

# Computer Networks

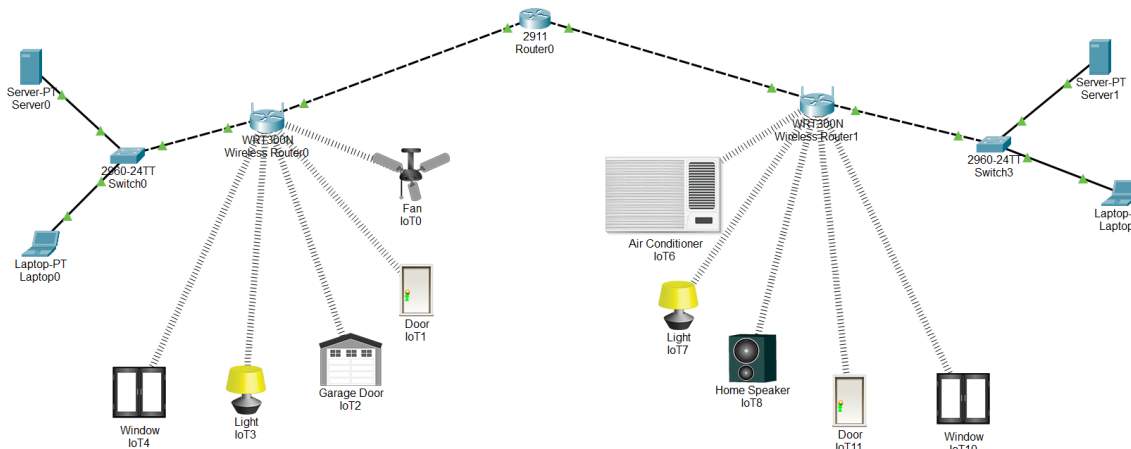
## CS361 Lab9

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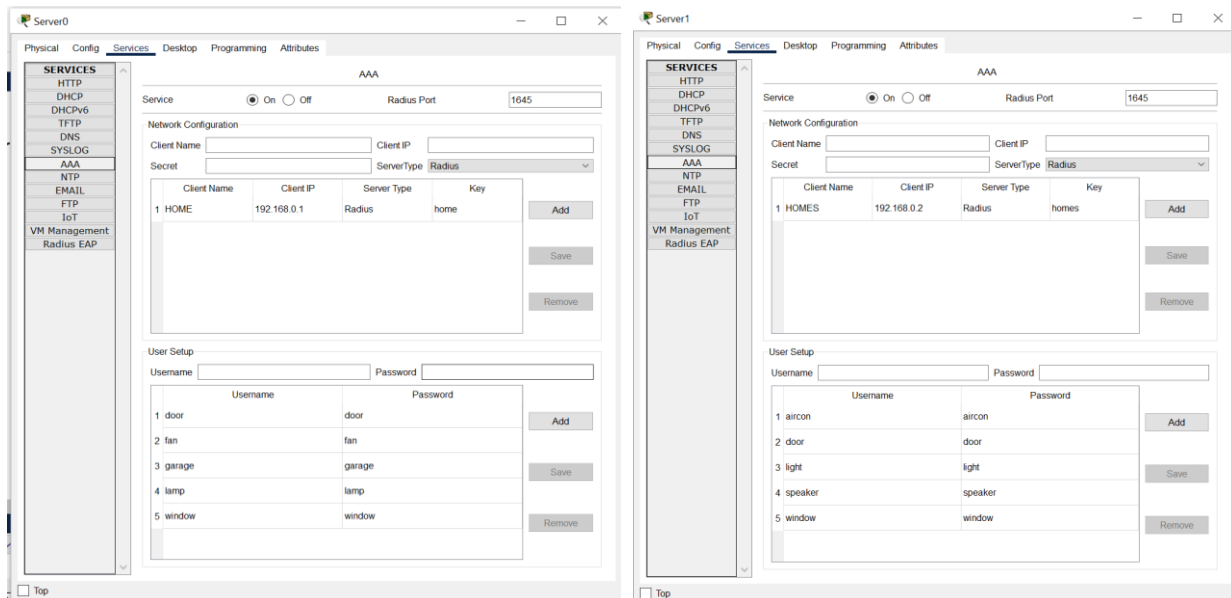
**Tasks:** Consider that you have two different houses with multiple IoT devices. The two houses are in different subnets and have different IoT servers. Demonstrate the following:

(1) IoT devices of one house can be controlled from the Laptop/PC of another house.

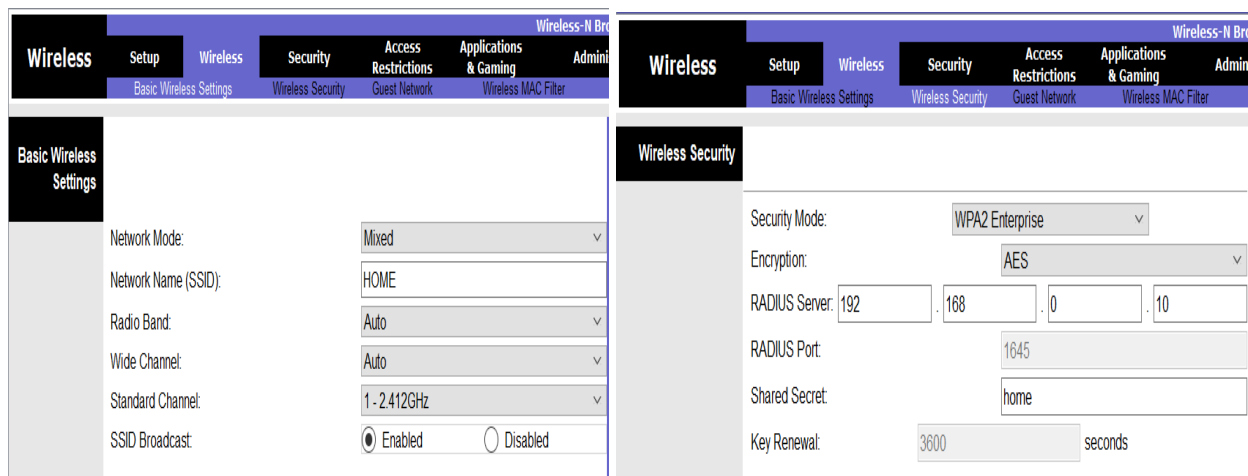


Full Network setup...

Steps: 1) configuring IOT server:



## 2) Configuring Wireless router:

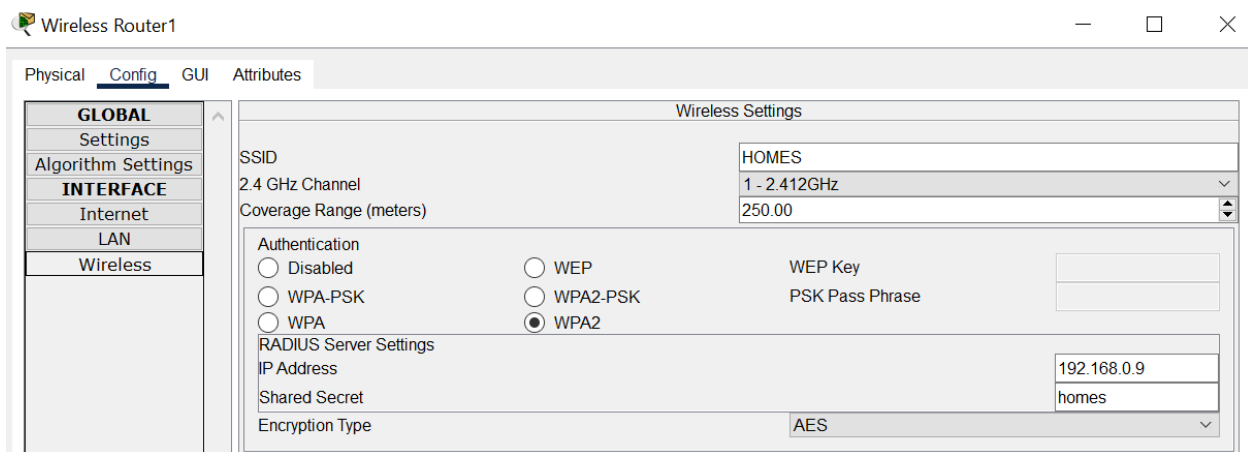


**Basic Wireless Settings**

Network Mode:	Mixed
Network Name (SSID):	HOME
Radio Band:	Auto
Wide Channel:	Auto
Standard Channel:	1-2.412GHz
SSID Broadcast:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled

**Wireless Security**

Security Mode:	WPA2 Enterprise
Encryption:	AES
RADIUS Server:	192 . 168 . 0 . 10
RADIUS Port:	1645
Shared Secret:	home
Key Renewal:	3600 seconds



**Wireless Router1**

Physical **Config** GUI Attributes

**GLOBAL**

- Settings
- Algorithm Settings

**INTERFACE**

- Internet
- LAN
- Wireless**

**Wireless Settings**

SSID	HOMES
2.4 GHz Channel	1-2.412GHz
Coverage Range (meters)	250.00

**Authentication**

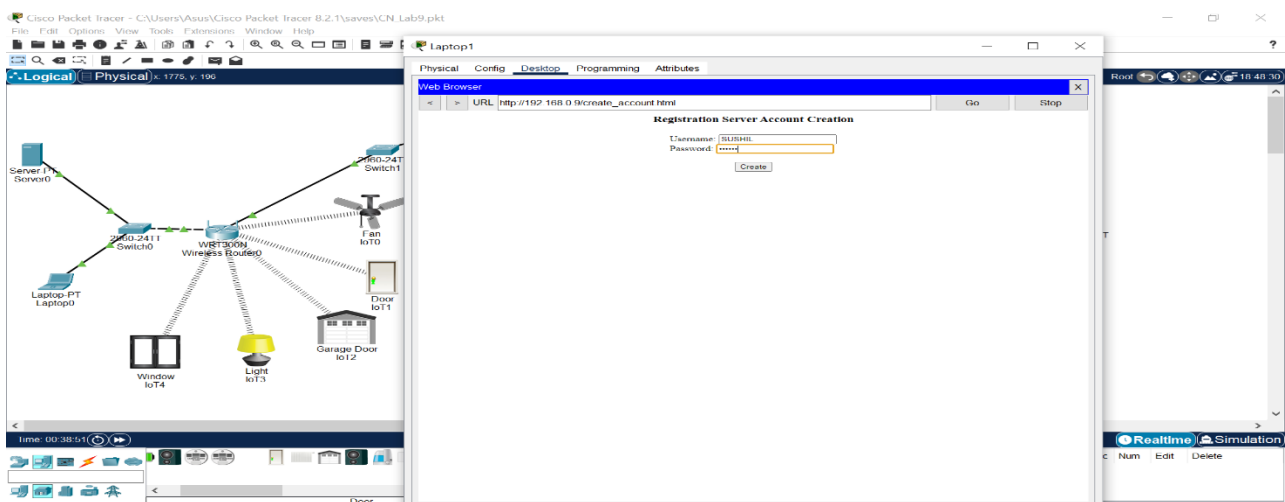
☐ Disabled ☐ WEP ☐ WPA-PSK ☐ WPA2-PSK ☒ WPA2

WEP Key   
PSK Pass Phrase

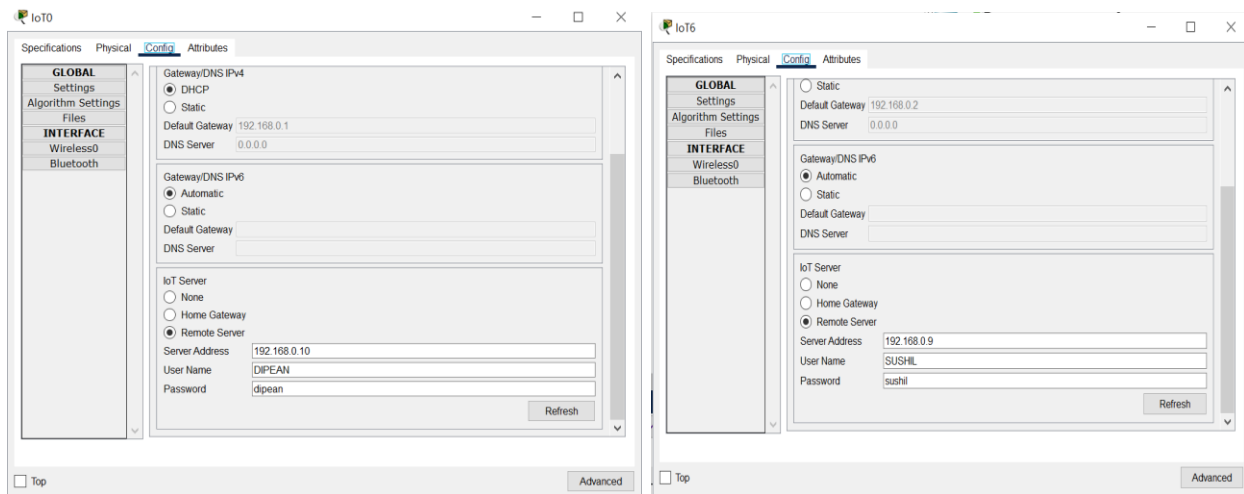
**RADIUS Server Settings**

IP Address	192.168.0.9
Shared Secret	homes
Encryption Type	AES

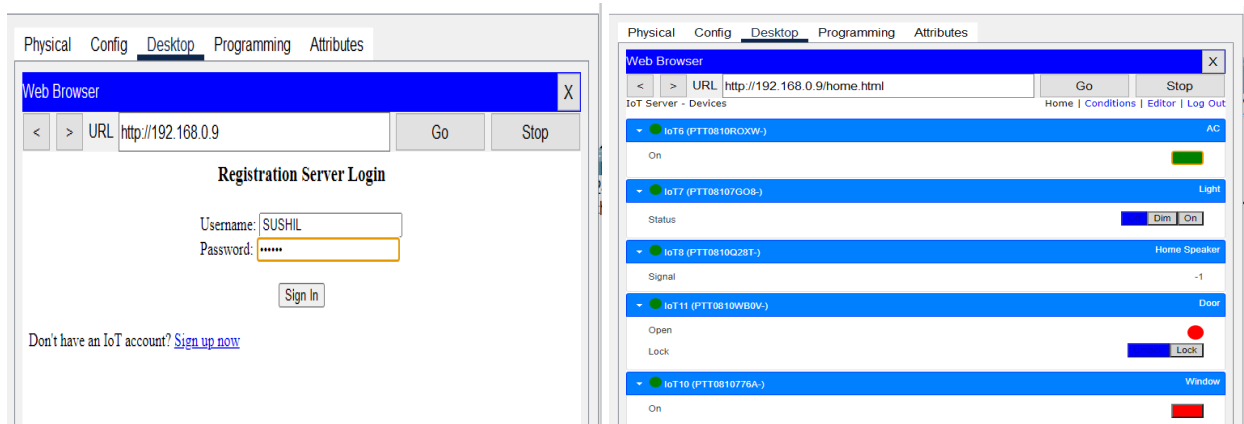
## 3) Registering IOT servers:



#### 4) Registering IOT devices:

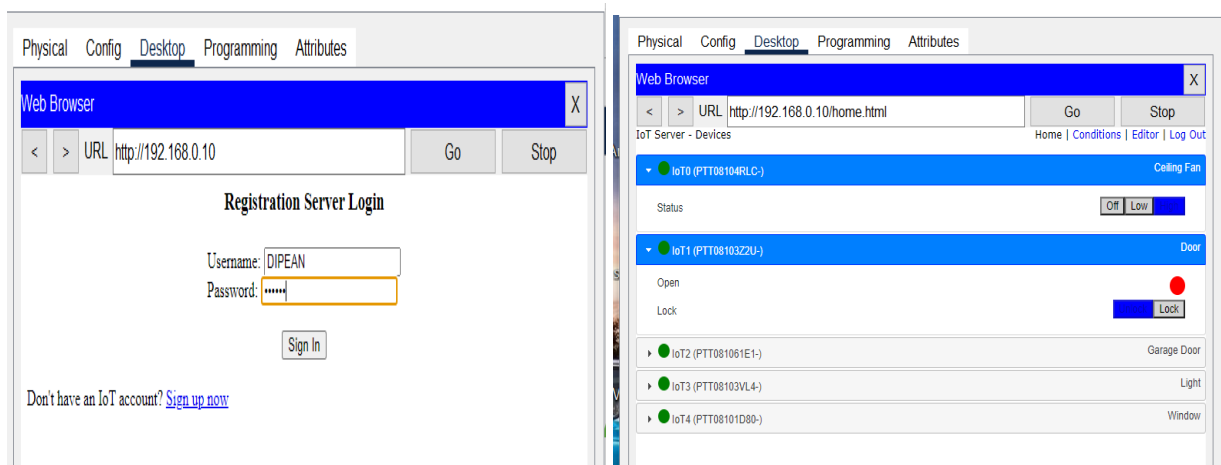


#### 5) Login to IOT server from Laptop:



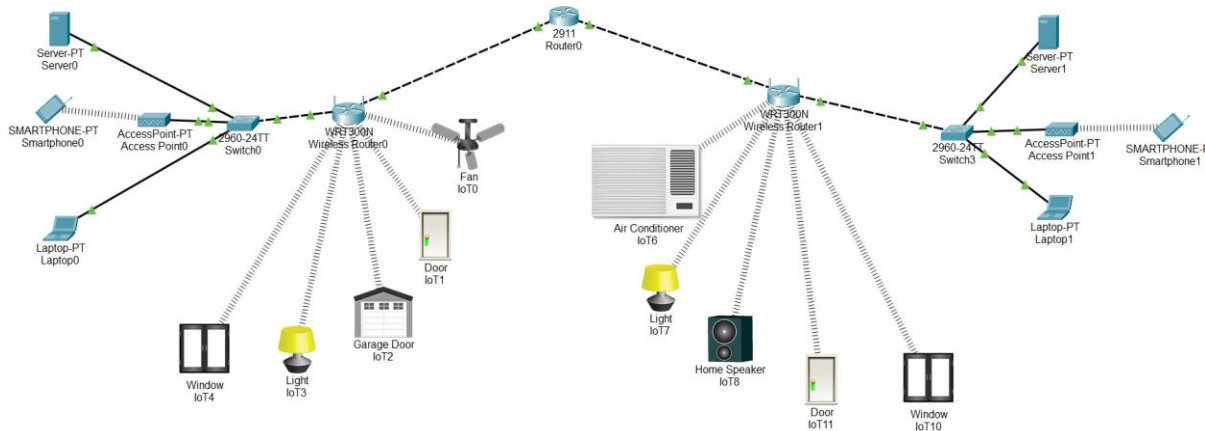
Here we have logged into the other IOT server of 2<sup>nd</sup> house from Laptop0 of 1<sup>st</sup> house. We have also turned on the AC of 2<sup>nd</sup> house from laptop0.

Similarly,



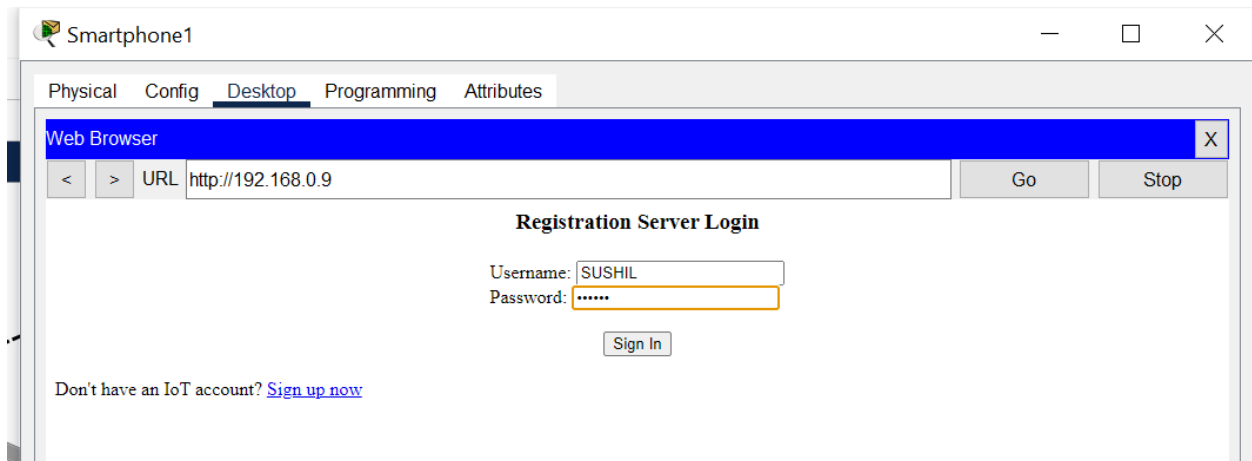
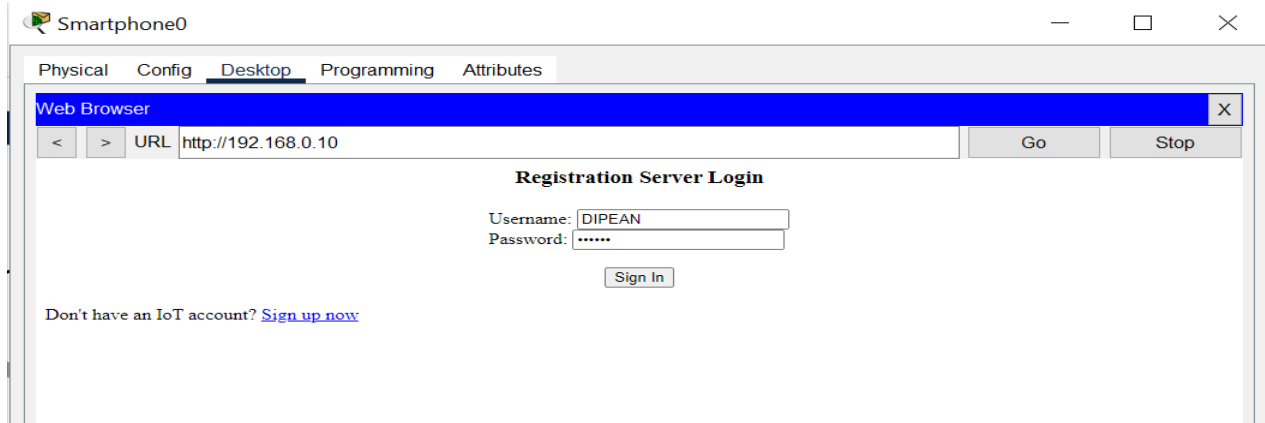
We have logged into iot server of 1<sup>st</sup> house from Laptop1 which is in 2<sup>nd</sup> house. We have turned on the fan of 1<sup>st</sup> house from Laptop1.

(2) Use a mobile phone to communicate with IoT devices.



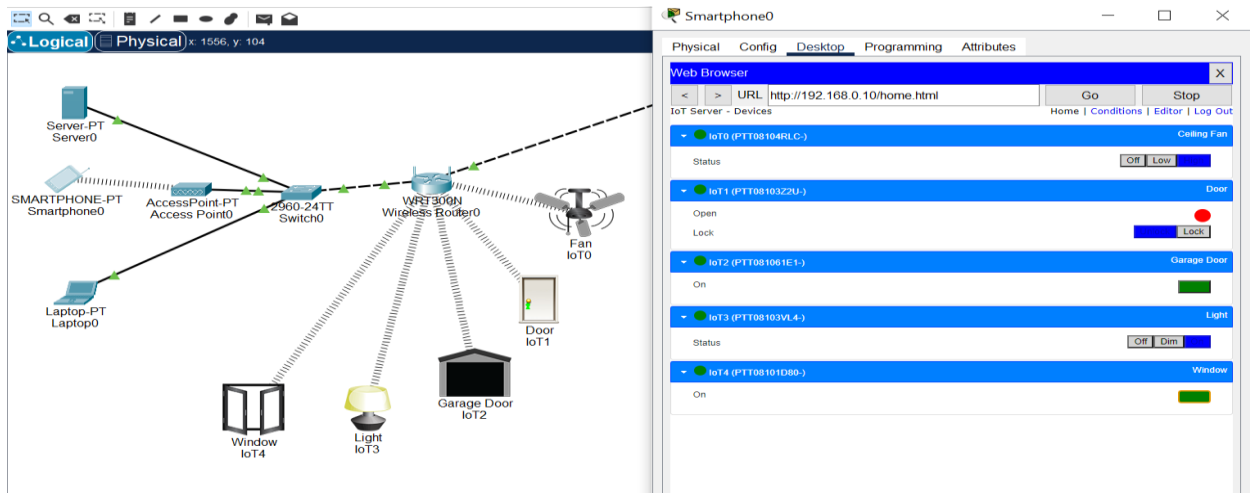
Here, mobiles are connected sing Access point connected with switch.

**Logging in IOT server:**



# Controlling IOT devices from Mobile phones:

## House1



## House2

