

Evaluación Prueba de habilidades prácticas CCNA

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Introducción

Este consta del desarrollo de habilidades practicas donde se plasma los conocimientos previo al estudio del diplomado de profundización, donde se puede observar configuración por medio del enrutamiento OSPFv2, donde se realiza la respectiva configuración de seguridad, VLANs, puertos de acceso y troncales, NAT, listas de acceso y estándar por último se realiza la verificación del funcionamiento correcto de la topología por medio de ping y tracerroute.

Objetivos

- Configuración correcta a los dispositivos de red según los requerimientos solicitados.
- Configurar correctamente el protocolo de enrutamiento OSPFV2.
- Configurar el direccionamiento IP acorde con la topología de red.

Evaluación Prueba de habilidades prácticas CCNA

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

Dispositivo	Interface	Direccionamiento
R1	S0/0/0	172.31.21.1/30
	g0/1	10.10.10.10/32
	g0/0	209.165.200.230
R2	S0/0/0	172.31.23.1/30
	S0/0/1	172.31.21.2/30
R3	S0/0/1	172.31.23.2/30
SW 1	VLAN200	192.168.99.2
SW3	VLAN200	192.168.99.2
Internet PC	g0/0	209.165.200.230
Web Server	g0/1	10.10.10.10/32
Lo4	192.168.4.0/24	192.168.4.0/24
Lo5	192.168.5.0/24	192.168.5.0/24
Lo6	192.168.5.0/24	192.168.5.0/24
PC-A	DHCP	DHCP
PC-C	DHCP	DHCP

Configuración Inicial de todos los dispositivos

```
S1>
S1>enable
S1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
S1(config)#enable secret class
S1(config)#line console 0
S1(config-line)#pass cisco
S1(config-line)#login
S1(config-line)#line vty 0 4
S1(config-line)#pass cisco
S1(config-line)#login
S1(config-line)#exit
S1(config)#service password-encryption
S1(config)#
```

```
R2#show r
Building configuration...
Current configuration : 1797 bytes
version 15.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
hostname R2
!
!enable secret 5 $1$mERr$9cTjUIEqNGurQiFU.ZeCi1
```

```
!  
no ip cef  
no ipv6 cef  
!  
license udi pid CISCO1941/K9 sn FTX1524450I  
!  
spanning-tree mode pvst  
!  
interface GigabitEthernet0/0  
ip address 209.165.200.225 255.255.255.248  
ip access-group 101 out  
ip nat outside  
duplex auto  
speed auto  
!  
interface GigabitEthernet0/1  
ip address 10.10.10.1 255.255.255.0  
ip access-group 101 out  
ip nat inside  
duplex auto  
speed auto  
!  
interface Serial0/0/0  
bandwidth 128  
ip address 172.31.23.1 255.255.255.252  
ip ospf cost 7500  
ip access-group 101 out  
clock rate 2000000  
!  
interface Serial0/0/1  
bandwidth 128  
ip address 172.31.21.2 255.255.255.252  
ip ospf cost 7500  
ip access-group 101 in  
clock rate 2000000  
!  
interface Vlan1  
no ip address  
shutdown  
!  
router ospf 1  
router-id 2.2.2.2  
log-adjacency-changes  
passive-interface GigabitEthernet0/1  
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 nat pool INTERNET 209.165.200.225 209.165.200.228 netmask 255.255.255.248  
ip nat inside source list 1 pool INTERNET
```

```

ip nat inside source static 10.10.10.10 209.165.200.229
ip classless
!
access-list 1 permit 192.168.30.0 0.0.0.255
access-list 1 permit 192.168.40.0 0.0.0.255
access-list 1 permit 192.168.4.0 0.0.3.255
ip access-list standard ADMIN-MERC
permit host 172.31.21.1
access-list 101 permit tcp any host 172.31.21.1
access-list 101 permit icmp any any echo-reply
!
line con 0
password 7 0822455D0A16
login
!
line aux 0
!
line vty 0 4
access-class ADMIN-MERC in
password 7 0822455D0A16
login
!
end

```

```

R3(config-if)#int
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 add 192.168.4.1 255.255.255.0
R3(config-if)#no sh
R3(config-if)#no shutdown
R3(config-if)#int lo5

R3(config-if)#
%LINK-5-CHANGED: Interface Loopback5, changed state to up

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

R3(config-if)#ip add 192.168.5.1 255.255.255.0
R3(config-if)#no sh
R3(config-if)#no shutdown
R3(config-if)#int lo6

R3(config-if)#
%LINK-5-CHANGED: Interface Loopback6, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback6, changed state to up
R3(config-if)#ip add 192.168.6.1 255.255.255.0
R3(config-if)#

```

2. Configurar el protocolo de enrutamiento OSPFv2 bajo los siguientes criterios:

OSPFv2 área 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

Router 1

```
R1(config)#router ospf 1
R1 (config-router)#roue
R1 (config-router)#ro
R1 (config-router)#router-id 1.1.1.1
R1 (config-router)#network 172.31.211.0 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 192.168.50.0 0.0.0.255 area 0
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 (config-router)#exit
R1 (config)#interface s0/0/0
R1 (config-if)#bandwidth 128
R1 (config-if)#ip ospf cost 7500
```

Router 2

```
R2(config-router)#network 172.31.21.0 0.0.0.3 area 0
R2(config-router)#network 172.31.23.0 0.0.0.3 area 0
R2(config-router)#network 172.31.23.0 0.0.0.3 area 0
R2(config-router)#network 10.10.10.10 0.0.0.255 area 0
R2(config-router)#passive-interface g0/1
R2(config-router)#

R2(config)#interface s0/0/1
R2(config-if)#bandwidth 128
R2(config-if)#ip ospf cost 7500
R2(config-if)#interface s0/0/0
R2(config-if)#bandwidth 128
R2(config-if)#ip ospf cost 7500
```




Router 3

```
R3(config)#router ospf 1
R3(config-router)#router-id 3.3.3.3
R3(config-router)#network 172.31.23.0 0.0.0.3 area 0
R3(config-router)#
04:16:45: %OSPF-5-ADJCHG: Process 1, Nbr 2.2.2.2 on Serial0/0/1 from LOADING to FULL, Loading
Done
R3(config-router)#network 172.31.23.0 0.0.0.3 area 0
R3(config-router)#network 192.168.4.0 0.0.3.255 area 0
R3(config-router)#passive-interface lo4
R3(config-router)#passive-interface lo5
R3(config-router)#passive-interface lo6
R3(config-router)#interface s0/0/1
R3(config-if)#bandwidth 128
```

Verificar información de OSPF

- Visualizar tablas de enrutamiento y routers conectados por OSPFv2

```
R2#show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
3.3.3.3	0	FULL/ -	00:00:39	172.31.23.2	Serial0/0/0
1.1.1.1	0	FULL/ -	00:00:32	172.31.21.1	Serial0/0/1

- 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: 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
  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)
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
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    Hello due in 00:00:07
  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: 1
  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)
```

- Visualizar el OSPF Process ID, Router ID,

```
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          00:22:05
    2.2.2.2          110          00:06:38
    3.3.3.3          110          00:06:09
  Distance: (default is 110)
```

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

```
Password:

S1>enable
Password:
S1#enable
S1#conf ter
Enter configuration commands, one per line. End with CNTL/Z.
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)#name Mantenimiento
S1(config-vlan)#
```

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

S1(config-if)#ip ad
S1(config-if)#ip address 192.168.99.2 255.255.255.0
S1(config-if)#no shutdown
S1(config-if)#exit
S1(config)#ip de
S1(config)#ip default-gateway 192.168.99.1
S1(config)#interface f0/3
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 native vlan 1
S1(config-if)#interface f0/24
S1(config-if)#switchport mode trunk
S1(config-if)#switchport trunk native vlan 1
S1(config-if)#int range f0/1-2, fa0/4-23
S1(config-if-range)#switchport mode Access
S1(config-if-range)#int fa0/1
S1(config-if)#switchport mode access
S1(config-if)#switchport access vlan 30
```

Switche 3

```
S3>enable
Password:
S3#conf ter
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)#interface 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 address 192.168.99.3 255.255.255.0
S3(config-if)#no shutdown
S3(config-if)#
S3(config-if)#exit
S3(config)#ip default-gateway 192.168.99.1
S3(config)#interface fastEthernet 0/3
S3(config-if)#switchport mode trunk
S3(config-if)#switchport trunk native vlan 1
S3(config)#interface range f0/1-2, F0/4-24
S3(config-if-range)#switchport mode Access

S3(config-if-range)#int f0/1
S3(config-if)#switchport mode access
S3(config-if)#switchport access vlan 40
```

Configuración seguridad

```
R1(config-subif)#encapsulation dot1Q 30
R1(config-subif)#ip address 192.168.30.1 255.255.255.0
R1(config-subif)#interface fastEthernet 0/0.40
R1(config-subif)#encapsulation dot1Q 40
R1(config-subif)#ip address 192.168.40.1 255.255.255.0
R1(config-subif)#interface fastEthernet 0/0.200
R1(config-subif)#encapsulation dot1Q 200
R1(config-subif)#ip address 192.168.50.1 255.255.255.0
```

4. En el Switch 3 deshabilitar DNS lookup

```
Switch#enable
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)#
```

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

```
S1(config-if)#ip address 192.168.99.2 255.255.255.0
S1(config-if)#no shutdown
```

```
S3(config-if)#ip address 192.168.99.3 255.255.255.0
S3(config-if)#no shutdown
```

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

```
S1(config-if-range)#int range fa0/2,f0/4-23
S1(config-if-range)#shutdown
S3(config-if)#interface range f0/2, F0/4-2
S3(config-if-range)#shutdown
```

7. Implement DHCP and NAT for IPv4

```
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-server 10.10.10.11
R1(dhcp-config)#domain-name ccna-unad.com
^
% Invalid input detected at '^' marker.
R1(dhcp-config)#default-router 192.168.31.1
R1(dhcp-config)#no default-router 192.168.31.1
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
```

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

```
R1(dhcp-config)#dns-server 10.10.10.11
```

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

```
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
```

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

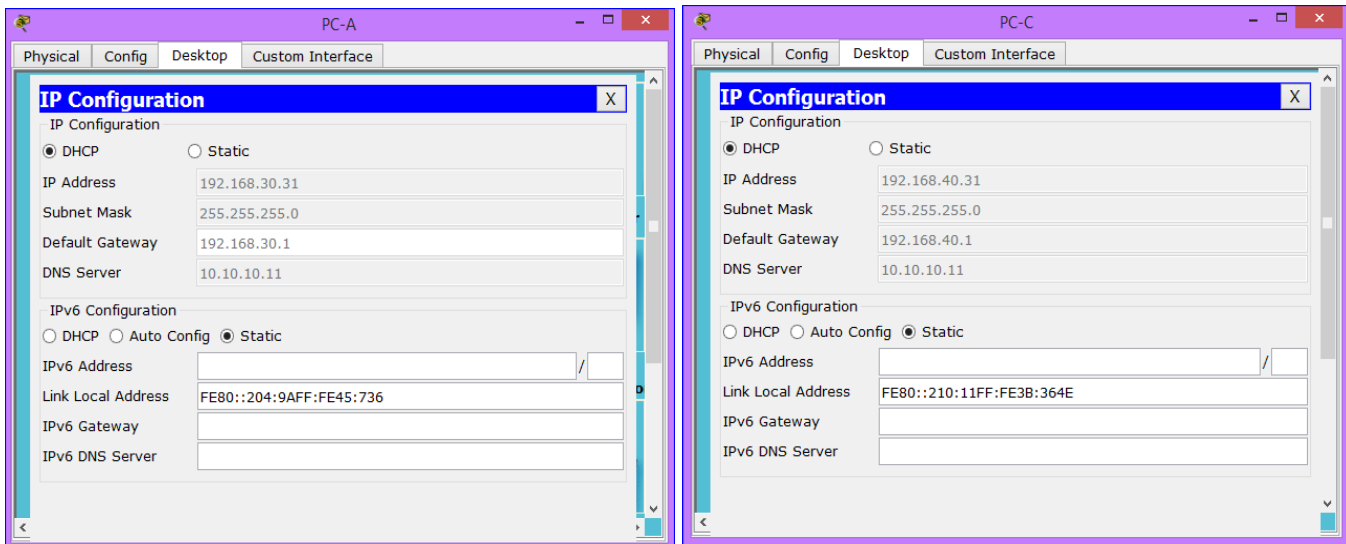
```
R1(config)#ip DHCP pool ADMINISTRACION
R1(dhcp-config)#dns-server 10.10.10.11.
R1(dhcp-config)#domain-name ccna-unad.com
^
% Invalid input detected at '^' marker.
R1(dhcp-config)#default-router 192.168.31.1
```

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

```
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
```

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

```
R2(config)#ip nat inside source static 10.10.10.10 209.165.200.229
R2(config)#interface g0/0
R2(config-if)#ip nat outside
R2(config-if)#interface g0/1
R2(config-if)#ip nat inside
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)#ip nat pool INTERNET 209.165.200.225 209.165.200.228 netmask 255.255.255.248
R2(config)#ip nat inside source list 1 pool INTERNET
```



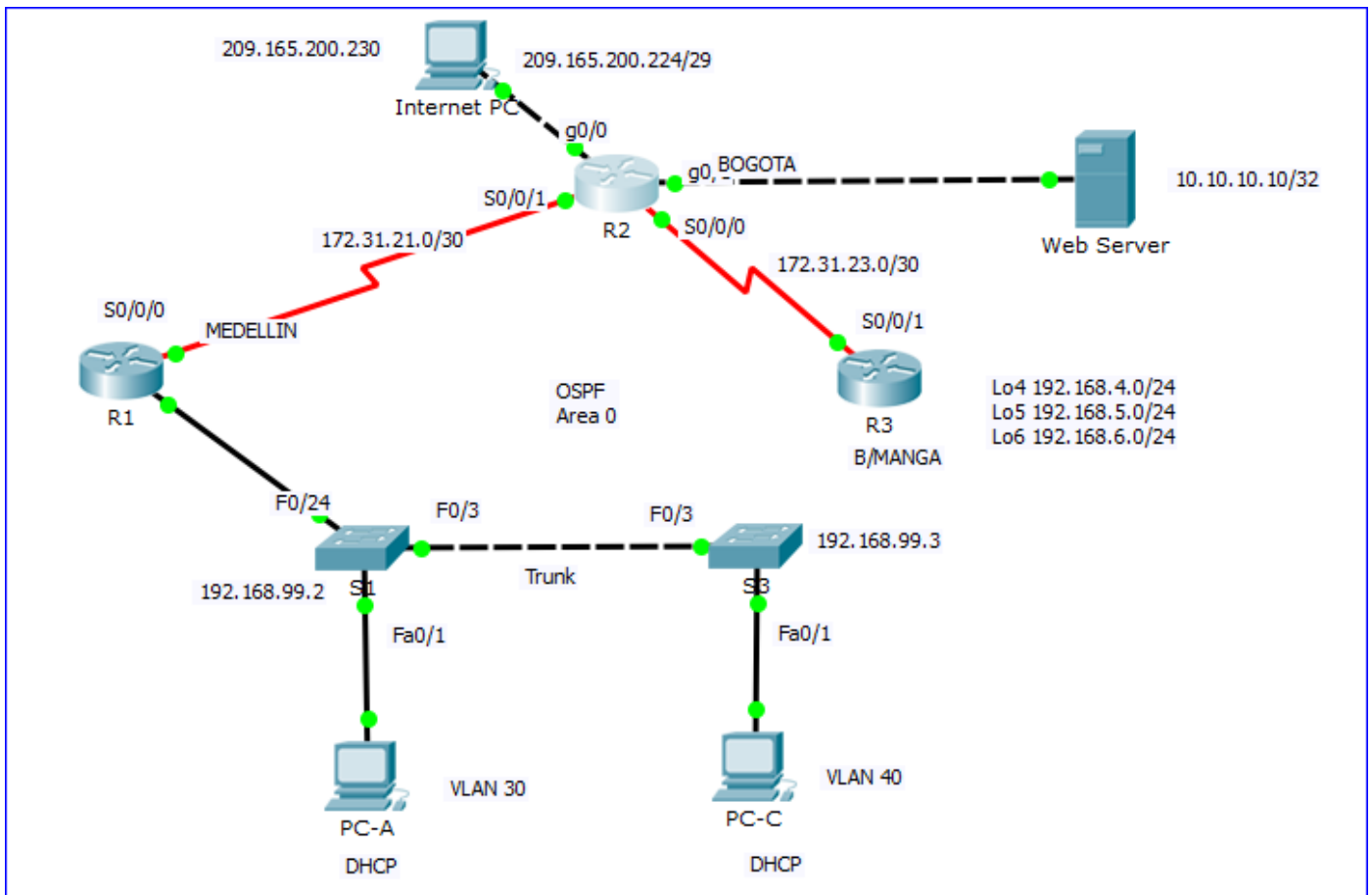
11. Configurar al menos dos listas de acceso de tipo estándar a su criterio en para restringir o permitir tráfico desde R1 o R3 hacia R2.

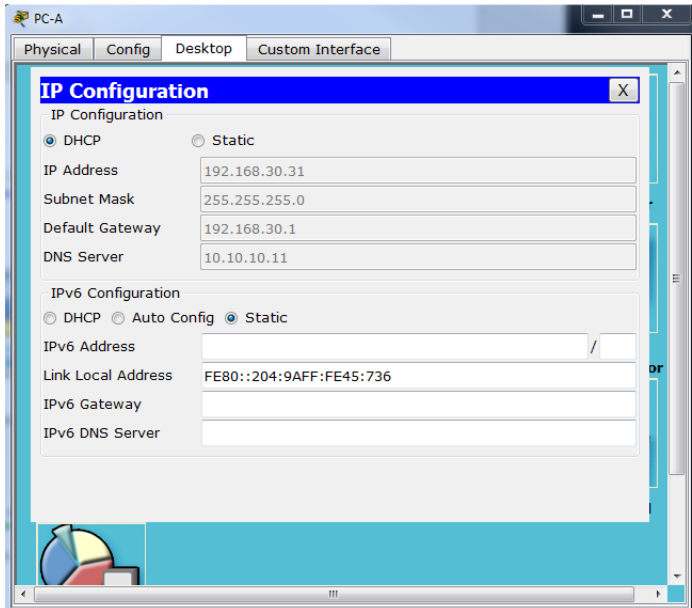
```
R2(config)#ip access-list standard ADMIN-MERC
R2(config-std-nacl)#permit host 172.31.21.1
R2(config)#line vty 0 4
R2(config-line)#access-class ADMIN-MERC in
```

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(config)#access-list 101 permit tcp any host 172.31.21.1
R2(config)#access-list 101 permit icmp any any echo-reply
R2(config)#interface s0/0/1
R2(config-if)#ip access-group 101 in
```

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





IP Configuration

IP Configuration

DHCP Static

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

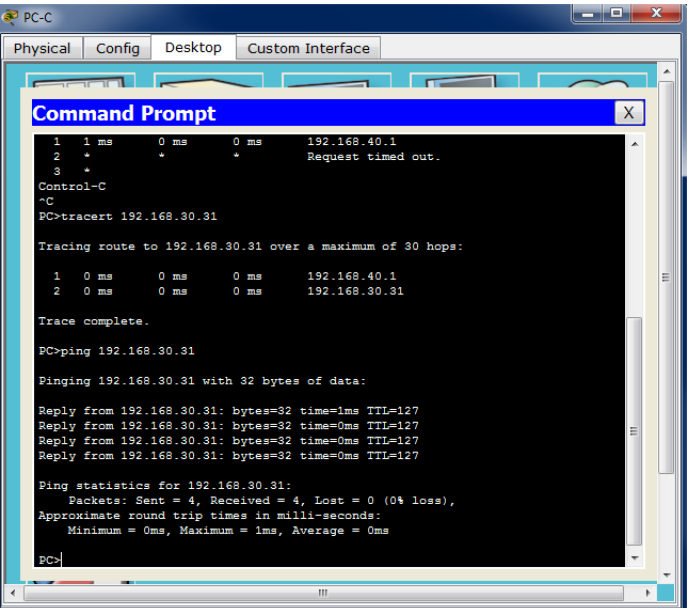
DHCP Auto Config Static

IPv6 Address: /

Link Local Address: FE80::204:9AFF:FE45:736

IPv6 Gateway: /

IPv6 DNS Server: /



Command Prompt

```

1 1 ms 0 ms 0 ms 192.168.40.1
2 + * + Request timed out.
3 +
Control-C
^C
PC>tracert 192.168.30.31

Tracing route to 192.168.30.31 over a maximum of 30 hops:

  0  0 ms  0 ms  0 ms  192.168.40.1
  1  0 ms  0 ms  0 ms  192.168.30.31

Trace complete.

PC>ping 192.168.30.31

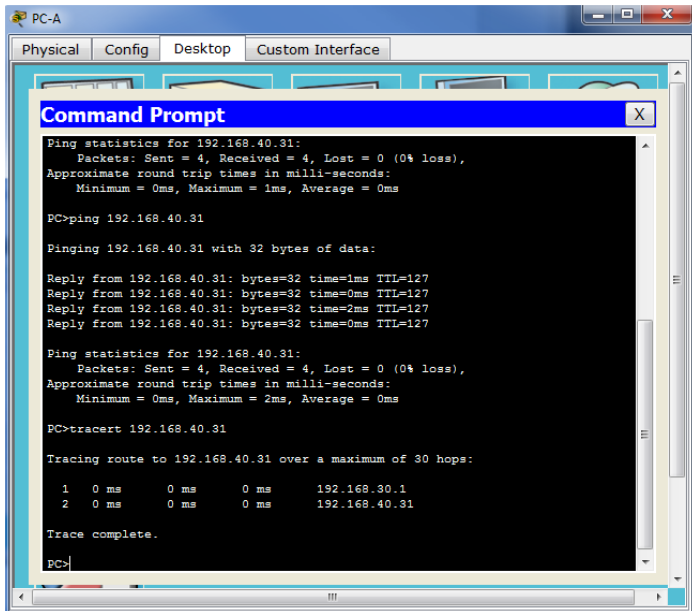
Pinging 192.168.30.31 with 32 bytes of data:

Reply from 192.168.30.31: bytes=32 time=1ms TTL=127
Reply from 192.168.30.31: bytes=32 time=0ms TTL=127
Reply from 192.168.30.31: bytes=32 time=0ms TTL=127
Reply from 192.168.30.31: bytes=32 time=0ms TTL=127

Ping statistics for 192.168.30.31:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>

```



Command Prompt

```

Ping statistics for 192.168.40.31:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>ping 192.168.40.31

Pinging 192.168.40.31 with 32 bytes of data:

Reply from 192.168.40.31: bytes=32 time=1ms TTL=127
Reply from 192.168.40.31: bytes=32 time=0ms TTL=127
Reply from 192.168.40.31: bytes=32 time=2ms TTL=127
Reply from 192.168.40.31: bytes=32 time=0ms TTL=127

Ping statistics for 192.168.40.31:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

PC>tracert 192.168.40.31

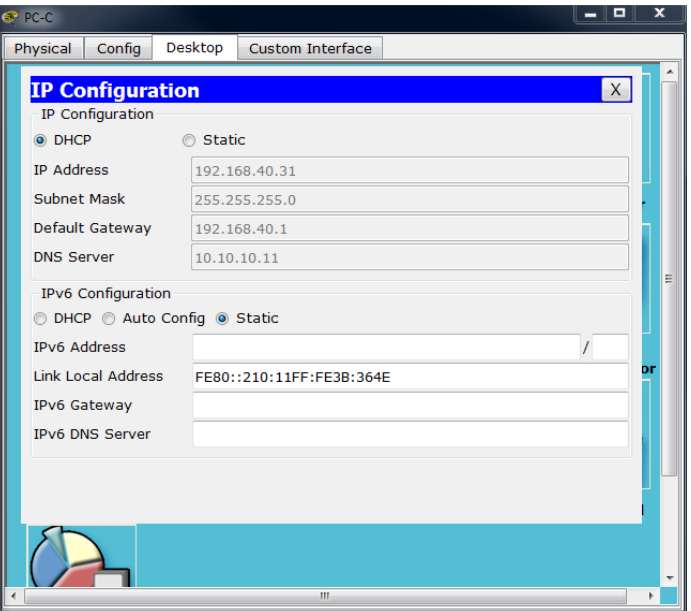
Tracing route to 192.168.40.31 over a maximum of 30 hops:

  0  0 ms  0 ms  0 ms  192.168.30.1
  1  0 ms  0 ms  0 ms  192.168.40.31

Trace complete.

PC>

```



IP Configuration

IP Configuration

DHCP Static

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::210:11FF:FE3B:364E

IPv6 Gateway: /

IPv6 DNS Server: /

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File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background Viewport

Time: 00:15:42 Power Cycle Devices Fast Forward Time

Realtime

Fire	Last Status	Source	Destination	Type	Color	Time(se)
●	Successful	R2	R1	ICMP	■	0.000
●	Successful	R2	R3	ICMP	■	0.000
●	Successful	PC-C	PC-A	ICMP	■	0.000

PC-C

Physical Config Desktop Custom Interface

Command Prompt

```

Ping statistics for 172.31.21.1:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
  Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 2ms, Average = 0ms

PC>tracert 172.31.21.1

Tracing route to 172.31.21.1 over a maximum of 30 hops:
  0  0 ms  0 ms  0 ms  172.31.21.1
Trace complete.

PC>ping 192.168.30.31

Pinging 192.168.30.31 with 32 bytes of data:

Reply from 192.168.30.31: bytes=32 time=1ms TTL=127
Reply from 192.168.30.31: bytes=32 time=0ms TTL=127
Reply from 192.168.30.31: bytes=32 time=0ms TTL=127
Reply from 192.168.30.31: bytes=32 time=1ms TTL=127

Ping statistics for 192.168.30.31:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
  Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>
  
```

PC-A

Physical Config Desktop Custom Interface

IP Configuration

IP Configuration

DHCP Static

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

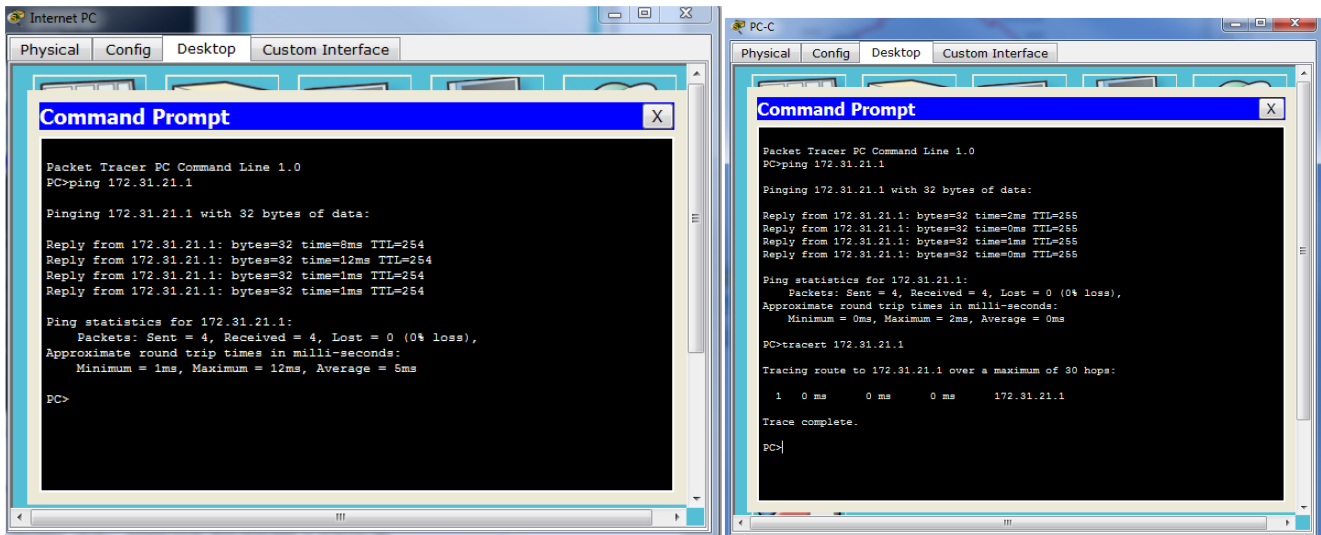
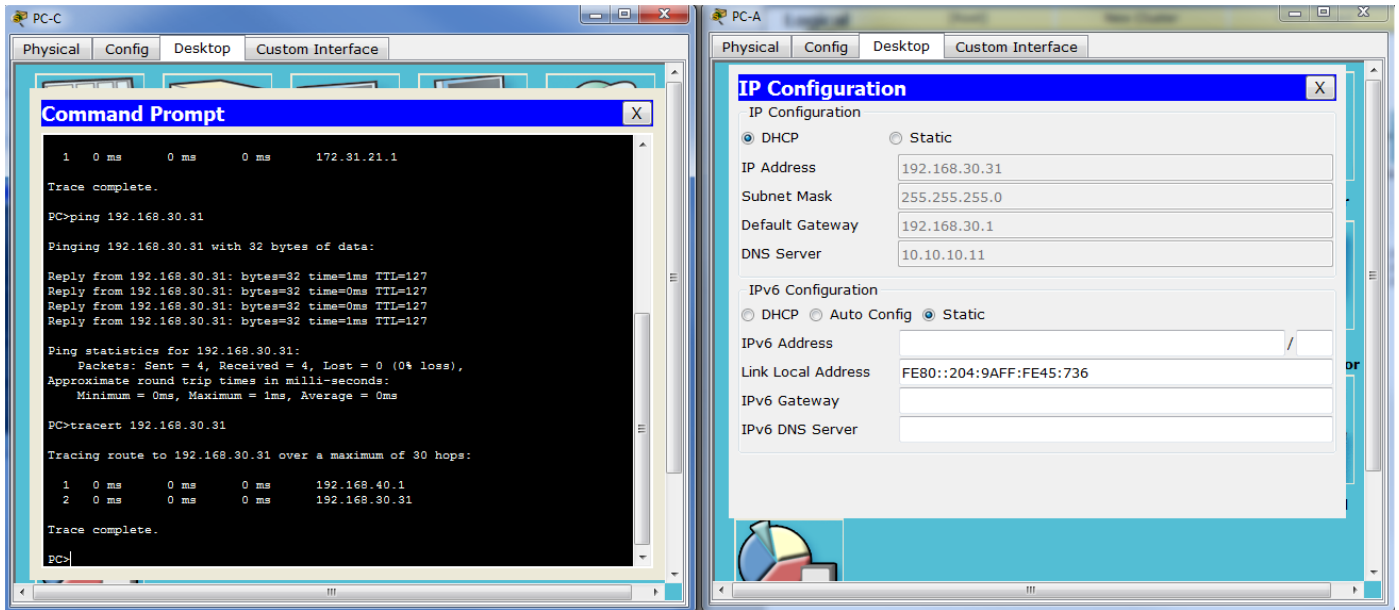
DHCP Auto Config Static

IPv6 Address: /

Link Local Address: FE80::204:9AFF:FE45:736

IPv6 Gateway:

IPv6 DNS Server:



R3#ping 172.31.21.1

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echoes to 172.31.21.1, timeout is 2 seconds:

!!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 2/5/10 ms



```
R2#ping 10.10.10.10
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.10.10.10, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/1 ms
```

```
R2#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 = 0/0/1 ms
```

```
R2#ping 209.165.200.224
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 209.165.200.224, timeout is 2 seconds:
```

```
Reply to request 0 from 209.165.200.230, 1 ms
```

```
Reply to request 1 from 209.165.200.230, 0 ms
```

```
Reply to request 2 from 209.165.200.230, 1 ms
```

```
Reply to request 3 from 209.165.200.230, 0 ms
```

```
Reply to request 4 from 209.165.200.230, 0 ms
```

```
R2#ping 192.168.5.1
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 192.168.5.1, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 6/7/10 ms
```

```
R2#ping 192.168.6.1
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 192.168.6.1, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/6/12 ms
```

Conclusiones

Se utilizan los conocimientos adquiridos en el transcurso del diplomado de profundización, implementando y configurando correctamente los dispositivos con el direccionamiento de la topología y el protocolo de enrutamiento exigido teniendo éxito en todas las pruebas de conectividad realizadas con el ping y traceroute.

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