Server PT: End Devices

AP-PT: Wireless Devices

Old Car: Smart City

Fire Sprinkler: Industrial (to convert Fire Sprinkler to wireless-> config->advanced->

IO config (PT-IOT-NM-1W))

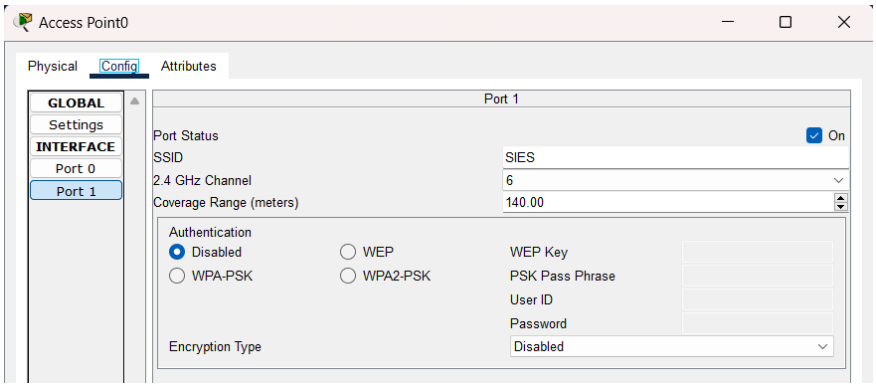
Lawn Sprinkler: Home

Smoke Detector: Home

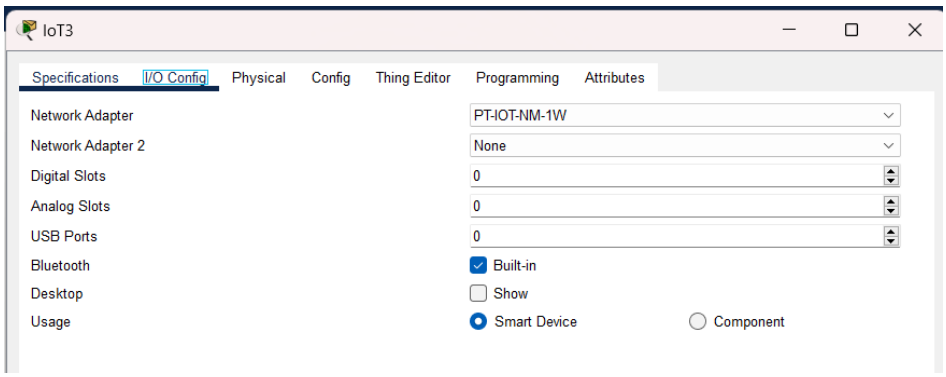
Prac 3 A: (Using Remote Server)

-Connect server and access point.

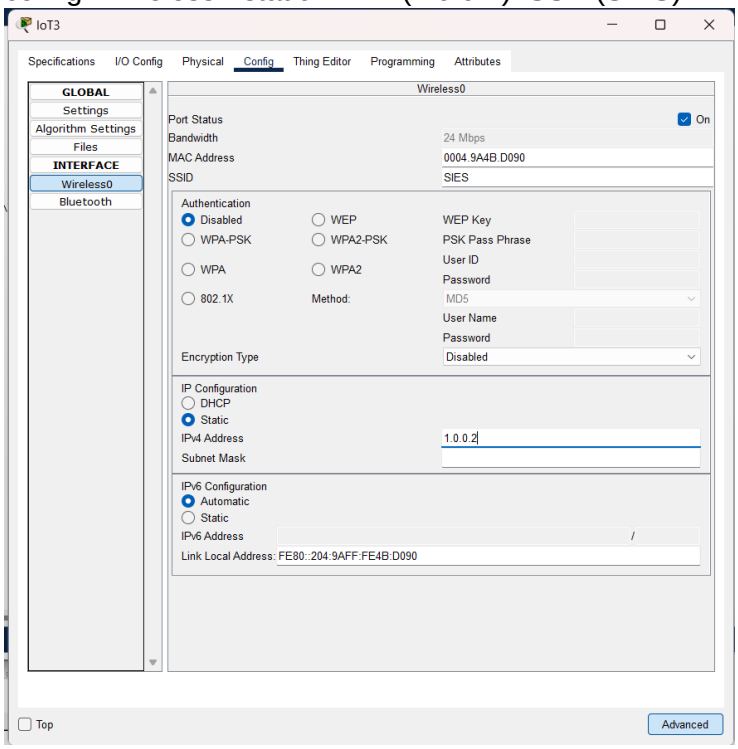
AP-PT: Port 0 [auto] Port 1 [SSID(SIES)]



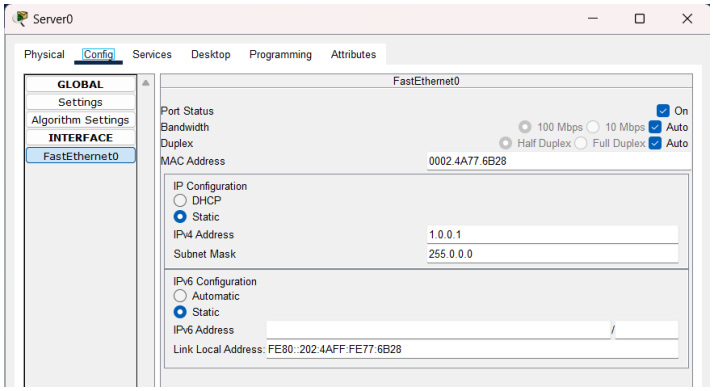
Smoke Detector: Advanced Config->IO config->Network Adapter (PT-IOT-NM-1W) [check]



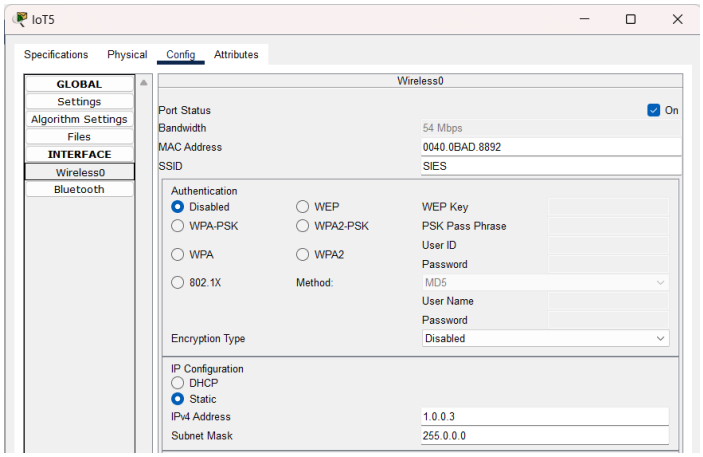
config->wireless->static->IPV4(1.0.0.2) SSID(SIES)



Server PT: Config->IP config->IPV4 (1.0.0.1)

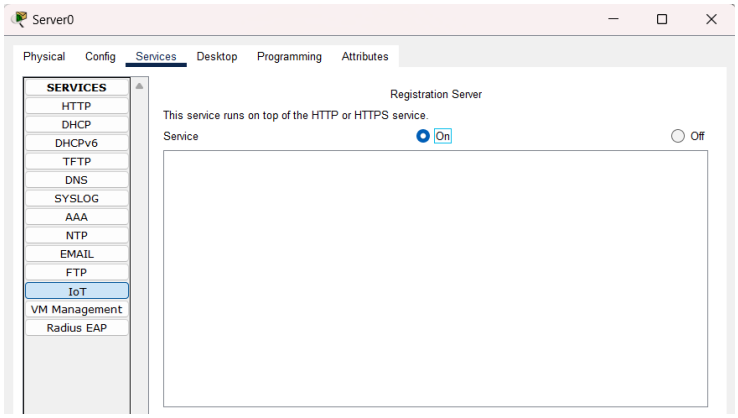


Lawn Sprinkler: config->wireless->static->IPV4(1.0.0.3)

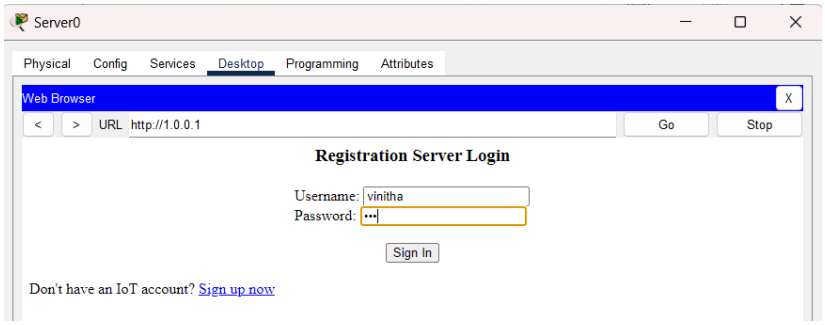


To send to server: (registering the sensor to server)

Services->IOT->ON

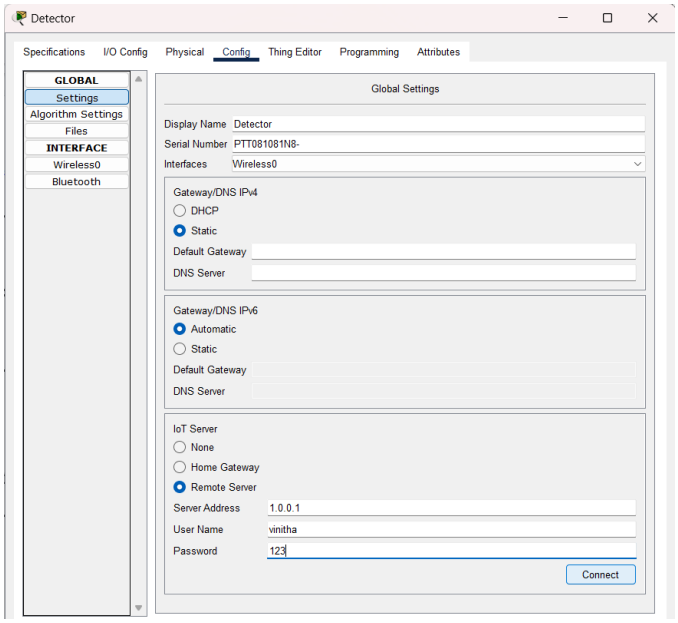


Desktop->Web Browser->1.0.0.1 Signup-> username: vinitha Password:123

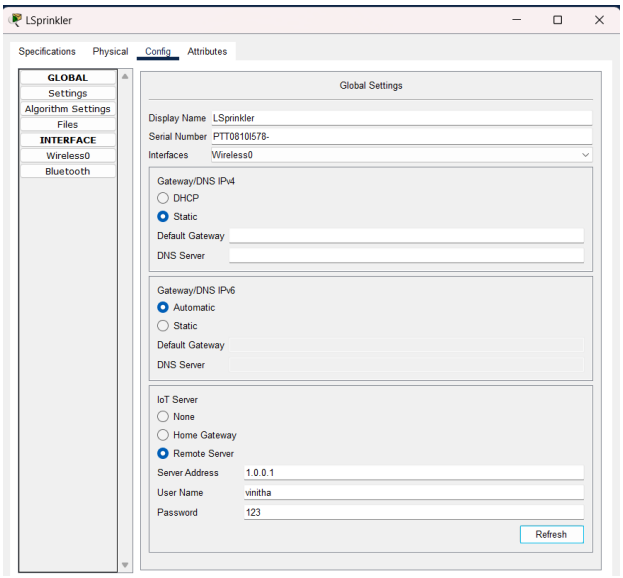


URL->Conditions->Add

Smoke Detector->config->settings->IOT server -> Remote Server -> Server address:1.0.0.1 (vinitha|123)->connect [change name(Detector)]

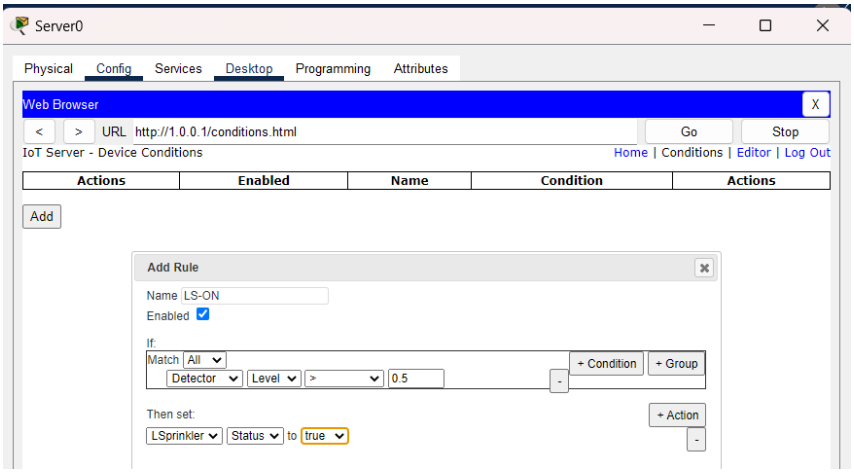


Same for sprinkler

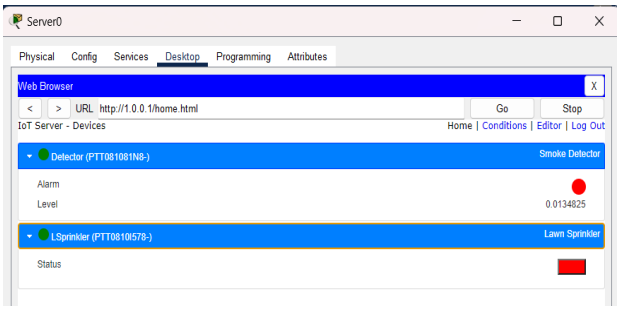


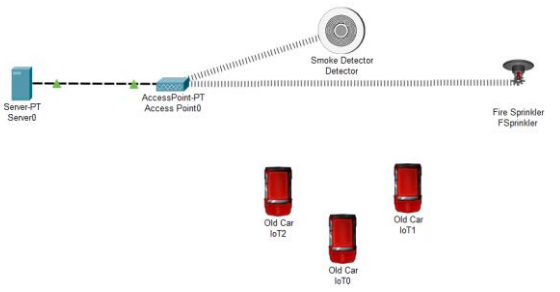
Car[start]->Alt+ left click

Server->URL->Conditions->Add



Actions	Enabled	Name	Condition	Actions
Edit Remove	Yes	LS-ON	Detector Level > 0.5	Set LSprinkler Status to true
Edit Remove	Yes	LS-OFF	Detector Level < 0.5	Set LSprinkler Status to false





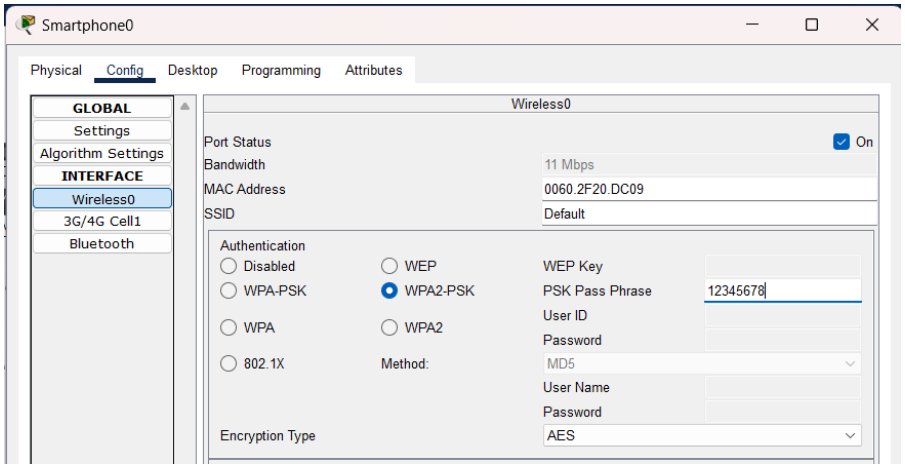
Prac 3 B: (Using Home Gateway)

Water Level Monitor: Home

Home gateway: Network Devices-> Access Points

Smart Phone: End Devices

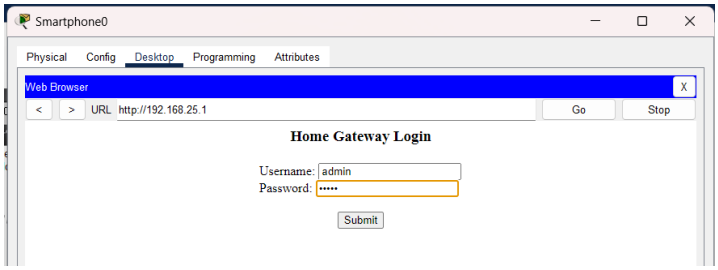
Smart Phone->config->wireless->Authentication(WPA2-PSK[12345678])



Same for every element->config->wireless->Authentication(WPA2-PSK[12345678])

Home Gateway & Smart Phone & Water Monitor & Sprinklers->SSID(SIES1)

SmartPhone->Web browser->192.168.25.1->username: admin | password: admin

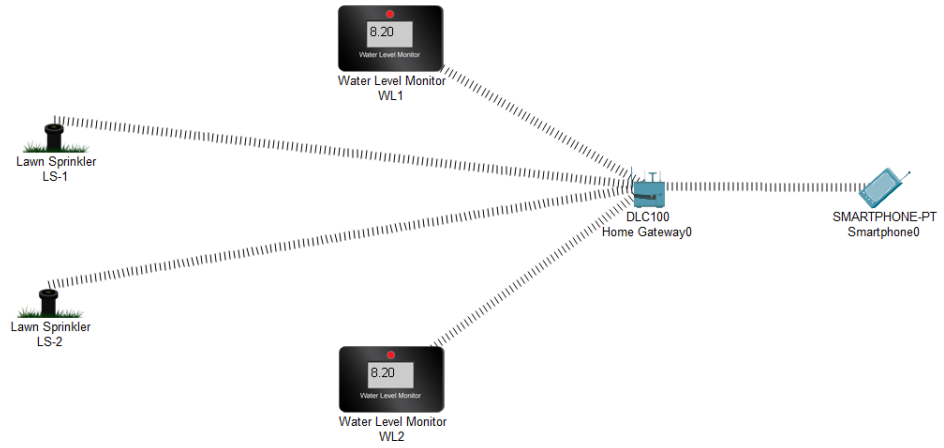


Register Devices:

All devices sprinkler and Monitors ->config ->settings->IOT server->(Home Gateway)

Actions		Enabled	Name	Condition	Actions
Edit	Remove	Yes	LS1-ON	WL1 Water Level <= 5.0 cm	Set LS-1 Status to true
Edit	Remove	Yes	LS1-OFF	WL1 Water Level >= 5.0 cm	Set LS-1 Status to false
Edit	Remove	Yes	LS2-ON	WL2 Water Level <= 5.0 cm	Set LS-2 Status to true
Edit	Remove	Yes	LS2-OFF	WL2 Water Level >= 5.0 cm	Set LS-2 Status to false

Make status of LS1 and LS2 True first by clicking the red button on IOT devices



Prac 4 A: RIP Protocol:

Router PT: Network Devices

Switch PT: Network Devices

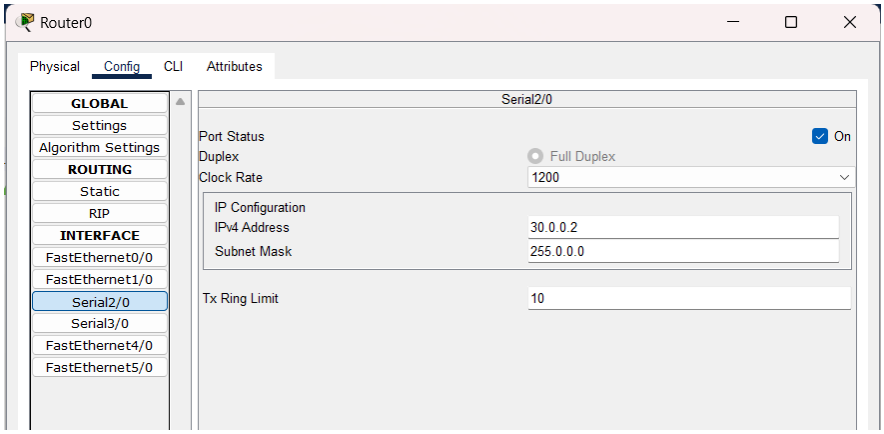
PC PT: End Devices

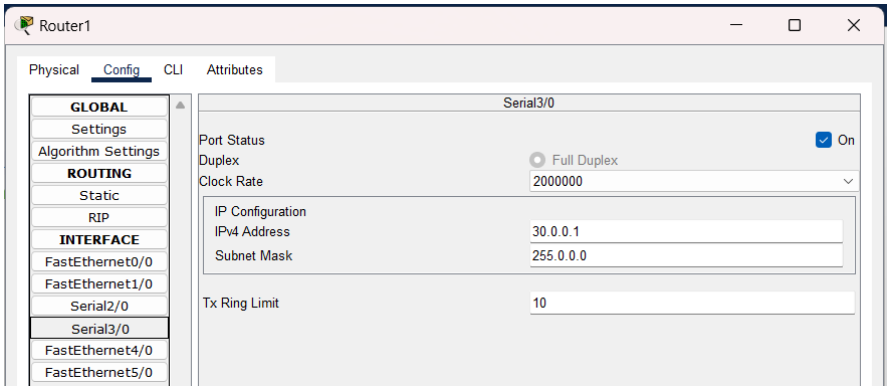
Prac 4 B: OSPF Protocol

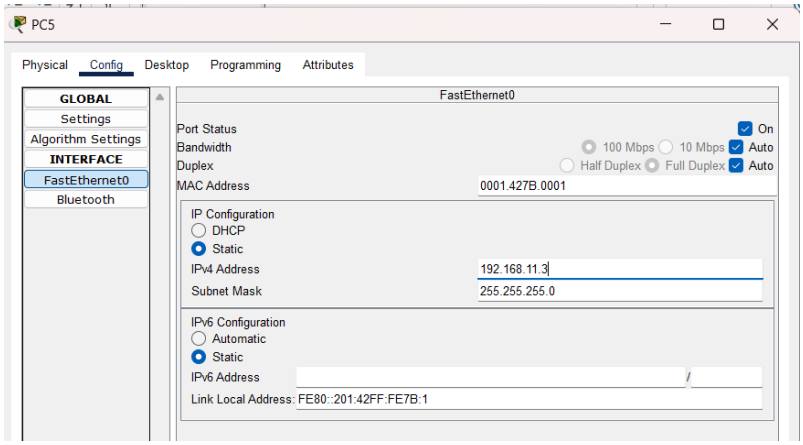
Configure PC-> Gateway (eg. 192.168.12.1) and IPV4 addresses (eg. 192.168.12.2-3)

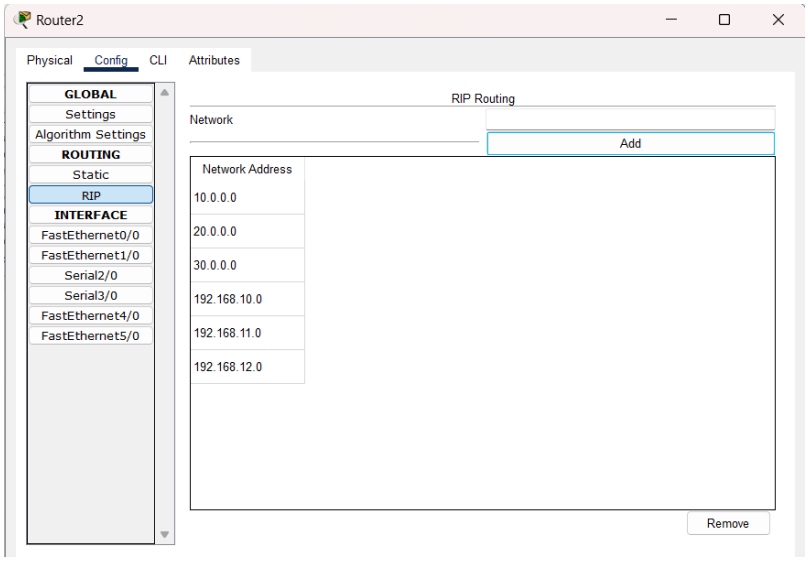
Connect routers as well by using the same IP for a particular wire (eg. 10.0.0.1)

Keep active router wire ON


Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
Serial2/0
Port Status
On
Duplex
Full Duplex
Clock Rate
1200
IP Configuration
IPv4 Address
30.0.0.2
Subnet Mask
255.0.0.0
Tx Ring Limit
10

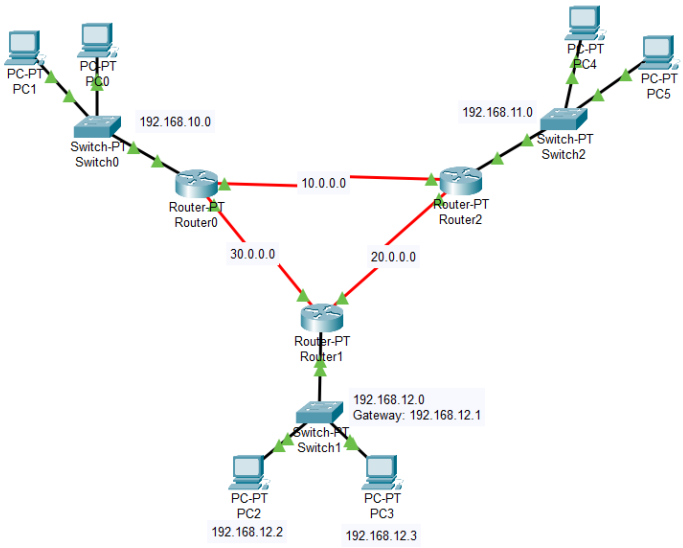

Router1
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
Serial3/0
Port Status
On
Duplex
Full Duplex
Clock Rate
2000000
IP Configuration
IPv4 Address
30.0.0.1
Subnet Mask
255.0.0.0
Tx Ring Limit
10


PC5
Physical
Config
Desktop
Programming
Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
FastEthernet0
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0001.427B.0001
IP Configuration
DHCP
Static
IPv4 Address
192.168.11.3
Subnet Mask
255.255.255.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address:
FE80::201:42FF:FE7B:1



Send Packets

Successful	PC0	PC3	ICMP		0.000	N	0	(edit)	(delete)
Successful	PC0	PC2	ICMP		0.000	N	1	(edit)	(delete)



Mac Protocol

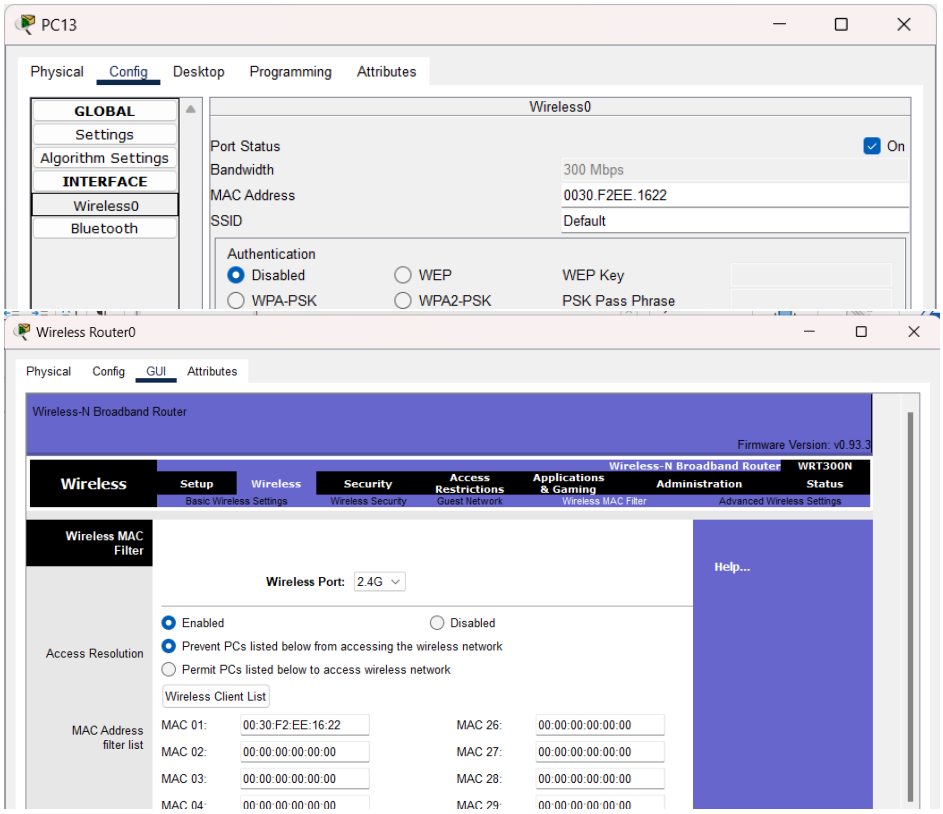
Change Physical:

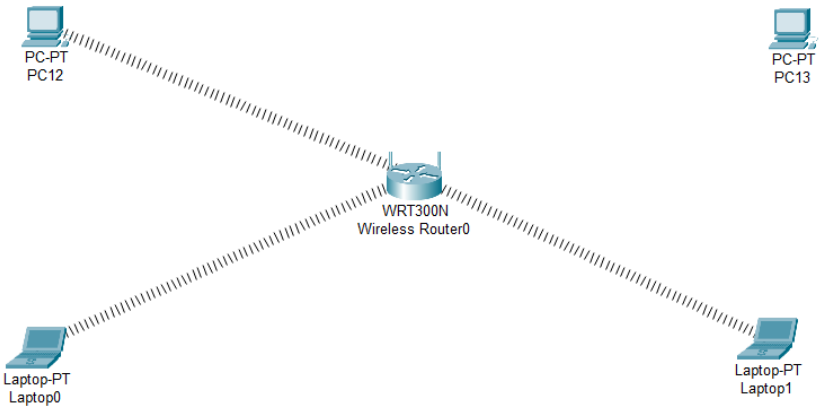
Laptop: (WMP300)

Pc: (WPC300N)

Router->GUI->Wireless->Wireless MAC Filter -> Enabled->Prevent(default)/Permit->

[PC13->config->Wireless0->MAC Address (00:00:00:00:00:00)]->Save settings.





Mobile Adhoc Network

Light, Fan, Motion Sensor: Home

Gateway and Smartphone

Smartphone SSID->HomeGateway

Every device->IOT server->HomeGateway

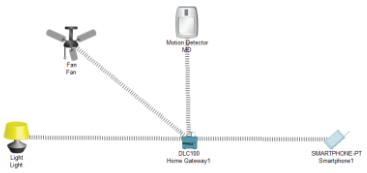
Smartphone->Desktop->Web Browser(192.168.25.1)->login(admin | admin)

Conditions: (Motion detector has Boolean values)

+Action to add light

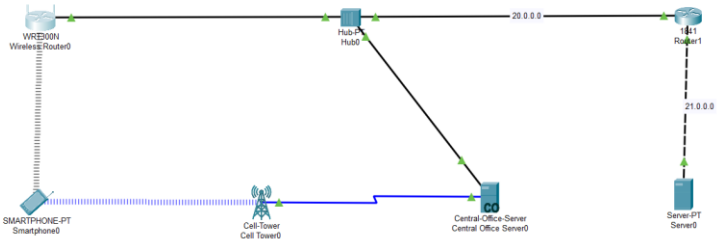
Actions	Enabled	Name	Condition	Actions
Edit Remove	Yes	FL-OFF	MD On is false	Set Fan Status to Off Set Light Status to Off
Edit Remove	Yes	FL-ON	MD On is true	Set Fan Status to High Set Light Status to On

Test:



Alt+ Mouse Hover-> Sense motion

Mobile Network (Nai aata)

Wireless router -> HUB -> Router (1841)->Server

Wireless router -> Smartphone -> Cell tower -> Central Office -> HUB