Smart Bank

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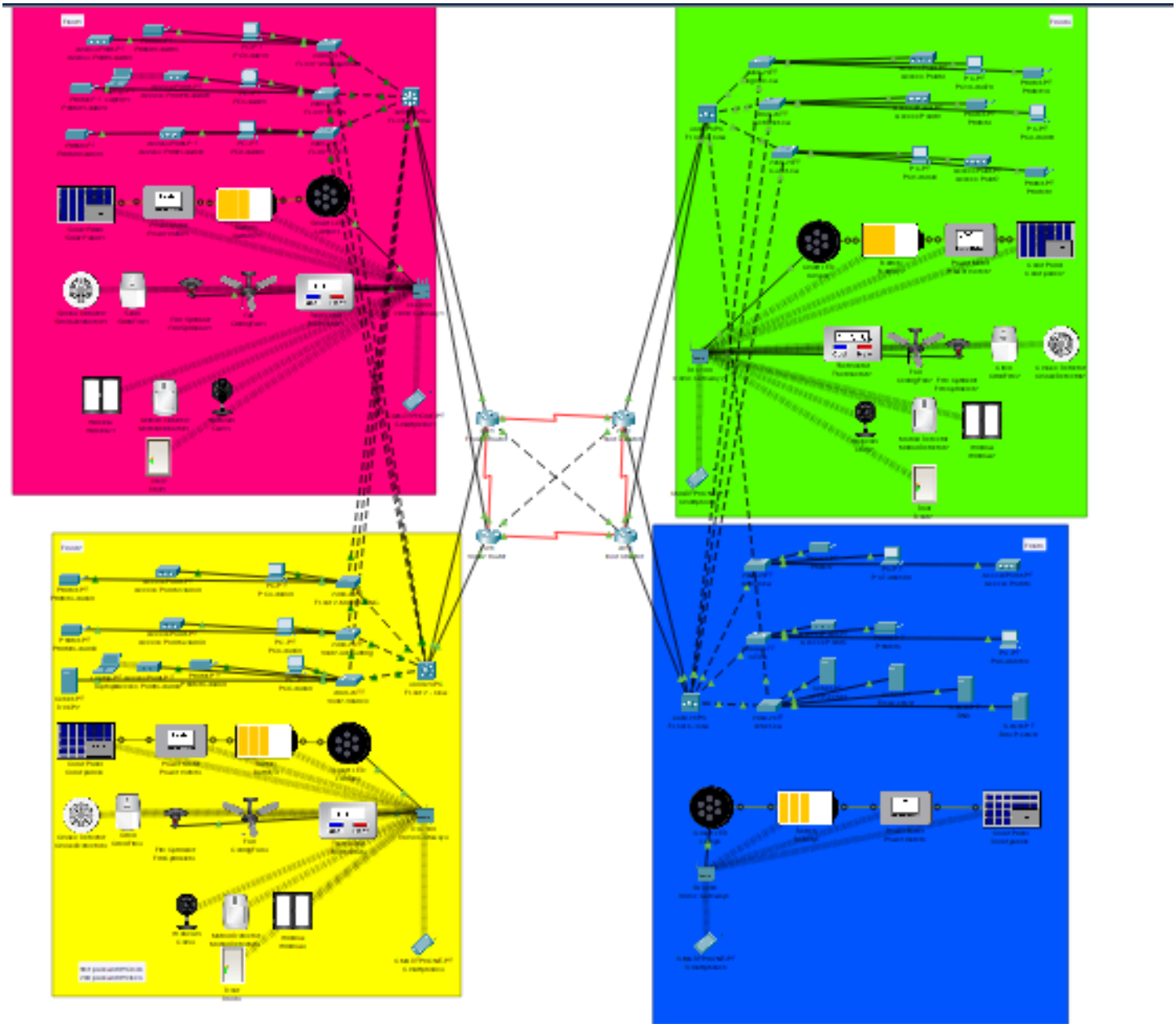
la configuration de la bank:

Introduction:

Notre projet est la combinaison entre le système bancaire et lot technologie .

La bank :

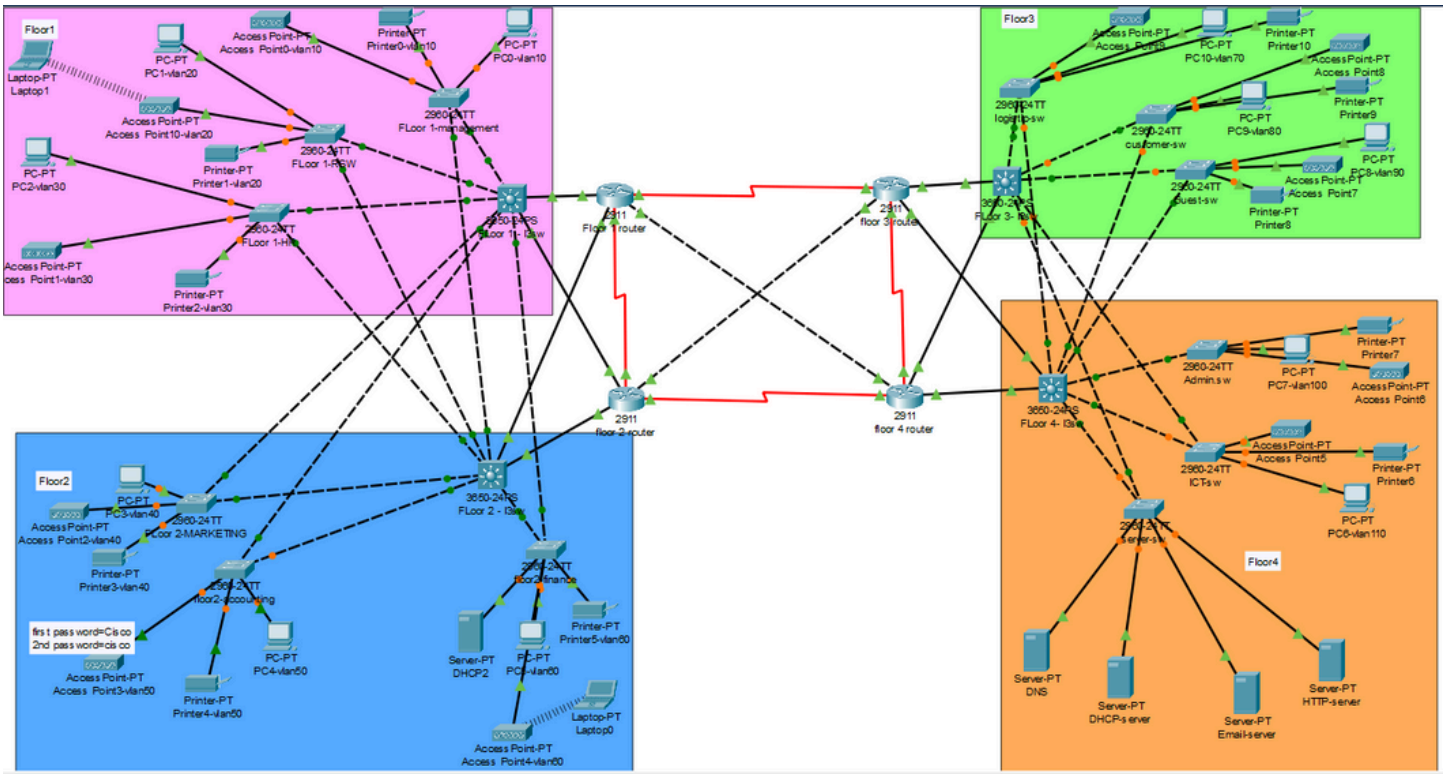
- Topologie :



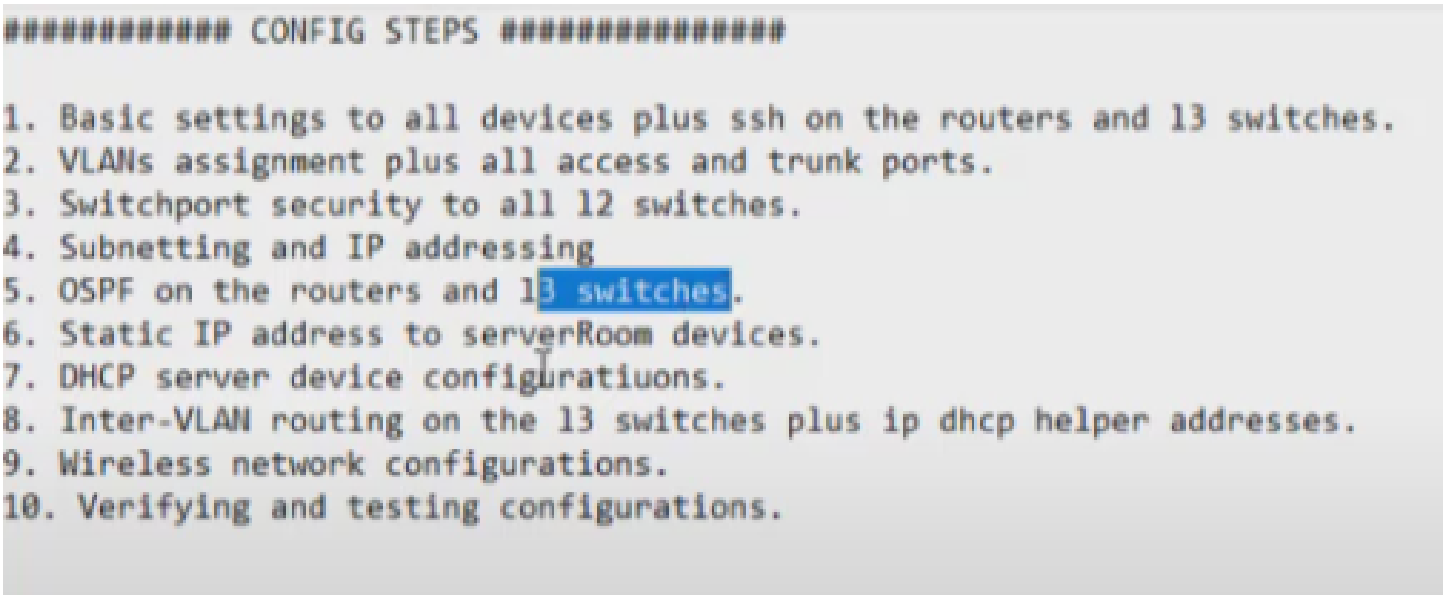
c’est notre tologie ou vision de notre projet qui contient un office et des iot technologies ; ici on a just utiliser panneaux solaire , movement detection et Fire/smock detection.

- la configuration de la bank

comme il est montré dans l’image , la bank est constituée de 3 étages , t chaque etage contient 3 départements .



C’est la bank sans l’lot , chaque etage contient son router , core switch , et les departements; les routers sont conectée avec eux en utilisnt le cable serial qui nous avons ajouter aux router.



C’est ce que on a concentrée de le faire dans la bank .

+ on a commencée par la configuration de la sécurité et l’état du port (Access ou trunk) dans les routers , core switchs et L2 switchs :

FLoor 1-management

Physical Config CLI Attributes

IOS Command Line Interface

```
management-sw(config)#int range
%LINK-3-UPDOWN: Interface GigabitEthernet0/2, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to down

%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to up

% Incomplete command.
management-sw(config)#int range g0/1-2
management-sw(config-if-range)#switchport mode trunk


management-sw(config-if-range)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to up

management-sw(config-if-range)#ex
management-sw(config)#vlan 10
management-sw(config-vlan)#name MGT
management-sw(config-vlan)#EX
management-sw(config)#
management-sw(config)#int range f0/1-3
management-sw(config-if-range)#switchport mode access
management-sw(config-if-range)#switchport access vlan 10
management-sw(config-if-range)#
management-sw(config-if-range)#switchport port-security maximum 2
management-sw(config-if-range)#switchport port-security mac-address sticky
management-sw(config-if-range)#switchport port-security violation shutdown
management-sw(config-if-range)#
management-sw(config-if-range)#do wr
Building configuration...
[OK]
management-sw(config-if-range)#ex
management-sw(config)#
management-sw(config)#
```

Copy Paste

```
management-sw(config)#do sh start
Using 1709 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname management-sw
!
enable password 7 0822455D0A16
!
!
!
no ip domain-lookup
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
 switchport access vlan 10
 switchport mode access
 switchport port-security maximum 2
 switchport port-security mac-address sticky
!
interface FastEthernet0/2
 switchport access vlan 10
 switchport mode access
 switchport port-security maximum 2
 switchport port-security mac-address sticky
!
interface FastEthernet0/3
 switchport access vlan 10
 switchport mode access
 switchport port-security maximum 2
 switchport port-security mac-address sticky
!
```

```
RSW-sw>en
RSW-sw#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
RSW-sw(config)#banner motd #this is floor 1 RSW#
RSW-sw(config)#line console 0
RSW-sw(config-line)#password cisco
RSW-sw(config-line)#login
RSW-sw(config-line)#exit
RSW-sw(config)#line vty 0 15
RSW-sw(config-line)#password cisco
RSW-sw(config-line)#login
RSW-sw(config-line)#exit
RSW-sw(config)#no ip domain-lookup
RSW-sw(config)#enable password cisco
RSW-sw(config)#
RSW-sw(config)#service password-encryption
RSW-sw(config)#
RSW-sw(config)#do wr
Building configuration...
[OK]
RSW-sw(config)#
```

```
floor1(config)#no ip domain-lookup
floor1(config)#enable password cisco
floor1(config)#service password-encryption
floor1(config)#
floor1(config)#do wr
Building configuration...
Compressed configuration from 7383 bytes to 3601 bytes[OK]
[OK]
floor1(config)#ip domain-name cisco.net
floor1(config)#username cisco password cisco
floor1(config)#crypto key generate rsa
The name for the keys will be: floor1.cisco.net
Choose the size of the key modulus in the range of 360 to 4096 for your
  General Purpose Keys. Choosing a key modulus greater than 512 may take
  a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

floor1(config)#
*Mar 1 0:18:12.928: %SSH-5-ENABLED: SSH 1.99 has been enabled
floor1(config)#line vty 0 15
floor1(config-line)#login local
floor1(config-line)#transport input ssh
floor1(config-line)#exit
floor1(config)#do wr
Building configuration...
Compressed configuration from 7383 bytes to 3601 bytes[OK]
```

```
Guest-sw(config-if-range)#do sh port-security
Secure Port MaxSecureAddr CurrentAddr SecurityViolation Security Action
               (Count)       (Count)         (Count)
-------------------------------------------------------------------------
        Fa0/1         2           0                0          Shutdown
        Fa0/2         2           0                0          Shutdown
        Fa0/3         2           0                0          Shutdown
        Fa0/4         2           0                0          Shutdown
        Fa0/5         2           0                0          Shutdown
        Fa0/6         2           0                0          Shutdown
        Fa0/7         2           0                0          Shutdown
        Fa0/8         2           0                0          Shutdown
        Fa0/9         2           0                0          Shutdown
       Fa0/10         2           0                0          Shutdown
-------------------------------------------------------------------------
```

+ puis on configure les ports trunk et les ips address des ports:

```
Enter configuration commands, one per line.  End with CNTL/Z.
Floor1_core1(config)#interface GigabitEthernet0/1
Floor1_core1(config-if)#ip add 10.10.10.2 255.255.255.252
Floor1_core1(config-if)#ex
Floor1_core1(config)#int g0/2
Floor1_core1(config-if)#ip add 10.10.10.6 255.255.255.252
Floor1_core1(config-if)#do wr
Building configuration...
[OK]
Floor1_core1(config-if)#Floor1_core1(config-if)#
Floor1_core1(config-if)#exit
Floor1_core1(config)#interface GigabitEthernet0/1
Floor1_core1(config-if)#
Floor1_core1(config-if)#exit
Floor1_core1(config)#interface GigabitEthernet0/2
Floor1_core1(config-if)#% Bad secrets

Floor1_core1(config-if)#
Floor1_core1(config-if)#exit
Floor1_core1(config)#interface GigabitEthernet0/0
Floor1_core1(config-if)#ip address 10.10.10.29 255.255.255.252
Floor1_core1(config-if)#ip address 10.10.10.29 255.255.255.252
Floor1_core1(config-if)#
Floor1_core1(config-if)#exit
Floor1_core1(config)#interface Serial0/2/0
Floor1_core1(config-if)#ip address 10.10.10.33 255.255.255.252
Floor1_core1(config-if)#ip address 10.10.10.33 255.255.255.252
Floor1_core1(config-if)#
Floor1_core1(config-if)#exit
Floor1_core1(config)#interface Serial0/2/1
Floor1_core1(config-if)#ip address 10.10.10.17 255.255.255.252
Floor1_core1(config-if)#clock rate 64000
Floor1_core1(config-if)#ex
Floor1_core1(config)#int s0/2/0
Floor1_core1(config-if)#clock rate 64000
Floor1_core1(config-if)#
Floor1_core1(config-if)#ex
Floor1_core1(config)#
Floor1_core1(config)#do wr
Building configuration...
[OK]
Floor1_core1(config)#
```

```
floor1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
floor1(config)#int range g1/0/3-8
floor1(config-if-range)#switchport mode trunk
floor1(config-if-range)#exit
floor1(config)#do wr
Building configuration...
Compressed configuration from 7383 bytes to 3601 bytes[OK]
[OK]
```

+ puis on active le protocol OSPF pour un meilleur routage et ses networks apres avoir faire le subnetting de l'ensemble : (entre les router 10.10.10.x et dans les etages (les departements) 192.168.10-12.x)

```
Floor1_core1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Floor1_core1(config)#router ospf 10
Floor1_core1(config-router)#network 10.10.10.0 0.0.0.3 area 0
Floor1_core1(config-router)#network 10.10.10.4 0.0.0.3 area 0
Floor1_core1(config-router)#network 10.10.10.16 0.0.0.3 area 0
Floor1_core1(config-router)#network 10.10.10.28 0.0.0.3 area 0
Floor1_core1(config-router)#network 10.10.10.32 0.0.0.3 area 0
Floor1_core1(config-router)#ex
Floor1_core1(config)#do wr
Building configuration...
[OK]
Floor1_core1(config)#
```

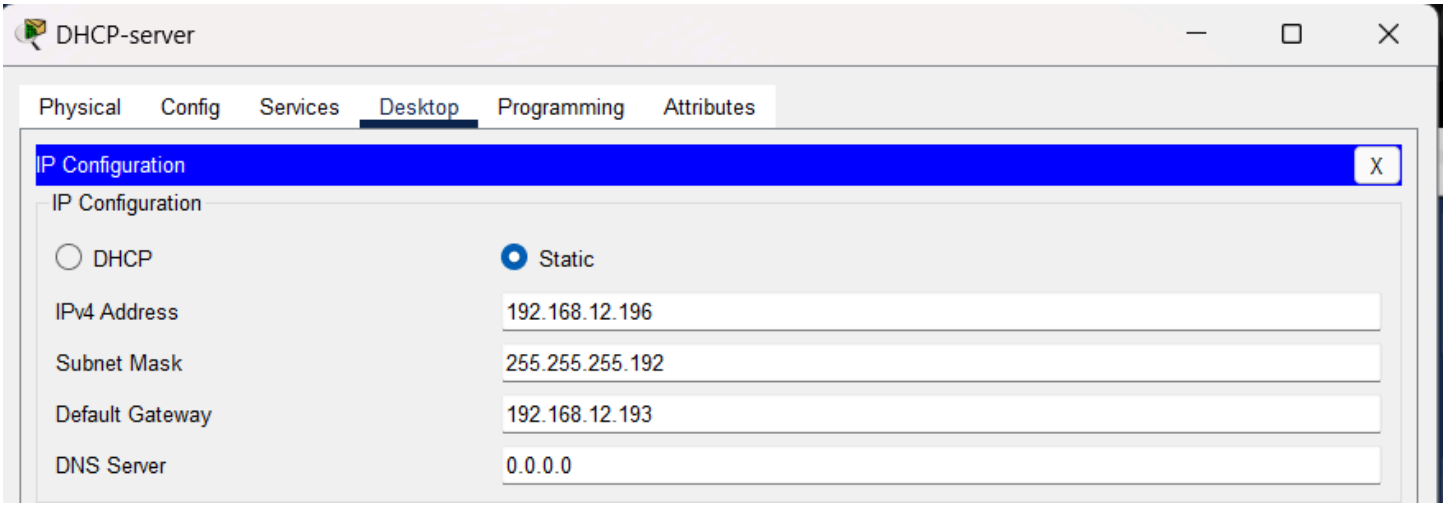
```
floor3(config-if)#ex
floor3(config)#ip routing
floor3(config)#router ospf 10
floor3(config-router)#network 10.10.10.42 0.0.0.3 area 0
floor3(config-router)#network 10.10.10.40 0.0.0.3 area 0
floor3(config-router)#
floor3(config-router)#network 192.168.11.128 0.0.0.63 area 0
floor3(config-router)#network 192.168.11.192 0.0.0.63 area 0
floor3(config-router)#network 192.168.12.0 0.0.0.63 area 0
floor3(config-router)#network 192.168.12.64 0.0.0.63 area 0
floor3(config-router)#network 192.168.12.128 0.0.0.63 area 0
floor3(config-router)#network 192.168.12.192 0.0.0.63 area 0
floor3(config-router)#do wr
Building configuration...
Compressed configuration from 7383 bytes to 3601 bytes[OK]
[OK]
floor3(config-router)#
07:15:14: %OSPF-5-ADJCHG: Process 10, Nbr 10.10.10.50 on GigabitEthernet1/0/1 from LOADING to FULL,
Loading Done
```

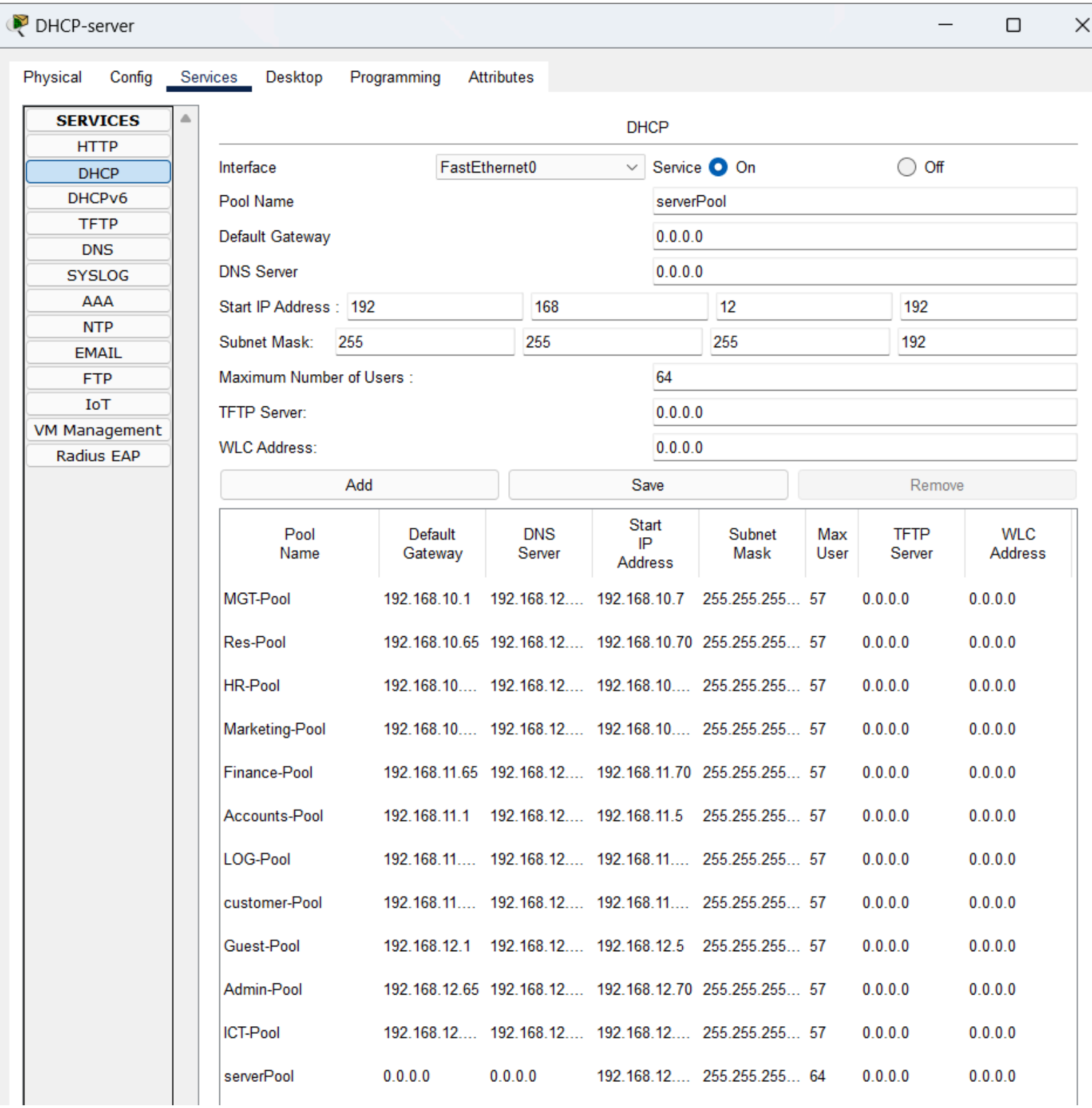
```
Password:
floor4_core4>enable
Password:
Password:
floor4_core4#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
floor4_core4(config)#interface GigabitEthernet0/0
floor4_core4(config-if)#ex
floor4_core4(config)#router ospf 10
floor4_core4(config-router)#network 10.10.10.24 0.0.0.3 area 0
floor4_core4(config-router)#
07:01:19: %OSPF-5-ADJCHG: Process 10, Nbr 10.10.10.25 on Serial0/2/0 from LOADING to FULL, Loading
Done

floor4_core4(config-router)#network 10.10.10.28 0.0.0.3 area 0
floor4_core4(config-router)#network 10.10.10.24 0.0.0.3 area 0
07:01:44: %OSPF-5-ADJCHG: Process 10, Nbr 10.10.10.33 on GigabitEthernet0/0 from LOADING to FULL,
Loading Done

floor4_core4(config-router)#network 10.10.10.36 0.0.0.3 area 0
floor4_core4(config-router)#network 10.10.10.24 0.0.0.3 area 0
07:02:06: %OSPF-5-ADJCHG: Process 10, Nbr 10.10.10.50 on Serial0/2/1 from LOADING to FULL, Loading
Don
% Incomplete command.
floor4_core4(config-router)#network 10.10.10.44 0.0.0.3 area 0
floor4_core4(config-router)#network 10.10.10.52 0.0.0.3 area 0
floor4_core4(config-router)#
floor4_core4(config-router)#
floor4_core4(config-router)#
floor4_core4(config-router)#
floor4_core4(config-router)#
floor4_core4(config-router)#
floor4_core4(config-router)#
floor4_core4(config-router)#
floor4_core4(config-router)#
floor4_core4(config-router)#
floor4_core4(config-router)#ex
floor4_core4(config)#do wr
Building configuration...
[OK]
floor4_core4(config)#
```

+ puis on a donné statiquement les ip @ aux serveurs puis activer le DHCP dans les 2 serveurs .



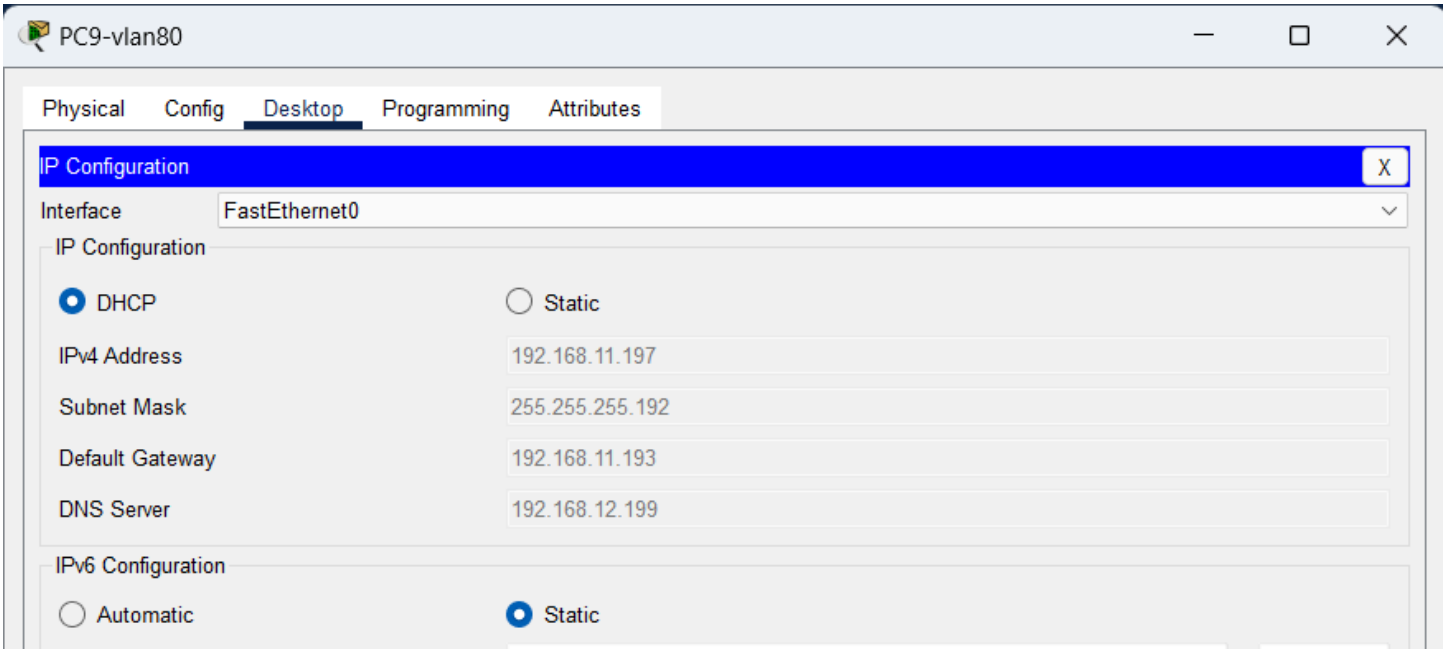


comme il est montré dans la photo il ya aux total 11 pools dans le DHCP et pour qu'il travaille on a fait le inter-VLAN et lui donné l'address du ip helper(DNCP serveur)

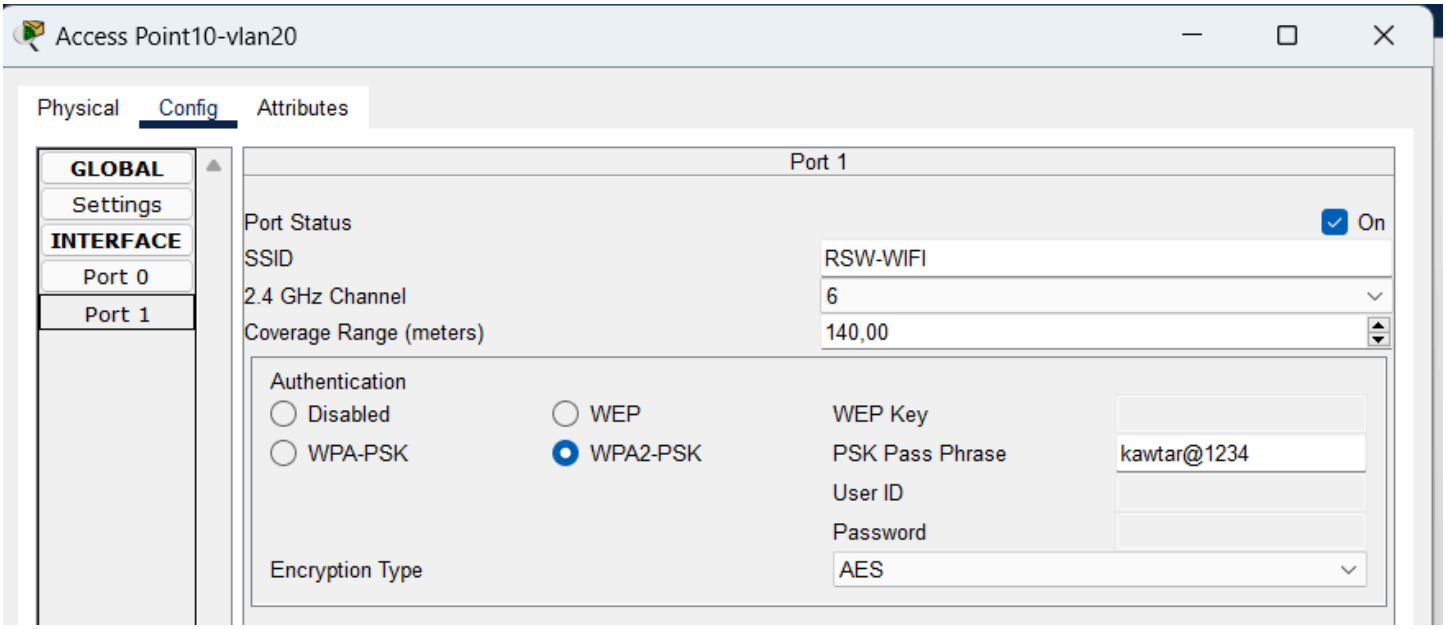
```
floor2(config)#
floor2(config)#int vlan 10
floor2(config-if)#no shut
floor2(config-if)#ip add 192.168.10.1 255.255.255.192
floor2(config-if)#ip helper-address 192.168.12.196
floor2(config-if)#ex
floor2(config)#
floor2(config)#int vlan 20
floor2(config-if)#no shut
floor2(config-if)#ip add 192.168.10.65 255.255.255.192
floor2(config-if)#ip helper-address 192.168.12.196
floor2(config-if)#ex
floor2(config)#int vlan 30
floor2(config-if)#no shut
floor2(config-if)#ip add 192.168.10.129 255.255.255.192
floor2(config-if)#ip helper-address 192.168.12.196
floor2(config-if)#ex
floor2(config)#
floor2(config)#int vlan 40
floor2(config-if)#no shut
floor2(config-if)#ip add 192.168.10.193 255.255.255.192
floor2(config-if)#ip helper-address 192.168.12.196
floor2(config-if)#ex
floor2(config)#
floor2(config)#int vlan 50
floor2(config-if)#no shut
floor2(config-if)#ip add 192.168.11.1 255.255.255.192
floor2(config-if)#ip helper-address 192.168.12.196
floor2(config-if)#ex
floor2(config)#int vlan 60
floor2(config-if)#no shut
floor2(config-if)#ip add 192.168.11.65 255.255.255.192
floor2(config-if)#ip helper-address 192.168.12.196
floor2(config-if)#ex
floor2(config)#
floor2(config)#do wr
Building configuration...
Compressed configuration from 7383 bytes to 3601 bytes[OK]
[OK]
```

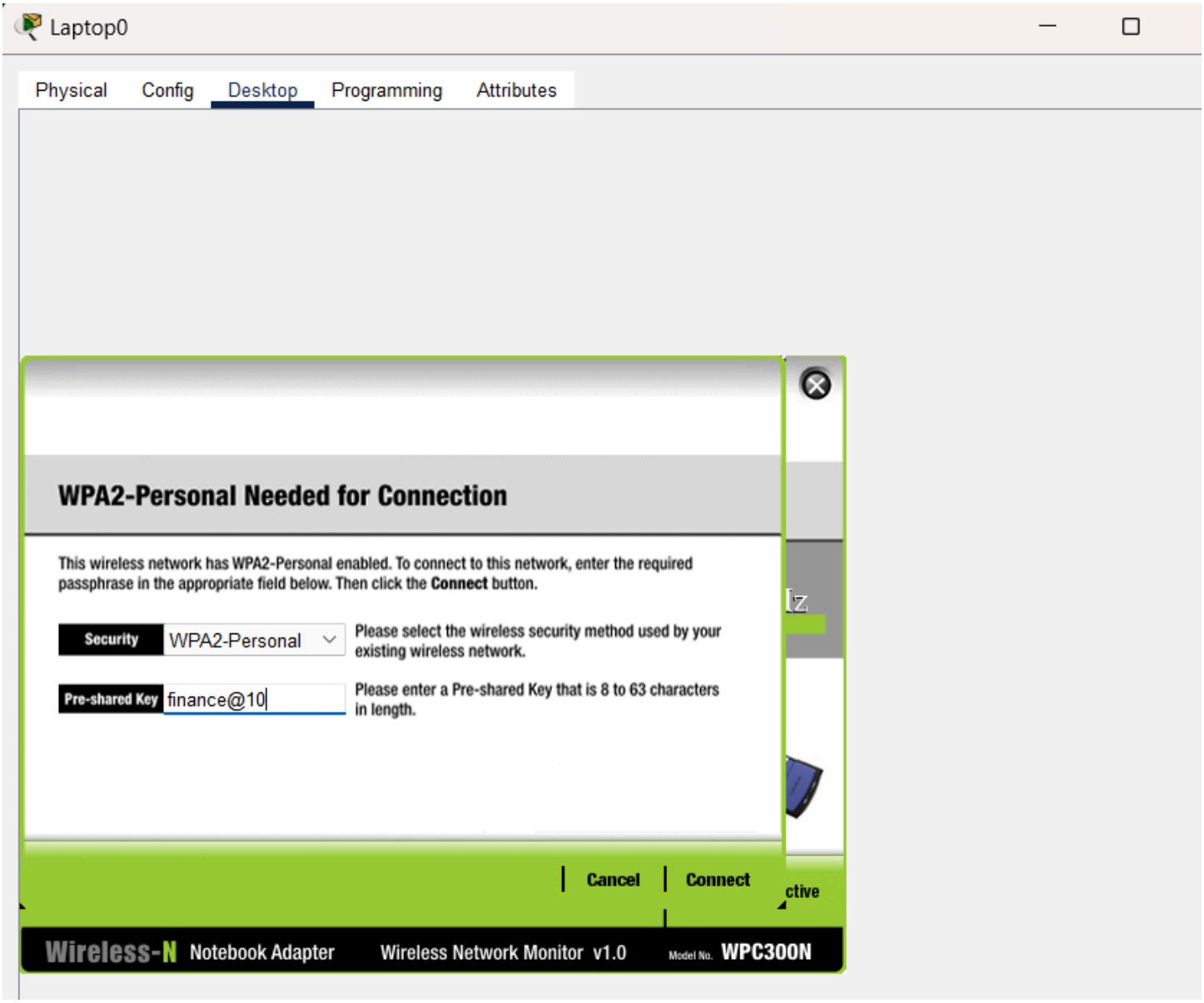
```
floor4(config)#vlan 70
floor4(config-vlan)#vlan 80
floor4(config-vlan)#vlan 90
floor4(config-vlan)#vlan 100
floor4(config-vlan)#vlan 110
floor4(config-vlan)#vlan 120
floor4(config-vlan)#
floor4(config-vlan)#int vlan 70
floor4(config-if)#no shut
floor4(config-if)#ip add 192.168.11.129 255.255.255.192
floor4(config-if)#ip helper-address 192.168.12.196
floor4(config-if)#ex
floor4(config)#
floor4(config)#int vlan 80
floor4(config-if)#no shut
floor4(config-if)#ip add 192.168.11.193 255.255.255.192
floor4(config-if)#ip helper-address 192.168.12.196
floor4(config-if)#ex
floor4(config)#int vlan 90
floor4(config-if)#no shut
floor4(config-if)#ip add 192.168.12.1 255.255.255.192
floor4(config-if)#ip helper-address 192.168.12.196
floor4(config-if)#ex
floor4(config)#
floor4(config)#int vlan 100
floor4(config-if)#no shut
floor4(config-if)#ip add 192.168.12.65 255.255.255.192
floor4(config-if)#ip helper-address 192.168.12.196
floor4(config-if)#ex
floor4(config)#
floor4(config)#int vlan 110
floor4(config-if)#no shut
floor4(config-if)#ip add 192.168.12.129 255.255.255.192
floor4(config-if)#ip helper-address 192.168.12.196
floor4(config-if)#ex
floor4(config)#int vlan 120
floor4(config-if)#no shut
floor4(config-if)#ip add 192.168.12.193 255.255.255.192
floor4(config-if)#ex
floor4(config)#
floor4(config)#do wr
%LINK-5-CHANGED: Interface Vlan70, changed state to up
```

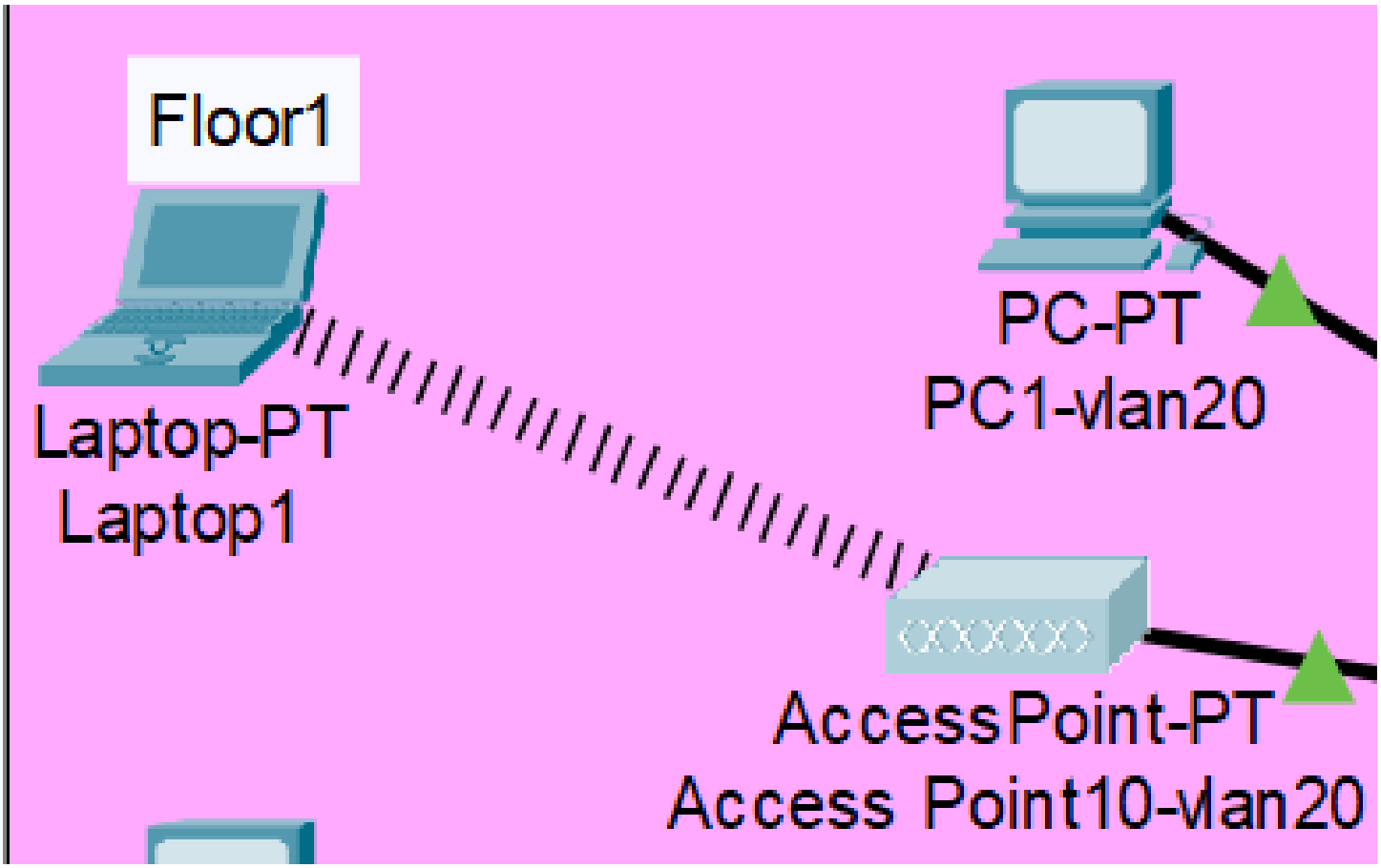
et la photo suivante montre que le DHCP travaille parfaitement.



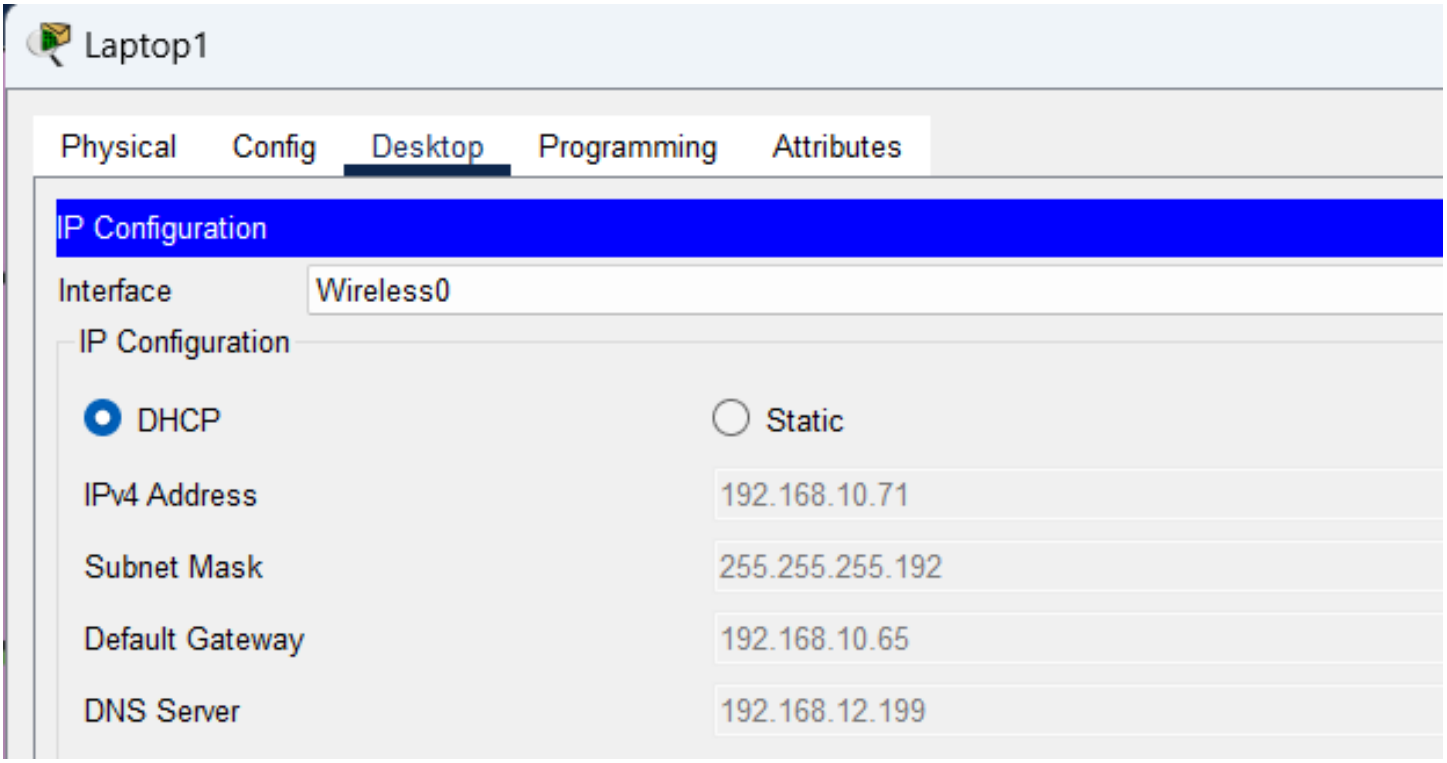
+ on passe maintenant aux “wireless conection” pour cela on a utiliser les access points .

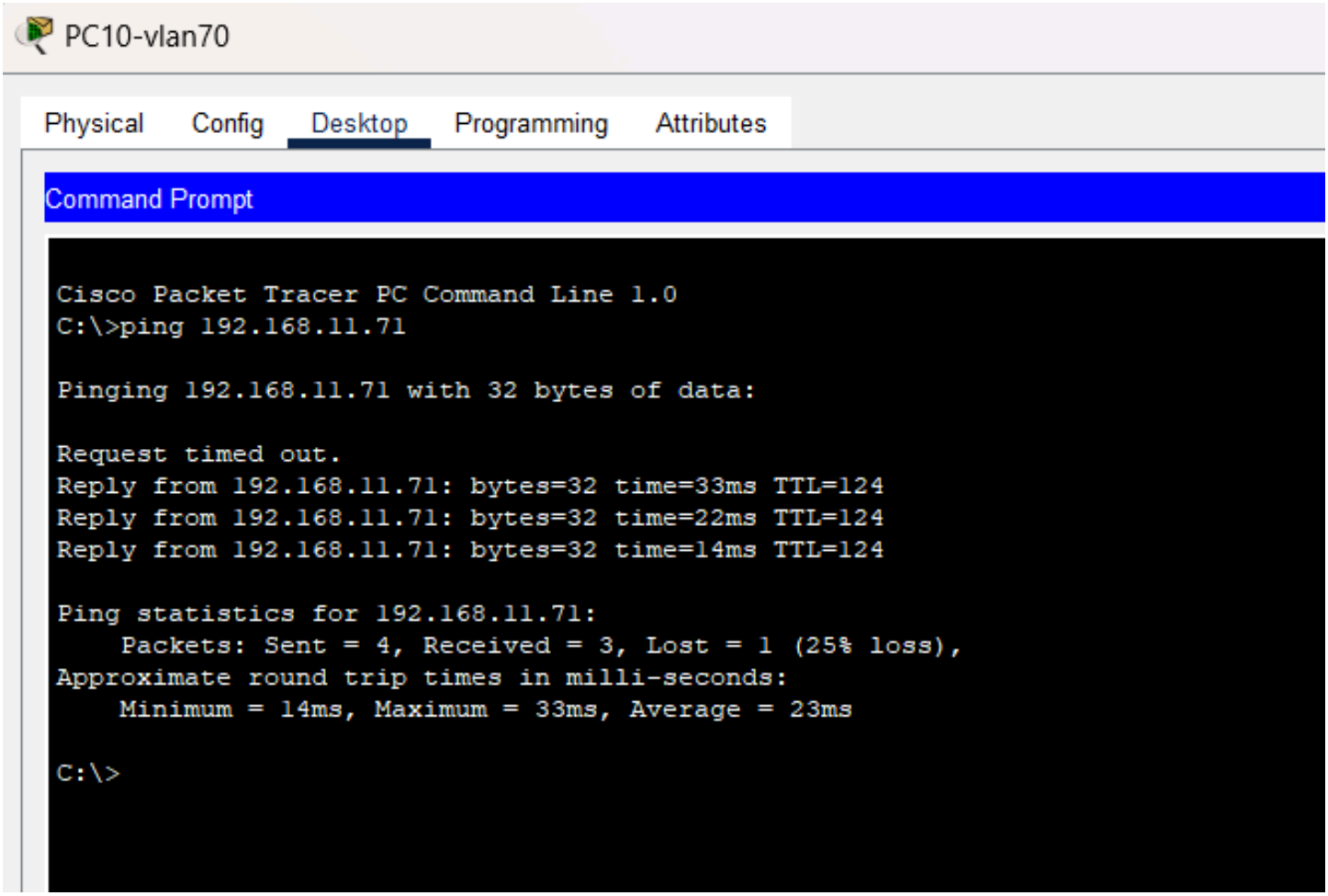


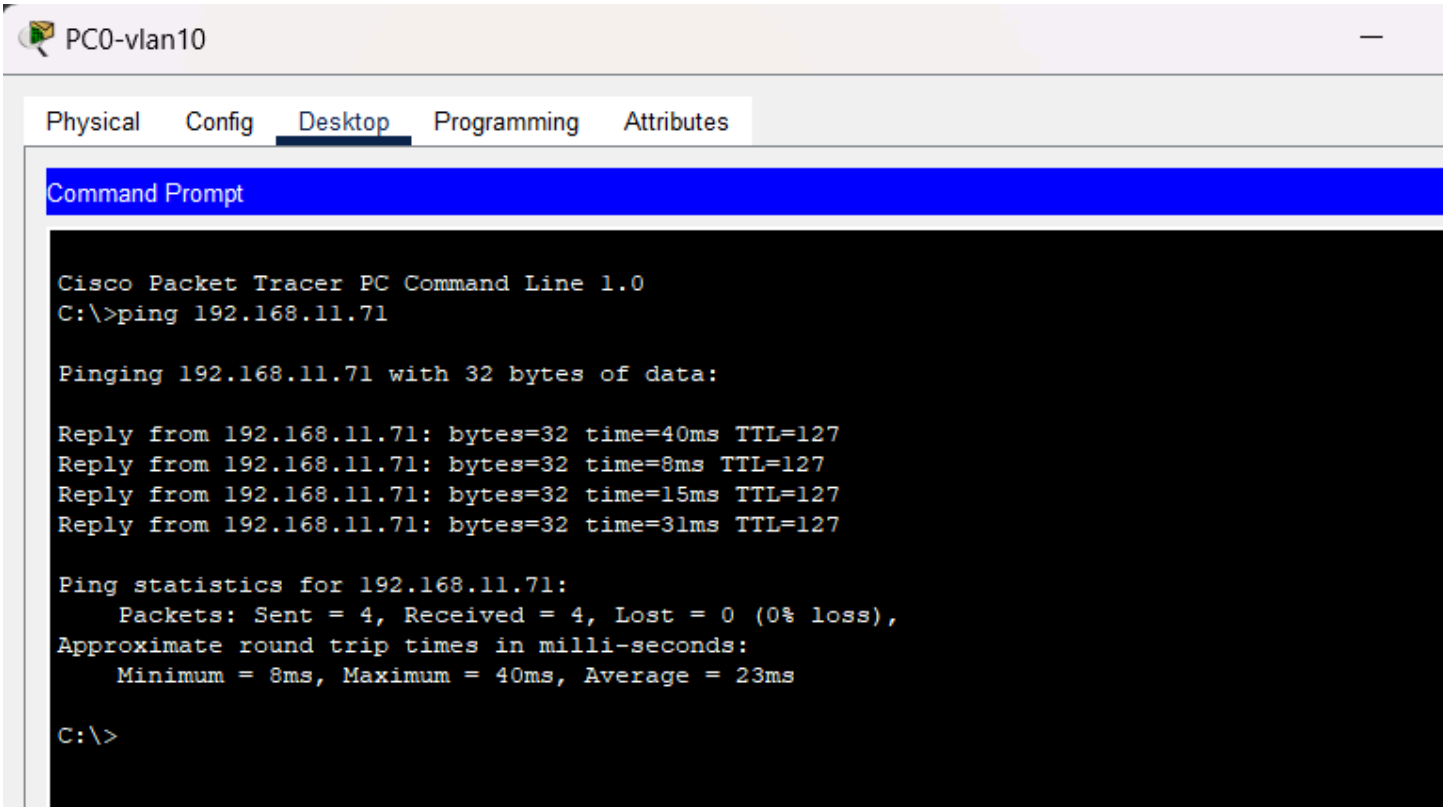

Laptop0
Physical
Config
Desktop
Programming
Attributes
WPA2-Personal Needed for Connection
This wireless network has WPA2-Personal enabled. To connect to this network, enter the required passphrase in the appropriate field below. Then click the Connect button.
Security
WPA2-Personal
Please select the wireless security method used by your existing wireless network.
Pre-shared Key
finance@10
Please enter a Pre-shared Key that is 8 to 63 characters in length.
Cancel
Connect
Wireless-N Notebook Adapter
Wireless Network Monitor v1.0
Model No. WPC300N



et pour s’assurer que la connexion est bien établie ;







et Tada , le DHCP et le ping travaille {ce ping on a le fait d'un étage diffèrent et dans le même étage} c'est tous pour la bank maintenant on passe aux lot .