

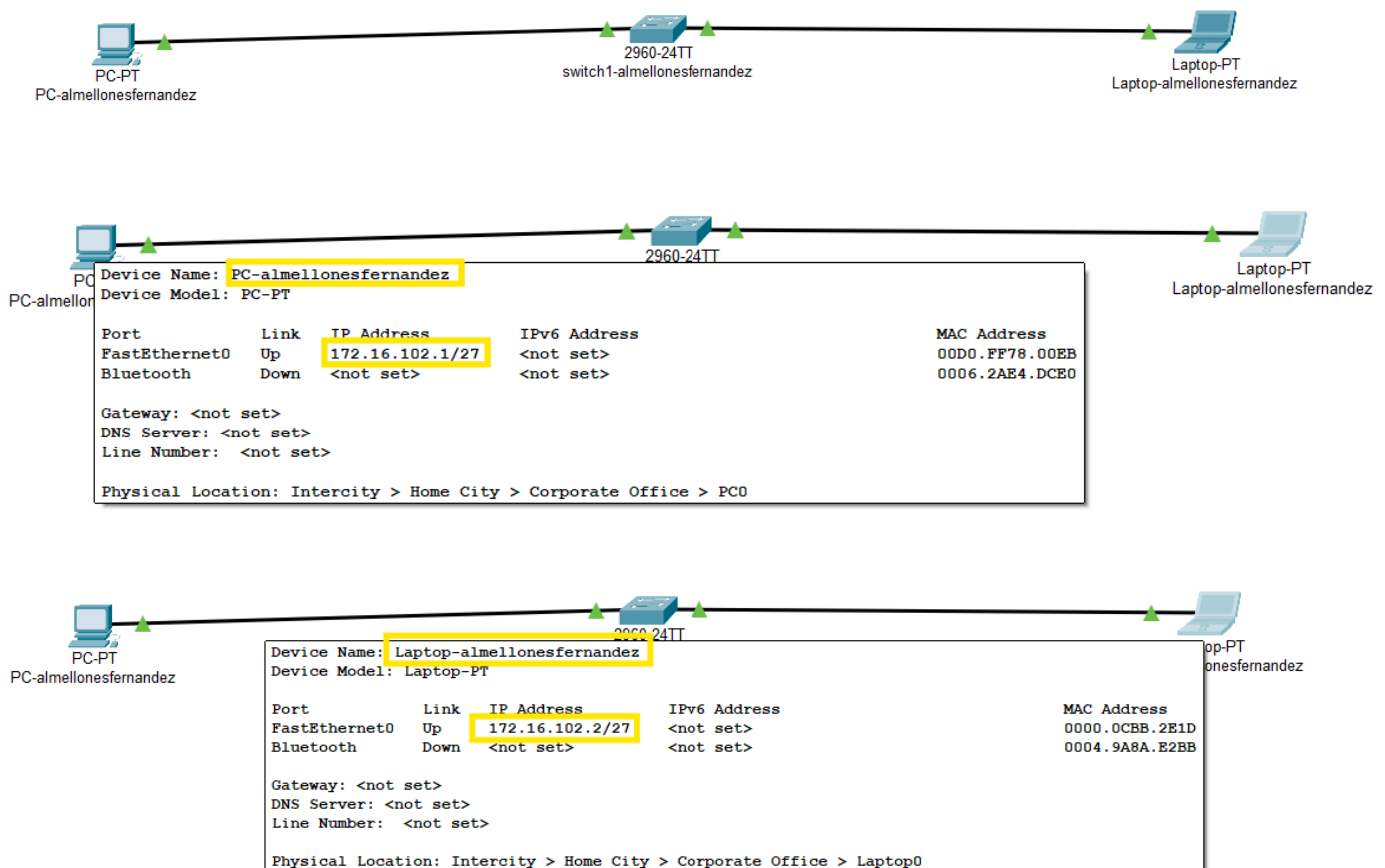
## PRÁCTICA 14

# DISEÑO DE REDES DE COMPUTADORES. SEGMENTACIÓN. SUBNETTING. VLSM. REDES PRIVADAS VIRTUALES (VLAN). SOFTWARE CISCO PACKET TRACER.

### SOFTWARE PACKET TRACER. VLAN

1. **(2,5 puntos)** Usando la herramienta Packet tracer realice las siguientes configuraciones adicionales y realice comprobaciones de funcionamiento y de configuración (CLI, capturas del interfaz GUI). Personalice lo máximo posible lo que vaya apareciendo (nombre del dispositivo, nombre de las vlan, etc.). Se deja a elección del alumno donde conectar los diferentes dispositivos.

a) **(0,5 puntos)** Red con un switch (switch1-XXxx) y dos end-points (ordenador y un portátil) con IP manuales en la red 172.16.1??1/27 y 172.16.1??2/27. Haga comprobaciones de ping.



PC-almellonesfernandez

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>pind 172.16.102.2
Invalid Command.

C:\>ping 172.16.102.2

Pinging 172.16.102.2 with 32 bytes of data:

Reply from 172.16.102.2: bytes=32 time<1ms TTL=128
Reply from 172.16.102.2: bytes=32 time<1ms TTL=128
Reply from 172.16.102.2: bytes=32 time<1ms TTL=128
Reply from 172.16.102.2: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.102.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Laptop-almellonesfernandez

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.102.1

Pinging 172.16.102.1 with 32 bytes of data:

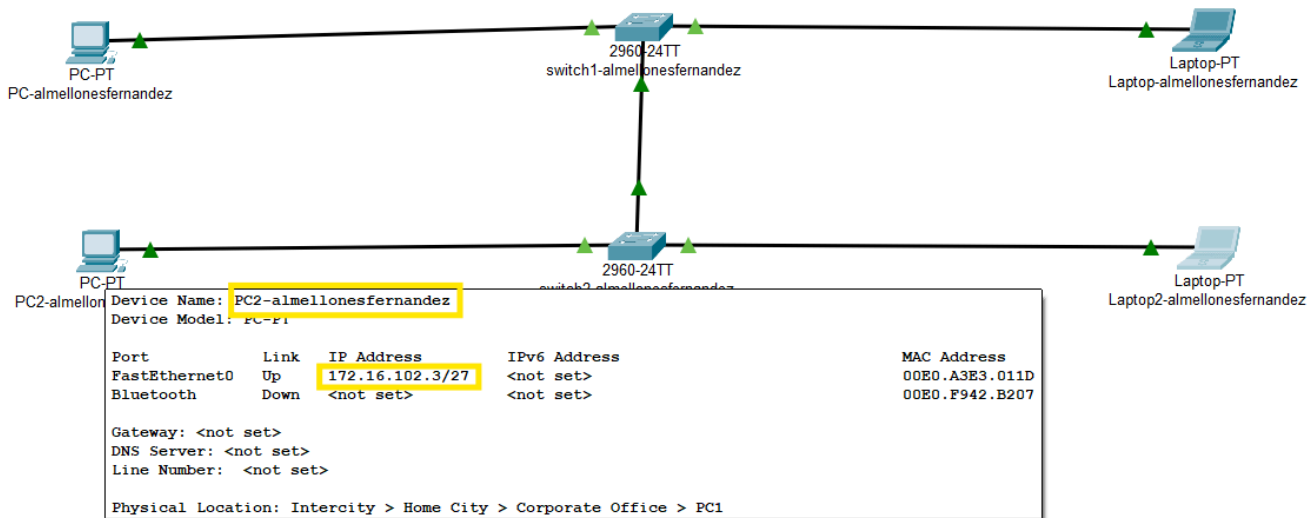
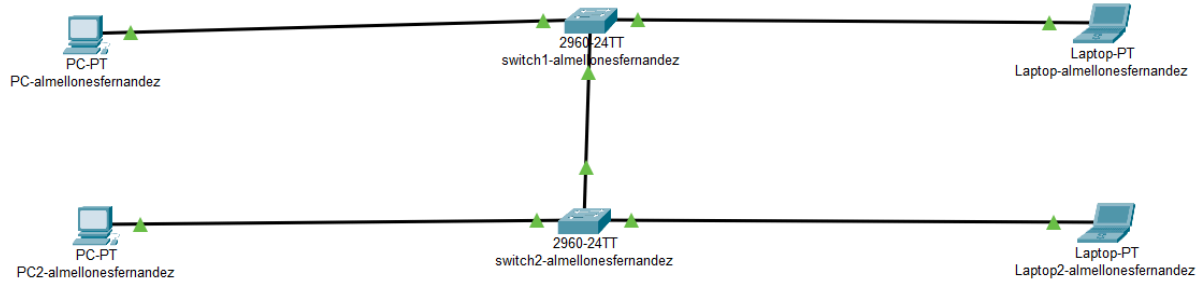
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.102.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

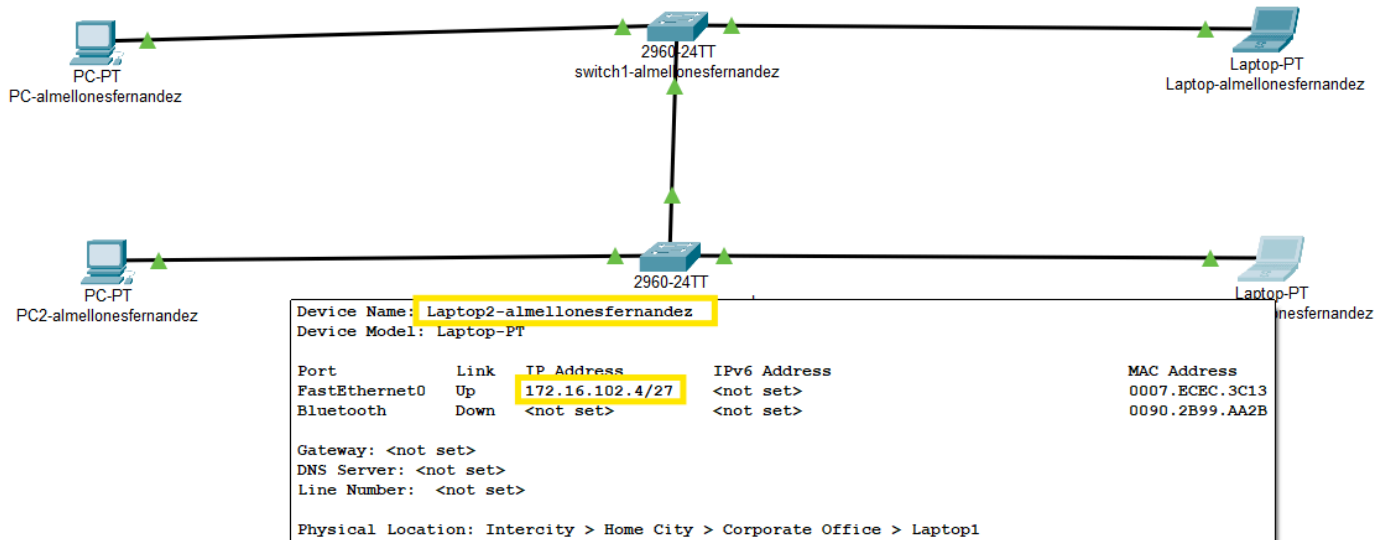
C:\>
```

## Álvaro Almellones Fernández

b) **(0,5 puntos)** Añade otro switch (switch2-XXxx) con otros dos end-points (ordenador y un portátil) con IP manuales consecutivas a las anteriores, y conecte ambos switches. Haga comprobaciones de ping entre dispositivos de diferentes switches.



## Álvaro Almellones Fernández



```
PC2-almellonesfernandez

Physical  Config  Desktop  Programming  Attributes

Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.102.1

Pinging 172.16.102.1 with 32 bytes of data:

Reply from 172.16.102.1: bytes=32 time<1ms TTL=128
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.102.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 172.16.102.2

Pinging 172.16.102.2 with 32 bytes of data:

Reply from 172.16.102.2: bytes=32 time<1ms TTL=128
Reply from 172.16.102.2: bytes=32 time<1ms TTL=128
Reply from 172.16.102.2: bytes=32 time<1ms TTL=128
Reply from 172.16.102.2: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.102.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

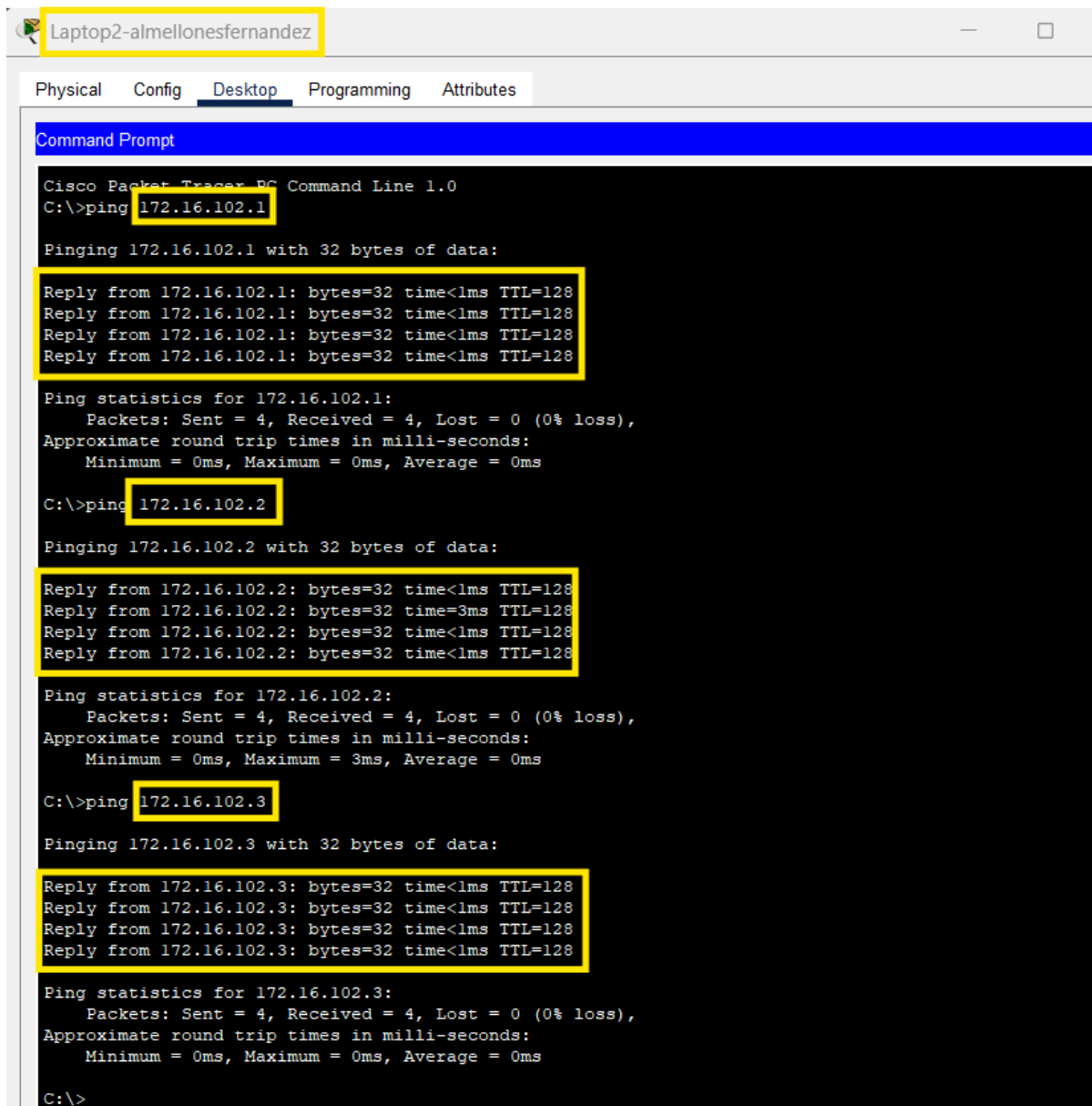
C:\>ping 172.16.102.4

Pinging 172.16.102.4 with 32 bytes of data:

Reply from 172.16.102.4: bytes=32 time<1ms TTL=128
Reply from 172.16.102.4: bytes=32 time<1ms TTL=128
Reply from 172.16.102.4: bytes=32 time<1ms TTL=128
Reply from 172.16.102.4: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.102.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```



```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.102.1

Pinging 172.16.102.1 with 32 bytes of data:

Reply from 172.16.102.1: bytes=32 time<1ms TTL=128
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.102.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 172.16.102.2

Pinging 172.16.102.2 with 32 bytes of data:

Reply from 172.16.102.2: bytes=32 time<1ms TTL=128
Reply from 172.16.102.2: bytes=32 time=3ms TTL=128
Reply from 172.16.102.2: bytes=32 time<1ms TTL=128
Reply from 172.16.102.2: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.102.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 3ms, Average = 0ms

C:\>ping 172.16.102.3

Pinging 172.16.102.3 with 32 bytes of data:

Reply from 172.16.102.3: bytes=32 time<1ms TTL=128
Reply from 172.16.102.3: bytes=32 time<1ms TTL=128
Reply from 172.16.102.3: bytes=32 time<1ms TTL=128
Reply from 172.16.102.3: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.102.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

c) (0,5 puntos) En la empresa, se decide que los equipos ordenadores pertenezcan a una vlan (1??) (vlan lanXXxx) y los de portátiles (1??+1) (vlan-wlanXXxx) pertenezcan a otra vlan. Rehaga toda la configuración para establece dicha configuración y haga comprobaciones de ping.

# Álvaro Almellones Fernández

switch1-almellonesfernandez

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/6

FastEthernet0/7

FastEthernet0/8

FastEthernet0/9

FastEthernet0/10

FastEthernet0/11

FastEthernet0/12

FastEthernet0/13

FastEthernet0/14

FastEthernet0/15

FastEthernet0/16

FastEthernet0/17

FastEthernet0/18

VLAN Configuration

VLAN Number102

VLAN Namevian-lan-almellonesfernandez

AddRemove

VLAN No1

default

VLAN Name

102vian-lan-almellonesfernandez

103vian-vlan-almellonesfernandez

1002fddi-default

1003token-ring-default

1004fddinet-default

1005trnet-default

switch2-almellonesfernandez

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/6

FastEthernet0/7

FastEthernet0/8

FastEthernet0/9

FastEthernet0/10

FastEthernet0/11

FastEthernet0/12

FastEthernet0/13

FastEthernet0/14

FastEthernet0/15

FastEthernet0/16

FastEthernet0/17

FastEthernet0/18

VLAN Configuration

VLAN Number102

VLAN Namevian-lan-almellonesfernandez

AddRemove

VLAN No1

default

VLAN Name

102vian-lan-almellonesfernandez

103vian-vlan-almellonesfernandez

1002fddi-default

1003token-ring-default

1004fddinet-default

1005trnet-default

switch1-almellonesfernandez

Physical Config CLI Attributes

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/6

FastEthernet0/7

FastEthernet0/8

FastEthernet0/9

FastEthernet0/10

FastEthernet0/11

FastEthernet0/12

FastEthernet0/13

GigabitEthernet0/1

Port Status

Bandwidth

Duplex

Trunk

VLAN1

Tx Ring Limit10

switch2-almellonesfernandez

Physical Config CLI Attributes

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/6

FastEthernet0/7

FastEthernet0/8

FastEthernet0/9

FastEthernet0/10

FastEthernet0/11

FastEthernet0/12

FastEthernet0/13

GigabitEthernet0/1

Port Status

Bandwidth

Duplex

Trunk

VLAN1

Tx Ring Limit10

switch1-almellonesfernandez

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/6

FastEthernet0/7

FastEthernet0/1

Port Status

Bandwidth

Duplex

Access

VLAN10

Tx Ring Limit

102vian-lan-almellones

103vian-vlan-almellon

switch2-almellonesfernandez

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/6

FastEthernet0/7

FastEthernet0/1

Port Status

Bandwidth

Duplex

Access

VLAN10

Tx Ring Limit

102vian-lan-almellones

103vian-vlan-almellon

switch1-almellonesfernandez

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/2

Port Status

Bandwidth

Duplex

Access

VLAN10

Tx Ring Limit

103vian-lan-almellones

102vian-vlan-almellon

switch2-almellonesfernandez

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/2

Port Status

Bandwidth

Duplex

Access

VLAN10

Tx Ring Limit

103vian-lan-almellones

102vian-vlan-almellon

```
PC2-almellonesfernandez

Physical  Config  Desktop  Programming  Attributes

Command Prompt

C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>ping 172.16.102.1

Pinging 172.16.102.1 with 32 bytes of data:

Reply from 172.16.102.1: bytes=32 time<1ms TTL=128
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128
Reply from 172.16.102.1: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.102.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 172.16.102.2

Pinging 172.16.102.2 with 32 bytes of data:

Request timed out.

Ping statistics for 172.16.102.2:
    Packets: Sent = 1, Received = 0, Lost = 1 (100% loss),

Control-C
^C
C:\>ping 172.16.102.4

Pinging 172.16.102.4 with 32 bytes of data:

Request timed out.

Ping statistics for 172.16.102.4:
    Packets: Sent = 2, Received = 0, Lost = 2 (100% loss),

Control-C
^C
C:\>
```

```
Laptop2-almellonesfernandez
Physical Config Desktop Programming Attributes
Command Prompt
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>ping 172.16.102.1
Pinging 172.16.102.1 with 32 bytes of data:
Request timed out.
Ping statistics for 172.16.102.1:
    Packets: Sent = 1, Received = 0, Lost = 1 (100% loss),

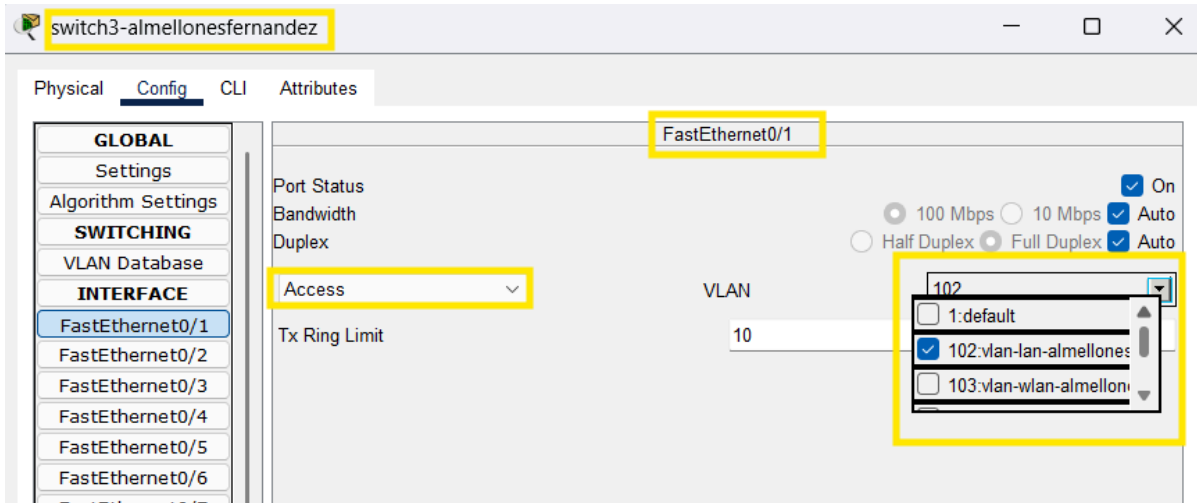
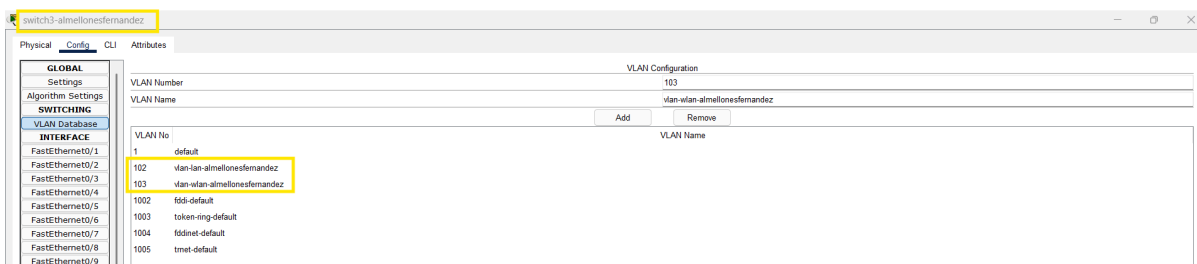
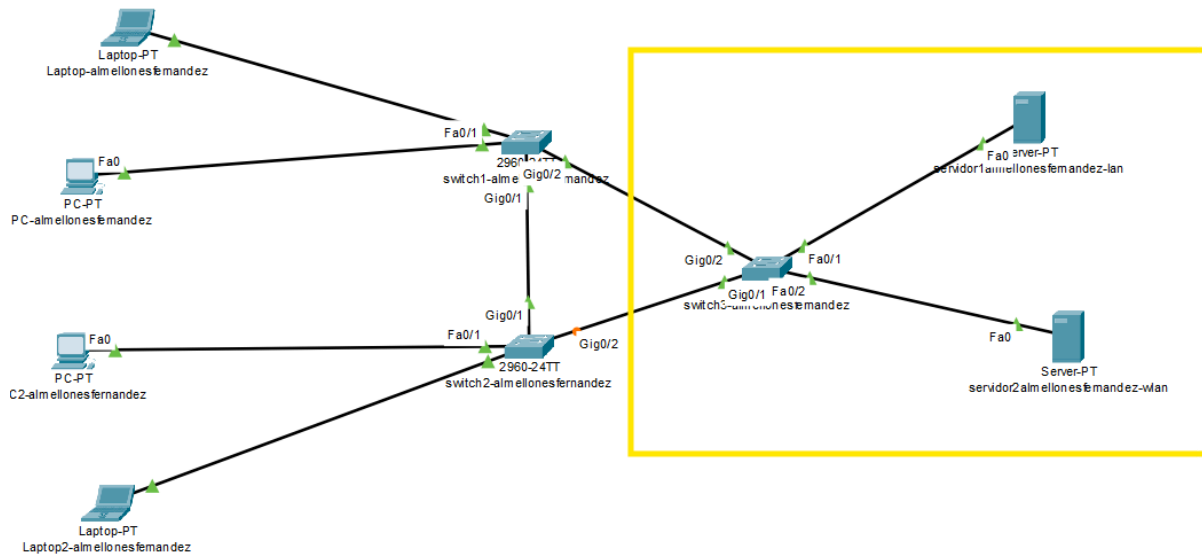
Control-C
^C
C:\>ping 172.16.102.2
Pinging 172.16.102.2 with 32 bytes of data:
Reply from 172.16.102.2: bytes=32 time<1ms TTL=128
Reply from 172.16.102.2: bytes=32 time<1ms TTL=128
Reply from 172.16.102.2: bytes=32 time<1ms TTL=128
Reply from 172.16.102.2: bytes=32 time<1ms TTL=128
Ping statistics for 172.16.102.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 172.16.102.3
Pinging 172.16.102.3 with 32 bytes of data:
Request timed out.
Ping statistics for 172.16.102.3:
    Packets: Sent = 2, Received = 0, Lost = 2 (100% loss),

Control-C
^C
C:\>
```

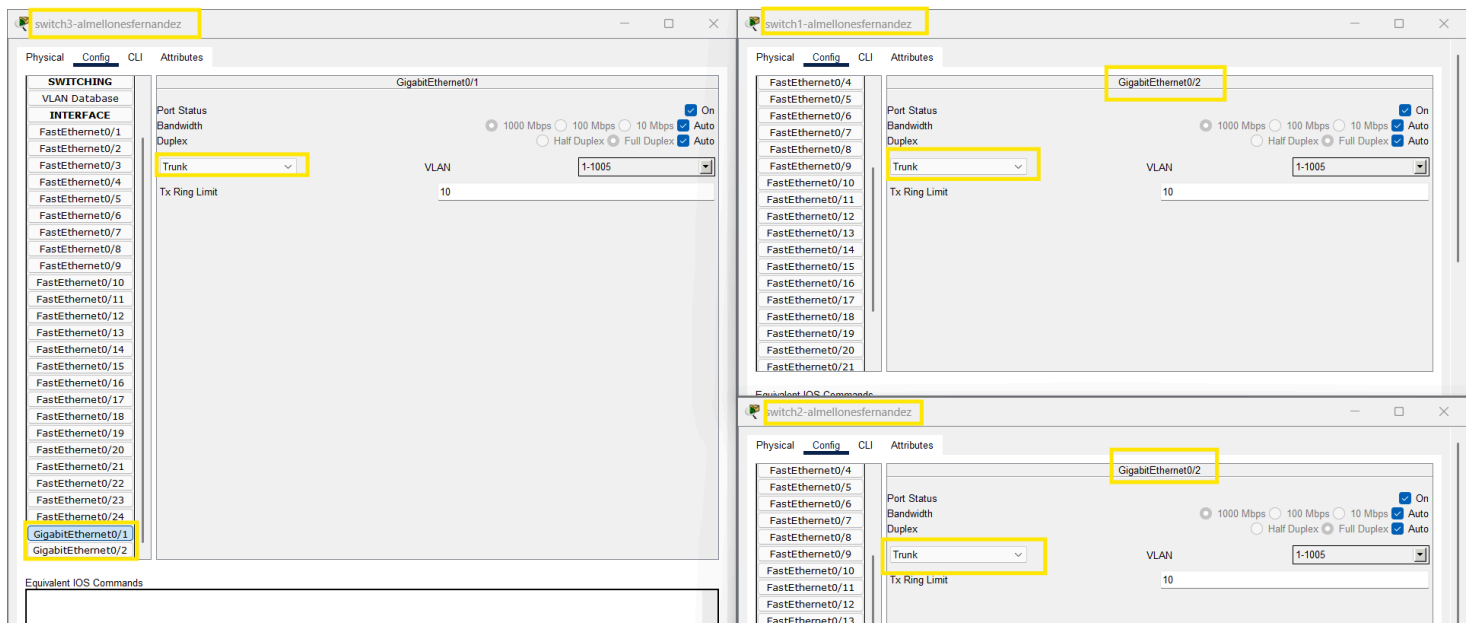
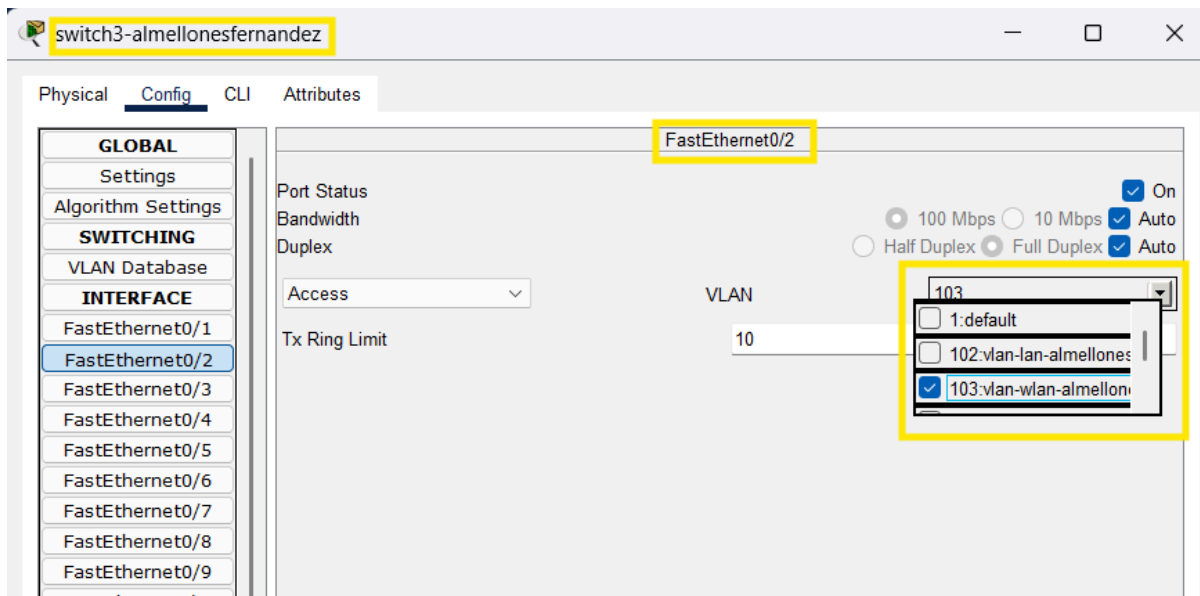
d) (0,5 puntos) Añade otro switch a la empresa (switch3-XXXX), conecte a los otros dos switches, y añada a ese switch dos servidores (servidor1XXXX-lan y servidor2XXXX-wlan). Cada servidor será únicamente visto por los equipos de sus diferentes vlans. Dicha configuración hay que realizarla mediante CLI (terminal). En cada uno de los servidores se configurará lo siguiente:



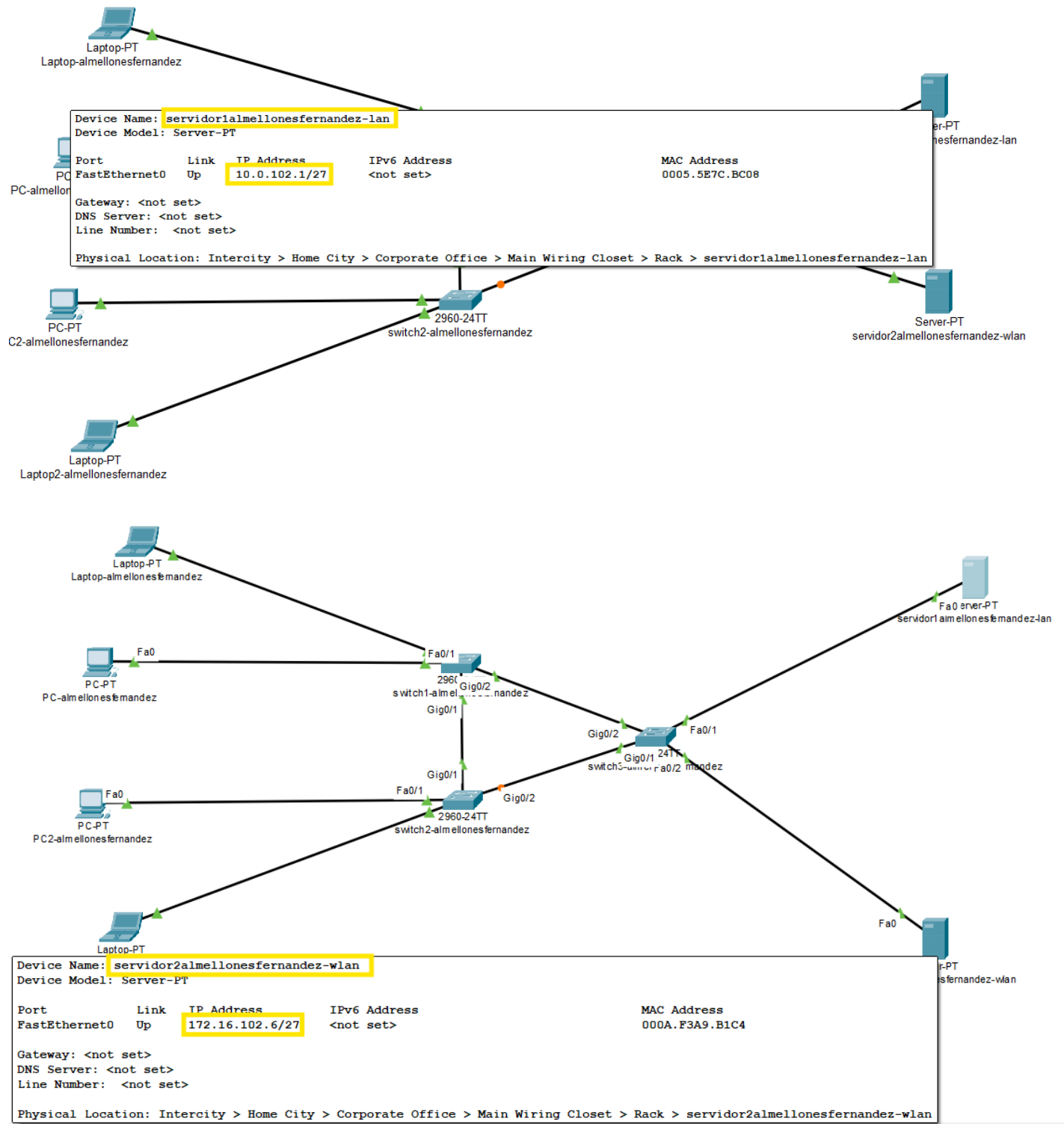
# Álvaro Almellones Fernández



## Álvaro Almellones Fernández

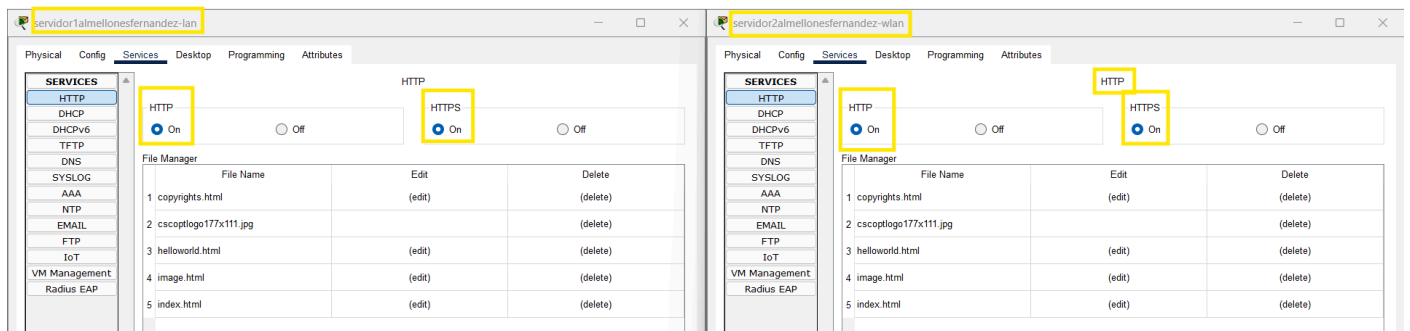


## Álvaro Almellones Fernández

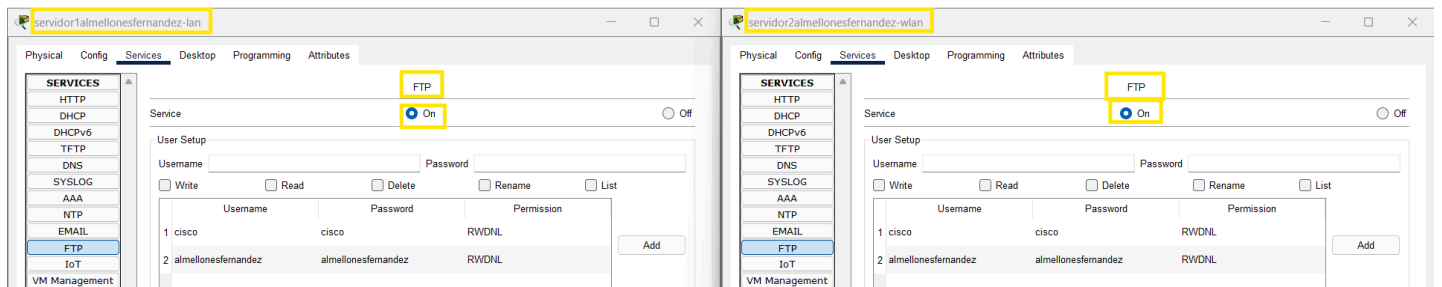


- Servidor Web en los dos servidores.

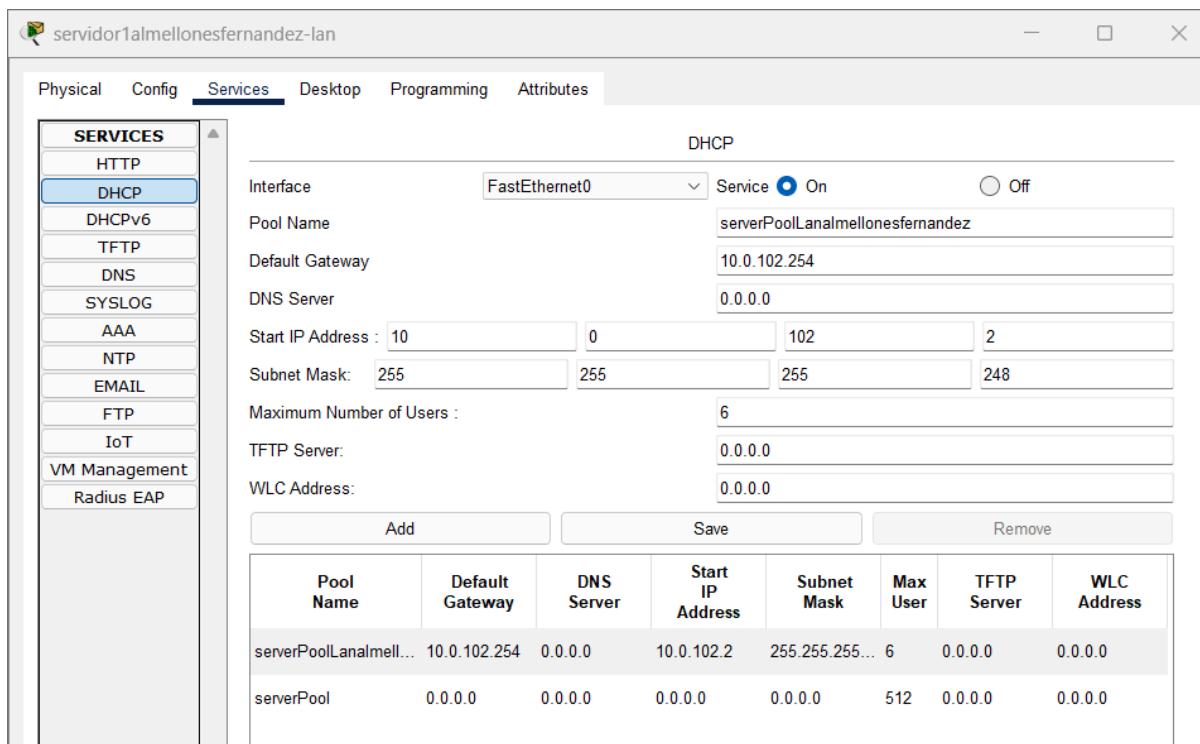
## Álvaro Almellones Fernández



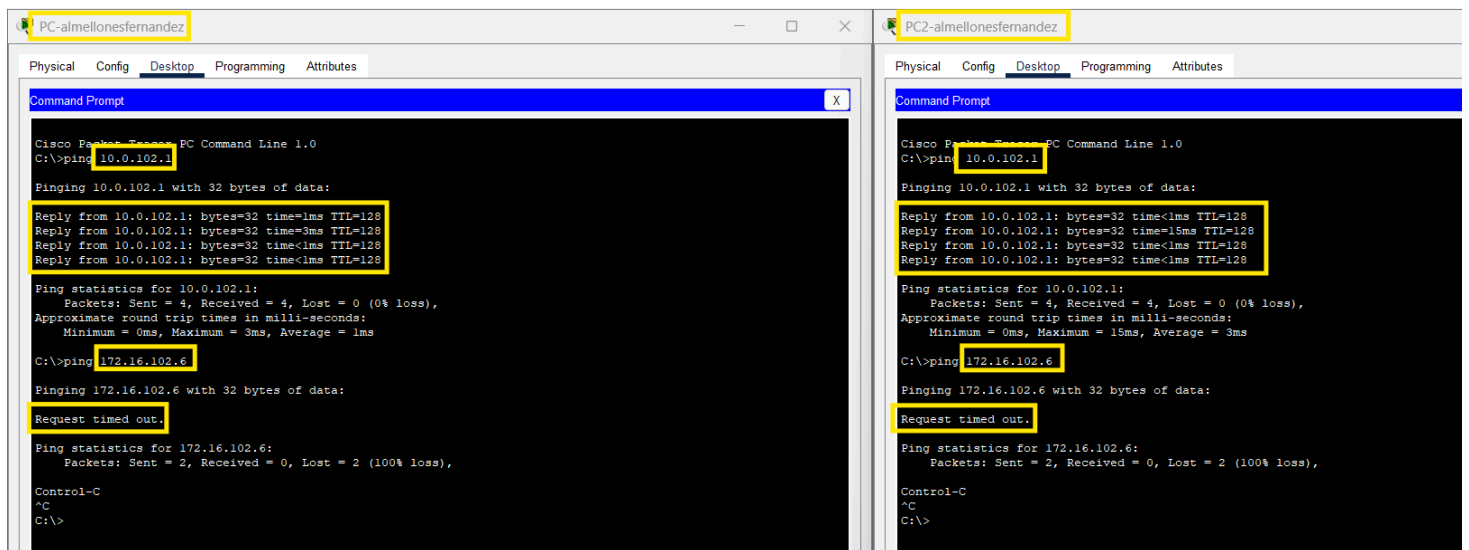
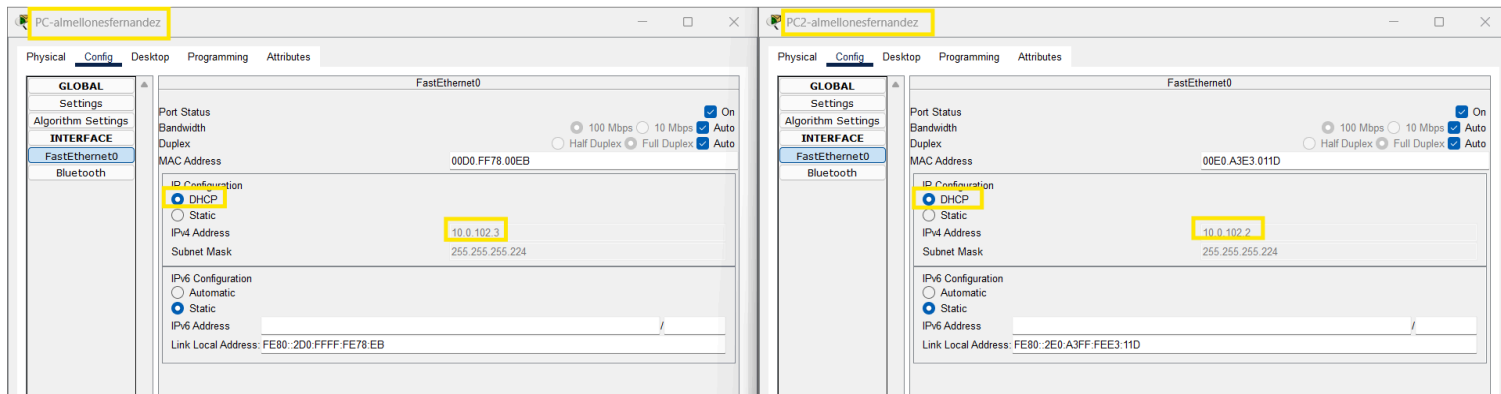
- Servidor ftp en los dos servidores.



- Servidor DHCP de vlan-lanXXXX con red tipo A, con un pool de direcciones de únicamente 8 equipos. Los diferentes equipos de esa VLAN recibirán la IP de forma dinámica.



## Álvaro Almellones Fernández



- Servidor DHCP de vlan-wlanXXxx con red tipo B, con un pool de direcciones de únicamente 16 equipos. Los diferentes equipos de esa VLAN recibirán la IP de forma dinámica.

# Álvaro Almellones Fernández

servidor2almellonesfernandez-wlan

Physical Config **Services** Desktop Programming Attributes

**SERVICES**

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

**DHCP**

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPoolWlanalmellonesfernandez

Default Gateway: 172.16.102.254

DNS Server: 0.0.0.0

Start IP Address: 172.16.102.16

Subnet Mask: 255.255.255.240

Maximum Number of Users: 14

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPoolWlanalm...	172.16.102....	0.0.0.0	172.16.102.2	255.255.255...	14	0.0.0.0	0.0.0.0
serverPool	0.0.0.0	0.0.0.0	0.0.0.0	0.0.0.0	512	0.0.0.0	0.0.0.0

Laptop-almellonesfernandez

Physical Config **Desktop** Programming Attributes

**GLOBAL**

Settings

Algorithm Settings

**INTERFACE**

FastEthernet0

Bluetooth

Port Status

Bandwidth

Duplex

MAC Address: 0000.0CDB.2E1D

IP Configuration

☒ DHCP

☐ Static

IPv4 Address: 172.16.102.4

Subnet Mask: 255.255.255.224

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address: /

Link Local Address: FE80::200:CFF:FE2B:2E1D

Laptop2-almellonesfernandez

Physical Config **Desktop** Programming Attributes

**GLOBAL**

Settings

Algorithm Settings

**INTERFACE**

FastEthernet0

Bluetooth

Port Status

Bandwidth

Duplex

MAC Address: 0007.ECEC.3C13

IP Configuration

☒ DHCP

☐ Static

IPv4 Address: 172.16.102.3

Subnet Mask: 255.255.255.224

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address: /

Link Local Address: FE80::207:ECFF:FEEC:3C13

Laptop-almellonesfernandez

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Cisco Packet Tracer 20 Command Line 1.0
C:\>ping 10.0.102.1

Pinging 10.0.102.1 with 32 bytes of data:

Request timed out.

Ping statistics for 10.0.102.1:
    Packets: Sent = 2, Received = 0, Lost = 2 (100% loss),

Control-C
^C
C:\>ping 172.16.102.6

Pinging 172.16.102.6 with 32 bytes of data:

Reply from 172.16.102.6: bytes=32 time<1ms TTL=128
Reply from 172.16.102.6: bytes=32 time<1ms TTL=128
Reply from 172.16.102.6: bytes=32 time<1ms TTL=128
Reply from 172.16.102.6: bytes=32 time=14ms TTL=128

Ping statistics for 172.16.102.6:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 14ms, Average = 3ms

C:\>
```

Laptop2-almellonesfernandez

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Cisco Packet Tracer 20 Command Line 1.0
C:\>ping 10.0.102.1

Pinging 10.0.102.1 with 32 bytes of data:

Request timed out.

Ping statistics for 10.0.102.1:
    Packets: Sent = 2, Received = 0, Lost = 2 (100% loss),

Control-C
^C
C:\>ping 172.16.102.6

Pinging 172.16.102.6 with 32 bytes of data:

Reply from 172.16.102.6: bytes=32 time<1ms TTL=128
Reply from 172.16.102.6: bytes=32 time<1ms TTL=128
Reply from 172.16.102.6: bytes=32 time<1ms TTL=128
Reply from 172.16.102.6: bytes=32 time=1ms TTL=128

Ping statistics for 172.16.102.6:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

## Álvaro Almellones Fernández

e) **(0,5 puntos)** (Investigación). Añada un router (router-XXxx) con simulación salida de internet (equipo cloudXXxx) conectado al switch3, para que puedan salir a internet los diferentes dispositivos de la vlan lanXX.

**Apartado no realizado**

## Álvaro Almellones Fernández

2. **(5 puntos)** Recientemente se nos ha contratado en una empresa como administradores de redes, la labor que nos han encomendado es optimizar lo máximo posible y securizar la red informática de toda la empresa, pero manteniendo en la medida de lo posible el direccionamiento usado.

a) Nuestro punto de partida es una red de clase C con direccionamiento 192.168.3.0/24 en la que todos los departamentos tienen direcciones IPs de esa red sin ningún tipo de agrupación y los dispositivos de red como switches tienen una configuración plana sin VLANs, aunque soportan dicha funcionalidad.

b) Se dispone de switchs de 24 puertos, distribuidos como indica el mapa.

c) La empresa realizó una clasificación de departamentos y obtuvo el listado que debemos de usar a la hora de crear nuestras agrupaciones mediante VLANs.

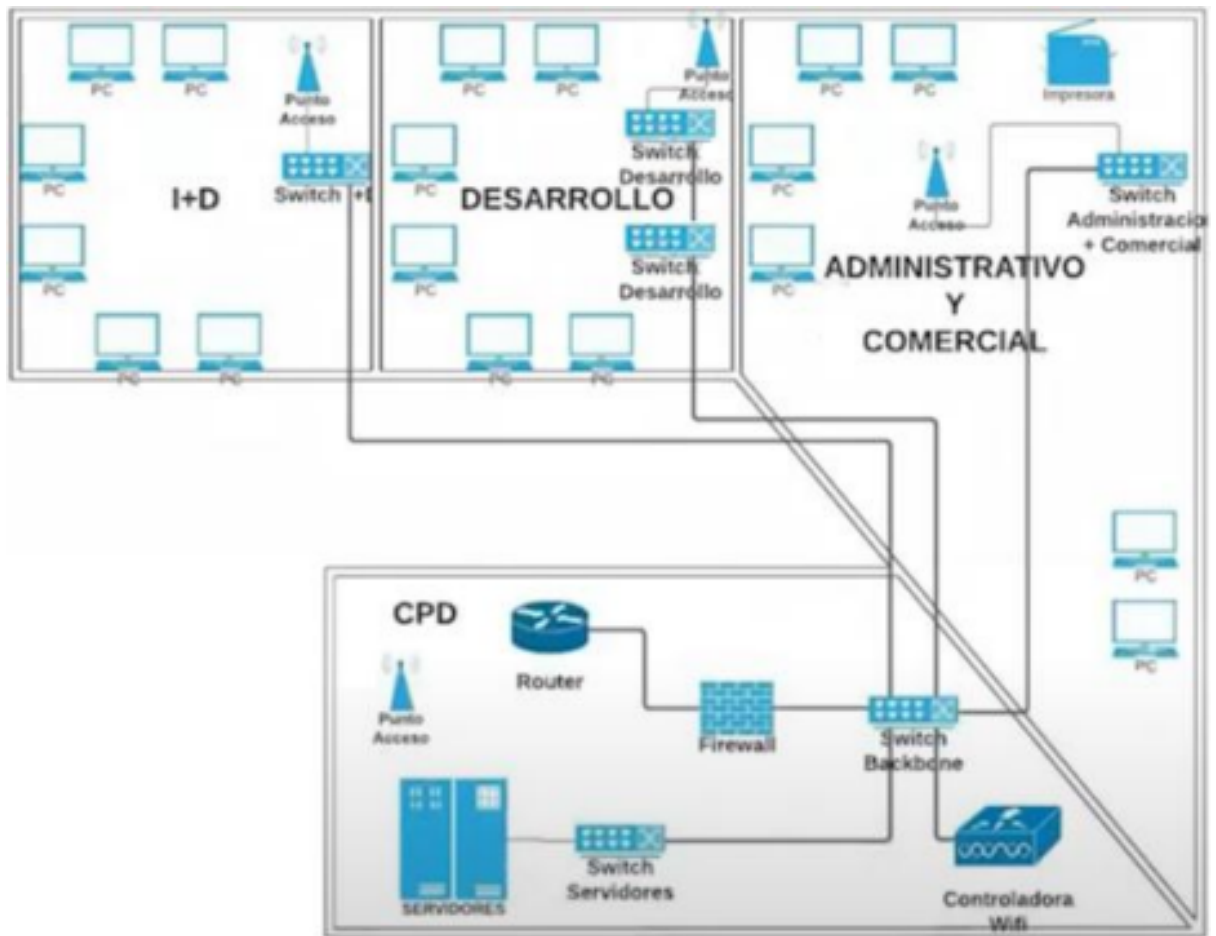
d) La empresa ha hecho especial hincapié en que la red I+D no se debe de permitir conectar ningún dispositivo aparte de los ordenadores que ya están conectados, para ello, se ha elaborado un listado con las direcciones MAC de los dispositivos, que tendrán que asignarse a cada puerto del switch.

e) Además, tenemos el siguiente listado de los servidores de la empresa con sus servicios asociados.

f) Por otra parte, los siguientes departamentos contarán con líneas de teléfono VoIP:

g) Se proporciona una hoja de cálculo (classroom) para su mayor comprensión, que se debe entregar junto al ejercicio y un fichero inicial con switchs de packet tracer.





En esta ocasión, y por primera vez en el curso se deja al alumno mostrar las evidencias del desarrollo de la configuración de los switches con sus correspondientes vlan, asignación de IP a diferentes equipos, evidencias CLI y configuración GUI, etc.

## Configuración Switch Core

## Álvaro Almellones Fernández

Device Name: Core-almellonesfernandez  
Device Model: 2950-24  
Hostname: Switch

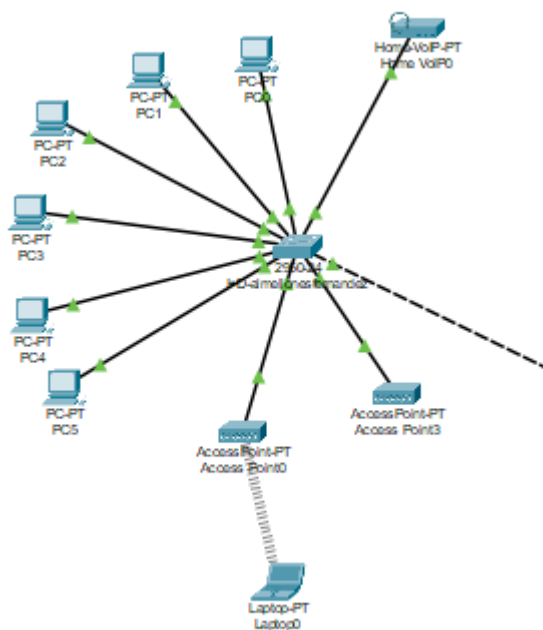
Port	Link	VLAN	IP Address	MAC Address
FastEthernet0/1	Down	--	--	0001.439E.4E01
FastEthernet0/2	Up	--	--	0001.439E.4E02
FastEthernet0/3	Up	--	--	0001.439E.4E03
FastEthernet0/4	Up	--	--	0001.439E.4E04
FastEthernet0/5	Up	--	--	0001.439E.4E05
FastEthernet0/6	Up	--	--	0001.439E.4E06
FastEthernet0/7	Up	--	--	0001.439E.4E07
FastEthernet0/8	Up	--	--	0001.439E.4E08
FastEthernet0/9	Up	--	--	0001.439E.4E09
FastEthernet0/10	Up	--	--	0001.439E.4E0A
FastEthernet0/11	Up	10	--	0001.439E.4E0B
FastEthernet0/12	Down	--	--	0001.439E.4E0C
FastEthernet0/13	Down	--	--	0001.439E.4E0D
FastEthernet0/14	Down	--	--	0001.439E.4E0E
FastEthernet0/15	Down	--	--	0001.439E.4E0F
FastEthernet0/16	Down	--	--	0001.439E.4E10
FastEthernet0/17	Down	--	--	0001.439E.4E11
FastEthernet0/18	Down	--	--	0001.439E.4E12
FastEthernet0/19	Down	--	--	0001.439E.4E13
FastEthernet0/20	Down	--	--	0001.439E.4E14
FastEthernet0/21	Down	--	--	0001.439E.4E15
FastEthernet0/22	Down	--	--	0001.439E.4E16
FastEthernet0/23	Down	--	--	0001.439E.4E17
FastEthernet0/24	Down	--	--	0001.439E.4E18
Vlan1	Down	1	<not set>	0001.C9CC.2427
Vlan9	Up	9	192.168.3.134/27	0001.C9CC.2401

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Core-almellonesfernandez

## Configuración Switch Departamento I+D

He tenido que quitar una conexión trunk con el switch principal ya que no tendría hueco para añadir un ap más a este switch (teniendo en cuenta los equipos que se pedía en el enunciado y que no he conseguido configurar más de un ssid en un ap)

## Álvaro Almellones Fernández



Para poder asignarle a cada switch la MAC del dispositivo no se podia hacer graficamente y he tenido que usar los siguientes comandos que me ha dicho ChatGPT para configurarlo

```
switchport port-security
```

```
switchport port-security maximum 1
```

```
switchport port-security mac-address XXXXXXXX
```

```
switchport port-security violation restrict
```

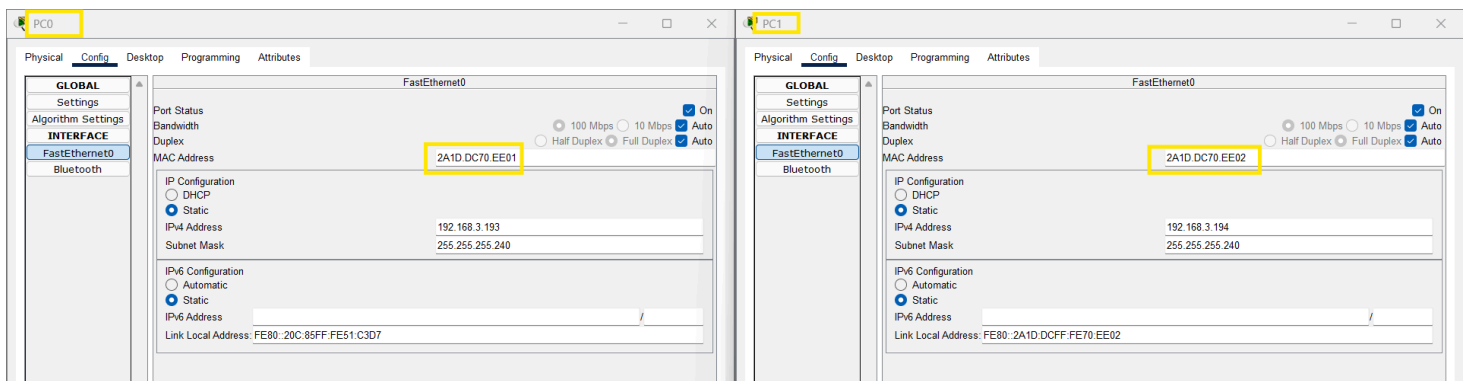
## Álvaro Almellones Fernández

Device Name: I+D-almellonesfernandez  
Device Model: 2950-24  
Hostname: Switch

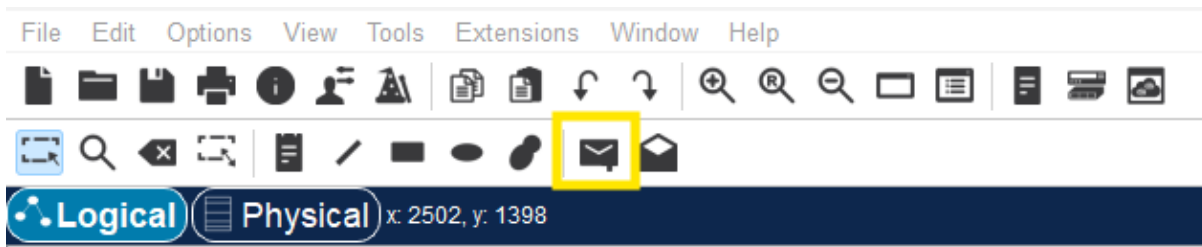
Port	Link	VLAN	IP Address	MAC Address
FastEthernet0/1	Up	4	--	00E0.A329.B201
FastEthernet0/2	Up	4	--	00E0.A329.B202
FastEthernet0/3	Up	4	--	00E0.A329.B203
FastEthernet0/4	Up	4	--	00E0.A329.B204
FastEthernet0/5	Up	4	--	00E0.A329.B205
FastEthernet0/6	Up	4	--	00E0.A329.B206
FastEthernet0/7	Down	4	--	00E0.A329.B207
FastEthernet0/8	Down	4	--	00E0.A329.B208
FastEthernet0/9	Down	4	--	00E0.A329.B209
FastEthernet0/10	Down	4	--	00E0.A329.B20A
FastEthernet0/11	Down	4	--	00E0.A329.B20B
FastEthernet0/12	Down	4	--	00E0.A329.B20C
FastEthernet0/13	Up	10	--	00E0.A329.B20D
FastEthernet0/14	Down	10	--	00E0.A329.B20E
FastEthernet0/15	Down	10	--	00E0.A329.B20F
FastEthernet0/16	Down	10	--	00E0.A329.B210
FastEthernet0/17	Down	10	--	00E0.A329.B211
FastEthernet0/18	Down	10	--	00E0.A329.B212
FastEthernet0/19	Down	10	--	00E0.A329.B213
FastEthernet0/20	Down	10	--	00E0.A329.B214
FastEthernet0/21	Down	10	--	00E0.A329.B215
FastEthernet0/22	Up	7	--	00E0.A329.B216
FastEthernet0/23	Up	6	--	00E0.A329.B217
FastEthernet0/24	Up	--	--	00E0.A329.B218
Vlan1	Down	1	<not set>	0050.0F2B.EB05
Vlan9	Up	9	192.168.3.131/27	0050.0F2B.EB01

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > I+D-almellonesfernandez

He puesto 6 equipos de prueba que tienen las MAC asignadas a los puertos del switch. Voy a mostrar el funcionamiento con el PC0 y el PC1






Como se ve en la imagen tienen las MAC del excel

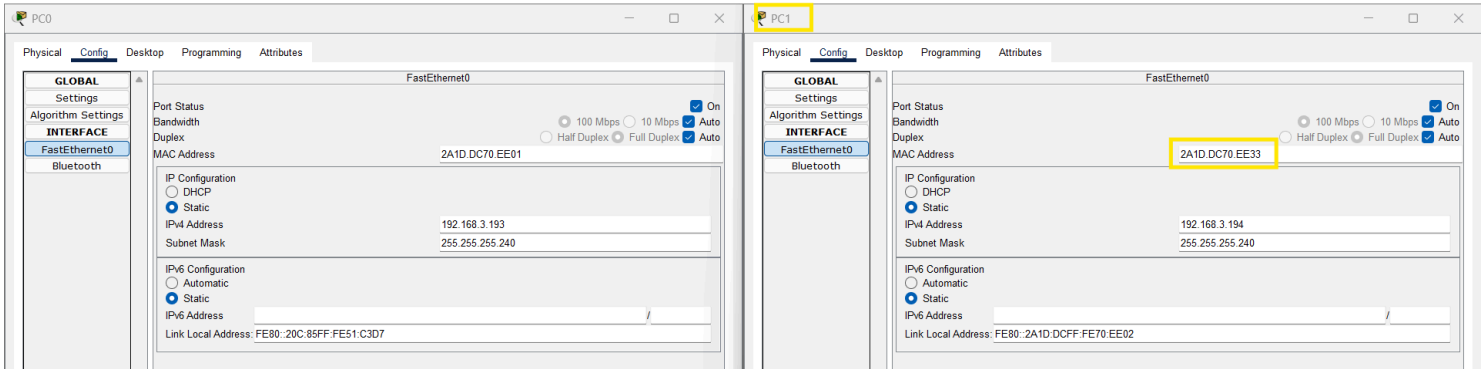


Con esta opción se puede realizar pings entre dispositivos más rápido pinchando sobre los dos que se quiere intentar hacer ping




Álvaro Almellones Fernández

Fire	Last Status	Source	Destination	Type
	Successful	PC0	PC1	ICMP
	Successful	PC0	PC1	ICMP
	Successful	PC0	PC1	ICMP

Al hacer ping de esta forma me funciona



Pero si cambio la MAC de uno de los dispositivos a una que no pertenece a la lista no me deja hacer ping

Fire	Last Status	Source	Destination	Type
	Successful	PC0	PC1	ICMP
	Failed	PC0	PC1	ICMP
	Failed	PC0	PC1	ICMP

Configuración Switch Departamento Servidores

## Álvaro Almellones Fernández

Device Name: **Servidores-almellonesfernandez**  
Device Model: 2950-24  
Hostname: Switch

Port	Link	VLAN	IP Address	MAC Address
FastEthernet0/1	Up	8	--	00E0.F71B.2D01
FastEthernet0/2	Up	8	--	00E0.F71B.2D02
FastEthernet0/3	Up	8	--	00E0.F71B.2D03
FastEthernet0/4	Up	8	--	00E0.F71B.2D04
FastEthernet0/5	Up	8	--	00E0.F71B.2D05
FastEthernet0/6	Down	--	--	00E0.F71B.2D06
FastEthernet0/7	Down	--	--	00E0.F71B.2D07
FastEthernet0/8	Down	--	--	00E0.F71B.2D08
FastEthernet0/9	Down	--	--	00E0.F71B.2D09
FastEthernet0/10	Down	--	--	00E0.F71B.2D0A
FastEthernet0/11	Down	--	--	00E0.F71B.2D0B
FastEthernet0/12	Down	--	--	00E0.F71B.2D0C
FastEthernet0/13	Down	--	--	00E0.F71B.2D0D
FastEthernet0/14	Down	--	--	00E0.F71B.2D0E
FastEthernet0/15	Down	--	--	00E0.F71B.2D0F
FastEthernet0/16	Down	--	--	00E0.F71B.2D10
FastEthernet0/17	Down	--	--	00E0.F71B.2D11
FastEthernet0/18	Down	--	--	00E0.F71B.2D12
FastEthernet0/19	Down	--	--	00E0.F71B.2D13
FastEthernet0/20	Down	--	--	00E0.F71B.2D14
FastEthernet0/21	Down	--	--	00E0.F71B.2D15
FastEthernet0/22	Down	--	--	00E0.F71B.2D16
FastEthernet0/23	Up	--	--	00E0.F71B.2D17
FastEthernet0/24	Up	--	--	00E0.F71B.2D18
Vlan1	Down	1	<not set>	0050.0FC4.93A6
Vlan9	Up	9	192.168.3.133/27	0050.0FC4.9301

Physical Location: Intercity > Rome City > Corporate Office > Main Wiring Closet > Rack > Servidores-almellonesfernandez

ServidorWeb-almellonesfernandez

Physical

Config

Services

Desktop

Programming

Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

FastEthernet0

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IPv6 Configuration

On

100 Mbps

10 Mbps

Half Duplex

Full Duplex

0010.119B.3C31

Static

192.168.3.161

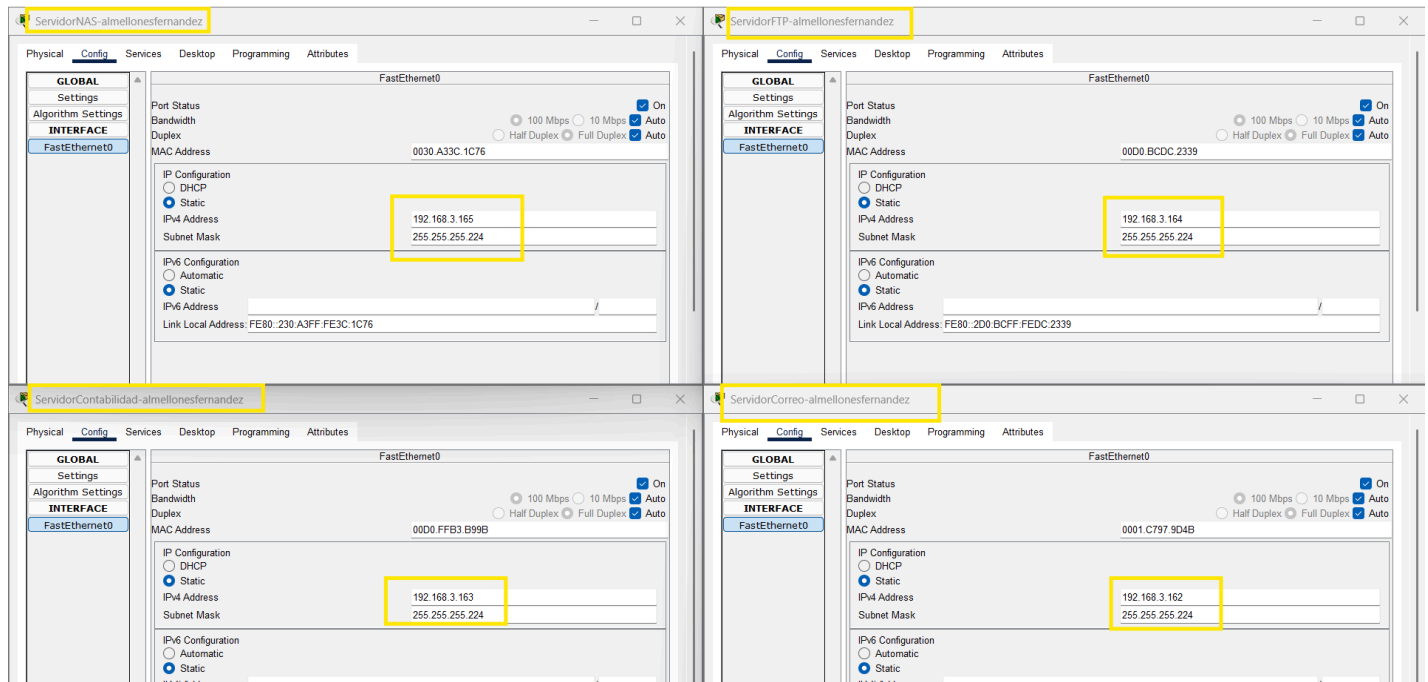
255.255.255.224

Automatic

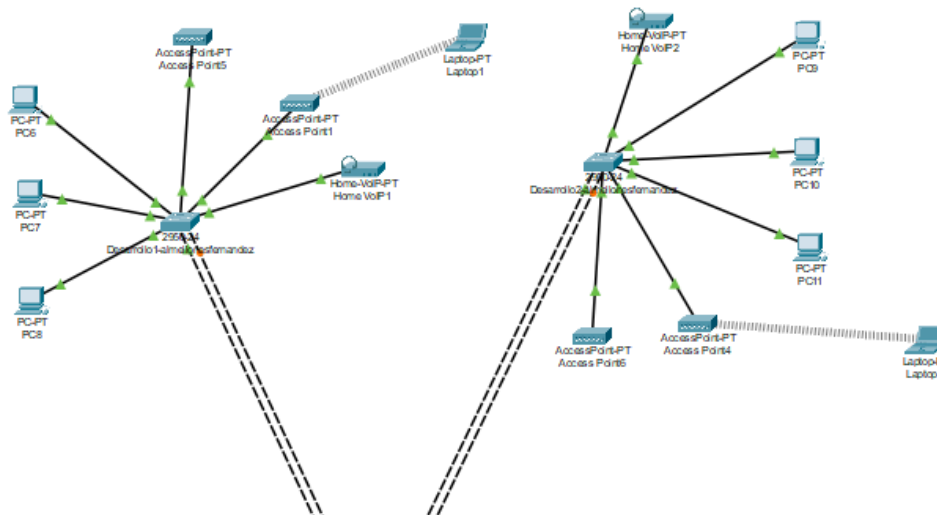
Static

FE80::210:11FF:FE9B:3C31

## Álvaro Almellones Fernández



## Configuración Switch Departamento Desarrollo 1 y 2



## Álvaro Almellones Fernández

Device Name: Desarrollo1-almellonesfernandez  
Device Model: 2950-24  
Hostname: Switch

Port	Link	VLAN	IP Address	MAC Address
FastEthernet0/1	Up	5	--	0090.0C1B.3401
FastEthernet0/2	Up	5	--	0090.0C1B.3402
FastEthernet0/3	Up	5	--	0090.0C1B.3403
FastEthernet0/4	Down	--	--	0090.0C1B.3404
FastEthernet0/5	Down	5	--	0090.0C1B.3405
FastEthernet0/6	Down	5	--	0090.0C1B.3406
FastEthernet0/7	Down	5	--	0090.0C1B.3407
FastEthernet0/8	Down	5	--	0090.0C1B.3408
FastEthernet0/9	Down	5	--	0090.0C1B.3409
FastEthernet0/10	Down	5	--	0090.0C1B.340A
FastEthernet0/11	Down	5	--	0090.0C1B.340B
FastEthernet0/12	Down	5	--	0090.0C1B.340C
FastEthernet0/13	Down	5	--	0090.0C1B.340D
FastEthernet0/14	Down	5	--	0090.0C1B.340E
FastEthernet0/15	Up	10	--	0090.0C1B.340F
FastEthernet0/16	Down	10	--	0090.0C1B.3410
FastEthernet0/17	Down	10	--	0090.0C1B.3411
FastEthernet0/18	Down	10	--	0090.0C1B.3412
FastEthernet0/19	Down	10	--	0090.0C1B.3413
FastEthernet0/20	Up	7	--	0090.0C1B.3414
FastEthernet0/21	Up	6	--	0090.0C1B.3415
FastEthernet0/22	Down	--	--	0090.0C1B.3416
FastEthernet0/23	Up	--	--	0090.0C1B.3417
FastEthernet0/24	Up	--	--	0090.0C1B.3418
Vlan1	Down	1	<not set>	000A.4116.3C9E
Vlan9	Up	9	192.168.3.129/27	000A.4116.3C01

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Desarrollo1-almellonesfernandez

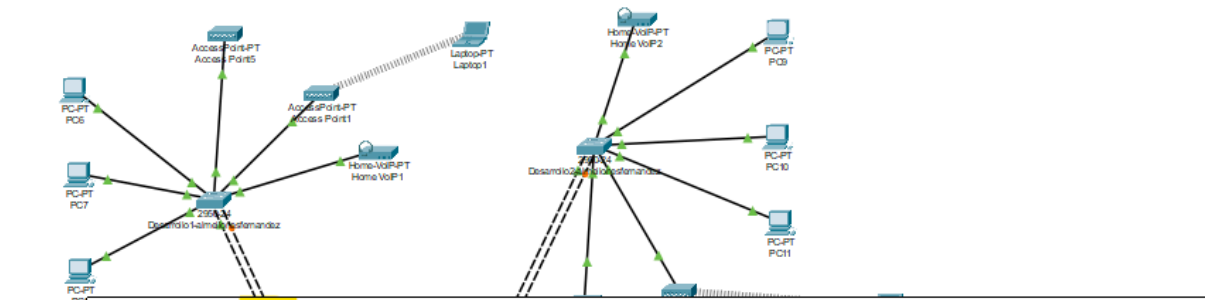
Device Name: Desarrollo2-almellonesfernandez  
Device Model: 2950-24  
Hostname: Switch

Port	Link	VLAN	IP Address	MAC Address
FastEthernet0/1	Up	5	--	0001.C9BE.9E01
FastEthernet0/2	Up	5	--	0001.C9BE.9E02
FastEthernet0/3	Up	5	--	0001.C9BE.9E03
FastEthernet0/4	Down	--	--	0001.C9BE.9E04
FastEthernet0/5	Down	--	--	0001.C9BE.9E05
FastEthernet0/6	Down	--	--	0001.C9BE.9E06
FastEthernet0/7	Down	--	--	0001.C9BE.9E07
FastEthernet0/8	Down	--	--	0001.C9BE.9E08
FastEthernet0/9	Down	--	--	0001.C9BE.9E09
FastEthernet0/10	Down	--	--	0001.C9BE.9E0A
FastEthernet0/11	Down	--	--	0001.C9BE.9E0B
FastEthernet0/12	Down	--	--	0001.C9BE.9E0C
FastEthernet0/13	Down	--	--	0001.C9BE.9E0D
FastEthernet0/14	Down	--	--	0001.C9BE.9E0E
FastEthernet0/15	Up	10	--	0001.C9BE.9E0F
FastEthernet0/16	Down	10	--	0001.C9BE.9E10
FastEthernet0/17	Down	10	--	0001.C9BE.9E11
FastEthernet0/18	Down	10	--	0001.C9BE.9E12
FastEthernet0/19	Down	10	--	0001.C9BE.9E13
FastEthernet0/20	Up	6	--	0001.C9BE.9E14
FastEthernet0/21	Up	7	--	0001.C9BE.9E15
FastEthernet0/22	Down	--	--	0001.C9BE.9E16
FastEthernet0/23	Up	--	--	0001.C9BE.9E17
FastEthernet0/24	Up	--	--	0001.C9BE.9E18
Vlan1	Down	1	<not set>	0007.EC25.3B3B
Vlan9	Up	9	192.168.3.130/27	0007.EC25.3B01

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Desarrollo2-almellonesfernandez



## Álvaro Almellones Fernández

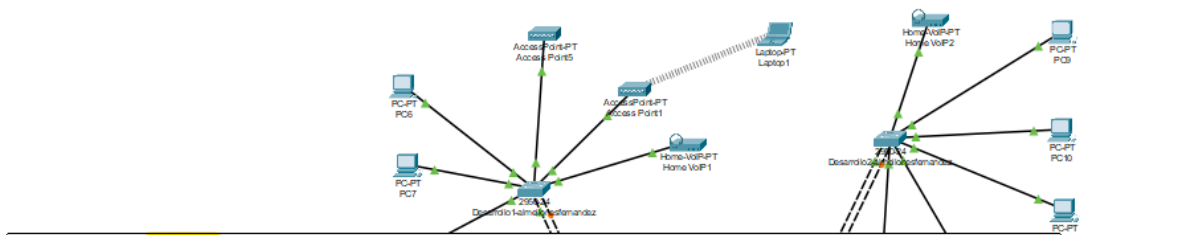


Device Name: **PC8**  
Device Model: PC-PT

Port	Link	IP Address	IPv6 Address	MAC Address
FastEthernet0	Up	<b>192.168.3.211/27</b>	<not set>	0060.2F2D.3875
Bluetooth	Down	<not set>	<not set>	000D.BD5D.55B4

Gateway: <not set>  
DNS Server: <not set>  
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > PC8



Device Name: **PC11**  
Device Model: PC-PT

Port	Link	IP Address	IPv6 Address	MAC Address
FastEthernet0	Up	<b>192.168.3.214/27</b>	<not set>	0001.429D.2E39
Bluetooth	Down	<not set>	<not set>	0001.9672.6D6B

Gateway: <not set>  
DNS Server: <not set>  
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > PC11

PC8

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.3.214

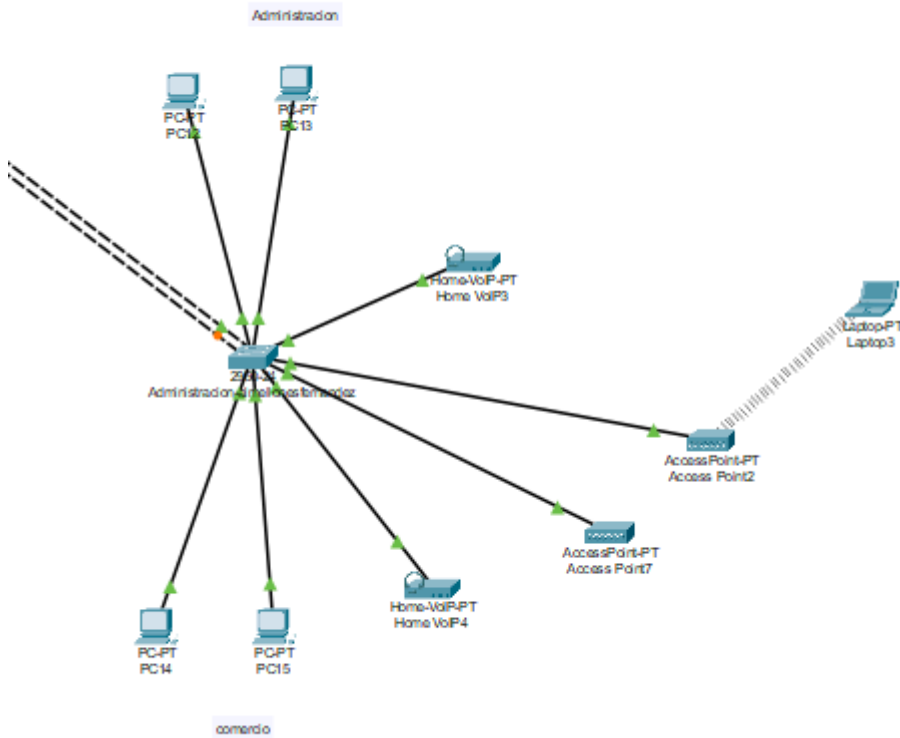
Pinging 192.168.3.214 with 32 bytes of data:

Reply from 192.168.3.214: bytes=32 time<1ms TTL=128
Reply from 192.168.3.214: bytes=32 time=8ms TTL=128
Reply from 192.168.3.214: bytes=32 time<1ms TTL=128
Reply from 192.168.3.214: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.3.214:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 8ms, Average = 2ms

C:\>
```

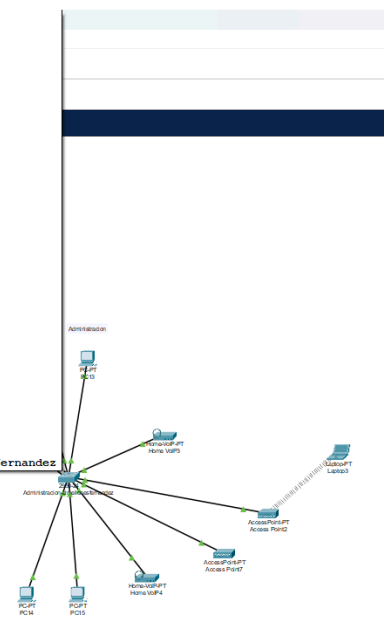
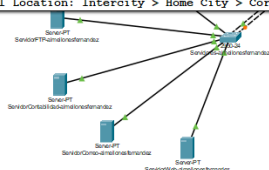
## Configuración Switch Departamento Administración



Device Name: **Administracion-almellonesfernandez**  
Device Model: 2950-24  
Hostname: Switch

Port	Link	VLAN	IP Address	MAC Address
FastEthernet0/1	Up	2	--	0005.5842.8B01
FastEthernet0/2	Up	2	--	0005.5842.8B02
FastEthernet0/3	Up	3	--	0005.5842.8B03
FastEthernet0/4	Up	3	--	0005.5842.8B04
FastEthernet0/5	Down	--	--	0005.5842.8B05
FastEthernet0/6	Down	--	--	0005.5842.8B06
FastEthernet0/7	Down	--	--	0005.5842.8B07
FastEthernet0/8	Down	--	--	0005.5842.8B08
FastEthernet0/9	Down	--	--	0005.5842.8B09
FastEthernet0/10	Down	10	--	0005.5842.8B0A
FastEthernet0/11	Up	10	--	0005.5842.8B0B
FastEthernet0/12	Up	10	--	0005.5842.8B0C
FastEthernet0/13	Down	10	--	0005.5842.8B0D
FastEthernet0/14	Down	10	--	0005.5842.8B0E
FastEthernet0/15	Down	10	--	0005.5842.8B0F
FastEthernet0/16	Down	10	--	0005.5842.8B10
FastEthernet0/17	Down	10	--	0005.5842.8B11
FastEthernet0/18	Down	10	--	0005.5842.8B12
FastEthernet0/19	Down	10	--	0005.5842.8B13
FastEthernet0/20	Down	10	--	0005.5842.8B14
FastEthernet0/21	Up	7	--	0005.5842.8B15
FastEthernet0/22	Up	6	--	0005.5842.8B16
FastEthernet0/23	Up	--	--	0005.5842.8B17
FastEthernet0/24	Up	--	--	0005.5842.8B18
Vlan1	Down	1	<not set>	0040.0BEB.5886
Vlan9	Up	9	192.168.3.132/27	0040.0BEB.5801

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Administracion-almellonesfernandez



## Álvaro Almellones Fernández

Este switch lo comparte administrativos y personal de comercio, para probar el funcionamiento he puesto dos equipos de cada como se ve en la imagen anterior

### Equipos de comercio

---

Device Name: PC12  
Device Model: PC-PT

Port	Link	IP Address	IPv6 Address	MAC Address
FastEthernet0	Up	192.168.3.241/29	<not set>	0090.2128.3AED
Bluetooth	Down	<not set>	<not set>	00D0.FFC4.D8A5

Gateway: <not set>  
DNS Server: <not set>  
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > PC12

---

Device Name: PC13  
Device Model: PC-PT

Port	Link	IP Address	IPv6 Address	MAC Address
FastEthernet0	Up	192.168.3.242/29	<not set>	0030.A39B.BAAC
Bluetooth	Down	<not set>	<not set>	0030.F201.3E00

Gateway: <not set>  
DNS Server: <not set>  
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > PC13

### Equipos de administrativo

---

Device Name: PC14  
Device Model: PC-PT

Port	Link	IP Address	IPv6 Address	MAC Address
FastEthernet0	Up	192.168.3.249/29	<not set>	0001.C7EA.9174
Bluetooth	Down	<not set>	<not set>	000C.CF5E.D25B

Gateway: <not set>  
DNS Server: <not set>  
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > PC14

---

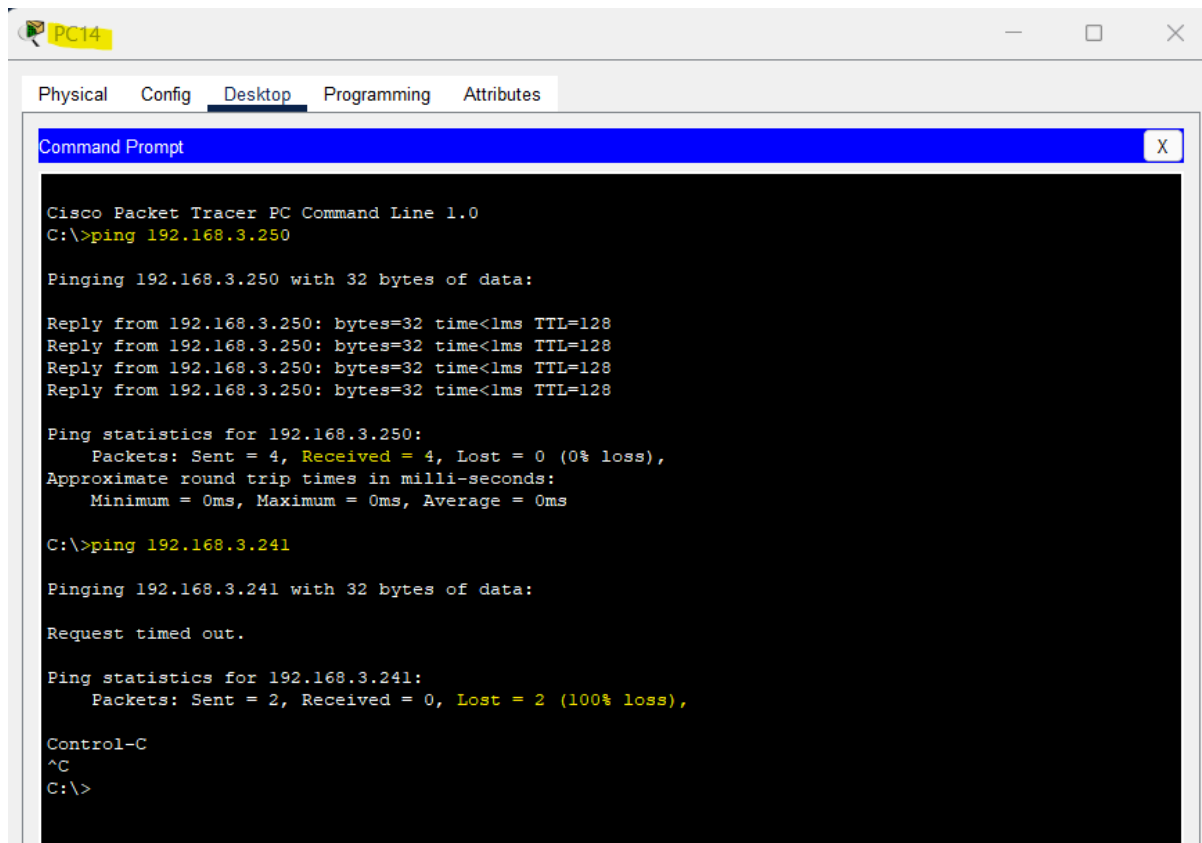
Device Name: PC15  
Device Model: PC-PT

Port	Link	IP Address	IPv6 Address	MAC Address
FastEthernet0	Up	192.168.3.250/29	<not set>	0005.5E3C.61D1
Bluetooth	Down	<not set>	<not set>	00E0.B036.B24A

Gateway: <not set>  
DNS Server: <not set>  
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > PC15

## Álvaro Almellones Fernández



The screenshot shows the Command Prompt window for PC14 in Cisco Packet Tracer. The window has tabs for Physical, Config, Desktop, Programming, and Attributes, with Desktop selected. The Command Prompt title bar says 'Command Prompt' with a close button (X). The text inside the Command Prompt is as follows:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.3.250

Pinging 192.168.3.250 with 32 bytes of data:

Reply from 192.168.3.250: bytes=32 time<1ms TTL=128
Reply from 192.168.3.250: bytes=32 time<1ms TTL=128
Reply from 192.168.3.250: bytes=32 time<1ms TTL=128
Reply from 192.168.3.250: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.3.250:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

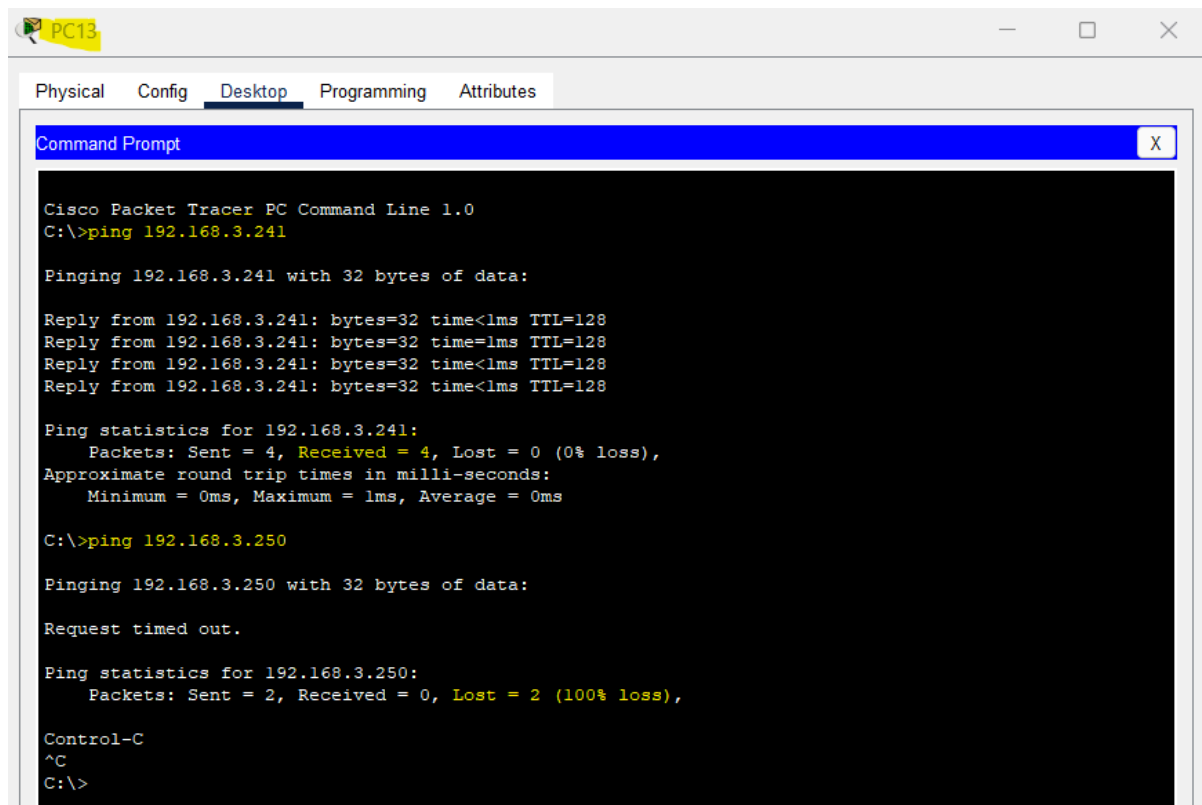
C:\>ping 192.168.3.241

Pinging 192.168.3.241 with 32 bytes of data:

Request timed out.

Ping statistics for 192.168.3.241:
    Packets: Sent = 2, Received = 0, Lost = 2 (100% loss),

Control-C
^C
C:\>
```



The screenshot shows the Command Prompt window for PC13 in Cisco Packet Tracer. The window has tabs for Physical, Config, Desktop, Programming, and Attributes, with Desktop selected. The Command Prompt title bar says 'Command Prompt' with a close button (X). The text inside the Command Prompt is as follows:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.3.241

Pinging 192.168.3.241 with 32 bytes of data:

Reply from 192.168.3.241: bytes=32 time<1ms TTL=128
Reply from 192.168.3.241: bytes=32 time<1ms TTL=128
Reply from 192.168.3.241: bytes=32 time<1ms TTL=128
Reply from 192.168.3.241: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.3.241:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.3.250

Pinging 192.168.3.250 with 32 bytes of data:

Request timed out.

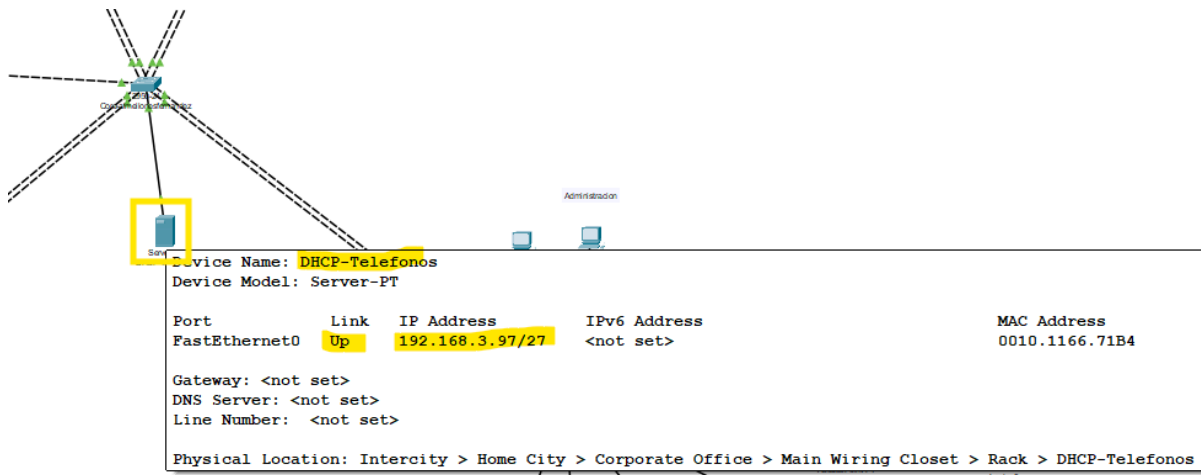
Ping statistics for 192.168.3.250:
    Packets: Sent = 2, Received = 0, Lost = 2 (100% loss),

Control-C
^C
C:\>
```

Solo se pueden hacer ping los equipos de la misma vlan

## Configuración VoIP

Para configurar los Voip he tenido que añadir al switch core un Servidor DHCP para asignarle la ip de la subred que le corresponde a cada dispositivo



DHCP-Telefonos

Physical Config **Services** Desktop Programming Attributes

**SERVICES**

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool

Default Gateway: 192.168.3.97

DNS Server: 192.168.3.97

Start IP Address: 192.168.3.98

Subnet Mask: 255.255.255.224

Maximum Number of Users: 29

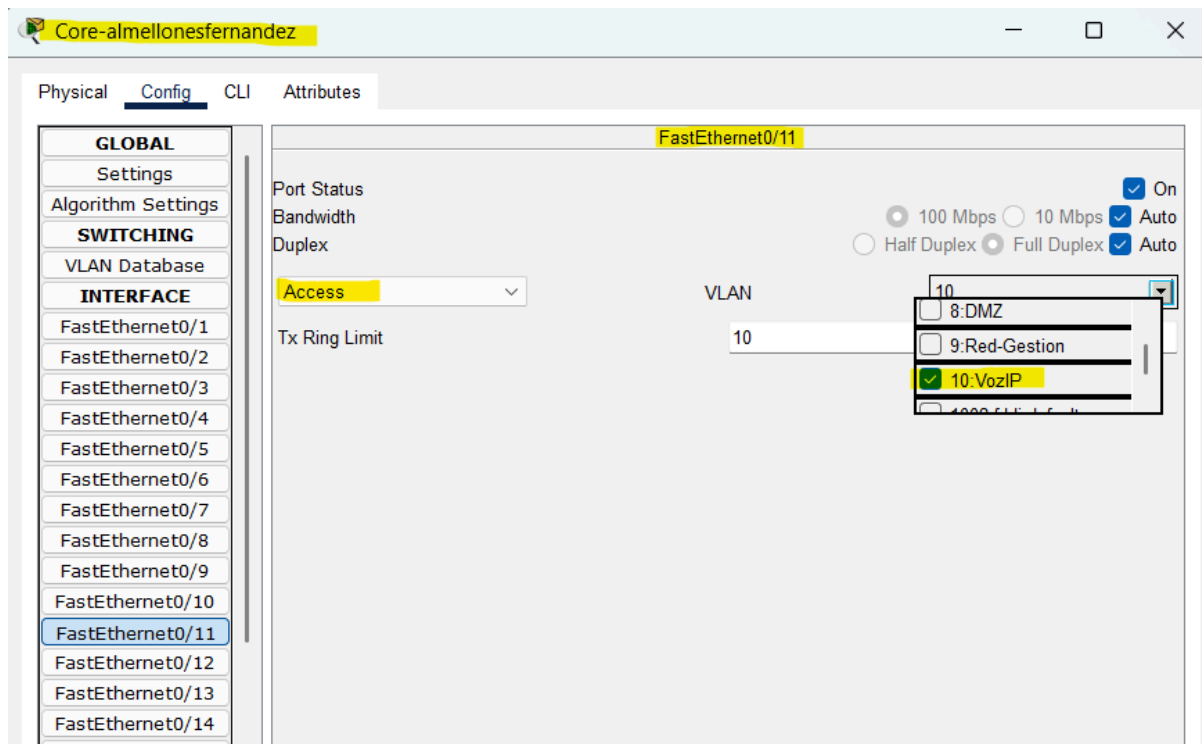
TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

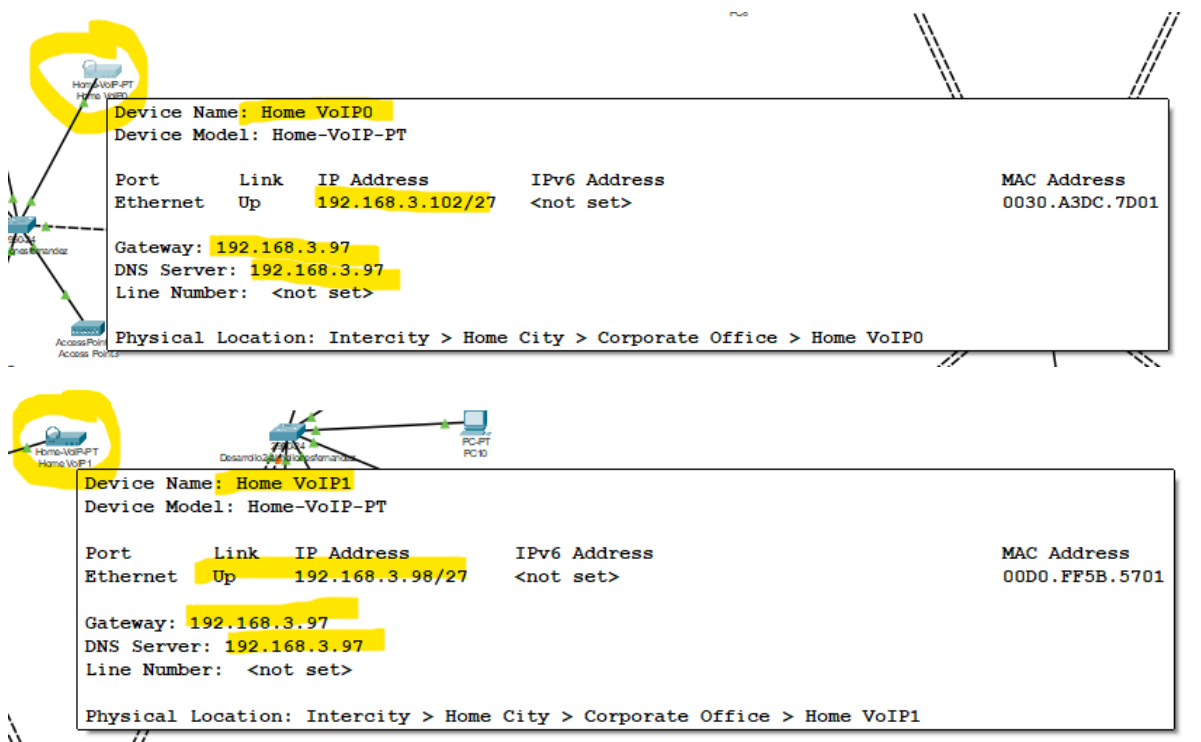
Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	192.168.3.97	192.168.3.97	192.168.3.98	255.255.255.224	29	0.0.0.0	0.0.0.0


## Álvaro Almellones Fernández



Conectado a la misma VLAN que los VoIP para que asigne para que pueda asignar las ip



## Álvaro Almellones Fernández

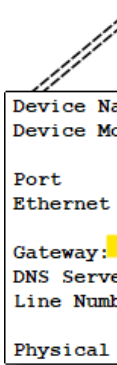


Device Name: Home VoIP2  
Device Model: Home-VoIP-PT

Port	Link	IP Address	IPv6 Address	MAC Address
Ethernet	Up	192.168.3.99/27	<not set>	0030.A3CC.9601

Gateway: 192.168.3.97  
DNS Server: 192.168.3.97  
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > Home VoIP2

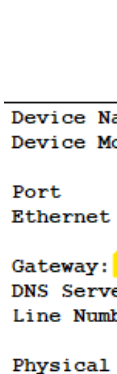


Device Name: Home VoIP3  
Device Model: Home-VoIP-PT

Port	Link	IP Address	IPv6 Address	MAC Address
Ethernet	Up	192.168.3.101/27	<not set>	000A.F3E5.0801

Gateway: 192.168.3.97  
DNS Server: 192.168.3.97  
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > Home VoIP3



Device Name: Home VoIP4  
Device Model: Home-VoIP-PT

Port	Link	IP Address	IPv6 Address	MAC Address
Ethernet	Up	192.168.3.100/27	<not set>	0001.42CB.CD01

Gateway: 192.168.3.97  
DNS Server: 192.168.3.97  
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > Home VoIP4

## Configuración Gestión

Desarrollo1-almellonesfernandez

Physical Config CLI Attributes

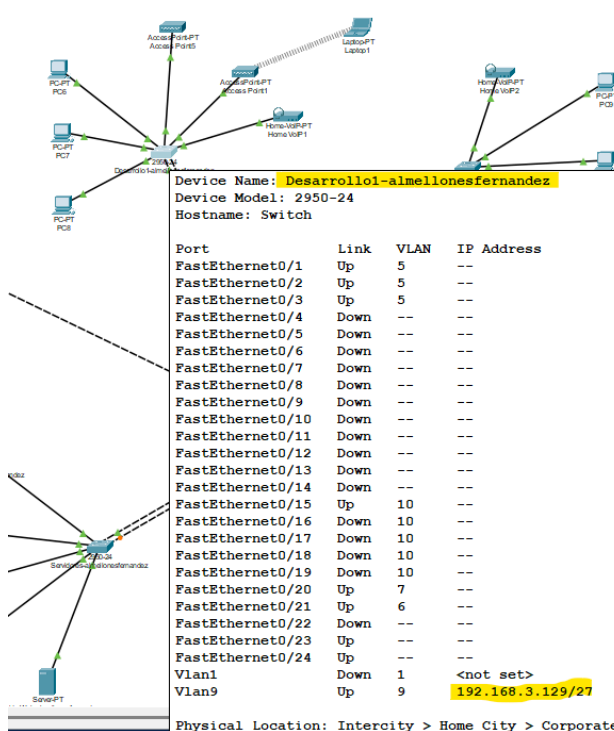
IOS Command Line Interface

Switch(config-if)#

Switch con0 is now available

Press RETURN to get started.

Switch>enable  
Switch#configure terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
Switch(config)#interface vlan9  
Switch(config-if)#  
%LINK-5-CHANGED: Interface Vlan9, changed state to up  
  
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan9, changed state to up  
ip address 192.168.3.129 255.255.255.224  
Switch(config-if)#ip address 192.168.3.129 255.255.255.224  
Switch(config-if)#no shutdown  
Switch(config-if)#




Device Name: Desarrollo1-almellonesfernandez  
Device Model: 2950-24  
Hostname: Switch

Port	Link	VLAN	IP Address	MAC Address
FastEthernet0/1	Up	5	--	0090.0C1B.3401
FastEthernet0/2	Up	5	--	0090.0C1B.3402
FastEthernet0/3	Up	5	--	0090.0C1B.3403
FastEthernet0/4	Down	--	--	0090.0C1B.3404
FastEthernet0/5	Down	--	--	0090.0C1B.3405
FastEthernet0/6	Down	--	--	0090.0C1B.3406
FastEthernet0/7	Down	--	--	0090.0C1B.3407
FastEthernet0/8	Down	--	--	0090.0C1B.3408
FastEthernet0/9	Down	--	--	0090.0C1B.3409
FastEthernet0/10	Down	--	--	0090.0C1B.340A
FastEthernet0/11	Down	--	--	0090.0C1B.340B
FastEthernet0/12	Down	--	--	0090.0C1B.340C
FastEthernet0/13	Down	--	--	0090.0C1B.340D
FastEthernet0/14	Down	--	--	0090.0C1B.340E
FastEthernet0/15	Up	10	--	0090.0C1B.340F
FastEthernet0/16	Down	10	--	0090.0C1B.3410
FastEthernet0/17	Down	10	--	0090.0C1B.3411
FastEthernet0/18	Down	10	--	0090.0C1B.3412
FastEthernet0/19	Down	10	--	0090.0C1B.3413
FastEthernet0/20	Up	7	--	0090.0C1B.3414
FastEthernet0/21	Up	6	--	0090.0C1B.3415
FastEthernet0/22	Down	--	--	0090.0C1B.3416
FastEthernet0/23	Up	--	--	0090.0C1B.3417
FastEthernet0/24	Up	--	--	0090.0C1B.3418
Vlan1	Down	1	<not set>	000A.4116.3C9E
Vlan9	Up	9	192.168.3.129/27	000A.4116.3C01

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Desarrollo1-almellonesfernandez




## Álvaro Almellones Fernández



Device Name: Desarrollo2-almellonesfernandez  
Device Model: 2950-24  
Hostname: Switch

Port	Link	VLAN	IP Address	MAC Address
FastEthernet0/1	Up	5	--	0001.C9BE.9E01
FastEthernet0/2	Up	5	--	0001.C9BE.9E02
FastEthernet0/3	Up	5	--	0001.C9BE.9E03
FastEthernet0/4	Down	--	--	0001.C9BE.9E04
FastEthernet0/5	Down	--	--	0001.C9BE.9E05
FastEthernet0/6	Down	--	--	0001.C9BE.9E06
FastEthernet0/7	Down	--	--	0001.C9BE.9E07
FastEthernet0/8	Down	--	--	0001.C9BE.9E08
FastEthernet0/9	Down	--	--	0001.C9BE.9E09
FastEthernet0/10	Down	--	--	0001.C9BE.9E0A
FastEthernet0/11	Down	--	--	0001.C9BE.9E0B
FastEthernet0/12	Down	--	--	0001.C9BE.9E0C
FastEthernet0/13	Down	--	--	0001.C9BE.9E0D
FastEthernet0/14	Down	--	--	0001.C9BE.9E0E
FastEthernet0/15	Up	10	--	0001.C9BE.9E0F
FastEthernet0/16	Down	10	--	0001.C9BE.9E10
FastEthernet0/17	Down	10	--	0001.C9BE.9E11
FastEthernet0/18	Down	10	--	0001.C9BE.9E12
FastEthernet0/19	Down	10	--	0001.C9BE.9E13
FastEthernet0/20	Up	6	--	0001.C9BE.9E14
FastEthernet0/21	Up	9	--	0001.C9BE.9E15
FastEthernet0/22	Down	--	--	0001.C9BE.9E16
FastEthernet0/23	Up	--	--	0001.C9BE.9E17
FastEthernet0/24	Up	--	--	0001.C9BE.9E18
Vlan1	Down	1	<not set>	0007.EC25.3B3B
Vlan9	Up	9	192.168.3.130/27	0007.EC25.3B01

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Desarrollo2-almellonesfernandez



Device Name: I+D-almellonesfernandez  
Device Model: 2950-24  
Hostname: Switch

Port	Link	VLAN	IP Address	MAC Address
FastEthernet0/1	Up	4	--	00E0.A329.B201
FastEthernet0/2	Up	4	--	00E0.A329.B202
FastEthernet0/3	Up	4	--	00E0.A329.B203
FastEthernet0/4	Up	4	--	00E0.A329.B204
FastEthernet0/5	Up	4	--	00E0.A329.B205
FastEthernet0/6	Up	4	--	00E0.A329.B206
FastEthernet0/7	Down	4	--	00E0.A329.B207
FastEthernet0/8	Down	4	--	00E0.A329.B208
FastEthernet0/9	Down	4	--	00E0.A329.B209
FastEthernet0/10	Down	4	--	00E0.A329.B20A
FastEthernet0/11	Down	4	--	00E0.A329.B20B
FastEthernet0/12	Down	4	--	00E0.A329.B20C
FastEthernet0/13	Up	10	--	00E0.A329.B20D
FastEthernet0/14	Down	10	--	00E0.A329.B20E
FastEthernet0/15	Down	10	--	00E0.A329.B20F
FastEthernet0/16	Down	10	--	00E0.A329.B210
FastEthernet0/17	Down	10	--	00E0.A329.B211
FastEthernet0/18	Down	10	--	00E0.A329.B212
FastEthernet0/19	Down	10	--	00E0.A329.B213
FastEthernet0/20	Down	10	--	00E0.A329.B214
FastEthernet0/21	Down	10	--	00E0.A329.B215
FastEthernet0/22	Up	7	--	00E0.A329.B216
FastEthernet0/23	Up	6	--	00E0.A329.B217
FastEthernet0/24	Up	--	--	00E0.A329.B218
Vlan1	Down	1	<not set>	0050.0F2B.EB05
Vlan9	Up	9	192.168.3.131/27	0050.0F2B.EB01

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > I+D-almellonesfernandez

# Álvaro Almellones Fernández

Device Name: **Administracion-almellonesfernandez**  
Device Model: 2950-24  
Hostname: Switch

Port	Link	VLAN	IP Address	MAC Address
FastEthernet0/1	Up	2	--	0005.5E42.8B01
FastEthernet0/2	Up	2	--	0005.5E42.8B02
FastEthernet0/3	Up	3	--	0005.5E42.8B03
FastEthernet0/4	Up	3	--	0005.5E42.8B04
FastEthernet0/5	Down	--	--	0005.5E42.8B05
FastEthernet0/6	Down	--	--	0005.5E42.8B06
FastEthernet0/7	Down	--	--	0005.5E42.8B07
FastEthernet0/8	Down	--	--	0005.5E42.8B08
FastEthernet0/9	Down	--	--	0005.5E42.8B09
FastEthernet0/10	Down	10	--	0005.5E42.8B0A
FastEthernet0/11	Up	10	--	0005.5E42.8B0B
FastEthernet0/12	Up	10	--	0005.5E42.8B0C
FastEthernet0/13	Down	10	--	0005.5E42.8B0D
FastEthernet0/14	Down	10	--	0005.5E42.8B0E
FastEthernet0/15	Down	10	--	0005.5E42.8B0F
FastEthernet0/16	Down	10	--	0005.5E42.8B10
FastEthernet0/17	Down	10	--	0005.5E42.8B11
FastEthernet0/18	Down	10	--	0005.5E42.8B12
FastEthernet0/19	Down	10	--	0005.5E42.8B13
FastEthernet0/20	Down	10	--	0005.5E42.8B14
FastEthernet0/21	Up	7	--	0005.5E42.8B15
FastEthernet0/22	Up	6	--	0005.5E42.8B16
FastEthernet0/23	Up	--	--	0005.5E42.8B17
FastEthernet0/24	Up	--	--	0005.5E42.8B18
Vlan1	Down	1	<not set>	0040.0BEB.5886
Vlan9	Up	9	192.168.3.132/27	0040.0BEB.5801

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Administracion-almellonesfernandez



Device Name: **Servidores-almellonesfernandez**  
Device Model: 2950-24  
Hostname: Switch

Port	Link	VLAN	IP Address	MAC Address
FastEthernet0/1	Up	8	--	00E0.F71B.2D01
FastEthernet0/2	Up	8	--	00E0.F71B.2D02
FastEthernet0/3	Up	8	--	00E0.F71B.2D03
FastEthernet0/4	Up	8	--	00E0.F71B.2D04
FastEthernet0/5	Up	8	--	00E0.F71B.2D05
FastEthernet0/6	Down	--	--	00E0.F71B.2D06
FastEthernet0/7	Down	--	--	00E0.F71B.2D07
FastEthernet0/8	Down	--	--	00E0.F71B.2D08
FastEthernet0/9	Down	--	--	00E0.F71B.2D09
FastEthernet0/10	Down	--	--	00E0.F71B.2D0A
FastEthernet0/11	Down	--	--	00E0.F71B.2D0B
FastEthernet0/12	Down	--	--	00E0.F71B.2D0C
FastEthernet0/13	Down	--	--	00E0.F71B.2D0D
FastEthernet0/14	Down	--	--	00E0.F71B.2D0E
FastEthernet0/15	Down	--	--	00E0.F71B.2D0F
FastEthernet0/16	Down	--	--	00E0.F71B.2D10
FastEthernet0/17	Down	--	--	00E0.F71B.2D11
FastEthernet0/18	Down	--	--	00E0.F71B.2D12
FastEthernet0/19	Down	--	--	00E0.F71B.2D13
FastEthernet0/20	Down	--	--	00E0.F71B.2D14
FastEthernet0/21	Down	--	--	00E0.F71B.2D15
FastEthernet0/22	Down	--	--	00E0.F71B.2D16
FastEthernet0/23	Up	--	--	00E0.F71B.2D17
FastEthernet0/24	Up	--	--	00E0.F71B.2D18
Vlan1	Down	1	<not set>	0050.0FC4.93A6
Vlan9	Up	9	192.168.3.133/27	0050.0FC4.9301

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Servidores-almellonesfernandez

## Álvaro Almellones Fernández

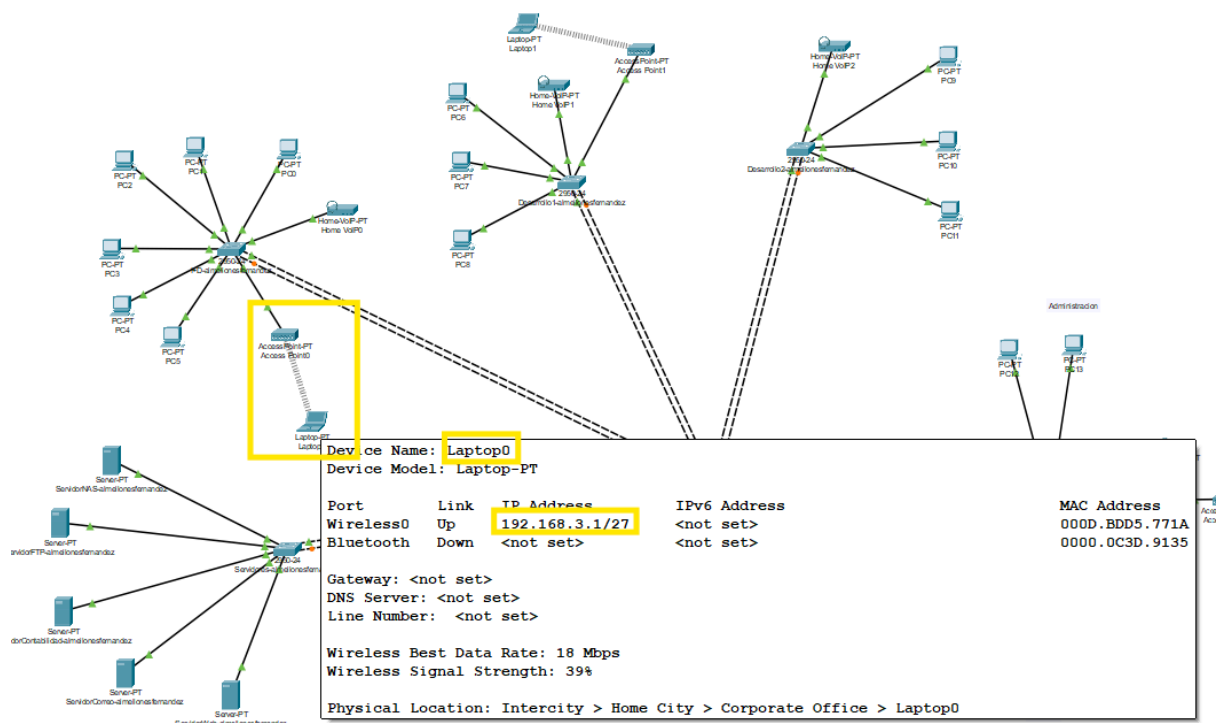
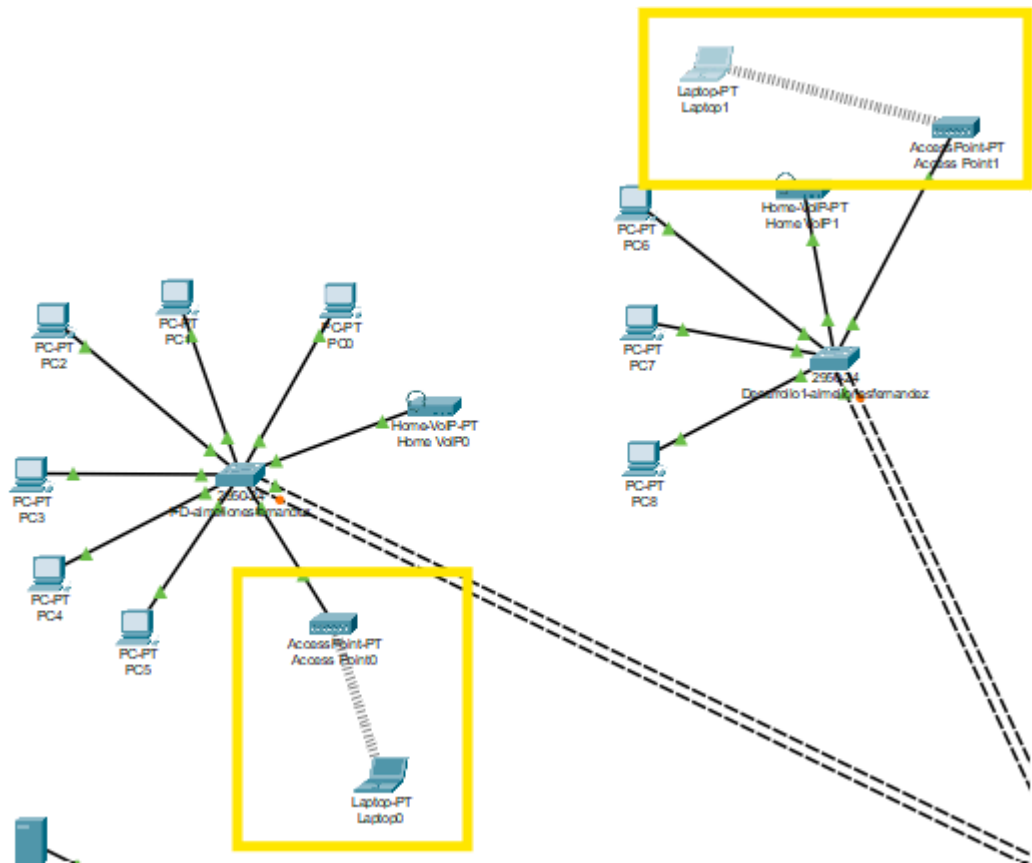
Device Name: Core-almellonesfernandez  
Device Model: 2950-24  
Hostname: Switch

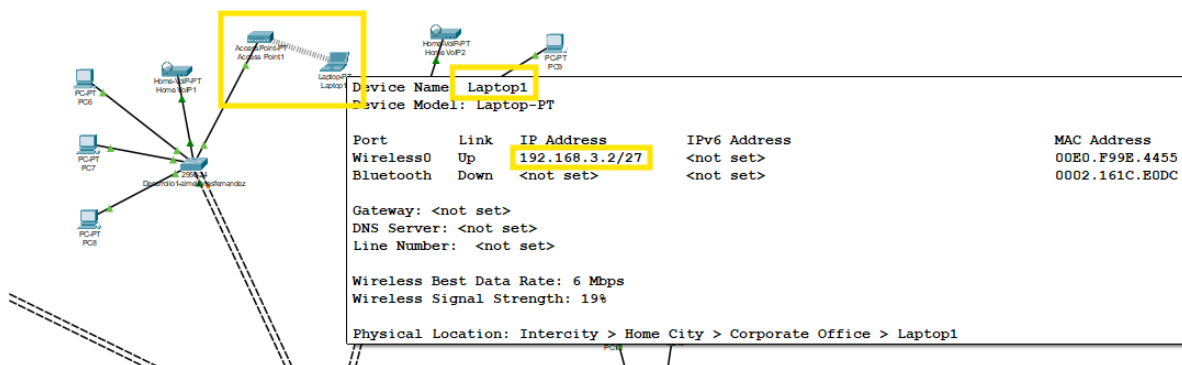
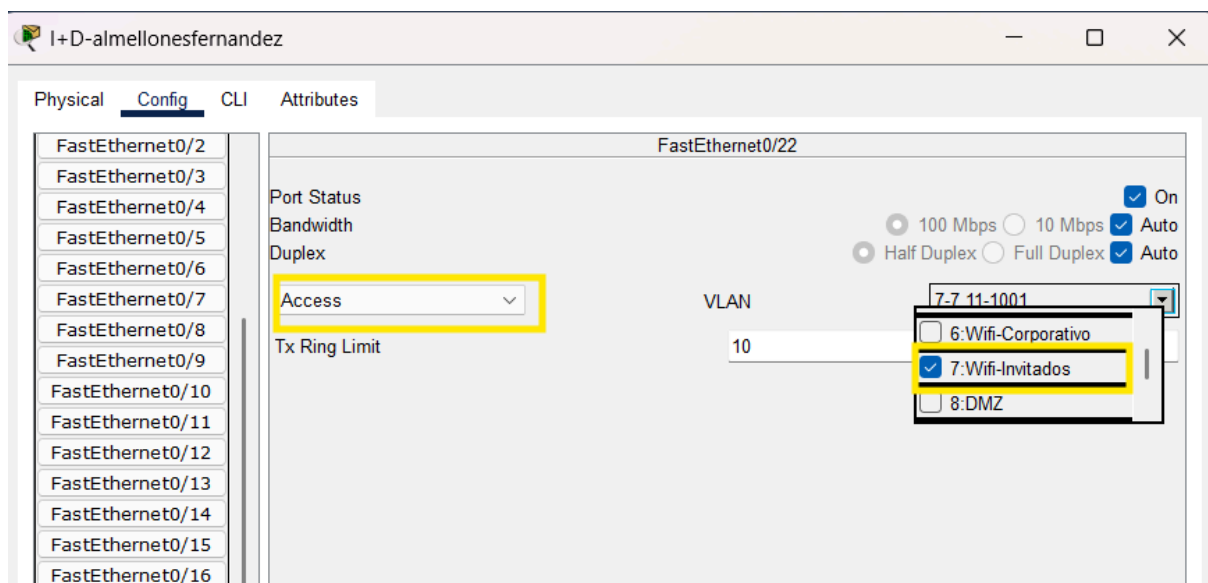
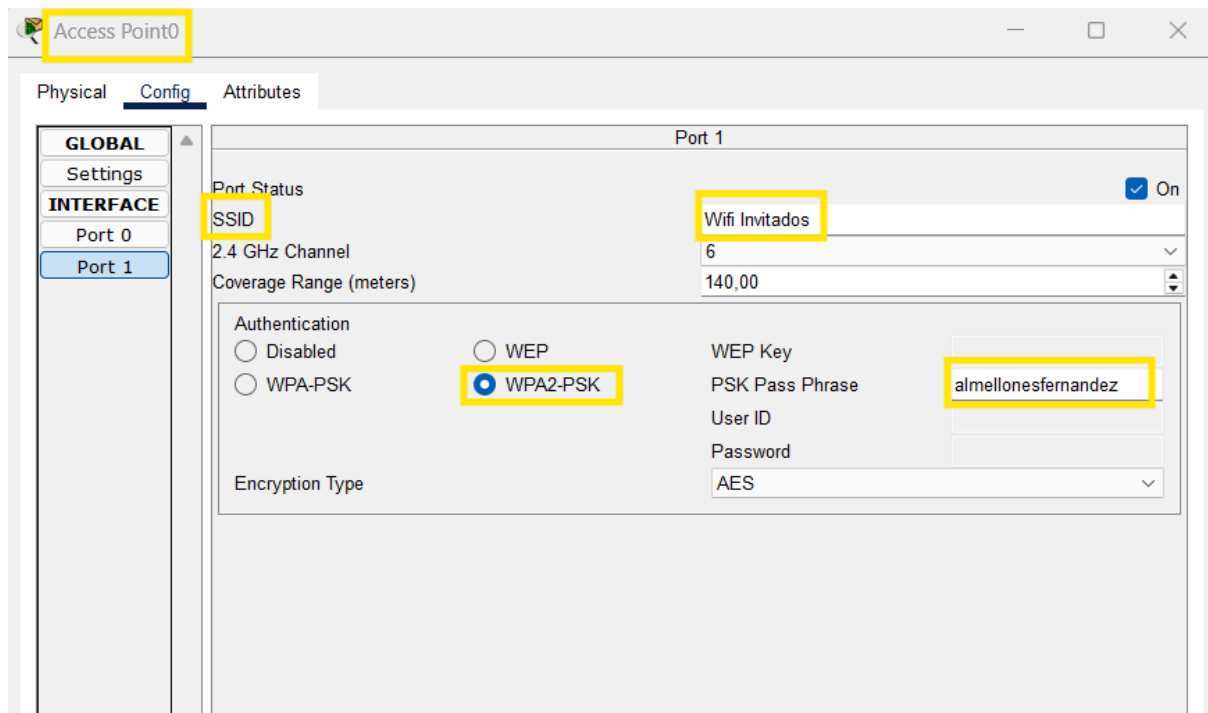
Port	Link	VLAN	IP Address	MAC Address
FastEthernet0/1	Down	--	--	0001.439E.4E01
FastEthernet0/2	Up	--	--	0001.439E.4E02
FastEthernet0/3	Up	--	--	0001.439E.4E03
FastEthernet0/4	Up	--	--	0001.439E.4E04
FastEthernet0/5	Up	--	--	0001.439E.4E05
FastEthernet0/6	Up	--	--	0001.439E.4E06
FastEthernet0/7	Up	--	--	0001.439E.4E07
FastEthernet0/8	Up	--	--	0001.439E.4E08
FastEthernet0/9	Up	--	--	0001.439E.4E09
FastEthernet0/10	Up	--	--	0001.439E.4E0A
FastEthernet0/11	Up	10	--	0001.439E.4E0B
FastEthernet0/12	Down	--	--	0001.439E.4E0C
FastEthernet0/13	Down	--	--	0001.439E.4E0D
FastEthernet0/14	Down	--	--	0001.439E.4E0E
FastEthernet0/15	Down	--	--	0001.439E.4E0F
FastEthernet0/16	Down	--	--	0001.439E.4E10
FastEthernet0/17	Down	--	--	0001.439E.4E11
FastEthernet0/18	Down	--	--	0001.439E.4E12
FastEthernet0/19	Down	--	--	0001.439E.4E13
FastEthernet0/20	Down	--	--	0001.439E.4E14
FastEthernet0/21	Down	--	--	0001.439E.4E15
FastEthernet0/22	Down	--	--	0001.439E.4E16
FastEthernet0/23	Down	--	--	0001.439E.4E17
FastEthernet0/24	Down	--	--	0001.439E.4E18
Vlan1	Down	1	<not set>	0001.C9CC.2427
Vlan9	Up	9	192.168.3.134/27	0001.C9CC.2401

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Core-almellonesfernandez

## Configuración Wifi Invitados

Para realizar la prueba voy a probar con el ap de I+D y el ap de Desarrollo1. Luego añadi un ap con el ssid Wifi Invitado en cada departamento





Access Point1

Physical Config Attributes

GLOBAL

Settings

INTERFACE

Port 0

Port 1

Port 1

Port Status ☒ On

SSID Wifi Invitados

2.4 GHz Channel 7

Coverage Range (meters) 140,00

Authentication

☐ Disabled ☐ WEP ☒ WPA2-PSK

WEP Key

PSK Pass Phrase almellonesfernandez

User ID

Password

Encryption Type AES

Desarrollo1-almellonesfernandez

Physical Config CLI Attributes

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/6

FastEthernet0/7

FastEthernet0/8

FastEthernet0/9

FastEthernet0/10

FastEthernet0/11

FastEthernet0/12

FastEthernet0/13

FastEthernet0/14

FastEthernet0/15

FastEthernet0/16

FastEthernet0/17

FastEthernet0/18

FastEthernet0/19

FastEthernet0/20

FastEthernet0/21

FastEthernet0/22

FastEthernet0/23

FastEthernet0/20

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

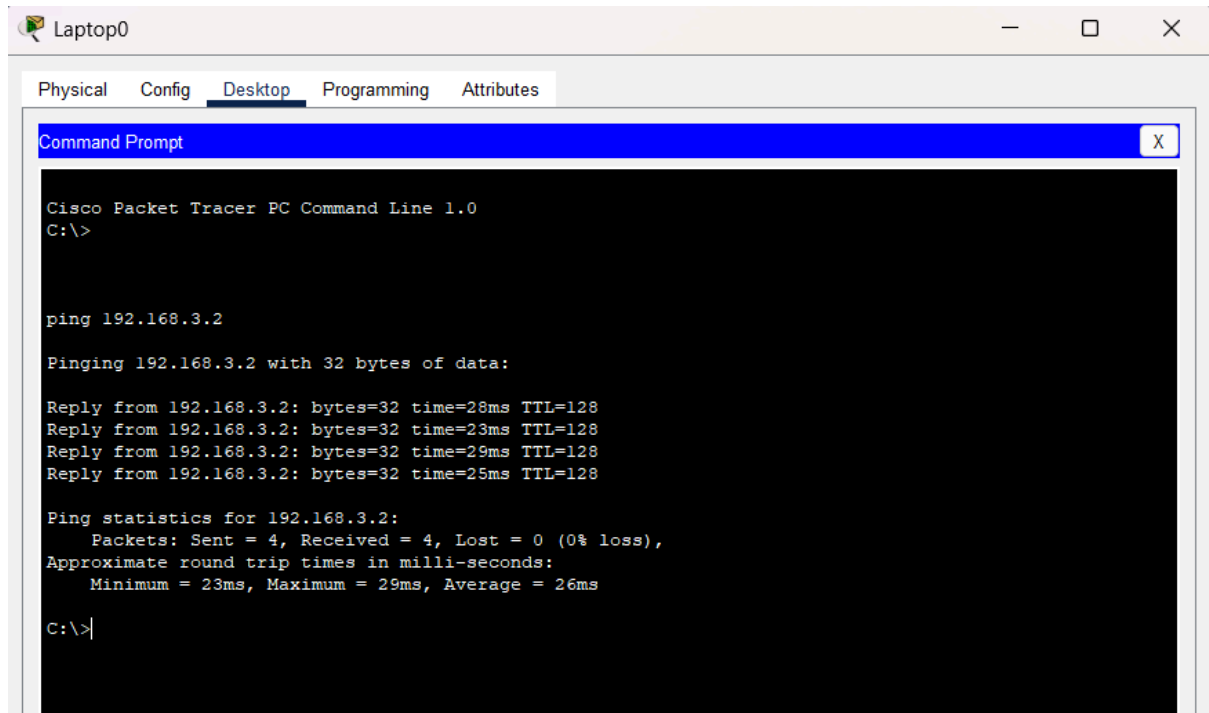
Duplex ☒ Half Duplex ☐ Full Duplex ☒ Auto

Access

VLAN 7

Tx Ring Limit 10

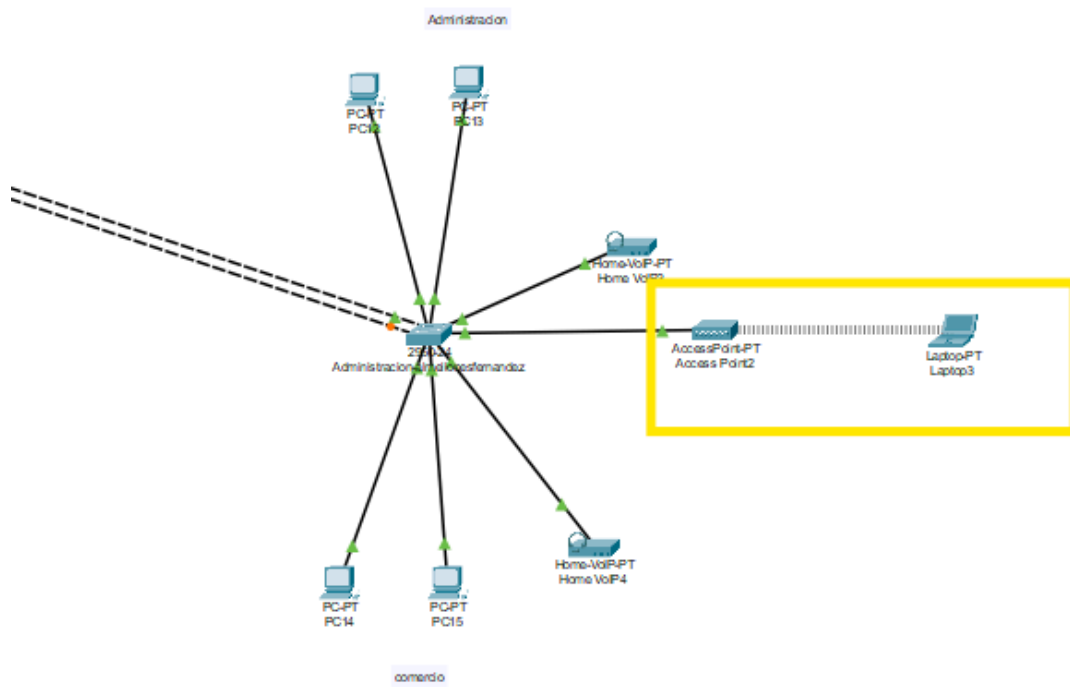
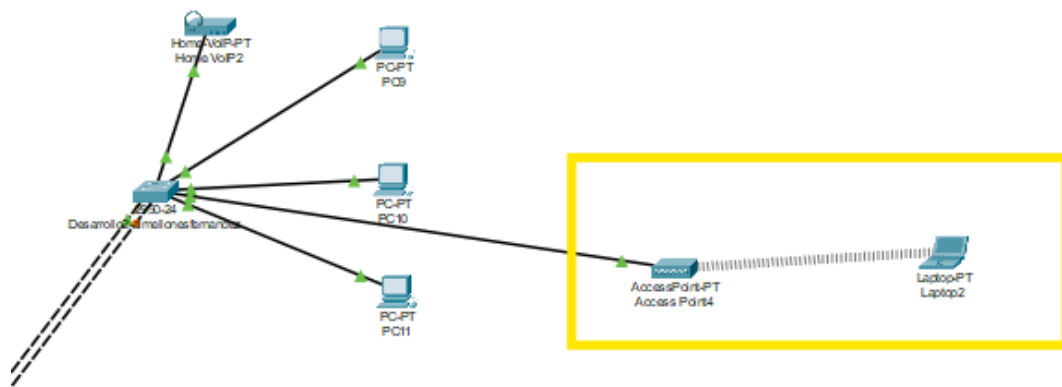
## Álvaro Almellones Fernández



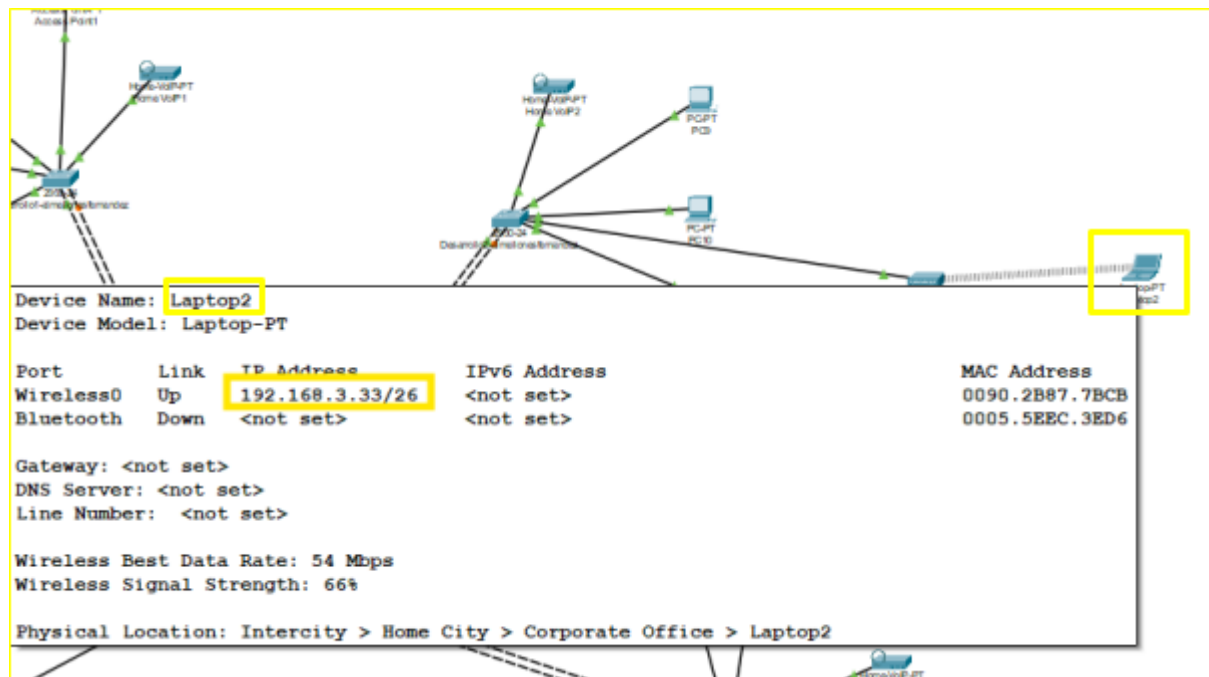
## Configuración Wifi Corporativo

Para enseñar el funcionamiento voy a probar con el ap de Desarrollo2 y el ap de Administración . Luego añadí un ap con ssid Wifi Corporativo en cada Departamento

## Álvaro Almellones Fernández







Access Point4

Physical Config Attributes

GLOBAL

Settings

INTERFACE

Port 0

Port 1

Port 1

Port Status

SSID

Wifi Corporativo

2.4 GHz Channel

6

Coverage Range (meters)

140,00

Authentication

☐ Disabled ☐ WEP ☒ WPA2-PSK

WEP Key

PSK Pass Phrase

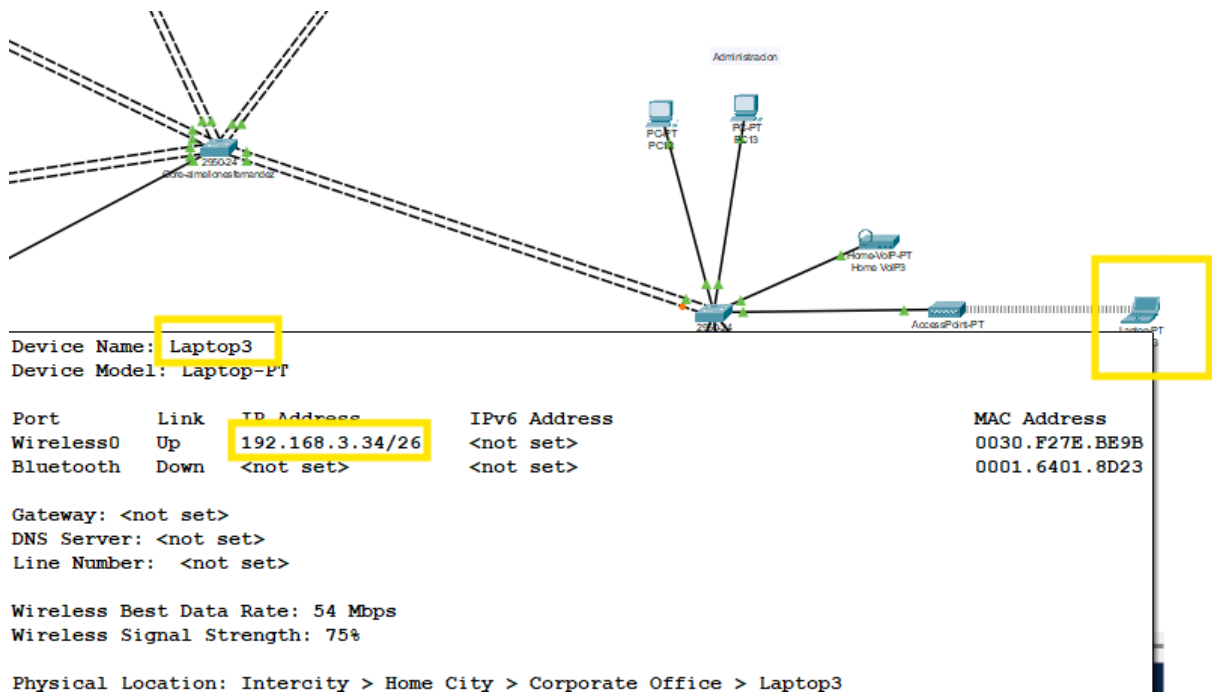
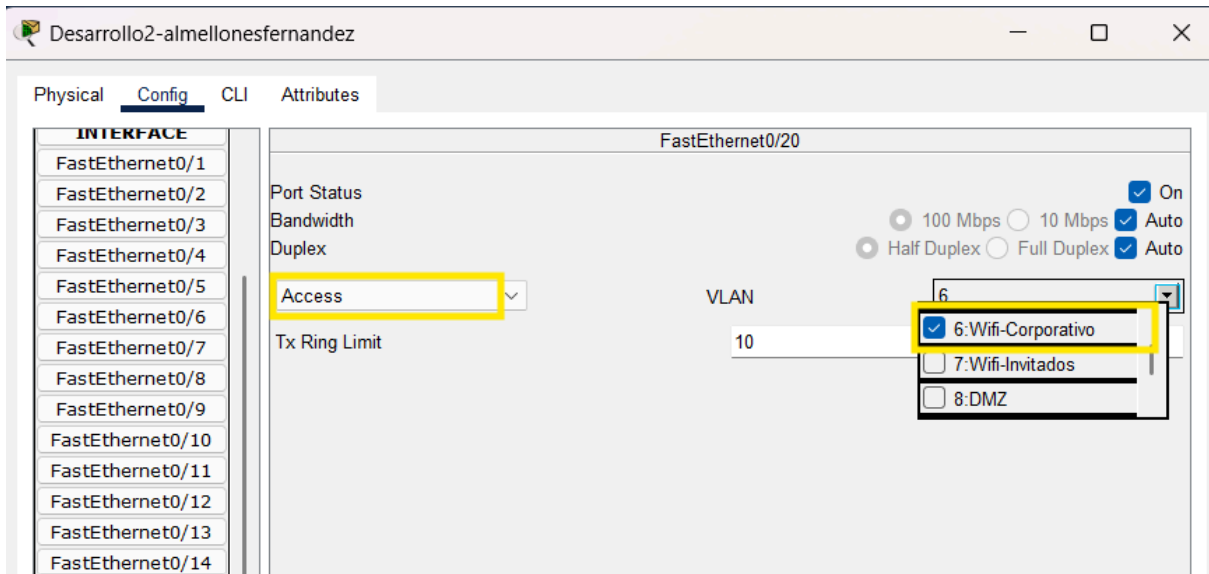
almellonesfernandez

User ID

Password

Encryption Type

AES



Access Point2

Physical

Config

Attributes

GLOBAL

Settings

INTERFACE

Port 0

Port 1

Port 1

Port Status

On

SSID

Wifi Corporativo

2.4 GHz Channel

6

Coverage Range (meters)

140,00

Authentication

Disabled

WPA-PSK

WEP

WPA2-PSK

WEP Key

PSK Pass Phrase

almellonesfernandez

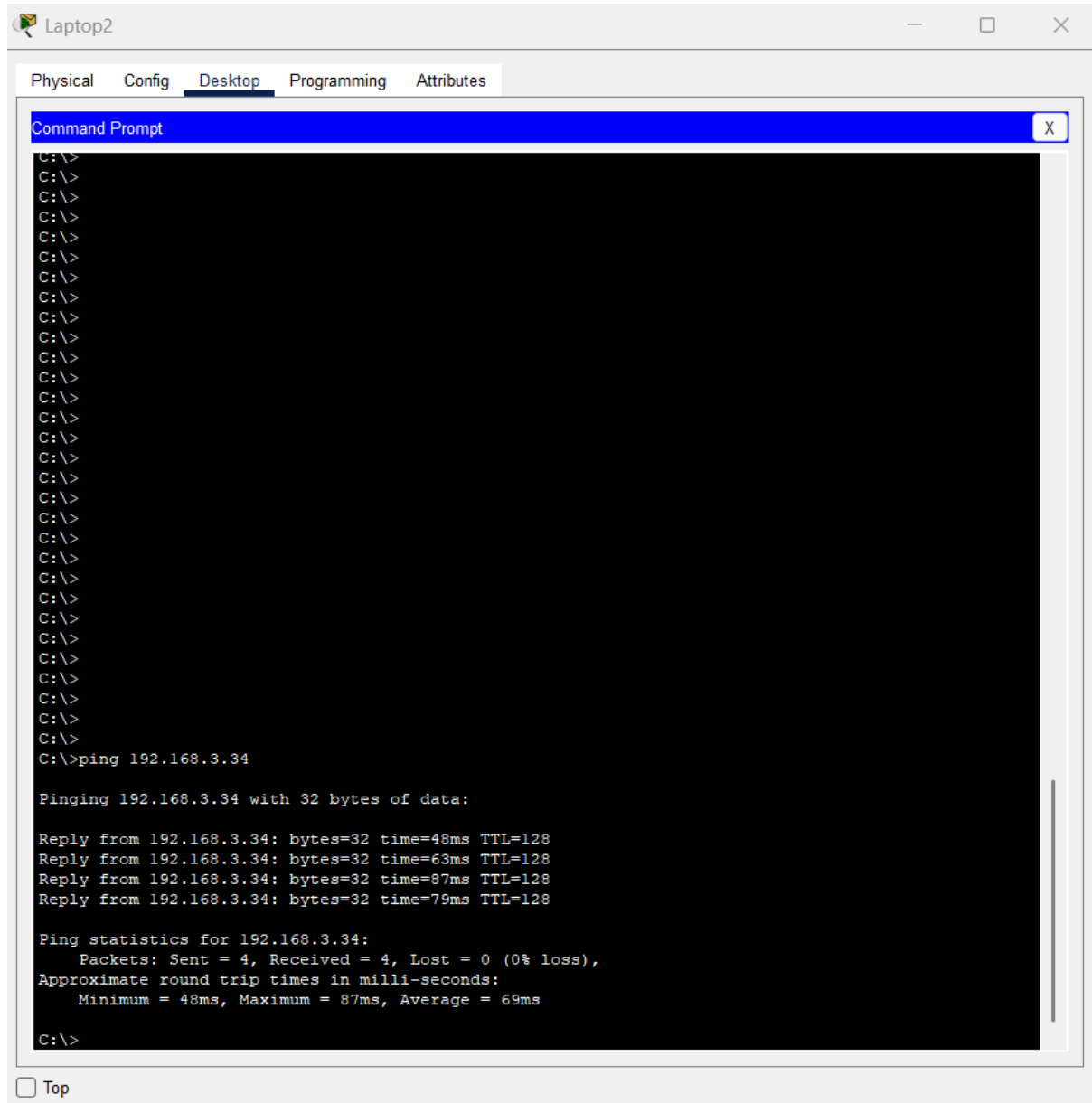
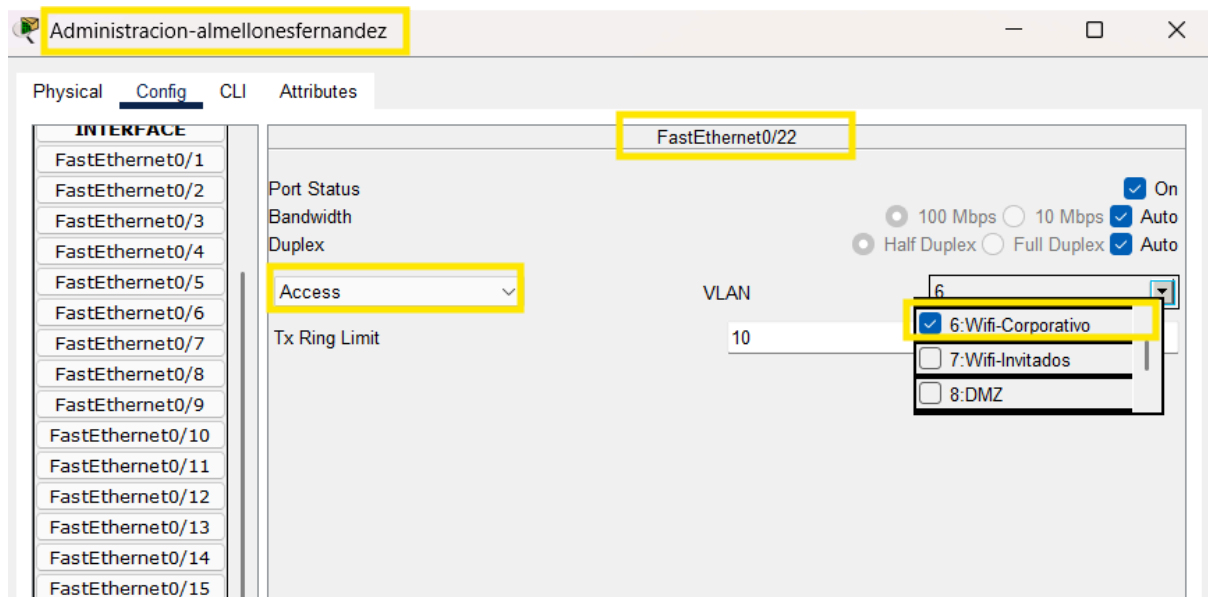
User ID

Password

Encryption Type

AES

Top



## Estructura final

