

Project Development - Delivery of Sprint – 2

Date	5 November 2022
Team ID	PNT2022TMID15629
Project Name	Project – Smart Farmer - IoT Enabled Smart Farming Application

Building Project

Connecting IoT Simulator to IBM Watson IoT Platform

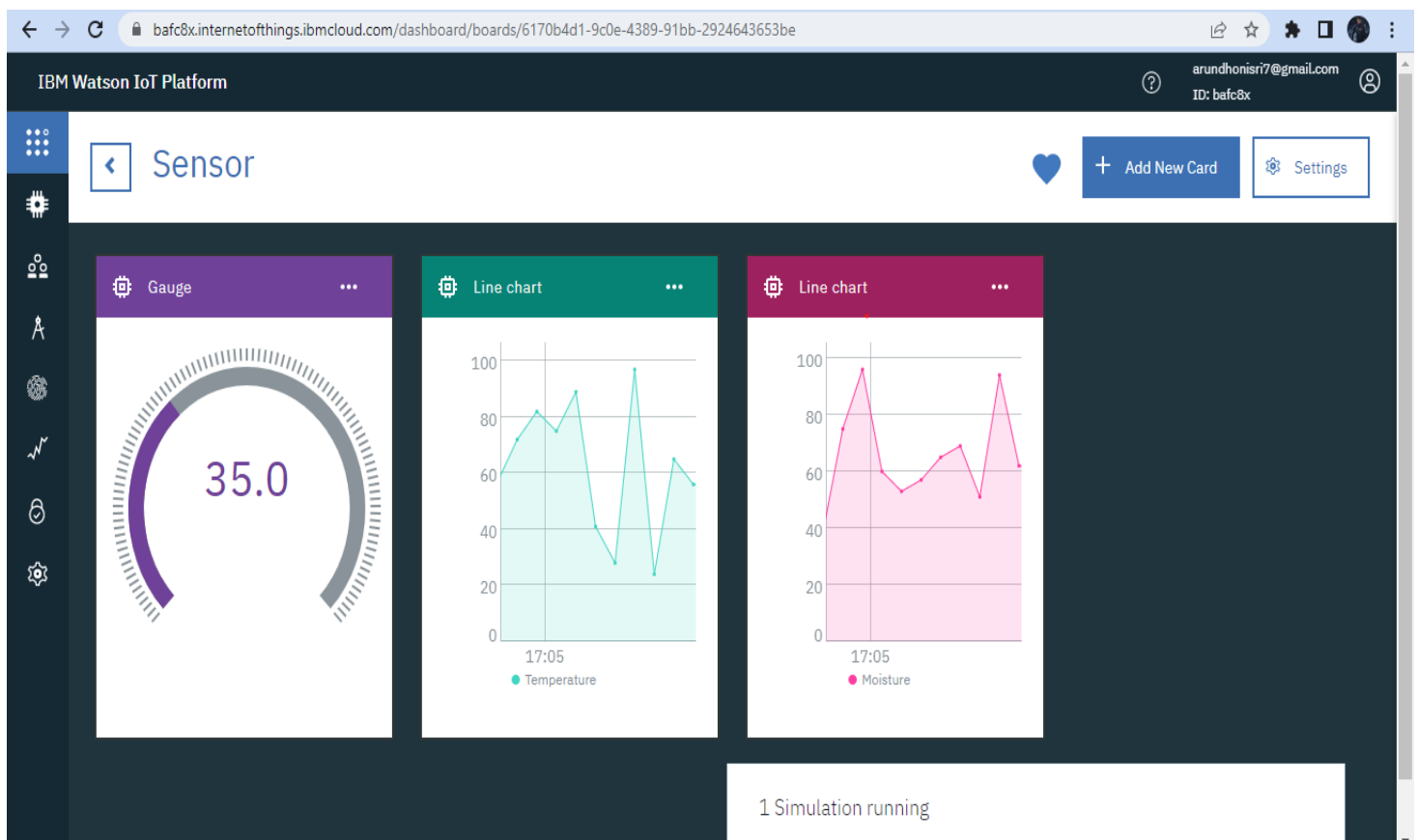
- Open link provided in below image
- Give the credentials of your device in IBM Watson
- Platform Click on connect

My credentials given to simulator are:

API Key: **a-bafc8x-kaa3fcpile**

Device type: **Smart-Farmer**

Token: **GKMuuw2Bkc4TVBS7n?**



You can see the received data in graphs by creating cards in Boards tab

- You will receive the simulator data in cloud.
- You can see the received data in Recent Events under your device.
- Data received in this format(json).

The screenshot shows the Watson IoT Platform interface. At the top, there's a header with the platform name and user information. Below it, a table lists devices. The 'Smart-farmer' device is selected, and its 'Recent Events' tab is active. The tab shows a list of recent events with columns for Event, Value, Format, and Last Received. The events are JSON objects containing temperature, humidity, and moisture data.

Event	Value	Format	Last Received
event_1	{"Temp":62,"Humi":40,"Mois":93}	json	a few seconds ago
event_1	{"Temp":23,"Humi":47,"Mois":65}	json	a few seconds ago
event_1	{"Temp":88,"Humi":50,"Mois":51}	json	a minute ago
event_1	{"Temp":91,"Humi":27,"Mois":83}	json	2 minutes ago
event_1	{"Temp":93,"Humi":75,"Mois":84}	json	2 minutes ago

Configuration of Node-Red to collect IBM cloud data

The screenshot shows the Node-RED interface. A flow is visible with an 'IBM IoT' node connected to a 'msg.payload' node, which then branches into three nodes for 'Temperature', 'Humidity', and 'Moisture'. Each of these nodes is connected to a corresponding output node (Temperature, Humidity, Moisture). Below this, there's a 'Motor Switched On' node connected to a 'function' node, which is then connected to an 'IBM IoT' node. On the right, the 'Edit ibmiot node' configuration panel is open, showing fields for Name, API Key, API Token, Server-Name, Scalable, Application ID, Keep Alive, and Use Clean Session.

Edit ibmiot node

Delete Cancel Update

Properties

Name: IBMIot

API Key: a-bafc8x-kaa3fcpilc

API Token:

Server-Name: bafc8x.messaging.internetofthings.ibmcloud.cor

Scalable: ☐ Application ID:

Keep Alive: 60 Seconds ☐ Use Clean Session

- The node IBM IoT App In is added to Node-Red workflow. Then the appropriate device credentials obtained earlier are entered into the node to connect and fetch device telemetry to Node-Red.
- Once it is connected Node-Red receives data from the deviceDisplay the data using debug node for verification
- Connect function node and write the Java script code to get each reading separately.
- The Java script code for the function node is:

```
msg.payload = msg.payload.Temp
global.set('t', msg.payload)
return msg;
```
- Finally connect Gauge nodes from dashboard to see the data in UI.

Nodes Connected in Following Manner:

