Molka HCHAICHI
Emira DGA
Dorsaf CHERIF
3A45-GROUPE6

Workshop C : Gestion du réseau de la maison de jeunes

Fascicule 2 : Configuration des VLANs et du protocole DTP

Partie 1 : Affichage de la configuration courante des VLANs

1. Affichage de la liste des VLANs : ***show vlan brief***

```
S2-Switch1#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
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
```

```
S2-Switch2#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
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
S2-Switch2#
```

```
S2-Switch3#sh 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
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
S2-Switch3#
```

```
S2-Switch4#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
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
S2-Switch4#
```

```
S2-Switch5#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
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
S2-Switch5#
```

```
S2-Switch6#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
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
S2-Switch6#
```

2. Le VLAN par défaut est VLAN 1
3. Etat du VLAN par défaut : Actif
4. Tous les ports du commutateur

Partie 2 : Création des VLANs

1. Noms des différents VLANs

VLAN ID	**NOM**
21	Marketing
22	RH
23	IT
24	FINANCE

2. Création des VLANs sur tous les commutateurs du site2 :

➔ *Création des VLANs sur S2-Switch3*

```
S2-Switch3(config)#vlan 21
S2-Switch3(config-vlan)#name MARKETING
S2-Switch3(config-vlan)#END
```

```
S2-Switch3(config)#vlan 22
S2-Switch3(config-vlan)#name RH
S2-Switch3(config-vlan)#vlan 23
S2-Switch3(config-vlan)#name IT
S2-Switch3(config-vlan)#vlan 24
S2-Switch3(config-vlan)#name FINANCE
```

➔ *Création des VLANs sur S2-Switch4*

```
S2-Switch4(config)#vlan 22
S2-Switch4(config-vlan)#name RH
S2-Switch4(config-vlan)#END
```

```
S2-Switch4(config)#vlan 21
S2-Switch4(config-vlan)#name MARKETING
S2-Switch4(config-vlan)#vlan 23
S2-Switch4(config-vlan)#name IT
S2-Switch4(config-vlan)#vlan 24
S2-Switch4(config-vlan)#name FINANCE
S2-Switch4(config-vlan)#END
```

➔ *Création des VLANs sur S2-Switch5*

```
S2-Switch5(config)#vlan 23
S2-Switch5(config-vlan)#name IT
S2-Switch5(config-vlan)#END
```

```
S2-Switch5(config)#VLAN 21
S2-Switch5(config-vlan)#NAME MARKETING
S2-Switch5(config-vlan)#VLAN 22
S2-Switch5(config-vlan)#NAME RH
S2-Switch5(config-vlan)#VLAN 24
S2-Switch5(config-vlan)#NAME FINANCE
```

➔ *Création des VLANs sur S2-Switch5*

```
S2-Switch6(config)#vlan 24
S2-Switch6(config-vlan)#name FINANCE
S2-Switch6(config-vlan)#END
```

```
S2-Switch6(config)#vlan 21
S2-Switch6(config-vlan)#name MARKETING
S2-Switch6(config-vlan)#vlan 22
S2-Switch6(config-vlan)#name rh
S2-Switch6(config-vlan)#no name rh
S2-Switch6(config-vlan)#name RH
S2-Switch6(config-vlan)#vlan 23
S2-Switch6(config-vlan)#name FINANCE
VLAN #24 and #23 have an identical name: FINANCE
S2-Switch6(config-vlan)#vlan 23
S2-Switch6(config-vlan)#NO name FINANCE
S2-Switch6(config-vlan)#name IT
```

3. Vérification de la création des VLANs sur S2 _Switch4 : ***show vlan brief***

```
S2-Switch4#
S2-Switch4#
S2-Switch4#sh vL
S2-Switch4#sh vLan b
S2-Switch4#sh 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
21   MARKETING                         active
22   RH                                active
23   IT                                active
24   FINANCE                           active
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
```

4. Le VLAN 21 est actif
5. Aucun port n'est attribué

Partie 3 : Attribution des ports VLAN

1. Affectation des différentes interfaces des commutateurs aux VLANs correspondants

VLAN 21

➔ *S2-Switch3*

```
S2-Switch3(config)#int f0/2
S2-Switch3(config-if)#switch
S2-Switch3(config-if)#switchport mo
S2-Switch3(config-if)#switchport mode acc
S2-Switch3(config-if)#switchport mode access
S2-Switch3(config-if)#swoit
S2-Switch3(config-if)#switch
S2-Switch3(config-if)#switchport acc
S2-Switch3(config-if)#switchport access vlan 21
S2-Switch3(config-if)#end
```

➔ *S2-Switch4*

```
S2-Switch4(config)#int f0/4
S2-Switch4(config-if)#swi
S2-Switch4(config-if)#switchport po
S2-Switch4(config-if)#switchport port mo
S2-Switch4(config-if)#switchport mode
S2-Switch4(config-if)#switchport mode acc
S2-Switch4(config-if)#switchport mode access
S2-Switch4(config-if)#switchport access vlan 21
S2-Switch4(config-if)#end
```

➔ *S2-Switch5*

```
S2-Switch5(config)#int f0/6
S2-Switch5(config-if)#switch
S2-Switch5(config-if)#switchport mo
S2-Switch5(config-if)#switchport mode acc
S2-Switch5(config-if)#switchport mode access
S2-Switch5(config-if)#switchport acc
S2-Switch5(config-if)#switchport access vlan 21
S2-Switch5(config-if)#end
```

VLAN 22

➔ *S2-Switch4*

```
S2-Switch4#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
S2-Switch4(config)#int f0/3
S2-Switch4(config-if)#switchport mode access
S2-Switch4(config-if)#switchport access vlan 22
S2-Switch4(config-if)#end
```

➔ *S2-Switch6*

```
S2-Switch6(config)#INT F0/8
S2-Switch6(config-if)#switchpo
S2-Switch6(config-if)#switchport mo
S2-Switch6(config-if)#switchport mode acc
S2-Switch6(config-if)#switchport mode access
S2-Switch6(config-if)#switchport acc
S2-Switch6(config-if)#switchport access vlan 22
S2-Switch6(config-if)#end
```

```
S2-Switch6#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
S2-Switch6(config)#INT F0/9
S2-Switch6(config-if)#switchport mode access
S2-Switch6(config-if)#switchport access vlan 22
S2-Switch6(config-if)#end
```

VLAN 23

➔ *S2-Switch3*

```
S2-Switch3(config)#int f0/4
S2-Switch3(config-if)#switchport mode access
S2-Switch3(config-if)#switchport access vlan 23
S2-Switch3(config-if)#end
```

➔ *S2-Switch6*

```
S2-Switch6(config)#int f0/10
S2-Switch6(config-if)#switchport mode access
S2-Switch6(config-if)#switchport access vlan 23
S2-Switch6(config-if)#end
```

VLAN 24

➔ *S2-Switch5*

```
S2-Switch5(config)#int f0/5
S2-Switch5(config-if)#switchport mode access
S2-Switch5(config-if)#switchport access vlan 24
S2-Switch5(config-if)#end
```

➔ *S2-Switch4*

```
S2-Switch4(config)#int f0/2
S2-Switch4(config-if)#switchport mode access
S2-Switch4(config-if)#switchport access vlan 24
S2-Switch4(config-if)#end
```

2.

```
S2-Switch3(config)#int f0/2
S2-Switch3(config-if)#switch
S2-Switch3(config-if)#switchport mo
S2-Switch3(config-if)#switchport mode acc
S2-Switch3(config-if)#switchport mode access
S2-Switch3(config-if)#swoit
S2-Switch3(config-if)#switch
S2-Switch3(config-if)#switchport acc
S2-Switch3(config-if)#switchport access vlan 21
S2-Switch3(config-if)#end
```

3. Vérification du résultat : ***show vlan brief***

```
S2-Switch3#show vLan brief

VLAN Name                              Status    Ports
---- --------------------------------- ---------
--------------------------------
1    default                           active    Fa0/1, Fa0/3, 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
21   MARKETING                         active    Fa0/2
22   RH                                active
23   IT                                active    Fa0/4
24   FINANCE                           active
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
```

4. L'état du VLAN 21 n'est pas modifié, il est toujours actif.

Partie 4 : Suppression d'un VLAN (VLAN 24)

1.

```
S2-Switch5(config)#no vlan 24
```

```
S2-Switch3(config)#no vlan 24
```

```
S2-Switch6(config)#no vlan 24
```

```
S2-Switch4(config)#no vlan 24
```

2. Show vlan brief

```
S2-Switch4#sh vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, 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
21   MARKETING                        active    Fa0/4
22   RH                               active    Fa0/3
23   IT                               active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
```

3. No switchport access vlan 24

```
S2-Switch5(config-if)#no switchport AC
S2-Switch5(config-if)#no switchport ACcess vlan 24
S2-Switch5(config-if)#end
S2-Switch5#
%SYS-5-CONFIG_I: Configured from console by console

S2-Switch5#sh vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                Fa0/5, 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
21   MARKETING                        active    Fa0/6
22   RH                               active
23   IT                               active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
S2-Switch5#
```

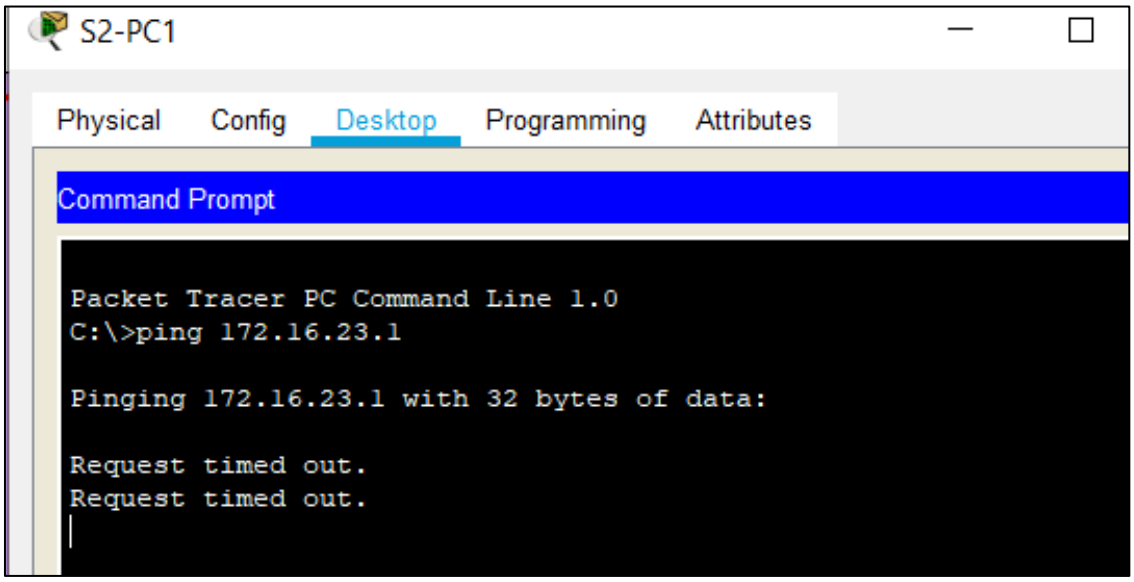
```
S2-Switch4(config-if)#switchport mode acc
S2-Switch4(config-if)#switchport mode access
S2-Switch4(config-if)#switchport acc
S2-Switch4(config-if)#switchport access vlan 1
S2-Switch4(config-if)#end
S2-Switch4#
%SYS-5-CONFIG_I: Configured from console by console
sh vlan brief

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/1, Fa0/2, 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
21   MARKETING                         active    Fa0/4
22   RH                                active    Fa0/3
23   IT                                active
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
```

Partie 5 : Configuration d'un vlan de gestion

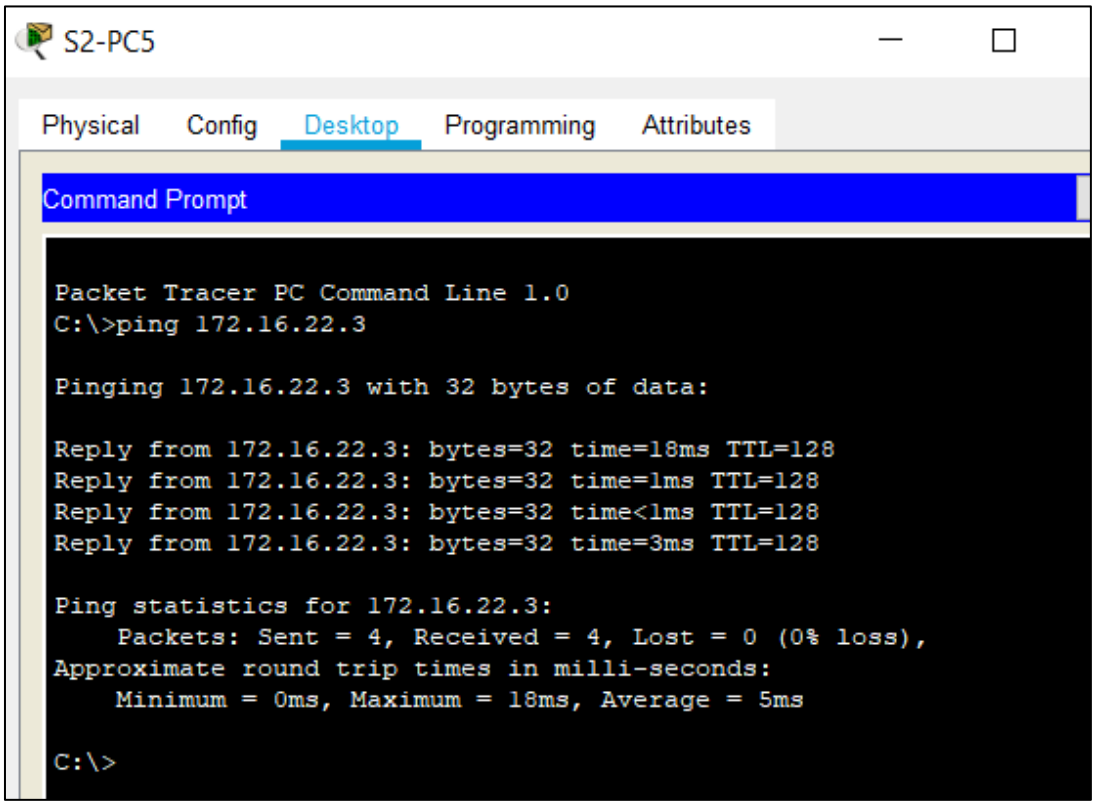
1. Création du VLAN 99 « gestion » sur tous les commutateurs du site2

```
S2-Switch5(config)#vlan 99
S2-Switch5(config-vlan)#name gestion
```

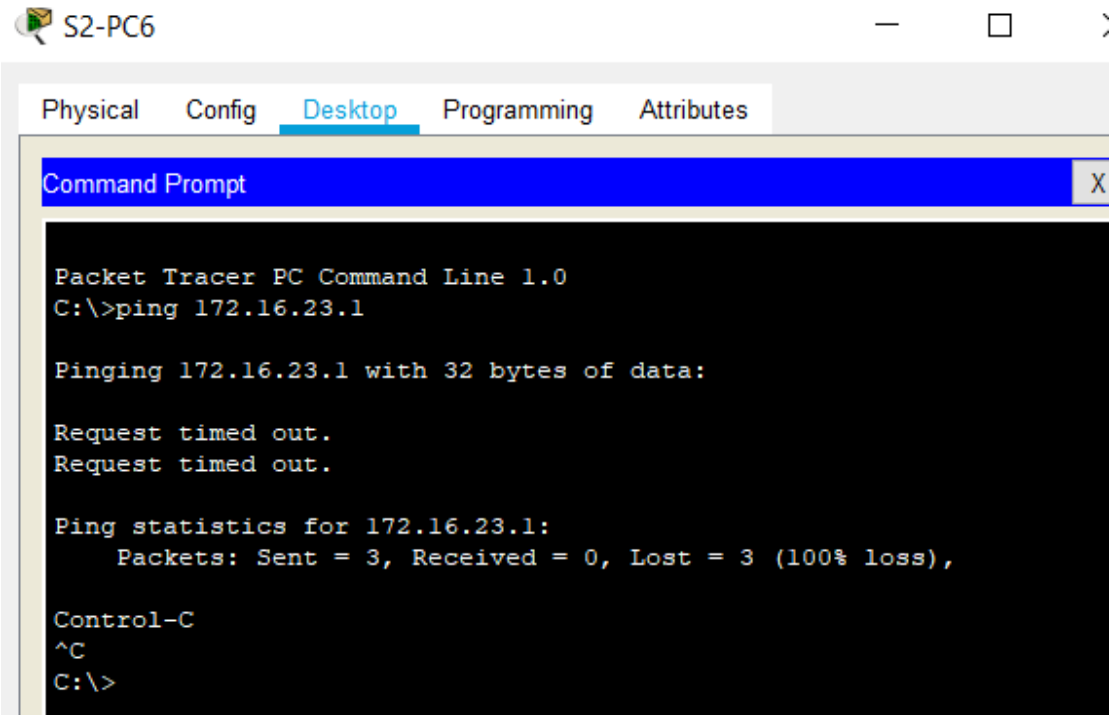
2.
3. Non car **S2 -PC1** et **S2 -Laptop1** n'appartiennent pas au même VLAN



4. Le ping abouti car **S2 -Printer** et **S2-PC5** appartiennent au même VLAN



5. Le ping n'aboutit pas car on n'a pas activé le mode trunk entre les commutateurs



Partie 6 : Configuration d'un trunk 802.1Q entre les commutateurs

A- Configuration manuelle d'une liaison trunk

a. Création du VLAN natif, VLAN 80, sur tous les commutateurs du site 2

De même pour tous les commutateurs du site 2

```
S2-Switch1(config)#vlan 80
S2-Switch1(config-vlan)#name natif
```

b.

```
S2-Switch1(config)#int f0/1
S2-Switch1(config-if)#swi
S2-Switch1(config-if)#switchport mo
S2-Switch1(config-if)#switchport mode tr
S2-Switch1(config-if)#switchport mode trunk
S2-Switch1(config-if)#switchport mode trunk

S2-Switch1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1,
changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1,
changed state to up

S2-Switch1(config-if)#switchport trunk native vlan 80
```

```
FastEthernet0/3 (1), with S2-Switch4 FastEthernet0/3 (22).
t f0/2
S2-Switch1(config-if)#swit
S2-Switch1(config-if)#switchport mo
S2-Switch1(config-if)#switchport mode tr
S2-Switch1(config-if)#switchport mode trunk
```

```
S2-Switch1(config)#int f0/3
S2-Switch1(config-if)#switchport trunk native vlan 80
S2-Switch1(config-if)#switchport mode trunk
```

a.

```
S2-Switch1(config-if)#switchport trunk allowed vlan 21-24
S2-Switch1(config-if)#int f0/2
S2-Switch1(config-if)#switchport trunk allowed vlan 21-24
S2-Switch1(config-if)#int f0/1
S2-Switch1(config-if)#switchport trunk allowed vlan 21-24
```

b. Show int f0/1 switchport

c.

```
S2-Switch1#sh int f0/1 switchport
Name: Fa0/1
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 80 (natif)
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Trunking VLANs Enabled: 21-24
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL
Protected: false
```

d.

B- Configuration dynamique d'une liaison trunk

a. De meme sur les interfaces f0/2 et f0/3

```
S2-Switch2(config-if)#int f0/3
S2-Switch2(config-if)#switchport mode dynamic desirable
```

b.

```
S2-Switch2#sh interfaces trunk
Port        Mode         Encapsulation  Status        Native vlan
Fa0/1       desirable    n-802.1q       trunking      1
Fa0/2       desirable    n-802.1q       trunking      1
Fa0/3       desirable    n-802.1q       trunking      1

Port        Vlans allowed on trunk
Fa0/1       1-1005
Fa0/2       1-1005
Fa0/3       1-1005

Port        Vlans allowed and active in management domain
Fa0/1       1
Fa0/2       1
Fa0/3       1

Port        Vlans in spanning tree forwarding state and not
pruned
Fa0/1       1
Fa0/2       1
Fa0/3       1
```

c.

d.

```
S2-Switch2(config)#int f0/1
S2-Switch2(config-if)#switch
S2-Switch2(config-if)#switchport tr
S2-Switch2(config-if)#switchport trunk nat
S2-Switch2(config-if)#switchport trunk native vlan 80
S2-Switch2(config-if)#int f0/2
S2-Switch2(config-if)#switchport trunk native vlan 80
S2-Switch2(config-if)#int f0/3
S2-Switch2(config-if)#switchport trunk native vlan 80
```

e. Par défaut, les trames DTP sont transmises toutes les 30 secondes, ce qui crée une surcharge supplémentaire. Deuxièmement, DTP est un risque sérieux pour la sécurité et s'il n'est pas désactivé, il peut être utilisé par un attaquant pour former un trunk avec votre switch.