Faculté des Sciences et Technologies

(FST)

Rapport du travail de Laboratoire N° 3 _Réseaux I

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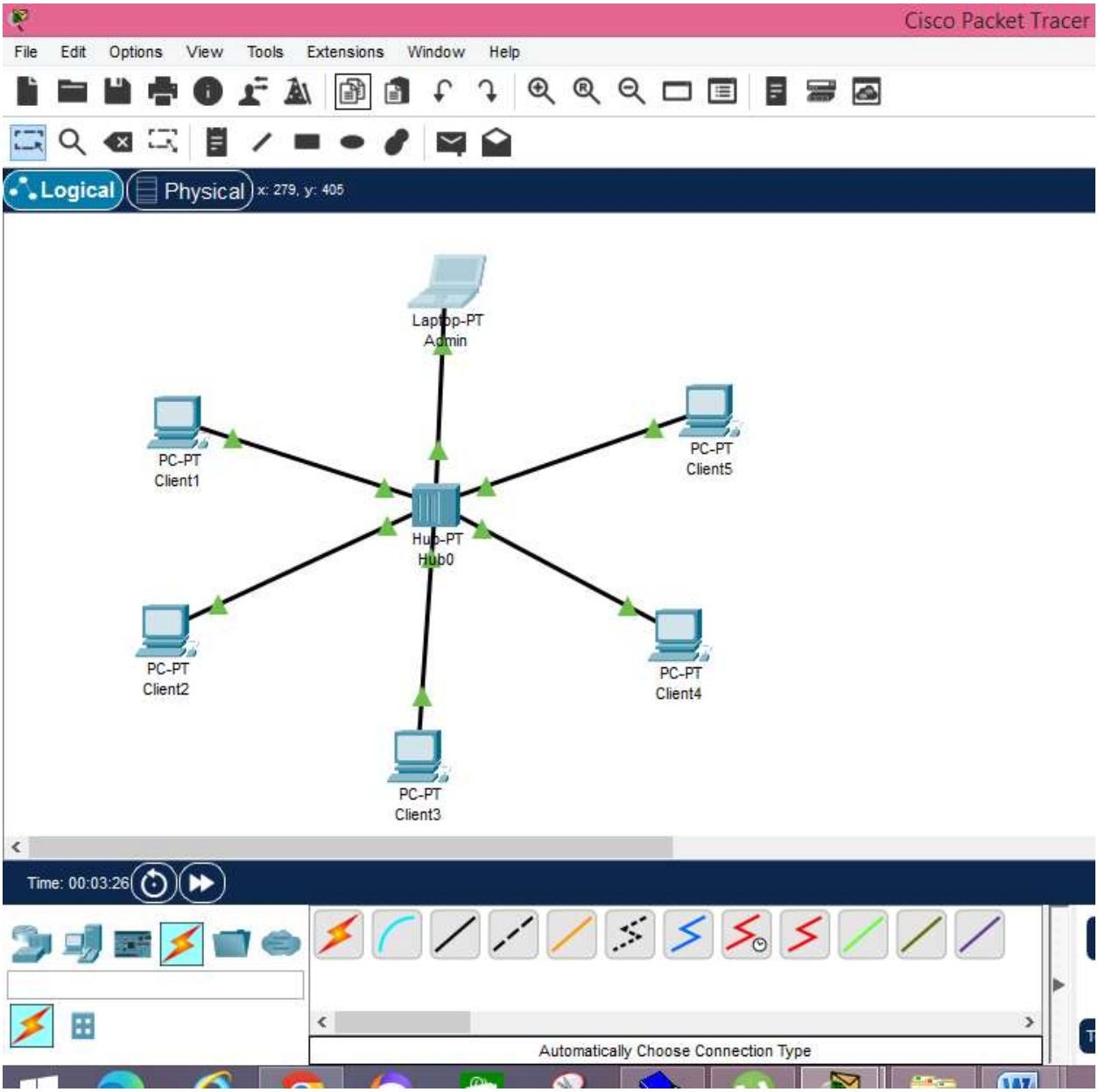
L3

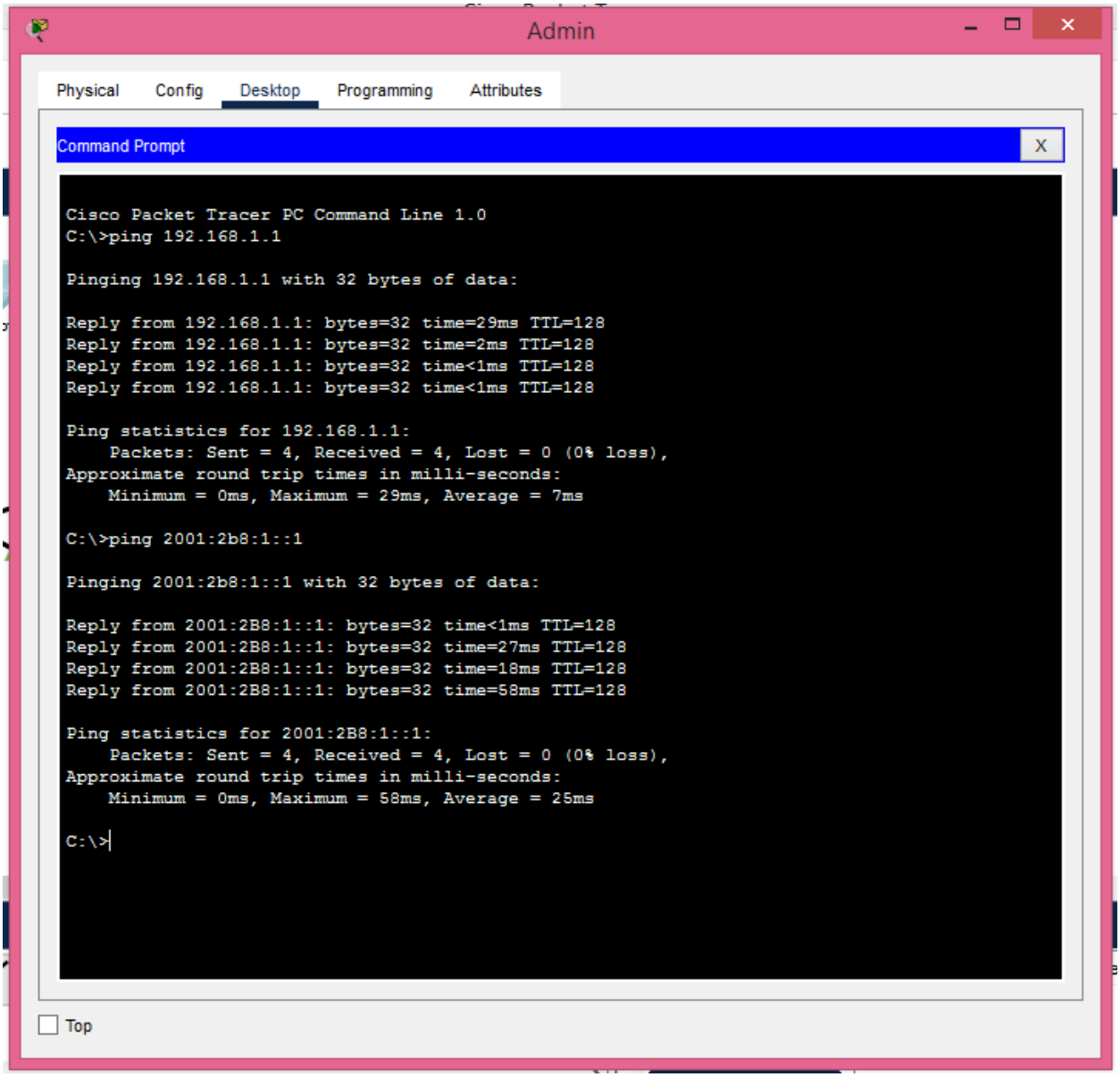
15 Novembre 2025

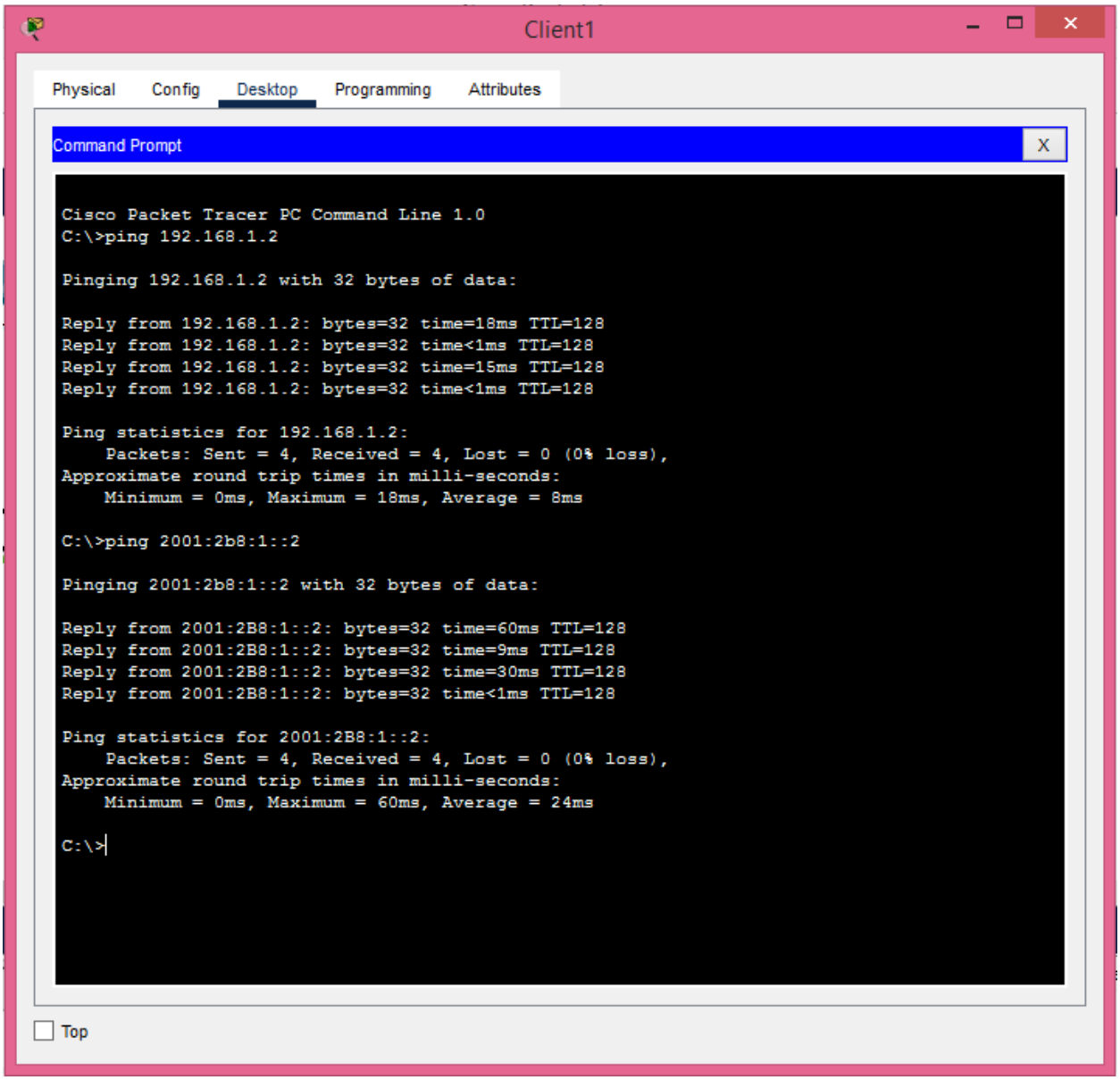
L’objectif de ce TD est de :

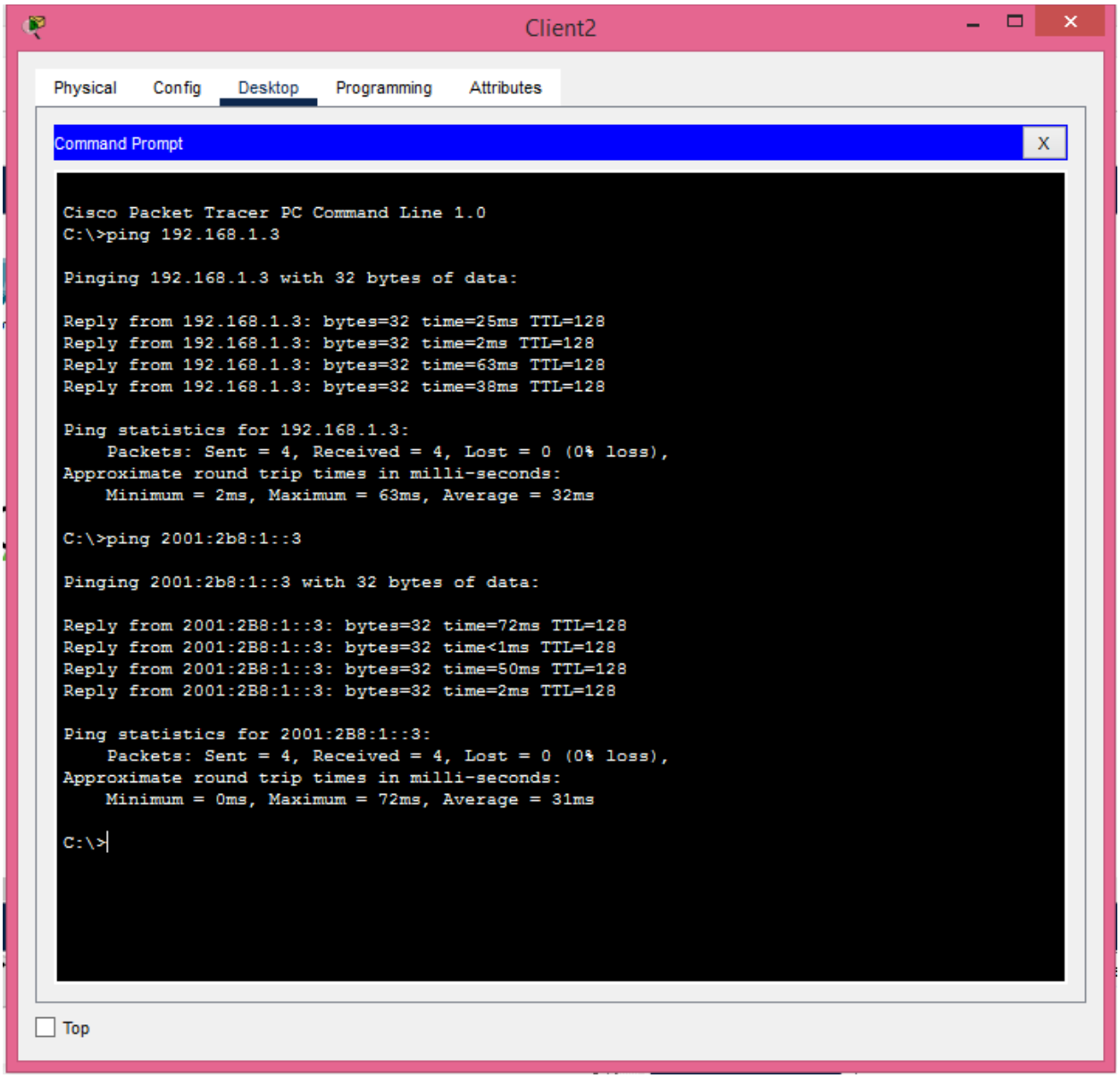
- Savoir attribuer des adresses IP valides aux machines.
- Comprendre l’adressage IPv4 et IPv6.
- Configurer des adresses IP sur des hôtes et routeurs dans Cisco Packet Tracer.
- Vérifier la connectivité avec les commandes ping et ping ipv6.

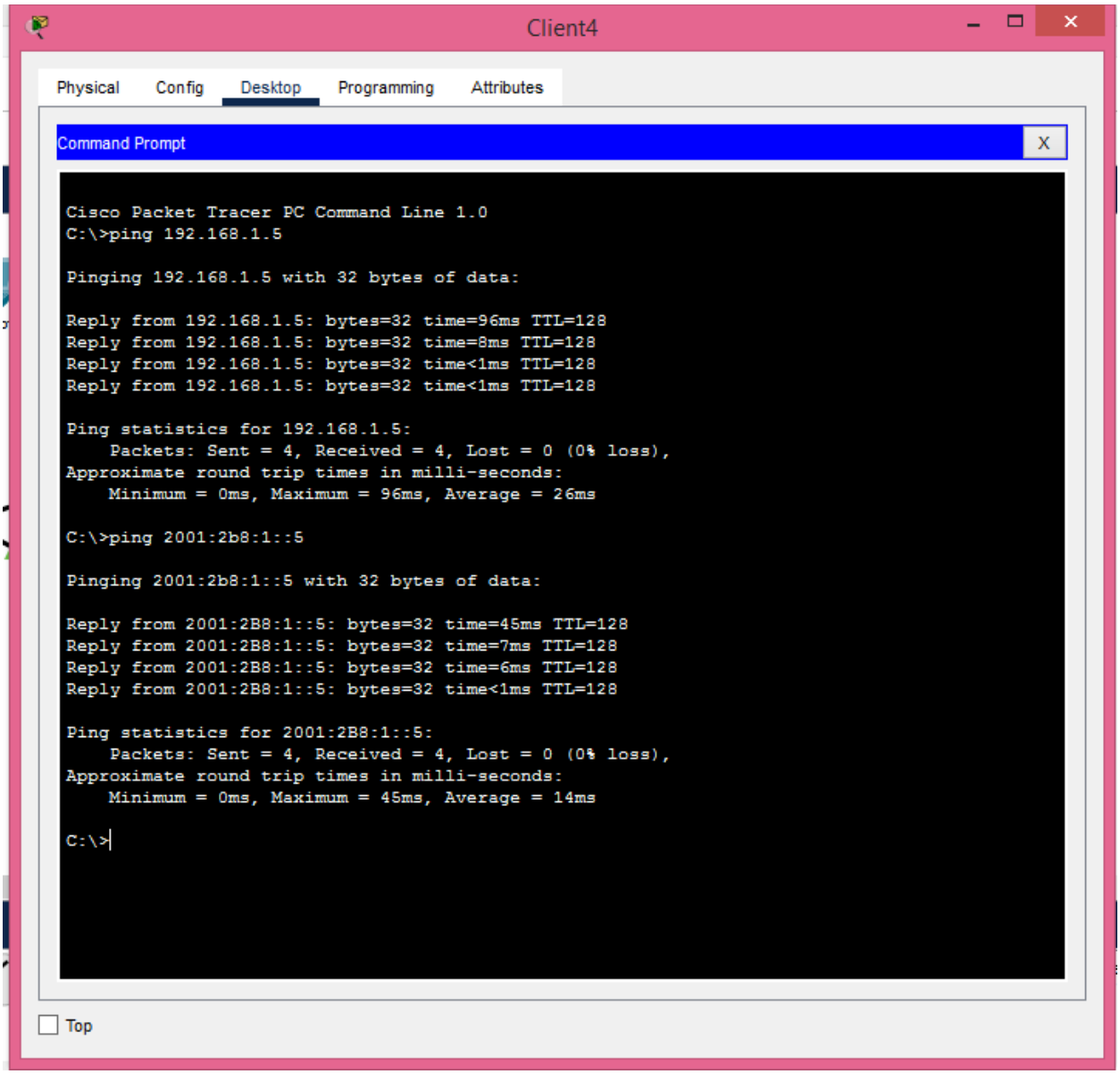
1-Reproduction et configuration des adresses IPv4 et IPv6, puis vérification de la connectivité.

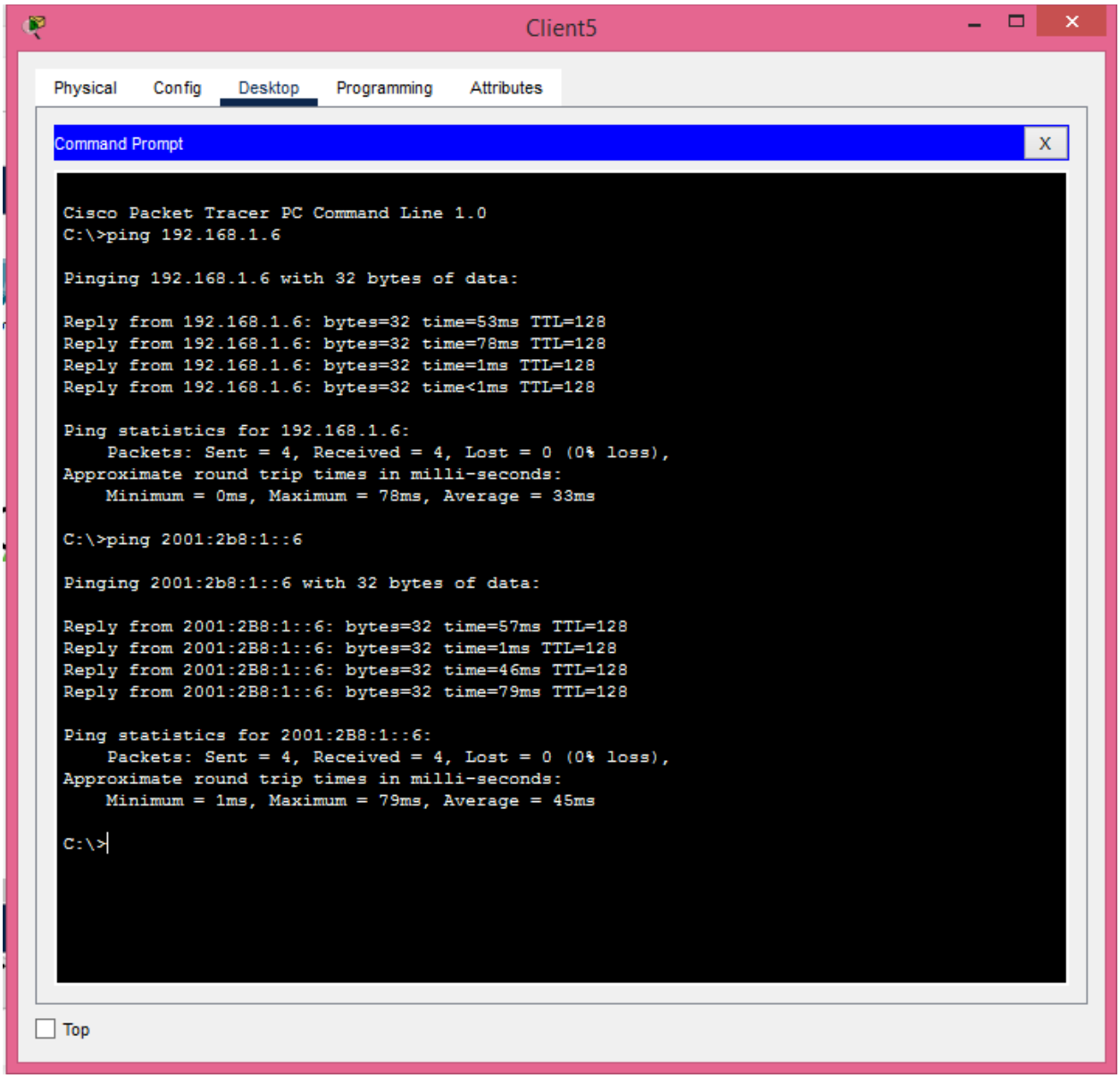


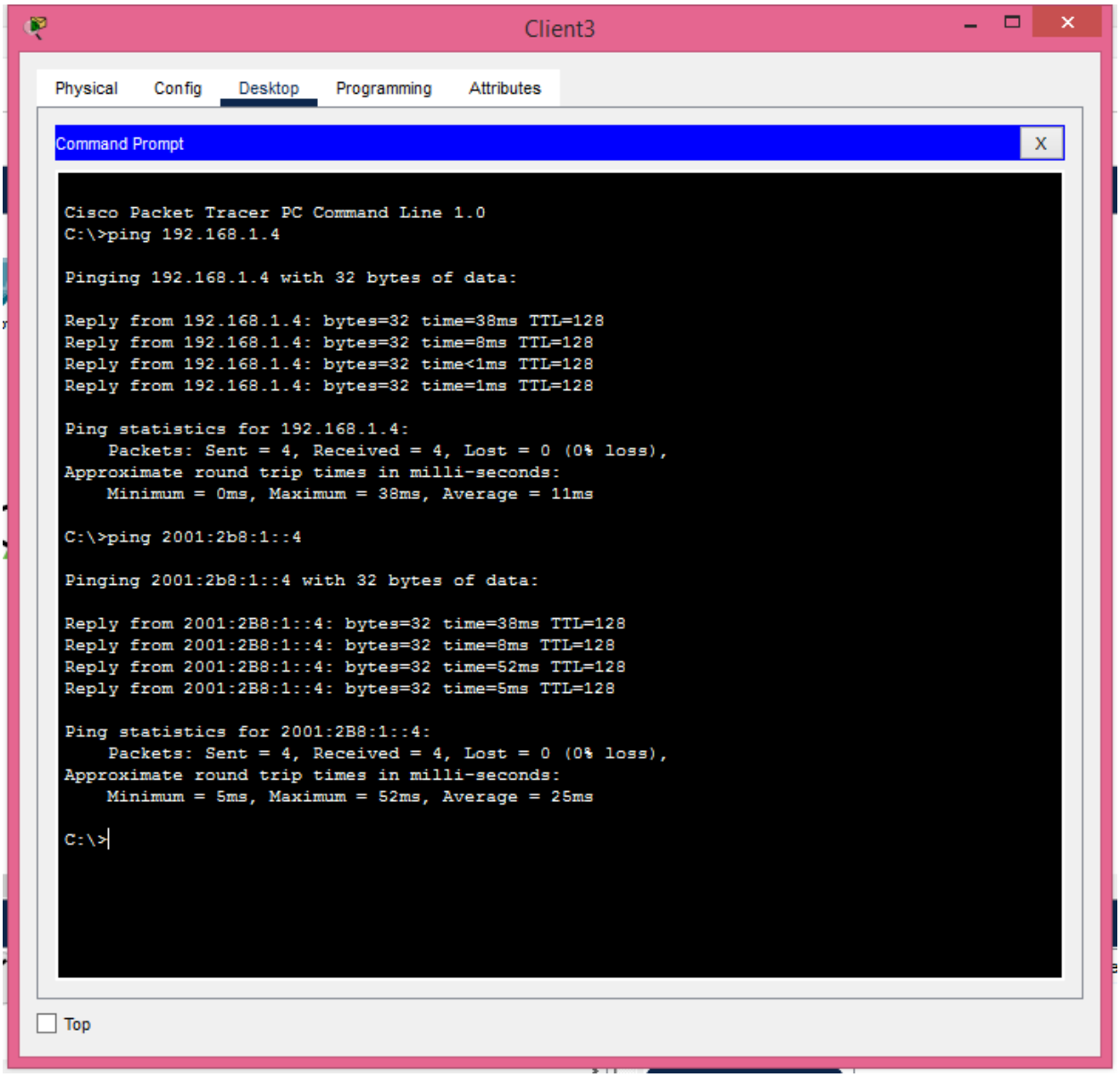

Admin
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time=29ms TTL=128
Reply from 192.168.1.1: bytes=32 time=2ms TTL=128
Reply from 192.168.1.1: bytes=32 time<1ms TTL=128
Reply from 192.168.1.1: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 29ms, Average = 7ms
C:\>ping 2001:2b8:1::1
Pinging 2001:2b8:1::1 with 32 bytes of data:
Reply from 2001:2B8:1::1: bytes=32 time<1ms TTL=128
Reply from 2001:2B8:1::1: bytes=32 time=27ms TTL=128
Reply from 2001:2B8:1::1: bytes=32 time=18ms TTL=128
Reply from 2001:2B8:1::1: bytes=32 time=58ms TTL=128
Ping statistics for 2001:2B8:1::1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 58ms, Average = 25ms
C:\>
Top


Client1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
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=18ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time=15ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 18ms, Average = 8ms
C:\>ping 2001:2b8:1::2
Pinging 2001:2b8:1::2 with 32 bytes of data:
Reply from 2001:2B8:1::2: bytes=32 time=60ms TTL=128
Reply from 2001:2B8:1::2: bytes=32 time=9ms TTL=128
Reply from 2001:2B8:1::2: bytes=32 time=30ms TTL=128
Reply from 2001:2B8:1::2: bytes=32 time<1ms TTL=128
Ping statistics for 2001:2B8:1::2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 60ms, Average = 24ms
C:\>
Top

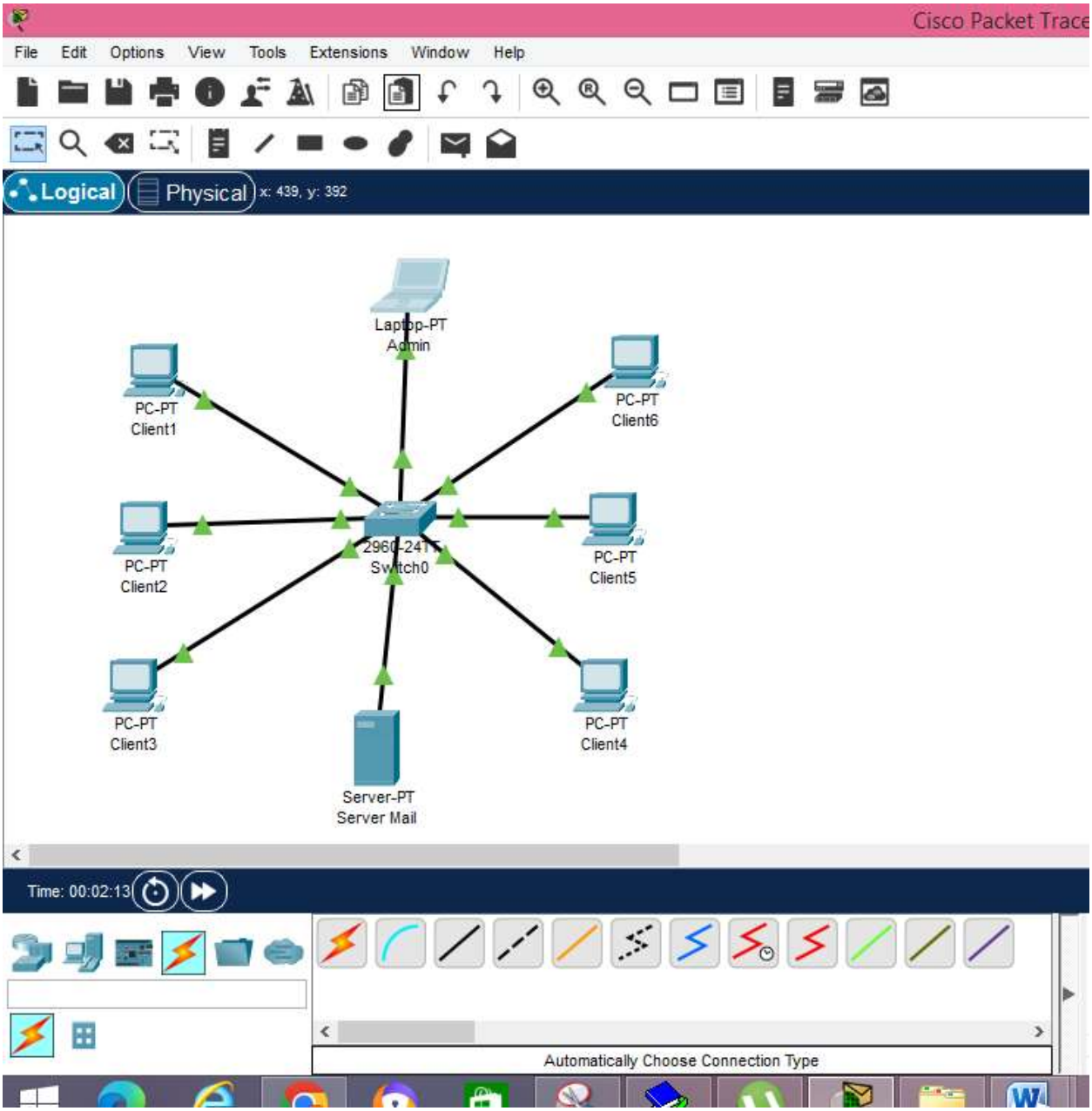

Client2
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.3
Pinging 192.168.1.3 with 32 bytes of data:
Reply from 192.168.1.3: bytes=32 time=25ms TTL=128
Reply from 192.168.1.3: bytes=32 time=2ms TTL=128
Reply from 192.168.1.3: bytes=32 time=63ms TTL=128
Reply from 192.168.1.3: bytes=32 time=38ms TTL=128
Ping statistics for 192.168.1.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 2ms, Maximum = 63ms, Average = 32ms
C:\>ping 2001:2b8:1::3
Pinging 2001:2b8:1::3 with 32 bytes of data:
Reply from 2001:2B8:1::3: bytes=32 time=72ms TTL=128
Reply from 2001:2B8:1::3: bytes=32 time<1ms TTL=128
Reply from 2001:2B8:1::3: bytes=32 time=50ms TTL=128
Reply from 2001:2B8:1::3: bytes=32 time=2ms TTL=128
Ping statistics for 2001:2B8:1::3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 72ms, Average = 31ms
C:\>
Top

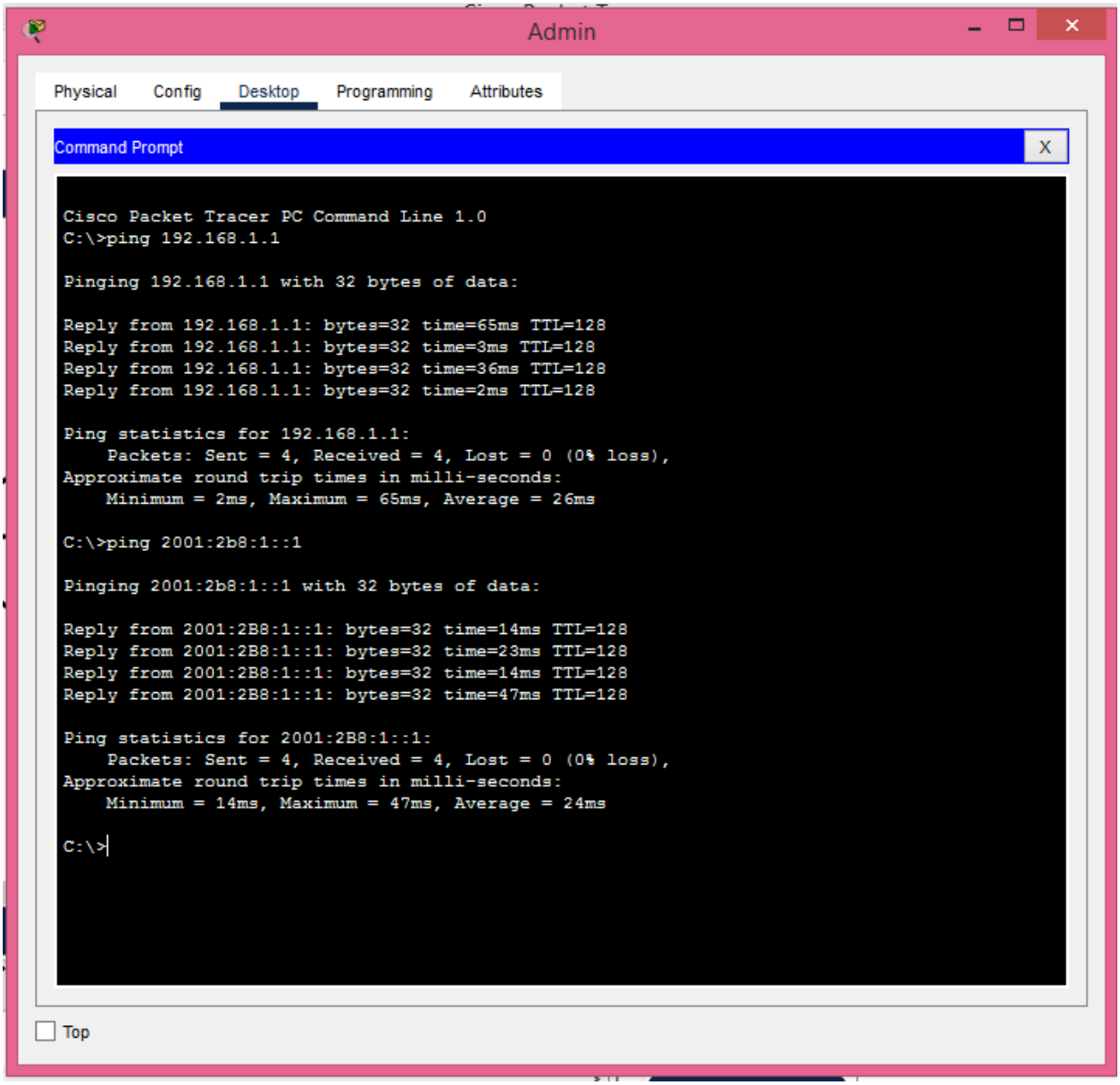

Client4
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.5
Pinging 192.168.1.5 with 32 bytes of data:
Reply from 192.168.1.5: bytes=32 time=96ms TTL=128
Reply from 192.168.1.5: bytes=32 time=8ms TTL=128
Reply from 192.168.1.5: bytes=32 time<1ms TTL=128
Reply from 192.168.1.5: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.5:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 96ms, Average = 26ms
C:\>ping 2001:2b8:1::5
Pinging 2001:2b8:1::5 with 32 bytes of data:
Reply from 2001:2B8:1::5: bytes=32 time=45ms TTL=128
Reply from 2001:2B8:1::5: bytes=32 time=7ms TTL=128
Reply from 2001:2B8:1::5: bytes=32 time=6ms TTL=128
Reply from 2001:2B8:1::5: bytes=32 time<1ms TTL=128
Ping statistics for 2001:2B8:1::5:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 45ms, Average = 14ms
C:\>
Top

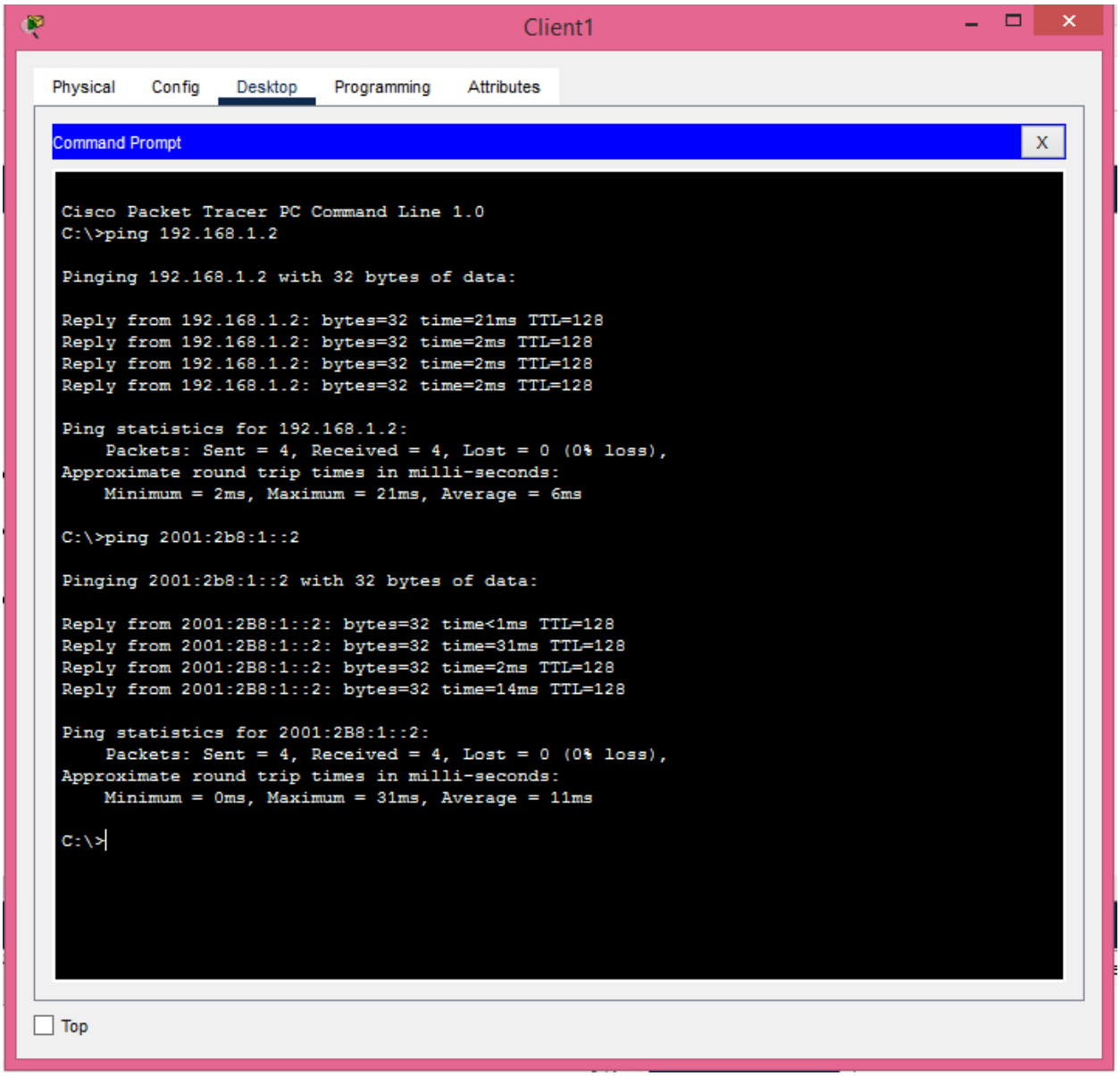

Client5
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.6
Pinging 192.168.1.6 with 32 bytes of data:
Reply from 192.168.1.6: bytes=32 time=53ms TTL=128
Reply from 192.168.1.6: bytes=32 time=78ms TTL=128
Reply from 192.168.1.6: bytes=32 time=1ms TTL=128
Reply from 192.168.1.6: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.6:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 78ms, Average = 33ms
C:\>ping 2001:2b8:1::6
Pinging 2001:2b8:1::6 with 32 bytes of data:
Reply from 2001:2B8:1::6: bytes=32 time=57ms TTL=128
Reply from 2001:2B8:1::6: bytes=32 time=1ms TTL=128
Reply from 2001:2B8:1::6: bytes=32 time=46ms TTL=128
Reply from 2001:2B8:1::6: bytes=32 time=79ms TTL=128
Ping statistics for 2001:2B8:1::6:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 79ms, Average = 45ms
C:\>
Top

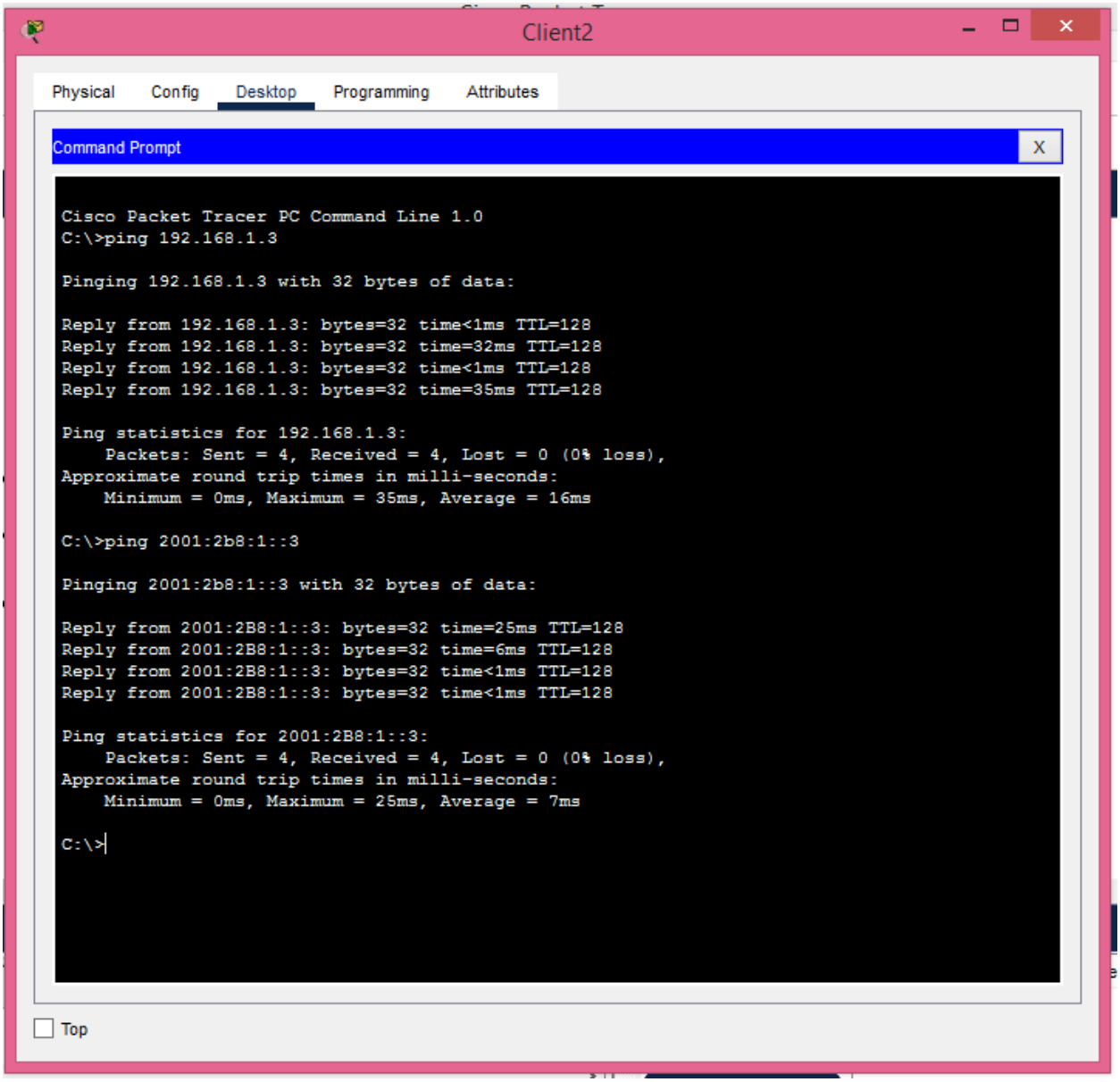

Client3
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.4
Pinging 192.168.1.4 with 32 bytes of data:
Reply from 192.168.1.4: bytes=32 time=38ms TTL=128
Reply from 192.168.1.4: bytes=32 time=8ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time=1ms TTL=128
Ping statistics for 192.168.1.4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 38ms, Average = 11ms
C:\>ping 2001:2b8:1::4
Pinging 2001:2b8:1::4 with 32 bytes of data:
Reply from 2001:2B8:1::4: bytes=32 time=38ms TTL=128
Reply from 2001:2B8:1::4: bytes=32 time=8ms TTL=128
Reply from 2001:2B8:1::4: bytes=32 time=52ms TTL=128
Reply from 2001:2B8:1::4: bytes=32 time=5ms TTL=128
Ping statistics for 2001:2B8:1::4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 5ms, Maximum = 52ms, Average = 25ms
C:\>
Top

2. Reproduction et configuration des adresses IPv4 et IPv6, puis vérification de la connectivité.

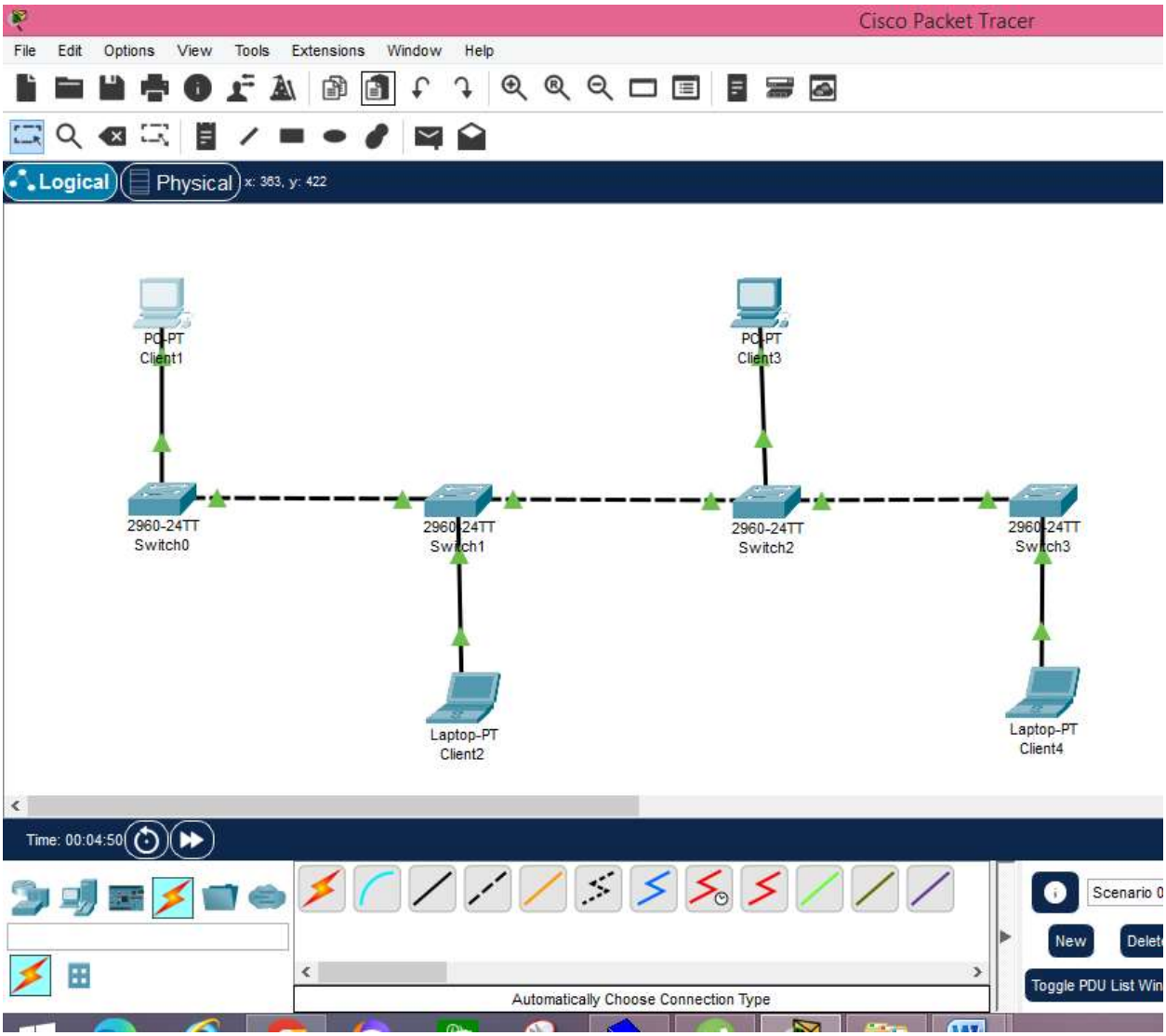


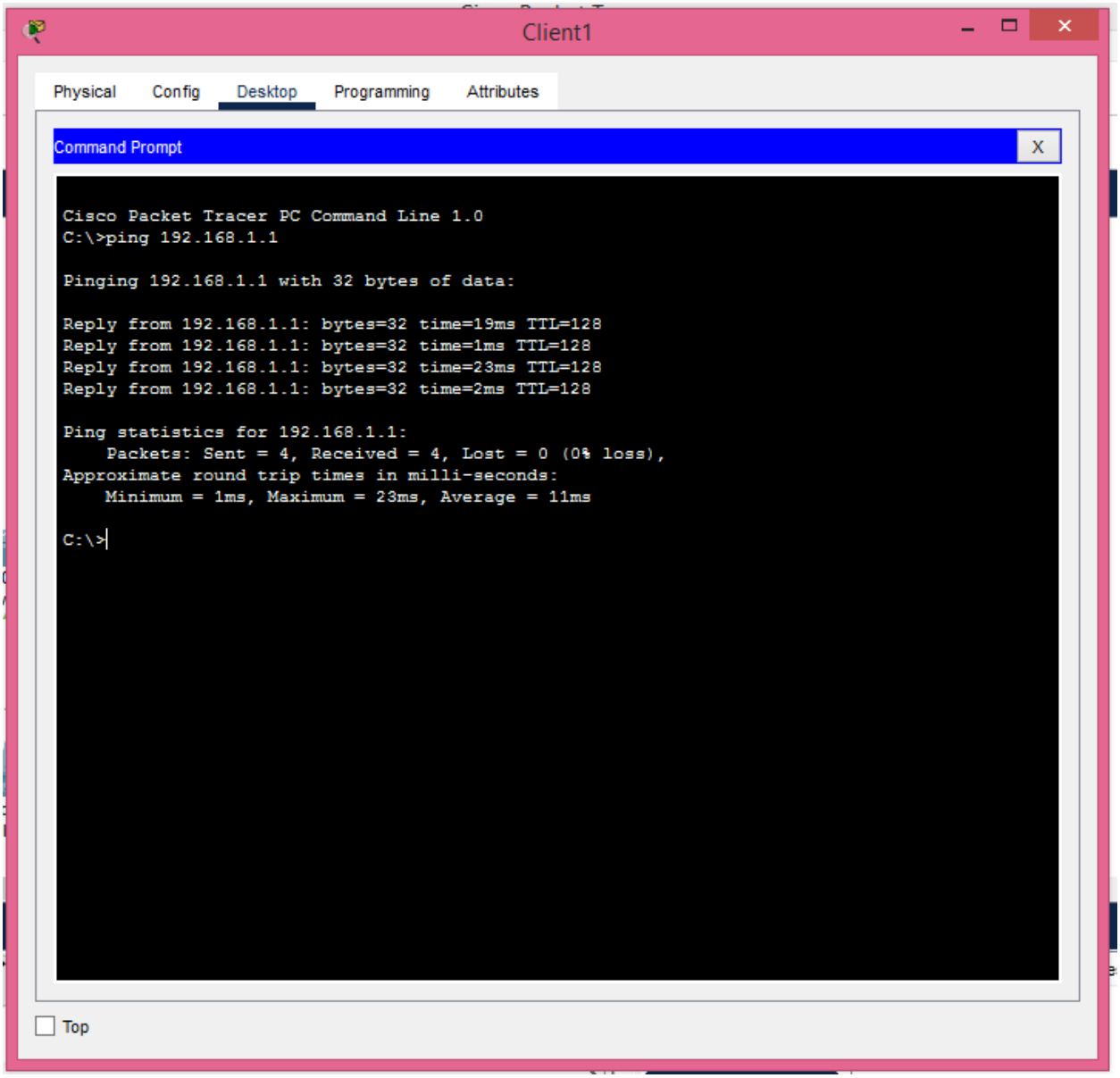

Admin
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time=65ms TTL=128
Reply from 192.168.1.1: bytes=32 time=3ms TTL=128
Reply from 192.168.1.1: bytes=32 time=36ms TTL=128
Reply from 192.168.1.1: bytes=32 time=2ms TTL=128
Ping statistics for 192.168.1.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 2ms, Maximum = 65ms, Average = 26ms
C:\>ping 2001:2b8:1::1
Pinging 2001:2b8:1::1 with 32 bytes of data:
Reply from 2001:2B8:1::1: bytes=32 time=14ms TTL=128
Reply from 2001:2B8:1::1: bytes=32 time=23ms TTL=128
Reply from 2001:2B8:1::1: bytes=32 time=14ms TTL=128
Reply from 2001:2B8:1::1: bytes=32 time=47ms TTL=128
Ping statistics for 2001:2B8:1::1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 14ms, Maximum = 47ms, Average = 24ms
C:\>
Top

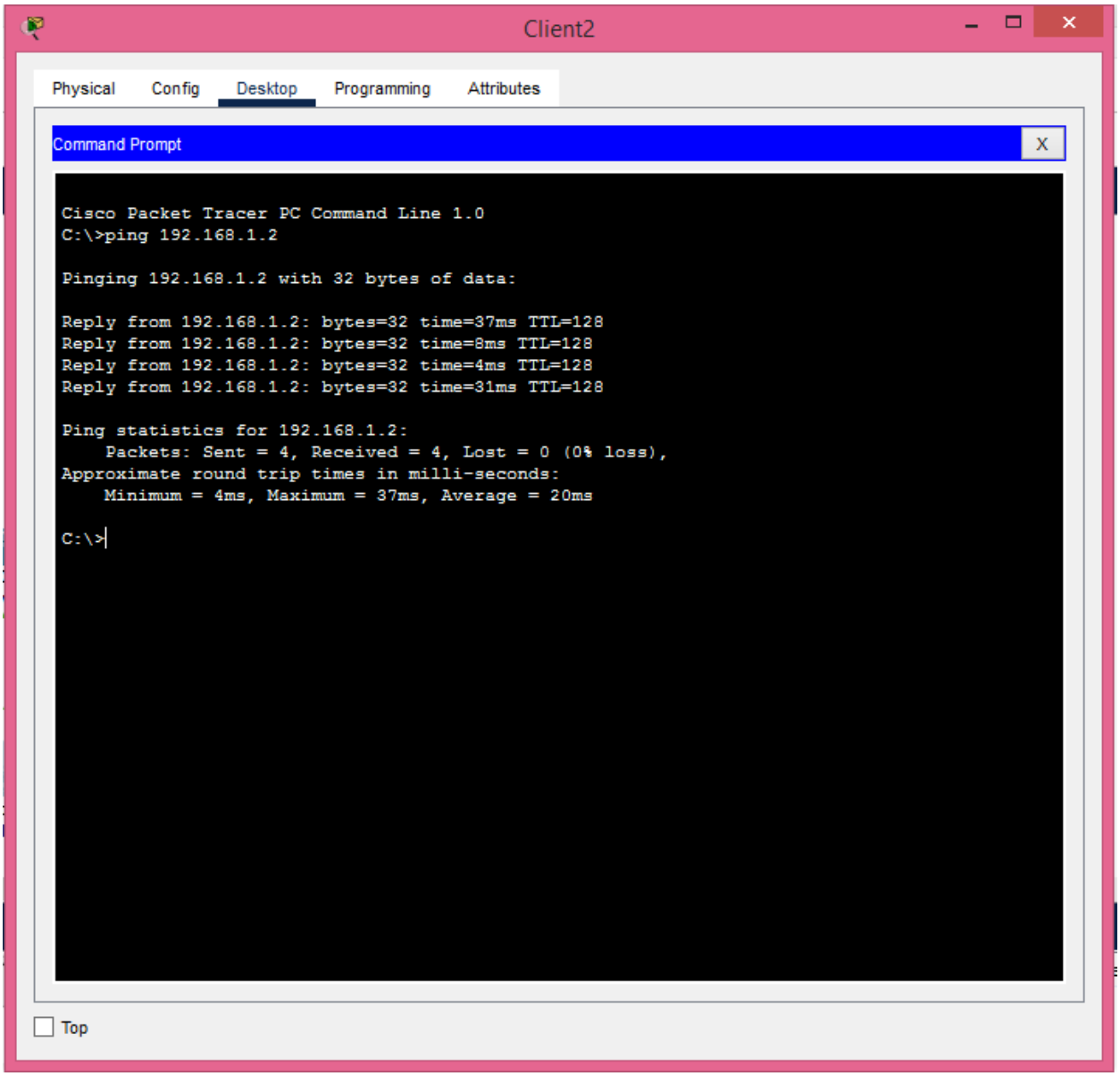

Client1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.2
Pinging 192.168.1.2 with 32 bytes of data:
Reply from 192.168.1.2: bytes=32 time=21ms TTL=128
Reply from 192.168.1.2: bytes=32 time=2ms TTL=128
Reply from 192.168.1.2: bytes=32 time=2ms TTL=128
Reply from 192.168.1.2: bytes=32 time=2ms TTL=128
Ping statistics for 192.168.1.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 2ms, Maximum = 21ms, Average = 6ms
C:\>ping 2001:2b8:1::2
Pinging 2001:2b8:1::2 with 32 bytes of data:
Reply from 2001:2B8:1::2: bytes=32 time<1ms TTL=128
Reply from 2001:2B8:1::2: bytes=32 time=31ms TTL=128
Reply from 2001:2B8:1::2: bytes=32 time=2ms TTL=128
Reply from 2001:2B8:1::2: bytes=32 time=14ms TTL=128
Ping statistics for 2001:2B8:1::2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 31ms, Average = 11ms
C:\>
Top


Client2
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
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<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time=32ms TTL=128
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time=35ms TTL=128
Ping statistics for 192.168.1.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 35ms, Average = 16ms
C:\>ping 2001:2b8:1::3
Pinging 2001:2b8:1::3 with 32 bytes of data:
Reply from 2001:2B8:1::3: bytes=32 time=25ms TTL=128
Reply from 2001:2B8:1::3: bytes=32 time=6ms TTL=128
Reply from 2001:2B8:1::3: bytes=32 time<1ms TTL=128
Reply from 2001:2B8:1::3: bytes=32 time<1ms TTL=128
Ping statistics for 2001:2B8:1::3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 25ms, Average = 7ms
C:\>
Top

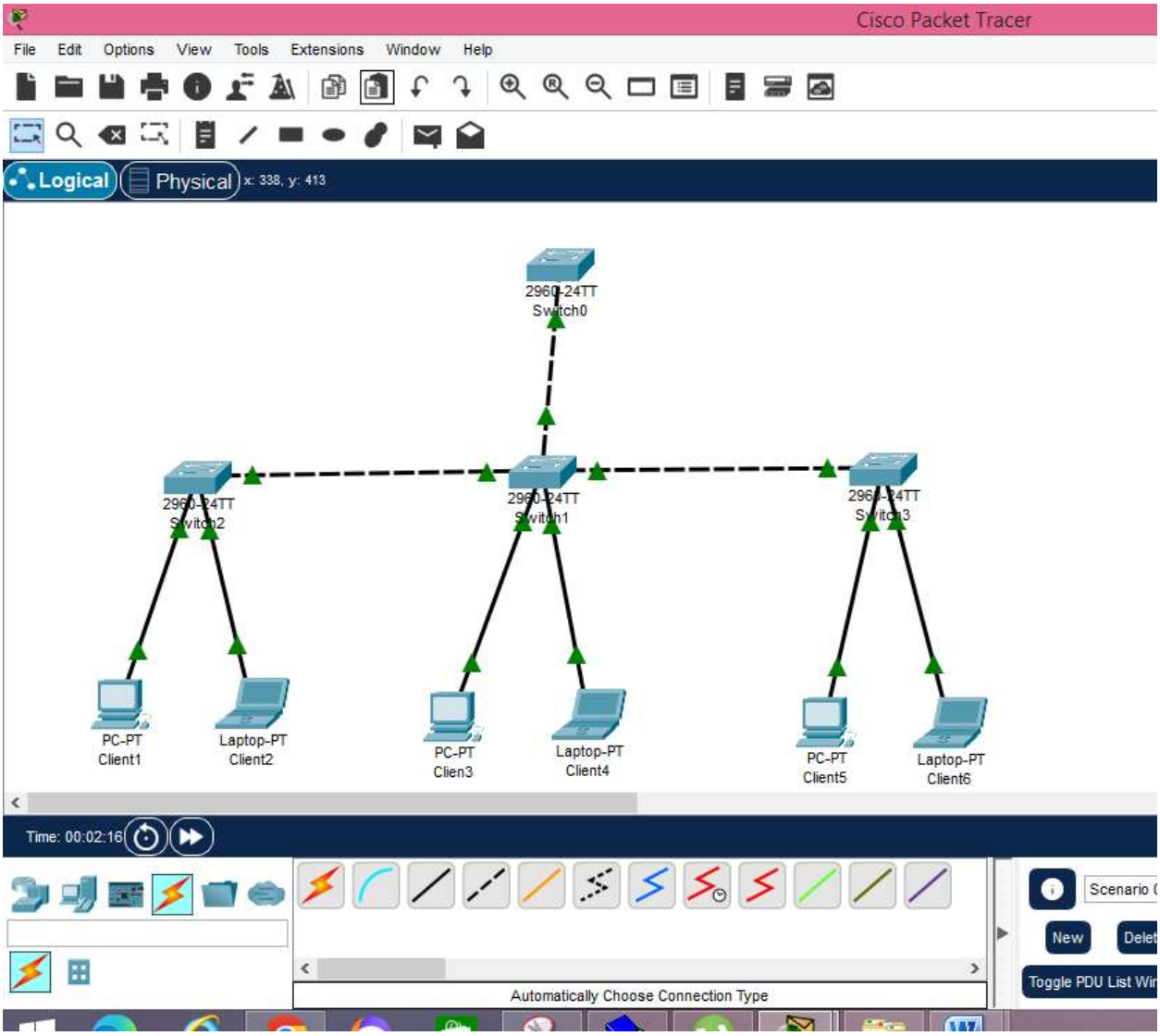
3. Production d’une topologie en bus et configuration des adresses IPv4, puis vérification de la connectivité.

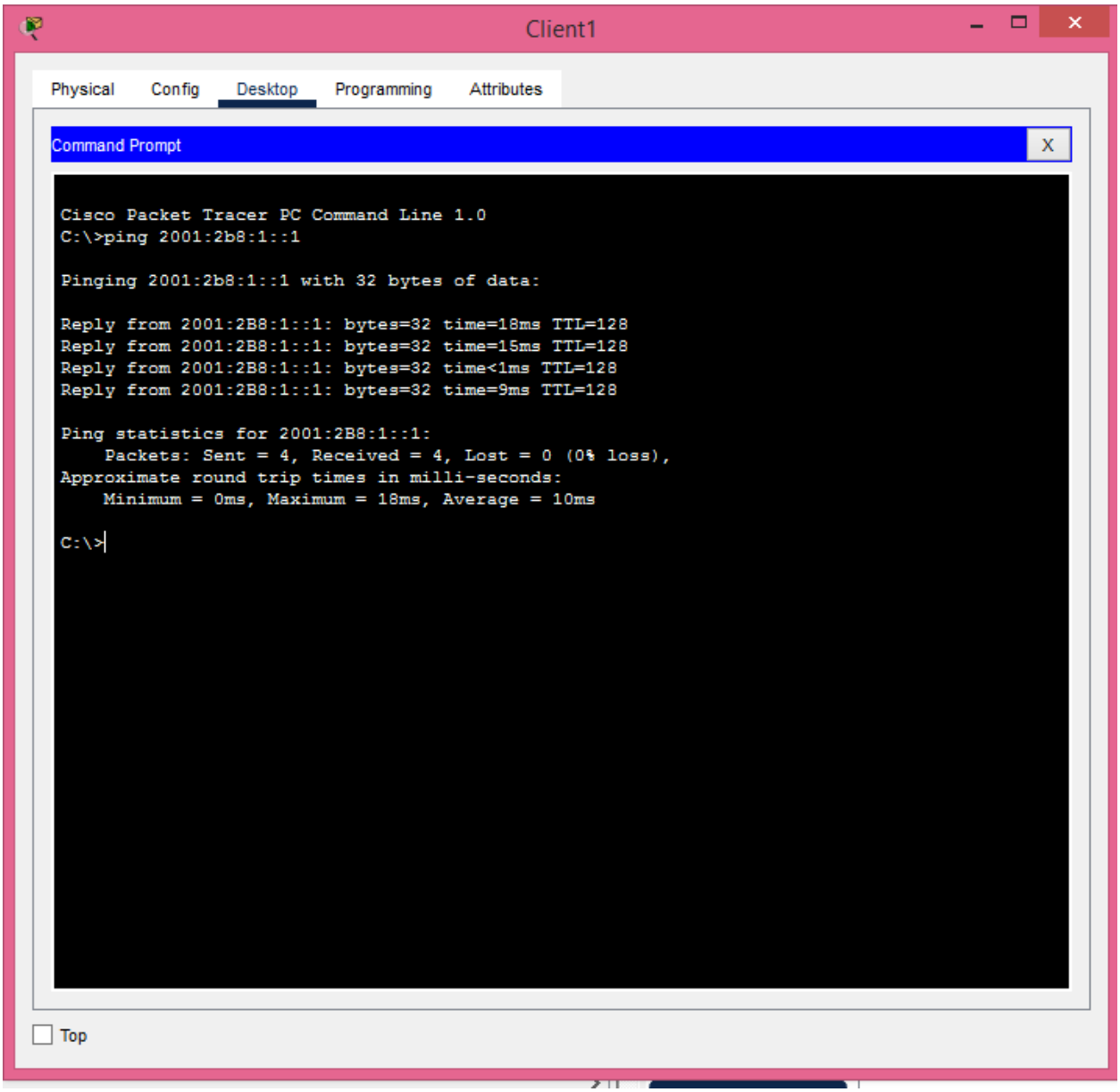


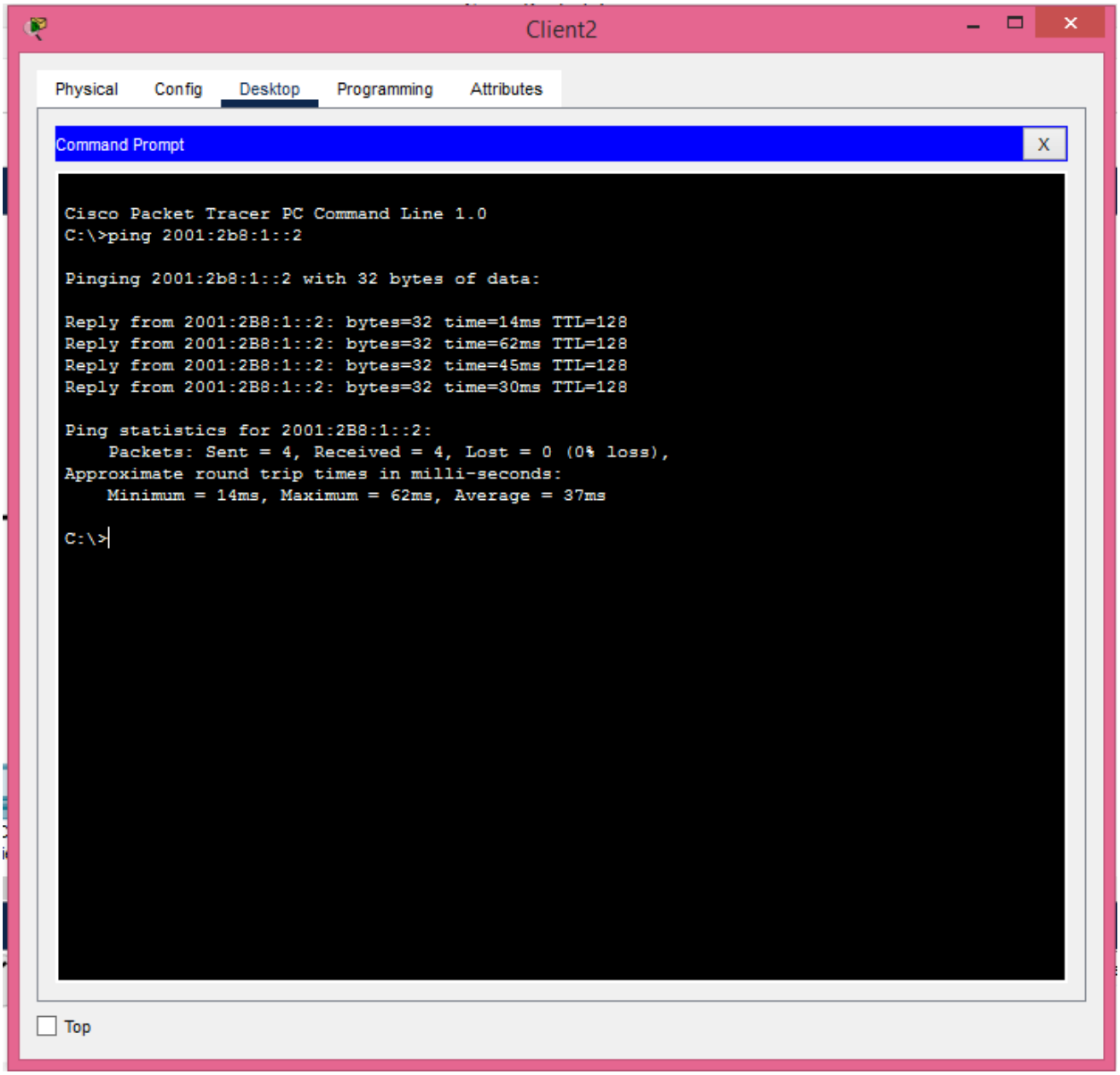

Client1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time=19ms TTL=128
Reply from 192.168.1.1: bytes=32 time=1ms TTL=128
Reply from 192.168.1.1: bytes=32 time=23ms TTL=128
Reply from 192.168.1.1: bytes=32 time=2ms TTL=128
Ping statistics for 192.168.1.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 23ms, Average = 11ms
C:\>
Top


Client2
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
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=37ms TTL=128
Reply from 192.168.1.2: bytes=32 time=8ms TTL=128
Reply from 192.168.1.2: bytes=32 time=4ms TTL=128
Reply from 192.168.1.2: bytes=32 time=31ms TTL=128
Ping statistics for 192.168.1.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 4ms, Maximum = 37ms, Average = 20ms
C:\>
Top

4- Production d’une topologie en arbre et configuration des adresses IPv6, puis vérification de la connectivité.




Client1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 2001:2b8:1::1
Pinging 2001:2b8:1::1 with 32 bytes of data:
Reply from 2001:2B8:1::1: bytes=32 time=18ms TTL=128
Reply from 2001:2B8:1::1: bytes=32 time=15ms TTL=128
Reply from 2001:2B8:1::1: bytes=32 time<1ms TTL=128
Reply from 2001:2B8:1::1: bytes=32 time=9ms TTL=128
Ping statistics for 2001:2B8:1::1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 18ms, Average = 10ms
C:\>
Top


Client2
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 2001:2b8:1::2
Pinging 2001:2b8:1::2 with 32 bytes of data:
Reply from 2001:2B8:1::2: bytes=32 time=14ms TTL=128
Reply from 2001:2B8:1::2: bytes=32 time=62ms TTL=128
Reply from 2001:2B8:1::2: bytes=32 time=45ms TTL=128
Reply from 2001:2B8:1::2: bytes=32 time=30ms TTL=128
Ping statistics for 2001:2B8:1::2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 14ms, Maximum = 62ms, Average = 37ms
C:\>
Top

Conclusion

Grâce à ce laboratoire, j'ai appris à configurer des adresses IPv4 et IPv6 ainsi qu'à tester leur connectivité au sein d'un réseau en utilisant la commande ping.