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DES SCIENCES

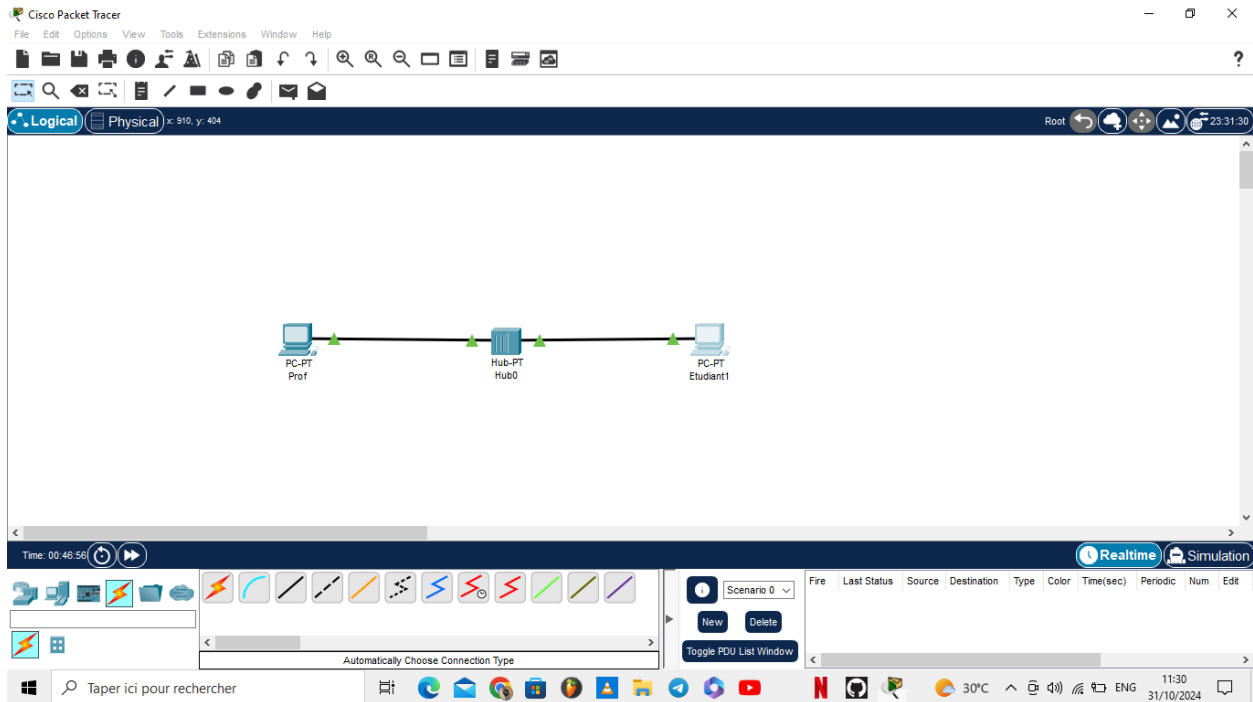
**FACULTÉ DES SCIENCES ET DES TECHNOLOGIES
(FST)**

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Professeur :	Mr Ismaël S.A.
Niveau :	3^{ième} année
Année :	2024 – 2025

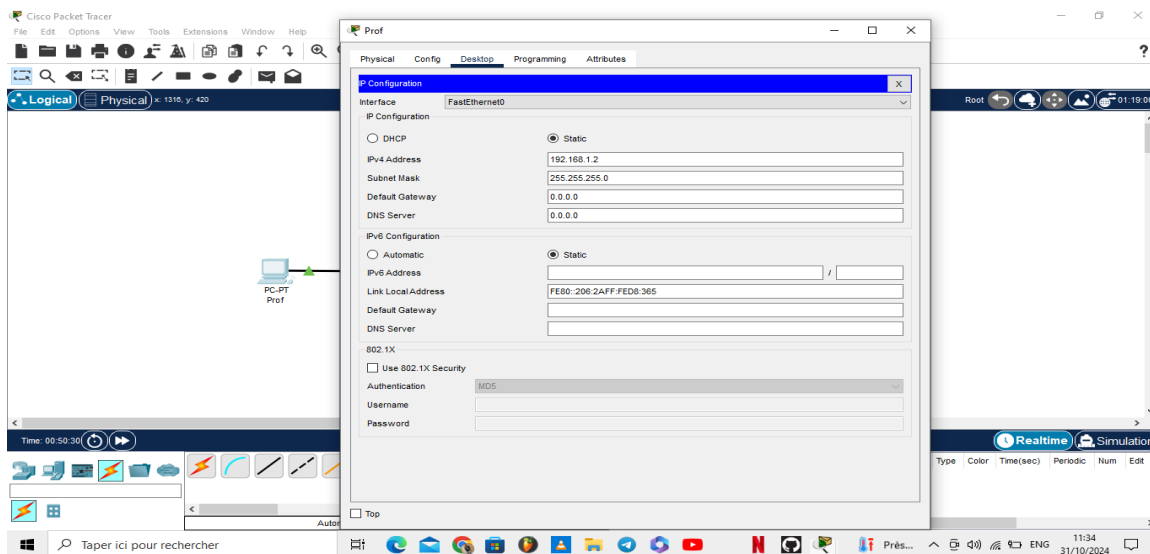
Le 01/11/2024

Exécution du TD

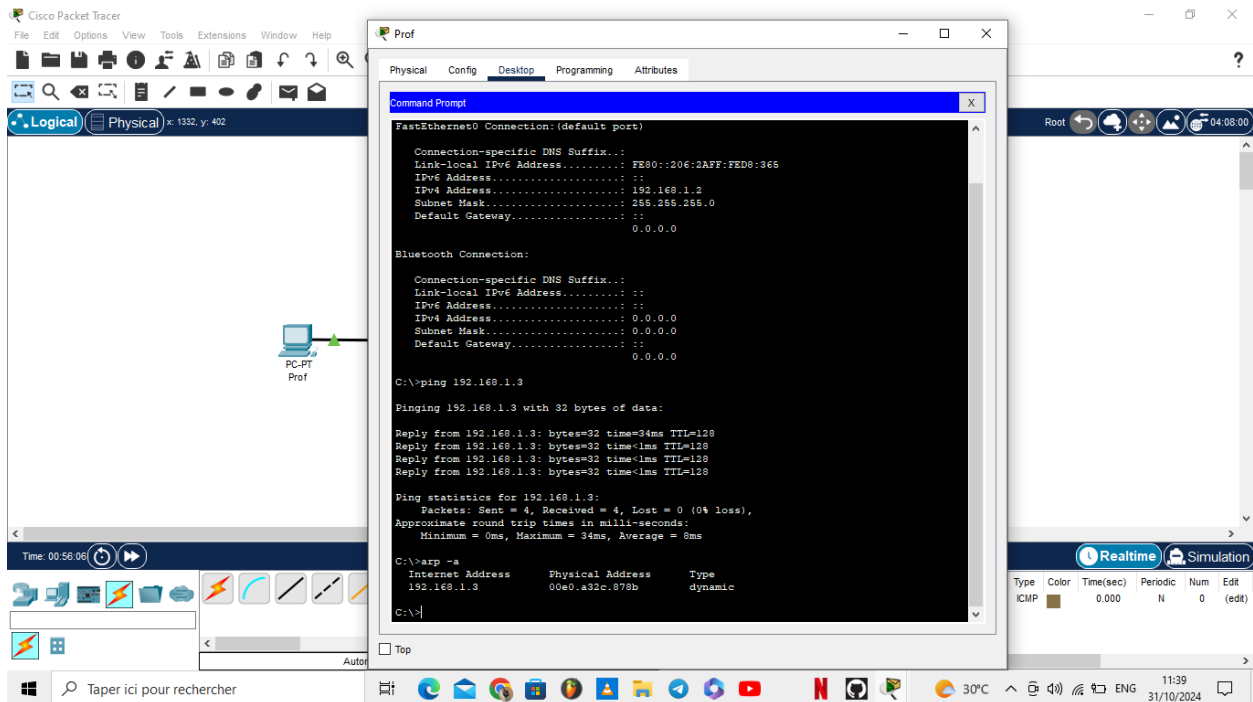
1.- Processus de simulation de la connectivité pour deux PC et un HUB.



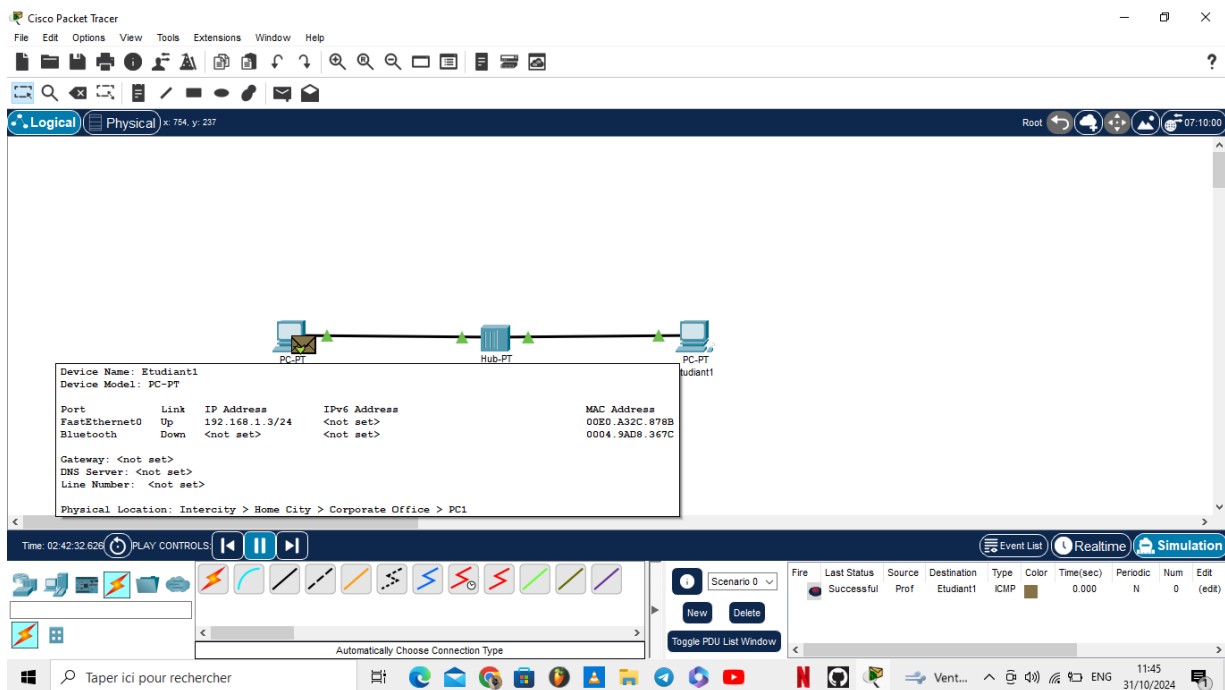
2.- Configuration des adresses IP.

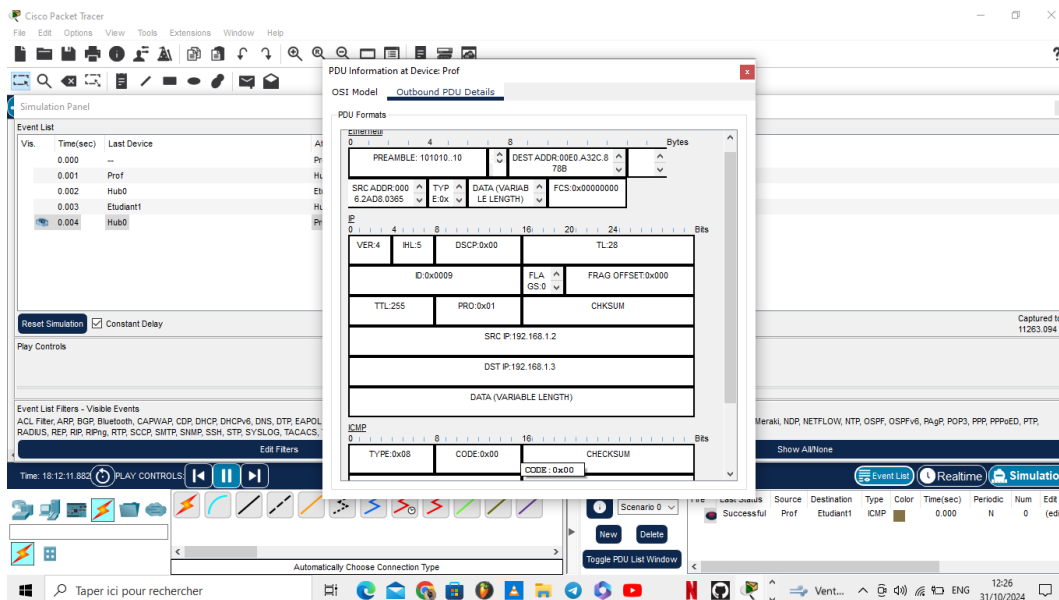
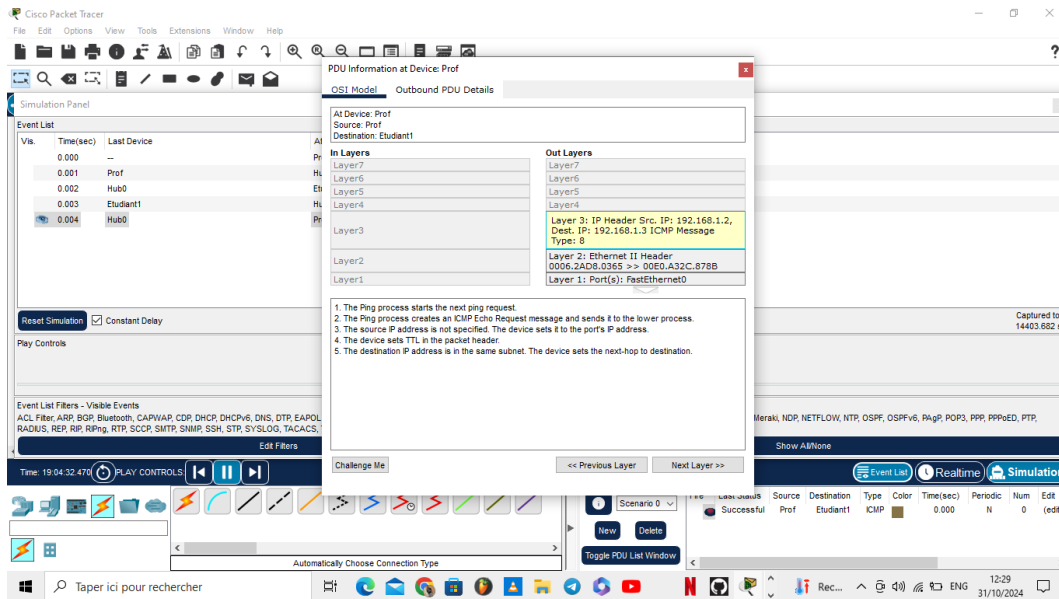


3.- Affichage de la configuration IP et observation des tables ARP.

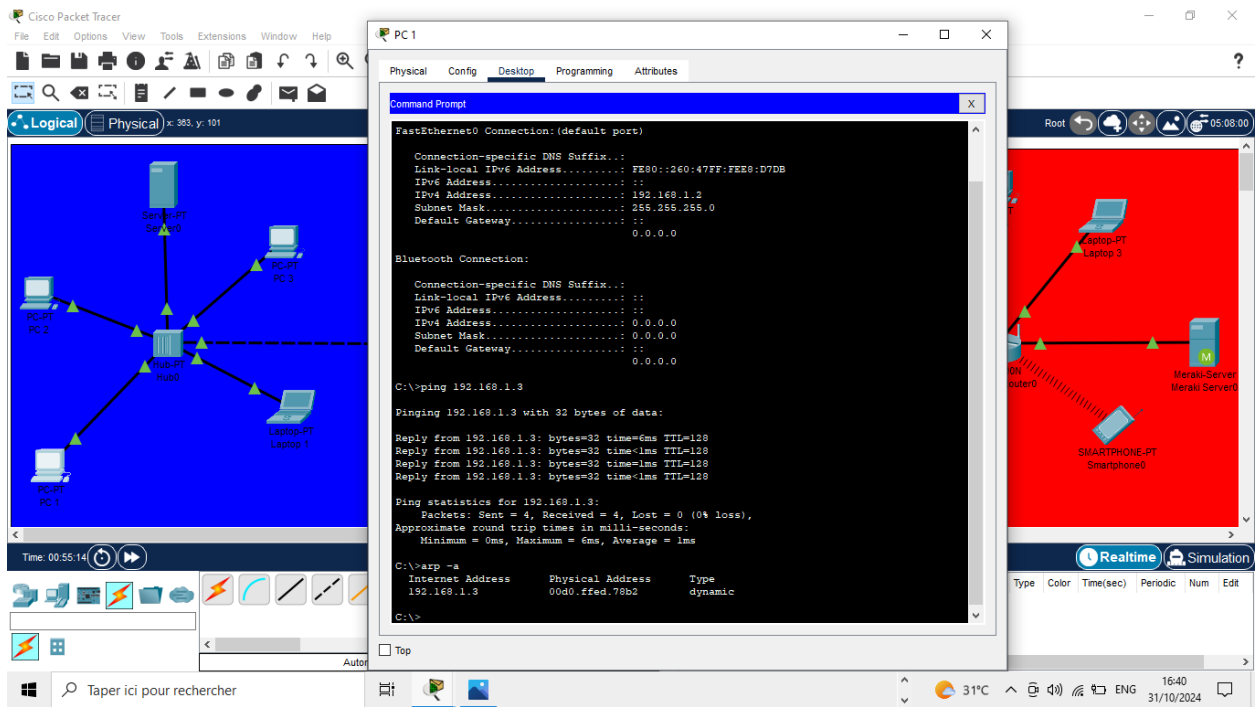
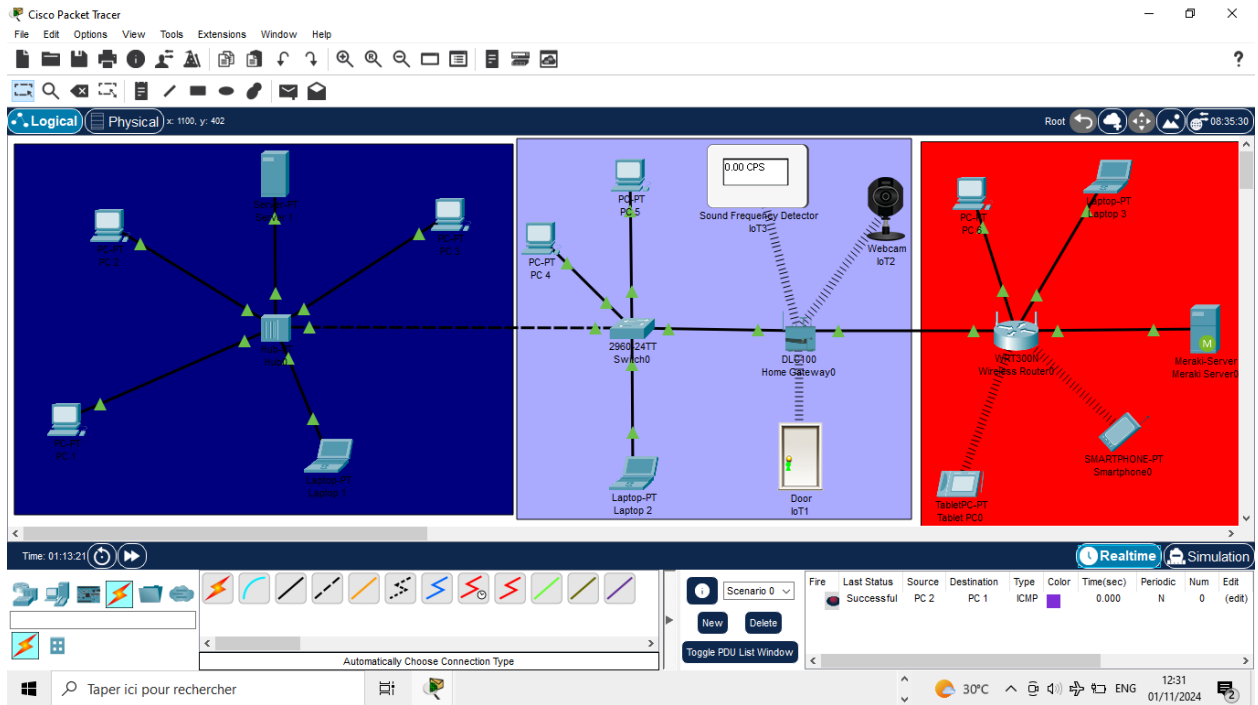


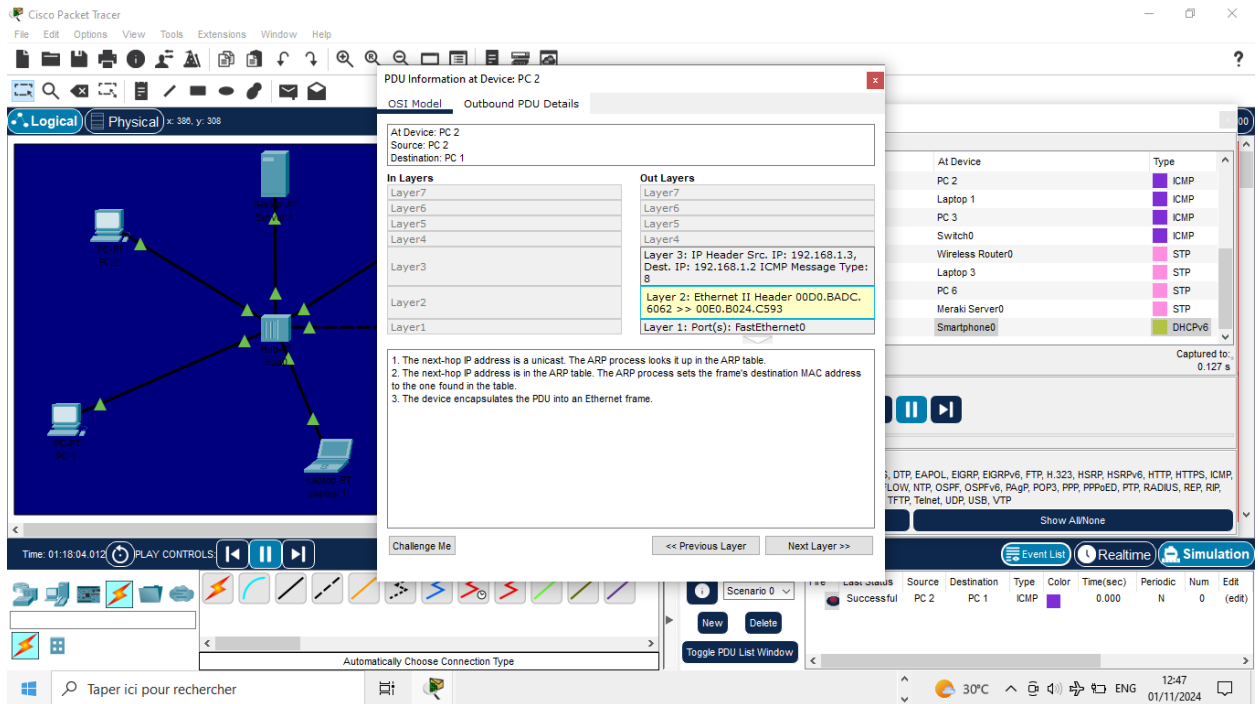
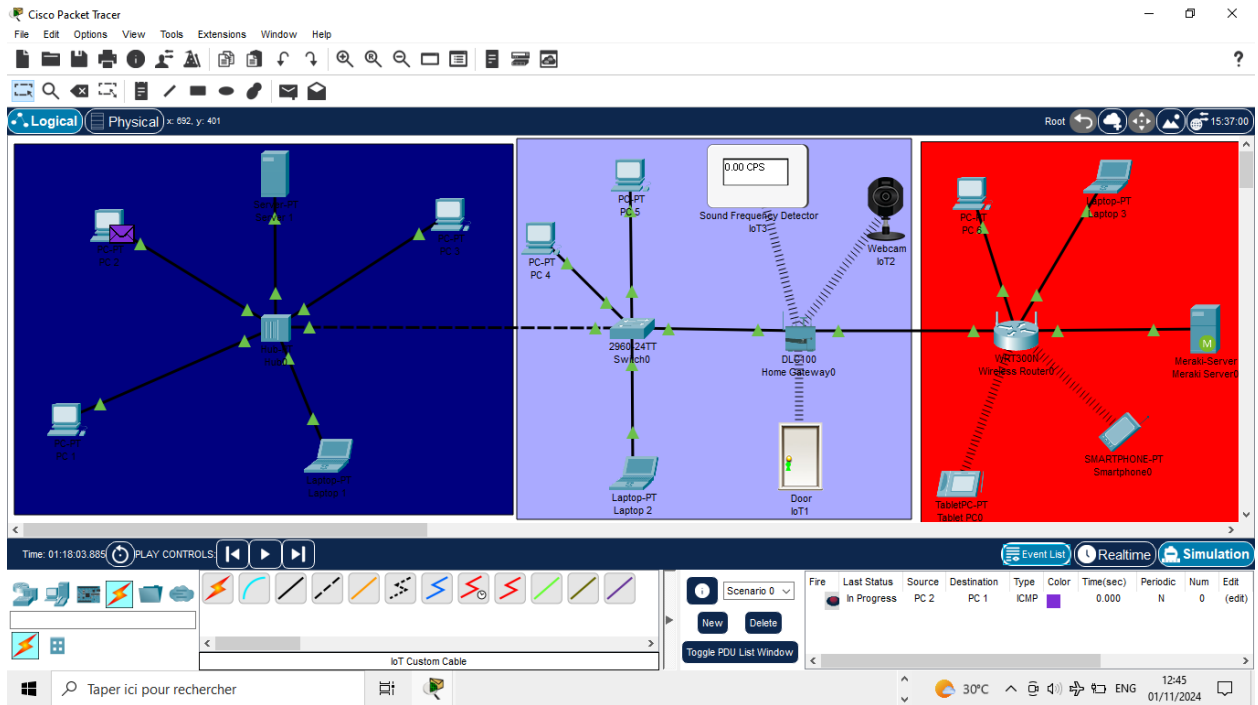
4.- Activation du mode de simulation





6.- Processus de Simulation de mon choix et les différents points.





Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x 380, y: 308

At Device: PC 2
Source: PC 2
Destination: PC 1

In Layers

- Layer7
- Layer6
- Layer5
- Layer4
- Layer3
- Layer2
- Layer1

Out Layers

- Layer7
- Layer6
- Layer5
- Layer4
- Layer3: IP Header Src. IP: 192.168.1.3, Dest. IP: 192.168.1.2 ICMP Message Type: 8
- Layer2: Ethernet II Header 00D0.BADC.6062 >> 00E0.B024.C593
- Layer1: Port(s): FastEthernet0

1. FastEthernet0 sends out the frame.

Challenge Me

<< Previous Layer Next Layer >>

At Device Type

At Device	Type
Hub0	STP
Home Gateway0	STP
PC 5	STP
Server 1	STP
PC 2	STP
Laptop 1	STP
PC 1	STP
PC 3	STP
Wireless Router0	STP

Event List Realtime Simulation

Source Destination Type Color Time(sec) Periodic Num Edit

Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit
PC 2	PC 1	ICMP		0.000	N	0	(edit)

30°C ENG 12:50 01/11/2024

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x 380, y: 308

At Device: PC 2
Source: PC 2
Destination: PC 1

In Layers

- Layer7
- Layer6
- Layer5
- Layer4
- Layer3
- Layer2
- Layer1

Out Layers

- Layer7
- Layer6
- Layer5
- Layer4
- Layer3: IP Header Src. IP: 192.168.1.3, Dest. IP: 192.168.1.2 ICMP Message Type: 8
- Layer2: Ethernet II Header 00D0.BADC.6062 >> 00E0.B024.C593
- Layer1: Port(s): FastEthernet0

1. The Ping process starts the next ping request.
2. The Ping process creates an ICMP Echo Request message and sends it to the lower process.
3. The source IP address is not specified. The device sets it to the port's IP address.
4. The device sets TTL in the packet header.
5. The destination IP address is in the same subnet. The device sets the next-hop to destination.

Challenge Me

<< Previous Layer Next Layer >>

At Device Type

At Device	Type
Wireless Router0	STP
Laptop 3	STP
PC 6	STP
Meraki Server0	STP
Smartphone0	DHCPv6
Switch0	DTP
Laptop 2	DTP
Home Gateway0	STP
Wireless Router0	STP

Event List Realtime Simulation

Source Destination Type Color Time(sec) Periodic Num Edit

Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit
PC 2	PC 1	ICMP		0.000	N	0	(edit)

30°C ENG 12:53 01/11/2024

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x: 386, y: 308

Time: 01:18:51.893 PLAY CONTROLS

Automatically Choose Connection Type

PDU Information at Device: PC 2

OSI Model Outbound PDU Details

PDU Formats

Ethernet II

Bytes	0	4	8	12	16	20	24
PREAMBLE: 101010...10							
SRC ADDR: 0000 BADC.6962	TYP: E-0x			DATA (VARIABLE LENGTH)		FCS: 0x00000000	
VER: 4				IHL: 5		DSCP: 0x00	
ID: 0x0013				FLA: 0		FRAG OFFSET: 0x000	
TTL: 255				PRO: 0x01		CHKSUM	
SRC IP: 192.168.1.3							
DST IP: 192.168.1.2							
DATA (VARIABLE LENGTH)							

ICMP

Bits	0	8	16	24
TYPE: 0x08	CODE: 0x00			CHECKSUM

At Device

At Device	Type
PC 2	ICMP
Hub0	ICMP
Server 1	ICMP
Laptop 1	ICMP
PC 1	ICMP
PC 3	ICMP
Switch0	ICMP
Hub0	ICMP
Server 1	ICMP

Event List Realtime Simulation

Successful PC 2 PC 1 ICMP 0.000 N 0 (edit)

30°C 13:20 01/11/2024

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x: 386, y: 308

Time: 01:18:51.893 PLAY CONTROLS

Automatically Choose Connection Type

PDU Information at Device: PC 2

OSI Model Inbound PDU Details

At Device: PC 2
Source: Switch0
Destination: STP Multicast Address

In Layers

Layer7
Layer6
Layer5
Layer4
Layer3

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer3
Layer2
Layer1

Layer 2: IEEE 802.3 Header
00D0.D3B6.0501 >> 0180.C200.0000 LLC
STP BPDU

Layer 1: Port FastEthernet0

1. The frame's destination MAC address matches the receiving port's MAC address, the broadcast address, or a multicast address.
2. The device does not have a service that accepts this frame. It drops the frame.

Challenge Me << Previous Layer Next Layer >>

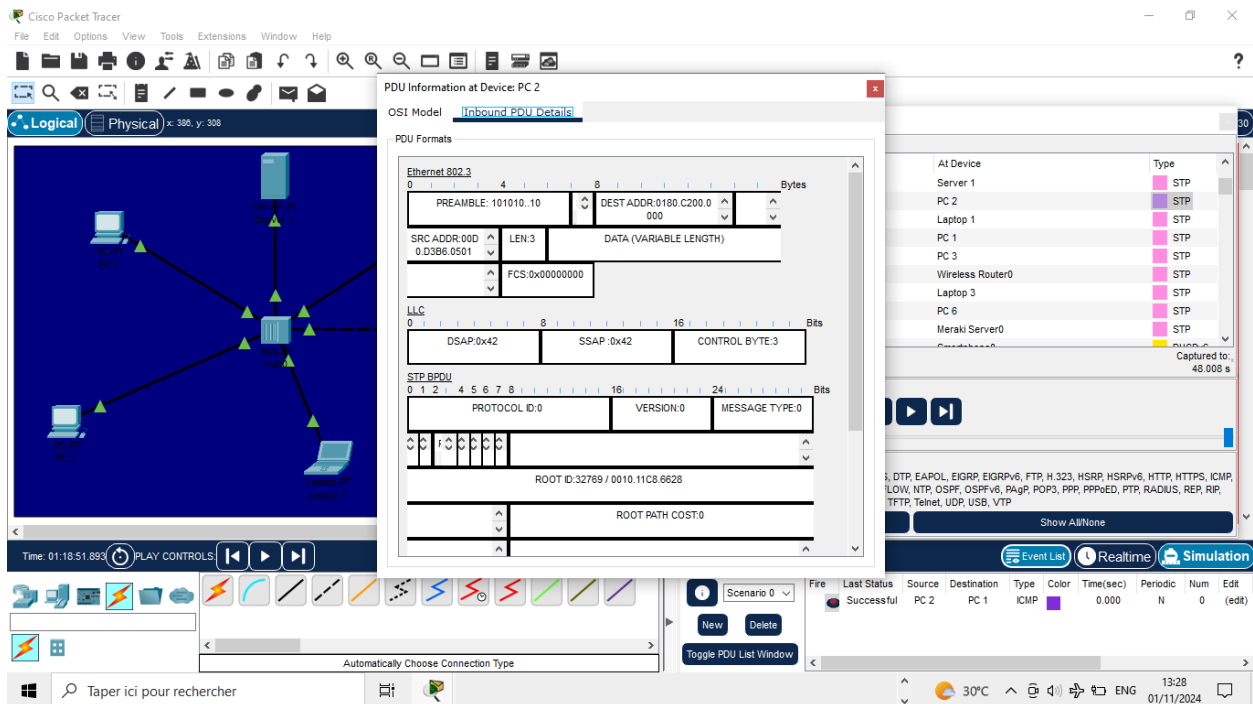
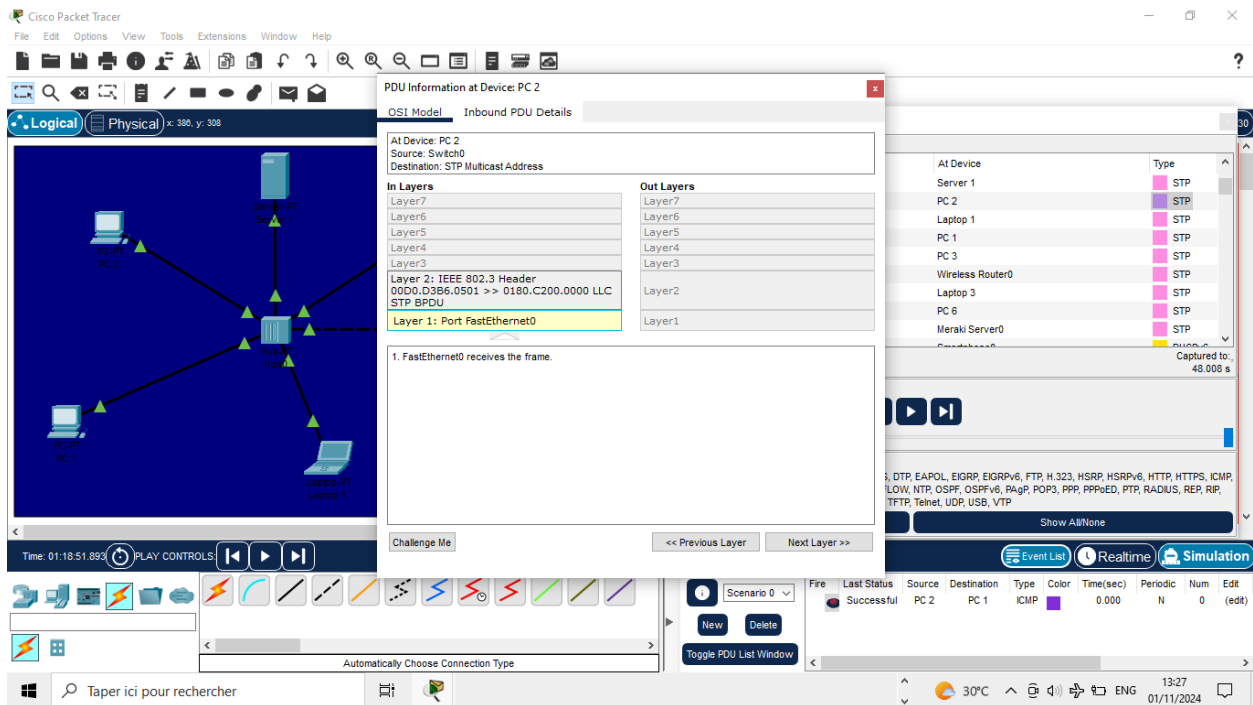
At Device

At Device	Type
Server 1	STP
PC 2	STP
Laptop 1	STP
PC 1	STP
PC 3	STP
Wireless Router0	STP
Laptop 3	STP
PC 6	STP
Meraki Server0	STP

Event List Realtime Simulation

Successful PC 2 PC 1 ICMP 0.000 N 0 (edit)

30°C 13:26 01/11/2024



En conclusion, ce TD nous permet d'apprendre à examiner la connectivité à l'aide du Ping, il nous permet de configurer les adresses IP, d'apprendre à utiliser les outils diagnostic comme ARP, IPCONFIG et aussi à analyser le cheminement des paquets à travers le réseau via la simulation.

