

Institut Universitaire des Sciences

Faculté sciences et technologies

TD5 réseau 2

Préparé par :

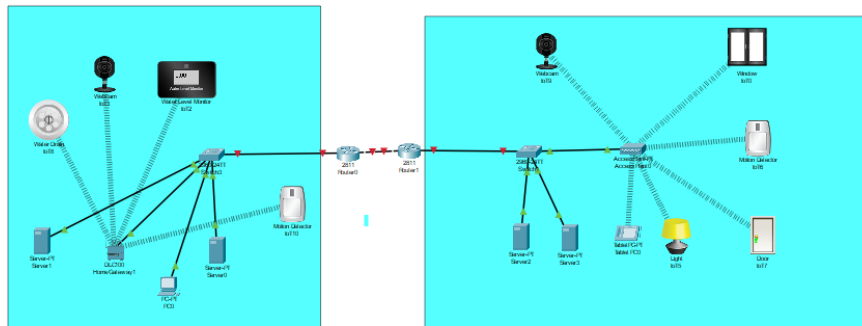
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Niveau : L3 - Sciences Informatiques

1. Reproduisez cette topologie en implémentant le Protocole de Routage OSPF dans un Réseau!

1. Topologie du réseau :



2. Configuration les points Acces et les IOT

Access Point0 EN Arigdis (Clas-UIIS)

Physical **Config** Attributes

GLOBAL

Settings

INTERFACE

Port 0

Port 1

Port 1

Port Status ☒ On

SSID Admin

2.4 GHz Channel 10

Coverage Range (meters) 140,00

Authentication

☒ Disabled ☐ WEP ☐ WPA-PSK ☐ WPA2-PSK

WEK Key

PSK Pass Phrase

User ID

Password

Encryption Type Disabled

☐ Top

IoT9

EN Anglais (Etats-Unis)

SpecificationsPhysicalConfigAttributes

GLOBAL

Settings

Algorithm Settings

Files

INTERFACE

Wireless0

Bluetooth

Wireless0

Port Status

On

Bandwidth

300 Mbps

MAC Address

0001.63E0.E4C4

SSID

Admin

Authentication

☒ Disabled

☐ WEP

WEP Key

☐ WPA-PSK

☐ WPA2-PSK

PSK Pass Phrase

☐ WPA

☐ WPA2

User ID

☐ 802.1X

Method:

MD5

Password

Encryption Type

Disabled

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

192.168.25.114

Subnet Mask

255.255.255.0

IPv6 Configuration

☒ Automatic

☐ Static

IPv6 Address

/

Link Local Address: FE80::201:63FF:FEE0:E4C4

☐ Top

Advanced

IoT5

EN Anglais (Etats-Unis)

SpecificationsPhysicalConfigAttributes

GLOBAL

Settings

Algorithm Settings

Files

INTERFACE

Wireless0

Bluetooth

Wireless0

Port Status

On

Bandwidth

300 Mbps

MAC Address

00D0.974E.3C53

SSID

Admin

Authentication

☒ Disabled

☐ WEP

WEP Key

☐ WPA-PSK

☐ WPA2-PSK

PSK Pass Phrase

☐ WPA

☐ WPA2

User ID

☐ 802.1X

Method:

MD5

Password

Encryption Type

Disabled

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

192.168.25.110

Subnet Mask

255.255.255.0

IPv6 Configuration

☒ Automatic

☐ Static

IPv6 Address

/

Link Local Address: FE80::2D0:97FF:FE4E:3C53

☐ Top

Advanced

Home Gateway0

ENP Angilas (Elets-Uilis)

Physical

Config

GUI

Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Internet

LAN

Wireless

Wireless Settings

SSIDAdmin1

2.4 GHz Channel6 - 2.437GHz

Coverage Range (meters)250,00

Authentication

☒ Disabled

☐ WEP

☐ WPA-PSK

☐ WPA

☐ WPA2-PSK

☐ WPA2

WEP Key

PSK Pass Phrase

RADIUS Server Settings

IP Address

Shared Secret

Encryption TypeDisabled

☐ Top

IoT8

EN Anglais (Eats-Unis)

SpecificationsPhysicalConfigAttributes

GLOBAL

Settings

Algorithm Settings

Files

INTERFACE

Wireless0

Bluetooth

Wireless0

Port Status

On

Bandwidth

300 Mbps

MAC Address

0002.4A12.97BB

SSID

Admin1

Authentication

☒ Disabled

☐ WPA-PSK

☐ WPA

☐ 802.1X

☐ WEP

☐ WPA2-PSK

☐ WPA2

Method:

WEP Key

PSK Pass Phrase

User ID

Password

User Name

Password

MD5

Encryption Type

Disabled

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

192.168.25.111

Subnet Mask

255.255.255.0

IPv6 Configuration

☒ Automatic

☐ Static

IPv6 Address

/

Link Local Address: FE80::202:4AFF:FE12:97BB

☐ Top

Advanced

IoT2

EN Arigais (Eats-Uris)

SpecificationsPhysicalConfigAttributes

GLOBAL

Settings

Algorithm Settings

Files

INTERFACE

Wireless0

Bluetooth

Wireless0

Wireless0

Port Status

☒ On

Bandwidth

300 Mbps

MAC Address

0001.9793.D6D3

SSID

Admin1

Authentication

☒ Disabled

☐ WPA-PSK

☐ WPA

☐ 802.1X

☐ WEP

☐ WPA2-PSK

☐ WPA2

Method:

WEP Key

PSK Pass Phrase

User ID

Password

User Name

Password

MD5

Disabled

Encryption Type

Disabled

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

192.168.25.100

Subnet Mask

255.255.255.0

IPv6 Configuration

☒ Automatic

☐ Static

IPv6 Address

/

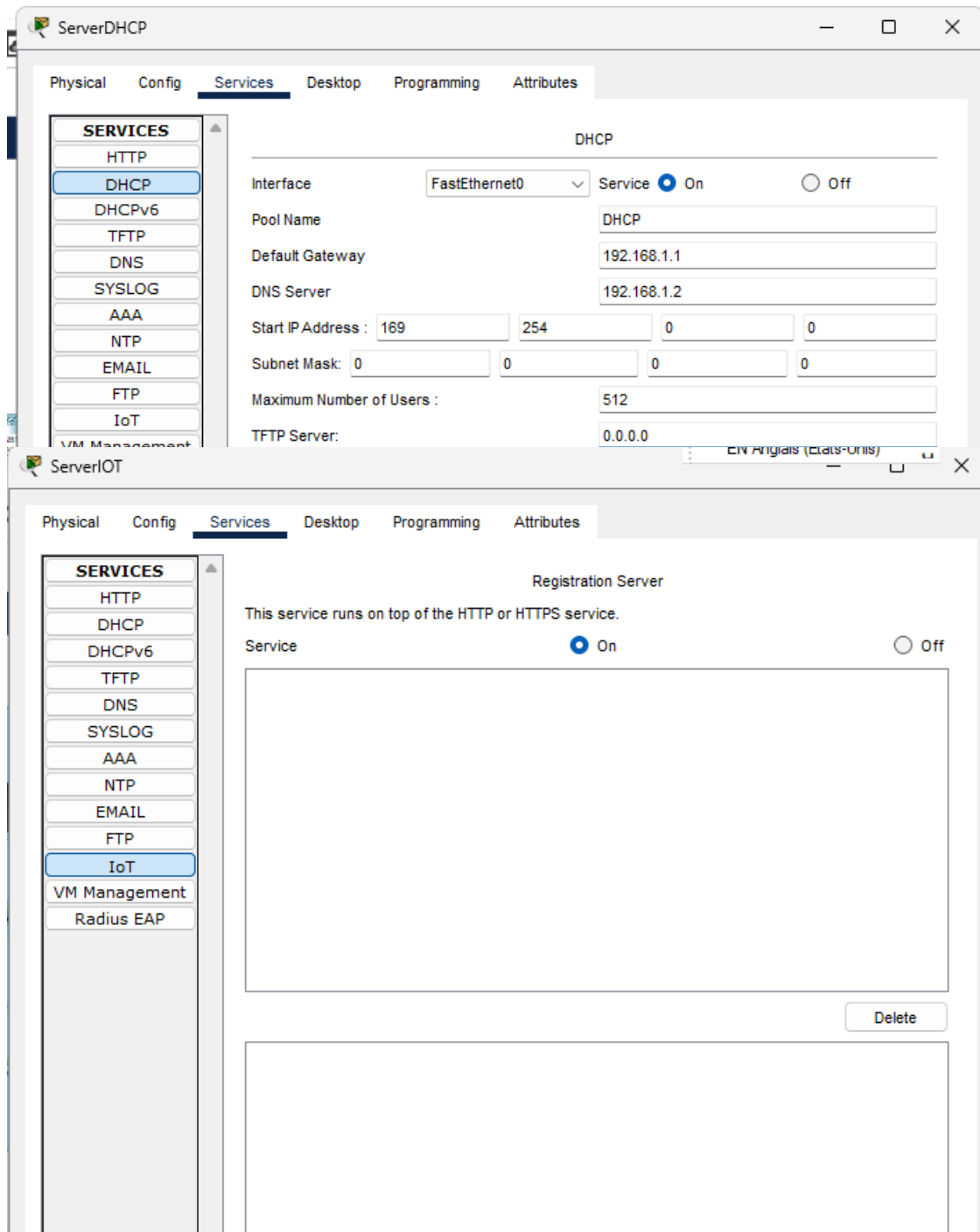
Link Local Address:

FE80::201:97FF:FE93:D6D3

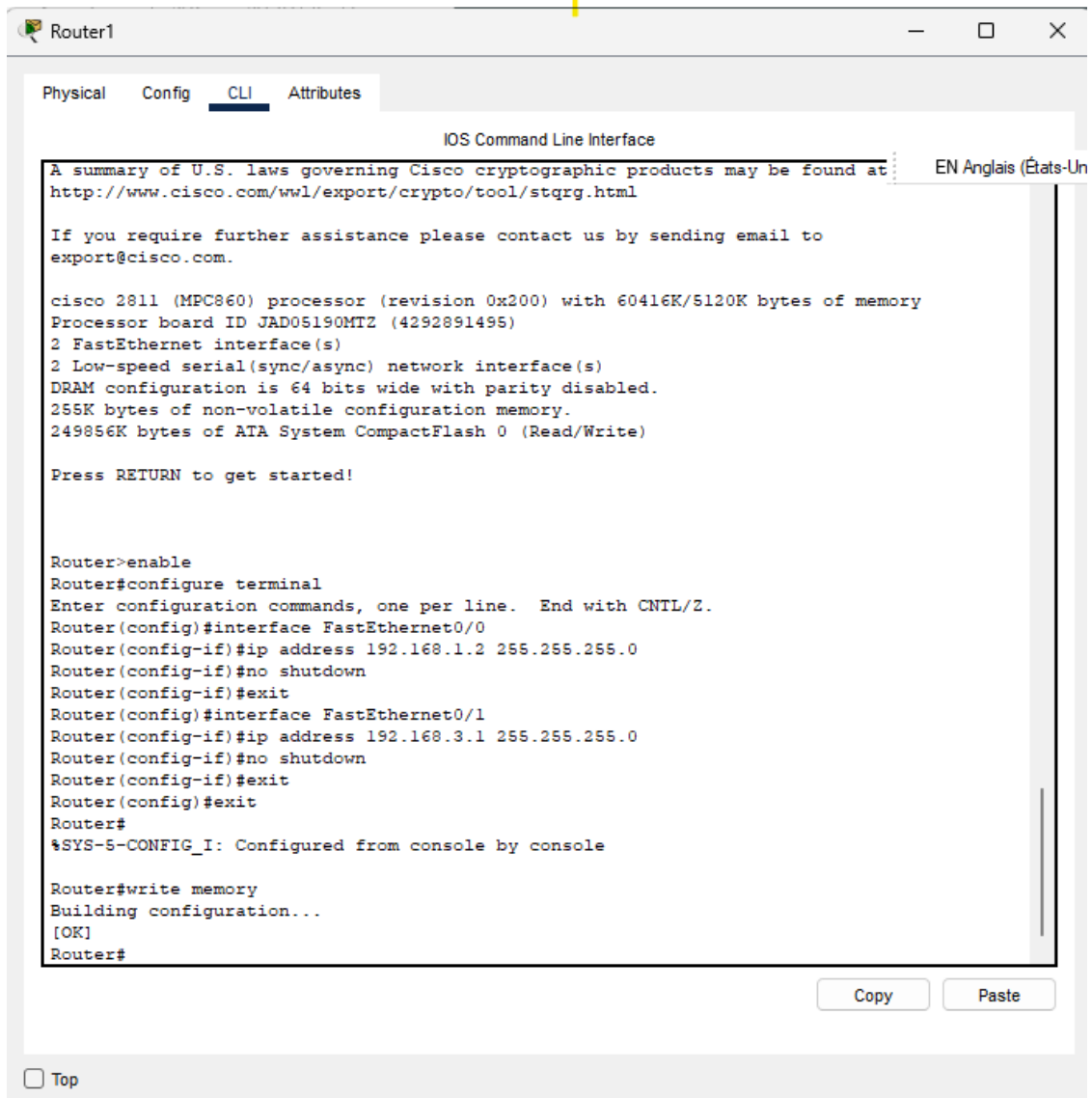
☐ Top

Advanced

3. Configuration des serveurs DHCP et IOT



4. Configuration de base des routeurs



The screenshot shows a web-based interface for a Cisco Router1. At the top, there are tabs for 'Physical', 'Config', 'CLI' (which is selected), and 'Attributes'. Below the tabs, the title 'IOS Command Line Interface' is displayed. The main area contains a text box with the following content:

```
A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html

If you require further assistance please contact us by sending email to
export@cisco.com.

cisco 2811 (MPC860) processor (revision 0x200) with 60416K/5120K bytes of memory
Processor board ID JAD05190MTZ (4292891495)
2 FastEthernet interface(s)
2 Low-speed serial(sync/async) network interface(s)
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.1.2 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#ip address 192.168.3.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

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

At the bottom right of the text box, there are 'Copy' and 'Paste' buttons. Below the text box, there is a 'Top' link with a checkbox icon.

5. Configuration du protocole OSPF

```
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#router-id 1.1.1.1
Router(config-router)#network 192.168.1.0 0.0.0.255 area 0
Router(config-router)#network 192.168.2.0 0.0.0.255 area 0
Router(config-router)#exit
Router(config)#
```

```
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#router-id 2.2.2.2
Router(config-router)#network 192.168.1.0 0.0.0.255 area 0
Router(config-router)#network 192.168.3.0 0.0.0.255 area 0
Router(config-router)#exit
Router(config)#
```

6. Vérification de la configuration OSPF

```
Router#show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
2.2.2.2	1	FULL/BDR	00:00:34	192.168.1.2	FastEthernet0/0

```
Router#show ip route ospf
O    192.168.3.0 [110/2] via 192.168.1.2, 00:01:03, FastEthernet0/0
```

```
Router#
```

Copy

Paste

```
Router#show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
2.2.2.2	1	FULL/BDR	00:00:34	192.168.1.2	FastEthernet0/0

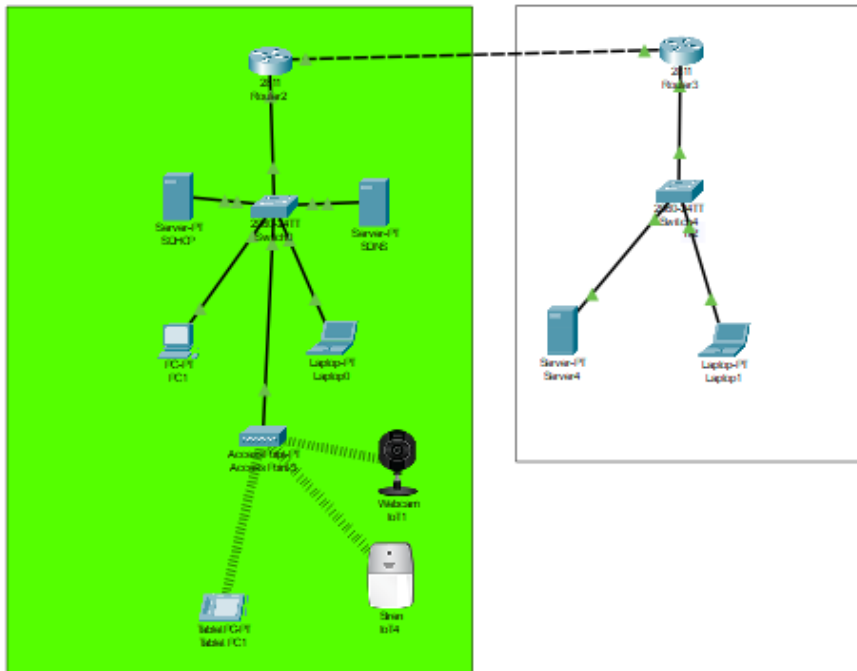
```
Router#show ip route ospf
O    192.168.3.0 [110/2] via 192.168.1.2, 00:01:03, FastEthernet0/0
```

```
Router#
```

Copy

Paste

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



Topologie2

Configuration du point Acces

Home Gateway0

PhysicalConfigGUIAttributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Internet

LAN

Wireless

Wireless Settings

SSIDpa

2.4 GHz Channel6 - 2.437GHz

Coverage Range (meters)250,00

Authentication

☒ Disabled

☐ WEP

☐ WPA-PSK

☐ WPA

☐ WPA2-PSK

☐ WPA2

WEP Key

PSK Pass Phrase

RADIUS Server Settings

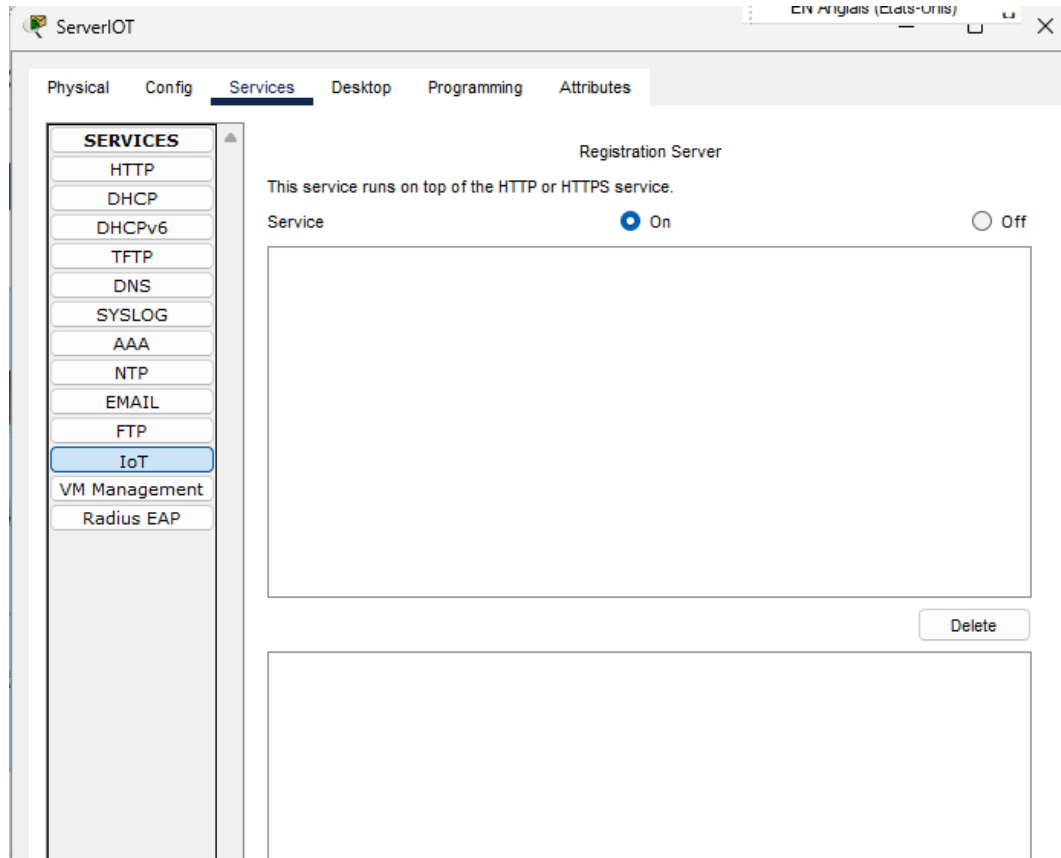
IP Address

Shared Secret

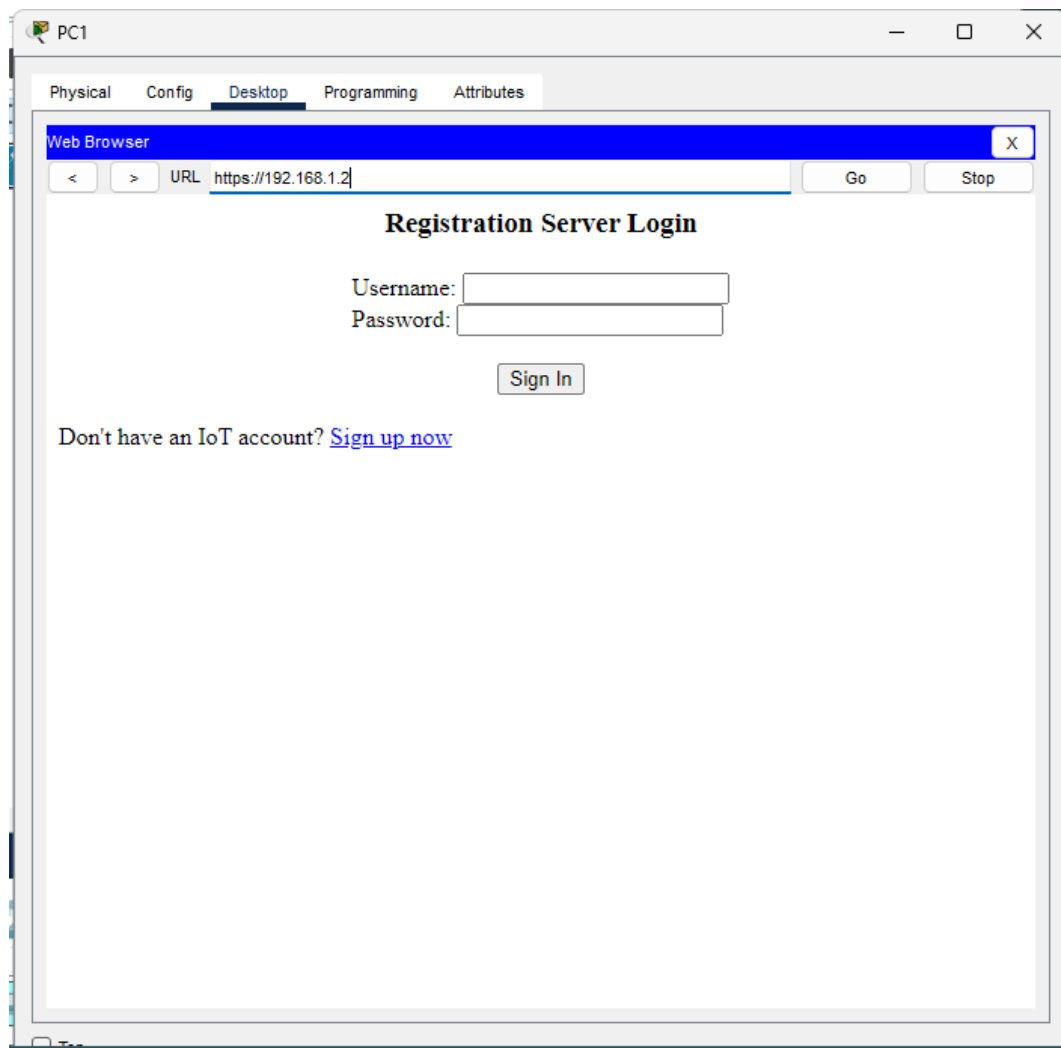
Encryption TypeDisabled

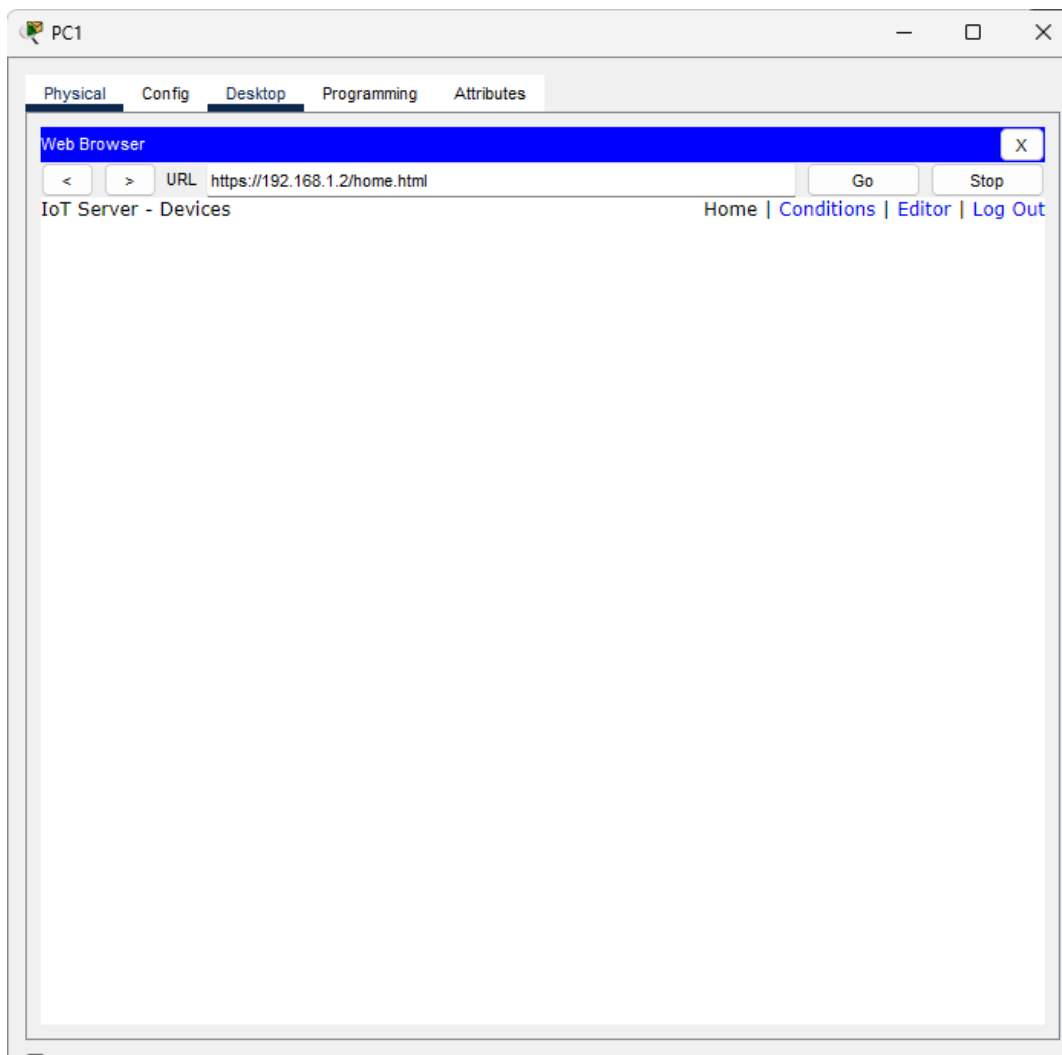
Top

Activation des services IOT



Registration au server





Configurer les IOT

IoT1

SpecificationsPhysicalConfigAttributes

GLOBAL

Settings

Algorithm Settings

Files

INTERFACE

Wireless0

Bluetooth

Wireless0

Port Status

On

Bandwidth

300 Mbps

MAC Address

00E0.A308.50DB

SSID

pa

Authentication

☒ Disabled

☐ WEP

WEP Key

☐ WPA-PSK

☐ WPA2-PSK

PSK Pass Phrase

☐ WPA

☐ WPA2

User ID

☐ 802.1X

Method:

MD5

Encryption Type

Disabled

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

192.168.25.101

Subnet Mask

255.255.255.0

IPv6 Configuration

☒ Automatic

☐ Static

IPv6 Address

/

Link Local Address

FE80::2E0:A3FF:FE08:50DB

Top

Advanced

IoT4

SpecificationsPhysicalConfigAttributes

GLOBAL

Settings

Algorithm Settings

Files

INTERFACE

Wireless0

Bluetooth

Wireless0

Port Status

On

Bandwidth

300 Mbps

MAC Address

0007.ECDB.B0B2

SSID

pal

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

Subnet Mask

192.168.25.102

255.255.255.0

IPv6 Configuration

Automatic

Static

IPv6 Address

Link Local Address: FE80::207:ECFF:FEDB:B0B2

Top

Advanced

Tablet PC1EN Anglais (Stats-Unis)

PhysicalConfigDesktopProgrammingAttributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Wireless0

3G/4G Cell1

Bluetooth

Wireless0

Port Status

On

Bandwidth

11 Mbps

MAC Address

00E0.F7D7.0255

SSID

pa

Authentication

☒ Disabled

☐ WEP

☐ WPA-PSK

☐ WPA

☐ 802.1X

☐ WPA2-PSK

☐ WPA2

Method:

WEP Key

PSK Pass Phrase

User ID

Password

MDS

User Name

Password

Disabled

Encryption Type

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

169.254.2.87

Subnet Mask

255.255.0.0

IPv6 Configuration

☒ Automatic

☐ Static

IPv6 Address

/

Link Local Address: FE80::2E0:F7FF:FED7:255

☐ Top

IoT4

EN Anglais (Eats-Unis)

SpecificationsPhysicalConfigAttributes

GLOBAL

Settings

Algorithm Settings

Files

INTERFACE

Wireless0

Bluetooth

InterfacesWireless0

Gateway/DNS IPv4

☒ DHCP

☐ Static

Default Gateway192.168.1.1

DNS Server192.168.1.2

Gateway/DNS IPv6

☒ Automatic

☐ Static

Default Gateway

DNS Server

IoT Server

☐ None

☐ Home Gateway

☒ Remote Server

Server Address192.168.1.2

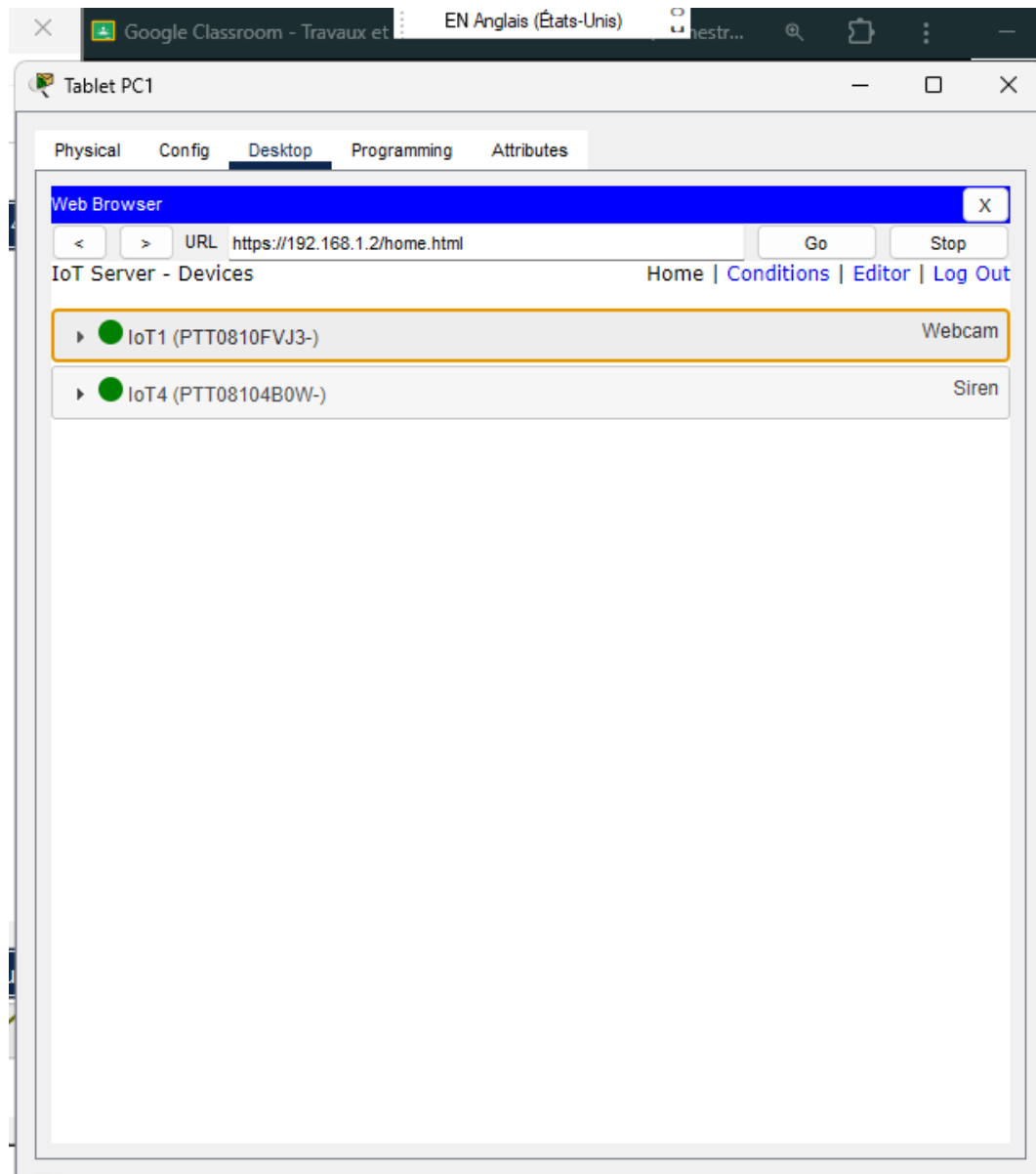
User Nameyann

Password1234

Refresh

☐ Top

Advanced



Conclusion

En conclusion, ce TD me permet de configurer un réseau avec les protocoles OSPF et des IoT.