Solución de estudios de caso bajo el uso de tecnología CISCO

Repositorio

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Tabla de contenido

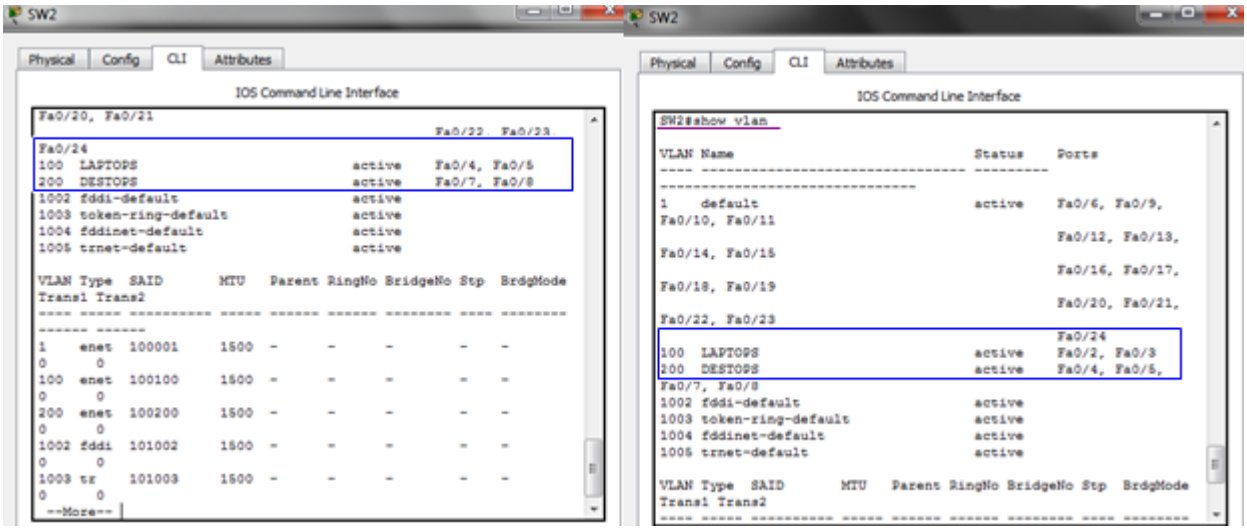
Introducción

En el diplomado prueba de habilidades nos colocaron diferentes retos y propuestas que fueron desarrolladas a lo largo del curso acerca de diversos aspectos sobre el Networking, enrutamiento estático, dinámico, asignación dinámica de direcciones IP, traducciones IP, protocolos de estados, listas de acceso y también a solucionar problemas de subredes y de direccionamientos IP para IPv4; con el uso del programa Packet Tracer, con este creamos habilidades propias de la materia para su aplicabilidad y uso en el mundo laboral.

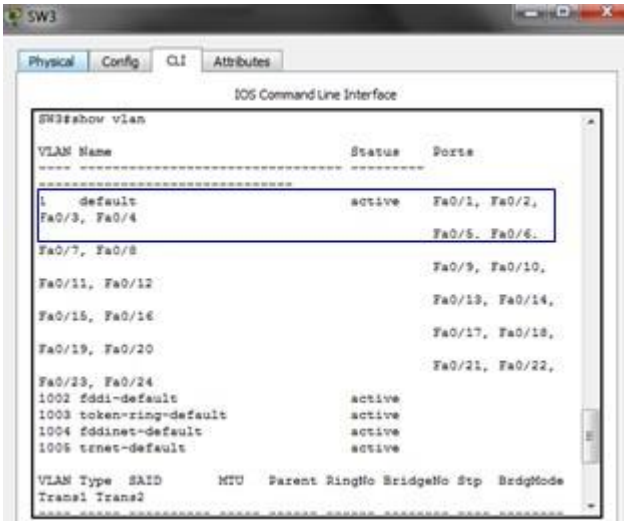
Desarrollo de los escenarios

- **Escenario 1**

Configuración SW2



Configuración SW3



SW2

```
SW2#config t
Enter configuration commands, one per line.  End with CNTL/Z.
SW2(config)#int f0/1
SW2(config-if)#switchport mode trunk
SW2(config-if)#exit
SW2(config)#
```

SW3

```
SW3#Config t
Enter configuration commands, one per line.  End with CNTL/Z.
SW3(config)#int f0/1
SW3(config-if)#switchport mode trunk

SW3(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1,
changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1,
changed state to up

SW3(config-if)#end
```

Deshabilitar puertos sin utilizar

```
SW2#
SW2#config t
Enter configuration commands, one per line.  End with CNTL/Z.
SW2(config)#int range f0/6-24
SW2(config-if-range)#shutdown


SW3#
SW3#config t
Enter configuration commands, one per line.  End with CNTL/Z.
SW3(config)#int range f0/6-23
SW3(config-if-range)#shutdown
```

Configuración IP R1

```
R1>en
R1#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#int s0/0/0
R1(config-if)#ip address 200
                         ^
% Invalid input detected at '^' marker.

R1(config-if)#ip address 200.123.211.2 255.255.255.0
R1(config-if)#exit
R1(config)#int s0/1/0
R1(config-if)#ip address 10.0.0.1 255.255.255.252
R1(config-if)#exit
R1(config)#int s0/1/1
R1(config-if)#ip address 10.0.0.5 255.255.255.252
R1(config-if)#end
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#wr
Building configuration...
[OK]
```

Configuración IP R2

```
R2>en
R2#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#int f0/0.100
R2(config-subif)#encapsulation do
R2(config-subif)#encapsulation dot1Q 100
R2(config-subif)#ip address 192.168.20.1 255.255.255.0
R2(config-subif)#exit
R2(config)#int f0/0.200
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 d
R2(config-subif)#encapsulation dot1Q 200
R2(config-subif)#ip address 192.168.21.1 255.255.255.0
R2(config-subif)#exit


R2(config)#int s0/0/0
R2(config-if)#ip address 10.0.0.2 255.255.255.252
R2(config-if)#exit
R2(config)#int s0/0/1
R2(config-if)#ip address 10.0.0.9 255.255.255.252
R2(config-if)#exit
R2(config)#
R2(config)#end
R2#
%SYS-5-CONFIG_I: Configured from console by console

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

Configuración IP R3

```
R3>en
R3#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#int f0/0
R3(config-if)#ip address 192.168.30.1 255.255.255.0
R3(config-if)#exit
R3(config)#ipv6 unicast-routing
R3(config)#int s0/0/0
R3(config-if)#ip address 10.0.0.6 255.255.255.252
R3(config-if)#exit
R3(config)#int s0/0/1
R3(config-if)#ip address 10.0.0.10 255.255.255.252
R3(config-if)#exit
R3(config)#end
R3#
%SYS-5-CONFIG_I: Configured from console by console

R3#wr
Building configuration...
[OK]
```

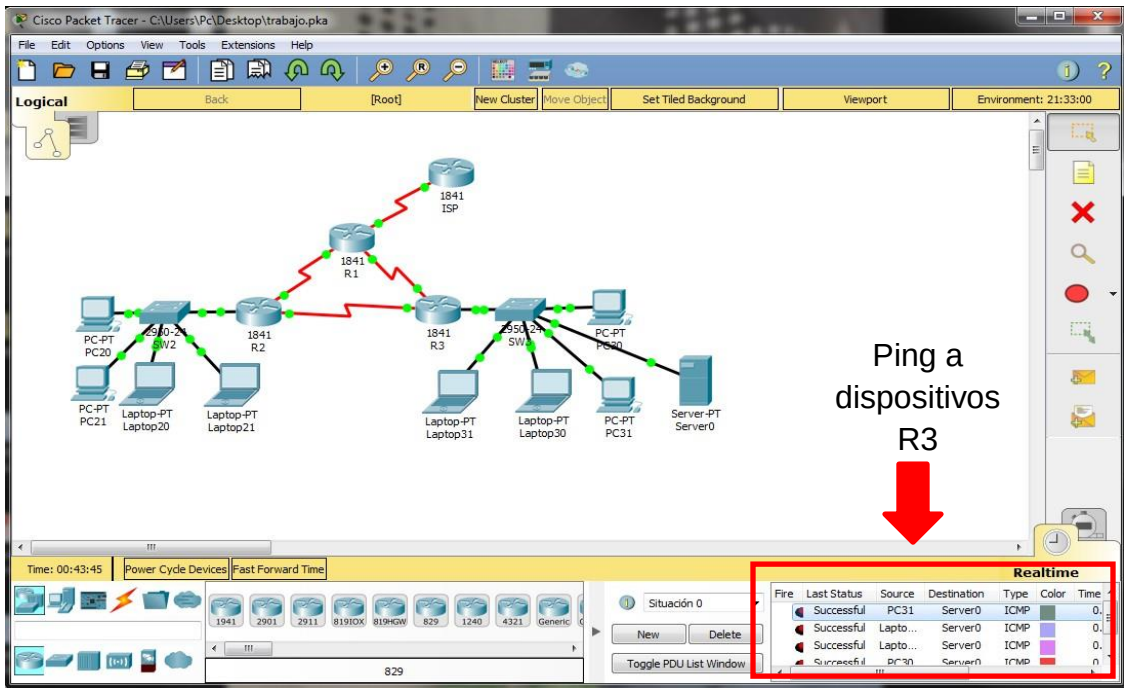
Configuración R1 NAT

```
R1#show ip nat translations
Pro  Inside global     Inside local       Outside local
Outside global
tcp 200.123.211.1:80   192.168.30.6:80    ---                ---

R1#show ip nat statistics
Total translations: 1 (1 static, 0 dynamic, 1 extended)
Outside Interfaces: Serial0/0/0
Inside Interfaces: Serial0/1/0 , Serial0/1/1
Hits: 0  Misses: 0
Expired translations: 0
Dynamic mappings:
```

Configuración R2

```
R2>en
R2#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#ip dhcp excluded-address 10.0.0.2 10.0.0.9
R2(config)#ip dhcp pool INSIDE-DEVS
R2(dhcp-config)#network 192.168.20.1 255.255.255.0
R2(dhcp-config)#n%DHCPD-4-PING_CONFLICT: DHCP address conflict:
server pinged 192.168.20.1.
R2(dhcp-config)#exit
R2(config)#ip dhcp excluded-address 10.0.0.2 10.0.0.9
R2(config)#ip dhcp pool INSIDE-DEVS
R2(dhcp-config)#network 192.168.20.1 255.255.255.0
R2(dhcp-config)#network 192.168.21.1 255.255.255.0
R2(dhcp-config)#default-router 192.168.1.1
R2(dhcp-config)#dns-server 0.0.0.0
R2(dhcp-config)#exit
R2(config)#int vlan 100
R2(config-if)#ip address 192.168.20.1 255.255.255.0
% 192.168.20.0 overlaps with FastEthernet0/0.100
R2(config-if)#exit
R2(config)#int vlan 200
R2(config-if)#ip address 192.168.21.1 255.255.255.0
% 192.168.21.0 overlaps with FastEthernet0/0.200
R2(config-if)#end
```

Configuración Server0



Configuración F0/0 R3 IPv6

```
R3>en
R3#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#ipv6 unicast-routing
R3(config)#int f0/0
R3(config-if)#ipv6 enable
R3(config-if)#ip address 192.168.30.1 255.255.255.0
R3(config-if)#ipv6 address 2001:DB8::9C0:80F:301/64
R3(config-if)#no shutdown
R3(config-if)#exit
R3(config)#end
R3#
%SYS-5-CONFIG_I: Configured from console by console

R3#wr
Building configuration...
[OK]
```

Configuración R1, R2, R3 RIP Versión 2

```
R1>EN
R1#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#router rip
R1(config-router)#version 2
R1(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

R1(config-router)#network 10.0.0.0
R1(config-router)#network 10.0.0.4
R1(config-router)#end
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#wr
Building configuration...
[OK]
```

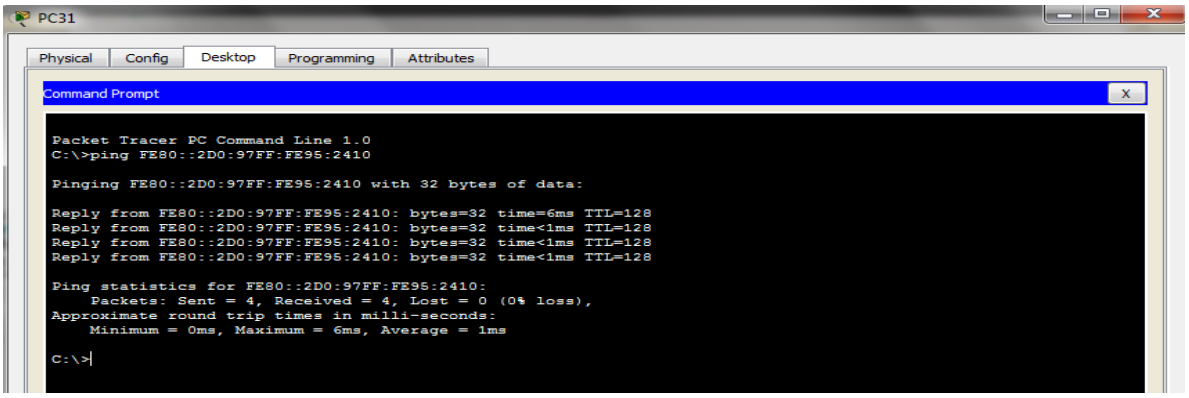
```
R2>en
R2#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#router rip
R2(config-router)#version 2
R2(config-router)#network 10.0.0.0
R2(config-router)#network 10.0.0.8
R2(config-router)#do show ip route connected
 C   10.0.0.0/30  is directly connected, Serial0/0/0
 C   10.0.0.8/30  is directly connected, Serial0/0/1
 C   192.168.20.0/24  is directly connected, FastEthernet0/0.100
 C   192.168.21.0/24  is directly connected, FastEthernet0/0.200

R2(config-router)#end
R2#
%SYS-5-CONFIG_I: Configured from console by console

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

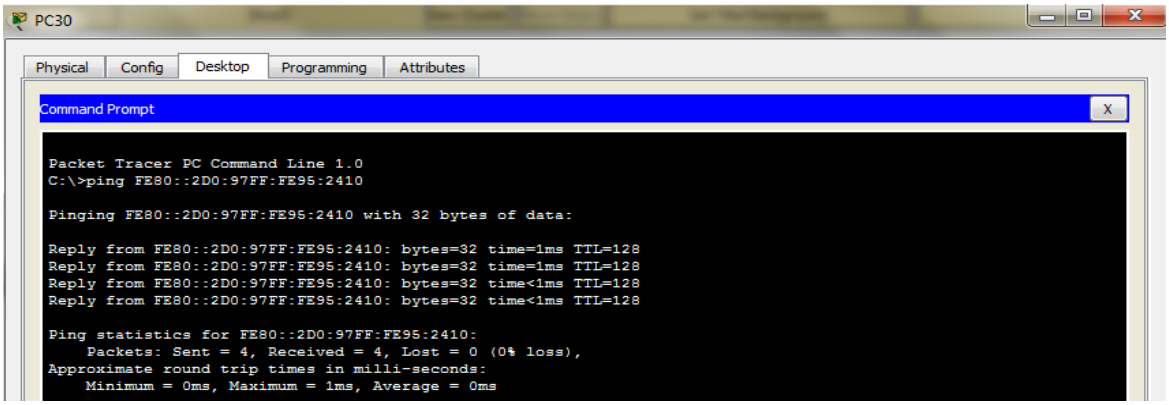
```
R3>en
R3#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#router rip
R3(config-router)#version 2
R3(config-router)#network 10.0.0.0
R3(config-router)#network 10.0.0.8
R3(config-router)#end
R3#
%SYS-5-CONFIG_I: Configured from console by console

R3#show ip route connected
 C   10.0.0.4/30  is directly connected, Serial0/0/0
 C   10.0.0.8/30  is directly connected, Serial0/0/1
 C   192.168.30.0/24  is directly connected, FastEthernet0/0

R3#wr
Building configuration...
[OK]
```

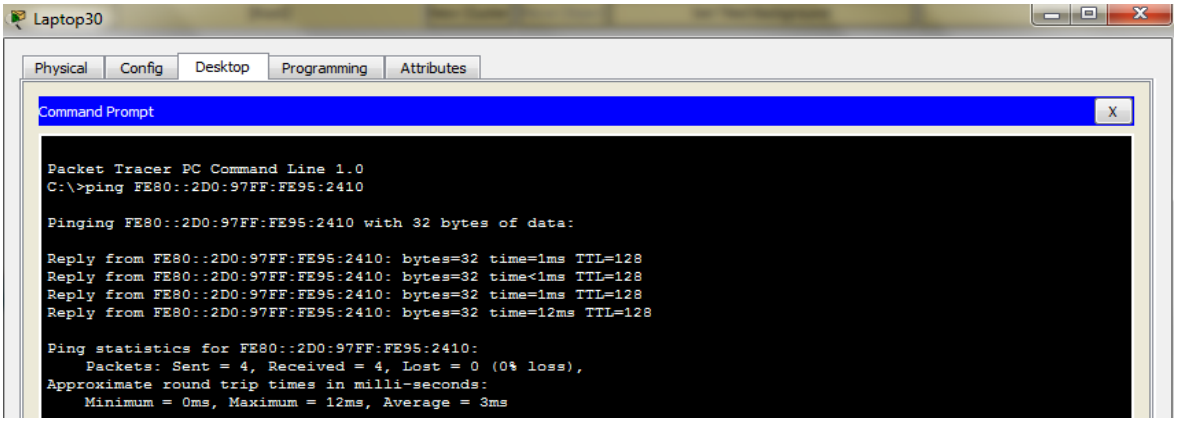
Verificación de conectividad por medio de pings

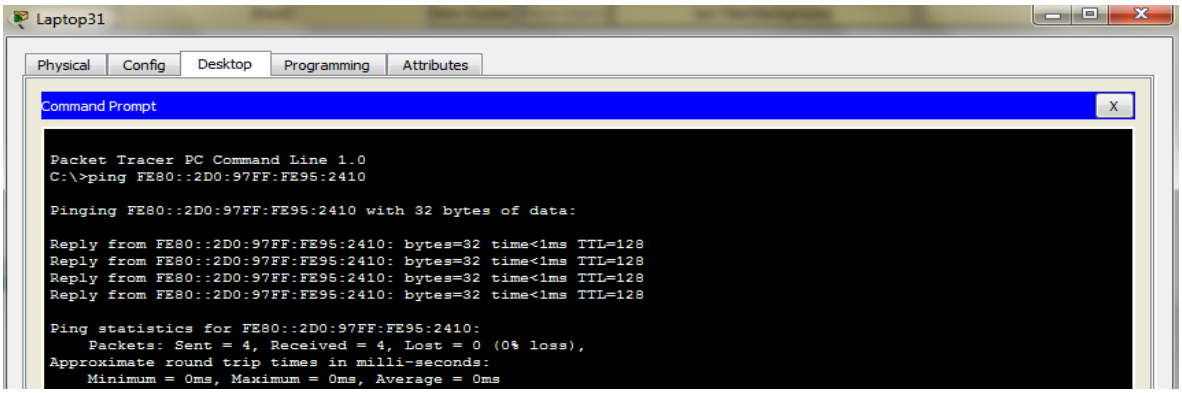
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
	Successful	Server0	R3	ICMP		0.000	N	4
	Successful	PC31	R3	ICMP		0.000	N	5
	Successful	Lapto...	Server0	ICMP		0.000	N	6
	Successful	Server0	R1	ICMP		0.000	N	7
	Successful	Server0	ISP	ICMP		0.000	N	8
	Successful	PC30	ISP	ICMP		0.000	N	9
	Successful	Lapto...	ISP	ICMP		0.000	N	10
	Successful	Lapto...	ISP	ICMP		0.000	N	10
	Successful	Lapto...	ISP	ICMP		0.000	N	11
	Successful	R3	R2	ICMP		0.000	N	12
	Successful	R1	R3	ICMP		0.000	N	13
	Successful	R1	R2	ICMP		0.000	N	14
	Successful	Lapto...	R2	ICMP		0.000	N	15
	Successful	Lapto...	R2	ICMP		0.000	N	15
	Successful	PC21	R2	ICMP		0.000	N	16
	Successful	PC20	R2	ICMP		0.000	N	17

Ping al Server0









Ping ISP

```
R2>ping 200.123.211.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 200.123.211.1, timeout is 2
seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max =
4/11/19 ms


R3>ping 200.123.211.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 200.123.211.1, timeout is 2
seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max =
9/13/17 ms


R1>ping 200.123.211.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 200.123.211.1, timeout is 2
seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max =
7/8/13 ms
```

- **Escenario 2**

Configuración R1

```
R1#sh ip ro
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

     10.0.0.0/32 is subnetted, 1 subnets
O       10.10.10.10 [110/7501] via 172.31.21.2, 00:23:32, Serial0/0/0
     172.31.0.0/30 is subnetted, 2 subnets
C       172.31.21.0 is directly connected, Serial0/0/0
O       172.31.23.0 [110/15000] via 172.31.21.2, 00:23:32, Serial0/0/0
     192.168.4.0/32 is subnetted, 1 subnets
O       192.168.4.1 [110/15001] via 172.31.21.2, 00:23:22, Serial0/0/0
     192.168.5.0/32 is subnetted, 1 subnets
O       192.168.5.1 [110/15001] via 172.31.21.2, 00:23:22, Serial0/0/0
     192.168.6.0/32 is subnetted, 1 subnets
O       192.168.6.1 [110/15001] via 172.31.21.2, 00:23:22, Serial0/0/0
C    192.168.30.0/24 is directly connected, FastEthernet0/0.30
C    192.168.40.0/24 is directly connected, FastEthernet0/0.40
C    192.168.99.0/24 is directly connected, FastEthernet0/0.99
C    192.168.200.0/24 is directly connected, FastEthernet0/0.200
     209.165.200.0/29 is subnetted, 1 subnets
O       209.165.200.224 [110/7501] via 172.31.21.2, 00:23:32, Serial0/0/0
```

Configuración R2

```
R2#sh ip ro
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 209.165.200.230 to network 0.0.0.0

     10.0.0.0/32 is subnetted, 1 subnets
C       10.10.10.10 is directly connected, Loopback0
     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
     192.168.4.0/32 is subnetted, 1 subnets
O       192.168.4.1 [110/7501] via 172.31.23.2, 00:24:52, Serial0/0/0
     192.168.5.0/32 is subnetted, 1 subnets
O       192.168.5.1 [110/7501] via 172.31.23.2, 00:24:52, Serial0/0/0
     192.168.6.0/32 is subnetted, 1 subnets
O       192.168.6.1 [110/7501] via 172.31.23.2, 00:24:52, Serial0/0/0
O    192.168.30.0/24 [110/782] via 172.31.21.1, 00:24:52, Serial0/0/1
O    192.168.40.0/24 [110/782] via 172.31.21.1, 00:24:52, Serial0/0/1
O    192.168.99.0/24 [110/782] via 172.31.21.1, 00:24:52, Serial0/0/1
O    192.168.200.0/24 [110/782] via 172.31.21.1, 00:24:52, Serial0/0/1
     209.165.200.0/29 is subnetted, 1 subnets
C       209.165.200.224 is directly connected, FastEthernet0/0
S*   0.0.0.0/0 [1/0] via 209.165.200.230

R2#
```

Configuración R3

```
R3#sh ip ro
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

     10.0.0.0/32 is subnetted, 1 subnets
O       10.10.10.10 [110/782] via 172.31.23.1, 00:29:27, Serial0/0/1
     172.31.0.0/30 is subnetted, 2 subnets
O       172.31.21.0 [110/1562] via 172.31.23.1, 00:29:27, Serial0/0/1
C       172.31.23.0 is directly connected, Serial0/0/1
C    192.168.4.0/24 is directly connected, Loopback4
C    192.168.5.0/24 is directly connected, Loopback5
C    192.168.6.0/24 is directly connected, Loopback6
O    192.168.30.0/24 [110/1563] via 172.31.23.1, 00:29:27, Serial0/0/1
O    192.168.40.0/24 [110/1563] via 172.31.23.1, 00:29:27, Serial0/0/1
O    192.168.99.0/24 [110/1563] via 172.31.23.1, 00:29:27, Serial0/0/1
O    192.168.200.0/24 [110/1563] via 172.31.23.1, 00:29:27, Serial0/0/1
     209.165.200.0/29 is subnetted, 1 subnets
O       209.165.200.224 [110/782] via 172.31.23.1, 00:29:27, Serial0/0/1
```

Configuración OSPF R1

```
R1>en
Password:
R1#conf t
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 0.0.0.3 area 0
R1(config-router)#network 192.168.40.0 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)#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 9500
% OSPF: Reference bandwidth is changed.
        Please ensure reference bandwidth is consistent across
all routers.
R1(config-router)#exit
R1(config)#int s0/0/0
R1(config-if)#bandw
R1(config-if)#bandwidth 256
R1(config-if)#ip ospf cost 9500
```

Configuración OSPF R2

```
R2>en
Password:
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#router ospf 1
R2(config-router)#router-id 5.5.5.5
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 10.10.10.0 0.0.0.255 area 0
R2(config-router)#passive-interface g0/1
R2(config-router)#auto-cost reference-bandwidth 9500
% OSPF: Reference bandwidth is changed.
        Please ensure reference bandwidth is consistent across
all routers.
R2(config-router)#int s0/0/0
R2(config-if)#bandwidth 256
R2(config-if)#int s0/0/1
R2(config-if)#bandwidth 256
R2(config-if)#ip ospf cost 9500
R2(config-if)#exit
```

Configuración OSPF R3

```
R3>
R3>en
Password:
R3#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#router ospf 1
R3(config-router)#router-id 8.8.8.8
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)#auto-cost reference-bandwidth 9500
% OSPF: Reference bandwidth is changed.
        Please ensure reference bandwidth is consistent across
all routers.
R3(config-router)#exit
R3(config)#int s0/0/1
R3(config-if)#bandwidth 256
R3(config-if)#exit
```

Configuración puertos troncales S1

```
SW1#sh inter trunk
Port        Mode         Encapsulation  Status        Native vlan
Fa0/3       on           802.1q         trunking      1
Fa0/24      on           802.1q         trunking      1

Port        Vlans allowed on trunk
Fa0/3       1-1005
Fa0/24      1-1005

Port        Vlans allowed and active in management domain
Fa0/3       1,30,40,99,200
Fa0/24      1,30,40,99,200

Port        Vlans in spanning tree forwarding state and not pruned
Fa0/3       1,30,40,99,200
Fa0/24      1,30,40,99,200
```

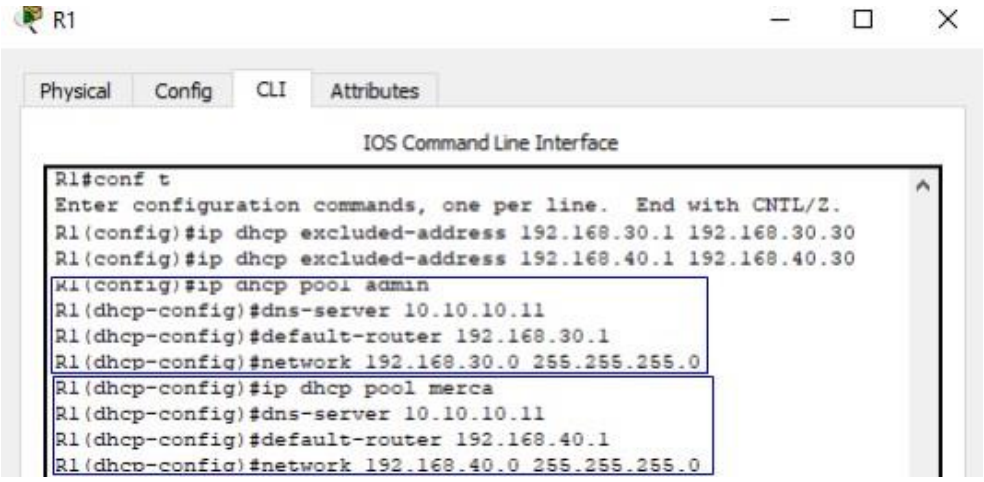
Configuración puertos troncales S3

```
SW3#sh int trunk
Port        Mode         Encapsulation  Status        Native vlan
Fa0/3       on           802.1q         trunking      1

Port        Vlans allowed on trunk
Fa0/3       1-1005

Port        Vlans allowed and active in management domain
Fa0/3       1,30,40,99,200

Port        Vlans in spanning tree forwarding state and not pruned
Fa0/3       1,30,40,99,200
```

Deshabilitar DNS

```
S3#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
S3(config)#no ip domain-lookup
S3(config)#
```

Configuración DHCP



Configuración NAT

```
R2>en
Password:
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
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 out
R2(config-if)#ip nat outside
R2(config-if)#int g0/1
R2(config-if)#ip nat inside
```

Configuración de ACL estándar

```
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
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
```

Configuración de ACL extendido

```
R2(config)#access-list 101 permit tcp any host 209.165.200.229 eq www
R2(config)#access-list 101 permit icmp any any echo-reply
R2(config)#int g0/0
R2(config-if)#ip access-group 101 in
R2(config-if)#int s0/0/0
R2(config-if)#ip access-group 101 out
R2(config-if)#int s0/0/1
R2(config-if)#ip access-group 101 out
R2(config-if)#int g0/1
R2(config-if)#ip access-group 101 out
```

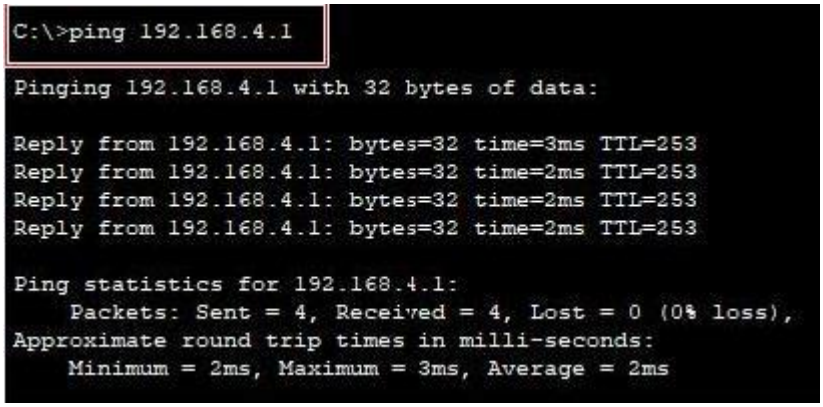
Pruebas de conectividad

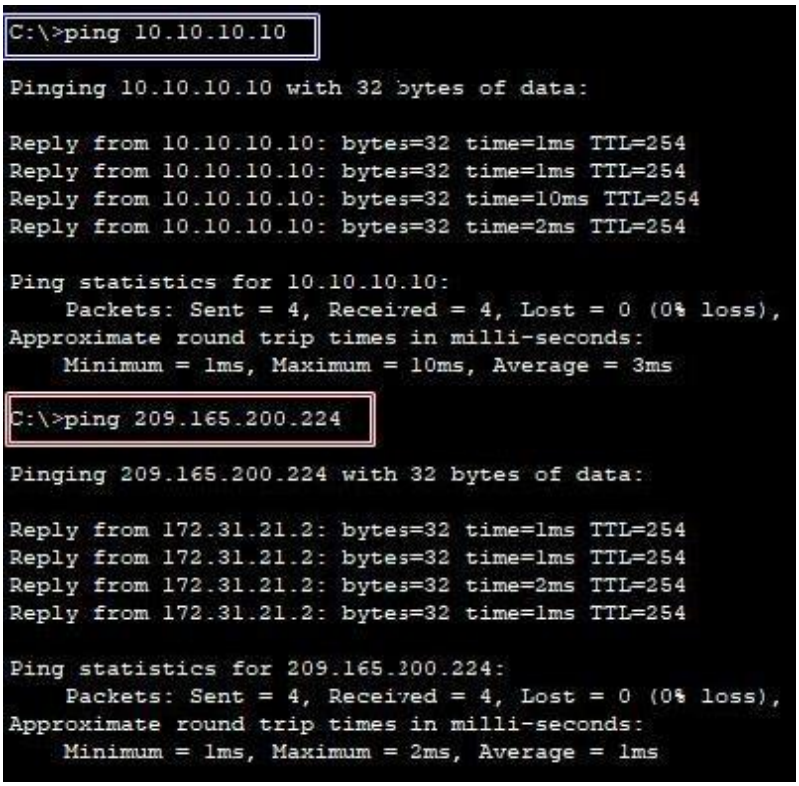
```
C:\>tracert 192.168.4.1

Tracing route to 192.168.4.1 over a maximum of 30 hops:

  1    0 ms      0 ms      0 ms      192.168.30.1
  2    1 ms      0 ms      6 ms      172.31.21.2
  3    0 ms      3 ms      2 ms      192.168.4.1

Trace complete.

C:\>tracert 192.168.6.1

Tracing route to 192.168.6.1 over a maximum of 30 hops:

  1    0 ms      1 ms      0 ms      192.168.30.1
  2    1 ms      1 ms      0 ms      172.31.21.2
  3    1 ms      2 ms      0 ms      192.168.6.1

Trace complete.
```

```
C:\>tracert 209.165.200.225

Tracing route to 209.165.200.225 over a maximum of 30 hops:

  1    0 ms      0 ms      0 ms      192.168.30.1
  2    1 ms      4 ms      0 ms      209.165.200.225

Trace complete.

C:\>tracert 10.10.10.10

Tracing route to 10.10.10.10 over a maximum of 30 hops:

  1    1 ms      0 ms      1 ms      192.168.30.1
  2    0 ms      1 ms      1 ms      10.10.10.10

Trace complete.
```

```
C:\>ping 192.168.30.1

Pinging 192.168.30.1 with 32 bytes of data:

Reply from 192.168.30.1: bytes=32 time<1ms TTL=255
Reply from 192.168.30.1: bytes=32 time<1ms TTL=255
Reply from 192.168.30.1: bytes=32 time<1ms TTL=255
Reply from 192.168.30.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.30.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>ping 192.168.200.1

Pinging 192.168.200.1 with 32 bytes of data:

Reply from 192.168.200.1: bytes=32 time=1ms TTL=255
Reply from 192.168.200.1: bytes=32 time<1ms TTL=255
Reply from 192.168.200.1: bytes=32 time<1ms TTL=255
Reply from 192.168.200.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.200.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```


C:\>ping 192.168.4.1
Pinging 192.168.4.1 with 32 bytes of data:
Reply from 192.168.4.1: bytes=32 time=3ms TTL=253
Reply from 192.168.4.1: bytes=32 time=2ms TTL=253
Reply from 192.168.4.1: bytes=32 time=2ms TTL=253
Reply from 192.168.4.1: bytes=32 time=2ms TTL=253
Ping statistics for 192.168.4.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 2ms, Maximum = 3ms, Average = 2ms


C:\>ping 10.10.10.10
Pinging 10.10.10.10 with 32 bytes of data:
Reply from 10.10.10.10: bytes=32 time=1ms TTL=254
Reply from 10.10.10.10: bytes=32 time=1ms TTL=254
Reply from 10.10.10.10: bytes=32 time=10ms TTL=254
Reply from 10.10.10.10: bytes=32 time=2ms TTL=254
Ping statistics for 10.10.10.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 10ms, Average = 3ms
C:\>ping 209.165.200.224
Pinging 209.165.200.224 with 32 bytes of data:
Reply from 172.31.21.2: bytes=32 time=1ms TTL=254
Reply from 172.31.21.2: bytes=32 time=1ms TTL=254
Reply from 172.31.21.2: bytes=32 time=2ms TTL=254
Reply from 172.31.21.2: bytes=32 time=1ms TTL=254
Ping statistics for 209.165.200.224:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 2ms, Average = 1ms

Conclusiones

- En base a la temática dada en el transcurso del diplomado se pudo conceptualizar y entender con eficacia todo lo referente a redes, al conjunto de computadoras y/o otros dispositivos que se conectan por medio de conexiones en las que se comparten utilidades entre sí para el transporte de datos y con esto realizar un test en las diferentes áreas que requieran conexiones.
- Con respecto al DHCP nos es útil en cuanto a la administración de direcciones IP, en primer lugar por la facilidad para la administración de las mismas en una red que no cuente con DHCP la cual se asigna manualmente, con la asignación exclusiva a cada dispositivo que requiera de estos servicios y en segundo lugar si el DHCP está en estado activo, este asigna de manera automática este asigna una dirección IP.
- OSPF es un protocolo que gestiona un sistema autónomo (AS) en áreas. En estas áreas AS están agrupadas por routers que contienen información para el resto de la red. Estas áreas están diseñadas como una unidad de encaminamiento en la que todos los routers de una determinada área contienen la misma información en su base de datos "Link State Database", de esta manera se prevé que de manera conjunta se sufran cambios.

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