SENDING DATA FROM RASPBERRY-PI TO
IBM WATSON

Team Id   :PNT2022TMID49765
Project Title: Gas Leakage Monitoring & Alerting System

AIM:

To send sensor data (or any dummy data) from Raspberry –Pi to IBM Watson .In our case it is DHT sensors Data.

REQUIREMENTS:

HARDWARE:

- RASPBERRY-PI (3B)(WITH ETHERNET CABLE OR WIFI CONNECTED) O USB MOUSE
- USB KEYBOARD
- VGA TO HDMI CABLE
- A MONITOR
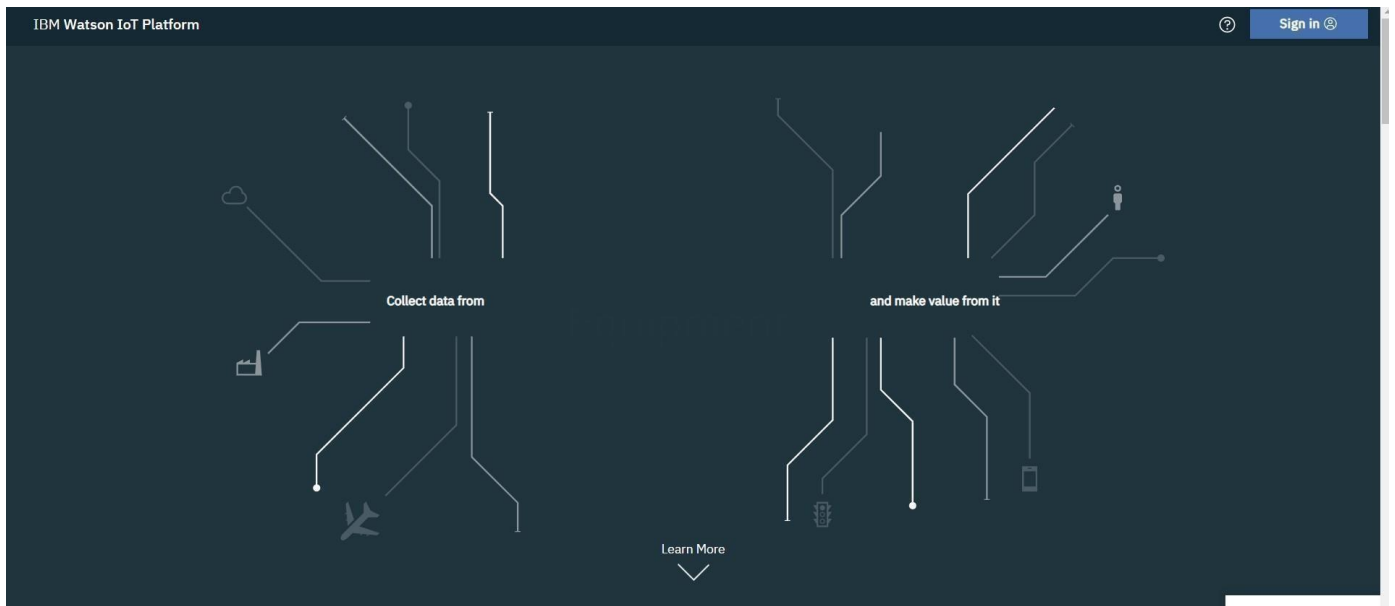- RASPBERRY'S POWER SUPPLY
- DHT-11 Sensor O Connecting Wires

SOFTWARE:

- IBM BLUEMIX ACCOUNT

STEPS TO BE FOLLOWED

Step-1: Create a device in IBM Watson:

- Firstly, login into your IBM-Bluemix account with your e-mail ID and Password.

Collect data from

and make value from it

Learn More
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Log in to IBM

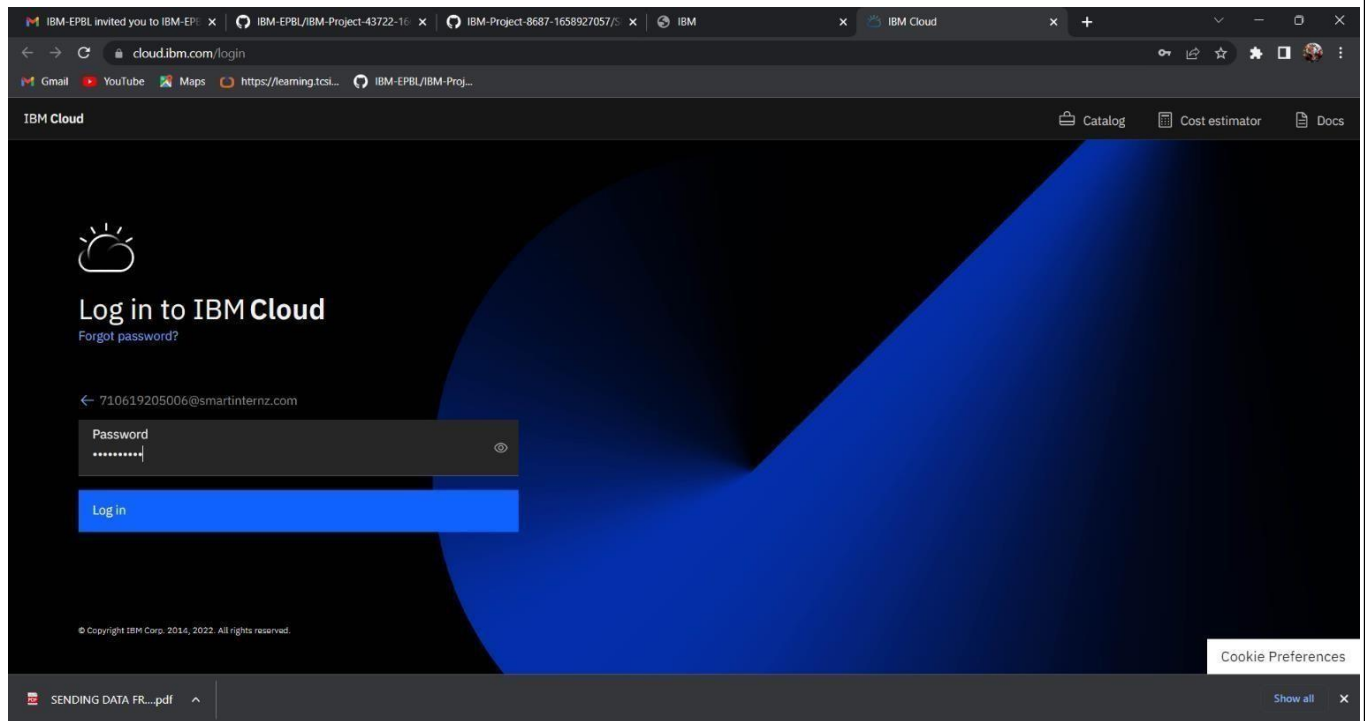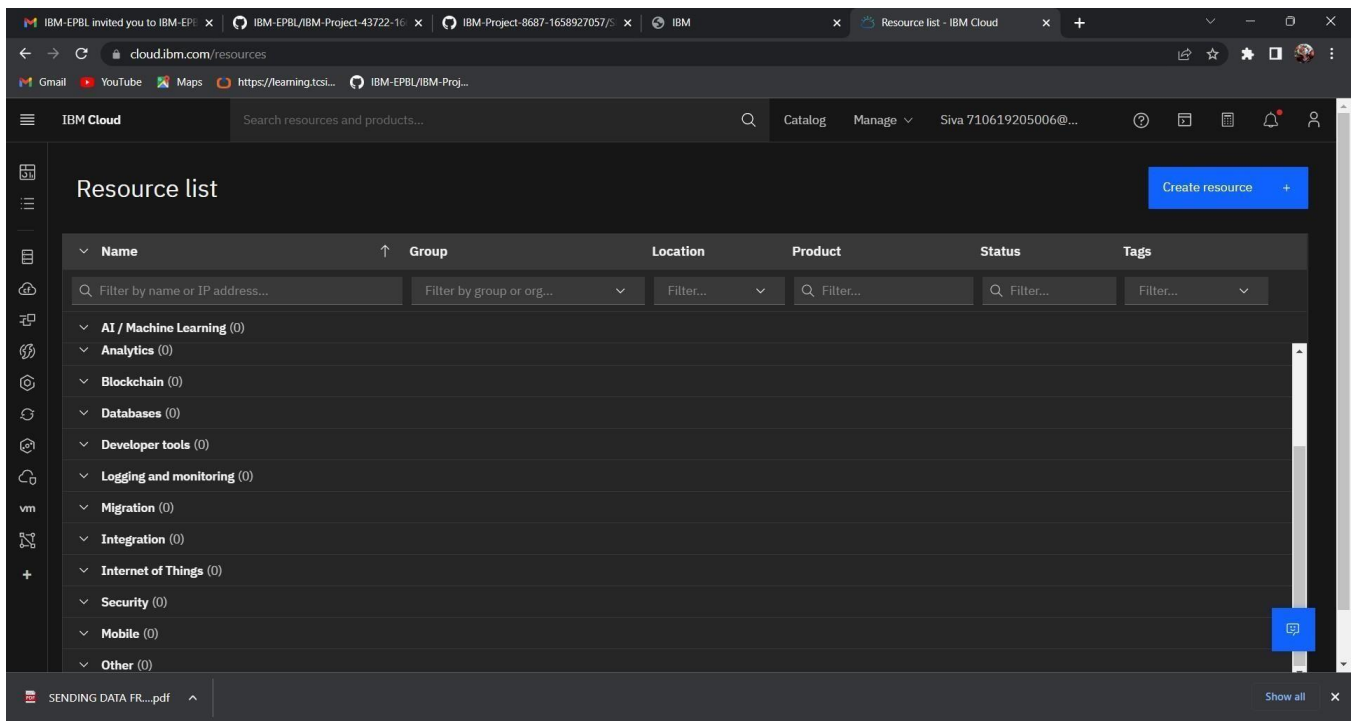IBMid   Forgot IBMid?

☑ Remember me ⓘ

Continue →

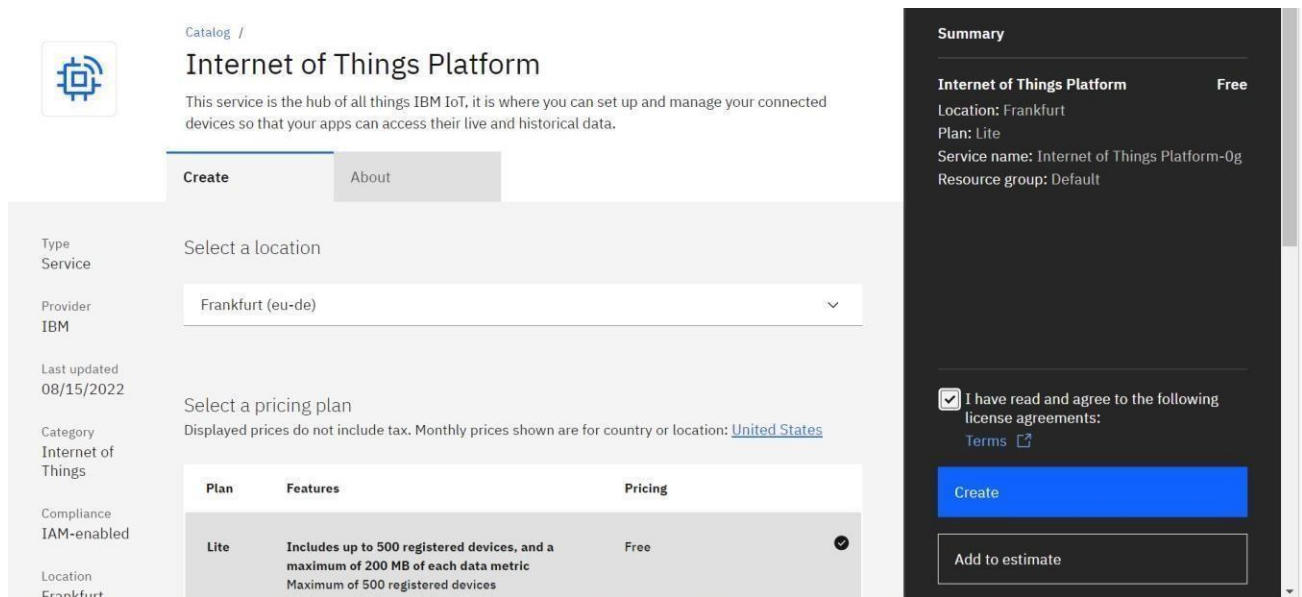Don't have an account? Create an IBMid

Need help? Contact the IBMid help desk

- Click on catalog on your dashboard screen, then under platform go IoT.

hj

○ Check all details and click on create.

○ click on Launch
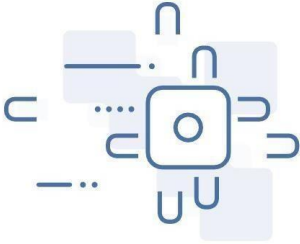
Dashboard of IBM Watson IoT platform, **O**

Click on Add device

O After click on Add device this page will open

○ Go to device type and fill the details.

○ Click on Finish

Register Device.

O Choose the device and give device ID and then click on next.

O   Click on Next

O   Click on Next

Finish

O Device is created

STEP-2: INSTALLING NECESSARY PACKAGES ON YOUR PI:

- Now we are going to install necessary packages on your pi.
- Open your terminal in your pi and type the following commands
- curl -LO https://github.com/ibm-messaging/iot-raspberrypi/releases/download/1.0.2.1/io t_1.0- 2_armhf.deb
- sudo dpkg -i iot_1.0-2_armhf.deb
- service iot status

Following are the images as to what appears on your pi's terminal when u type these commands

- Then open your terminal and type pip install ibmiotf

- I have sent DHT-11 Sensors data to ibm bluemix .To get the code u need to login into IOT GYAN.
  - Then I get the image as follows in my pi's shell:

Step-3: checking your data sent on IBM Bluemix:

- After you have sent your sensors data you can check whether it is received at your iot platform Just look at the image below and if u see the same wifi kind of symbol on your created device then your data is being received.

○ After double clicking on your created device you can see the received data as shown in image

Step-4: Creating boards and cards for visualization of data:

○ In your Watson platform you have an option called board .Click on it and you get the following window on your screen
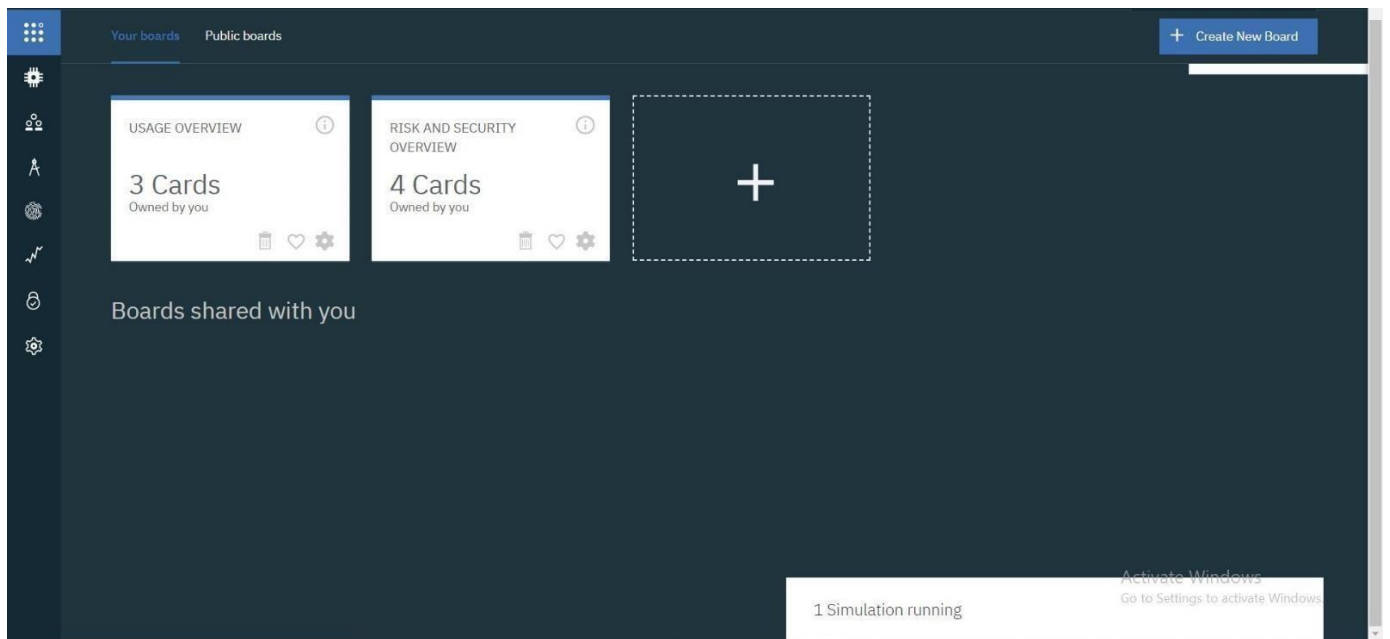
○ Click on Create a new board to create a board .

The given below window appears give a name and description to your board as shown in the window below.
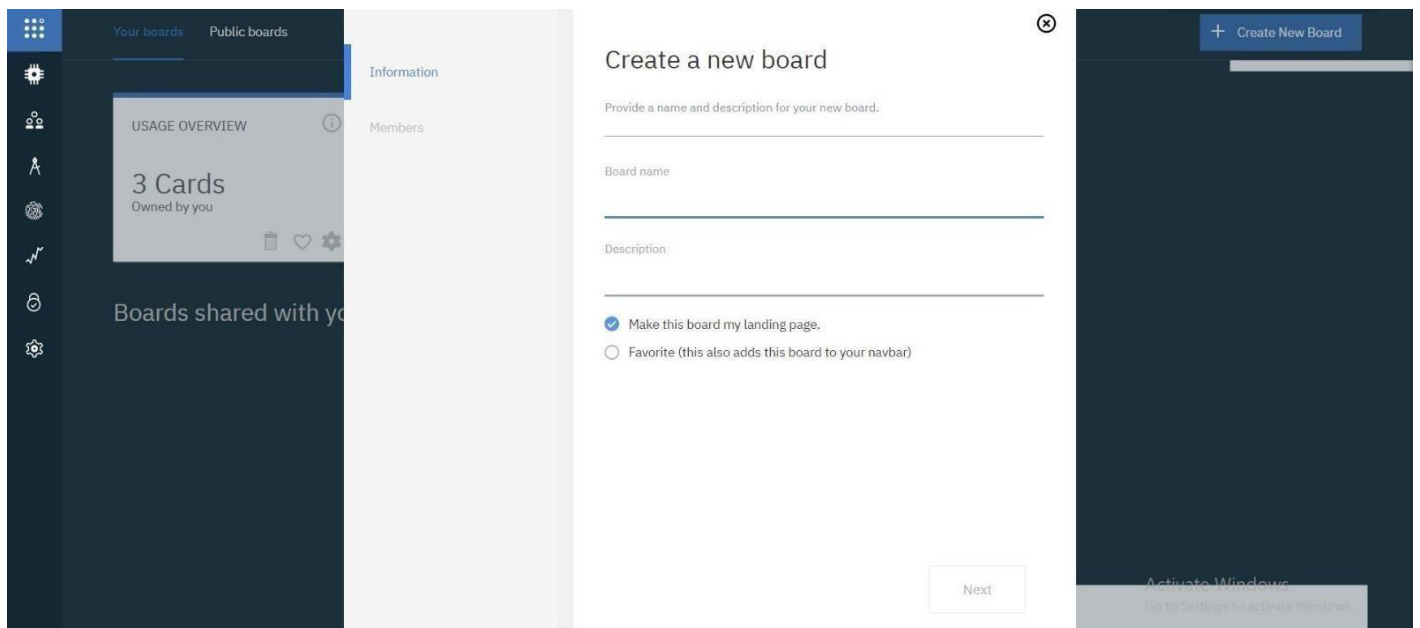
○ Then click on Next you get the below window then again click on Submit
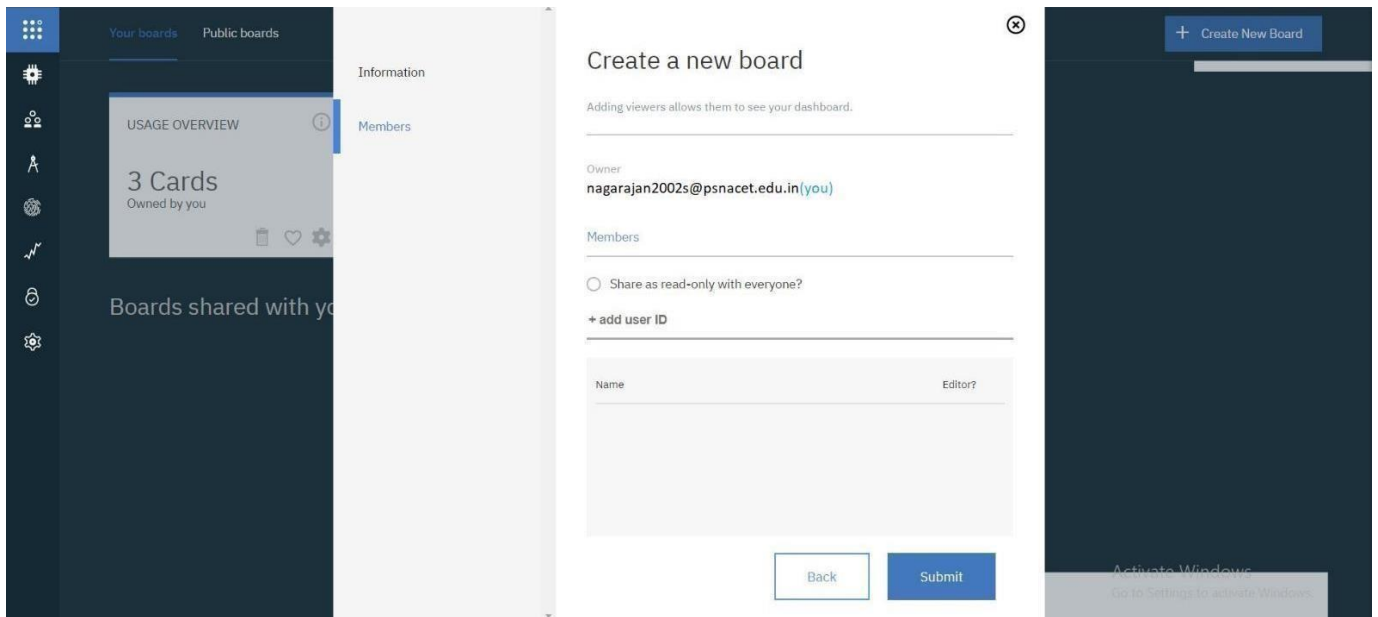
O   Then double click on your boards name which you have created.
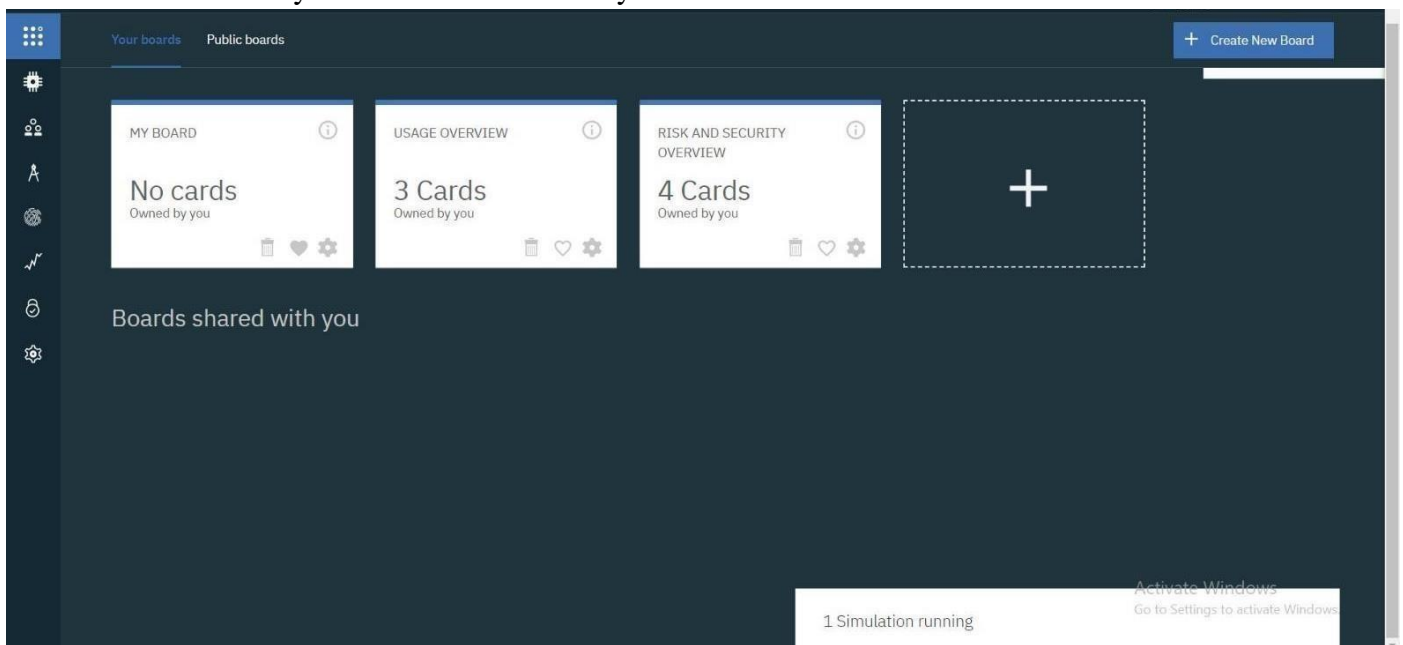
O   Click on Add New Card
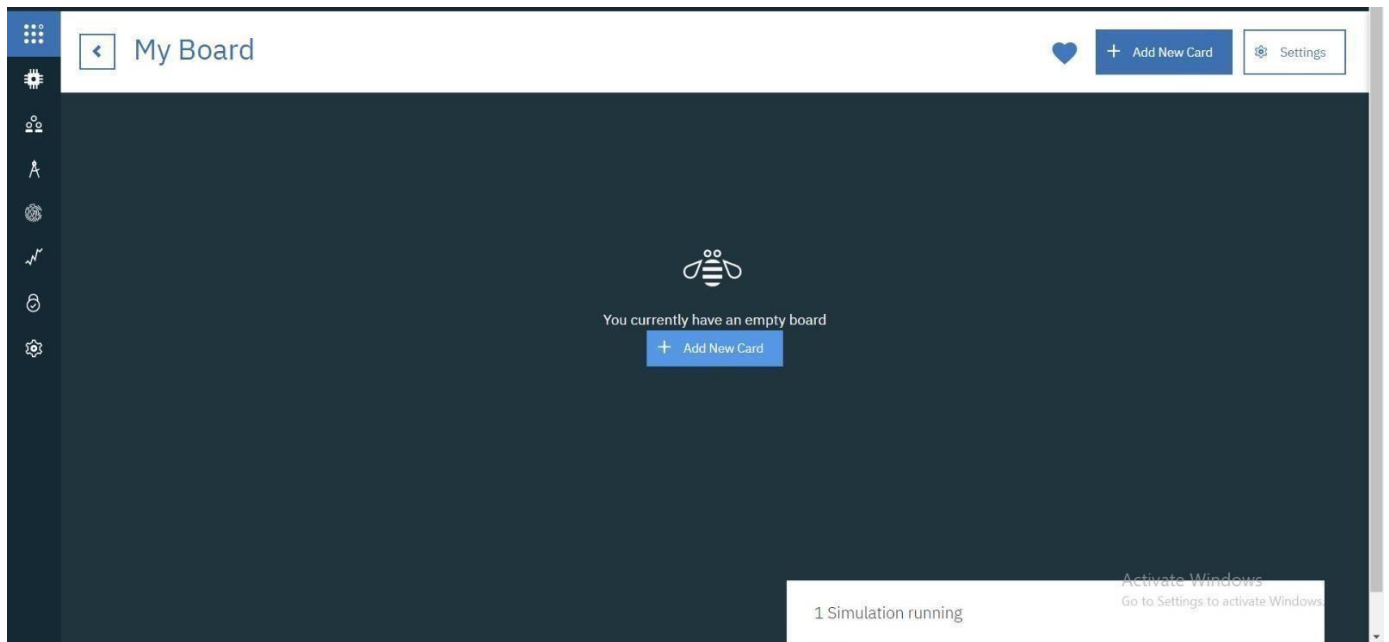
○ Select the type of Graph u want accordingly and click next
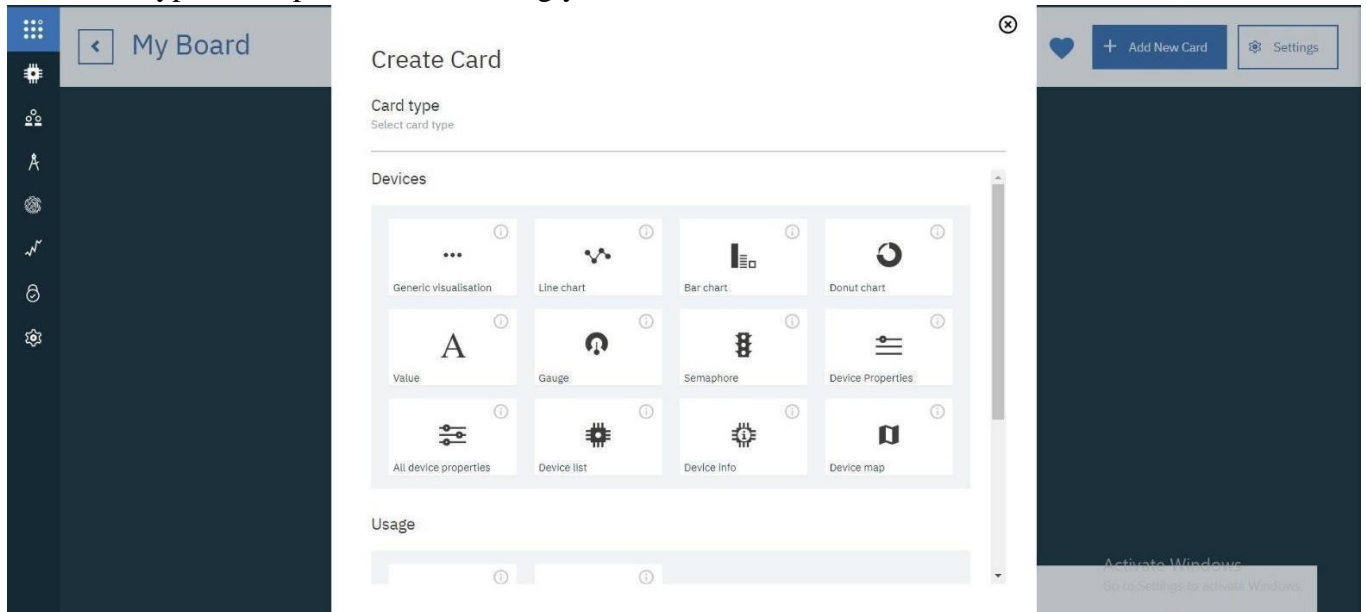
○ You get the below window, choose the Device and click on Next.
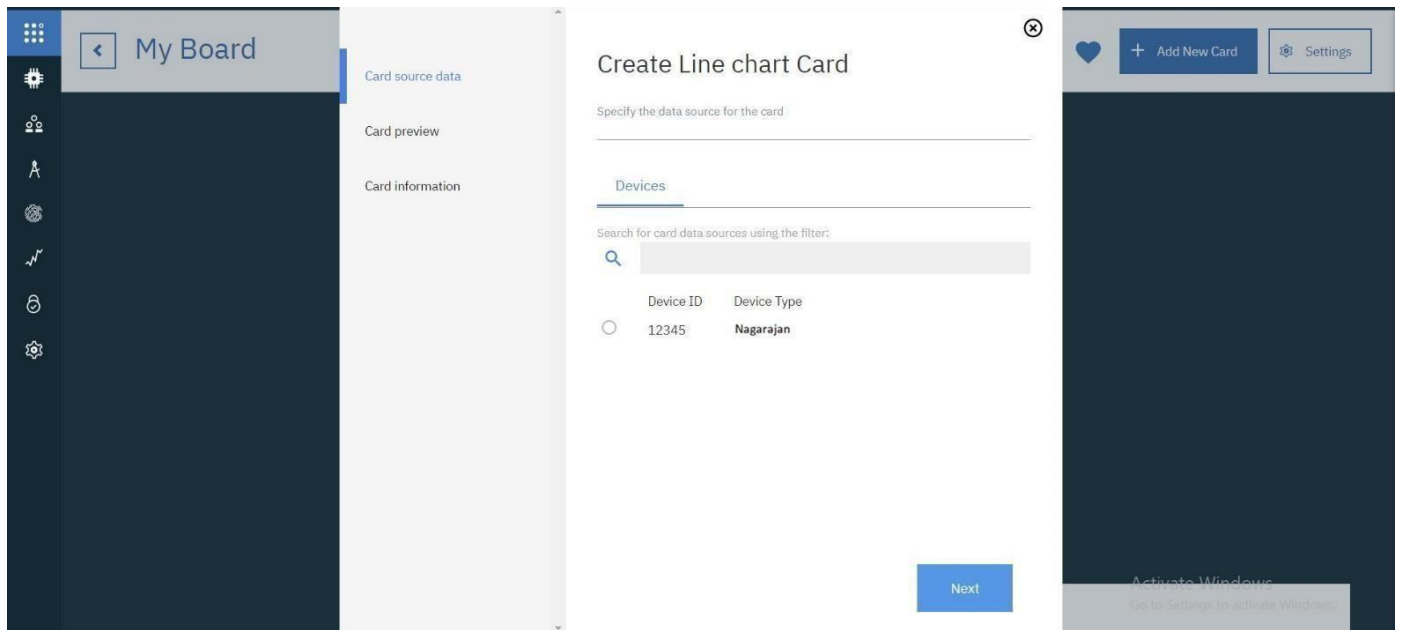
○ Select the event, properly to be visualized on your graph and click next. In my case it is humidity
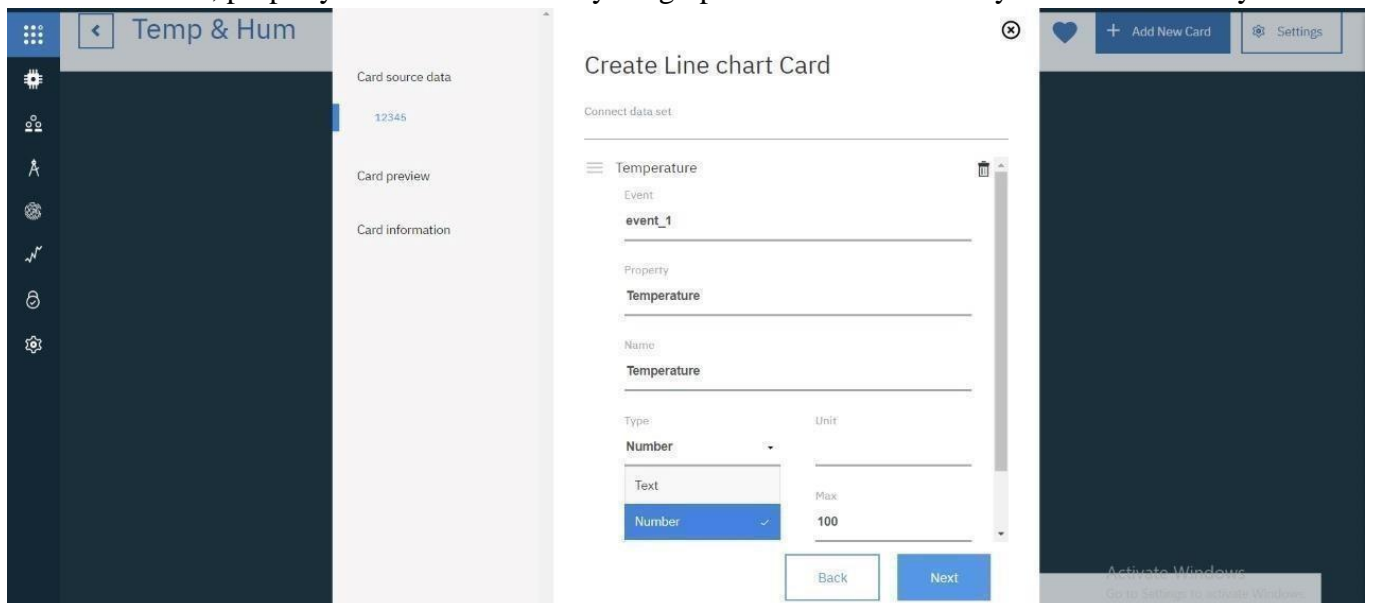
○ Then select the size of the graph and color of the graph board you want and click next
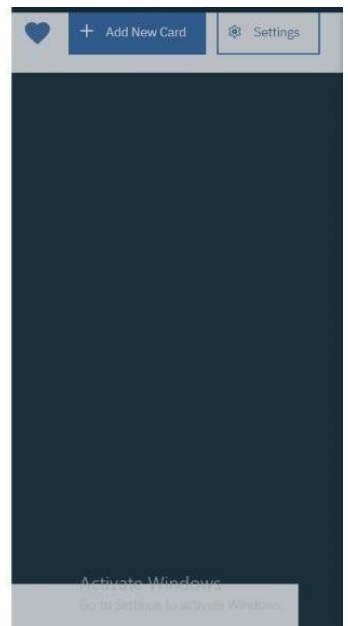
○ Here is the graph

○ Repeat the process to get different graphs.

Top dashboard — My Board

Line chart
- Hazardous Gas
- 1 minute
- now
- Values: 80, 60, 40, 20, 0
- 20:42:30 — 20:43

Donut chart
- Total 75 gallon
- Humidity 75.0 gallon

Value
- 25.0 %
- Pressure

Gauge

1 Simulation running

Activate Windows
Go to Settings to activate Windows

Bottom dashboard — My Board
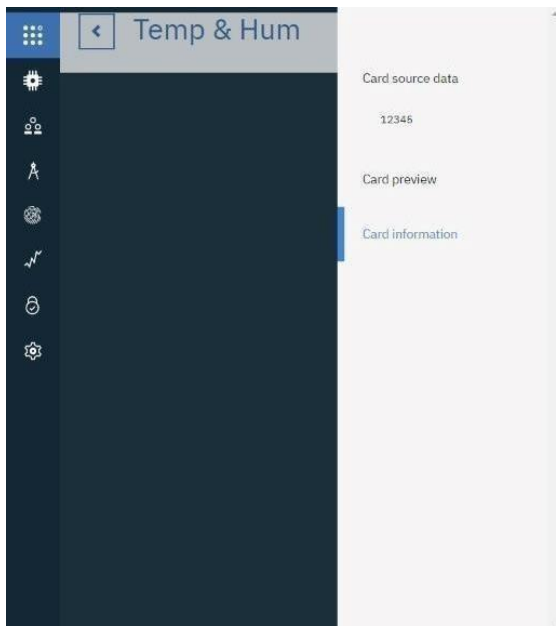
- 1 minute
- now
- Hazardous Gas
- 20:42:30 — 20:43

- Humidity 99.0 gallon

Value
- 52.0 %
- Pressure

Time	Value
10/31/2022, 8:43:03 PM	52.0 %
10/31/2022, 8:43:00 PM	25.0 %
10/31/2022, 8:42:57 PM	14.0 %
10/31/2022, 8:42:54 PM	78.0 %
10/31/2022, 8:42:51 PM	69.0 %

Gauge
- 48.0 °C

1 Simulation running

Activate Windows
Go to Settings to activate Windows

RESULT:

Hence, we were able to send data from our pi to IBM Watson and visualize it on a graph.