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

# TD N°_3 – RÉSEAUX

**COURS: RÉSEAUX**

**PRÉNOM:** Lens Sandro

**NOM:** PÉTIOTE

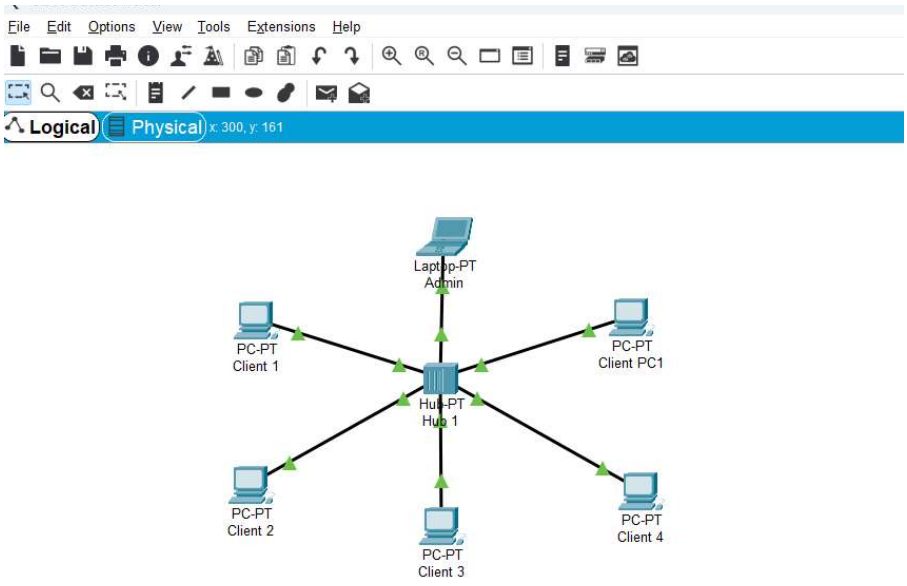
**NIVEAU:** L3

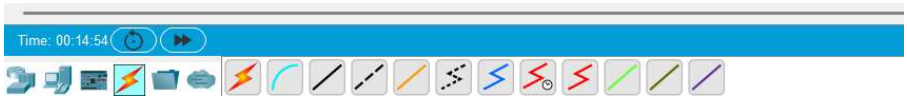
**DATE:** 14/11/2025

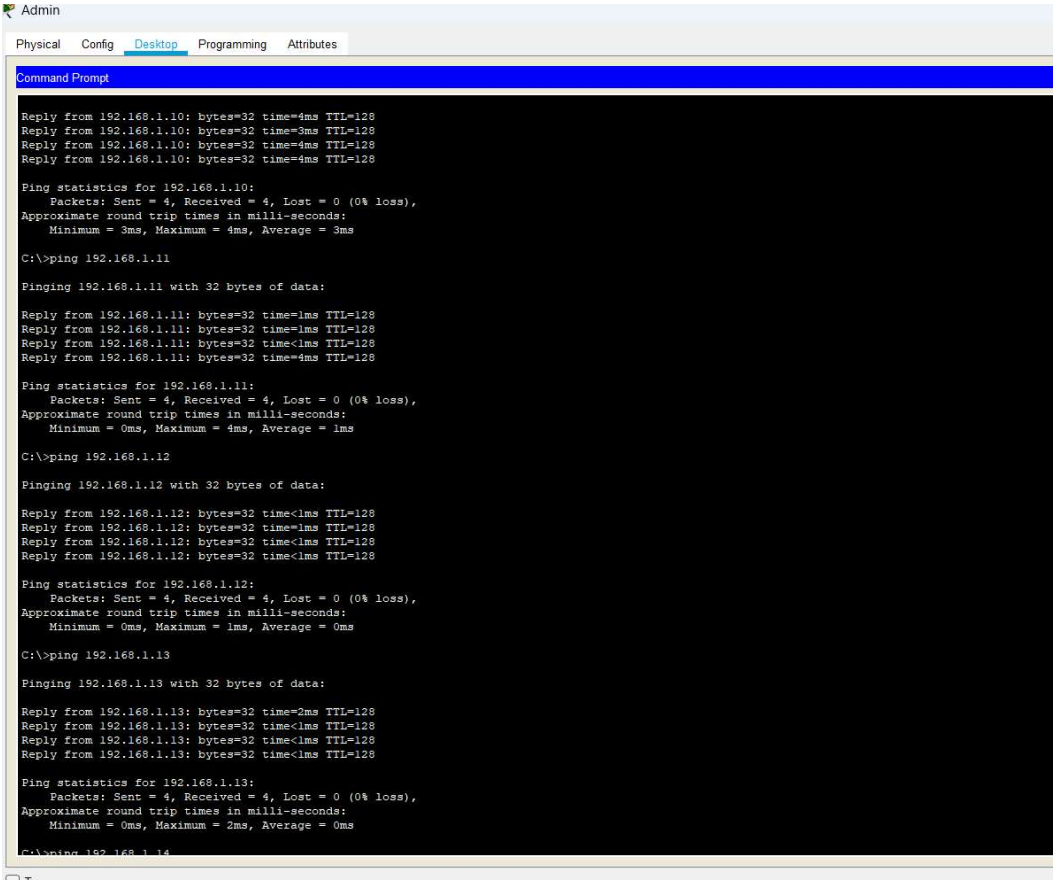
**L'objectif de ce TD est de:**

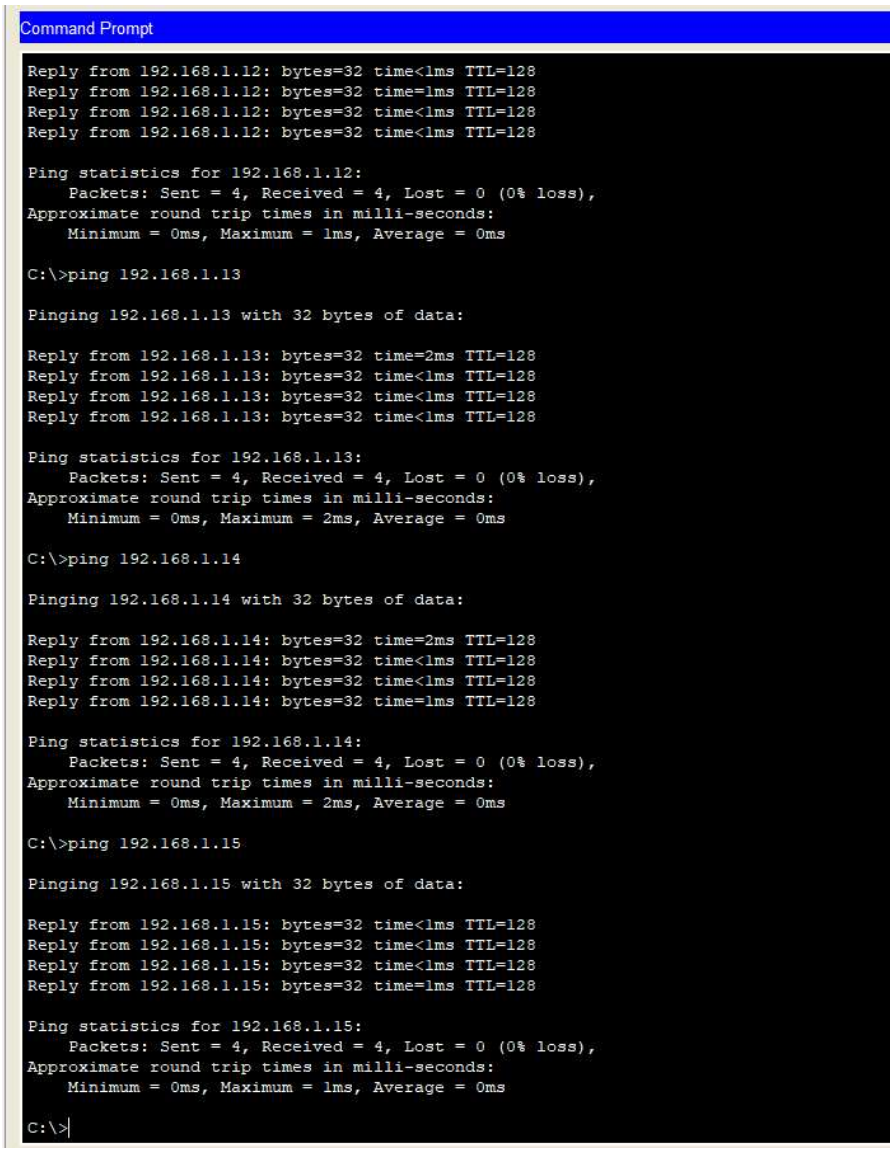
1. Savoir attribuer des adresses IP valides aux machines.
2. Comprendre l'adressage IPv4 et IPv6.
3. Configurer des adresses IP sur des hôtes et routeurs dans Cisco Packet Tracer.
4. Vérifier la connectivité avec les commandes ping et ping ipv6.

1. Reproduiseonz la topologie en étoile en configurant les adresses IPv4 indiquées dans le tableau ci-dessous, puis vérifieons la connectivité.

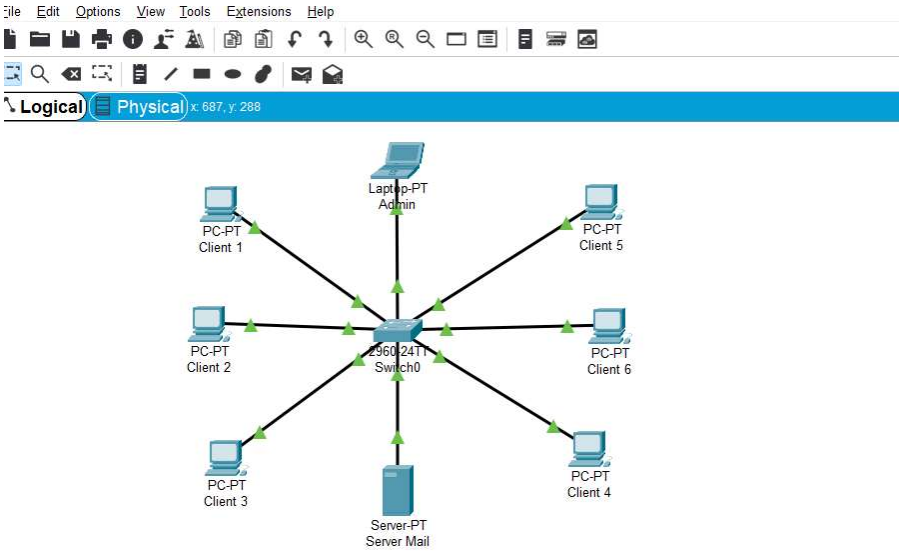


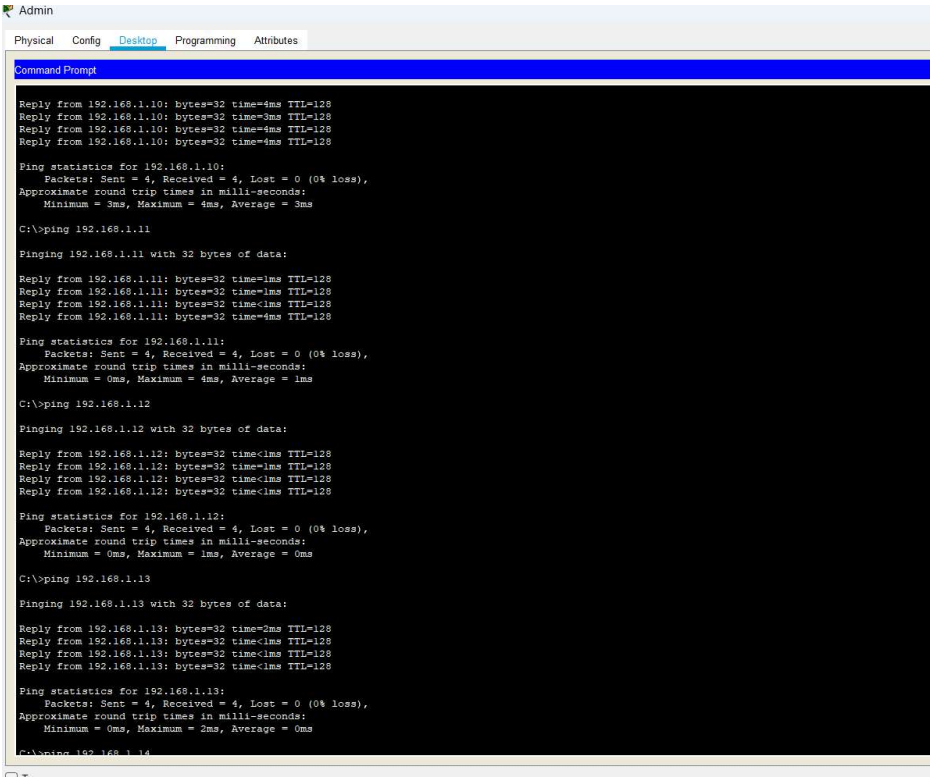



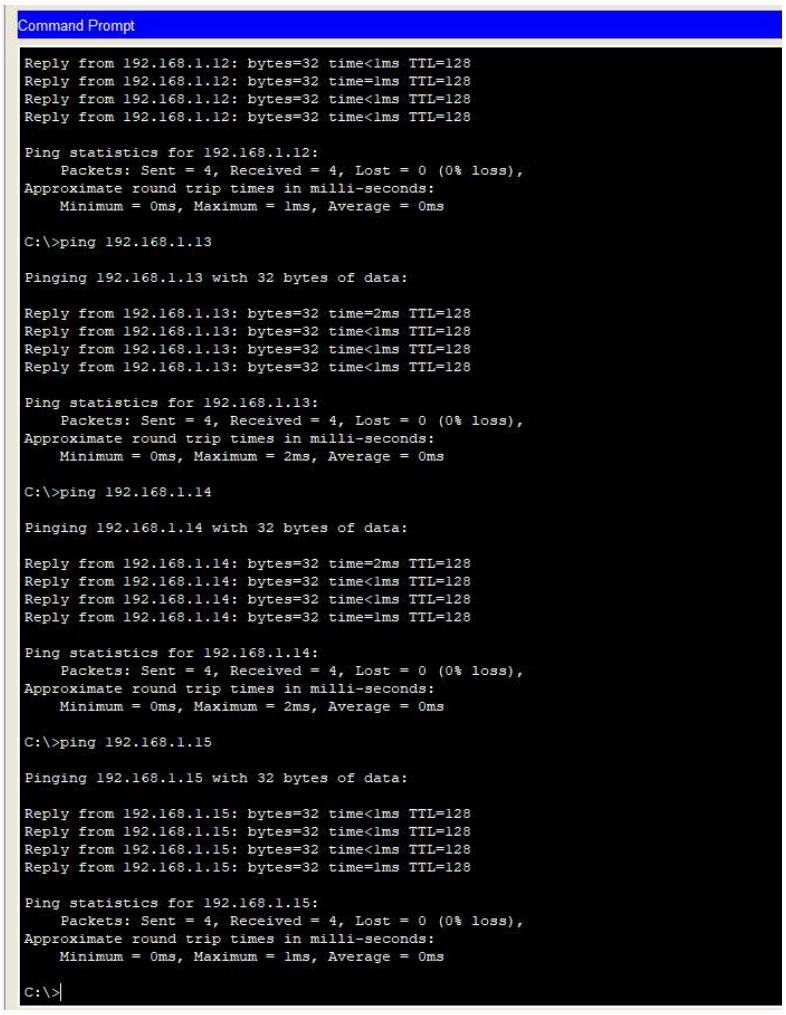

Admin
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Reply from 192.168.1.10: bytes=32 time=4ms TTL=128
Reply from 192.168.1.10: bytes=32 time=3ms TTL=128
Reply from 192.168.1.10: bytes=32 time=4ms TTL=128
Reply from 192.168.1.10: bytes=32 time=4ms TTL=128
Ping statistics for 192.168.1.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 3ms, Maximum = 4ms, Average = 3ms
C:\>ping 192.168.1.11
Pinging 192.168.1.11 with 32 bytes of data:
Reply from 192.168.1.11: bytes=32 time=1ms TTL=128
Reply from 192.168.1.11: bytes=32 time=1ms TTL=128
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Reply from 192.168.1.11: bytes=32 time=4ms TTL=128
Ping statistics for 192.168.1.11:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 4ms, Average = 1ms
C:\>ping 192.168.1.12
Pinging 192.168.1.12 with 32 bytes of data:
Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Reply from 192.168.1.12: bytes=32 time=1ms TTL=128
Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.12:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 192.168.1.13
Pinging 192.168.1.13 with 32 bytes of data:
Reply from 192.168.1.13: bytes=32 time=2ms TTL=128
Reply from 192.168.1.13: bytes=32 time<1ms TTL=128
Reply from 192.168.1.13: bytes=32 time<1ms TTL=128
Reply from 192.168.1.13: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.13:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 2ms, Average = 0ms
C:\>ping 192.168.1.14




2. Reproduisons cette topologie en configurant les adresses IPv4 indiquées dans le tableau ci-dessous, puis vérifiez la connectivité.

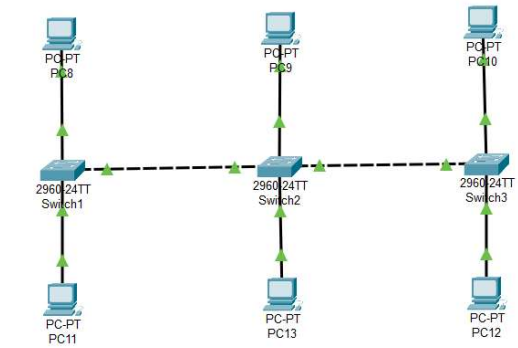

File Edit Options View Tools Extensions Help
Logical
Physical
x: 687, y: 288
Laptop-PT
Admin
PC-PT
Client 1
PC-PT
Client 5
PC-PT
Client 2
2960-24TT
Switch0
PC-PT
Client 6
PC-PT
Client 3
PC-PT
Client 4
Server-PT
Server Mail

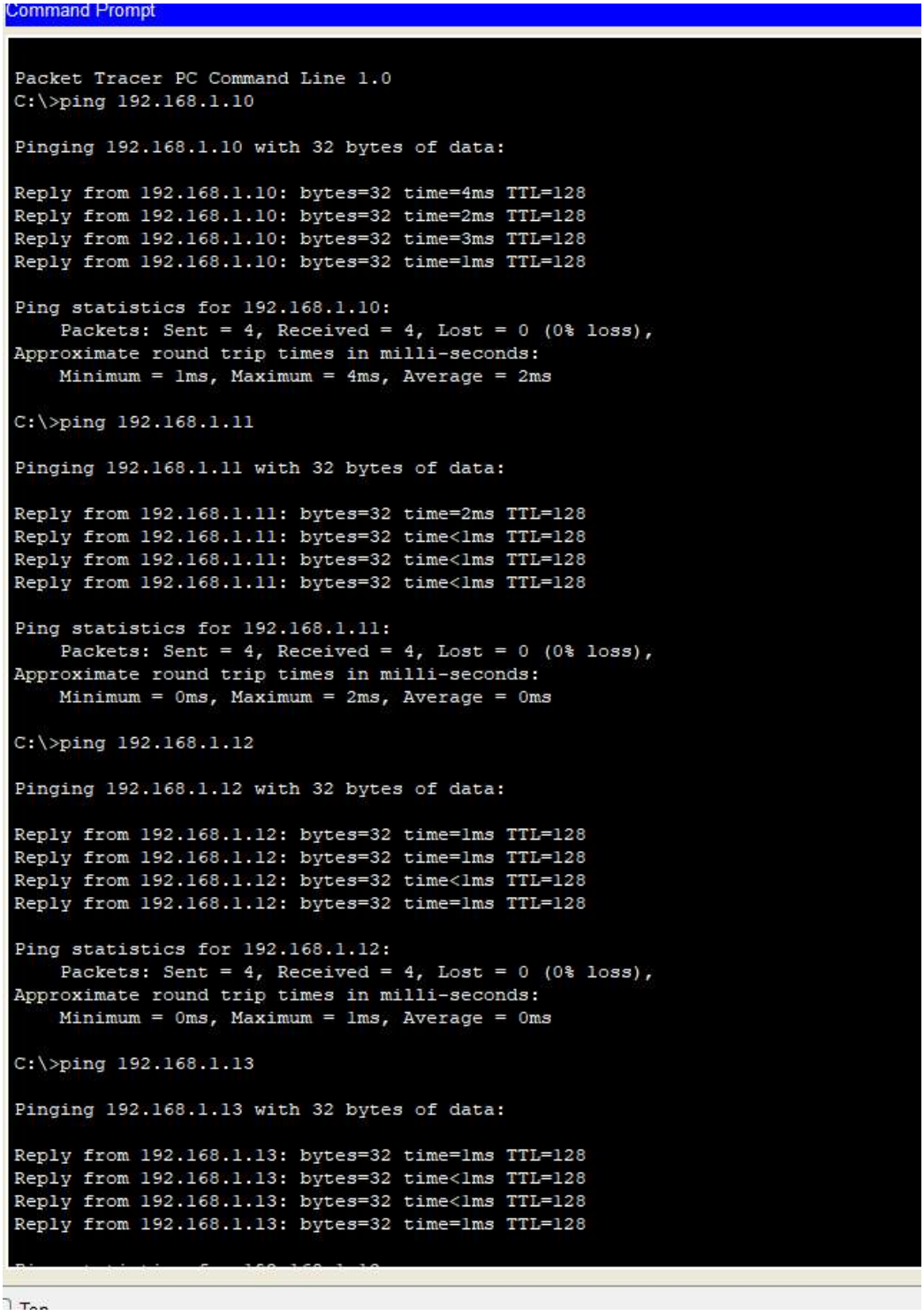

Admin
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Reply from 192.168.1.10: bytes=32 time=4ms TTL=128
Reply from 192.168.1.10: bytes=32 time=3ms TTL=128
Reply from 192.168.1.10: bytes=32 time=4ms TTL=128
Reply from 192.168.1.10: bytes=32 time=4ms TTL=128
Ping statistics for 192.168.1.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 3ms, Maximum = 4ms, Average = 3ms
C:\>ping 192.168.1.11
Pinging 192.168.1.11 with 32 bytes of data:
Reply from 192.168.1.11: bytes=32 time=1ms TTL=128
Reply from 192.168.1.11: bytes=32 time=1ms TTL=128
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Reply from 192.168.1.11: bytes=32 time=4ms TTL=128
Ping statistics for 192.168.1.11:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 4ms, Average = 1ms
C:\>ping 192.168.1.12
Pinging 192.168.1.12 with 32 bytes of data:
Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Reply from 192.168.1.12: bytes=32 time=1ms TTL=128
Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.12:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 192.168.1.13
Pinging 192.168.1.13 with 32 bytes of data:
Reply from 192.168.1.13: bytes=32 time=2ms TTL=128
Reply from 192.168.1.13: bytes=32 time<1ms TTL=128
Reply from 192.168.1.13: bytes=32 time<1ms TTL=128
Reply from 192.168.1.13: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.13:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 2ms, Average = 0ms

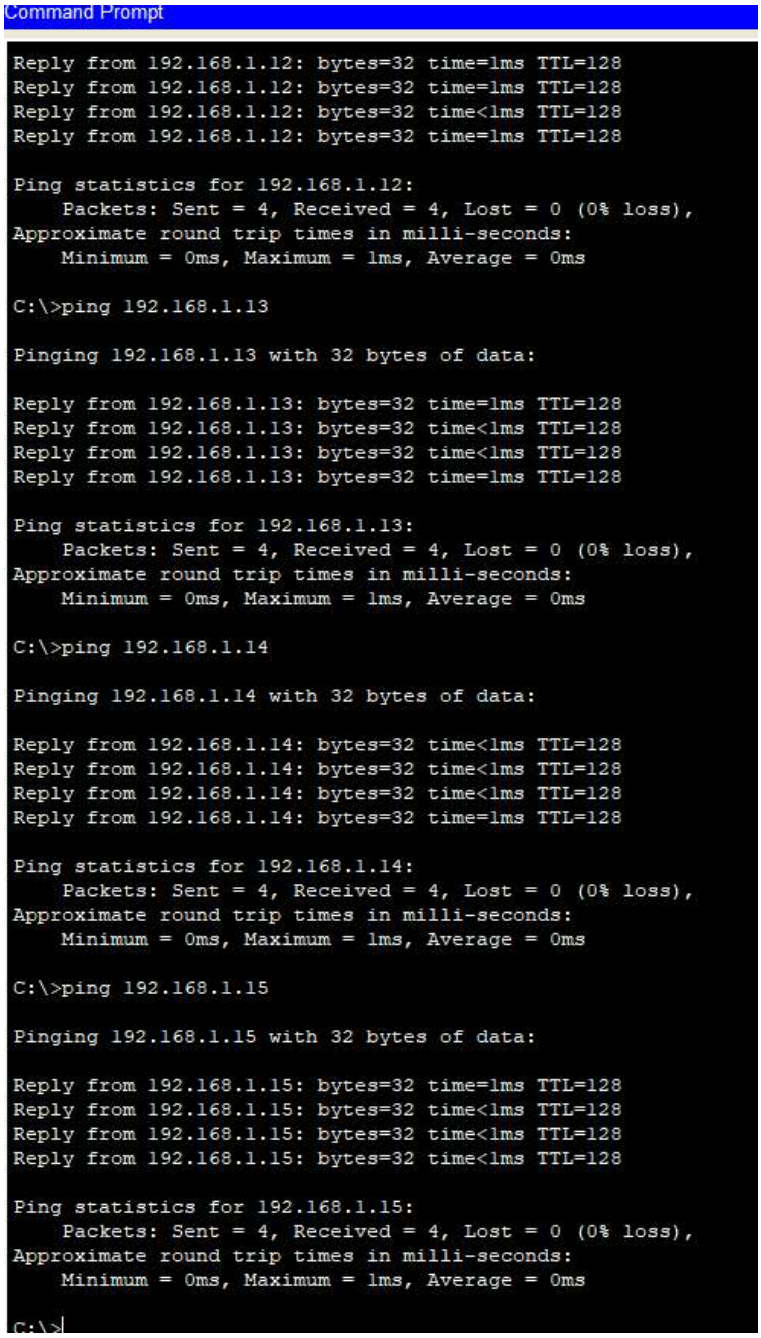

Command Prompt
Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Reply from 192.168.1.12: bytes=32 time=1ms TTL=128
Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.12:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 192.168.1.13
Pinging 192.168.1.13 with 32 bytes of data:
Reply from 192.168.1.13: bytes=32 time=2ms TTL=128
Reply from 192.168.1.13: bytes=32 time<1ms TTL=128
Reply from 192.168.1.13: bytes=32 time<1ms TTL=128
Reply from 192.168.1.13: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.13:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 2ms, Average = 0ms
C:\>ping 192.168.1.14
Pinging 192.168.1.14 with 32 bytes of data:
Reply from 192.168.1.14: bytes=32 time=2ms TTL=128
Reply from 192.168.1.14: bytes=32 time<1ms TTL=128
Reply from 192.168.1.14: bytes=32 time<1ms TTL=128
Reply from 192.168.1.14: bytes=32 time=1ms TTL=128
Ping statistics for 192.168.1.14:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 2ms, Average = 0ms
C:\>ping 192.168.1.15
Pinging 192.168.1.15 with 32 bytes of data:
Reply from 192.168.1.15: bytes=32 time<1ms TTL=128
Reply from 192.168.1.15: bytes=32 time<1ms TTL=128
Reply from 192.168.1.15: bytes=32 time<1ms TTL=128
Reply from 192.168.1.15: bytes=32 time=1ms TTL=128
Ping statistics for 192.168.1.15:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>

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

C:\>ping 192.168.1.16

Pinging 192.168.1.16 with 32 bytes of data:

Reply from 192.168.1.16: bytes=32 time=4ms TTL=128
Reply from 192.168.1.16: bytes=32 time=1ms TTL=128
Reply from 192.168.1.16: bytes=32 time<1ms TTL=128
Reply from 192.168.1.16: bytes=32 time=5ms TTL=128

Ping statistics for 192.168.1.16:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 5ms, Average = 2ms

C:\>ping 192.168.1.17

Pinging 192.168.1.17 with 32 bytes of data:

Reply from 192.168.1.17: bytes=32 time=1ms TTL=128
Reply from 192.168.1.17: bytes=32 time<1ms TTL=128
Reply from 192.168.1.17: bytes=32 time<1ms TTL=128
Reply from 192.168.1.17: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.17:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

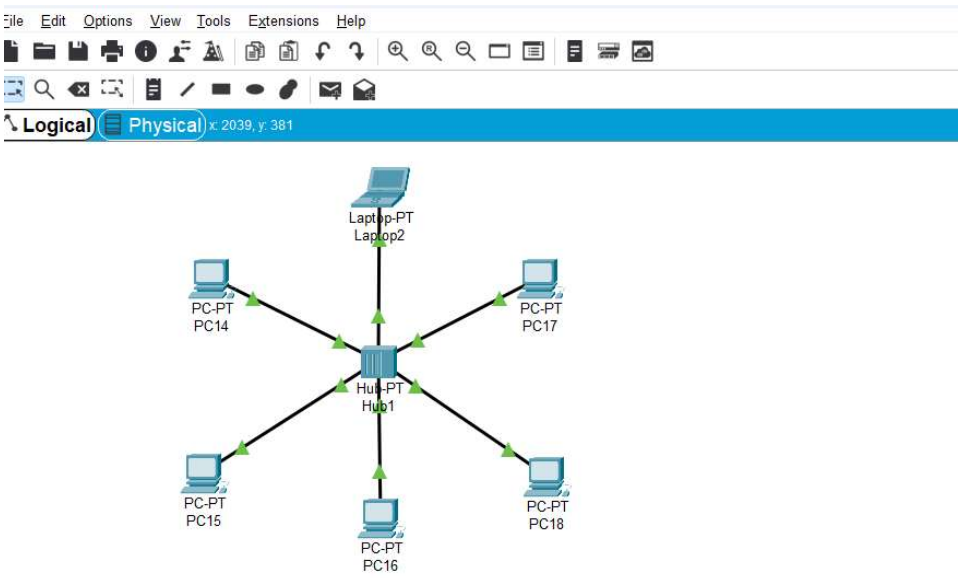
3. Parmi les topologies, choisissez-en une, configurez les adresses IPv4 et testons la connectivité.
   -Topologie en bus

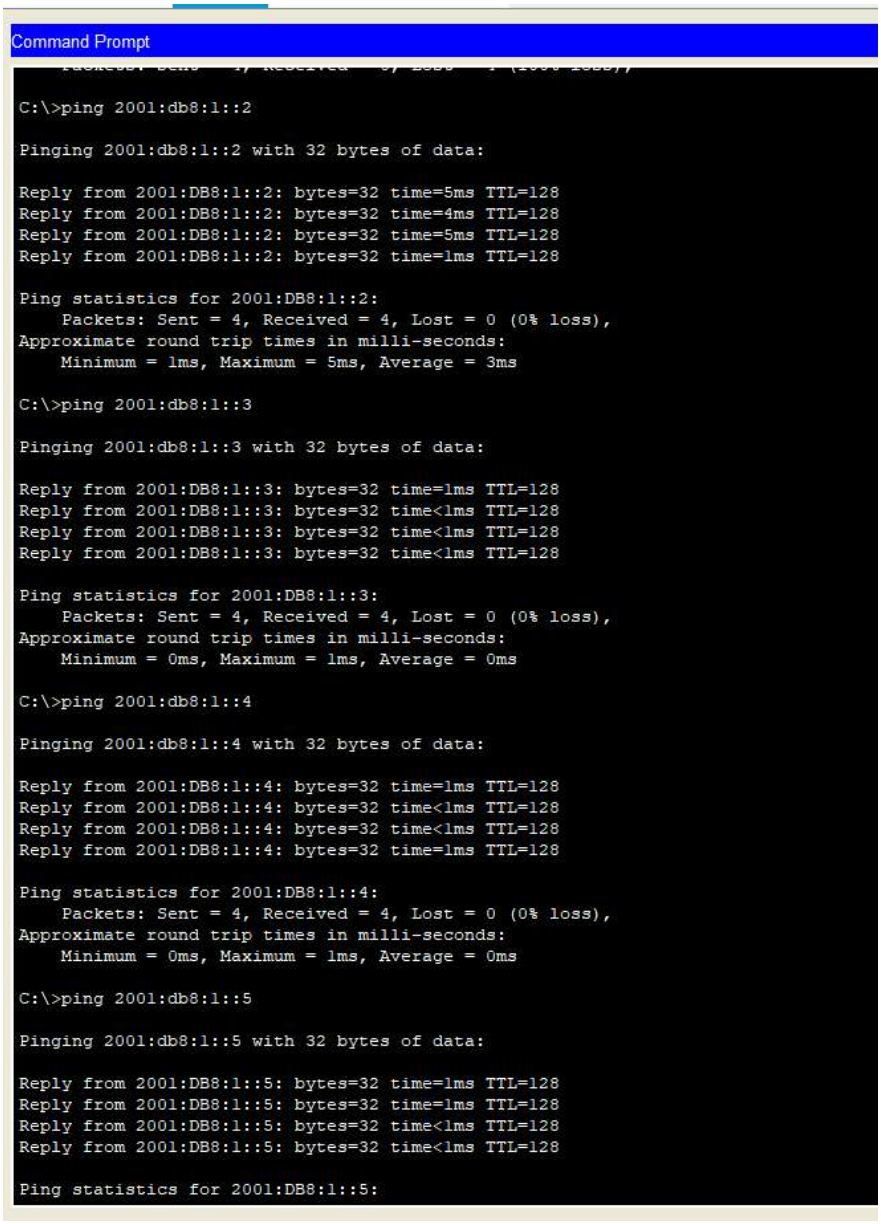




Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.10
Pinging 192.168.1.10 with 32 bytes of data:
Reply from 192.168.1.10: bytes=32 time=4ms TTL=128
Reply from 192.168.1.10: bytes=32 time=2ms TTL=128
Reply from 192.168.1.10: bytes=32 time=3ms TTL=128
Reply from 192.168.1.10: bytes=32 time=1ms TTL=128
Ping statistics for 192.168.1.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 4ms, Average = 2ms
C:\>ping 192.168.1.11
Pinging 192.168.1.11 with 32 bytes of data:
Reply from 192.168.1.11: bytes=32 time=2ms TTL=128
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Reply from 192.168.1.11: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.11:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 2ms, Average = 0ms
C:\>ping 192.168.1.12
Pinging 192.168.1.12 with 32 bytes of data:
Reply from 192.168.1.12: bytes=32 time=1ms TTL=128
Reply from 192.168.1.12: bytes=32 time=1ms TTL=128
Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Reply from 192.168.1.12: bytes=32 time=1ms TTL=128
Ping statistics for 192.168.1.12:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 192.168.1.13
Pinging 192.168.1.13 with 32 bytes of data:
Reply from 192.168.1.13: bytes=32 time=1ms TTL=128
Reply from 192.168.1.13: bytes=32 time<1ms TTL=128
Reply from 192.168.1.13: bytes=32 time<1ms TTL=128
Reply from 192.168.1.13: bytes=32 time=1ms TTL=128



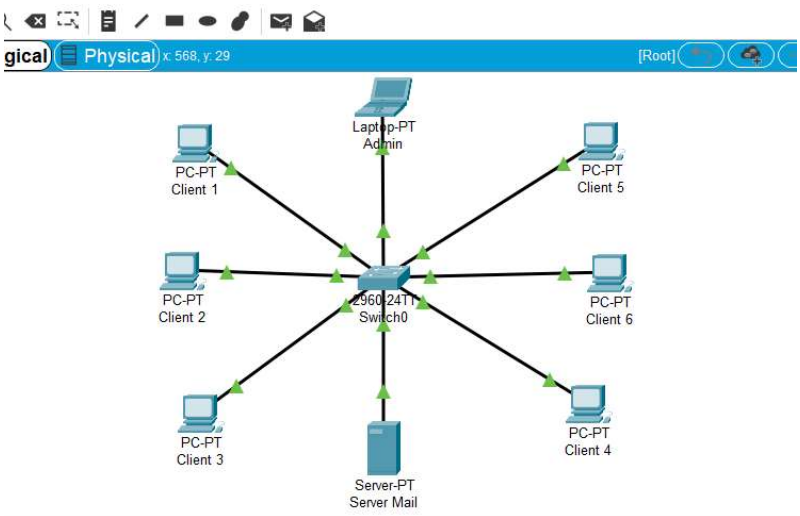

4. Reproduisons cette topologie en configurant les adresses IPv6 indiquées dans le tableau ci-dessous, puis vérifions la connectivité.


File Edit Options View Tools Extensions Help
Logical
Physical
x: 2039, y: 381
Laptop-PT
Laptop2
PC-PT
PC14
PC-PT
PC17
Hub-PT
Hub1
PC-PT
PC15
PC-PT
PC16
PC-PT
PC18


Command Prompt
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=5ms TTL=128
Reply from 2001:DB8:1::2: bytes=32 time=4ms TTL=128
Reply from 2001:DB8:1::2: bytes=32 time=5ms TTL=128
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 = 1ms, Maximum = 5ms, Average = 3ms
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
Reply from 2001:DB8:1::3: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::3: bytes=32 time<1ms TTL=128
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:
Minimum = 0ms, Maximum = 1ms, 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=1ms TTL=128
Reply from 2001:DB8:1::4: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::4: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::4: bytes=32 time=1ms TTL=128
Ping statistics for 2001:DB8:1::4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, 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=1ms TTL=128
Reply from 2001:DB8:1::5: bytes=32 time=1ms TTL=128
Reply from 2001:DB8:1::5: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::5: bytes=32 time<1ms TTL=128
Ping statistics for 2001:DB8:1::5:

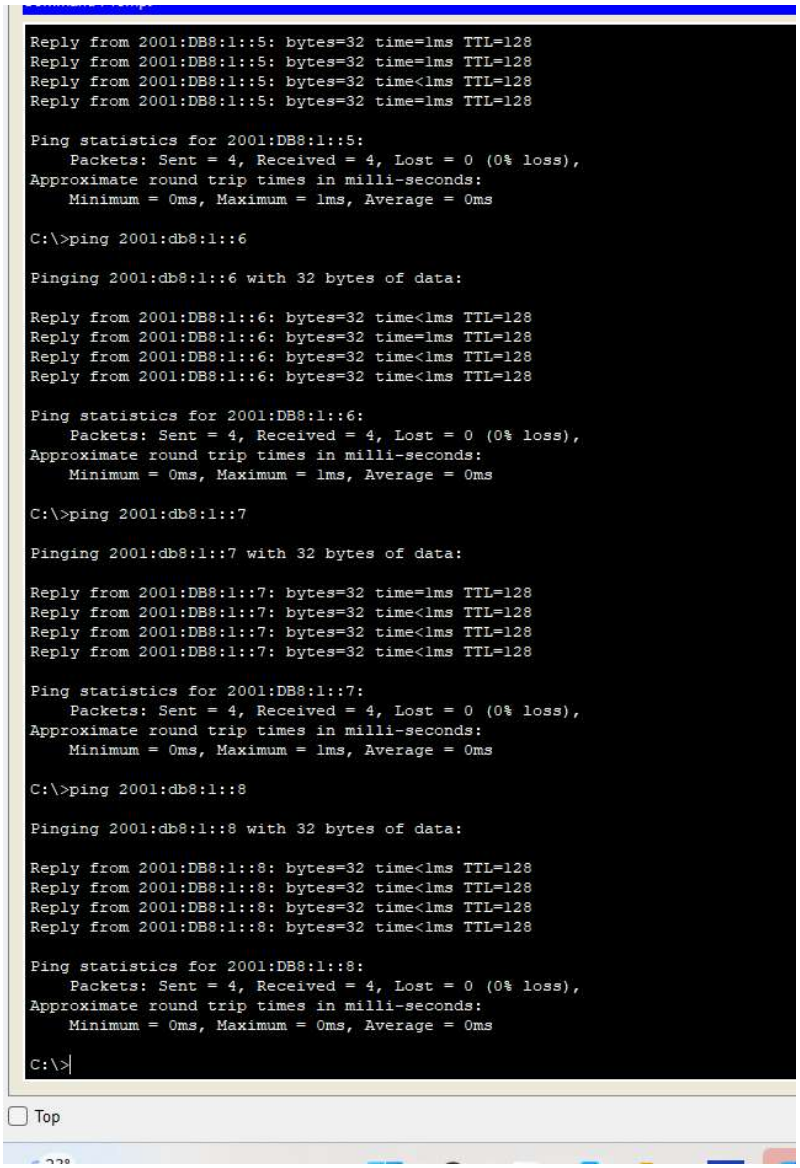
```
Reply from 2001:DB8:1::3: bytes=32 time=1ms TTL=128
Reply from 2001:DB8:1::3: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::3: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::3: bytes=32 time<1ms TTL=128

Ping statistics for 2001:DB8:1::3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, 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=1ms TTL=128
Reply from 2001:DB8:1::4: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::4: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::4: bytes=32 time=1ms TTL=128

Ping statistics for 2001:DB8:1::4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, 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=1ms TTL=128
Reply from 2001:DB8:1::5: bytes=32 time=1ms TTL=128
Reply from 2001:DB8:1::5: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::5: bytes=32 time<1ms TTL=128

Ping statistics for 2001:DB8:1::5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, 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=1ms TTL=128
Reply from 2001:DB8:1::6: bytes=32 time=1ms TTL=128
Reply from 2001:DB8:1::6: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::6: bytes=32 time<1ms TTL=128

Ping statistics for 2001:DB8:1::6:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

5. Reproduisons cette topologie en configurant les adresses IPv6 indiquées dans le tableau ci-dessous, puis vérifions la connectivité.



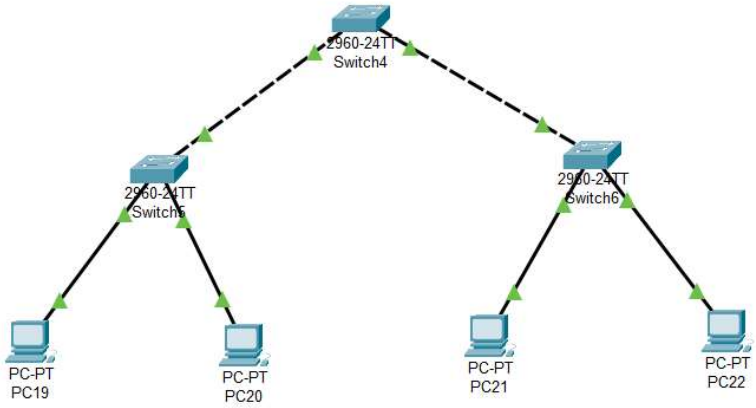


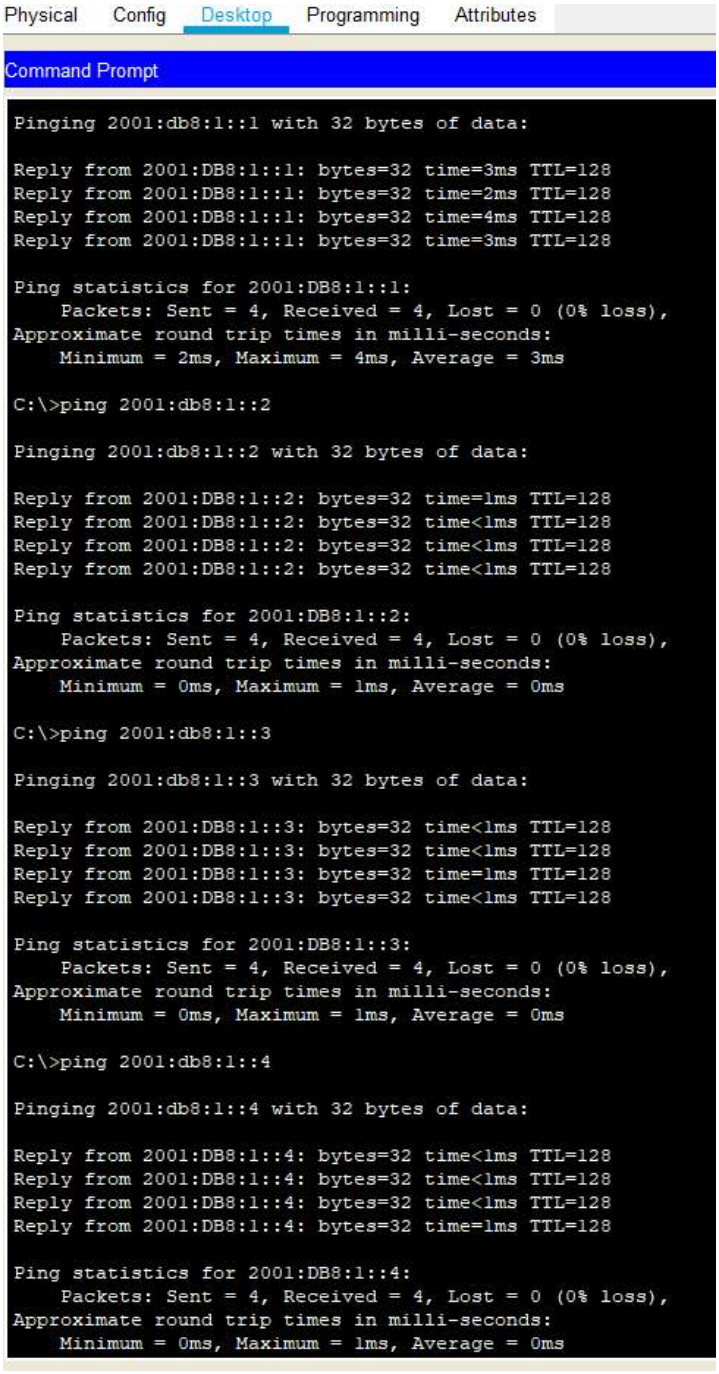
```
C:\>ping 2001:db8:1::2

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

Reply from 2001:DB8:1::2: bytes=32 time=6ms TTL=128
Reply from 2001:DB8:1::2: bytes=32 time=5ms TTL=128
Reply from 2001:DB8:1::2: bytes=32 time=3ms TTL=128
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 = 6ms, Average = 3ms

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
Reply from 2001:DB8:1::3: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::3: bytes=32 time<1ms TTL=128
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:
    Minimum = 0ms, Maximum = 1ms, 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<1ms TTL=128
Reply from 2001:DB8:1::4: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::4: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::4: bytes=32 time=1ms TTL=128

Ping statistics for 2001:DB8:1::4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, 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=1ms TTL=128
Reply from 2001:DB8:1::5: bytes=32 time=1ms TTL=128
Reply from 2001:DB8:1::5: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::5: bytes=32 time=1ms TTL=128

Ping statistics for 2001:DB8:1::5:
```




6.Parmi les topologies, choisissons-en une, configurons les adresses IPv6 et testons la connectivité.

-Topologie en arbre


2960-24TT
Switch4
2960-24TT
Switch5
2960-24TT
Switch6
PC-PT
PC19
PC-PT
PC20
PC-PT
PC21
PC-PT
PC22




**Conclusion**

Ce travail m'a permit de Savoir attribuer des adresses IP valides aux machines, comprendre l'adressage IPv4 et IPv, configurer des adresses IP sur des hôtes et routeurs dans Cisco Packet et vérifier la connectivité avec les commandes ping et ping ipv6.Donc la tâche a été réussi.