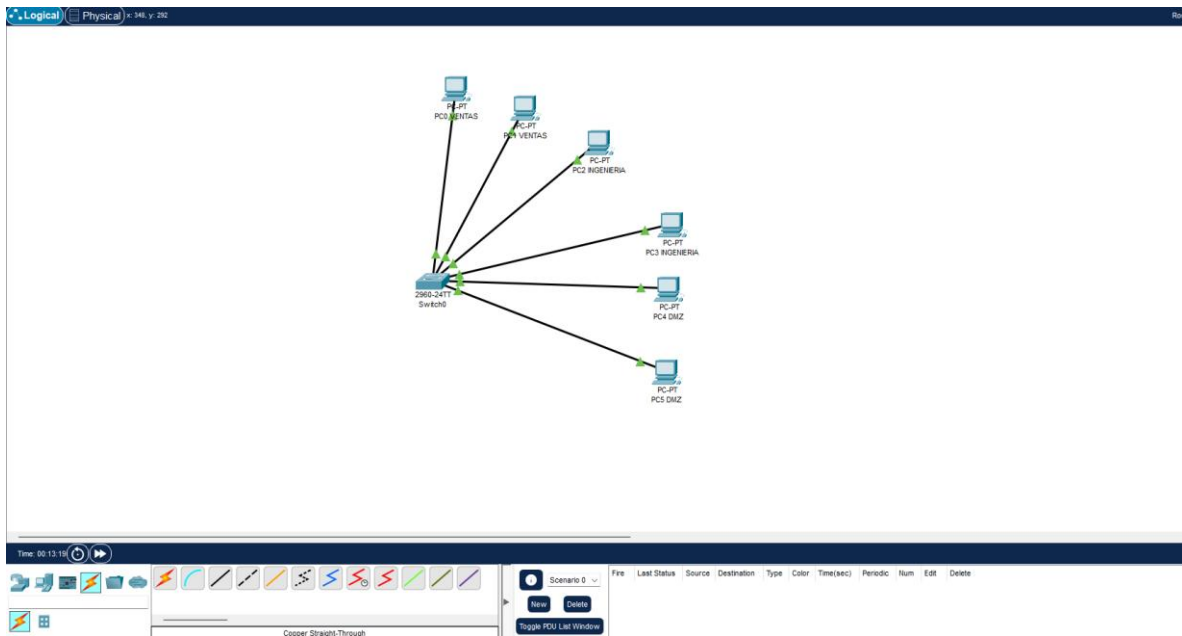


Laboratorio 21 y 22 Cursos Ciberseguridad

Sesión #21 y 22

Jesús Rodrigo Toro Navarro
Universidad Popular del Cesar
Facultad de Ingeniería y Tecnológica

Primero abrimos cisco packet tracer y colocamos 1 switch 2960 y 6 PCs



Ahora nos vamos al switch, CLI

```
Switch0
Physical Config CLI Attributes
IOS Command Line Interface
1 26 WS-C2960-24TT-L 15.0(2)SE4 C2960-LANBASEK9-M
Cisco IOS Software, C2960 Software (C2960-LANBASEK9-M), Version 15.0(2)SE4, RELEASE
SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2013 by Cisco Systems, Inc.
Compiled Wed 26-Jun-13 02:49 by mnguyen

Press RETURN to get started!

%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/4, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/5, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/6, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/6, changed state to up
```

Usamos las siguientes VLAN para realizar el ejercicio

Ventas

VLAN 192.168.10.1

Ingeniería

VLAN 192.168.20.1

DMZ

VLAN 192.168.30.1

Primero entramos al switch

```
Switch>enable
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#show vlan

VLAN Name                Status    Ports
-----
1    default                active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                           Fa0/5, Fa0/6, Fa0/7, Fa0/8
                                           Fa0/9, Fa0/10, Fa0/11, Fa0/12
                                           Fa0/13, Fa0/14, Fa0/15, Fa0/16
                                           Fa0/17, Fa0/18, Fa0/19, Fa0/20
                                           Fa0/21, Fa0/22, Fa0/23, Fa0/24
                                           Gig0/1, Gig0/2
1002 fddi-default          active
1003 token-ring-default    active
1004 fddinet-default        active
1005 trnet-default          active

VLAN Type  SAID      MTU    Parent RingNo BridgeNo Stp  BrdgMode Transl Trans2
-----
1    enet    1000001   1500   -      -      -      -    -      0      0
1002 fddi    1010002   1500   -      -      -      -    -      0      0
1003 tr     1010003   1500   -      -      -      -    -      0      0
1004 fdnet  1010004   1500   -      -      -      ieee -      0      0
1005 trnet  1010005   1500   -      -      -      ibm  -      0      0
--More-- |
```

Ahora creamos las VLAN ventas, ingenierías y DMZ

```
Switch#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name ventas
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name ingenierias
Switch(config-vlan)#name ing
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name ingenieria
Switch(config-vlan)#name ingenierias
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name DMZ
Switch(config-vlan)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#show vlan brief
```

VLAN Name	Status	Ports
1 default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12 Fa0/13, Fa0/14, Fa0/15, Fa0/16 Fa0/17, Fa0/18, Fa0/19, Fa0/20 Fa0/21, Fa0/22, Fa0/23, Fa0/24 Gig0/1, Gig0/2
10 ventas	active	
20 ingenierias	active	
30 DMZ	active	
1002 fddi-default	active	
1003 token-ring-default	active	
1004 fddinet-default	active	
1005 trnet-default	active	

```
Switch#
```

Ahora nos salimos con exit y volvemos a entrar para asignar puertos a cada VLAN

interface range f0/1 - f0/2

switchport mode access

switchport access vlan 10

exit

interface range f0/3 - f0/4

switchport mode access

switchport access vlan 20

exit

interface range f0/5 - f0/6

switchport mode access

switchport access vlan 30

exit

VLAN 10

```
Switch>enable
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface r
% Incomplete command.
Switch(config)#interface range f0/1 - f0/2
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 10
Switch(config-if-range)#exit
```

VLAN 20

```
Switch(config)#interface range f0/3 - f0/4
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 20
Switch(config-if-range)#exit
Switch(config)#
```

VLAN 30

```
Switch(config)#interface range f0/5 - f0/6
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 30
Switch(config-if-range)#exit
Switch(config)#
```

Comprobamos los cambios con show vlan brief

```
Switch#show vlan brief
```

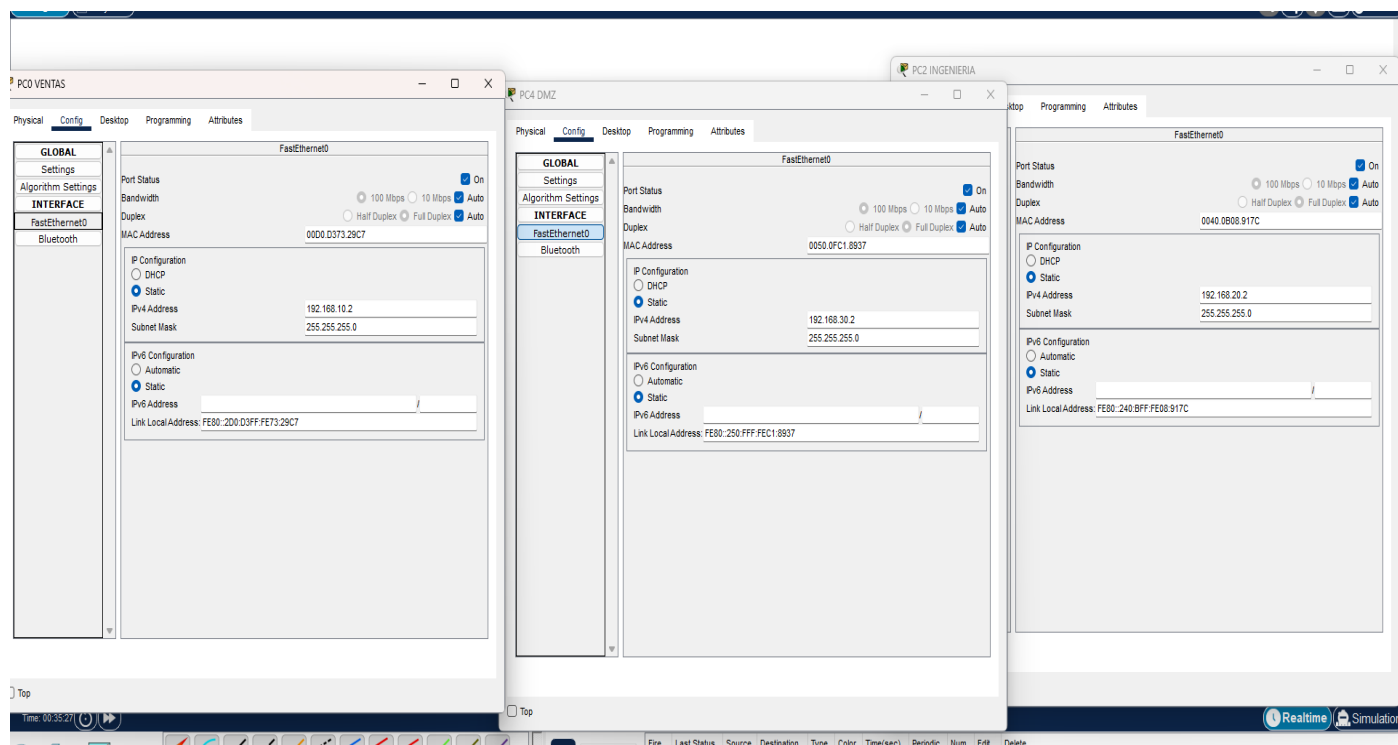
VLAN Name	Status	Ports
1 default	active	Fa0/7, Fa0/8, Fa0/9, Fa0/10 Fa0/11, Fa0/12, Fa0/13, Fa0/14 Fa0/15, Fa0/16, Fa0/17, Fa0/18 Fa0/19, Fa0/20, Fa0/21, Fa0/22 Fa0/23, Fa0/24, Gig0/1, Gig0/2
10 ventas	active	Fa0/1, Fa0/2
20 ingenierias	active	Fa0/3, Fa0/4
30 DMZ	active	Fa0/5, Fa0/6
1002 fddi-default	active	
1003 token-ring-default	active	
1004 fddinet-default	active	
1005 trnet-default	active	

Switch#

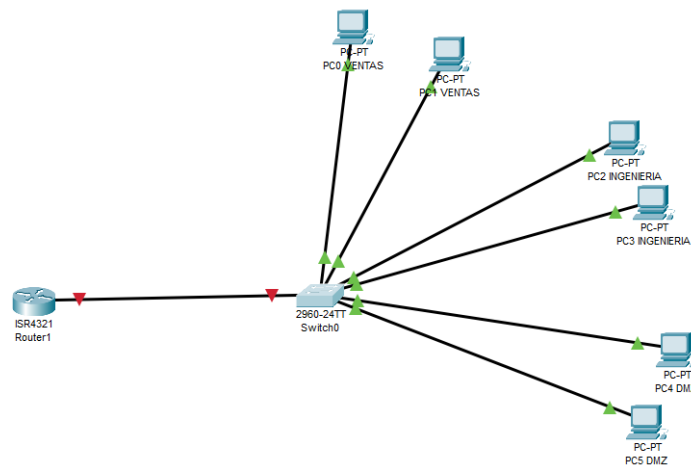
Ahora en los PCs configuramos las IPv4, donde en los PCs ventas la ip es 192.168.10.2 y 192.168.10.3

En las de ingeniería 192.168.20.2 y 192.168.20.3

En las de DMZ 192.168.30.2 Y 192.168.30.3



Ahora colocamos un router 4321 y lo conectamos al switch



55:27

Y nos vamos a CLI del switch para configurar el router

```
Switch>enable
Switch#co
Switch#con
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface f0/24
Switch(config-if)#sw
Switch(config-if)#switchport mode trunk
Switch(config-if)#sw
Switch(config-if)#switchport trunk allowed vlan 10,20,30
Switch(config-if)#exit
Switch(config)#
```

Copy

Paste

☐ Top

Después nos vamos al CLI del Router para configurar el router y la vlan

Primero de la vlan 10

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface g
Router(config)#interface gigabitEthernet0/0/0.10
Router(config-subif)#en
Router(config-subif)#encapsulation do
Router(config-subif)#encapsulation dot1q 10
Router(config-subif)#ad
Router(config-subif)#address 192.168.10.1 255.255.255.0
      ^
% Invalid input detected at '^' marker.

Router(config-subif)#ip address 192.168.10.1 255.255.255.0
Router(config-subif)#exit
```

Copy

Paste

Top

Luego la 20

```
Router(config)#interface gigabitEthernet0/0/0.20
Router(config-subif)#ip address 192.168.20.1 255.255.255.0

% Configuring IP routing on a LAN subinterface is only allowed if that
subinterface is already configured as part of an IEEE 802.1Q, IEEE 802.1Q,
or ISL vLAN.

Router(config-subif)#encapsulation dot1q 20
Router(config-subif)#ip address 192.168.20.1 255.255.255.0
Router(config-subif)#exit
Router(config)#
```

Y por ultimo la 30

```
Router(config-subif)#exit
Router(config)#interface gigabitEthernet0/0/0.30
Router(config-subif)#encapsulation dot1q 30
Router(config-subif)#ip address 192.168.30.1 255.255.255.0
Router(config-subif)#exit
Router(config)#
```

Top


```
Router(config)#interface gi
Router(config)#interface gigabitEthernet0/0/0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/0/0.10, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0.10, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/0/0.20, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0.20, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/0/0.30, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0.30, changed state to up
```

☒ Top

```
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/0/0.10, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0.10, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/0/0.20, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0.20, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/0/0.30, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0.30, changed state to up

Router(config-if)#exit
Router(config)#and
^
% Invalid input detected at '^' marker.

Router(config)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#
```

☐ Top

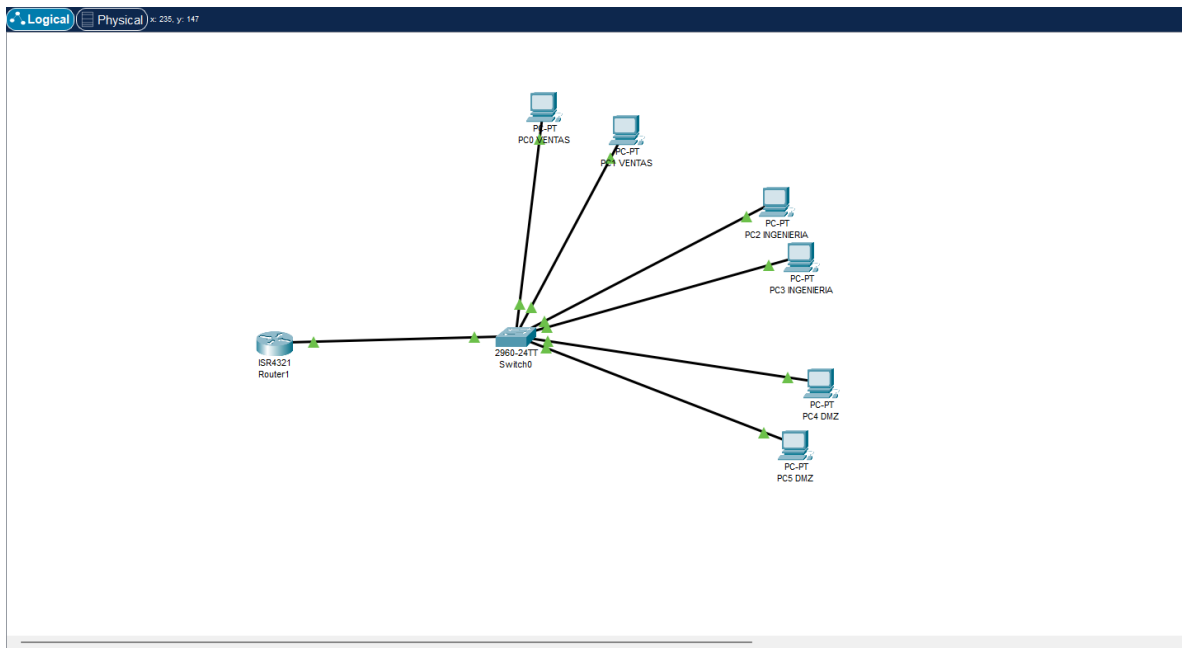
```
Router(config-if)#exit
Router(config)#and
^
% Invalid input detected at '^' marker.

Router(config)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#write memory
Building configuration...
[OK]
Router#
```

☐ Top

Comprobamos el cisco packet tracer



Y hacemos una pequeña prueba, primero colocamos la default Gateway a los PCs y comprobamos la prueba dándole a simulation

The screenshot shows the Simulation Panel in Cisco Packet Tracer. It includes an Event List table, Play Controls, and Event List Filters.

Vis.	Time(sec)	Last Device
	0.733	--
	0.734	Switch0
	0.734	--
	0.735	Switch0
	1.707	--
	1.708	Switch0
	1.708	Switch0
	1.708	Switch0
	1.732	--
	1.733	Switch0
	1.733	Switch0
	1.733	Switch0
Visible	1.818	--

Reset Simulation ☒ Constant Delay Captured to: 1.818 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, RAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Event List Realtime Simulation

