648] via 172.31.21.1, 00:14:34, Serial0/0/1

R2#
```


R2
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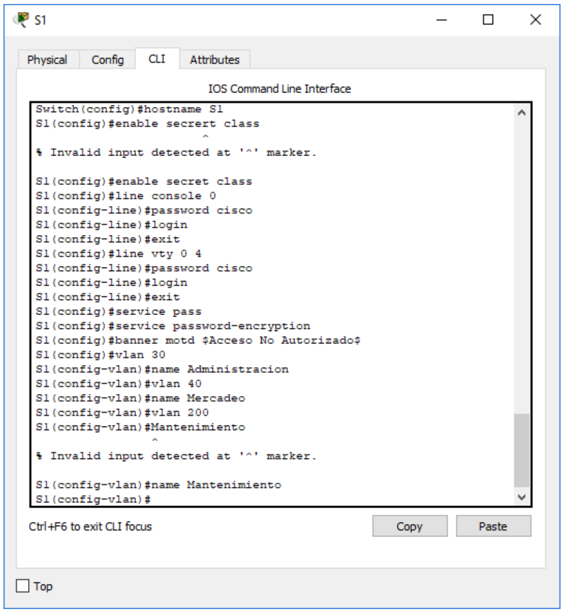
```
 description Coneccion a R1
 bandwidth 128
 ip address 172.31.21.2 255.255.255.252
!
interface Vlan1
 no ip address
 shutdown
!
router ospf 1
 router-id 2.2.2.2
 log-adjacency-changes
 passive-interface GigabitEthernet0/1
 auto-cost reference-bandwidth 1000
 network 172.31.21.0 0.0.0.3 area 0
 network 172.31.23.0 0.0.0.3 area 0
 network 10.10.10.0 0.0.0.255 area 0
!
ip classless
ip route 0.0.0.0 0.0.0.0 GigabitEthernet0/0
!
ip flow-export version 9
!
!
 --More--
```

3. Configurar VLANs, Puertos troncales, puertos de acceso, encapsulamiento, Inter-VLAN Routing y Seguridad en los Switches acorde a la topología de red establecida.


S1
Physical
Config
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IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
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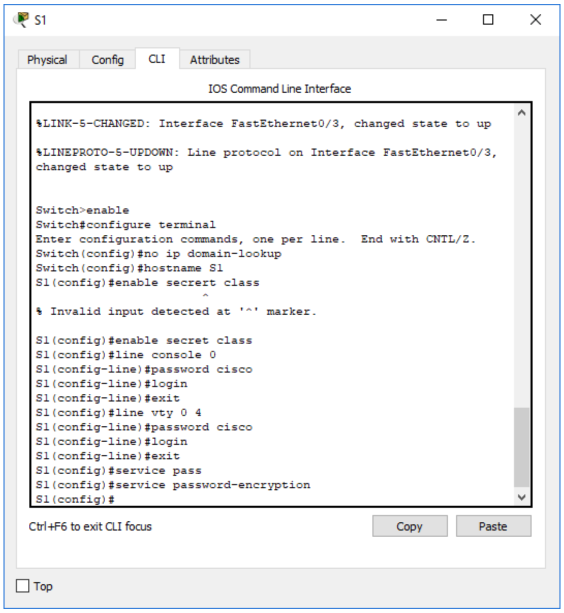
```
Switch(config)#hostname S1
S1(config)#enable secrert class
                      ^
% Invalid input detected at '^' marker.

S1(config)#enable secret class
S1(config)#line console 0
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#line vty 0 4
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#service pass
S1(config)#service password-encryption
S1(config)#banner motd $Acceso No Autorizado$
S1(config)#vlan 30
S1(config-vlan)#name Administracion
S1(config-vlan)#vlan 40
S1(config-vlan)#name Mercadeo
S1(config-vlan)#vlan 200
S1(config-vlan)#Mantenimiento
                ^
% Invalid input detected at '^' marker.

S1(config-vlan)#name Mantenimiento
S1(config-vlan)#
```


S1
Physical
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IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
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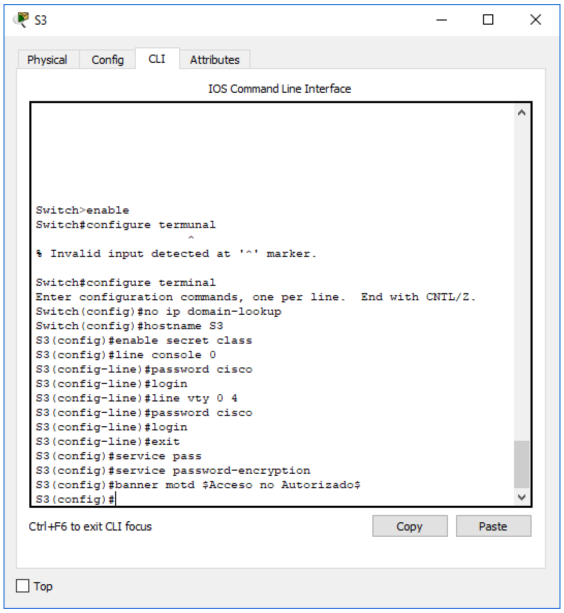
☐ Top

```
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to up


Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#no ip domain-lookup
Switch(config)#hostname S1
S1(config)#enable secrert class
                       ^
% Invalid input detected at '^' marker.

S1(config)#enable secret class
S1(config)#line console 0
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#line vty 0 4
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#service pass
S1(config)#service password-encryption
S1(config)#
```


S3
Physical
Config
CLI
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IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
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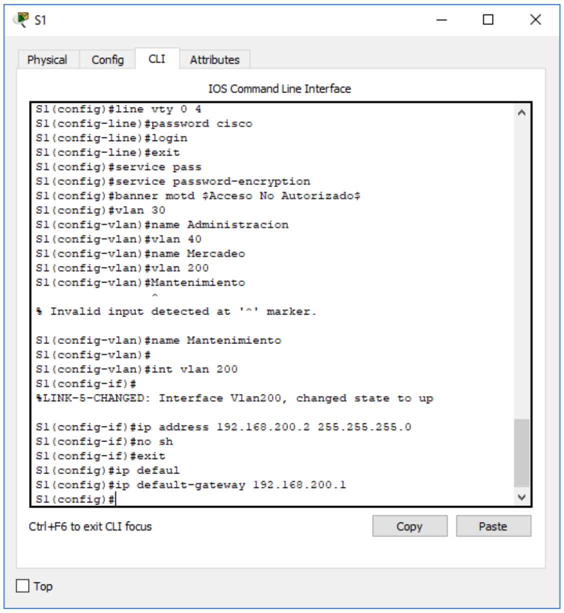
```
Switch>enable
Switch#configure termunal
                     ^
% Invalid input detected at '^' marker.

Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#no ip domain-lookup
Switch(config)#hostname S3
S3(config)#enable secret class
S3(config)#line console 0
S3(config-line)#password cisco
S3(config-line)#login
S3(config-line)#line vty 0 4
S3(config-line)#password cisco
S3(config-line)#login
S3(config-line)#exit
S3(config)#service pass
S3(config)#service password-encryption
S3(config)#banner motd $Acceso no Autorizado$
S3(config)#
```


S1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
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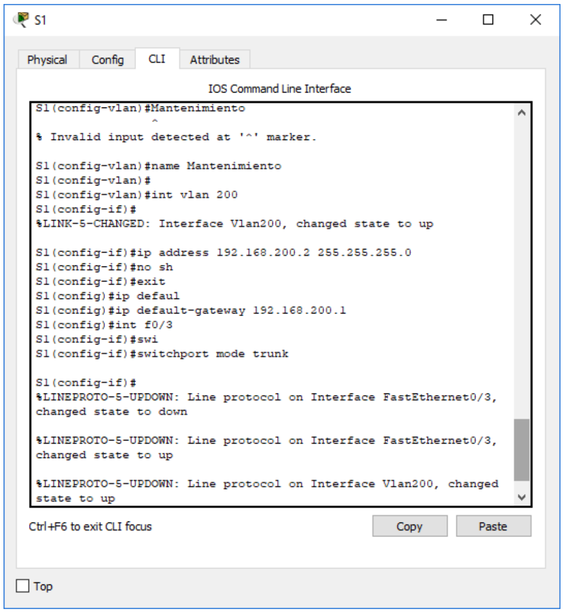
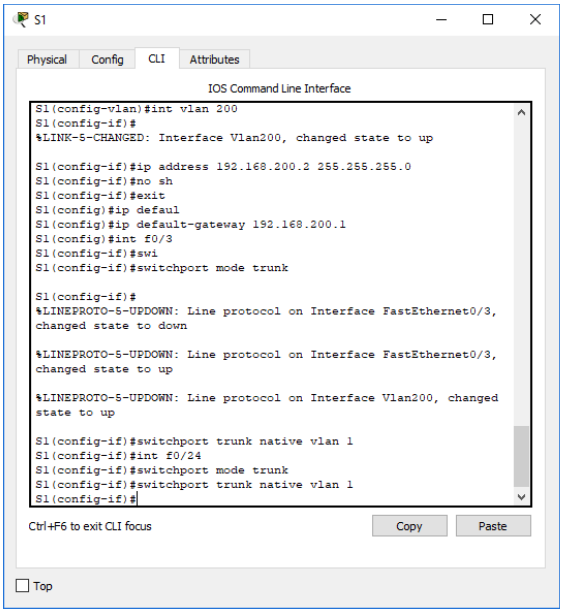
☐ Top

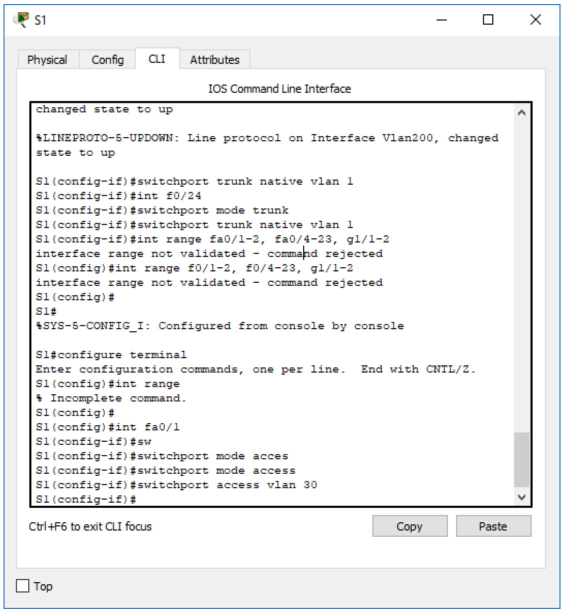
```
S1(config)#line vty 0 4
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#service pass
S1(config)#service password-encryption
S1(config)#banner motd $Acceso No Autorizado$
S1(config)#vlan 30
S1(config-vlan)#name Administracion
S1(config-vlan)#vlan 40
S1(config-vlan)#name Mercadeo
S1(config-vlan)#vlan 200
S1(config-vlan)#Mantenimiento
                ^
% Invalid input detected at '^' marker.

S1(config-vlan)#name Mantenimiento
S1(config-vlan)#
S1(config-vlan)#int vlan 200
S1(config-if)#
%LINK-5-CHANGED: Interface Vlan200, changed state to up

S1(config-if)#ip address 192.168.200.2 255.255.255.0
S1(config-if)#no sh
S1(config-if)#exit
S1(config)#ip defaul
S1(config)#ip default-gateway 192.168.200.1
S1(config)#
```


S1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

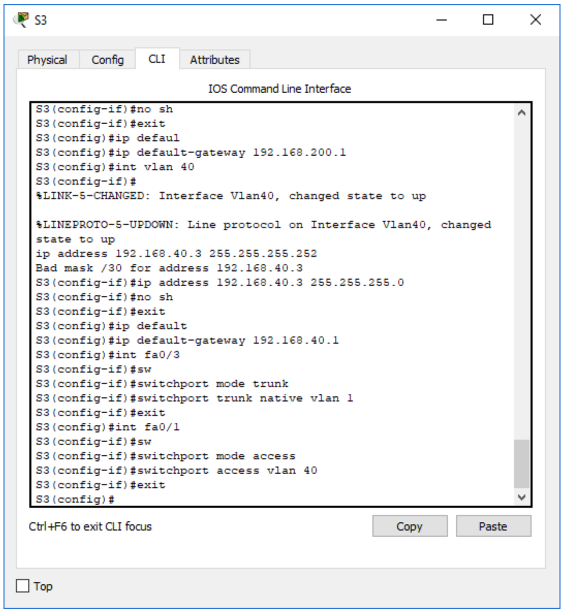
```
S1(config-vlan)#Mantenimiento
                ^
% Invalid input detected at '^' marker.

S1(config-vlan)#name Mantenimiento
S1(config-vlan)#
S1(config-vlan)#int vlan 200
S1(config-if)#
%LINK-5-CHANGED: Interface Vlan200, changed state to up

S1(config-if)#ip address 192.168.200.2 255.255.255.0
S1(config-if)#no sh
S1(config-if)#exit
S1(config)#ip defaul
S1(config)#ip default-gateway 192.168.200.1
S1(config)#int f0/3
S1(config-if)#swi
S1(config-if)#switchport mode trunk

S1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan200, changed
state to up
```


S1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

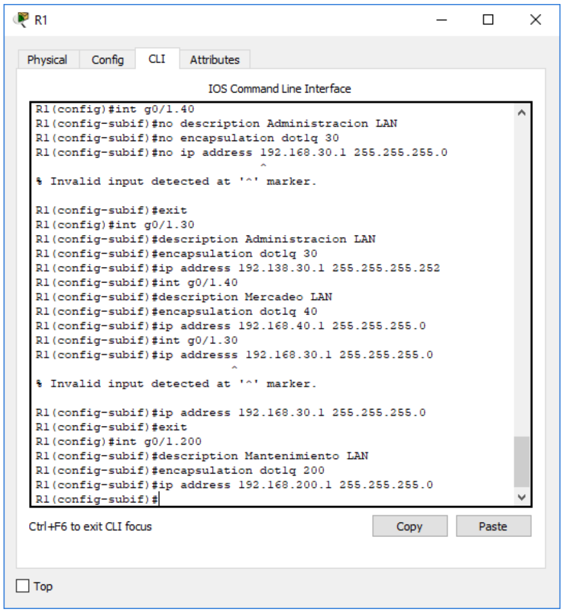
```
S1(config-vlan)#int vlan 200
S1(config-if)#
%LINK-5-CHANGED: Interface Vlan200, changed state to up

S1(config-if)#ip address 192.168.200.2 255.255.255.0
S1(config-if)#no sh
S1(config-if)#exit
S1(config)#ip defaul
S1(config)#ip default-gateway 192.168.200.1
S1(config)#int f0/3
S1(config-if)#swi
S1(config-if)#switchport mode trunk

S1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan200, changed
state to up

S1(config-if)#switchport trunk native vlan 1
S1(config-if)#int f0/24
S1(config-if)#switchport mode trunk
S1(config-if)#switchport trunk native vlan 1
S1(config-if)#
```


S1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

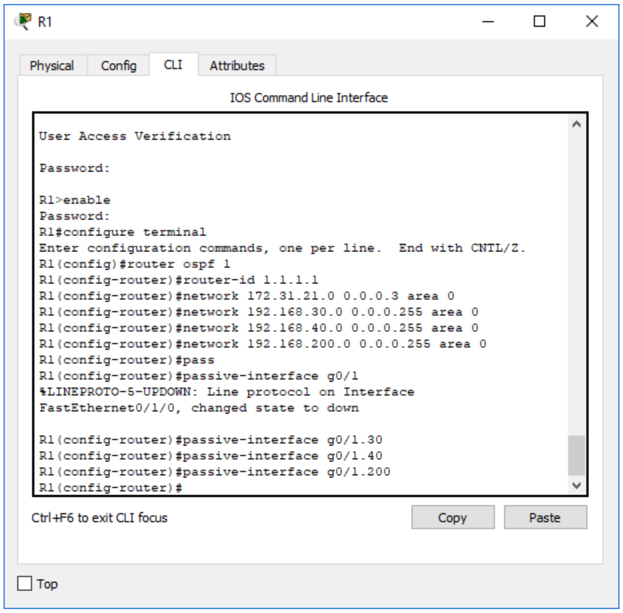
```
changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan200, changed
state to up

S1(config-if)#switchport trunk native vlan 1
S1(config-if)#int f0/24
S1(config-if)#switchport mode trunk
S1(config-if)#switchport trunk native vlan 1
S1(config-if)#int range fa0/1-2, fa0/4-23, g1/1-2
interface range not validated - command rejected
S1(config)#int range f0/1-2, f0/4-23, g1/1-2
interface range not validated - command rejected
S1(config)#
S1#
%SYS-5-CONFIG_I: Configured from console by console

S1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
S1(config)#int range
% Incomplete command.
S1(config)#
S1(config)#int fa0/1
S1(config-if)#sw
S1(config-if)#switchport mode acces
S1(config-if)#switchport mode access
S1(config-if)#switchport access vlan 30
S1(config-if)#
```


S3
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

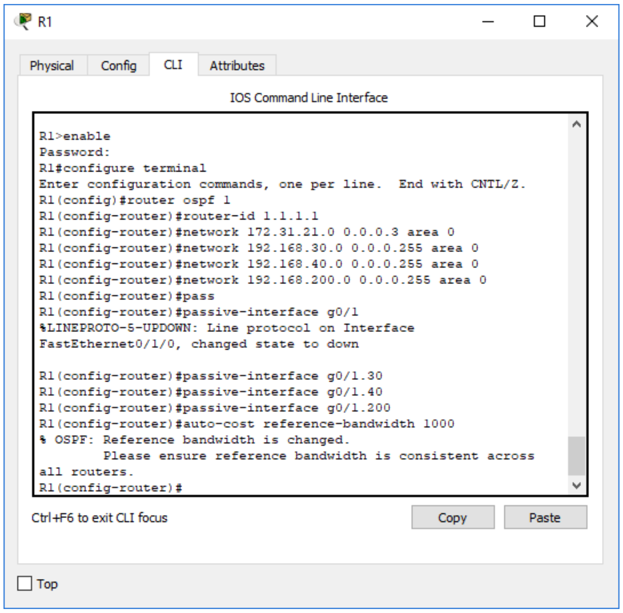
```
S3(config-if)#no sh
S3(config-if)#exit
S3(config)#ip defaul
S3(config)#ip default-gateway 192.168.200.1
S3(config)#int vlan 40
S3(config-if)#
%LINK-5-CHANGED: Interface Vlan40, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan40, changed
state to up
ip address 192.168.40.3 255.255.255.252
Bad mask /30 for address 192.168.40.3
S3(config-if)#ip address 192.168.40.3 255.255.255.0
S3(config-if)#no sh
S3(config-if)#exit
S3(config)#ip default
S3(config)#ip default-gateway 192.168.40.1
S3(config)#int fa0/3
S3(config-if)#sw
S3(config-if)#switchport mode trunk
S3(config-if)#switchport trunk native vlan 1
S3(config-if)#exit
S3(config)#int fa0/1
S3(config-if)#sw
S3(config-if)#switchport mode access
S3(config-if)#switchport access vlan 40
S3(config-if)#exit
S3(config)#
```


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

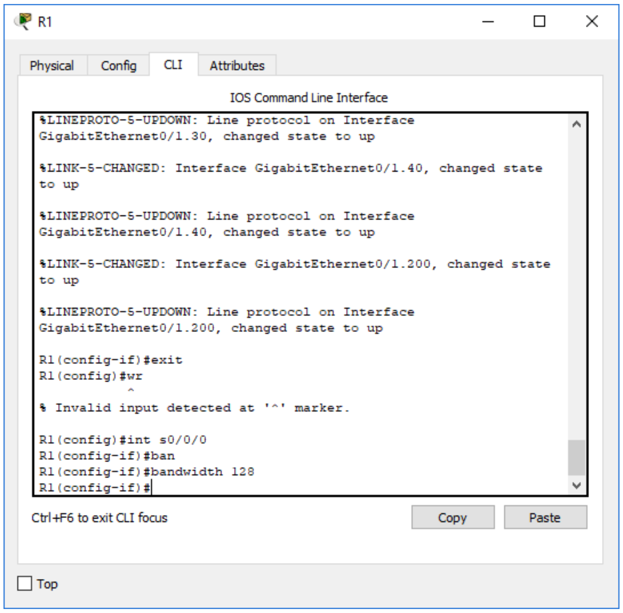
```
R1(config)#int g0/1.40
R1(config-subif)#no description Administracion LAN
R1(config-subif)#no encapsulation dotlq 30
R1(config-subif)#no ip address 192.168.30.1 255.255.255.0
                               ^
% Invalid input detected at '^' marker.

R1(config-subif)#exit
R1(config)#int g0/1.30
R1(config-subif)#description Administracion LAN
R1(config-subif)#encapsulation dotlq 30
R1(config-subif)#ip address 192.138.30.1 255.255.255.252
R1(config-subif)#int g0/1.40
R1(config-subif)#description Mercadeo LAN
R1(config-subif)#encapsulation dotlq 40
R1(config-subif)#ip address 192.168.40.1 255.255.255.0
R1(config-subif)#int g0/1.30
R1(config-subif)#ip addresss 192.168.30.1 255.255.255.0
                           ^
% Invalid input detected at '^' marker.

R1(config-subif)#ip address 192.168.30.1 255.255.255.0
R1(config-subif)#exit
R1(config)#int g0/1.200
R1(config-subif)#description Mantenimiento LAN
R1(config-subif)#encapsulation dotlq 200
R1(config-subif)#ip address 192.168.200.1 255.255.255.0
R1(config-subif)#
```


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
User Access Verification

Password:

R1>enable
Password:
R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#router ospf 1
R1(config-router)#router-id 1.1.1.1
R1(config-router)#network 172.31.21.0 0.0.0.3 area 0
R1(config-router)#network 192.168.30.0 0.0.0.255 area 0
R1(config-router)#network 192.168.40.0 0.0.0.255 area 0
R1(config-router)#network 192.168.200.0 0.0.0.255 area 0
R1(config-router)#pass
R1(config-router)#passive-interface g0/1
%LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/1/0, changed state to down

R1(config-router)#passive-interface g0/1.30
R1(config-router)#passive-interface g0/1.40
R1(config-router)#passive-interface g0/1.200
R1(config-router)#
```

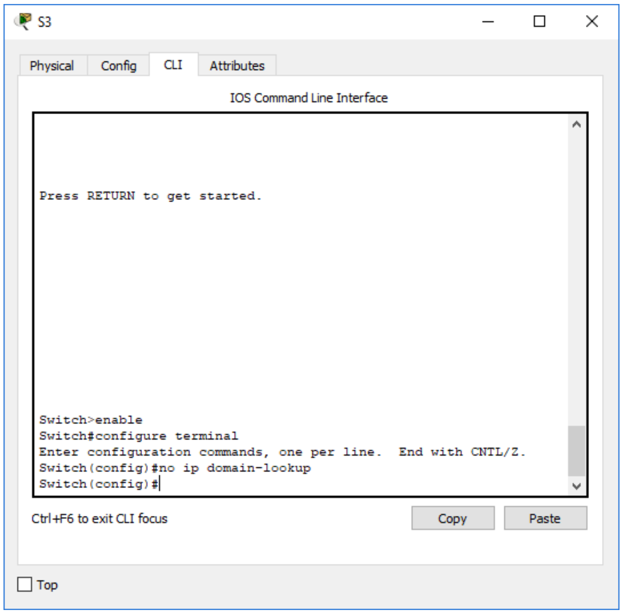

R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
R1>enable
Password:
R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#router ospf 1
R1(config-router)#router-id 1.1.1.1
R1(config-router)#network 172.31.21.0 0.0.0.3 area 0
R1(config-router)#network 192.168.30.0 0.0.0.255 area 0
R1(config-router)#network 192.168.40.0 0.0.0.255 area 0
R1(config-router)#network 192.168.200.0 0.0.0.255 area 0
R1(config-router)#pass
R1(config-router)#passive-interface g0/1
%LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/1/0, changed state to down

R1(config-router)#passive-interface g0/1.30
R1(config-router)#passive-interface g0/1.40
R1(config-router)#passive-interface g0/1.200
R1(config-router)#auto-cost reference-bandwidth 1000
% OSPF: Reference bandwidth is changed.
        Please ensure reference bandwidth is consistent across
all routers.
R1(config-router)#
```


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

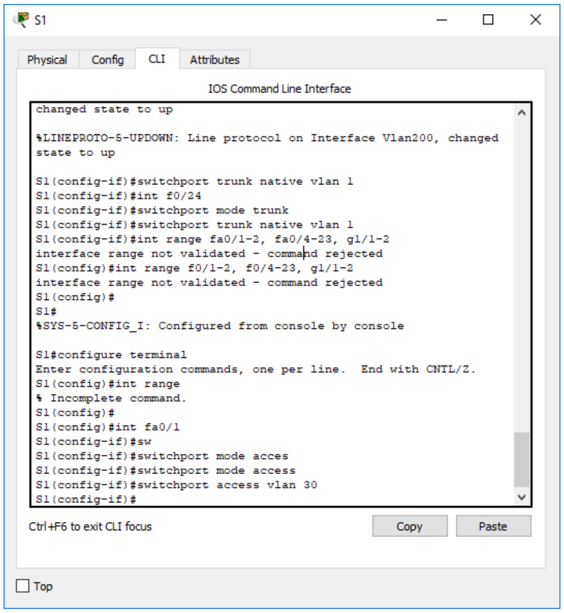
```
%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/1.30, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/1.40, changed state
to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/1.40, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/1.200, changed state
to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/1.200, changed state to up

R1(config-if)#exit
R1(config)#wr
           ^
% Invalid input detected at '^' marker.

R1(config)#int s0/0/0
R1(config-if)#ban
R1(config-if)#bandwidth 128
R1(config-if)#
```

4. En el Switch 3 deshabilitar DNS lookup


S3
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

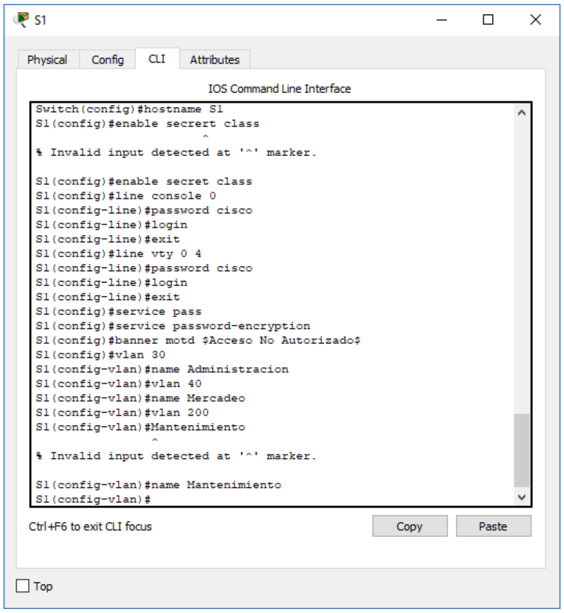
```
Press RETURN to get started.









Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#no ip domain-lookup
Switch(config)#
```

5. Asignar direcciones IP a los Switches acorde a los lineamientos.


S1
Physical
Config
CLI
Attributes
IOS Command Line Interface

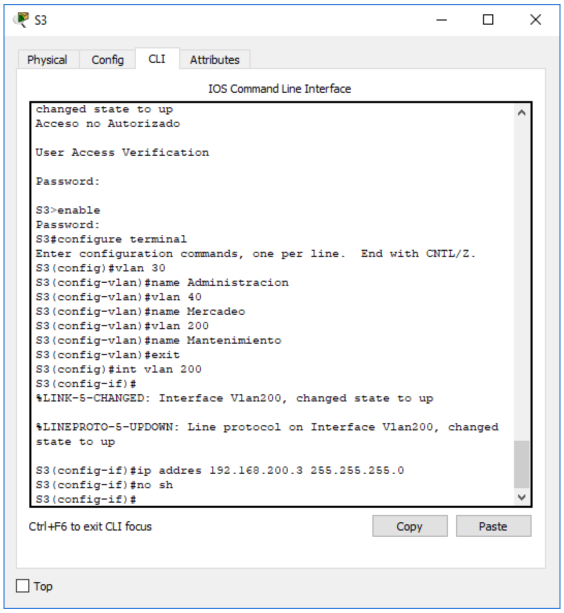
```
changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan200, changed
state to up

S1(config-if)#switchport trunk native vlan 1
S1(config-if)#int f0/24
S1(config-if)#switchport mode trunk
S1(config-if)#switchport trunk native vlan 1
S1(config-if)#int range fa0/1-2, fa0/4-23, g1/1-2
interface range not validated - command rejected
S1(config)#int range f0/1-2, f0/4-23, g1/1-2
interface range not validated - command rejected
S1(config)#
S1#
%SYS-5-CONFIG_I: Configured from console by console

S1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
S1(config)#int range
% Incomplete command.
S1(config)#
S1(config)#int fa0/1
S1(config-if)#sw
S1(config-if)#switchport mode acces
S1(config-if)#switchport mode access
S1(config-if)#switchport access vlan 30
S1(config-if)#
```

Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

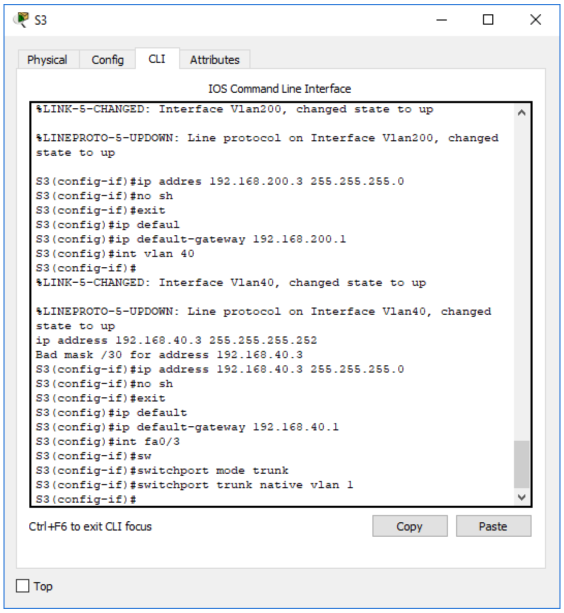

S1
Physical
Config
CLI
Attributes
IOS Command Line Interface

```
Switch(config)#hostname S1
S1(config)#enable secrert class
                       ^
% Invalid input detected at '^' marker.

S1(config)#enable secret class
S1(config)#line console 0
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#line vty 0 4
S1(config-line)#password cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#service pass
S1(config)#service password-encryption
S1(config)#banner motd $Acceso No Autorizado$
S1(config)#vlan 30
S1(config-vlan)#name Administracion
S1(config-vlan)#vlan 40
S1(config-vlan)#name Mercadeo
S1(config-vlan)#vlan 200
S1(config-vlan)#Mantenimiento
                ^
% Invalid input detected at '^' marker.

S1(config-vlan)#name Mantenimiento
S1(config-vlan)#
```

Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top


S3
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

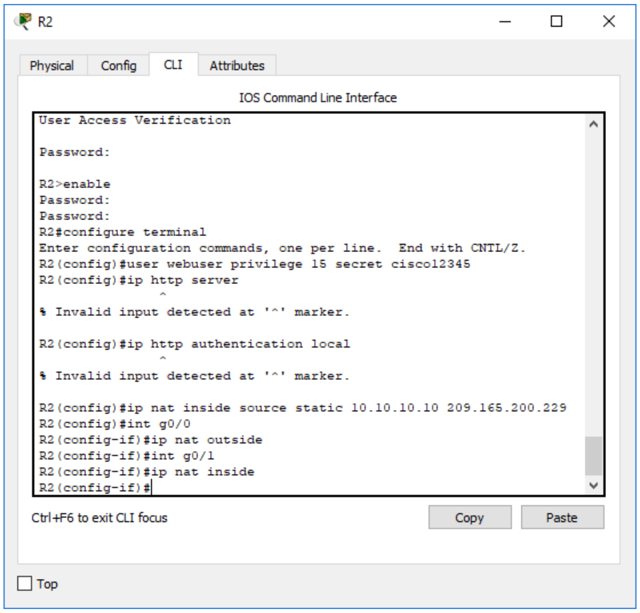
```
changed state to up
Acceso no Autorizado

User Access Verification

Password:

S3>enable
Password:
S3#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
S3(config)#vlan 30
S3(config-vlan)#name Administracion
S3(config-vlan)#vlan 40
S3(config-vlan)#name Mercadeo
S3(config-vlan)#vlan 200
S3(config-vlan)#name Mantenimiento
S3(config-vlan)#exit
S3(config)#int vlan 200
S3(config-if)#
%LINK-5-CHANGED: Interface Vlan200, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan200, changed
state to up

S3(config-if)#ip addres 192.168.200.3 255.255.255.0
S3(config-if)#no sh
S3(config-if)#
```


S3
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

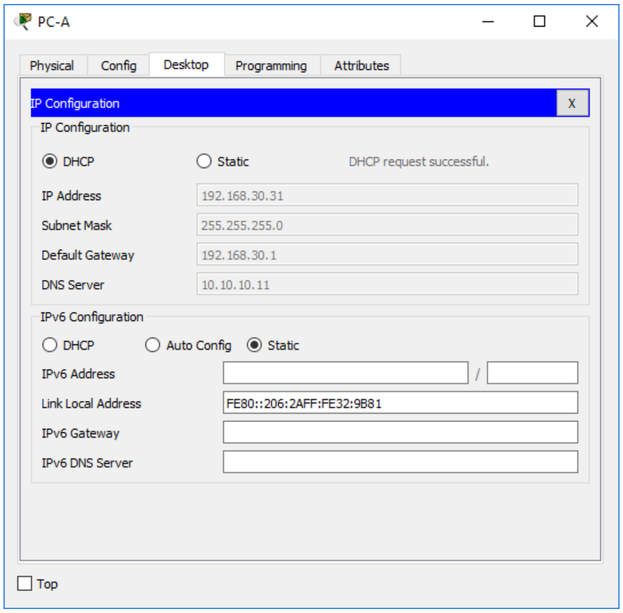
```
%LINK-5-CHANGED: Interface Vlan200, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan200, changed
state to up

S3(config-if)#ip addres 192.168.200.3 255.255.255.0
S3(config-if)#no sh
S3(config-if)#exit
S3(config)#ip defaul
S3(config)#ip default-gateway 192.168.200.1
S3(config)#int vlan 40
S3(config-if)#
%LINK-5-CHANGED: Interface Vlan40, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan40, changed
state to up
ip address 192.168.40.3 255.255.255.252
Bad mask /30 for address 192.168.40.3
S3(config-if)#ip address 192.168.40.3 255.255.255.0
S3(config-if)#no sh
S3(config-if)#exit
S3(config)#ip default
S3(config)#ip default-gateway 192.168.40.1
S3(config)#int fa0/3
S3(config-if)#sw
S3(config-if)#switchport mode trunk
S3(config-if)#switchport trunk native vlan 1
S3(config-if)#
```

6. Desactivar todas las interfaces que no sean utilizadas en el esquema de red.

7. Implementar DHCP and NAT for IPv4


R2
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
User Access Verification

Password:

R2>enable
Password:
Password:
R2#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#user webuser privilege 15 secret cisco12345
R2(config)#ip http server
               ^
% Invalid input detected at '^' marker.

R2(config)#ip http authentication local
               ^
% Invalid input detected at '^' marker.

R2(config)#ip nat inside source static 10.10.10.10 209.165.200.229
R2(config)#int g0/0
R2(config-if)#ip nat outside
R2(config-if)#int g0/1
R2(config-if)#ip nat inside
R2(config-if)#
```


PC-A
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
☐ Top

IP Configuration

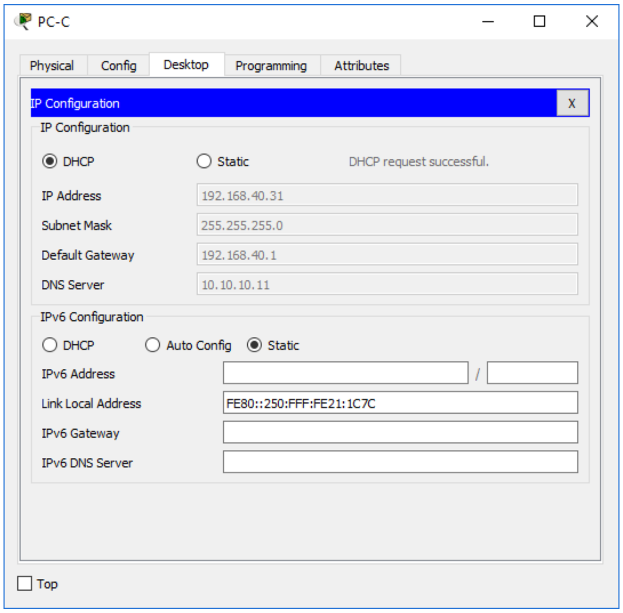
● DHCP ○ Static DHCP request successful.

IP Address: 192.168.30.31
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.30.1
DNS Server: 10.10.10.11

IPv6 Configuration

○ DHCP ○ Auto Config ● Static

IPv6 Address: /
Link Local Address: FE80::206:2AFF:FE32:9B81
IPv6 Gateway:
IPv6 DNS Server:


PC-C
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
☐ Top

IP Configuration

● DHCP ○ Static DHCP request successful.

IP Address 192.168.40.31

Subnet Mask 255.255.255.0

Default Gateway 192.168.40.1

DNS Server 10.10.10.11

IPv6 Configuration

○ DHCP ○ Auto Config ● Static

IPv6 Address /

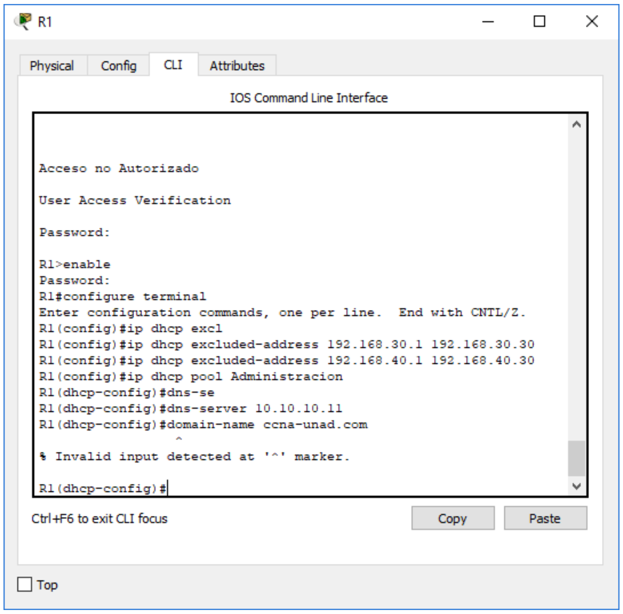
Link Local Address FE80::250:FFF:FE21:1C7C

IPv6 Gateway

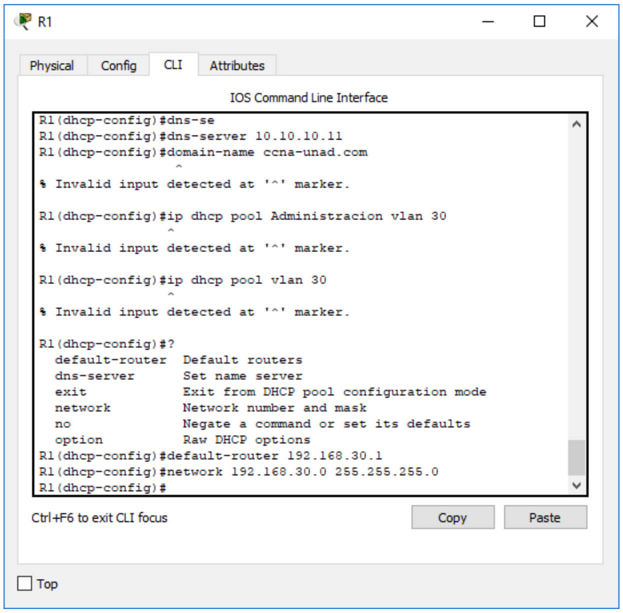
IPv6 DNS Server

8. Configurar R1 como servidor DHCP para las VLANs 30 y 40.

Configurar DHCP pool para VLAN 30	Name: ADMINISTRACION DNS-Server: 10.10.10.11 Domain-Name: ccna-unad.com Establecer default gateway.

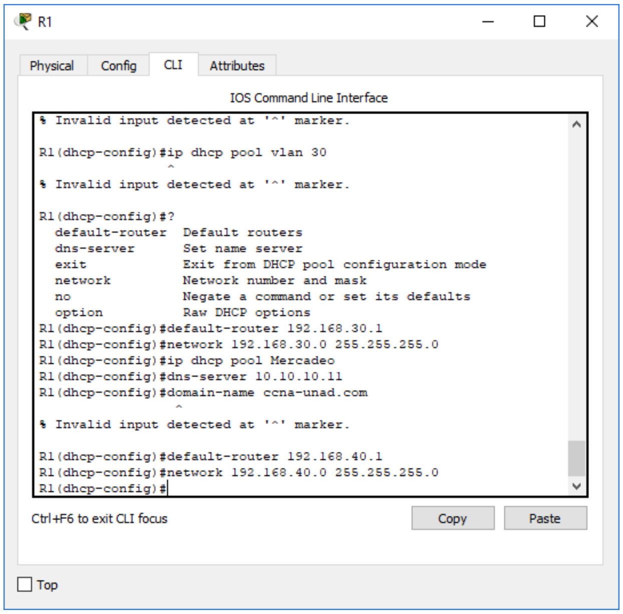

R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

```
Acceso no Autorizado

User Access Verification

Password:

R1>enable
Password:
R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#ip dhcp excl
R1(config)#ip dhcp excluded-address 192.168.30.1 192.168.30.30
R1(config)#ip dhcp excluded-address 192.168.40.1 192.168.40.30
R1(config)#ip dhcp pool Administracion
R1(dhcp-config)#dns-se
R1(dhcp-config)#dns-server 10.10.10.11
R1(dhcp-config)#domain-name ccna-unad.com
                 ^
% Invalid input detected at '^' marker.

R1(dhcp-config)#
```


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

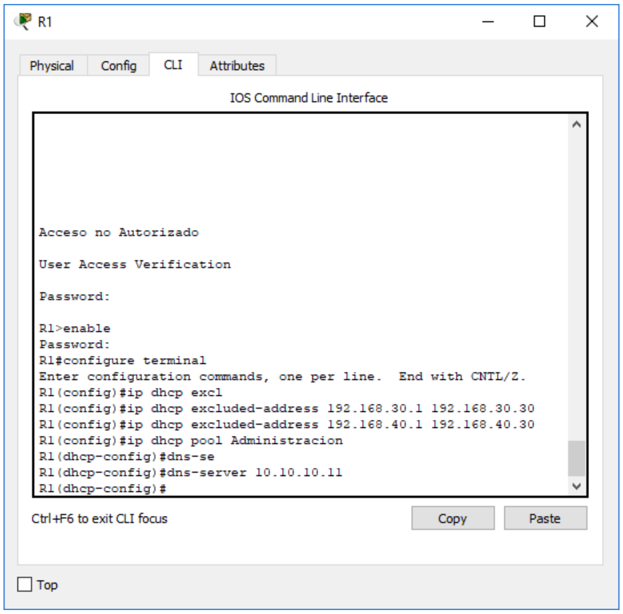
```
R1(dhcp-config)#dns-se
R1(dhcp-config)#dns-server 10.10.10.11
R1(dhcp-config)#domain-name ccna-unad.com
                 ^
% Invalid input detected at '^' marker.

R1(dhcp-config)#ip dhcp pool Administracion vlan 30
                ^
% Invalid input detected at '^' marker.

R1(dhcp-config)#ip dhcp pool vlan 30
                ^
% Invalid input detected at '^' marker.

R1(dhcp-config)#?
  default-router  Default routers
  dns-server      Set name server
  exit            Exit from DHCP pool configuration mode
  network         Network number and mask
  no              Negate a command or set its defaults
  option          Raw DHCP options
R1(dhcp-config)#default-router 192.168.30.1
R1(dhcp-config)#network 192.168.30.0 255.255.255.0
R1(dhcp-config)#
```

Configurar DHCP pool para VLAN 40	Name: MERCADEO DNS-Server: 10.10.10.11 Domain-Name: ccna-unad.com Establecer default gateway.


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

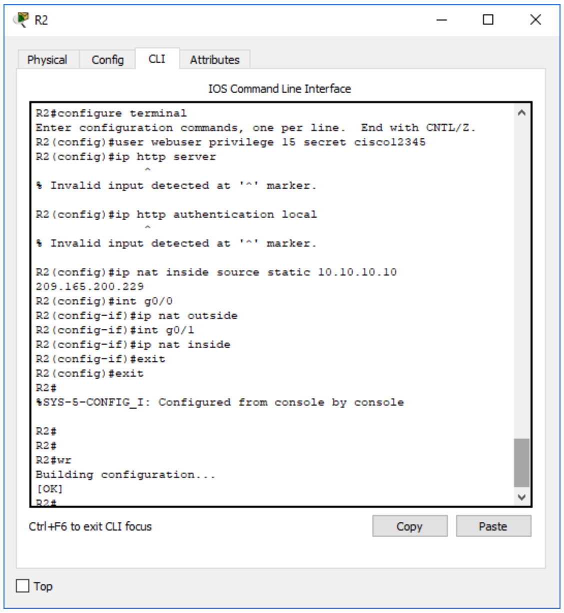
```
% Invalid input detected at '^' marker.

R1(dhcp-config)#ip dhcp pool vlan 30
                ^
% Invalid input detected at '^' marker.

R1(dhcp-config)#?
  default-router  Default routers
  dns-server      Set name server
  exit            Exit from DHCP pool configuration mode
  network         Network number and mask
  no              Negate a command or set its defaults
  option          Raw DHCP options
R1(dhcp-config)#default-router 192.168.30.1
R1(dhcp-config)#network 192.168.30.0 255.255.255.0
R1(dhcp-config)#ip dhcp pool Mercadeo
R1(dhcp-config)#dns-server 10.10.10.11
R1(dhcp-config)#domain-name ccna-unad.com
                 ^
% Invalid input detected at '^' marker.

R1(dhcp-config)#default-router 192.168.40.1
R1(dhcp-config)#network 192.168.40.0 255.255.255.0
R1(dhcp-config)#
```

9. Reservar las primeras 30 direcciones IP de las VLAN 30 y 40 para configuraciones estáticas.


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

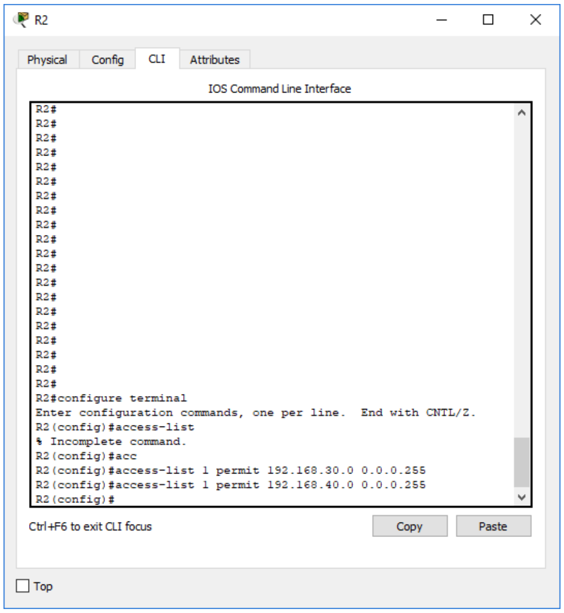
```
Acceso no Autorizado

User Access Verification

Password:

R1>enable
Password:
R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#ip dhcp excl
R1(config)#ip dhcp excluded-address 192.168.30.1 192.168.30.30
R1(config)#ip dhcp excluded-address 192.168.40.1 192.168.40.30
R1(config)#ip dhcp pool Administracion
R1(dhcp-config)#dns-se
R1(dhcp-config)#dns-server 10.10.10.11
R1(dhcp-config)#
```

10. Configurar NAT en R2 para permitir que los host puedan salir a internet


R2
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

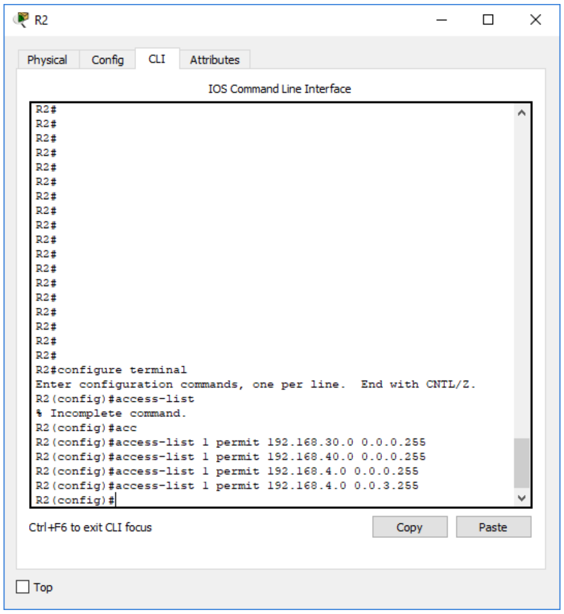
```
R2#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#user webuser privilege 15 secret cisco12345
R2(config)#ip http server
               ^
% Invalid input detected at '^' marker.

R2(config)#ip http authentication local
               ^
% Invalid input detected at '^' marker.

R2(config)#ip nat inside source static 10.10.10.10
209.165.200.229
R2(config)#int g0/0
R2(config-if)#ip nat outside
R2(config-if)#int g0/1
R2(config-if)#ip nat inside
R2(config-if)#exit
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#
R2#
R2#wr
Building configuration...
[OK]
R2#
```

11. Configurar al menos dos listas de acceso de tipo estándar a su criterio en para restringir o permitir tráfico desde R1 o R3 hacia R2.


R2
Physical
Config
CLI
Attributes
IOS Command Line Interface

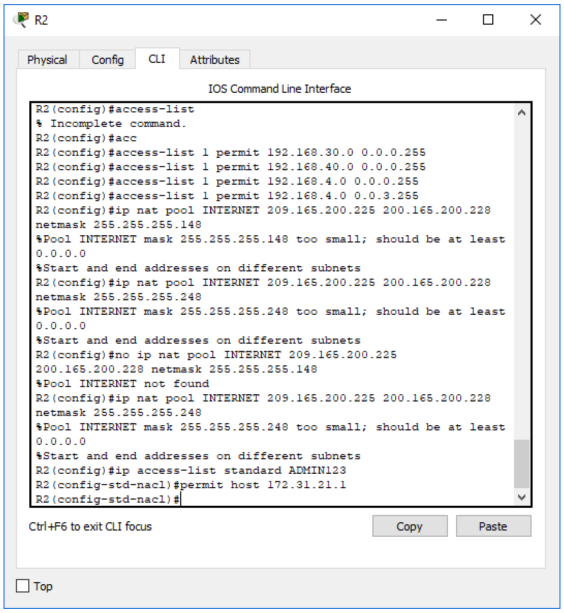
```
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#access-list
% Incomplete command.
R2(config)#acc
R2(config)#access-list 1 permit 192.168.30.0 0.0.0.255
R2(config)#access-list 1 permit 192.168.40.0 0.0.0.255
R2(config)#
```

Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top


R2
Physical
Config
CLI
Attributes
IOS Command Line Interface

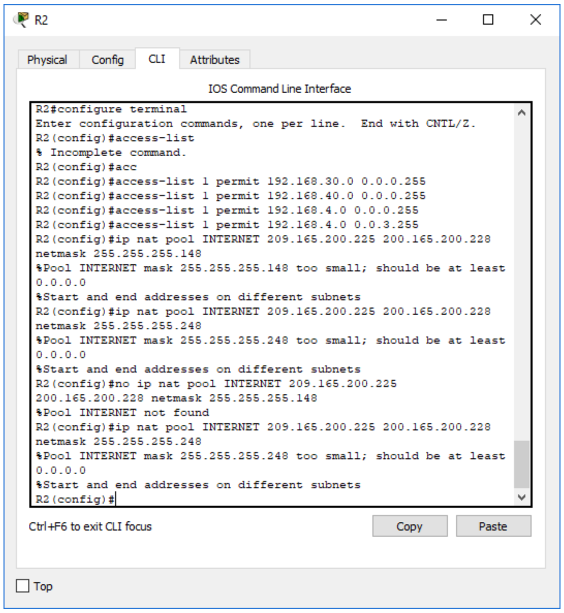
```
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#
R2#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#access-list
% Incomplete command.
R2(config)#acc
R2(config)#access-list 1 permit 192.168.30.0 0.0.0.255
R2(config)#access-list 1 permit 192.168.40.0 0.0.0.255
R2(config)#access-list 1 permit 192.168.4.0 0.0.0.255
R2(config)#access-list 1 permit 192.168.4.0 0.0.3.255
R2(config)#
```

Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

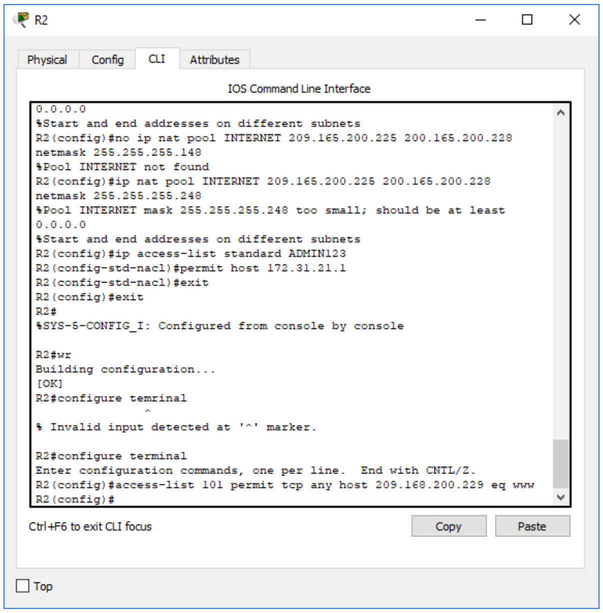


```
R2(config)#access-list
% Incomplete command.
R2(config)#acc
R2(config)#access-list 1 permit 192.168.30.0 0.0.0.255
R2(config)#access-list 1 permit 192.168.40.0 0.0.0.255
R2(config)#access-list 1 permit 192.168.4.0 0.0.0.255
R2(config)#access-list 1 permit 192.168.4.0 0.0.3.255
R2(config)#ip nat pool INTERNET 209.165.200.225 200.165.200.228
netmask 255.255.255.148
%Pool INTERNET mask 255.255.255.148 too small; should be at least
0.0.0.0
%Start and end addresses on different subnets
R2(config)#ip nat pool INTERNET 209.165.200.225 200.165.200.228
netmask 255.255.255.248
%Pool INTERNET mask 255.255.255.248 too small; should be at least
0.0.0.0
%Start and end addresses on different subnets
R2(config)#no ip nat pool INTERNET 209.165.200.225
200.165.200.228 netmask 255.255.255.148
%Pool INTERNET not found
R2(config)#ip nat pool INTERNET 209.165.200.225 200.165.200.228
netmask 255.255.255.248
%Pool INTERNET mask 255.255.255.248 too small; should be at least
0.0.0.0
%Start and end addresses on different subnets
R2(config)#ip access-list standard ADMIN123
R2(config-std-nacl)#permit host 172.31.21.1
R2(config-std-nacl)#
```

12. Configurar al menos dos listas de acceso de tipo extendido o nombradas a su criterio en para restringir o permitir tráfico desde R1 o R3 hacia R2.



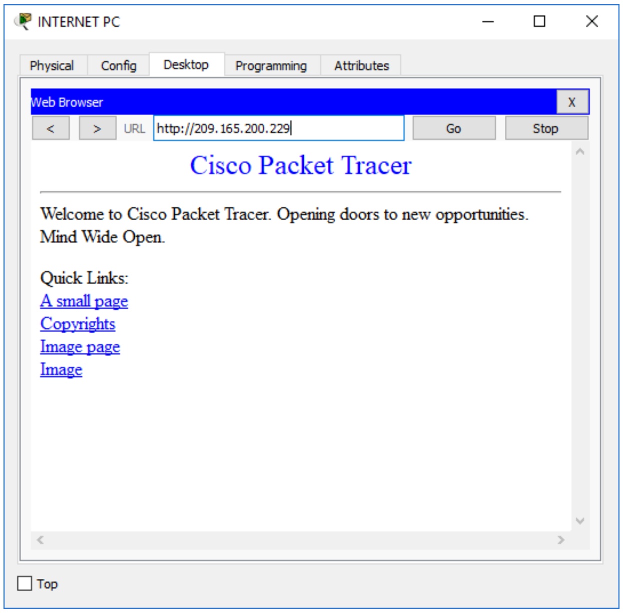
```
R2#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#access-list
% Incomplete command.
R2(config)#acc
R2(config)#access-list 1 permit 192.168.30.0 0.0.0.255
R2(config)#access-list 1 permit 192.168.40.0 0.0.0.255
R2(config)#access-list 1 permit 192.168.4.0 0.0.0.255
R2(config)#access-list 1 permit 192.168.4.0 0.0.3.255
R2(config)#ip nat pool INTERNET 209.165.200.225 200.165.200.228
netmask 255.255.255.148
%Pool INTERNET mask 255.255.255.148 too small; should be at least
0.0.0.0
%Start and end addresses on different subnets
R2(config)#ip nat pool INTERNET 209.165.200.225 200.165.200.228
netmask 255.255.255.248
%Pool INTERNET mask 255.255.255.248 too small; should be at least
0.0.0.0
%Start and end addresses on different subnets
R2(config)#no ip nat pool INTERNET 209.165.200.225
200.165.200.228 netmask 255.255.255.148
%Pool INTERNET not found
R2(config)#ip nat pool INTERNET 209.165.200.225 200.165.200.228
netmask 255.255.255.248
%Pool INTERNET mask 255.255.255.248 too small; should be at least
0.0.0.0
%Start and end addresses on different subnets
R2(config)#
```


R2
Physical
Config
CLI
Attributes
IOS Command Line Interface

```
0.0.0.0
%Start and end addresses on different subnets
R2(config)#no ip nat pool INTERNET 209.165.200.225 200.165.200.228
netmask 255.255.255.148
%Pool INTERNET not found
R2(config)#ip nat pool INTERNET 209.165.200.225 200.165.200.228
netmask 255.255.255.248
%Pool INTERNET mask 255.255.255.248 too small; should be at least
0.0.0.0
%Start and end addresses on different subnets
R2(config)#ip access-list standard ADMIN123
R2(config-std-nacl)#permit host 172.31.21.1
R2(config-std-nacl)#exit
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#wr
Building configuration...
[OK]
R2#configure temrinal
               ^
% Invalid input detected at '^' marker.

R2#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#access-list 101 permit tcp any host 209.168.200.229 eq www
R2(config)#
```

Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

13. Verificar procesos de comunicación y redireccionamiento de tráfico en los routers mediante el uso de Ping y Traceroute.

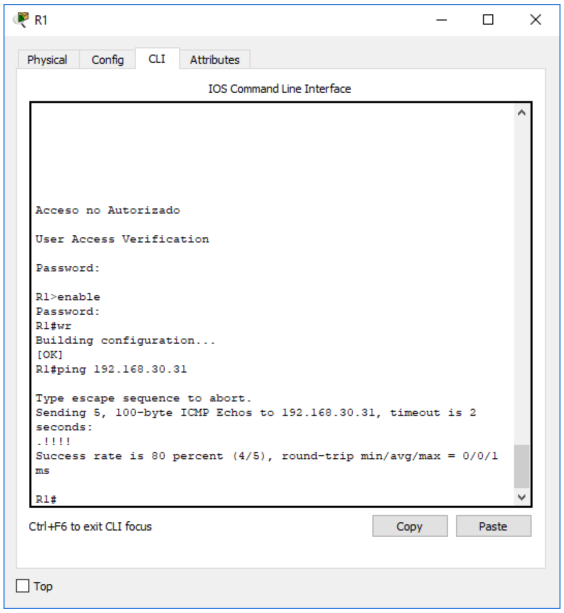

INTERNET PC
Physical
Config
Desktop
Programming
Attributes
Web Browser
X
<
>
Go
Stop
☐ Top

URL http://209.165.200.229

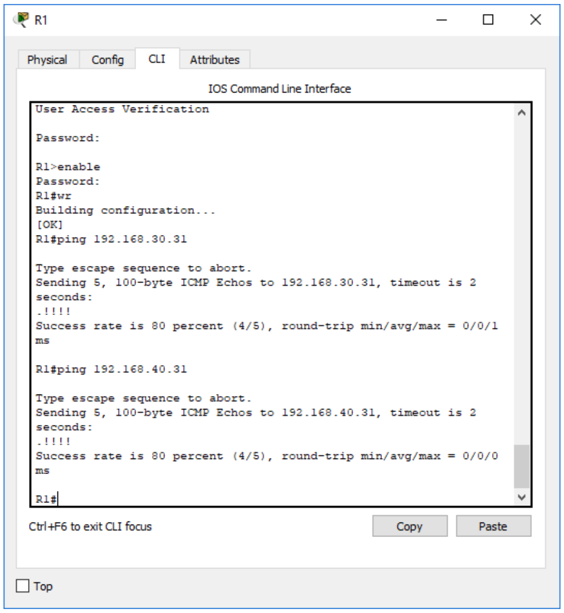
Cisco Packet Tracer

Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.

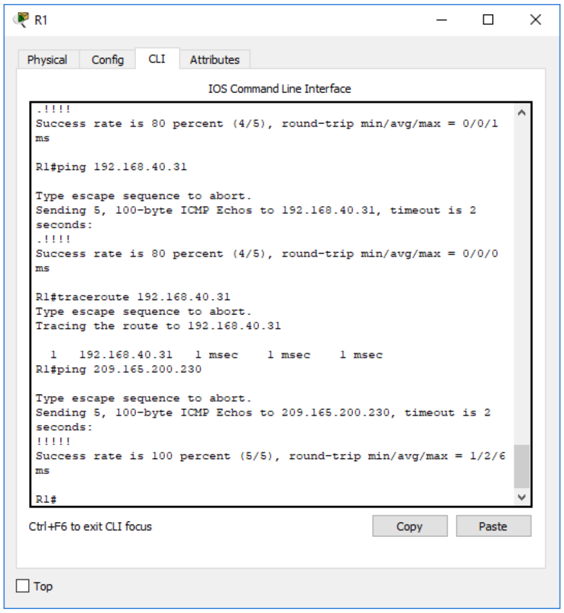
Quick Links:
A small page
Copyrights
Image page
Image


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

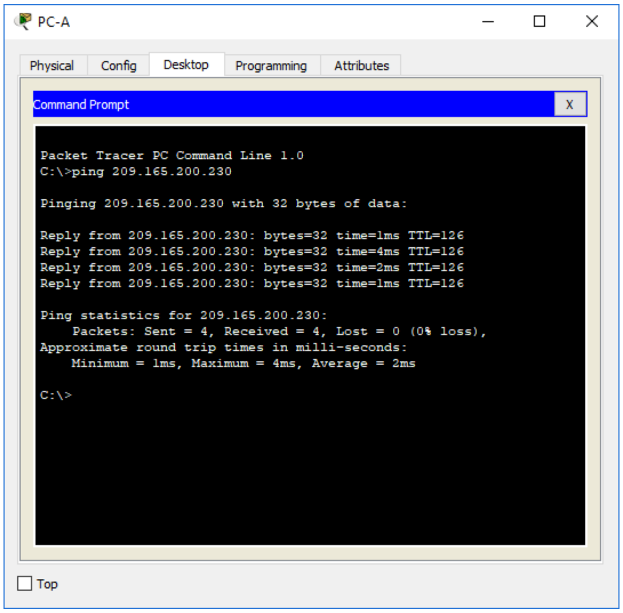
```
Acceso no Autorizado

User Access Verification

Password:

R1>enable
Password:
R1#wr
Building configuration...
[OK]
R1#ping 192.168.30.31

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.30.31, timeout is 2
seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 0/0/1
ms

R1#
```


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

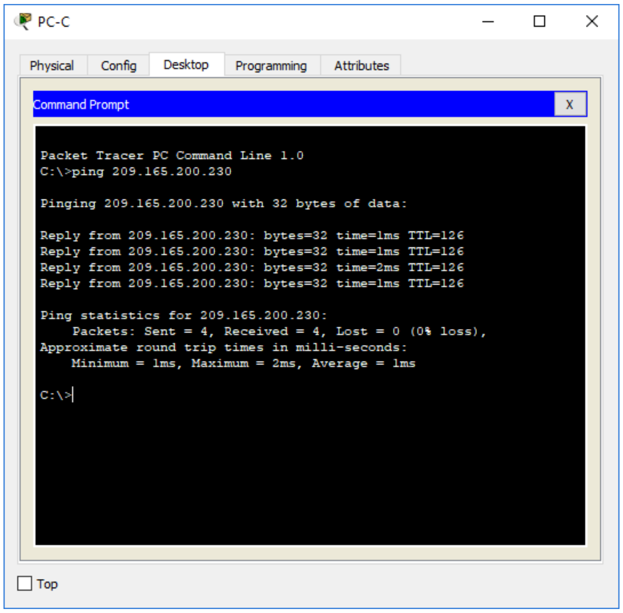
```
User Access Verification

Password:

R1>enable
Password:
R1#wr
Building configuration...
[OK]
R1#ping 192.168.30.31

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.30.31, timeout is 2
seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 0/0/1
ms

R1#ping 192.168.40.31

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.40.31, timeout is 2
seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 0/0/0
ms

R1#
```


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Ctrl+F6 to exit CLI focus
Copy
Paste
☐ Top

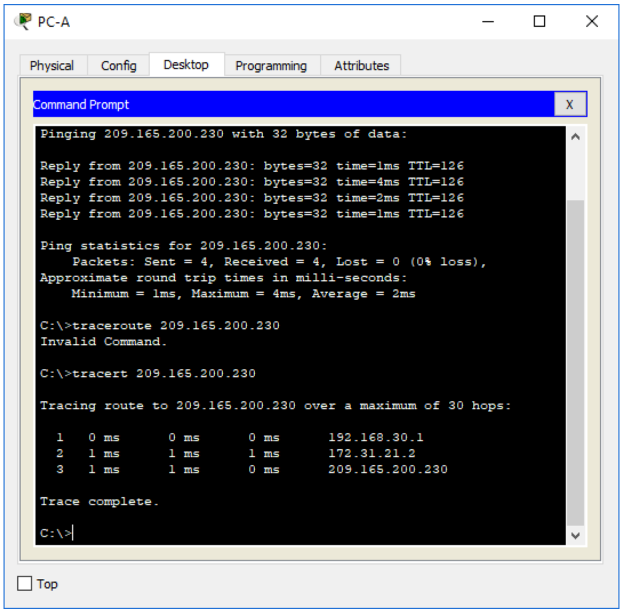
```
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 0/0/1
ms

R1#ping 192.168.40.31

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.40.31, timeout is 2
seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 0/0/0
ms

R1#traceroute 192.168.40.31
Type escape sequence to abort.
Tracing the route to 192.168.40.31

  1   192.168.40.31   1 msec    1 msec    1 msec
R1#ping 209.165.200.230

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 209.165.200.230, timeout is 2
seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/6
ms

R1#
```


PC-A
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
☐ Top

```
Packet Tracer PC Command Line 1.0
C:\>ping 209.165.200.230

Pinging 209.165.200.230 with 32 bytes of data:

Reply from 209.165.200.230: bytes=32 time=1ms TTL=126
Reply from 209.165.200.230: bytes=32 time=4ms TTL=126
Reply from 209.165.200.230: bytes=32 time=2ms TTL=126
Reply from 209.165.200.230: bytes=32 time=1ms TTL=126

Ping statistics for 209.165.200.230:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 4ms, Average = 2ms

C:\>
```


PC-C
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Top

```
Packet Tracer PC Command Line 1.0
C:\>ping 209.165.200.230

Pinging 209.165.200.230 with 32 bytes of data:

Reply from 209.165.200.230: bytes=32 time=1ms TTL=126
Reply from 209.165.200.230: bytes=32 time=1ms TTL=126
Reply from 209.165.200.230: bytes=32 time=2ms TTL=126
Reply from 209.165.200.230: bytes=32 time=1ms TTL=126

Ping statistics for 209.165.200.230:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>
```


PC-A
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Top

```
Pinging 209.165.200.230 with 32 bytes of data:

Reply from 209.165.200.230: bytes=32 time=1ms TTL=126
Reply from 209.165.200.230: bytes=32 time=4ms TTL=126
Reply from 209.165.200.230: bytes=32 time=2ms TTL=126
Reply from 209.165.200.230: bytes=32 time=1ms TTL=126

Ping statistics for 209.165.200.230:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 4ms, Average = 2ms

C:\>traceroute 209.165.200.230
Invalid Command.

C:\>tracert 209.165.200.230

Tracing route to 209.165.200.230 over a maximum of 30 hops:

  1   0 ms      0 ms      0 ms      192.168.30.1
  2   1 ms      1 ms      1 ms      172.31.21.2
  3   1 ms      1 ms      0 ms      209.165.200.230

Trace complete.

C:\>
```

Conclusiones

- ✓ Se identifica cada uno de los componentes físicos presentes en el desarrollo de la actividad, así como la finalidad de las conexiones y sus protocolos de enrutamiento, con el fin de dar inicio a la aplicación de cada uno de las habilidades practicas obtenidas en el diplomado Cisco CCNA

- ✓ Al aplicar los protocolos de conexión solicitados en la actividad, podemos identificar la conceptualización teórica adquirida en el desarrollo del curso, así como las características de configuración permitidas por cada uno de los equipos en un ambiente virtual que se simula de la mejor manera a uno real de laboratorio.

- ✓ Mediante la presentación de un trabajo escrito se establece y desarrolla cada uno de las solicitudes inertes en la guía de actividades prácticas del curso, con el fin de aplicar el óptimo manejo de los equipos y recursos tecnológicos solicitados. Así como la integración de un archivo de extensión .pkt donde se puede observar cada una de las configuraciones y validaciones sobre su correcto funcionamiento.

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