**Manual técnico**

1. **Resumen de direcciones IP y VLAN donde se justifique la elección de las máscaras de subred empleadas para las distintas subredes de las sedes y el backbone.**

**SUBNETING VLSM**

**CUNDECH**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **RED** | **No. De Host** | **ID de Red** | **Máscara de  Subred** | **Primer Host  Disponible** | **Último Host  Disponible** | **Dirección de  broadcast** |
| Biblioteca | 100 | 192.168.3.0  /25 | 255.255.255.128 | 192.168.3.1 | 192.168.3.126 | 192.168.3.127 |
| Estudiantes | 50 | 192.168.3.128  /26 | 255.255.255.192 | 192.168.3.129 | 192.168.3.190 | 192.168.3.191 |
| Docentes | 20 | 192.168.3.192  /27 | 255.255.255.224 | 192.168.3.193 | 192.168.3.222 | 192.168.3.223 |
| Seguridad | 5 | 192.168.3.224  /29 | 255.255.255.248 | 192.168.3.225 | 192.168.3.230 | 192.168.3.231 |

**CUNOROC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **RED** | **No. De Host** | **ID de Red** | **Máscara de  Subred** | **Primer Host  Disponible** | **Último Host  Disponible** | **Dirección de  broadcast** |
| Biblioteca | 75 | 192.148.3.0  /25 | 255.255.255.128 | 192.148.3.1 | 192.148.3.126 | 192.148.3.127 |
| Estudiantes | 45 | 192.148.3.128  /26 | 255.255.255.192 | 192.148.3.129 | 192.148.3.190 | 192.148.3.191 |
| Docentes | 25 | 192.148.3.192  /27 | 255.255.255.224 | 192.148.3.193 | 192.148.3.222 | 192.148.3.223 |
| Seguridad | 10 | 192.148.3.224  /28 | 255.255.255.240 | 192.148.3.225 | 192.148.3.238 | 192.148.3.239 |

**CUNOC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **RED** | **No. De Host** | **ID de Red** | **Máscara de  Subred** | **Primer Host  Disponible** | **Último Host  Disponible** | **Dirección de  broadcast** |
| Estudiantes | 60 | 172.16.3.0  /26 | 255.255.255.192 | 172.16.3.1 | 172.16.3.62 | 172.16.3.63 |
| Biblioteca | 50 | 172.16.3.64  /26 | 255.255.255.192 | 172.16.3.65 | 172.16.3.126 | 172.16.3.127 |
| Docentes | 35 | 172.16.3.128  /26 | 255.255.255.192 | 172.16.3.129 | 172.16.3.190 | 172.16.3.191 |
| Seguridad | 5 | 172.16.3.192  /29 | 255.255.255.248 | 172.16.3.193 | 172.16.3.198 | 172.16.3.199 |

**CENTRAL**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **RED** | **No. De Host** | **ID de Red** | **Máscara de  Subred** | **Primer Host  Disponible** | **Último Host  Disponible** | **Dirección de  broadcast** |
| Servidor0 | 60 | 192.120.3.0 | 255.255.255.192 | 192.120.3.1 | 192.120.3.62 | 192.120.3.63 |
| Servidor1 | 35 | 192.121.3.0 | 255.255.255.192 | 192.121.3.1 | 192.121.3.62 | 192.121.3.63 |
| Servidor2 | 5 | 192.122.3.0 | 255.255.255.248 | 192.122.3.1 | 192.122.3.6 | 192.122.3.7 |

**CUM**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **RED** | **No. De Host** | **ID de Red** | **Máscara de  Subred** | **Primer Host  Disponible** | **Último Host  Disponible** | **Dirección de  broadcast** |
| Biblioteca | 75 | 192.158.3.0  /25 | 255.255.255.128 | 192.158.3.1 | 192.158.3.126 | 192.158.3.127 |
| Estudiantes | 45 | 192.158.3.128  /26 | 255.255.255.192 | 192.158.3.129 | 192.158.3.190 | 192.158.3.191 |
| Docentes | 25 | 192.158.3.192  /27 | 255.255.255.224 | 192.158.3.193 | 192.158.3.222 | 192.158.3.223 |
| Seguridad | 10 | 192.158.3.224  /28 | 255.255.255.240 | 192.158.3.225 | 192.158.3.238 | 192.158.3.239 |

**IP Utilizadas**

**CUNDECH**

|  |  |
| --- | --- |
| **Equipo** | **IP** |
| Seguridad2 | 192.168.3.226 |
| Biblioteca3 | 192.168.3.2 |
| Biblioteca4 | 192.168.3.3 |
| Estudiantes6 | 192.168.3.130 |
| Estudiantes7 | 192.168.3.131 |
| Docentes6 | 192.168.3.194 |
| Docentes7 | 192.168.3.195 |

**CUNOROC**

|  |  |
| --- | --- |
| **Equipo** | **IP** |
| Seguridad3 | 192.148.3.226 |
| Biblioteca1 | 192.148.3.2 |
| Estudiantes3 | 192.148.3.130 |
| Docentes3 | 192.148.3.194 |

**2. Capturas de la implementación de las topologías.**

**3. Detalle de todos los comandos utilizados.**

- Configuración CUNDECH

PROTOCOLO VTP

SW7

enable

conf t

vtp version 2

vtp domain Grupo3

vtp password usac2025

vtp mode server

exit

vlan 18

name Estudiantes

vlan 28

name Docentes

vlan 38

name Seguridad

vlan 48

name Biblioteca

SW6

enable

conf t

vtp version 2

vtp mode client

vtp domain Grupo3

vtp password usac2025

exit

SW8

enable

conf t

Vtp version 2

vtp mode client

vtp domain Grupo3

vtp password usac2025

exit

MODO TRUNK

SW7

enable

conf t

int range fa0/1-3

switchport mode trunk

switchport trunk allowed vlan 18,28,38,48

SW6

enable

conf t

int fa0/2

switchport mode trunk

switchport trunk allowed vlan 18,28,38,48

SW8

enable

conf t

int fa0/2

switchport mode trunk

switchport trunk allowed vlan 18,28,38,48

MODO ACCESS

SW8

enable

config t

int fa0/3

switchport mode access

switchport access vlan 38

exit

int fa0/4

switchport mode access

switchport access vlan 48

exit

int fa0/5

switchport mode access

switchport access vlan 48

exit

SW7

enable

config t

int range fa0/4-5

switchport mode access

switchport access vlan 18

exit

SW8

enable

config t

int range fa0/3-4

switchport mode access

switchport access vlan 28

exit

CONFIGURACIÓN MS8

enable

conf t

vtp version 2

vtp mode client

vtp domain Grupo3

vtp password usac2025

interface vlan18

ip address 192.168.3.129 255.255.255.192

no shut

exit

interface vlan28

ip address 192.168.3.193 255.255.255.224

no shut

exit

interface vlan38

ip address 192.168.3.225 255.255.255.248

no shut

exit

interface vlan48

ip address 192.168.3.1 255.255.255.128

no shut

exit

int range fa0/1-3

switchport trunk encapsulation dot1q

switchport mode trunk

switchport trunk allowed vlan 18,28,38,48

SW6

enable

conf t

int fa0/1

switchport mode trunk

switchport trunk allowed vlan 18,28,38,48

SW8

enable

conf t

int fa0/1

switchport mode trunk

switchport trunk allowed vlan 18,28,38,48

- Configuración CUNOROC

PROTOCOLO VTP

SW3

enable

conf t

vtp version 2

vtp mode server

vtp domain Grupo3

vtp password usac2025

exit

vlan 18

name Estudiantes

vlan 28

name Docentes

vlan 38

name Seguridad

vlan 48

name Biblioteca

SW4

enable

conf t

vtp version 2

vtp mode client

vtp domain Grupo3

vtp password usac2025

exit

SW2

enable

conf t

vtp version 2

vtp mode client

vtp domain Grupo3

vtp password usac2025

exit

MODO TRUNK SW3

enable

conf t

int range fa0/1

switchport mode trunk

switchport trunk allowed vlan 18,28,38,48

exit

int range fa0/3

switchport mode trunk

switchport trunk allowed vlan 18,28,38,48

exit

MODE ACCESS SW3

int fa0/2

switchport mode access

switchport access vlan 18

exit

MODE TRUNK SW4

enable

conf t

int fa0/1

switchport mode trunk

switchport trunk allowed vlan 18,28,38,48

exit

MODE ACCESS SW4

int fa0/2

switchport mode access

switchport access vlan 38

exit

int fa0/3

switchport mode access

switchport access vlan 48

exit

MODE TRUNK SW2

enable

conf t

int fa0/2

switchport mode trunk

switchport trunk allowed vlan 18,28,38,48

exit

MODE ACCESS SW2

int fa0/3

switchport mode access

switchport access vlan 28

exit

CONFIGURACIÓN R0

SW2

enable

conf t

int fa0/2

switchport mode trunkl

switchport trunk allowed vlan 18,28,38,48

RO

enable

conf t

interface gi0/0.18

encapsulation dot1q 18

ip address 192.148.3.129 255.255.255.192

no shut

exit

interface gi0/0.28

encapsulation dot1q 28

ip address 192.148.3.193 255.255.255.224

no shut

exit

interface gi0/0.38

encapsulation dot1q 38

ip address 192.148.3.225 255.255.255.240

no shut

exit

interface gi0/0.48

encapsulation dot1q 48

ip address 192.148.3.1 255.255.255.128

no shut

exit

interface gi0/0

no shutdown