



# Master Systèmes Embarqués et Mobile

## Compte Rendu

**TP 5**

**VLANs**

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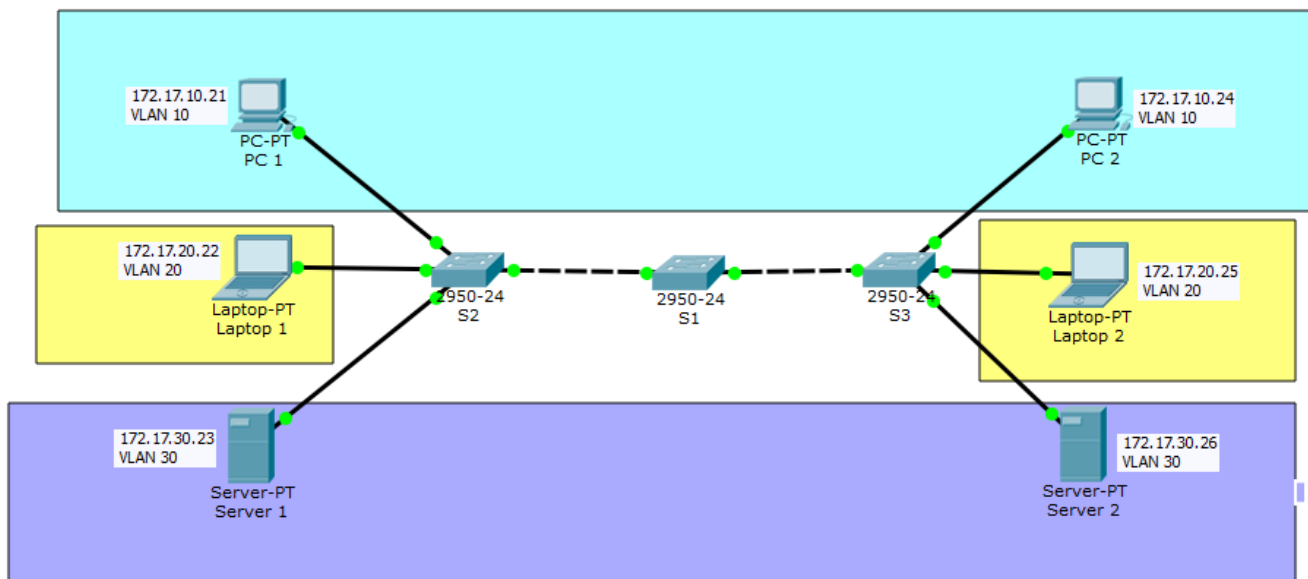
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## Objectifs :

- Etudier les réseaux locaux virtuels
- Connaître les principale commandes cisco pour configurer les VLAN.

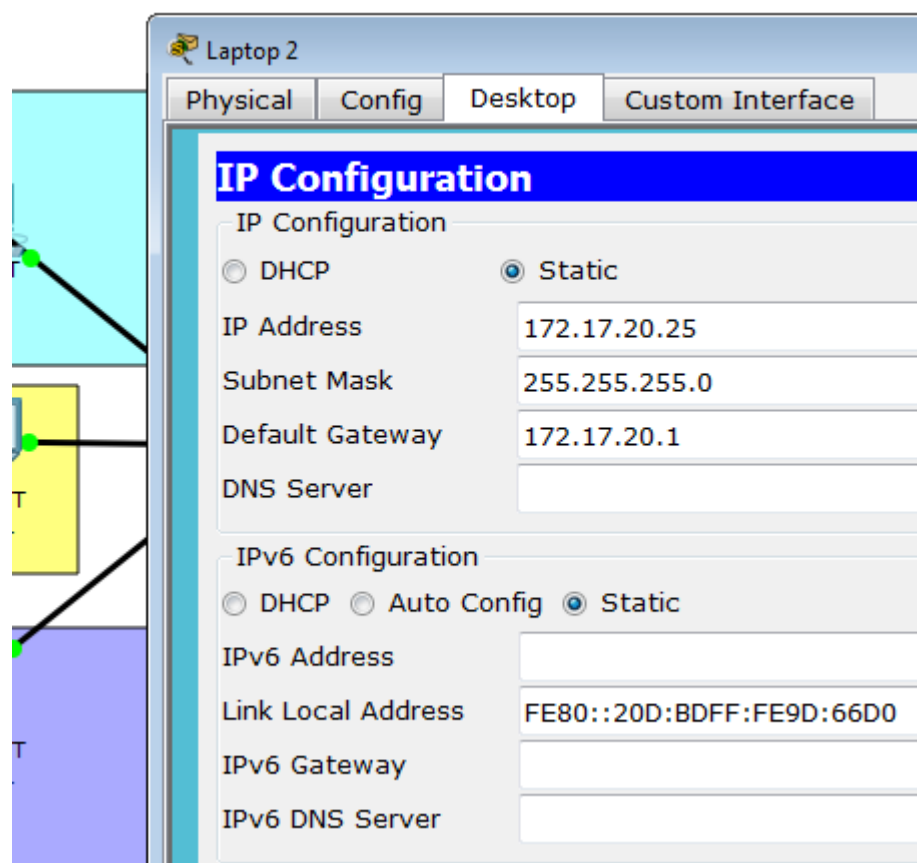
# Partie 1

## 1. Réalisation du schéma



## 2. Configuration des éléments de réseau selon le plan d'adressage ci-dessous :

⇒ Exemple de Configuration de la machine « Laptop 2 » :



3. Configuration de base sur l'ensemble des trois commutateurs :

⇒ Exemple du switch S1

```
Switch>enable
Switch#config
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#enable secret tetouan
Switch(config)#line console 0
Switch(config-line)#password cisco
Switch(config-line)#exit
Switch(config)#line console 0
Switch(config-line)#line vty 0 15
Switch(config-line)#password semaster
Switch(config-line)#exit
```

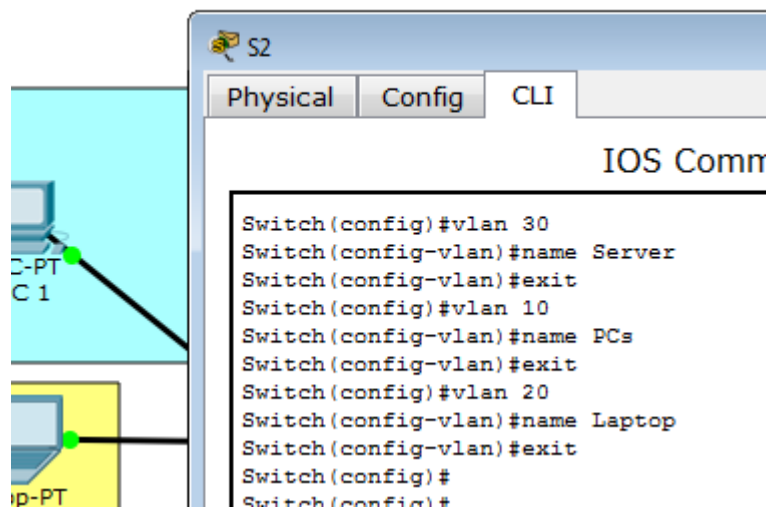
4. Création des réseaux locaux virtuels sur les commutateurs :

⇒ Exemple de Configuration du Switch S1 :

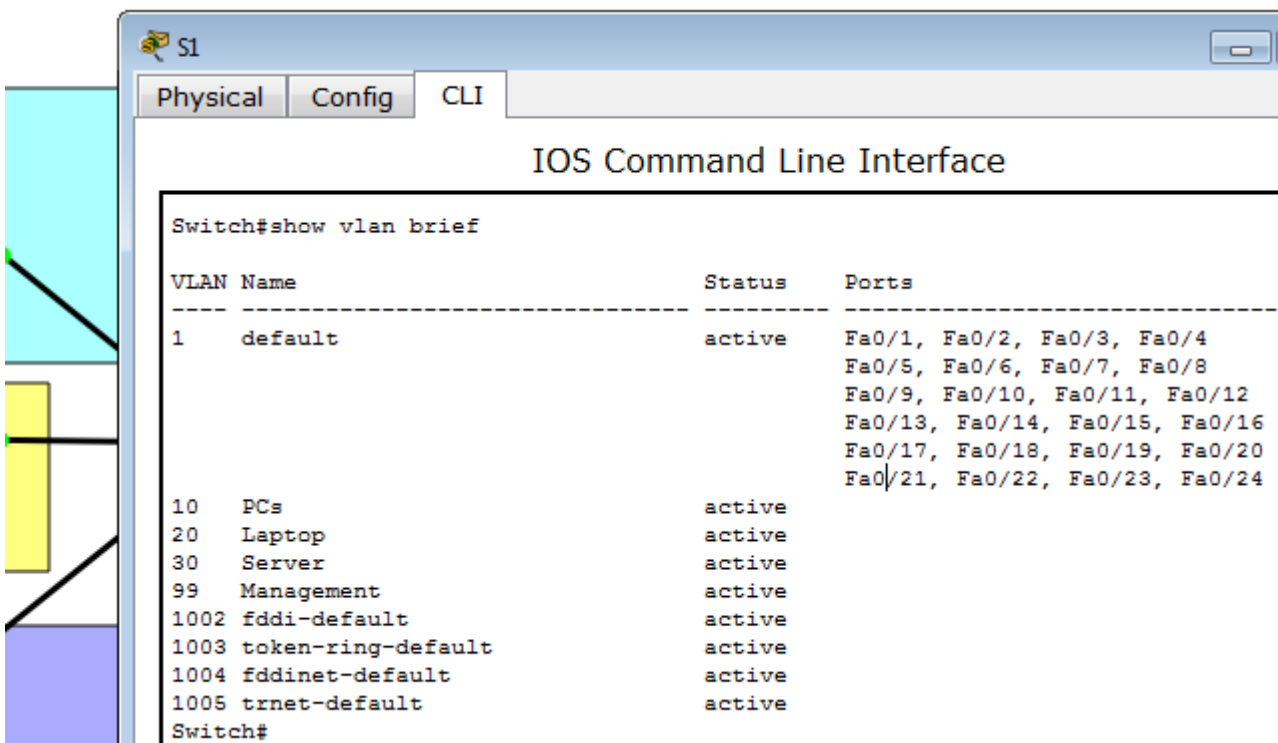
```
Switch(config)#vlan 99
Switch(config-vlan)#name Management
Switch(config-vlan)#exit
Switch(config)#
```

5. Attribution des Noms des VLANs 10, 20 et 30 sur les trois commutateurs :

⇒ Exemple de Configuration du Switch S2 :



6. Vérification de l'exactitude de la configuration des VLANs :



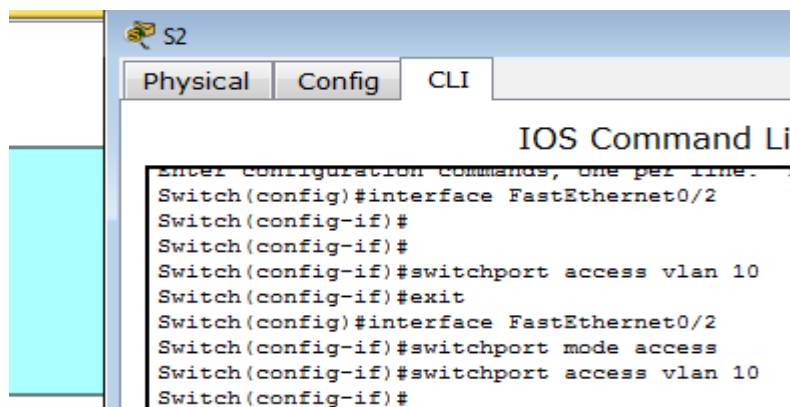
The screenshot shows the CLI of switch S1. The 'CLI' tab is selected. The command 'Switch#show vlan brief' has been entered, resulting in the following output:

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
10	PCs	active	
20	Laptop	active	
30	Server	active	
99	Management	active	
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

The prompt is now 'Switch#'.

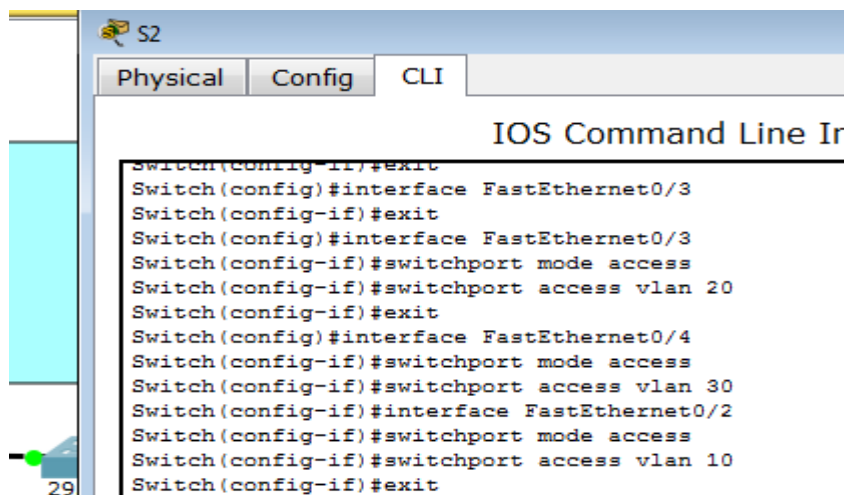
7. Configuration des Interfaces des Switch S2 et S3 pour être compatible avec Les VLANs qu'on a créé :

⇒ Exemple du switch S2 :



The screenshot shows the CLI of switch S2. The 'CLI' tab is selected. The command prompt is 'Switch(config)#'. The following commands have been entered:

```
Switch(config)#interface FastEthernet0/2
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#
```




The screenshot shows the CLI of switch S2. The 'CLI' tab is selected. The command prompt is 'Switch(config-if)#'. The following commands have been entered:

```
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/3
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#interface FastEthernet0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
```

The page number 29 is visible in the bottom left corner.

8. Affectation du réseau local virtuel de Gestion :

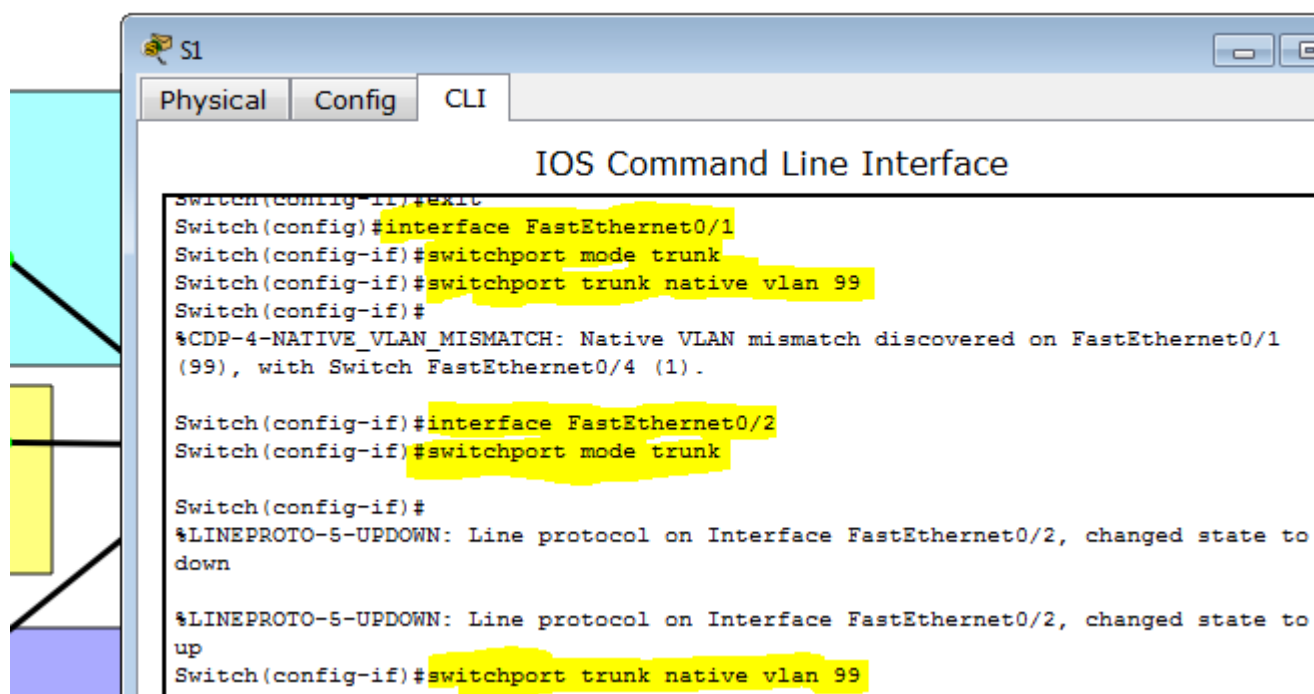
⇒ Exemple du Switch S1 :



```
Switch(config)#inter
Switch(config)#interface vlan 99
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan99, changed state to up

Switch(config-if)#ip address 172.17.99.11 255.255.255.0
Switch(config-if)#no shutdown
```

9. Configuration de l'agrégation et du réseau local virtuel natif pour les portes d'agrégation sur tous les commutateurs :

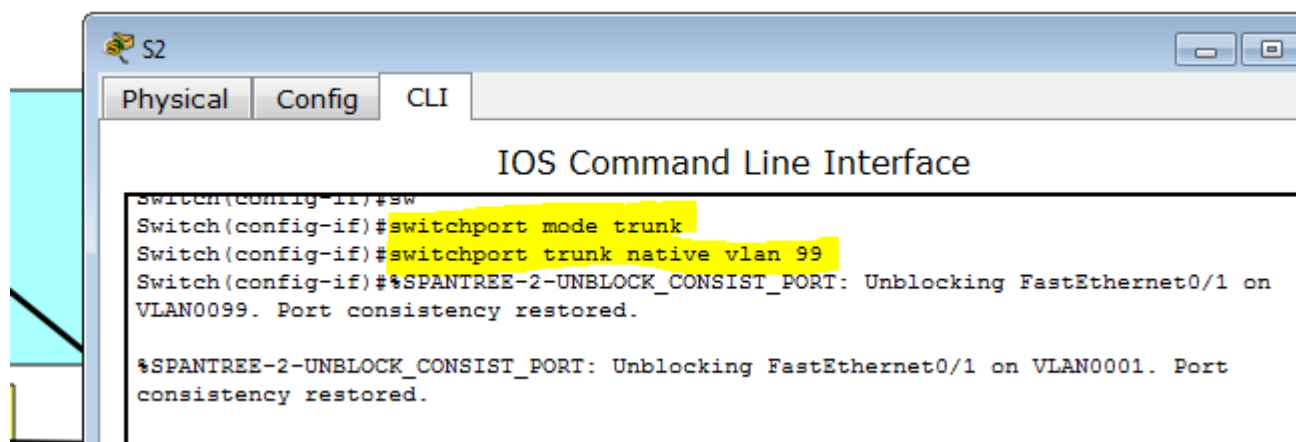


```
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/1
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk native vlan 99
Switch(config-if)#
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1
(99), with Switch FastEthernet0/4 (1).

Switch(config-if)#interface FastEthernet0/2
Switch(config-if)#switchport mode trunk

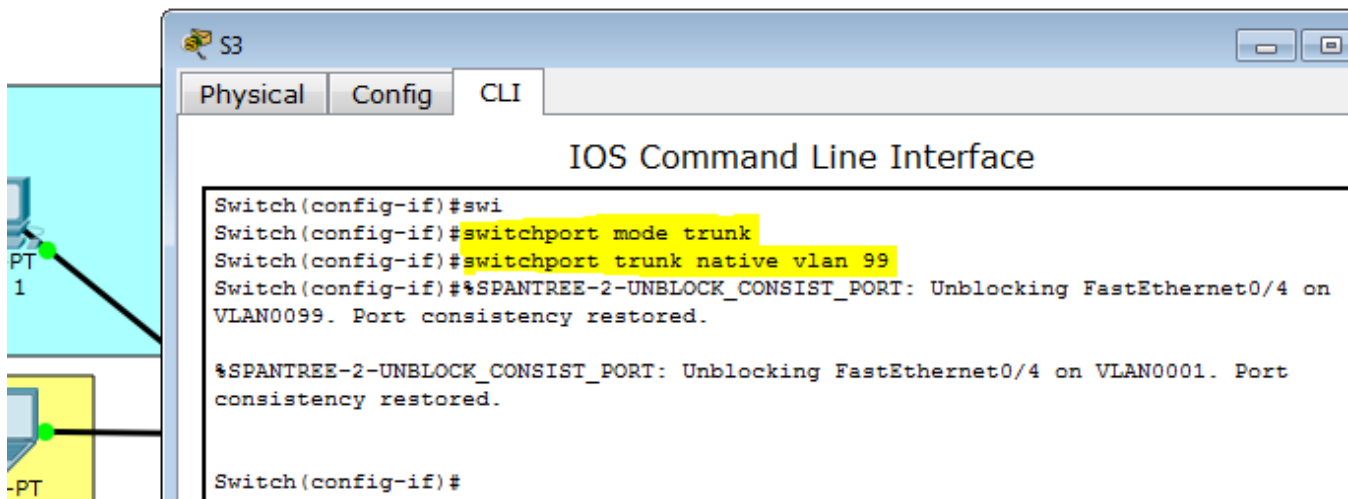
Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to
down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to
up
Switch(config-if)#switchport trunk native vlan 99
```



```
Switch(config-if)#sw
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk native vlan 99
Switch(config-if)#%SPAN-2-UNBLOCK_CONSIST_PORT: Unblocking FastEthernet0/1 on
VLAN0099. Port consistency restored.

%SPAN-2-UNBLOCK_CONSIST_PORT: Unblocking FastEthernet0/1 on VLAN0001. Port
consistency restored.
```



## 10. Tests

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
	Successful	PC 1	PC 2	ICMP		0.000	N	0
	Failed	PC 1	Laptop 1	ICMP		0.000	N	1
	Failed	Laptop 1	Server 2	ICMP		0.000	N	2
	Successful	Laptop1	Laptop 1	ICMP		0.000	N	3