

Ensuite nous avons relié (ouvert le flux) entre les deux interfaces des switches afin qu'il puisse communiquer.

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical < 971, y: 220

Time: 01:16:58

Switch2

Physical Config CLI Attributes

IOS Command Line Interface

```

Switch>enable
Switch#
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 20
Switch(config-vlan)#name vlan_20
Switch(config-vlan)#vlan
Switch(config-vlan)#exit
Switch(config)#
Switch(config)#interface fa3/1
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk allowed vlan 20,30,99
Switch(config-if)#no shutdown
Switch(config-if)#exit
Switch(config)#
  
```

Ctrl+F6 to exit CLI focus

Copy Paste

Automatically Choose Connection Type

Taper ici pour rechercher

16°C 14:30 05/05/2022

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical < 1415, y: 548

Time: 01:22:45

Switch1

Physical Config CLI Attributes

IOS Command Line Interface

```

%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1 (99), with Switch FastEthernet3/1 (1).
%SPANTREE-2-RECV_PVID_ERR: Received BPDU with inconsistent peer vlan id 1 on FastEthernet0/1 VLAN99.
%SPANTREE-2-BLOCK_PVID_LOCAL: Blocking FastEthernet0/1 on VLAN0099. Inconsistent local vlan.
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1 (99), with Switch FastEthernet3/1 (1).
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1 (99), with Switch FastEthernet3/1 (1).
%SPANTREE-2-UNBLOCK_CONSIST_PORT: Unblocking FastEthernet0/1 on VLAN0001. Port consistency restored.
%SPANTREE-2-UNBLOCK_CONSIST_PORT: Unblocking FastEthernet0/1 on VLAN0099. Port consistency restored.

Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface fa0/1
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk allowed vlan 20,30,99
Switch(config-if)#no shutdown
Switch(config-if)#exit
Switch(config)#
  
```

Ctrl+F6 to exit CLI focus

Copy Paste

Automatically Choose Connection Type

Taper ici pour rechercher

PX1 14:36 05/05/2022

Cisco Packet Tracer - C:\Users\Ordin\Documents\TP3.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x: 605, y: 428

Time: 01:41:13

Switch2

Physical Config CLI Attributes

IOS Command Line Interface

```

Switch FastEthernet0/1 (99).
% Invalid input detected at '^' marker.
Switch(config-vlan)#vlan 30
Switch(config-vlan)#name vlan_30
Switch(config-vlan)#vlan 99
Switch(config-vlan)#name Native
Switch(config-vlan)#exit
Switch(config)#
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet3/1 (1), with
Switch FastEthernet0/1 (99).
Switch(config)#interface fa3/1
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk allowed vlan 20,30,99
Switch(config-if)# switchport trunk native vlan 99
Switch(config-if)#no shutdown
Switch(config-if)#exit
Switch(config)#
Switch con0 is now available

```

Ctrl+F6 to exit CLI focus

Copy Paste

Realtime Simulation

Time(sec) Periodic Num Edit

Taper ici pour rechercher

16°C

14:55 05/05/2022

Cisco Packet Tracer - C:\Users\Ordin\Documents\TP3.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x: 609, y: 422

Time: 02:35:08

Switch2

Physical Config CLI Attributes

IOS Command Line Interface

```

Switch>enable
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface fa0/1
Switch(config-if)#switchport access vlan 20
Switch(config-if)#no shutdown
Switch(config-if)#exit
Switch(config)#
Switch con0 is now available
Press RETURN to get started.

```

Ctrl+F6 to exit CLI focus

Copy Paste

Simulation

Num Edit

Taper ici pour rechercher

17°C

15:50 05/05/2022

Cisco Packet Tracer - C:\Users\Ordin\Documents\TP3.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x: 658, y: 235

Time: 02:35:54

Switch2

Physical Config CLI Attributes

IOS Command Line Interface

```
Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface fa1/1
Switch(config-if)#switchport access vlan 30
Switch(config-if)#no shutdown
Switch(config-if)#exit
Switch(config)#
```

Switch con0 is now available.

Press RETURN to get started.

Ctrl+F6 to exit CLI focus

Copy Paste

Toggle PDU List Window

Taper ici pour rechercher

17°C 15:51 05/05/2022

Cisco Packet Tracer - C:\Users\Ordin\Documents\TP3.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x: 379, y: 158

Time: 02:36:45

Switch1

Physical Config CLI Attributes

IOS Command Line Interface

```
Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface fa1/1
Switch(config-if)#switchport access vlan 30
Switch(config-if)#no shutdown
Switch(config-if)#exit
Switch(config)#
```

Switch con0 is now available.

Press RETURN to get started.

Ctrl+F6 to exit CLI focus

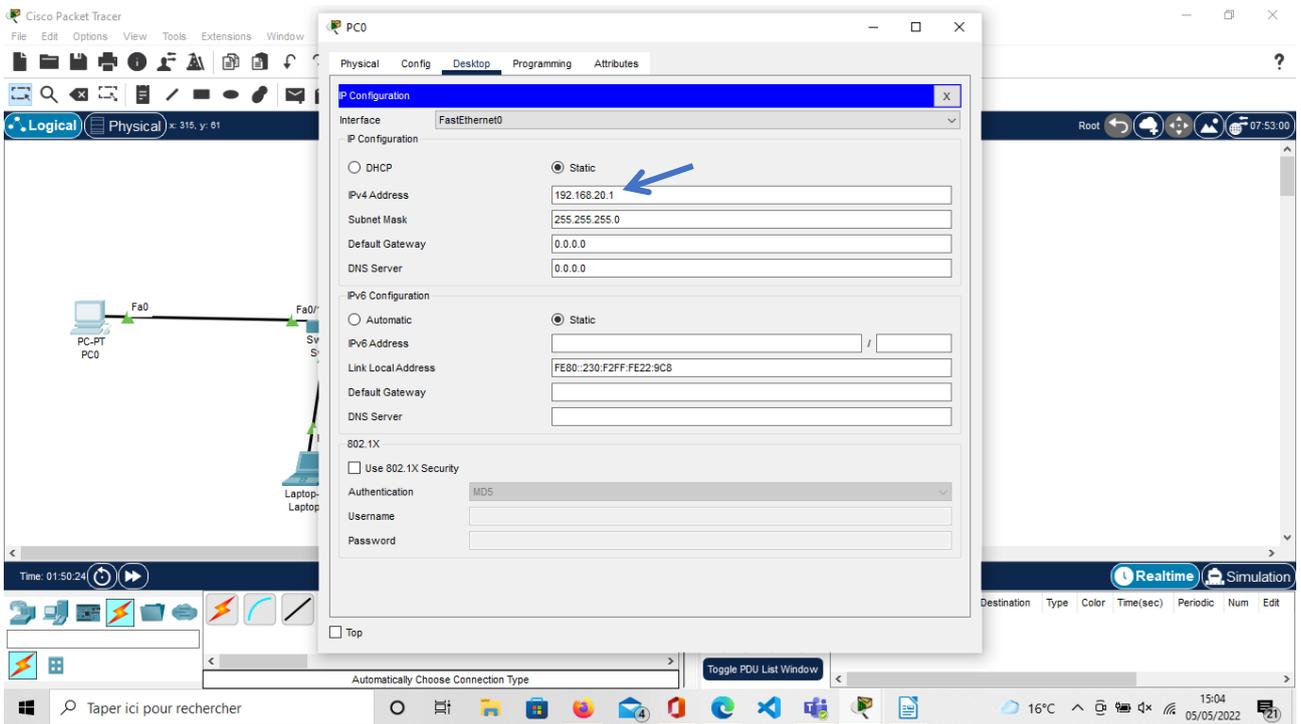
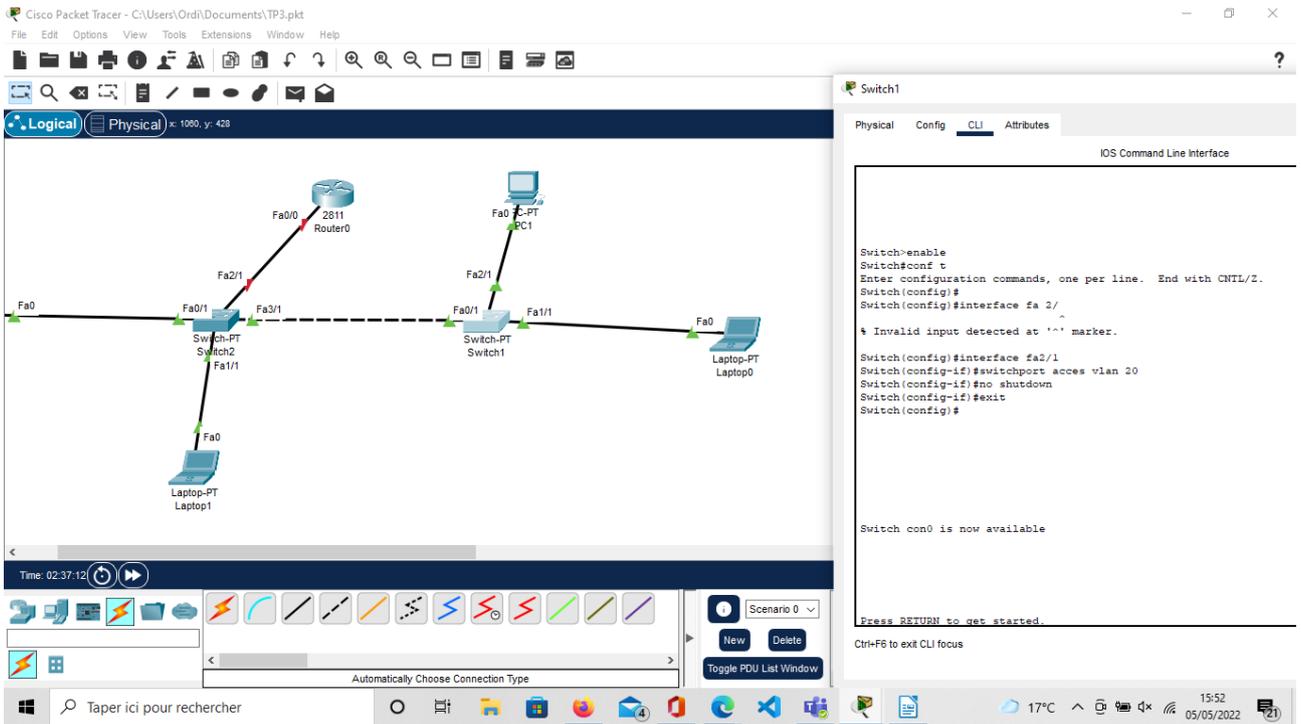
Scenario 0

New Delete

Toggle PDU List Window

Taper ici pour rechercher

17°C 15:51 05/05/2022



Pour chaque appareil on a créé des adresse IP par rapport au Vlan qu'il leurs a été attribuer
Vlan 20 l'adresse IP est 192.168.20.1
Vlan 30 l'adresse IP est 192.168.30.1

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x: 335, y: 383

Time: 01:51:11

Automatically Choose Connection Type

Top

16°C 05/05/2022

Laptop1

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

DHCP Static

IPv4 Address 192.168.30.1

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

Automatic Static

IPv6 Address

Link Local Address FE80::202:17FF:FEC6:6390

Default Gateway

DNS Server

802.1X

Use 802.1X Security

Authentication MD5

Username

Password

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x: 874, y: 89

Time: 01:51:33

Automatically Choose Connection Type

Top

16°C 05/05/2022

PC1

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

DHCP Static

IPv4 Address 192.168.20.2

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

Automatic Static

IPv6 Address

Link Local Address FE80::20B:BEFF:FE51:EA

Default Gateway

DNS Server

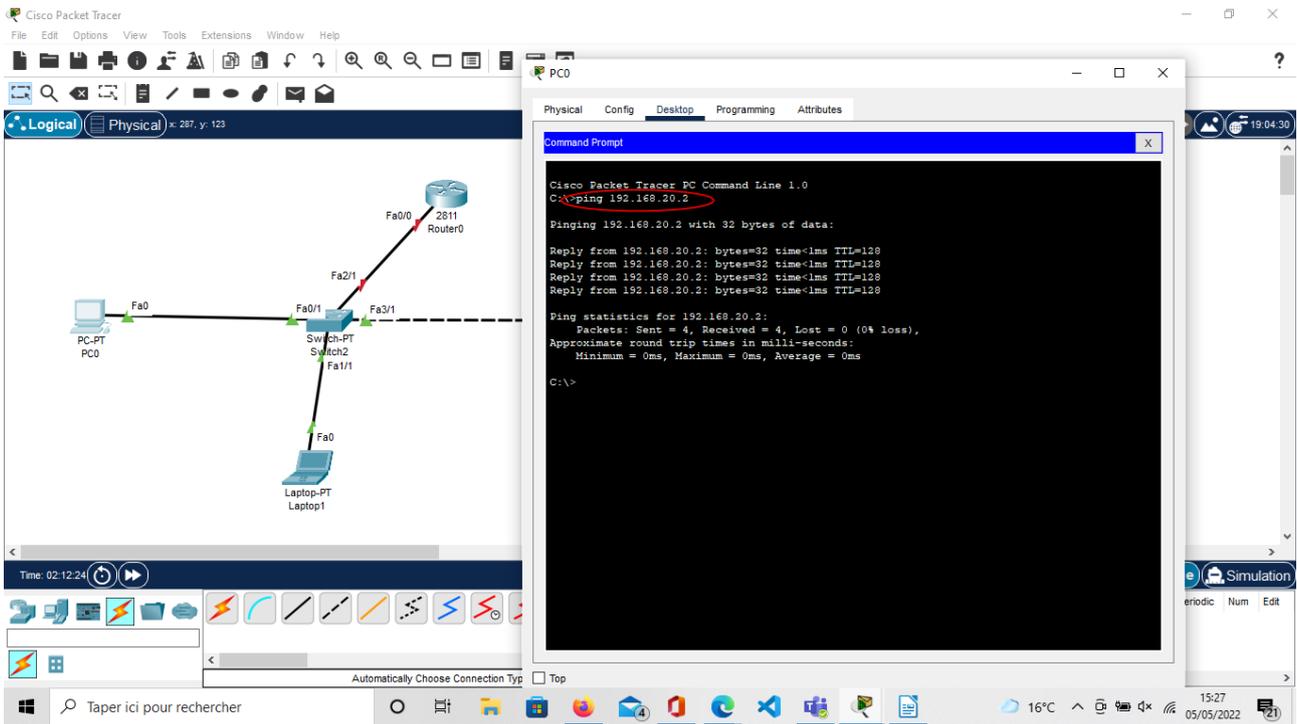
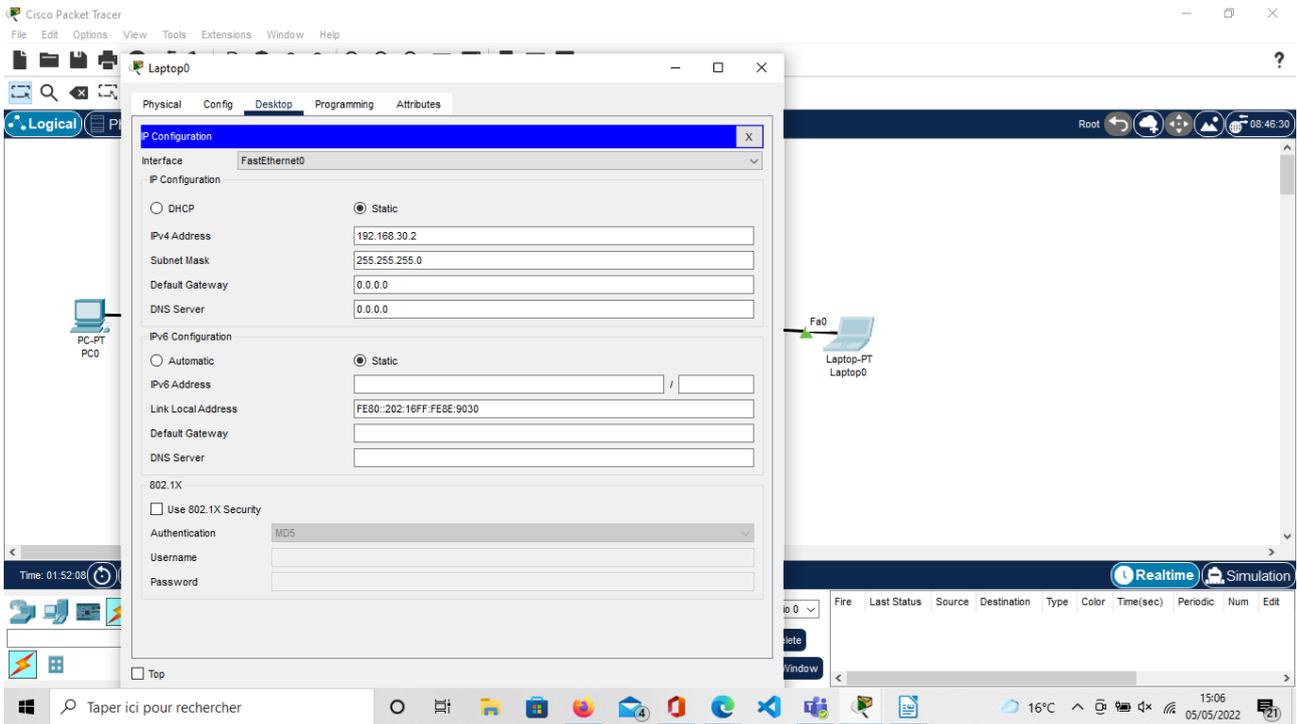
802.1X

Use 802.1X Security

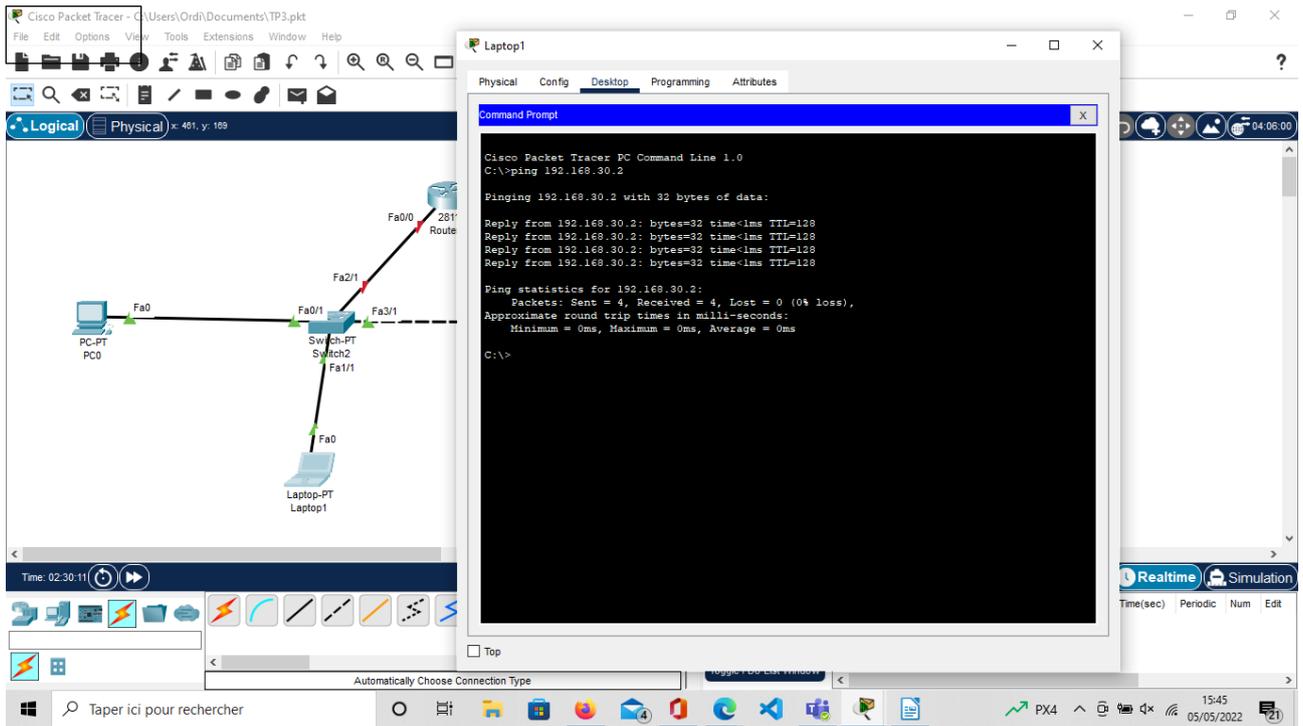
Authentication MD5

Username

Password

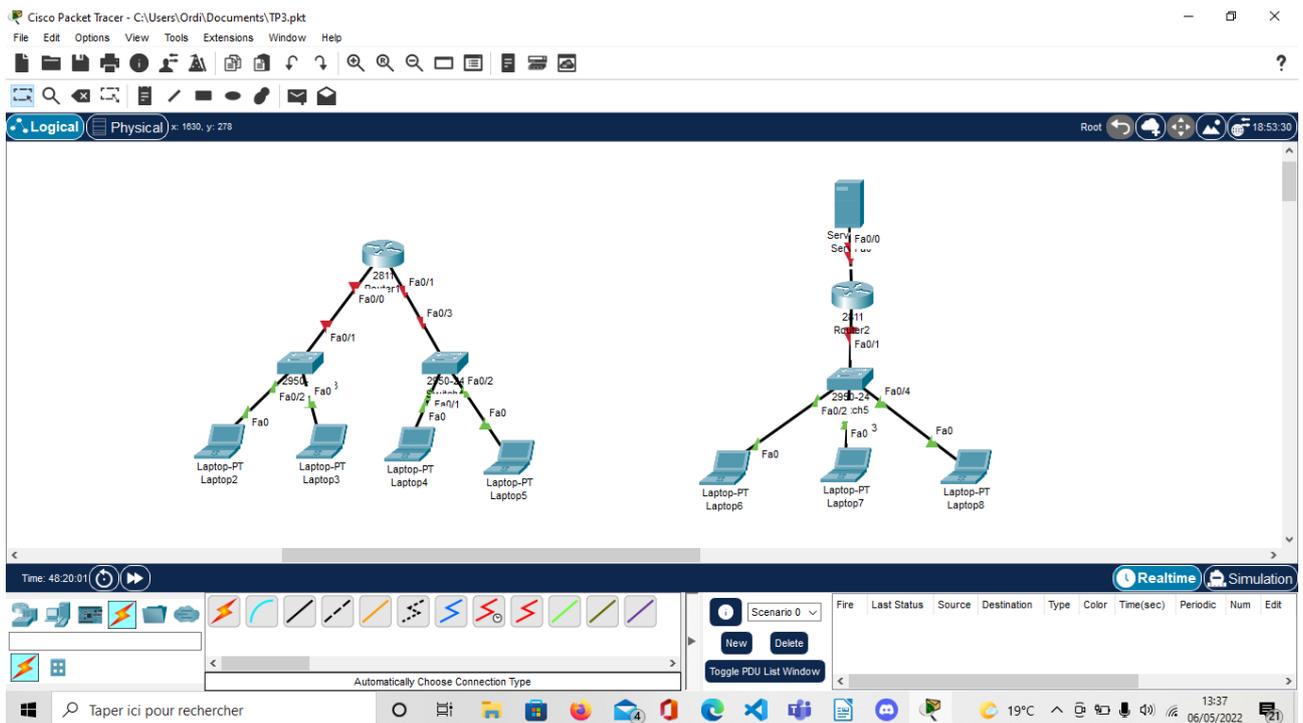


Ensuite nous avons tester de localiser deux appareils qui provienne de deux switches différents qui ont le même Vlan grâce à la commande PING
L'opération de localisation a été un succès



PARTIE 2

Pour la 2 partie nous avons reproduit le schéma ci-dessous :



Sur chaque switch on adresser une adresse IP à l'aide du routeur



```
IOS Command Line Interface
--- System Configuration Dialog ---
Would you like to enter the initial configuration dialog? [yes/no]:
Press RETURN to get started!

Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fa0/0
Router(config-if)#ip address 172.16.0.1 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router(config-if)#interface fa0/1
Router(config-if)#ip address 172.16.1.1 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
Router(config-if)#
```

```
IOS Command Line Interface
Router con0 is now available
Press RETURN to get started.

Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int loopback 1

Router(config-if)#
%LINK-5-CHANGED: Interface Loopback1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback1, changed state to up
Router(config-if)#ip address 1.1.1.1 255.255.255.255
Router(config-if)#no shutdown
Router(config-if)#
```



Sur l'interface loopback du routeur on lui a adressé une nouvelle IP et nouveau masque de sous réseau.

On a ensuite exclu les 2 adresse switch (172.16.0.1 172.16.0.10) et (172.16.1.1 172.16.1.10) (DHCP pool NET1)
On crée une nouvel adresse réseau pour le DHCP 172.16.0.0
Et on a créé un routeur par défaut avec un DHCP 1.1.1.1
On a créé un serveur DNS 8.8.8.8



The screenshot shows a network topology in Cisco Packet Tracer. A central router (2811) is connected to two switches (2501 and 2502). The switches are connected to five laptops (Laptop-PT Laptop2 to Laptop5). The CLI window for Router1 shows the following configuration:

```
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int loopback 1
Router(config-if)#
%LINK-5-CHANGED: Interface Loopback1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback1, changed state to up
Router(config-if)#ip address 1.1.1.1 255.255.255.255
Router(config-if)#no shutdown
Router(config-if)#ip dhcp excluded-address 172.16.0.1 172.16.0.10
Router(dhcp-config)#network 172.16.0.0 255.255.255.0
Router(dhcp-config)#default-router 1.1.1.1
Router(dhcp-config)#dns server 8.8.8.8
Router(dhcp-config)#exit
Router(dhcp-config)#dns-server 8.8.8.8
Router(dhcp-config)#exit
Router(config)#ip dhcp excluded-address 172.16.1.1 172.16.1.10
Router(config)#ip dhcp pool NET1
Router(dhcp-config)#network 172.16.1.0 255.255.255.0
Router(dhcp-config)#default-router 1.1.1.1
Router(dhcp-config)#dns-server 8.8.8.8
Router(dhcp-config)#exit
Router(config)#
```

The screenshot shows the same network topology as the first screenshot. The CLI window for Router1 shows the following configuration:

```
Router con0 is now available
Press RETURN to get started.
Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip helper-address 1.1.1.1
Router(config-if)#exit
Router(config)#int fa1/0
%Invalid interface type and number
Router(config)#int fa0/1
Router(config-if)#ip helper-address 1.1.1.1
Router(config)#exit
Router(config)#
```



Cette commande permet de relier des trams DHCP à l'adresse 1.1.1.1 en fonction de l'interface.

Ensuite nous avons adresse une IP automatiquement grâce au protocole DHCP



The screenshot shows the Cisco Packet Tracer interface with a network diagram and a configuration window for Laptop2. The network diagram features a central router (2811) connected to two switches (2950-24). Laptop2 is connected to the left switch. The configuration window for Laptop2's FastEthernet0 interface is open, showing the following settings:

Field	Value
IP Configuration	<input checked="" type="radio"/> DHCP <input type="radio"/> Static DHCP request successful
IPv4 Address	172.16.0.11
Subnet Mask	255.255.255.0
Default Gateway	1.1.1.1
DNS Server	8.8.8.8
IPv6 Configuration	<input type="radio"/> Automatic <input checked="" type="radio"/> Static
IPv6 Address	
Link Local Address	FE80::201:97FF:FEA8:90CE
Default Gateway	
DNS Server	

The screenshot shows the Cisco Packet Tracer interface with a network diagram and a configuration window for Laptop3. The network diagram is similar to the first screenshot, but Laptop3 is connected to the right switch. The configuration window for Laptop3's FastEthernet0 interface is open, showing the following settings:

Field	Value
IP Configuration	<input checked="" type="radio"/> DHCP <input type="radio"/> Static DHCP request successful
IPv4 Address	172.16.0.12
Subnet Mask	255.255.255.0
Default Gateway	1.1.1.1
DNS Server	8.8.8.8
IPv6 Configuration	<input type="radio"/> Automatic <input checked="" type="radio"/> Static
IPv6 Address	
Link Local Address	FE80::201:64FF:FE6C:92E
Default Gateway	
DNS Server	

The screenshot shows the Cisco Packet Tracer interface with a network topology and the configuration window for Laptop4. The network topology consists of a central router (2811) connected to two switches (2850-14). The router has Fa0/0/0 connected to the left switch and Fa0/1 connected to the right switch. The left switch has Fa0/1 connected to the router and Fa0/3 connected to Laptop2. The right switch has Fa0/2 connected to the router and Fa0/1 connected to Laptop4. Laptop3 is connected to the left switch via Fa0. Laptop5 is connected to the right switch via Fa0. The configuration window for Laptop4 shows the following settings:

Interface	FastEthernet0
IP Configuration	
<input checked="" type="radio"/> DHCP	<input type="radio"/> Static
IPv4 Address	172.16.1.11
Subnet Mask	255.255.255.0
Default Gateway	1.1.1.1
DNS Server	8.8.8.8
IPv6 Configuration	
<input type="radio"/> Automatic	<input checked="" type="radio"/> Static
IPv6 Address	
Link Local Address	FE80::2E0:F7FF:FEED:E88E
Default Gateway	
DNS Server	
802.1X	
<input type="checkbox"/> Use 802.1X Security	
Authentication	MDS
Username	
Password	

The screenshot shows the Cisco Packet Tracer interface with a network topology and the configuration window for Laptop5. The network topology is identical to the one in the first screenshot. The configuration window for Laptop5 shows the following settings:

Interface	FastEthernet0
IP Configuration	
<input checked="" type="radio"/> DHCP	<input type="radio"/> Static
IPv4 Address	172.16.1.12
Subnet Mask	255.255.255.0
Default Gateway	1.1.1.1
DNS Server	8.8.8.8
IPv6 Configuration	
<input type="radio"/> Automatic	<input checked="" type="radio"/> Static
IPv6 Address	
Link Local Address	FE80::201:C7FF:FE97:8048
Default Gateway	
DNS Server	
802.1X	
<input type="checkbox"/> Use 802.1X Security	
Authentication	MDS
Username	
Password	

SCHEMA 2 :

Nous avons reproduit le schéma :

The image displays a Cisco Packet Tracer simulation environment. In the foreground, the 'Server0' configuration window is open, showing the 'IP Configuration' tab. The configuration is as follows:

Configuration Item	Value
IP Configuration	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
IPv4 Address	10.10.10.2
Subnet Mask	255.255.255.252
Default Gateway	10.10.10.1
DNS Server	0.0.0.0
IPv6 Configuration	
<input type="radio"/> Automatic	
<input checked="" type="radio"/> Static	
IPv6 Address	
Link Local Address	FE80::201:96FF:FEDE:4946
Default Gateway	
DNS Server	
802.1X	
<input type="checkbox"/> Use 802.1X Security	
Authentication	MD5
Username	
Password	

The background shows a network topology with a central router (R01) connected to a server (Server-PT) and three laptops (Laptop-PT). The server is connected to the router's Fa0/0 interface. The router's Fa0/1 interface is connected to the Fa0/4 interface of a switch (S01). The switch's Fa0/2 and Fa0/3 interfaces are connected to Laptop-PT7 and Laptop-PT8, respectively. The Fa0 interface of the switch is connected to the Fa0 interface of the server.

On a donné au serveur une adresse IP et un masque de sous réseaux et une passerelle par défaut qui correspond à l'interface Fa0/0.

On a sélectionné l'option DHCP dans le service du serveur.
On configure un protocole de DHCP du nom de NET3 qui doit s'adapter en fonction de l'adresse IP de l'interface.

The screenshot shows the configuration of a DHCP service on a server in a network simulation. The 'Server0' window is open to the 'Services' tab, where the 'DHCP' service is selected and turned 'On'. The configuration is as follows:

- Interface: FastEthernet0
- Service: On
- Pool Name: NET3
- Default Gateway: 172.32.0.1
- DNS Server: 8.8.8.8
- Start IP Address: 172.32.0.1
- Subnet Mask: 255.255.255.0
- Maximum Number of Users: 244

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
NET3	172.32.0.1	8.8.8.8	172.32.0.1	255.255.255.0	244	0.0.0.0	0.0.0.0
serverPool	0.0.0.0	0.0.0.0	10.10.10.0	255.255.255.0	512	0.0.0.0	0.0.0.0

The network diagram shows a central '2811 Router' connected to a 'Server-PT' and three 'Laptop-PT' devices (Laptop6, Laptop7, Laptop8). The server is connected to the router's Fa0/0 interface. The router's Fa0/1 interface is connected to the server's Fa0 interface. The router's Fa0/4 interface is connected to the laptops' Fa0 interfaces.

The screenshot shows the configuration of a DHCP relay on a router in a network simulation. The 'Router2' window is open to the 'CLI' tab, showing the following configuration commands:

```
Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip address 10.10.10.1 255.255.255.252
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#int fa0/1
Router(config-if)#ip address 172.32.0.1 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router(config-if)#
Router(config-if)#do wrt mem
Building configuration...
[OK]
Router(config-if)#int fa0/1
Router(config-if)#ip helper-address 10.10.10.2
Router(config-if)#int fa0/1
Router(config-if)#ip helper-address 10.10.10.2
Router(config-if)#
```

The network diagram is identical to the one in the previous screenshot, showing the '2811 Router' connected to the 'Server-PT' and three 'Laptop-PT' devices.

On relai les trames DHCP à l'adresse 10.10.10.2 et grâce a cela l'adresse IP des ordinateurs est attribuer automatiquement grâce au protocole DHCP.

Cisco Packet Tracer - C:\Users\Ord\Documents\TP3.pkt

File Edit Options Help

Laptop6

Physical Config Desktop Programming Attributes

Logical

IP Configuration

Interface FastEthernet0

IP Configuration

DHCP Static DHCP request successful

IPv4 Address 172.32.0.13

Subnet Mask 255.255.255.0

Default Gateway 172.32.0.1

DNS Server 8.8.8.8

IPv6 Configuration

Automatic Static

IPv6 Address

Link Local Address FE80::20D:BDFE:FE06:39A6

Default Gateway

DNS Server

802.1X

Use 802.1X Security

Authentication MD5

Username

Password

Time: 50:51:28

Top

Automatically Choose Connection Type

Scenario 0

Delete

List Window

Root

Server-PT
Server-PT
Fa0

Fa0/0

Rou
Fa0/1

2411

Fa0/4

Fa0/2

Fa0

Fa0

Laptop-PT
Laptop6

Laptop-PT
Laptop7

Laptop-PT
Laptop8

Realtime Simulation

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit
------	-------------	--------	-------------	------	-------	-----------	----------	-----	------

16:13 21°C 06/05/2022

Laptop7

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

DHCP Static DHCP request successful.

IPv4 Address: 172.32.0.12

Subnet Mask: 255.255.255.0

Default Gateway: 172.32.0.1

DNS Server: 8.8.8.8

IPv6 Configuration

Automatic Static

IPv6 Address: /

Link Local Address: FE80::201:97FF:FE08:83C1

Default Gateway: /

DNS Server: /

802.1X

Use 802.1X Security

Authentication: MD5

Username: /

Password: /

Time: 50:52

Automatically Choose Connection Type

Toggle PDU List Window

Scenario 0

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit

16:14 06/05/2022

Laptop8

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

DHCP Static DHCP request successful.

IPv4 Address: 172.32.0.10

Subnet Mask: 255.255.255.0

Default Gateway: 172.32.0.1

DNS Server: 8.8.8.8

IPv6 Configuration

Automatic Static

IPv6 Address: /

Link Local Address: FE80::201:42FF:FE00:272A

Default Gateway: /

DNS Server: /

802.1X

Use 802.1X Security

Authentication: MD5

Username: /

Password: /

Time: 5

Automatically Choose Connection Type

Toggle PDU List Window

Scenario 0

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit

16:14 06/05/2022