FACULTÉ DES SCIENCES ET TECHNOLOGIES (FST)

TROISIÈME ANNÉE

Rapport du travail de Laboratoire Nº 4

Cours : Réseaux I

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Professeur : Ismaël SAINT AMOUR

Le 19 Novembre 2025

OBJECTIF

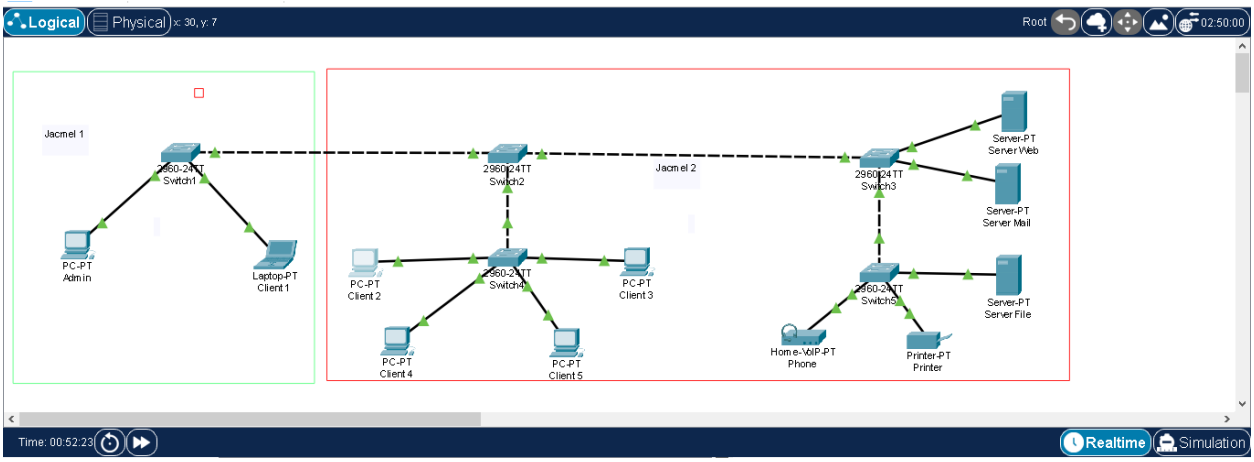
1. Découvrir la configuration de base d'un switch et d'un routeur.

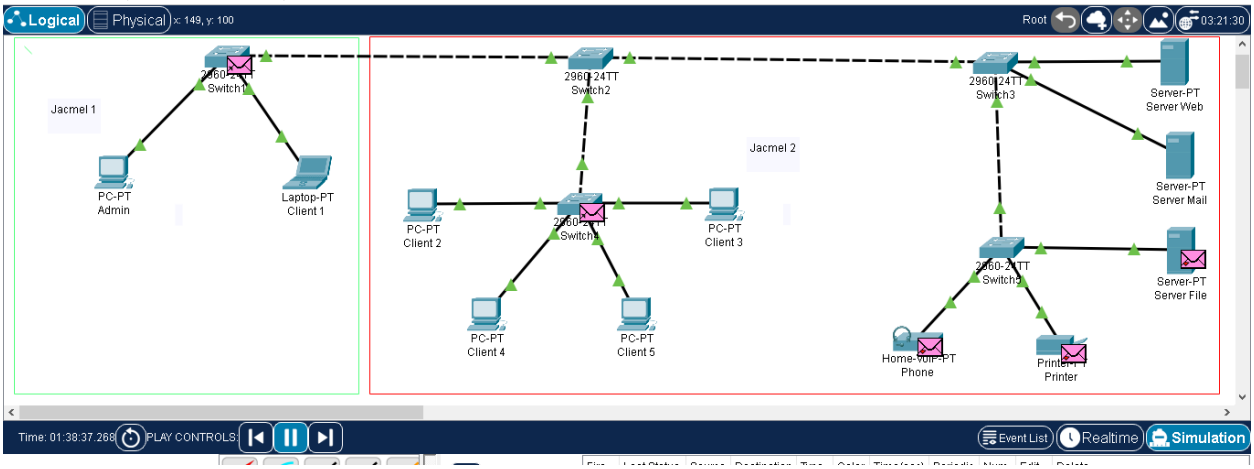
2. Attribuer des adresses IPv4 et IPv6 aux périphériques.

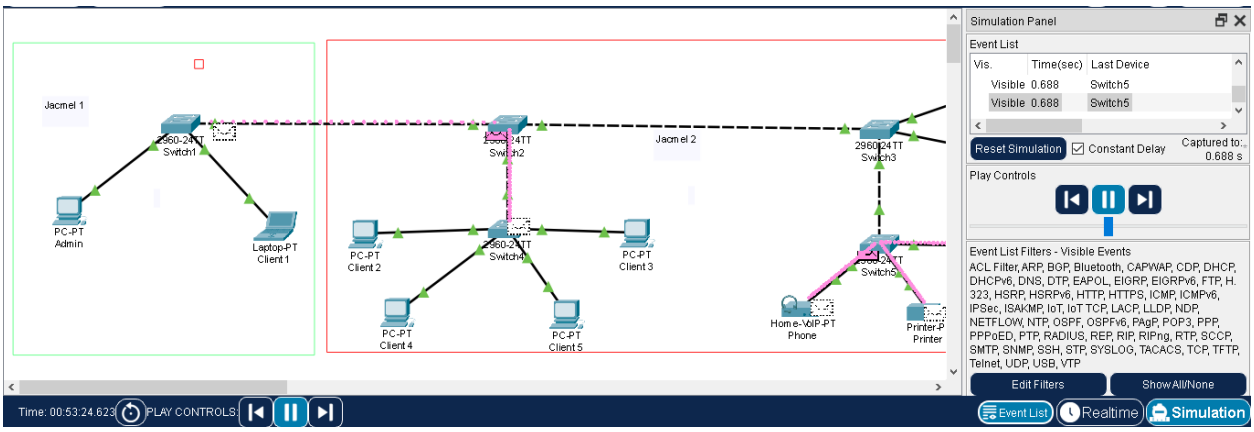
3. Tester la connectivité entre les hôtes.

4. Utiliser le Mode Simulation pour analyser le trafic réseau..

1. Configuration des switchs de la topologie ci-dessous, puis attribution des adresses IP aux dispositifs. Utilisation de IPv4 et test de la connectivité des deux VLAN à l'aide de commande ping et du mode simulation.







Fire	Last Status	Source	Destination	Type	Color	Time(sec)	P
	Failed	Client 1	Client 4	ICMP		0.000	
	Failed	Admin	Client 2	ICMP		0.000	
	Failed	Client 1	Client 5	ICMP		0.000	
	Failed	Admin	Client 3	ICMP		0.000	

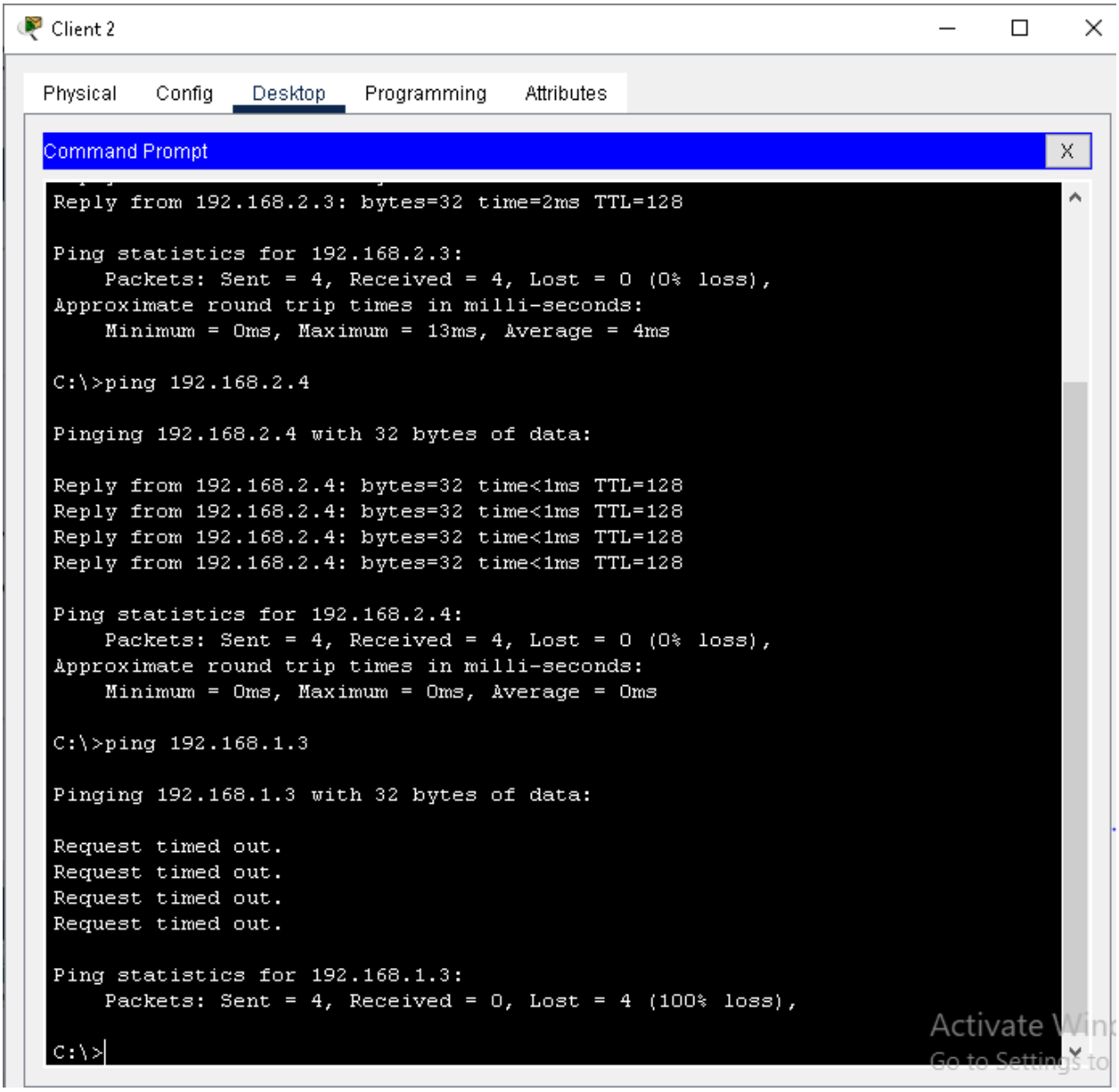
Admin

Physical | Config | Desktop | Programming | Attributes

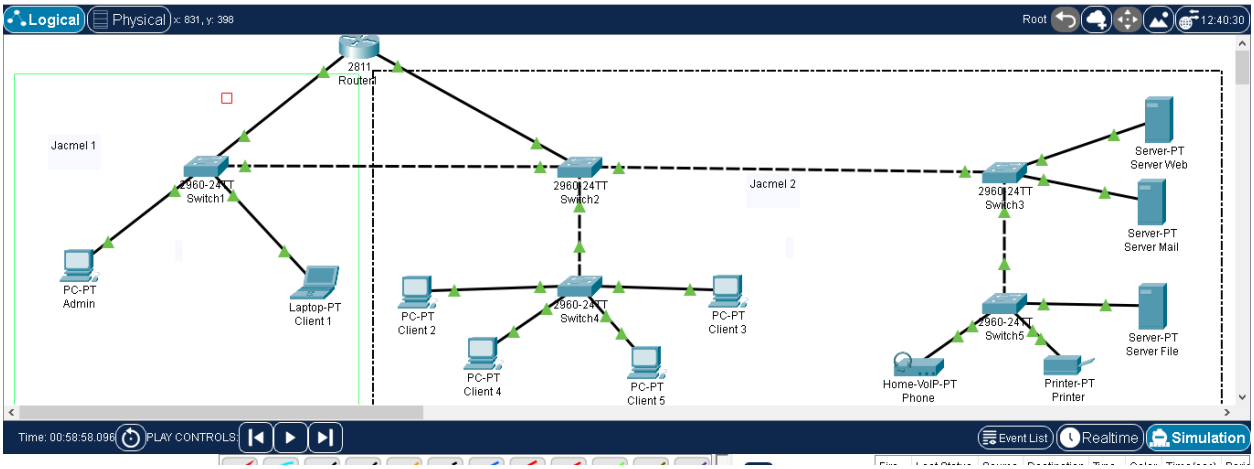
Command Prompt

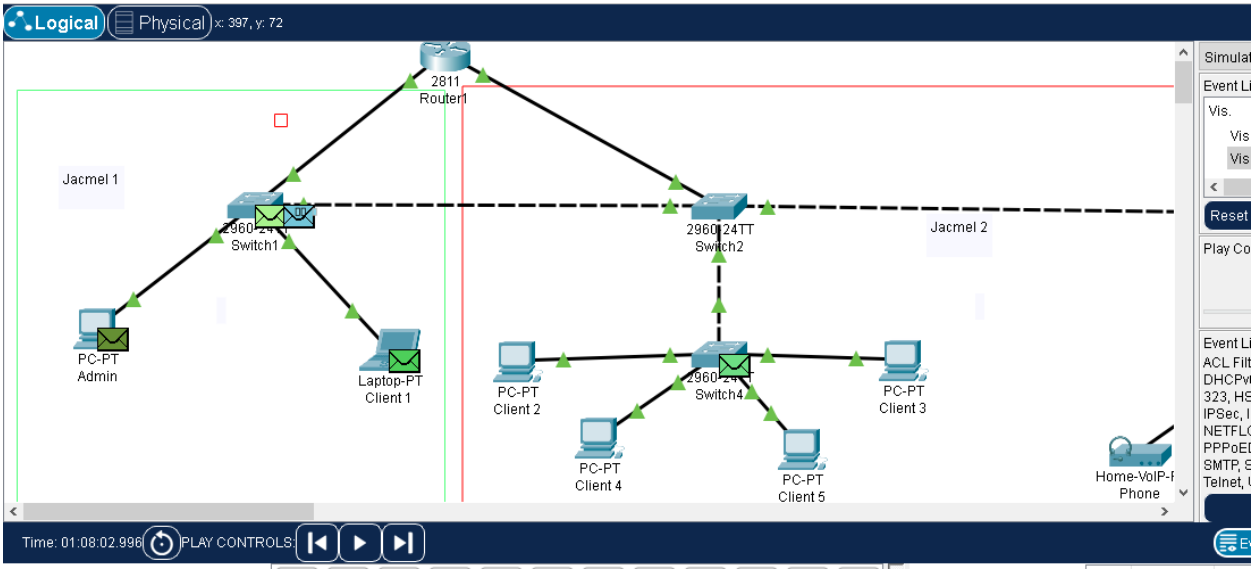
```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time=16ms TTL=128
Reply from 192.168.1.2: bytes=32 time=16ms 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 = 16ms, Average = 8ms

C:\>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:

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

Ping statistics for 192.168.2.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

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=60ms TTL=128
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128
```

Top

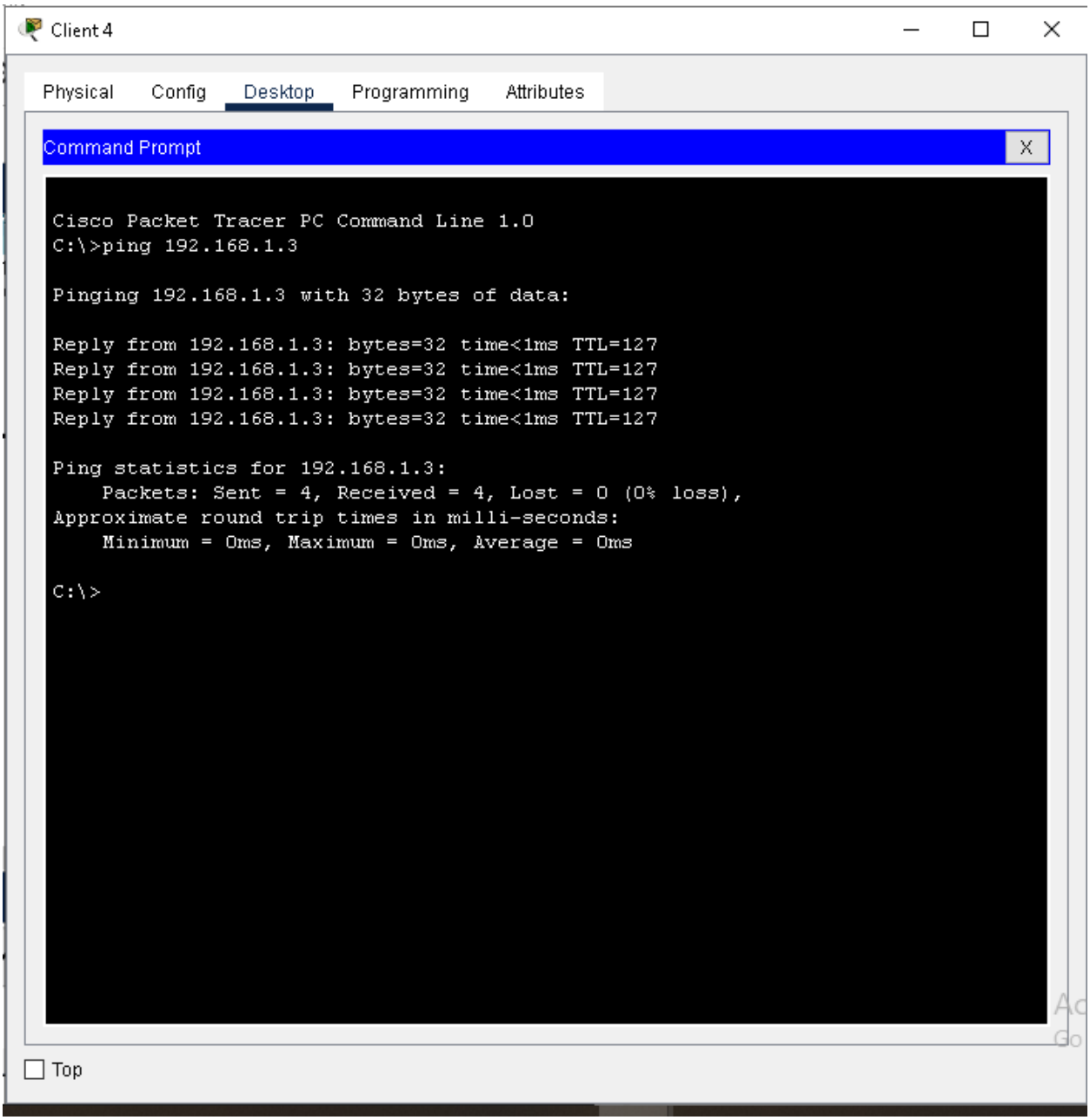

Client 2
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Reply from 192.168.2.3: bytes=32 time=2ms TTL=128
Ping statistics for 192.168.2.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 13ms, Average = 4ms
C:\>ping 192.168.2.4
Pinging 192.168.2.4 with 32 bytes of data:
Reply from 192.168.2.4: bytes=32 time<1ms TTL=128
Reply from 192.168.2.4: bytes=32 time<1ms TTL=128
Reply from 192.168.2.4: bytes=32 time<1ms TTL=128
Reply from 192.168.2.4: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.2.4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 192.168.1.3
Pinging 192.168.1.3 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 192.168.1.3:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>

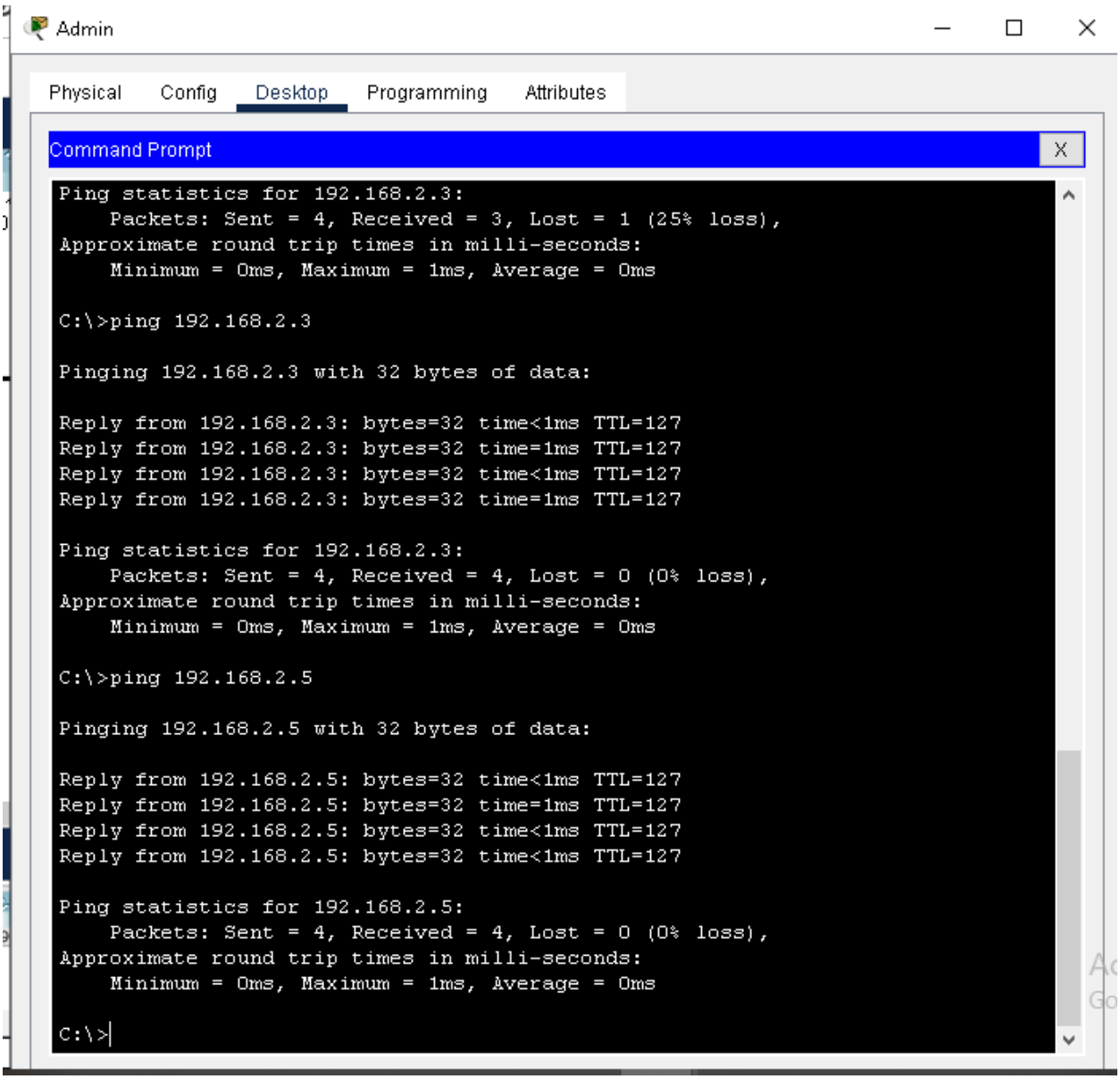
2. Configuration du routeur et des switchs de la topologie ci-dessous, puis attribution des adresses IP aux dispositifs. Utilisation de IPv4 et test de la connectivité des deux VLAN à l'aide de commande ping et du mode simulation.





Last Status	Source	Destination	Type	Color	Time(sec)	Periodic
Successful	Client 1	Client 4	ICMP		0.000	N
Successful	Admin	Client 2	ICMP		0.000	N
Successful	Client 1	Client 5	ICMP		0.000	N
Successful	Admin	Client 3	ICMP		0.000	N


Client 4
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=127
Reply from 192.168.1.3: bytes=32 time<1ms TTL=127
Reply from 192.168.1.3: bytes=32 time<1ms TTL=127
Reply from 192.168.1.3: bytes=32 time<1ms TTL=127
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 = 0ms, Average = 0ms
C:\>
Top


Admin
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Ping statistics for 192.168.2.3:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 192.168.2.3
Pinging 192.168.2.3 with 32 bytes of data:
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127
Reply from 192.168.2.3: bytes=32 time=1ms TTL=127
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127
Reply from 192.168.2.3: bytes=32 time=1ms TTL=127
Ping statistics for 192.168.2.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 192.168.2.5
Pinging 192.168.2.5 with 32 bytes of data:
Reply from 192.168.2.5: bytes=32 time<1ms TTL=127
Reply from 192.168.2.5: bytes=32 time=1ms TTL=127
Reply from 192.168.2.5: bytes=32 time<1ms TTL=127
Reply from 192.168.2.5: bytes=32 time<1ms TTL=127
Ping statistics for 192.168.2.5:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>

Conclusion

Dans ce laboratoire, j’ai eu à connecter deux réseaux. L’un, uniquement avec des swiths et l’autre avec un routeur. J’ai pu faire la remarque suivante :

Pour connecter deux réseaux entre eux, il nous faut un routeur.

Une passerelle en réseau (ou "gateway") est un dispositif qui relie deux réseaux informatiques différents, permettant la communication entre eux. Elle joue un rôle essentiel dans le transfert de données entre des systèmes utilisant des protocoles distincts.