INSTITUTO TECNOLÓGICO DE ESTUDIOS SUPERIORES DE ZAMORA

CCN4 Y CERTIFICACIÓN

Unidad VIII

"Automatización de la red"

Actividad:
Laboratorio 13

Alumno:
Marco Alberto Chávez Fernández

Docente:
MTIE. Jorge Edgar Rojas Magdaleno

Carrera:
Ing. En Sistemas Computacionales

Semestre y Grupo:
8 "B"

VLSM

No	Alumno	LAN1	LAN2	LAN3	WAN3	POOL_NAT
3	CHAVEZ FERNANDEZ MARCO ALBERTO	57	124	30	150.1.3.0/30	170.1.3.0/28

Tabla 1: Requerimientos de la maqueta del Laboratorio 13

1. Calculo VLSM

RED	NO HOSTS	Multiplo	Prefijo	ID DE RED	1ER HOST	ULT HOST	BROADCAST	MASCARA DE SUBRED	WILCARD MASK
LAN2	124	128	25	192.168.0.0	192.168.0.1	192.168.0.126	192.168.0.127	255.255.255.128	0.0.0.127
LAN1	57	64	26	192.168.0.128	192.168.0.129	192.168.0.190	192.168.0.191	255.255.255.192	0.0.0.63
LAN3	30	32	27	192.168.0.192	192.168.0.193	192.168.0.222	192.168.0.223	255.255.255.224	0.0.0.31
WAN1	2	4	30	192.168.0.224	192.168.0.225	192.168.0.226	192.168.0.227	255.255.255.252	0.0.0.3
WAN2	2	4	30	192.168.0.228	192.168.0.229	192.168.0.230	192.168.0.231	255.255.255.252	0.0.0.3
TOTAL HOST	215								
CLASE	C								

Tabla 2: VLSM del Laboratorio 13

2. Configuración de los Router

a. Router CENTRAL

```
CENTRAL#sh ip int br
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     unassigned      YES NVRAM  administratively down down
GigabitEthernet0/1     unassigned      YES NVRAM  administratively down down
Serial0/0/0            150.1.3.2       YES NVRAM  up                    up
Serial0/0/1            192.168.0.229   YES NVRAM  up                    up
Serial0/1/0            192.168.0.225   YES NVRAM  up                    up
Serial0/1/1            unassigned      YES NVRAM  administratively down down
Vlan1                  unassigned      YES NVRAM  administratively down down
```

Ilustración 1: Evidencia del comando show ip interface brief en Router CENTRAL

b. Router SUC1

```
SUC1#sh ip int br
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     192.168.0.126   YES manual up                    up
GigabitEthernet0/1     192.168.0.190   YES manual up                    up
Serial0/0/0            192.168.0.226   YES manual up                    up
Serial0/0/1            unassigned      YES unset  administratively down down
Serial0/1/0            unassigned      YES unset  administratively down down
Serial0/1/1            unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
```

Ilustración 2: Evidencia del comando show ip interface brief en Router SUC1

c. Router SUC2

```
sh ip int br
Interface              IP-Address      OK? Method Status
Protocol
GigabitEthernet0/0     192.168.0.222   YES manual up                    up
GigabitEthernet0/1     unassigned      YES unset  administratively down down
Serial0/0/0            192.168.0.230   YES manual up                    up
Serial0/0/1            unassigned      YES unset  administratively down down
Serial0/1/0            unassigned      YES unset  administratively down down
Serial0/1/1            unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
```

Ilustración 3: Evidencia del comando show ip interface brief en Router SUC2

3. Enrutamiento
    a. Router CENTRAL

```
CENTRAL#SH IP ROUTE
Codes: L - local, C - connected, S - static, 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 0.0.0.0 to network 0.0.0.0

     150.1.0.0/16 is variably subnetted, 2 subnets, 2 masks
C       150.1.3.0/30 is directly connected, Serial0/0/0
L       150.1.3.2/32 is directly connected, Serial0/0/0
     192.168.0.0/24 is variably subnetted, 7 subnets, 5 masks
O       192.168.0.0/25 [110/65] via 192.168.0.226, 00:20:46, Serial0/1/0
O       192.168.0.128/26 [110/65] via 192.168.0.226, 00:20:46, Serial0/1/0
O       192.168.0.192/27 [110/65] via 192.168.0.230, 00:20:46, Serial0/0/1
C       192.168.0.224/30 is directly connected, Serial0/1/0
L       192.168.0.225/32 is directly connected, Serial0/1/0
C       192.168.0.228/30 is directly connected, Serial0/0/1
L       192.168.0.229/32 is directly connected, Serial0/0/1
S*   0.0.0.0/0 is directly connected, Serial0/0/0
```

Ilustración 4: Evidencia del comando show ip route en Router CENTRAL

    b. Router SUC1

```
SUC1#SH IP ROUTE
Codes: L - local, C - connected, S - static, 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 192.168.0.225 to network 0.0.0.0

     192.168.0.0/24 is variably subnetted, 8 subnets, 5 masks
C       192.168.0.0/25 is directly connected, GigabitEthernet0/0
L       192.168.0.126/32 is directly connected, GigabitEthernet0/0
C       192.168.0.128/26 is directly connected, GigabitEthernet0/1
L       192.168.0.190/32 is directly connected, GigabitEthernet0/1
O       192.168.0.192/27 [110/129] via 192.168.0.225, 00:21:43, Serial0/0/0
C       192.168.0.224/30 is directly connected, Serial0/0/0
L       192.168.0.226/32 is directly connected, Serial0/0/0
O       192.168.0.228/30 [110/128] via 192.168.0.225, 00:21:43, Serial0/0/0
O*E2 0.0.0.0/0 [110/1] via 192.168.0.225, 00:21:43, Serial0/0/0
```

Ilustración 5: Evidencia del comando show ip route en Router SUC1

c. Router SUC2

```
SUC2#SH IP ROUTE
Codes: L - local, C - connected, S - static, 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 192.168.0.229 to network 0.0.0.0

     192.168.0.0/24 is variably subnetted, 7 subnets, 5 masks
O       192.168.0.0/25 [110/129] via 192.168.0.229, 00:22:24, Serial0/0/0
O       192.168.0.128/26 [110/129] via 192.168.0.229, 00:22:24, Serial0/0/0
C       192.168.0.192/27 is directly connected, GigabitEthernet0/0
L       192.168.0.222/32 is directly connected, GigabitEthernet0/0
O       192.168.0.224/30 [110/128] via 192.168.0.229, 00:22:24, Serial0/0/0
C       192.168.0.228/30 is directly connected, Serial0/0/0
L       192.168.0.230/32 is directly connected, Serial0/0/0
O*E2 0.0.0.0/0 [110/1] via 192.168.0.229, 00:22:24, Serial0/0/0
```

Ilustración 6: Evidencia del comando show ip route en Router SUC2

4. NAT

a. Router MATRIZ(NAT Dinámico)

```
CENTRAL#show ip nat translations
Pro  Inside global     Inside local       Outside local      Outside global
icmp 172.1.3.3:130     192.168.0.129:130  150.1.3.1:130      150.1.3.1:130
icmp 172.1.3.4:187     192.168.0.1:187    150.1.3.1:187      150.1.3.1:187
icmp 172.1.3.5:149     192.168.0.2:149    150.1.3.1:149      150.1.3.1:149
icmp 172.1.3.6:10      192.168.0.230:10   150.1.3.1:10       150.1.3.1:10
icmp 172.1.3.6:6       192.168.0.230:6    150.1.3.1:6        150.1.3.1:6
icmp 172.1.3.6:7       192.168.0.230:7    150.1.3.1:7        150.1.3.1:7
icmp 172.1.3.6:8       192.168.0.230:8    150.1.3.1:8        150.1.3.1:8
icmp 172.1.3.6:9       192.168.0.230:9    150.1.3.1:9        150.1.3.1:9
```

Ilustración 7: Evidencia del comando sh ip nat translations en el Router CENTRAL

b. ROUTER SUC1

```
SUC1#show ip nat translations
SUC1#show ip nat translations
SUC1#
```

Ilustración 8: Evidencia del comando sh ip nat translations en el Router SUC1

c. ROUTER SUC2

```
SUC2#show ip nat translations
SUC2#
```

Ilustración 9: Evidencia del comando sh ip nat translations en el Router SUC2

5. SNMP

```
SUC1#show run | include snmp-server
snmp-server community SNMPLAB13 RO
SUC1#
```

Ilustración 10: Evidencia de cadena SNMP en router SUC1

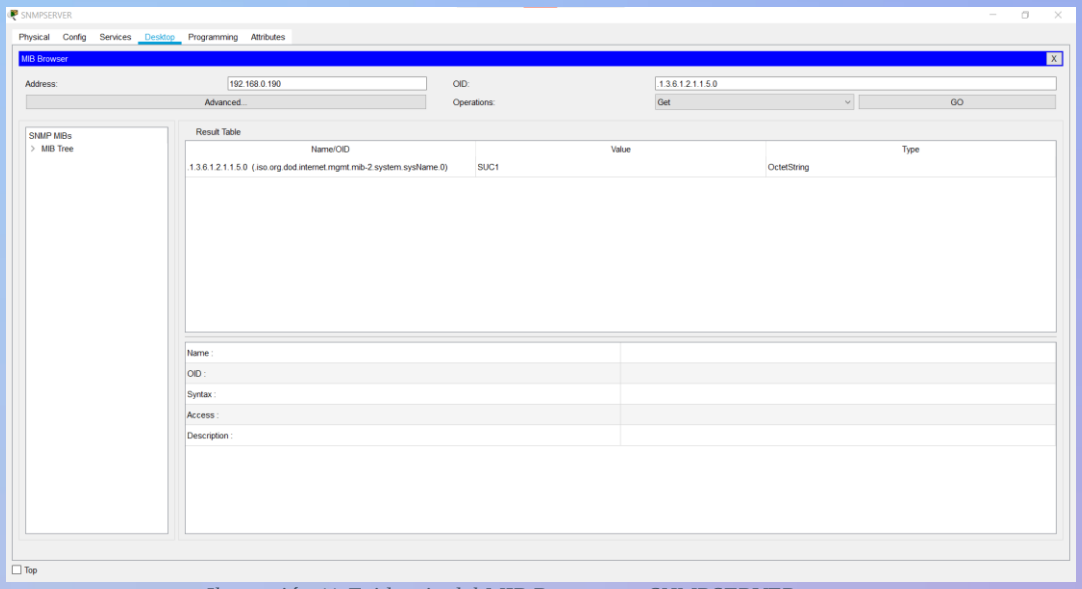

Ilustración 11:Evidencia del MIB Browser en SNMPSERVER