



## **Cours : Réseaux 1**

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**Préparé par : Jameson DOMINIQUE**

**Date : 08 Novembre 2024**

# Réseaux 1

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## ModeSimulation dans Cisco Packet Tracer

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### TD 2

#### Objectif :

Ce TD vous permet d'examiner la connectivité à l'aide du ping , et d'utiliser le **mode simulation** pour observer les paquets en temps réel. Vous avez appris à :

1. Configurer des adresses IP sur des appareils réseau.
2. Utiliser des outils de diagnostic comme `ping` et `arp`.
3. Analyser le cheminement des paquets à travers le réseau via la simulation.

#### Matériel Nécessaire :

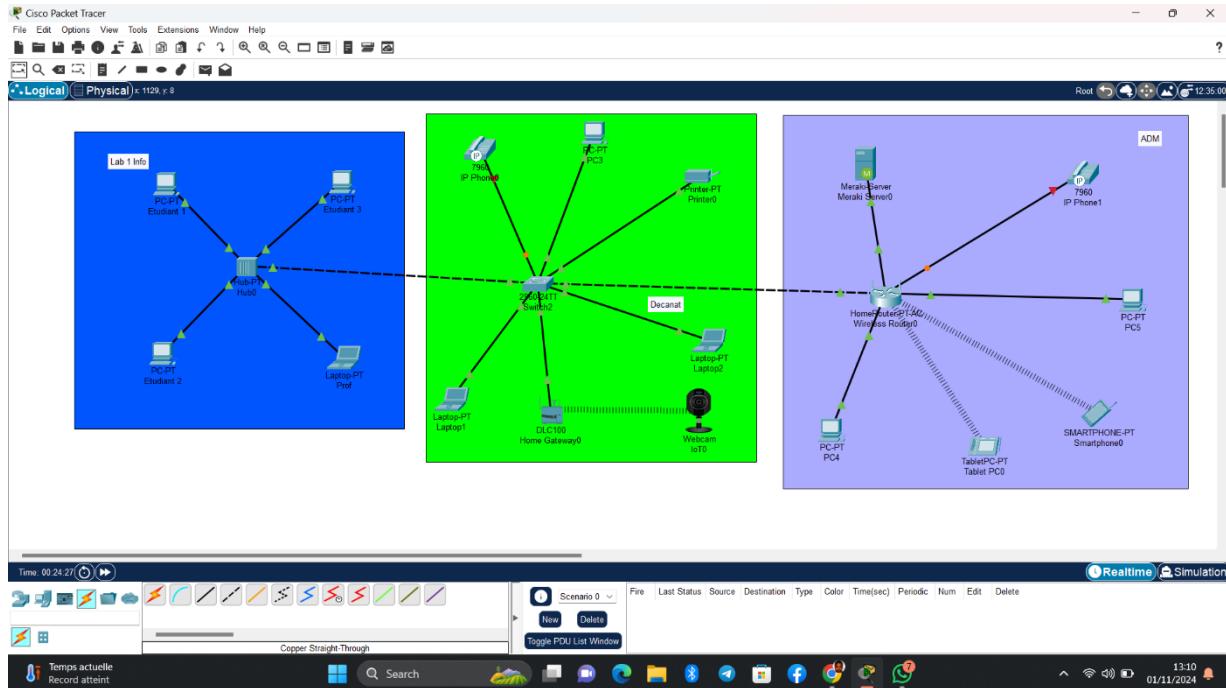
- ◆ Un ordinateur avec un système d'exploitation installé (Windows, macOS, ou Linux).
- ◆ Cisco Packet Tracer

#### Contenu du rapport

##### Le rapport doit inclure :

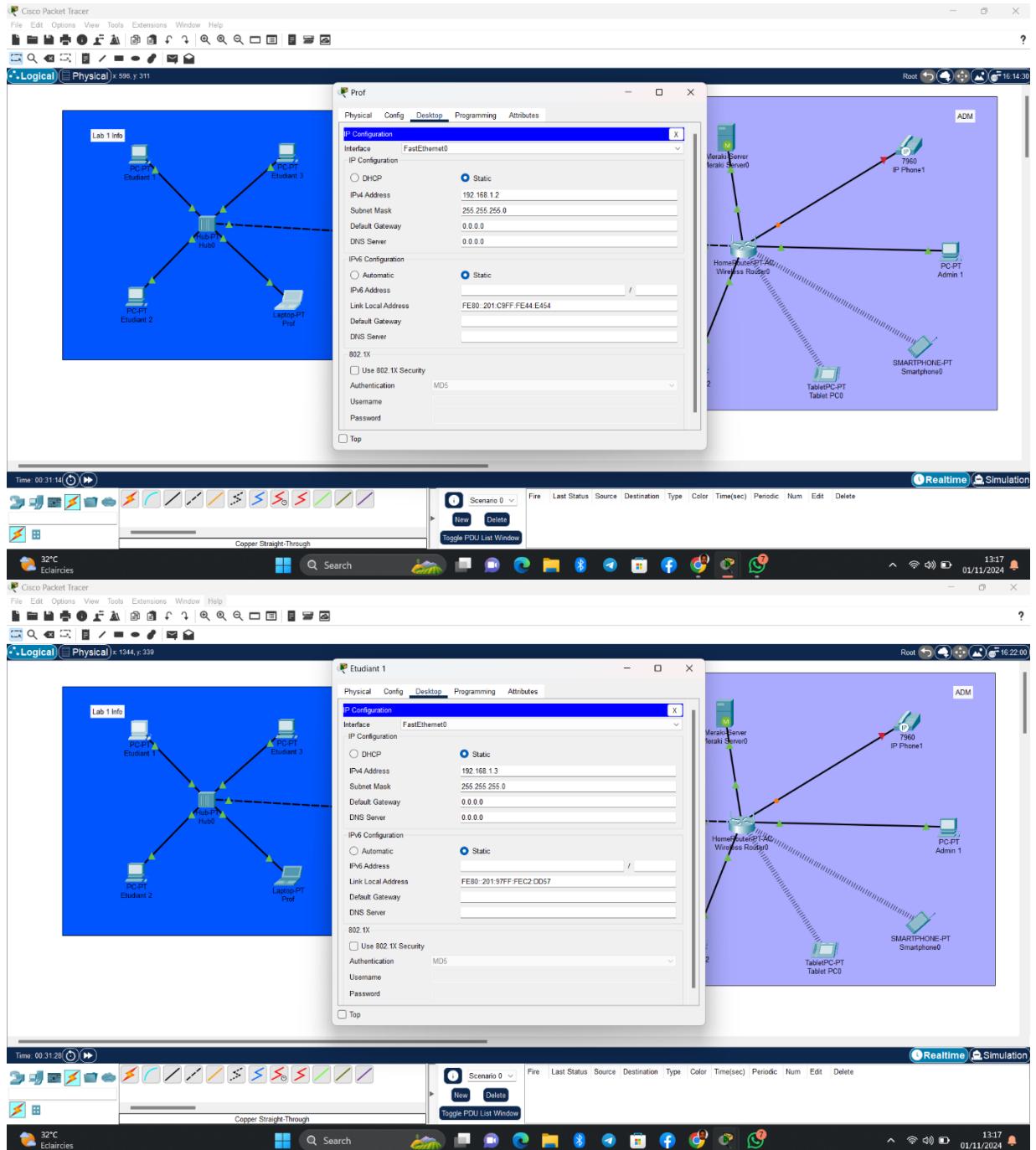
1. Une page de couverture.
2. Une description des résultats de la tâche.
3. Les résultats de l'exécution des commandes (captures d'écran).
4. Les conclusions sur la tâche accomplie.
5. Hébergez le rapport de travail au format Word et PDF, le fichier pkt, ainsi que les images sur GitHub.

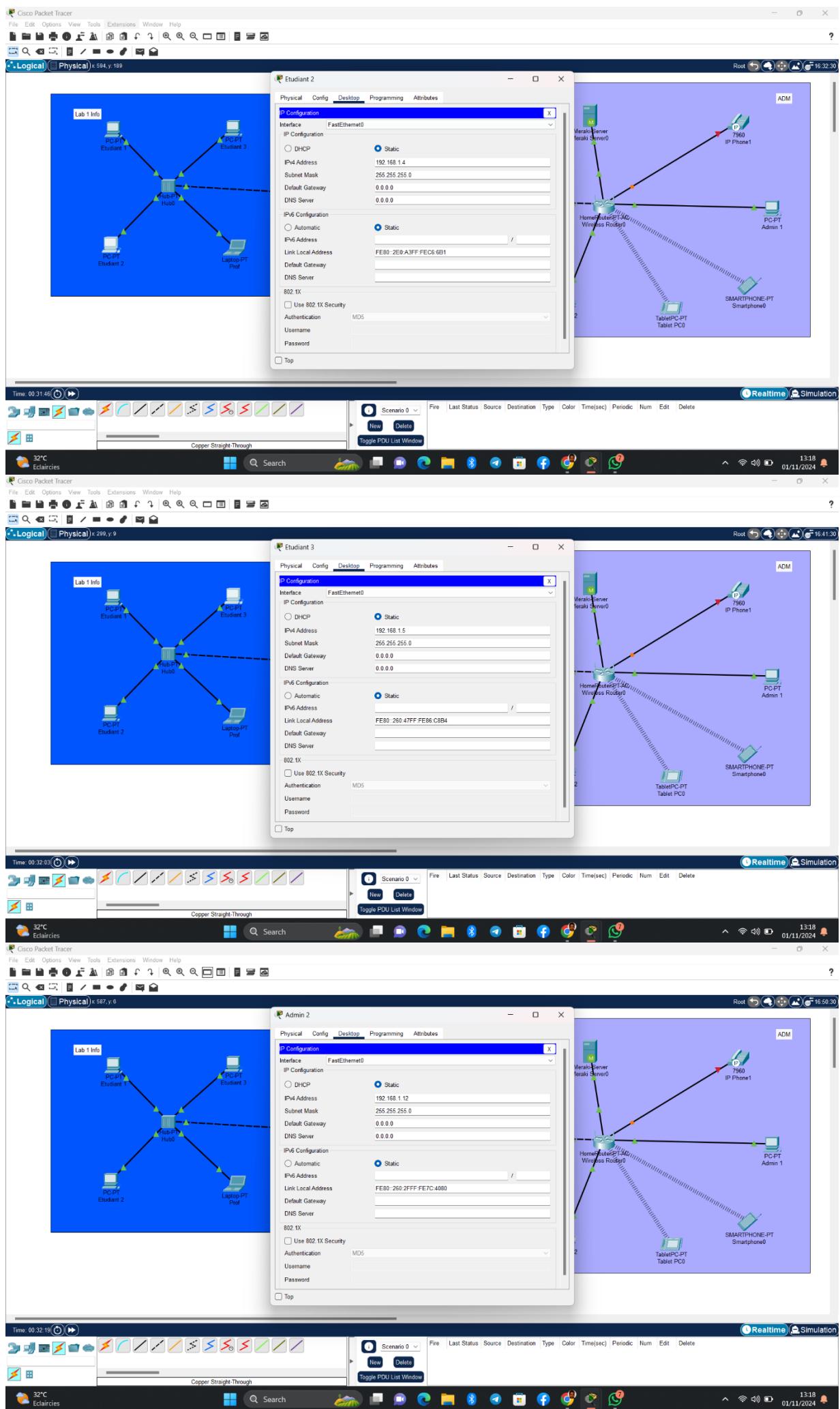
## Exercice 1

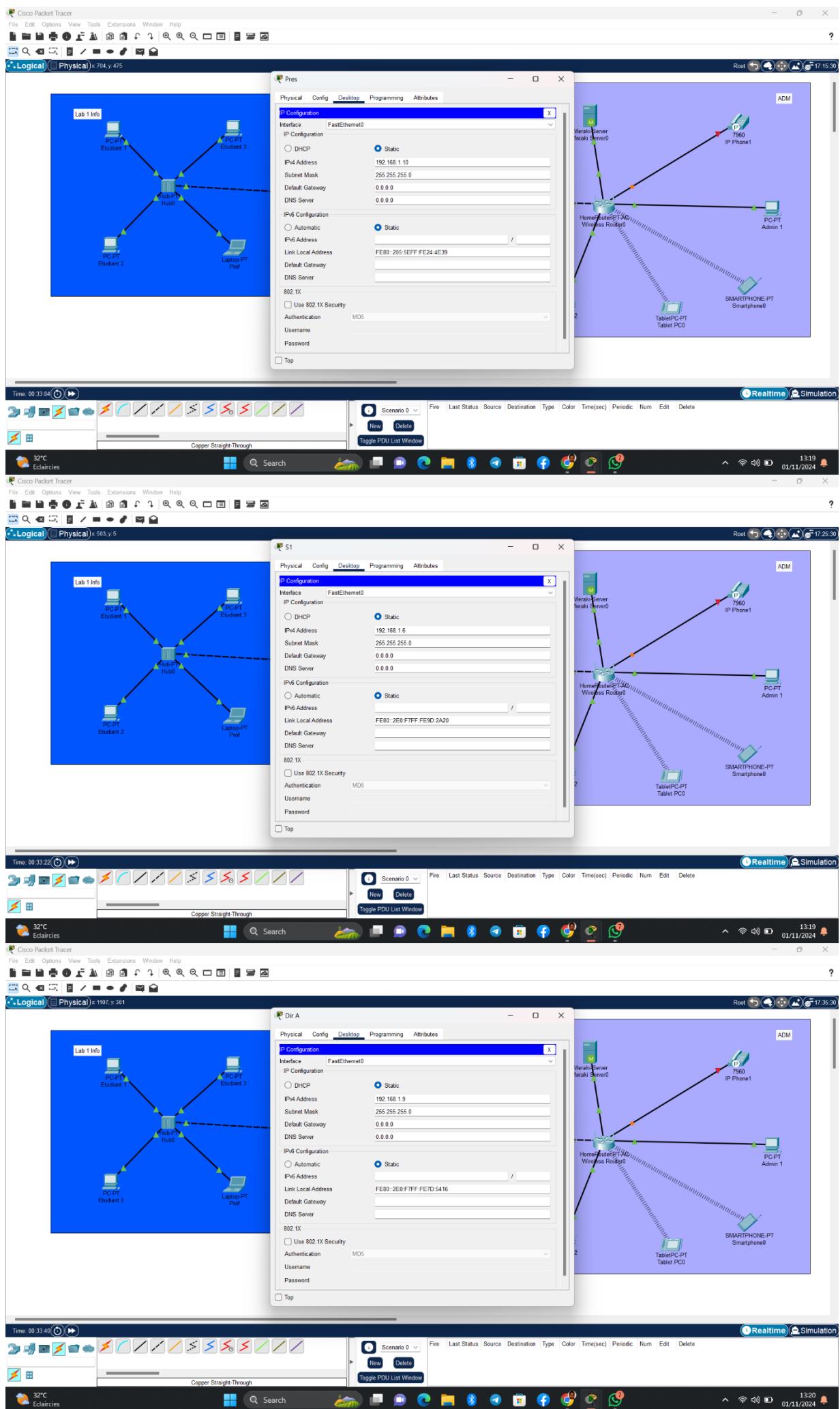


PC	Adresse IP	Masque de Sous-Réseau
Prof	192.168.1.2	255.255.255.0
Etudiant1	192.168.1.3	255.255.255.0
Etudiant2	192.168.1.4	255.255.255.0
Etudiant13	192.168.1.5	255.255.255.0

Appareils	Adresse IP	Masque de Sous-Réseau
Admin2	192.168.1.12	255.255.255.0
Server	192.168.1.8	255.255.255.0
Printer	192.168.1.7	255.255.255.0
Pres	192.168.1.10	255.255.255.0
S1	192.168.1.6	255.255.255.0
Dir A	192.168.1.9	255.255.255.0
Admin1	192.168.1.11	255.255.255.0







**Cisco Packet Tracer**

File Edit Options View Tools Extensions Window Help

Logical Physical x: 546, y: 7

Admin 1

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

- DHCP (radio button)
- Static (radio button) selected
- IPv4 Address: 192.168.1.11
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- DNS Server: 0.0.0.0

IPv6 Configuration

- Automatic (radio button)
- Static (radio button) selected
- IPv6 Address: /
- Link Local Address: FE80::200:D3FF:FE27:5D29
- Default Gateway:
- DNS Server:

802.1X

- Use 802.1X Security (checkbox)
- Authentication: MDS
- Username:
- Password:
- Top (checkbox)

Time: 00:33:53

Realtime Simulation

Scenarios: Scenario 0

New Delete Toggle PDU List Window

32°C Eclairies

Search

01/11/2024 13:20

Cisco Packet Tracer - C:\Users\Douday\Cisco Packet Tracer 8.2.0\panes\Exercise 1.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x: 1319, y: 382

Meraki Server0

Physical Config Attributes

GLOBAL INTERFACE

FastEthernet0

Port Status: On (checkbox) selected

Bandwidth: 100 Mbps (radio button)

Duplex: Auto (radio button) selected

MAC Address: 0001.9642.D362

IP Configuration

- DHCP (radio button)
- Static (radio button) selected
- IPv4 Address: 192.168.1.8
- Subnet Mask: 255.255.255.0

IPv6 Configuration

- Automatic (radio button)
- Static (radio button) selected
- IPv6 Address: /
- Link Local Address: FE80::201:96FF:FE42:D362

Time: 00:10:38.946

PLAY CONTROLS

Event List Realtime Simulation

Scenarios: Scenario 0

New In Progress Delete Toggle PDU List Window

33°C Eclairies

Search

01/11/2024 15:03

Cisco Packet Tracer - C:\Users\Douday\Cisco Packet Tracer 8.2.0\panes\Exercise 1.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x: 1364, y: 217

Printer0

Physical Config Attributes

GLOBAL SETTINGS

FastEthernet0

Port Status: On (checkbox) selected

Bandwidth: 100 Mbps (radio button)

Duplex: Auto (radio button) selected

MAC Address: 0010.11AA.C14E

IP Configuration

- DHCP (radio button)
- Static (radio button) selected
- IPv4 Address: 192.168.1.7
- Subnet Mask: 255.255.255.0

IPv6 Configuration

- Automatic (radio button)
- Static (radio button) selected
- IPv6 Address: /
- Link Local Address: FE80::210:11FF:FEAA:C14E

Time: 00:11:10.302

PLAY CONTROLS

Event List Realtime Simulation

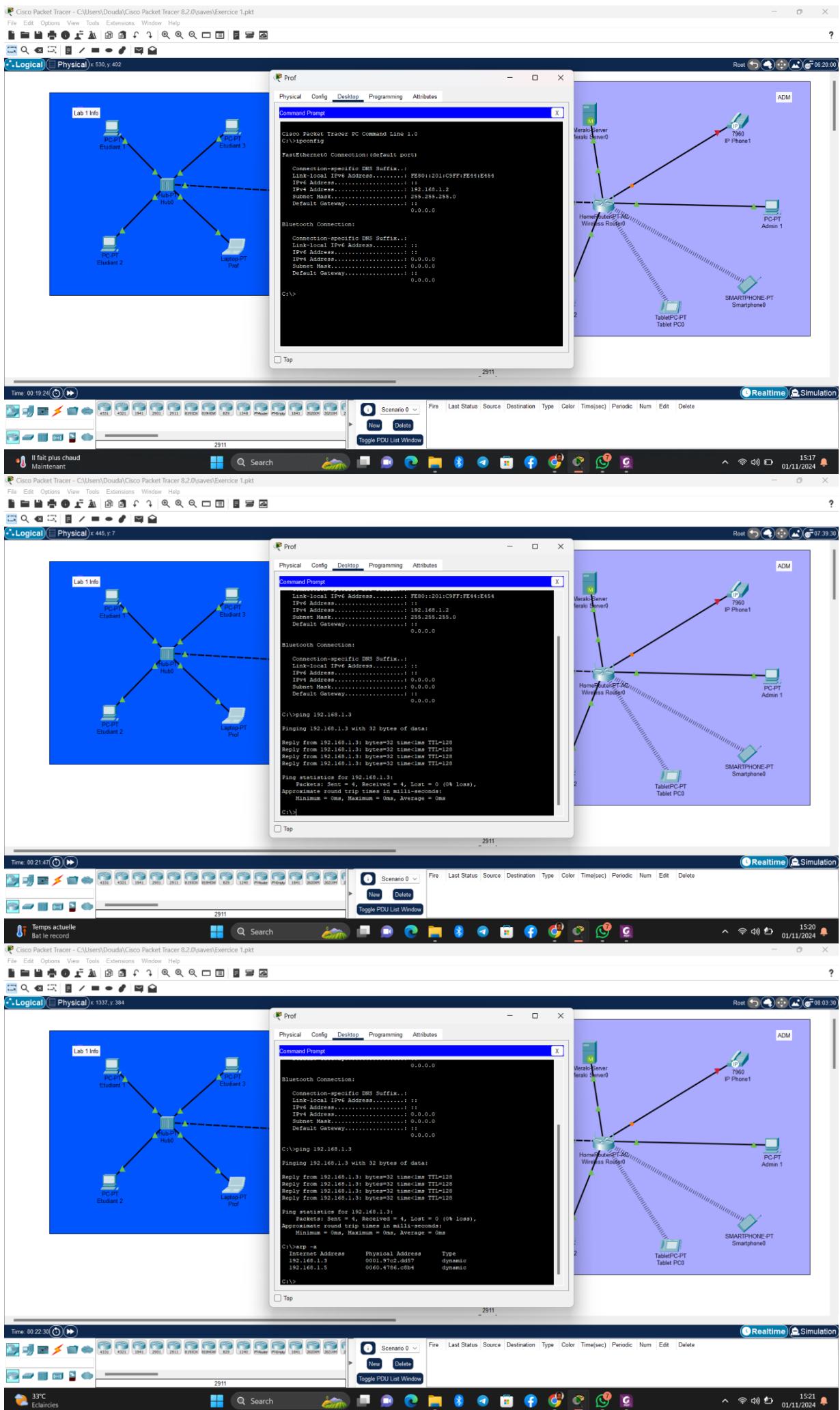
Scenarios: Scenario 0

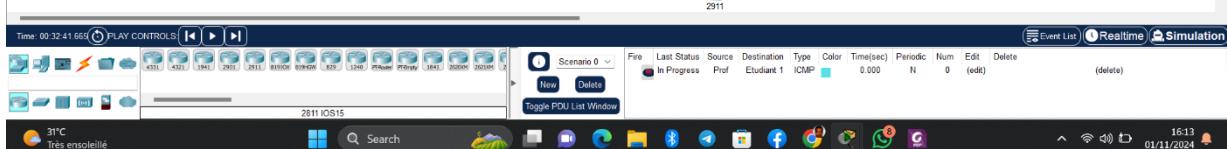
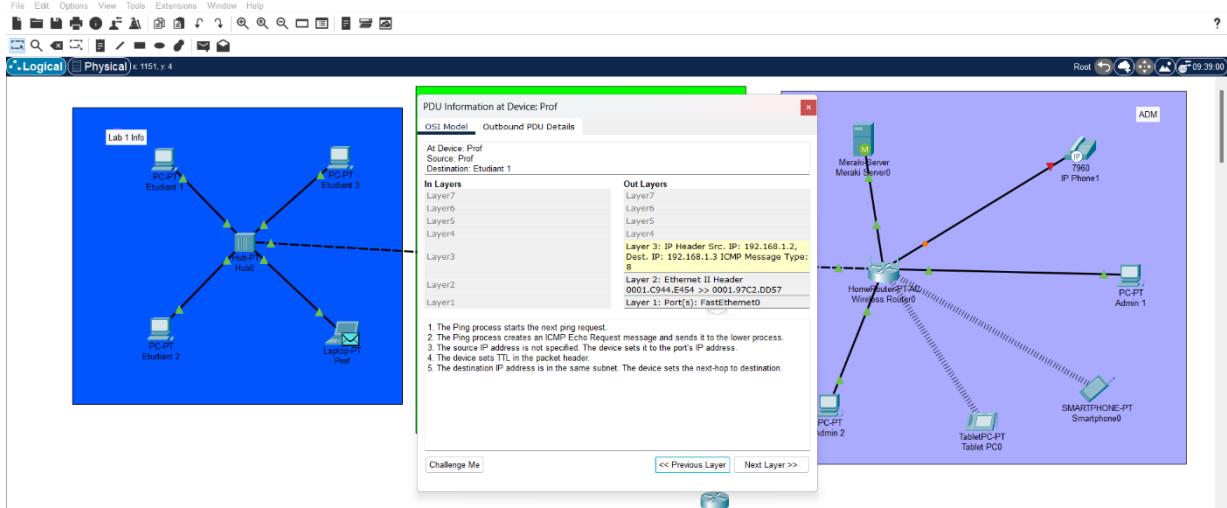
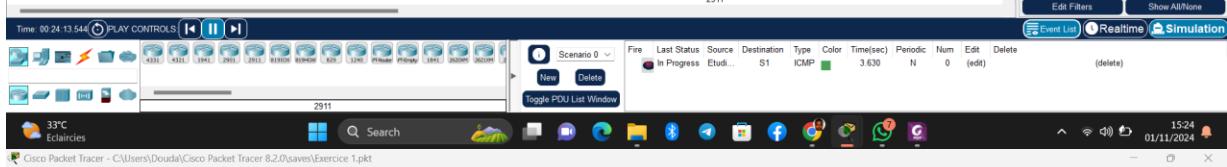
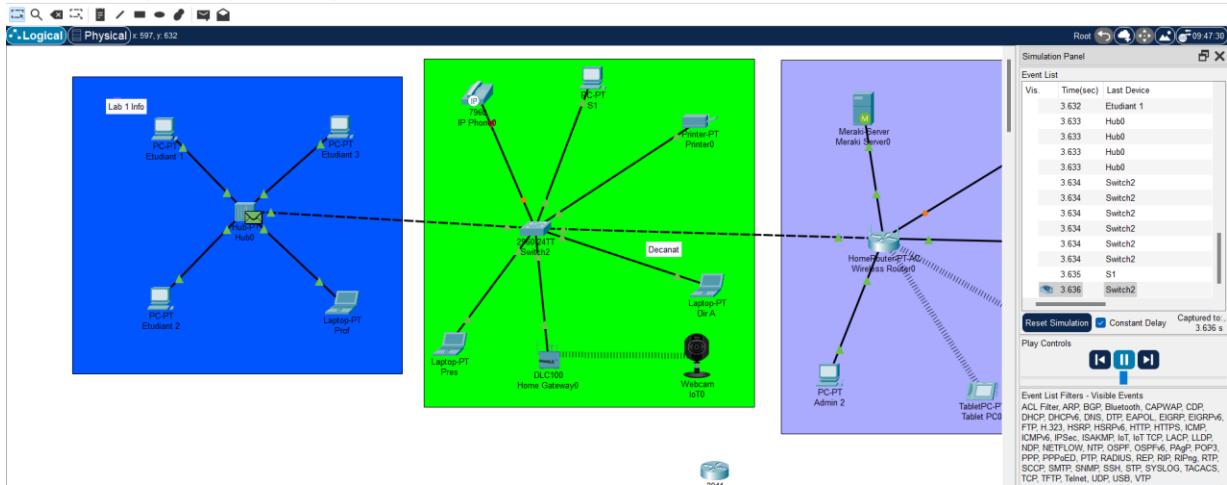
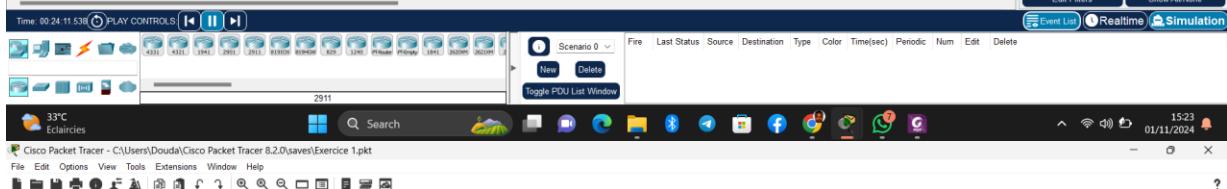
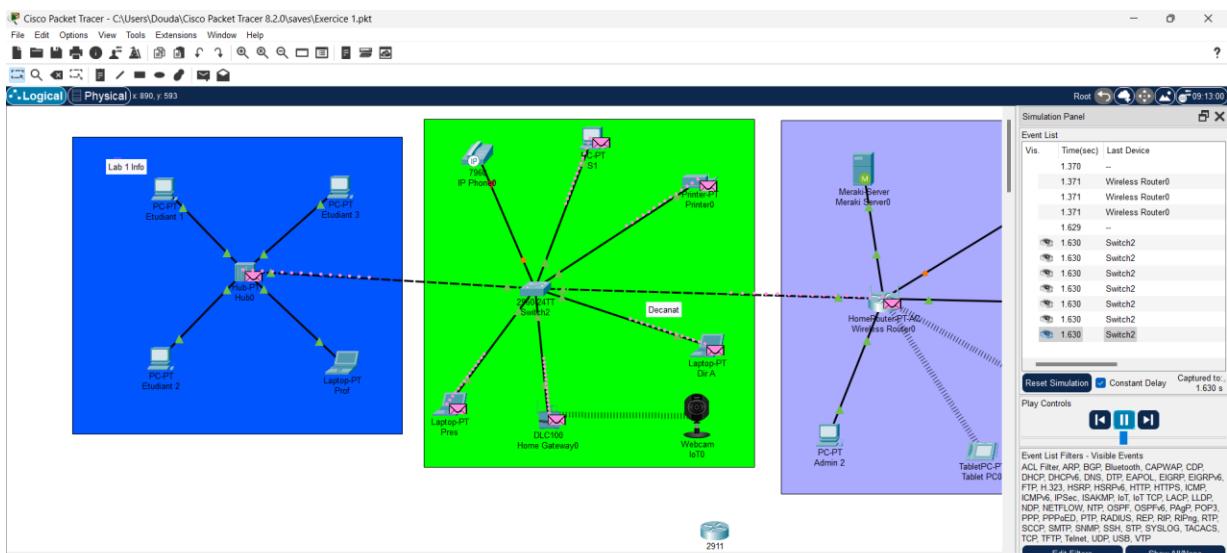
New In Progress Delete Toggle PDU List Window

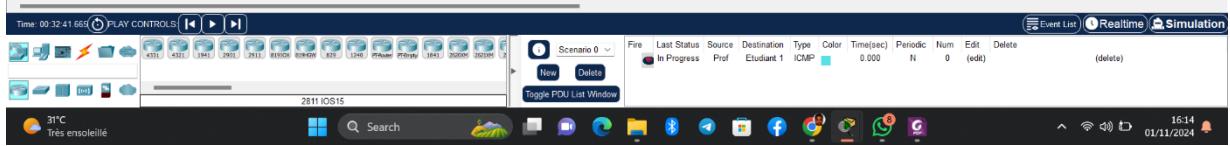
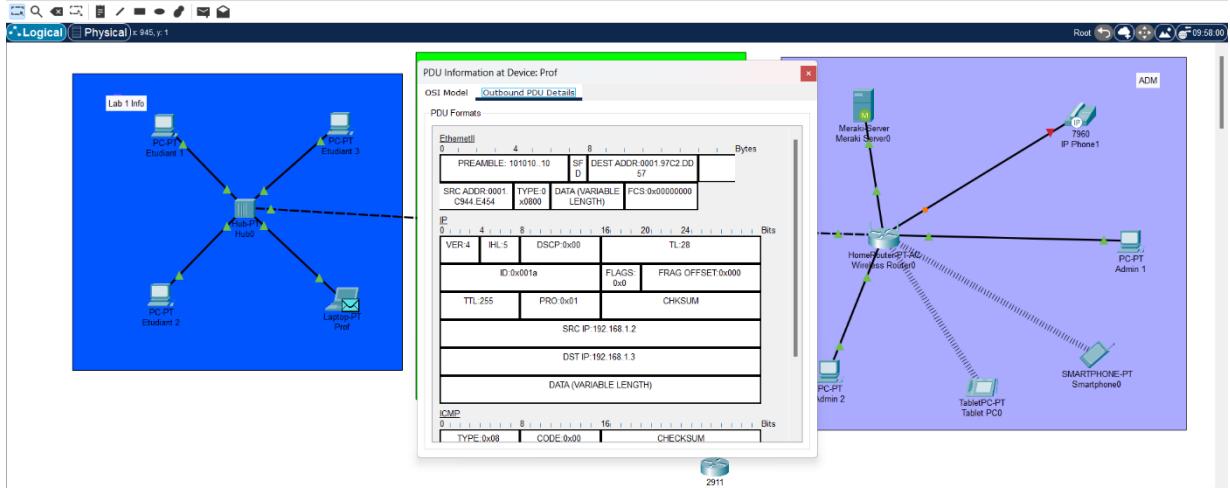
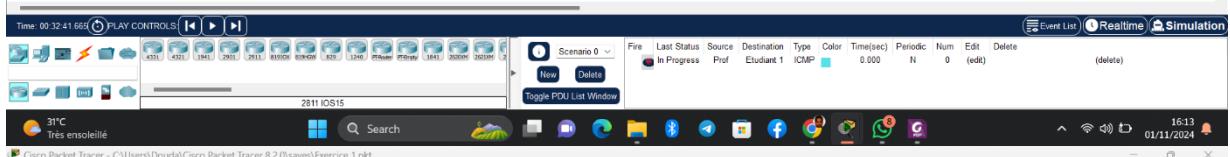
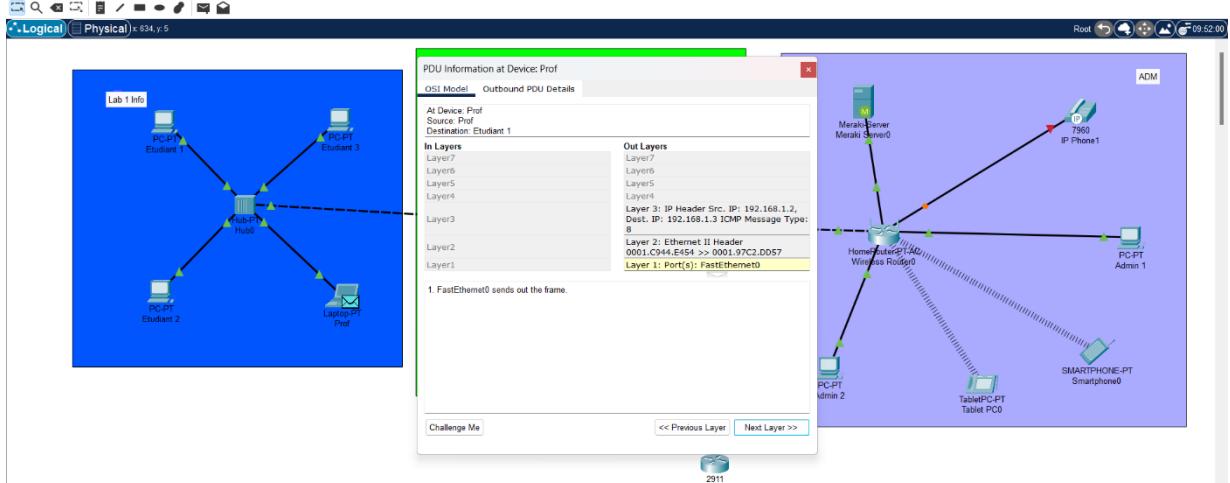
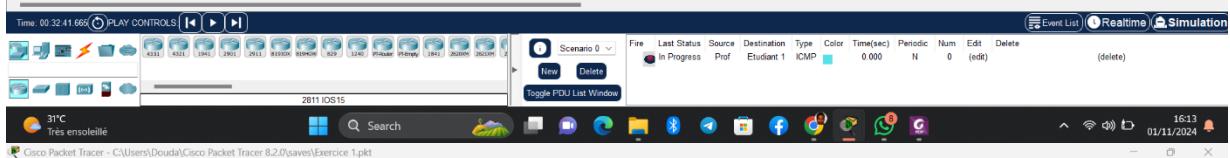
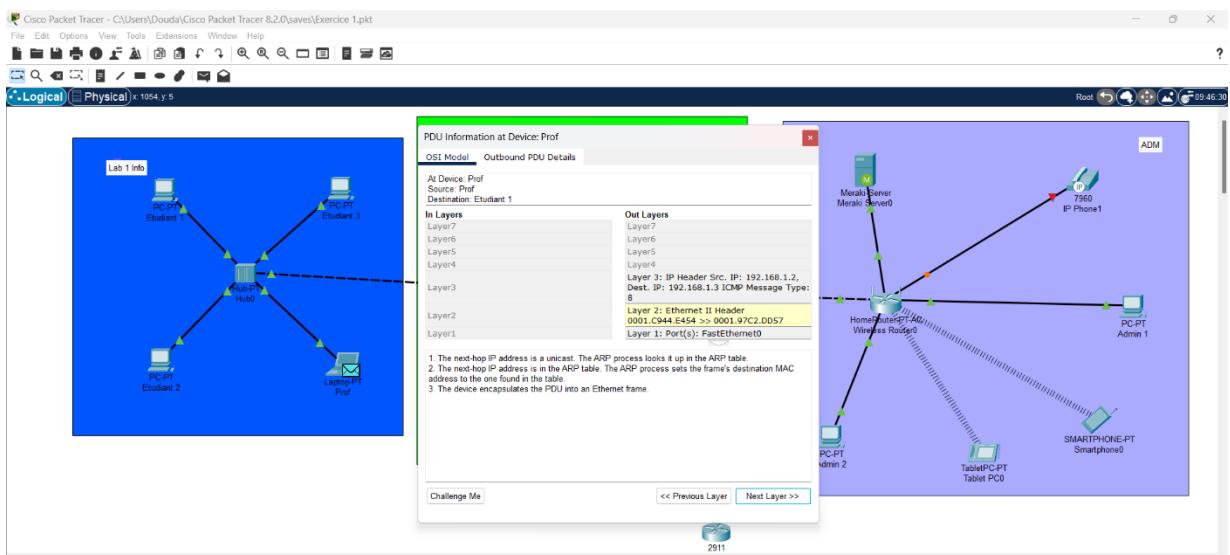
33°C Eclairies

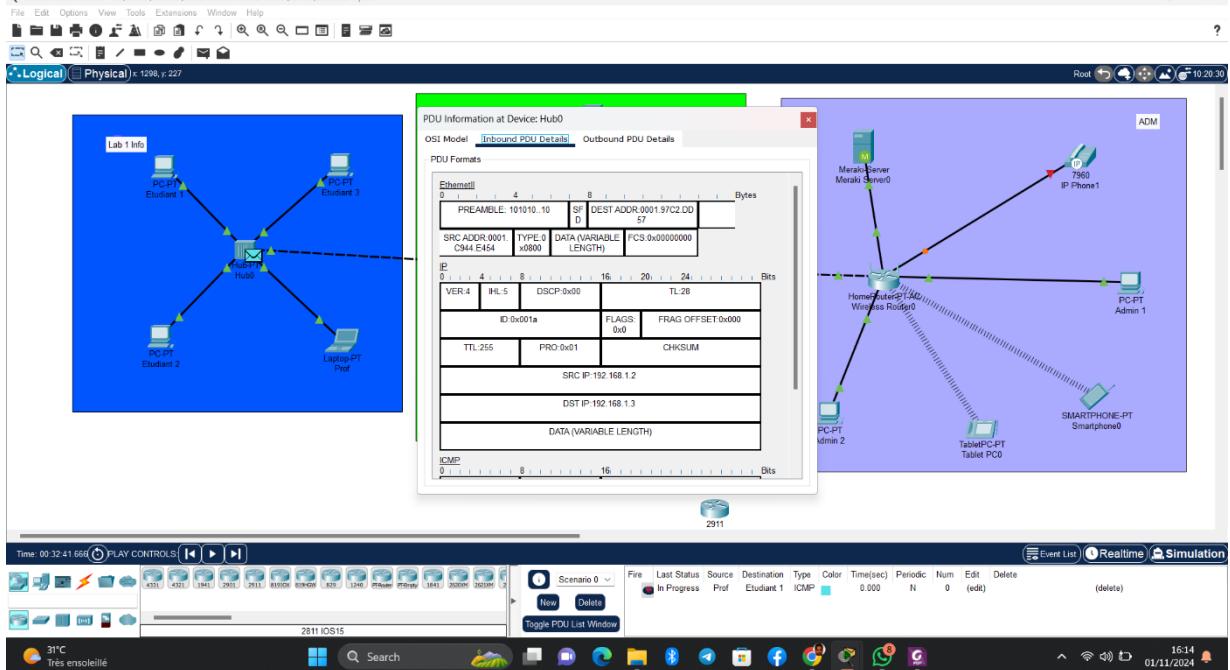
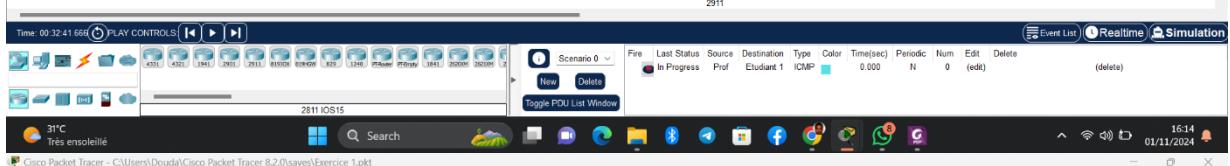
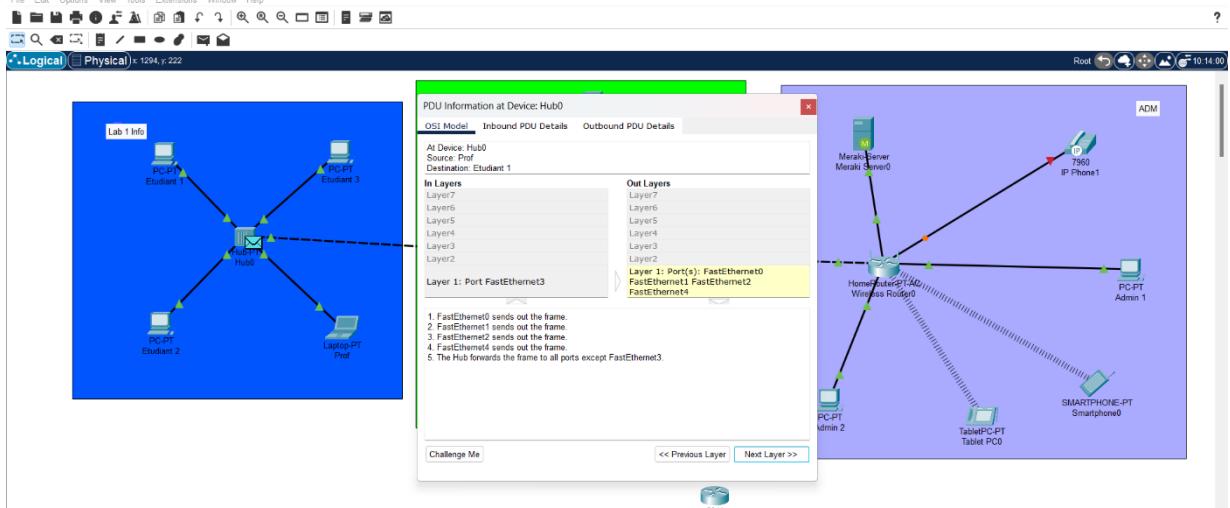
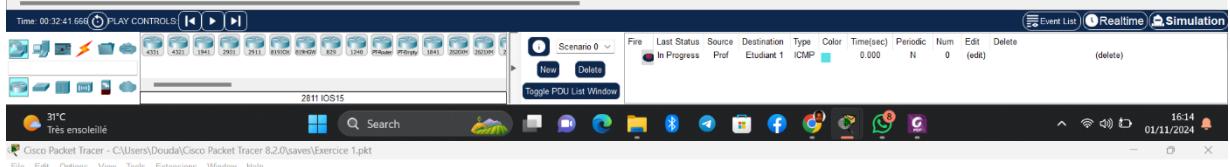
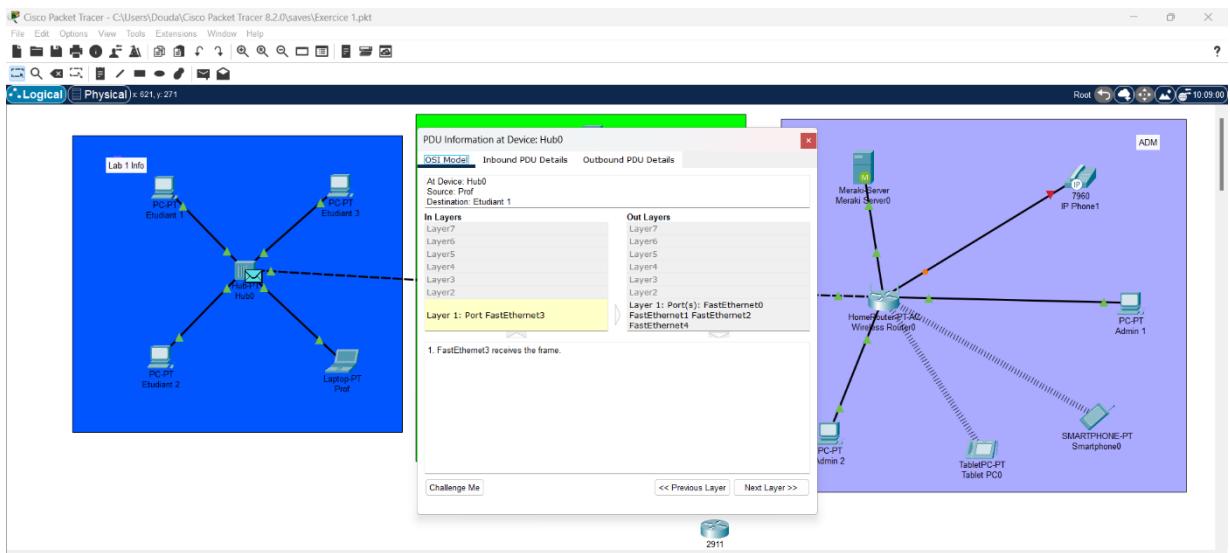
Search

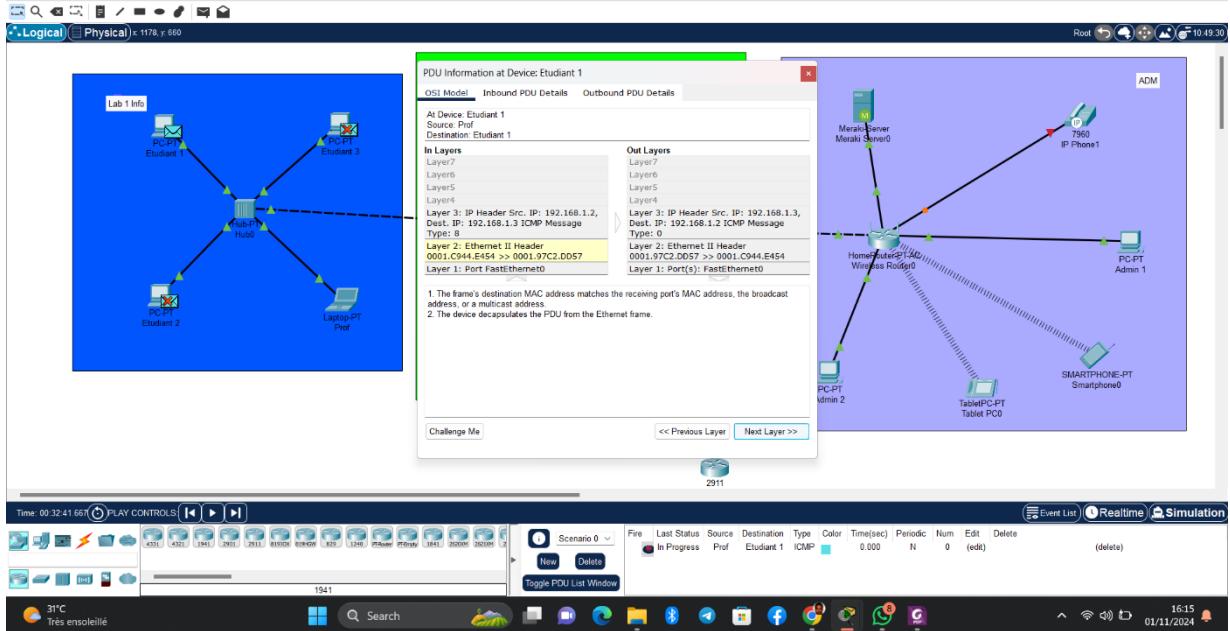
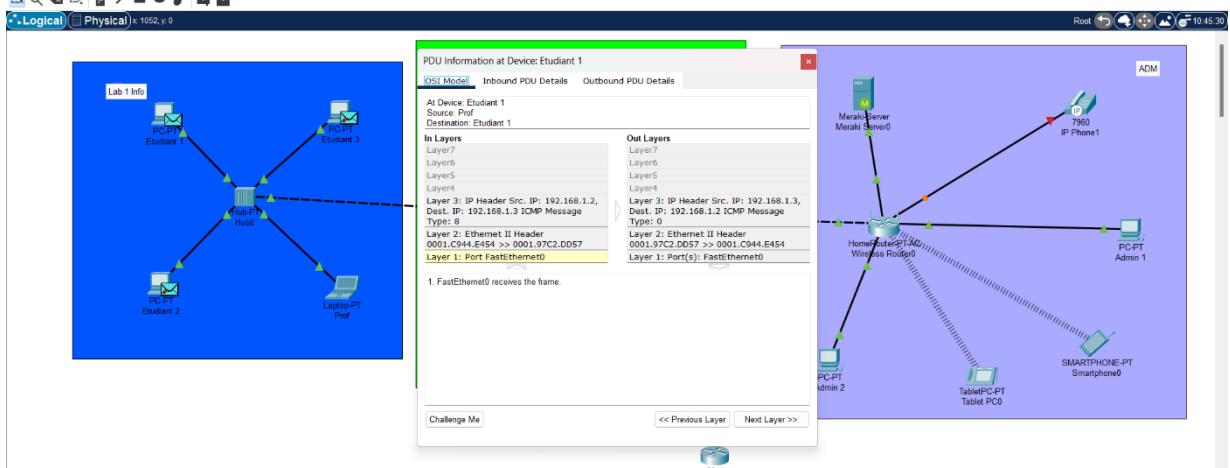
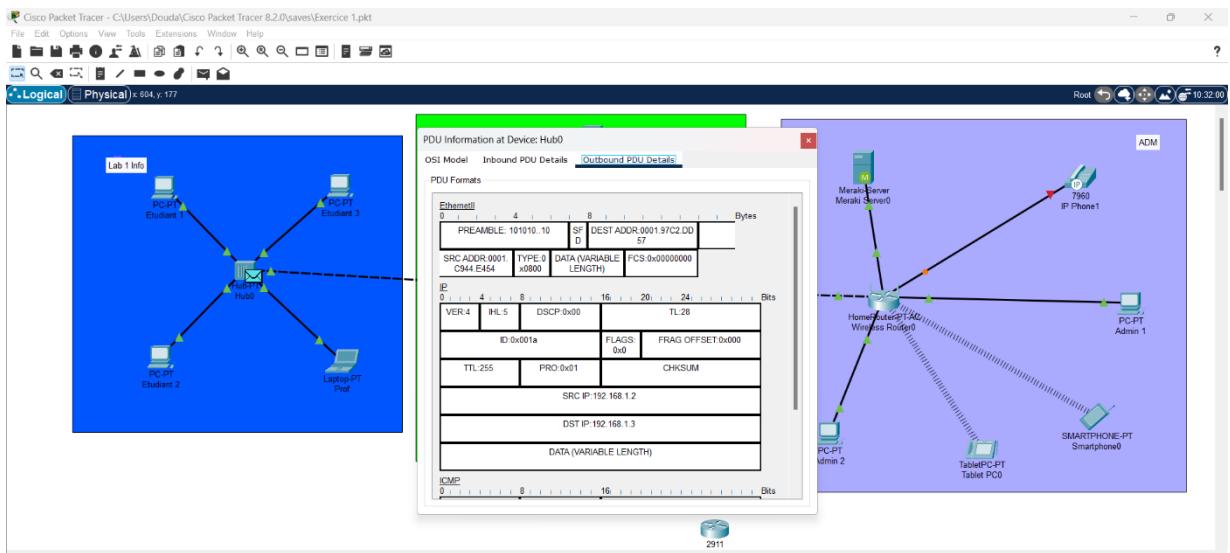
01/11/2024 15:05

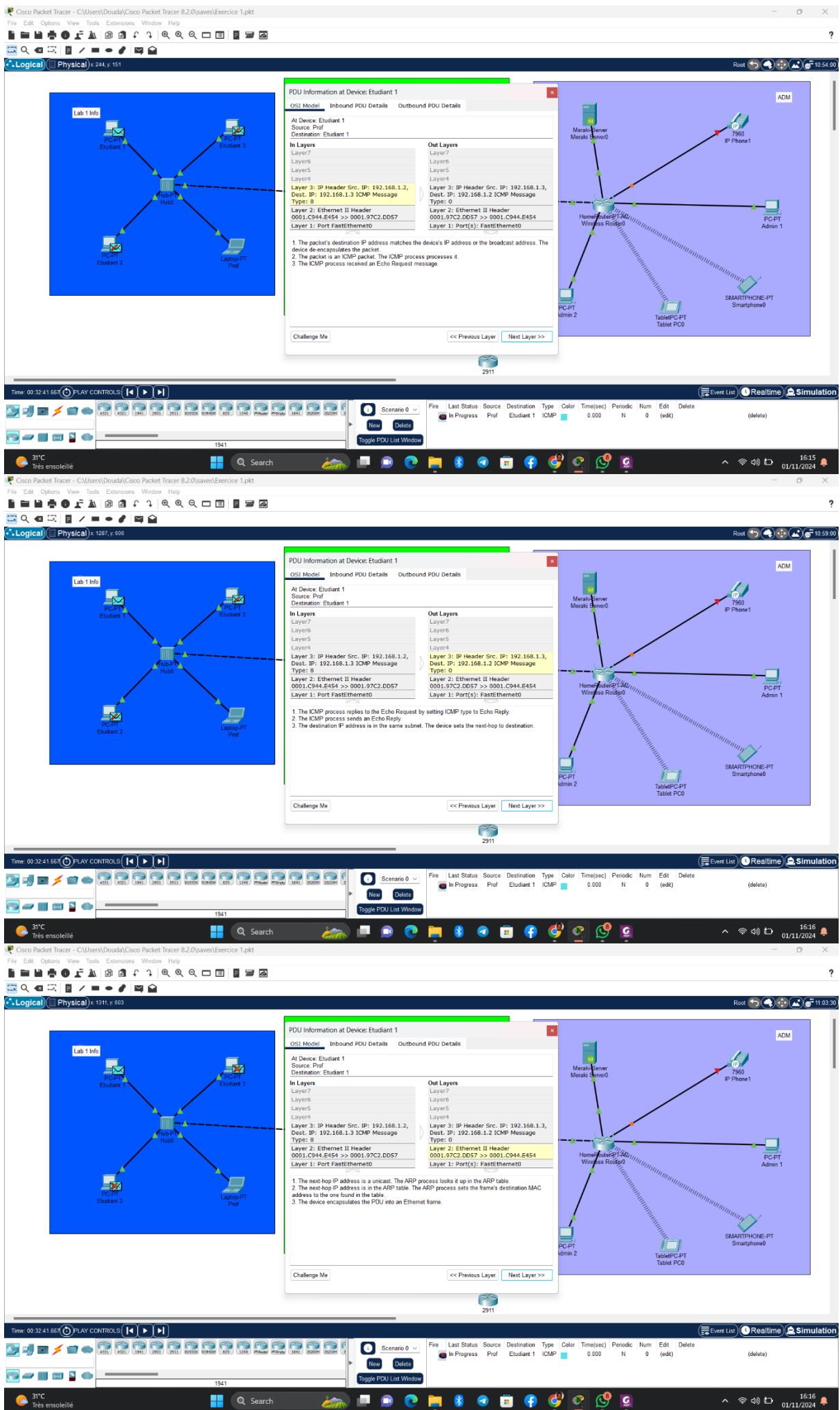


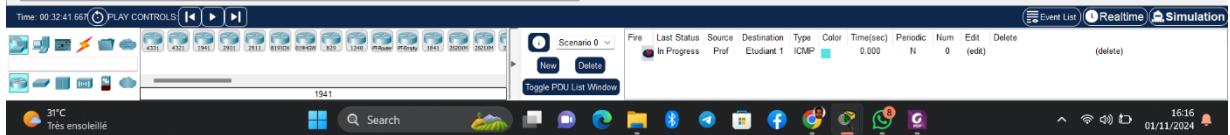
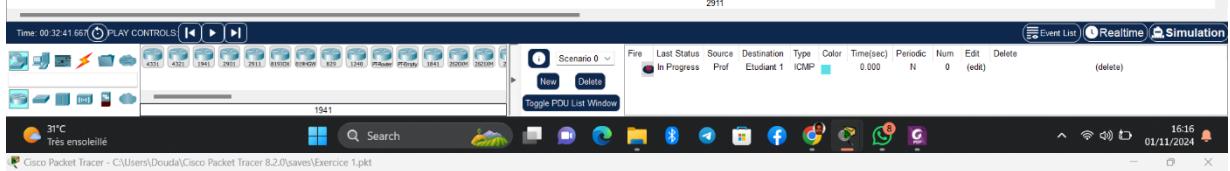
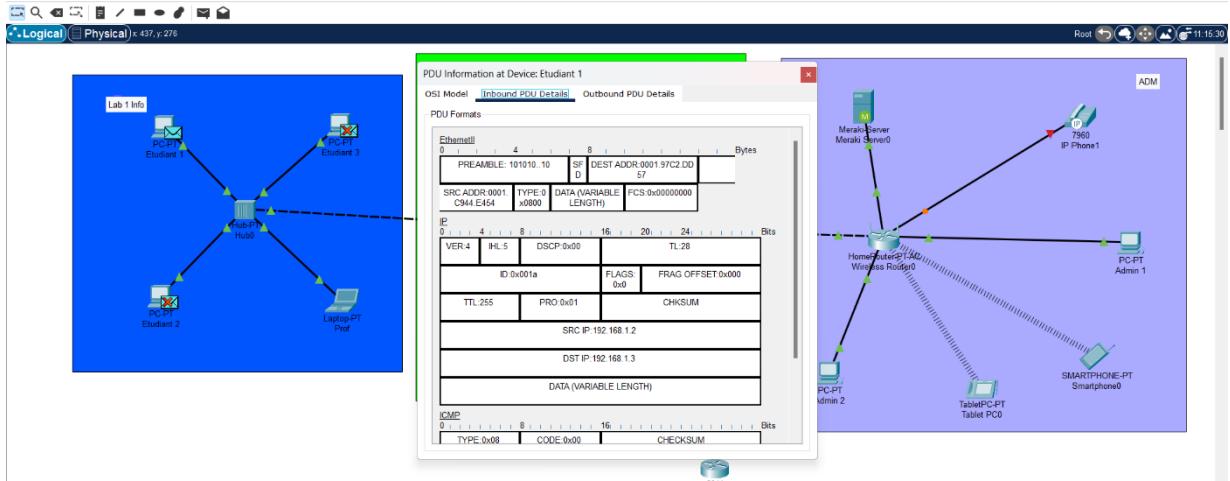
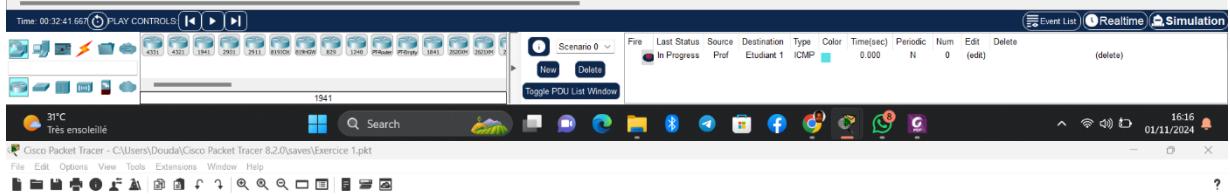
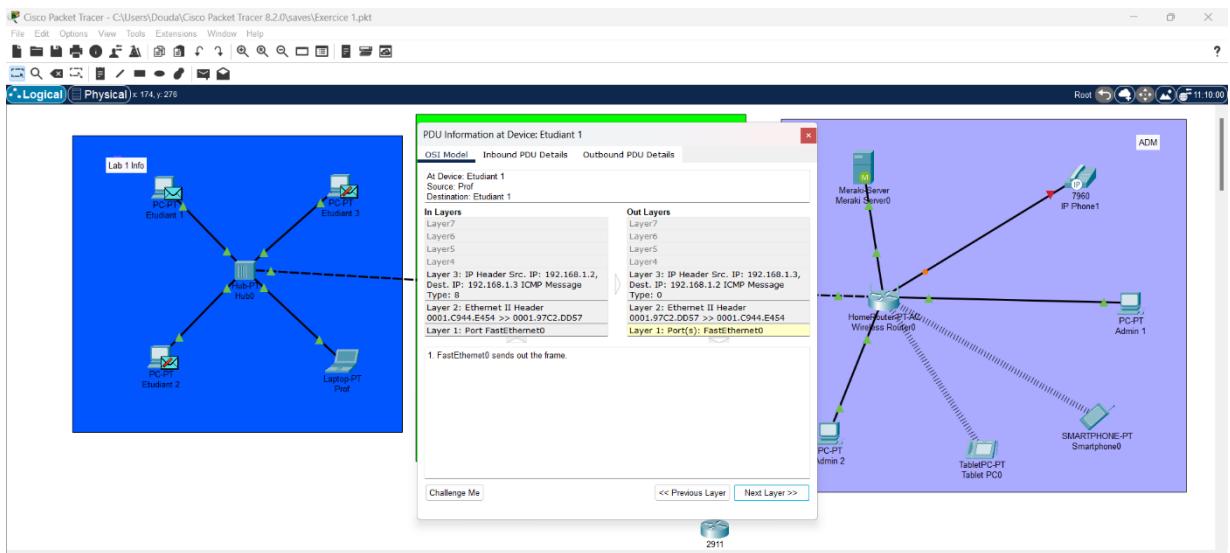


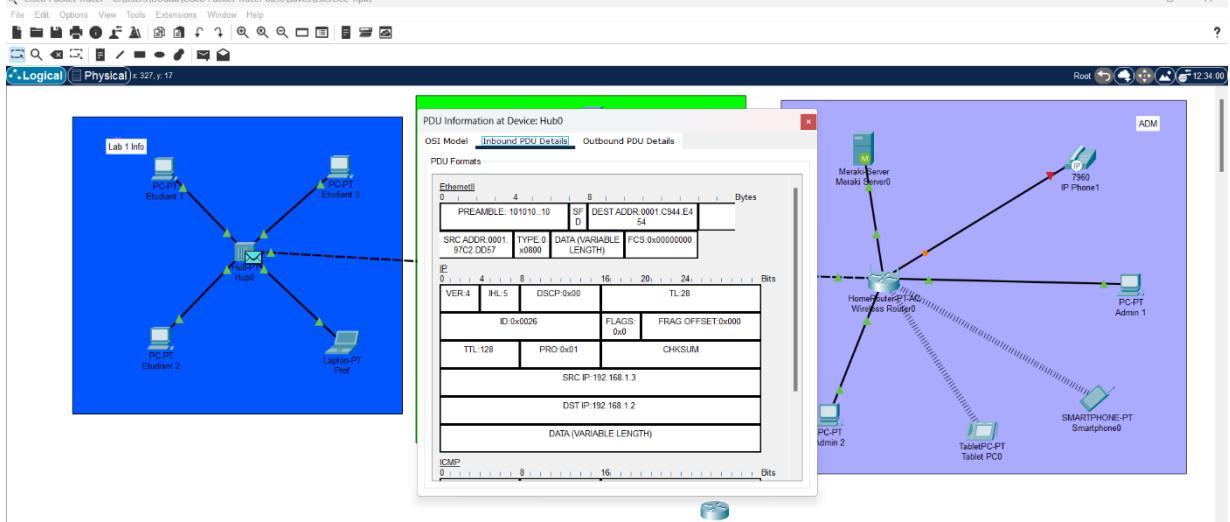
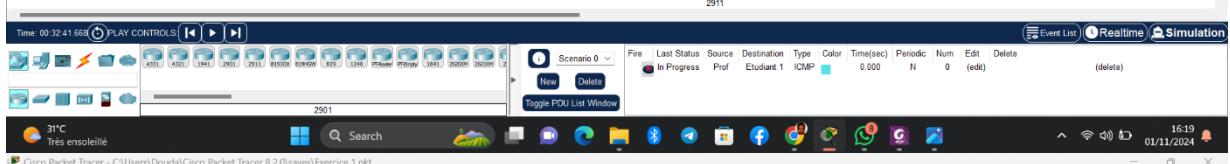
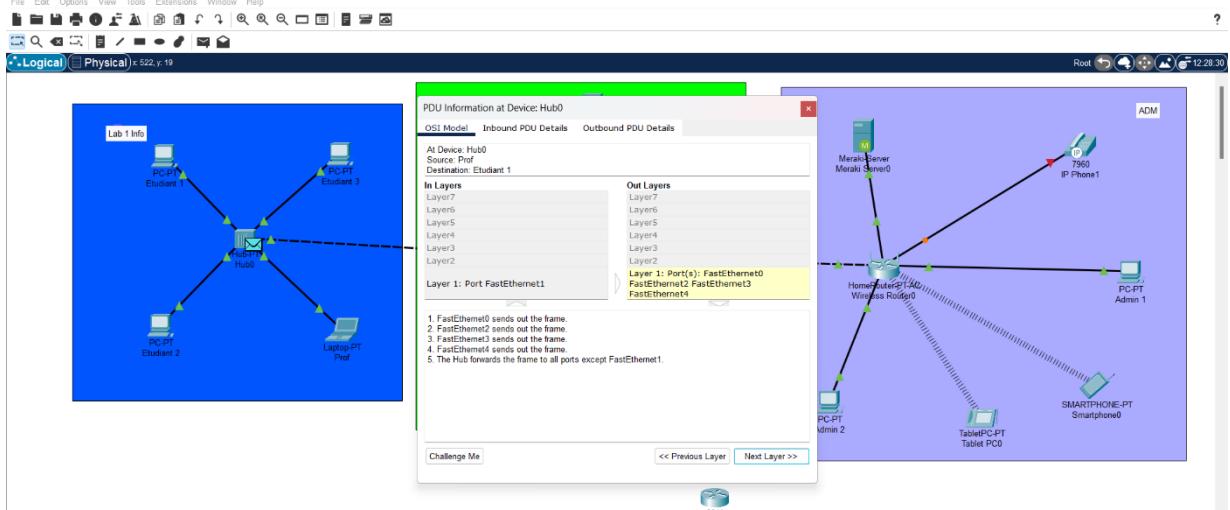
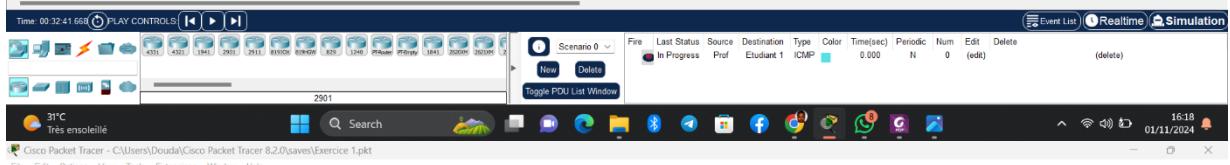
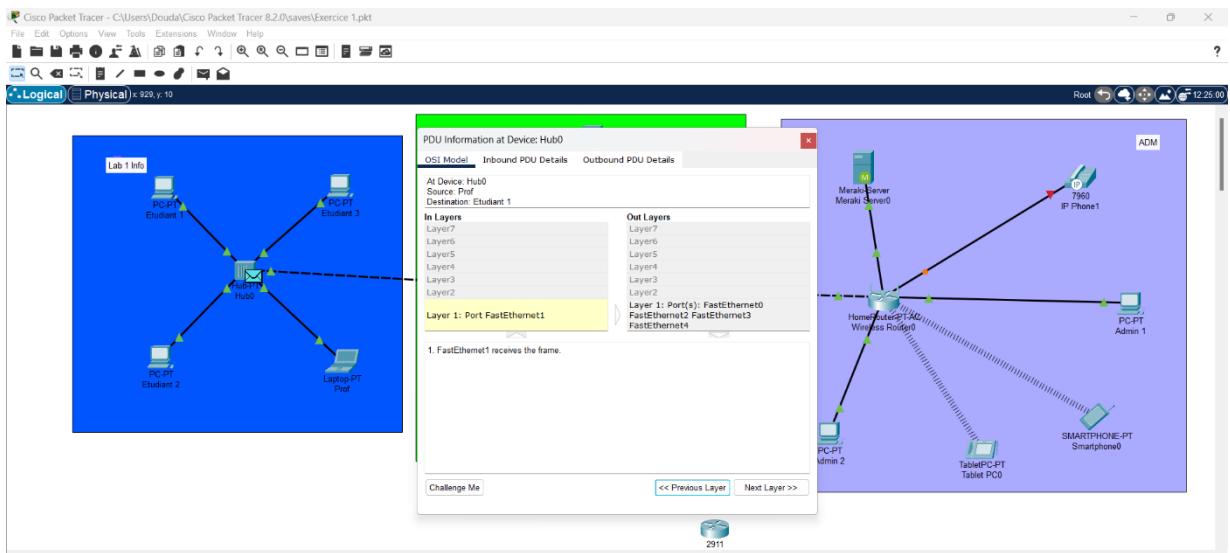


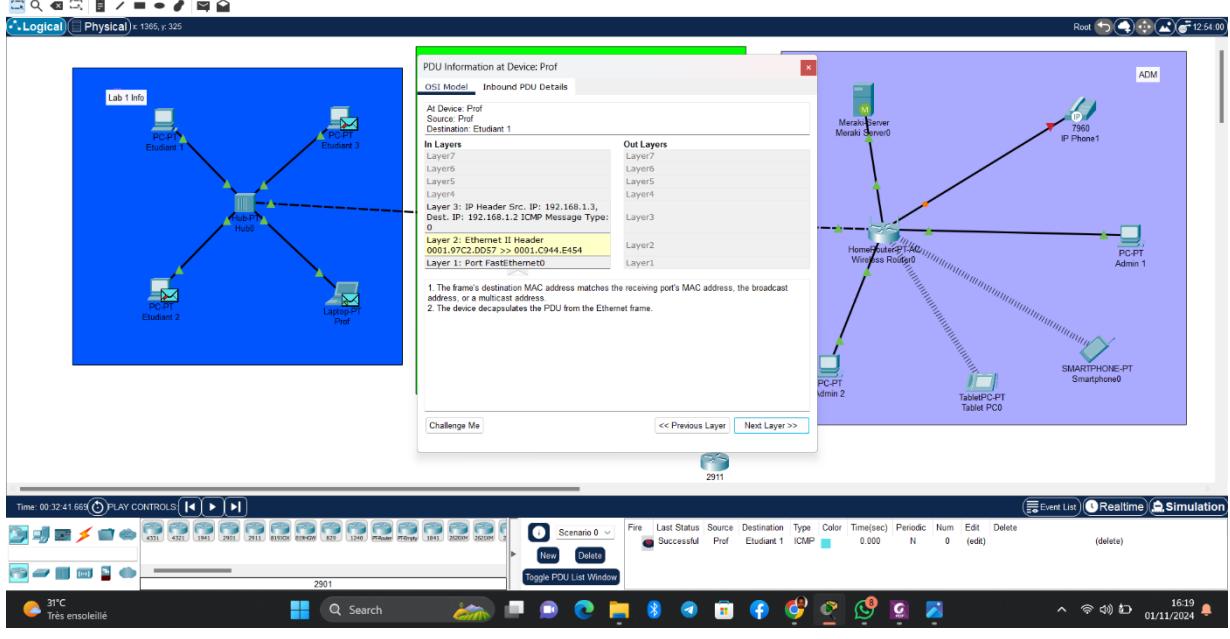
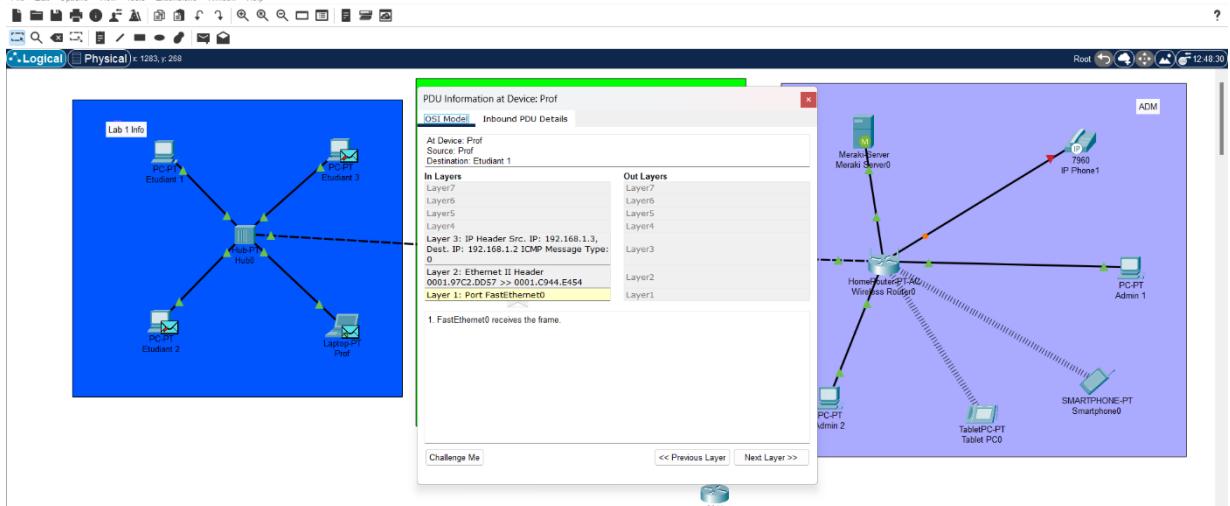
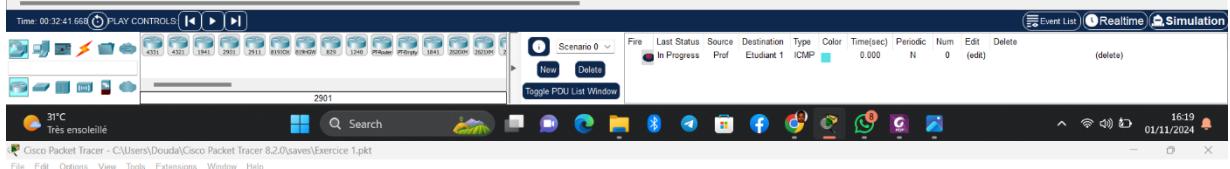
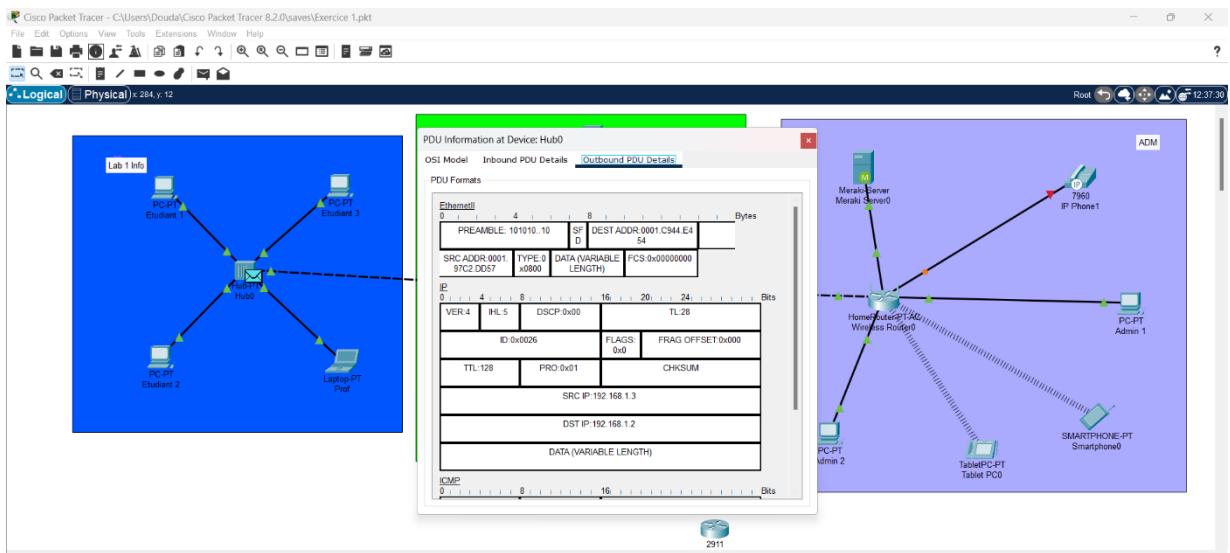


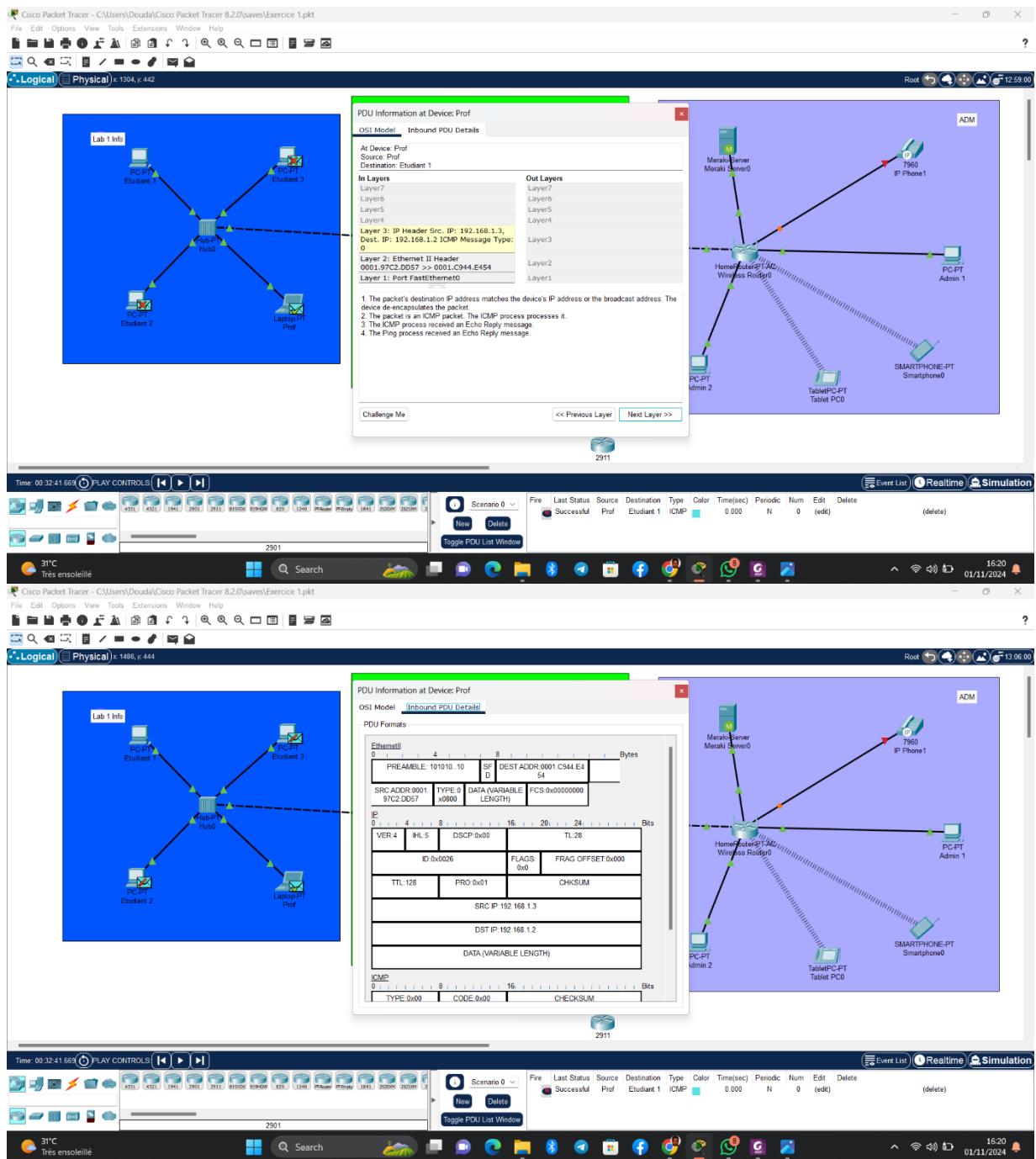






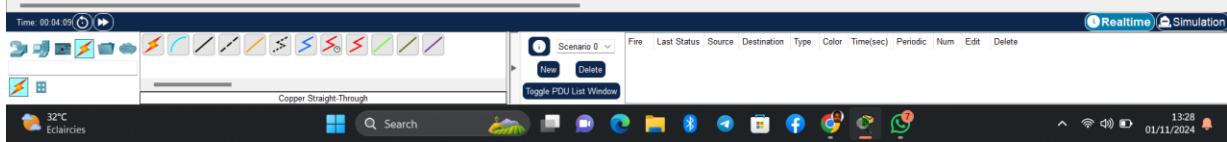
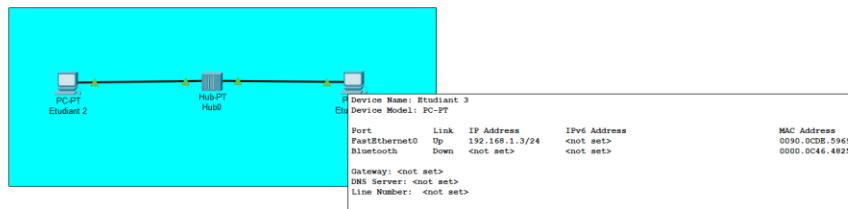
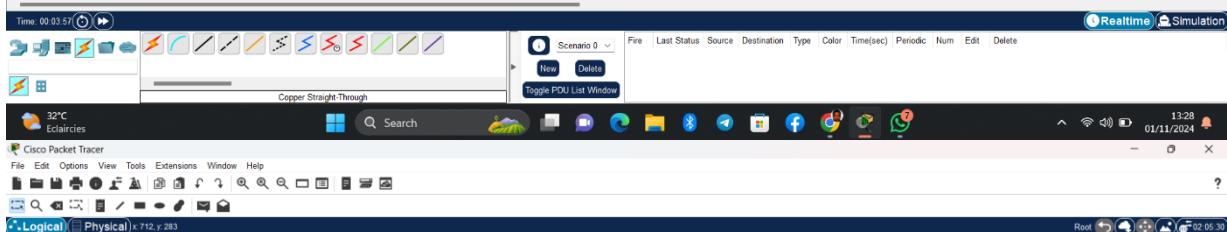
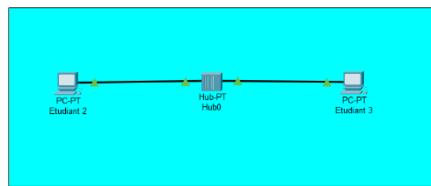


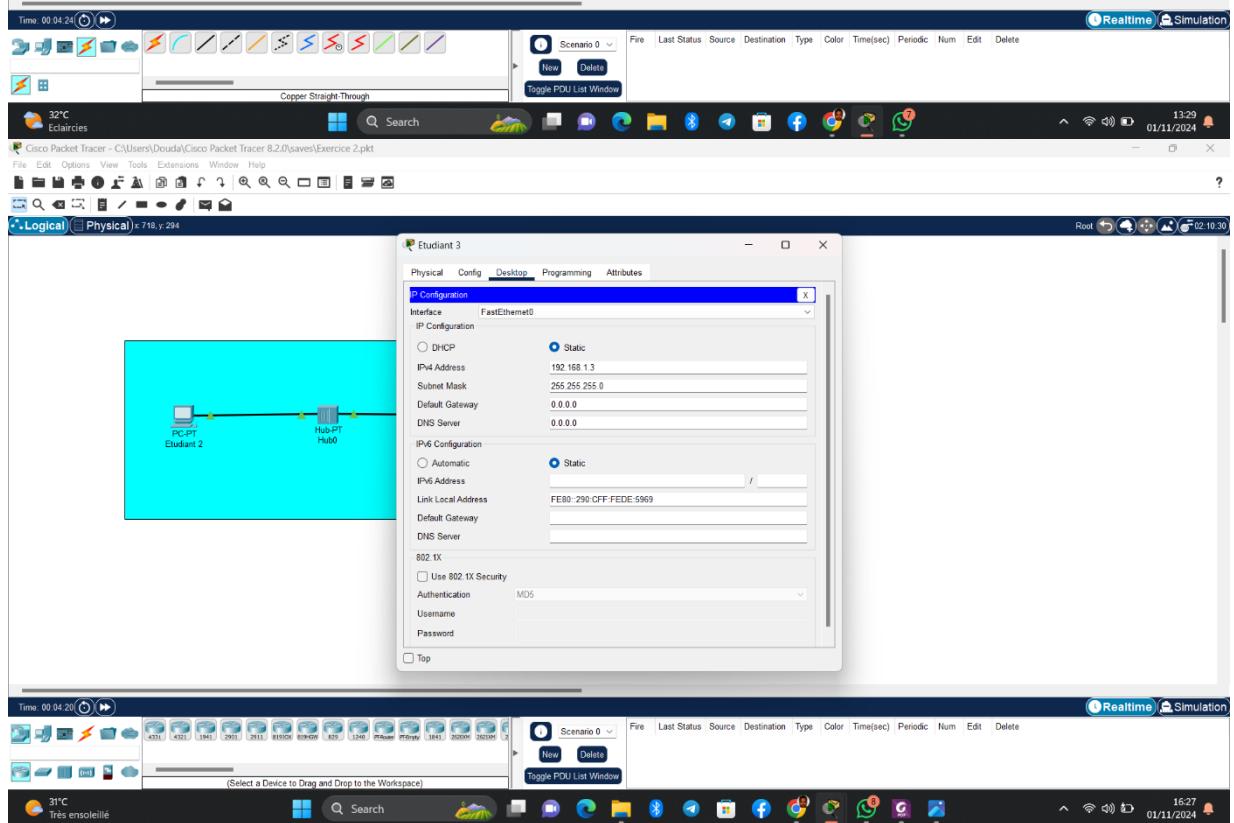
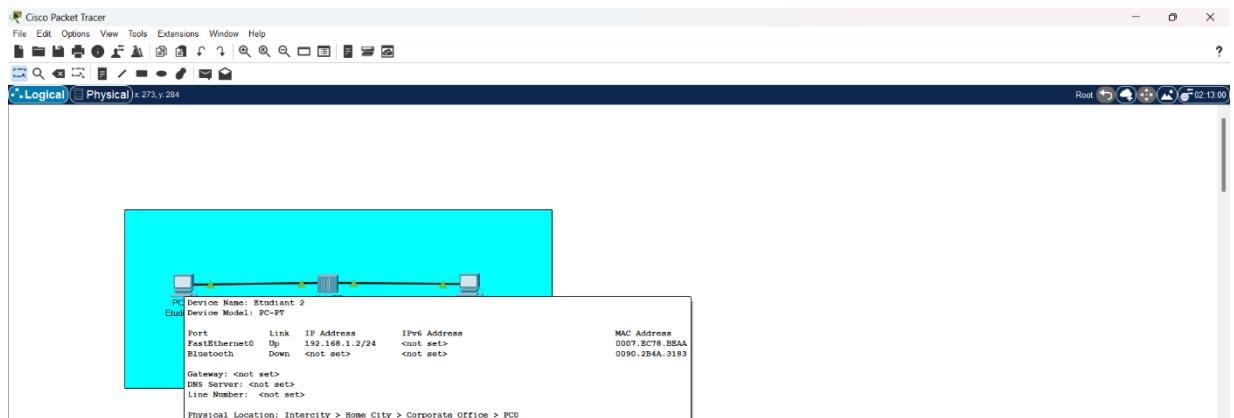


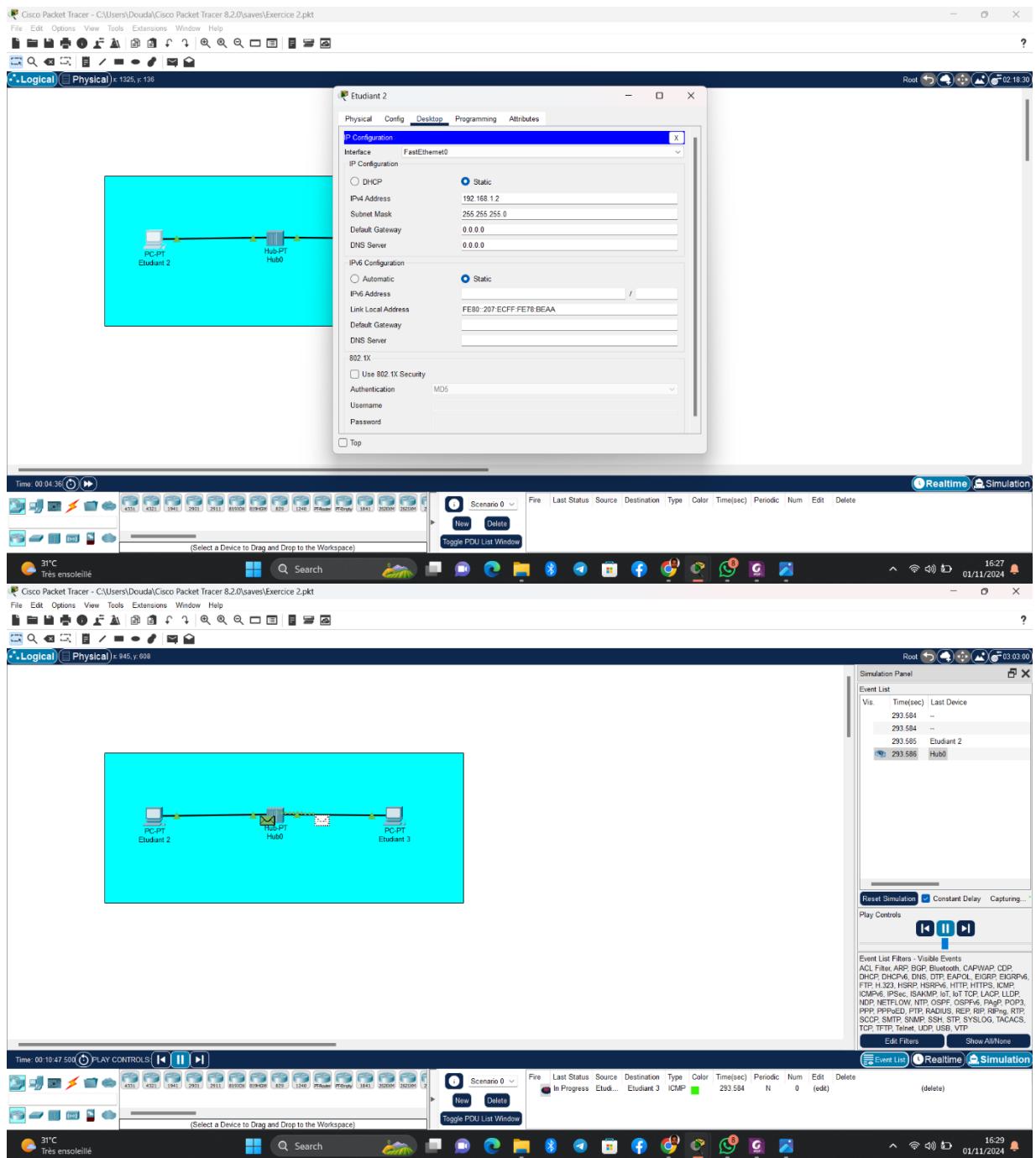


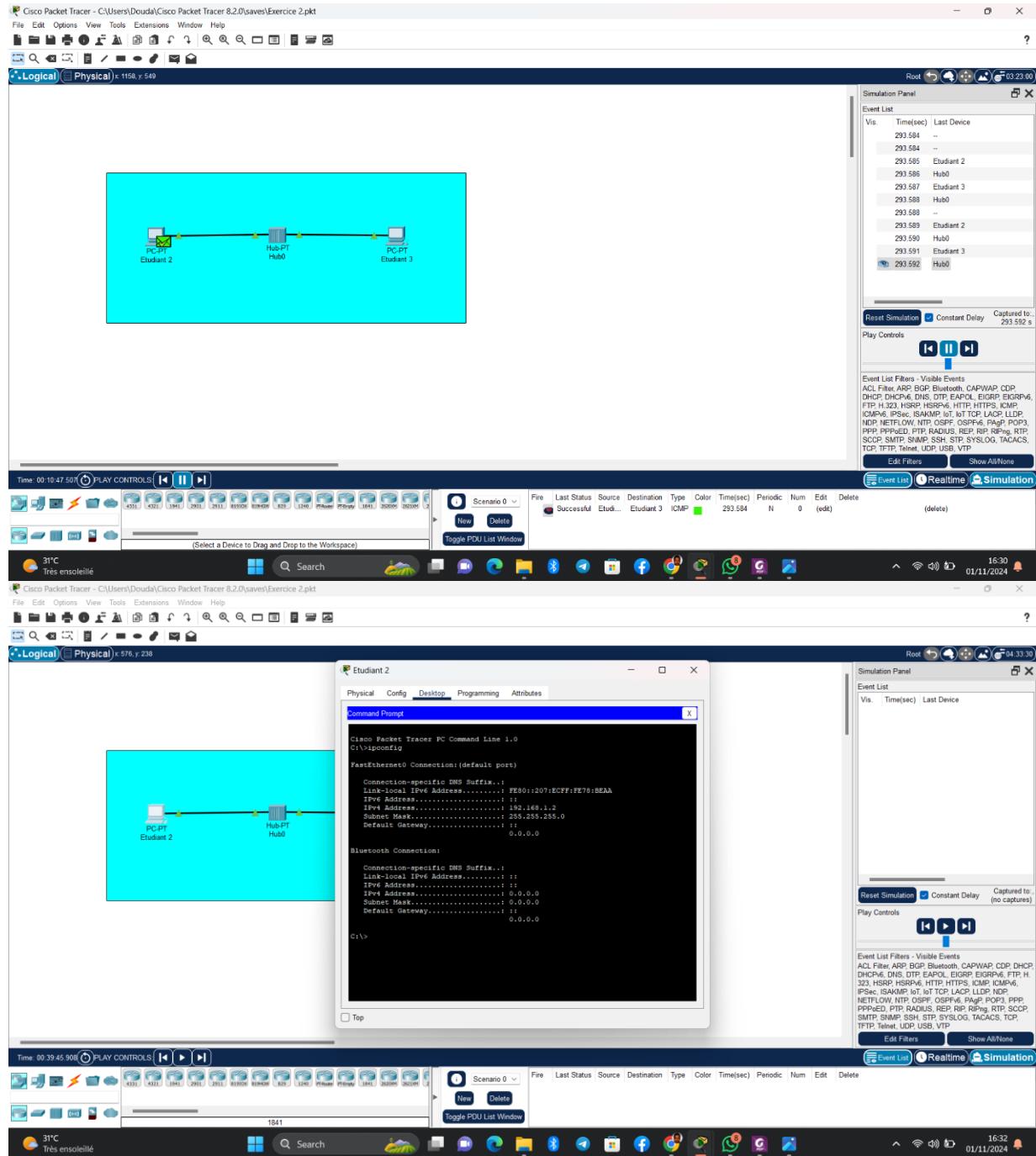
## Exercice 2

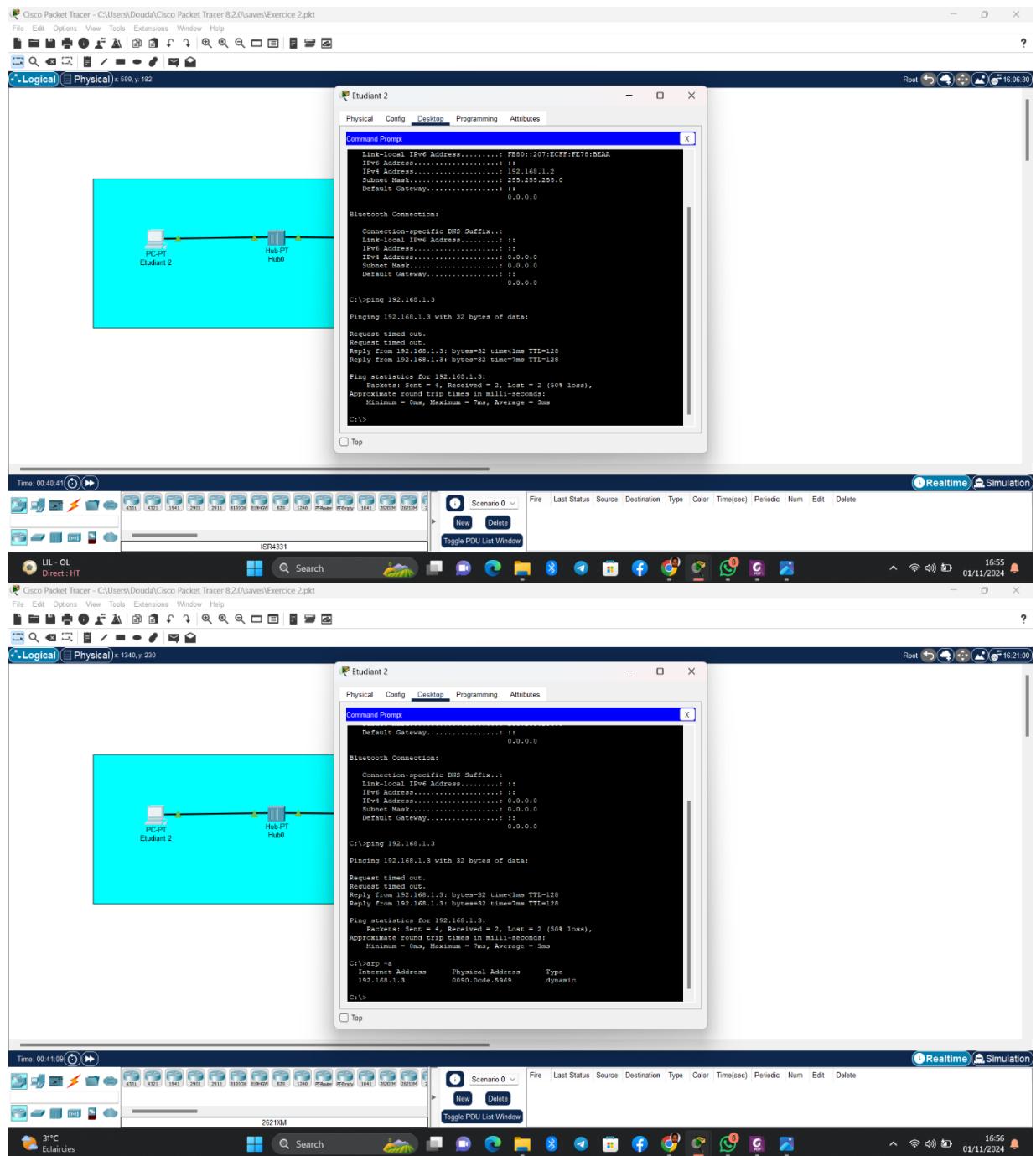
Reproduisez cette topologie, configurez les adresses IP, observez les tables ARP et analysez 3 des paquets en simulation.

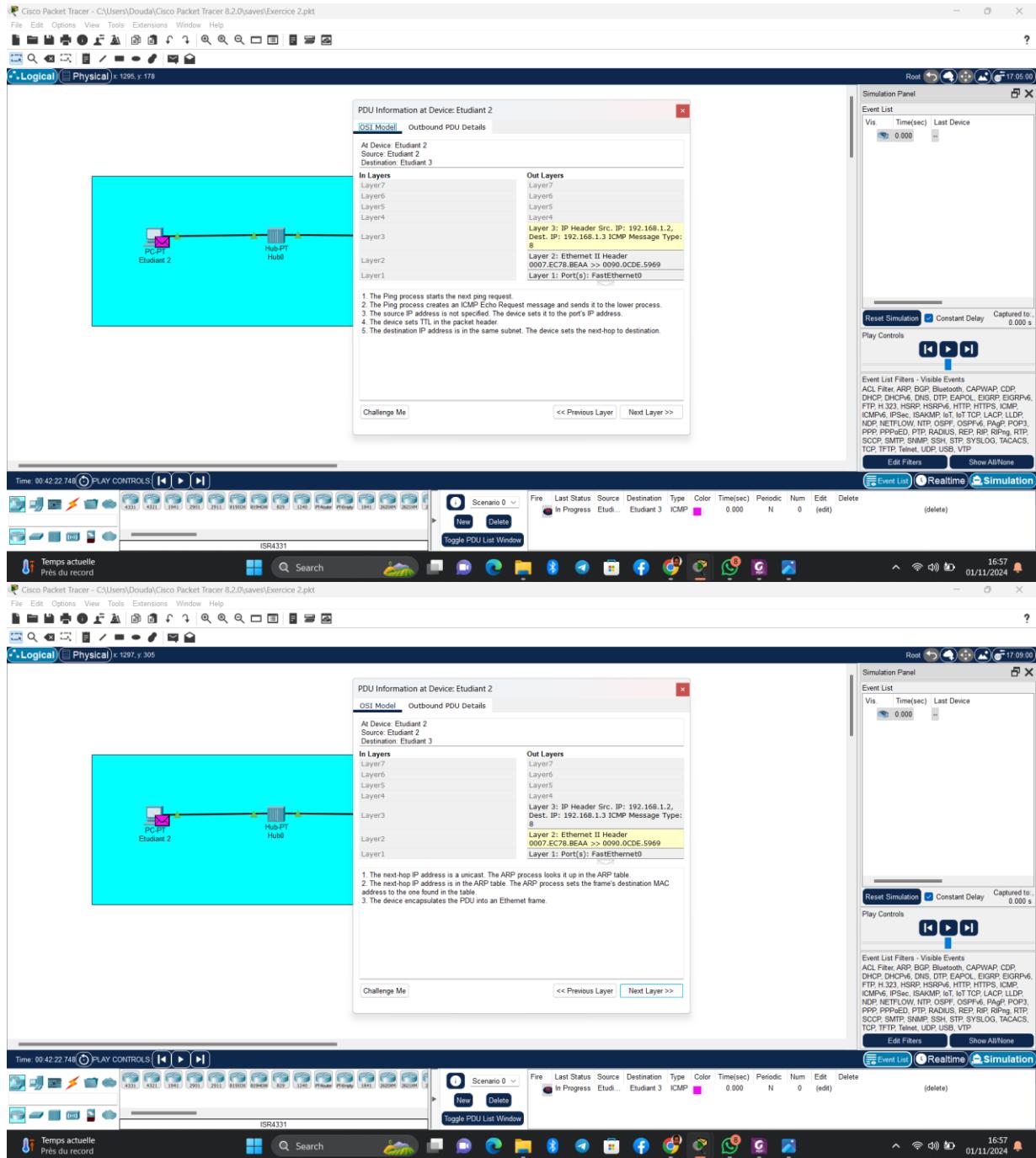


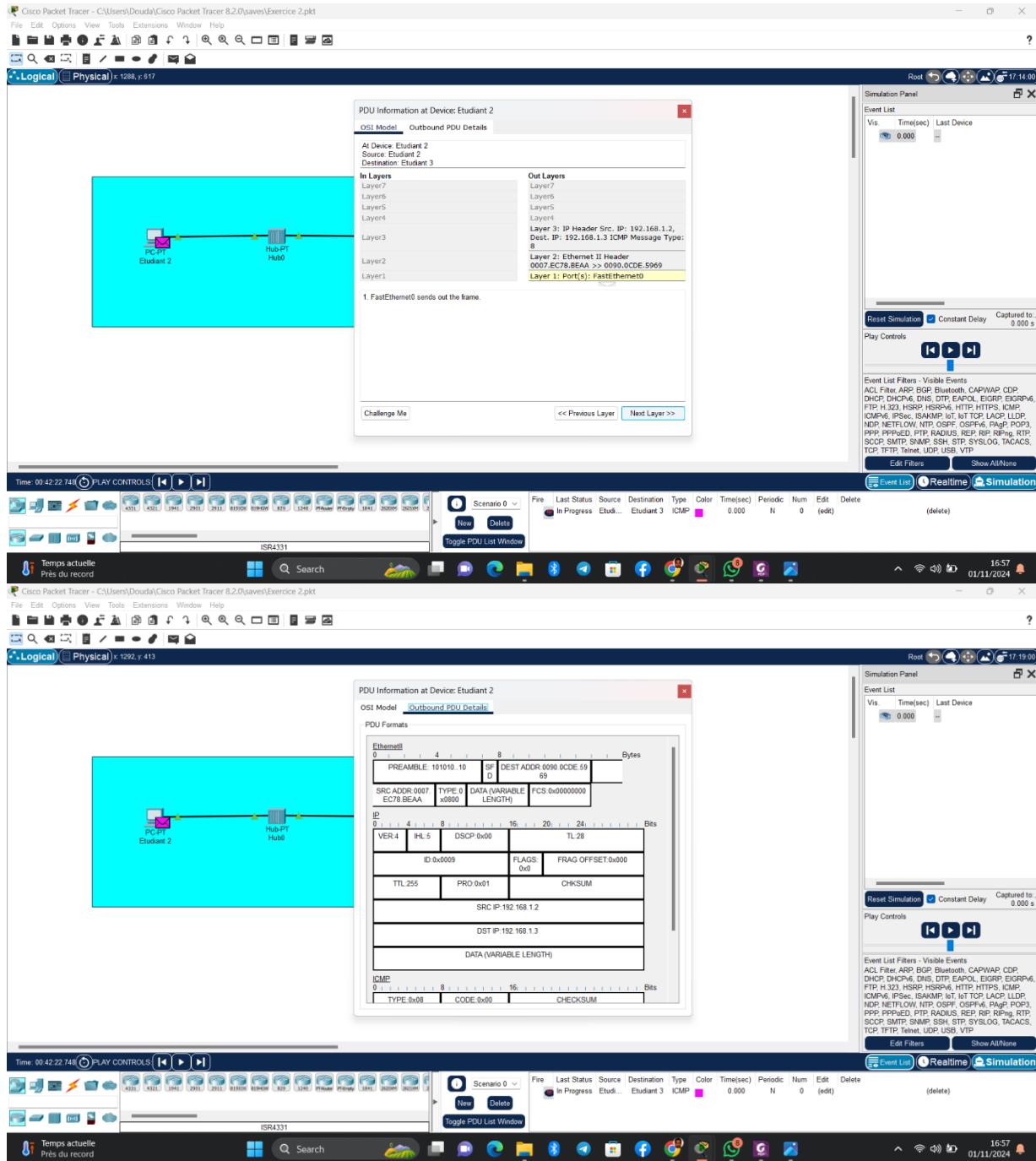


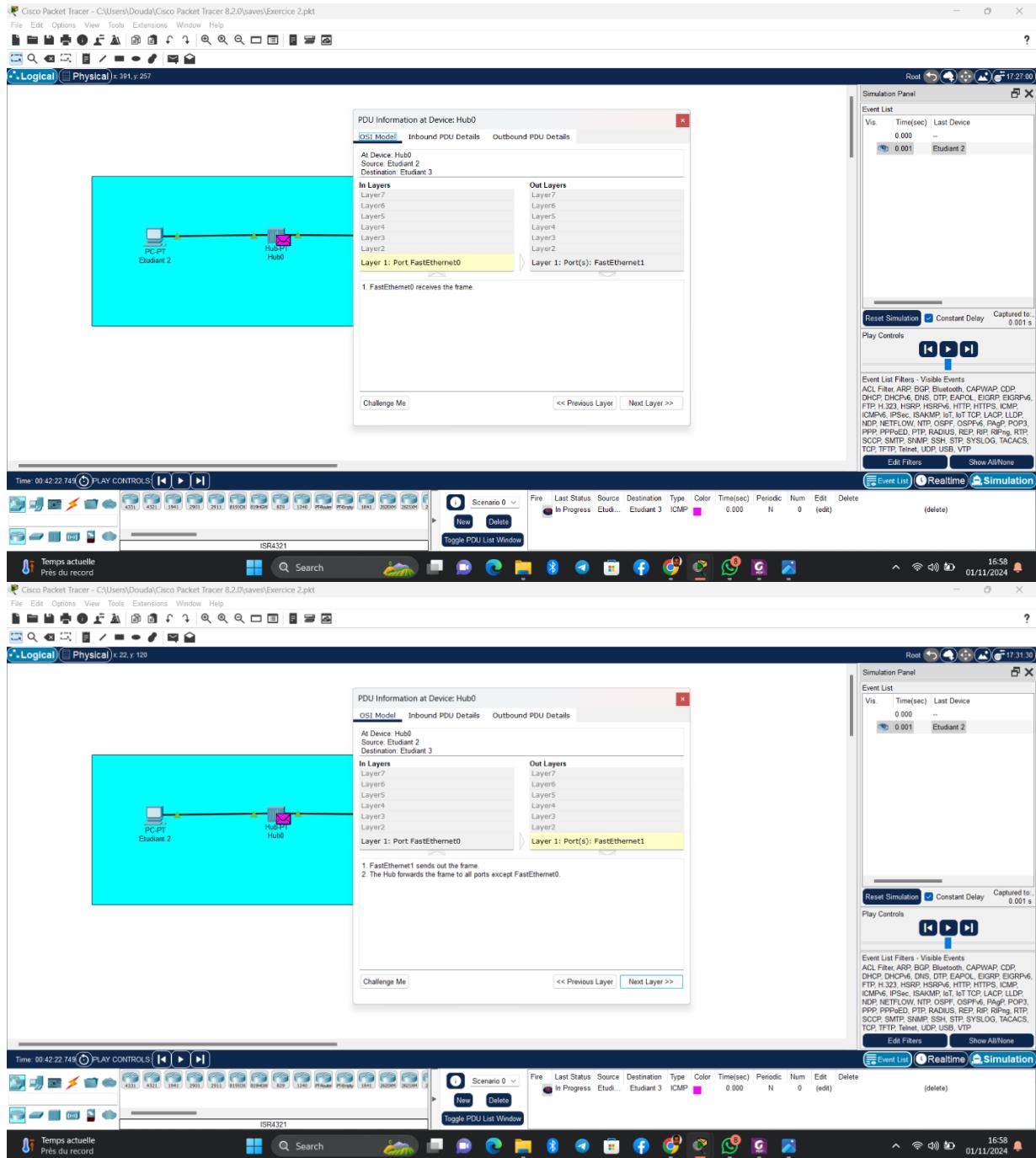


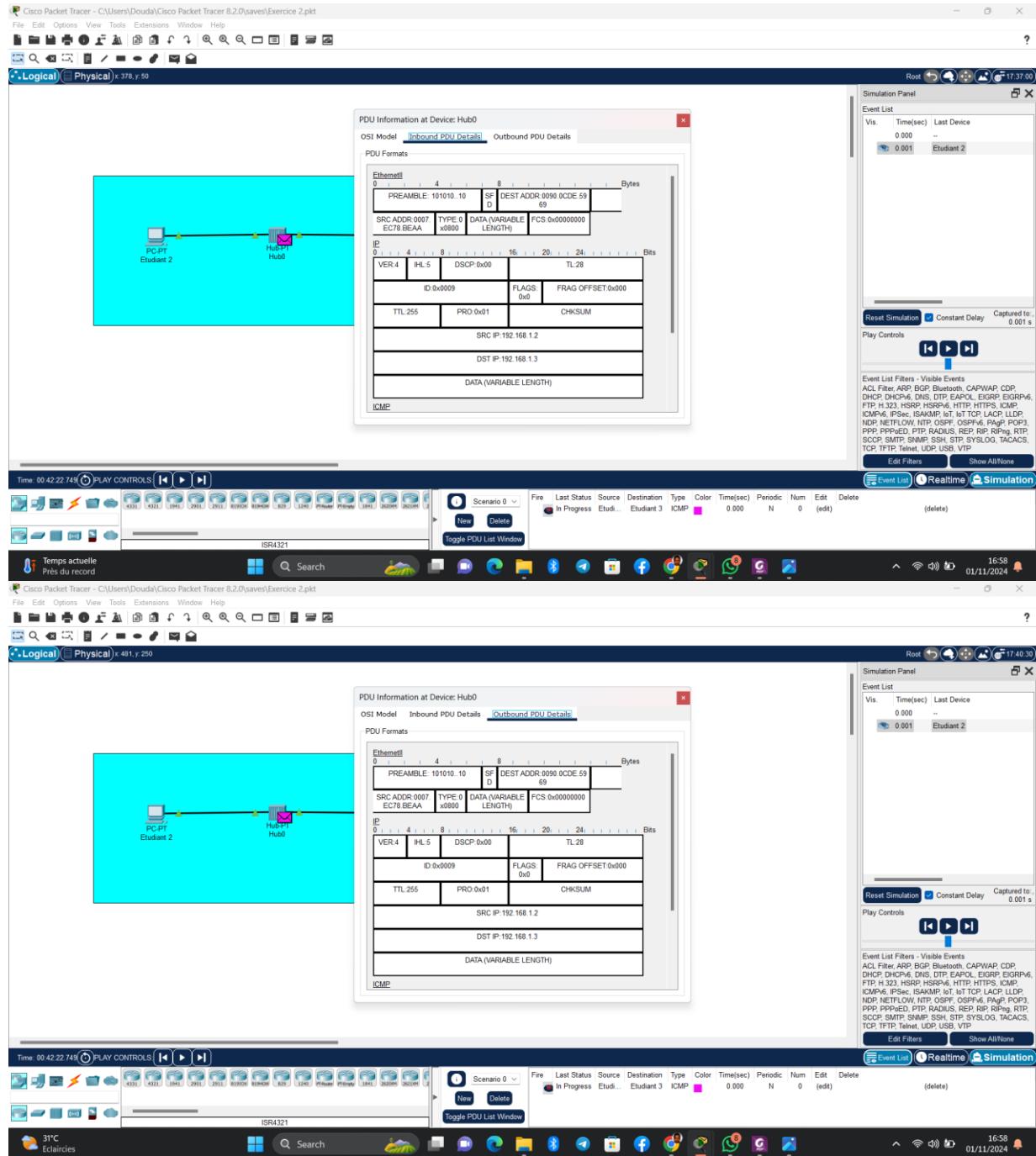


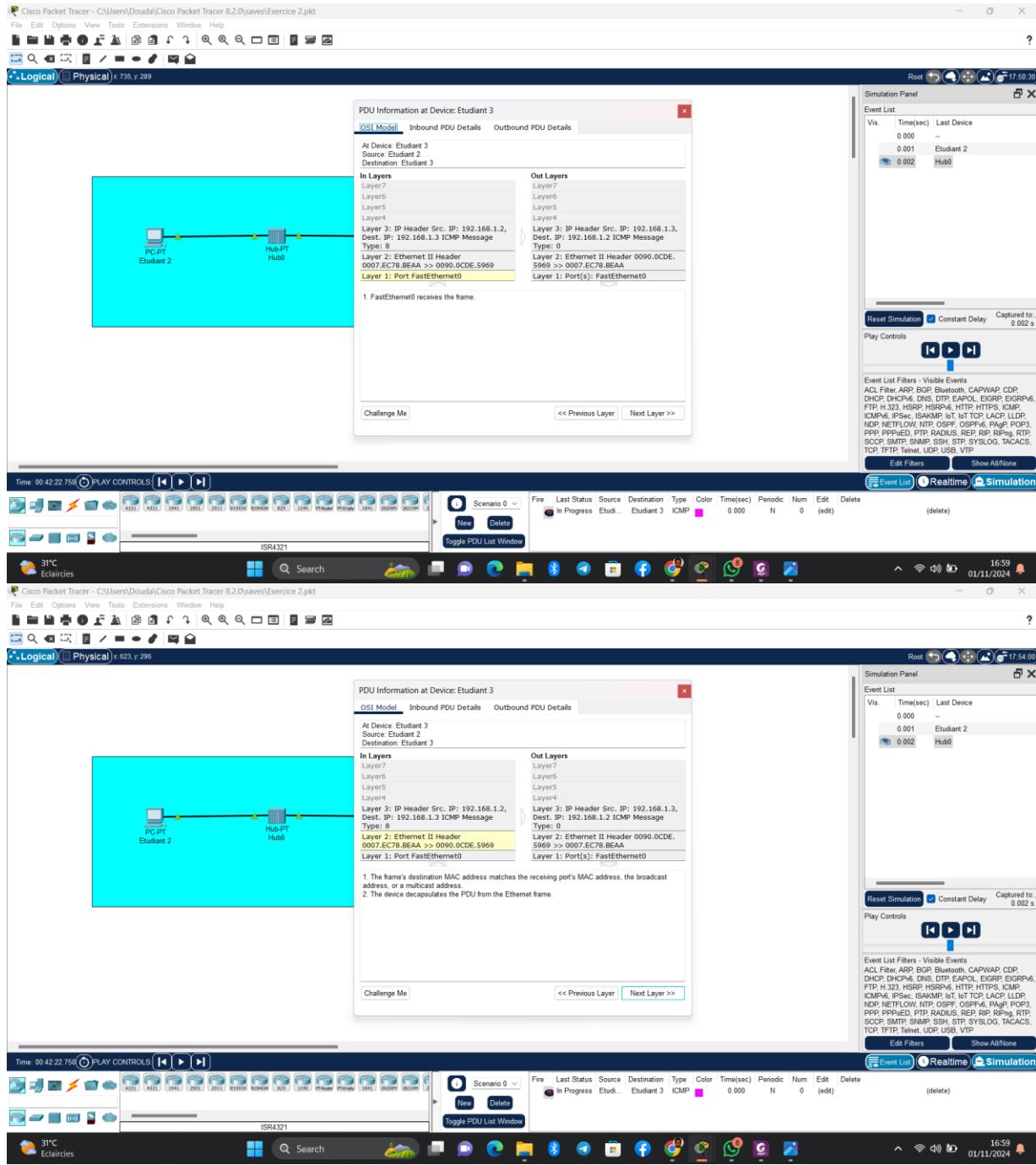


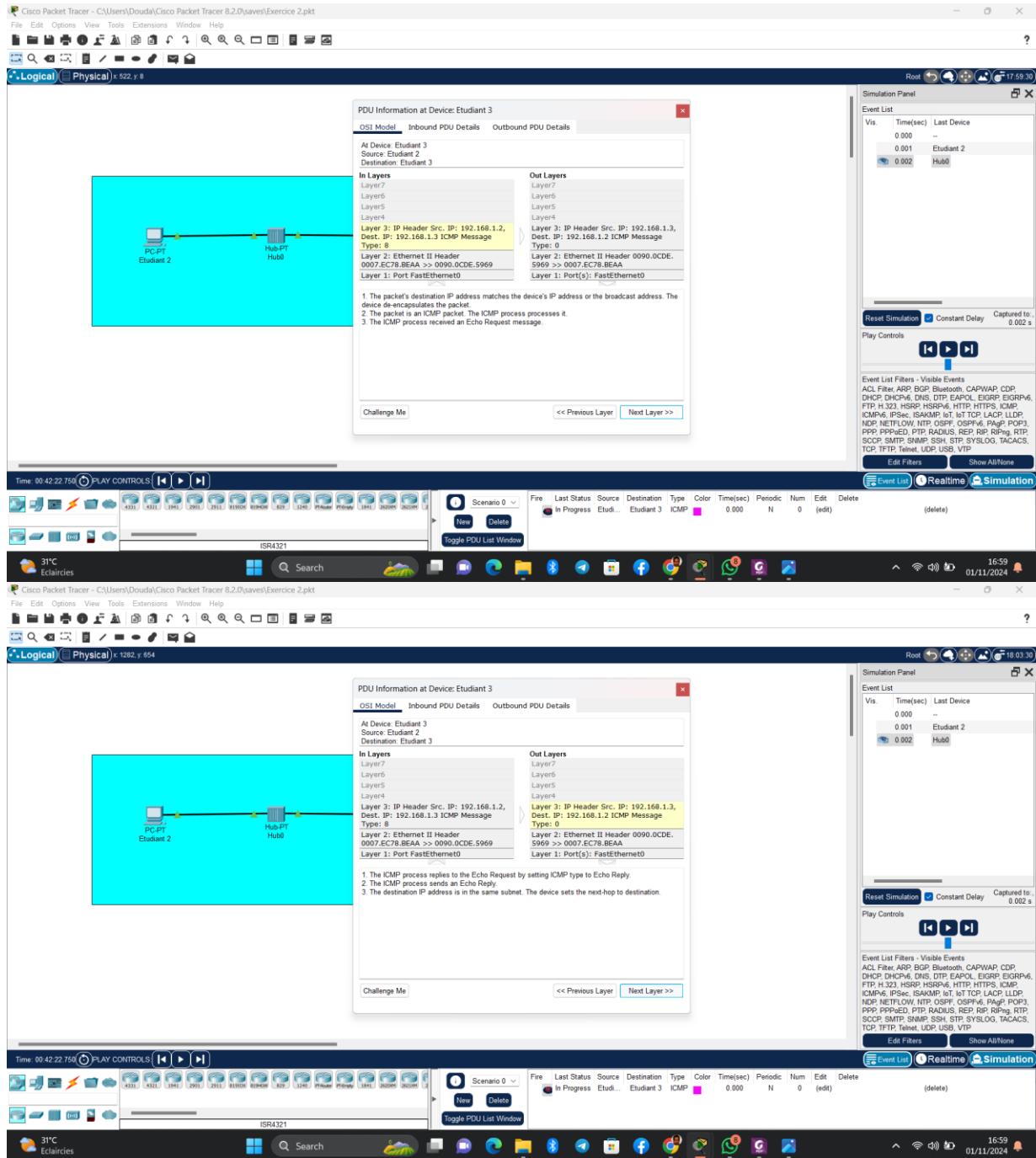


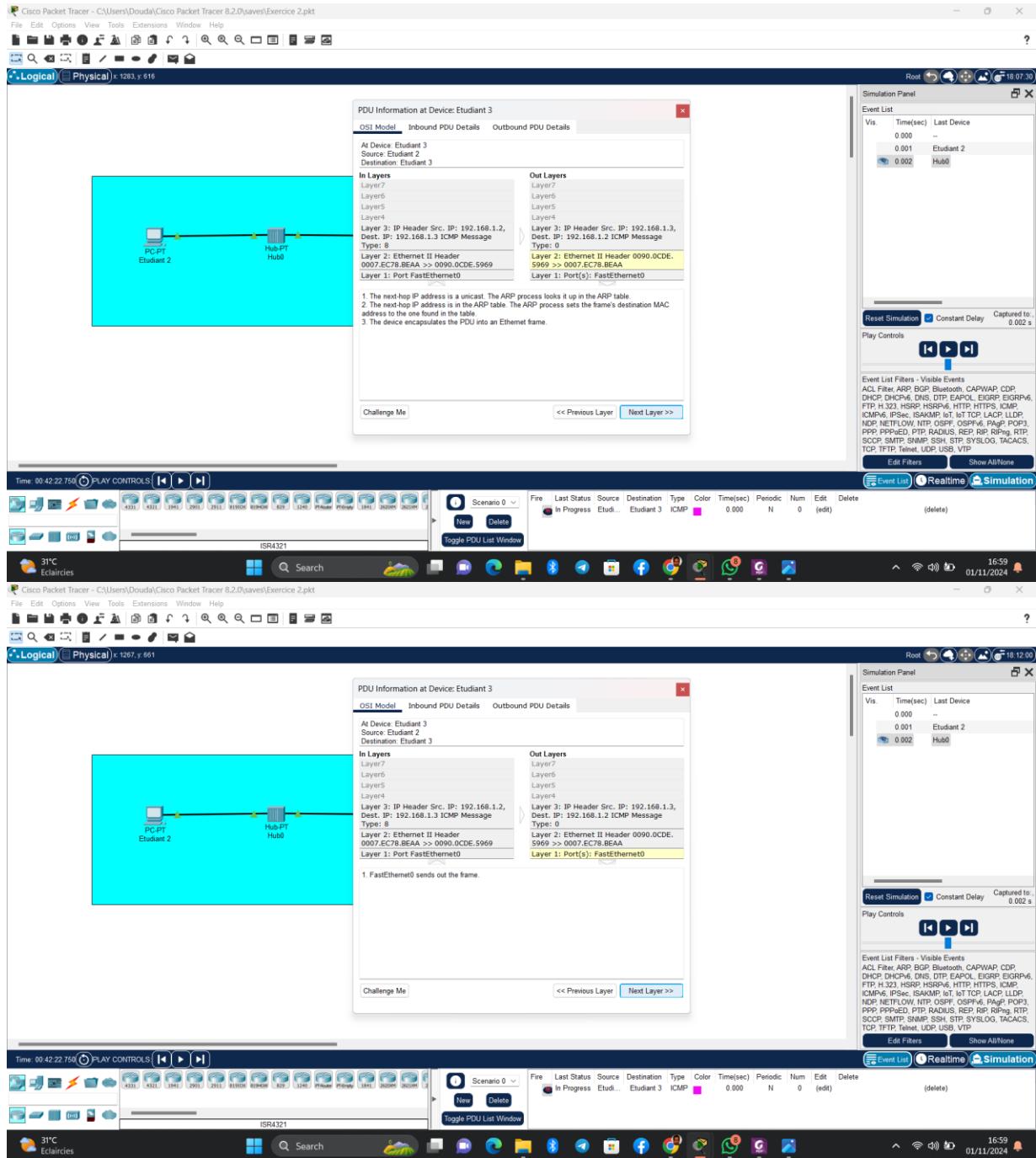


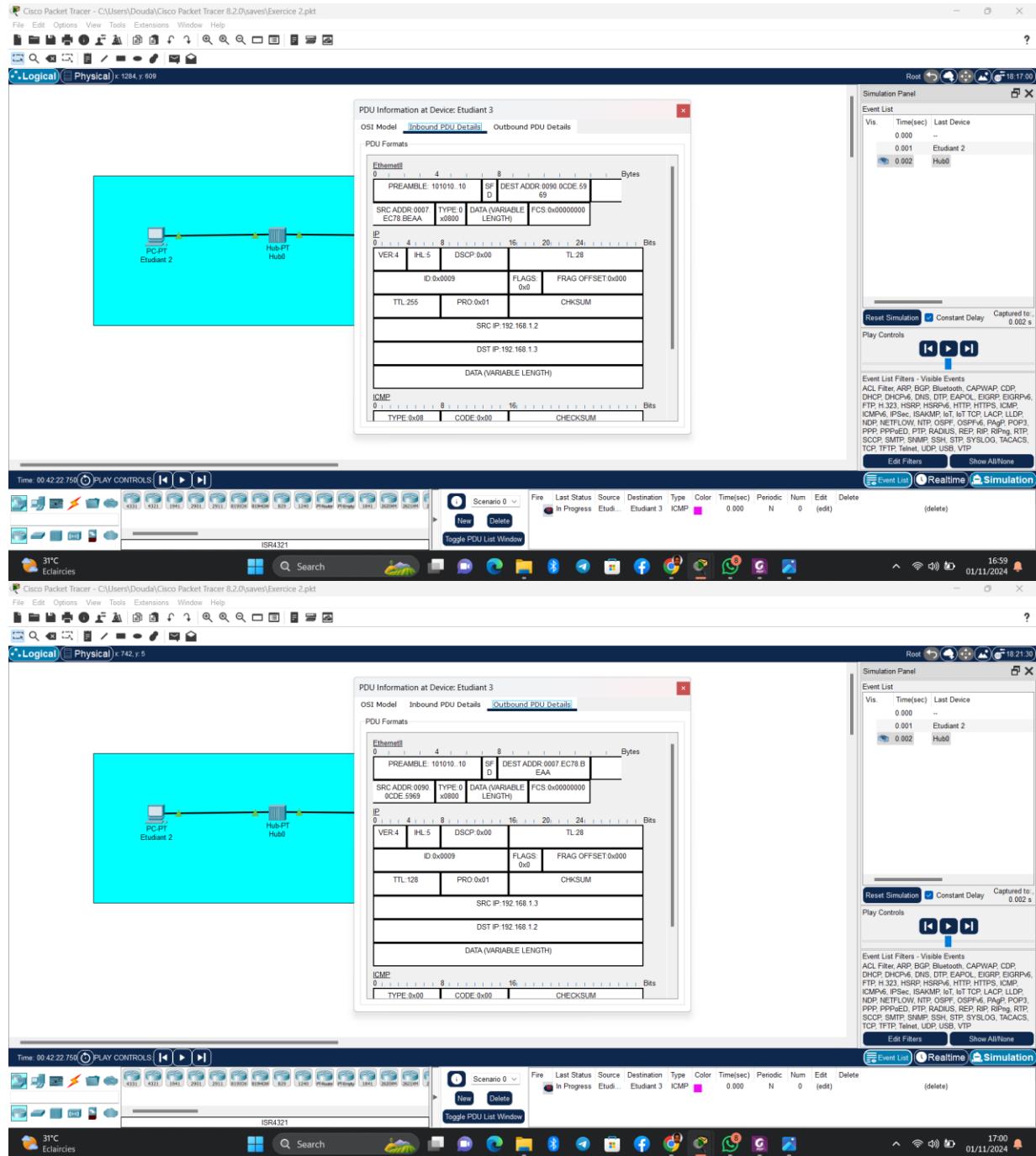


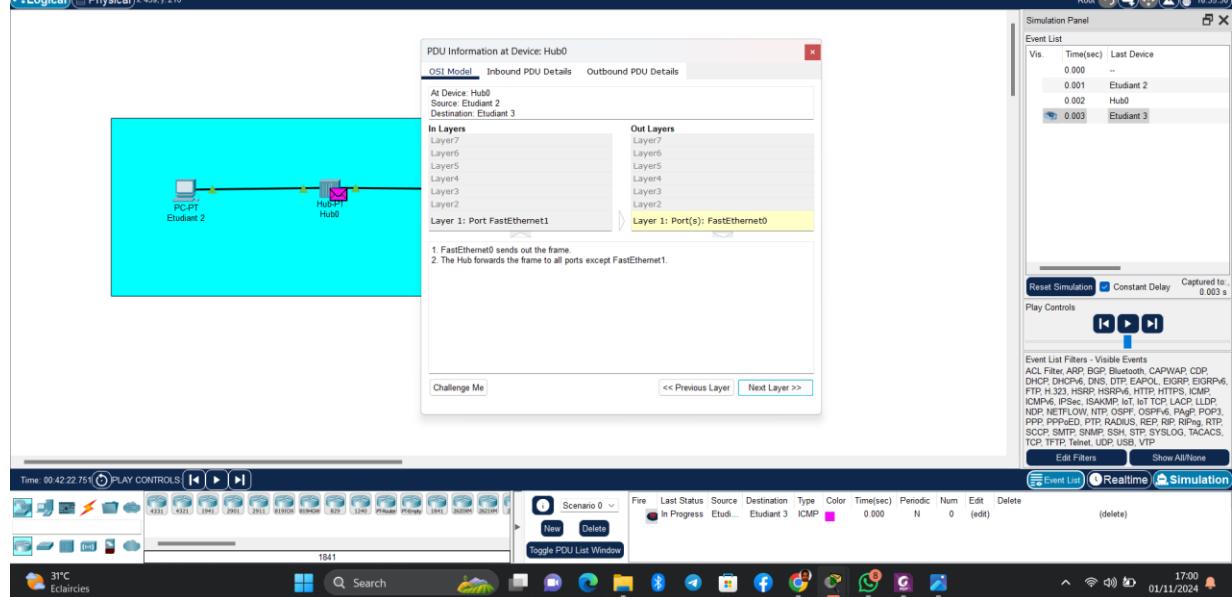
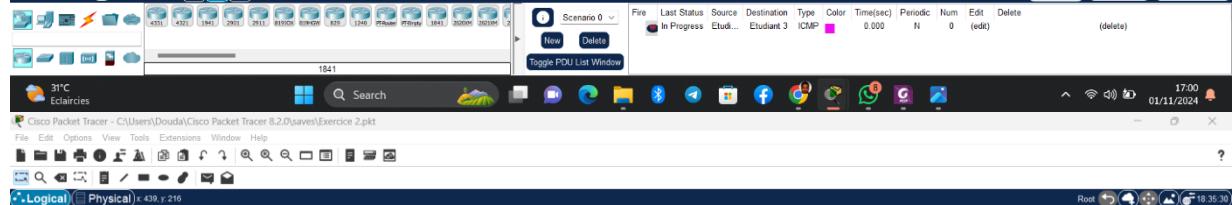
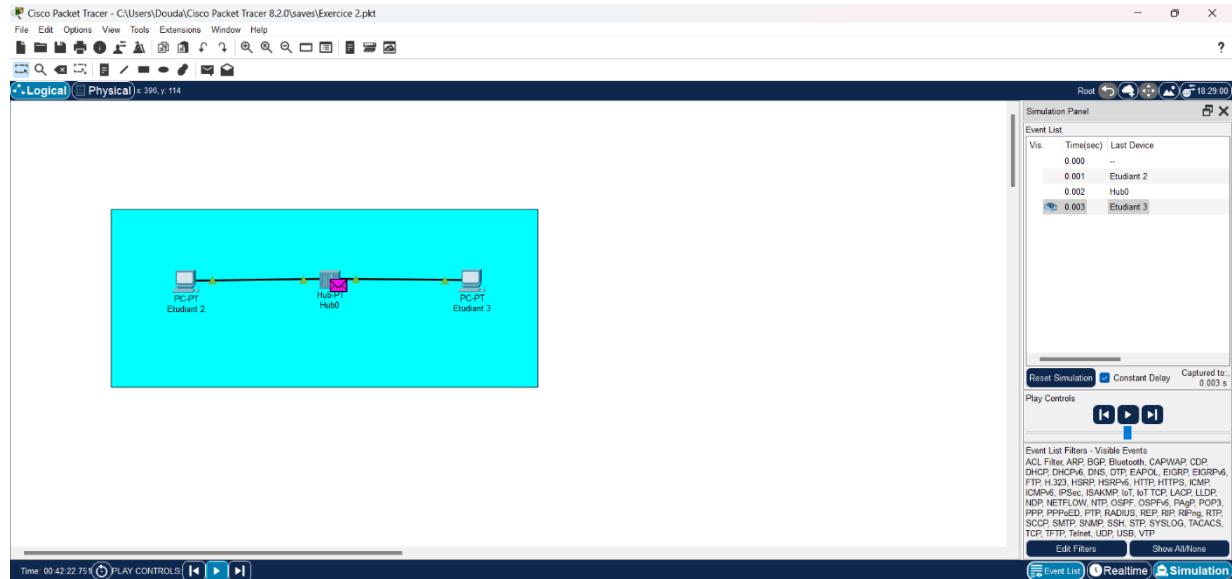


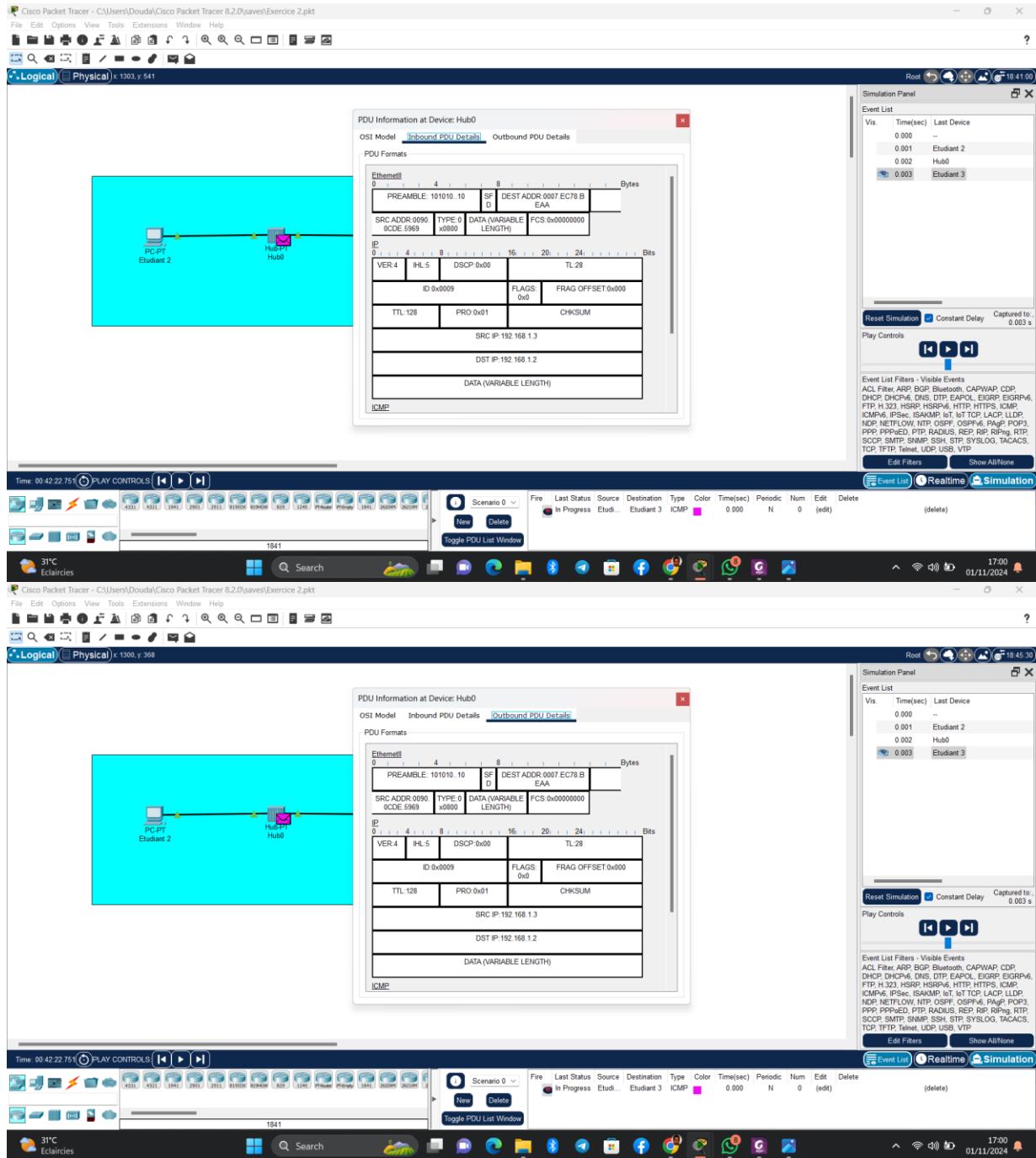


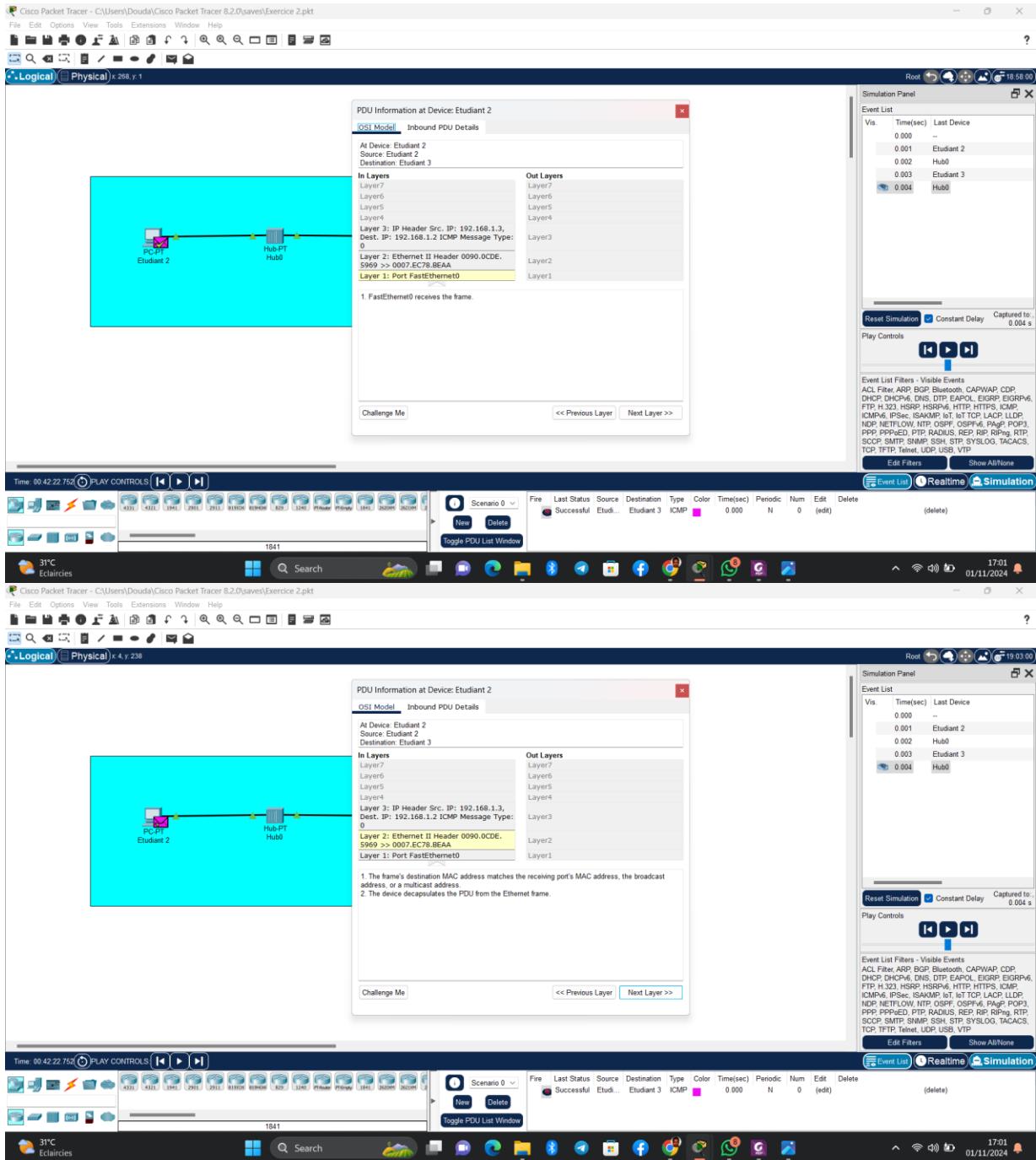


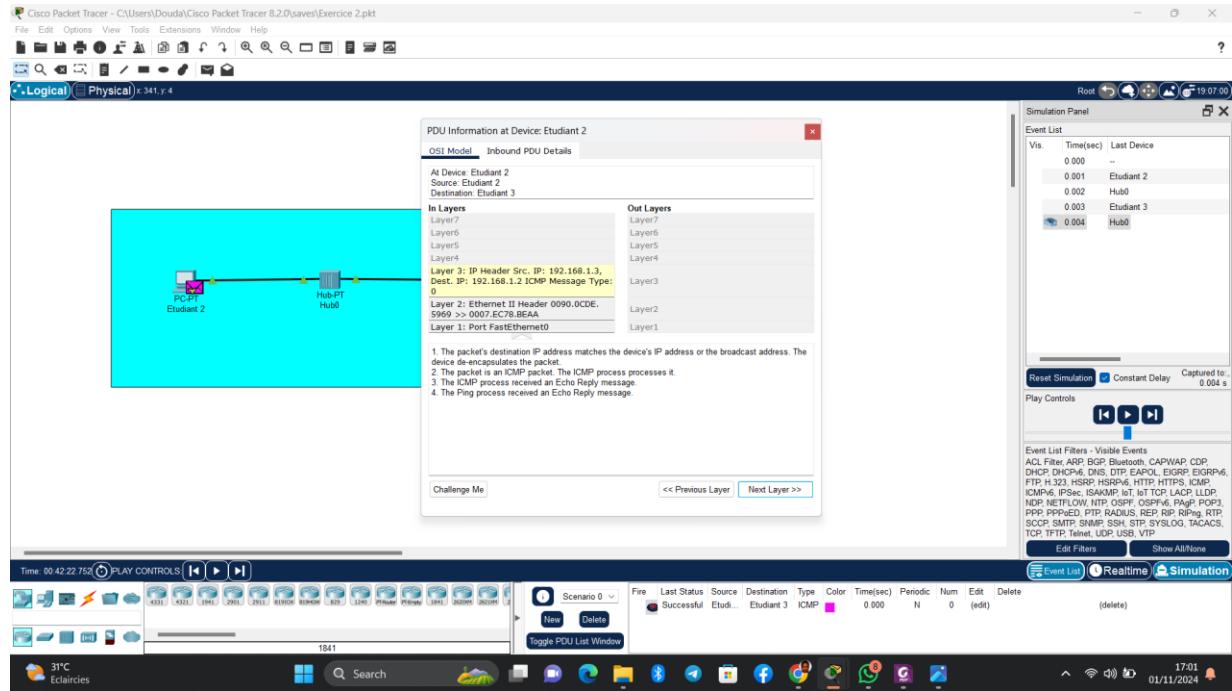






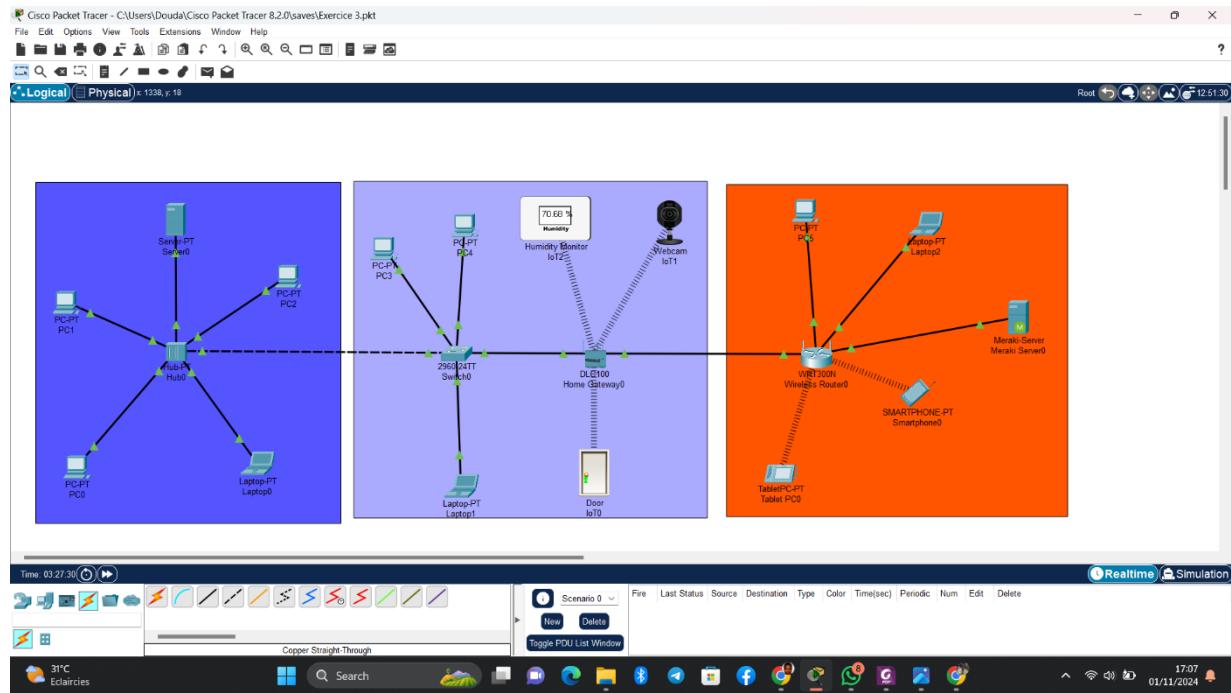






### Exercice 3

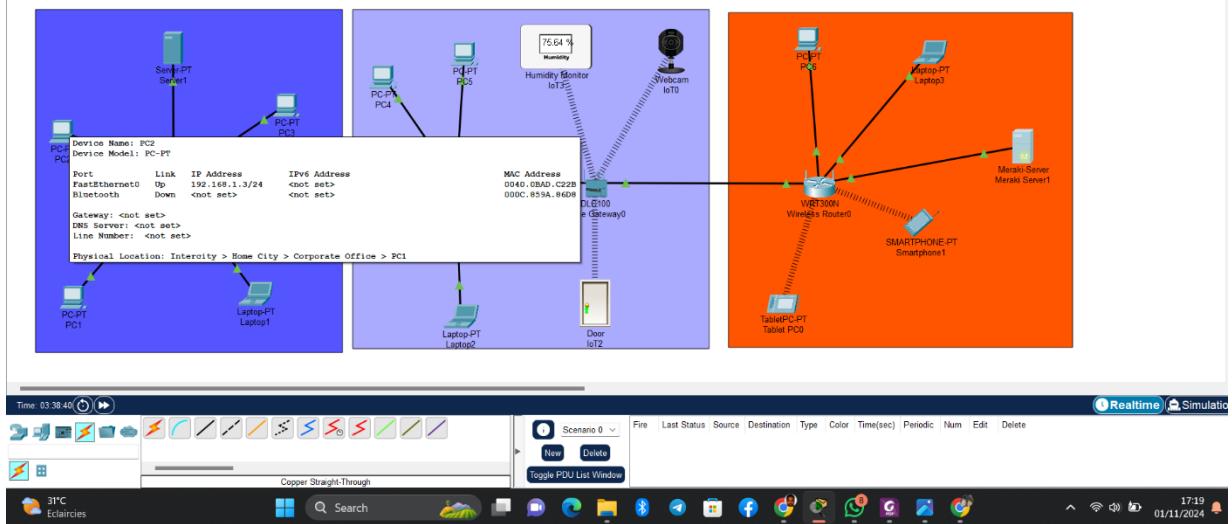
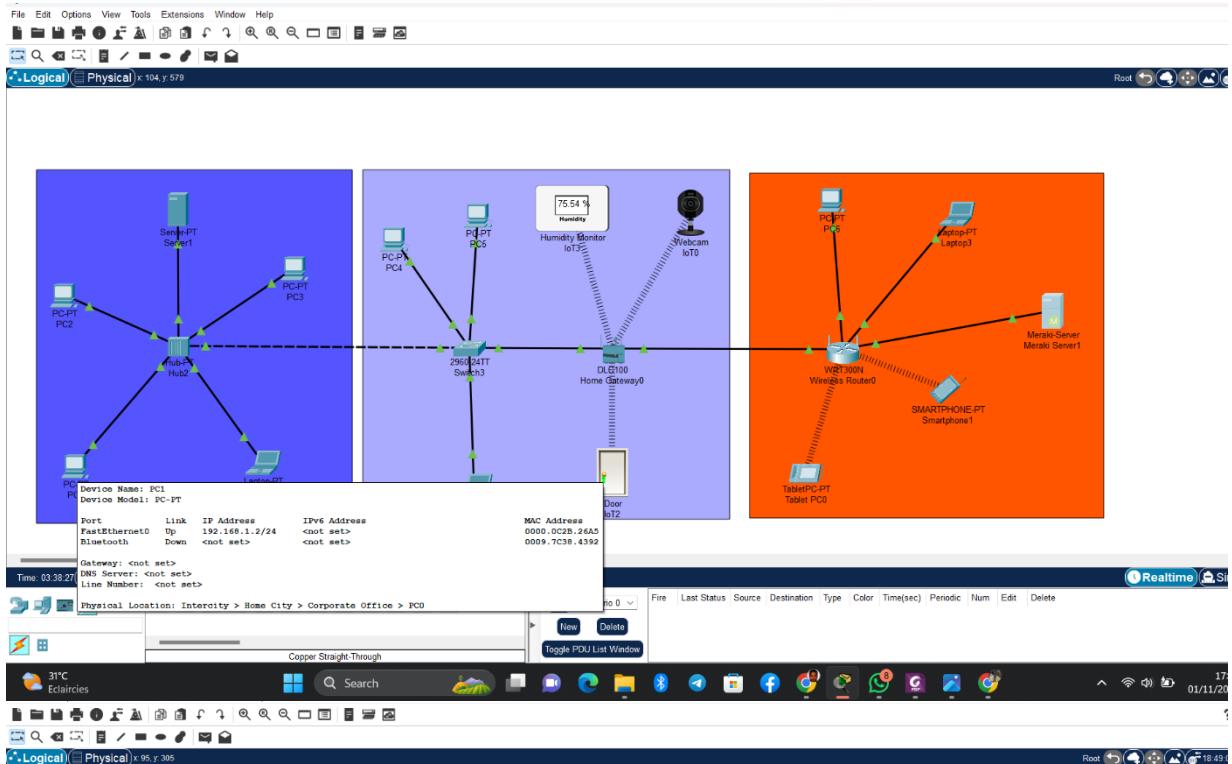
Reproduisez cette topologie, configuez les adresses IP, observez les tables ARP et analysez 2 des paquets en simulation.

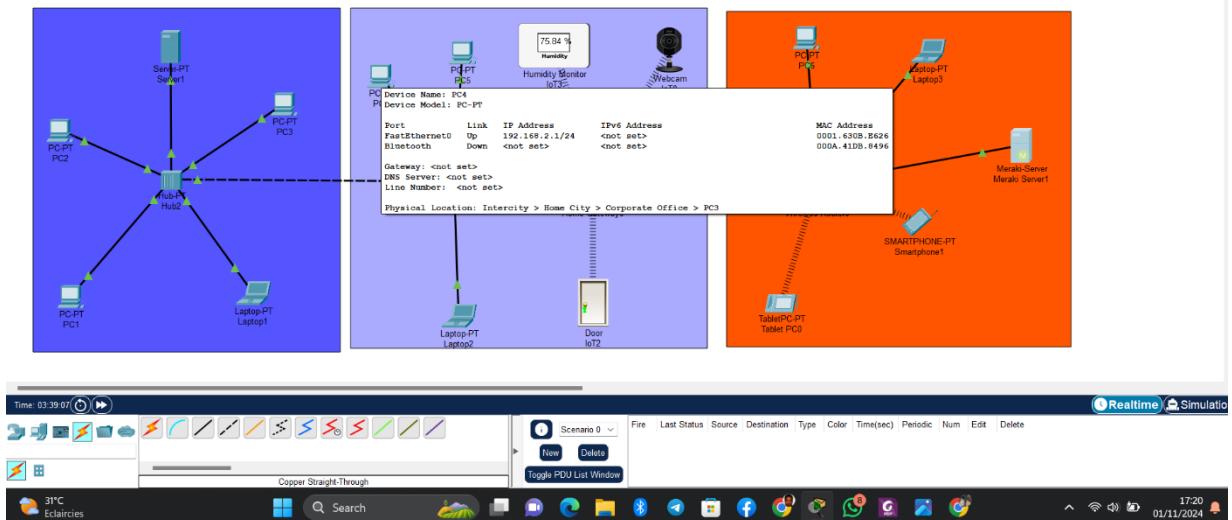
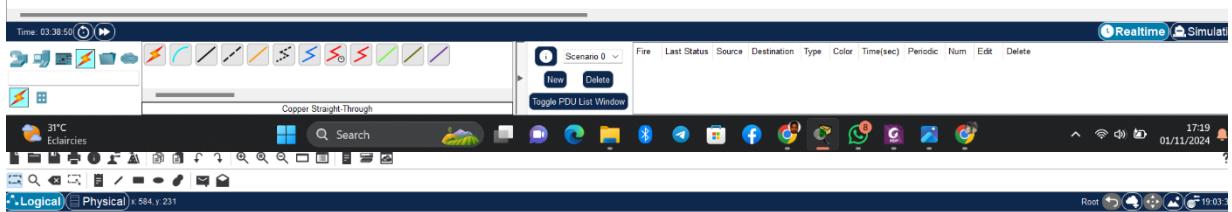


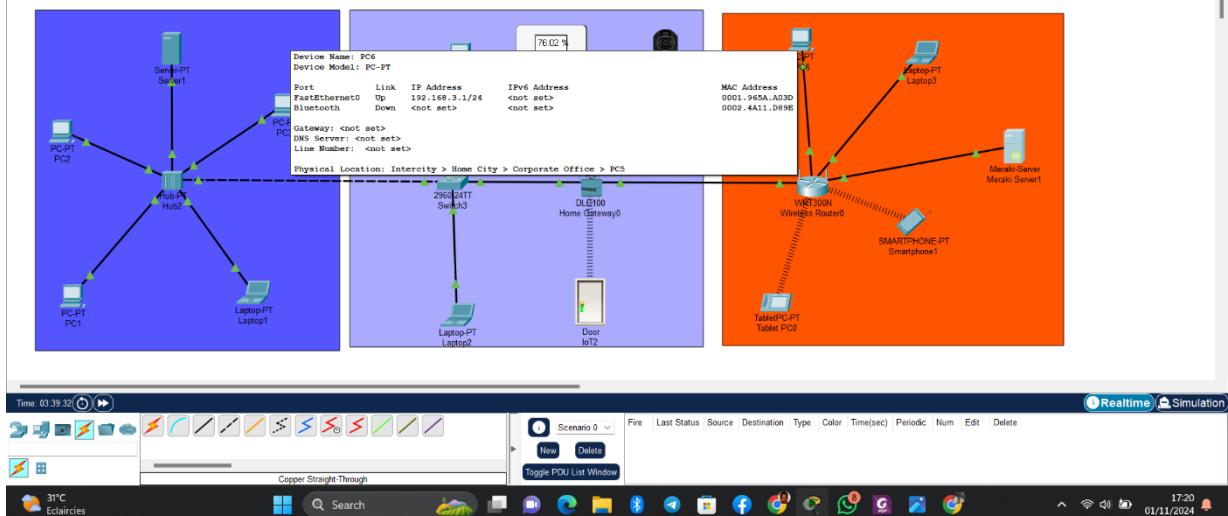
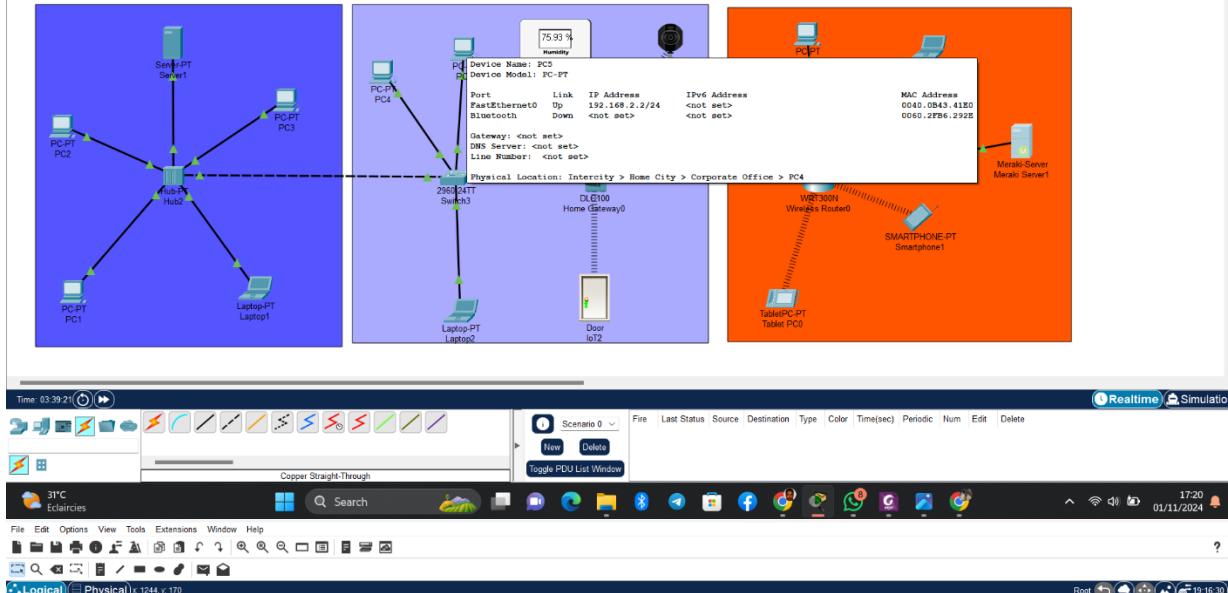
Créez un réseau de votre choix, puis configuez les adresses IP, observez les tables ARP et analysez 2 des paquets en simulation.

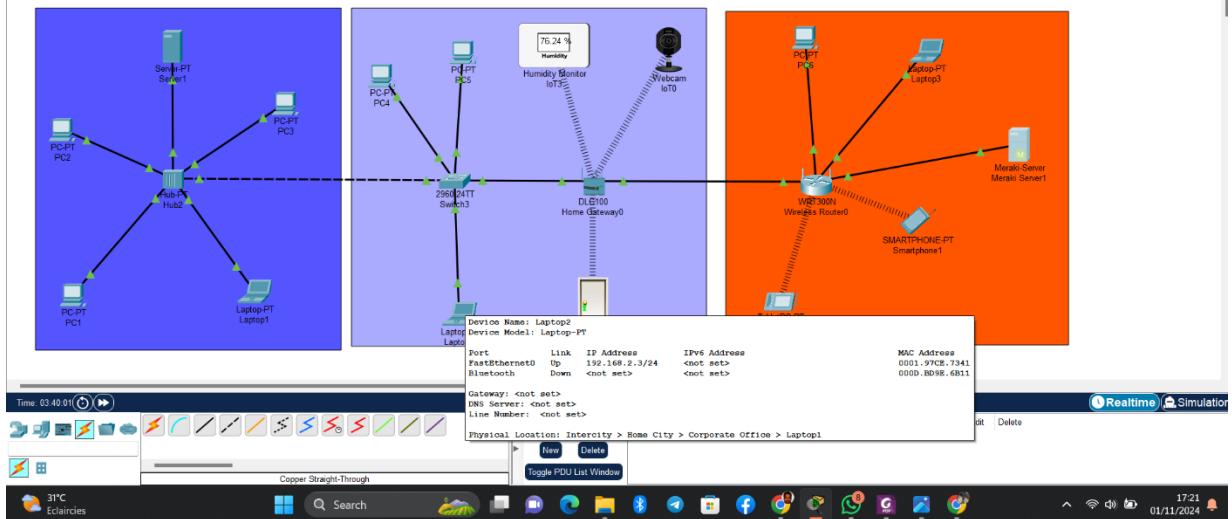
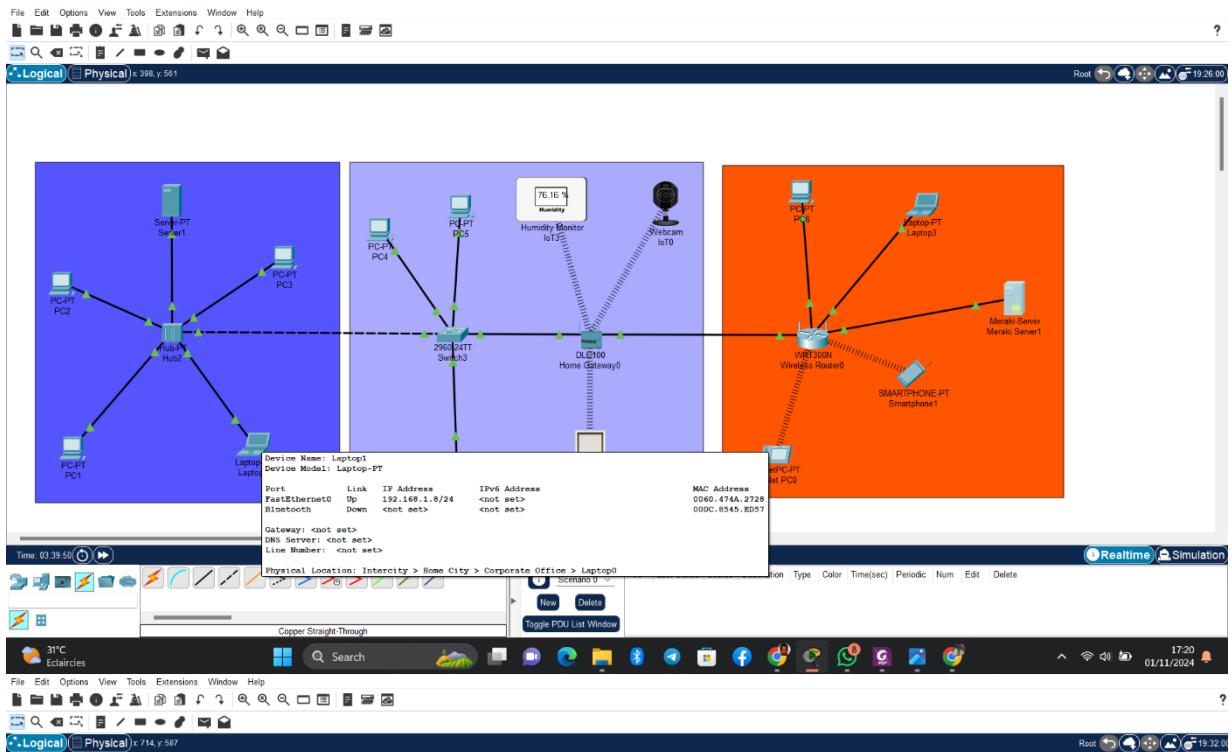
PC	Adresse IP	Masque de Sous-Réseau
PC1	192.168.1.2	255.255.255.0
PC2	192.168.1.3	255.255.255.0
PC3	192.168.1.4	255.255.255.0
PC4	192.168.2.1	255.255.255.0
PC5	192.168.2.1	255.255.255.0
PC6	192.168.3.1	255.255.255.0
Laptop1	192.168.1.8	255.255.255.0
Laptop2	192.168.2.3	255.255.255.0

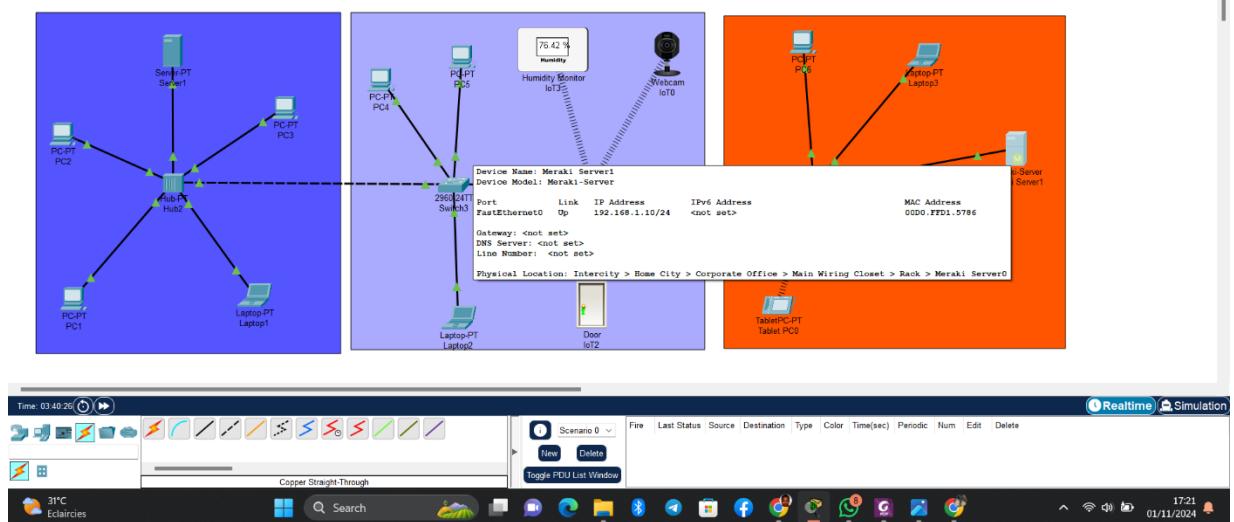
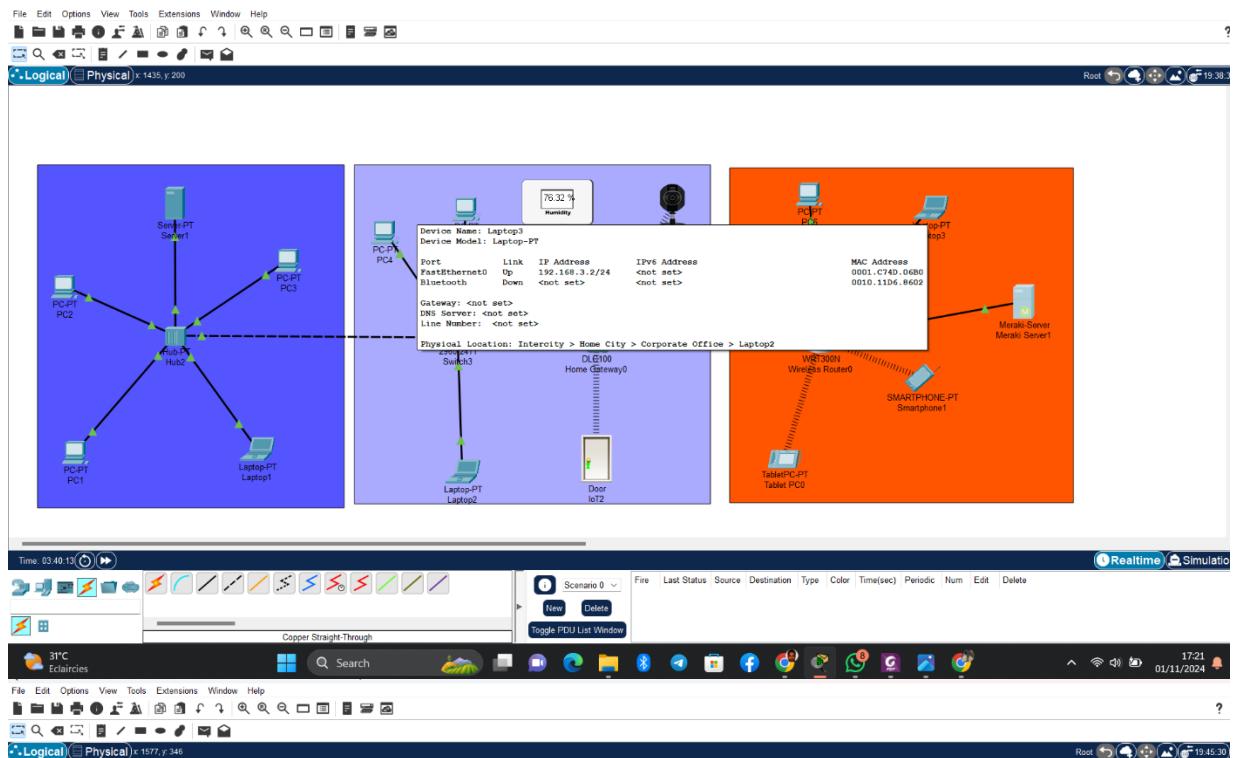
Laptop3	192.168.3.2	255.255.255.0
Server	192.168.1.10	255.255.255.0

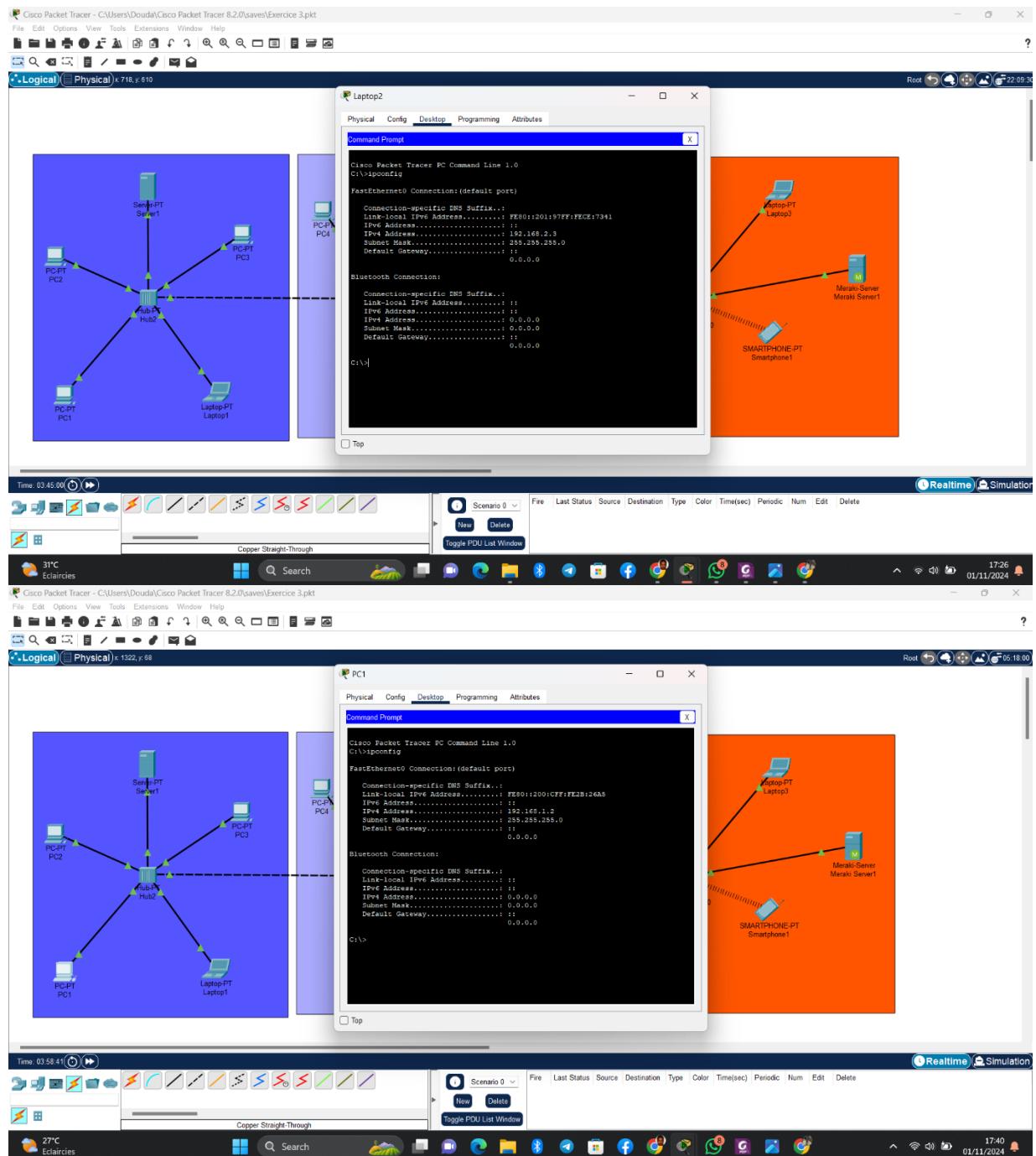


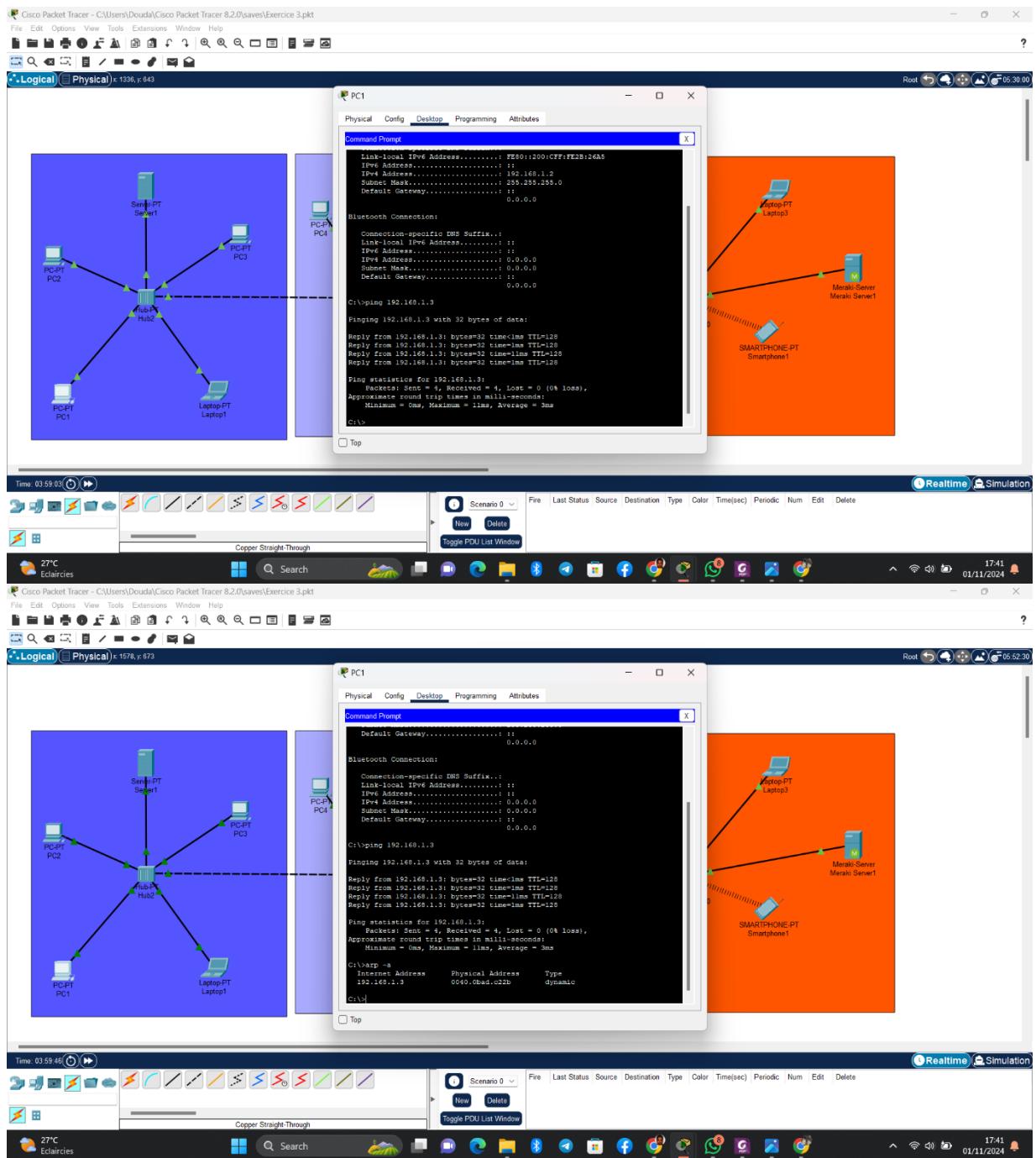


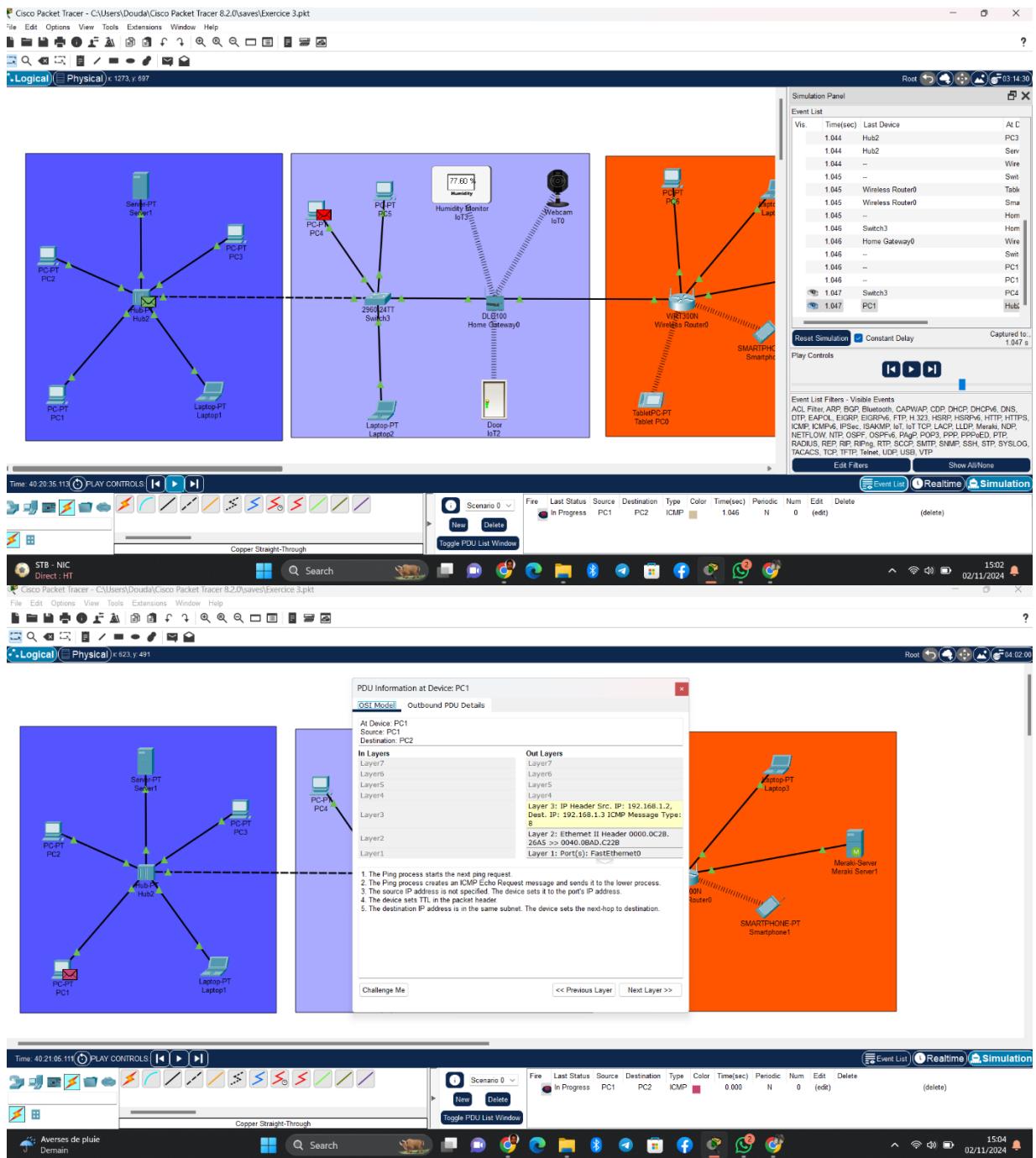


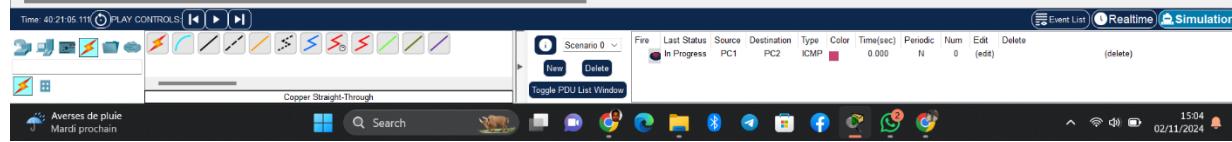
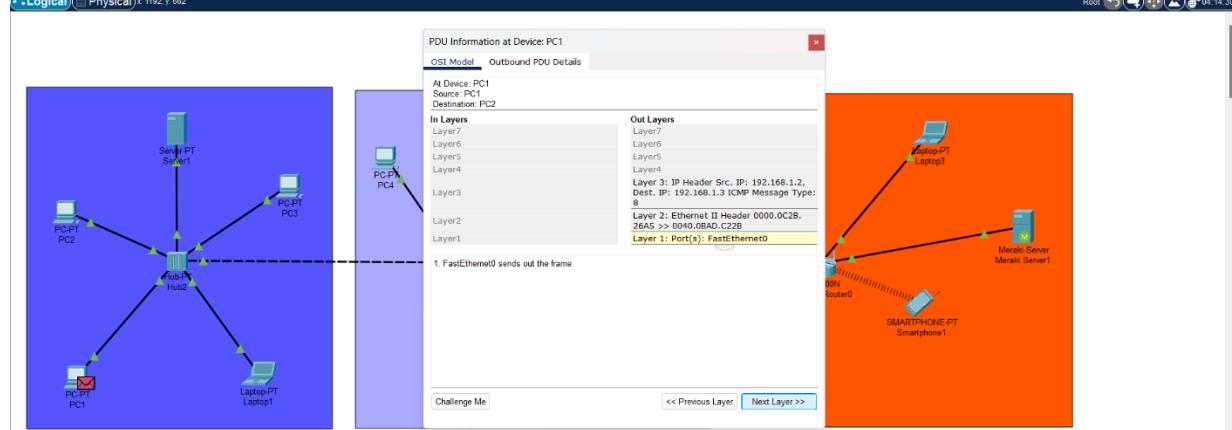
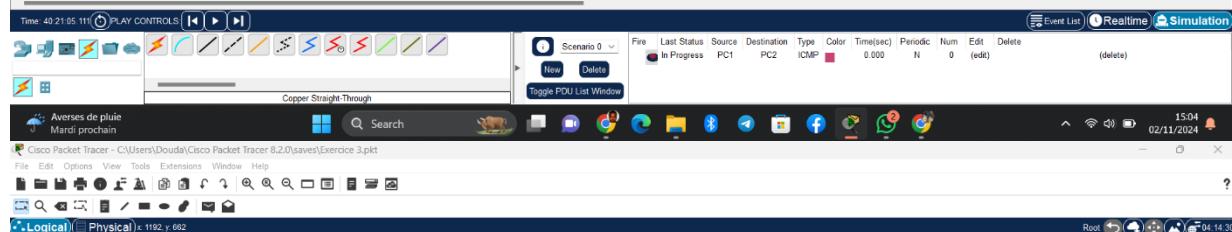
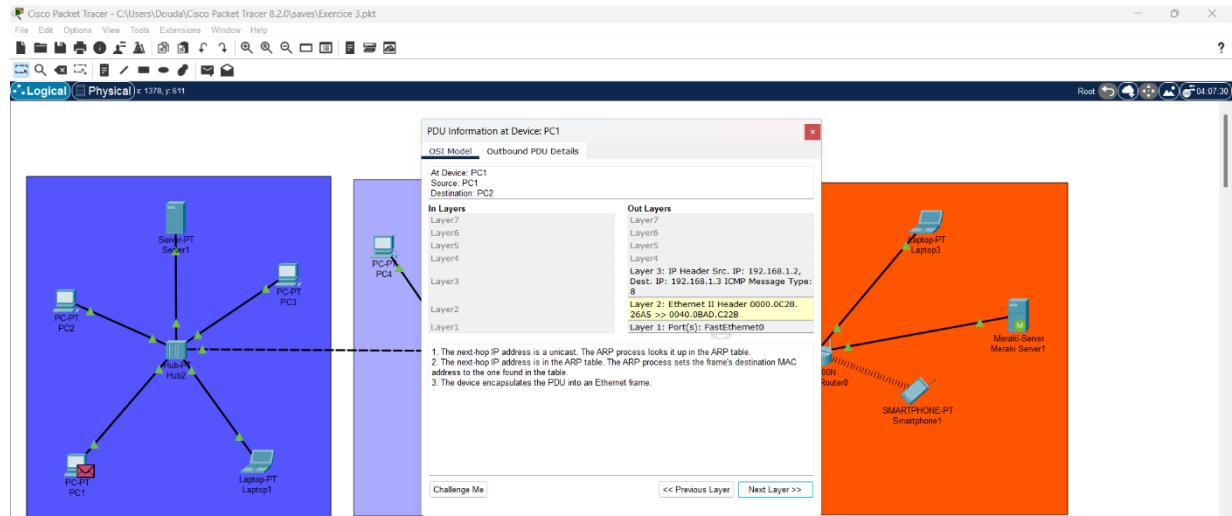


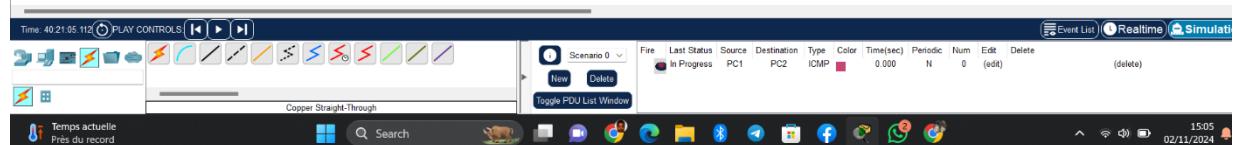
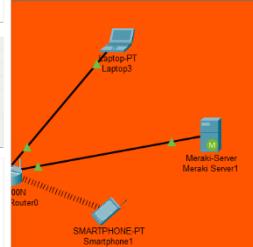
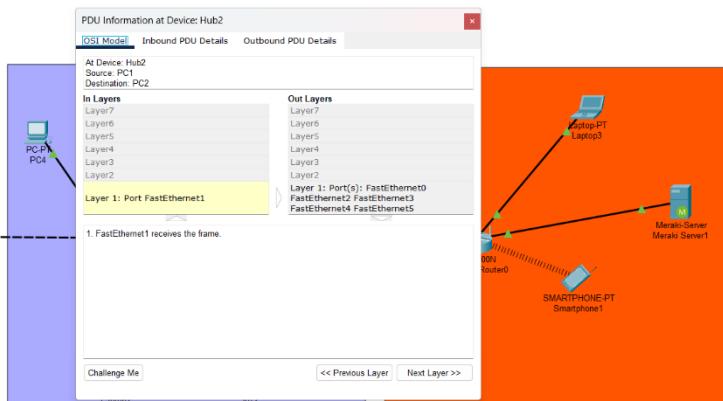
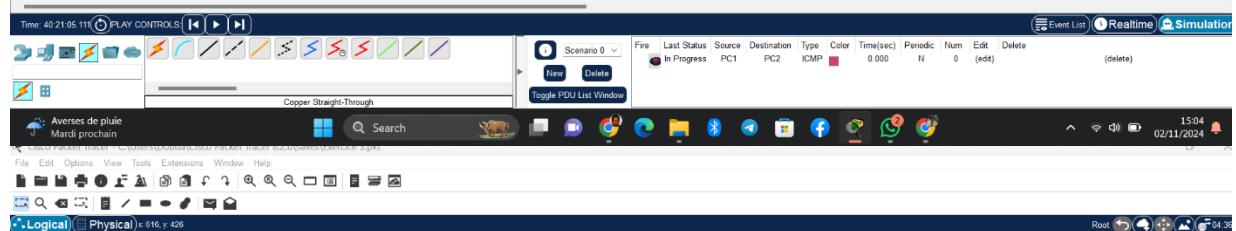
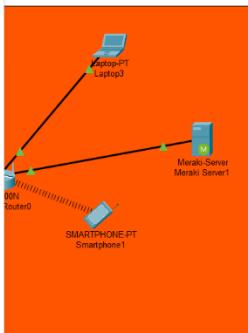
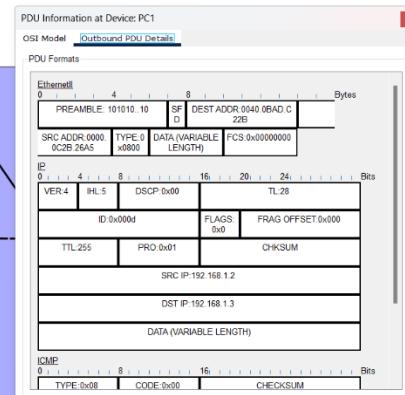


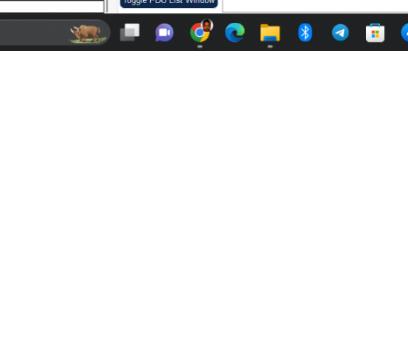
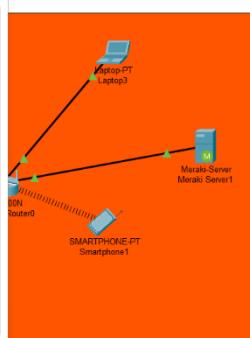
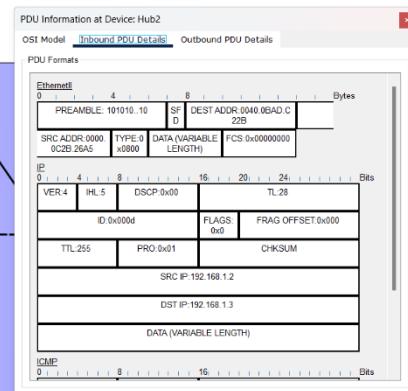
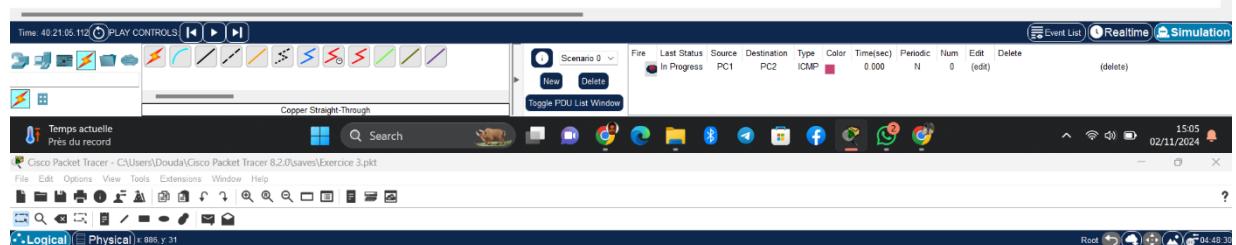
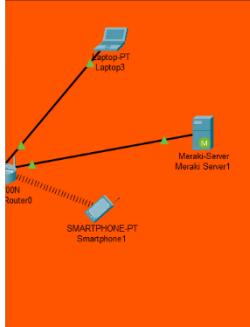
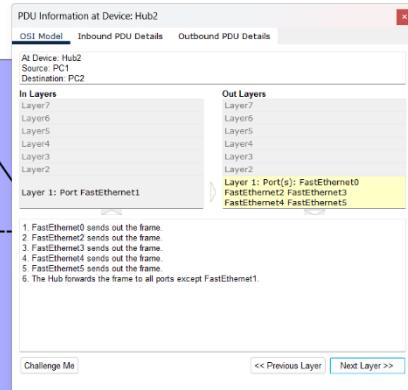


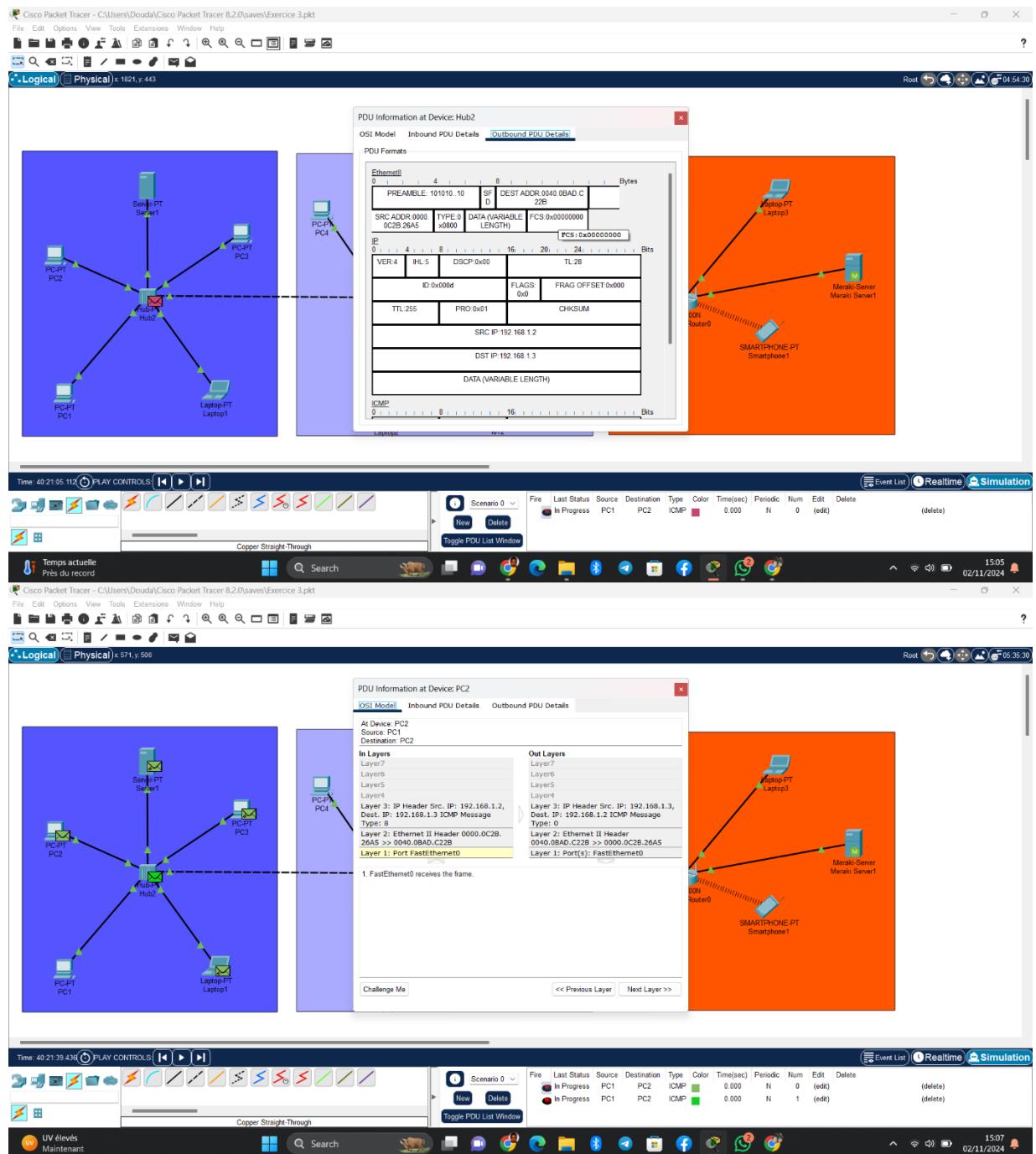


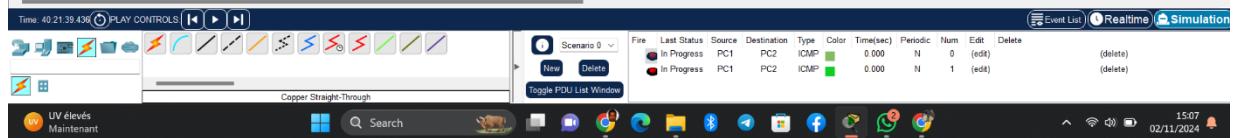
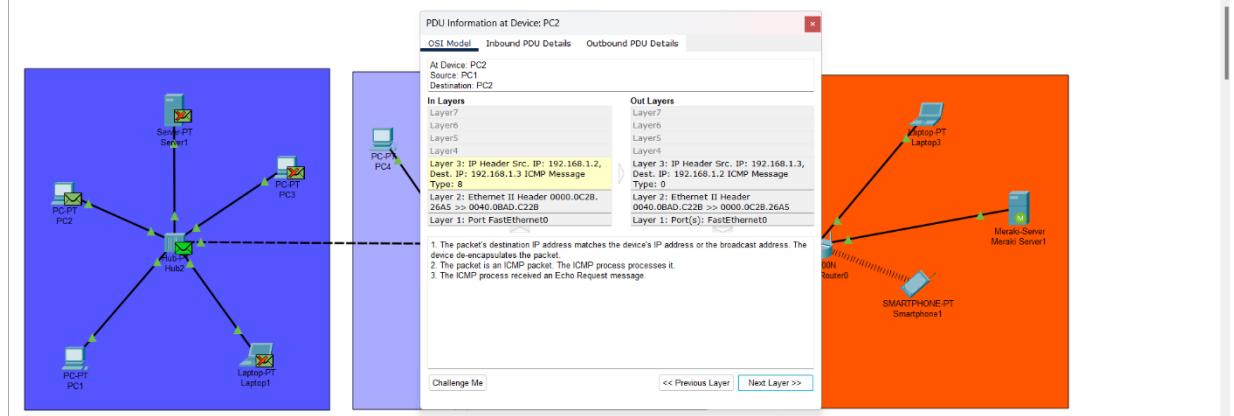
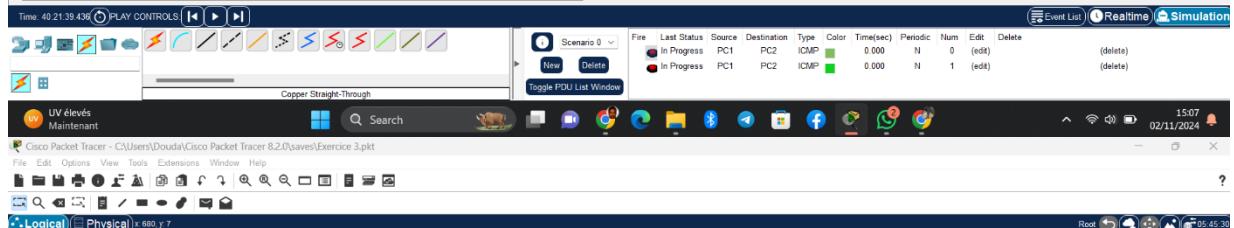
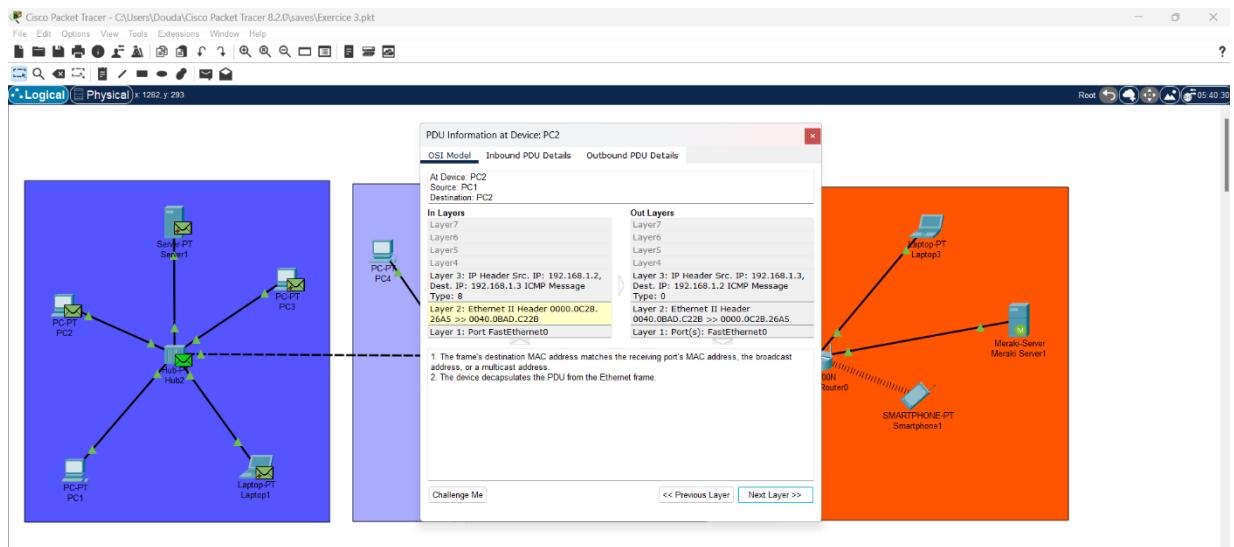


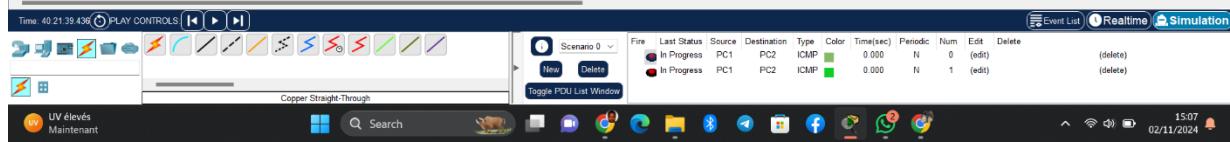
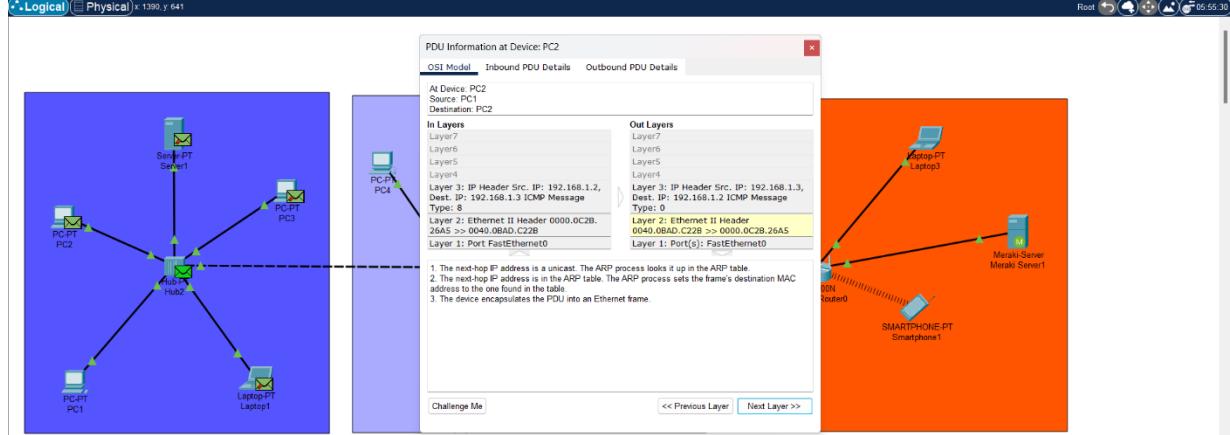
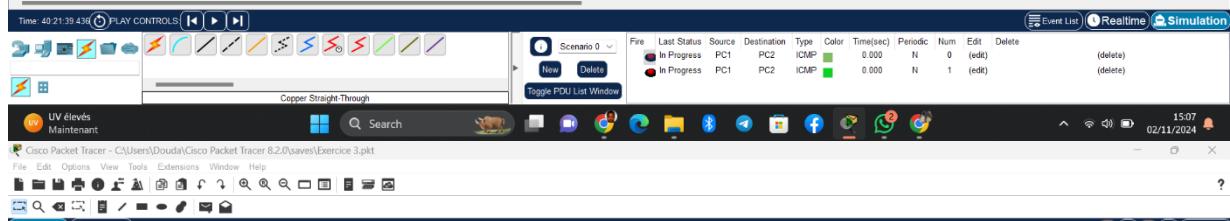
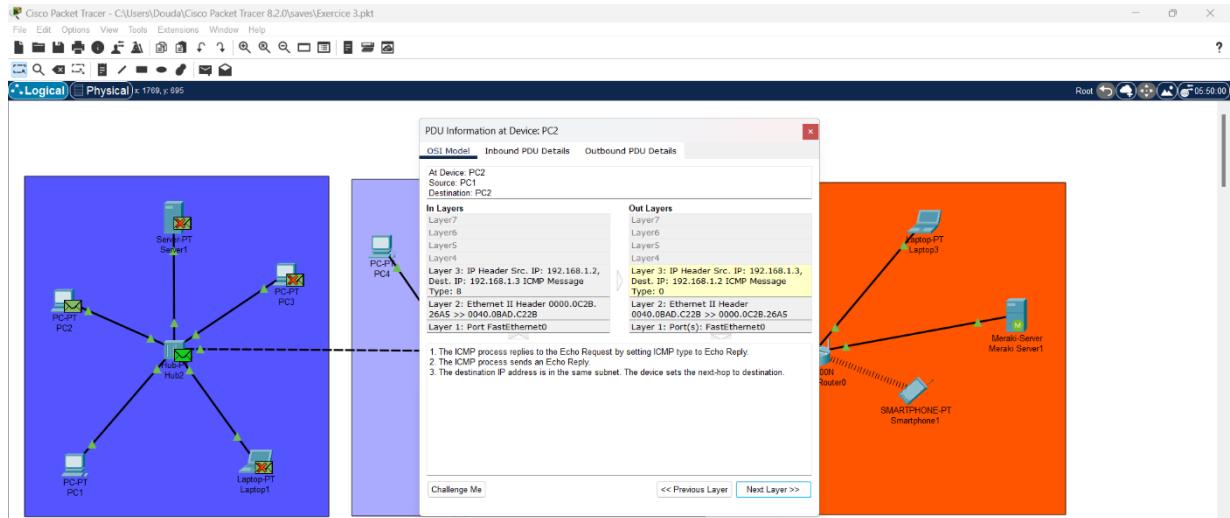












**Top Network Diagram (Blue Area):**

**Bottom Network Diagram (Orange Area):**

**Protocol Stack Analysis (Left Panel):**

**OSI Model:** At Device: PC2  
Source: PC1  
Destination: PC2

**In Layers:**

- Layer 7
- Layer6
- Layer5
- Layer4
- Layer 3: IP Header Src. IP: 192.168.1.2, Dest. IP: 192.168.1.3 ICMP Message Type: 8
- Layer 2: Ethernet II Header 0000.0C2B.26A5 >> 0000.08AD.C22B
- Layer 1: Port FastEthernet0

**Out Layers:**

- Layer 7
- Layer6
- Layer5
- Layer4
- Layer 3: IP Header Src. IP: 192.168.1.3, Dest. IP: 192.168.1.2 ICMP Message Type: 8
- Layer 2: Ethernet II Header 0000.08AD.C22B >> 0000.0C2B.26A5
- Layer 1: Port(s): FastEthernet0

**Challenge Me** | << Previous Layer | Next Layer >>

**Bottom Control Panel:**

Time: 40:21:39.436 | PLAY CONTROLS | Scenario 0 | Event List | Realtime | Simulation | 15:08 | 02/11/2024

**Bottom Taskbar:**

UV élevés Maintenant | Search | Event List | Realtime | Simulation | 15:08 | 02/11/2024

**Protocol Stack Analysis (Bottom Panel):**

**OSI Model:** Inbound PDU Details | Outbound PDU Details

**PDU Formats:**

Ethernet		Bytes	
0	4	8	24
PREAMBLE: 101010...10	SF	DEST ADDR: 0000.08AD.C22B	
SRC ADDR: 0000.0C2B.26A5	TYPE: 0x8000	DATA (VARIABLE LENGTH)	FCS: 0x00000000

ID		Bits	
VER:4	IHL:5	DSCP: 0x00	TTL:28
		ID: 0x0010	FLAGS: 0x0
TTL: 255	PRO: 0x01	FRAG OFFSET: 0x000	
SRC IP: 192.168.1.2		CHKSUM	
DIST IP: 192.168.1.3			
DATA (VARIABLE LENGTH)			

ICMP		Bytes	
0	8	16	24
TYPE: 0x08	CODE: 0x00	Checksum	

**Bottom Control Panel:**

Time: 40:21:39.436 | PLAY CONTROLS | Scenario 0 | Event List | Realtime | Simulation | 15:08 | 02/11/2024

**Bottom Taskbar:**

32°C Eclaircie | Search | Event List | Realtime | Simulation | 15:08 | 02/11/2024

