SENDING DATA FROM RASPBERRY-PI
TO IBM WATSON

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Project Title	GAS LEAKAGE MONITORING AND ALERTING SYSTEM FOR INDUSTRIES

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)
➢ USB MOUSE
➢ USB KEYBOARD
➢ VGA TO HDMI CABLE
➢ A MONITOR
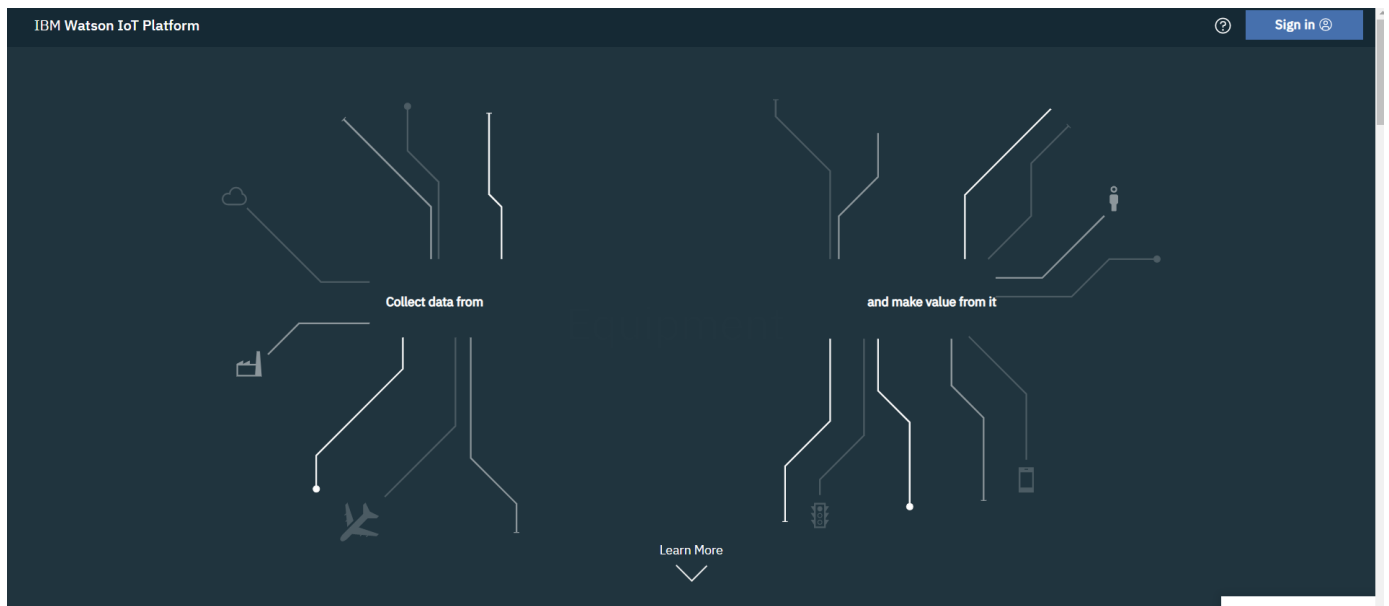➢ RASPBERRY'S POWER SUPPLY
➢ DHT-11 Sensor
➢ Connecting Wires

SOFTWARE:

➢ IBM BLUEMIX ACCOUNT

STEPS TO BE FOLLOWED

Step-1: Create a device in IBM Watson:

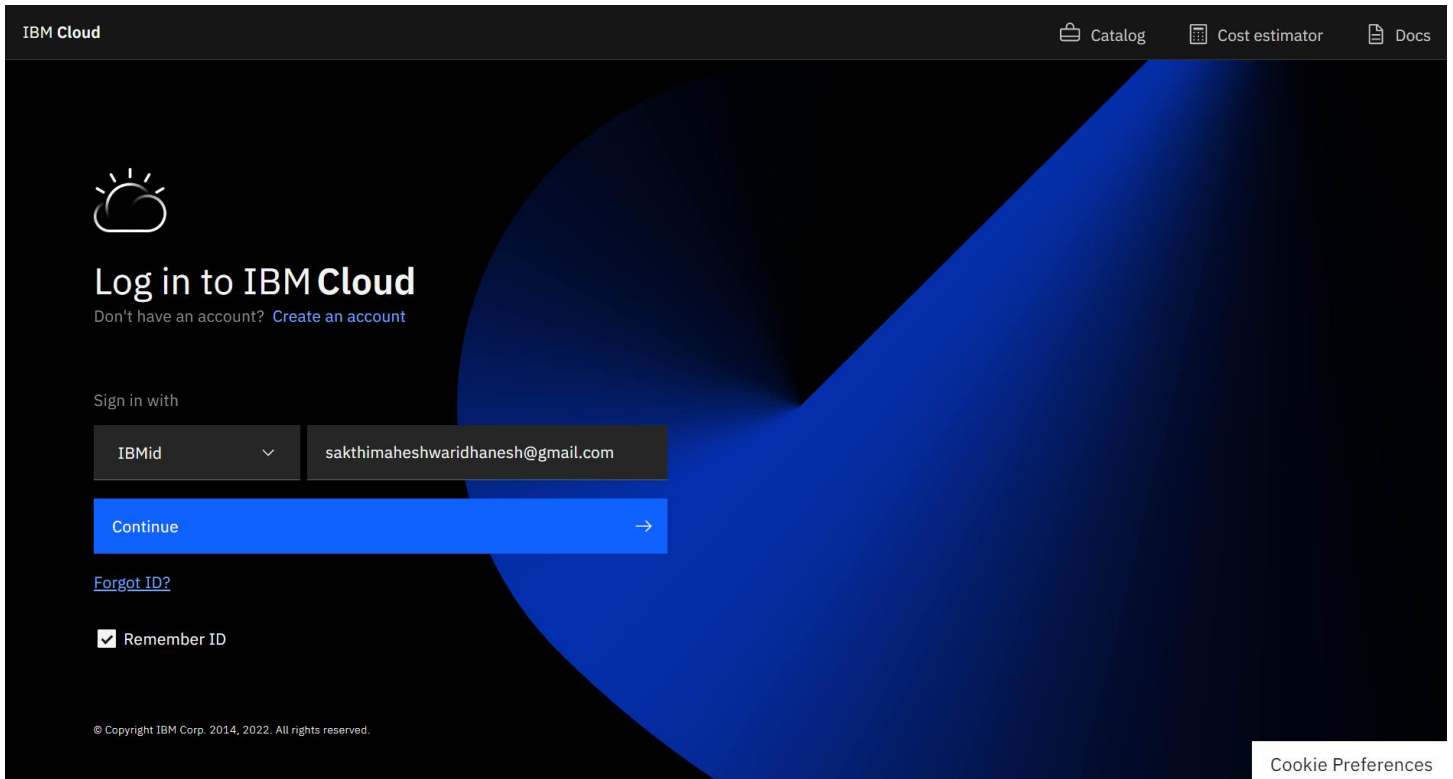➢ Firstly, login into your IBM-Bluemix account with your e-mail ID and Password.

> ➤ Click on catalog on your dashboard screen, then under platform go IoT.
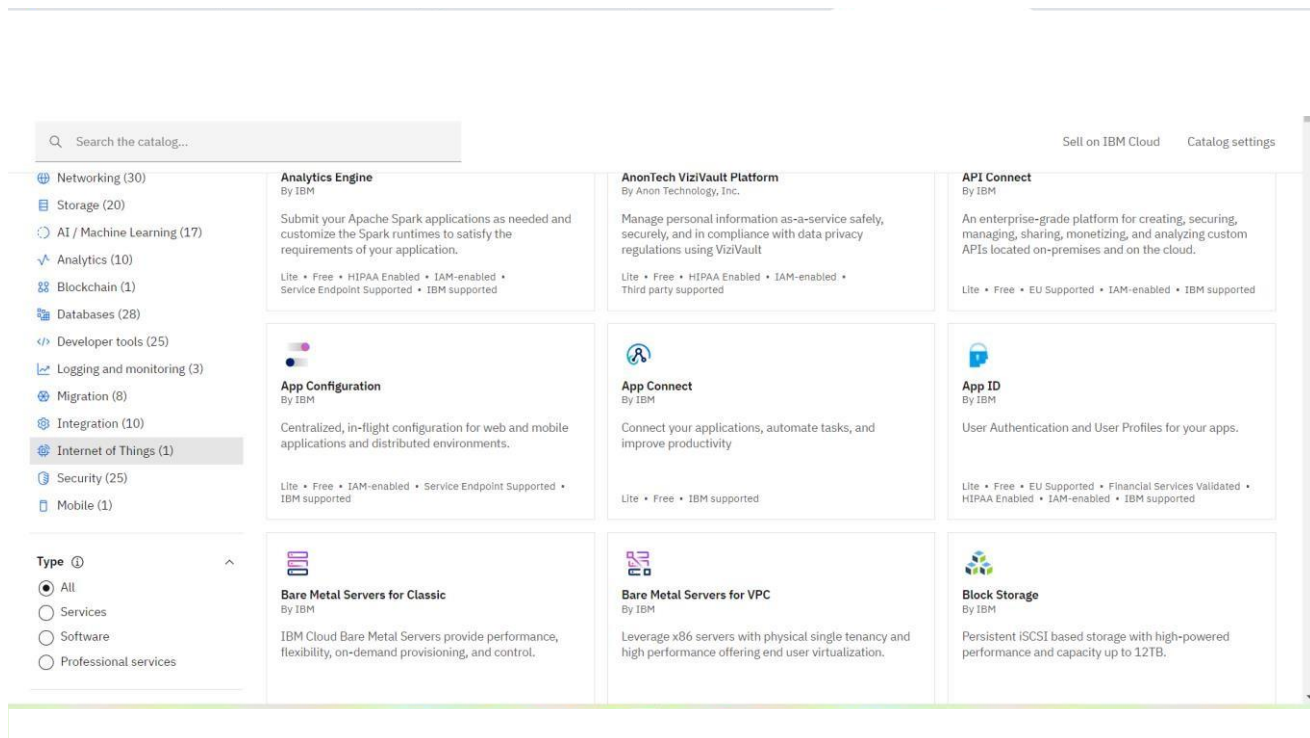
➢ Check all details and click on create.

➢ click on Launch

➢ Dashboard of IBM Watson IoT platform,
➢ Click on Add device

➢ After click on Add device this page will open

➤ Go to device type and fill the details.

➤ Click on Finish

➤ Click on Register Device.
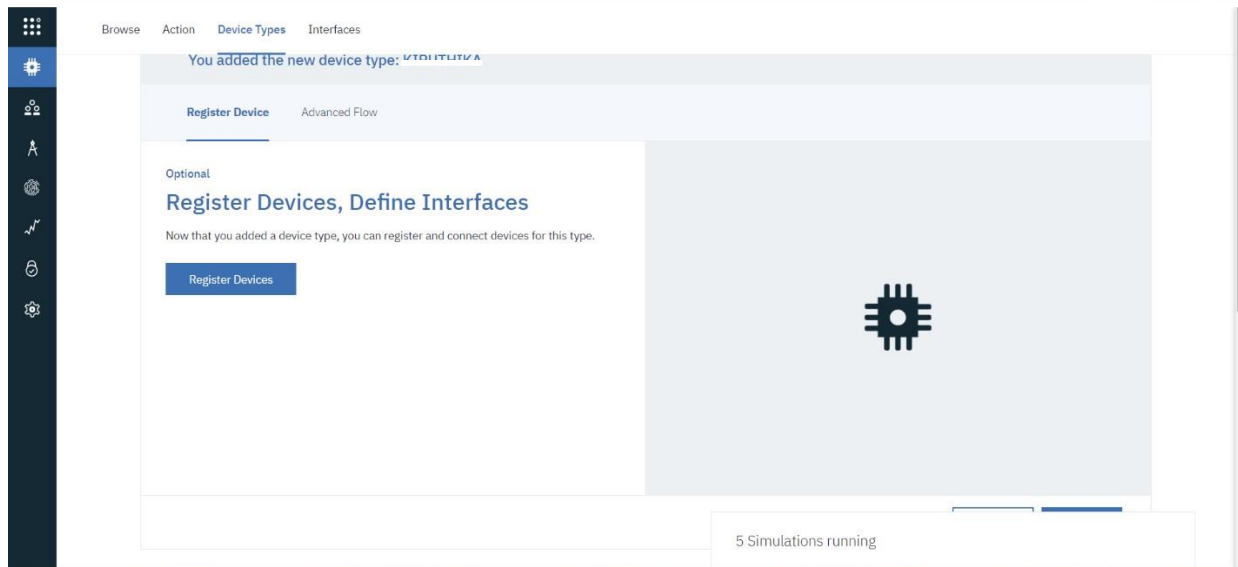
➤ Choose the device and give device ID and then click on next.

➢ **Click on Next**

➢ **Click on Next**

➢ Click on Finish

➢ Device is created
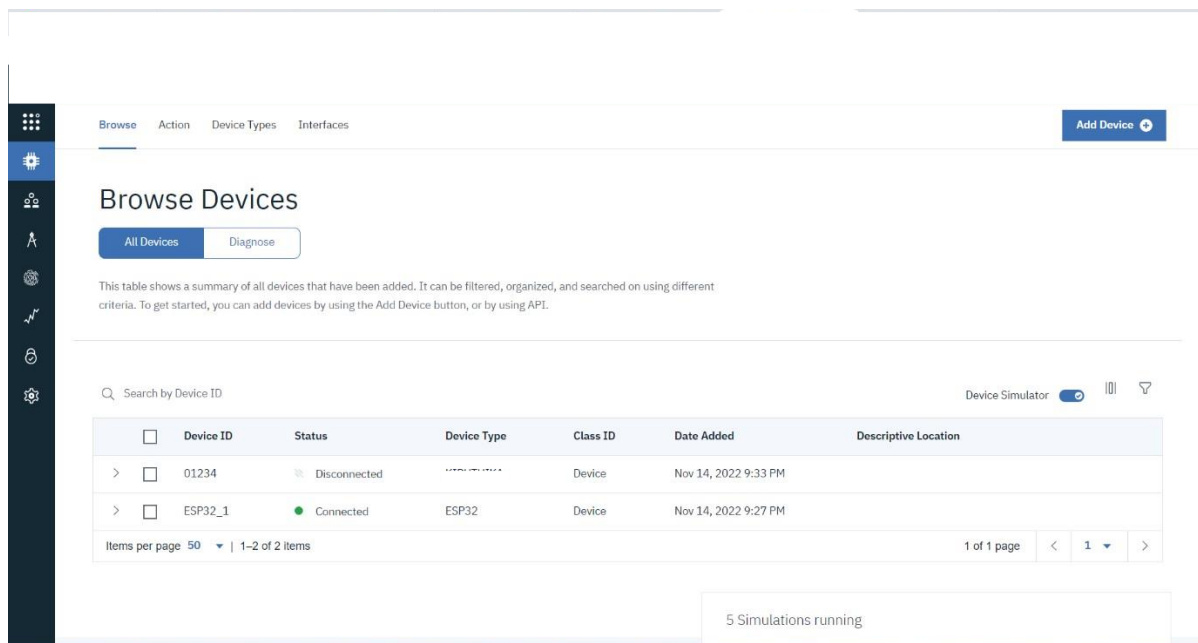
STEP-2: INSTALLING NECESSARY PACKAGES ON YOUR PI:

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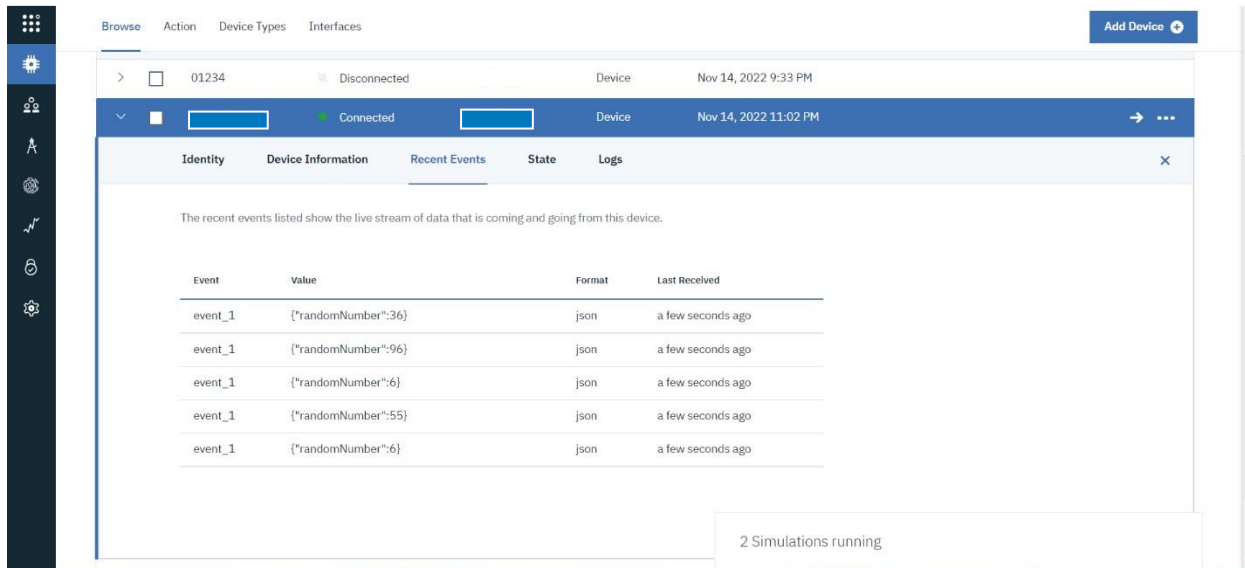
Step-4: Creating boards and cards for visualization of data:

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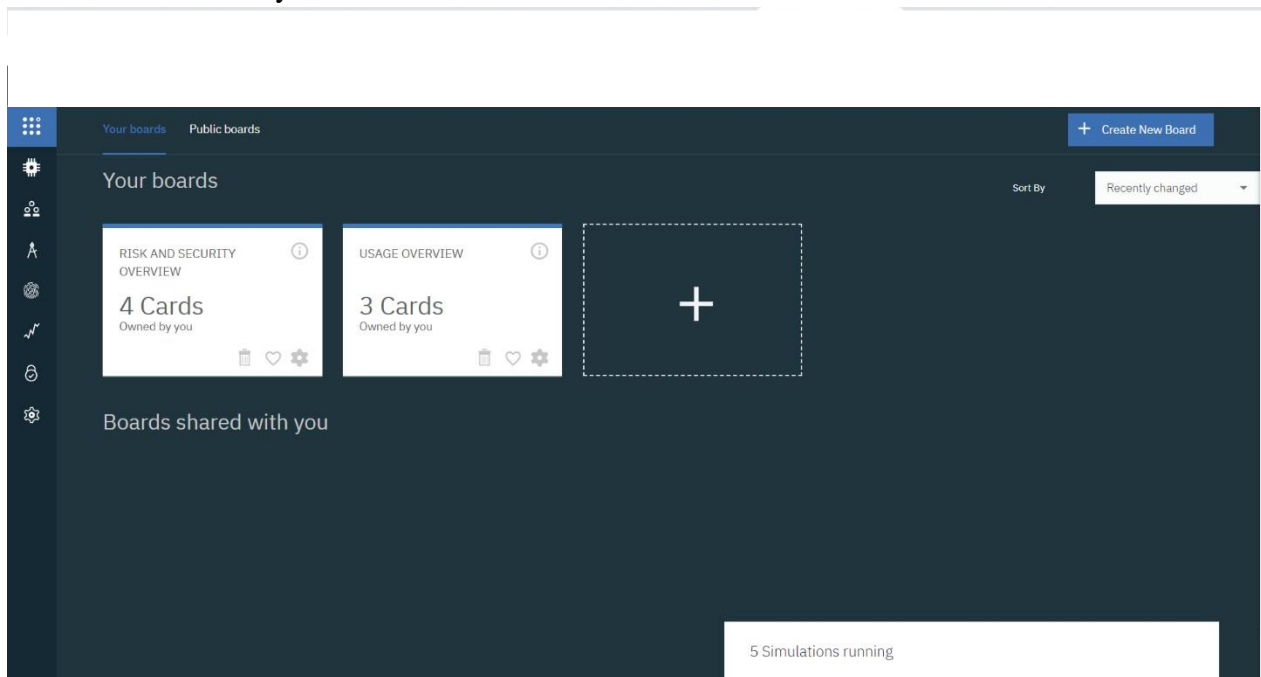
➢ Click on Create a new board to create a board .

The given below window appears give a name and description to your board as shown in the window below.
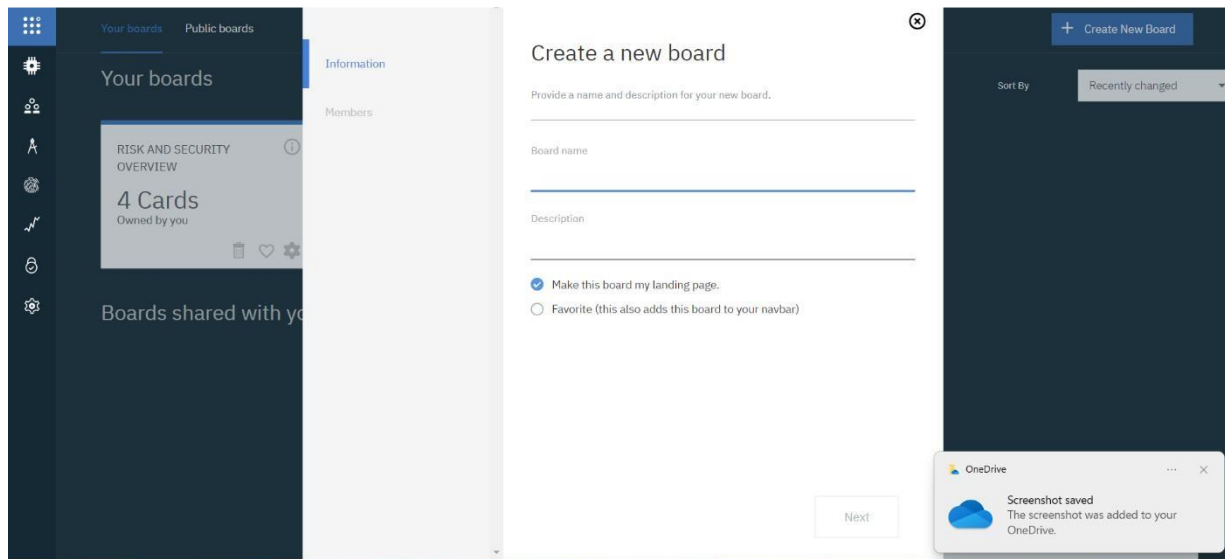
➢ Then click on Next you get the below window then again click on Submit
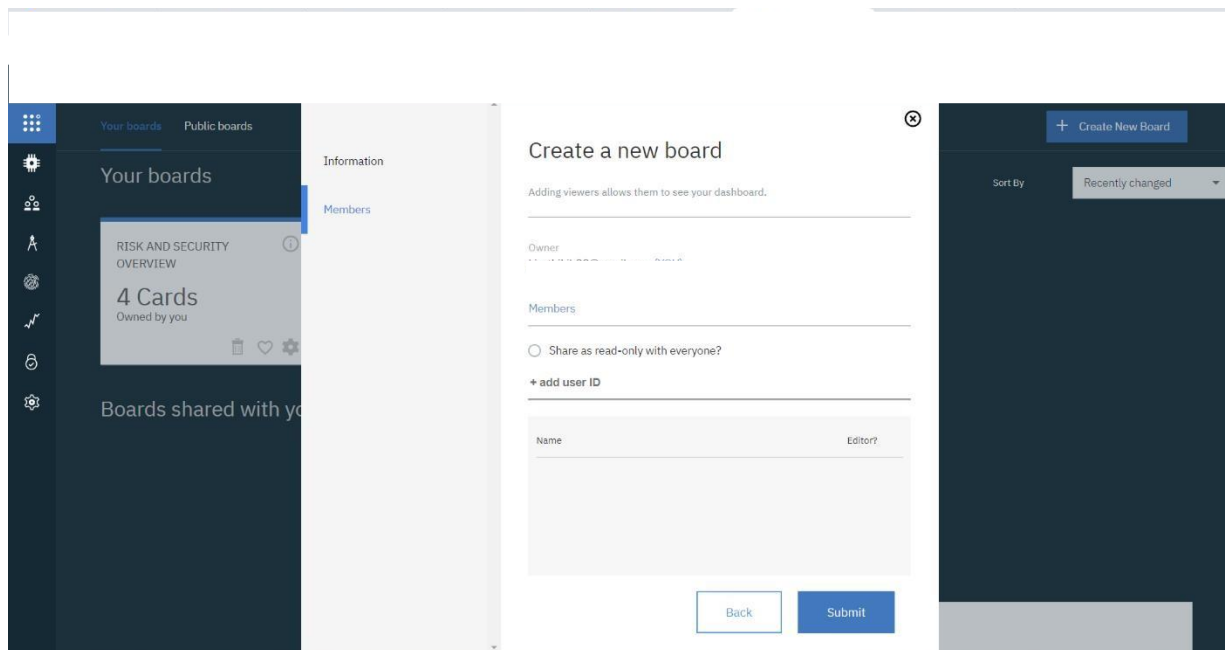
➢ Then double click on your boards name which you have created.

➢ Click on Add New Card

➤ Select the type of Graph u want accordingly and click next

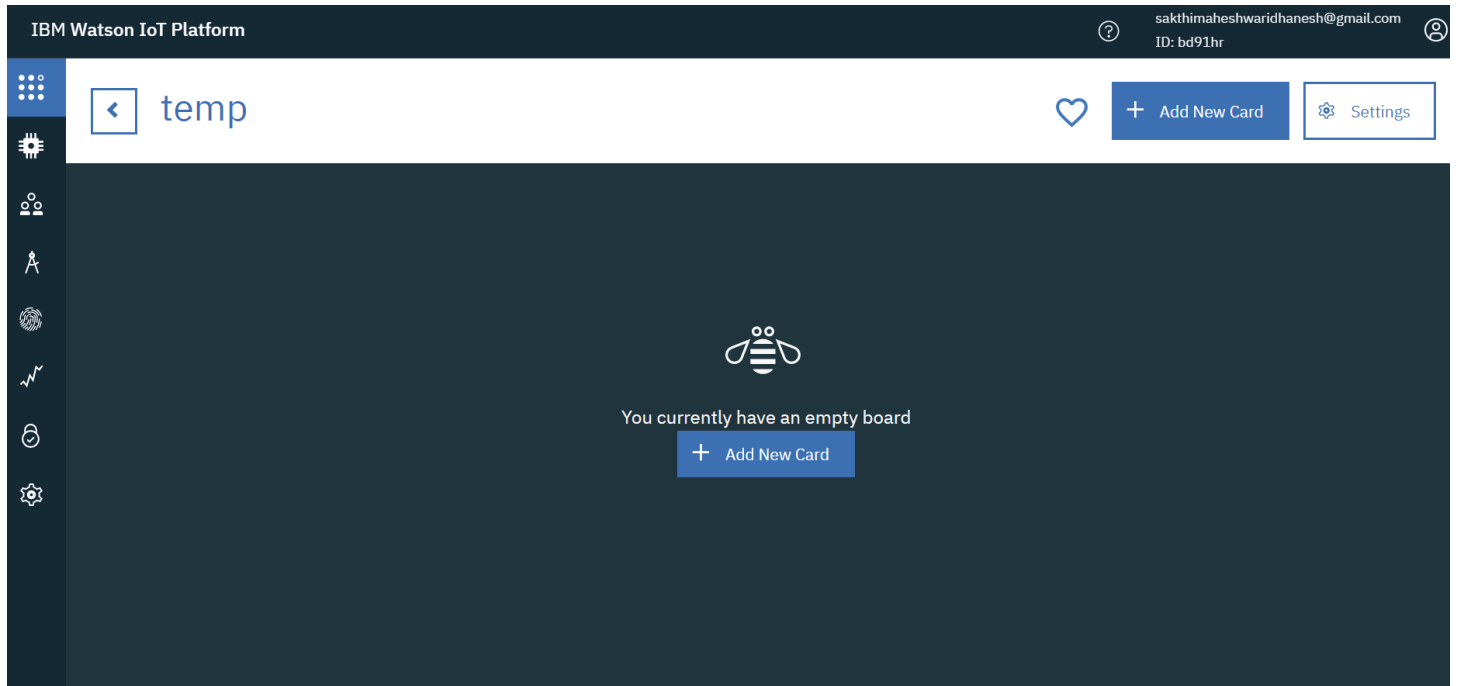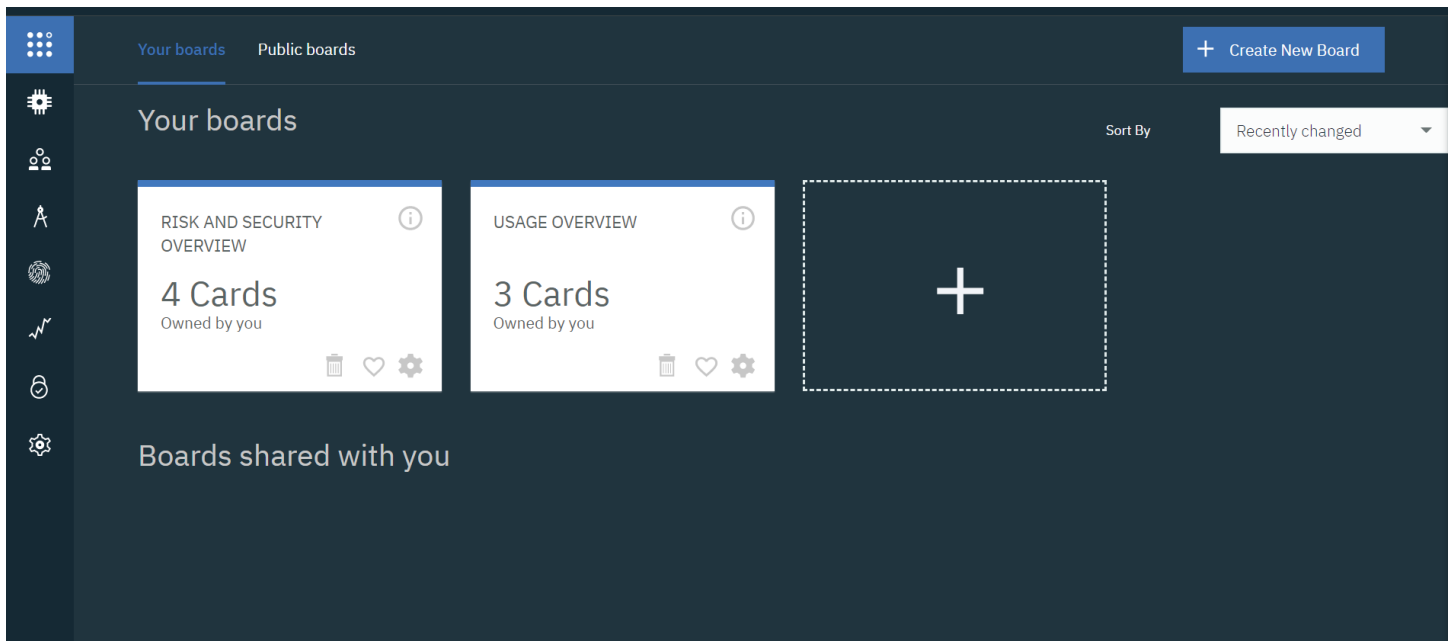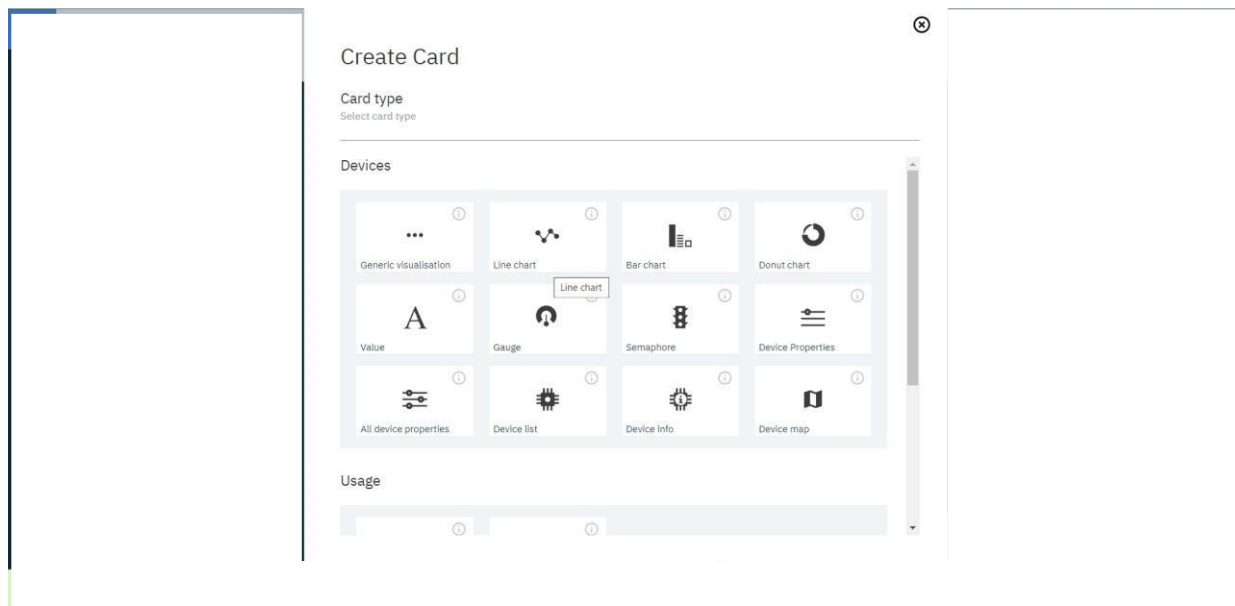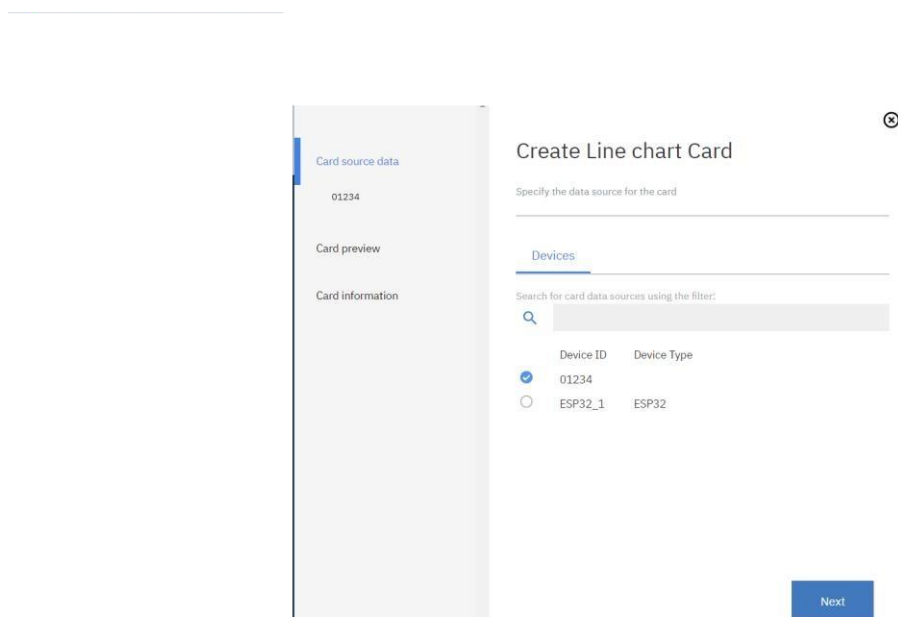➤ You get the below window, choose the Device and click on Next.

➢ 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.

RESULT:

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