Prueba De Habilidades CCNA

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Ibagué

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Tabla de contenido.

Introducción

Esta actividad evalúa de forma practica las diversas temáticas que se vio durante los cursos de CCNA permitiendo identificar las debilidades y fortalezas disponiendo de dos actividades para analizar, comprender y solucionar problemas de Networking.

Desarrollo de los Escenarios

Escenario 1

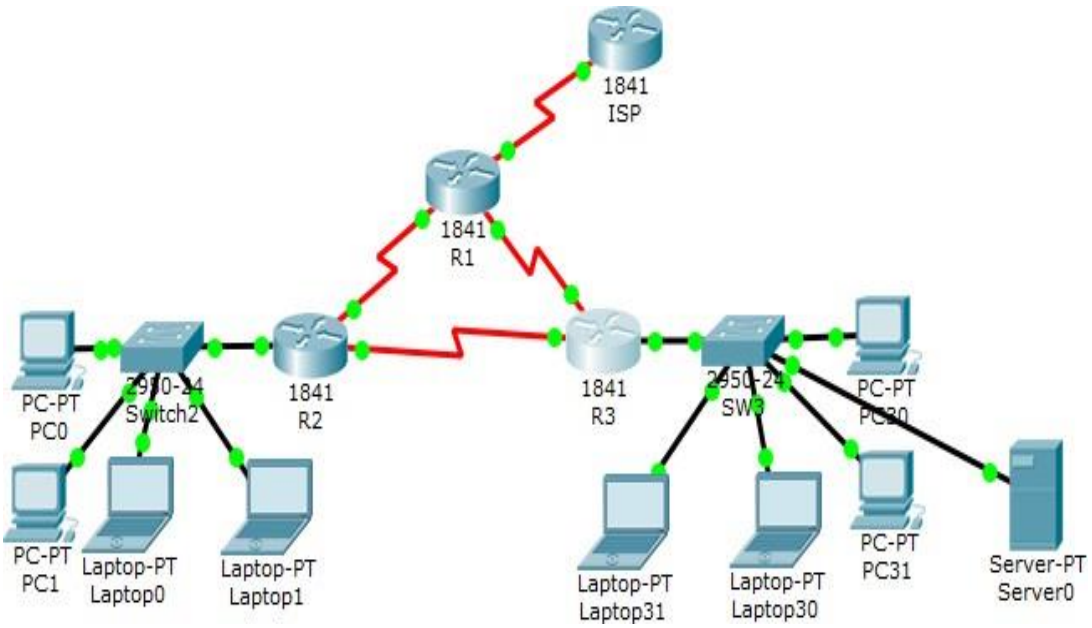


Tabla de direccionamiento

El administrador	Interfaces	Dirección IP	Máscara de subred	Gateway predeterminado
ISP	S0/0/0	200.123.211.1	255.255.255.0	N/D
R1	Se0/0/0	200.123.211.2	255.255.255.0	N/D
	Se0/1/0	10.0.0.1	255.255.255.252	N/D
	Se0/1/1	10.0.0.5	255.255.255.252	N/D
	Fa0/0,100	192.168.20.1	255.255.255.0	N/D

R2	Fa0/0,200	192.168.21.1	255.255.255.0	N/D
	Se0/0/0	10.0.0.2	255.255.255.252	N/D
	Se0/0/1	10.0.0.9	255.255.255.252	N/D
R3	Fa0/0	192.168.30.1	255.255.255.0	N/D
		2001:db8:130::9C0:80F:301	/64	N/D
	Se0/0/0	10.0.0.6	255.255.255.252	N/D
	Se0/0/1	10.0.0.10	255.255.255.252	N/D
SW2	VLAN 100	N/D	N/D	N/D
	VLAN 200	N/D	N/D	N/D
SW3	VLAN1	N/D	N/D	N/D

PC20	NIC	DHCP	DHCP	DHCP
PC21	NIC	DHCP	DHCP	DHCP
PC30	NIC	DHCP	DHCP	DHCP
PC31	NIC	DHCP	DHCP	DHCP
Laptop20	NIC	DHCP	DHCP	DHCP
Laptop21	NIC	DHCP	DHCP	DHCP
Laptop30	NIC	DHCP	DHCP	DHCP
Laptop31	NIC	DHCP	DHCP	DHCP

Tabla de asignación de VLAN y de puertos

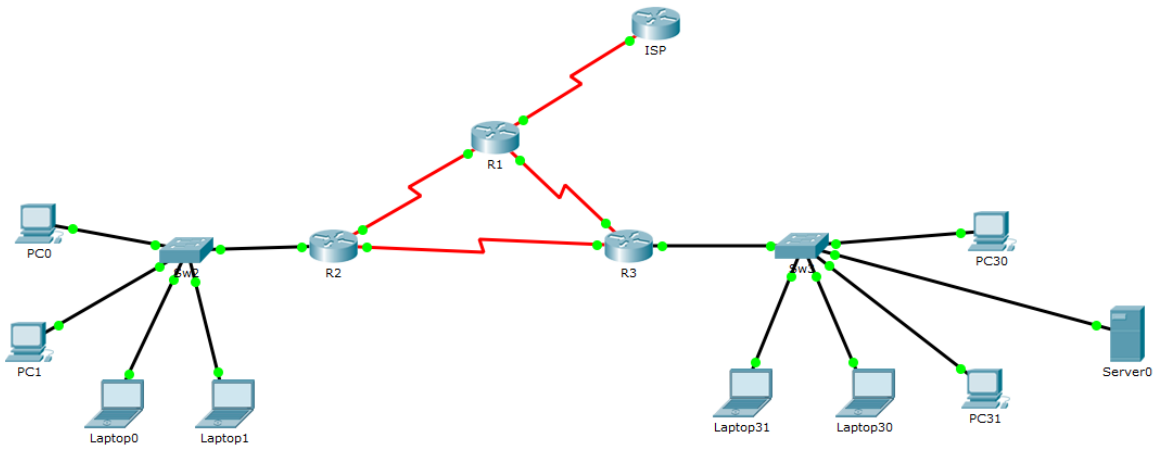
Dispositivo	VLAN	Nombre	Interfaz
SW2	100	LAPTOPS	Fa0/2-3
SW2	200	DESTOPS	Fa0/4-5
SW3	1	-	Todas las interfaces

Tabla de enlaces troncales

Dispositivo local	Interfaz local	Dispositivo remoto
SW2	Fa0/2-3	100

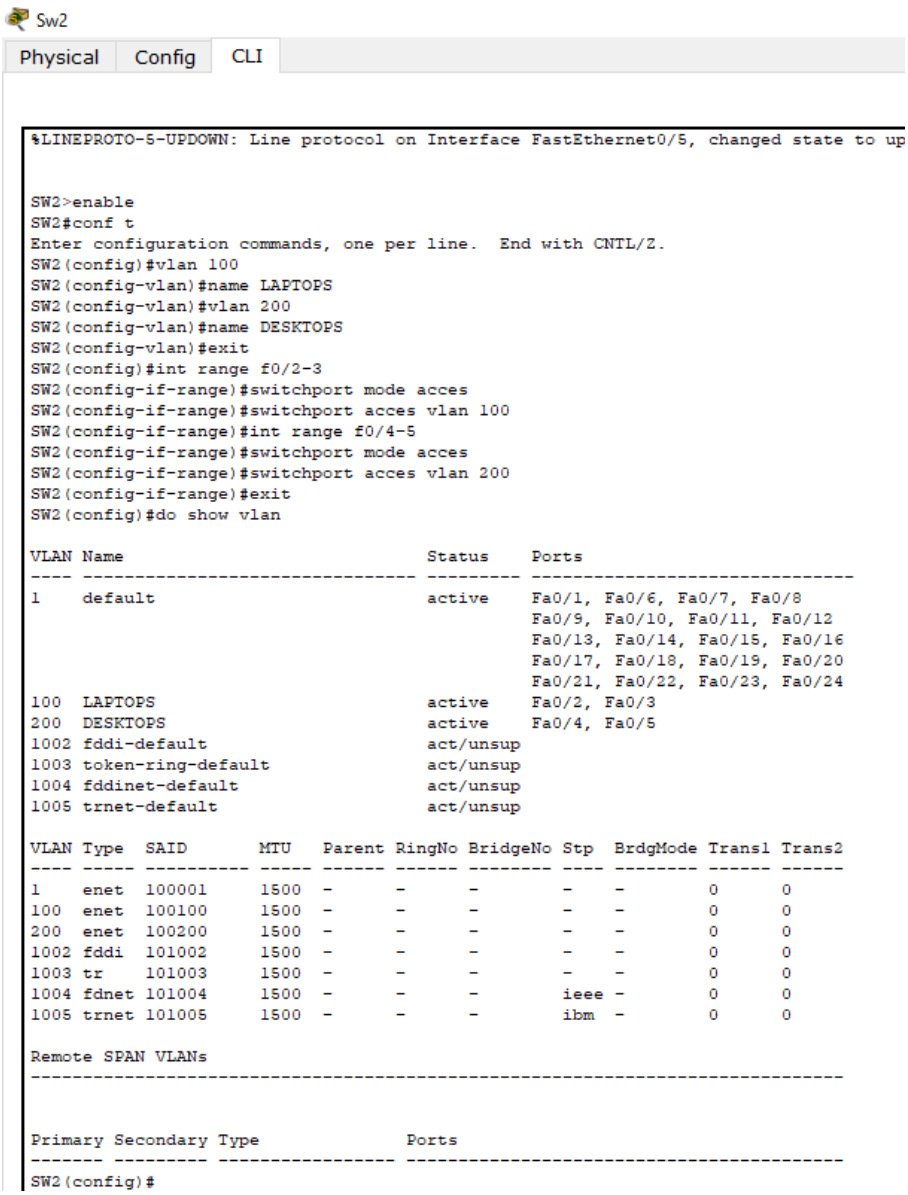
Situación

En esta actividad, demostrará y reforzará su capacidad para implementar NAT, servidor de DHCP, RIPV2 y el routing entre VLAN, incluida la configuración de direcciones IP, las VLAN, los enlaces troncales y las subinterfaces. Todas las pruebas de alcance deben realizarse a través de ping únicamente.



Descripción de las actividades

- **SW1** VLAN y las asignaciones de puertos de VLAN deben cumplir con la tabla 1.



SW2>enable
SW2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
SW2(config)#vlan 100
SW2(config-vlan)#name LAPTOPS
SW2(config-vlan)#vlan 200
SW2(config-vlan)#name DESKTOPS
SW2(config-vlan)#exit
SW2(config)#int range f0/2-3
SW2(config-if-range)#switchport mode acces
SW2(config-if-range)#switchport acces vlan 100
SW2(config-if-range)#int range f0/4-5

```
SW2(config-if-range)#switchport mode acces
SW2(config-if-range)#switchport acces vlan 200
SW2(config-if-range)#exit
SW2(config)#do show vlan

VLAN Name Status Ports
---- -------------------------------- --------- -------------------------------
1 default active Fa0/1, Fa0/6, Fa0/7, Fa0/8
Fa0/9, Fa0/10, Fa0/11, Fa0/12
Fa0/13, Fa0/14, Fa0/15, Fa0/16
Fa0/17, Fa0/18, Fa0/19, Fa0/20
Fa0/21, Fa0/22, Fa0/23, Fa0/24
100 LAPTOPS active Fa0/2, Fa0/3
200 DESKTOPS active Fa0/4, Fa0/5
1002 fddi-default act/unsup
1003 token-ring-default act/unsup
1004 fddinet-default act/unsup
1005 trnet-default act/unsup

VLAN Type SAID MTU Parent RingNo BridgeNo Stp BrdgMode Trans1
Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1 enet 100001 1500 - - - - - 0 0
100 enet 100100 1500 - - - - - 0 0
200 enet 100200 1500 - - - - - 0 0
1002 fddi 101002 1500 - - - - - 0 0
1003 tr 101003 1500 - - - - - 0 0
1004 fdnet 101004 1500 - - - ieee - 0 0
1005 trnet 101005 1500 - - - ibm - 0 0

Remote SPAN VLANs
------------------------------------------------------------------------------


Primary Secondary Type Ports

------ --------- ----------------- ------------------------------------------
SW2(config)#int range f0/6-24
SW2(config-if-range)#shutdown

%LINK-5-CHANGED: Interface FastEthernet0/6, changed state to
administratively down

%LINK-5-CHANGED: Interface FastEthernet0/7, changed state to
administratively down
```

%LINK-5-CHANGED: Interface FastEthernet0/8, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/9, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/10, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/11, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/12, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/13, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/14, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/15, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/16, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/17, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/18, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/19, changed state to administratively down

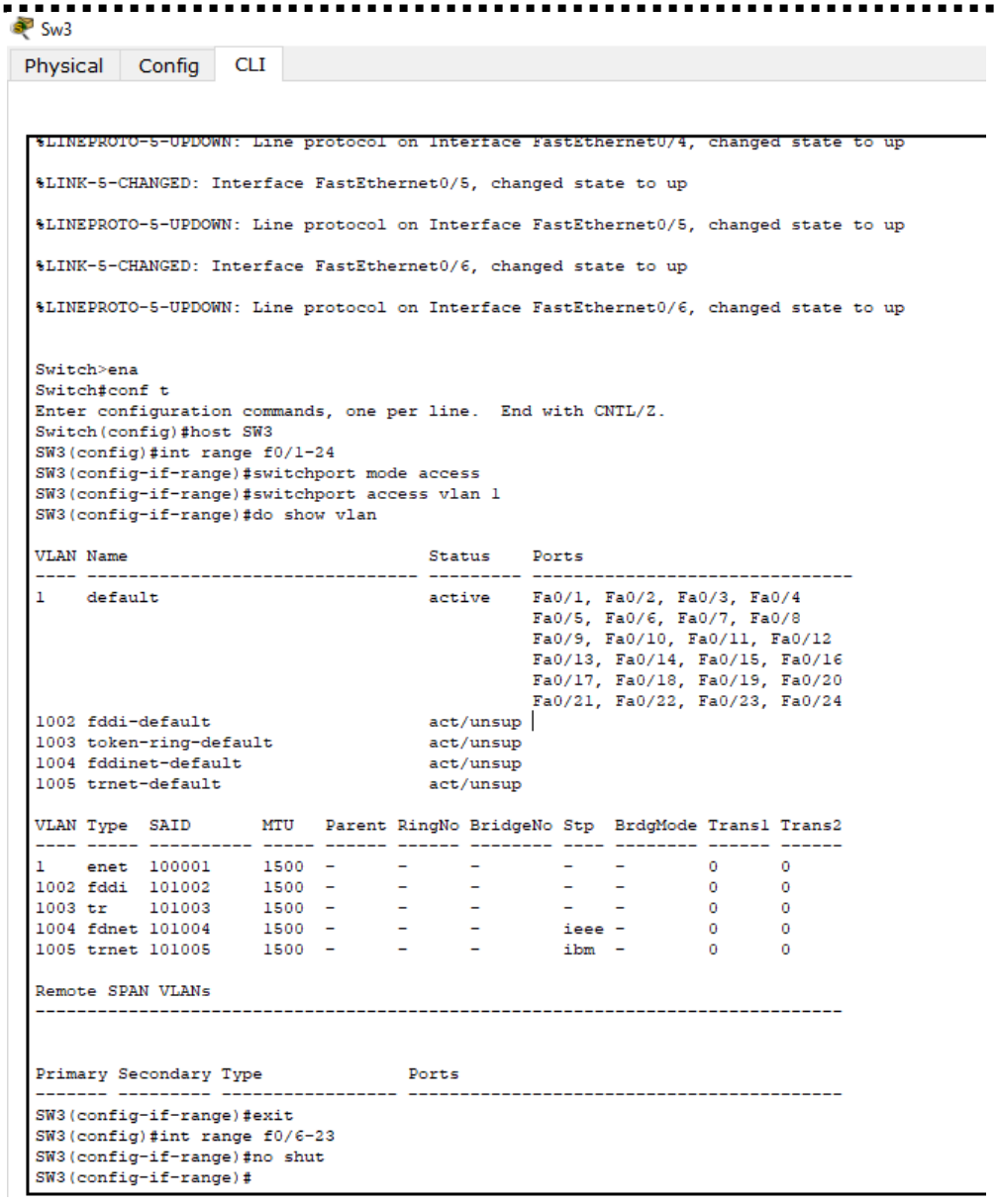
%LINK-5-CHANGED: Interface FastEthernet0/20, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/21, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/22, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/23, changed state to administratively down

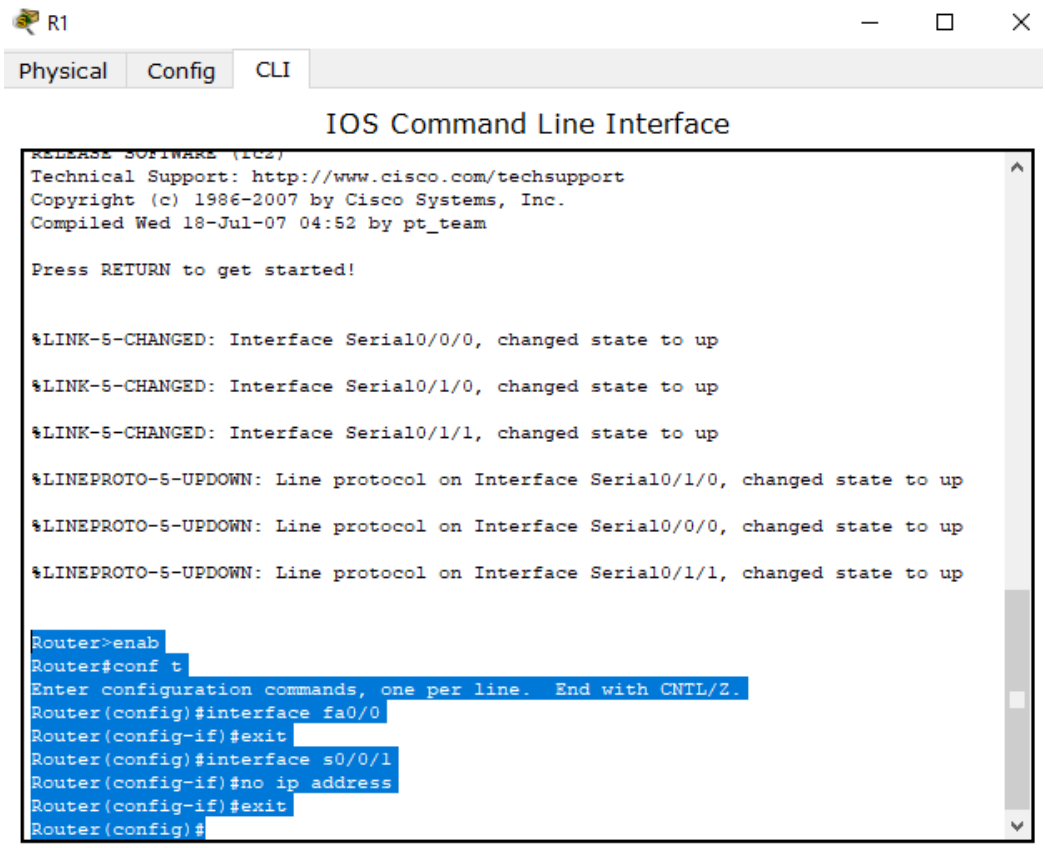
%LINK-5-CHANGED: Interface FastEthernet0/24, changed state to administratively down



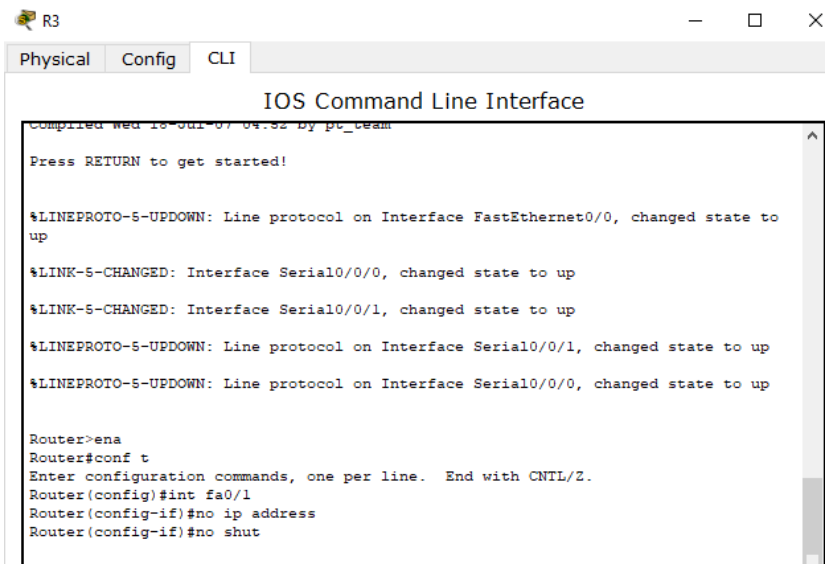
Switch>ena
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#host SW3

```
SW3(config)#int range f0/1-24
SW3(config-if-range)#switchport mode access
SW3(config-if-range)#switchport access vlan 1
SW3(config-if-range)#do show vlan

VLAN Name Status Ports
---- -------------------------------- --------- -------------------------------
1 default active Fa0/1, Fa0/2, Fa0/3, Fa0/4
Fa0/5, Fa0/6, Fa0/7, Fa0/8
Fa0/9, Fa0/10, Fa0/11, Fa0/12
Fa0/13, Fa0/14, Fa0/15, Fa0/16
Fa0/17, Fa0/18, Fa0/19, Fa0/20
Fa0/21, Fa0/22, Fa0/23, Fa0/24
1002 fddi-default act/unsup
1003 token-ring-default act/unsup
1004 fddinet-default act/unsup
1005 trnet-default act/unsup

VLAN Type SAID MTU Parent RingNo BridgeNo Stp BrdgMode Trans1
Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1 enet 100001 1500 - - - - - 0 0
1002 fddi 101002 1500 - - - - - 0 0
1003 tr 101003 1500 - - - - - 0 0
1004 fdnet 101004 1500 - - - ieee - 0 0
1005 trnet 101005 1500 - - - ibm - 0 0

Remote SPAN VLANs
------------------------------------------------------------------------------


Primary Secondary Type Ports
------- --------- ----------------- ------------------------------------------
SW3(config-if-range)#exit
SW3(config)#int range f0/6-23
SW3(config-if-range)#no shut
```

- Los puertos de red que no se utilizan se deben deshabilitar.



Router>enab
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fa0/0
Router(config-if)#exit
Router(config)#interface s0/0/1
Router(config-if)#no ip address
Router(config-if)#exit
Router(config)#



Router>ena

Router#conf t

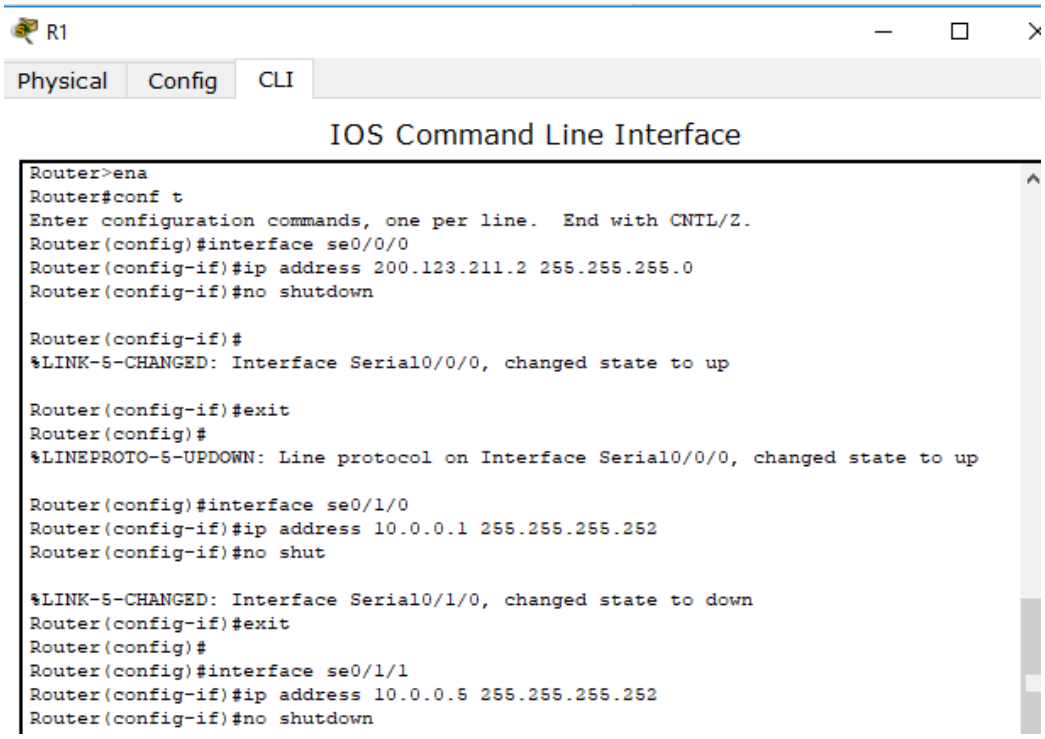
Enter configuration commands, one per line. End with CNTL/Z.

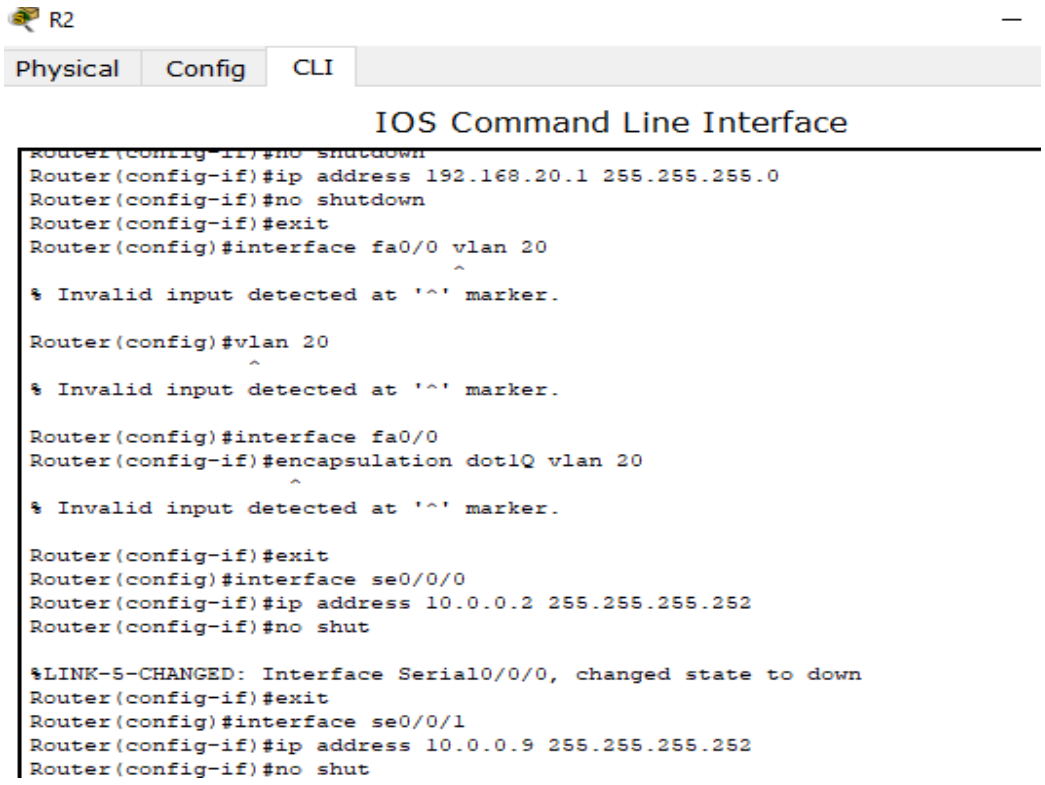
Router(config)#int fa0/1

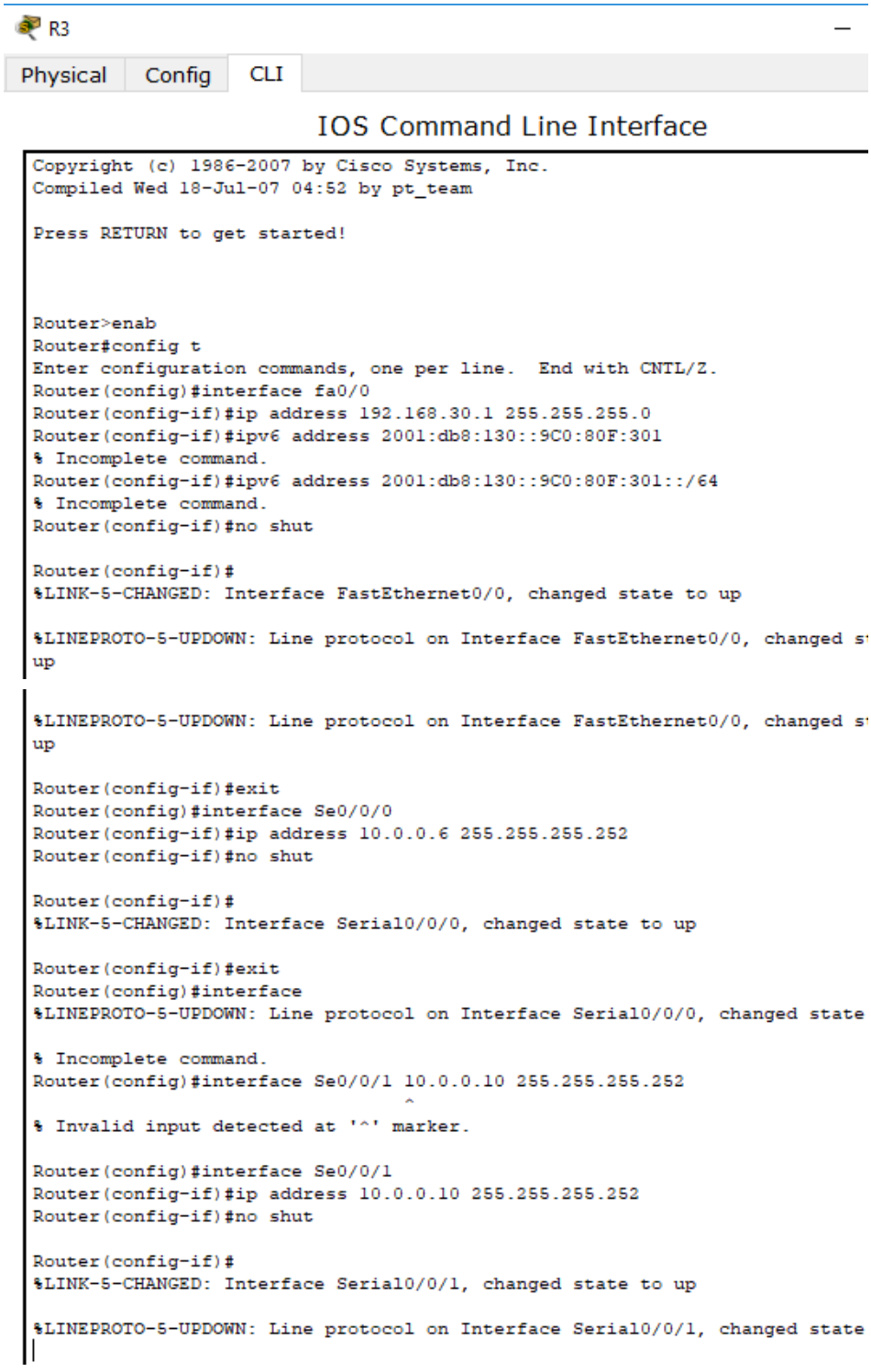
Router(config-if)#no ip address

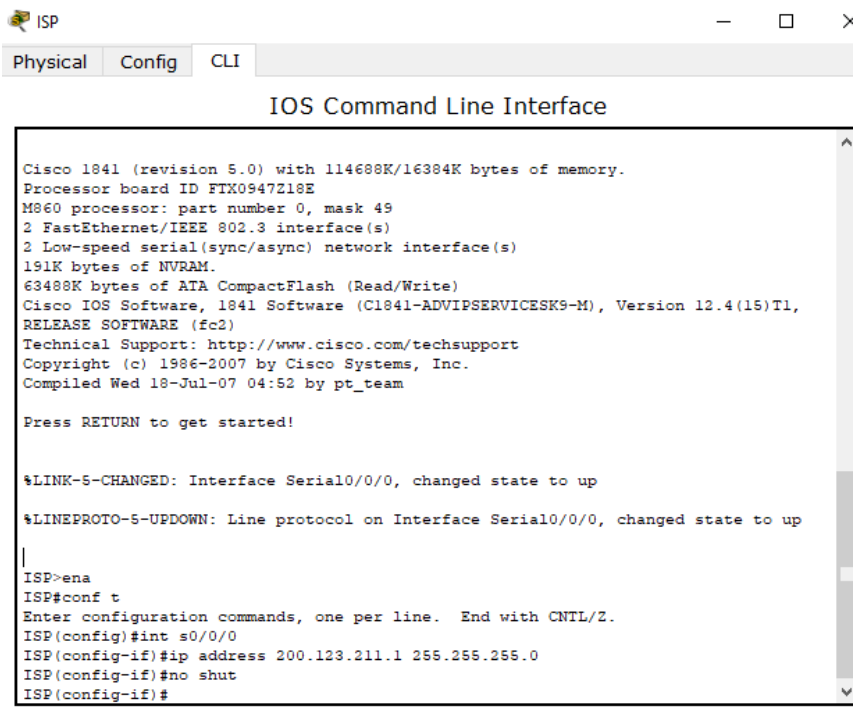
Router(config-if)#no shut

- **La información** de dirección **IP R1**, **R2** y R3 debe cumplir con la tabla 1.


R1
Physical
Config
CLI
IOS Command Line Interface
Router>ena
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface se0/0/0
Router(config-if)#ip address 200.123.211.2 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
Router(config-if)#exit
Router(config)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
Router(config)#interface se0/1/0
Router(config-if)#ip address 10.0.0.1 255.255.255.252
Router(config-if)#no shut
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to down
Router(config-if)#exit
Router(config)#
Router(config)#interface se0/1/1
Router(config-if)#ip address 10.0.0.5 255.255.255.252
Router(config-if)#no shutdown


R2
Physical
Config
CLI
IOS Command Line Interface
Router(config-if)#ip address 192.168.20.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface fa0/0 vlan 20
% Invalid input detected at '^' marker.
Router(config)#vlan 20
% Invalid input detected at '^' marker.
Router(config)#interface fa0/0
Router(config-if)#encapsulation dot1Q vlan 20
% Invalid input detected at '^' marker.
Router(config-if)#exit
Router(config)#interface se0/0/0
Router(config-if)#ip address 10.0.0.2 255.255.255.252
Router(config-if)#no shut
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to down
Router(config-if)#exit
Router(config)#interface se0/0/1
Router(config-if)#ip address 10.0.0.9 255.255.255.252
Router(config-if)#no shut


R3
Physical
Config
CLI
IOS Command Line Interface
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team
Press RETURN to get started!
Router>enab
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fa0/0
Router(config-if)#ip address 192.168.30.1 255.255.255.0
Router(config-if)#ipv6 address 2001:db8:130::9C0:80F:301
% Incomplete command.
Router(config-if)#ipv6 address 2001:db8:130::9C0:80F:301::/64
% Incomplete command.
Router(config-if)#no shut
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed s
up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed s
up
Router(config-if)#exit
Router(config)#interface Se0/0/0
Router(config-if)#ip address 10.0.0.6 255.255.255.252
Router(config-if)#no shut
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
Router(config-if)#exit
Router(config)#interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state
% Incomplete command.
Router(config)#interface Se0/0/1 10.0.0.10 255.255.255.252
^
% Invalid input detected at '^' marker.
Router(config)#interface Se0/0/1
Router(config-if)#ip address 10.0.0.10 255.255.255.252
Router(config-if)#no shut
Router(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



R1

Router>enable

Router#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface se0/0/0

Router(config-if)#ip address 200.123.211.2 255.255.255.0

Router(config-if)# no shutdown

Router(config-if)#exit

Router(config)#interface se0/1/0

Router(config-if)#ip address 10.0.0.1 255.255.255.252

Router(config-if)# no shut

Router(config-if)#exit

Router(config)#interface se0/1/1

Router(config-if)#ip address 10.0.0.5 255.255.255.252

Router(config-if)# no shutdown

R2

Router>enable

Router#conf t

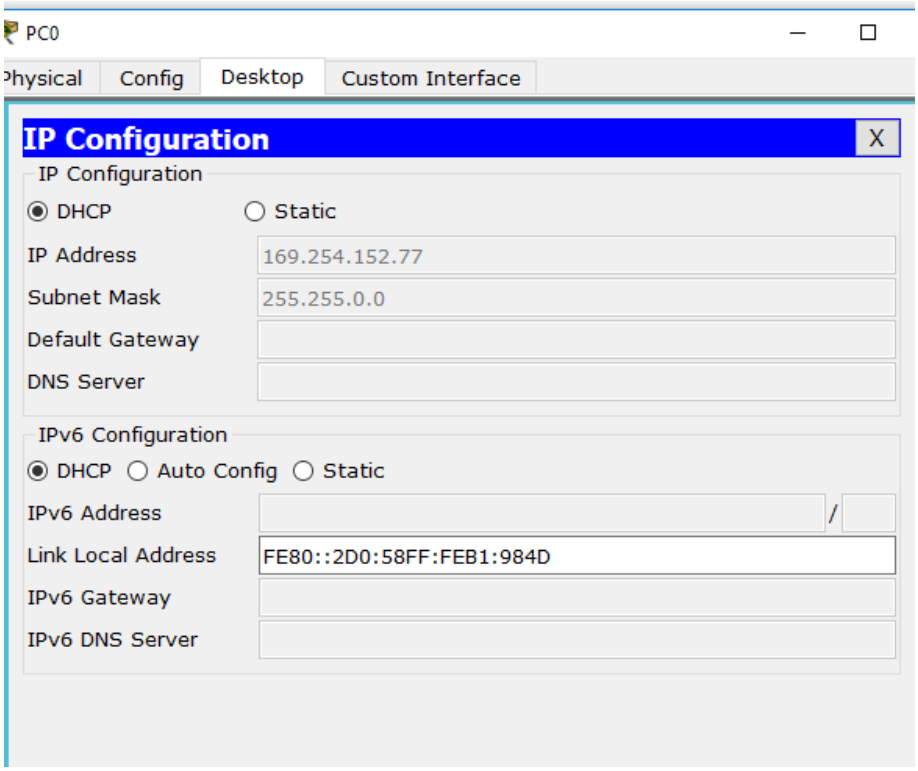
```
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface se0/0/0
Router(config-if)#ip address 10.0.0.2 255.255.255.252
Router(config-if)# no shut
Router(config-if)#exit
Router(config)#interface se0/0/1
Router(config-if)#ip address 10.0.0.9 255.255.255.252
Router(config-if)# no shut
Router(config-if)#exit
```

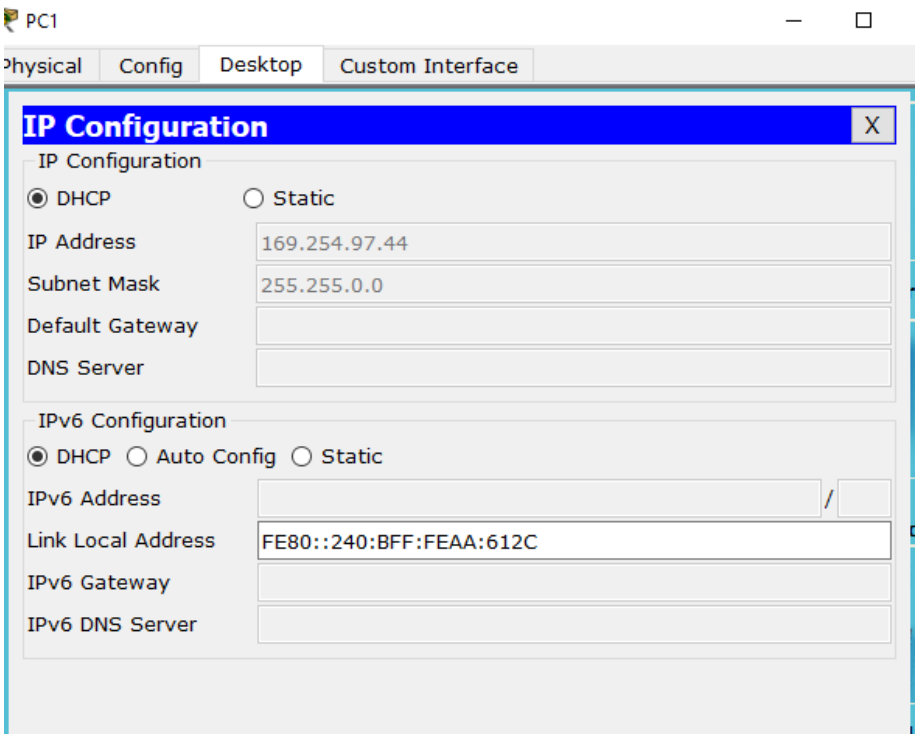
```
R3
Router>enable
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface fa0/0
Router(config-if)#ip address 192.168.30.1 255.255.255.0
Router(config-if)#ipv6 address 2001:db8:130::9C0: 80F:301::/64
Router(config-if)# no shut
Router(config-if)#exit
Router(config)#interface se0/0/0
Router(config-if)#ip address 10.0.0.6 255.255.255.252
Router(config-if)# no shut
Router(config-if)#exit
Router(config)#interface se0/0/1
Router(config-if)#ip address 10.0.0.10 255.255.255.252
Router(config-if)# no shut
Router(config-if)#exit
```

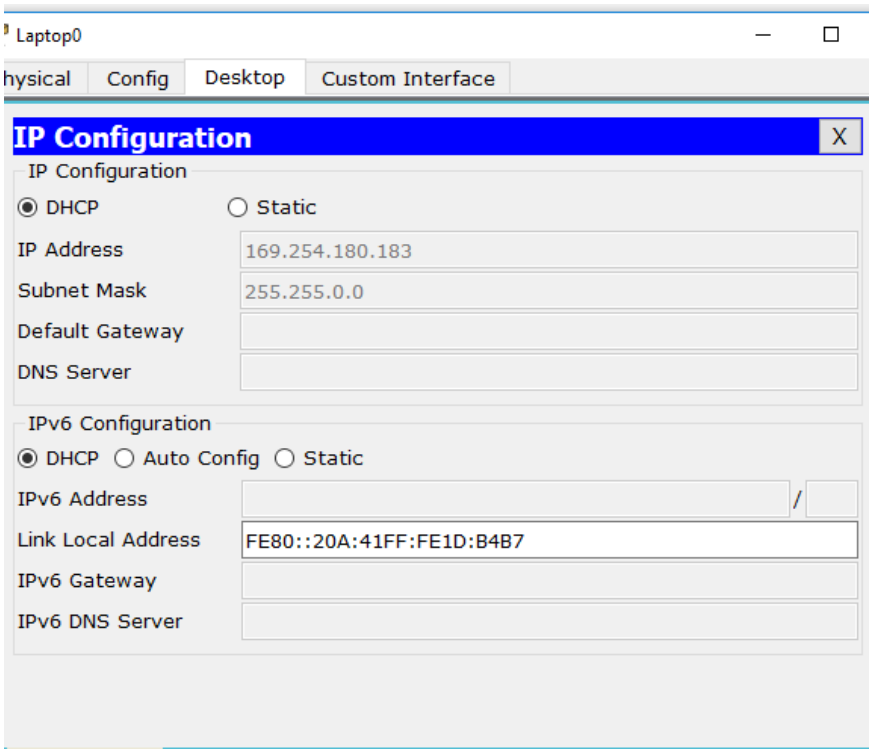
```
ISP>ena
ISP#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
ISP(config)#int s0/0/0
ISP(config-if)#ip address 200.123.211.1 255.255.255.0
ISP(config-if)#no shut
```

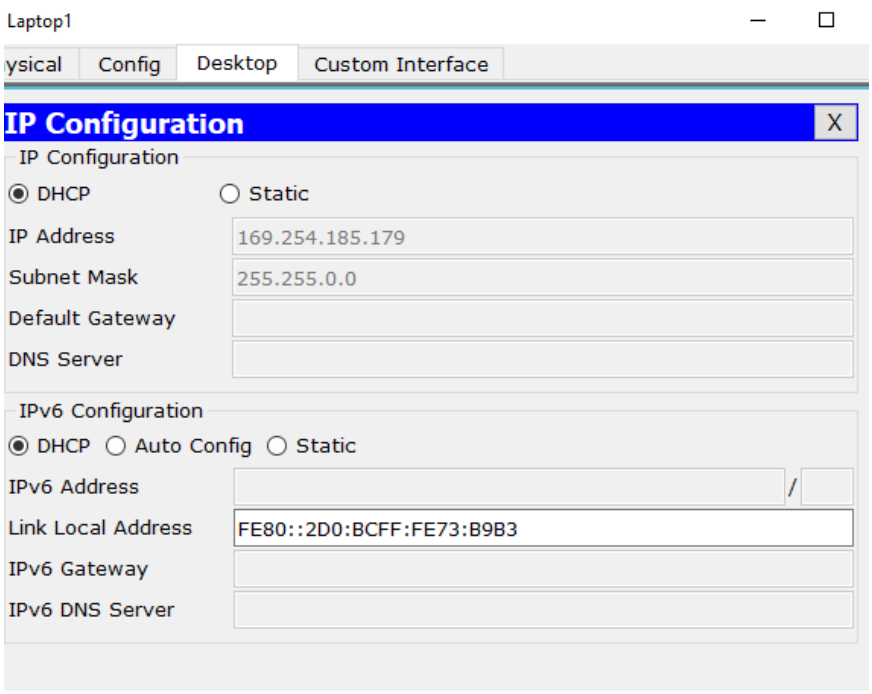
ISP(config-if)#

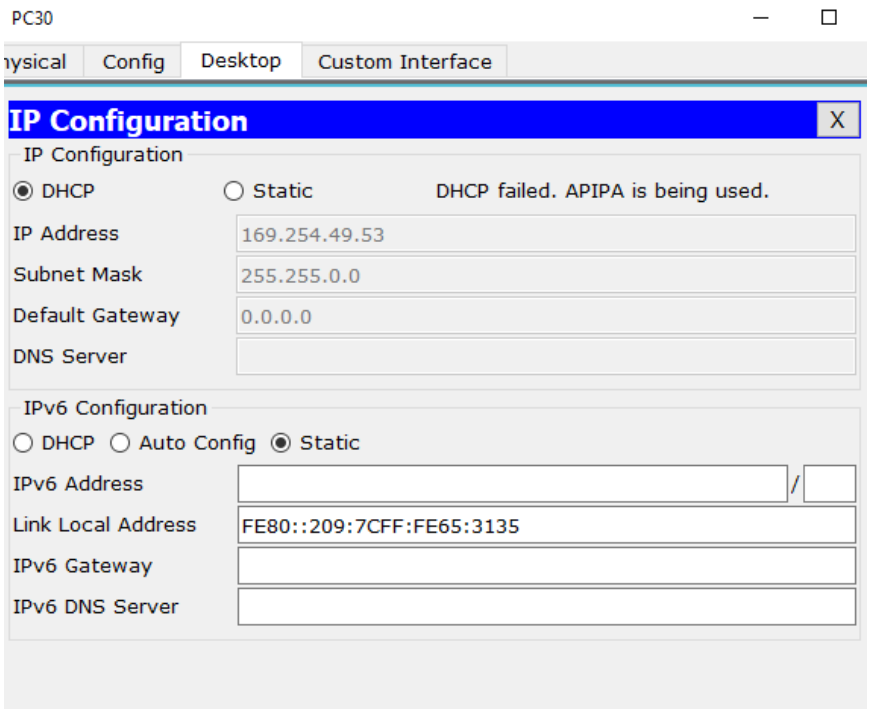
- **Laptop20, Laptop21, PC20, PC21, Laptop30, Laptop31, PC30 y PC31** deben obtener información IPv4 del servidor DHCP.

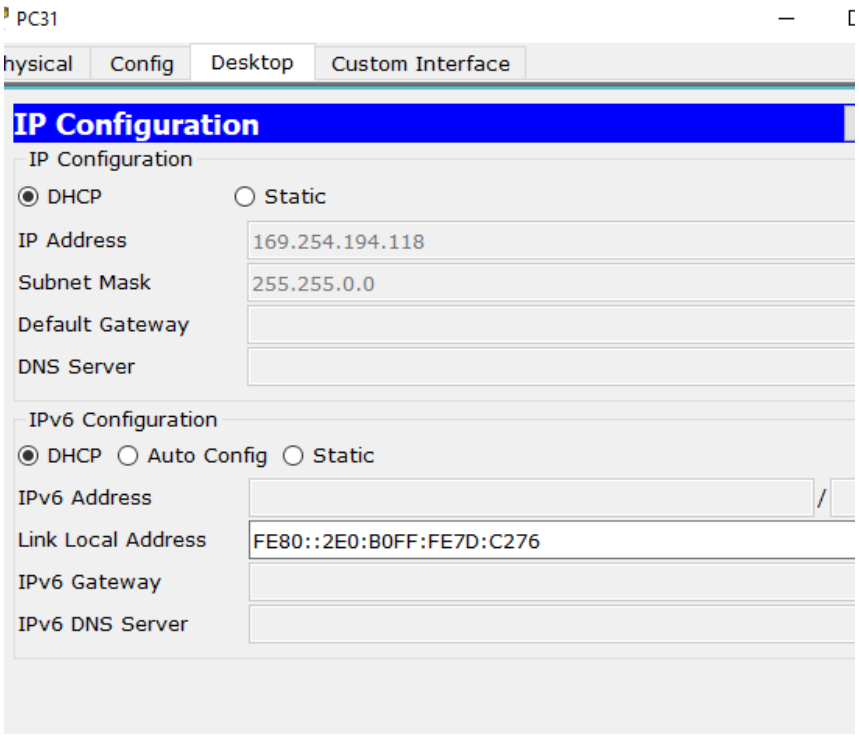


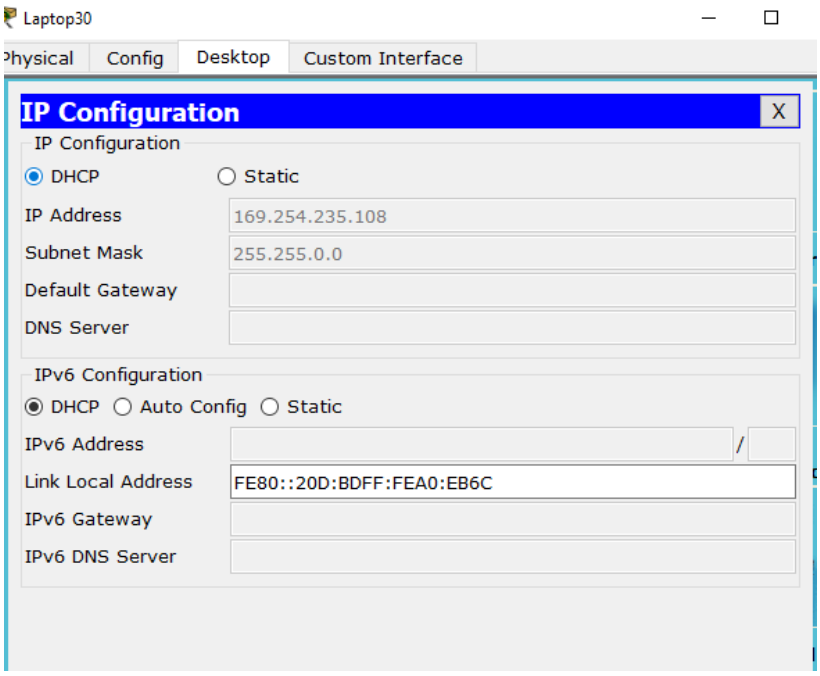

PC1
Physical
Config
Desktop
Custom Interface
IP Configuration
X
IP Configuration
DHCP
Static
IP Address
169.254.97.44
Subnet Mask
255.255.0.0
Default Gateway
DNS Server
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::240:BFF:FEAA:612C
IPv6 Gateway
IPv6 DNS Server

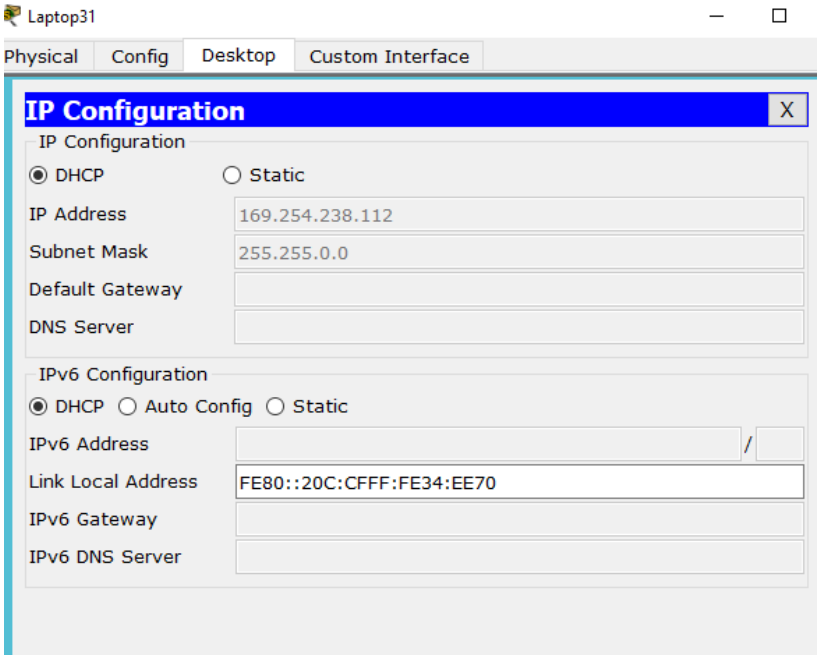

Laptop0
hysical
Config
Desktop
Custom Interface
IP Configuration
X
IP Configuration
DHCP
Static
IP Address
169.254.180.183
Subnet Mask
255.255.0.0
Default Gateway
DNS Server
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::20A:41FF:FE1D:B4B7
IPv6 Gateway
IPv6 DNS Server


Laptop1
ysical
Config
Desktop
Custom Interface
IP Configuration
X
IP Configuration
DHCP
Static
IP Address
169.254.185.179
Subnet Mask
255.255.0.0
Default Gateway
DNS Server
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::2D0:BCFF:FE73:B9B3
IPv6 Gateway
IPv6 DNS Server

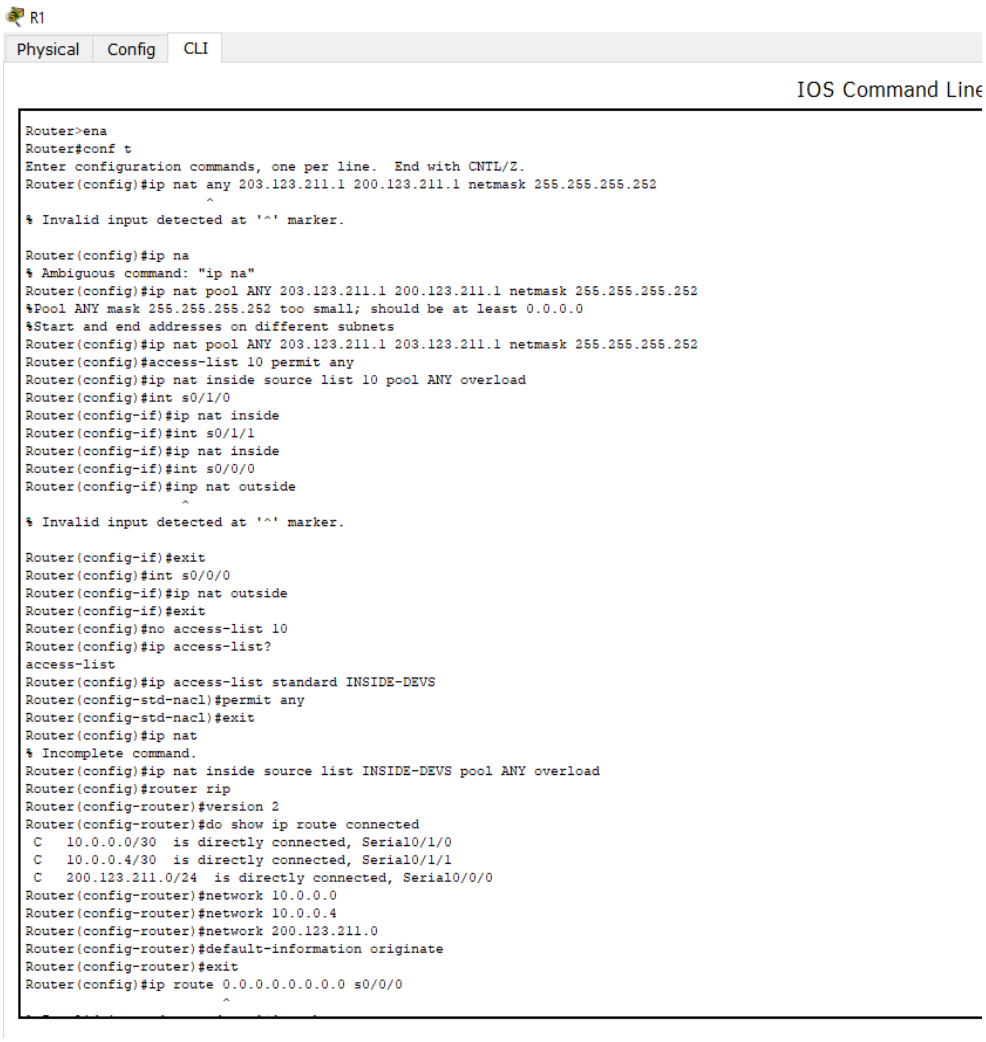

PC30
ysical
Config
Desktop
Custom Interface
IP Configuration
X
IP Configuration
DHCP
Static
DHCP failed. APIPA is being used.
IP Address
169.254.49.53
Subnet Mask
255.255.0.0
Default Gateway
0.0.0.0
DNS Server
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::209:7CFF:FE65:3135
IPv6 Gateway
IPv6 DNS Server


PC31
hysical
Config
Desktop
Custom Interface
IP Configuration
IP Configuration
DHCP
Static
IP Address
169.254.194.118
Subnet Mask
255.255.0.0
Default Gateway
DNS Server
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::2E0:B0FF:FE7D:C276
IPv6 Gateway
IPv6 DNS Server


Laptop30
Physical
Config
Desktop
Custom Interface
IP Configuration
X
IP Configuration
DHCP
Static
IP Address
169.254.235.108
Subnet Mask
255.255.0.0
Default Gateway
DNS Server
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::20D:BDFF:FEA0:EB6C
IPv6 Gateway
IPv6 DNS Server



- **R1** debe realizar una NAT con sobrecarga sobre una dirección IPv4 pública. Asegúrese de que todos los terminales pueden comunicarse con Internet pública (haga ping a la dirección ISP) y la lista de acceso estándar se **llama INSIDE-DEVS**.
- **R1** debe tener una ruta estática predeterminada al ISP que se configuró y que incluye esa ruta en **el dominio** RIPv2.



Router>ena

Router#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#ip na

% Ambiguous command: "ip na"

Router(config)#ip nat pool ANY 203.123.211.1 200.123.211.1 netmask 255.255.255.252

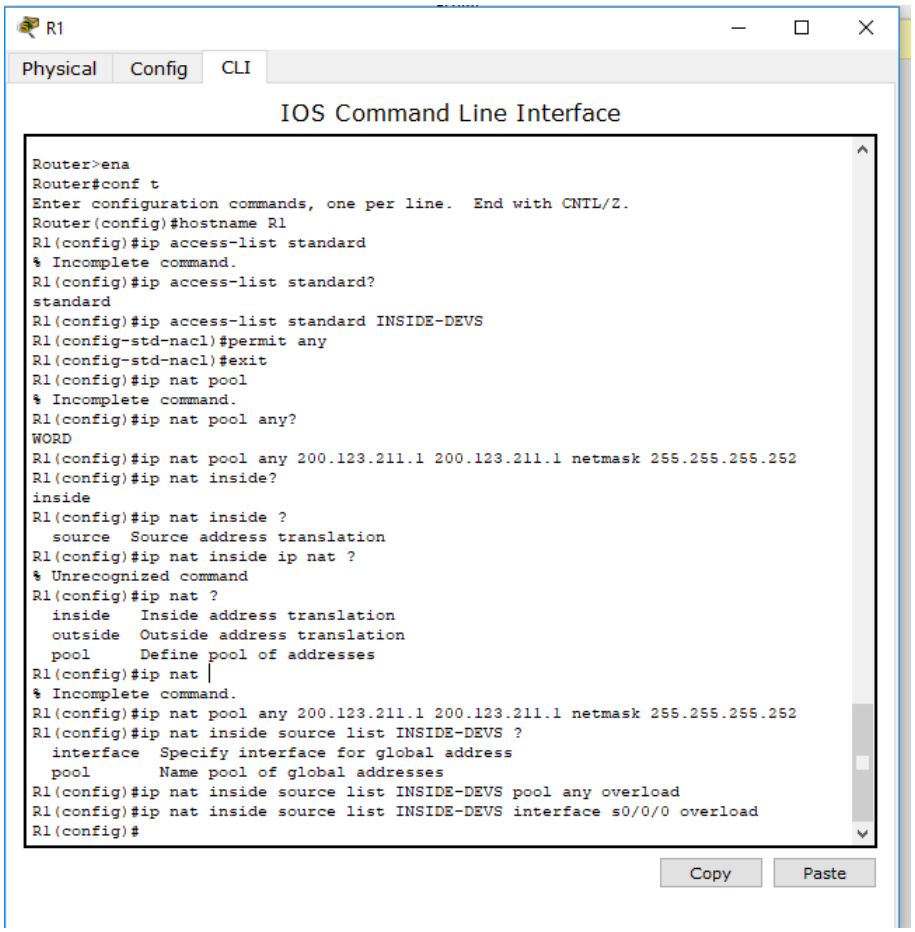
%Pool ANY mask 255.255.255.252 too small; should be at least 0.0.0.0

%Start and end addresses on different subnets

Router(config)#ip nat pool ANY 203.123.211.1 203.123.211.1 netmask 255.255.255.252

Router(config)#access-list 10 permit any

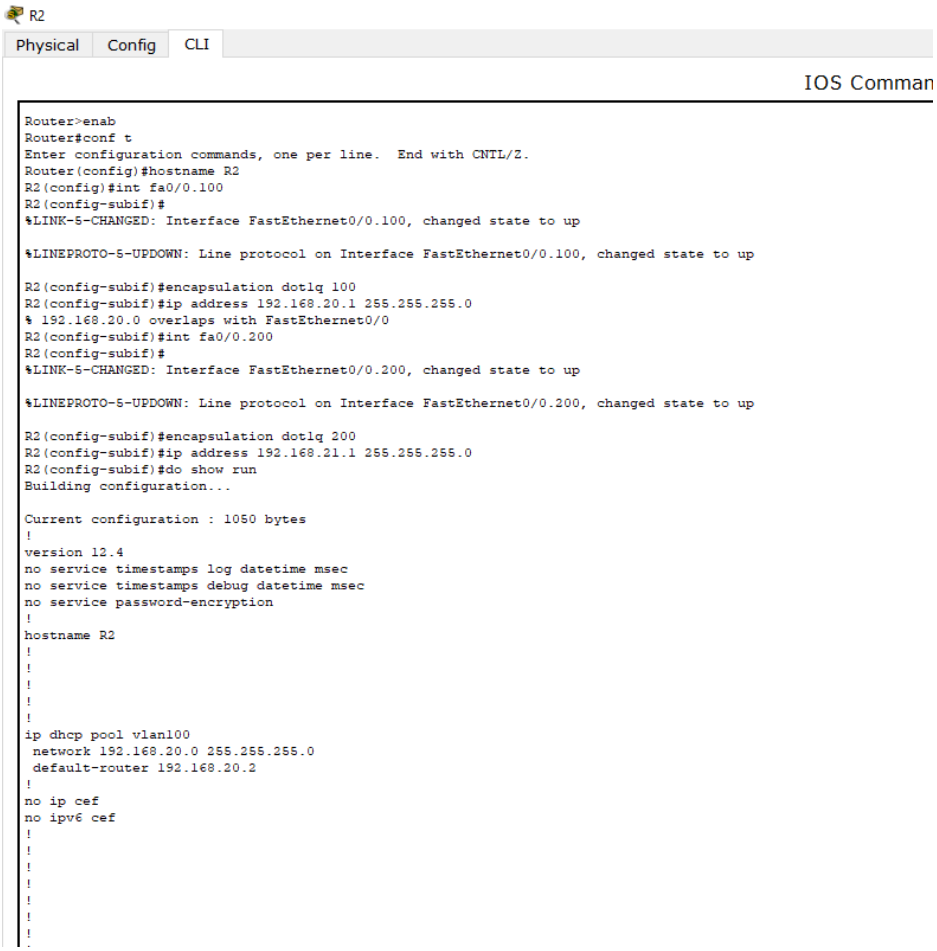
```
Router(config)#ip nat inside source list 10 pool ANY overload
Router(config)#int s0/1/0
Router(config-if)#ip nat inside
Router(config-if)#int s0/1/1
Router(config-if)#ip nat inside
Router(config-if)#int s0/0/0
Router(config-if)#ip nat outside
Router(config-if)#exit
Router(config)#no access-list 10
Router(config)#ip access-list?
access-list
Router(config)#ip access-list standard INSIDE-DEVS
Router(config-std-nacl)#permit any
Router(config-std-nacl)#exit
Router(config)#ip nat
% Incomplete command.
Router(config)#ip nat inside source list INSIDE-DEVS pool ANY
overload
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#do show ip route connected
 C   10.0.0.0/30  is directly connected, Serial0/1/0
 C   10.0.0.4/30  is directly connected, Serial0/1/1
 C   200.123.211.0/24  is directly connected, Serial0/0/0

Router(config-router)#network 10.0.0.0
Router(config-router)#network 10.0.0.4
Router(config-router)#network 200.123.211.0
Router(config-router)#default-information originate
Router(config-router)#exit
Router(config)#ip route 0.0.0.0 0.0.0.0 s0/0/0
Router(config)#
```

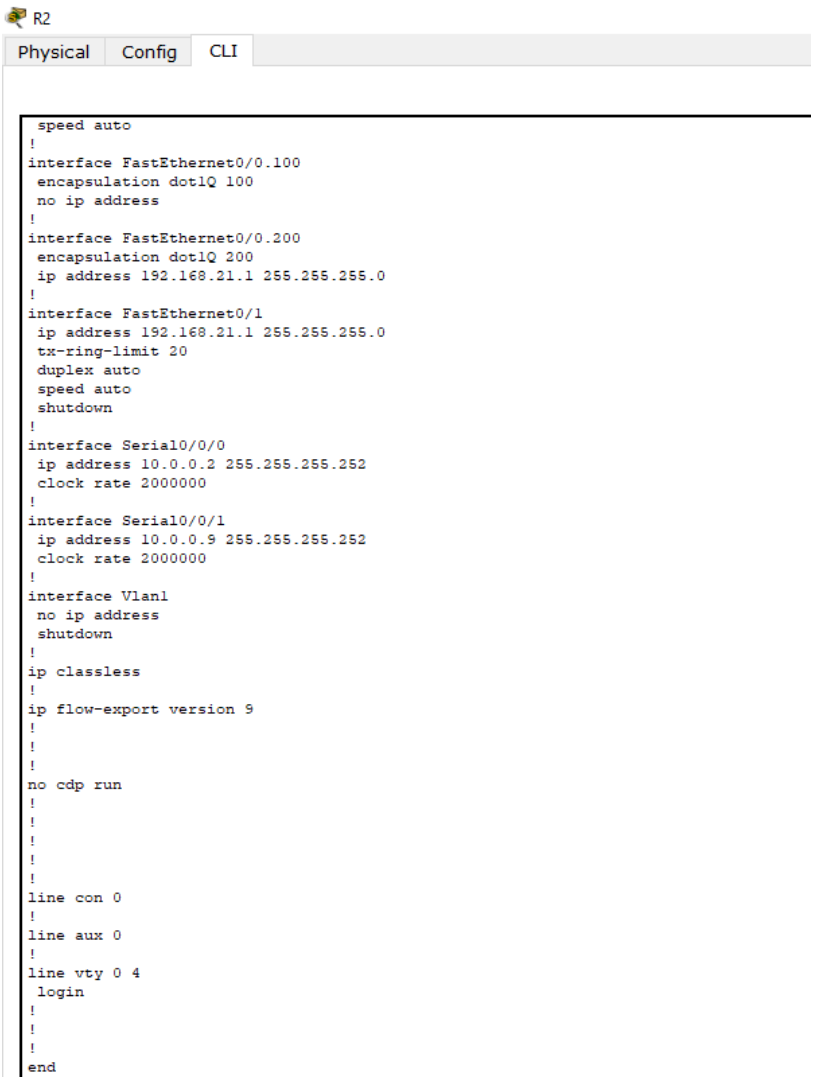


Router>ena
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname R1
R1(config)#ip access-list standard?
standard
R1(config)#ip access-list standard INSIDE-DEVS
R1(config-std-nacl)#permit any
R1(config-std-nacl)#exit
R1(config)#ip nat pool any?
WORD
R1(config)#ip nat pool any 200.123.211.1 200.123.211.1 netmask 255.255.255.252
R1(config)#ip nat inside ?
source Source address translation
R1(config)#ip nat ?
inside Inside address translation
outside Outside address translation
pool Define pool of addresses

R1(config)#ip nat
% Incomplete command.
R1(config)#ip nat pool any 200.123.211.1 200.123.211.1 netmask 255.255.255.252
R1(config)#ip nat inside source list INSIDE-DEVS ?
interface Specify interface for global address
pool Name pool of global addresses
R1(config)#ip nat inside source list INSIDE-DEVS pool any overload
R1(config)#ip nat inside source list INSIDE-DEVS interface s0/0/0 overload

- **R2** es un servidor de DHCP para los dispositivos conectados al puerto FastEthernet0/0.
- **R2** debe, además de enrutamiento a otras partes de la red, ruta entre las VLAN 100 y 200.





Router>enab
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname R2
R2(config)#int fa0/0.100
R2(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.100, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.100, changed state to up

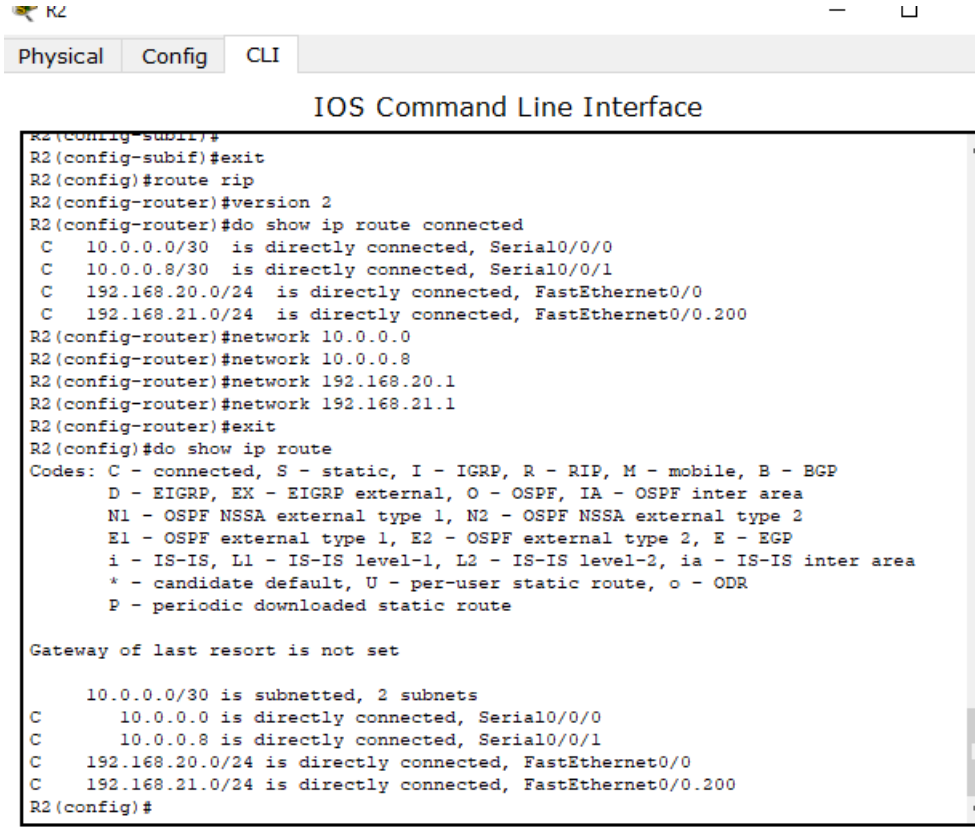
R2(config-subif)#encapsulation dot1q 100
R2(config-subif)#ip address 192.168.20.1 255.255.255.0
% 192.168.20.0 overlaps with FastEthernet0/0
R2(config-subif)#int fa0/0.200

R2(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.200, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.200, changed state to up

R2(config-subif)#encapsulation dot1q 200
R2(config-subif)#ip address 192.168.21.1 255.255.255.0
R2(config-subif)#do show run

Building configuration...



R2(config)#route rip

R2(config-router)#version 2

R2(config-router)#do show ip route connected

C 10.0.0.0/30 is directly connected, Serial0/0/0

C 10.0.0.8/30 is directly connected, Serial0/0/1

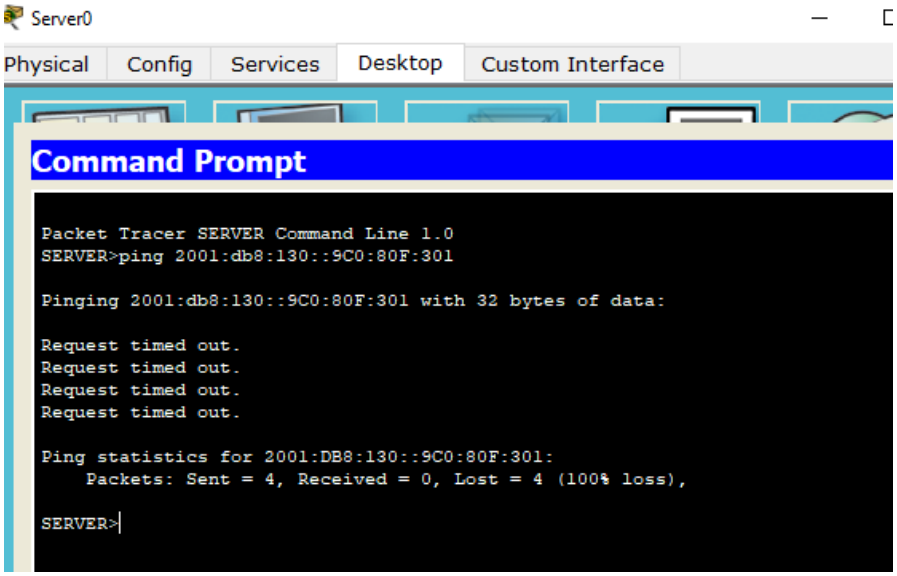
C 192.168.20.0/24 is directly connected, FastEthernet0/0

C 192.168.21.0/24 is directly connected, FastEthernet0/0.200

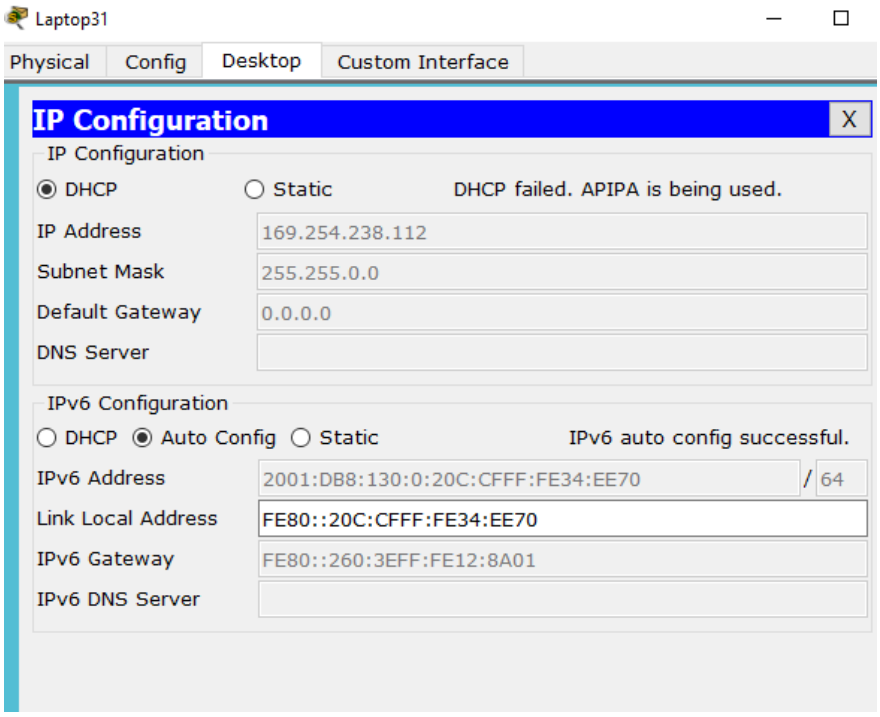
R2(config-router)#network 10.0.0.0

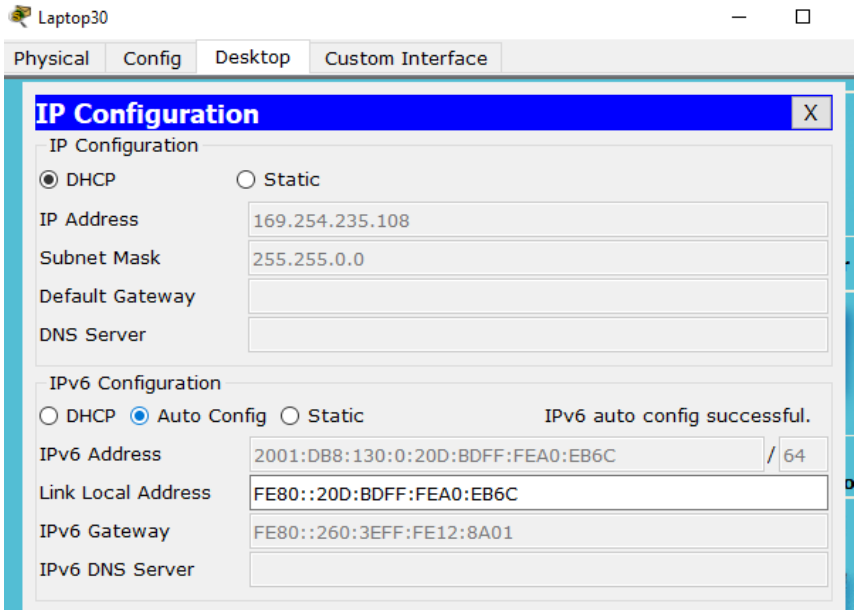
```
R2(config-router)#network 10.0.0.8
R2(config-router)#network 192.168.20.1
R2(config-router)#network 192.168.21.1
R2(config-router)#exit
R2(config)#do show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

     10.0.0.0/30 is subnetted, 2 subnets
C       10.0.0.0 is directly connected, Serial0/0/0
C       10.0.0.8 is directly connected, Serial0/0/1
C    192.168.20.0/24 is directly connected, FastEthernet0/0
C    192.168.21.0/24 is directly connected, FastEthernet0/0.200
```

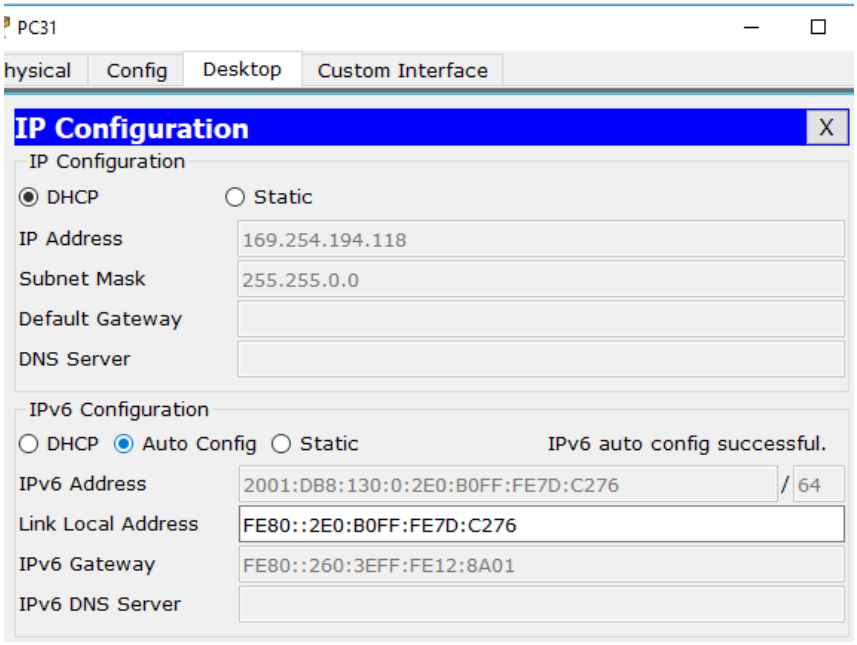
- El Servidor0 es sólo un servidor IPv6 y solo debe ser accesibles para los dispositivos en R3 (ping).

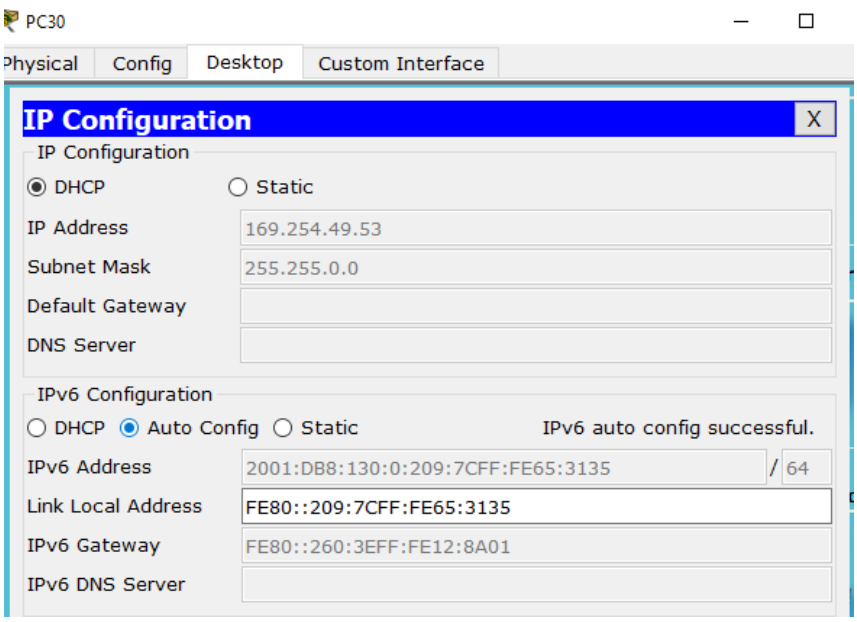


- La NIC instalado en direcciones IPv4 e IPv6 de Laptop30, de Laptop31, de PC30 y obligación de configurados PC31 simultáneas (dual-stack). Las direcciones se deben configurar mediante DHCP y DHCPv6.

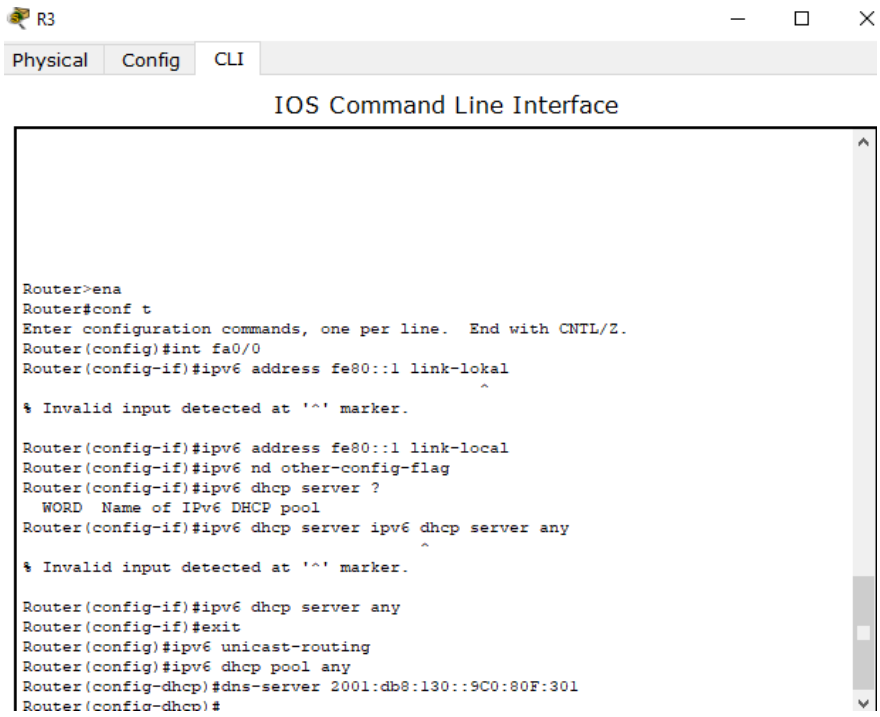








- La interfaz FastEthernet 0/0 del R3 también deben tener direcciones IPv4 e IPv6 configuradas (dual- stack).



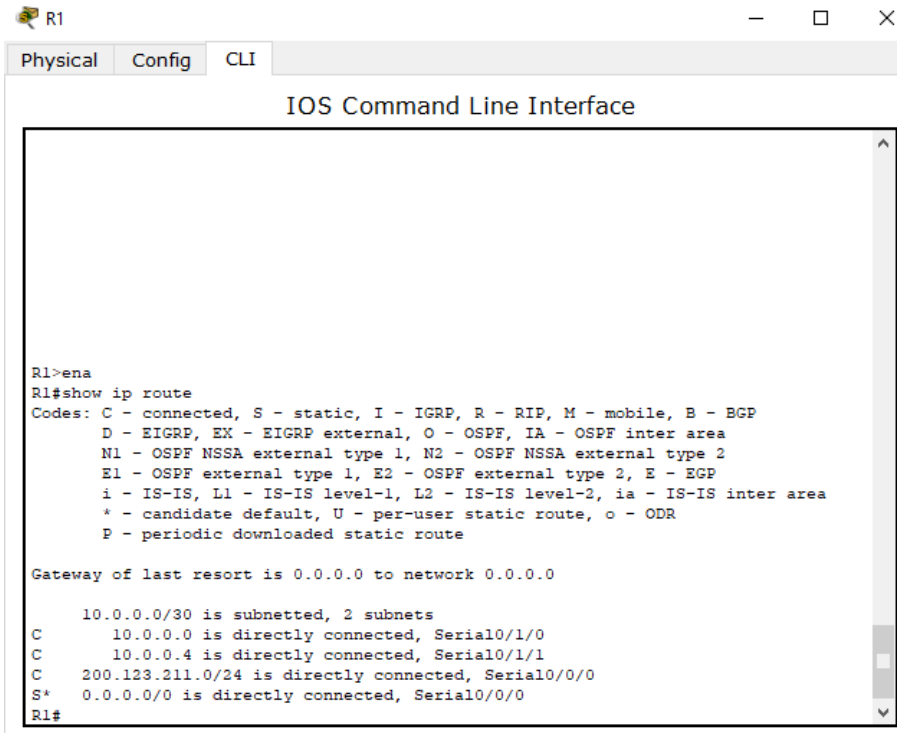
Router>ena
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ipv6 address fe80::1 link-lokal
^
% Invalid input detected at '^' marker.

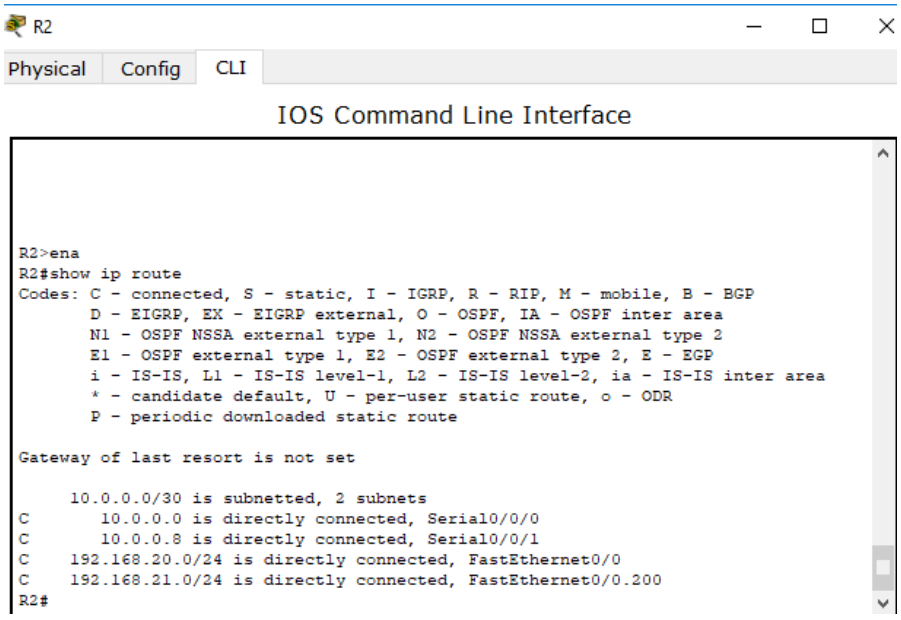
Router(config-if)#ipv6 address fe80::1 link-local
Router(config-if)#ipv6 nd other-config-flag
Router(config-if)#ipv6 dhcp server ?
WORD Name of IPv6 DHCP pool
Router(config-if)#ipv6 dhcp server ipv6 dhcp server any
^
% Invalid input detected at '^' marker.

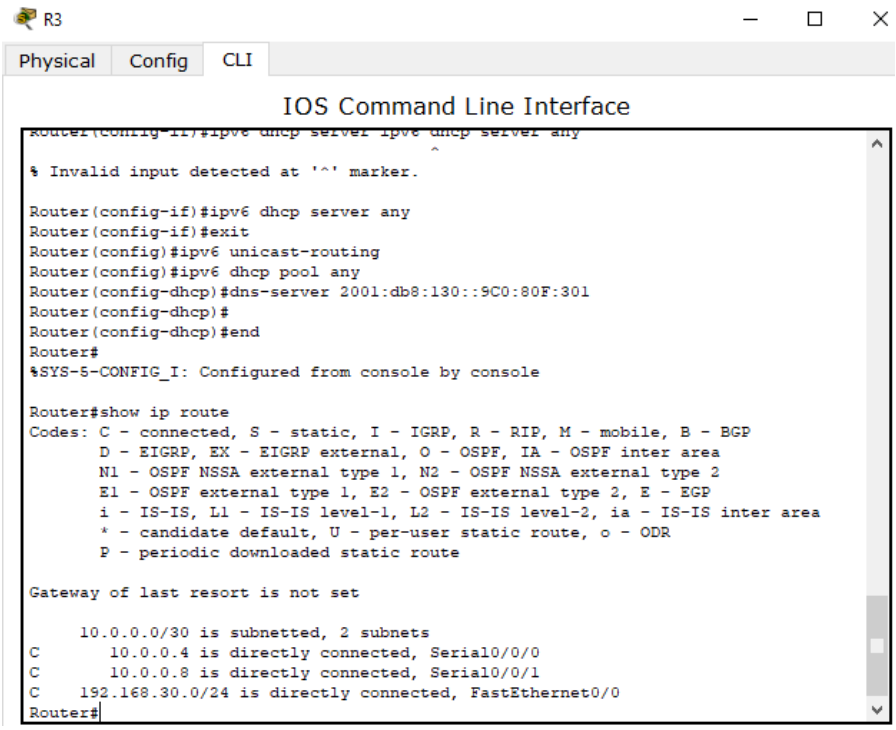
Router(config-if)#ipv6 dhcp server any
Router(config-if)#exit
Router(config)#ipv6 unicast-routing
Router(config)#ipv6 dhcp pool any

Router(config-dhcp)#dns-server 2001:db8:130::9C0:80F:301

- R1, R2 y R3 intercambian información de routing mediante RIP versión 2.
- R1, R2 y R3 deben saber sobre las rutas de cada uno y la ruta predeterminada desde R1.







R1

R1r>ena

R1r#show ip route

R2

R2>ena

R2#show ip route

R3

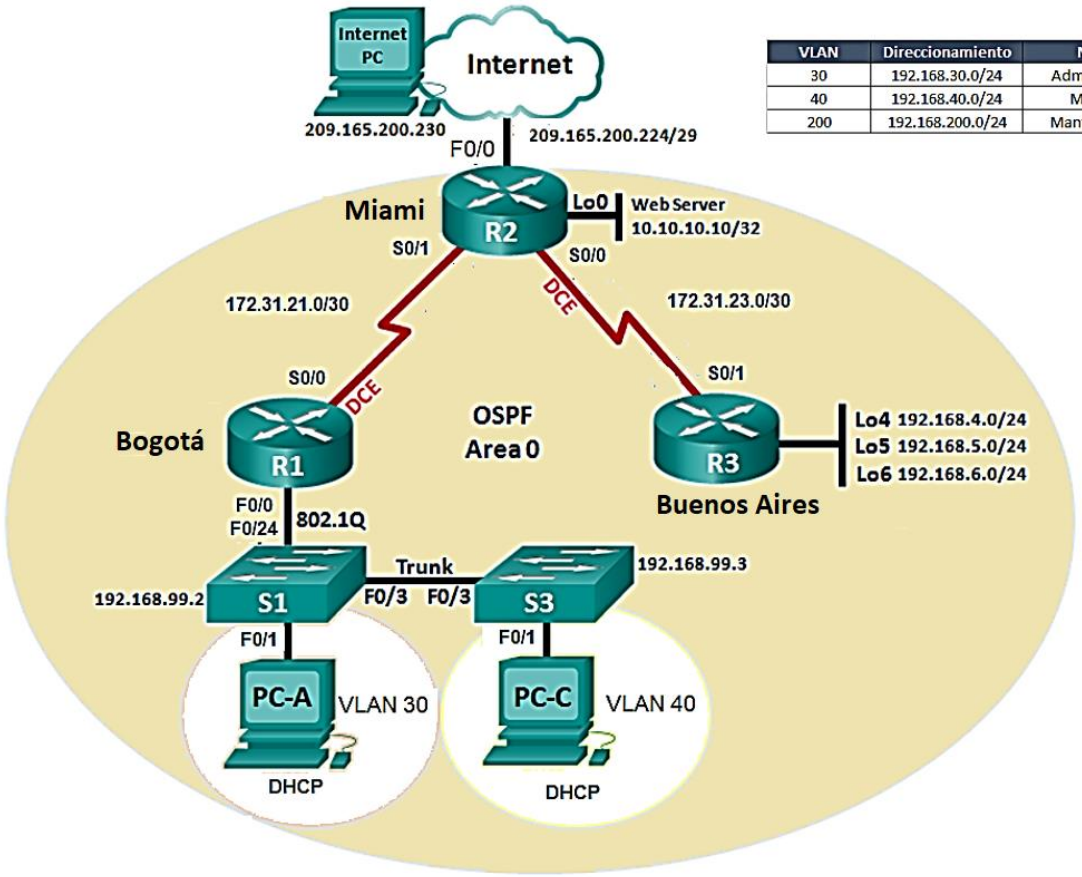
R3>ena

R3#show ip route

- Verifique la conectividad. Todos los terminales deben poder hacer ping entre sí y a la dirección IP del ISP. Los terminales bajo **el R3** deberían poder hacer IPv6-ping entre ellos y el servidor.

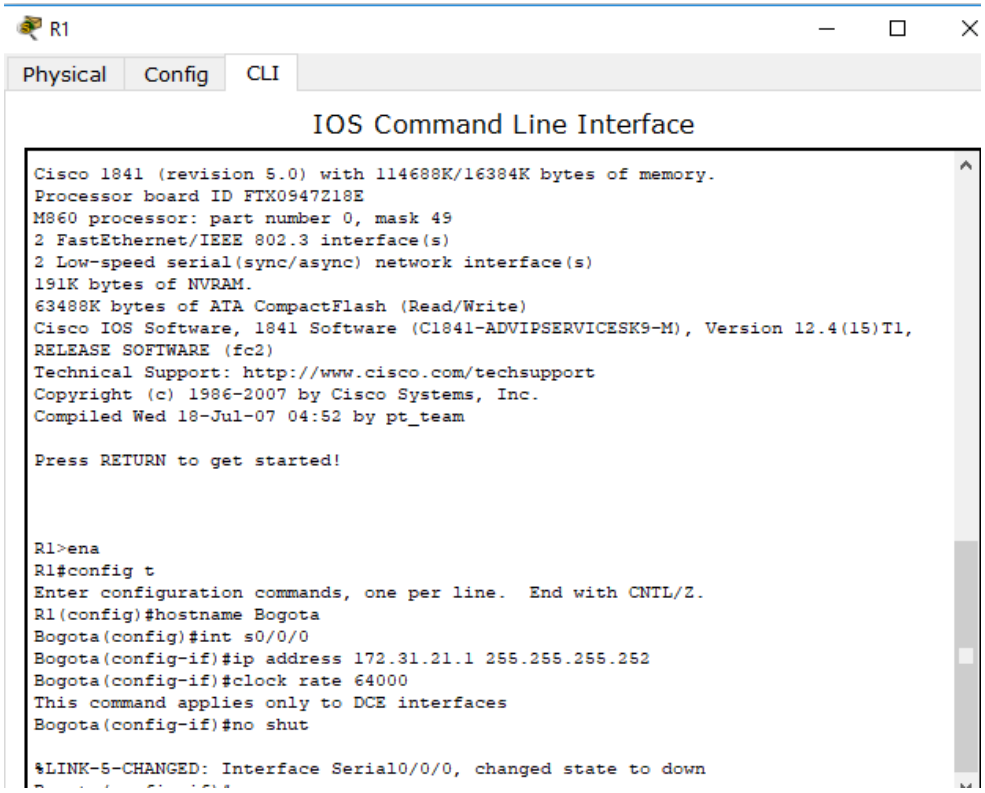
Escenario 2

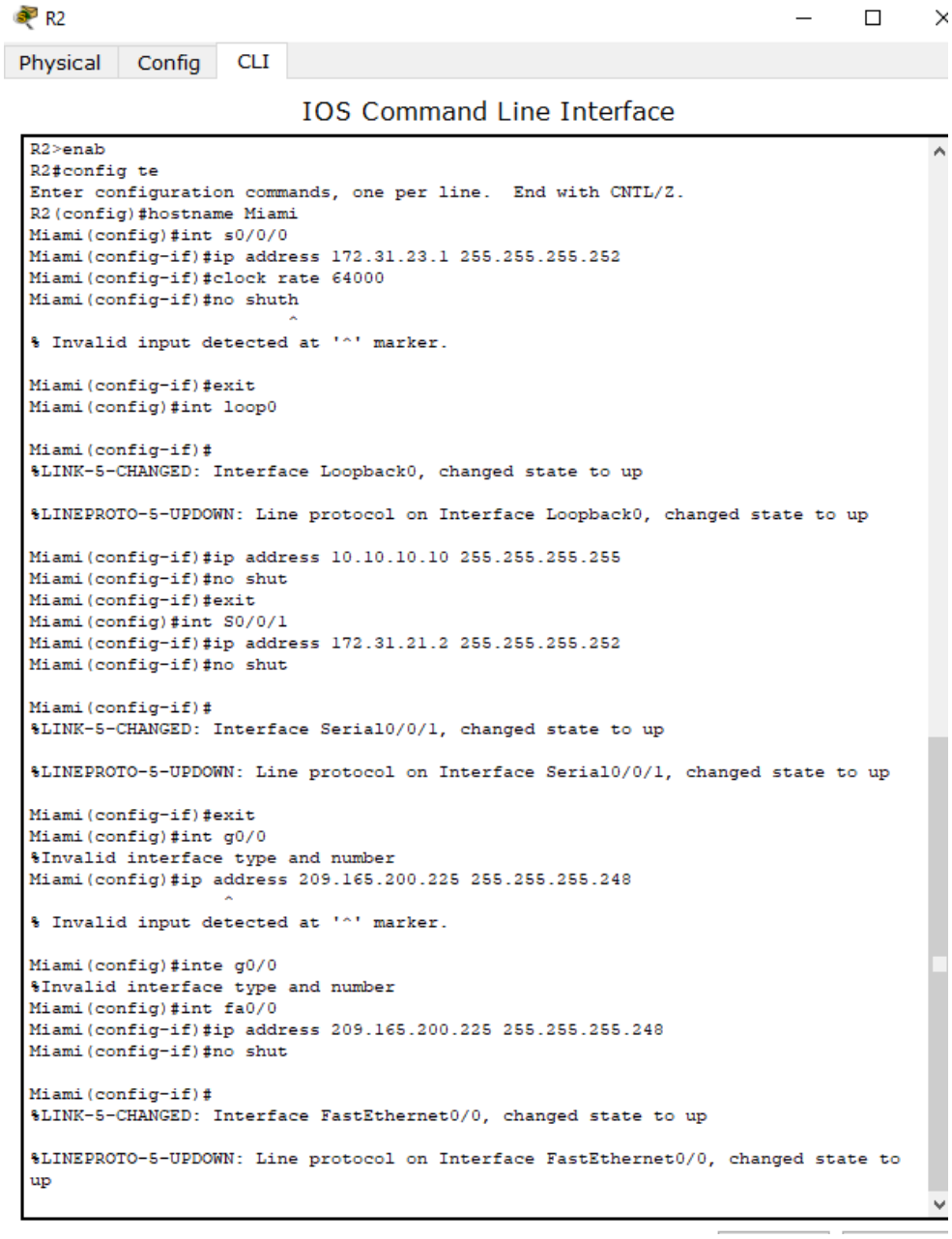
Escenario: Una empresa de Tecnología posee tres sucursales distribuidas en las ciudades de Miami, Bogotá y Buenos Aires, en donde el estudiante será el administrador de la red, el cual deberá configurar e interconectar entre sí cada uno de los dispositivos que forman parte del escenario, acorde con los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



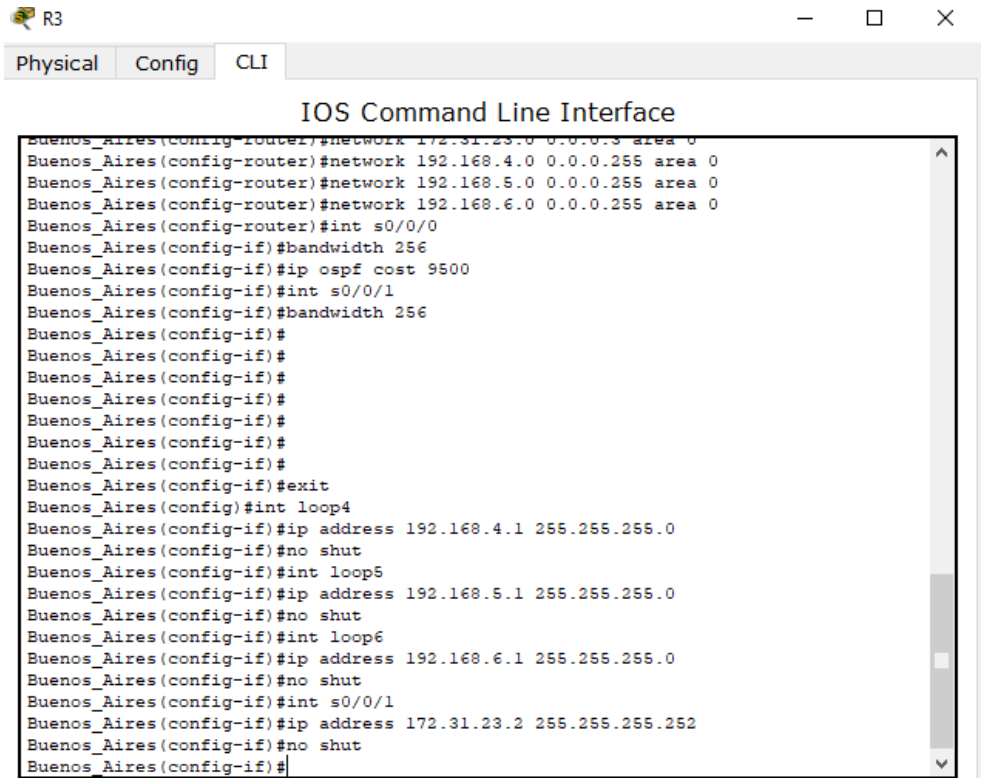
VLAN	Direccionamiento	Nombre
30	192.168.30.0/24	Administración
40	192.168.40.0/24	Mercadeo
200	192.168.200.0/24	Mantenimiento

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


R1
Physical
Config
CLI
IOS Command Line Interface
Cisco 1841 (revision 5.0) with 114688K/16384K bytes of memory.
Processor board ID FTX0947Z18E
M860 processor: part number 0, mask 49
2 FastEthernet/IEEE 802.3 interface(s)
2 Low-speed serial(sync/async) network interface(s)
191K bytes of NVRAM.
63488K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version 12.4(15)T1,
RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team
Press RETURN to get started!
R1>ena
R1#config t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#hostname Bogota
Bogota(config)#int s0/0/0
Bogota(config-if)#ip address 172.31.21.1 255.255.255.252
Bogota(config-if)#clock rate 64000
This command applies only to DCE interfaces
Bogota(config-if)#no shut
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to down




```
R2>enab
R2#config te
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#hostname Miami
Miami(config)#int s0/0/0
Miami(config-if)#ip address 172.31.23.1 255.255.255.252
Miami(config-if)#clock rate 64000
Miami(config-if)#no shuth
                  ^
% Invalid input detected at '^' marker.

Miami(config-if)#exit
Miami(config)#int loop0

Miami(config-if)#
%LINK-5-CHANGED: Interface Loopback0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback0, changed state to up

Miami(config-if)#ip address 10.10.10.10 255.255.255.255
Miami(config-if)#no shut
Miami(config-if)#exit
Miami(config)#int S0/0/1
Miami(config-if)#ip address 172.31.21.2 255.255.255.252
Miami(config-if)#no shut

Miami(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

Miami(config-if)#exit
Miami(config)#int g0/0
%Invalid interface type and number
Miami(config)#ip address 209.165.200.225 255.255.255.248
                 ^
% Invalid input detected at '^' marker.

Miami(config)#inte g0/0
%Invalid interface type and number
Miami(config)#int fa0/0
Miami(config-if)#ip address 209.165.200.225 255.255.255.248
Miami(config-if)#no shut

Miami(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to
up
```



R1
R1>ena
R1#config t
R1(config)#hostname Bogota
Bogota(config)int s0/0/0
Bogota(config-if)#ip addresss 172.31.21.1 255.255.255.252
Bogota(config-if)#clock rate 64000
Bogota(config-if)no shut

R2
R2>ena
R2#config te
R2(config) hostname Miami
Miami(config)#int s0/0/0
Miami(config-if)ip address 172.31.23.1 255.255.255.252
Miami(config-if)clock rate 64000
Miami(config-if)#no shut
Miami(config-if)#exit
Miami(config)#int loop0
Miami(config-if)#ip addres 10.10.10.10 255.255.255.255
Miami(config-if)#no shut
Miami(config-if)#exit
Miami(config)#int s0/0/1
Miami(config-if)#ip address 172.31.21.2 255.255.255.252

```
Miami(config-if)#no shut
Miami(config-if)#exit
Miami(config)#int g0/0
Miami(config)#ip address 209.165.200.225 255.255.255.248
Miami(config)#int fa0/0
Miami(config-if)#ip address 209.165.200.225 255.255.255.248
Miami(config-if)#no shut

R3
Buenos_Aires>ena
Buenos_Aires#conf t
Buenos_Aires(config)#router rip
Buenos_Aires(config-if)#int s0/0/0
Buenos_Aires(config-if)#bandwidth 256
Buenos_Aires(config-if)#ip ospf cost 9500
Buenos_Aires(config-if)#int s0/0/1
Buenos_Aires(config-if)#bandwidth 256
Buenos_Aires(config-if)#exit
Buenos_Aires(config)#int loop4
Buenos_Aires(config-if)#ip address 192.168.4.1 255.255.255.0
Buenos_Aires(config-if)#no shut
Buenos_Aires(config-if)#int loop5
Buenos_Aires(config-if)#ip address 192.168.5.1 255.255.255.0
Buenos_Aires(config-if)#no shut
Buenos_Aires(config-if)#int loop6
Buenos_Aires(config-if)#ip address 192.168.6.1 255.255.255.0
Buenos_Aires(config-if)#no shut
Buenos_Aires(config-if)#int s0/0/1
Buenos_Aires(config-if)#ip address 172.31.23.2 255.255.255.252
Buenos_Aires(config-if)#no shut
```

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	5.5.5.5
Router ID R3	8.8.8.8
Configurar todas las interfaces LAN como pasivas	
Establecer el ancho de banda para enlaces seriales en	256 Kb/s

Ajustar el costo en la métrica de S0/0 a	9500

R1

Physical Config CLI

IOS Command Line Interface

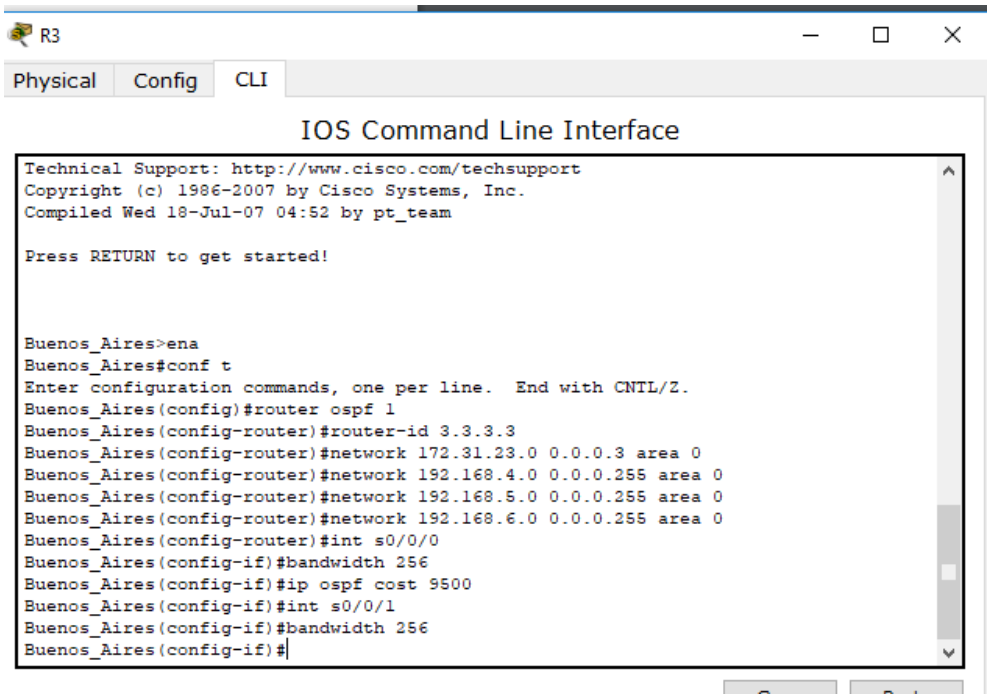
```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up


Bogota>ena
Bogota#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Bogota(config)#router ospfl
                     ^
% Invalid input detected at '^' marker.

Bogota(config)#router ospf 1
Bogota(config-router)#router-id 1.1.1.1
Bogota(config-router)#network 192.168.99.0.0.0.0.255 area 0
                              ^
% Invalid input detected at '^' marker.

Bogota(config-router)#network 192.168.99.0 0.0.0.255 area 0
Bogota(config-router)#network 172.31.21.0 0.0.0.3 area 0
Bogota(config-router)#passive-interface gi0/0
%Invalid interface type and number
Bogota(config-router)#passive-interface g0/0
%Invalid interface type and number
Bogota(config-router)#int s0/0/0
Bogota(config-if)#bandwidth 128
Bogota(config-if)#ip ospf cost 9500
Bogota(config-if)#bandwidth 256
Bogota(config-if)#int s0/0/1
Bogota(config-if)#bandwidth 256
Bogota(config-if)#no shut
```

R2

Physical Config CLI

IOS Command Line Interface

```
Miami(config)#
Miami(config)#
Miami(config)#
Miami(config)#router ospf 1
Miami(config-router)#router-id 2.2.2.2
Miami(config-router)#network 209.165.200.224 0.0.0.7 area 0
Miami(config-router)#network 172.31.21.0 0.0.0.3 area 0
Miami(config-router)#netwo
00:10:09: %OSPF-5-ADJCHG: Process 1, Nbr 1.1.1.1 on Serial0/0/1 from LOADING to
FULL, Loading Done

% Incomplete command.
Miami(config-router)#network 10.10.10.10 0.0.0.3 area 0
Miami(config-router)#passive-interface g0/0
%Invalid interface type and number
Miami(config-router)#int s0/0/0
Miami(config-if)#bandwidth 256
Miami(config-if)#ip ospf cost 9500
Miami(config-if)#int s0/0/1
Miami(config-if)#bandwidth 256
Miami(config-if)#
```



R1

Bogota>ena

Bogota#conf t

Bogota(config)#router ospf 1

Bogota(config-router)#router-id 1.1.1.1

Bogota(config-router)#network 192.168.99.0 0.0.0.255 area 0

Bogota(config-router)#network 172.31.21.0 0.0.0.3 area 0

Bogota(config-router)#passive-interface g0/0

Bogota(config-router)#int s0/0/0

Bogota(config-if)#bandwidth 256

Bogota(config-if)#ip ospf cost 9500

Bogota(config-if)#int s0/0/1

Bogota(config-if)#bandwidth 256

Bogota(config-if)#ip ospf cost 9500

Bogota(config-if)#no shut

R2

Miami>ena

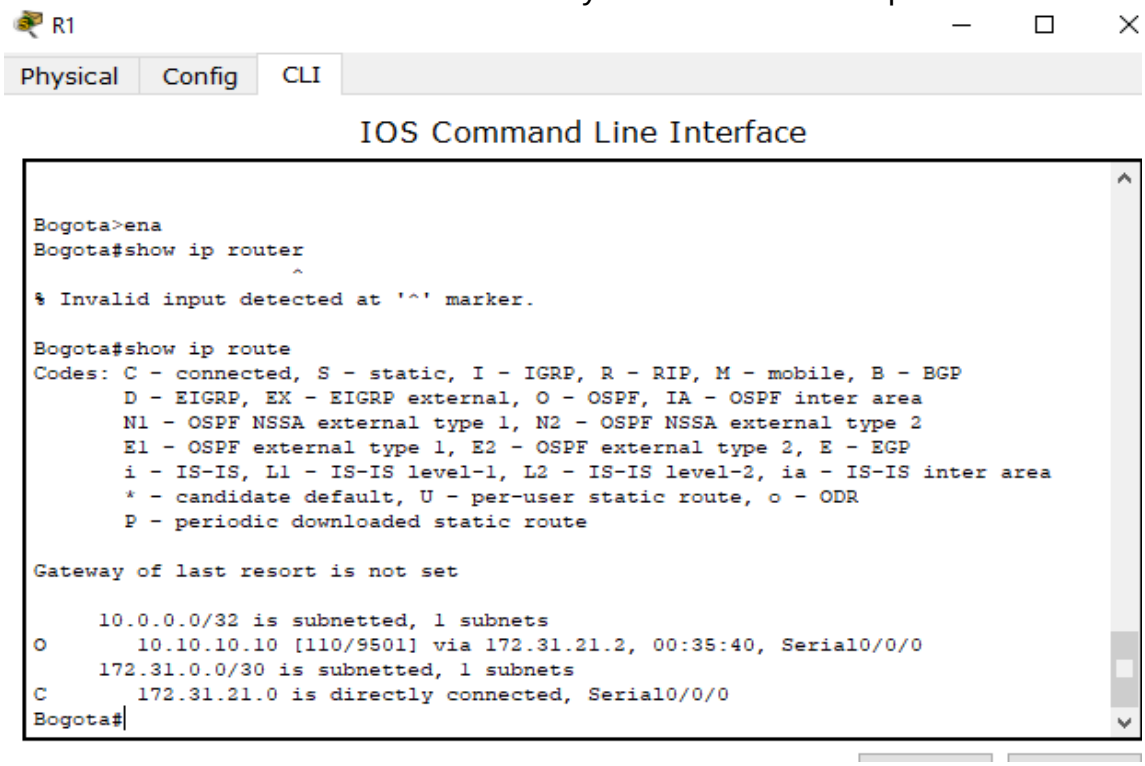
```
Miami#conf t
Miami (config)#router ospf 1
Miami(config-router)#router-id  2.2.2.2
Miami (config-router)#network 209.165.200.224 0.0.0.7 area 0
Miami (config-router)#network 173.31.21.0 0.0.0.3 area 0
Miami(config-router)#network 10.10.10.10 0.0.0.3 area 0
Miami(config-router)#passive-interface g0/0
Miami(config-router)#int s0/0/0
Miami(config-if)#bandwidth 256
Miami(config-if)#ip ospf cost 9500
Miami(config-if)#int s0/0/1
Miami(config-if)#bandwidth 256
Miami(config-if)#ip ospf cost 9500
Miami(config-if)#no shut
```

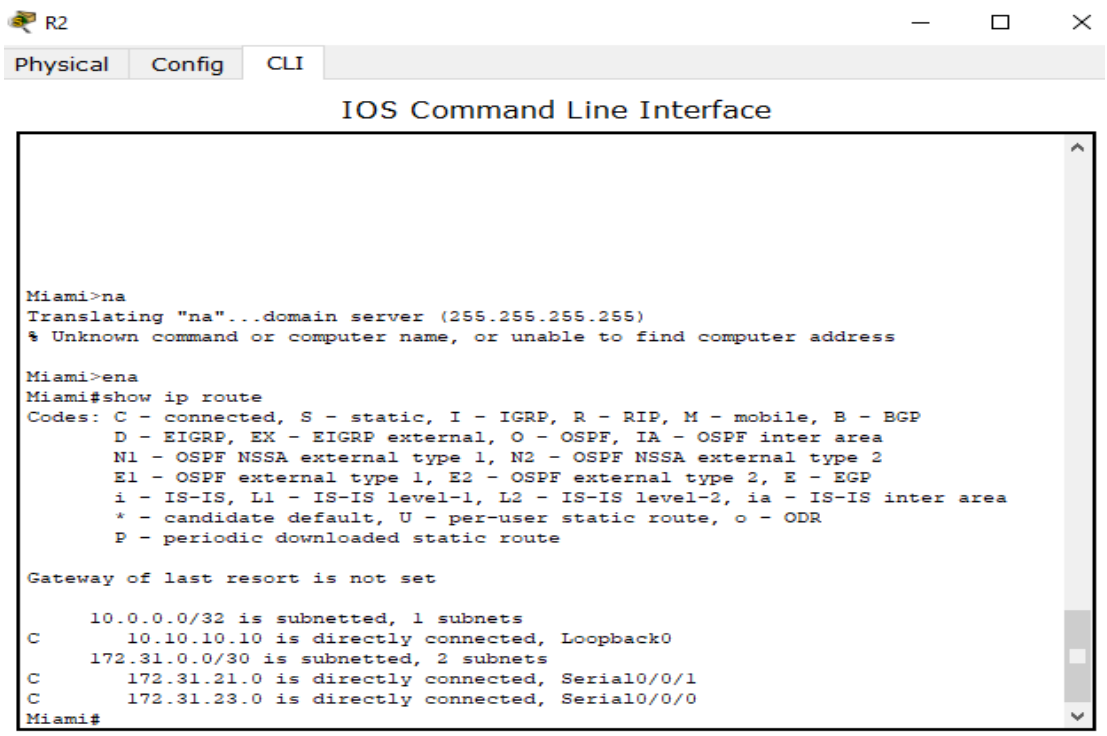
R3

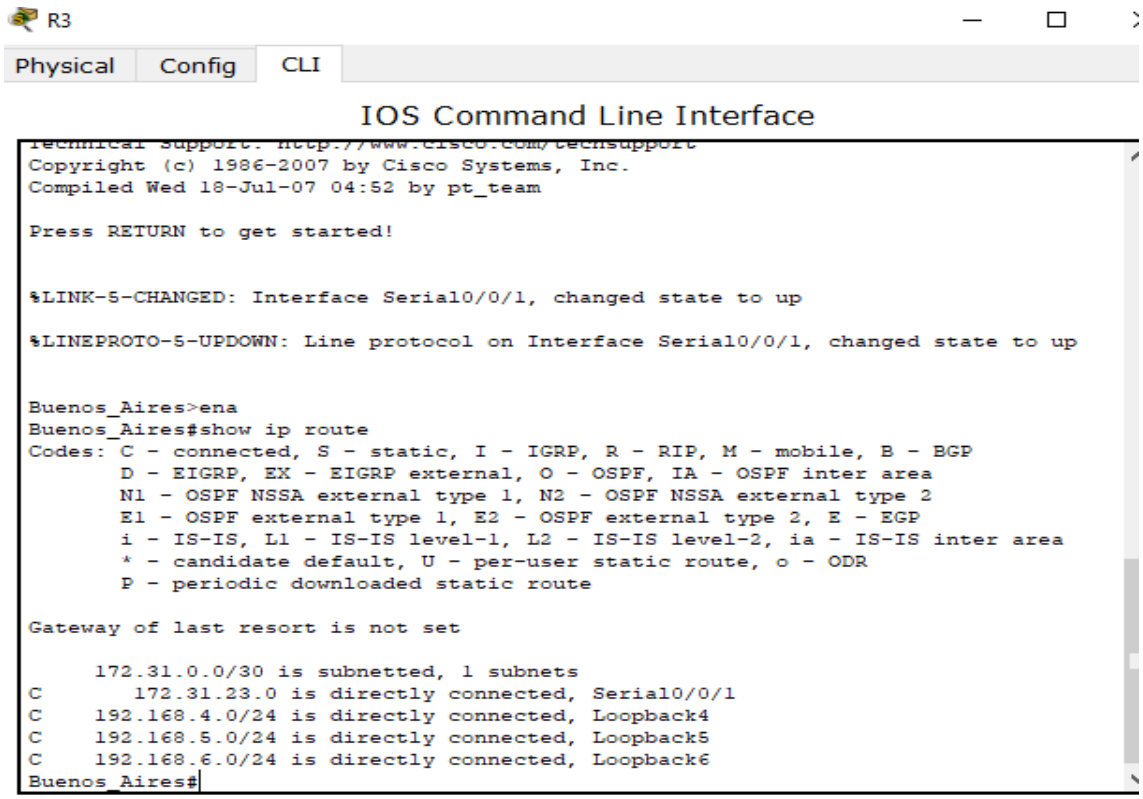
```
Buenos_Aires>ena
Buenos_Aires #conf t
Buenos_Aires (config)#router ospf 1
Buenos_Aires (config-router)#router-id  3.3.3.3
Buenos_Aires(config-router)#network 172.31.23.0 0.0.0.3 area 0
Buenos_Aires (config-router)#network 192.168.4.0 0.0.0.255 area 0
Buenos_Aires(config-router)#network 192.168.5.0 0.0.0.255 area 0
Buenos_Aires(config-router)#network 192.168.6.0 0.0.0.255 area 0
Buenos_Aires(config-router)#int s0/0/0
Buenos_Aires(config-if)#bandwidth 256
Buenos_Aires(config-if)#ip ospf cost 9500
Buenos_Aires(config-if)#int s0/0/1
Buenos_Aires(config-if)#bandwidth 256
Buenos_Aires(config-if)#ip ospf cost 9500
Buenos_Aires(config-if)#no shut
```

Verificar información de OSPF

- Visualizar tablas de enrutamiento y routers conectados por OSPFv2





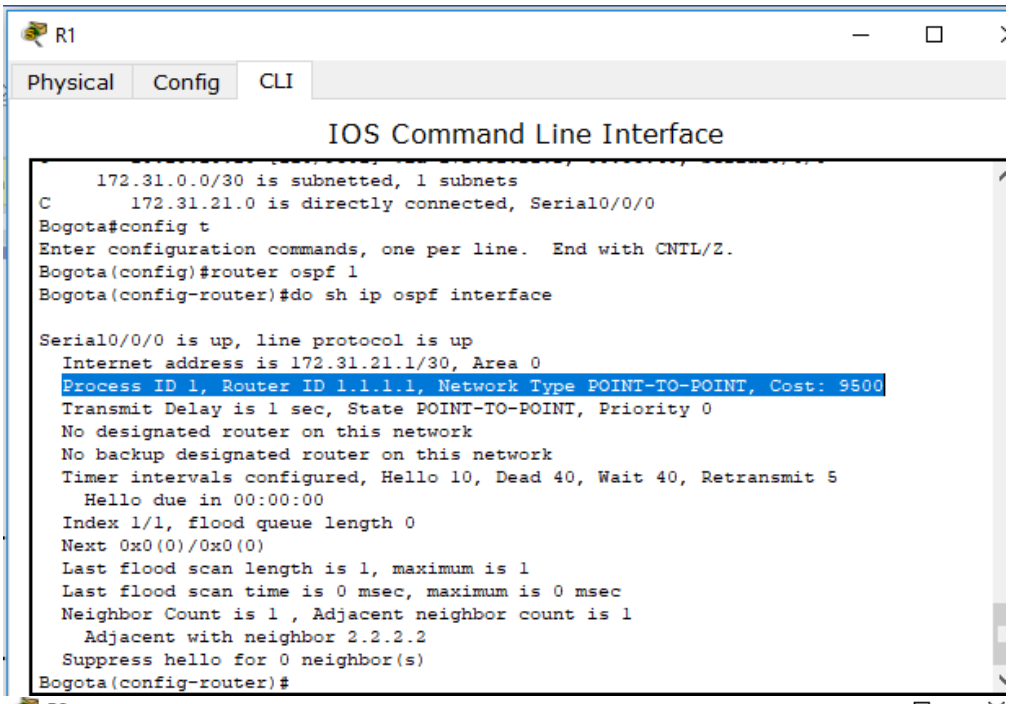


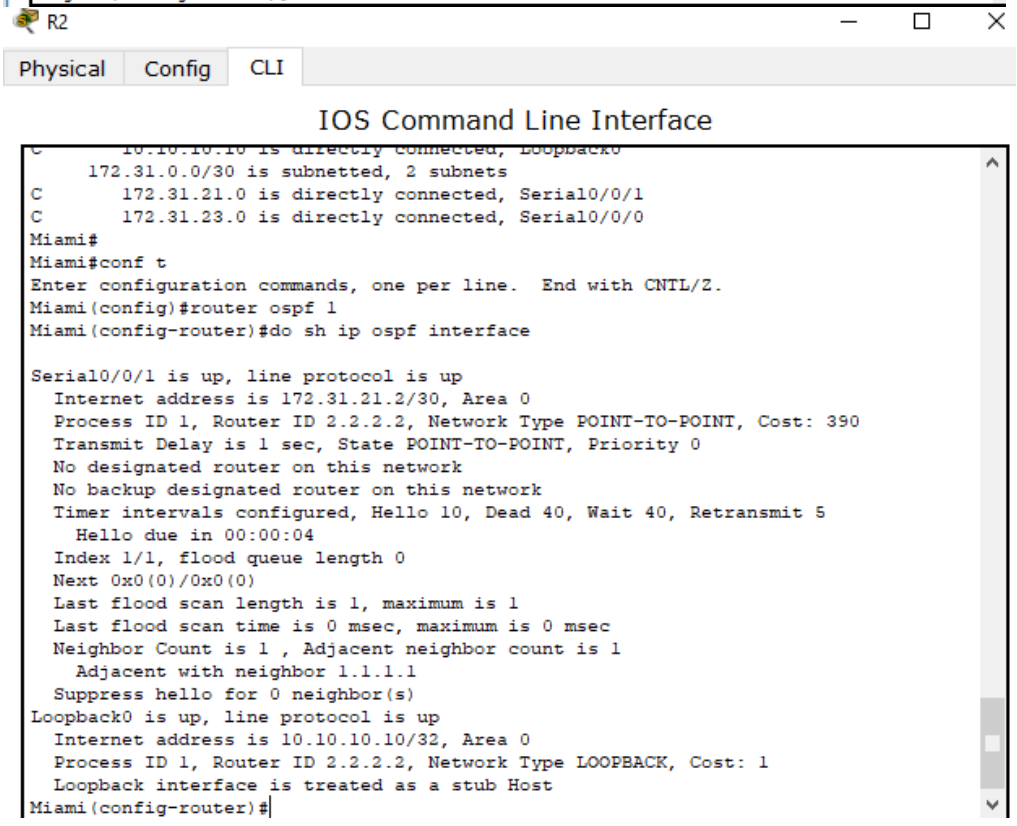
R1
Bogota>ena
Bogota#show ip route

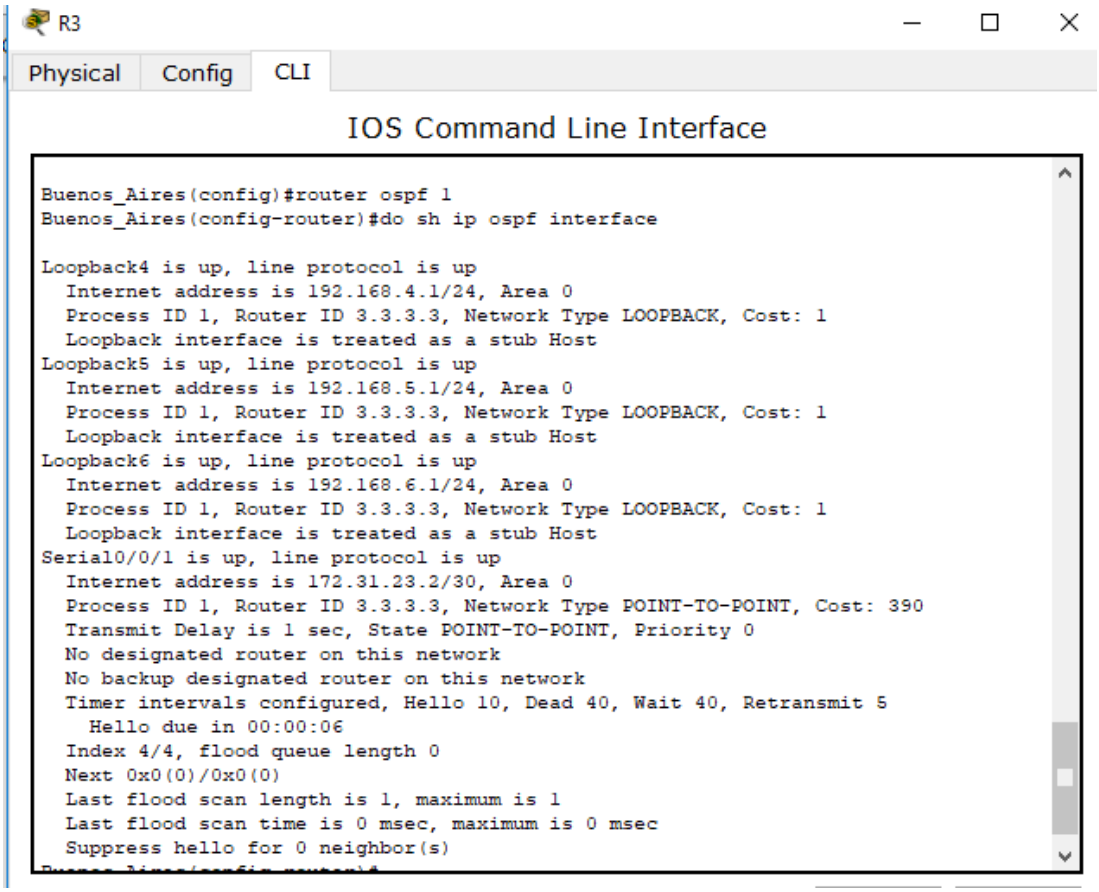
R2
Miami>ena
Miami#show ip route

R3
Buenos_Aires>ena
Buenos_Aires#show ip route

- Visualizar lista resumida de interfaces por OSPF en donde se ilustre el costo de cada interface
- Visualizar el OSPF Process ID, Router ID, Address summarizations, Routing Networks, and passive interfaces configuradas en cada router.


R1
Physical
Config
CLI
IOS Command Line Interface
172.31.0.0/30 is subnetted, 1 subnets
C 172.31.21.0 is directly connected, Serial0/0/0
Bogota#config t
Enter configuration commands, one per line. End with CNTL/Z.
Bogota(config)#router ospf 1
Bogota(config-router)#do sh ip ospf interface
Serial0/0/0 is up, line protocol is up
Internet address is 172.31.21.1/30, Area 0
Process ID 1, Router ID 1.1.1.1, Network Type POINT-TO-POINT, Cost: 9500
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 00:00:00
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 2.2.2.2
Suppress hello for 0 neighbor(s)
Bogota(config-router)#


R2
Physical
Config
CLI
IOS Command Line Interface
172.31.0.0/30 is subnetted, 2 subnets
C 172.31.21.0 is directly connected, Serial0/0/1
C 172.31.23.0 is directly connected, Serial0/0/0
Miami#
Miami#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Miami(config)#router ospf 1
Miami(config-router)#do sh 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: 390
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 00:00:04
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)
Loopback0 is up, line protocol is up
Internet address is 10.10.10.10/32, Area 0
Process ID 1, Router ID 2.2.2.2, Network Type LOOPBACK, Cost: 1
Loopback interface is treated as a stub Host
Miami(config-router)#



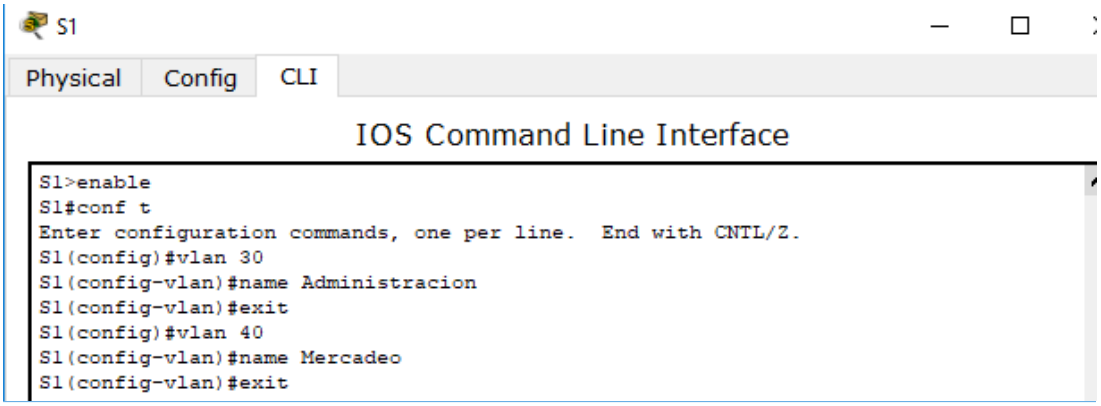
R1
Bogota>ena
Bogota#conf t
Bogota(config)#router ospf 1
Bogota(config-router)#do s hip ospf interface

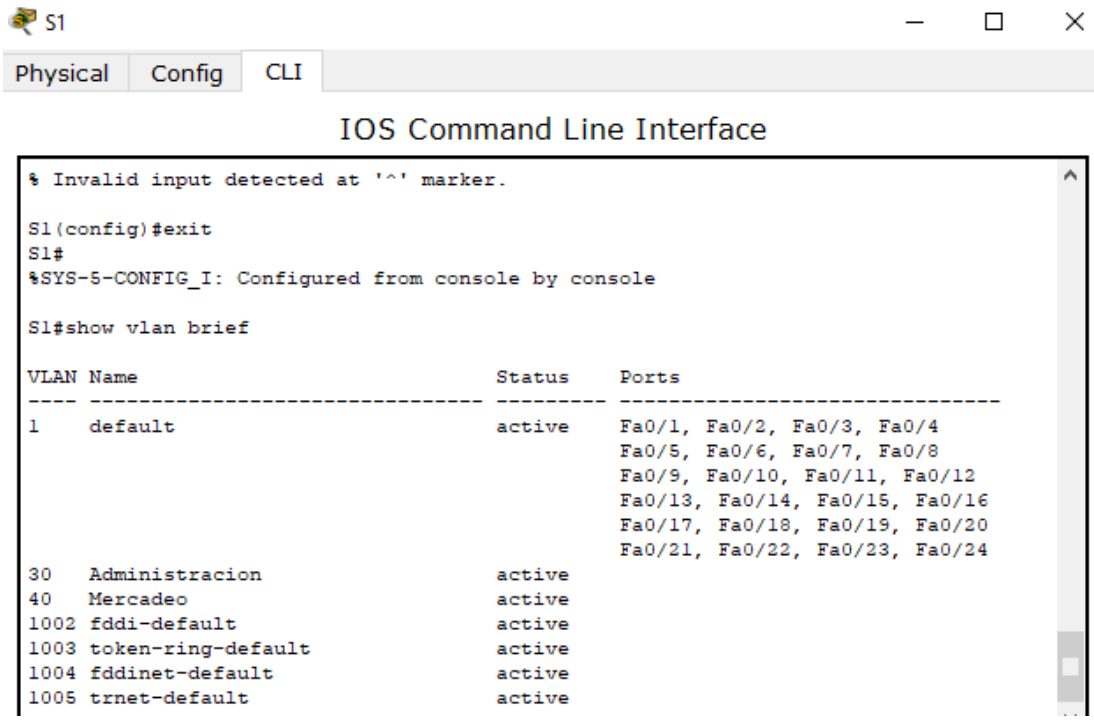
R2
Miami>ena
Miami#conf t
Miami(config)#router ospf 1
Miami(config-router)#do s hip ospf interface

R3
Buenos_Aires>ena
Buenos_Aires#conf t
Buenos_Aires(config)#router ospf 1
Buenos_Aires(config-router)#do s hip ospf interface

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

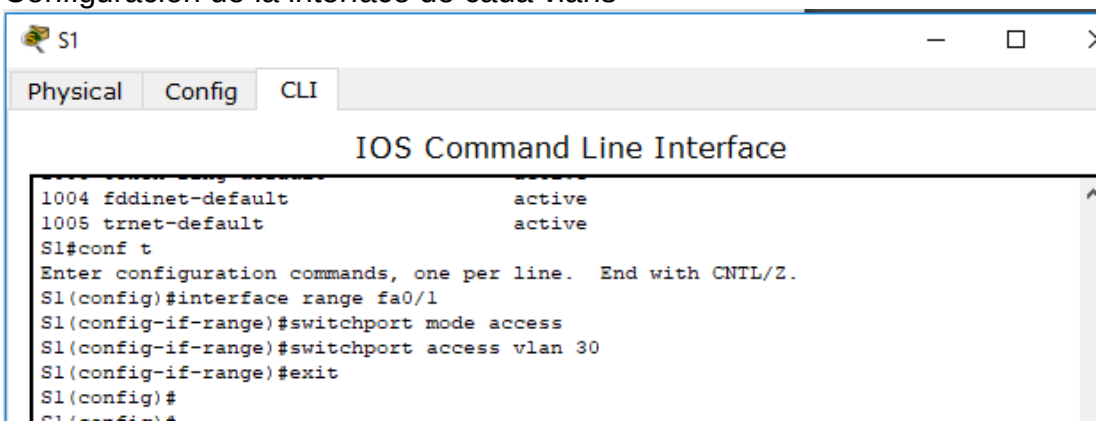
Creación de Vlans administración(30) y Mercadeo(40)





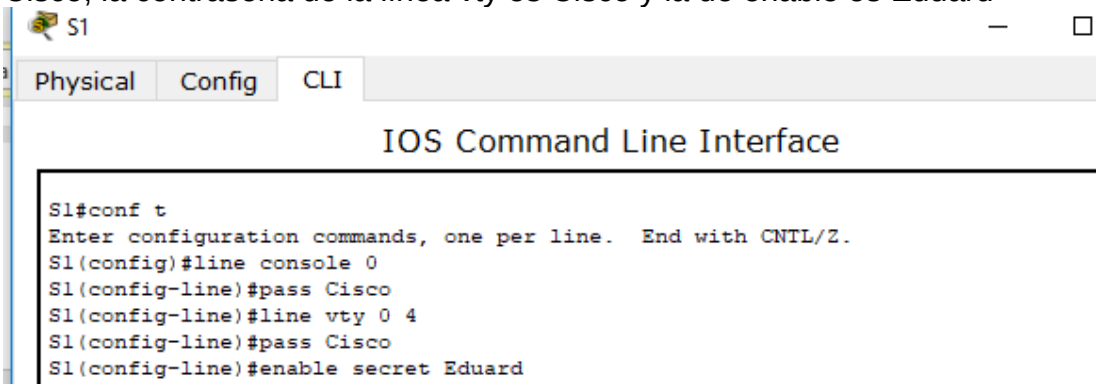
S1>enable
S1#conf t
S1(config)#vlan 30
S1(config-vlan)#name Administracion
S1(config-vlan)#exit
S1(config)#vlan 40
S1(config-vlan)#name Mercadeo
S1(config-vlan)#exit

Configuración de la interface de cada vlans

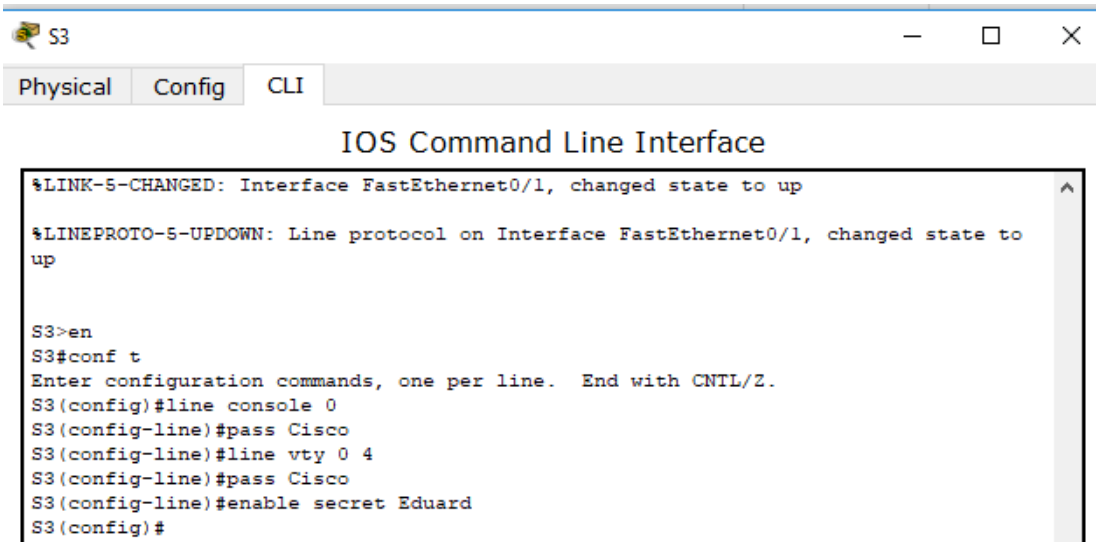


S1#conf t
S1(config)#interface range fa0/1
S1(config-if-range)#switchport mode access
S1(config-if-range)#switchport access vlan 30
S1(config-if-range)#exit

Configuración de seguridad en las vlans; contraseña de la consola es Cisco; la contraseña de la línea vty es Cisco y la de enable es Eduard

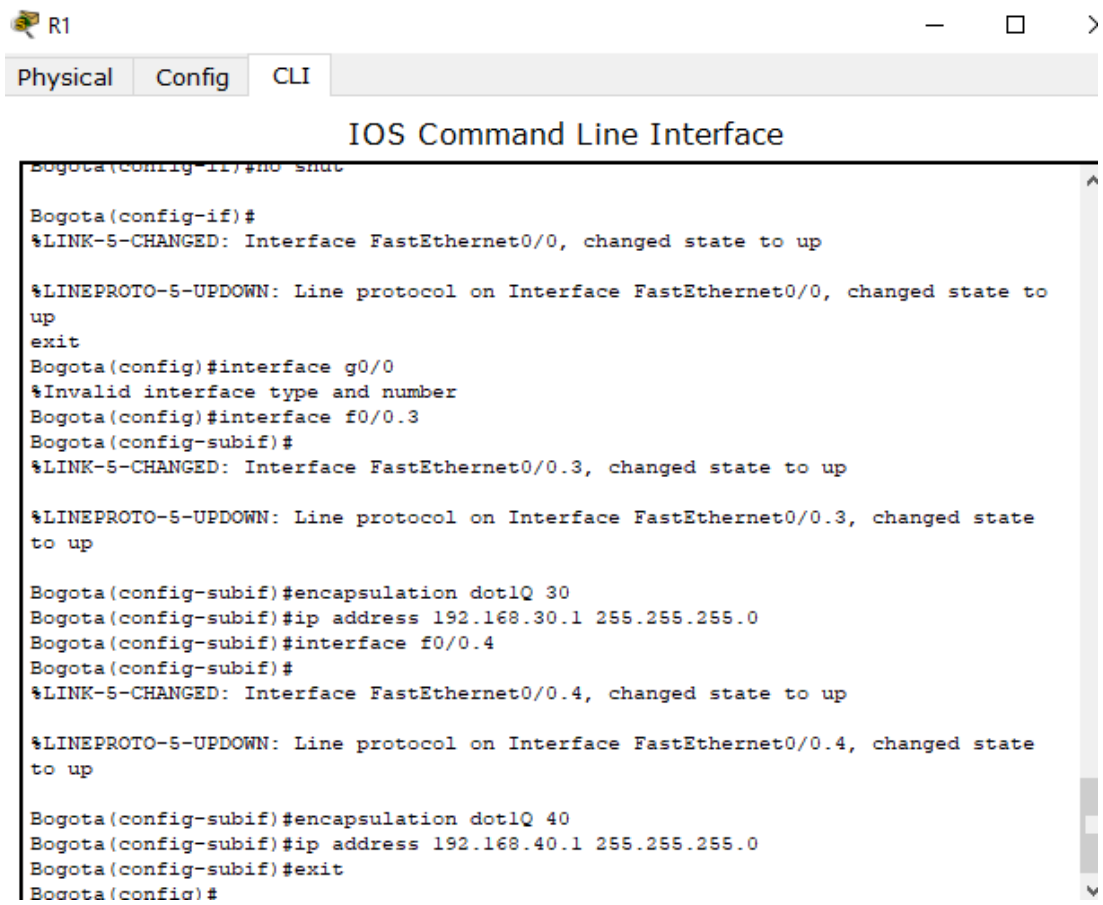


S1#conf t
S1(config)#line console 0
S1(config-line)#pass Cisco
S1(config-line)#line vty 0 4
S1(config-line)#pass Cisco
S1(config-line)#enable secret Eduard

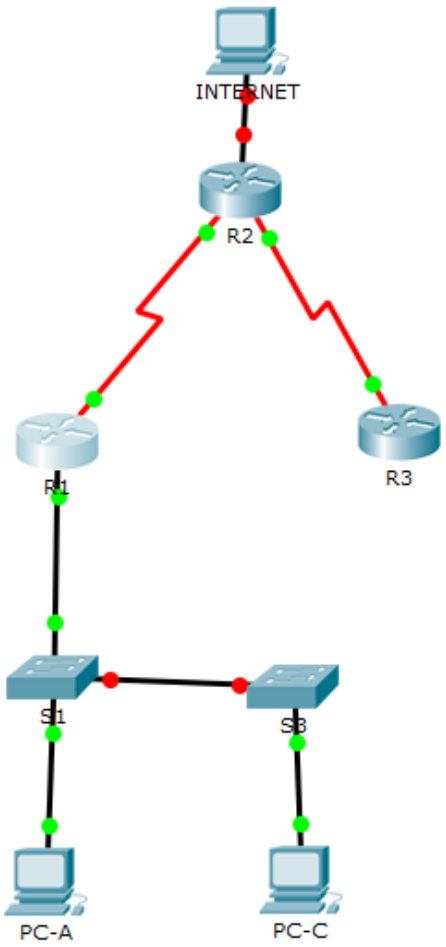


S3#conf t
S3(config)#line console 0
S3(config-line)#pass Cisco
S3(config-line)#line vty 0 4
S3(config-line)#pass Cisco
S3(config-line)#enable secret Eduard

Configuración de las troncales



Bogota(config)#interface f0/0,3
Bogota(config-subif)#encapsulation dot1Q 30
Bogota(config-subif)#ip address 192.168.30.1 255.255.255.0
Bogota(config-subif)#interface f0/0,4
Bogota(config-subif)#encapsulation dot1Q 40
Bogota(config-subif)#ip address 192.168.40.1 255.255.255.0
Bogota(config-subif)#exit



4. En el Switch 3 deshabilitar DNS lookup

S3

Physical | Config | CLI

IOS Command Line Interface

```
S3>enable
Password:
S3#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
S3(config)#no ip domain-lookup
S3(config)#exit
S3#
%SYS-5-CONFIG_I: Configured from console by console

S3#
```

S3>enable
S3#conf t
S3(config)# no ip domain-looup
S3(config)#exit

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

   Se asignan las direcciones 192.168.99.2 y 192.168.99.3 respectivamente para cada switch, que servirán para ser administrados posteriormente al accesarse por telnet

```
S3(config)#int vlan 1
S3(config-if)#ip address 192.168.99.3 255.255.255.0
S3(config-if)#
```

```
S1>ena
Password:
S1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
S1(config)#int vlan 1
S1(config-if)#ip address 192.168.99.2 255.255.255.0
S1(config-if)#
```

S1>ena

S1#conf t

S1(config)#int vlan 1

S1(config-if)#ip address 192.168.99.2 255.255.255.0

S1(config-if)#no shut

S3>ena

S3#conf t

S3(config)#int vlan 1

S3(config-if)#ip address 192.168.99.3 255.255.255.0

S3(config-if)#no shut

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

7. Implement DHCP and NAT for IPv4

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

```
Bogota>ena
Bogota#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Bogota(config)#ip dhcp pool vlan 30
                            ^
% Invalid input detected at '^' marker.

Bogota(config)#ip dhcp pool vlan30
Bogota(dhcp-config)#network 192.168.30.0 255.255.255.0
Bogota(dhcp-config)#default-router 192.168.30.1
Bogota(dhcp-config)#ip dhcp pool vlan40
Bogota(dhcp-config)#network 192.168.40.0 255.255.255.0
Bogota(dhcp-config)#default-router 192.168.40.1
Bogota(dhcp-config)#ip dhcp pool vlan200
Bogota(dhcp-config)#network 192.168.200.0 255.255.255.0
Bogota(dhcp-config)#default-router 192.168.200.1
Bogota(dhcp-config)#exit
```

Bogota>ena
Bogota#conf t
Bogota(config)#ip dhcp pool vlan30
Bogota(dhcp-config)#network 192.168.30.0 255.255.255.0
Bogota(dhcp-config)#default-router 192.168.30.1
Bogota(dhcp-config)#ip dhcp pool vlan40
Bogota(dhcp-config)#network 192.168.40.0 255.255.255.0
Bogota(dhcp-config)#default-router 192.168.40.1
Bogota(dhcp-config)#ip dhcp pool vlan200
Bogota(dhcp-config)#network 192.168.200.0 255.255.255.0
Bogota(dhcp-config)#default-router 192.168.200.1
Bogota(dhcp-config)#exit

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

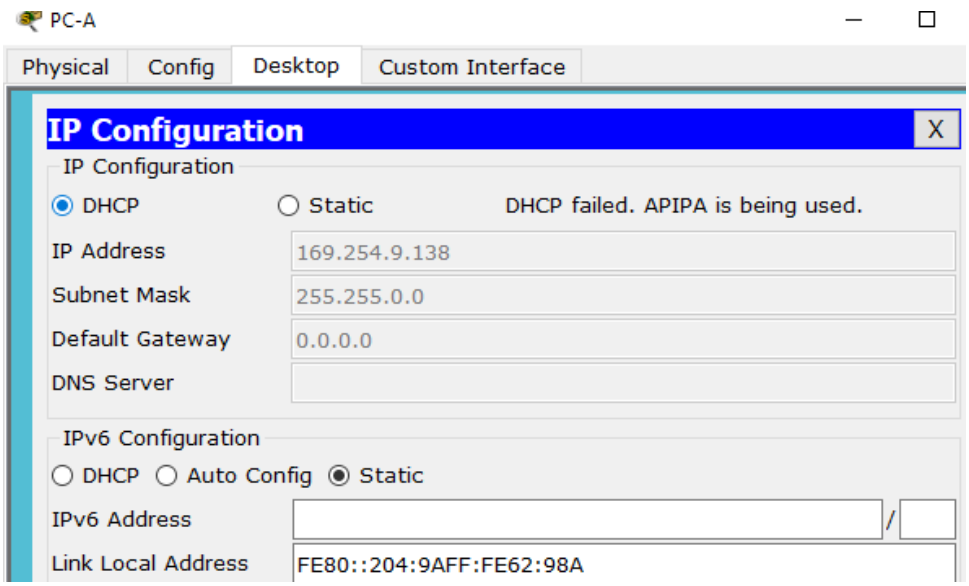
Configurar DHCP pool para VLAN 30	Name: ADMINISTRACION DNS-Server: 10.10.10.11 Domain-Name: ccna-unad.com Establecer default gateway.
Configurar DHCP pool para VLAN 40	Name: MERCADEO DNS-Server: 10.10.10.11 Domain-Name: ccna-unad.com Establecer default gateway.

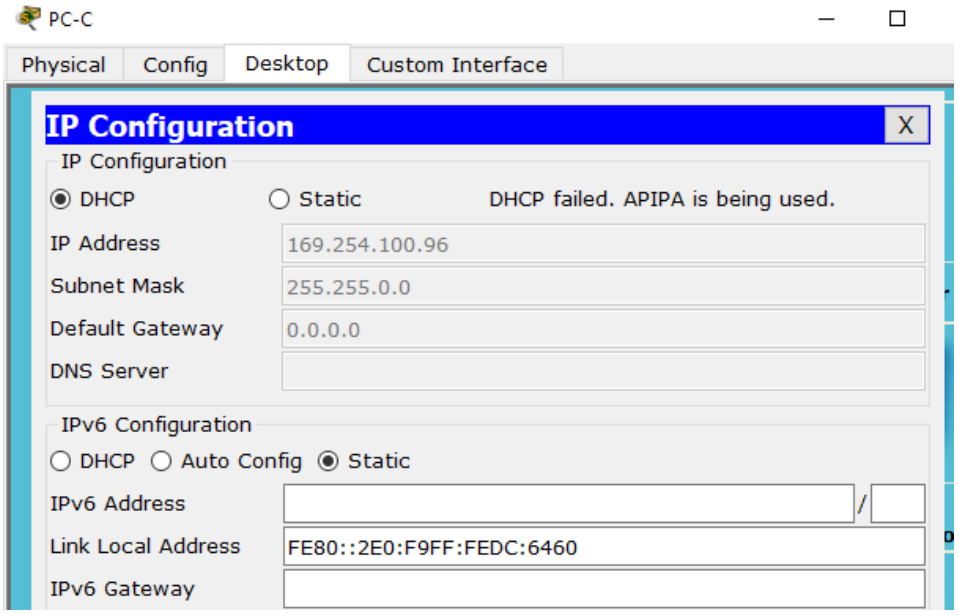
```
Bogota(config)#ip dhcp excluded-address 192.168.30.1 192.168.30.30
Bogota(config)#ip dhcp excluded-address 192.168.40.1 192.168.40.30
Bogota(config)#
```

Bogota>ena
Bogota#conf t

Bogota(config)#ip dhcp excluded-address 192.168.30.1 192.168.30.30

Bogota(config)#ip dhcp excluded-address 192.168.40.1 192.168.40.30





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

```
Miami>em
Translating "em"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer address

Miami>en
Miami#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Miami(config)#interface G0/0
%Invalid interface type and number
Miami(config)#interface f0/0
Miami(config-if)#ip nat inside
Miami(config-if)#int s0/0/0
Miami(config-if)#ip nat outside
Miami(config-if)#int s0/0/1
Miami(config-if)#ip nat outside
Miami(config-if)#exit
```

Miami>en
Miami#conf t
Miami(config)#interface f0/0
Miami(config-if)#ip nat inside
Miami(config-if)#int s0/0/0
Miami(config-if)#ip nat outside
Miami(config-if)#int s0/0/1
Miami(config-if)#ip nat outside
Miami(config-if)#exit

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.

```
Buenos_Aires>enable
Buenos_Aires#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Buenos_Aires(config)#do show acces
Buenos_Aires(config)#acces-list 102 deny icmp any 192.168.4.0 0.0.0.255
                    ^
% Invalid input detected at '^' marker.

Buenos_Aires(config)#access-list 102 deny icmp any 192.168.4.0 0.0.0.255
Buenos_Aires(config)#access-list 102 deny icmp any 192.168.6.0 0.0.0.255
Buenos_Aires(config)#do show access
Extended IP access list 102
    10 deny icmp any 192.168.4.0 0.0.0.255
    20 deny icmp any 192.168.6.0 0.0.0.255
```

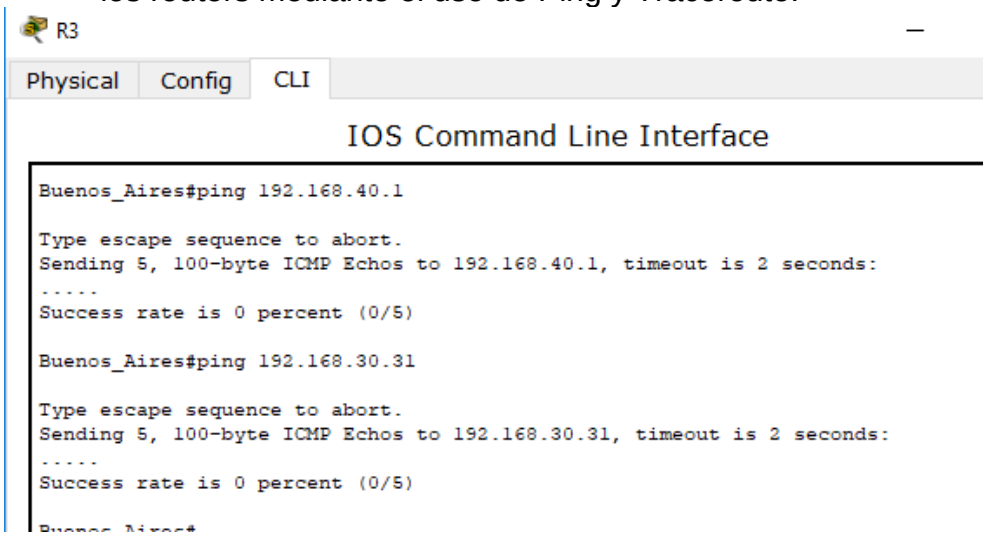
Buenos_Aires>enable
Buenos_Aires#conf t
Buenos_Aires(config)#access-list 102 deny icmp any 192.168.4.0 0.0.0.255
Buenos_Aires(config)#access-list 102 deny icmp any 192.168.6.0 0.0.0.255
Buenos_Aires(config)#do show access

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.

```
Bogota(config)#access-list 102 deny icmp any 192.168.3.1 0.0.0.255
Bogota(config)#access-list 102 deny icmp any 192.168.5.1 0.0.0.255
Bogota(config)#access-list 102 deny icmp any 192.168.6.1 0.0.0.255
Bogota(config)#acces-list 102 permit ip any 192.168.30.1 0.0.0.255
                          ^
% Invalid input detected at '^' marker.

Bogota(config)#access-list 102 permit ip any 192.168.30.1 0.0.0.255
Bogota(config)#do sh access-list
Extended IP access list 102
    10 deny icmp any 192.168.3.0 0.0.0.255
    20 deny icmp any 192.168.5.0 0.0.0.255
    30 deny icmp any 192.168.6.0 0.0.0.255
    40 permit ip any 192.168.30.0 0.0.0.255
Bogota(config)#
```

Bogota>enable
Bogota#conf t
Bogota(config)#access-list 102 deny icmp any 192.168.3.1 0.0.0.255
Bogota(config)#access-list 102 deny icmp any 192.168.5.1 0.0.0.255
Bogota(config)#access-list 102 deny icmp any 192.168.6.1 0.0.0.255
Bogota(config)#access-list 102 permit ip any 192.168.30.1 0.0.0.255
Bogota(config)#do sh access-list

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



Buenos_Aires#ping 192.160.40.1

Conclusiones

Es muy importante designar a cada uno de los equipos que componen la tipología de un circuito de red las diversas direcciones y funcionamientos, teniendo en cuenta también la seguridad para la protección de la información.

Toda topología de red, esta conformadas por subredes que cumplen una función para cada uno de los sectores designados, al momento de crear las vlan, dividimos la comunicación entre ellas motivo por el cual es necesario crear enrutamientos para poder cruzar información de una subred a otra.

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CISCO. (2014). VLANs. Principios de Enrutamiento y Conmutación. Recuperado de: https://static-courseassets.s3.amazonaws.com/RSE50ES/module3/index.html#3.0.1.1