



Universidad Autónoma de Chiapas

Facultad: Contaduría y Administración

Licenciatura: Ingeniería en Desarrollo y Tecnologías de Software

Conmutadores y Redes inalámbricas

“Act. 3.3 Configurar un Router con GNS3 con DHCP con 2
segmentos VLANs VTP”



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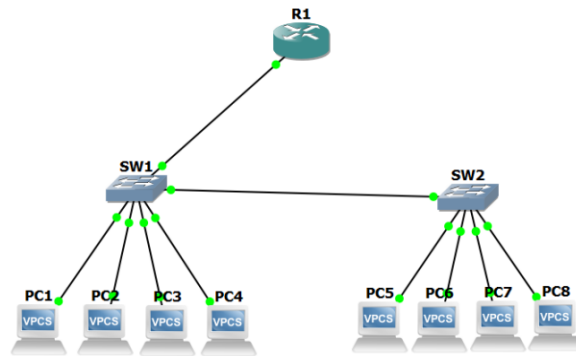
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Para esta práctica, comenzamos por crear la topología y nombramos los dos routers SW1 y SW2.



```
VIOS-L2-01>
VIOS-L2-01>ena
VIOS-L2-01#conf t
Enter configuration commands, one per line. End with CNTL/Z.
VIOS-L2-01(config)#hostname SW1
SW1(config)#wr
^
% Invalid input detected at '^' marker.
SW1(config)#
SW1#wr
Building configuration...
```

```
VIOS-L2-01>ena
VIOS-L2-01#conf t
Enter configuration commands, one per line. End with CNTL/Z.
VIOS-L2-01(config)#hostname SW2
SW2(config)#
SW2#wr
Building configuration...
```

Luego, creamos conexiones de DHCP para cada VLAN con direcciones diferentes. Las VLAN's saldrán del router.

```
R1
R1#ena
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#ip dhcp pool VLAN10
R1(dhcp-config)#network 192.168.3.0 255.255.255.0
R1(dhcp-config)#default-router 192.168.3.1
R1(dhcp-config)#dns-server 192.168.3.2
R1(dhcp-config)#exit
R1(config)#ip dhcp pool VLAN20
R1(dhcp-config)#network 192.168.4.0 255.255.255.0
R1(dhcp-config)#default-router 192.168.4.1
R1(dhcp-config)#dns-server 192.168.4.2
R1(dhcp-config)#exit
R1(config)#exit
R1#wr
Building configuration...
```

En el primer switch, creamos el VTP servidor con contraseña para realizar la conexión con el switch cliente y creamos las VLAN's 10 y 20.

```
SW1 - PuTTY
SW1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
SW1(config)#vtp domain cisco1
Changing VTP domain name from CISCO-VIOS to cisco1
SW1(config)#vtp password
*Sep 20 04:57:01.589: %SW_VLAN-6-VTP_DOMAIN_NAME_CHG: VTP domain name changed to cisco1.cisco
SW1(config)#vtp password pao:)
Setting device VTP password to pao:)
SW1(config)#vtp mode server
Setting device to VTP Server mode for VLANs.
SW1(config)#vlan 10
SW1(config-vlan)#name VLAN10
SW1(config-vlan)#exit
SW1(config)#vlan 20
SW1(config-vlan)#name VLAN20
SW1(config-vlan)#exit
SW1(config)#end
SW1#wr
Building configuration...
```

En el SW1, asignamos a cada puerto de los 4 equipos el modo access y la VLAN 10.

```
SW1(config)#interface range GigabitEthernet0/1
SW1(config-if-range)#switchport mode access
SW1(config-if-range)#switchport access vlan 10
SW1(config-if-range)#exit
SW1(config)#interface range GigabitEthernet0/2
SW1(config-if-range)#switchport mode access
SW1(config-if-range)#switchport access vlan 10
SW1(config-if-range)#exit
SW1(config)#interface range GigabitEthernet0/3
SW1(config-if-range)#switchport mode access
SW1(config-if-range)#switchport access vlan 10
SW1(config-if-range)#exit
SW1(config)#interface range GigabitEthernet1/0
SW1(config-if-range)#switchport mode access
SW1(config-if-range)#switchport access vlan 10
SW1(config-if-range)#exit
SW1(config)#end
SW1#wr
Building configuration...
```

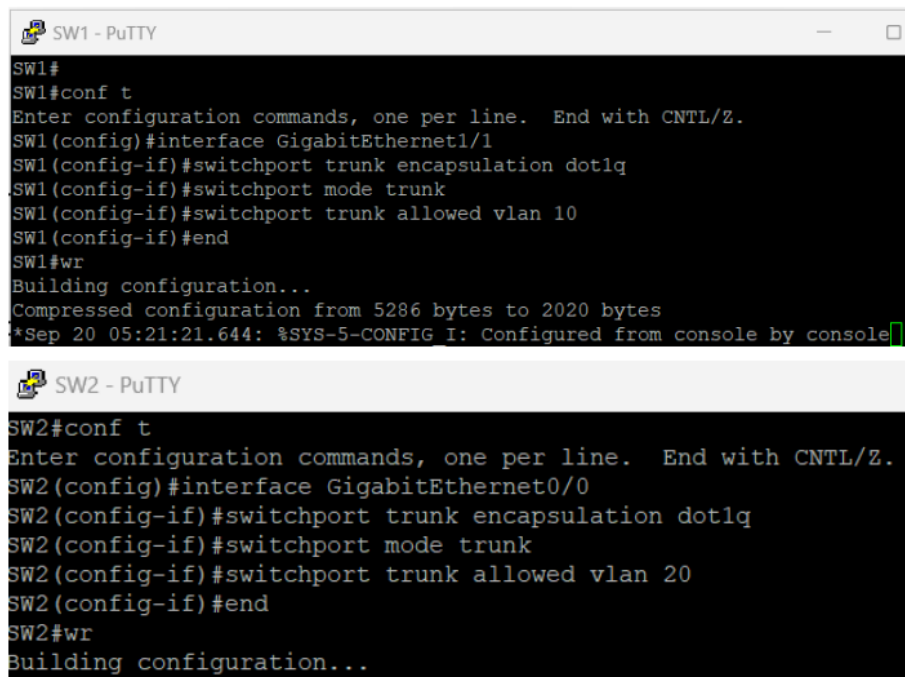
Creamos el VTP cliente con contraseña para recibir la conexión y configuración del switch servidor.

```
SW2 - PuTTY
Changing VTP domain name from CISCO-vIOS to cisco1
SW2(config)#
*Sep 20 05:15:26.879: %SW_VLAN-6-VTP_DOMAIN_NAME_CHG: VTP domain name changed to cisco1.
SW2(config)#vtp password pao:)
Setting device VTP password to pao:)
SW2(config)#vtp mode client
Setting device to VTP Client mode for VLANs.
```

En el SW2, asignamos a cada puerto de los 4 equipos el modo access y la VLAN 20.

```
SW2(config)#
SW2(config)#interface range GigabitEthernet0/1
SW2(config-if-range)#switchport mode access
SW2(config-if-range)#switchport access vlan 20
SW2(config-if-range)#exit
SW2(config)#interface range GigabitEthernet0/2
SW2(config-if-range)#switchport mode access
SW2(config-if-range)#switchport access vlan 20
SW2(config-if-range)#exit
SW2(config)#interface range GigabitEthernet0/3
SW2(config-if-range)#switchport mode access
SW2(config-if-range)#switchport access vlan 20
SW2(config-if-range)#exit
SW2(config)#interface range GigabitEthernet1/0
SW2(config-if-range)#switchport mode access
SW2(config-if-range)#switchport access vlan 20
SW2(config-if-range)#exit
SW2(config)#end
SW2#wr
Building configuration...
```

Finalmente, configuramos el modo troncal en los dos switches.



The image displays two screenshots of PuTTY terminal windows, labeled 'SW1 - PuTTY' and 'SW2 - PuTTY'. The first window shows the configuration of SW1, where the user enters commands to configure interface GigabitEthernet1/1 as a trunk port with dot1q encapsulation, allowing VLAN 10. The second window shows the configuration of SW2, where the user enters commands to configure interface GigabitEthernet0/0 as a trunk port with dot1q encapsulation, allowing VLAN 20. Both configurations are saved using the 'wr' command.

```
SW1#  
SW1#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
SW1(config)#interface GigabitEthernet1/1  
SW1(config-if)#switchport trunk encapsulation dot1q  
SW1(config-if)#switchport mode trunk  
SW1(config-if)#switchport trunk allowed vlan 10  
SW1(config-if)#end  
SW1#wr  
Building configuration...  
Compressed configuration from 5286 bytes to 2020 bytes  
*Sep 20 05:21:21.644: %SYS-5-CONFIG I: Configured from console by console  
  
SW2#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
SW2(config)#interface GigabitEthernet0/0  
SW2(config-if)#switchport trunk encapsulation dot1q  
SW2(config-if)#switchport mode trunk  
SW2(config-if)#switchport trunk allowed vlan 20  
SW2(config-if)#end  
SW2#wr  
Building configuration...
```