

**INSTITUT UNIVERSITAIRE DES SCIENCES
(IUS)**

**Faculté des Sciences Technologies
TD No 3 – Reseaux 1**

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etudiant en L3**

Soumis au professeur : Ismael SAINT AMOUR

DATE: 12 novembre 2025

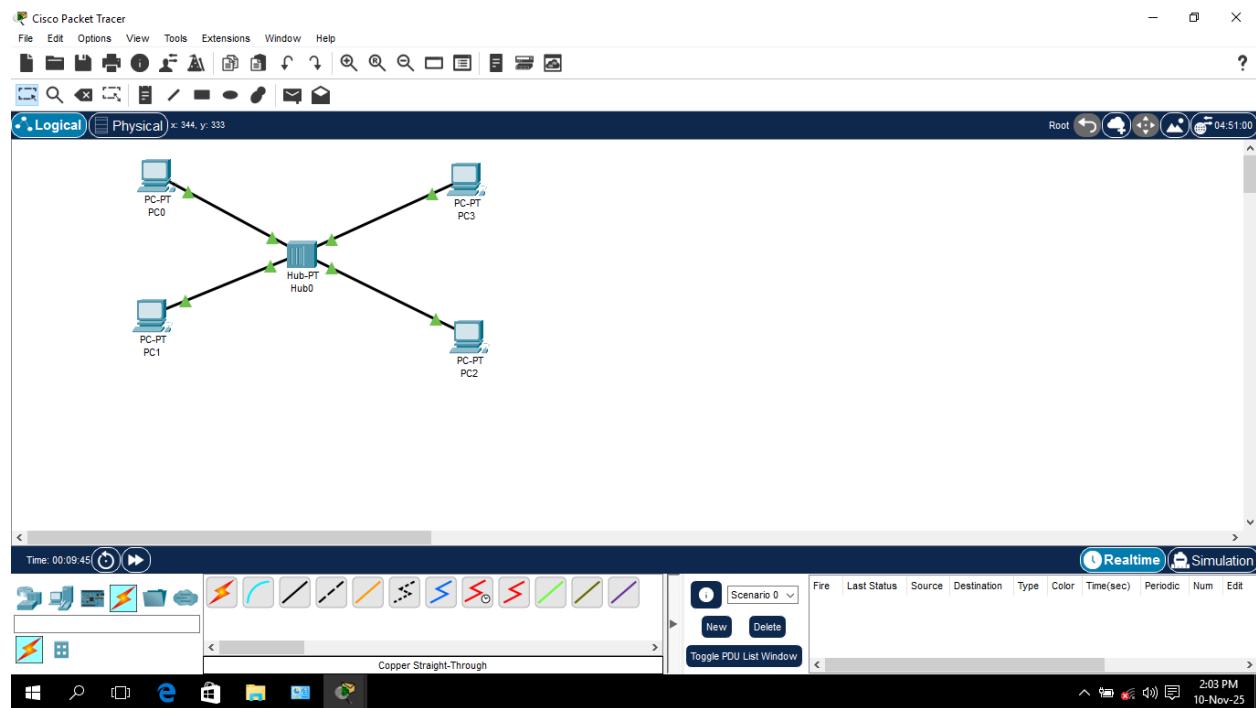
Adressage IPv4 et IPv6 avec Cisco Packet Tracer

L'objectif de ce TD est de:

- 1. Savoir attribuer des adresses IP valides aux machines.**
- 2. Comprendre l'adressage IPv4 et IPv6.**
- 3. Configurer des adresses IP sur des hôtes et routeurs dans Cisco Packet Tracer.**
- 4. Vérifier la connectivité avec les commandes ping et ping ipv6.**

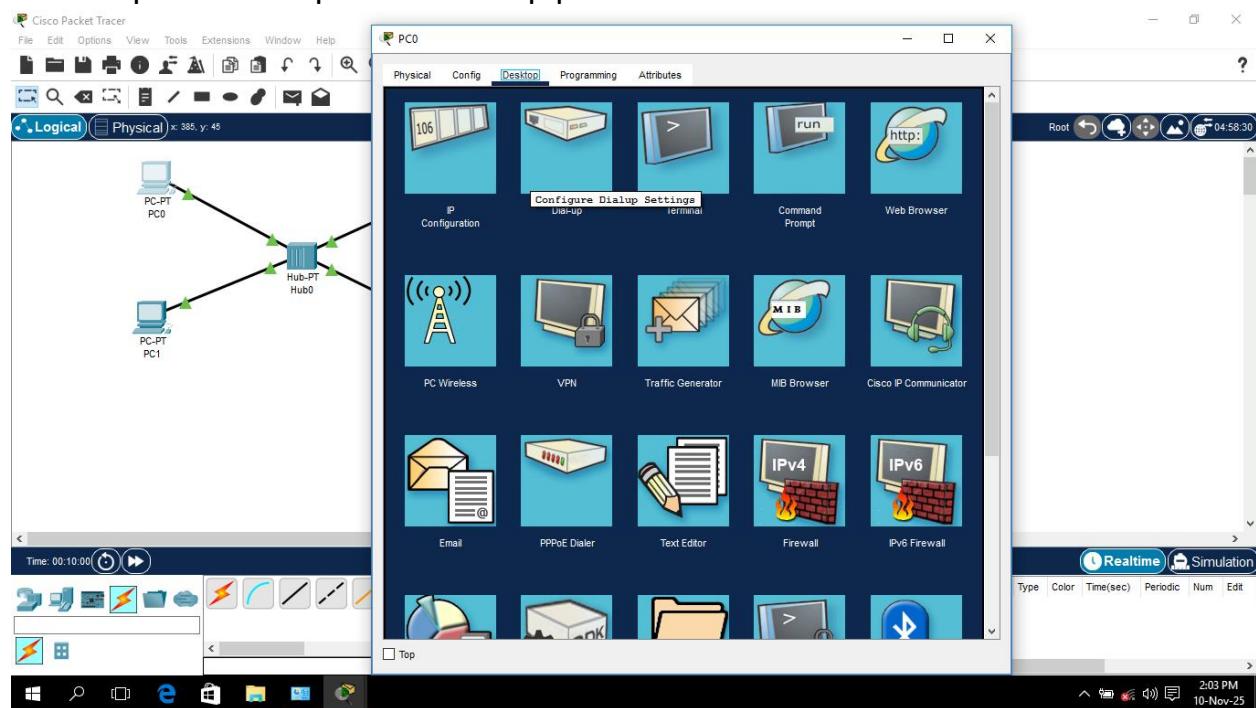
IPv4

Pour commencer je crée une topologie pour configurer l'IPv4

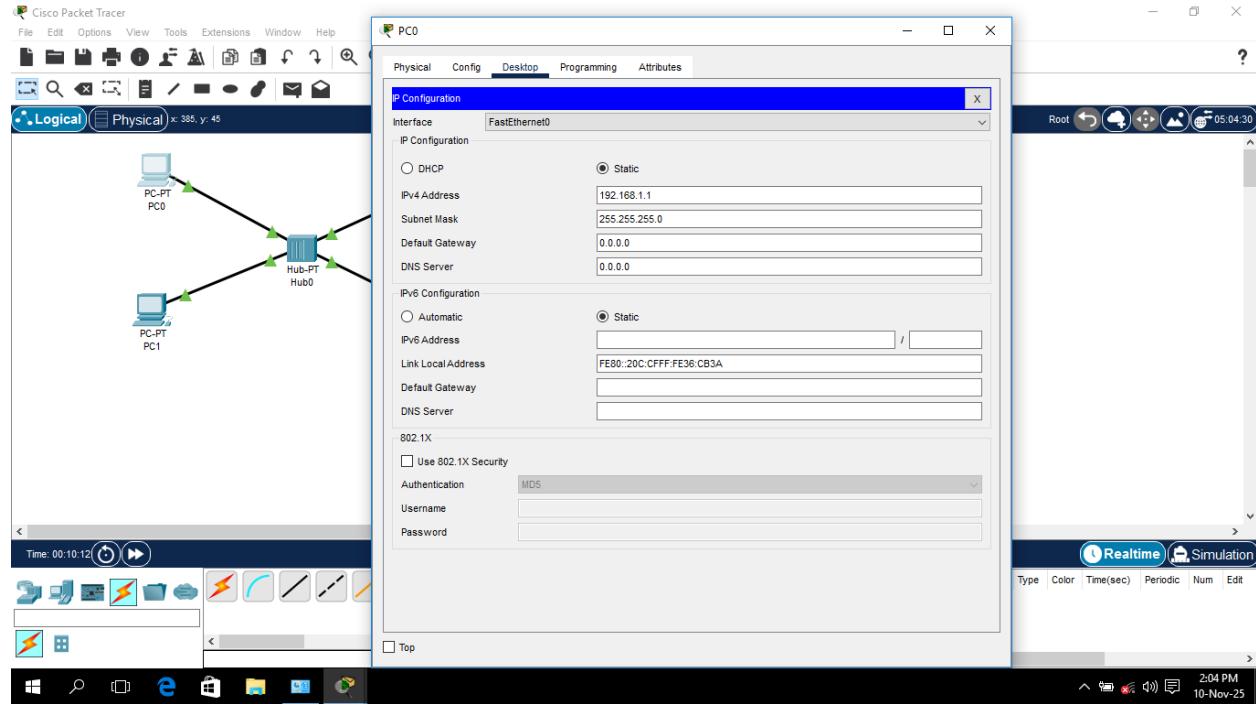


Pour faire la configuration je fais un double clique sur le Pc et trouve cette fenêtre

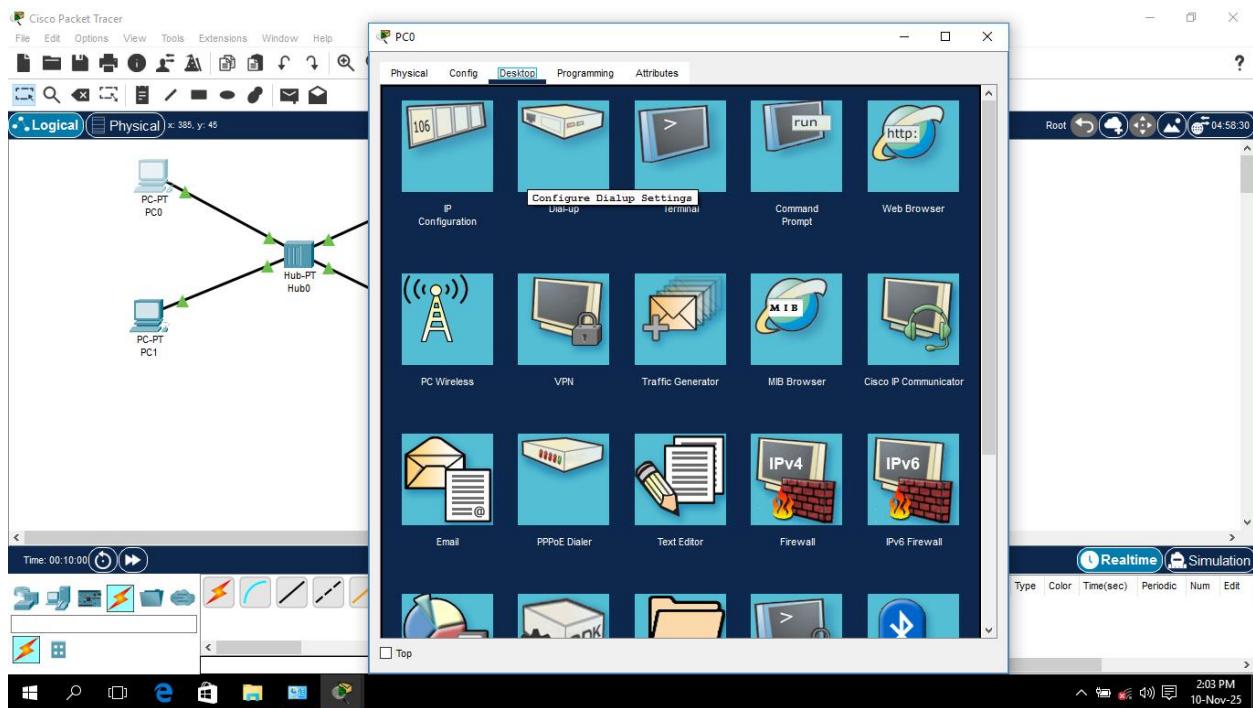
Dans laquelle on clique sur desktop pour ouvrir cette nouvelle fenêtre



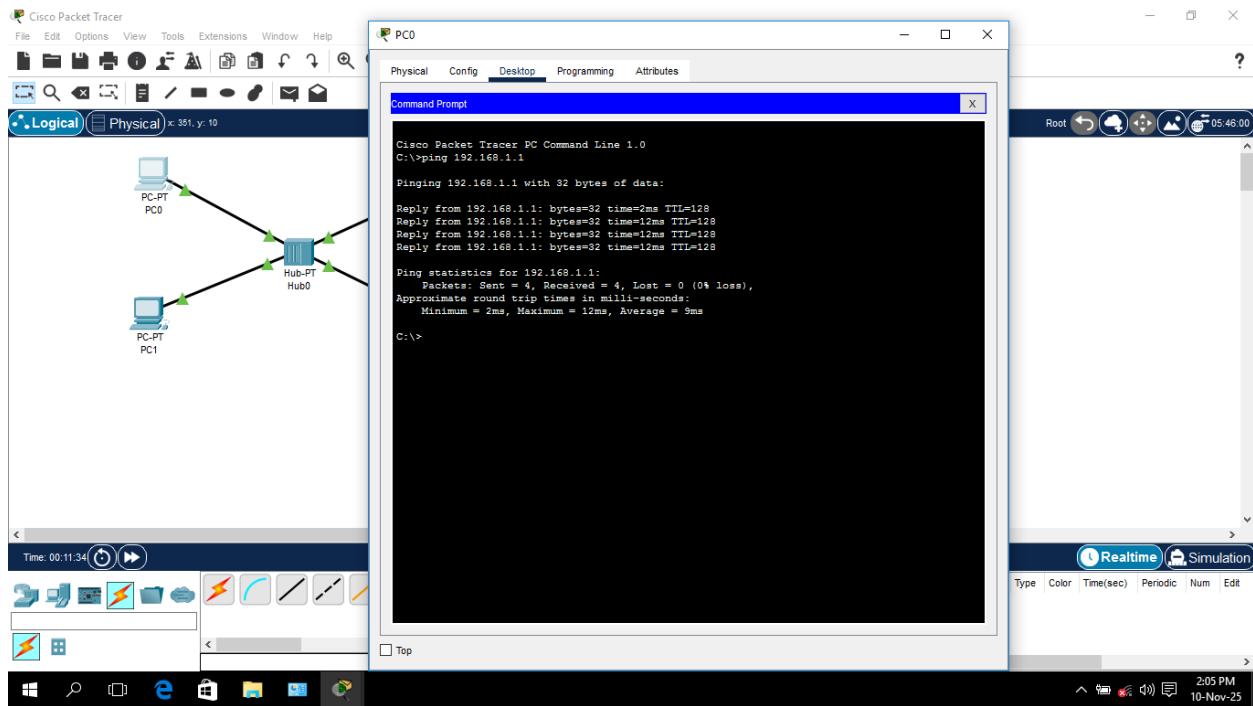
Dans la fenêtre sous dessus on clique sur **IP configuration** pour mettre les IPv4 address, tandis que le **Subnet Mask** est automatique on n'aura pas à entrer le code Subnet Mask



Après l'addressage des IPv4 on doit vérifier la connection, pour ce faire on fait un double clic sur le Pc, on va dans desktop et choisir commande prompt

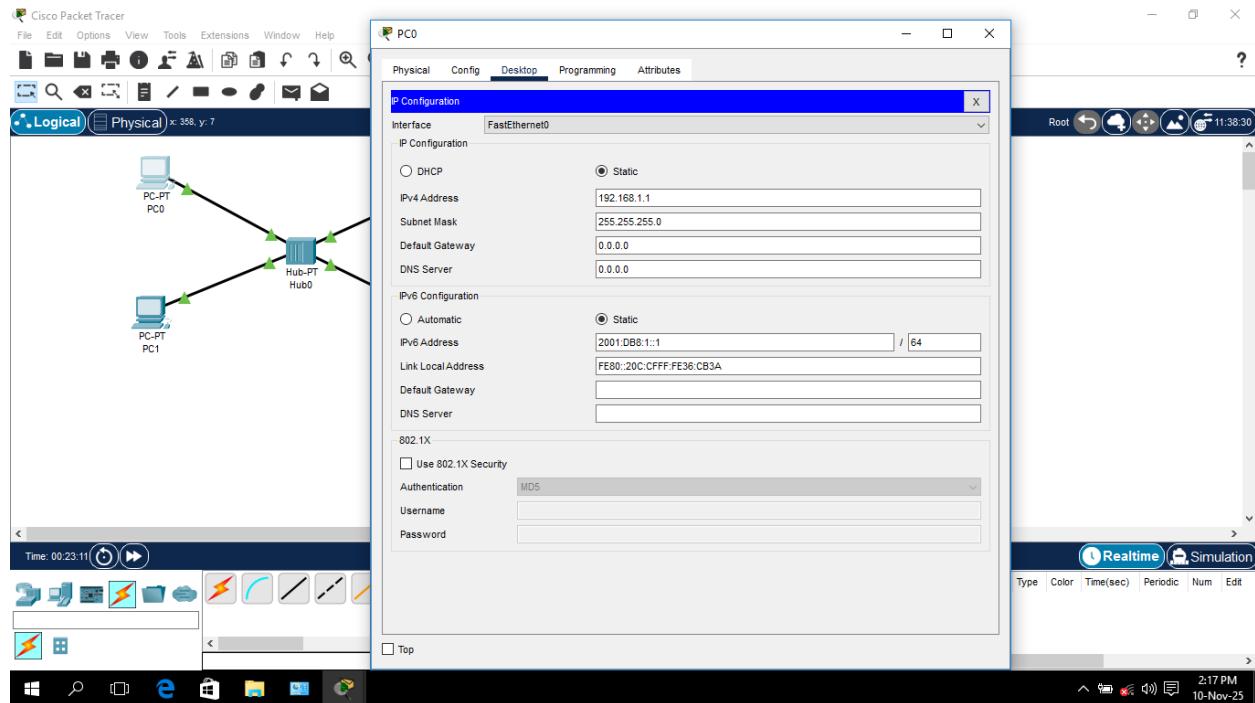


Une fois dans le commande promte, pour verifier on écrit ping + l'IPv4 en question et on fait Enter

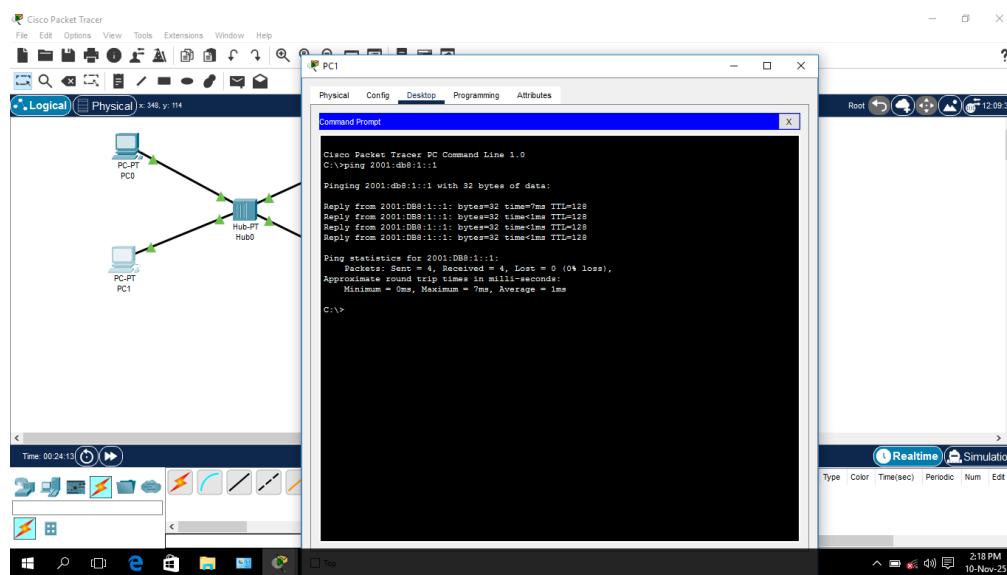


IPv 6

Pour configurer l'IPv6 address on fait double clique sur le PC en question dans notre topologie et ouvre la fenêtre Desktop puis IP configuration, une fois la fenêtre s'ouvre on va dans IPv6 address on ajoute l'adresse et on met 64.

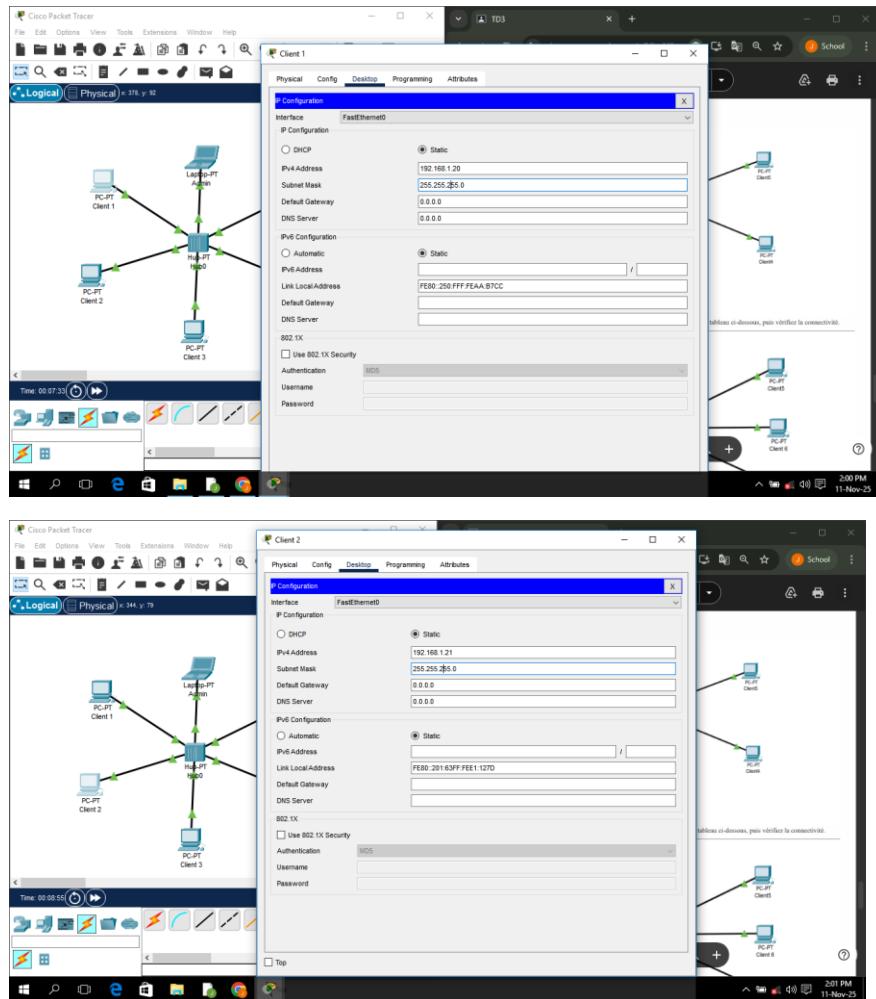


Pour tester la connectivité on fait double clique sur le PC en question dans notre topologie et ouvre la fenêtre Desktop puis on va dans commande prompt, une fois le terminal s'ouvre on tape ping suivit de l'IPv6 address



1) Reproduction de la topologie Etoile dans le TD (IPv4)

On va faire la configuration des addresses IPv4



On va vérifier la connection maintenant

Client 1

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\> ping 192.168.1.20

Pinging 192.168.1.20 with 32 bytes of data:
Reply from 192.168.1.20: bytes=32 time=6ms TTL=128
Reply from 192.168.1.20: bytes=32 time=3ms TTL=128
Reply from 192.168.1.20: bytes=32 time=4ms TTL=128
Reply from 192.168.1.20: bytes=32 time=3ms TTL=128

Ping statistics for 192.168.1.20:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 6ms, Average = 4ms

C:\>ping 192.168.1.21

Pinging 192.168.1.21 with 32 bytes of data:
Reply from 192.168.1.21: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 1ms, Average = 1ms

C:\>>ping 192.168.1.22

Pinging 192.168.1.22 with 32 bytes of data:
Reply from 192.168.1.22: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.22:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
```

Top

2:11 PM 11-Nov-25

Client 1

Physical Config Desktop Programming Attributes

Command Prompt

```
C:\>ping 192.168.1.23

Pinging 192.168.1.23 with 32 bytes of data:
Reply from 192.168.1.23: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.23:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 1ms, Average = 1ms

C:\>ping 192.168.1.24

Ping request could not find host 192.168.1.24. Please check the name and try again.
C:\>
C:\>
C:\>ping 192.168.1.24

Pinging 192.168.1.24 with 32 bytes of data:
Reply from 192.168.1.24: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.24:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 1ms, Average = 1ms

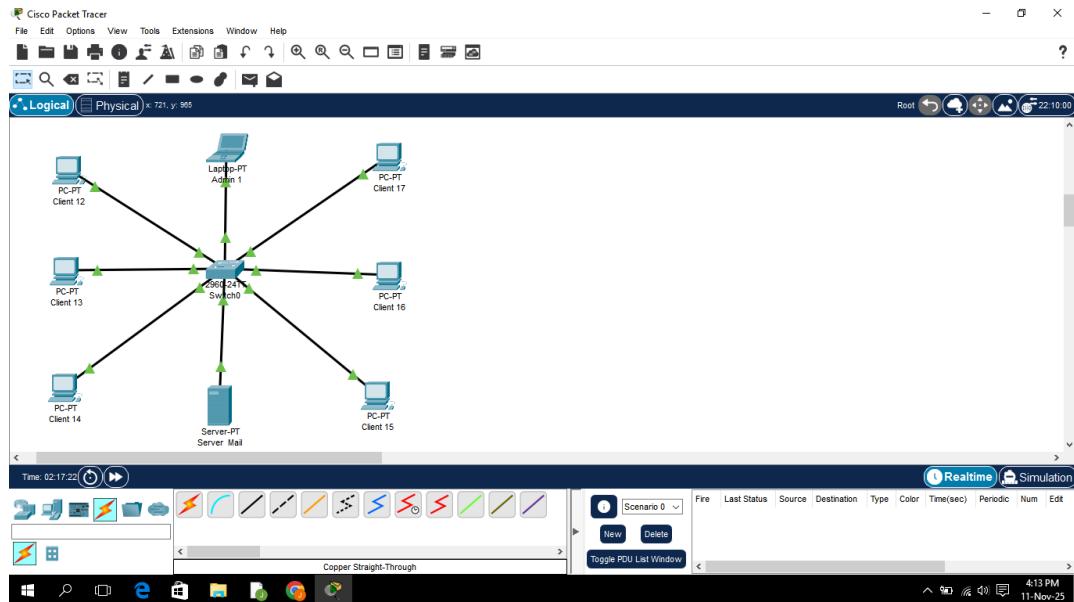
C:\>ping 192.168.1.25

Pinging 192.168.1.25 with 32 bytes of data:
Reply from 192.168.1.25: bytes=32 time=1ms TTL=128
```

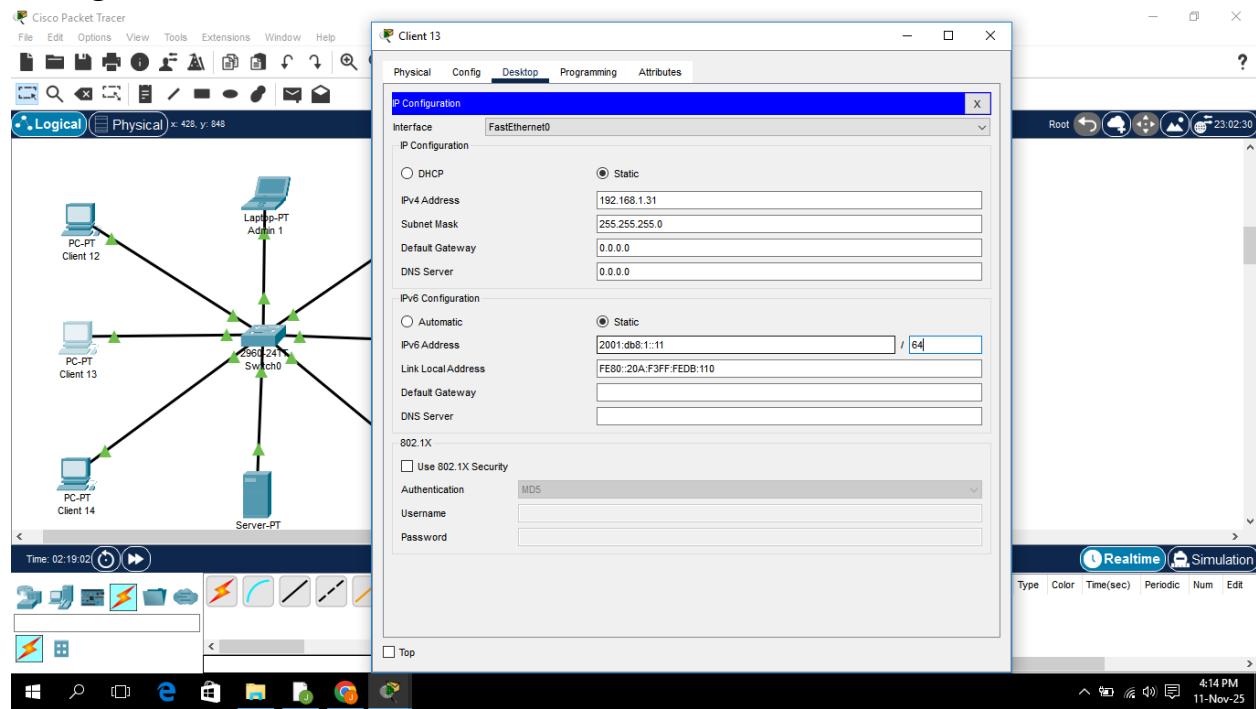
Top

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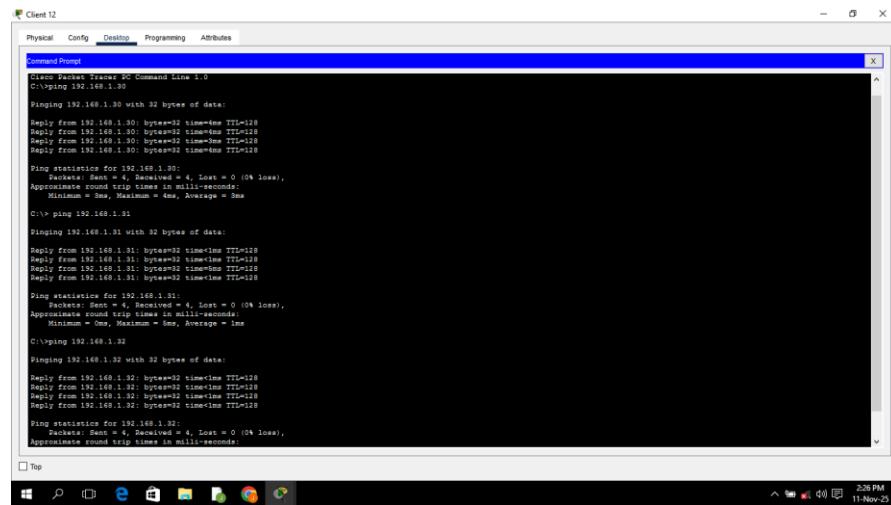
2) Reproduction de la topologie étoile 2



Configuration des Adresses IPv4



Verification de la connection



```
Client 12
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Traces PC Command Line 1.0
C:\ping 192.168.1.30

Pinging 192.168.1.30 with 32 bytes of data:
Reply from 192.168.1.30: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.30:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\ping 192.168.1.31

Pinging 192.168.1.31 with 32 bytes of data:
Reply from 192.168.1.31: bytes=32 time<1ms TTL=128

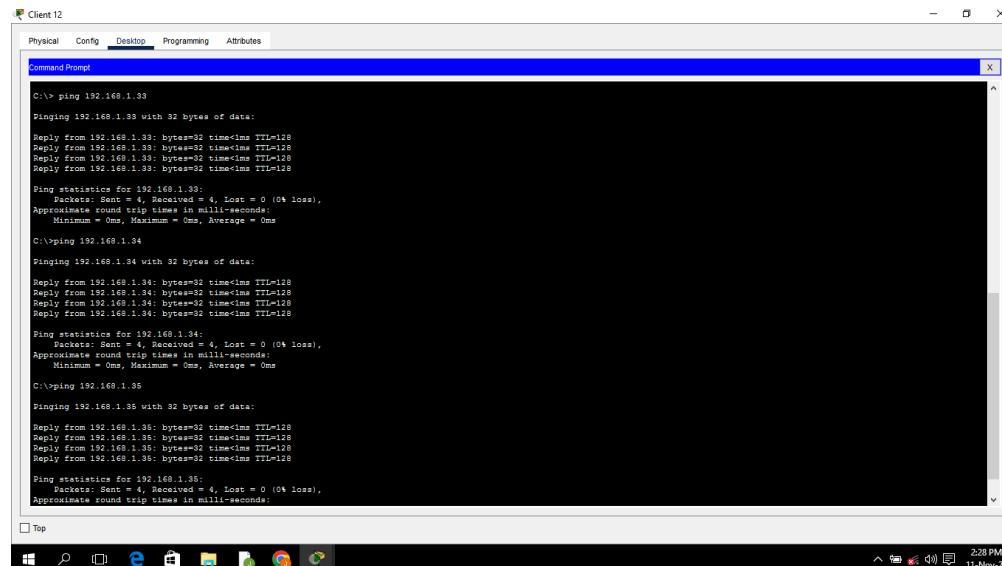
Ping statistics for 192.168.1.31:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\ping 192.168.1.32

Pinging 192.168.1.32 with 32 bytes of data:
Reply from 192.168.1.32: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.32:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\ping 192.168.1.33

Pinging 192.168.1.33 with 32 bytes of data:
Reply from 192.168.1.33: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.33:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\Top
```



```
Client 12
Physical Config Desktop Programming Attributes
Command Prompt
C:\> ping 192.168.1.33

Pinging 192.168.1.33 with 32 bytes of data:
Reply from 192.168.1.33: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.33:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 192.168.1.34

Pinging 192.168.1.34 with 32 bytes of data:
Reply from 192.168.1.34: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.34:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 192.168.1.35

Pinging 192.168.1.35 with 32 bytes of data:
Reply from 192.168.1.35: bytes=32 time<1ms TTL=128

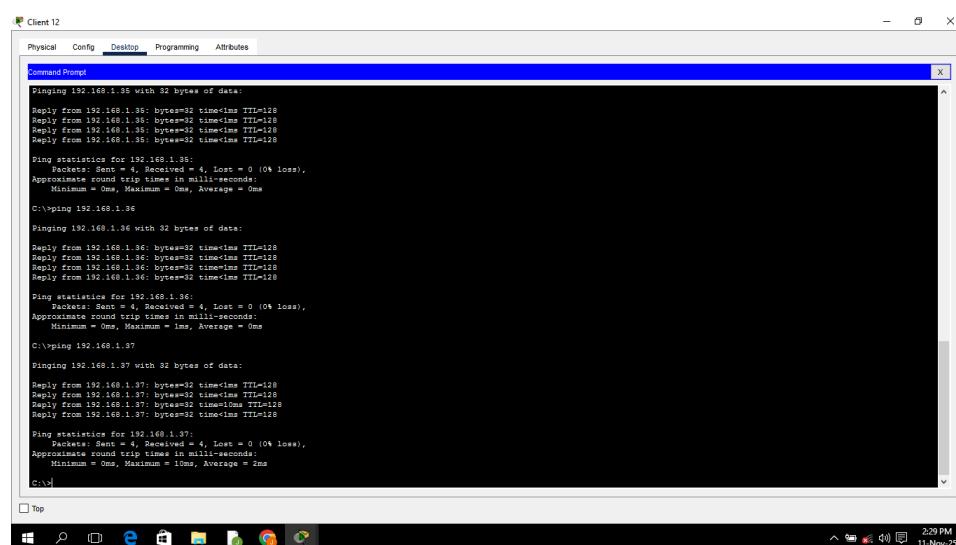
Ping statistics for 192.168.1.35:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 192.168.1.36

Pinging 192.168.1.36 with 32 bytes of data:
Reply from 192.168.1.36: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.36:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 192.168.1.37

Pinging 192.168.1.37 with 32 bytes of data:
Reply from 192.168.1.37: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.37:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

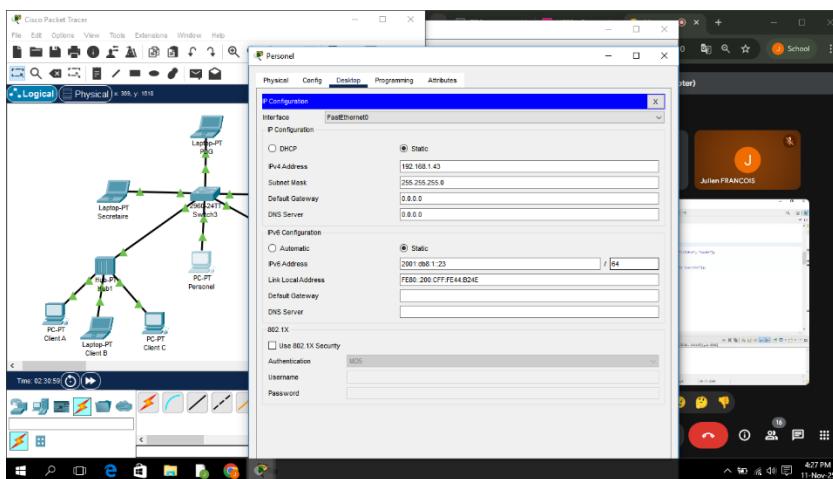
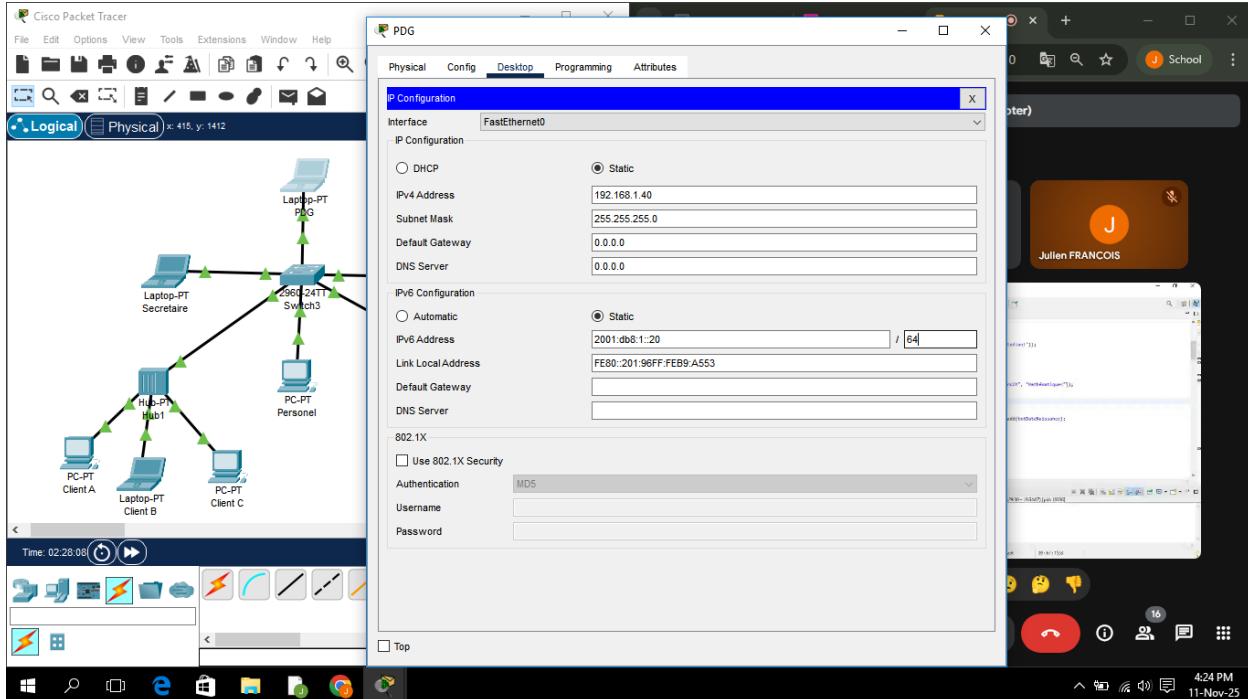


```
Client 12
Physical Config Desktop Programming Attributes
Command Prompt
Pinging 192.168.1.37 with 32 bytes of data:
Reply from 192.168.1.37: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.37:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

3) Reproduction de la topologie Hybride (IPv4)

Configuration des Adresses IPv4



Vérification de la connection

```
PDG

Physical Config Desktop Programming Attributes

Command Prompt

C:\>ping 192.168.1.43

Pinging 192.168.1.43 with 32 bytes of data:
Reply from 192.168.1.43: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.43:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms

C:\>ping 192.168.1.44

Pinging 192.168.1.44 with 32 bytes of data:
Reply from 192.168.1.44: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.44:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms

C:\>ping 192.168.1.45

Pinging 192.168.1.45 with 32 bytes of data:
Reply from 192.168.1.45: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.45:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
```



```
PDG

Physical Config Desktop Programming Attributes

Command Prompt X

C:\>ping 192.168.1.43

Pinging 192.168.1.43 with 32 bytes of data:

Reply from 192.168.1.43: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.43:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms

C:\>ping 192.168.1.44

Pinging 192.168.1.44 with 32 bytes of data:

Reply from 192.168.1.44: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.44:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms

C:\>ping 192.168.1.45

Pinging 192.168.1.45 with 32 bytes of data:

Reply from 192.168.1.45: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.45:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
```



PDG

Physical Config Desktop Programming Attributes

Command Prompt

```
Pinging 192.168.1.47 with 32 bytes of data:
Reply from 192.168.1.47: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.47:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.1.48

Pinging 192.168.1.48 with 32 bytes of data:
Reply from 192.168.1.48: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.48:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.1.49

Pinging 192.168.1.49 with 32 bytes of data:
Reply from 192.168.1.49: bytes=32 time<1ms TTL=128

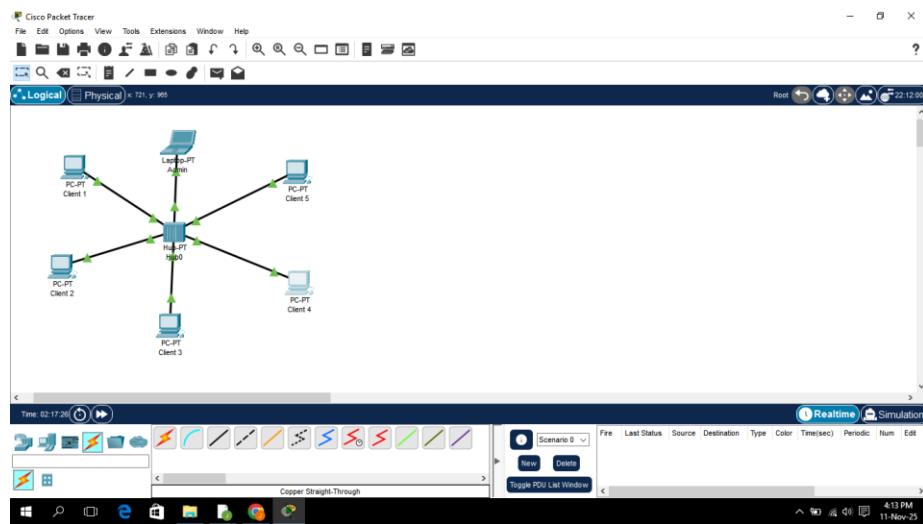
Ping statistics for 192.168.1.49:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

Top

3:56 PM 11-Nov-25

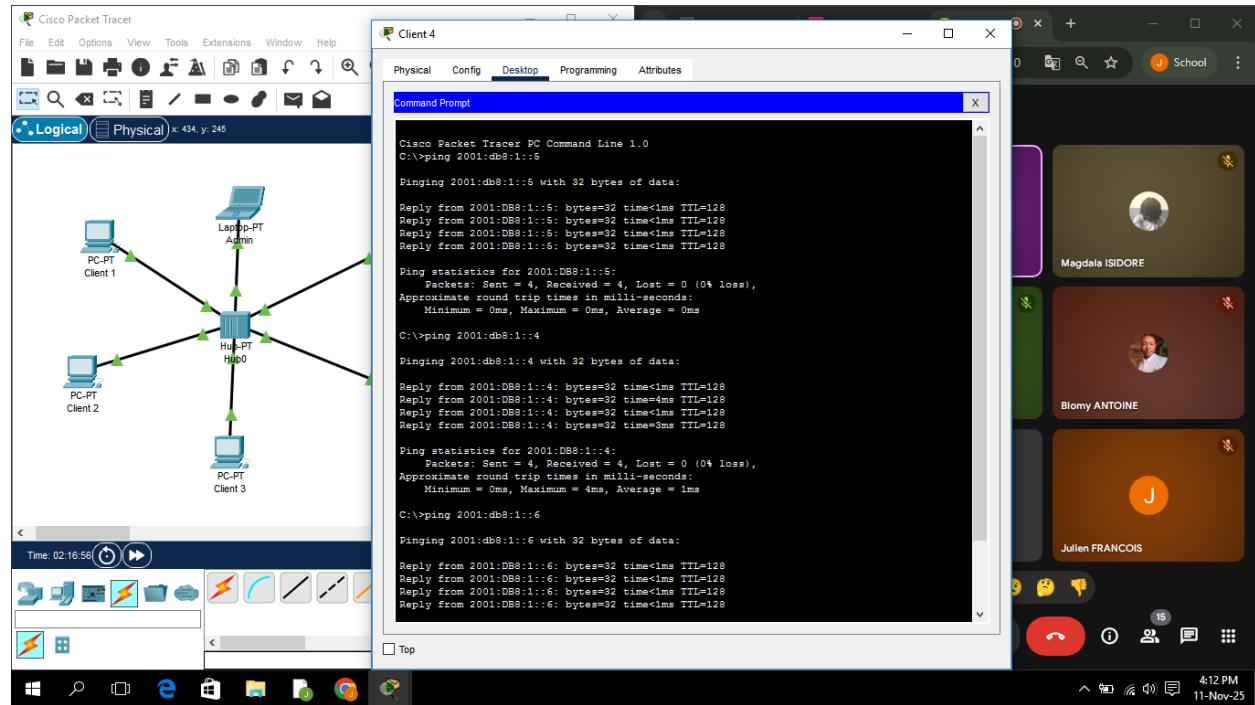
4) Reproduction de la topologie Etoile dans le TD (IPv6)



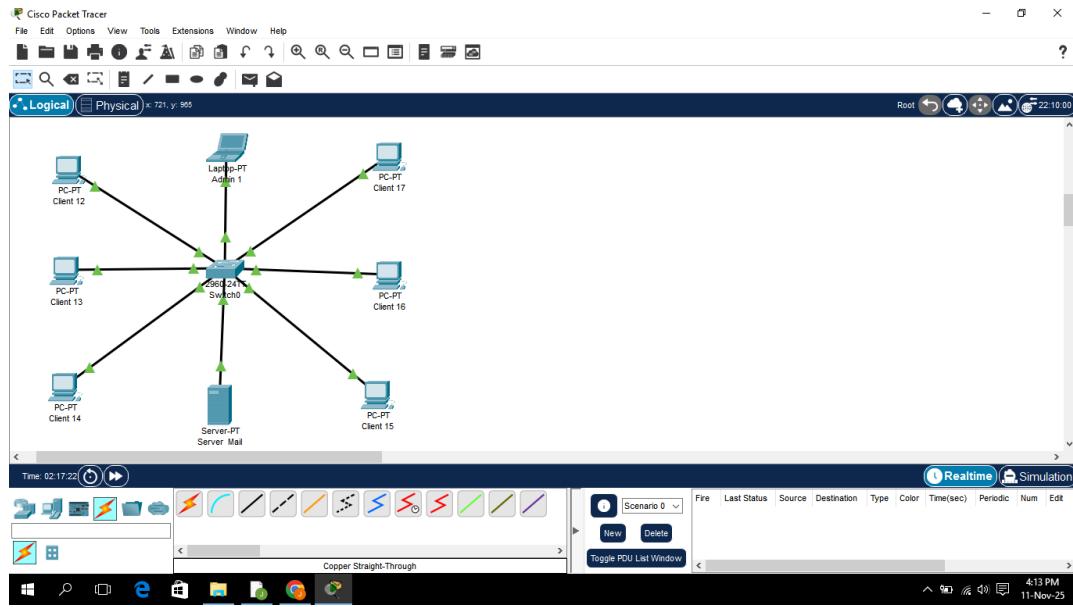
Configuration des addresses IPv6 et verification de la connection

The screenshot shows a Cisco Packet Tracer interface. On the left, there's a network diagram with three client nodes (Client 1, Client 2, Client 3) connected to a central hub labeled "Hub PT HUB0". Above the hub is a laptop icon labeled "Laptop-PT Admin". On the right, there's a "Command Prompt" window titled "Cisco Packet Tracer PC Command Line 1.0" showing the output of several ping commands to an IPv6 address (2001:db8::1). The ping results show 0% loss and low round-trip times (0ms to 2ms). Below the Command Prompt is a Windows taskbar with icons for File Explorer, Task View, Start, Search, Task View, Edge browser, File Explorer, and Task View.

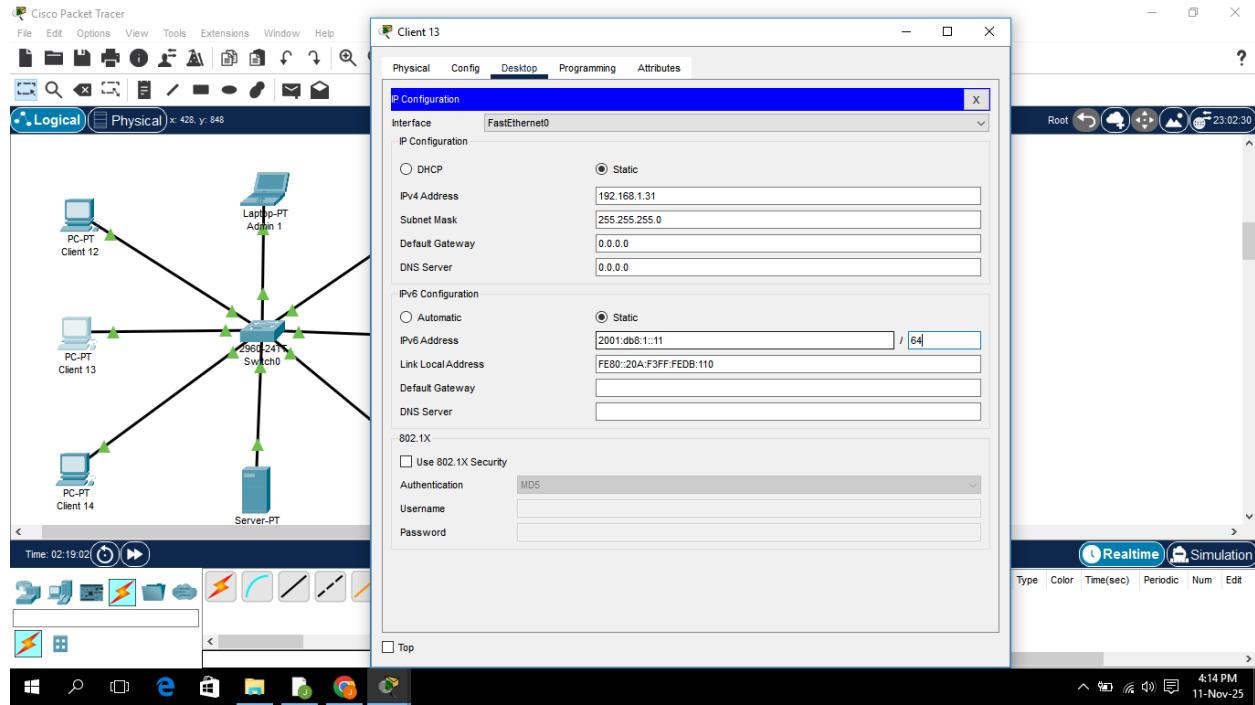
```
C:\>ping 2001:db8::1::1 with 32 bytes of data:
Reply from 2001:DB8::1::1: bytes=32 time<1ms TTL=128
Ping statistics for 2001:DB8::1::1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 2001:db8::1::2
Pinging 2001:db8::1::2 with 32 bytes of data:
Reply from 2001:DB8::1::2: bytes=32 time<1ms TTL=128
Ping statistics for 2001:DB8::1::2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 2001:db8::1::3
Pinging 2001:db8::1::3 with 32 bytes of data:
Reply from 2001:DB8::1::3: bytes=32 time<1ms TTL=128
Ping statistics for 2001:DB8::1::3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
```



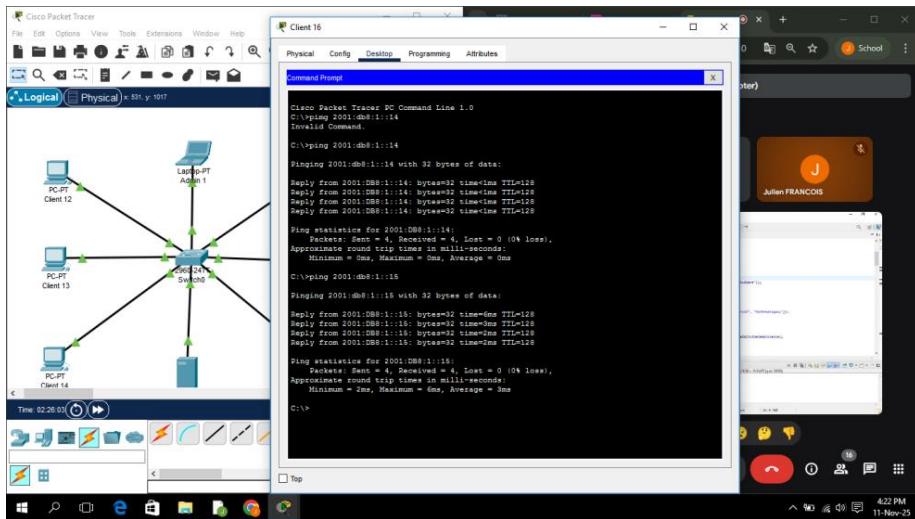
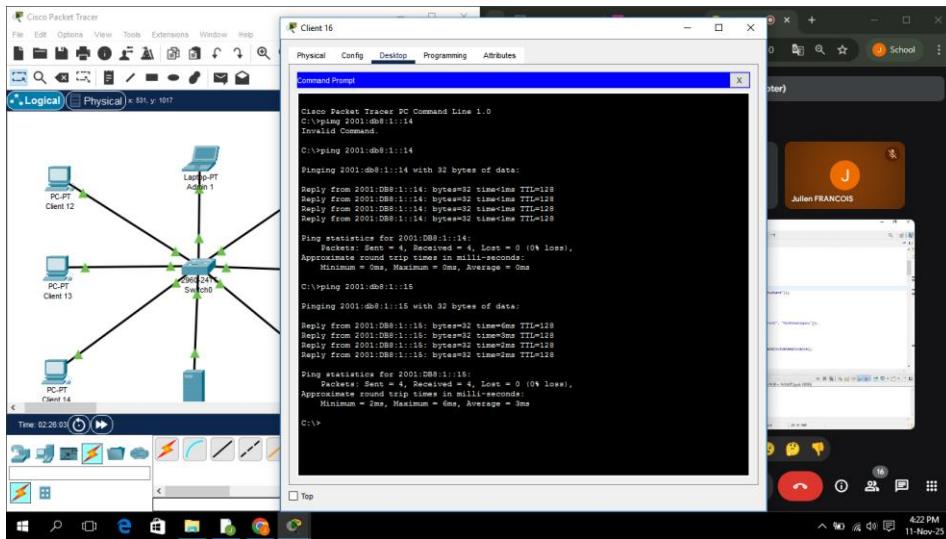
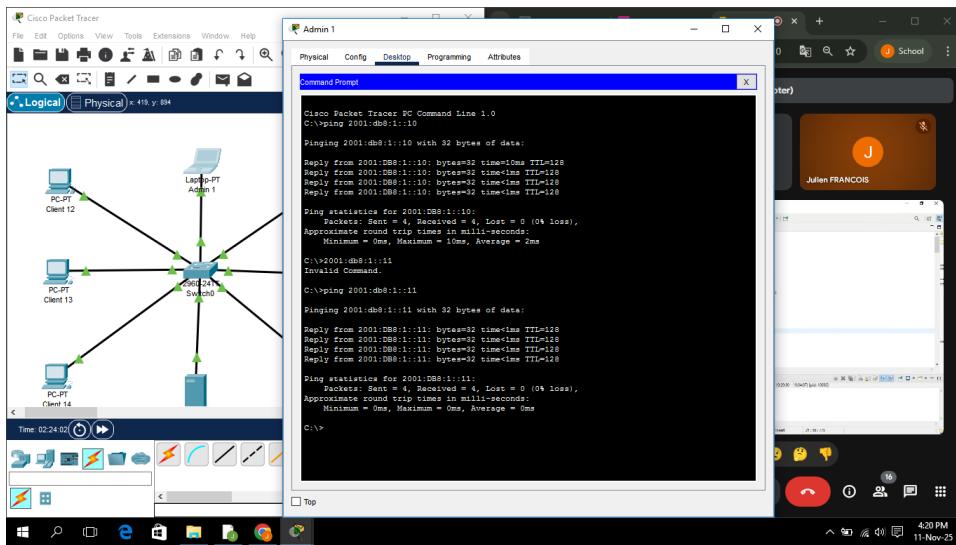
5) Reproduction de la topologie Etoile dans le TD (IPv6)



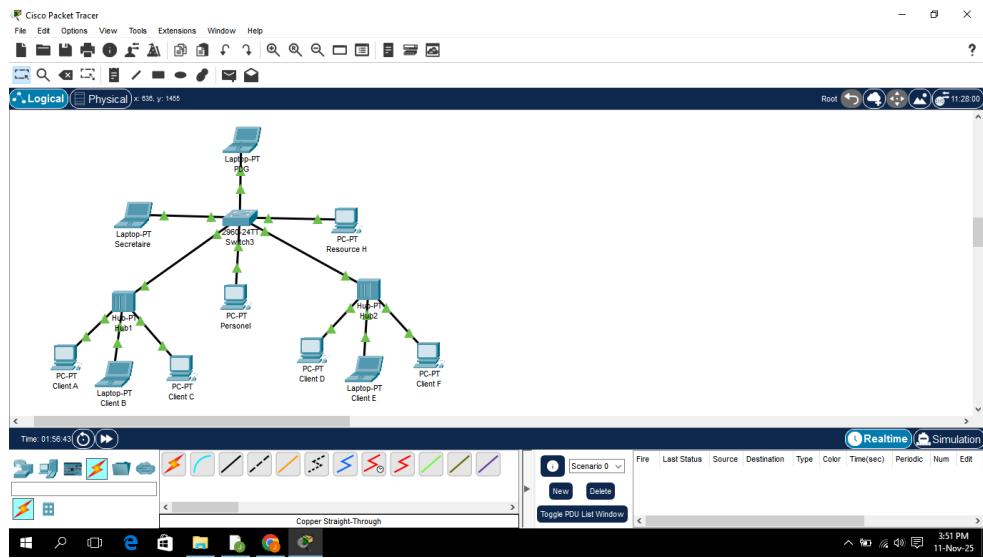
Configuration des addresses IPv6



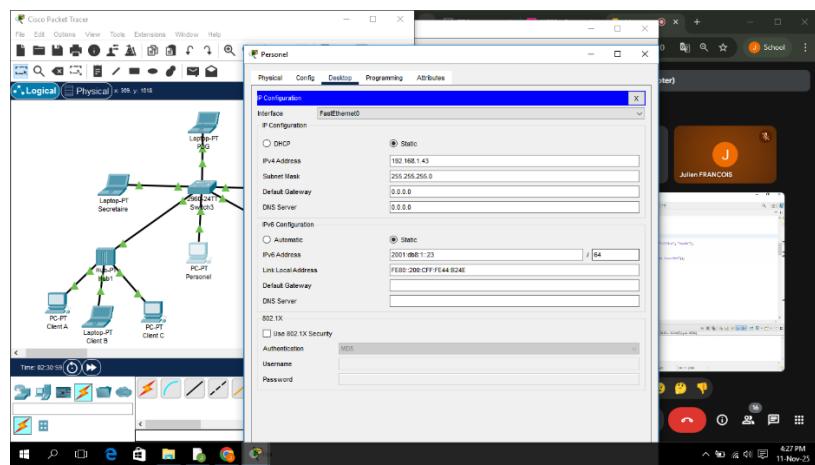
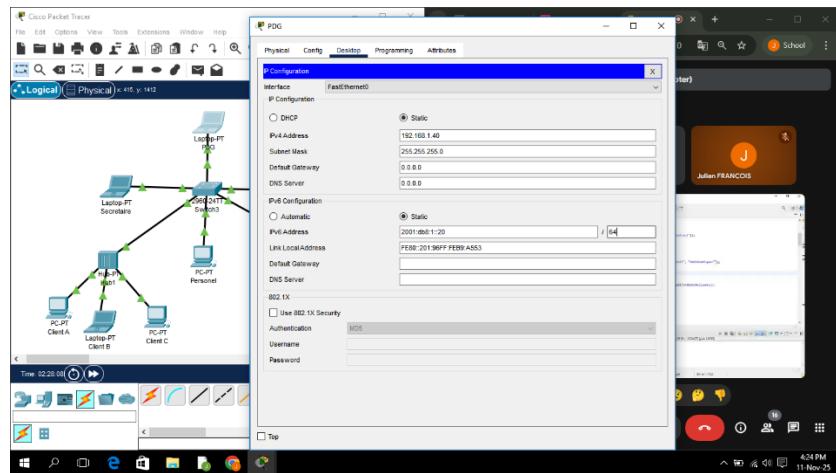
Verification des connections



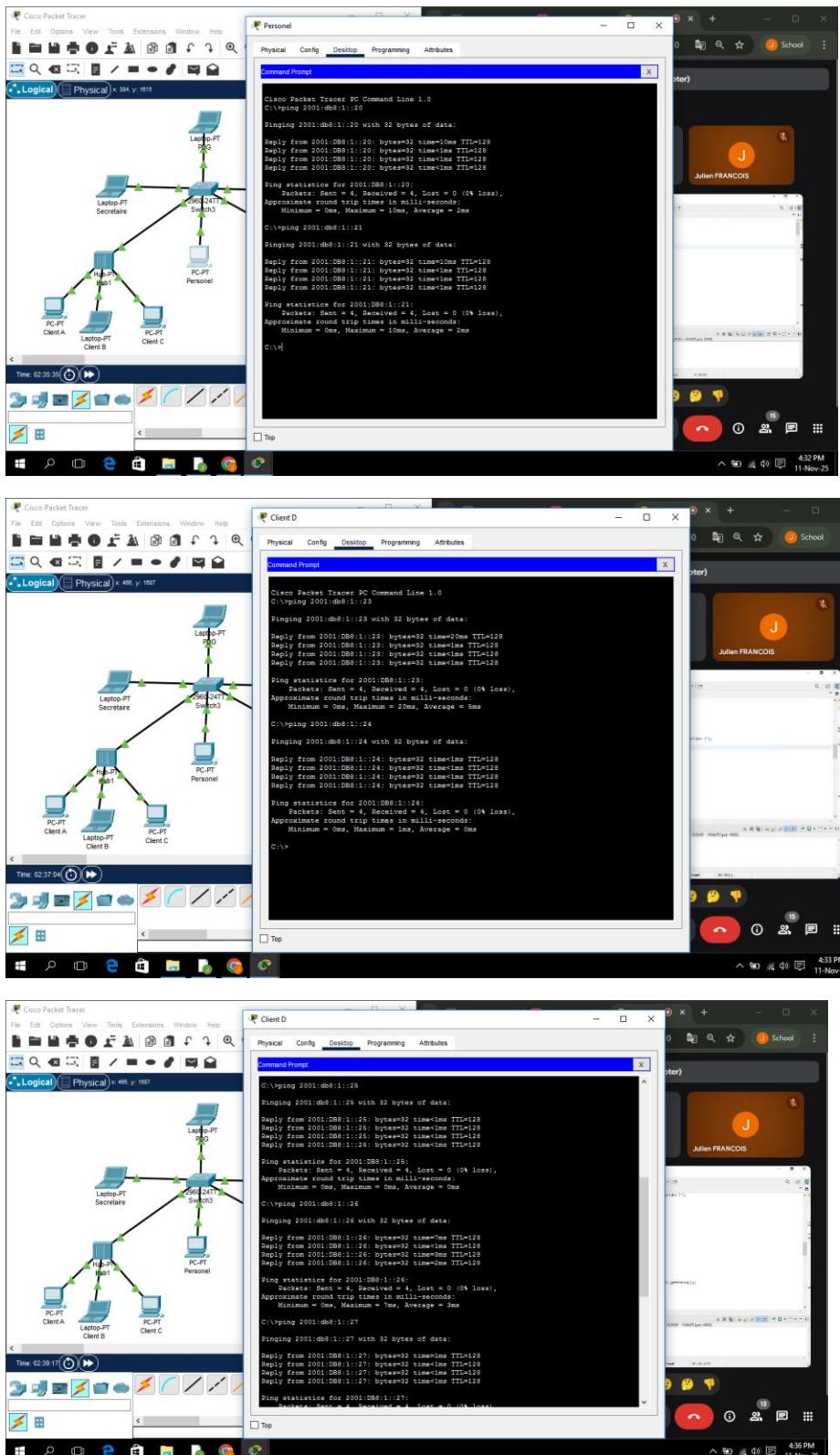
6) Reproduction de la topologie Hybride (IPv6)

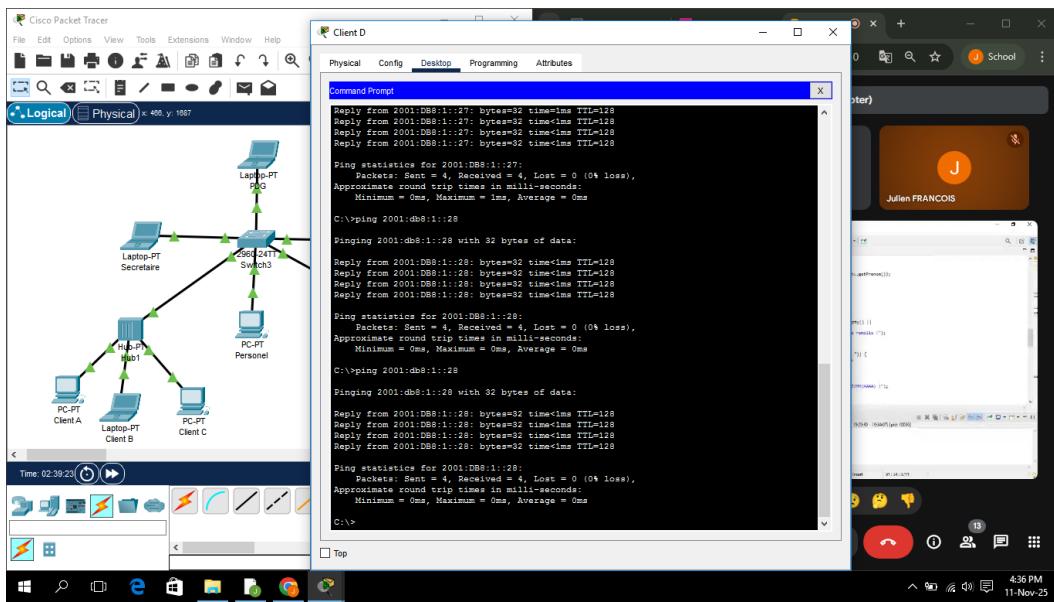


Configuration des addresses IPv6



Verication de la connection





En conclusion ce TD nous apprend a comprendre l'importance des addresses IP car elles renforcent la securite de votre appareil. Ce TD nous apprend aussi a configurer les addresses IP sur les appareils et a verifie les connections