

Institut Universitaire des Sciences
Faculte des sciences de technologies

TD 4 Reseau 2

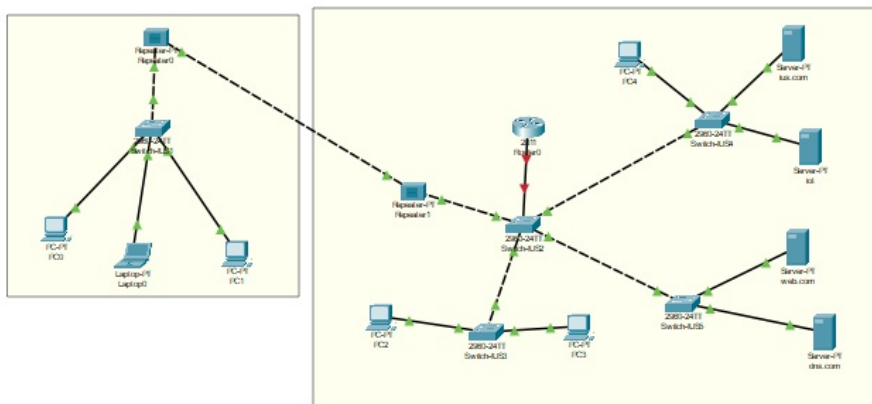
Preparer par :

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Prenom: Yann Lelay

Niveau: L3 - Sciences Informatiques

1. Reproduisez cette topologie en configurant le NAT du r seau



imageTopologie1

Configuration nat



imageConfNat

DNS

dns.com

Physical Config Services **Desktop** Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.2

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 192.168.1.2

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2E0:8FFF:FE72:9258

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

imageConfServeurDNS

Configuration du serveur DHCP sur le routeur Cisco

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip dhcp pool Network1
Router(dhcp-config)#network 192.168.1.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.1.1
Router(dhcp-config)#dns-server 192.168.1.2
Router(dhcp-config)#ip dhcp excluded-address 192.168.1.1 192.168.1.1
Router(config)#ip dhcp excluded-address 192.168.2.1 192.168.1.2
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#write memory
Building configuration...
[OK]
Router#
```

Copy

Paste

imageConfServeurDNS

VÃ©rifications des ip

PC3 EN Anglais (État)

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address 192.168.1.3

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 192.168.1.2

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::201:97FF:FE36:4BD4

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

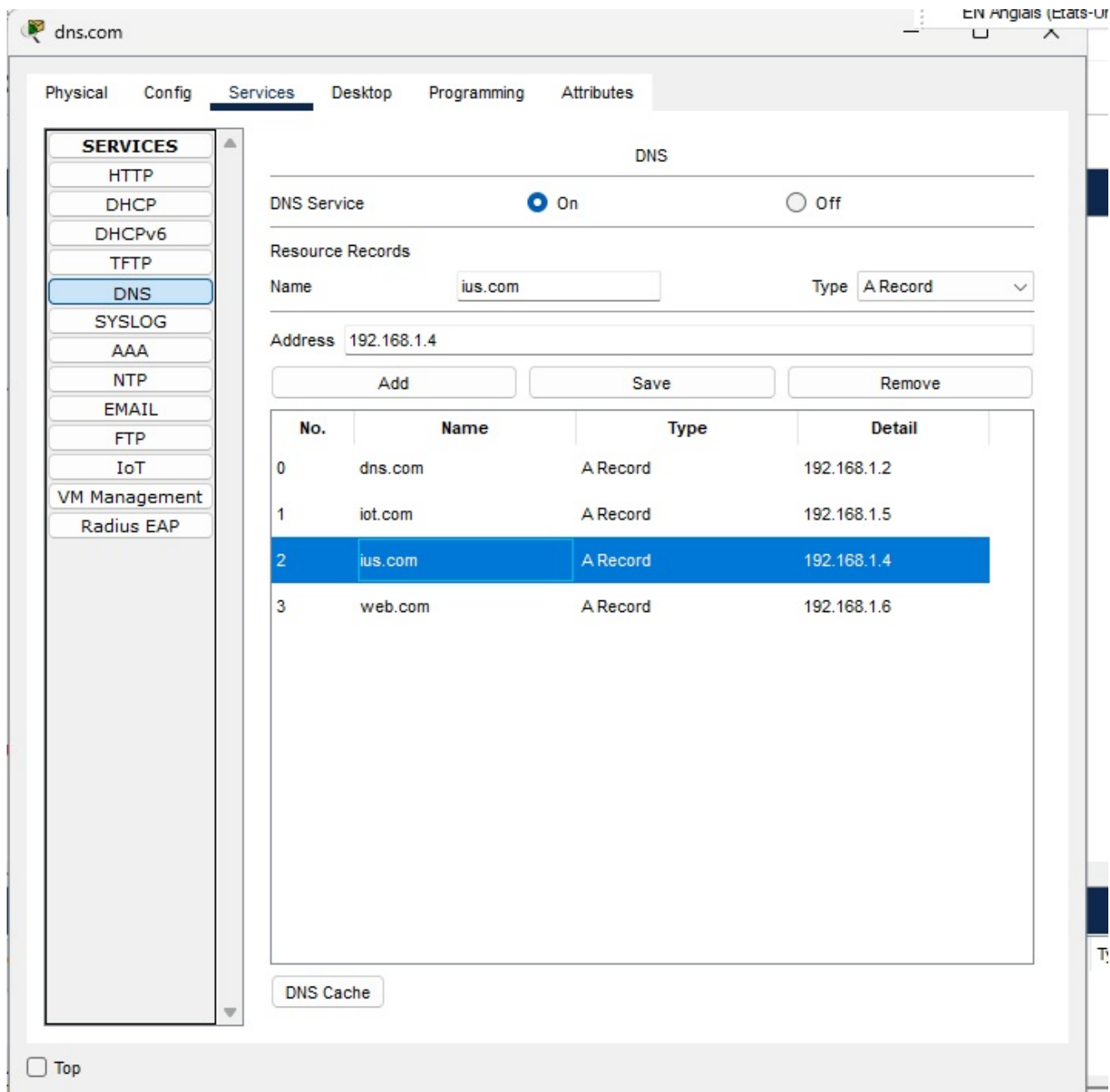
Username

Password

☐ Top

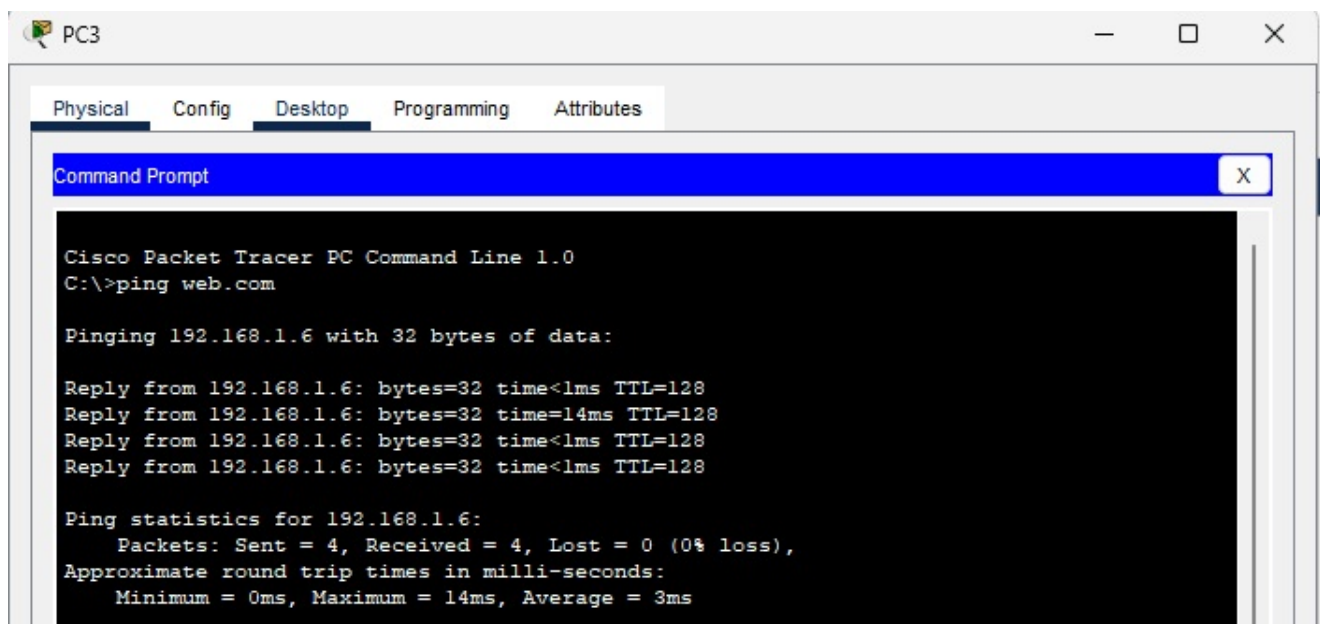
imageConfServeurDNS

ActivÃ© les services dns



imageConfServeurDNS

Test



imageTestPing

Configuration de NAT sur le routeur Cisco :

```

Router>en
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#ip address 203.0.113.1 255.255.255.252
Router(config-if)#no shutdown

Router(config-if)#exit
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
Router(config)#

```

Copy

Paste

imageConfNat

Configuration de NAT dynamique (PAT) :

```

Router(config)#access-list 1 permit 192.168.1.0 0.0.0.255
Router(config)#ip nat inside source list 1 interface FastEthernet0/1 overload
Router(config)#interface FastEthernet0/0
Router(config-if)#ip nat inside
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#ip nat outside
Router(config-if)#exit
Router(config)#

```

Copy

Paste

imageConfNatDyN

Test de connectivité

```

C:\>ping 203.0.113.1

Pinging 203.0.113.1 with 32 bytes of data:

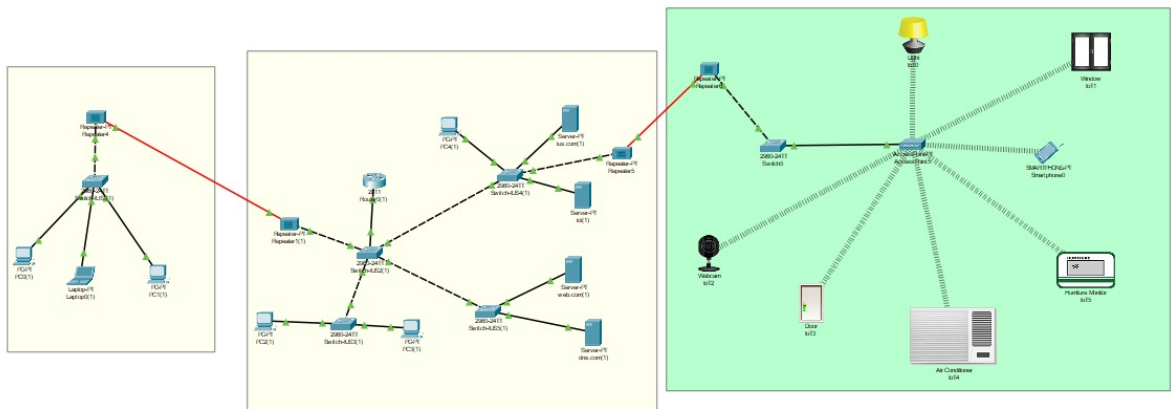
Reply from 192.168.1.1: Destination host unreachable.
Request timed out.
Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.

Ping statistics for 203.0.113.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>

```

2. Reproduisez cette topologie en configurant le réseau IoT (Internet des Objets).



Topologie2

Configuration du point Acces

Access Point5 EN Anglais (Etat

Physical **Config** Attributes

GLOBAL

Settings

INTERFACE

Port 0

Port 1

Port 1

Port 1

Port Status ☒ On

SSID lan1

2.4 GHz Channel 6

Coverage Range (meters) 140,00

Authentication

☒ Disabled ☐ WEP ☐ WPA-PSK ☐ WPA2-PSK

WEK Key

PSK Pass Phrase

User ID

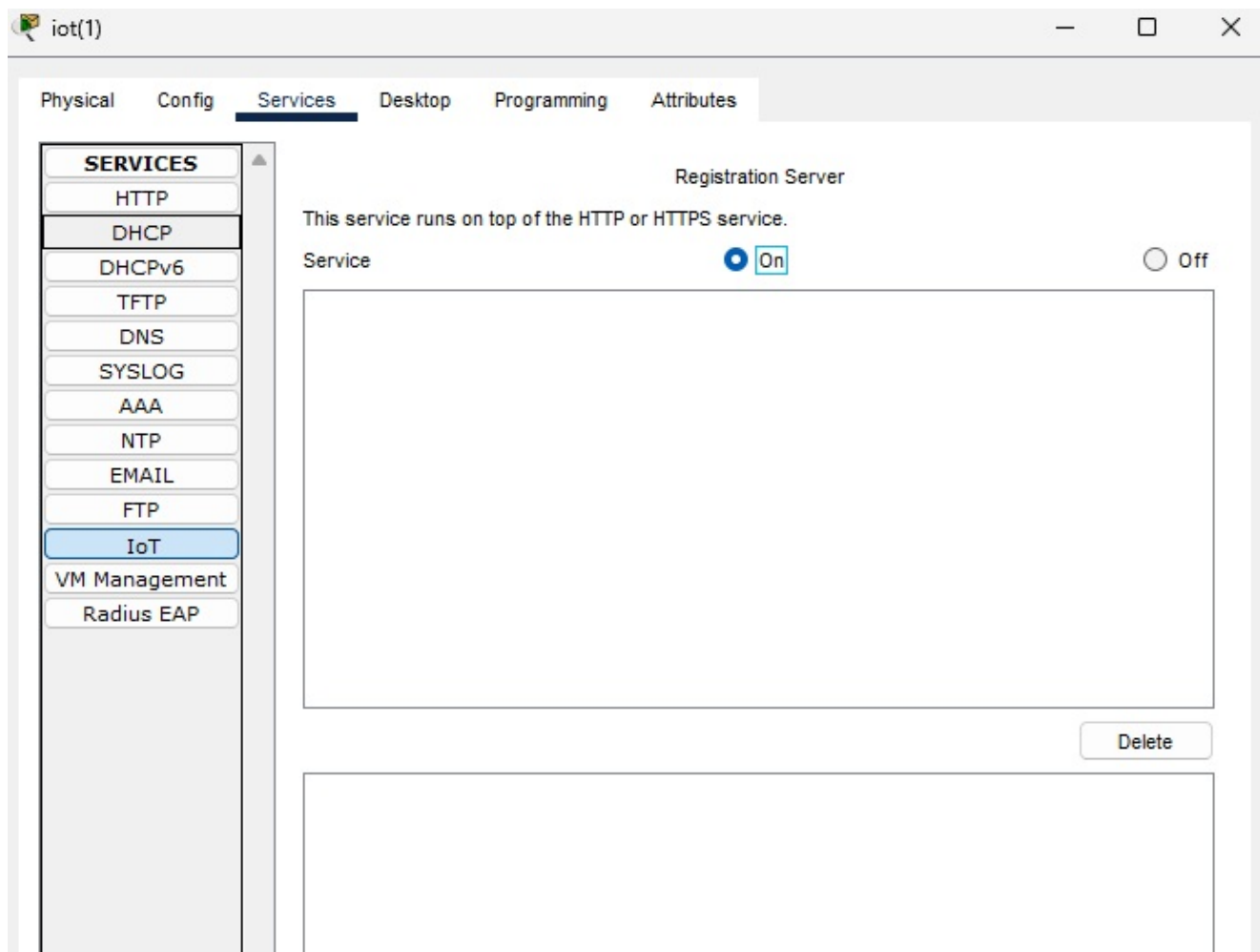
Password

Encryption Type Disabled

☐ Top

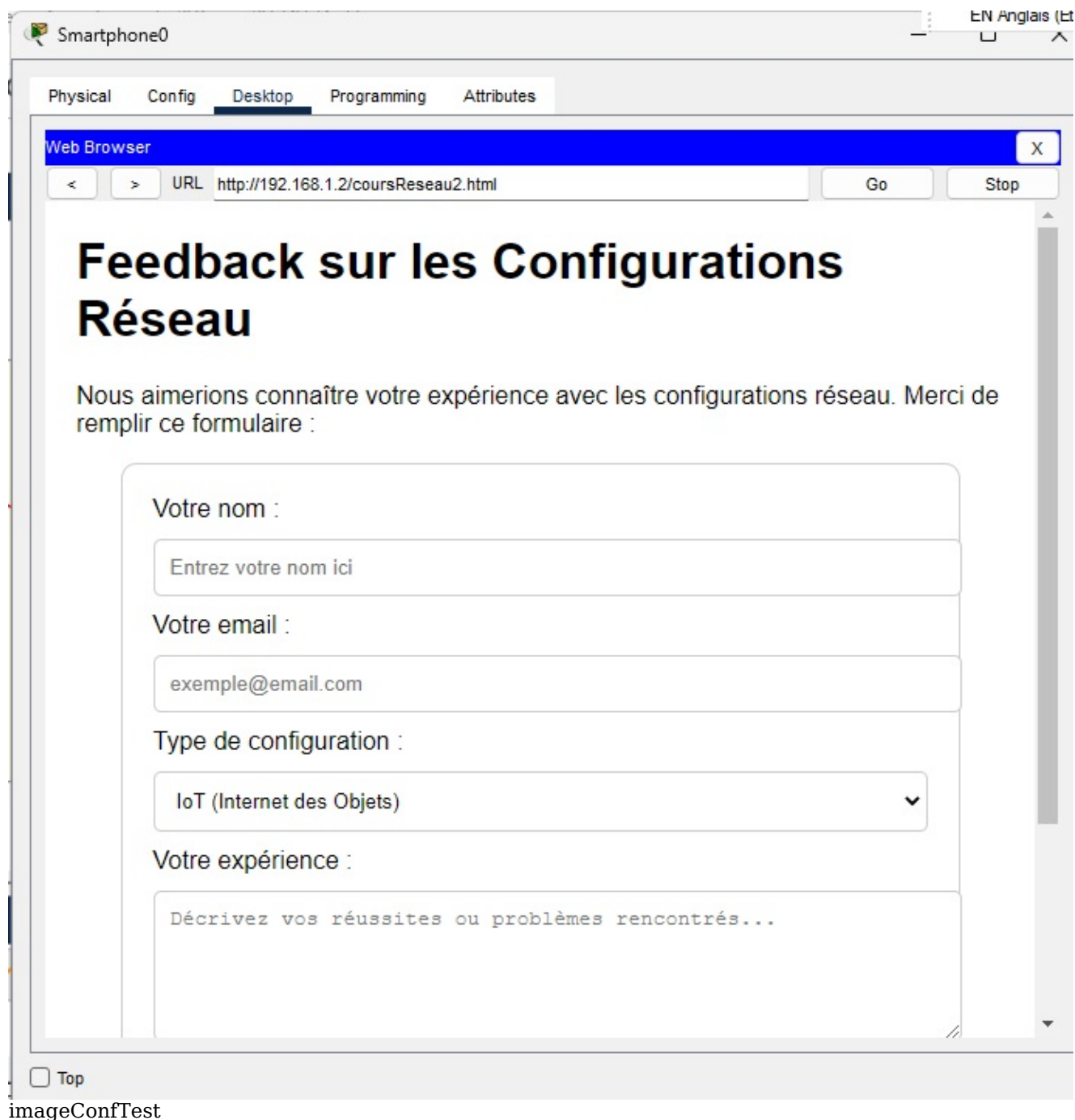
imgConfPT-Acess

Activation des services IOT



imageConfTest

Registration au server



imageConfTest

Configurer les IOT

Specifications

Physical

Config

Attributes

GLOBAL

Settings

Algorithm Settings

Files

INTERFACE

Wireless0

Bluetooth

Interfaces

Wireless0

Gateway/DNS IPv4

☒ DHCP☐ Static

Default Gateway 192.168.1.1

DNS Server 192.168.1.2

Gateway/DNS IPv6

☒ Automatic☐ Static

Default Gateway

DNS Server

IoT Server

☐ None☐ Home Gateway☒ Remote Server

Server Address 192.168.1.4

User Name admin

Password admin1234

Connect

☐ Top

Advanced

GLOBAL

Settings

Algorithm Settings

Files

INTERFACE

Wireless0

Bluetooth

Wireless0

Port Status

On

Bandwidth

54 Mbps

MAC Address

000A.F3D3.9438

SSID

lan1

Authentication

Disabled

WPA-PSK

WPA

802.1X

WEP

WPA2-PSK

WPA2

Method:

WEP Key

PSK Pass Phrase

User ID

Password

MD5

User Name

Password

Encryption Type

Disabled

IP Configuration

DHCP

Static

IPv4 Address

192.168.1.15

Subnet Mask

255.255.255.0

IPv6 Configuration

Automatic

Static

IPv6 Address

/

Link Local Address:

FE80::20A:F3FF:FED3:9438

GLOBAL

Settings

Algorithm Settings

Files

INTERFACE

Wireless0

Bluetooth

Wireless0

Port Status

☒ On

Bandwidth

54 Mbps

MAC Address

0090.2140.8C78

SSID

lan1

Authentication

☒ Disabled

☐ WEP

☐ WPA-PSK

☐ WPA2-PSK

☐ WPA

☐ WPA2

☐ 802.1X

Method:

WEP Key

PSK Pass Phrase

User ID

Password

MD5

User Name

Password

Encryption Type

Disabled

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

192.168.1.8

Subnet Mask

255.255.255.0

IPv6 Configuration

☒ Automatic

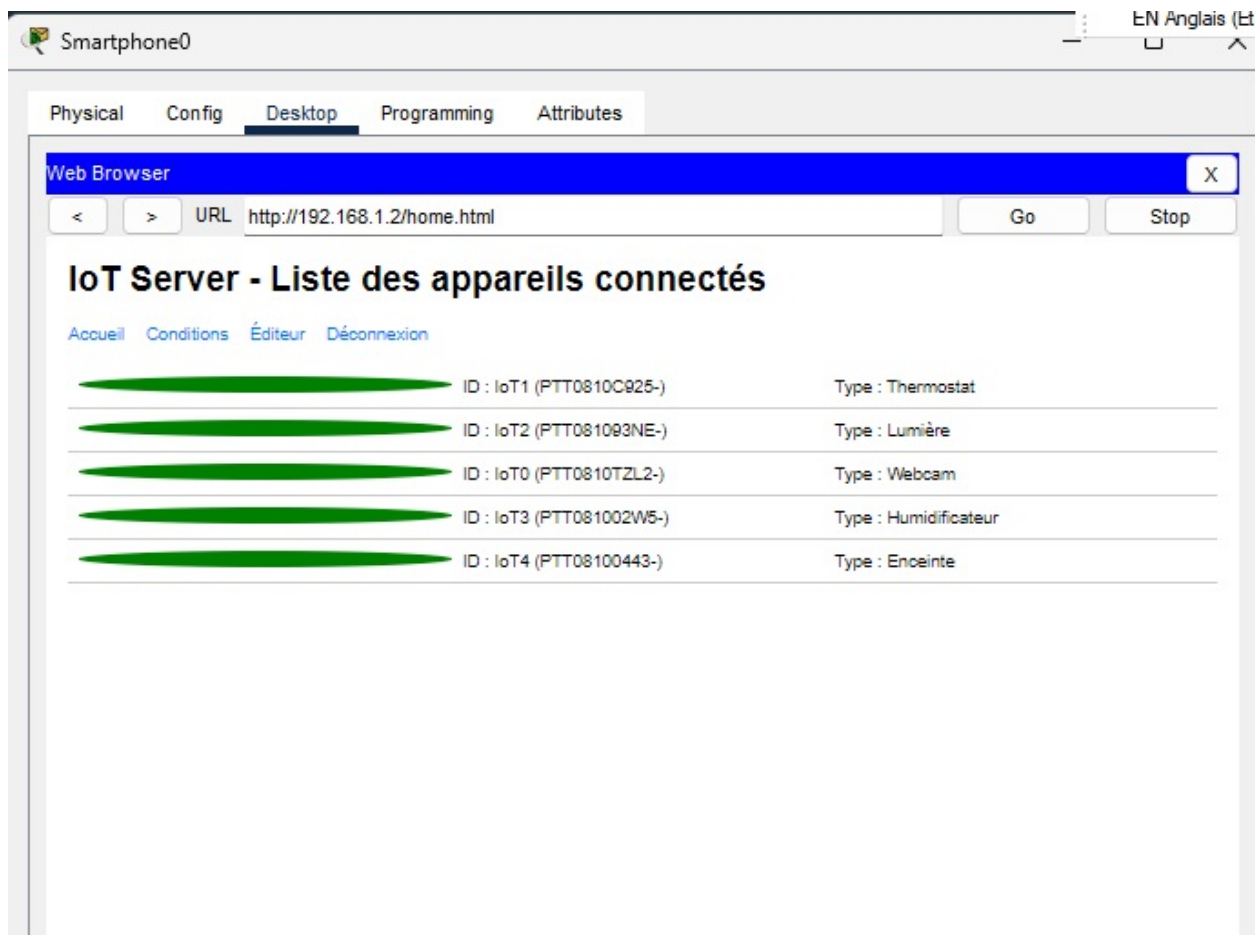
☐ Static

IPv6 Address

/

Link Local Address:

FE80::290:21FF:FE40:8C78



Conclusion

Ce TD m'a permis d'explorer la configuration réseau avec NAT, DHCP et DNS, ainsi que les réseaux IoT, consolidant nos compétences techniques essentielles en connectivité.