Packet Tracer: configuración del switching de capa 3 y routing entre redes VLAN

Configuración del switch de capa 3

1. Configuramos la interfaz g0/2 como puerto enrutado

```
MLS(config)#int g0/2
MLS(config-if)#no switchport
MLS(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to up

MLS(config-if)#ip address 209.165.200.225 255.255.255.252
MLS(config-if)#^Z
MLS#
%SYS-5-CONFIG_I: Configured from console by console

MLS#write
Building configuration...
[OK]
```

2. Hacemos ping

```
MLS#ping 209.165.200.226

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 209.165.200.226, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 0/0/3 ms
```

Configuración del routing entre VLANs

1. Agregamos las VLANs al MLS. Ponemos los nombres que indica el enunciado, salvo por CuerpoDocente que lo unimos en una sola palabra.

```
MLS(config)#vlan 10
MLS(config-vlan)#name Personal
MLS(config-vlan)#vlan 20
MLS(config-vlan)#name Estudiante
MLS(config-vlan)#vlan 30
MLS(config-vlan)#name CuerpoDocente
```

2. Configuramos SVI

```
MLS(config)#int vlan 10
MLS(config-if)#ip address 192.168.10.254 255.255.255.0
MLS(config-if)#int vlan 20
MLS(config-if)#ip address 192.168.20.254 255.255.255.0
```

```
MLS(config-if)#int vlan 30
MLS(config-if)#ip address 192.168.30.254 255.255.255.0
MLS(config-if)#int vlan 99
MLS(config-if)#ip address 192.168.99.254 255.255.255.0
```

3. Habilitamos el routing
   a. show ip route no muestra ninguna ruta activa

```
MLS#show ip route
Default gateway is not set

Host Gateway Last Use Total Uses Interface
ICMP redirect cache is empty
```

   b. ip routing no arroja ninguna respuesta
   c. show ip route luego de ip routing

```
Gateway of last resort is not set

C 192.168.10.0/24 is directly connected, Vlan10
C 192.168.20.0/24 is directly connected, Vlan20
C 192.168.30.0/24 is directly connected, Vlan30
C 192.168.99.0/24 is directly connected, Vlan99
209.165.200.0/30 is subnetted, 1 subnets
C 209.165.200.224 is directly connected, GigabitEthernet0/2
```

Verificación

Resumen de los pings:

a. C:\>ping 192.168.10.2
   Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
   Approximate round trip times in milli-seconds:
   Minimum = 0ms, Maximum = 4ms, Average = 1ms
b. C:\>ping 192.168.20.2
   Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
   Approximate round trip times in milli-seconds:
   Minimum = 0ms, Maximum = 0ms, Average = 0ms
c. C:\>ping 192.168.30.2
   Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
   Approximate round trip times in milli-seconds:
   Minimum = 0ms, Maximum = 3ms, Average = 1ms
d. S1>ping 192.168.99.3

   Type escape sequence to abort.
   Sending 5, 100-byte ICMP Echos to 192.168.99.3, timeout is 2 seconds:
   ..!!!
   Success rate is 60 percent (3/5), round-trip min/avg/max = 0/0/0 ms
e. Ping de PC0 a PC5.
   C:\>ping 192.168.30.2
   Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),

```
     Approximate round trip times in milli-seconds:
     Minimum = 0ms, Maximum = 12ms, Average = 4ms
f.   C:\>ping 209.165.200.226
     Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
     Approximate round trip times in milli-seconds:
     Minimum = 0ms, Maximum = 12ms, Average = 3ms
```