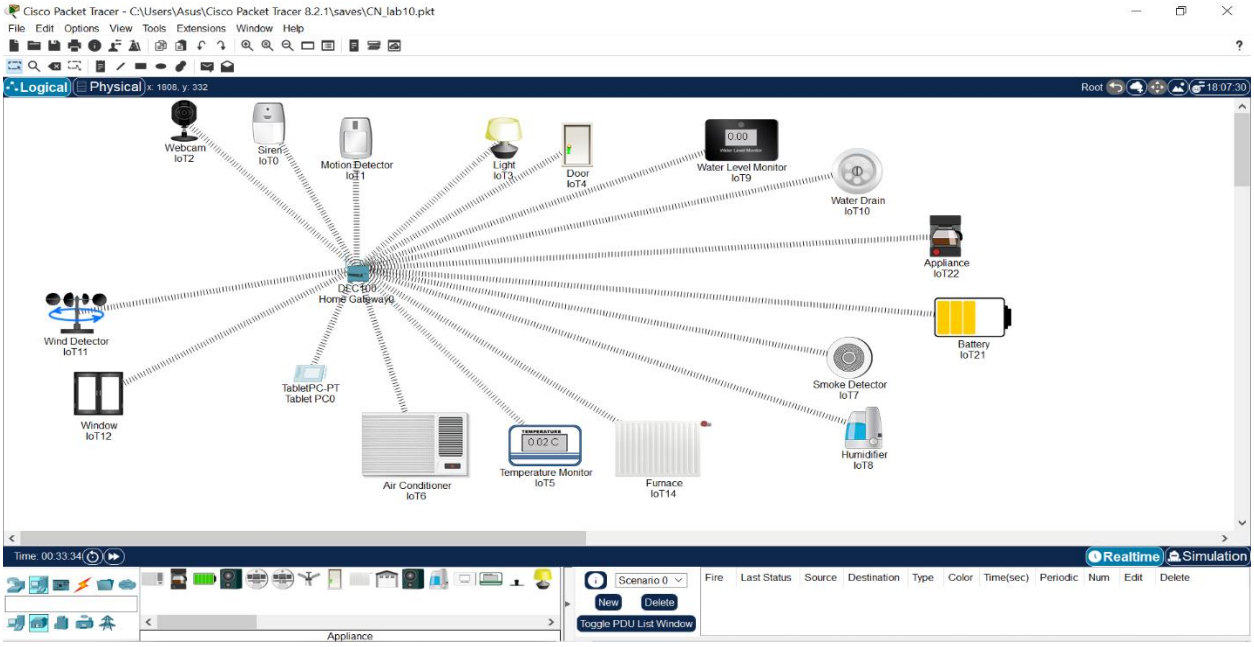
Computer Networks

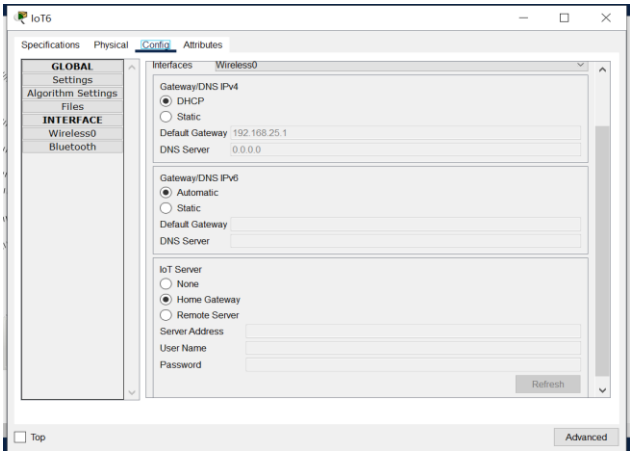
CS361 Lab10

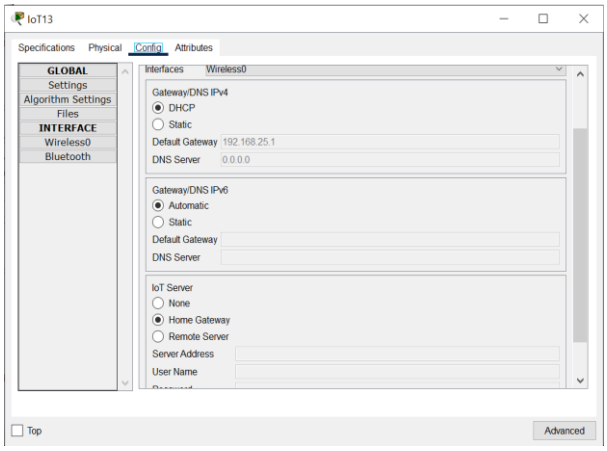
Name: Dipean Dasgupta ID:202151188

TASK: Create an IOT environment where you need to connect your home gateway and connect total of 10 IOT devices and create a total of 15 conditions where each condition should be affecting at least 5 IOT devices.



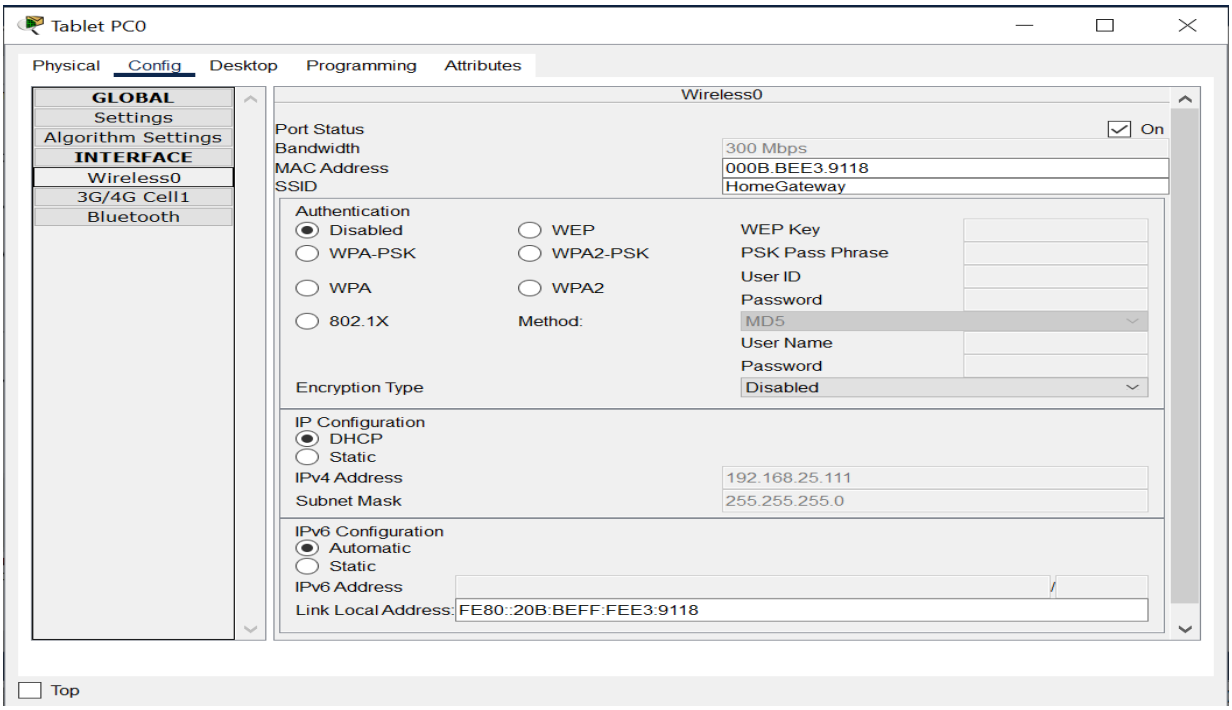
Configuring IOT devices...



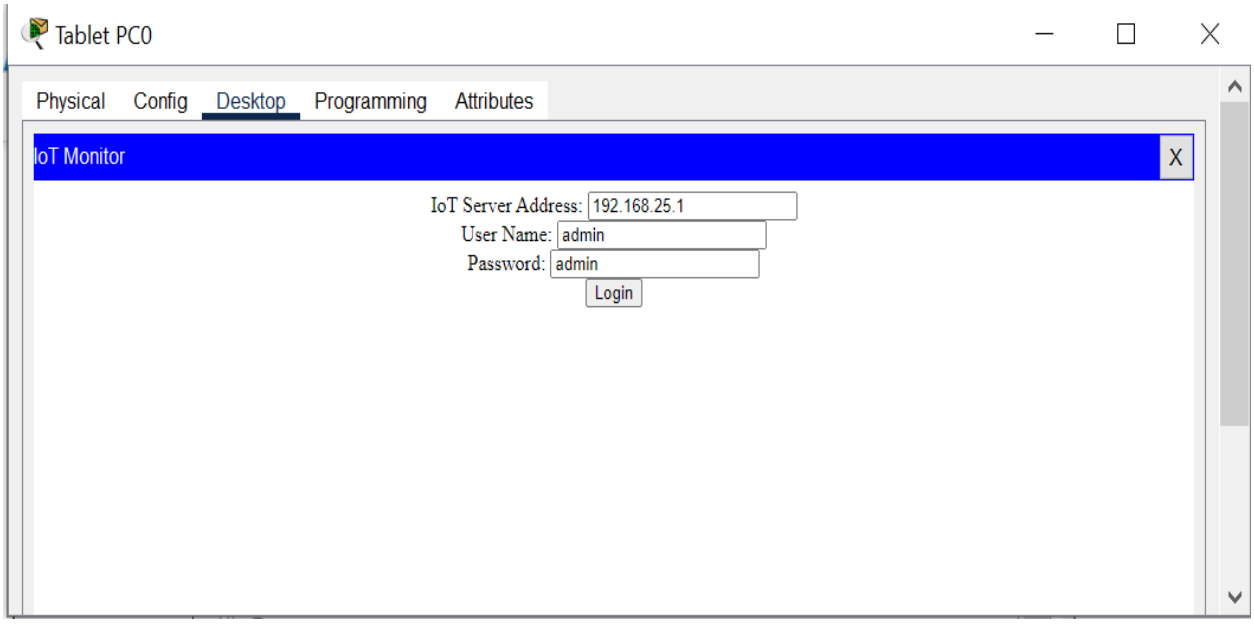


All IOT devices are to be connected to HomeGateway IOT server.

Configuring Tab…

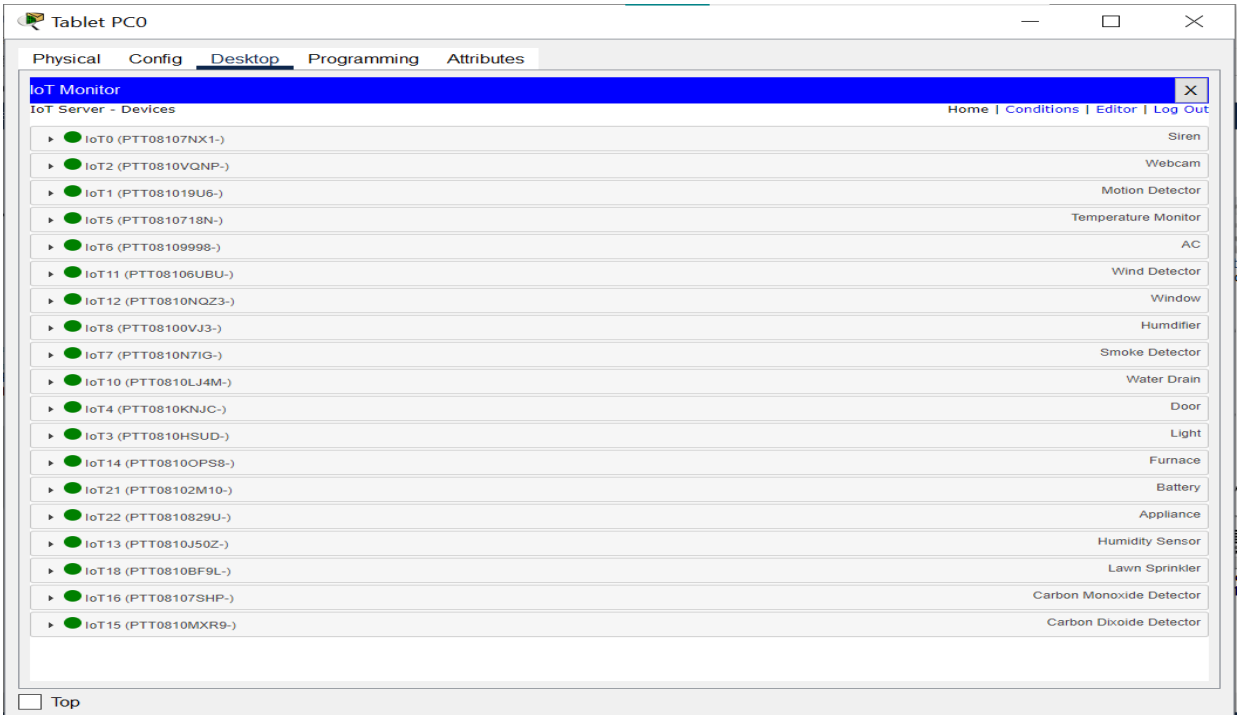


Logging in to IOT server…

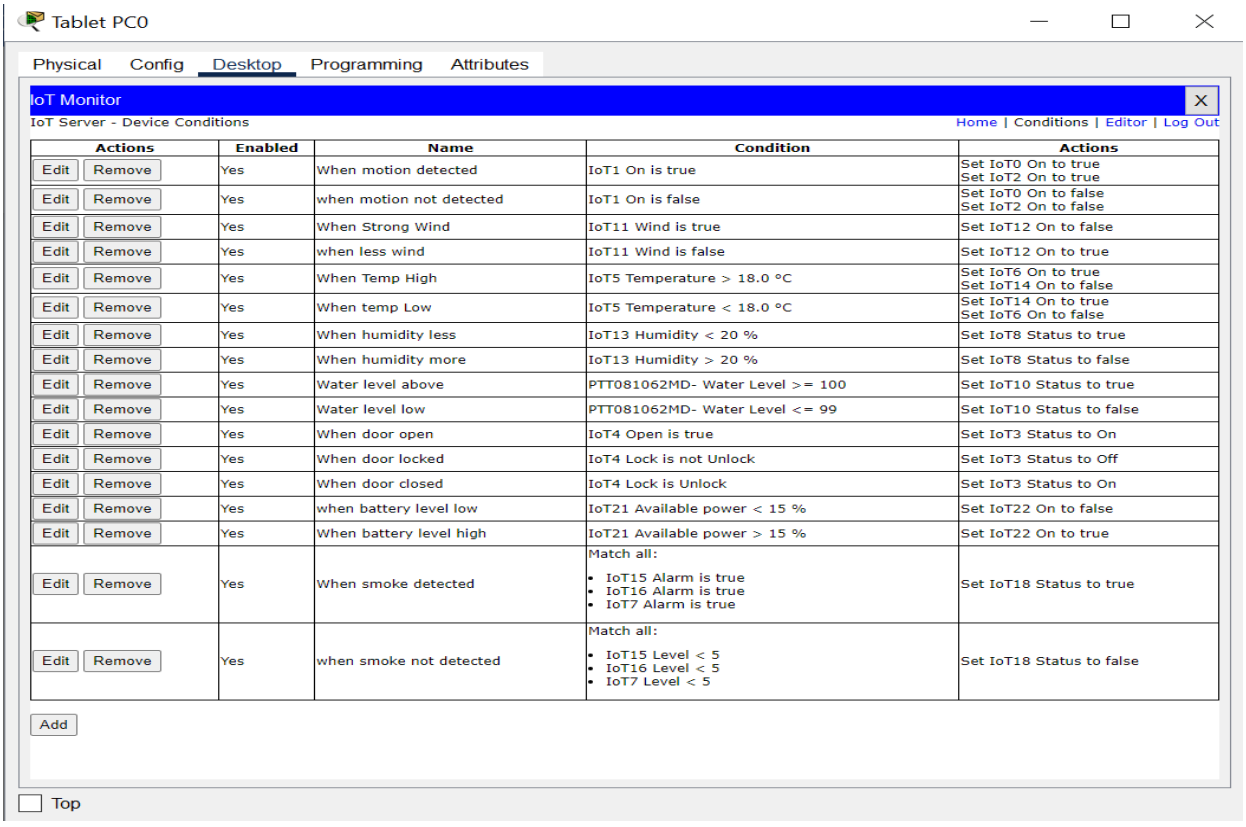


So, here logging in to IOT server ‘HomeGateway’ through IOT monitor/web browser.

After Logging in…



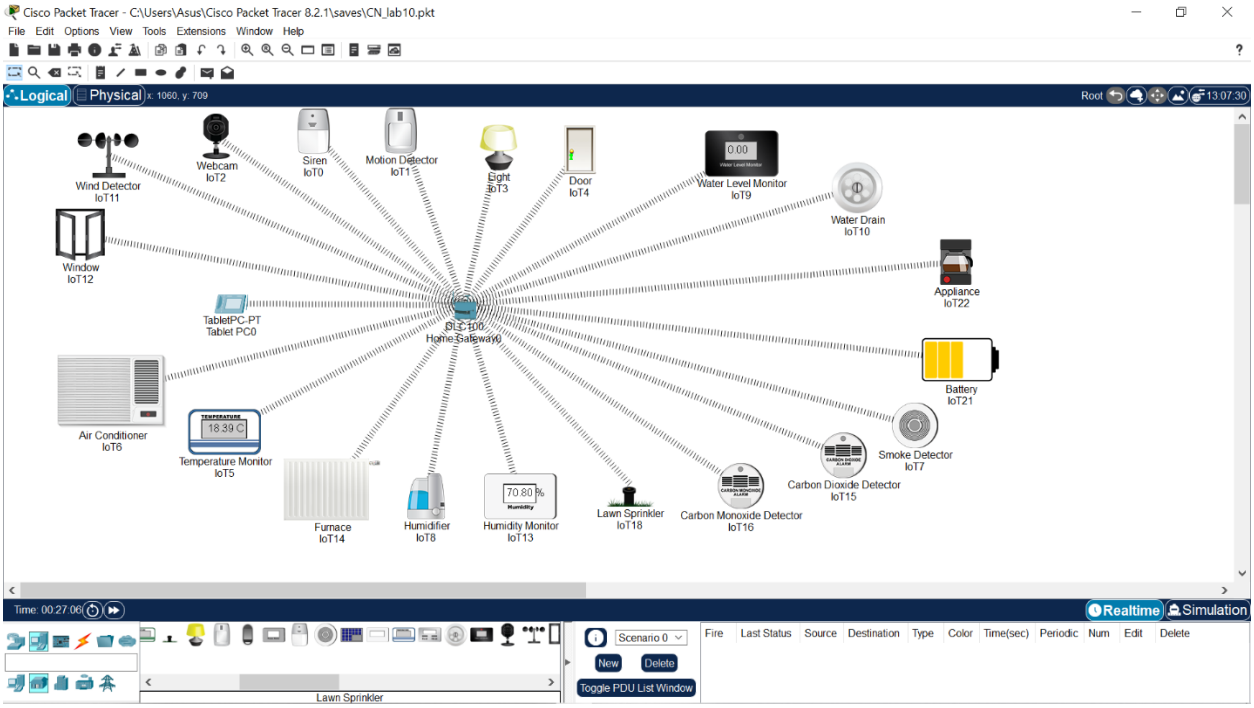
Setting up conditions…

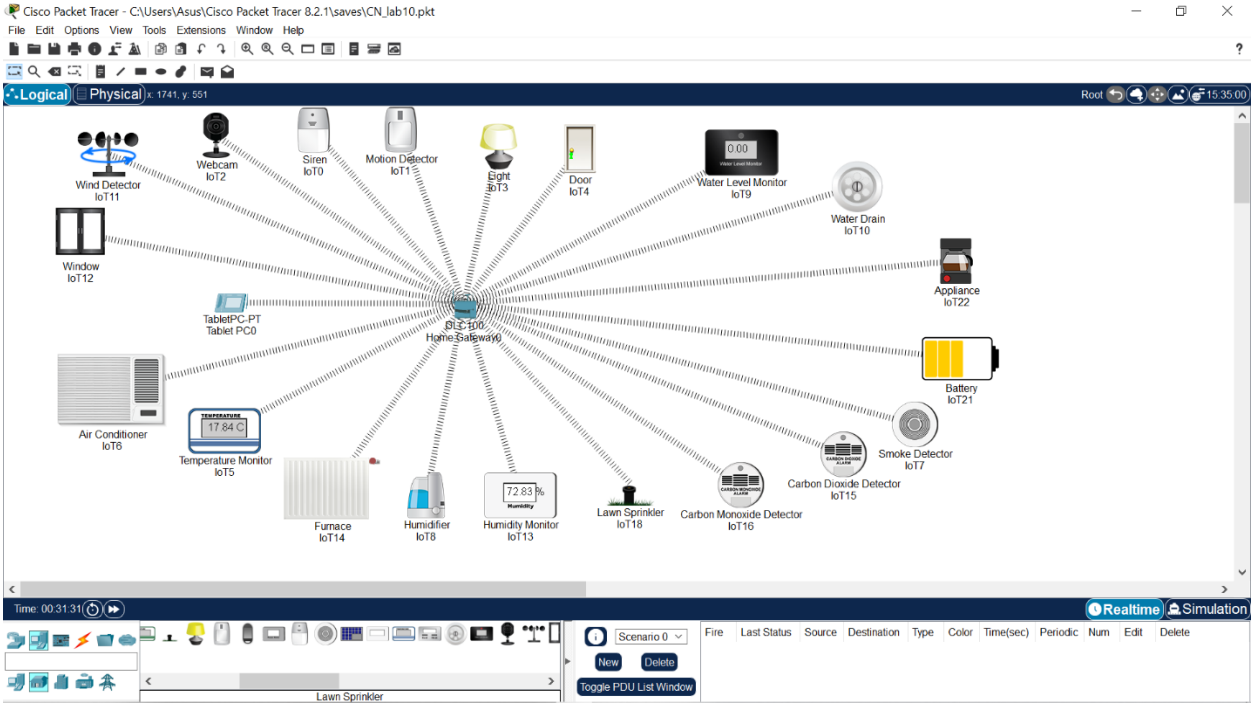


Actions	Enabled	Name	Condition	Actions
Edit Remove	Yes	When motion detected	IoT1 On is true	Set IoT0 On to true Set IoT2 On to true
Edit Remove	Yes	when motion not detected	IoT1 On is false	Set IoT0 On to false Set IoT2 On to false
Edit Remove	Yes	When Strong Wind	IoT11 Wind is true	Set IoT12 On to false
Edit Remove	Yes	when less wind	IoT11 Wind is false	Set IoT12 On to true
Edit Remove	Yes	When Temp High	IoT5 Temperature > 18.0 °C	Set IoT6 On to true Set IoT14 On to false
Edit Remove	Yes	When temp Low	IoT5 Temperature < 18.0 °C	Set IoT14 On to true Set IoT6 On to false
Edit Remove	Yes	When humidity less	IoT13 Humidity < 20 %	Set IoT8 Status to true
Edit Remove	Yes	When humidity more	IoT13 Humidity > 20 %	Set IoT8 Status to false
Edit Remove	Yes	Water level above	PTT081062MD- Water Level >= 100	Set IoT10 Status to true
Edit Remove	Yes	Water level low	PTT081062MD- Water Level <= 99	Set IoT10 Status to false
Edit Remove	Yes	When door open	IoT4 Open is true	Set IoT3 Status to On
Edit Remove	Yes	When door locked	IoT4 Lock is not Unlock	Set IoT3 Status to Off
Edit Remove	Yes	When door closed	IoT4 Lock is Unlock	Set IoT3 Status to On
Edit Remove	Yes	when battery level low	IoT21 Available power < 15 %	Set IoT22 On to false
Edit Remove	Yes	When battery level high	IoT21 Available power > 15 %	Set IoT22 On to true
Edit Remove	Yes	When smoke detected	Match all: • IoT15 Alarm is true • IoT16 Alarm is true • IoT7 Alarm is true	Set IoT18 Status to true
Edit Remove	Yes	when smoke not detected	Match all: • IoT15 Level < 5 • IoT16 Level < 5 • IoT7 Level < 5	Set IoT18 Status to false

Add

After setting all conditions…some screenshots of all system running





So here we see,

As wind is detected, window is closed. If no wind is detected, window will be open.

Based on value in temperature, AC and furnace are being on and off. As in last image, temp is less than $18^{0,}$ so furnace is on as per condition.

Then, light is on as door is open and unlocked. It will close if door is locked.

The appliance is running as battery is still in a good level. As it falls below 20%, appliance will stop.