

Configuracion del router R1

Configuracion de las interfaces

Utilizar los siguientes comandos:

- enable
- configure terminal
- interface g0/0
- ip address 10.1.1.2 255.255.255.252
- no shut
- exit
- interface g0/1
- ip address 10.1.2.2 255.255.255.252
- no shut
- exit
- interface g0/2
- ip address 10.1.3.2 255.255.255.252
- no shut
- exit
- interface s0/3/0
- ip address 10.1.4.1 255.255.255.252
- no shut
- exit

Configuracion del enrutamiento dinamico

Utilizar los siguientes comandos

- enable
- configure terminal
- router ospf 10
- network 10.1.4.1 0.0.0.0 area 0
- network 10.1.1.2 0.0.0.0 area 0
- network 10.1.2.2 0.0.0.0 area 0
- network 10.1.3.2 0.0.0.0 area 0

Configuracion de Qos

Utilizar los siguientes comandos:

- enable
- configure terminal
- class-map high
- match ip dscp 46
- class-map medium
- match ip dscp 26
- class-map low
- match ip dscp 20

- exit
- policy-map dscp-output
- class high
- bandwidth percent 50
- class medium
- bandwidth percent 20
- class low
- bandwidth percent 5
- end
- interface s0/3/0
- service-policy output dscp-output

Configuracion del switch AREA 1

Configuracion de las interfaces

Utilizar los siguientes comandos:

- enable
- configure terminal
- vlan 5
- name TVA
- vlan 10
- name DOCENTE A
- vlan 15
- name UNIFI A
- vlan 20
- name TVB
- vlan 25
- name DOCENTE B
- vlan 30
- name LABORATORIO A
- vlan 35
- name LABORATORIO B
- vlan 40
- name LABORATORIO C
- vlan 45
- name CAMARAS
- vlan 50
- name TVC
- vlan 55
- name DOCENTE C
- exit
- interface vlan 5
- ip address 192.168.5.1 255.255.255.0

- no shut
- interface vlan 10
- ip address 192.168.10.1 255.255.255.0
- no shut
- interface vlan 15
- ip address 192.168.15.1 255.255.255.0
- no shut
- interface vlan 20
- ip address 192.168.20.1 255.255.255.0
- no shut
- interface vlan 25
- ip address 192.168.25.1 255.255.255.0
- no shut
- interface vlan 30
- ip address 192.168.30.1 255.255.255.0
- no shut
- interface vlan 35
- ip address 192.168.35.1 255.255.255.0
- no shut
- interface vlan 40
- ip address 192.168.40.1 255.255.255.0
- no shut
- interface vlan 45
- ip address 192.168.45.1 255.255.255.0
- no shut
- interface vlan 50
- ip address 192.168.50.1 255.255.255.0
- no shut
- interface vlan 55
- ip address 192.168.55.1 255.255.255.0
- no shut
- exit
- interface range f0/1 – f0/11
- switchport trunk encapsulation dot1Q
- switchport mode trunk
- exit
- interface g0/1
- no switchport
- ip address 10.1.1.1 255.255.255.252
- exit
- interface g0/2
- no switchport
- ip address 10.1.5.1 255.255.255.252
- exit

Configuración del enrutamiento dinámico

Utilizar los siguientes comandos

- enable
- configure terminal
- router ospf 10
- network 10.1.1.1 0.0.0.0 area 0
- network 10.1.5.1 0.0.0.0 area 0
- network 192.168.5.1 0.0.0.0 area 0
- network 192.168.10.1 0.0.0.0 area 0
- network 192.168.15.1 0.0.0.0 area 0
- network 192.168.20.1 0.0.0.0 area 0
- network 192.168.25.1 0.0.0.0 area 0
- network 192.168.30.1 0.0.0.0 area 0
- network 192.168.35.1 0.0.0.0 area 0
- network 192.168.40.1 0.0.0.0 area 0
- network 192.168.45.1 0.0.0.0 area 0
- network 192.168.50.1 0.0.0.0 area 0
- network 192.168.55.1 0.0.0.0 area 0

Configuracion de Qos

Utilizar los siguientes comandos:

- enable
- configure terminal
- access-list 10 permit 192.168.5.0 0.0.0.255
- access-list 10 permit 192.168.20.0 0.0.0.255
- access-list 10 permit 192.168.50.0 0.0.0.255
- access-list 10 permit 192.168.45.0 0.0.0.255
- access-list 10 deny any
- access-list 20 permit 192.168.30.0 0.0.0.255
- access-list 20 permit 192.168.35.0 0.0.0.255
- access-list 20 permit 192.168.40.0 0.0.0.255
- access-list 20 deny any
- access-list 30 permit 192.168.10.0 0.0.0.255
- access-list 30 permit 192.168.25.0 0.0.0.255
- access-list 30 permit 192.168.55.0 0.0.0.255
- access-list 30 permit 192.168.15.0 0.0.0.255
- access-list 30 deny any
- class-map tv
- match access-group 10
- class-map laboratorio
- match access-group 20
- class-map docente
- match access-group 30
- exit
- policy-map dscp-input
- class tv
- set ip dscp 46
- class laboratorio
- set ip dscp 26

- class docente
- set ip dscp 20
- exit
- class-map high
- match ip dscp 46
- class-map medium
- match ip dscp 26
- class-map low
- match ip dscp 20
- exit
- policy-map dscp-output
- class high
- bandwidth percent 50
- class medium
- bandwidth percent 20
- class low
- bandwidth percent 5
- end
- interface g0/1
- service-policy output dscp-output
- exit
- interface range f0/1 – f0/11
- service-policy input dscp-input

Configuracion del switch AREA 2

Configuracion de las interfaces

Utilizar los siguientes comandos:

- enable
- configure terminal
- vlan 60
- name UNIFI C
- vlan 65
- name PABELLONES
- vlan 70
- name SERVIDORES
- vlan 75
- name SECRE-ADMIN
- vlan 80
- name ADMINISTRACION
- vlan 85
- name EDUCACION
- vlan 90
- name COLEGIO
- vlan 95

- name BEDELIA
- vlan 100
- name TEOLOGIA
- vlan 105
- name BIBLIOTECA
- vlan 110
- name WIFI
- exit
- interface vlan 60
- ip address 192.168.60.1 255.255.255.0
- no shut
- interface vlan 65
- ip address 192.168.65.1 255.255.255.0
- no shut
- interface vlan 70
- ip address 192.168.70.1 255.255.255.0
- no shut
- interface vlan 75
- ip address 192.168.75.1 255.255.255.0
- no shut
- interface vlan 80
- ip address 192.168.80.1 255.255.255.0
- no shut
- interface vlan 85
- ip address 192.168.85.1 255.255.255.0
- no shut
- interface vlan 90
- ip address 192.168.90.1 255.255.255.0
- no shut
- interface vlan 95
- ip address 192.168.95.1 255.255.255.0
- no shut
- interface vlan 100
- ip address 192.168.100.1 255.255.255.0
- no shut
- interface vlan 105
- ip address 192.168.105.1 255.255.255.0
- no shut
- interface vlan 110
- ip address 192.168.110.1 255.255.255.0
- no shut
- exit
- interface range f0/1 – f0/11
- switchport trunk encapsulation dot1Q
- switchport mode trunk
- exit
- interface g0/1
- no switchport

- ip address 10.1.2.1 255.255.255.252
- exit
- interface g0/2
- no switchport
- ip address 10.1.5.2 255.255.255.252
- exit
- interface f0/24
- no switchport
- ip address 10.1.6.1 255.255.255.252
- exit

Configuracion del enrutamiento dinamico

Utilizar los siguientes comandos

- enable
- configure terminal
- router ospf 10
- network 10.1.5.2 0.0.0.0 area 0
- network 10.1.2.1 0.0.0.0 area 0
- network 10.1.6.1 0.0.0.0 area 0
- network 192.168.60.1 0.0.0.0 area 0
- network 192.168.65.1 0.0.0.0 area 0
- network 192.168.70.1 0.0.0.0 area 0
- network 192.168.75.1 0.0.0.0 area 0
- network 192.168.80.1 0.0.0.0 area 0
- network 192.168.85.1 0.0.0.0 area 0
- network 192.168.90.1 0.0.0.0 area 0
- network 192.168.95.1 0.0.0.0 area 0
- network 192.168.100.1 0.0.0.0 area 0
- network 192.168.110.1 0.0.0.0 area 0
- network 192.168.105.1 0.0.0.0 area 0

Configuracion de Qos

Utilizar los siguientes comandos:

- enable
- configure terminal
- access-list 10 permit 192.168.70.0 0.0.0.255
- access-list 10 permit 192.168.75.0 0.0.0.255
- access-list 10 permit 192.168.80.0 0.0.0.255
- access-list 10 deny any
- access-list 20 permit 192.168.85.0 0.0.0.255
- access-list 20 permit 192.168.90.0 0.0.0.255
- access-list 20 permit 192.168.95.0 0.0.0.255
- access-list 20 permit 192.168.100.0 0.0.0.255
- access-list 20 permit 192.168.105.0 0.0.0.255
- access-list 20 deny any
- access-list 30 permit 192.168.60.0 0.0.0.255

- access-list 30 permit 192.168.65.0 0.0.0.255
- access-list 30 permit 192.168.110.0 0.0.0.255
- access-list 30 deny any
- class-map administracion
- match access-group 10
- class-map educacion
- match access-group 20
- class-map wifi
- match access-group 30
- exit
- policy-map dscp-input
- class administracion
- set ip dscp 46
- class educacion
- set ip dscp 26
- class wifi
- set ip dscp 20
- exit
- class-map high
- match ip dscp 46
- class-map medium
- match ip dscp 26
- class-map low
- match ip dscp 20
- exit
- policy-map dscp-output
- class high
- bandwidth percent 50
- class medium
- bandwidth percent 20
- class low
- bandwidth percent 5
- end
- interface g0/1
- service-policy output dscp-output
- exit
- interface range f0/1 – f0/11
- service-policy input dscp-input

Configuracion del switch AREA 3

Configuracion de las interfaces

Utilizar los siguientes comandos:

- enable
- configure terminal
- vlan 115
- name CONTABILIDAD
- vlan 120
- name LEGAL
- vlan 125
- name MARKETING
- vlan 130
- name SENORITAS
- vlan 135
- name RESIDENCIAS
- vlan 140
- name VARONES
- vlan 145
- name FAC-ING
- vlan 150
- name DEPTO-TI
- vlan 155
- name WAN
- exit
- interface vlan 115
- ip address 192.168.115.1 255.255.255.0
- no shut
- interface vlan 120
- ip address 192.168.120.1 255.255.255.0
- no shut
- interface vlan 125
- ip address 192.168.125.1 255.255.255.0
- no shut
- interface vlan 130
- ip address 192.168.130.1 255.255.255.0
- no shut
- interface vlan 135
- ip address 192.168.135.1 255.255.255.0
- no shut
- interface vlan 140
- ip address 192.168.140.1 255.255.255.0
- no shut
- interface vlan 145
- ip address 192.168.145.1 255.255.255.0
- no shut

- interface vlan 150
- ip address 192.168.150.1 255.255.255.0
- no shut
- interface vlan 155
- ip address 192.168.155.1 255.255.255.0
- no shut
- exit
- interface range f0/1 – f0/11
- switchport trunk encapsulation dot1Q
- switchport mode trunk
- exit
- interface g0/1
- no switchport
- ip address 10.1.3.1 255.255.255.252
- exit
- interface g0/2
- no switchport
- ip address 10.1.6.2 255.255.255.252
- exit

Configuracion del enrutamiento dinamico

Utilizar los siguientes comandos

- enable
- configure terminal
- router ospf 10
- network 10.1.6.2 0.0.0.0 area 0
- network 10.1.3.1 0.0.0.0 area 0
- network 192.168.115.1 0.0.0.0 area 0
- network 192.168.120.1 0.0.0.0 area 0
- network 192.168.125.1 0.0.0.0 area 0
- network 192.168.130.1 0.0.0.0 area 0
- network 192.168.135.1 0.0.0.0 area 0
- network 192.168.140.1 0.0.0.0 area 0
- network 192.168.145.1 0.0.0.0 area 0
- network 192.168.150.1 0.0.0.0 area 0
- network 192.168.155.1 0.0.0.0 area 0

Configuracion de Qos

Utilizar los siguientes comandos:

- enable
- configure terminal
- access-list 10 permit 192.168.145.0 0.0.0.255
- access-list 10 permit 192.168.150.0 0.0.0.255
- access-list 10 permit 192.168.155.0 0.0.0.255
- access-list 10 deny any
- access-list 20 permit 192.168.115.0 0.0.0.255

- access-list 20 permit 192.168.120.0 0.0.0.255
- access-list 20 permit 192.168.125.0 0.0.0.255
- access-list 20 deny any
- access-list 30 permit 192.168.130.0 0.0.0.255
- access-list 30 permit 192.168.135.0 0.0.0.255
- access-list 30 permit 192.168.140.0 0.0.0.255
- access-list 30 deny any
- class-map wan
- match access-group 10
- class-map legal
- match access-group 20
- class-map residencias
- match access-group 30
- exit
- policy-map dscp-input
- class wan
- set ip dscp 46
- class legal
- set ip dscp 26
- class residencias
- set ip dscp 20
- exit
- class-map high
- match ip dscp 46
- class-map medium
- match ip dscp 26
- class-map low
- match ip dscp 20
- exit
- policy-map dscp-output
- class high
- bandwidth percent 50
- class medium
- bandwidth percent 20
- class low
- bandwidth percent 5
- end
- interface g0/1
- service-policy output dscp-output
- exit
- interface range f0/1 – f0/11
- service-policy input dscp-input

Configuracion de los switch de capa 2

Configurar todos los switches de capa 2 con los siguientes comandos:

enable

configure terminal

vlan X

name X

exit

interface range f0/1 – f0/24

switchport mode access

switchport access vlan X

exit

Nota: reemplazar en la X con la vlan y su nombre correspondiente