

INTITUT UNIVERSITAIRE DES SCIENCES

(IUS)

FACULTE DES SCIENCES ET DES TECHNOLOGIES

(FST)

Etudiante : Evena leamande

L3 /FST

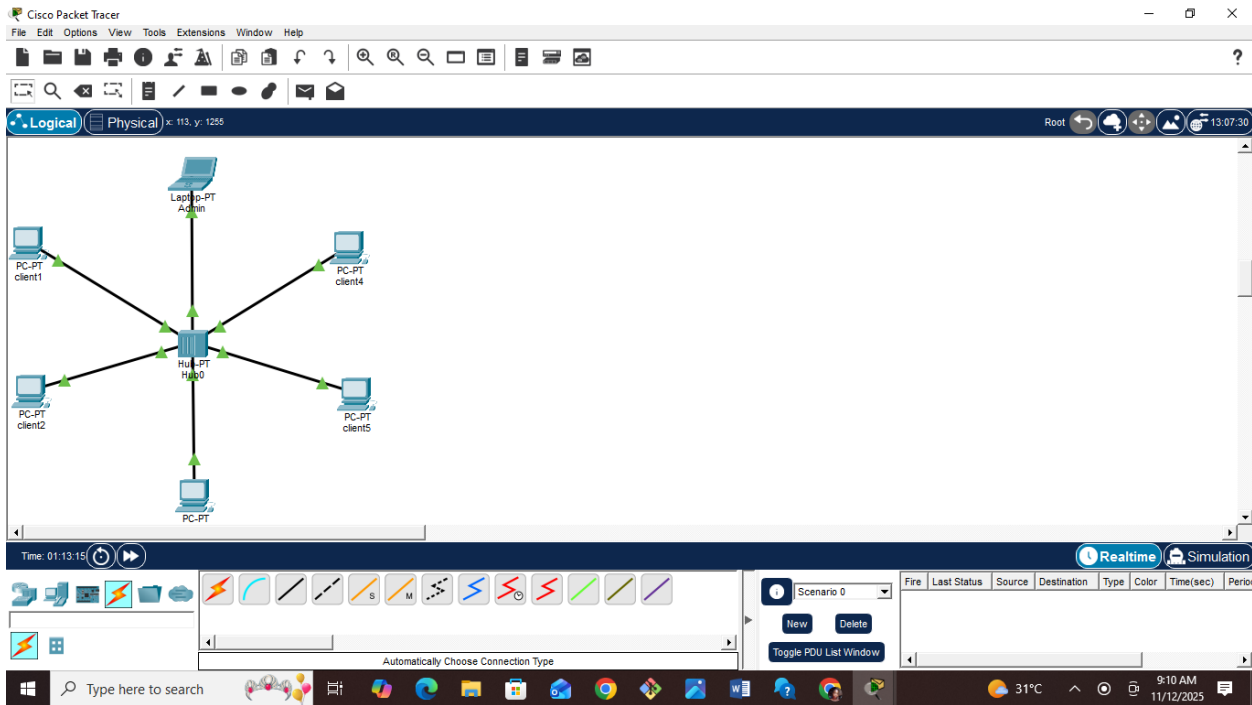
TD3 / Resaux

Prof : Ismael Saint-Amour

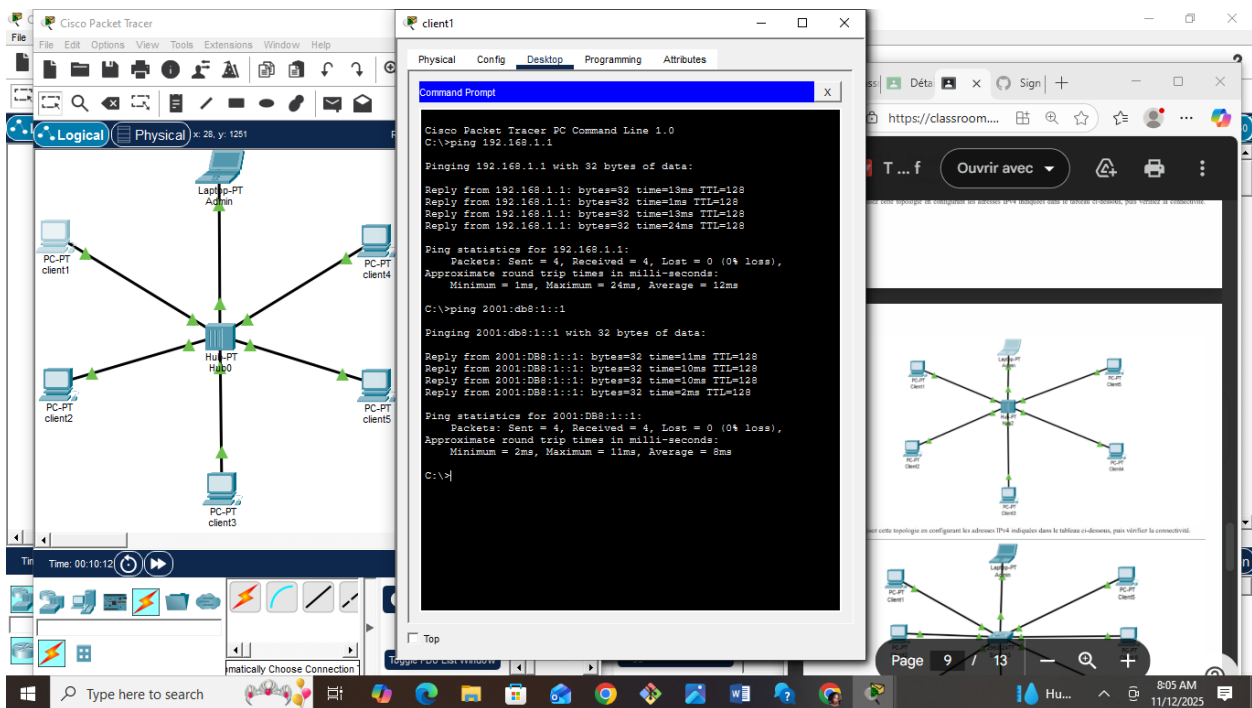
Date : le 12 /11/25

Objectif du TD

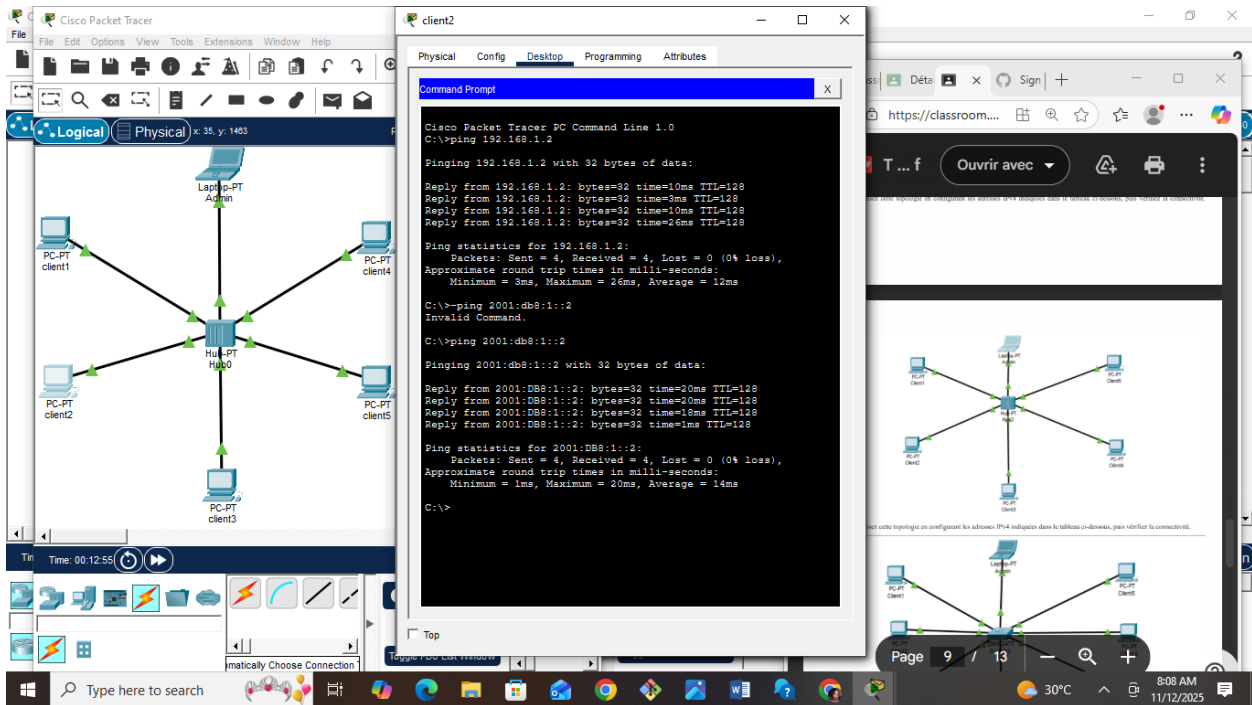
Maîtriser la configuration et le diagnostic d'un réseau local (IPv4/IPv6), tester la connectivité entre les équipements et analyser les performances du réseau.



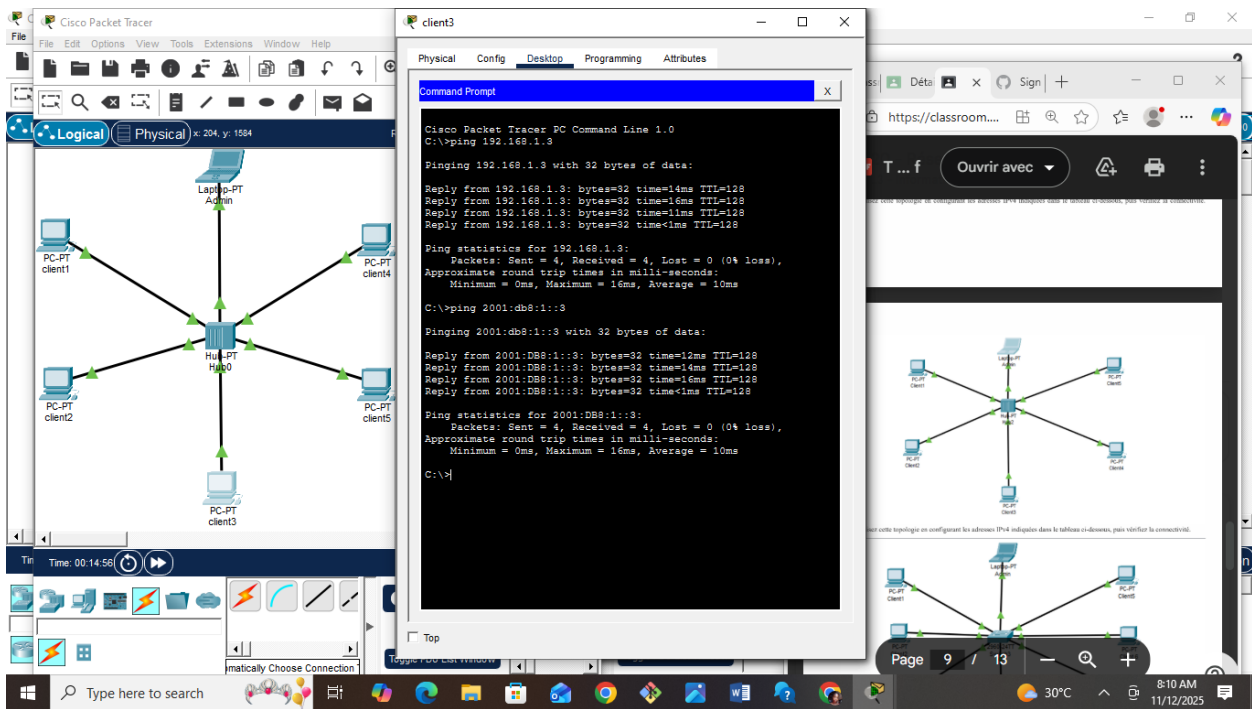
La figure 1



ipv4 et ipv6 pour client 1



Ipv4 et ipv6 pour client 2



Ipv4 et ipv6 pour client 3

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x: 375, y: 1320

Laptop-PT Admin

PC-PT client1

PC-PT client2

PC-PT client3

PC-PT client4

PC-PT client5

Hu-PT Hub0

client4

Physical Config Desktop Programming

Command Prompt

```
Cisco Packet Tracer PC Command Line 1
C:\>ping 192.168.1.4

Pinging 192.168.1.4 with 32 bytes of data:

Reply from 192.168.1.4: bytes=32 time=0ms
Reply from 192.168.1.4: bytes=32 time=0ms
Reply from 192.168.1.4: bytes=32 time=0ms
Reply from 192.168.1.4: bytes=32 time=0ms

Ping statistics for 192.168.1.4:
    Packets: Sent = 4, Received = 4, Loss = 0%
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 15ms, Average = 0ms

C:\>ping 2001:db8:1::4

Pinging 2001:db8:1::4 with 32 bytes of data:

Reply from 2001:DB8:1::4: bytes=32 time=0ms
Reply from 2001:DB8:1::4: bytes=32 time=0ms
Reply from 2001:DB8:1::4: bytes=32 time=0ms
Reply from 2001:DB8:1::4: bytes=32 time=0ms

Ping statistics for 2001:DB8:1::4:
    Packets: Sent = 4, Received = 4, Loss = 0%
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 27ms, Average = 0ms

C:\>
```

Time: 00:17:17

Type here to search

Ipv4 et ipv6 pour client 4

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x: 398, y: 1489

Laptop-PT Admin

PC-PT client1

PC-PT client2

PC-PT client3

PC-PT client4

Hu-PT Hub0

Time: 00:25:36

client5

Physical Config Desktop Programming

Command Prompt

```
Cisco Packet Tracer PC Command Line 1
C:\>ping 192.168.1.5

Pinging 192.168.1.5 with 32 bytes of data:

Reply from 192.168.1.5: bytes=32 time=0ms
Reply from 192.168.1.5: bytes=32 time=0ms
Reply from 192.168.1.5: bytes=32 time=0ms
Reply from 192.168.1.5: bytes=32 time=0ms

Ping statistics for 192.168.1.5:
    Packets: Sent = 4, Received = 4, Loss = 0%
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 15ms, Average = 0ms

C:\>ping 2001:db8:1::5

Pinging 2001:db8:1::5 with 32 bytes of data:

Reply from 2001:DB8:1::5: bytes=32 time=0ms
Reply from 2001:DB8:1::5: bytes=32 time=0ms
Reply from 2001:DB8:1::5: bytes=32 time=0ms
Reply from 2001:DB8:1::5: bytes=32 time=0ms

Ping statistics for 2001:DB8:1::5:
    Packets: Sent = 4, Received = 4, Loss = 0%
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 31ms, Average = 0ms

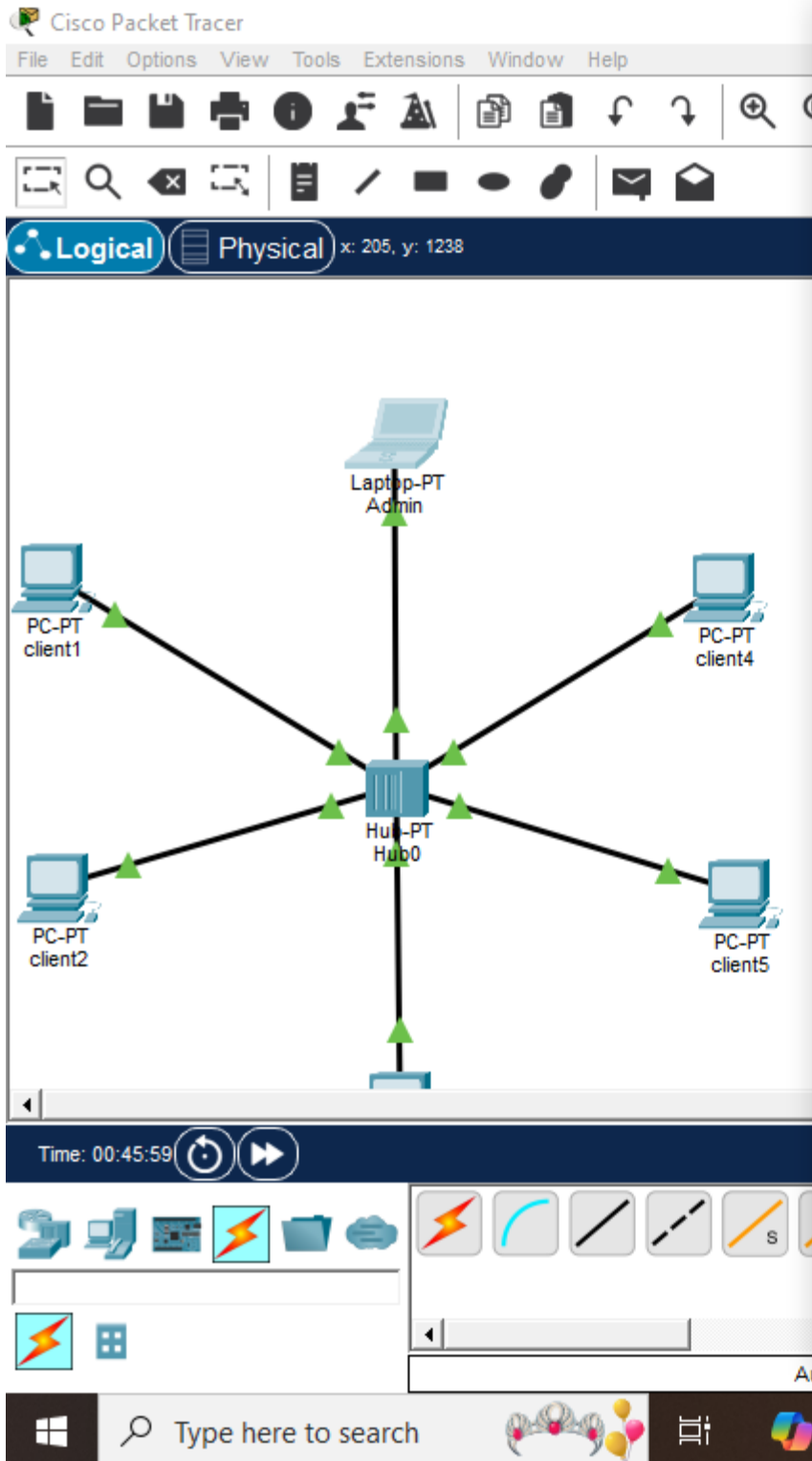
C:\>
```

Top

Toggle PC List Window

Type here to search

Ipv4 et ipv6 pour client 5



Admin

Physical Config Desktop Programming

Command Prompt

```
Cisco Packet Tracer PC Command Line 1
C:\>ping 192.168.1.6

Pinging 192.168.1.6 with 32 bytes of data:

Reply from 192.168.1.6: bytes=32 time=0ms
Reply from 192.168.1.6: bytes=32 time=0ms
Reply from 192.168.1.6: bytes=32 time=0ms
Reply from 192.168.1.6: bytes=32 time=0ms

Ping statistics for 192.168.1.6:
    Packets: Sent = 4, Received = 4, Loss = 0%
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 50ms, Average = 0ms

C:\>ping 2001:db8:1::6

Pinging 2001:db8:1::6 with 32 bytes of data:

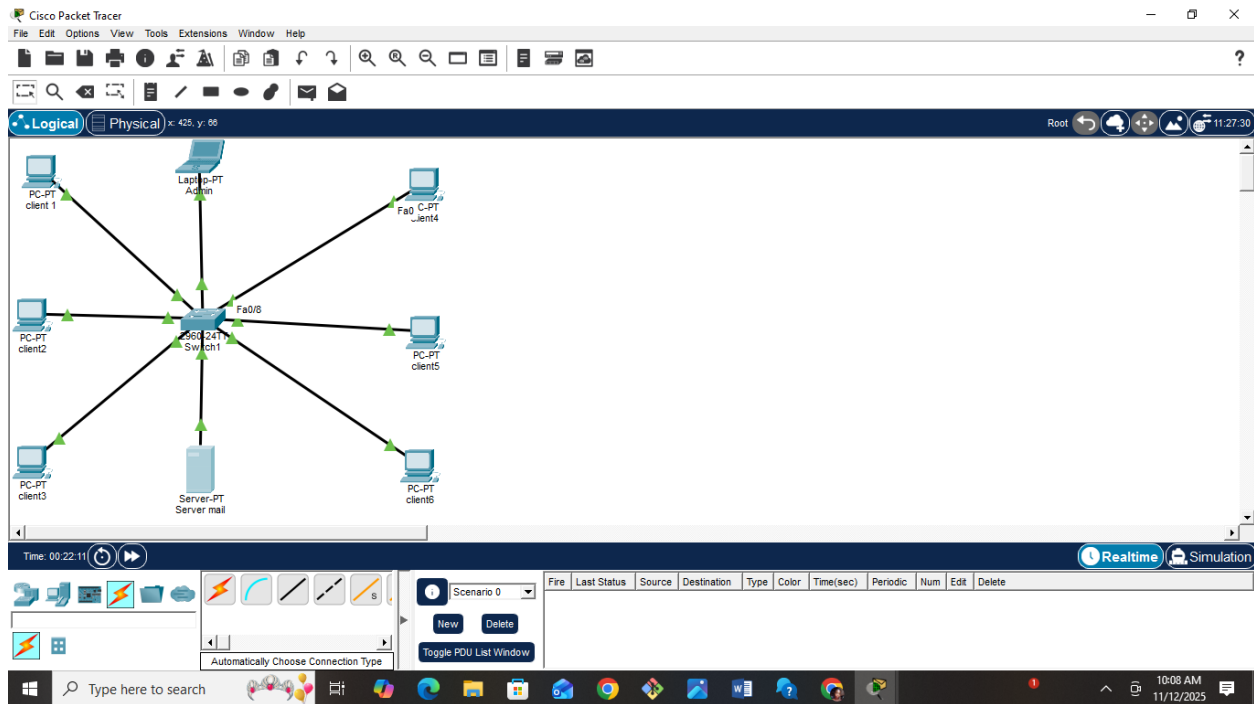
Reply from 2001:DB8:1::6: bytes=32 time=12ms
Reply from 2001:DB8:1::6: bytes=32 time=12ms
Reply from 2001:DB8:1::6: bytes=32 time=12ms
Reply from 2001:DB8:1::6: bytes=32 time=12ms

Ping statistics for 2001:DB8:1::6:
    Packets: Sent = 4, Received = 4, Loss = 0%
    Approximate round trip times in milliseconds:
        Minimum = 12ms, Maximum = 27ms, Average = 12ms

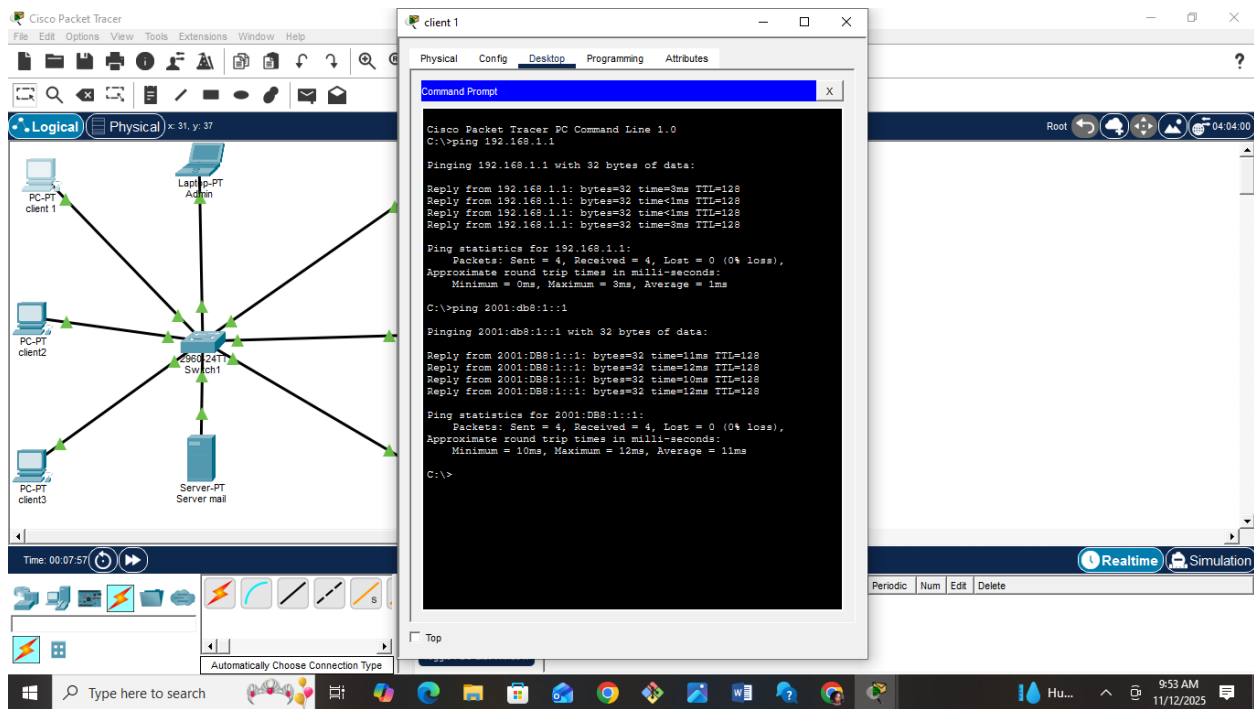
C:\>
```

☐ Top

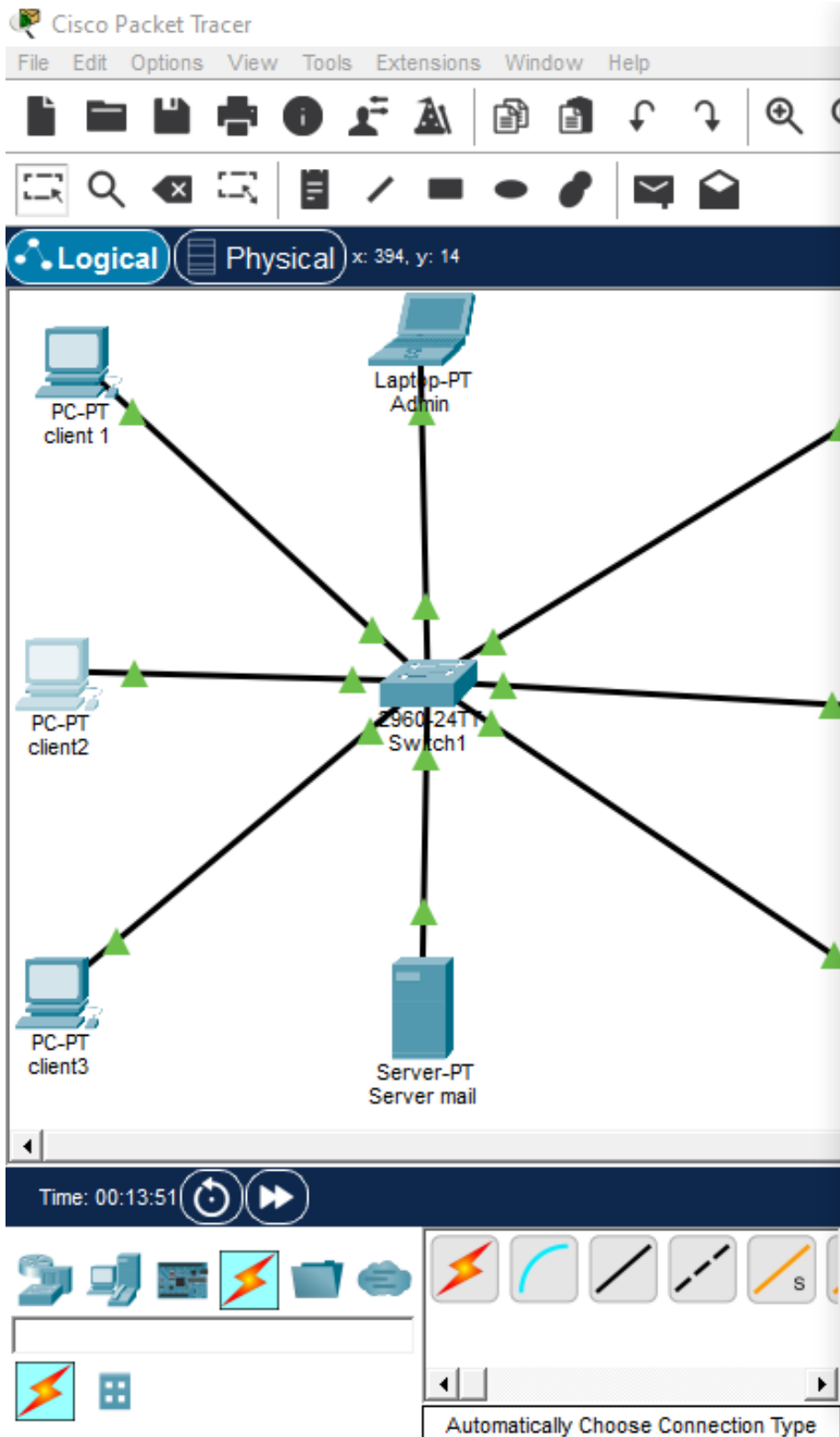
Ipv4 et ipv6 pour Admin



La figure 2



Ipv4 et ipv6 pour client 1



client2

Physical Config Desktop Program

Command Prompt

```
Cisco Packet Tracer PC Command
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=0ms TTL=64
Reply from 192.168.1.2: bytes=32 time=0ms TTL=64
Reply from 192.168.1.2: bytes=32 time=0ms TTL=64
Reply from 192.168.1.2: bytes=32 time=0ms TTL=64

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Loss = 0%
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 2001:db8:1::2

Pinging 2001:db8:1::2 with 32 bytes of data:

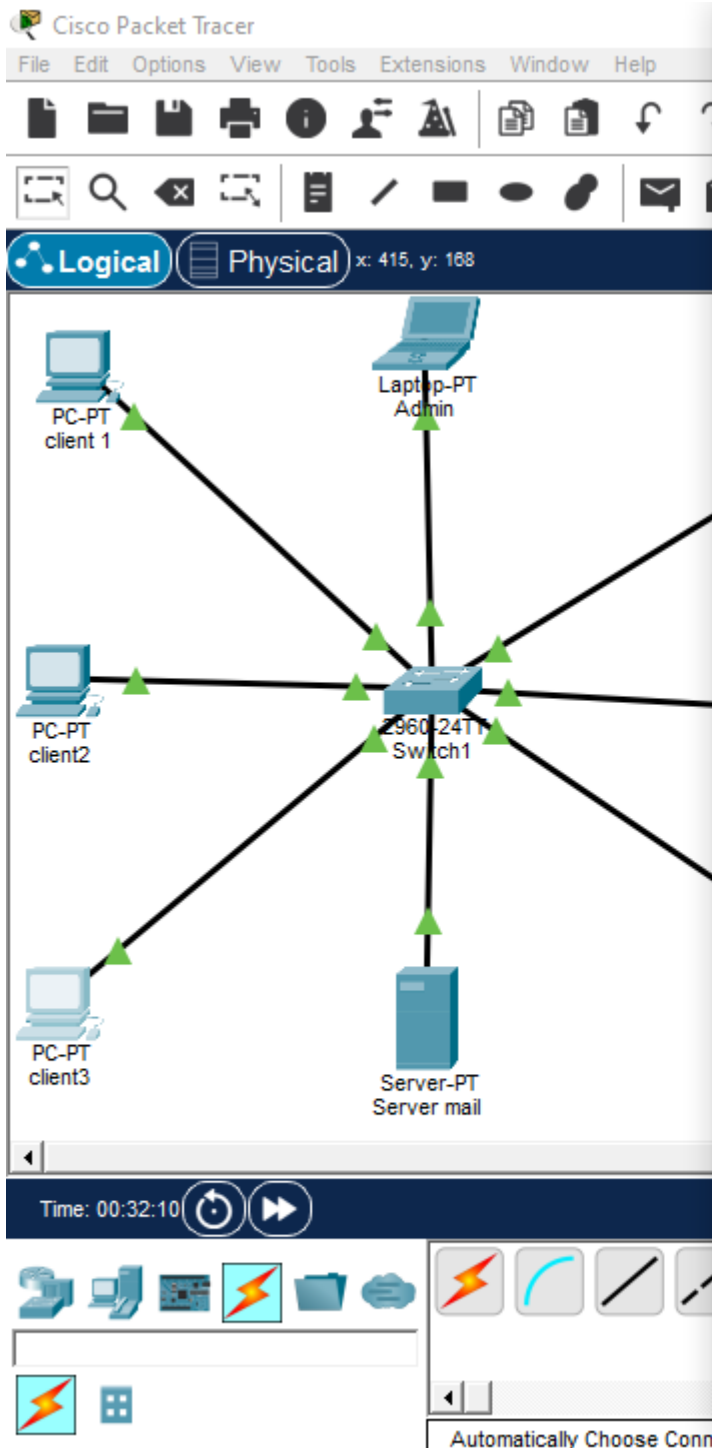
Reply from 2001:DB8:1::2: byte=32 time=0ms TTL=64
Reply from 2001:DB8:1::2: byte=32 time=0ms TTL=64
Reply from 2001:DB8:1::2: byte=32 time=0ms TTL=64
Reply from 2001:DB8:1::2: byte=32 time=0ms TTL=64

Ping statistics for 2001:DB8:1::2:
    Packets: Sent = 4, Received = 4, Loss = 0%
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\>
```

Top

Ipv4 et ipv6 pour client 2



client3

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.3

Pinging 192.168.1.3 with 32 bytes of data:

Reply from 192.168.1.3: bytes=32 time=15ms TTL=120
Reply from 192.168.1.3: bytes=32 time=3ms TTL=120
Reply from 192.168.1.3: bytes=32 time=1ms TTL=120
Reply from 192.168.1.3: bytes=32 time=27ms TTL=120

Ping statistics for 192.168.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss)
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 27ms, Average = 11ms

C:\>ping 2001:db8:1::3

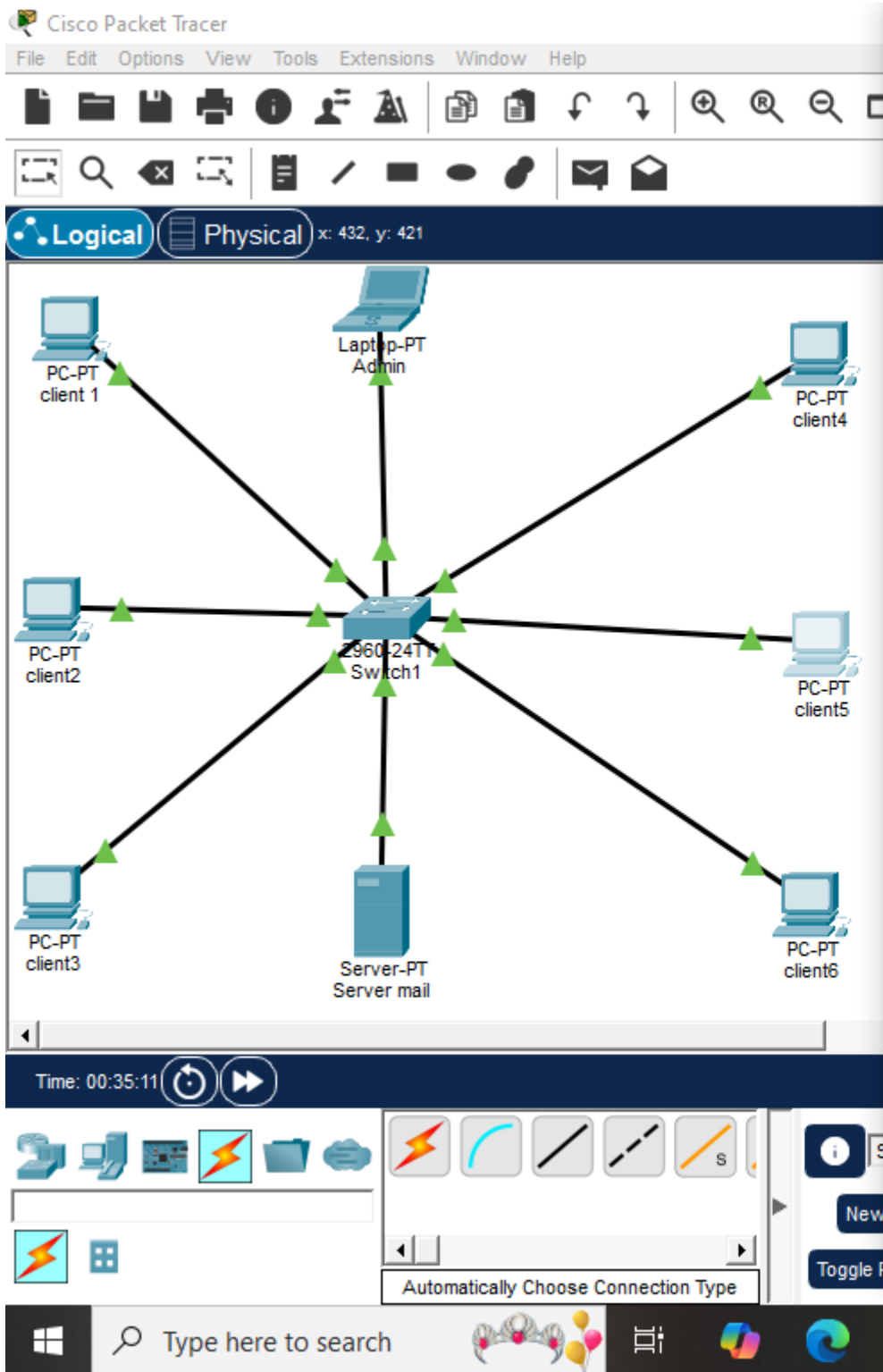
Pinging 2001:db8:1::3 with 32 bytes of data:

Reply from 2001:DB8:1::3: bytes=32 time=14ms TTL=64
Reply from 2001:DB8:1::3: bytes=32 time=24ms TTL=64
Reply from 2001:DB8:1::3: bytes=32 time=14ms TTL=64
Reply from 2001:DB8:1::3: bytes=32 time<1ms TTL=64

Ping statistics for 2001:DB8:1::3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss)
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 24ms, Average = 13ms

C:\>
```

Top



client5

Physical Config Desktop Prog

Command Prompt

```
Cisco Packet Tracer PC Command Line
C:\>ping 192.168.1.5

Pinging 192.168.1.5 with 32 bytes of data:

Reply from 192.168.1.5: byte=32 time=0ms TTL=64
Reply from 192.168.1.5: byte=32 time=0ms TTL=64
Reply from 192.168.1.5: byte=32 time=0ms TTL=64
Reply from 192.168.1.5: byte=32 time=0ms TTL=64

Ping statistics for 192.168.1.5:
    Packets: Sent = 4, Received = 4, Loss = 0%
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 2001:db8:1::5

Pinging 2001:db8:1::5 with 32 bytes of data:

Reply from 2001:DB8:1::5: byte=32 time=0ms TTL=64
Reply from 2001:DB8:1::5: byte=32 time=0ms TTL=64
Reply from 2001:DB8:1::5: byte=32 time=0ms TTL=64
Reply from 2001:DB8:1::5: byte=32 time=0ms TTL=64

Ping statistics for 2001:DB8:1::5:
    Packets: Sent = 4, Received = 4, Loss = 0%
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```

Ipv4 et ipv6 pour client5

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x: 470, y: 419

PC-PT client 1 Laptop-PT Admin PC-PT client4 PC-PT client2 2960-24T1 Switch1 PC-PT client5 PC-PT client3 Server-PT Server mail PC-PT client6

Time: 00:36:51

Automatically Choose Connection Type

client6

Physical Config Desktop Prog

Command Prompt

```
Cisco Packet Tracer PC Command Line
C:\>ping 192.168.1.6

Pinging 192.168.1.6 with 32 bytes of data:

Reply from 192.168.1.6: byte=32 ttl=64 time=0ms
Reply from 192.168.1.6: byte=32 ttl=64 time=0ms
Reply from 192.168.1.6: byte=32 ttl=64 time=0ms
Reply from 192.168.1.6: byte=32 ttl=64 time=0ms

Ping statistics for 192.168.1.6:
    Packets: Sent = 4, Received = 4, Loss = 0%
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 2001:db8:1::6

Pinging 2001:db8:1::6 with 32 bytes of data:

Reply from 2001:DB8:1::6: byte=32 ttl=64 time=0ms
Reply from 2001:DB8:1::6: byte=32 ttl=64 time=0ms
Reply from 2001:DB8:1::6: byte=32 ttl=64 time=0ms
Reply from 2001:DB8:1::6: byte=32 ttl=64 time=0ms

Ping statistics for 2001:DB8:1::6:
    Packets: Sent = 4, Received = 4, Loss = 0%
    Approximate round trip times in milliseconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```

Ipv4 et ipv6 pour client6

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x: 488, y: 53

PC-PT client 1 Laptop-PT Admin PC-PT client4 PC-PT client2 2960-24T Switch1 PC-PT client5 PC-PT client3 Server-PT Server mail PC-PT client6

Time: 00:37:57

Automatically Choose Connection Type

Admin

Physical Config Desktop Pro

Command Prompt

```
Cisco Packet Tracer PC Comm
C:\>ping 192.168.1.7

Pinging 192.168.1.7 with 32
bytes of data:

Reply from 192.168.1.7: byte
Reply from 192.168.1.7: byte
Reply from 192.168.1.7: byte
Reply from 192.168.1.7: byte

Ping statistics for 192.168.1.7:
    Packets: Sent = 4, Rece
Approximate round trip time
    Minimum = 0ms, Maximum =

```

```
C:\>ping 2001:db8:1::7

Pinging 2001:db8:1::7 with
32 bytes of data:

Reply from 2001:DB8:1::7: b
Reply from 2001:DB8:1::7: b
Reply from 2001:DB8:1::7: b
Reply from 2001:DB8:1::7: b

Ping statistics for 2001:DB8:1::7:
    Packets: Sent = 4, Rece
Approximate round trip time
    Minimum = 0ms, Maximum =

```

```
C:\>
```

Ipv4 et ipv6 pour Admin

The image displays a Cisco Packet Tracer network simulation. The network topology consists of a central 2960-24T1 Switch1 connected to five devices: PC-PT client1, PC-PT client2, PC-PT client3, Laptop-PT Admin, and Server-PT Server mail. The interface is set to 'Logical' view. A 'Server mail' window is open, showing a Command Prompt with the following output:

```
Cisco Packet Tracer SERVER Command Line 1.0
C:\>ping 192.168.1.9

Pinging 192.168.1.9 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.9:
    Packets: Sent = 4, Received = 0, Lost = 4 (100%)

C:\>ping 192.168.1.8

Pinging 192.168.1.8 with 32 bytes of data:

Reply from 192.168.1.8: bytes=32 time<1ms TTL=128
Reply from 192.168.1.8: bytes=32 time=7ms TTL=128
Reply from 192.168.1.8: bytes=32 time=1ms TTL=128
Reply from 192.168.1.8: bytes=32 time=8ms TTL=128

Ping statistics for 192.168.1.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0%)
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 8ms, Average = 4ms

C:\>ping 2001:db8:1::8

Pinging 2001:db8:1::8 with 32 bytes of data:

Reply from 2001:DB8:1::8: bytes=32 time=14ms TTL=128
Reply from 2001:DB8:1::8: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::8: bytes=32 time=14ms TTL=128
Reply from 2001:DB8:1::8: bytes=32 time=21ms TTL=128

Ping statistics for 2001:DB8:1::8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0%)
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 21ms, Average = 12ms
```

The bottom of the image shows the Windows taskbar with the search bar and various application icons.

Ipv4 et ipv6 pour server mail

Conclusion : Ce TD m'a permis de configurer avec succès un réseau local, supportant IPv4 et IPv6.

Difficultés rencontrées :

Échecs de connectivité sur certaines adresses (PC ipv6 avec 3000 :is9 :1 ::1)

Donc, Ce travail m'a permis de bien comprendre concrètement l'architecture réseau, l'importance d'une configuration rigoureuse, et l'utilisation d'outils de diagnostic essentiels. J'ai acquis les compétences fondamentales pour administrer un réseau local moderne et résoudre les problèmes de connectivité.

En somme, ce TD constitue une base solide pour mes futures pratiques en administration réseaux.