

***UNIVERSIDAD DE COSTA RICA***  
***FACULTAD DE INGENIERÍA***  
***ESCUELA DE CIENCIAS DE LA COMPUTACIÓN E INFORMÁTICA***

***CI-0121 Redes de Comunicación de Datos***

***Grupo 2***

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## Dump del switch 0 Edificio Anexo piso 1 MDF

```
SwitchCapa3>enable
```

```
SwitchCapa3#show running-config
```

```
Building configuration...
```

```
Current configuration : 1627 bytes
```

```
!
```

```
version 15.0
```

```
no service timestamps log datetime msec
```

```
no service timestamps debug datetime msec
```

```
no service password-encryption
```

```
!
```

```
hostname SwitchCapa3
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
spanning-tree mode pvst
```

```
spanning-tree extend system-id
```

```
!
```

```
interface FastEthernet0/1
```

```
!
```

```
interface FastEthernet0/2
```

```
!
```

```
interface FastEthernet0/3
!
interface FastEthernet0/4
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
!
```

```
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
switchport access vlan 101
switchport trunk native vlan 999
switchport trunk allowed vlan 101-104,201
switchport mode trunk
!
interface FastEthernet0/23
switchport trunk native vlan 999
switchport trunk allowed vlan 102,201
switchport mode trunk
!
interface FastEthernet0/24
switchport trunk native vlan 999
switchport trunk allowed vlan 101,201
switchport mode trunk
!
interface GigabitEthernet0/1
switchport access vlan 102
switchport trunk allowed vlan 101-104,201
switchport mode trunk
!
interface GigabitEthernet0/2
```

```
switchport access vlan 201
switchport trunk native vlan 999
switchport trunk allowed vlan 103-104,201
switchport mode trunk
!
interface Vlan1
no ip address
shutdown
!
!
!
!
line con 0
!
line vty 0 4
login
line vty 5 15
login
!
!
!
!
end
```

## Dump del switch 8 Edificio Anexo piso 1 CD

```
Switch#show running-config
```

```
Building configuration...
```

```
Current configuration : 1686 bytes
```

```
!
```

```
version 15.0
```

```
no service timestamps log datetime msec
```

```
no service timestamps debug datetime msec
```

```
no service password-encryption
```

```
!
```

```
hostname Switch
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
spanning-tree mode pvst
```

```
spanning-tree extend system-id
```

```
!
```

```
interface FastEthernet0/1
```

```
switchport access vlan 101
```

```
!
```

```
interface FastEthernet0/2
```

```
switchport access vlan 102
```

switchport mode access

!

interface FastEthernet0/3

switchport access vlan 103

switchport trunk native vlan 999

switchport trunk allowed vlan 101-104,201

switchport mode access

!

interface FastEthernet0/4

description VLAN 104 siendo transportada por puerto fa0/4

switchport access vlan 104

switchport trunk native vlan 999

switchport trunk allowed vlan 101-104,201

switchport mode access

!

interface FastEthernet0/5

!

interface FastEthernet0/6

!

interface FastEthernet0/7

!

interface FastEthernet0/8

!

interface FastEthernet0/9

!

interface FastEthernet0/10

!

interface FastEthernet0/11



```
!  
interface FastEthernet0/12  
!  
interface FastEthernet0/13  
!  
interface FastEthernet0/14  
!  
interface FastEthernet0/15  
!  
interface FastEthernet0/16  
!  
interface FastEthernet0/17  
!  
interface FastEthernet0/18  
!  
interface FastEthernet0/19  
!  
interface FastEthernet0/20  
!  
interface FastEthernet0/21  
!  
interface FastEthernet0/22  
switchport trunk native vlan 999  
switchport trunk allowed vlan 101-104,201  
switchport mode trunk  
!  
interface FastEthernet0/23  
!
```

```
interface FastEthernet0/24
switchport trunk native vlan 999
switchport mode trunk
!
interface GigabitEthernet0/1
switchport access vlan 201
switchport mode access
!
interface GigabitEthernet0/2
!
interface Vlan1
no ip address
shutdown
!
!
!
!
line con 0
!
line vty 0 4
login
line vty 5 15
login
!
!
!
!
end
```

### Dump del switch 3 Edificio Anexo piso 2 LAB

En el CLI, se escriben los siguientes comandos:

- Enable
- Show running-config

```
Switch#show running-config
```

```
Building configuration...
```

```
Current configuration : 1280 bytes
```

```
!
```

```
version 15.0
```

```
no service timestamps log datetime msec
```

```
no service timestamps debug datetime msec
```

```
no service password-encryption
```

```
!
```

```
hostname Switch
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
spanning-tree mode pvst
```

```
spanning-tree extend system-id
```

```
!
```

```
interface FastEthernet0/1
```

```
switchport access vlan 102
```

```
switchport mode access
```

```
!  
interface FastEthernet0/2  
!  
interface FastEthernet0/3  
!  
interface FastEthernet0/4  
!  
interface FastEthernet0/5  
!  
interface FastEthernet0/6  
!  
interface FastEthernet0/7  
!  
interface FastEthernet0/8  
!  
interface FastEthernet0/9  
!  
interface FastEthernet0/10  
!  
interface FastEthernet0/11  
!  
interface FastEthernet0/12  
!  
interface FastEthernet0/13  
!  
interface FastEthernet0/14  
!  
interface FastEthernet0/15  
!  
interface FastEthernet0/16
```

```
!  
interface FastEthernet0/17  
!  
interface FastEthernet0/18  
!  
interface FastEthernet0/19  
!  
interface FastEthernet0/20  
!  
interface FastEthernet0/21  
!  
interface FastEthernet0/22  
!  
interface FastEthernet0/23  
!  
interface FastEthernet0/24  
switchport trunk native vlan 999  
switchport trunk allowed vlan 102,201  
switchport mode trunk  
!  
interface GigabitEthernet0/1  
switchport access vlan 201  
switchport mode access  
!  
interface GigabitEthernet0/2  
!  
interface Vlan1  
no ip address  
shutdown  
!
```

```
!  
!  
!  
line con 0  
!  
line vty 0 4  
login  
line vty 5 15  
login  
!  
!  
!  
!  
end
```

#### Dump del switch 6 Edificio Anexo piso 2 IDF

```
Switch>enable
```

```
Switch#show running-config
```

```
Building configuration...
```

```
Current configuration : 1319 bytes
```

```
!  
version 15.0  
no service timestamps log datetime msec  
no service timestamps debug datetime msec  
no service password-encryption  
!  
hostname Switch  
!  
!
```

```
!  
!  
!  
!  
spanning-tree mode pvst  
spanning-tree extend system-id  
!  
interface FastEthernet0/1  
!  
interface FastEthernet0/2  
!  
interface FastEthernet0/3  
!  
interface FastEthernet0/4  
!  
interface FastEthernet0/5  
!  
interface FastEthernet0/6  
!  
interface FastEthernet0/7  
!  
interface FastEthernet0/8  
!  
interface FastEthernet0/9  
!  
interface FastEthernet0/10  
!  
interface FastEthernet0/11  
!  
interface FastEthernet0/12
```

```
!  
interface FastEthernet0/13  
!  
interface FastEthernet0/14  
!  
interface FastEthernet0/15  
!  
interface FastEthernet0/16  
!  
interface FastEthernet0/17  
!  
interface FastEthernet0/18  
!  
interface FastEthernet0/19  
!  
interface FastEthernet0/20  
!  
interface FastEthernet0/21  
!  
interface FastEthernet0/22  
!  
interface FastEthernet0/23  
description Permite 102,201 puerto Fa0/23  
switchport trunk native vlan 999  
switchport trunk allowed vlan 102,201  
switchport mode trunk  
!  
interface FastEthernet0/24  
switchport trunk native vlan 999  
switchport trunk allowed vlan 102,201
```



```
switchport mode trunk
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
no ip address
shutdown
!
!
!
!
line con 0
!
line vty 0 4
login
line vty 5 15
login
!
!
!
!
end
```

## Dump del switch 2 Edificio Anexo piso 1 LAB

Switch#show running-config

Building configuration...

Current configuration : 1373 bytes

!

version 15.0

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

!

hostname Switch

!

!

!

!

!

!

spanning-tree mode pvst

spanning-tree extend system-id

!

interface FastEthernet0/1

switchport access vlan 101

switchport mode access

!

interface FastEthernet0/2

switchport access vlan 101

switchport mode access

!

interface FastEthernet0/3

!

interface FastEthernet0/4

!

interface FastEthernet0/5

!

interface FastEthernet0/6

!

interface FastEthernet0/7

!

interface FastEthernet0/8

!

interface FastEthernet0/9

!

interface FastEthernet0/10

!

interface FastEthernet0/11

!

interface FastEthernet0/12

!

interface FastEthernet0/13

!

interface FastEthernet0/14

!

interface FastEthernet0/15

!

```
interface FastEthernet0/16
!
interface FastEthernet0/17
!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
description VLAN 101 y 201 modo troncal
switchport trunk native vlan 999
switchport trunk allowed vlan 101,201
switchport mode trunk
!
interface GigabitEthernet0/1
switchport access vlan 201
switchport mode access
!
interface GigabitEthernet0/2
!
```

```
interface Vlan1
```

```
no ip address
```

```
shutdown
```

```
!
```

```
!
```

```
!
```

```
!
```

```
line con 0
```

```
!
```

```
line vty 0 4
```

```
login
```

```
line vty 5 15
```

```
login
```

```
!
```

```
!
```

```
!
```

```
!
```

```
end
```

[Dump del switch 1 Edificio ECCI piso 1 MDF](#)

```
Switch>enable
```

```
Switch#show running-config
```

```
Building configuration...
```

```
Current configuration : 1400 bytes
```

```
!
```

```
version 15.0
```

```
no service timestamps log datetime msec
```

```
no service timestamps debug datetime msec
```

```
no service password-encryption
```

```
!  
hostname Switch  
!  
!  
!  
!  
!  
!  
spanning-tree mode pvst  
spanning-tree extend system-id  
!  
interface FastEthernet0/1  
!  
interface FastEthernet0/2  
!  
interface FastEthernet0/3  
!  
interface FastEthernet0/4  
!  
interface FastEthernet0/5  
!  
interface FastEthernet0/6  
!  
interface FastEthernet0/7  
!  
interface FastEthernet0/8  
!  
interface FastEthernet0/9  
!  
interface FastEthernet0/10
```

```
!  
interface FastEthernet0/11  
!  
interface FastEthernet0/12  
!  
interface FastEthernet0/13  
!  
interface FastEthernet0/14  
!  
interface FastEthernet0/15  
!  
interface FastEthernet0/16  
!  
interface FastEthernet0/17  
!  
interface FastEthernet0/18  
!  
interface FastEthernet0/19  
!  
interface FastEthernet0/20  
!  
interface FastEthernet0/21  
!  
interface FastEthernet0/22  
!  
interface FastEthernet0/23  
switchport trunk native vlan 999  
switchport trunk allowed vlan 104,201  
switchport mode trunk  
!
```

```
interface FastEthernet0/24
switchport trunk native vlan 999
switchport trunk allowed vlan 103,201
switchport mode trunk
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
switchport access vlan 201
switchport trunk native vlan 999
switchport trunk allowed vlan 103-104,201
switchport mode trunk
!
interface Vlan1
no ip address
shutdown
!
!
!
!
line con 0
!
line vty 0 4
login
line vty 5 15
login
!
!
!
!
```



end

### Dump del switch 5 Edificio ECCI piso 1 LAB

Switch#show running-config

Building configuration...

Current configuration : 1342 bytes

!

version 15.0

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

!

hostname Switch

!

!

!

!

!

!

spanning-tree mode pvst

spanning-tree extend system-id

!

interface FastEthernet0/1

description asigna fa0/1 a la VLAN 103

switchport access vlan 103

!

interface FastEthernet0/2

```
!  
interface FastEthernet0/3  
!  
interface FastEthernet0/4  
!  
interface FastEthernet0/5  
!  
interface FastEthernet0/6  
!  
interface FastEthernet0/7  
!  
interface FastEthernet0/8  
!  
interface FastEthernet0/9  
!  
interface FastEthernet0/10  
!  
interface FastEthernet0/11  
!  
interface FastEthernet0/12  
!  
interface FastEthernet0/13  
!  
interface FastEthernet0/14  
!  
interface FastEthernet0/15  
!  
interface FastEthernet0/16  
!  
interface FastEthernet0/17
```

```
!  
interface FastEthernet0/18  
!  
interface FastEthernet0/19  
!  
interface FastEthernet0/20  
!  
interface FastEthernet0/21  
!  
interface FastEthernet0/22  
!  
interface FastEthernet0/23  
!  
interface FastEthernet0/24  
switchport trunk native vlan 999  
switchport trunk allowed vlan 103,201  
switchport mode trunk  
!  
interface GigabitEthernet0/1  
description LAB103, asigna gig0/1 a VLAN 201  
switchport access vlan 201  
switchport mode access  
!  
interface GigabitEthernet0/2  
!  
interface Vlan1  
no ip address  
shutdown  
!  
!
```

```
!  
!  
line con 0  
!  
line vty 0 4  
login  
line vty 5 15  
login  
!  
!  
!  
!  
end
```

#### [Dump del switch 7 Edificio ECCI piso 2 IDF](#)

```
Switch#show running-config  
Building configuration..  
Current configuration : 1370 bytes  
!  
version 15.0  
no service timestamps log datetime msec  
no service timestamps debug datetime msec  
no service password-encryption  
!  
hostname Switch  
!  
!  
!  
!
```

```
!  
!  
spanning-tree mode pvst  
spanning-tree extend system-id  
!  
interface FastEthernet0/1  
!  
interface FastEthernet0/2  
!  
interface FastEthernet0/3  
!  
interface FastEthernet0/4  
!  
interface FastEthernet0/5  
!  
interface FastEthernet0/6  
!  
interface FastEthernet0/7  
!  
interface FastEthernet0/8  
!  
interface FastEthernet0/9  
!  
interface FastEthernet0/10  
!  
interface FastEthernet0/11  
!  
interface FastEthernet0/12  
!  
interface FastEthernet0/13
```

```
!  
interface FastEthernet0/14  
!  
interface FastEthernet0/15  
!  
interface FastEthernet0/16  
!  
interface FastEthernet0/17  
!  
interface FastEthernet0/18  
!  
interface FastEthernet0/19  
!  
interface FastEthernet0/20  
!  
interface FastEthernet0/21  
!  
interface FastEthernet0/22  
!  
interface FastEthernet0/23  
description IDF LAB104, se realiza trunk fa0/23  
switchport trunk native vlan 999  
switchport trunk allowed vlan 104,201  
switchport mode trunk  
!  
interface FastEthernet0/24  
description IDF LAB104, se realiza trunk fa0/24  
switchport trunk native vlan 999  
switchport trunk allowed vlan 104,201  
switchport mode trunk
```

```
!  
interface GigabitEthernet0/1  
!  
interface GigabitEthernet0/2  
!  
interface Vlan1  
no ip address  
shutdown  
!  
!  
!  
!  
line con 0  
!  
line vty 0 4  
login  
line vty 5 15  
login  
!  
!  
!  
!  
end
```

## Dump del switch 4 Edificio ECCI piso 2 LAB

```
Switch#show running-config
```

```
Building configuration...
```

```
Current configuration : 1365 bytes
```

```
!
```

```
version 15.0
```

```
no service timestamps log datetime msec
```

```
no service timestamps debug datetime msec
```

```
no service password-encryption
```

```
!
```

```
hostname Switch
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
spanning-tree mode pvst
```

```
spanning-tree extend system-id
```

```
!
```

```
interface FastEthernet0/1
```

```
description fa0/1 asignado a la vlan 104
```

```
switchport access vlan 104
```

```
switchport mode access
```

```
!
```

```
interface FastEthernet0/2
```

```
!
```



```
interface FastEthernet0/3
!
interface FastEthernet0/4
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
!
```

```
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
switchport trunk native vlan 999
switchport trunk allowed vlan 104,201
switchport mode trunk
!
interface GigabitEthernet0/1
description gig0/1 asignado a la vlan 201
switchport access vlan 201
switchport mode access
!
interface GigabitEthernet0/2
!
interface Vlan1
no ip address
shutdown
!
!
!
```

```
!  
line con 0  
!  
line vty 0 4  
login  
line vty 5 15  
login  
!  
!  
!  
end
```

#### Dump del router

```
Router#show running-config  
Building configuration..  
Current configuration : 3410 bytes  
!  
version 15.1  
no service timestamps log datetime msec  
no service timestamps debug datetime msec  
no service password-encryption  
!  
hostname Router  
!  
!  
!  
!  
!  
!
```

```
!  
!  
ip cef  
no ipv6 cef  
!  
!  
!  
!  
license udi pid CISCO2911/K9 sn FTX15244491-  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
spanning-tree mode pvst  
!  
!  
!  
!  
!  
!  
interface GigabitEthernet0/0  
description Enlace a Internet  
ip address 200.0.0.2 255.255.255.252
```

```
ip nat outside
duplex auto
speed auto
!
interface GigabitEthernet0/0.101
no ip address
ip access-group 101 in
!
interface GigabitEthernet0/0.102
no ip address
ip access-group 101 in
!
interface GigabitEthernet0/0.103
no ip address
ip access-group 101 in
!
interface GigabitEthernet0/0.104
no ip address
ip access-group 101 in
!
interface GigabitEthernet0/0.201
no ip address
ip access-group 101 in
!
interface GigabitEthernet0/1
no ip address
duplex auto
speed auto
!
interface GigabitEthernet0/1.101
```

```
description Interfaz conectada a la VLAN 101
encapsulation dot1Q 101
ip address 10.1.101.1 255.255.255.0
ip access-group 101 in
ip nat inside
!
interface GigabitEthernet0/1.102
description Definiendo NAT
encapsulation dot1Q 102
ip address 10.1.102.1 255.255.255.0
ip access-group 101 in
ip nat inside
!
interface GigabitEthernet0/1.103
description Definiendo NAT .103
encapsulation dot1Q 103
ip address 10.1.103.1 255.255.255.0
ip access-group 101 in
ip nat inside
!
interface GigabitEthernet0/1.104
description Definiendo NAT .104
encapsulation dot1Q 104
ip address 10.1.104.1 255.255.255.0
ip access-group 101 in
ip nat inside
!
interface GigabitEthernet0/1.201
description Interfaz conectada a VLAN 201
encapsulation dot1Q 201
```

```
ip address 10.1.201.1 255.255.255.0
ip nat inside
!
interface GigabitEthernet0/2
no ip address
duplex auto
speed auto
shutdown
!
interface Vlan1
no ip address
shutdown
!
ip nat pool ECCI_NAT 163.178.104.65 163.178.104.70 netmask 255.255.255.248
ip nat inside source list 1 pool ECCI_NAT
ip classless
!
ip flow-export version 9
!
!
access-list 1 permit any
access-list 101 deny ip 10.1.101.0 0.0.0.255 10.1.201.0 0.0.0.255
access-list 101 deny ip 10.1.101.0 0.0.0.255 10.1.102.0 0.0.0.255
access-list 101 deny ip 10.1.101.0 0.0.0.255 10.1.103.0 0.0.0.255
access-list 101 deny ip 10.1.101.0 0.0.0.255 10.1.104.0 0.0.0.255
access-list 101 deny ip 10.1.102.0 0.0.0.255 10.1.101.0 0.0.0.255
access-list 101 deny ip 10.1.102.0 0.0.0.255 10.1.103.0 0.0.0.255
access-list 101 deny ip 10.1.102.0 0.0.0.255 10.1.104.0 0.0.0.255
access-list 101 deny ip 10.1.102.0 0.0.0.255 10.1.201.0 0.0.0.255
access-list 101 deny ip 10.1.103.0 0.0.0.255 10.1.101.0 0.0.0.255
```

```
access-list 101 deny ip 10.1.103.0 0.0.0.255 10.1.102.0 0.0.0.255
access-list 101 deny ip 10.1.103.0 0.0.0.255 10.1.104.0 0.0.0.255
access-list 101 deny ip 10.1.103.0 0.0.0.255 10.1.201.0 0.0.0.255
access-list 101 deny ip 10.1.104.0 0.0.0.255 10.1.101.0 0.0.0.255
access-list 101 deny ip 10.1.104.0 0.0.0.255 10.1.102.0 0.0.0.255
access-list 101 deny ip 10.1.104.0 0.0.0.255 10.1.103.0 0.0.0.255
access-list 101 deny ip 10.1.104.0 0.0.0.255 10.1.201.0 0.0.0.255
access-list 101 deny ip 10.1.201.0 0.0.0.255 10.1.101.0 0.0.0.255
access-list 101 deny ip 10.1.201.0 0.0.0.255 10.1.102.0 0.0.0.255
access-list 101 deny ip 10.1.201.0 0.0.0.255 10.1.103.0 0.0.0.255
access-list 101 deny ip 10.1.201.0 0.0.0.255 10.1.104.0 0.0.0.255
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
login
!
!
!
end
```



## Instrucciones más importantes del dump

Pasos configuración switch:

1. Escribir el comando: enable
2. Escribir el comando: conf t (abreviatura de configure terminal)
3. Definir nombre de las vlan dependiendo del edificio y piso
  - a. vlan [numero]
  - b. vlan 102
  - c. name [nombre]
  - d. name LAB102

Un extracto del .pkt:

### **Modo troncal**

En este caso entre Fa0/24 y Fa0/24, y se debe configurar en ambos switches, prestando atención en definir las vlan correspondientes, y se define la vlan nativa (la que van a utilizar todos los switches), en este caso 999

Pasos a seguir:

Digitar el comando de la interfaz (selecciona el puerto a configurar)

- interface Fa0/24

Configura el puerto para operar en modo troncal

- switchport mode trunk

Asigna la nativa

- switchport trunk native vlan 999

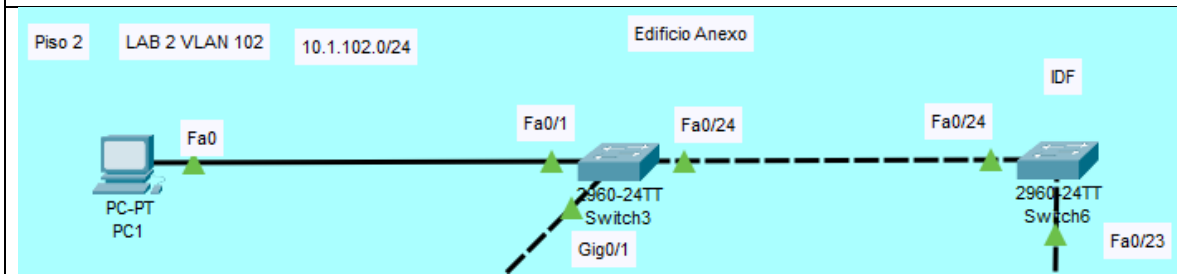
Define las vlan permitadas de pasar

- switchport trunk allowed vlan 102, 201

### **Asignar un puerto a la VLAN**

- En Switch(config) escribe:
- Interface [puerto] gig0/1

- Switchport mode Access (significa que transporta tráfico de una VLAN)
- Switchport Access vlan 201 (asigna el puerto gig0/1 a la VLAN 201)



### Comandos importantes para observar configuración:

- show vlan brief
- show interfaces trunk

```
Switch#show interfaces trunk
Port      Mode      Encapsulation  Status        Native vlan
Fa0/24    on        802.1q         trunking      999

Port      Vlans allowed on trunk
Fa0/24    102,201

Port      Vlans allowed and active in management domain
Fa0/24    102,201

Port      Vlans in spanning tree forwarding state and not pruned
Fa0/24    102,201

Switch#show vlan brief
```

VLAN Name	Status	Ports
1 default	active	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, Gig0/2
102 LAB102	active	Fa0/1
201 WLAN	active	Gig0/1
1002 fddi-default	active	
1003 token-ring-default	active	
1004 fddinet-default	active	
1005 trnet-default	active	

```
Switch#
```

### Router

Configura la dirección ip del router para la conexión a internet

```
interface GigabitEthernet0/0
ip address 200.0.0.2 255.255.255.252
```

Traducción para que las direcciones se muestren públicas:

- ip nat outside

### **Para entrar a la subinterfaz de la VLAN**

- interface GigabitEthernet0/1.101

El encapsulation dot1Q: Es el protocolo que se utiliza para etiquetar los paquetes de las VLANs.

- encapsulation dot1Q 101

Dirección ip del default Gateway, véase que se utiliza la misma que la subinterfaz (101) y posteriormente la máscara de subred.

- ip address 10.1.101.1 255.255.255.0

Para filtrar el tráfico entrante

- ip access-group 101 in

### **NAT**

En este caso se utiliza un pool, como se puede observar en la imagen, que tiene las direcciones desde el 163.178.104.65 hasta 163.178.104.70.

Para decir que son interfaces en la red interna

- ip nat inside

Y la única en este caso que es outside es la giga0/0, es decir, es la interfaz que pertenece a la red externa.

```
Router(config)#access-list 1 permit any
Router(config)#ip nat pool ECCI_NAT 163.178.104.65 163.178.104.70 netmask 255.255.255.24
Router(config)#ip nat inside source list 1 pool ECCI_NAT
Router(config)#interface giga0/0
Router(config-if)#ip nat outside
Router(config-if)#interface giga0/1.101
Router(config-subif)#ip nat inside
Router(config-subif)#interface giga0/1.102
Router(config-subif)#ip nat inside
Router(config-subif)#description Definiendo NAT
Router(config-subif)#interface giga0/1.103
Router(config-subif)#ip nat inside
Router(config-subif)#description Definiendo NAT .103
Router(config-subif)#interface giga0/1.104
Router(config-subif)#ip nat inside
Router(config-subif)#description Definiendo NAT .104
Router(config-subif)#interface giga0/1.201
Router(config-subif)#ip nat inside
Router(config-subif)#
```

## ACL

Como se puede observar, la ACL 101, bloquea el tráfico de las demás VLAN.

Un aspecto a tomar en consideración mientras se escriben los comandos es no negar en la que está.

```
access-list 101 deny ip 10.1.101.0 0.0.0.255 10.1.201.0 0.0.0.255
```

```
access-list 101 deny ip 10.1.101.0 0.0.0.255 10.1.102.0 0.0.0.255
```

```
access-list 101 deny ip 10.1.101.0 0.0.0.255 10.1.103.0 0.0.0.255
```

```
access-list 101 deny ip 10.1.101.0 0.0.0.255 10.1.104.0 0.0.0.255
```

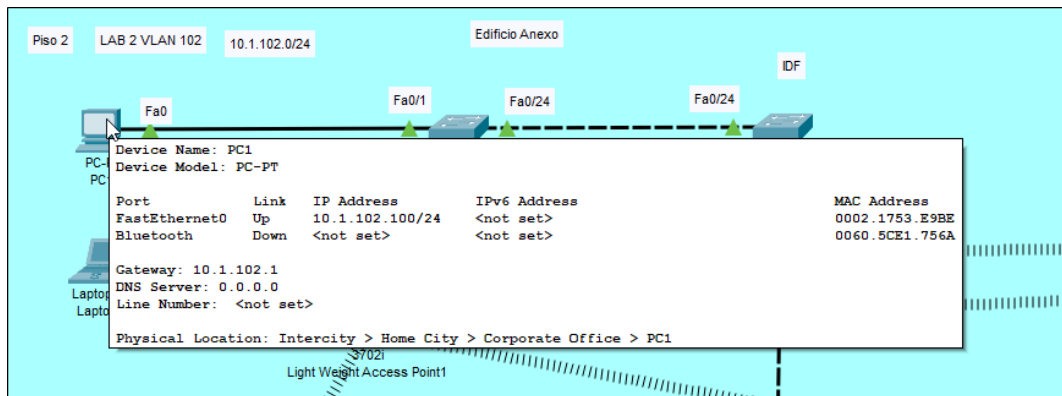
Comandos:

```
access-list 101 deny ip [direccion de la que va a realizar los bloqueos] 0.0.0.255 [dirección a
bloquear] 10.1.201.0 0.0.0.255
```

## Uso correcto de direcciones IP

Uso de direcciones IP

Se definen dependiendo del edificio y piso.



Se emplea DHCP

Display Name: PC1

Interfaces: FastEthernet0

Gateway/DNS IPv4

☒ DHCP

☐ Static

Default Gateway: 10.1.102.1

DNS Server: 0.0.0.0

Gateway/DNS IPv6

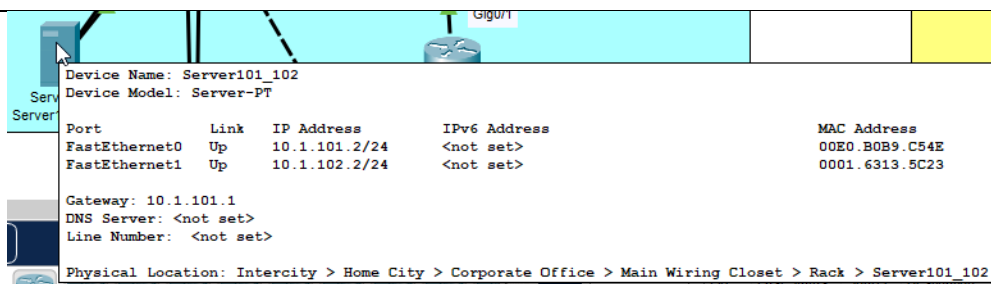
☐ Automatic

☒ Static

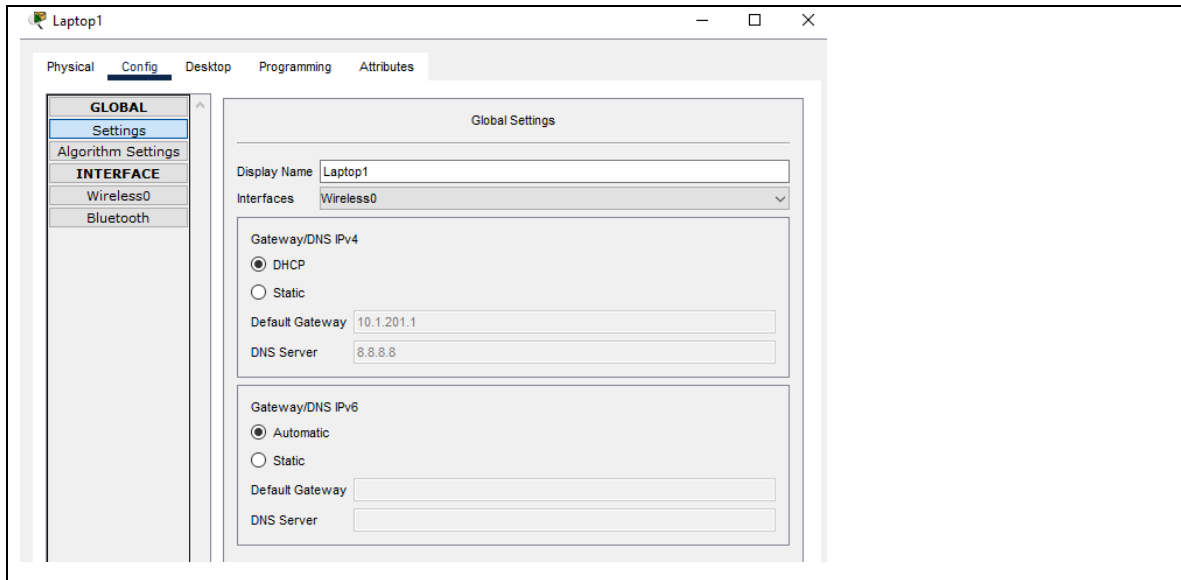
Default Gateway:

DNS Server:

Direcciones IP del Servidor asignado a la 101 y 102

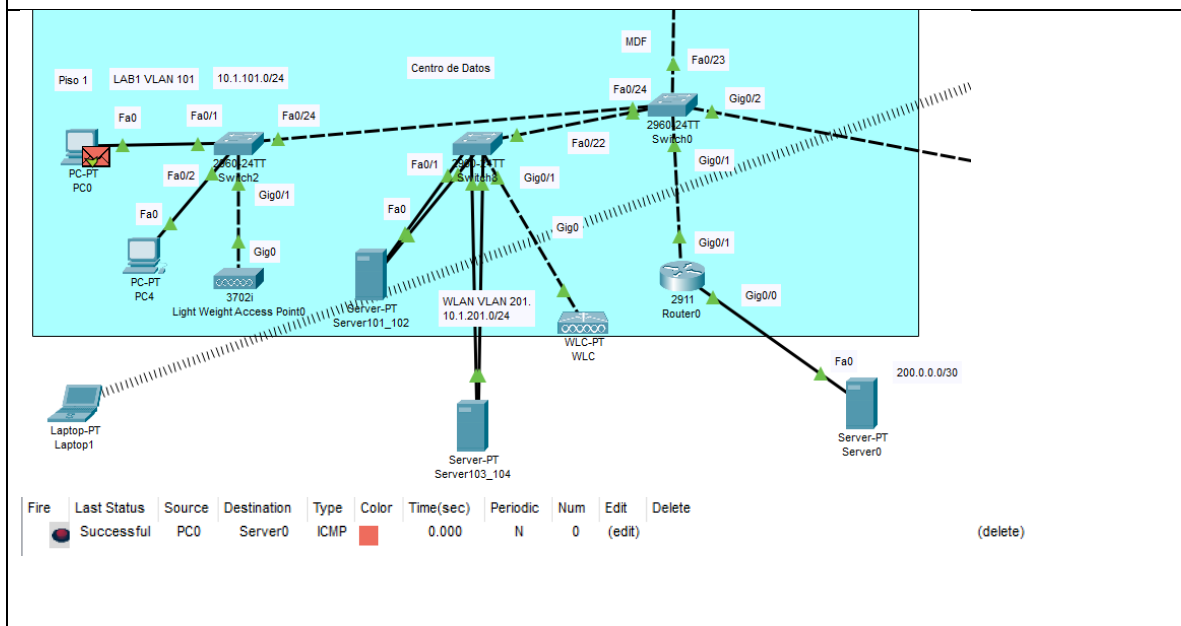


Direcciones IP Laptop

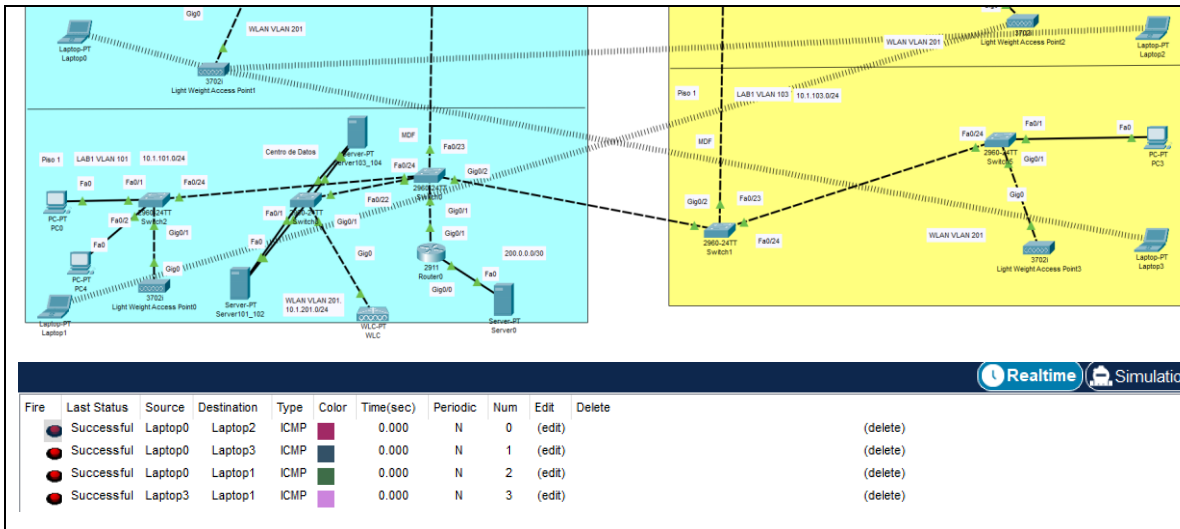


Conectividad exitosa

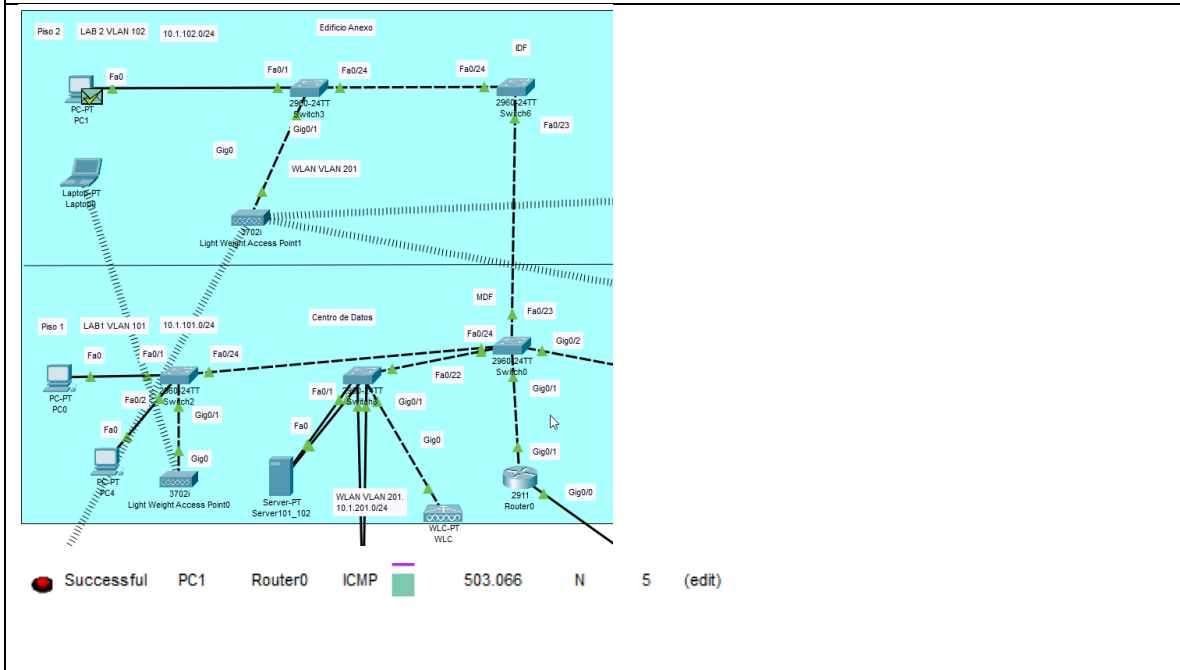
### Prueba de PC0 con servidor



Entre laptops



## Entre computadora y router



## Comunicación infructuosa

### Ejemplo: Pasar de entre PCs de diferentes VLAN

