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Parte 1.

Router.

Realizar SubInterfaces.

1. In fa 0/0.10
2. Encapsulation dot1q 10
3. Ip address 192.168.10.1 255.255.255.0
4. No sh
5. Ip dhcp pool lan_1
6. Network 192.168.10.0 255.255.255.0
7. Dns-server 192.168.10.1
8. Default-router 192.168.10.1
9. Exit.

Switch.

Realizar las Vlan en cada switch.

1. 10 administrativo
2. 20 docente
3. 30 alumnos
4. Dar de alta modo trunk en cada puerto del switch

Pc.

Dar de alta la Vlan para cada pc

1. Interface fa 0/1
2. Sw acc vlan 10

Parte 2.

Router.

Configurar entrada del pc al router.

1. Hostname "Nombre"
2. Ip address 192.168.2.1 255.255.255.0
3. No sh
4. Exit
5. Line vty 0 4
6. Password cisco
7. Login
8. Exit
9. Enable secret cisco
10. Exit

Switch.

Configurar entrada del pc al switch.

1. Hostname "Nombre"
2. Int vlan 10
3. Ip address 192.168.10.1 255.255.255.0
4. No sh
5. Exit
6. Line vty 0 4
7. Password cisco
8. Login
9. Exit
10. Enable secret cisco
11. Exit

Realizar las sub interfaces y las LAN 1, 2 y 3 respectivamente.

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa 0/0.10
Router(config-subif)#encapsulation dot1q 10
Router(config-subif)#ip address 192.168.10.1 255.255.255.0
Router(config-subif)#no sh
Router(config-subif)#ip dhcp pool lan_1
Router(dhcp-config)#network 192.168.10.1
% Incomplete command.
Router(dhcp-config)#network 192.168.10.1 255.255.255.0
Router(dhcp-config)#dns
Router(dhcp-config)#dns-server 192.168.10.1
Router(dhcp-config)#def
Router(dhcp-config)#default-router 192.168.10.1
Router(dhcp-config)#exit
Router(config)#int fa 0/0
Router(config-if)#no sh

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

%LINK-5-CHANGED: Interface FastEthernet0/0.10, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.10, changed state to up

Router(config-if)%%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 192.168.10.1.
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 192.168.10.1.
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 192.168.10.1.
```

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa 0/0.20
Router(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.20, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.20, changed state to up

Router(config-subif)#encapsulation dot1q 20
Router(config-subif)#ip ad
Router(config-subif)#ip address 192.168.20.1 255.255.255.0
Router(config-subif)#no sh
Router(config-subif)#ip dhcp pool lan_2
Router(dhcp-config)#net
Router(dhcp-config)#network 192.168.20.0 255.255.255.0
Router(dhcp-config)#dns
Router(dhcp-config)#dns-server 192.168.20.1
Router(dhcp-config)#def
Router(dhcp-config)#default-router 192.168.20.1
Router(dhcp-config)#exit
Router(config)#
```

```
Router>
Router>
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa 0/0.30
Router(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.30, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.30, changed state
to up

Router(config-subif)#encapsulation dot1q 30
Router(config-subif)#ip ad
Router(config-subif)#ip address 192.168.30.1 255.255.255.0
Router(config-subif)#no sh
Router(config-subif)#ip dhcp pool lan_3
Router(dhcp-config)#net
Router(dhcp-config)#network 192.168.30.0 255.255.255.0
Router(dhcp-config)#dns
Router(dhcp-config)#dns-server 192.168.30.1
Router(dhcp-config)#def
Router(dhcp-config)#default-router 192.168.30.1
Router(dhcp-config)#exit
Router(config)#%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged
192.168.30.1.
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 192.168.30.1.
```

Realizar las Vlan en cada switch, se realiza el mismo procedimiento para todos los switch y se utiliza modo trunk para los puertos de cada uno.

```
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name Administrativo
Switch(config-vlan)#exit
Switch(config)#VlVvlan 20
Switch(config-vlan)#name Docente
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name Alumnos
Switch(config-vlan)#exit
Switch(config)#int fa 0/22
Switch(config-if)#sw mode trunk
Switch(config-if)#exit
Swswint fa 0/22int fa 0/23
Switch(config-if)#sw mode trunk
```

Asignar una Vlan a cada equipo.

```
-----
Switch(config)#int fa 0/1
Switch(config-if)#sw acc vlan 20
Switch(config-if)#exit
Switch(config)#
```

Configurar entrada del pc al router.

```
DidierRodriguez>
DidierRodriguez>en
Password:
Password:
DidierRodriguez#
DidierRodriguez#host
DidierRodriguez#conf t
Enter configuration commands, one per line. End with CNTL/Z.
DidierRodriguez(config)#hos
DidierRodriguez(config)#hostname DidierRodriguez
DidierRodriguez(config)#ip add
DidierRodriguez(config)#ip address
DidierRodriguez(config)#int fa 0/1
DidierRodriguez(config-if)#ip ad
DidierRodriguez(config-if)#ip address 192.168.2.1 255.255.255.0
DidierRodriguez(config-if)#no sh
DidierRodriguez(config-if)#exit
DidierRodriguez(config)#line vty 0 4
DidierRodriguez(config-line)#password cisco
DidierRodriguez(config-line)#login
DidierRodriguez(config-line)#exit
DidierRodriguez(config)#enable secret cisco
DidierRodriguez(config)#exit
DidierRodriguez#
%SYS-5-CONFIG_I: Configured from console by console

DidierRodriguez#
DidierRodriguez#
```

Command Prompt

```
[Connection to 192.168.2.1 closed by foreign host]
PC>
PC>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time=0ms TTL=255
Reply from 192.168.2.1: bytes=32 time=0ms TTL=255
Reply from 192.168.2.1: bytes=32 time=0ms TTL=255
Reply from 192.168.2.1: bytes=32 time=0ms TTL=255

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>telnet 192.168.2.1
Trying 192.168.2.1 ...Open

User Access Verification

Password:
DidierRodriguez>
DidierRodriguez>
DidierRodriguez>exit

[Connection to 192.168.2.1 closed by foreign host]
PC>
```

Configurar entrada del pc en todos los switch.

```
Switch>
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hos
Switch(config)#hostname Didier10
Didier10(config)#int vlan 10
Didier10(config-if)#
%LINK-5-CHANGED: Interface Vlan10, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan10, changed state to up

Didier10(config-if)#ip ad
Didier10(config-if)#ip address 192.168.10.1 255.255.255.0
Didier10(config-if)#no sh
Didier10(config-if)#
Didier10(config-if)#exit
Didier10(config)#line vty 0 4
Didier10(config-line)#password cisco
Didier10(config-line)#login
Didier10(config-line)#exit
Didier10(config)#enable secret cisco
Didier10(config)#exit
Didier10#
%SYS-5-CONFIG_I: Configured from console by console

Didier10#
Didier10#
```

Command Prompt

```
Packet Tracer PC Command Line 1.0
PC>ping 192.168.10.1

Pinging 192.168.10.1 with 32 bytes of data:

Request timed out.
Reply from 192.168.10.1: bytes=32 time=0ms TTL=255
Reply from 192.168.10.1: bytes=32 time=0ms TTL=255
Reply from 192.168.10.1: bytes=32 time=0ms TTL=255

Ping statistics for 192.168.10.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>telnet 192.168.10.1
Trying 192.168.10.1 ...Open

User Access Verification

Password:
Password:
Didier10>
Didier10>
Didier10>exit

[Connection to 192.168.10.1 closed by foreign host]
PC>
PC>
```



```

Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#host
Switch(config)#hostname Didier20
Didier20(config)#int vlan 20
Didier20(config-if)#
%LINK-5-CHANGED: Interface Vlan20, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan20, changed state to up

Didier20(config-if)#ip ad
Didier20(config-if)#ip address 192.168.20.1 255.255.255.0
Didier20(config-if)#no sh
      ^
% Invalid input detected at '^' marker.

Didier20(config-if)#no sh
Didier20(config-if)#exit
Didier20(config)#line vty 0 4
Didier20(config-line)#password cisco
Didier20(config-line)#login
Didier20(config-line)#exit
Didier20(config)#enable secret cisco
Didier20(config)#exit
Didier20#
%SYS-5-CONFIG_I: Configured from console by console

Didier20#
Didier20#

```

Command Prompt

```

Packet Tracer PC Command Line 1.0
PC>ping 192.168.20.1

Pinging 192.168.20.1 with 32 bytes of data:

Request timed out.
Reply from 192.168.20.1: bytes=32 time=0ms TTL=255
Reply from 192.168.20.1: bytes=32 time=0ms TTL=255
Reply from 192.168.20.1: bytes=32 time=0ms TTL=255

Ping statistics for 192.168.20.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>telnet 192.168.20.1
Trying 192.168.20.1 ...Open

User Access Verification

Password:
Didier20>
Didier20>exit

[Connection to 192.168.20.1 closed by foreign host]
PC>

```

```

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to up

Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hos
Switch(config)#hostname Didier30
Didier30(config)#int vlan 30
Didier30(config-if)#
%LINK-5-CHANGED: Interface Vlan30, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan30, changed state to up

Didier30(config-if)#ip ad
Didier30(config-if)#ip address 192.168.30.1 255.255.255.0
Didier30(config-if)#no sh
Didier30(config-if)#exit
Didier30(config)#line vty 0 4
Didier30(config-line)#password cisco
Didier30(config-line)#exit
Didier30(config)#enable secret cisco
Didier30(config)#exit
Didier30#
%SYS-5-CONFIG_I: Configured from console by console

Didier30#
Didier30#

```

Command Prompt

```

Packet Tracer PC Command Line 1.0
PC>ping 192.168.30.1

Pinging 192.168.30.1 with 32 bytes of data:

Request timed out.
Reply from 192.168.30.1: bytes=32 time=0ms TTL=255
Reply from 192.168.30.1: bytes=32 time=0ms TTL=255
Reply from 192.168.30.1: bytes=32 time=0ms TTL=255

Ping statistics for 192.168.30.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>telnet 192.168.30.1
Trying 192.168.30.1 ...Open

User Access Verification

Password:
Password:
Didier30>
Didier30>exit

[Connection to 192.168.30.1 closed by foreign host]
PC>

```

Fin. ☺