



Faculté : Sciences Informatique

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TD N°3-Reseaux

Niveau : L3

Date : Le/11/11/25

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.

Étapes du TD :

1. IPv4

Créez une topologie avec :

Un Hub.

4 PC connectés au switch.

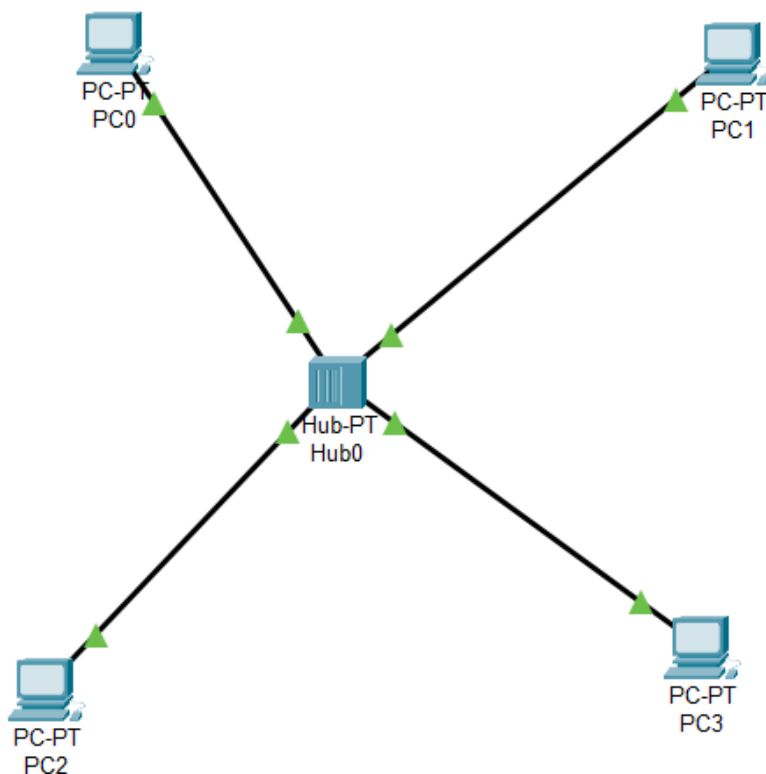
Configurez les adresses IPv4 suivantes :

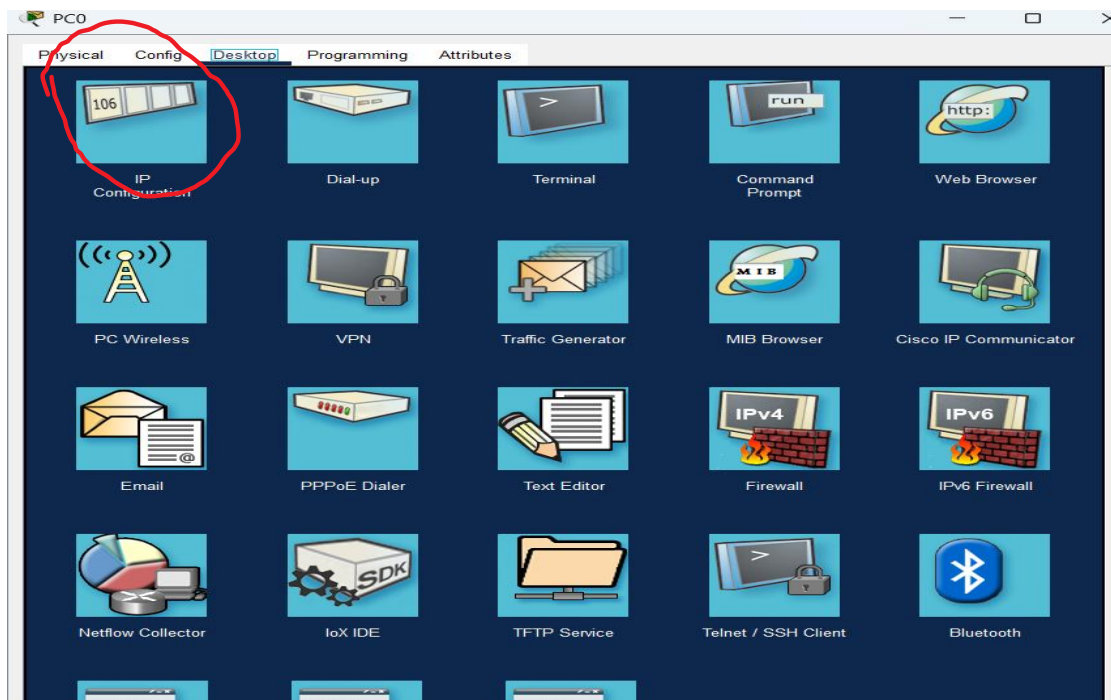
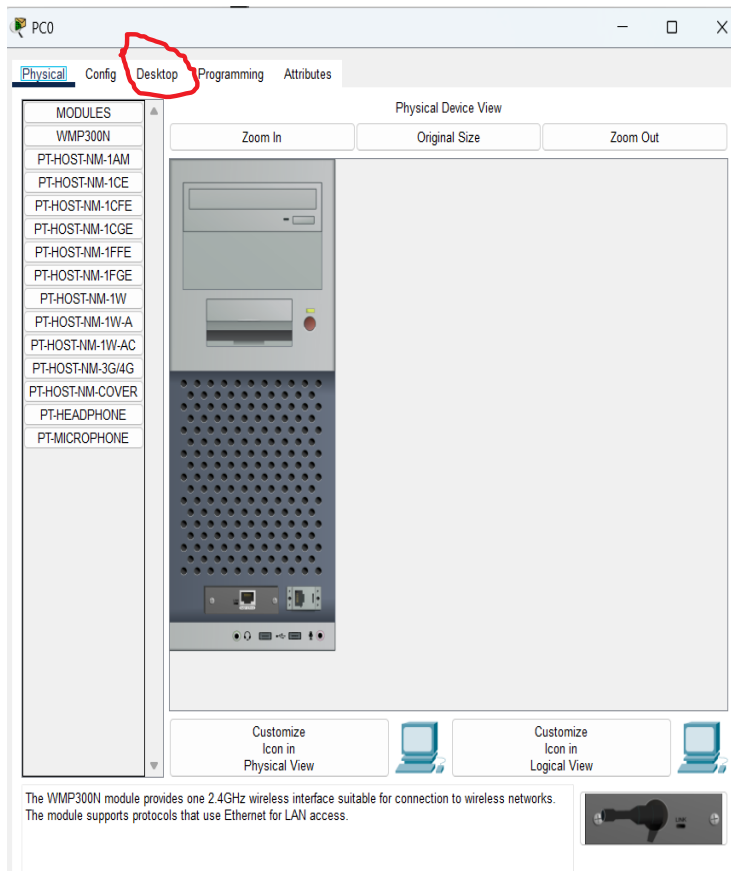
PC1 : 192.168.1.1

PC2 : 192.168.1.2

PC3 : 192.168.1.3

PC4 : 192.168.1.4





Physical Config **Desktop** Programming Attributes

IP Configuration [X]

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address

Subnet Mask

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

PC0

Physical Config **Desktop** Programming Attributes

IP Configuration [X]

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

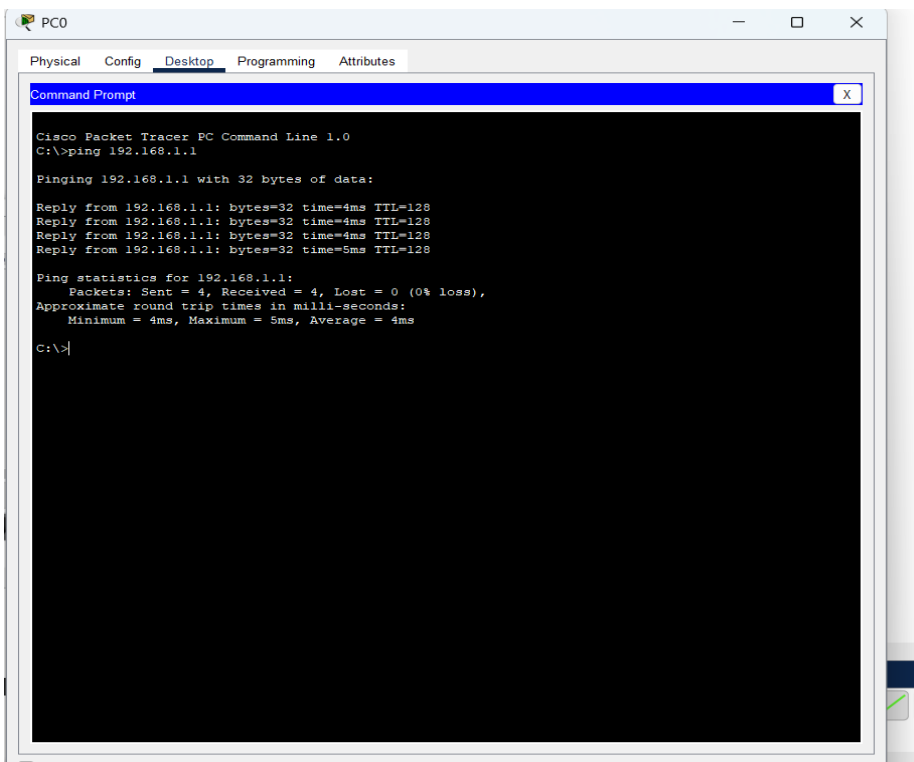
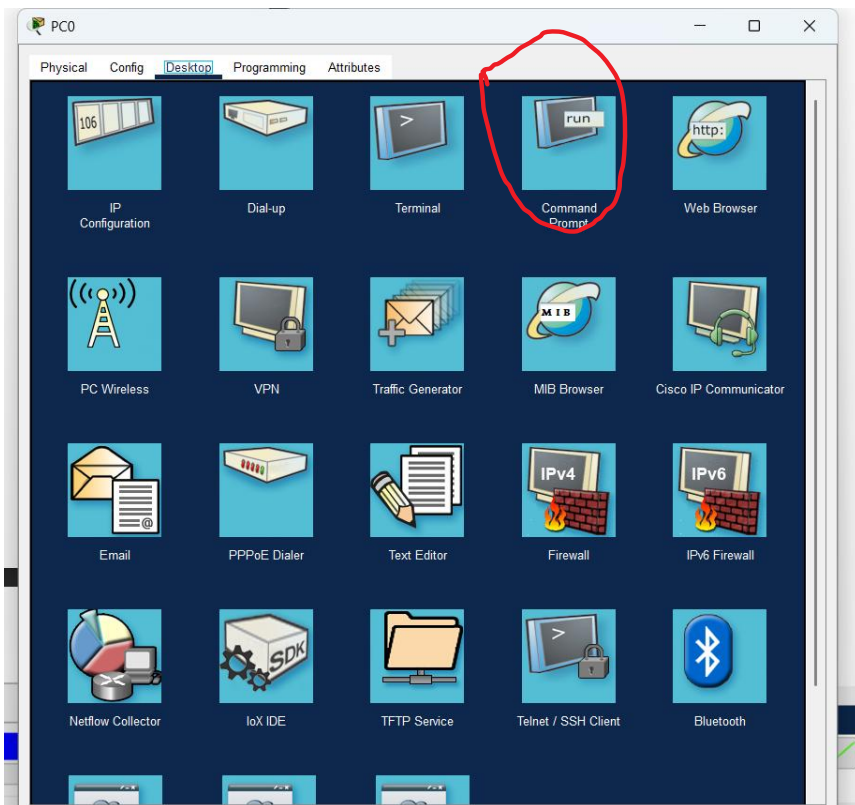
IPv4 Address 192.168.1.1

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration



IPv6

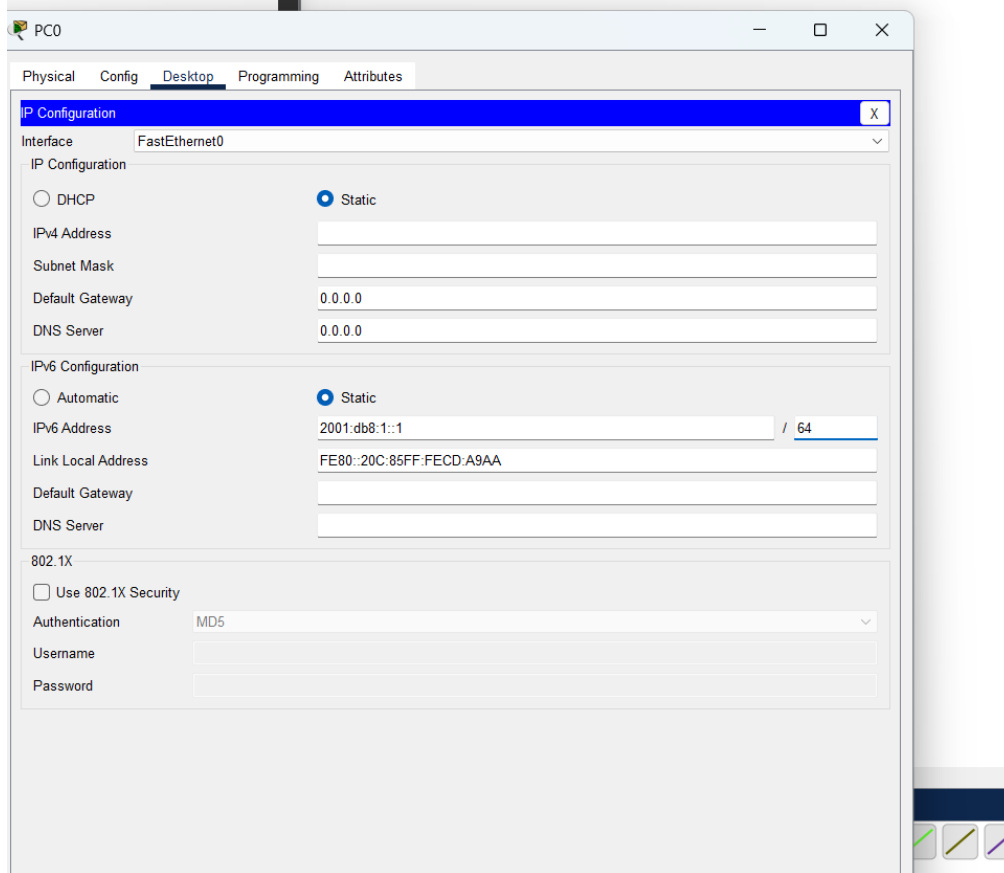
Dans la même topologie, configurez également une adresse IPv6 sur chaque PC :

PC1 : 2001:db8:1::1 / 64

PC2 : 2001:db8:1::2 / 64

PC3 : 2001:db8:1::3 / 64

PC4 : 2001:db8:1::4 / 64



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

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

Reply from 2001:DB8:1::1: bytes=32 time=5ms TTL=128
Reply from 2001:DB8:1::1: bytes=32 time=5ms TTL=128
Reply from 2001:DB8:1::1: bytes=32 time=6ms TTL=128
Reply from 2001:DB8:1::1: bytes=32 time=5ms TTL=128

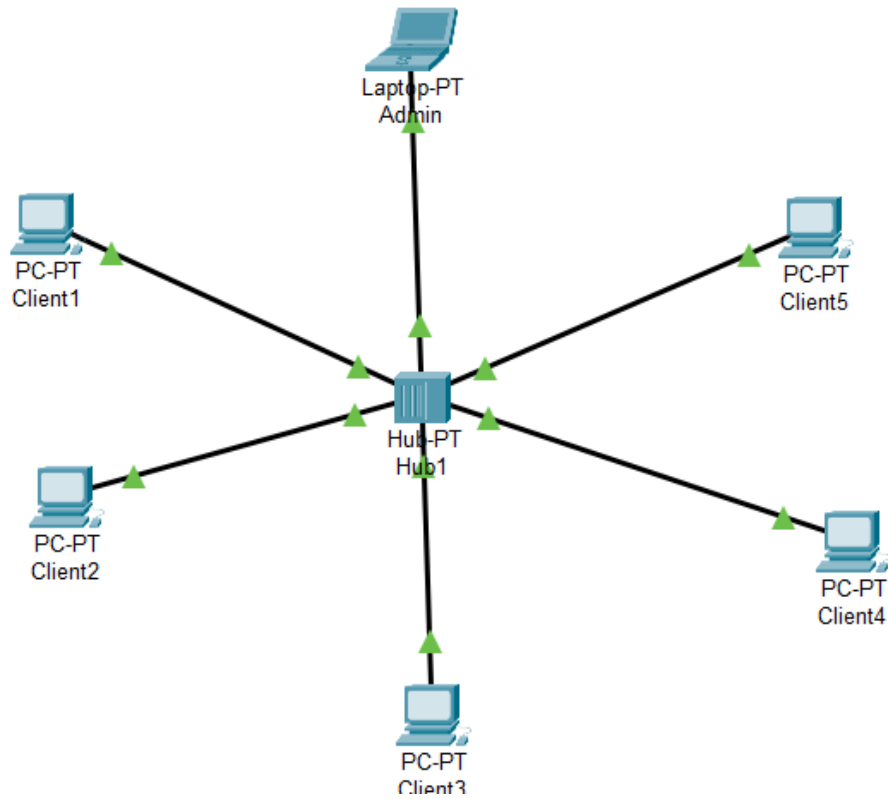
Ping statistics for 2001:DB8:1::1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 5ms, Maximum = 6ms, Average = 5ms

C:\>
```

Top

Travaux Dirigés

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



Physical Config **Desktop** Programming Attributes

IP Configuration [X]

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.1

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2E0:A3FF:FE20:79B5

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Laptop0

Physical Config **Desktop** Programming Attributes

Command Prompt [X]

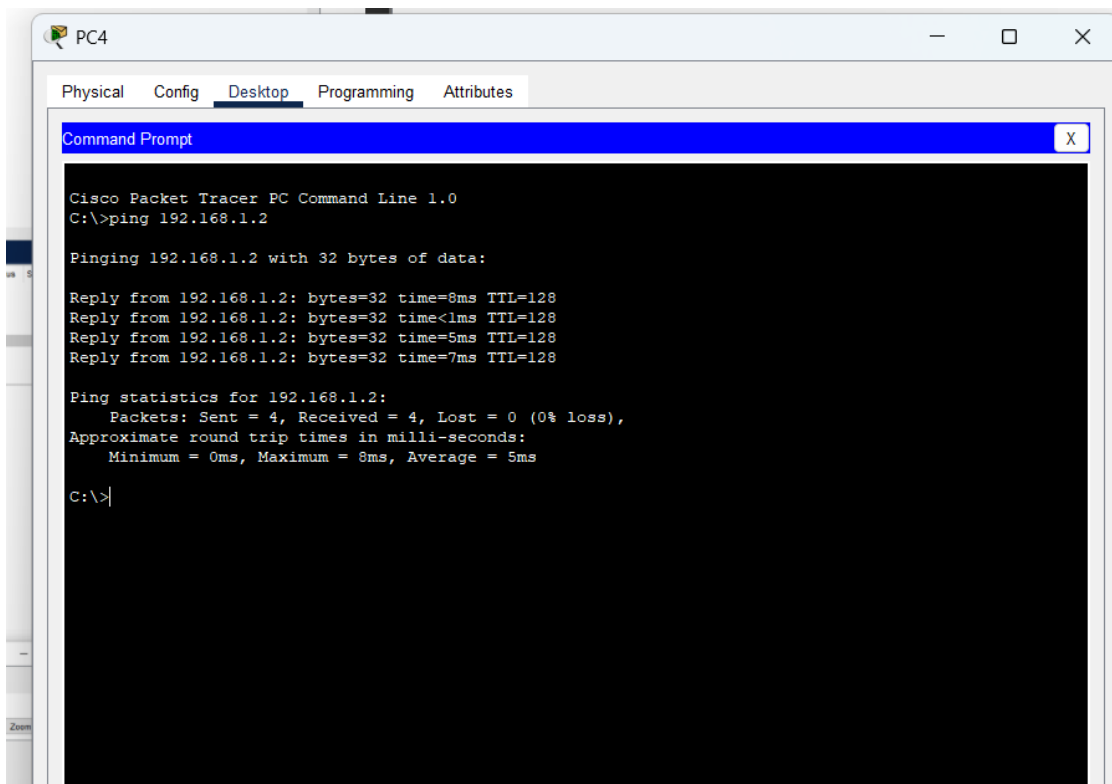
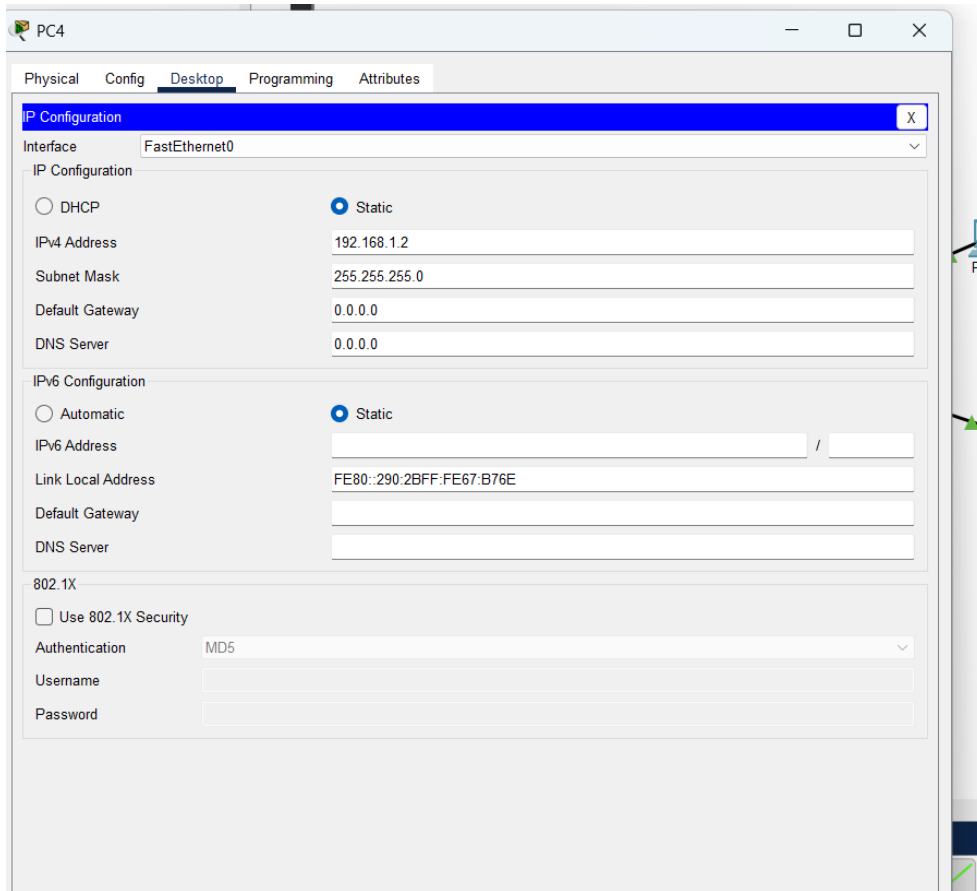
```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.1

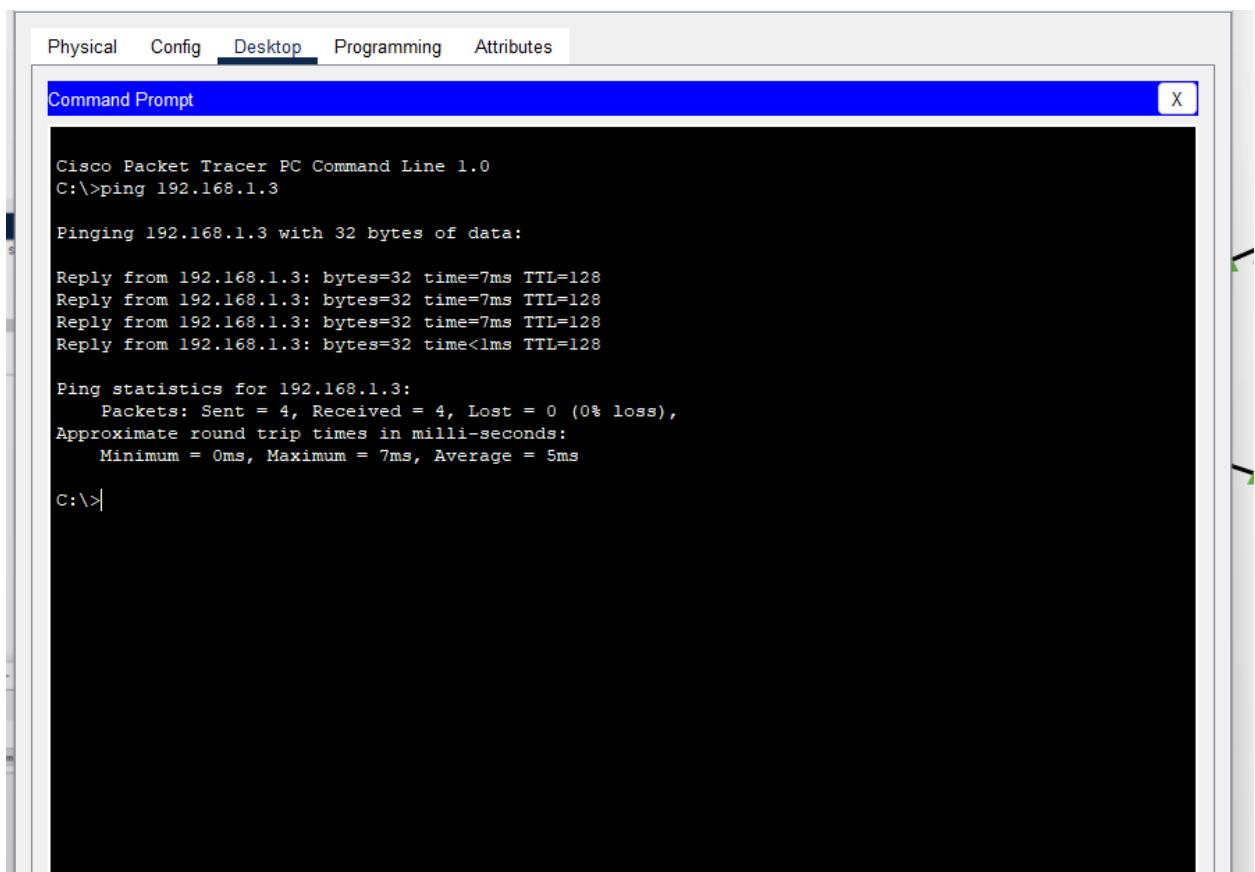
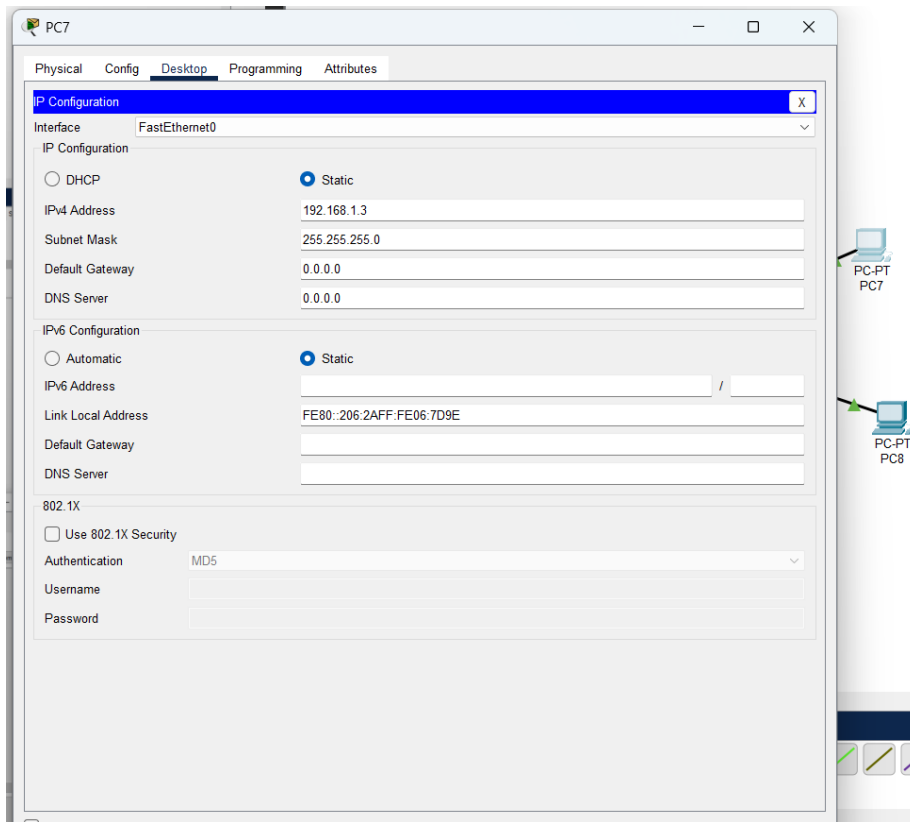
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time=6ms TTL=128
Reply from 192.168.1.1: bytes=32 time=6ms TTL=128
Reply from 192.168.1.1: bytes=32 time=9ms TTL=128
Reply from 192.168.1.1: bytes=32 time=7ms TTL=128

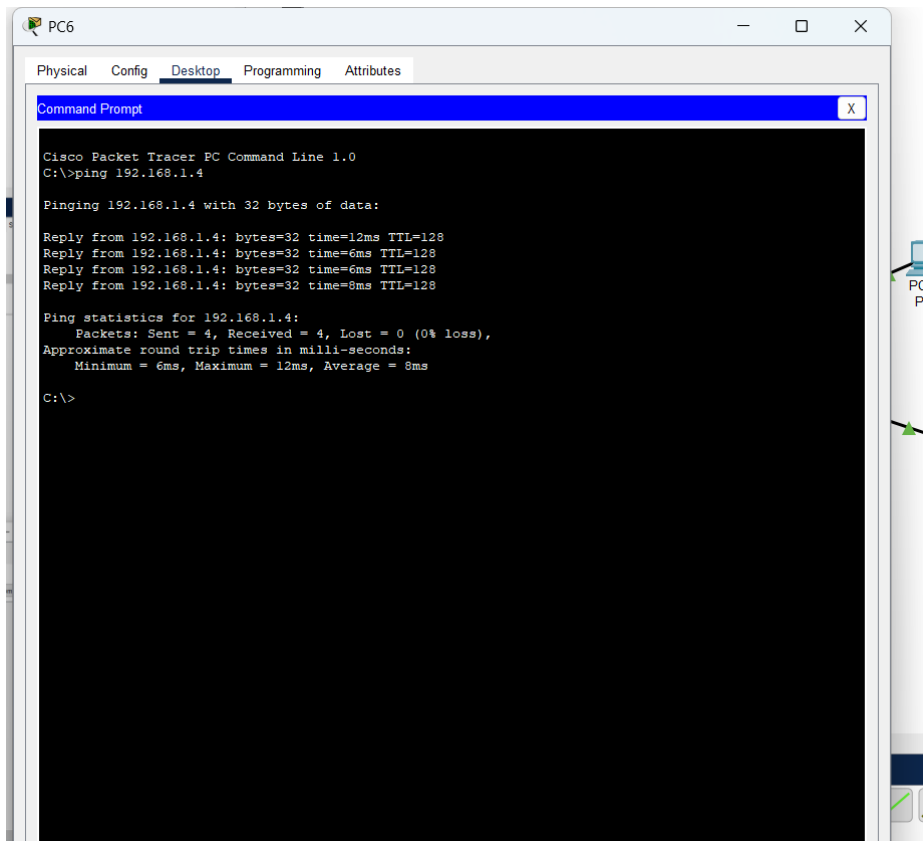
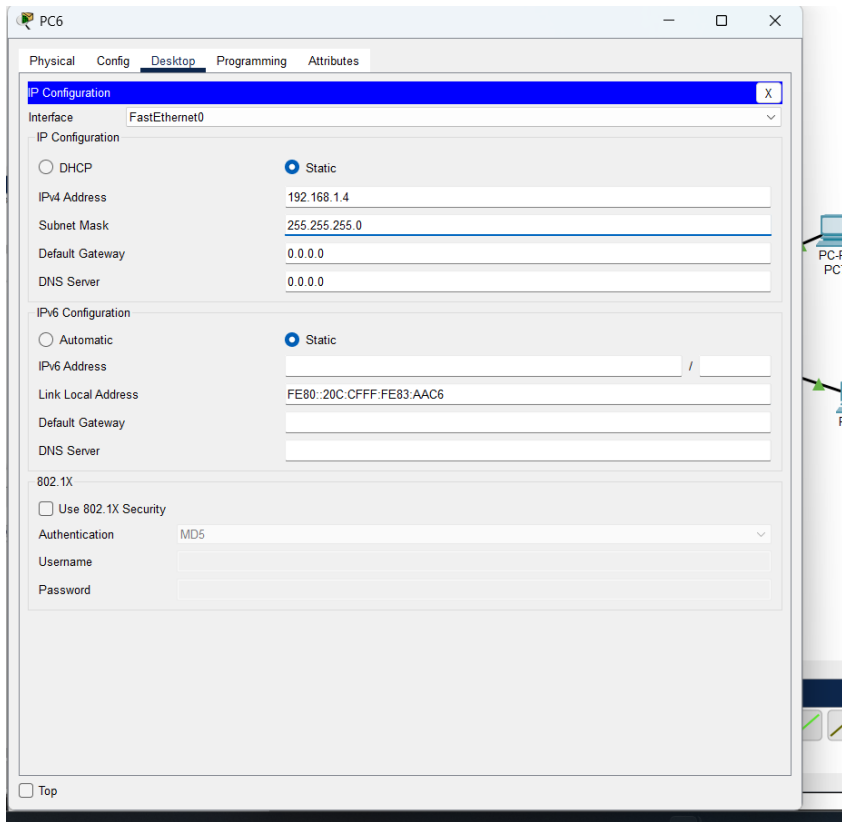
Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 9ms, Average = 7ms

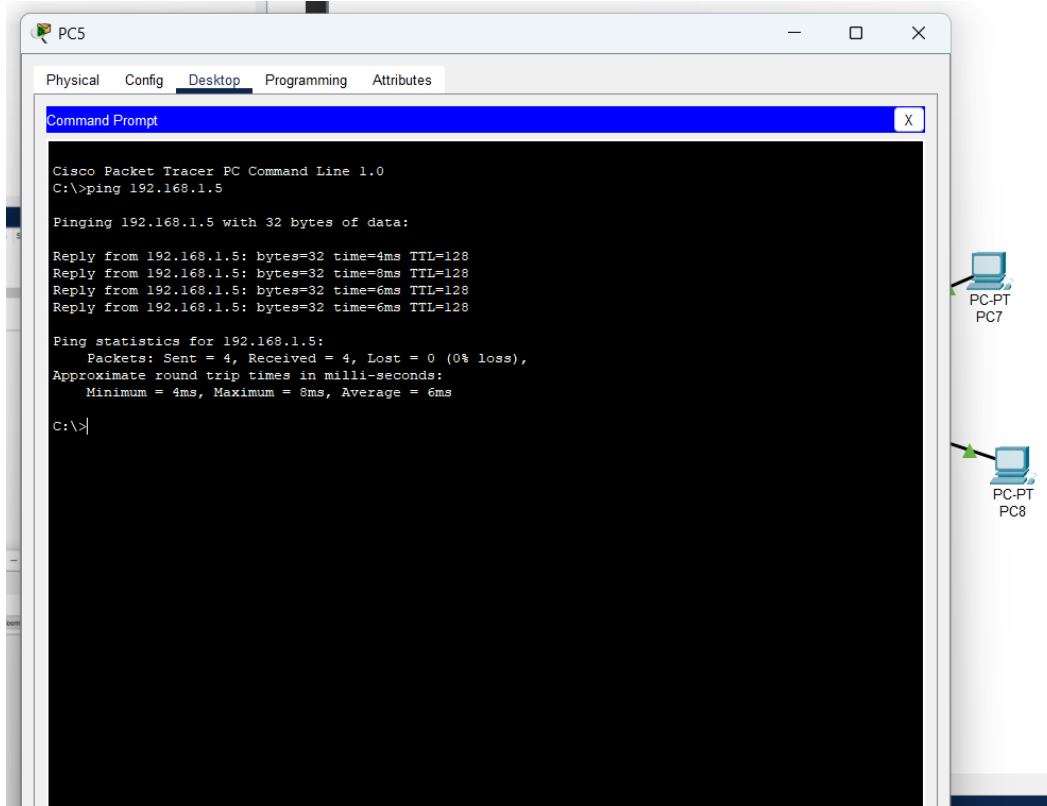
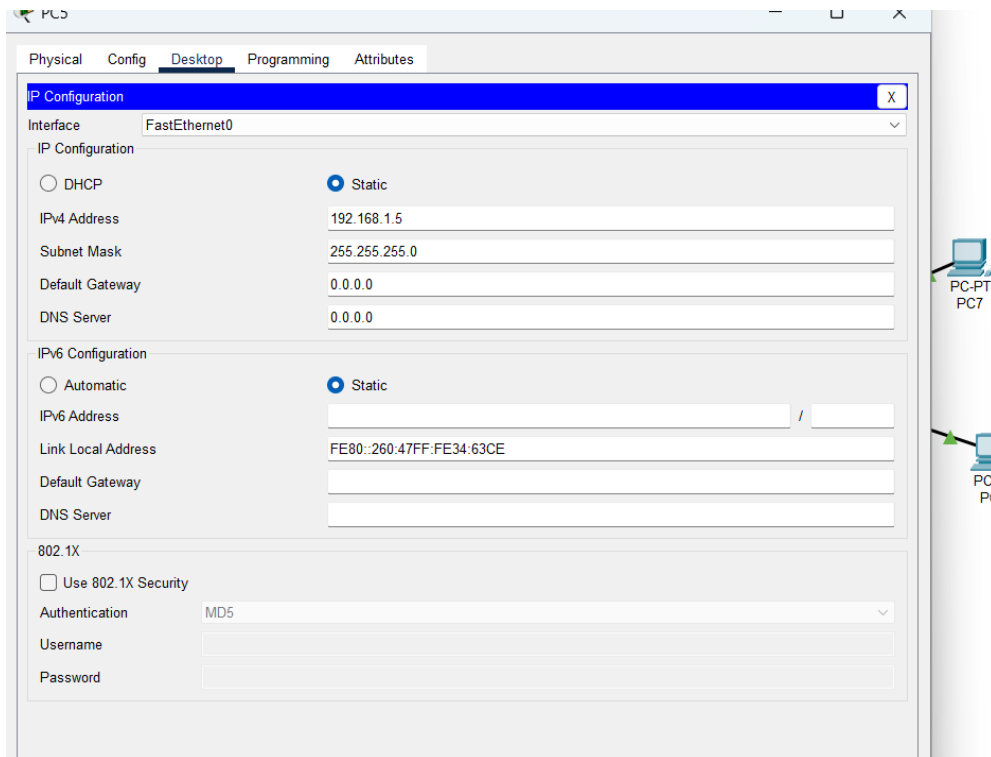
C:\>
```

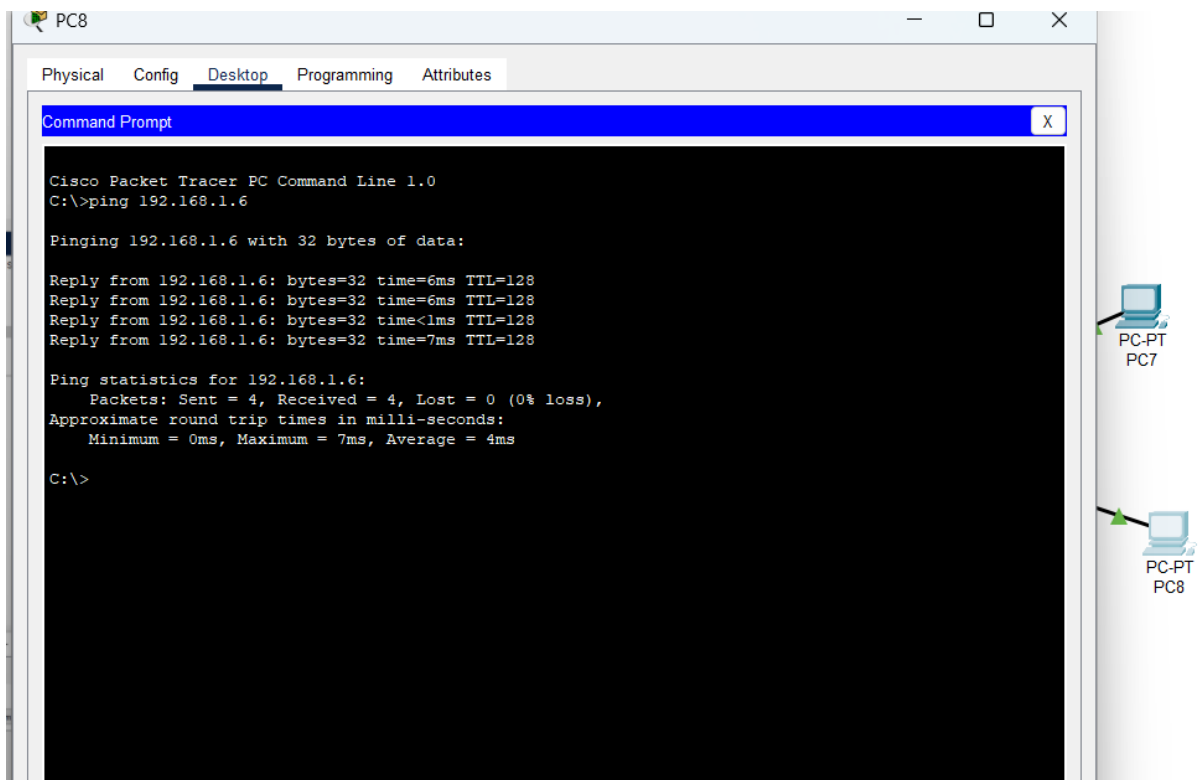
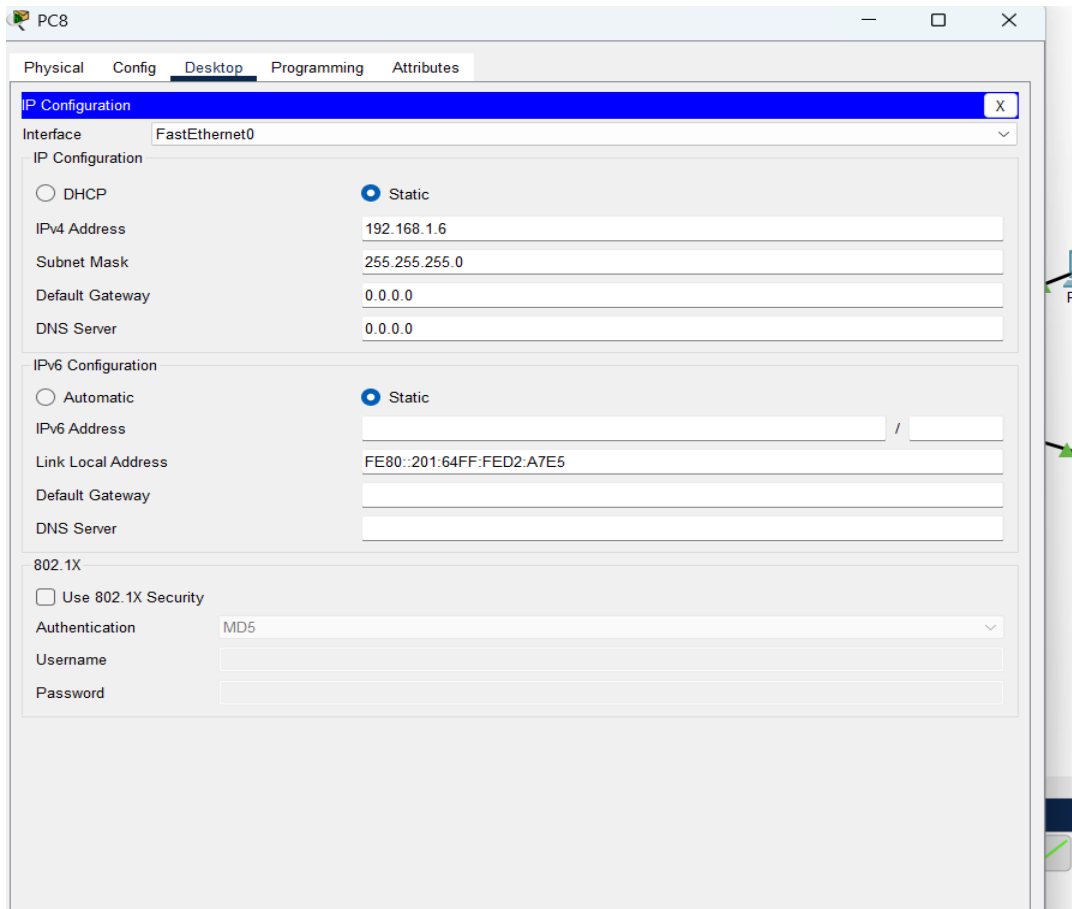
☐ Top



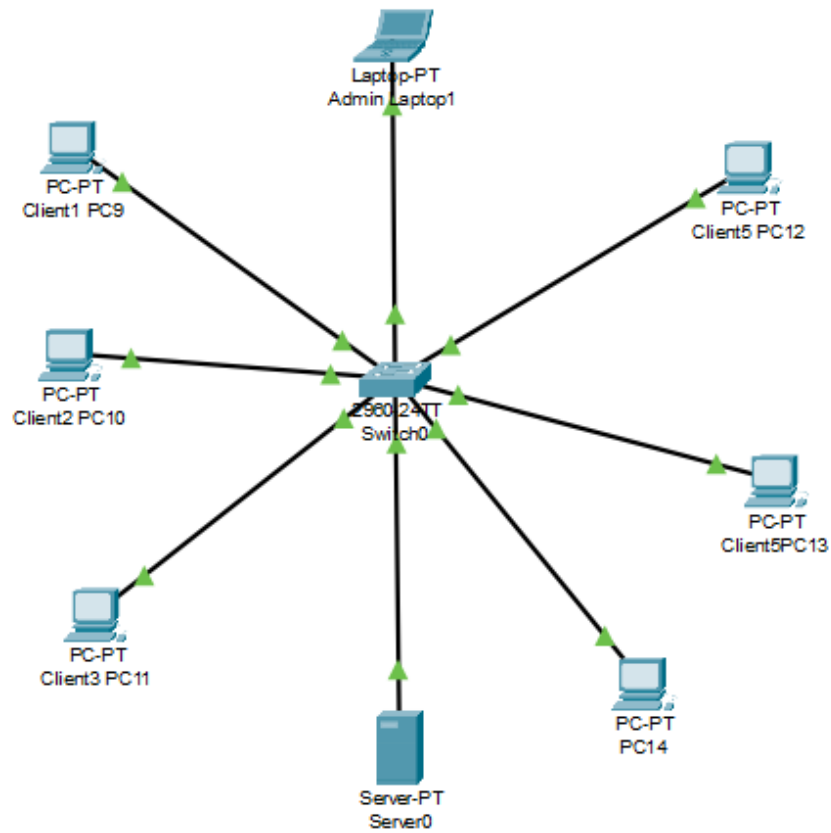


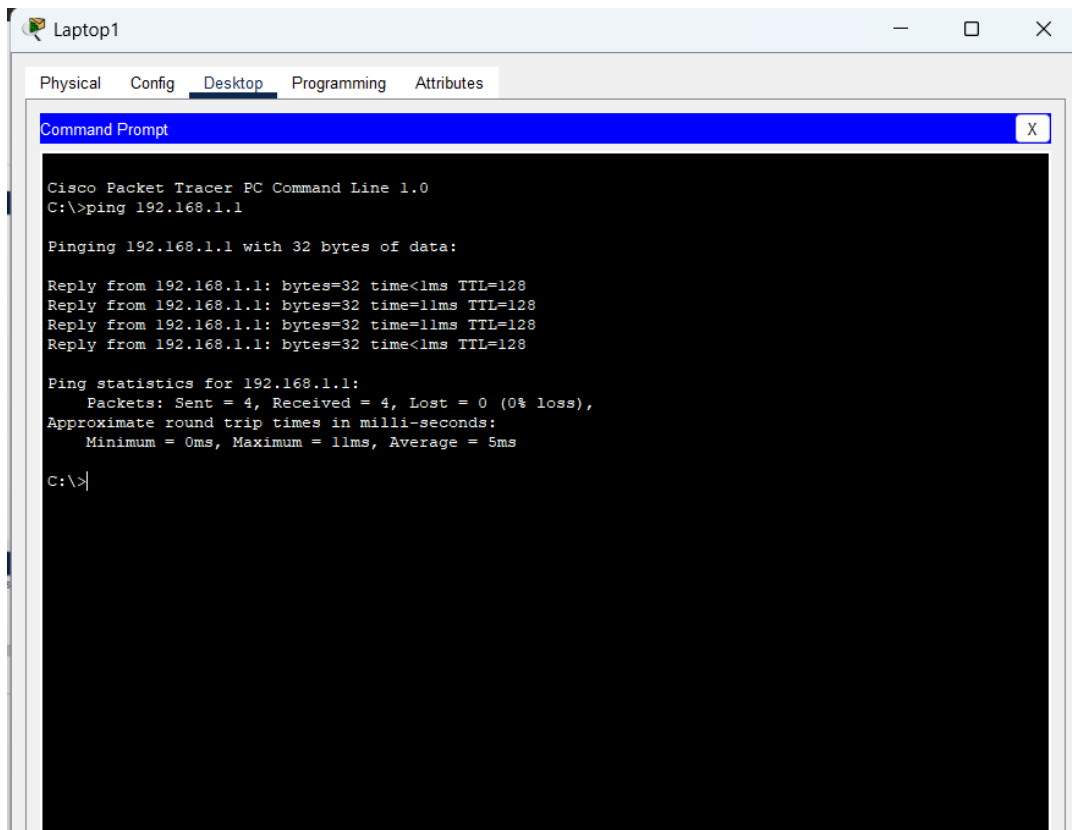
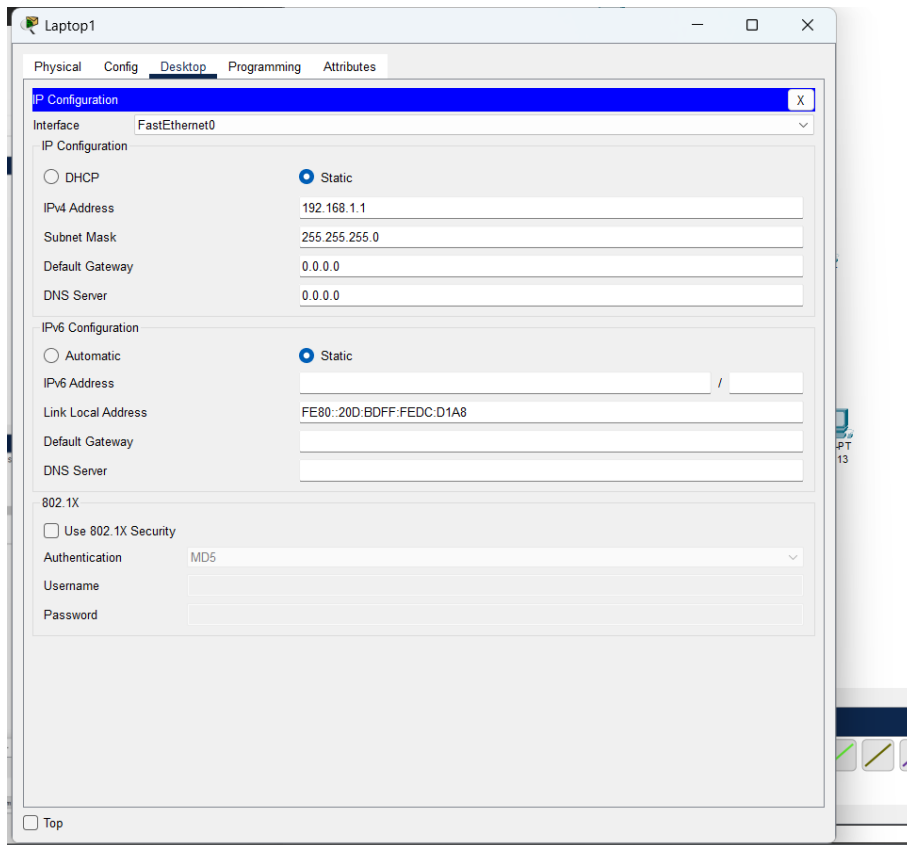


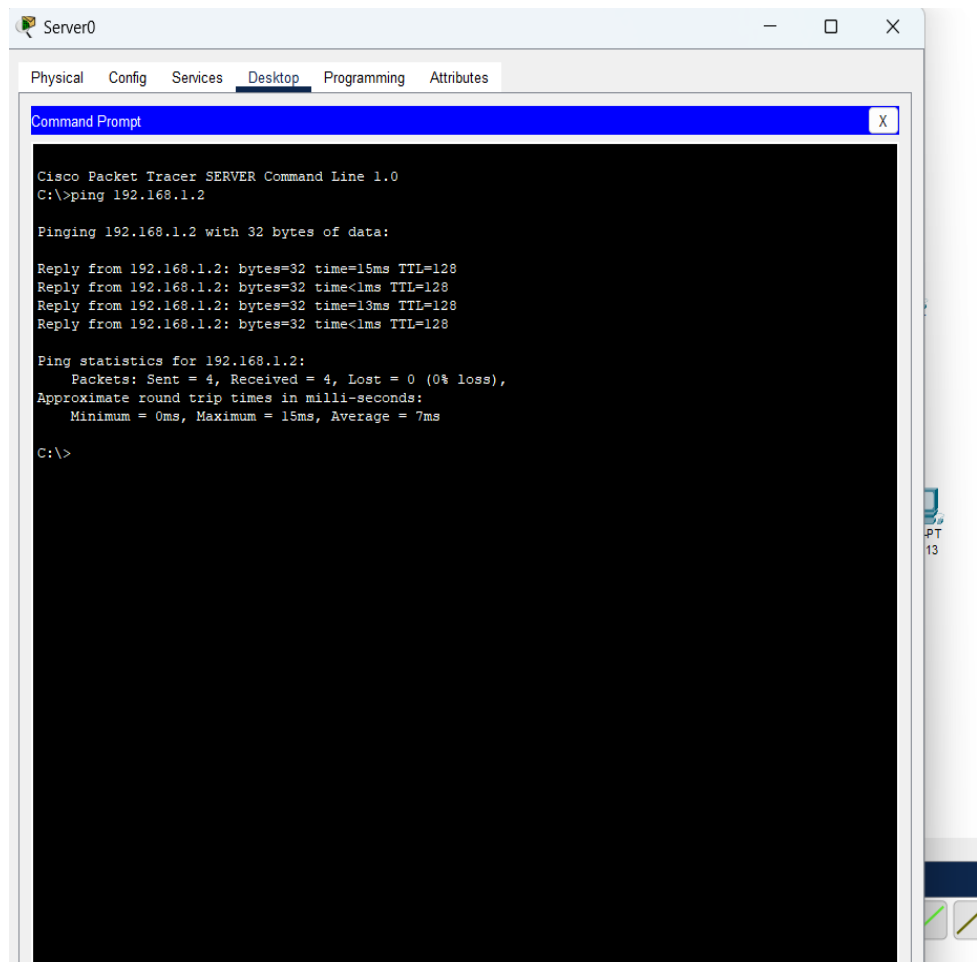
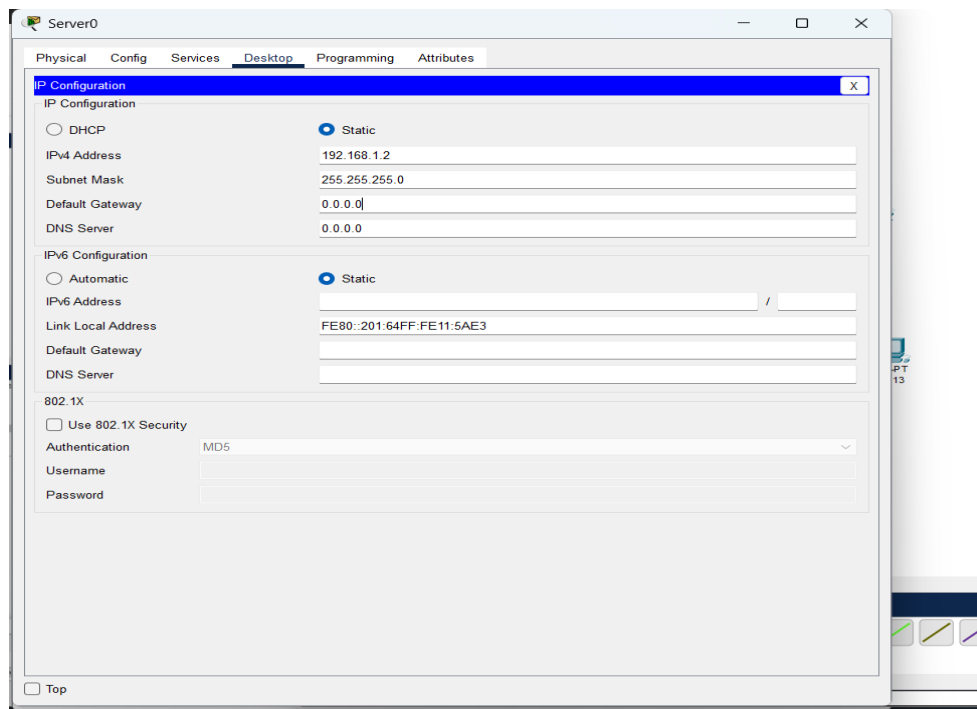


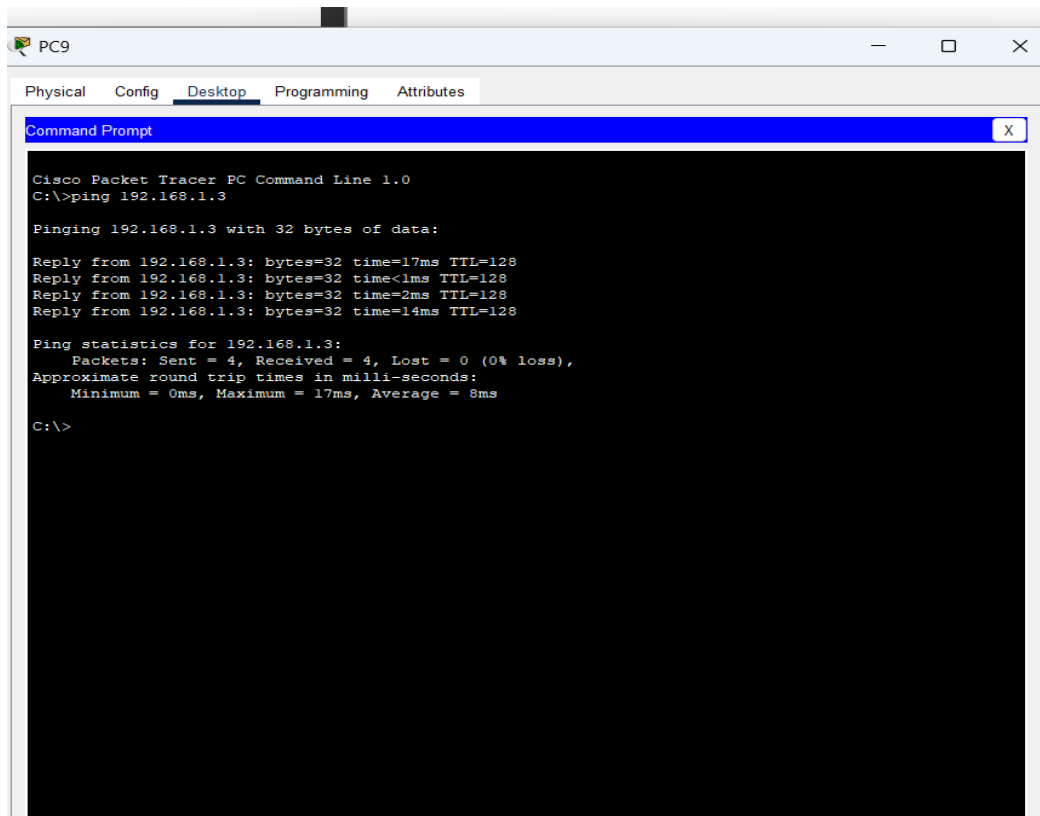
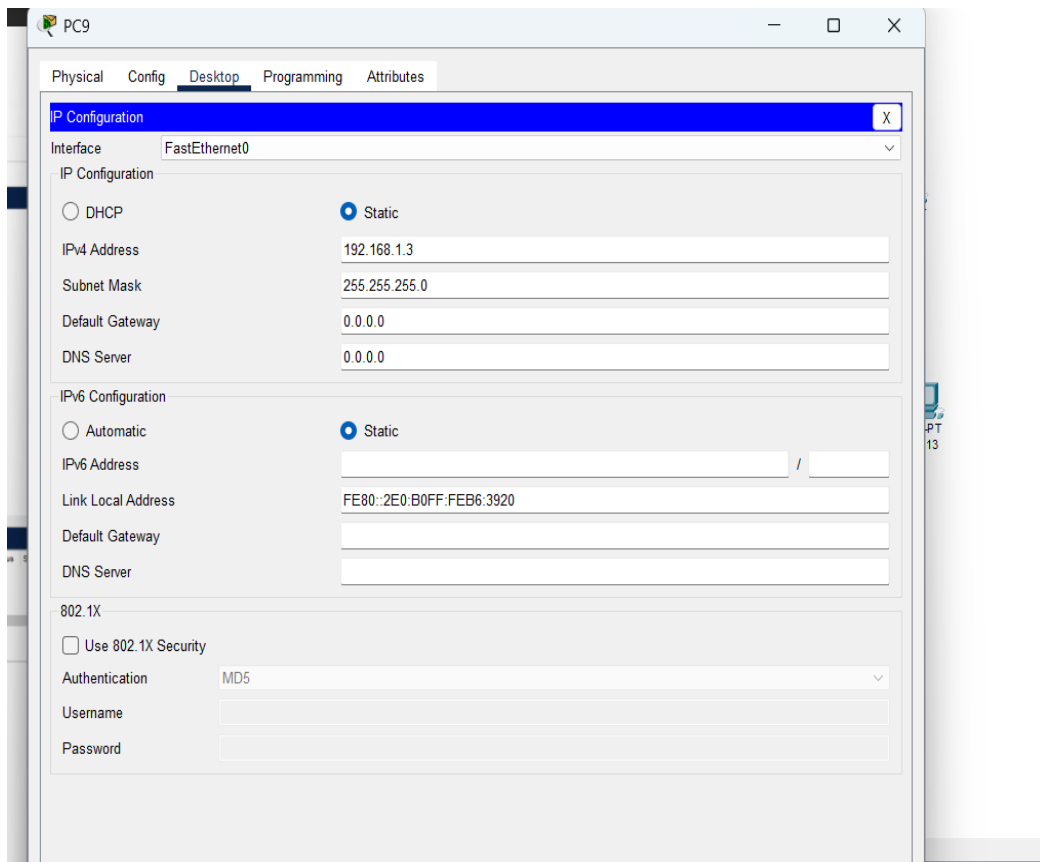


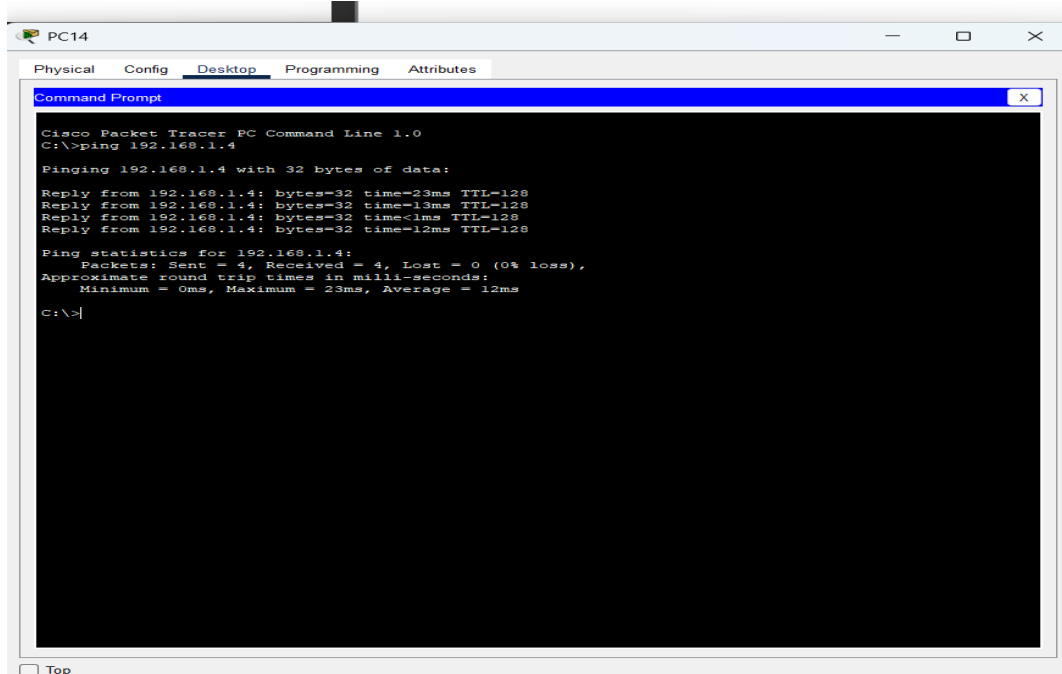
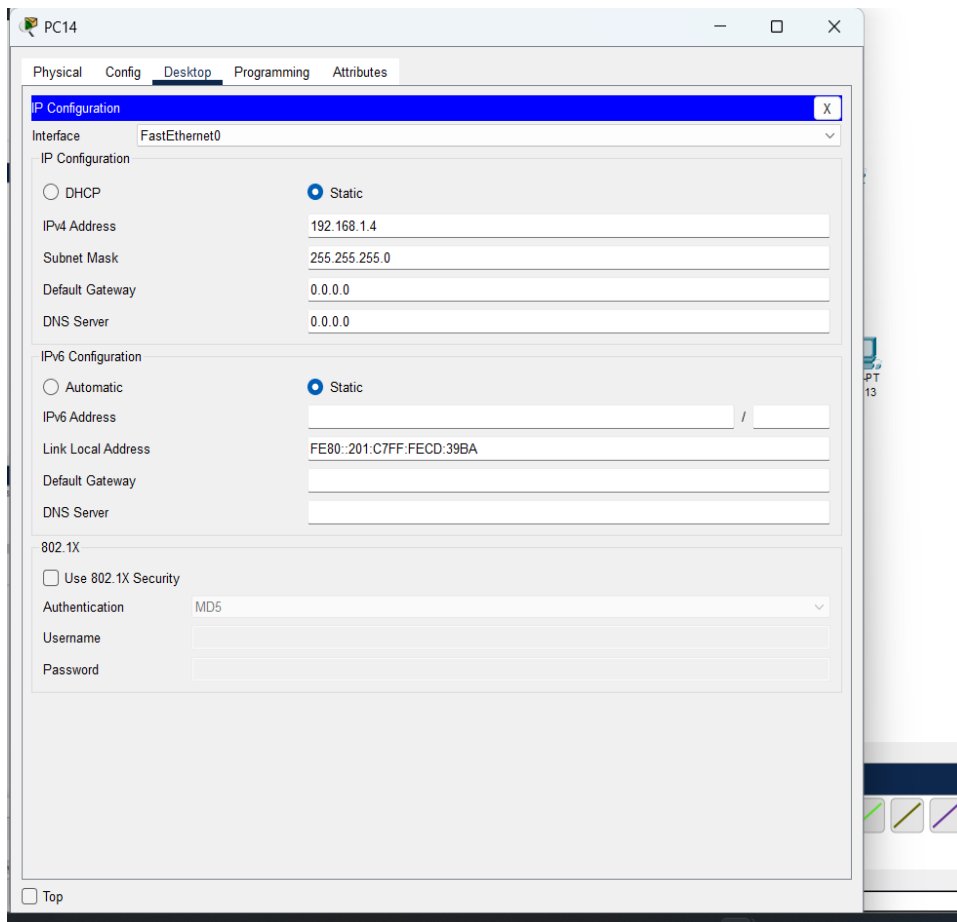
2. Reproduisez cette topologie en configurant les adresses IPv4 indiquées dans le tableau ci-dessous, puis vérifiez la connectivité.











PC10

Physical Config Desktop Programming Attributes

Command Prompt

```
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=23ms TTL=128
Reply from 192.168.1.5: bytes=32 time<1ms TTL=128
Reply from 192.168.1.5: bytes=32 time=5ms TTL=128
Reply from 192.168.1.5: bytes=32 time=12ms 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 = 23ms, Average = 10ms

C:\>
```

☐ Too

PC12

Physical Config Desktop Programming Attributes

Command Prompt

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=21ms TTL=128

Reply from 192.168.1.6: bytes=32 time<1ms TTL=128

Reply from 192.168.1.6: bytes=32 time=2ms TTL=128

Reply from 192.168.1.6: bytes=32 time=14ms 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 = 21ms, Average = 9ms

C:\>



PC11

Physical Config Desktop Programming Attributes

Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.7

Pinging 192.168.1.7 with 32 bytes of data:

Reply from 192.168.1.7: bytes=32 time<1ms TTL=128
Reply from 192.168.1.7: bytes=32 time=3ms TTL=128
Reply from 192.168.1.7: bytes=32 time=16ms TTL=128
Reply from 192.168.1.7: bytes=32 time=2ms TTL=128

Ping statistics for 192.168.1.7:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 16ms, Average = 5ms

C:\>|

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.8

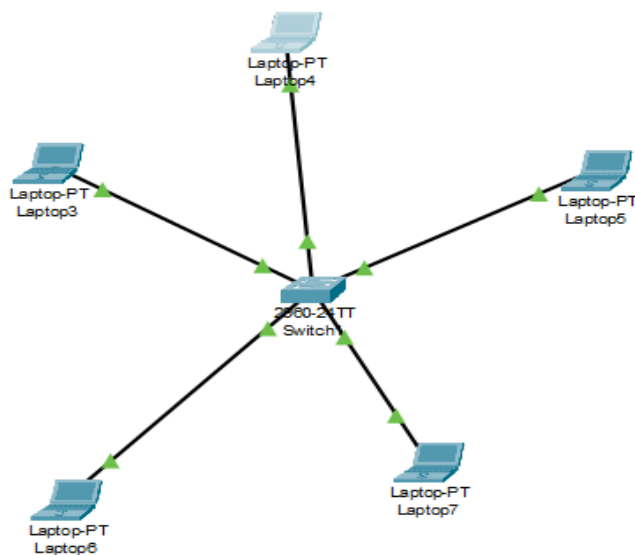
Pinging 192.168.1.8 with 32 bytes of data:

Reply from 192.168.1.8: bytes=32 time<1ms TTL=128
Reply from 192.168.1.8: bytes=32 time=12ms TTL=128
Reply from 192.168.1.8: bytes=32 time=14ms TTL=128
Reply from 192.168.1.8: bytes=32 time=14ms TTL=128

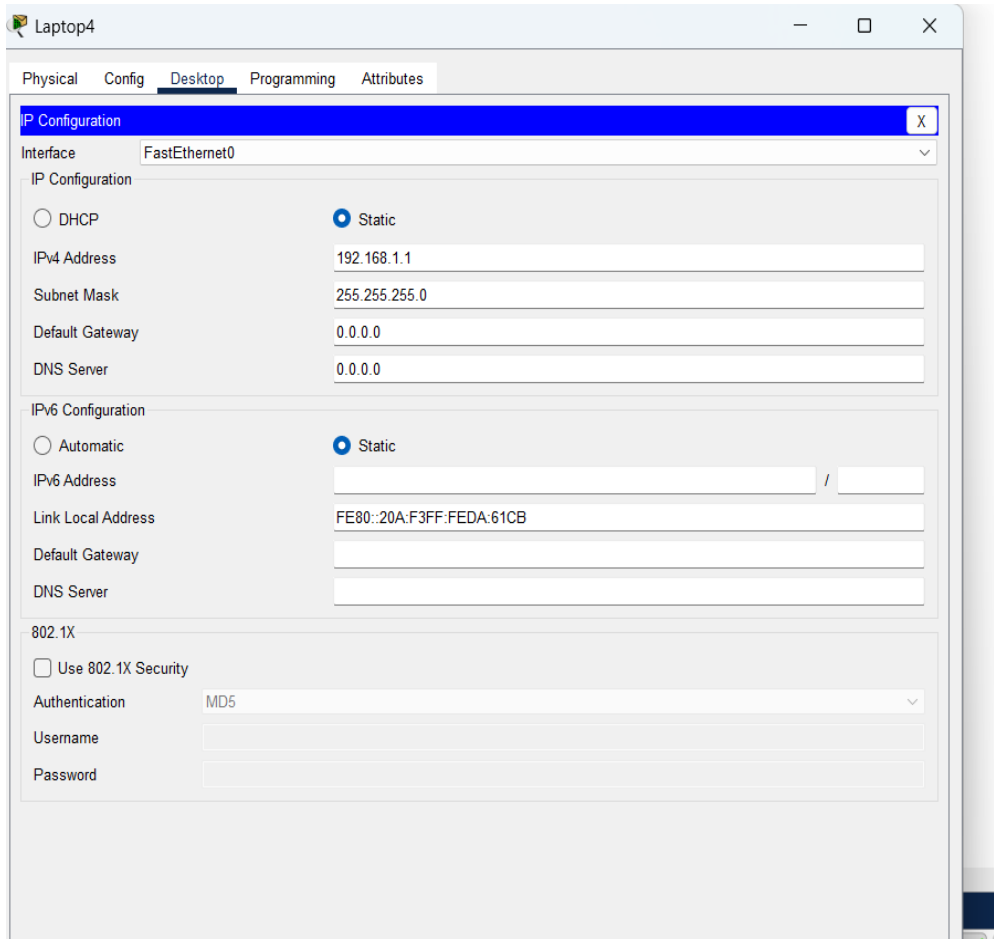
Ping statistics for 192.168.1.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 14ms, Average = 10ms

C:\>
```

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



Topologie en bus



```
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=6ms TTL=128
Reply from 192.168.1.1: bytes=32 time=1ms TTL=128
Reply from 192.168.1.1: bytes=32 time=3ms 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 = 1ms, Maximum = 6ms, Average = 2ms

C:\>|
```

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

192.168.1.2

Subnet Mask

255.255.255.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local Address

FE80::260:3EFF:FEDD:EECA

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication

MD5

Username

Password

Laptop7

Physical Config Desktop Programming Attributes

Command Prompt

```
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=9ms TTL=128
Reply from 192.168.1.2: bytes=32 time=8ms TTL=128
Reply from 192.168.1.2: bytes=32 time=6ms TTL=128
Reply from 192.168.1.2: bytes=32 time=7ms 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 = 6ms, Maximum = 9ms, Average = 7ms

C:\>
```

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.3

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address FE80::2E0:8FFF:FE84:6298

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

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=8ms TTL=128
Reply from 192.168.1.3: bytes=32 time=8ms TTL=128
Reply from 192.168.1.3: bytes=32 time=6ms TTL=128
Reply from 192.168.1.3: bytes=32 time=7ms 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 = 6ms, Maximum = 8ms, Average = 7ms

C:\>
```

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

192.168.1.4

Subnet Mask

255.255.255.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local Address

FE80::2D0:FFFF:FE27:51C5

Default Gateway

DNS Server

802.1X

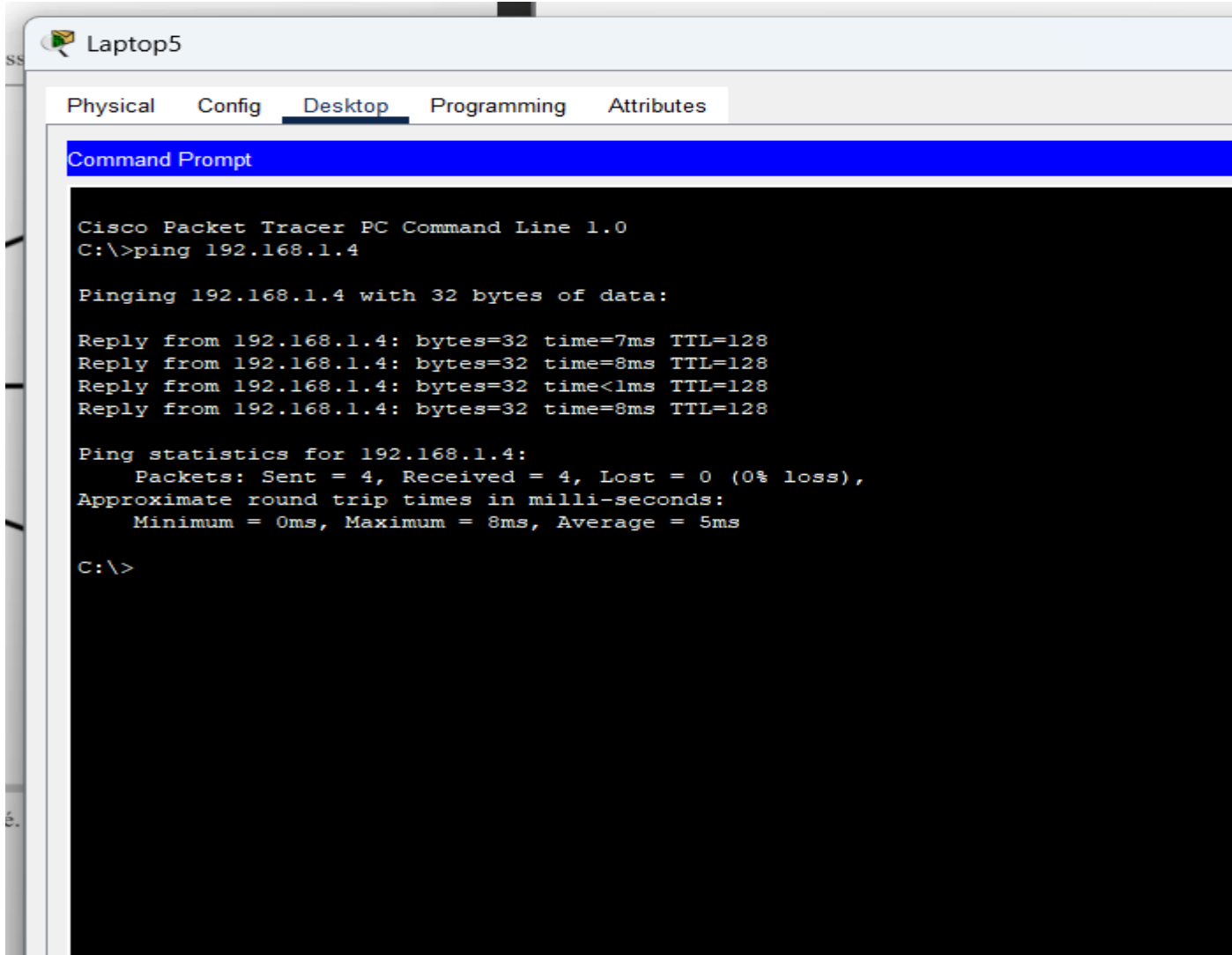
☐ Use 802.1X Security

Authentication

MD5

Username

Password

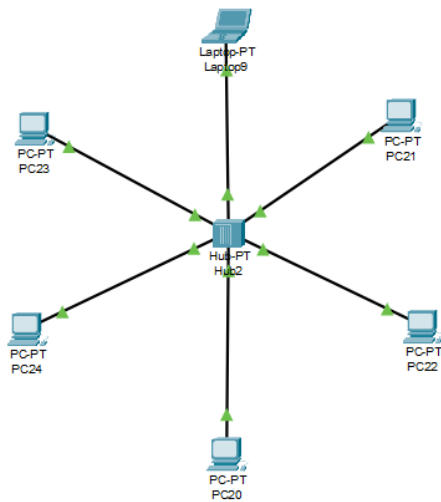


4. Reproduisez cette topologie en configurant les adresses IPv6 indiquées dans le tableau ci-dessous, puis vérifiez la connectivité.

Cisco Packet Tracer - C:\Users\dochl\Cisco Packet Tracer 8.2.2\saves\cisco.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x: 347, y: 3081



Laptop9

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

FastEthernet0

IP Configuration

DHCP

Static

IPv4 Address

192.168.1.1

Subnet Mask

255.255.255.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

Automatic

Static

IPv6 Address

2001:DB8:1::13

/ 64

Link Local Address

FE80::2E0:F9FF:FE42:E747

Default Gateway

DNS Server

802.1X

Use 802.1X Security

Authentication

MD5

Username

Password

Laptop9

Physical Config Desktop Programming Attributes

Command Prompt

```
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=4ms TTL=128
Reply from 192.168.1.1: bytes=32 time=13ms TTL=128
Reply from 192.168.1.1: bytes=32 time=12ms 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 = 13ms, Average = 7ms

C:\>ping 2001:db8:1
Ping request could not find host 2001:db8:1. Please check the name and try again.
C:\>
C:\>ping 2001:db8:1::13

Pinging 2001:db8:1::13 with 32 bytes of data:

Reply from 2001:DB8:1::13: bytes=32 time=7ms TTL=128
Reply from 2001:DB8:1::13: bytes=32 time=8ms TTL=128
Reply from 2001:DB8:1::13: bytes=32 time=13ms TTL=128
Reply from 2001:DB8:1::13: bytes=32 time=9ms TTL=128

Ping statistics for 2001:DB8:1::13:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 7ms, Maximum = 13ms, Average = 9ms

C:\>
```

PC20

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.168.1.2

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: 2001:DB8:1::14 / 64

Link Local Address: FE80::203:E4FF:FE9D:5855

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

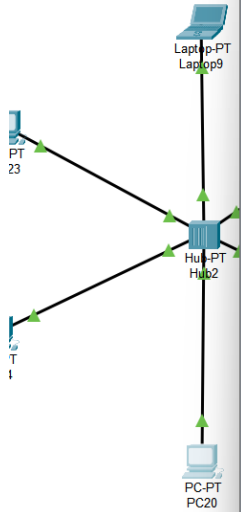
Password:

☐ Top

co Packet Tracer 8.2.2\saves\cisco.pkt

PC20

Window Help



Physical Config Desktop Programming Attributes

Command Prompt

```
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=7ms TTL=128
Reply from 192.168.1.2: bytes=32 time=12ms TTL=128
Reply from 192.168.1.2: bytes=32 time=11ms TTL=128
Reply from 192.168.1.2: bytes=32 time=8ms 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 = 7ms, Maximum = 12ms, Average = 9ms

C:\>ping 2001:db8:1::14

Pinging 2001:db8:1::14 with 32 bytes of data:

Reply from 2001:DB8:1::14: bytes=32 time=4ms TTL=128
Reply from 2001:DB8:1::14: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:1::14: bytes=32 time=8ms TTL=128
Reply from 2001:DB8:1::14: bytes=32 time=8ms TTL=128

Ping statistics for 2001:DB8:1::14:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 8ms, Average = 5ms

C:\>
```

PC23

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.3

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address 2001:db8:1::15 / 64

Link Local Address FE80::290:21FF:FE2D:C8CE

Default Gateway

DNS Server

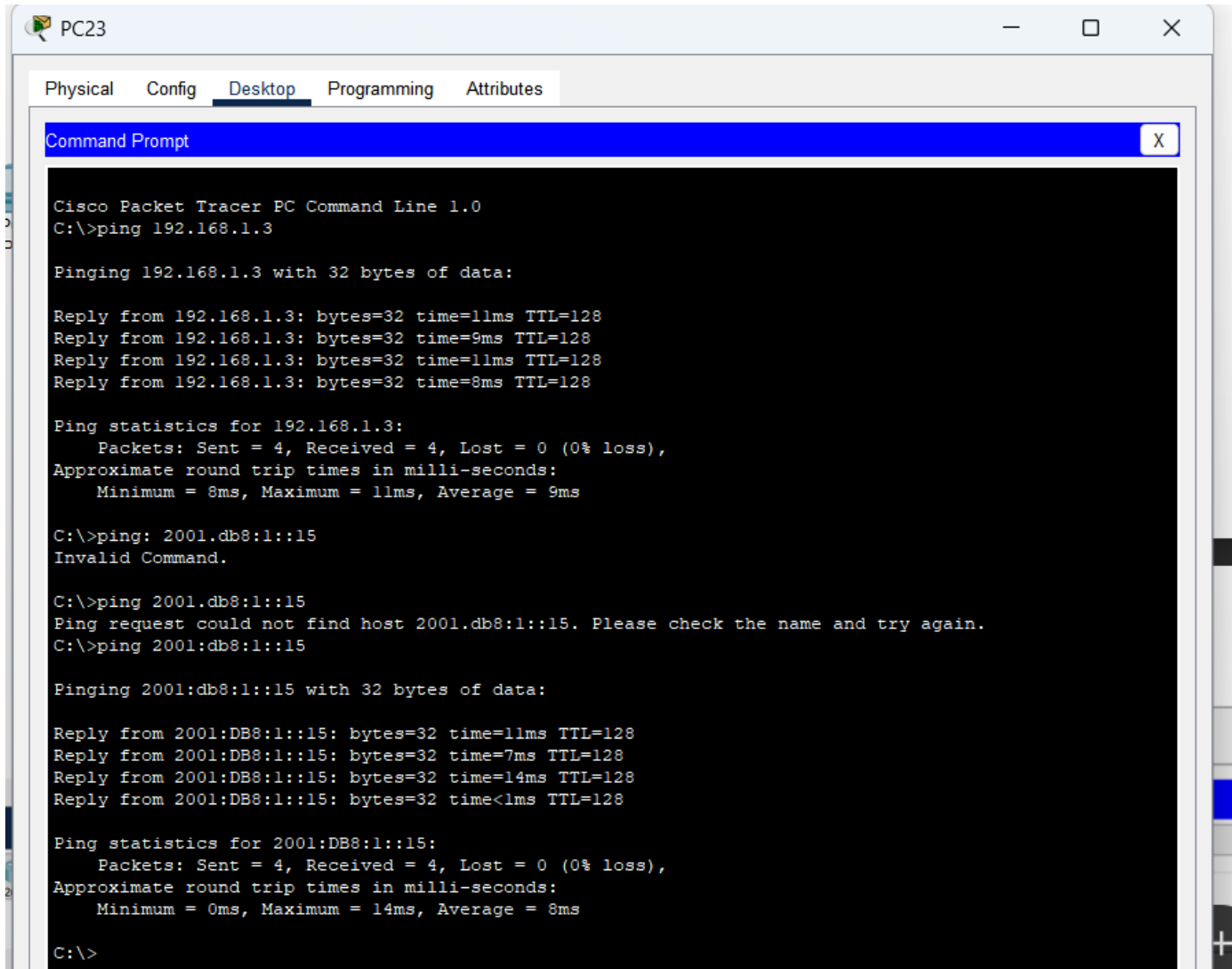
802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password



PC23

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address192.168.1.3

Subnet Mask255.255.255.0

Default Gateway0.0.0.0

DNS Server0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address2001:db8:1::15

Link Local AddressFE80::290:21FF:FE2D:C8CE

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

AuthenticationMD5

Username

Password

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=11ms TTL=128

Reply from 192.168.1.3: bytes=32 time=9ms TTL=128

Reply from 192.168.1.3: bytes=32 time=11ms TTL=128

Reply from 192.168.1.3: bytes=32 time=8ms 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 = 8ms, Maximum = 11ms, Average = 9ms

C:\>ping: 2001.db8:1::15

Invalid Command.

C:\>ping 2001.db8:1::15

Ping request could not find host 2001.db8:1::15. Please check the name and try again.

C:\>ping 2001:db8:1::15

Pinging 2001:db8:1::15 with 32 bytes of data:

Reply from 2001:DB8:1::15: bytes=32 time=11ms TTL=128

Reply from 2001:DB8:1::15: bytes=32 time=7ms TTL=128

Reply from 2001:DB8:1::15: bytes=32 time=14ms TTL=128

Reply from 2001:DB8:1::15: bytes=32 time<1ms TTL=128

Ping statistics for 2001:DB8:1::15:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 14ms, Average = 8ms

C:\>

PC22

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

FastEthernet0

IP Configuration

DHCP

Static

IPv4 Address

192.168.1.4

Subnet Mask

255.255.255.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

Automatic

Static

IPv6 Address

2001:db8:1::16

/ 64

Link Local Address

FE80::205:5EFF:FE4A:3D38

Default Gateway

DNS Server

802.1X

Use 802.1X Security

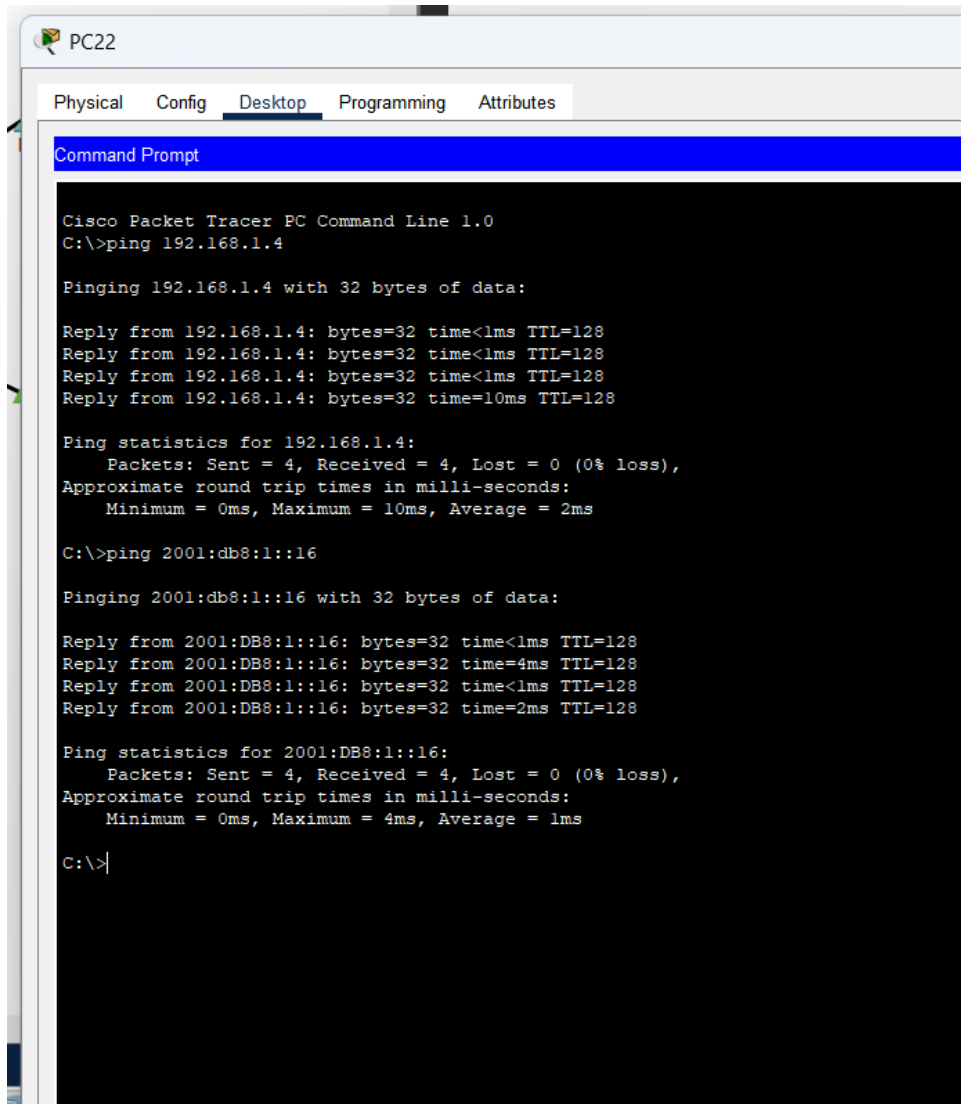
Authentication

MD5

Username

Password

Top



PC24

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

FastEthernet0

IP Configuration

DHCP

Static

IPv4 Address

192.168.1.5

Subnet Mask

255.255.255.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

Automatic

Static

IPv6 Address

2001:db8:1::17

Link Local Address

FE80::20C:85FF:FE3B:E1E6

Default Gateway

DNS Server

802.1X

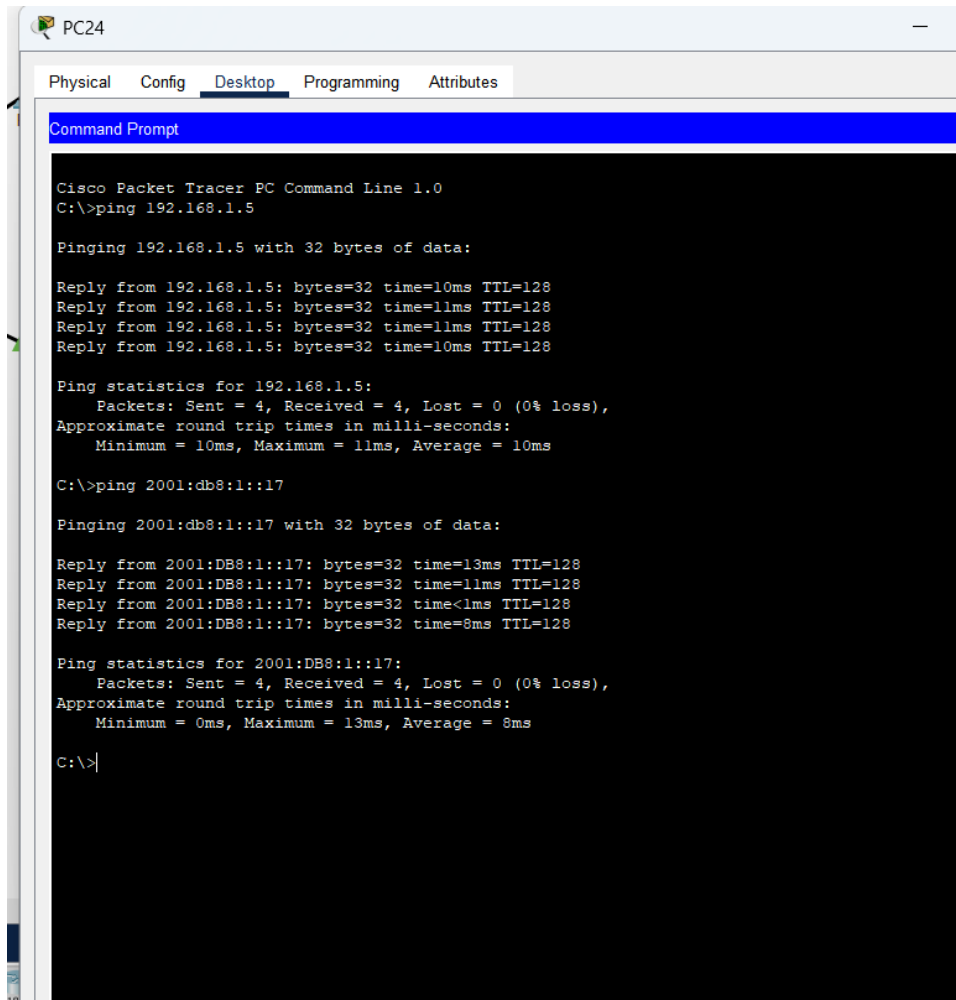
Use 802.1X Security

Authentication

MD5

Username

Password



PC21

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

FastEthernet0

IP Configuration

DHCP

Static

IPv4 Address

192.168.1.6

Subnet Mask

255.255.255.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

Automatic

Static

IPv6 Address

2001:db8:1::18

/ 64

Link Local Address

FE80::2E0:F9FF:FE00:A506

Default Gateway

DNS Server

802.1X

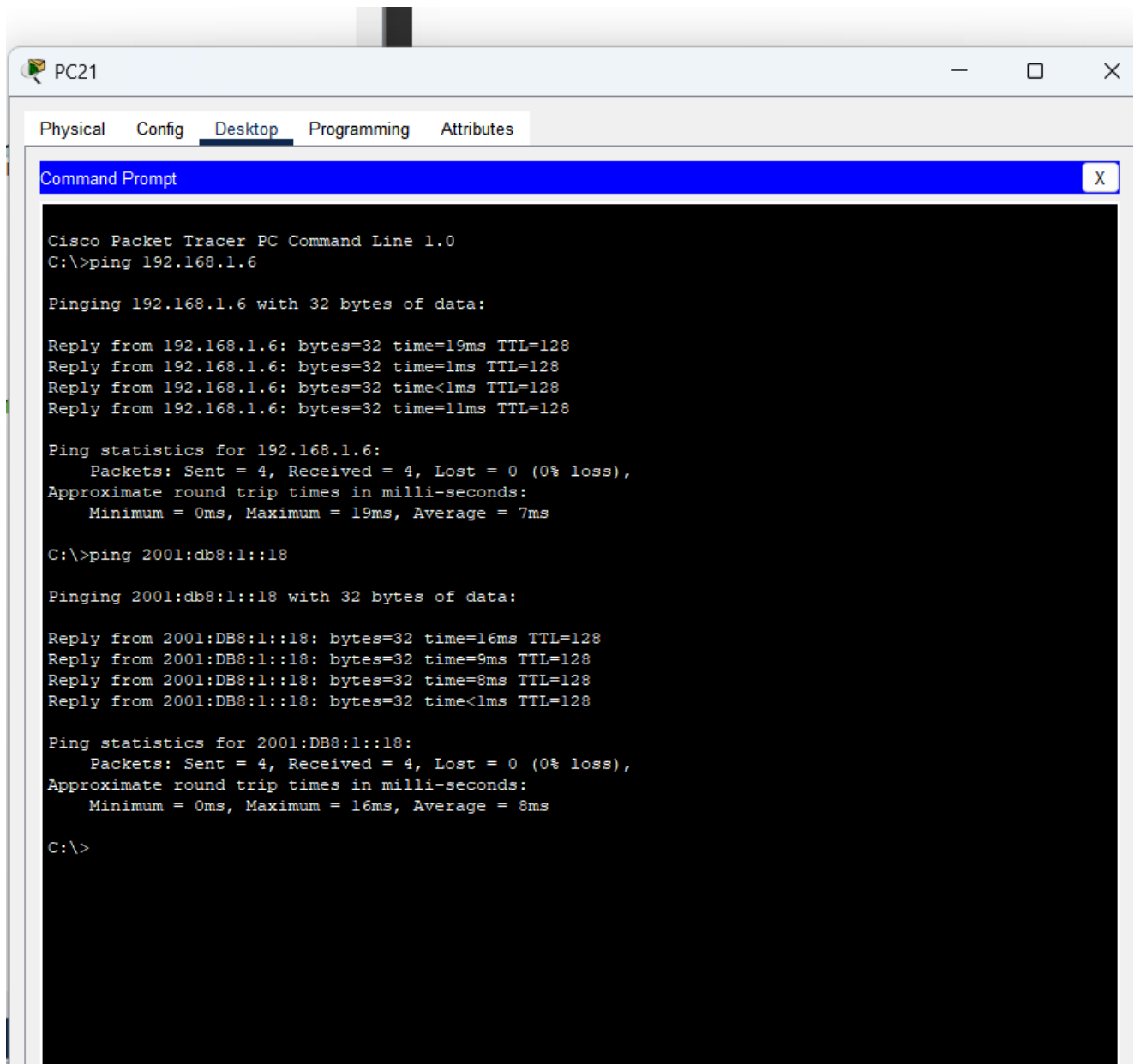
Use 802.1X Security

Authentication

MD5

Username

Password



Description des résultats de la tâche :

Dans chaque partie de mon travail, j'ai testé étape par étape tout ce que je devais faire : la configuration, la connexion et la reproduction des topologies. Ensuite, j'ai inséré les captures d'écran une par une, ainsi que les topologies, simplement pour démontrer ce que j'ai réalisé dans mon travail.

Dispositifs	Ipv4	Ipv6
client 1	192.168.1.10	3000:is9:1::1 / 64
client 2	192.168.1.11	3000:is9:1::2 / 64
client 3	192.168.1.12	3000:is9:1::3 / 64
client 4	192.168.1.13	3000:is9:1::4 / 64
client 5	192.168.1.14	3000:is9:1::5 / 64
client 6	192.168.1.15	3000:is9:1::6 / 64
client 7	192.168.1.16	3000:is9:1::7 / 64
client 8	192.168.1.17	3000:is9:1::8 / 64

Dans la dernière partie, j'ai rencontré un problème avec IPv6 car dans le tableau, vous avez mis 3000:is9:1::1/64, j'ai essayé avec et ça n'a pas fonctionné, j'ai essayé avec 2001:db8:1::1/64 et ça a fonctionné.

Pour conclusion, après avoir réalisé ce travail, je peux dire que tout s'est bien déroulé.

J'ai réussi à faire chaque tâche étape par étape. La seule difficulté que j'ai rencontrée était au début, lors de la configuration, mais j'ai vite corrigé le problème et j'ai pu continuer normalement. Avec chaque travail dirigé, je progresse et je me sens plus confiant, car cela m'aide à mieux comprendre le cours.

