

# Institut Universitaire des Sciences

Faculté sciences et technologies

Rapport TD5 reseau 2

Préparé par :

Nom : PIERRE

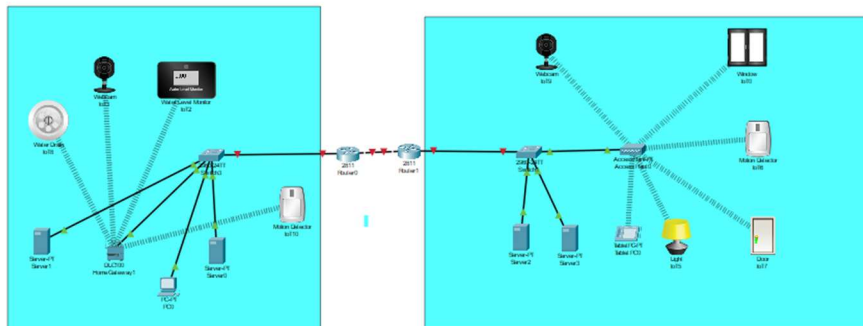
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Niveau : L3 - Sciences Informatiques

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## 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

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

WEP 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

☐ WPA-PSK

☐ WPA

☐ 802.1X

☐ WPA2-PSK

☐ WPA2

Method:

MD5

WEP Key

PSK Pass Phrase

User ID

Password

User Name

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

EN Arigdis (Eids-Ullis)

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 (Etats-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

☐ WEP

WEP Key

☐ WPA-PSK

☐ WPA2-PSK

PSK Pass Phrase

☐ WPA

☐ WPA2

User ID

☐ 802.1X

Method:

MD5

MD5

User Name

Password

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

Port Status

Bandwidth

MAC Address

SSID

Authentication

Encryption Type

IP Configuration

IPv6 Configuration

On

300 Mbps

0001.9793.D6D3

Admin1

Disabled

WPA-PSK

WPA

802.1X

WEP

WPA2-PSK

WPA2

Method:

WEP Key

PSK Pass Phrase

User ID

Password

User Name

Password

MD5

Disabled

DHCP

Static

192.168.25.100

255.255.255.0

Automatic

Static

IPv6 Address

Link Local Address: FE80::201:97FF:FE93:D6D3

Top

Advanced

### 3. Configuration des serveurs DHCP et IOT

The image displays two screenshots of network configuration software. The top window, titled 'ServerDHCP', shows the 'Services' tab. On the left, a 'SERVICES' list includes HTTP, DHCP (selected), DHCPv6, TFTP, DNS, SYSLOG, AAA, NTP, EMAIL, FTP, and IoT. The main area is for DHCP configuration, showing 'Interface' as 'FastEthernet0', 'Service' as 'On', 'Pool Name' as 'DHCP', 'Default Gateway' as '192.168.1.1', 'DNS Server' as '192.168.1.2', 'Start IP Address' as '169.254.0.0', 'Subnet Mask' as '0.0.0.0', 'Maximum Number of Users' as '512', and 'TFTP Server' as '0.0.0.0'. The bottom window, titled 'ServerIoT', also shows the 'Services' tab. The 'SERVICES' list includes HTTP, DHCP, DHCPv6, TFTP, DNS, SYSLOG, AAA, NTP, EMAIL, FTP, IoT (selected), VM Management, and Radius EAP. The main area is for 'Registration Server' configuration, with a note 'This service runs on top of the HTTP or HTTPS service.' and 'Service' set to 'On'. A 'Delete' button is visible at the bottom right.

**ServerDHCP Configuration:**

- Interface: FastEthernet0
- Service: ☒ On ☐ Off
- Pool Name: DHCP
- Default Gateway: 192.168.1.1
- DNS Server: 192.168.1.2
- Start IP Address: 169 254 0 0
- Subnet Mask: 0 0 0 0
- Maximum Number of Users: 512
- TFTP Server: 0.0.0.0

**ServerIoT Configuration:**

- Service: ☒ On ☐ Off
- Registration Server: This service runs on top of the HTTP or HTTPS service.
- Delete button



#### 4. Configuration de base des routeurs

Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

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](mailto: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#

EN Anglais (États-Un)

Copy Paste

☐ Top

## 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
```

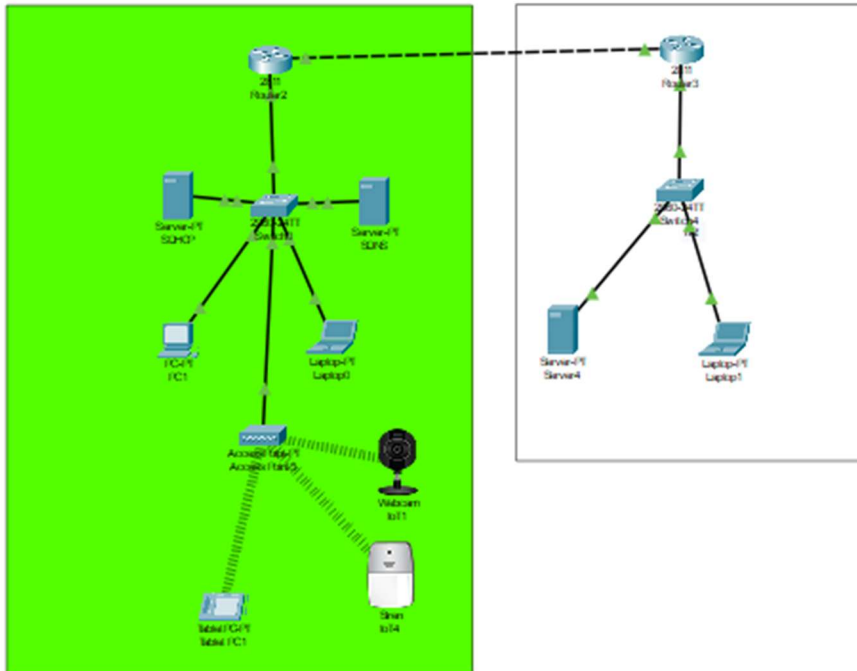
```
Router#
```

Copy

Paste

## REPONSE Q2

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



*Topologie2*

## Configuration du point Accés

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

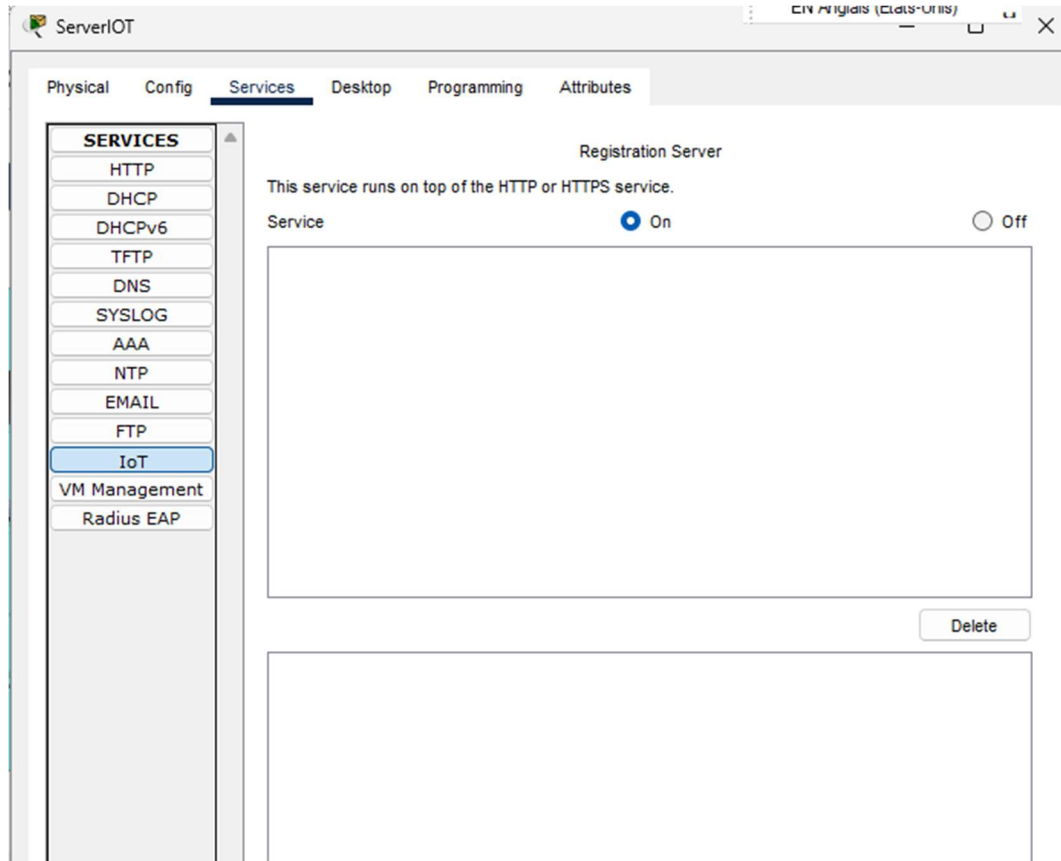
IP Address

Shared Secret

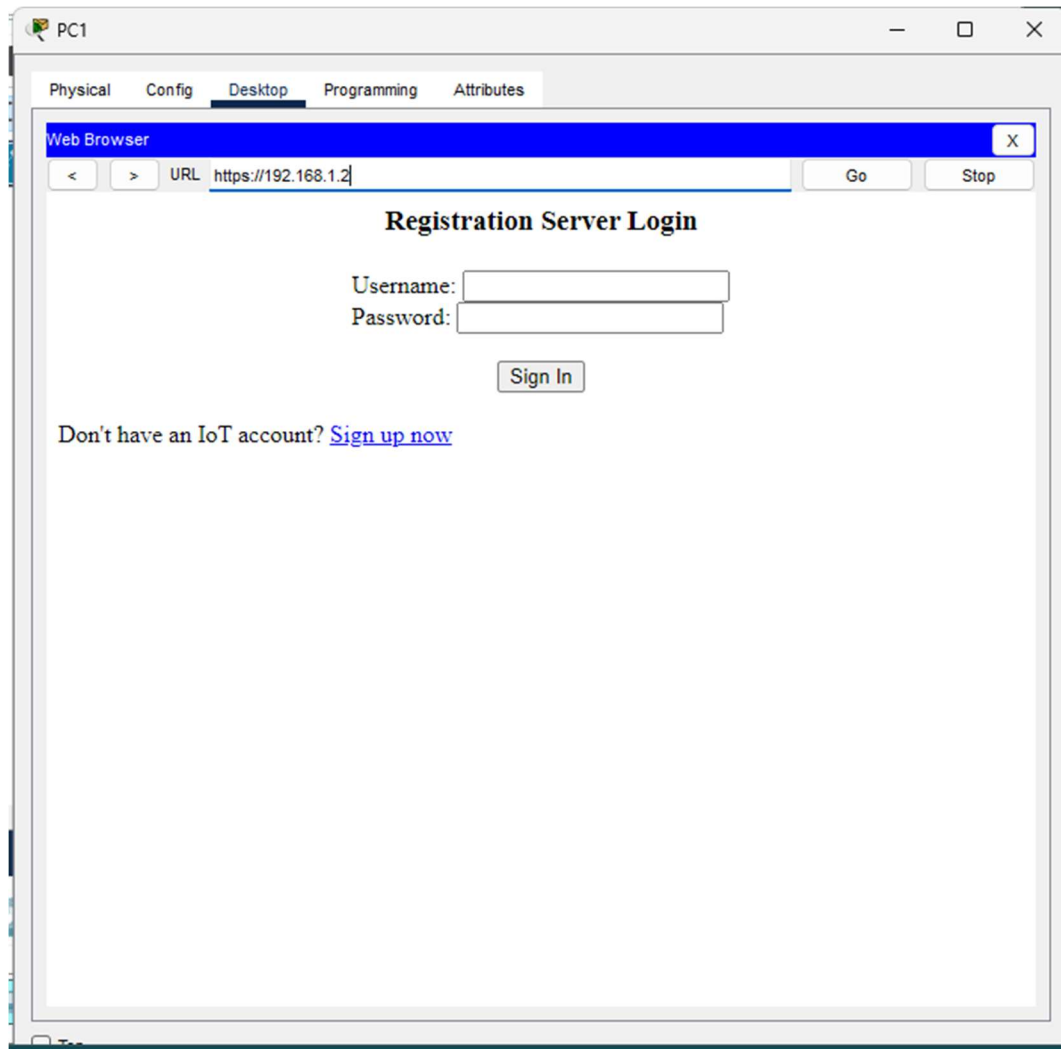
Encryption TypeDisabled

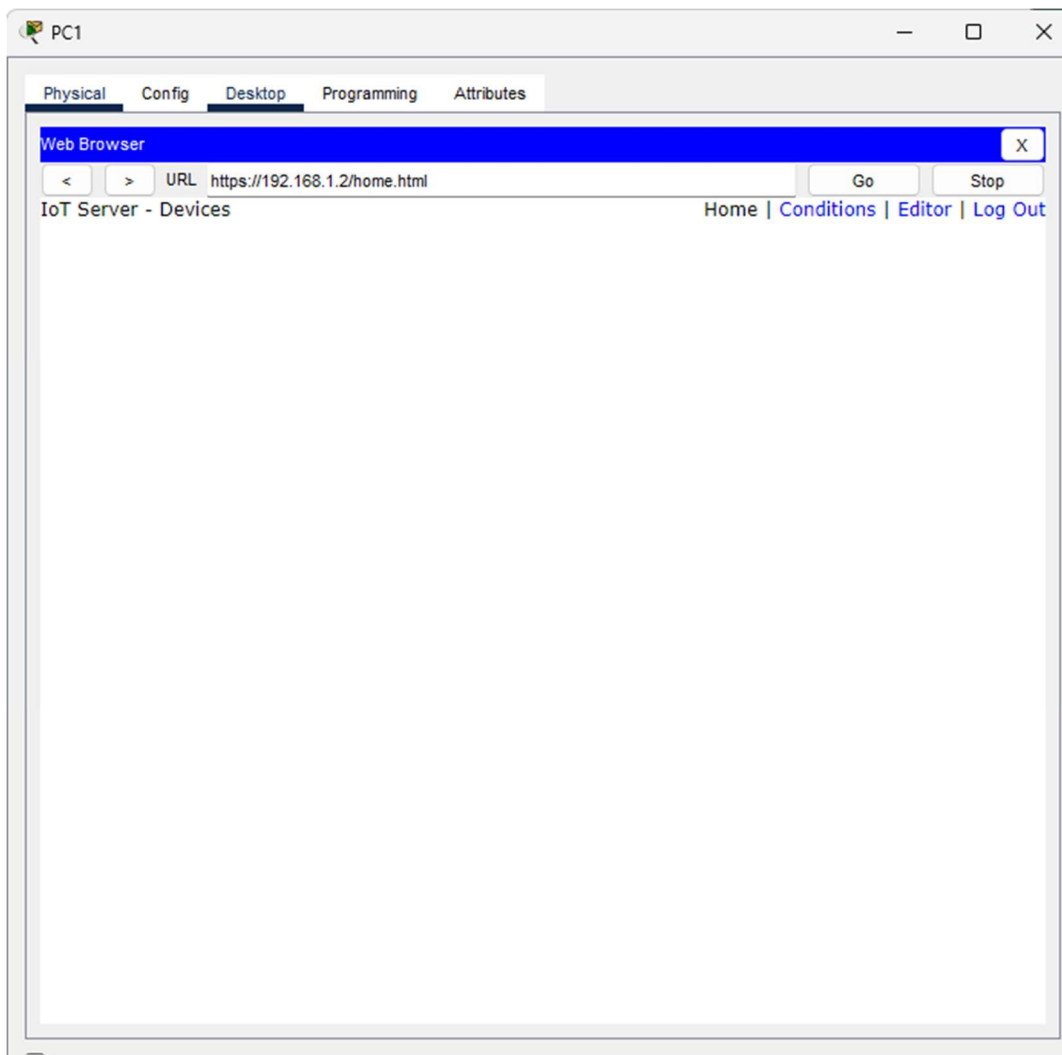
Top

## Activation des services IOT



Registration au server







Configurer les IOT

IoT1

SpecificationsPhysicalConfigAttributes

GLOBAL

Settings

Algorithm Settings

Files

INTERFACE

Wireless0

Bluetooth

Wireless0

Port Status

☒ On

Bandwidth300 Mbps

MAC Address00E0.A308.50DB

SSIDpa

Authentication

☒ Disabled

☐ WEP

☐ WPA-PSK

☐ WPA

☐ 802.1X

☐ WPA2-PSK

☐ WPA2

Method:

WEP Key

PSK Pass Phrase

User ID

Password

MD5

User Name

Password

Encryption Type

Disabled

IP Configuration

☒ DHCP

☐ Static

IPv4 Address192.168.25.101

Subnet Mask255.255.255.0

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

192.168.25.102

Subnet Mask

255.255.255.0

IPv6 Configuration

Automatic

Static

IPv6 Address

/

Link Local Address

FE80::207:ECFF:FEDB:B0B2

Top

Advanced

Tablet PC1

EN Anglais (etats-unis)

Physical

Config

Desktop

Programming

Attributes

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

Disabled

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 (Etats-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

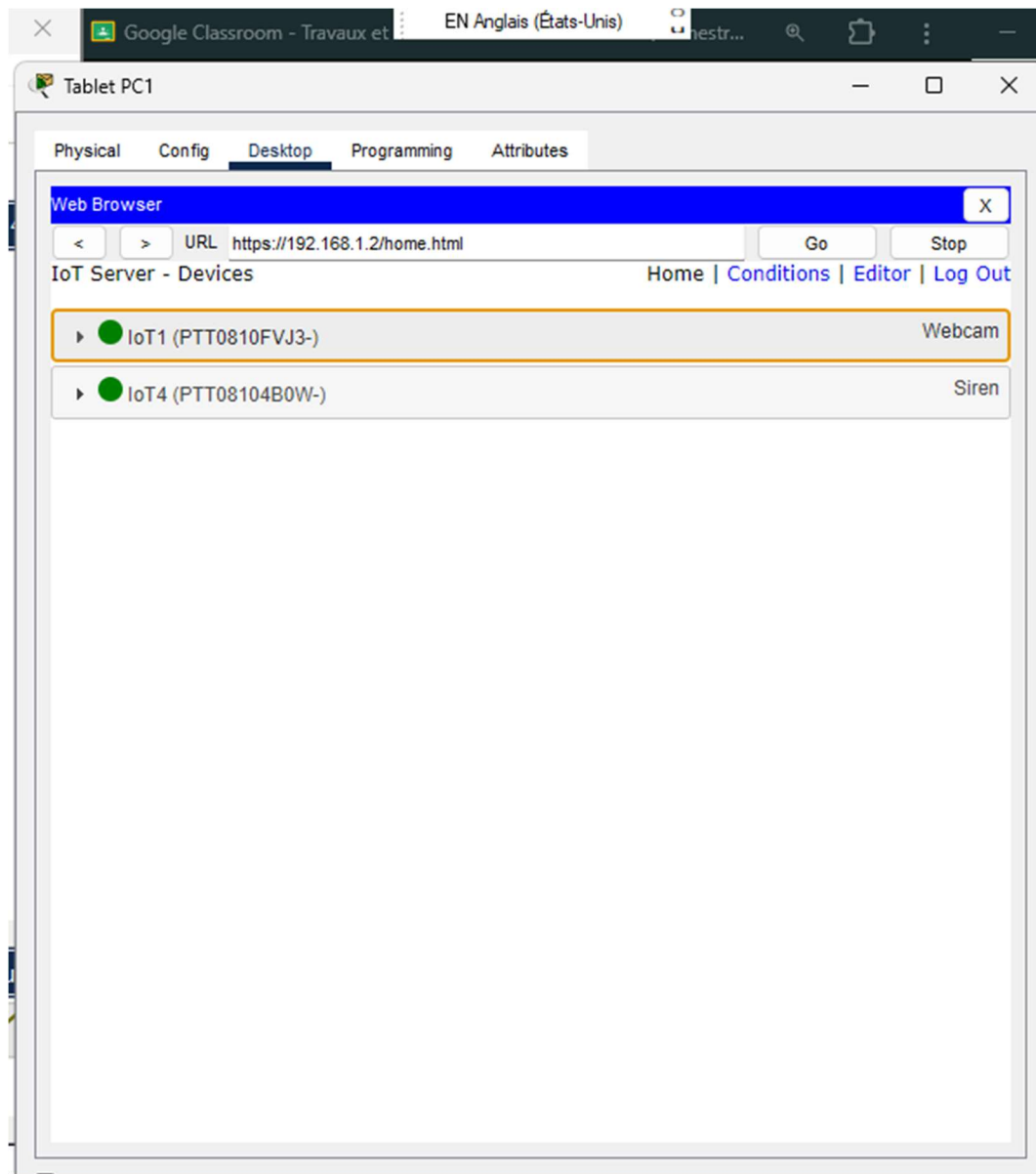
User Nameyann

Password1234

Refresh

☐ Top

Advanced



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## Conclusion

Ce TD m'a permis d'explorer la configuration réseau avec OSPF et des IoT, consolidant mes compétences techniques essentielles en connectivité.