Project Development Phase

SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES

TEAM ID: PNT2022TMID39310

TEAM MEMBERS

ROLE	TEAM MEMBERS NAME	ROLL NO
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Project Development - Delivery Of Sprint-3

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-3	Develop A Python Script	USN- 6	Develop A Python Script	10	High	S.Rubesh S.Haritha S.Abirami D.Tamizhselvan
Sprint-3	Develop A Python Script	USN- 7	Publish Data To The IBM Cloud	10	Medium	S.Rubesh S.Haritha S.Abirami D.Tamizhselvan

Delivery

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022

Publish Data To The IBM Cloud

Task Assigned: S.Rubesh,S.Haritha,S.Abirami,D.Tamizhselvan

Task Started On: 07 Nov 2022

Task Completion Date: 10 Nov 2022

SENDING DATA FROM RASPBERRY-PI TO IBM WATSON

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

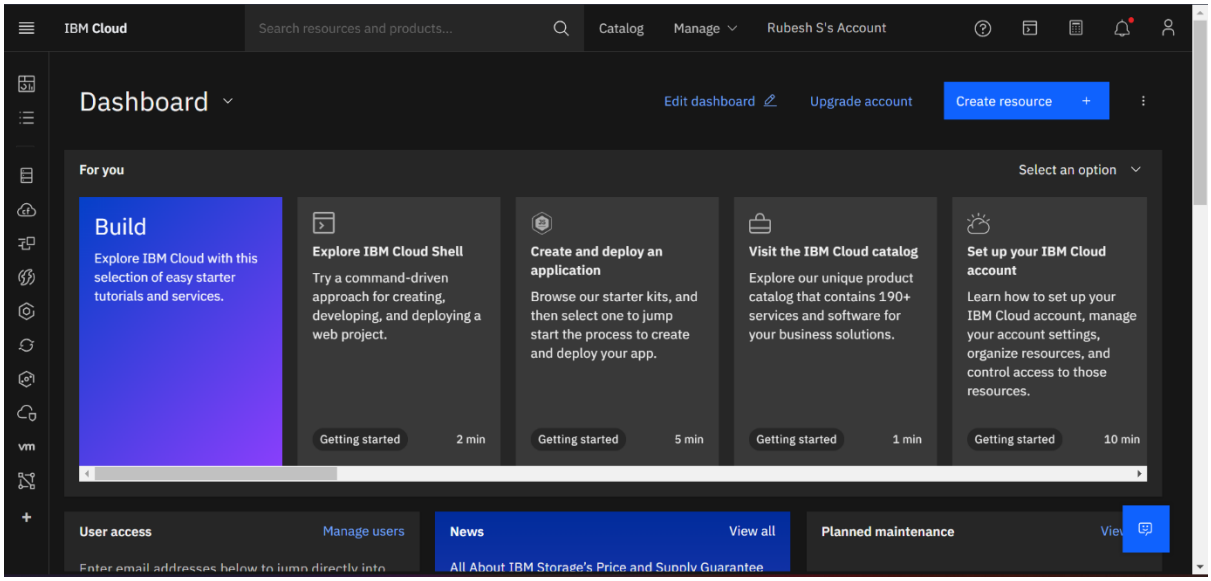
SOFTWARE:

- IBM BLUEMIX ACCOUNT

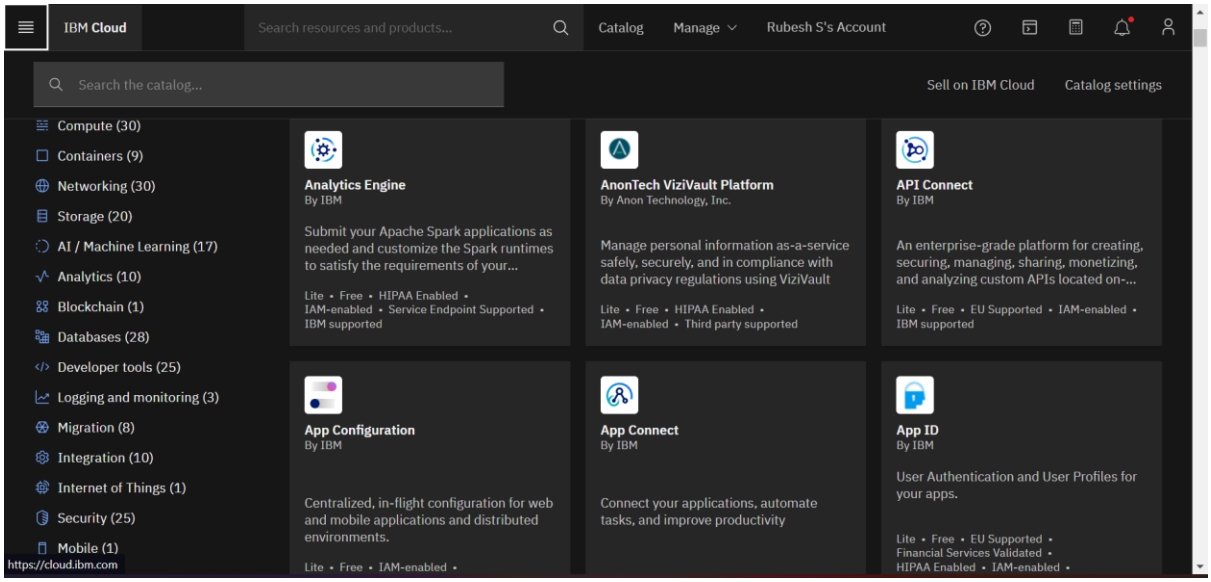
STEPS TO BE FOLLOWED

Step-1: Create a device in IBM Watson:

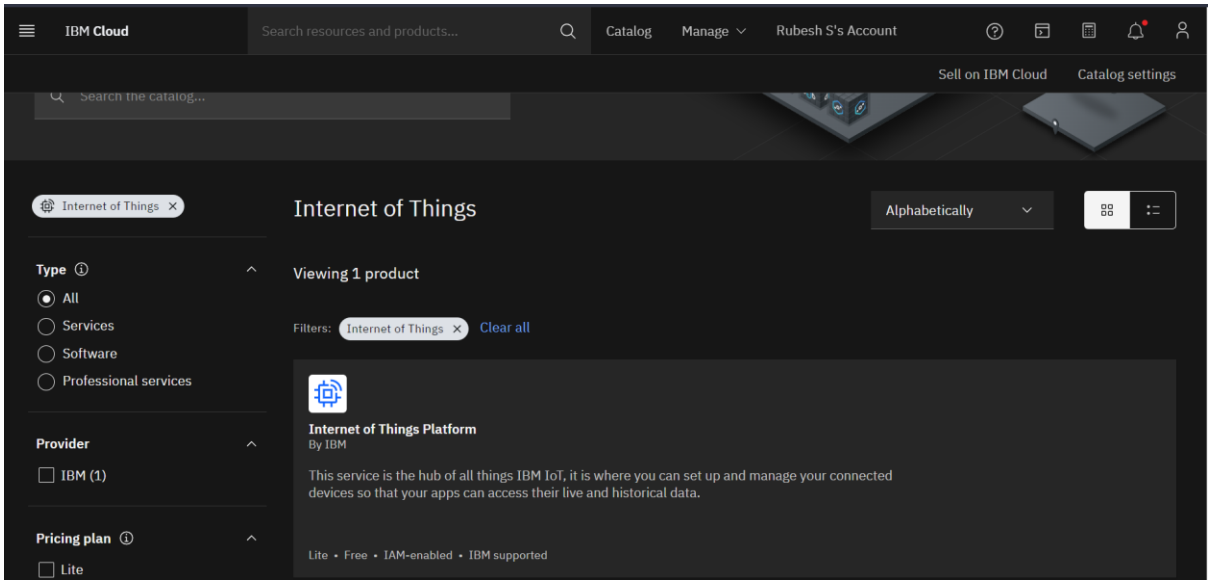
Login into my IBM account with my e-mail ID and Password.



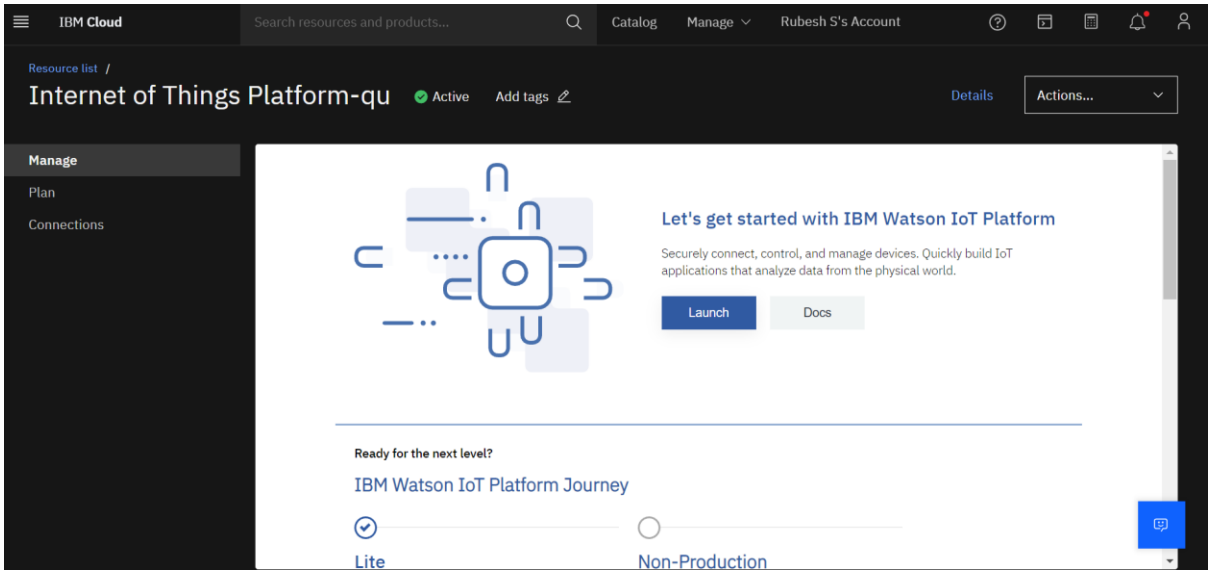
Clicked on catalog on my dashboard screen, then under platform IoT.



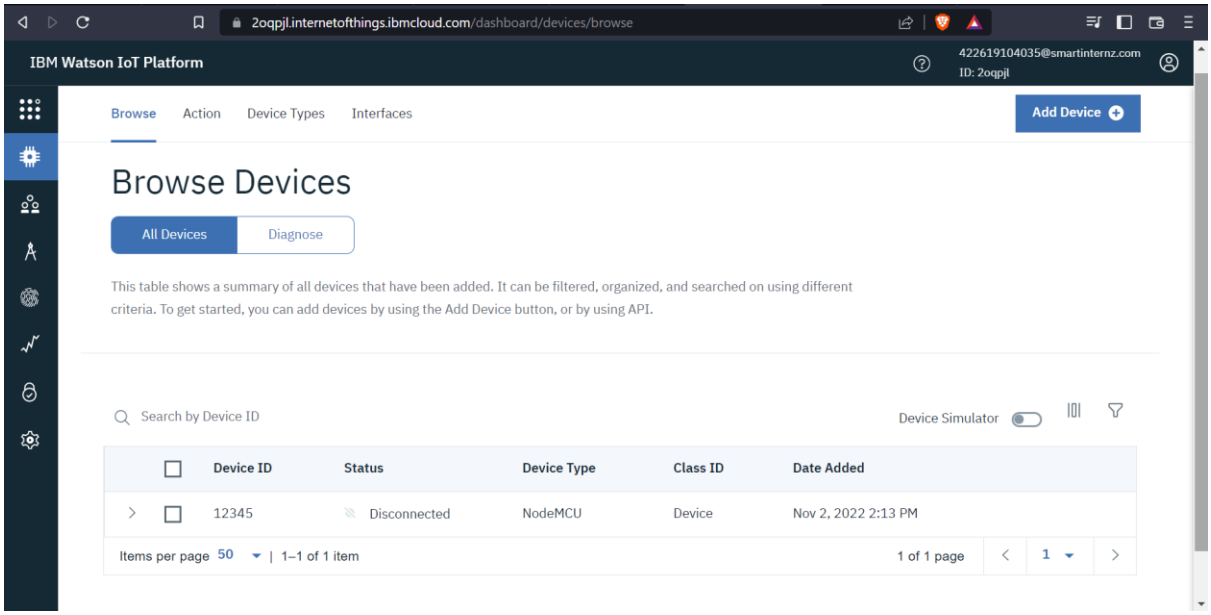
Checked all details and Clicked on create.



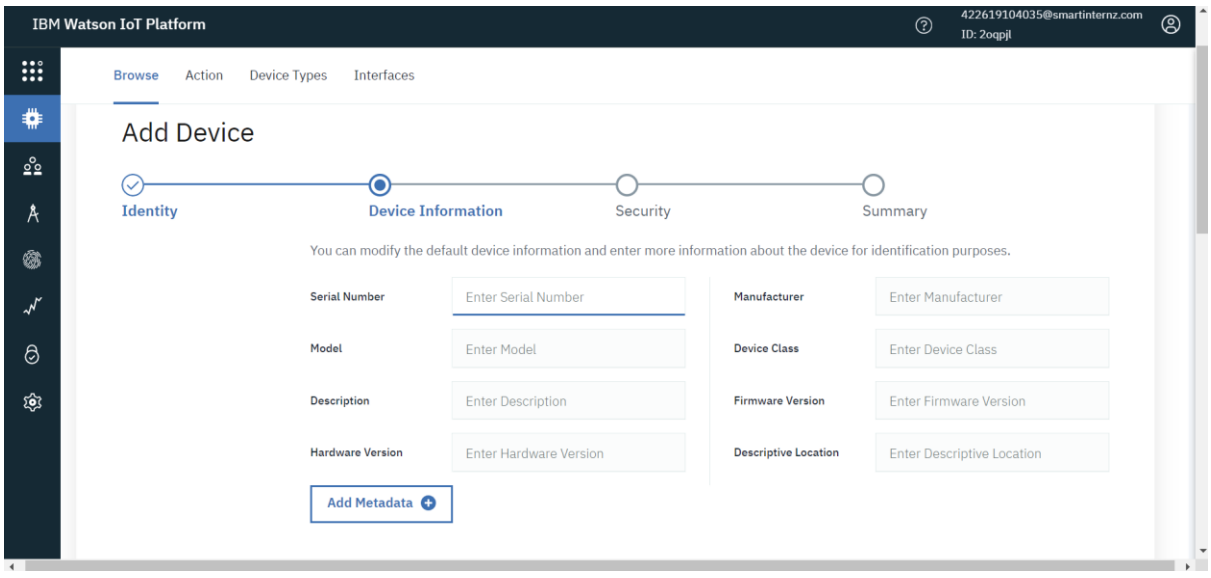
Click on Launch Dashboard of IBM Watson IoT platform



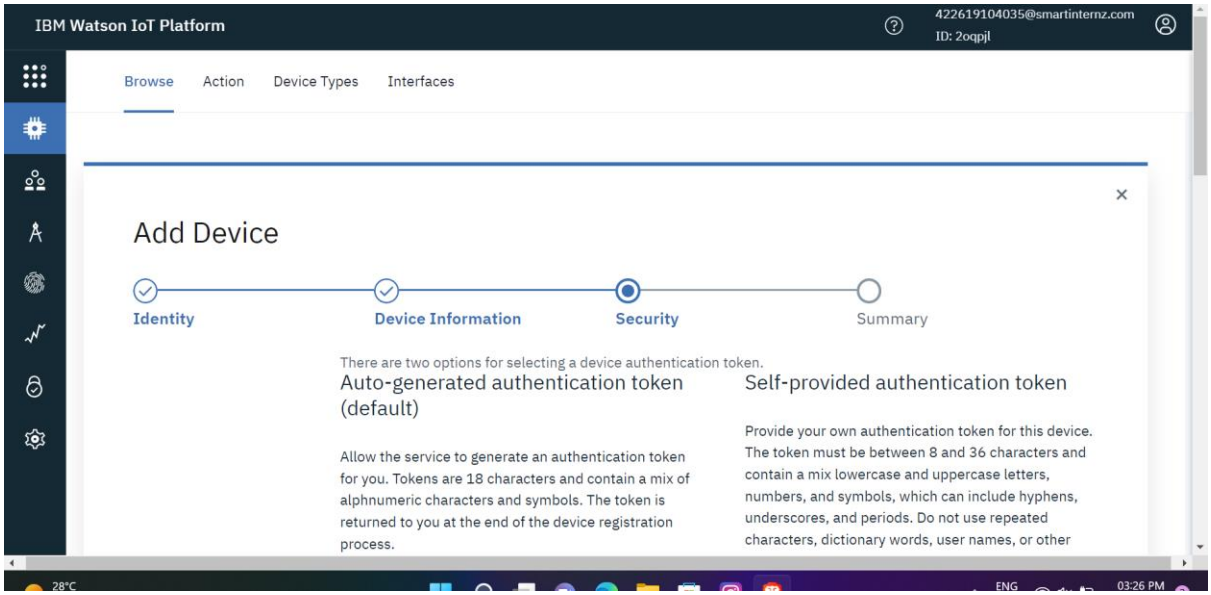
Click on Add device

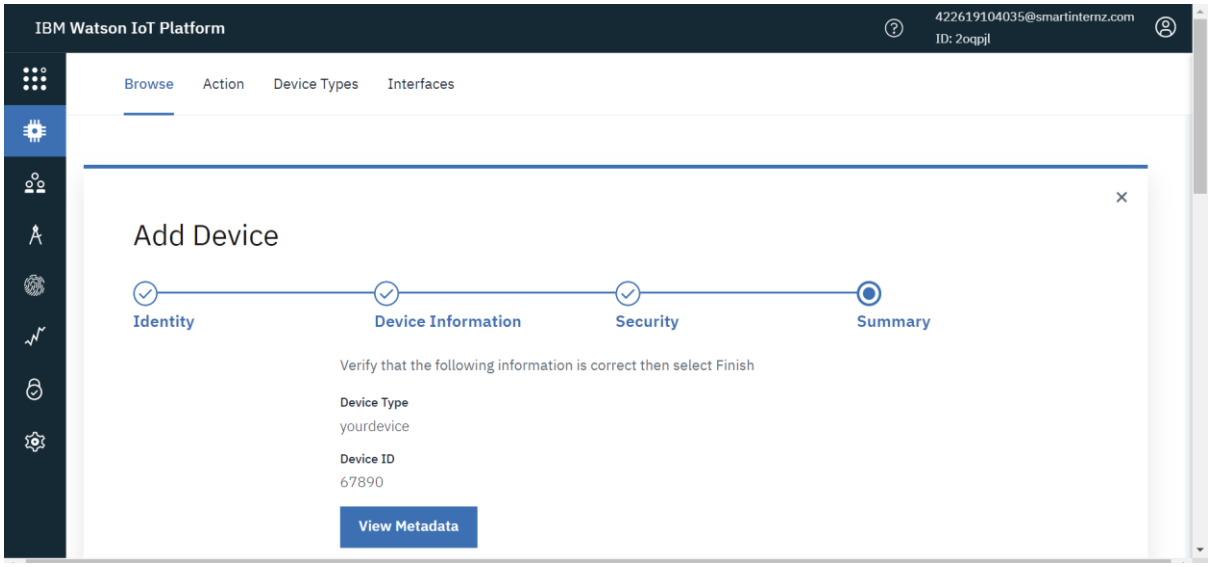


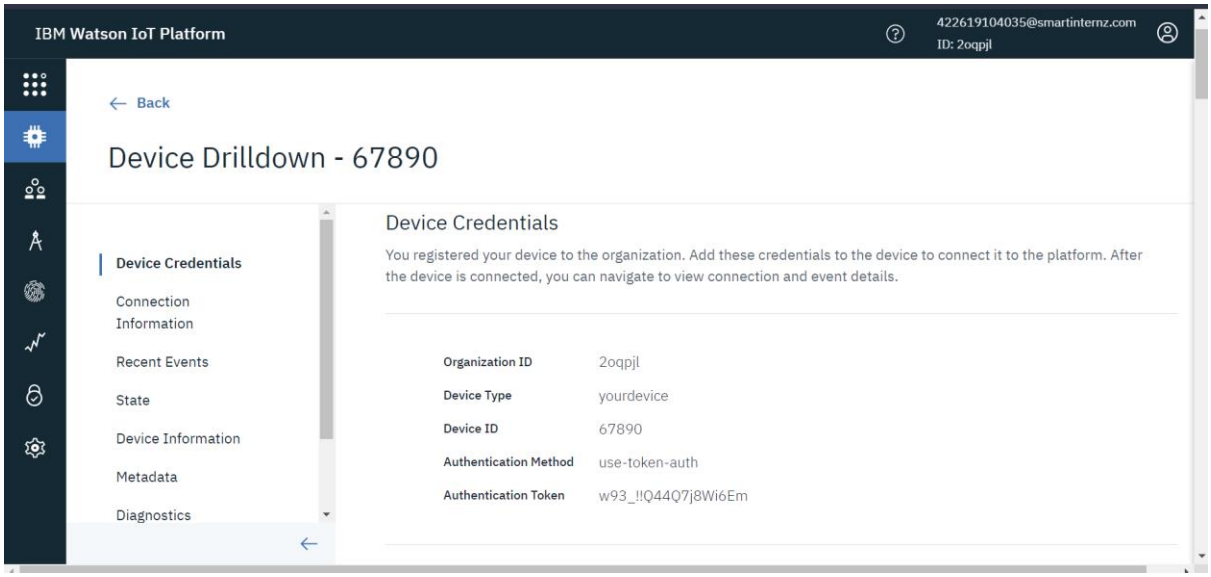
After clicked on Add device this page is opened

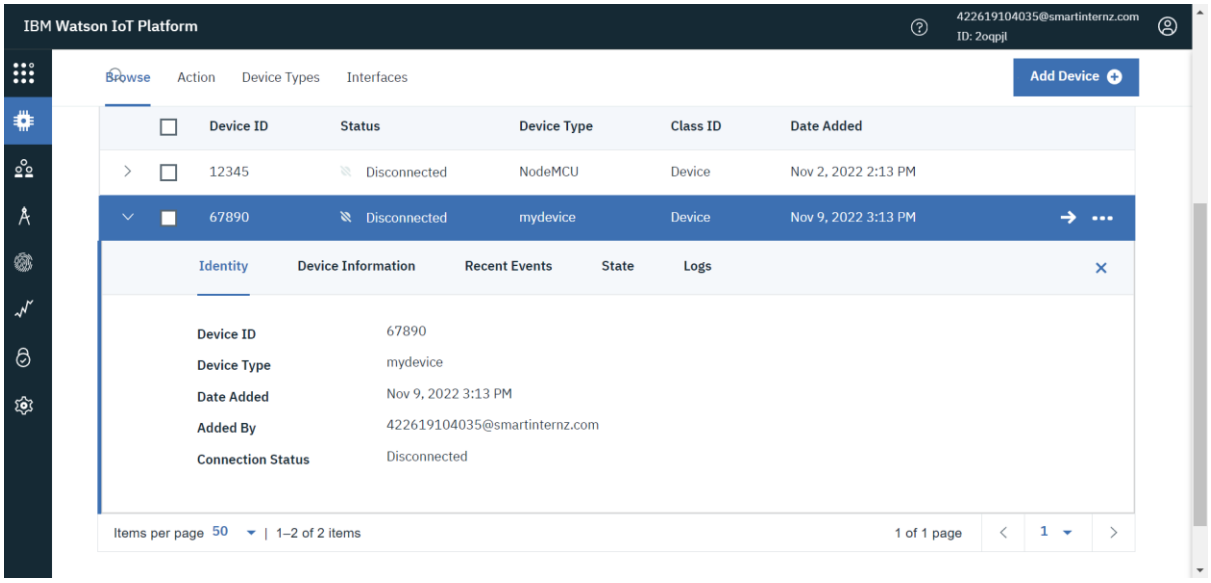


Filled the details.


IBM Watson IoT Platform
422619104035@smartinternz.com
ID: 2oqpjl
Browse
Action
Device Types
Interfaces
Add Device
Identity
Device Information
Security
Summary
There are two options for selecting a device authentication token.
Auto-generated authentication token (default)
Allow the service to generate an authentication token for you. Tokens are 18 characters and contain a mix of alphnumeric characters and symbols. The token is returned to you at the end of the device registration process.
Self-provided authentication token
Provide your own authentication token for this device. The token must be between 8 and 36 characters and contain a mix lowercase and uppercase letters, numbers, and symbols, which can include hyphens, underscores, and periods. Do not use repeated characters, dictionary words, user names, or other


IBM Watson IoT Platform
422619104035@smartinternz.com
ID: 2oqpjl
Browse
Action
Device Types
Interfaces
Add Device
Identity
Device Information
Security
Summary
Verify that the following information is correct then select Finish
Device Type
yourdevice
Device ID
67890
View Metadata


IBM Watson IoT Platform
422619104035@smartinternz.com
ID: 2oqpjl
Back
Device Drilldown - 67890
Device Credentials
Connection Information
Recent Events
State
Device Information
Metadata
Diagnostics
Device Credentials
You registered your device to the organization. Add these credentials to the device to connect it to the platform. After the device is connected, you can navigate to view connection and event details.
Organization ID
2oqpjl
Device Type
yourdevice
Device ID
67890
Authentication Method
use-token-auth
Authentication Token
w93_!!Q44Q7j8Wi6Em



Device is Created.

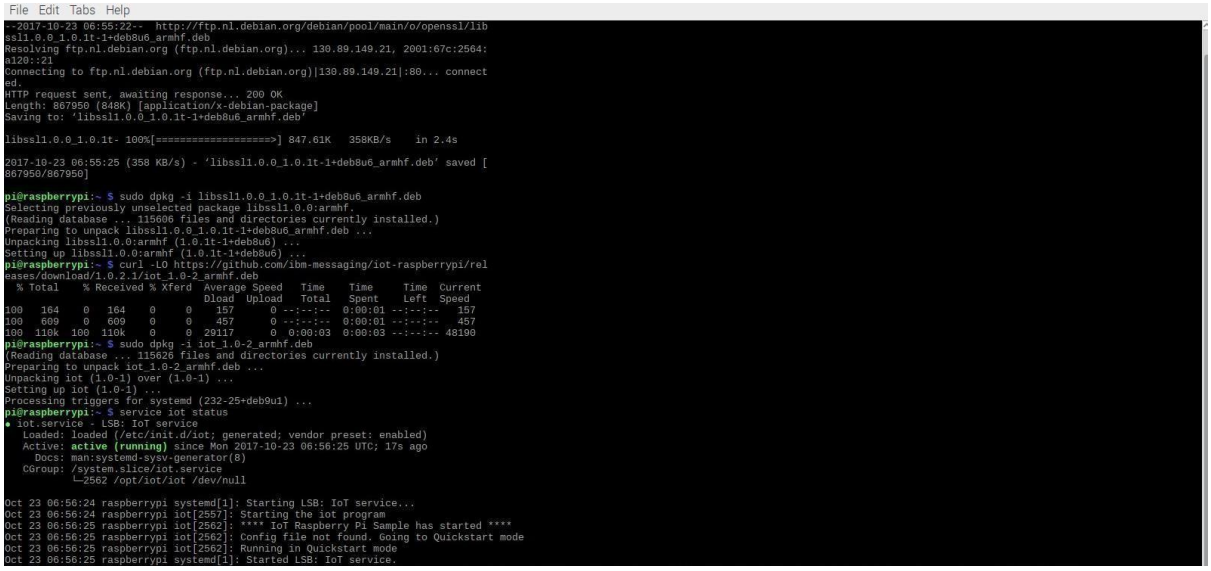
STEP-2: INSTALLING NECESSARY PACKAGES ON YOUR PI:

- Now we are going to install necessary packages on your pi.
- Open your terminal in your pi and type the following commands

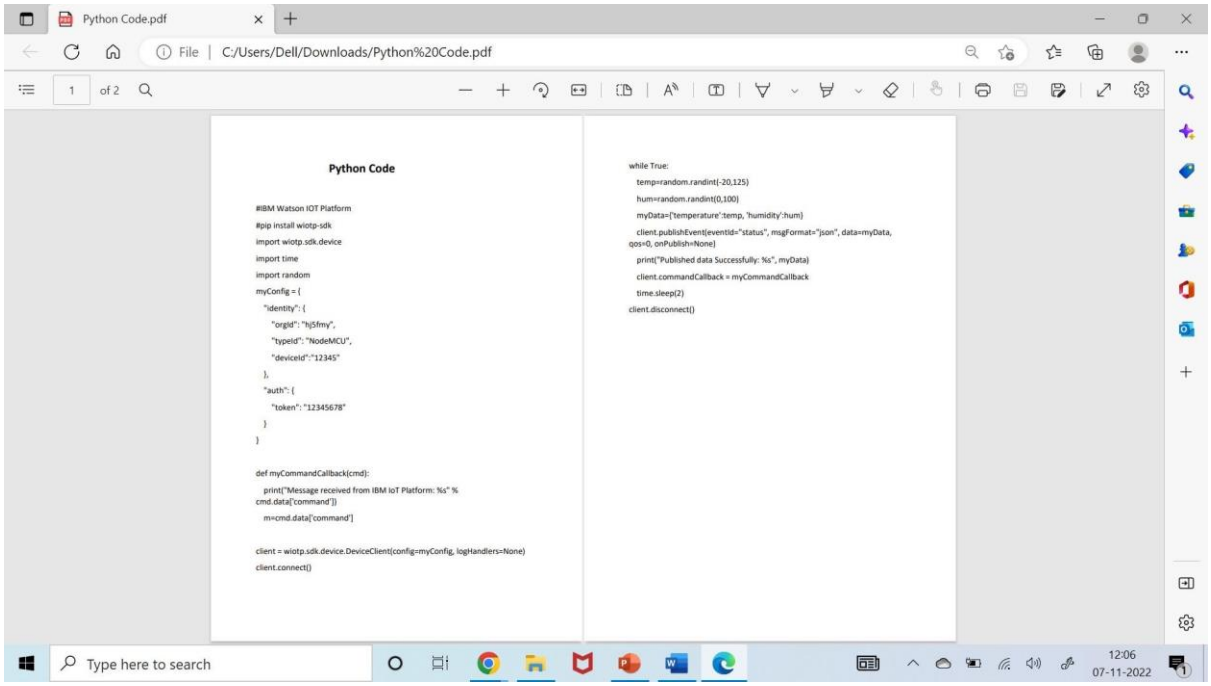
- curl -LO https://github.com/ibm-messaging/iot-raspberrypi/releases/download/1.0.2.1/io t_1.0- 2_armhf.deb
- sudo dpkg -i iot_1.0-2_armhf.deb

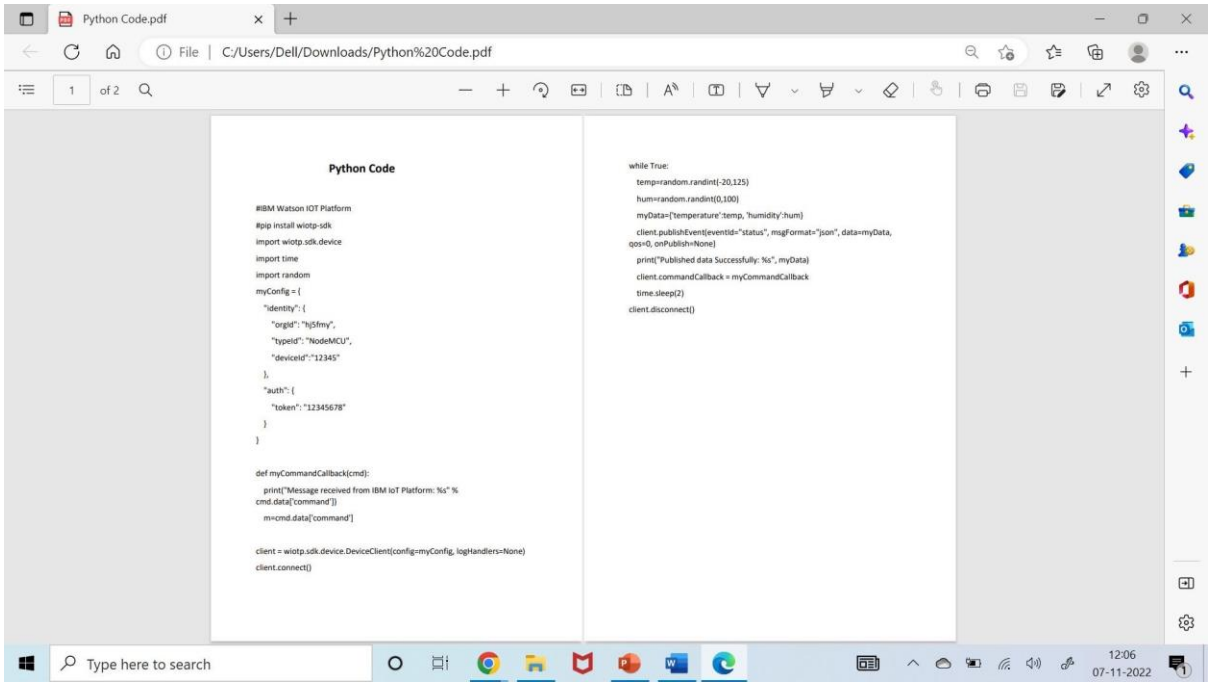
- service iot status

Following are the images that appears on pi's terminal



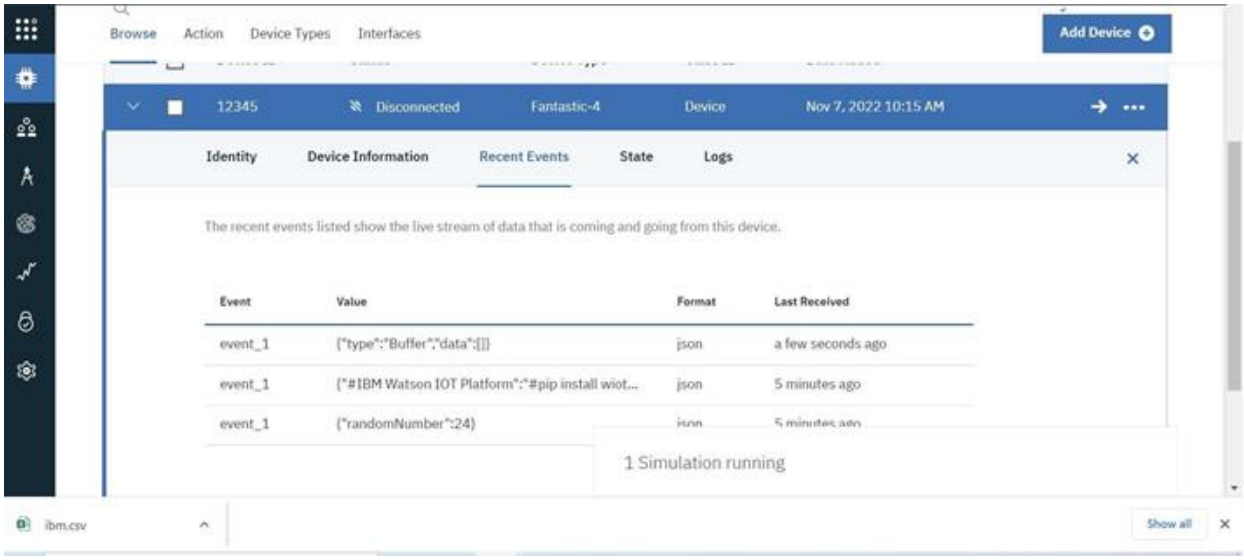
Then I got the image as follows in my pi's shell:





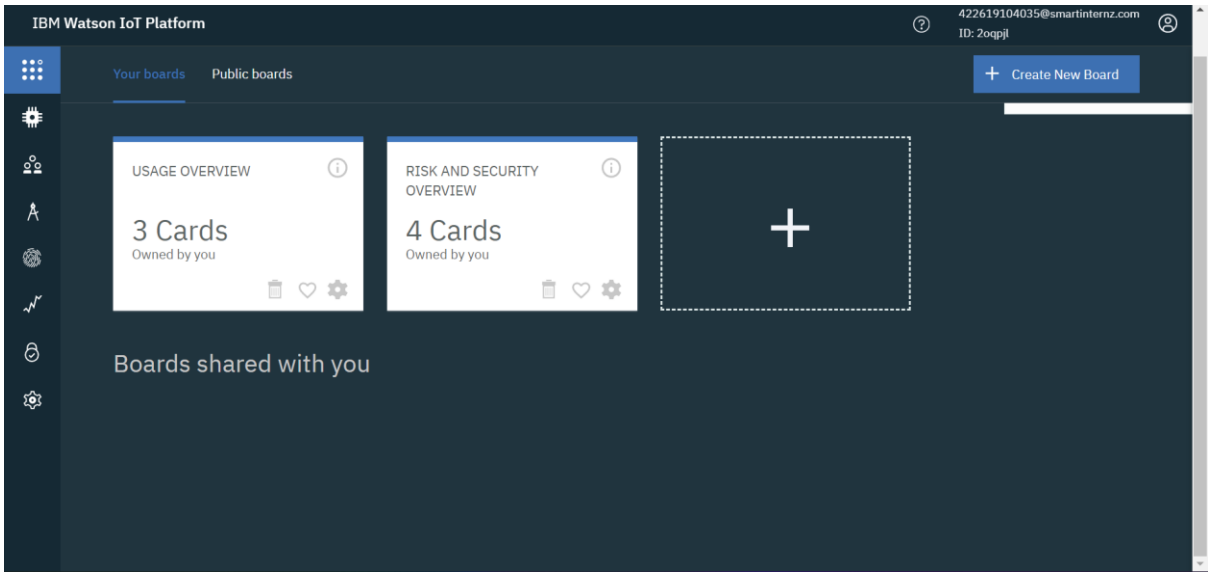
Step-3: checking the data sent on IBM:

- After sending the sensors data we can check whether it is received at the iot platform.

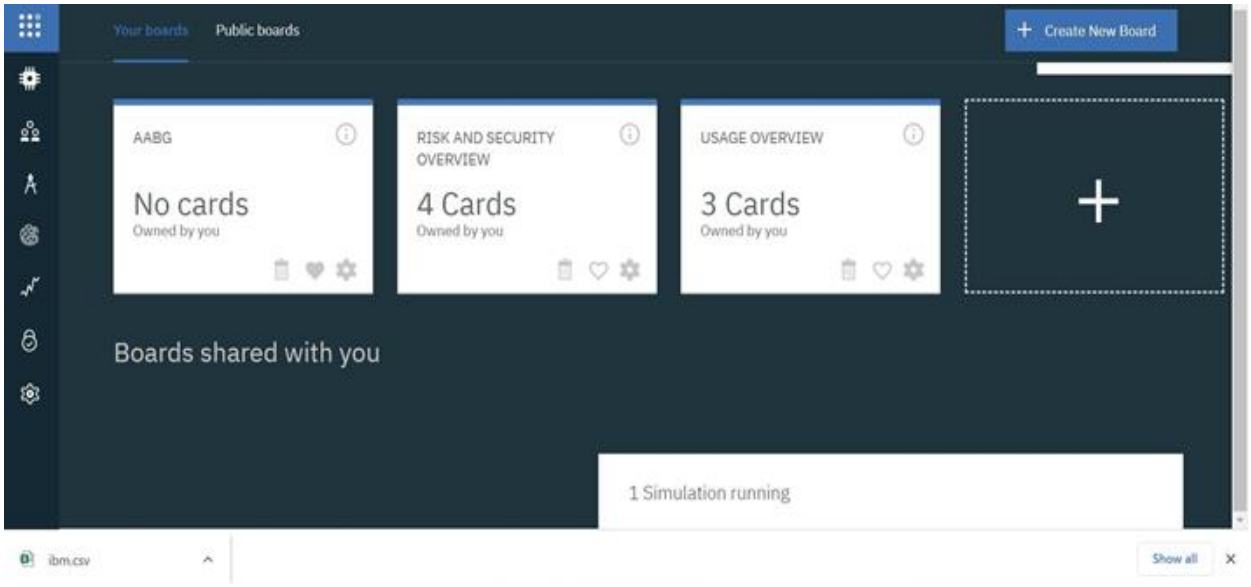


Step-4: Creating boards and cards for visualization of data:

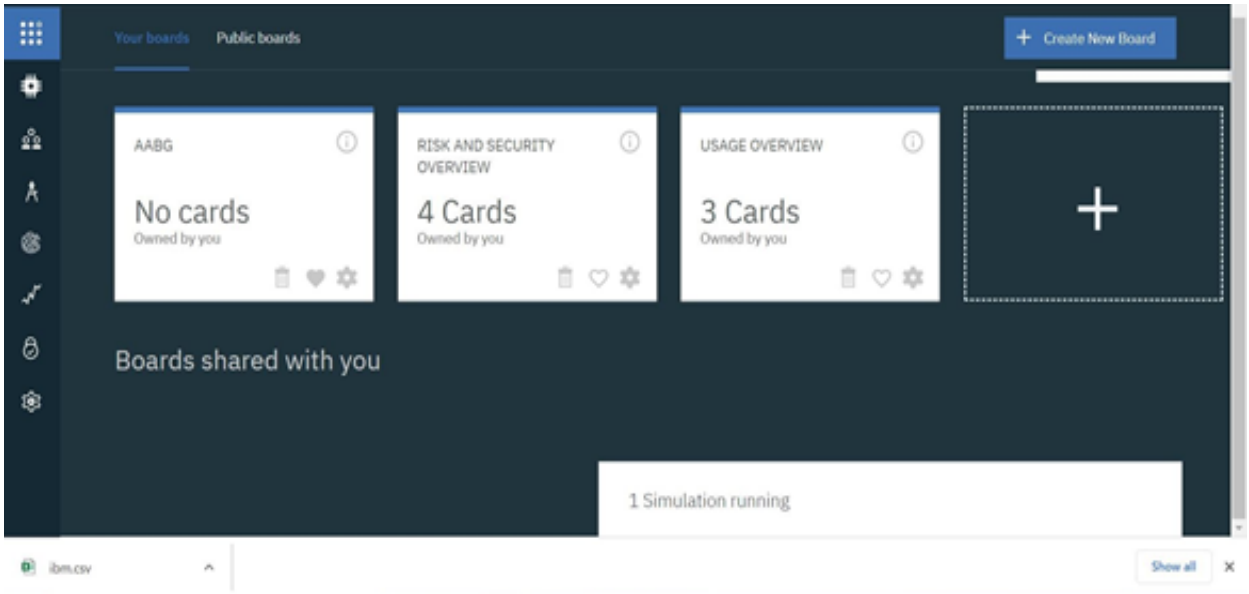
In Watson platform we have an option called board .Clicked on it and got the following window on the screen



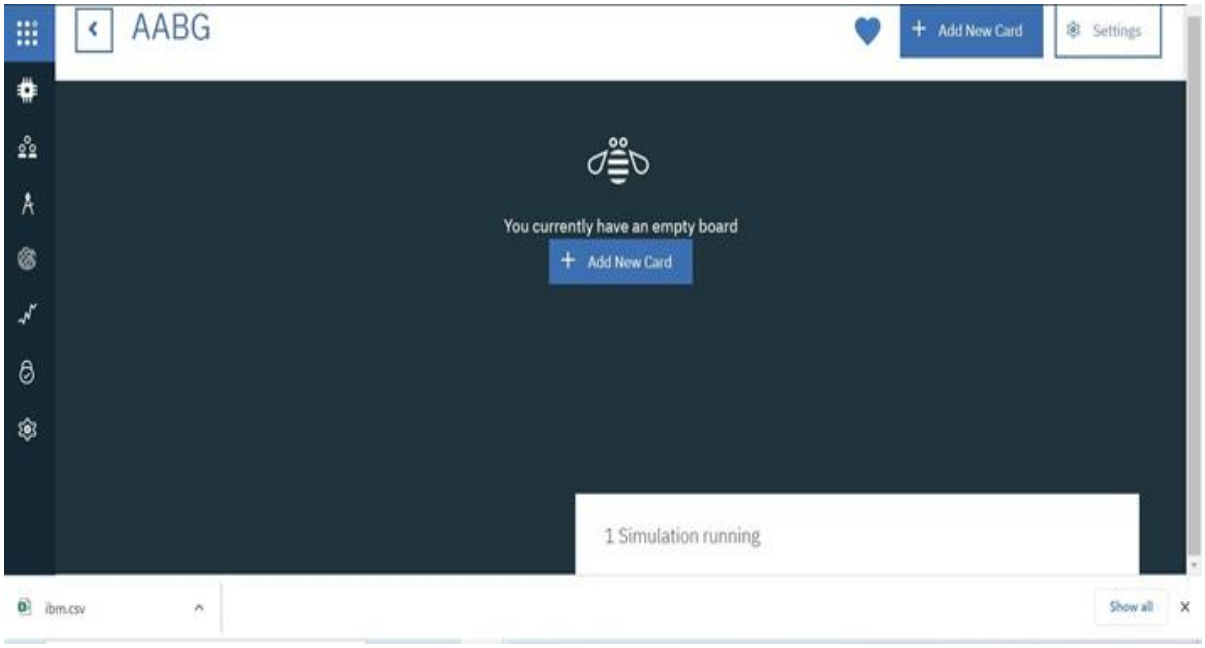
Clicked on Create a new board to create a board .



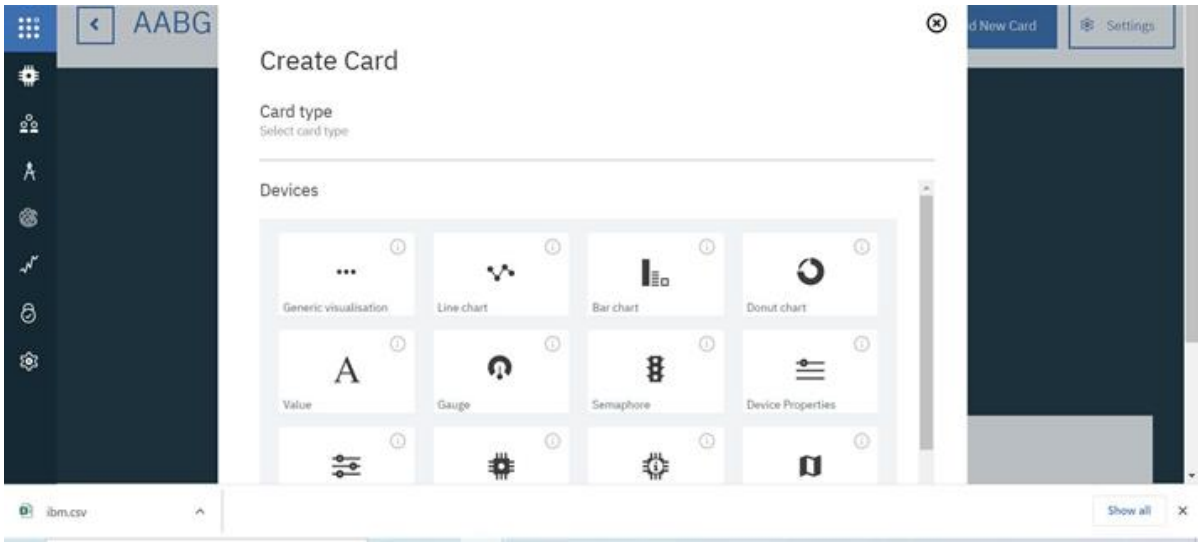
Then clicked on Next then again click on Sub



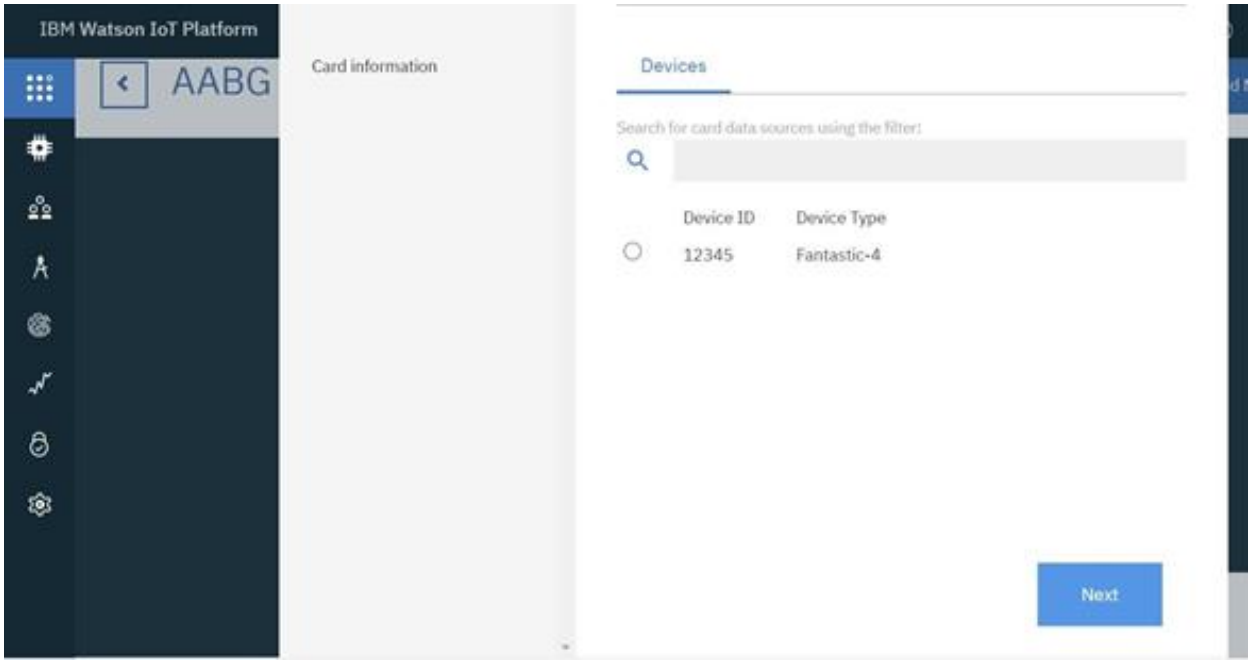
Clicked on Add New Card



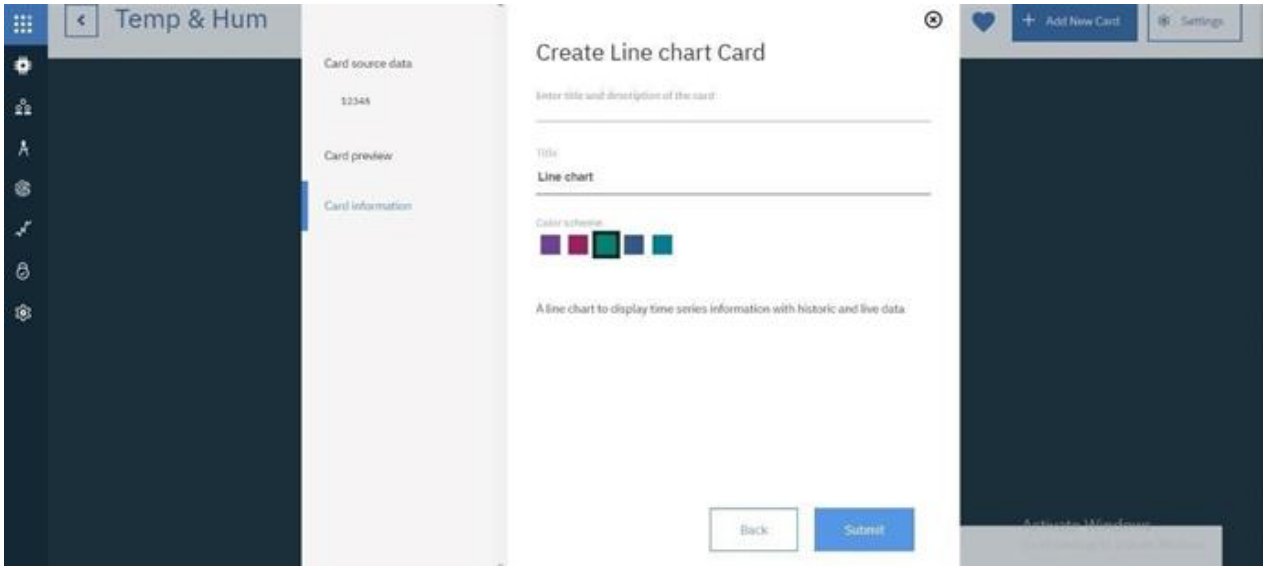
Select the type of Graph u want accordingly and click next



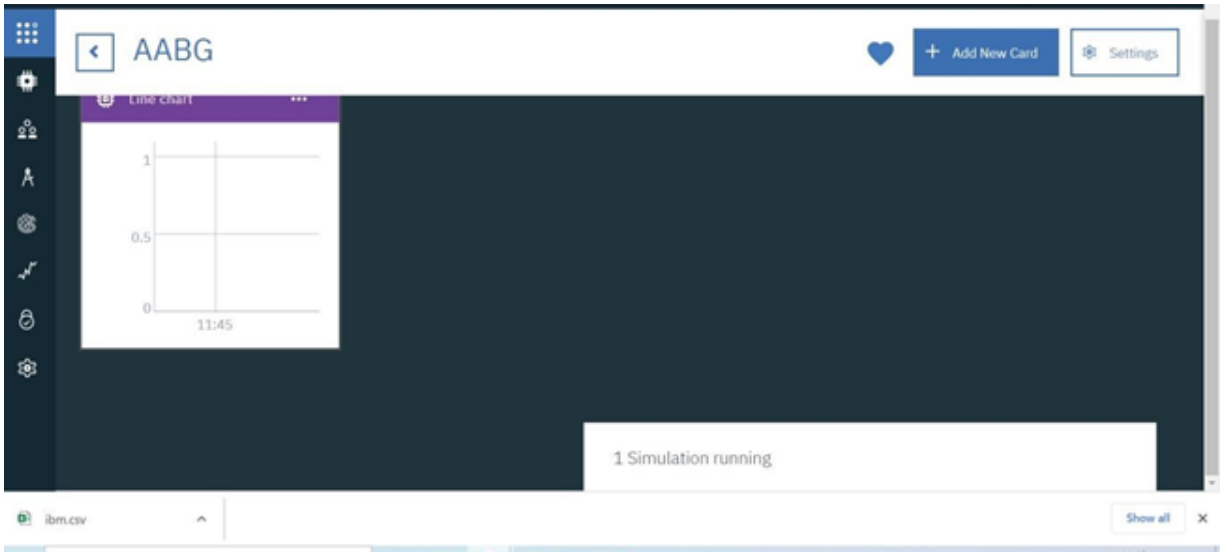
Choose the Device and click on Next.



Selected the event and clicked next. In this case it is humidity.Then selected the size of the graph and color of the graph board and clicked 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.