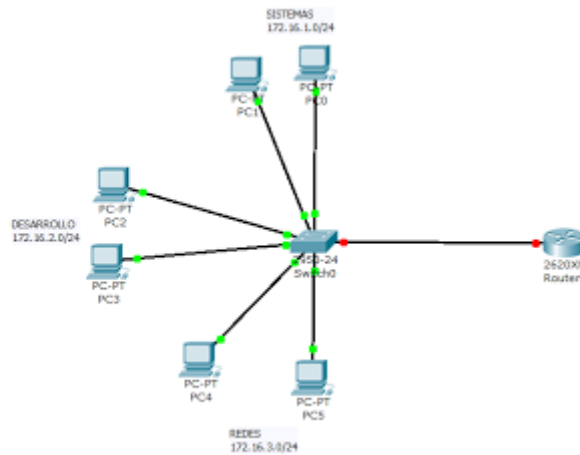


En este ejercicio se crean tres redes VLAN en un switch, posteriormente se comunican mediante un router. La topología es la siguiente.



Las redes son:

- 172.16.1.0/24
  - VLAN ID 2
  - Nombre SISTEMAS
- 172.16.2.0/24
  - VLAN ID 3
  - Nombre DESARROLLO
- 172.16.3.0/24
  - VLAN ID 4
  - Nombre REDES

Ya que el switch es de 24 puertos, son dos redes de 8 puertos y una de 7 ya que el puerto 24 será donde se conecte el router.

## CONFIGURACIÓN DEL SWITCH

**Para crear la VLANs se utilizan los siguientes comandos.**

**!Crear las VLANs**

```
vlan 2  
name SISTEMAS  
exit
```

```
vlan 3  
name DESARROLLO  
exit
```

```
vlan 4
```

```
name REDES
exit
```

**Para asignar cada puerto del switch a sus respectivas VLANs se utilizan los siguientes comandos.**

### **!Asignación de puertos a la VLAN SISTEMAS**

```
interface fastEthernet 0/1
switchport access vlan 2
exit
```

```
interface fastEthernet 0/2
switchport access vlan 2
exit
```

```
interface fastEthernet 0/3
switchport access vlan 2
exit
```

```
interface fastEthernet 0/4
switchport access vlan 2
exit
```

```
interface fastEthernet 0/5
switchport access vlan 2
exit
```

```
interface fastEthernet 0/6
switchport access vlan 2
exit
```

```
interface fastEthernet 0/7
switchport access vlan 2
exit
```

```
interface fastEthernet 0/8
switchport access vlan 2
exit
```

### **!Asignación de puertos a la VLAN DESARROLLO**

```
interface fastEthernet 0/9
switchport access vlan 3
exit
```

```
interface fastEthernet 0/10
switchport access vlan 3
exit
```

```
interface fastEthernet 0/11
switchport access vlan 3
exit
```

```
interface fastEthernet 0/12
switchport access vlan 3
exit
```

```
interface fastEthernet 0/13
switchport access vlan 3
exit
```

```
interface fastEthernet 0/14
switchport access vlan 3
exit
```

```
interface fastEthernet 0/15
switchport access vlan 3
exit
```

```
interface fastEthernet 0/16
switchport access vlan 3
exit
```

### **!Asignación de puertos a la VLAN REDES**

```
interface fastEthernet 0/17
switchport access vlan 4
exit
```

```
interface fastEthernet 0/18
switchport access vlan 4
exit
```

```
interface fastEthernet 0/19
switchport access vlan 4
exit
```

```
interface fastEthernet 0/20
switchport access vlan 4
exit
```

```
interface fastEthernet 0/21
switchport access vlan 4
exit
```

```
interface fastEthernet 0/22
switchport access vlan 4
exit
```

```
interface fastEthernet 0/23
switchport access vlan 4
exit
```

### **!Puerto 24 en modo trunk**

```
interface fastEthernet 0/24
switchport mode trunk
exit
```

### **CONFIGURACIÓN DEL ROUTER**

```
interface fastEthernet 0/0.1
encapsulation dot1Q 2
ip address 172.16.1.1 255.255.255.0
exit
```

```
interface fastEthernet 0/0.2
encapsulation dot1Q 3
ip address 172.16.2.1 255.255.255.0
exit
```

```
interface fastEthernet 0/0.3
encapsulation dot1Q 4
ip address 172.16.3.1 255.255.255.0
exit
```