



**IUS**  
INSTITUT  
UNIVERSITAIRE  
DES SCIENCES

Faculté : Sciences Informatique

Nom & Prénom : Louis Dochlie

TD N° 6 - Reseaux

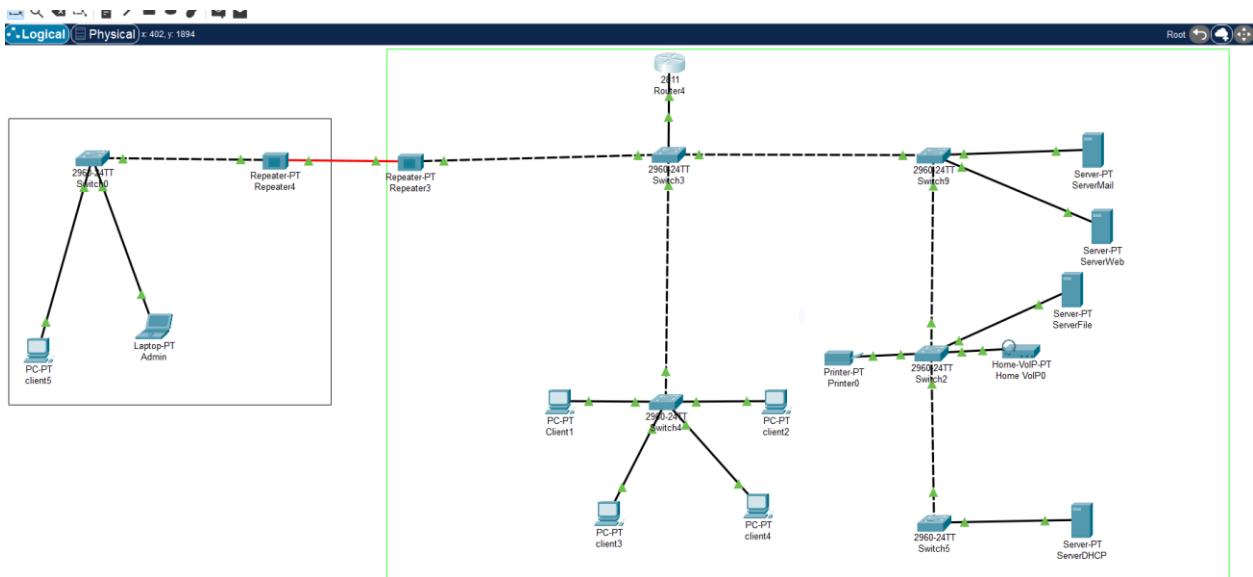
Niveau : L3

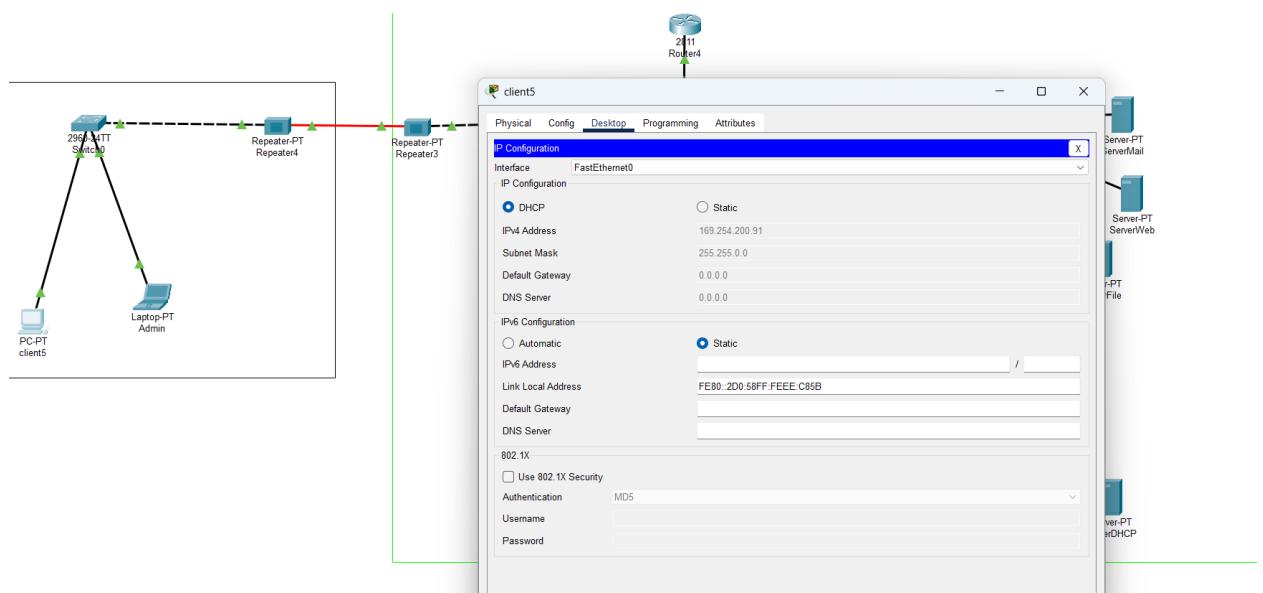
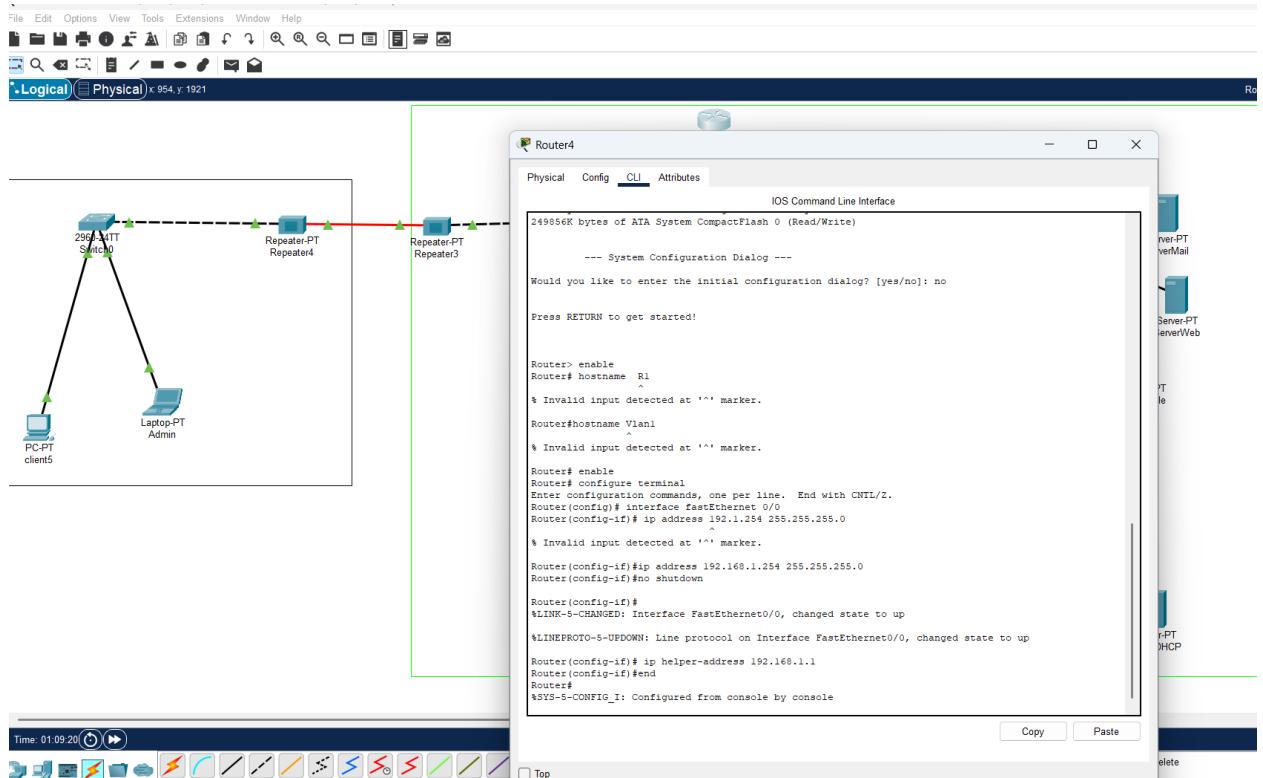
Date : Le/10/12/25

Les PC doivent recevoir une adresse IPv6 automatiquement.

## Travaux Dirigés

1. Reproduisez cette topologie en configurant les services DHCP afin d'attribuer automatiquement les adresses IP aux dispositifs du réseau.





Client1

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

DHCP Static DHCP failed. APIPA is being used.

IPv4 Address 169.254.117.227

Subnet Mask 255.255.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

Automatic Static

IPv6 Address /

Link Local Address FE80::2E0:A3FF:FE59:75E3

Default Gateway

DNS Server

802.1X

Use 802.1X Security

Authentication MD5

Username

Password

This screenshot shows the 'Desktop' tab of a network configuration interface for a device named 'Client1'. The main section is titled 'IP Configuration' for the 'FastEthernet0' interface. It shows the current configuration: 'DHCP' is selected, resulting in an IPv4 address of 169.254.117.227, a subnet mask of 255.255.0.0, and a default gateway and DNS server both set to 0.0.0.0. Below this, the 'IPv6 Configuration' section is shown, with 'Static' selected for the IPv6 address, which is currently empty. The '802.1X' section includes options for authentication (MD5), username, and password, along with a checkbox for 'Use 802.1X Security'.

**ServerDHCP**

Physical Config Services Desktop Programming Attributes

**SERVICES**

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

**DHCP**

Interface	FastEthernet0	Service	<input checked="" type="radio"/> On	<input type="radio"/> Off
Pool Name	serverPool			
Default Gateway	169.254.54.208			
DNS Server	0.0.0.0			
Start IP Address :	169	16	0	0
Subnet Mask:	255	255	0	0
Maximum Number of Users :	512			
TFTP Server:	0.0.0.0			
WLC Address:	0.0.0.0			

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	169.254.54.208	0.0.0.0	169.16.0.0	255.255.0.0	512	0.0.0.0	0.0.0.0

Server-PT  
ServerMail

Server-PT  
ServerWeb

Server-PT  
File

Server-PT  
ServerDHCP

Delete

**ServerFile**

Physical Config Services Desktop Programming Attributes

**Command Prompt**

```
Cisco Packet Tracer SERVER Command Line 1.0
C:\> ping 169.254.169.173

Pinging 169.254.169.173 with 32 bytes of data:
Reply from 169.254.169.173: bytes=32 time<1ms TTL=128
Reply from 169.254.169.173: bytes=32 time=10ms TTL=128
Reply from 169.254.169.173: bytes=32 time=1ms TTL=128
Reply from 169.254.169.173: bytes=32 time=1ms TTL=128

Ping statistics for 169.254.169.173:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 20ms, Average = 5ms

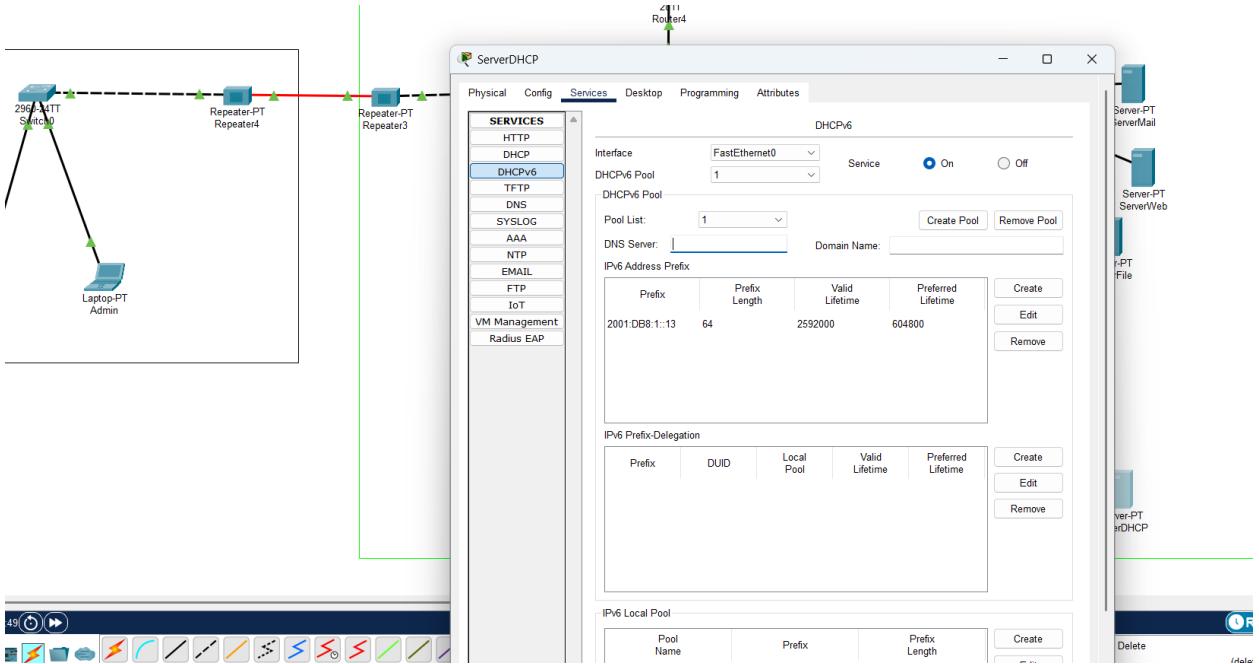
C:\>
```

Server-PT  
ServerMail

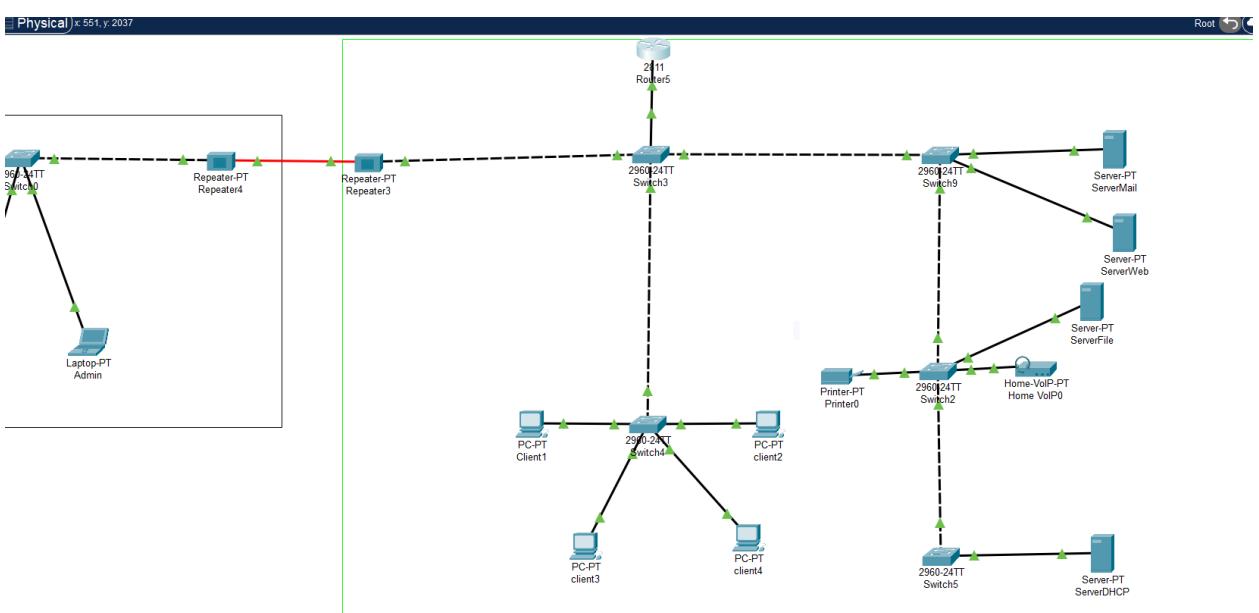
Server-PT  
ServerWeb

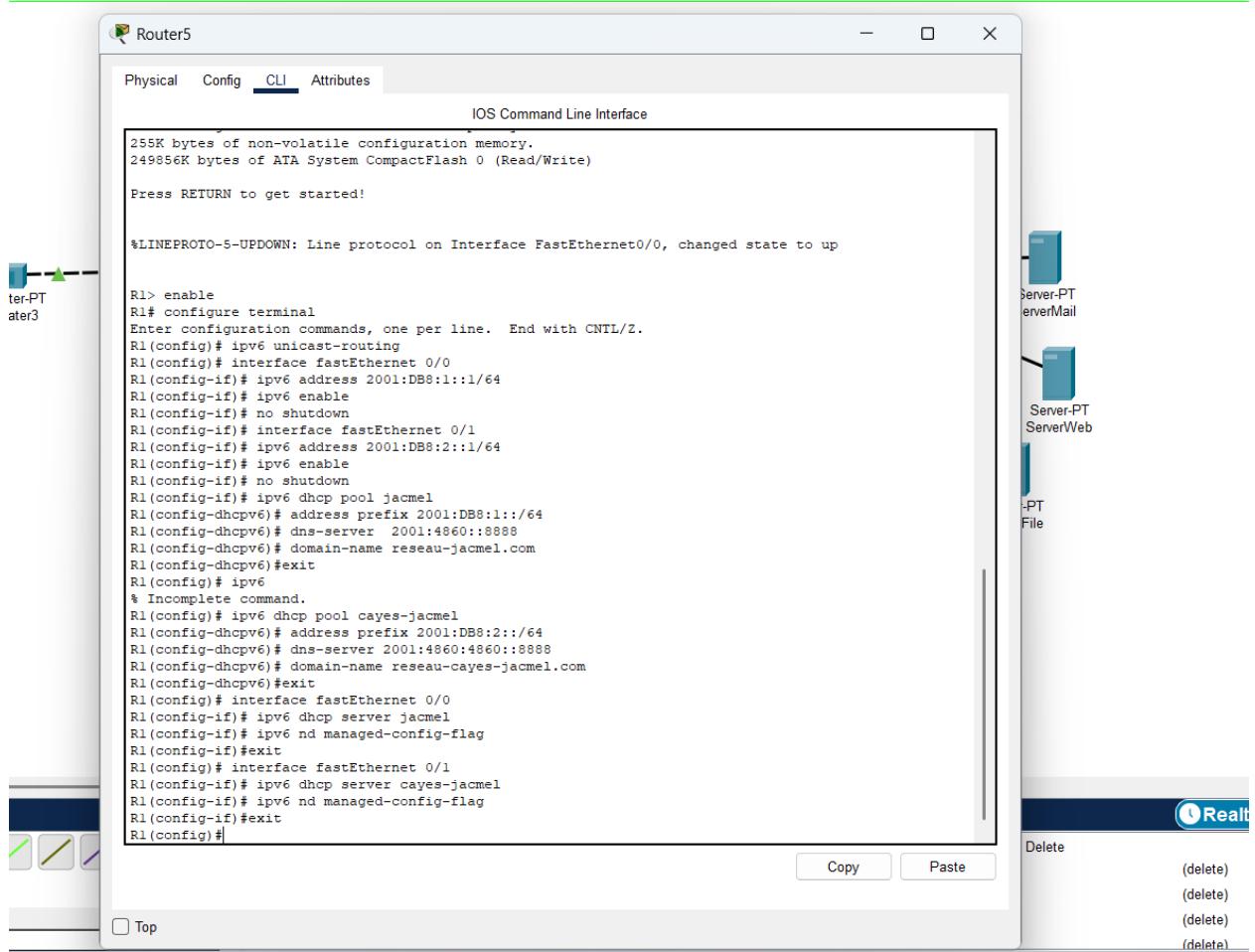
Server-PT  
File

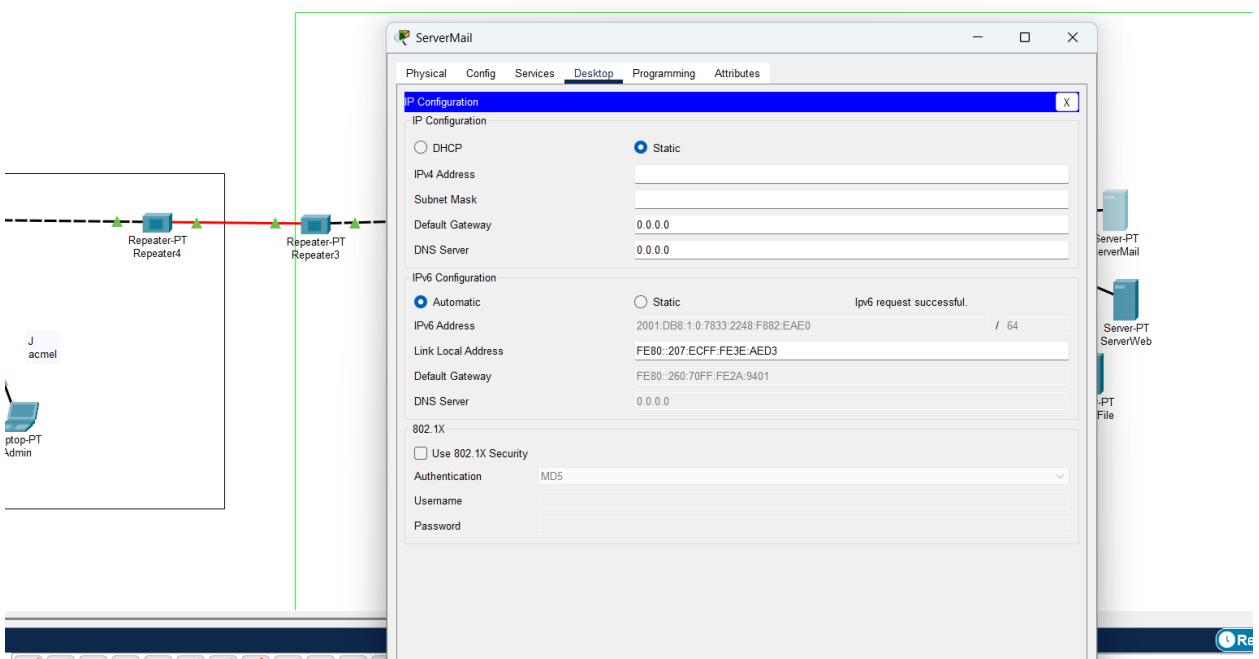
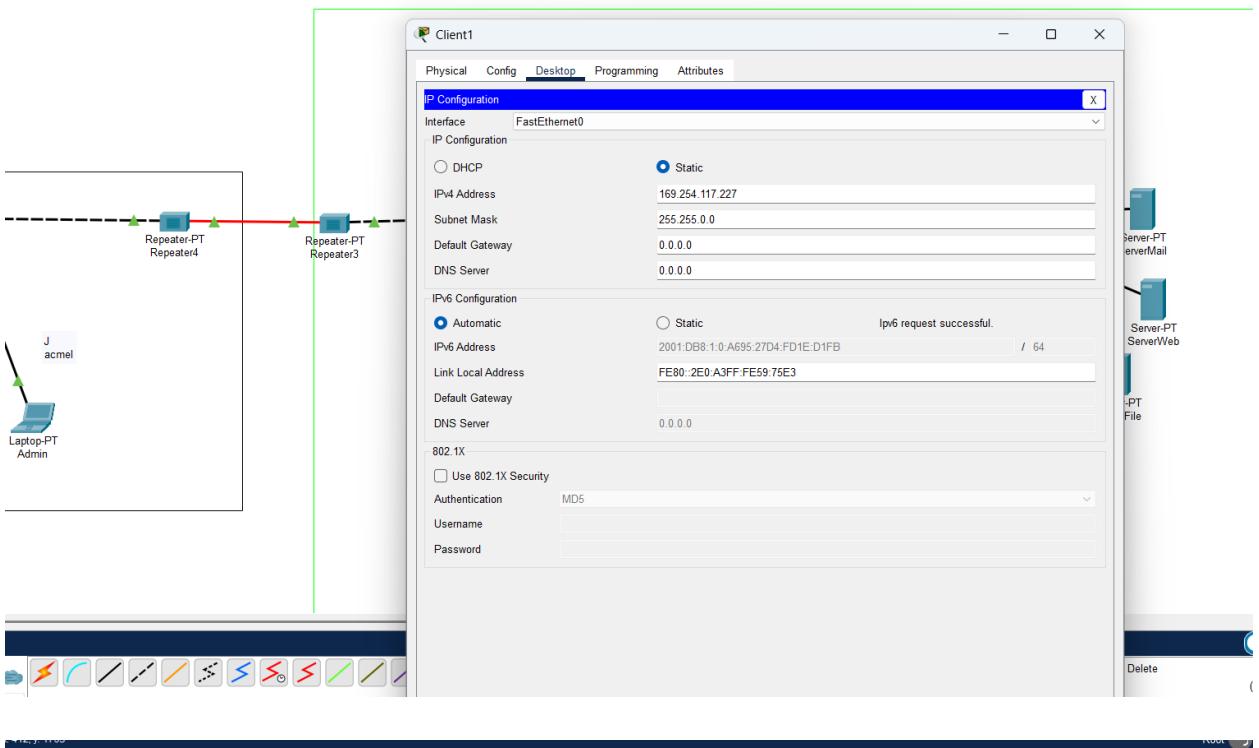
Server-PT  
ServerDHCP

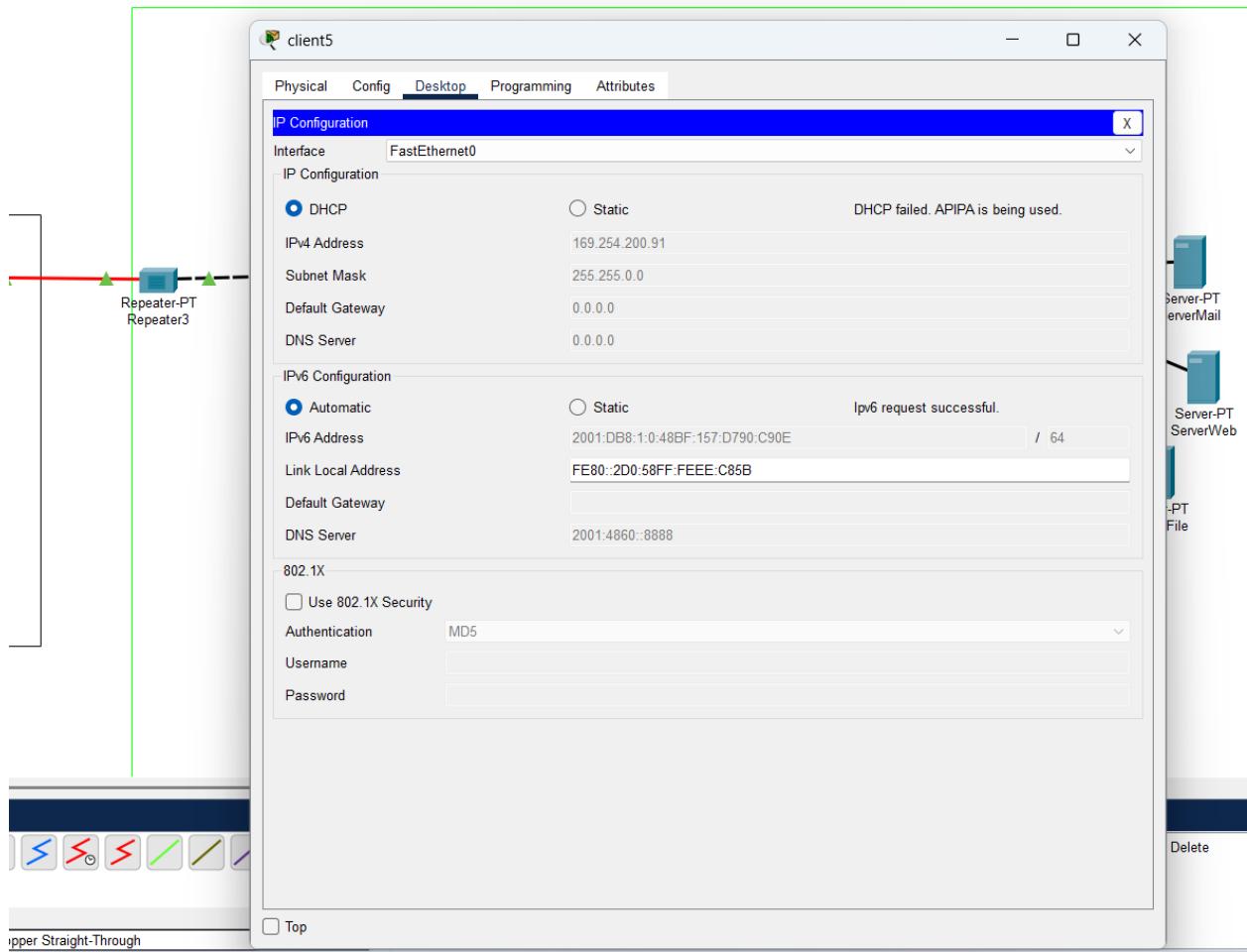


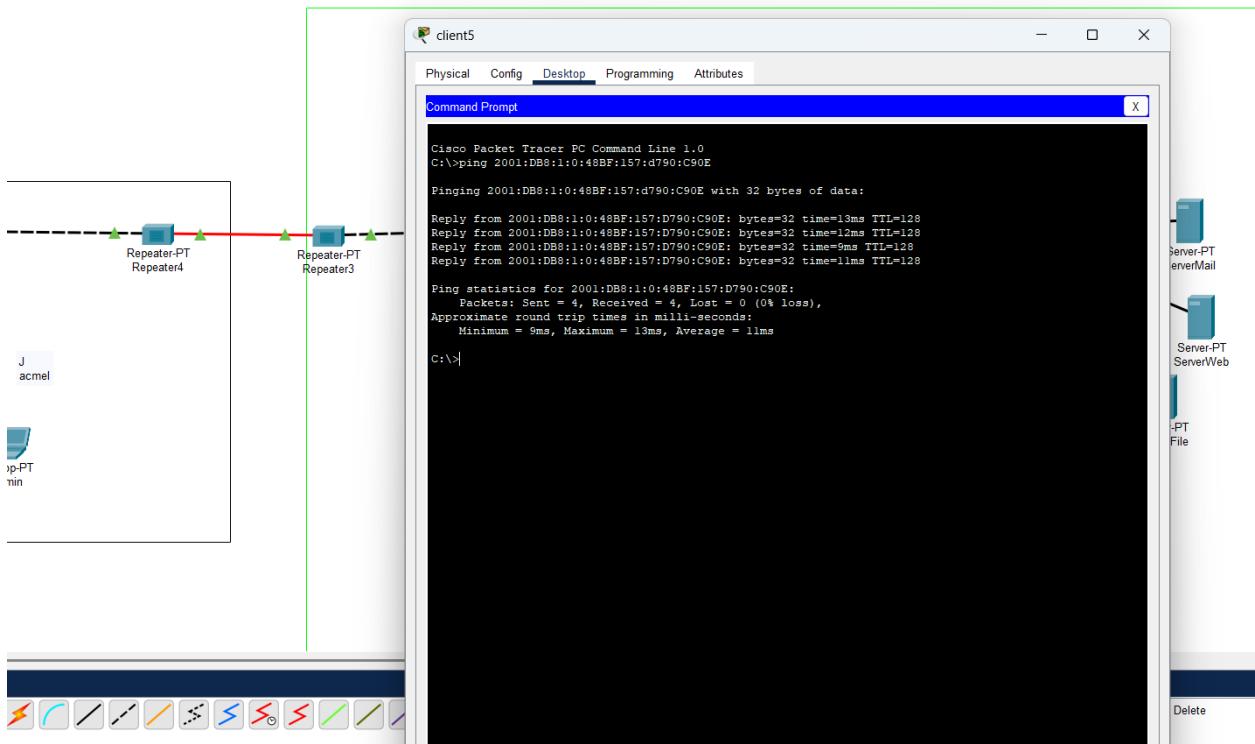
2. Reproduisez cette topologie en configurant les services DHCPv6 afin d'attribuer automatiquement les adresses IP aux dispositifs du réseau.

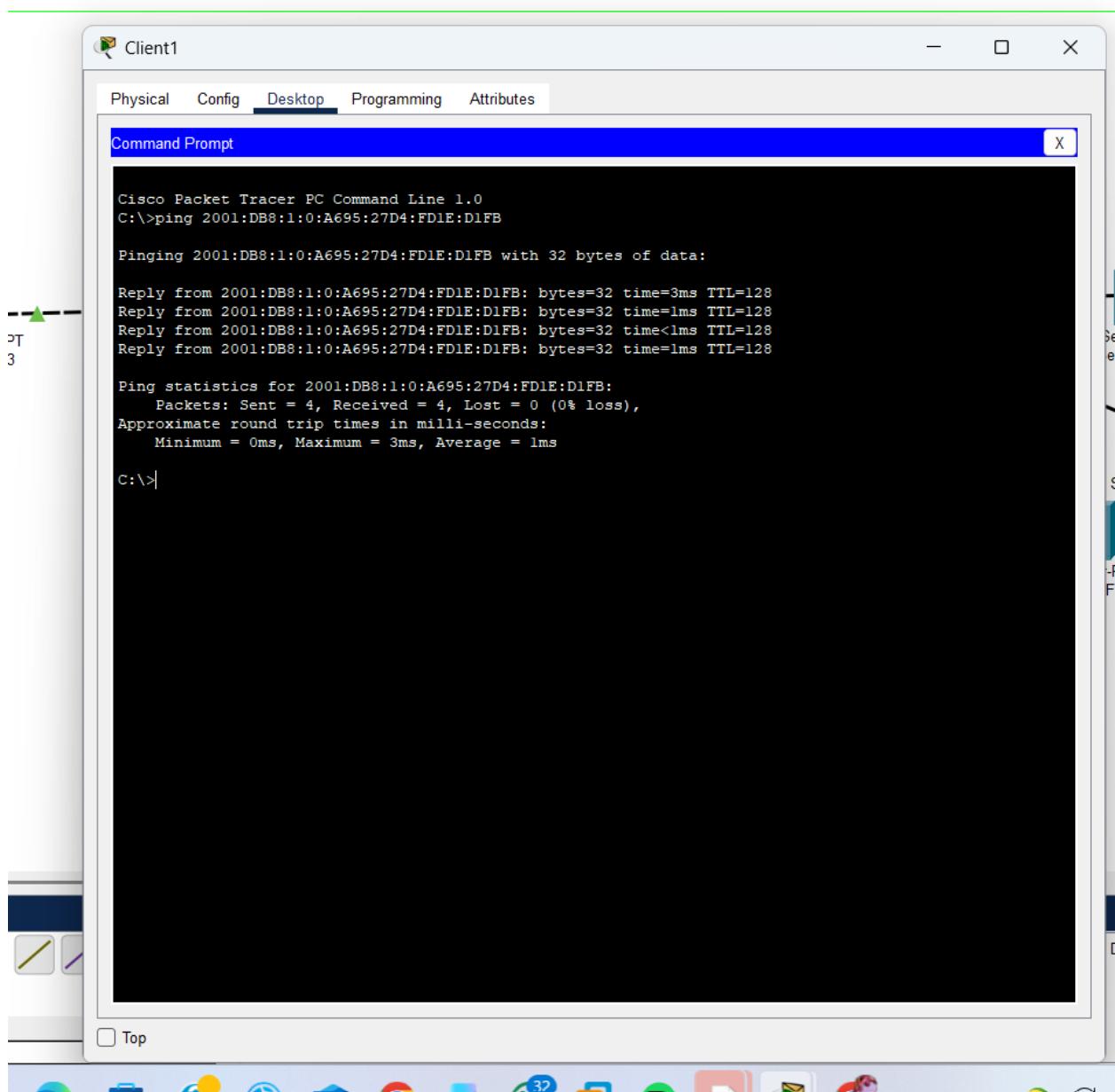


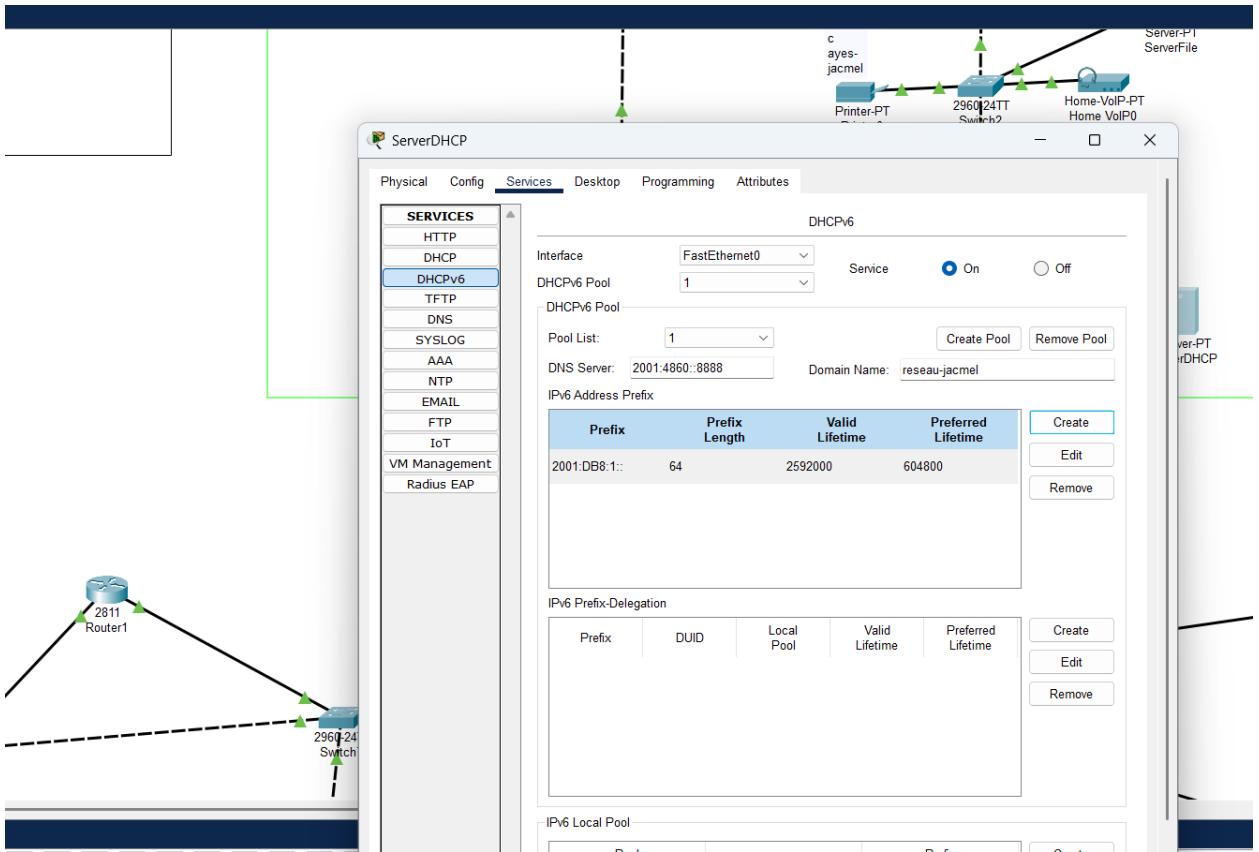






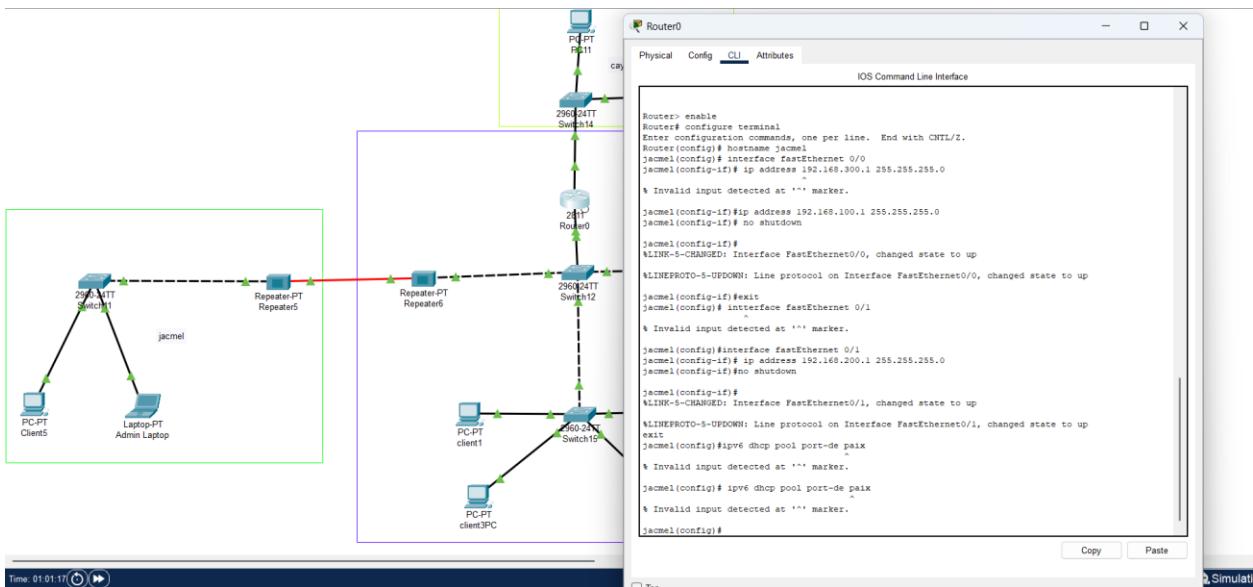
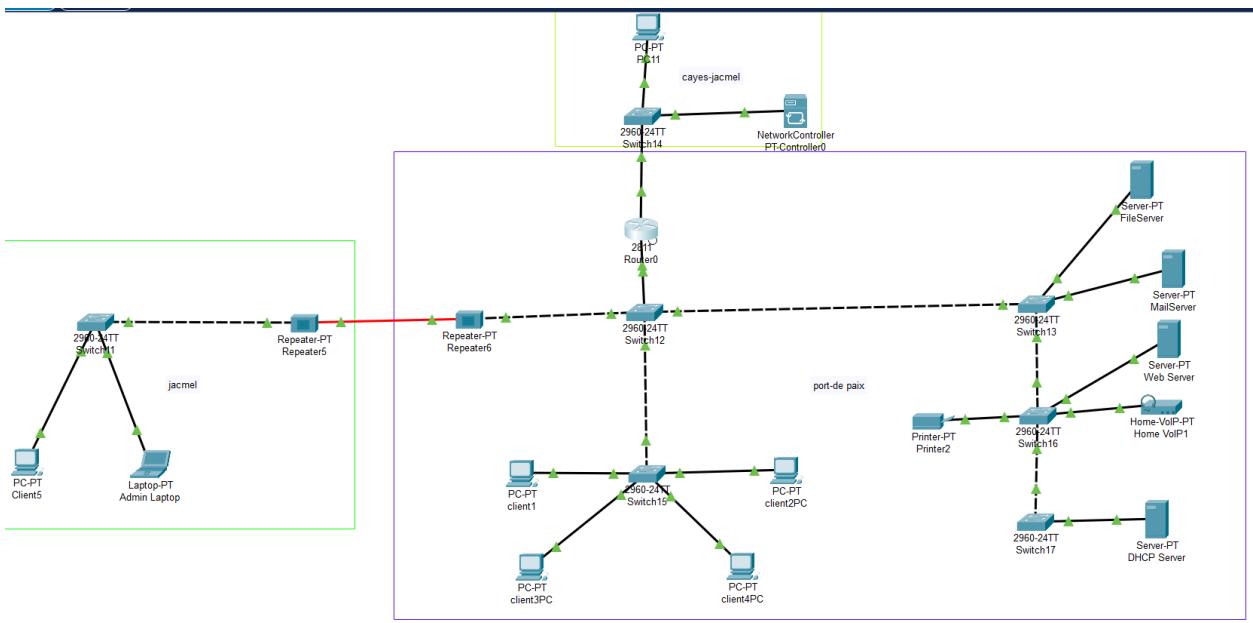


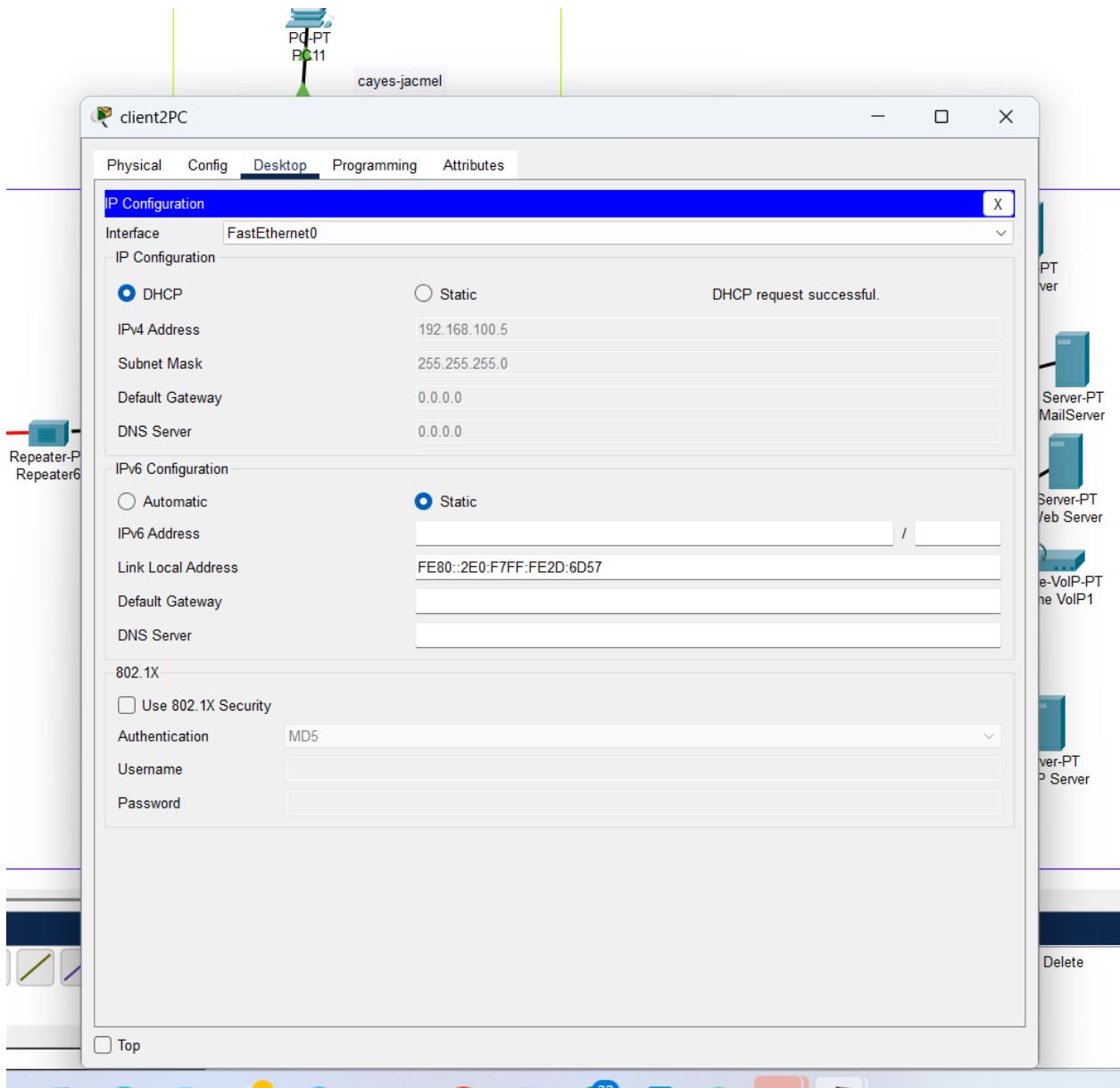


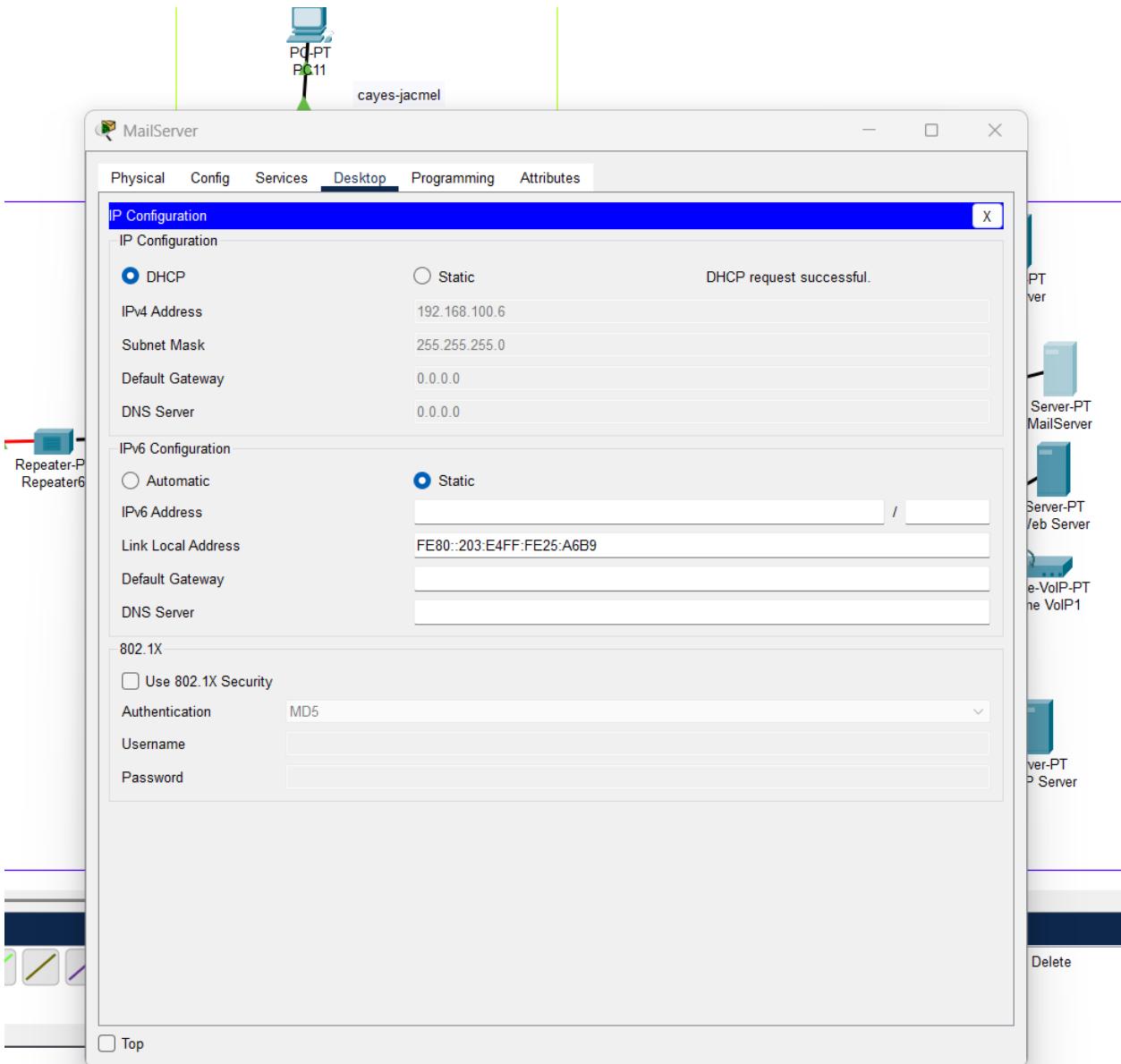


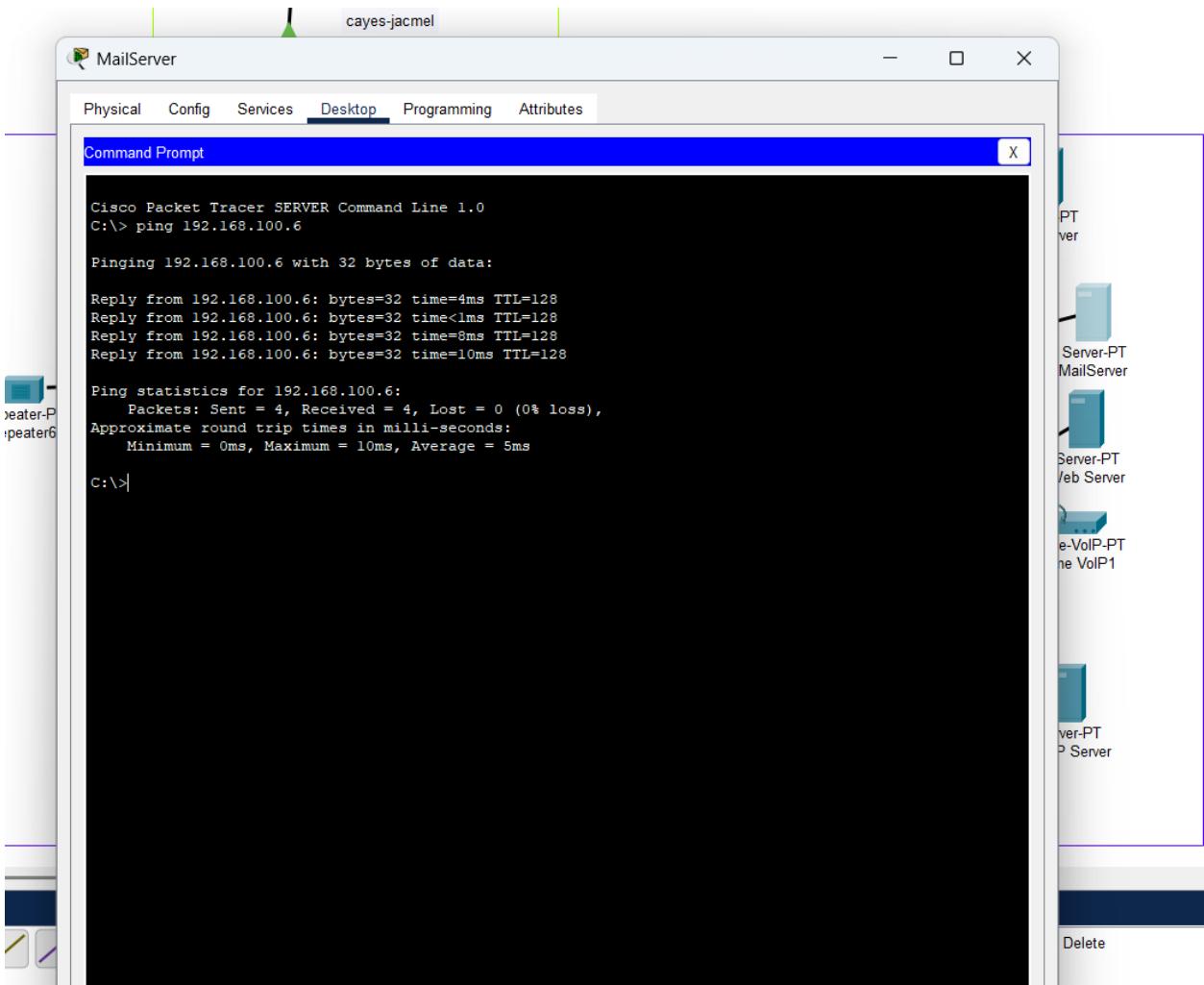
3. Reproduisez cette topologie en configurant les services DHCP, en utilisant le routeur comme serveur DHCP afin d'attribuer

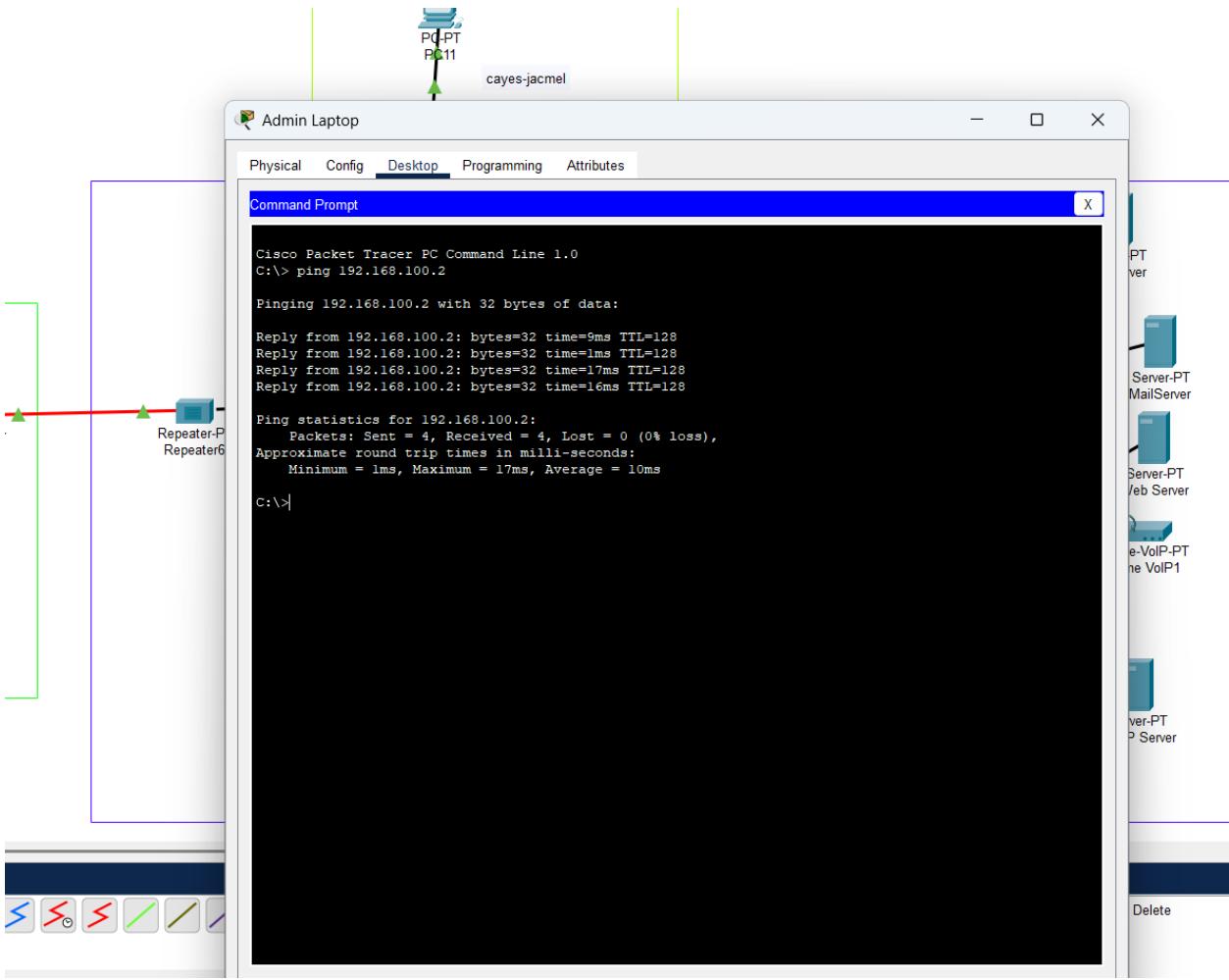
automatiquement les adresses IP aux différents hôtes du réseau.

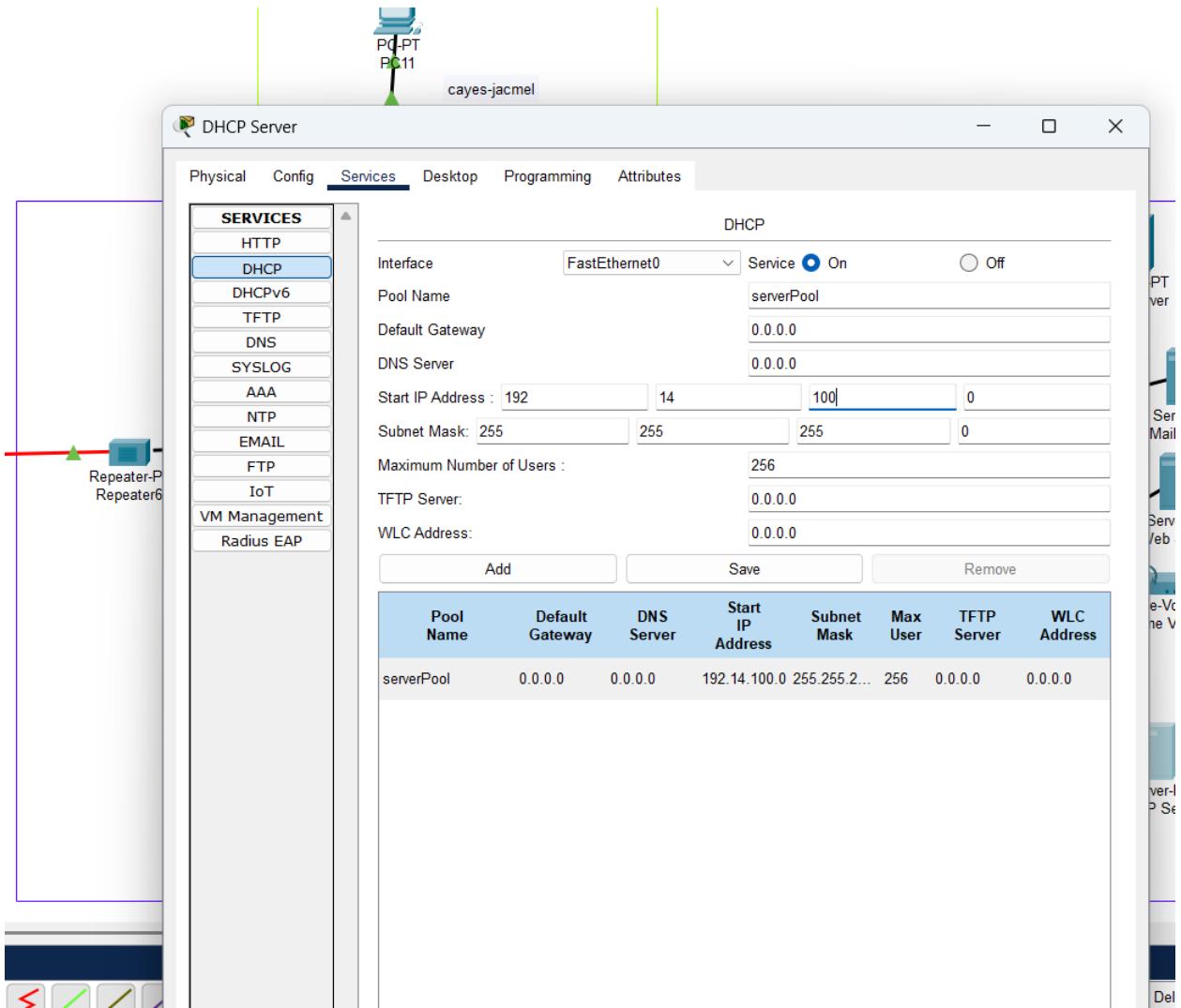






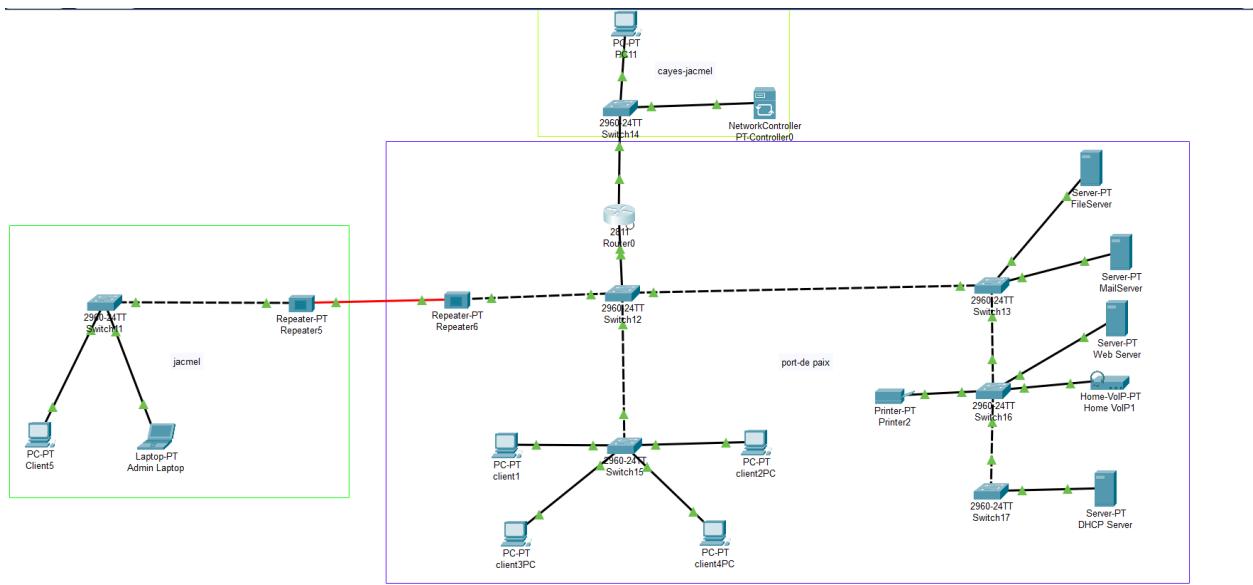






4. Reproduisez cette topologie en configurant les services DHCPv6, en utilisant le routeur comme serveur DHCP afin d'attribuer

automatiquement les adresses IP aux différents hôtes du réseau.



Admin Laptop

Physical Config Desktop Programming Attributes

**IP Configuration**

Interface FastEthernet0

IP Configuration

DHCP  Static

IPv4 Address 192.168.100.2

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:DB8:1:0:230:A3FF:FEDE:940B / 64

Link Local Address FE80::230:A3FF:FEDE:940B

Default Gateway FE80::201:63FF:FEDE:D001

DNS Server

802.1X

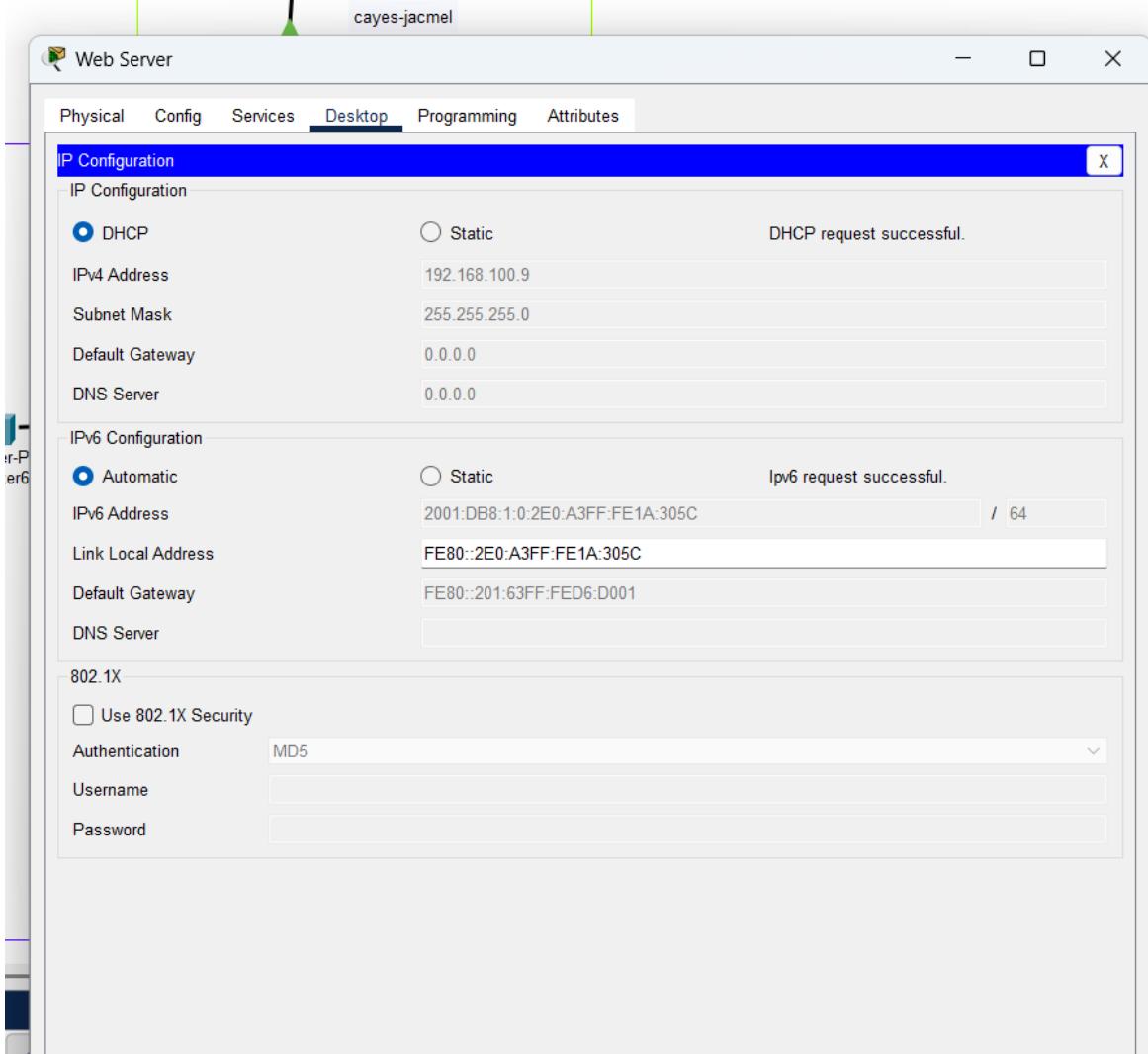
Use 802.1X Security

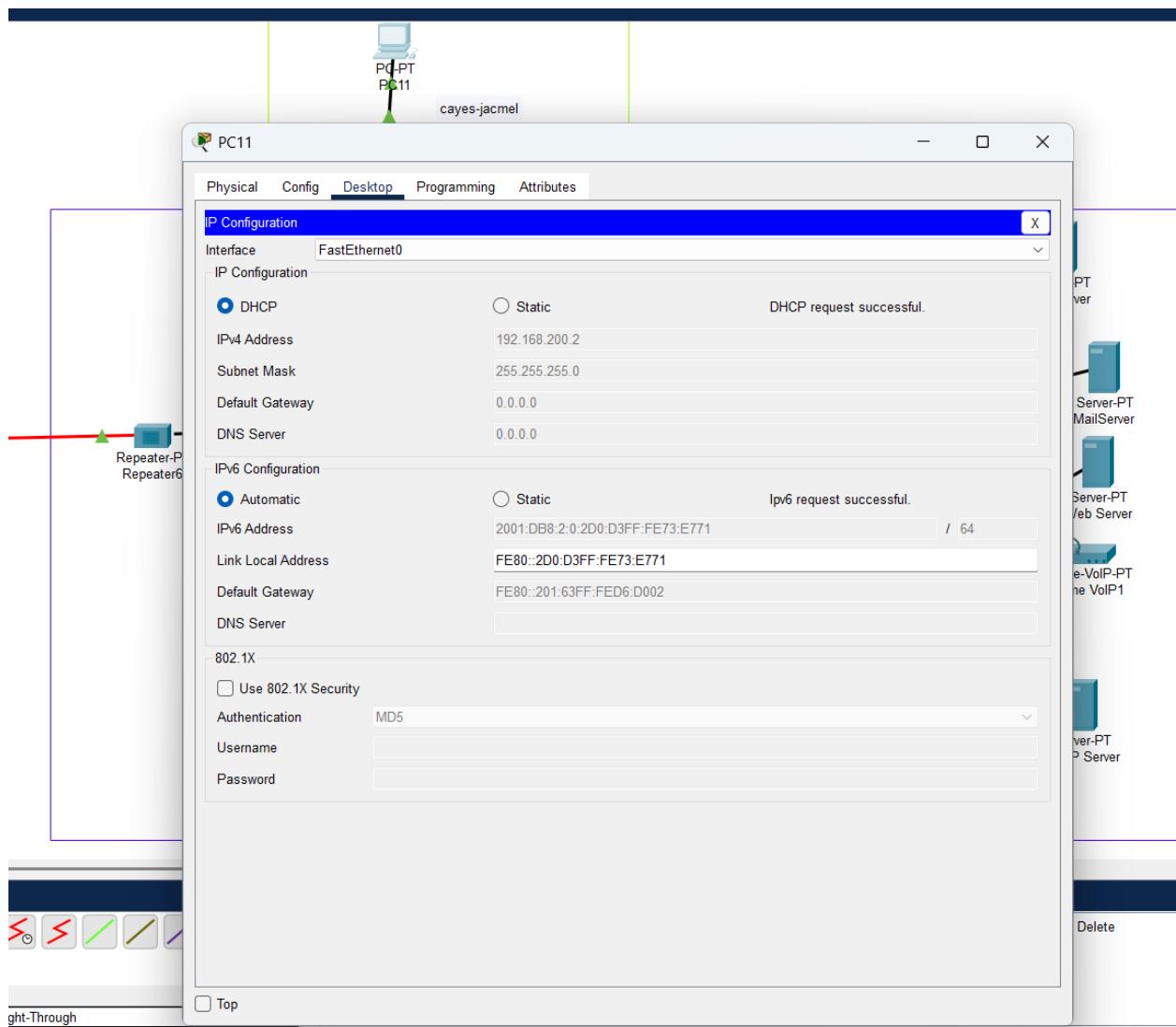
Authentication MD5

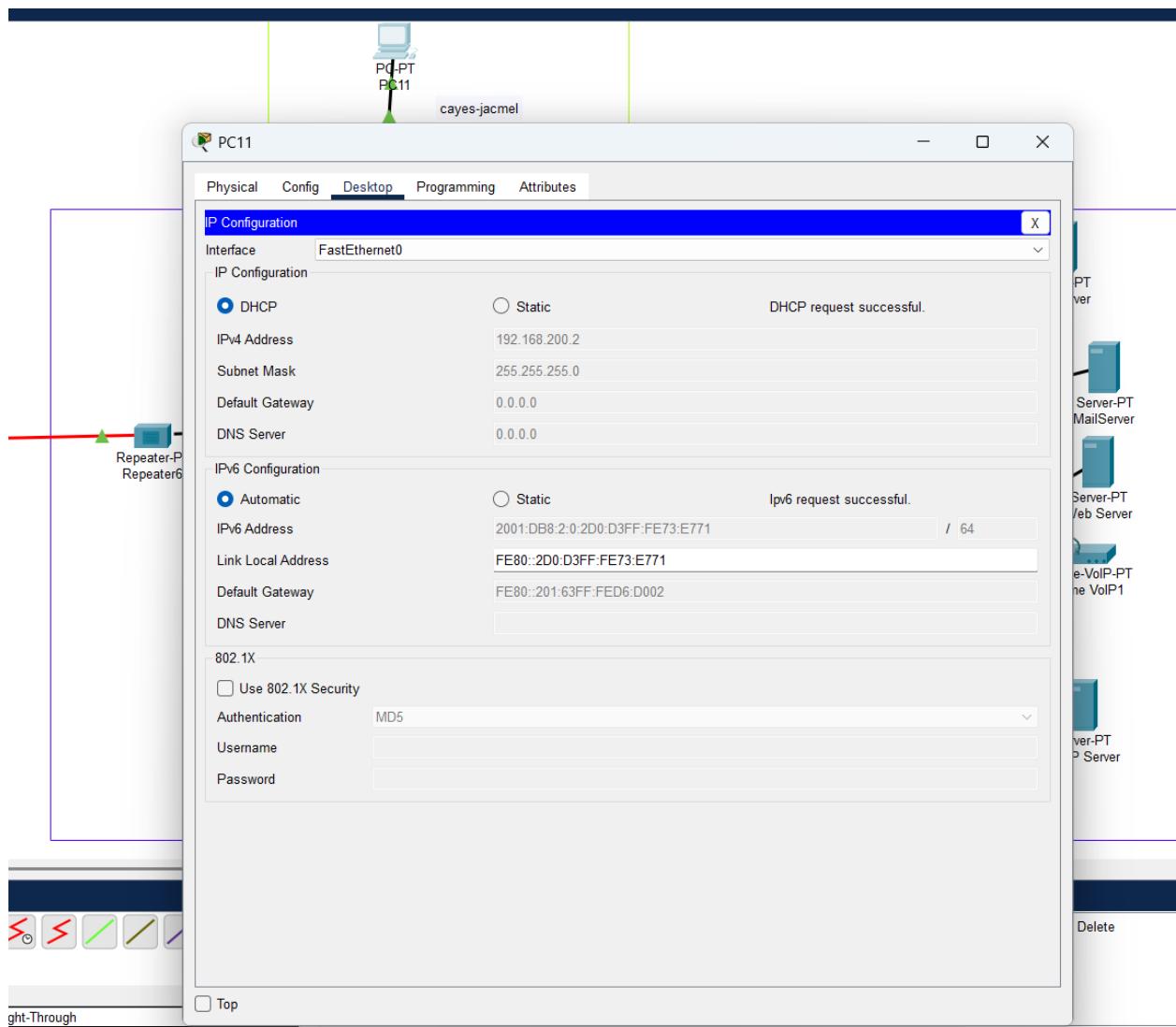
Username

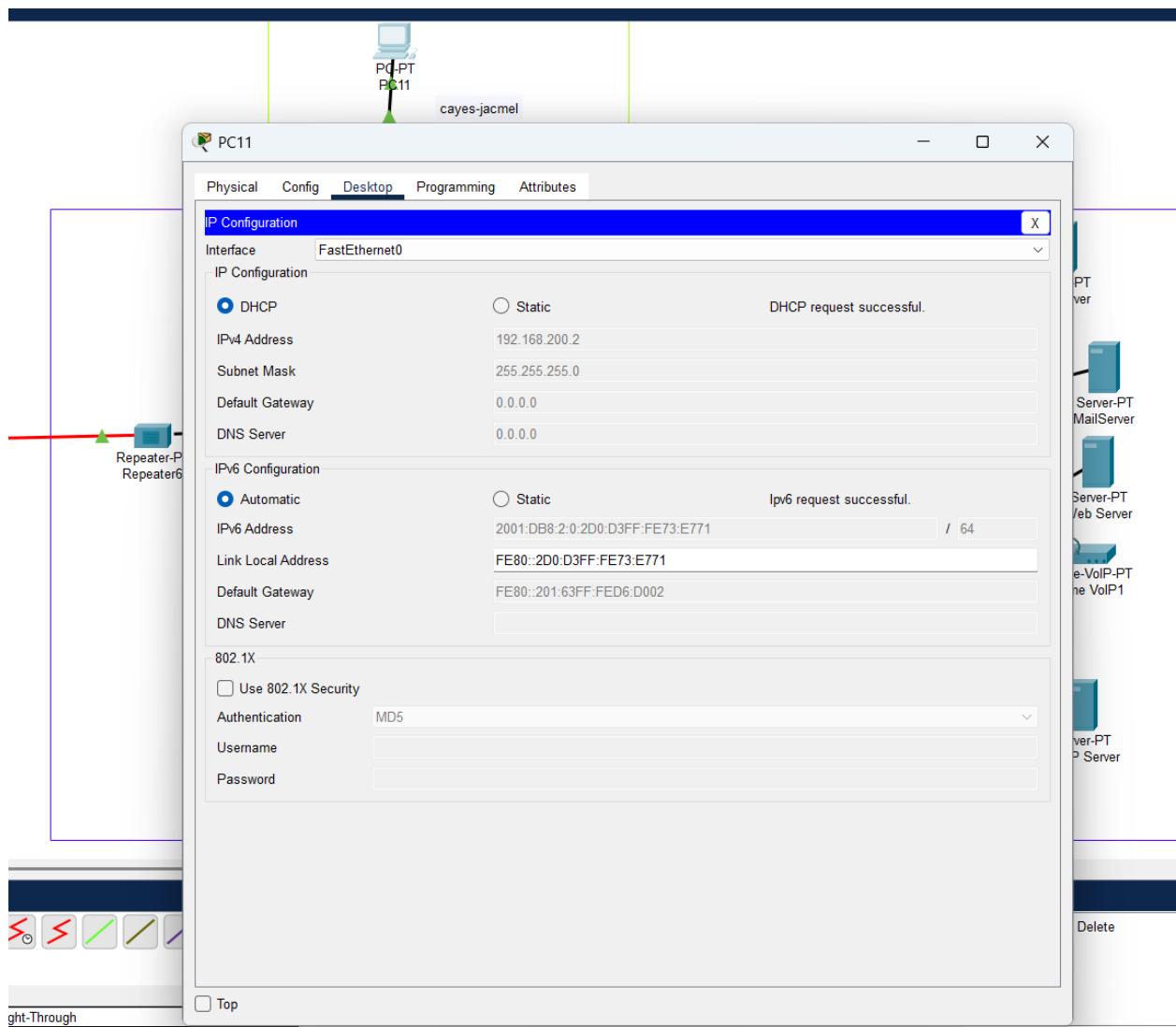
Password

6









DHCP Server

Physical Config Services Desktop Programming Attributes

**SERVICES**

- HTTP
- DHCP
- DHCPv6**
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

**DHCPv6**

Interface: FastEthernet0 Service:  On  Off

DHCPv6 Pool: 2001:DB8:1::/64

DHCPv6 Pool List: 2001:DB8:1::/64 Create Pool Remove Pool

DNS Server: Domain Name:

IPv6 Address Prefix

Prefix	Prefix Length	Valid Lifetime	Preferred Lifetime
2001:DB8:1::	64	2592000	604800

Create Edit Remove

IPv6 Prefix-Delegation

Prefix	DUID	Local Pool	Valid Lifetime	Preferred Lifetime

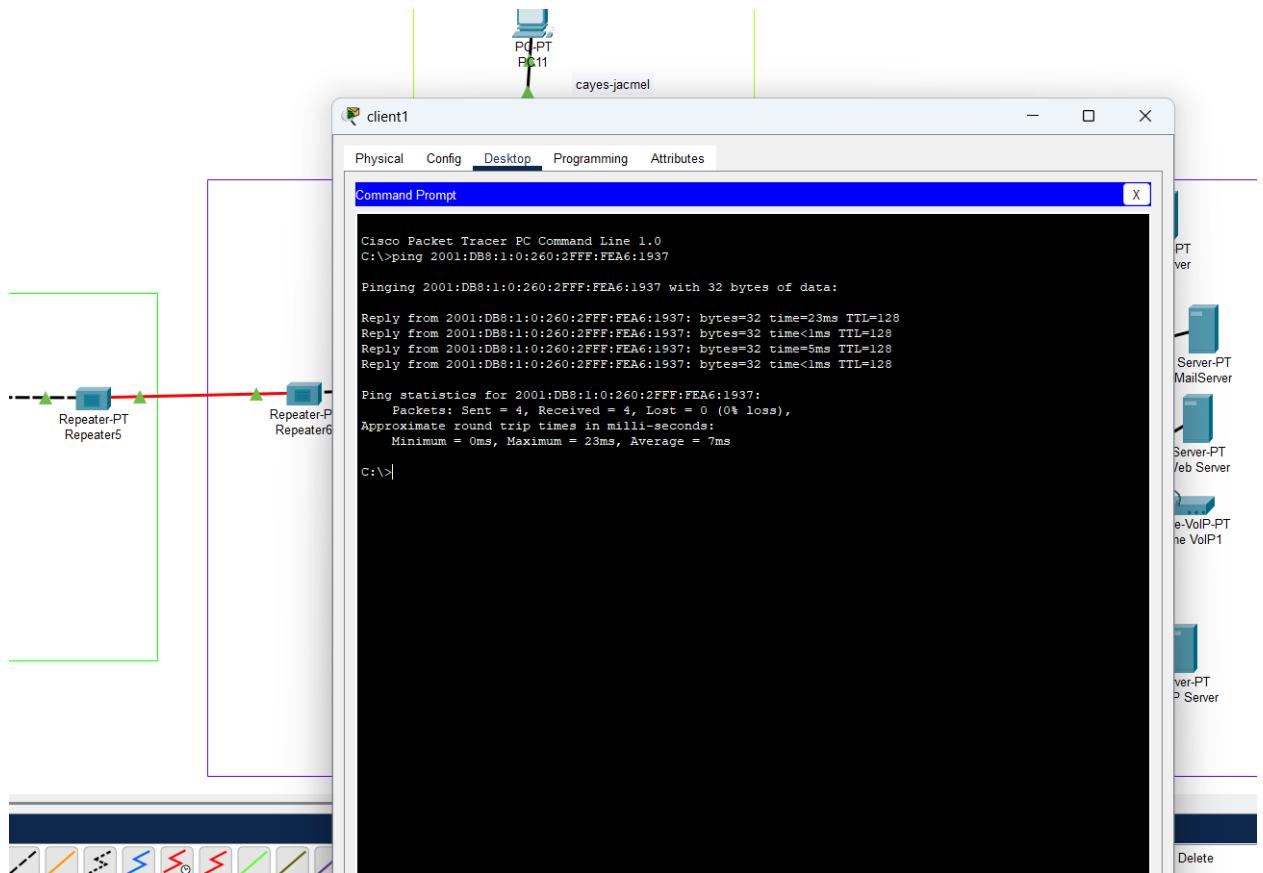
Create Edit Remove

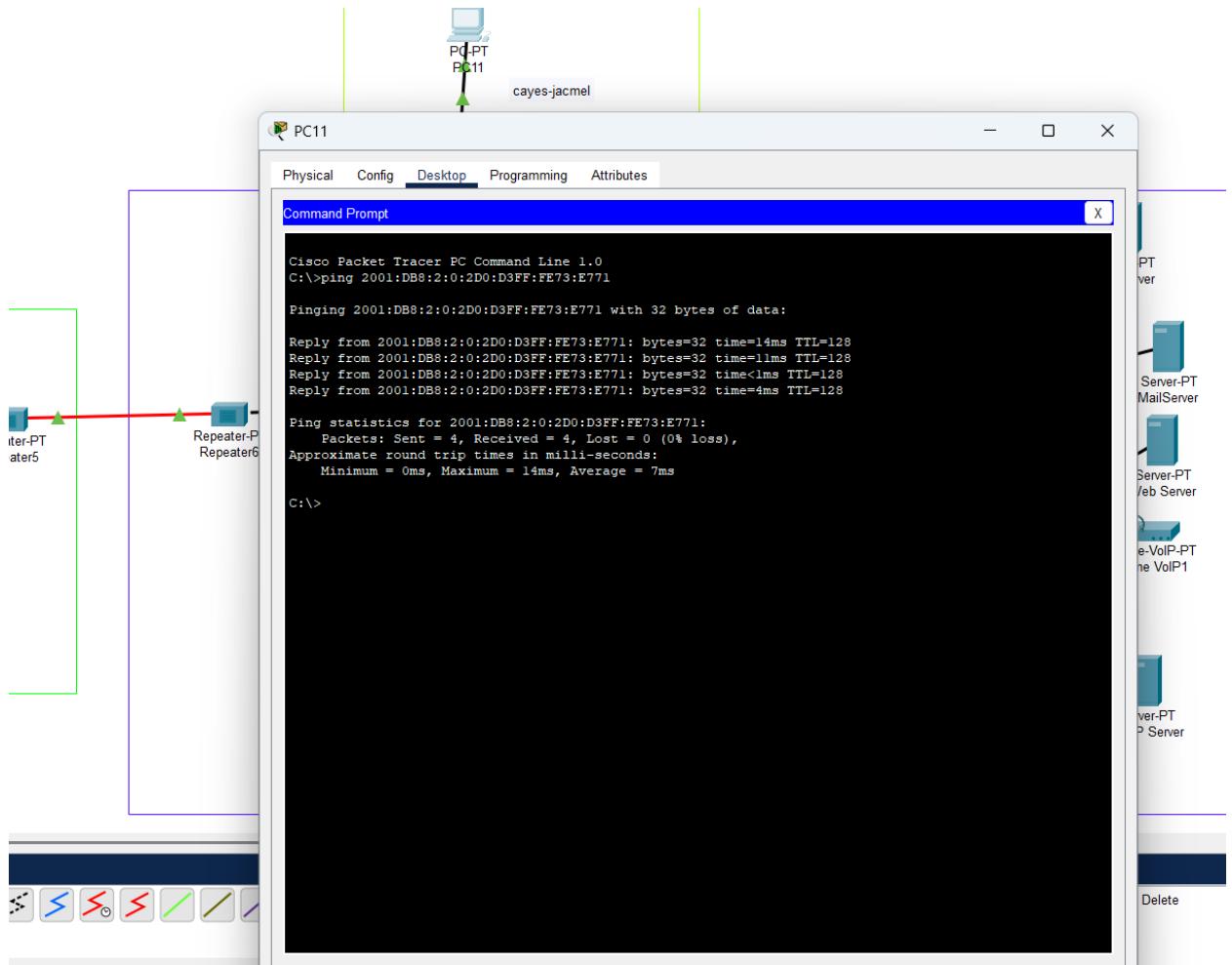
IPv6 Local Pool

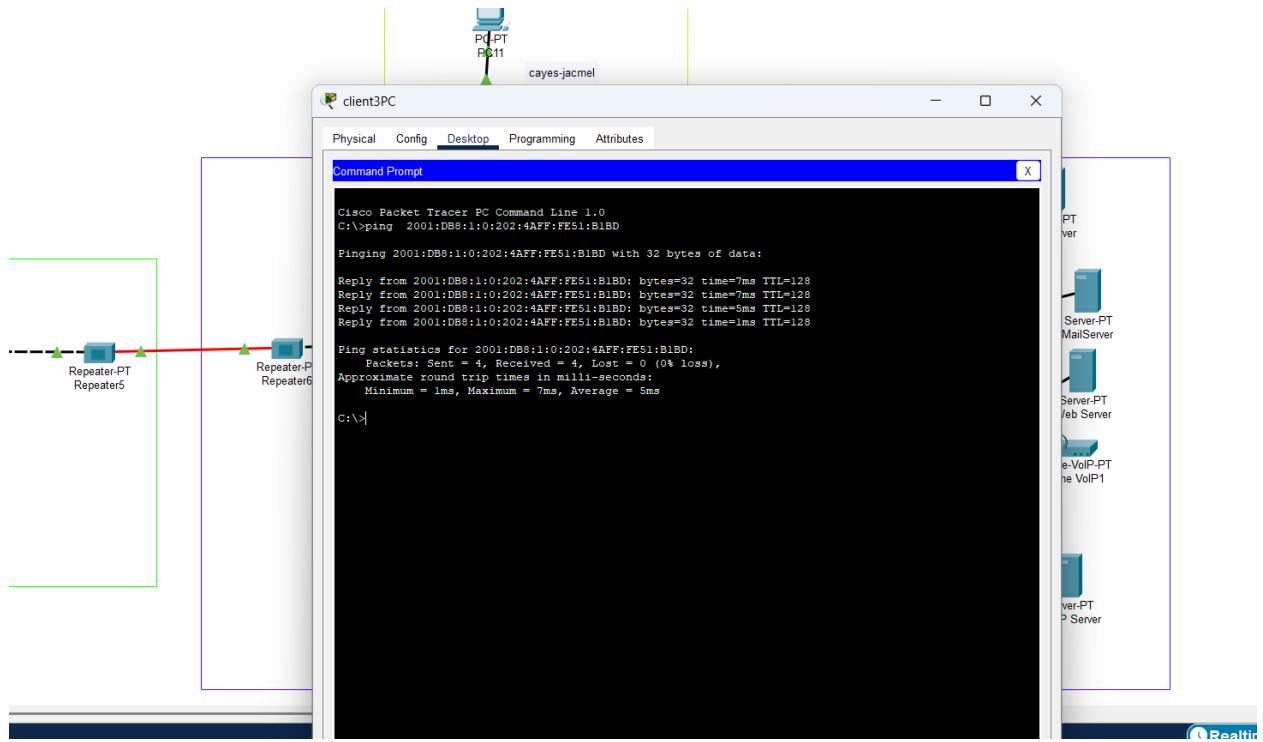
Pool Name	Prefix	Prefix Length

Create Delete

PT  
ver  
Server-PT  
MailServer  
Server-PT  
Web Server  
e-VoIP-PT  
e-VoIP1  
Server-PT  
P Server







J'ai passé beaucoup de temps à réaliser ce devoir, et j'ai rencontré beaucoup de difficultés. J'ai pris mon temps pour le faire avec patience, étape par étape. Malgré les défis que j'ai rencontrés, j'ai finalement réussi à résoudre chaque problème et à trouver une solution pour chacun. Ce fut un très beau travail. J'ai beaucoup appris grâce à cela.

L'objectif de ce TD est de :

1. Comprendre le fonctionnement du DHCP dans un réseau multi-LAN.
2. Mettre en place un serveur DHCP centralisé.
3. Configurer un routeur pour relayer les requêtes DHCP entre réseaux différents.
4. Configurer le service DHCP directement sur un routeur.
5. Vérifier l'attribution automatique d'adresses IP dans chaque LAN.
6. Comprendre l'adressage IPv6 et le rôle de DHCPv6.
7. Configurer un routeur comme serveur DHCPv6.

8. Attribuer automatiquement des adresses IPv6 aux hôtes.
9. Découvrir l'attribution automatique d'adresses IPv6 via DHCPv6.
10. Configurer un serveur DHCPv6 dans un seul réseau local.
11. Vérifier la communication entre les réseaux en IPv6.