

DHCP

The screenshot displays a network simulation interface. On the left, a network diagram shows a central switch connected to three PCs (PC0, PC1, PC2) and a router (ISR 4331). The PCs are grouped into VLAN 10 and VLAN 20. On the right, the configuration window for PC0 is open, showing the IP Configuration tab. The interface is FastEthernet0, and the IP Configuration is set to DHCP. The IPv4 Address is 192.168.7.31, Subnet Mask is 255.255.255.0, Default Gateway is 192.168.7.1, and DNS Server is 4.4.4.4. The IPv6 Configuration is set to Static, with an IPv6 Address field and a Link Local Address of FE80::2D0:BAFF:FE7C:ABDE. The 802.1X section is also visible, with a checkbox for Use 802.1X Security and an Authentication section for MDS.

con todos los equipos

nombres a las vlans

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with
CNTL/Z. Switch(config)#vlan 10
Switch(config-vlan)#name VLAN10
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name VLAN20
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name VLAN30
Switch(config-vlan)#exit
```

Configuración del Switch

```
Switch(config)#interface range FastEthernet 0/1-2
Switch(config-if-range)#switchport access vlan 10
Switch(config-if-range)#exit
Switch(config)#interface range FastEthernet 0/3-4
Switch(config-if-range)#switchport access vlan 20
Switch(config-if-range)#exit
```

```

Switch(config)#interface range FastEthernet 0/5-6
Switch(config-if-range)#switchport access vlan 30
Switch(config-if-range)#exit
Switch(config)#interface GigabitEthernet 0/1
Switch(config-if)#switchport mode trunk
Switch(config-if)#exit

Switch(config)#ip dhcp excluded-address 192.168.7.1 192.168.7.10
Switch(config)#ip dhcp excluded-address 192.168.7.11 192.168.7.20
Switch(config)#ip dhcp excluded-address 192.168.7.21 192.168.7.30
Switch(config)#ip dhcp pool vPool10
Switch(dhcp-config)#network 192.168.7.0 255.255.255.0
Switch(dhcp-config)#default-router 192.168.7.1
Switch(dhcp-config)#dns-server 4.4.4.4
Switch(dhcp-config)#exit
Switch(config)#ip dhcp pool vPool20
Switch(dhcp-config)#network 192.168.7.0 255.255.255.0
Switch(dhcp-config)#default-router 192.168.7.1
Switch(dhcp-config)#dns-server 8.8.8.8
Switch(dhcp-config)#exit
Switch(config)#ip dhcp pool vPool30
Switch(dhcp-config)#network 192.168.7.0 255.255.255.0
Switch(dhcp-config)#default-router 192.168.7.1
Switch(dhcp-config)#dns-server 30.0.0.2
Switch(dhcp-config)#exit
Switch(config)#interface vlan 10
Switch(config-if)#ip address 192.168.7.5 255.255.255.0
Switch(config-if)#exit
Switch(config)#interface vlan 20
Switch(config-if)#ip address 192.168.7.6 255.255.255.0
Switch(config-if)#exit
Switch(config)#interface vlan 30
Switch(config-if)#ip address 192.168.7.7 255.255.255.0
Switch(config-if)#exit
Switch(config)#

```

1. Configuración del Router

```

Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with
CNTL/Z. Router(config)#interface GigabitEthernet 0/0/1
Router(config-if)#no ip address
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface GigabitEthernet 0/0/1.10
Router(config-subif)#encapsulation dot1Q 10
Router(config-subif)#ip address 192.168.7.1 255.255.255.0
Router(config-subif)#exit

```

```

Router(config)#interface GigabitEthernet 0/0/1.20
Router(config-subif)#encapsulation dot1Q 20
Router(config-subif)#ip address 192.168.8.1 255.255.255.0
Router(config-subif)#exit
Router(config)#interface GigabitEthernet0/0/1.30
Router(config-subif)#encapsulation dot1Q 30
Router(config-subif)#ip address 192.168.9.1 255.255.255.0
Router(config-subif)#

```

Comprobación de resultados

Se **permite la comunicación** entre los equipos que forman parte de la misma vlan.

