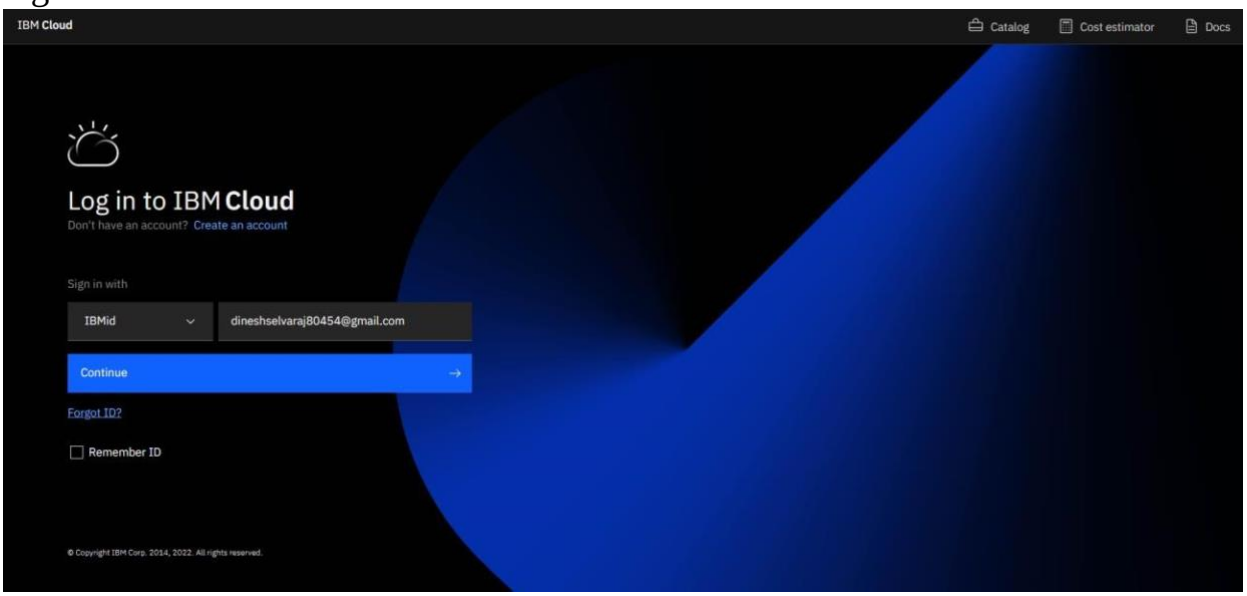
Project Development Phase Delivery of Sprint -2

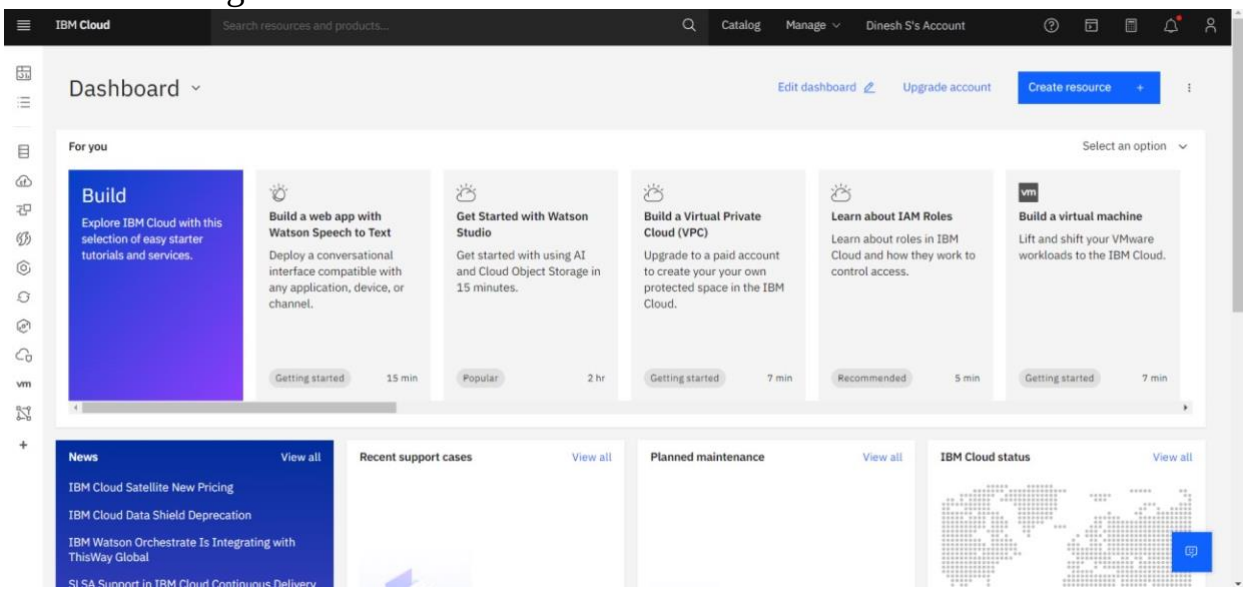
Team ID	PNT2022TMID17466
Project Name	Smart Farmer-IOT Enabled Smart FarmingApplication

In Sprint-2 we are going to develop the IBM Watson and making the connection to the node-red.

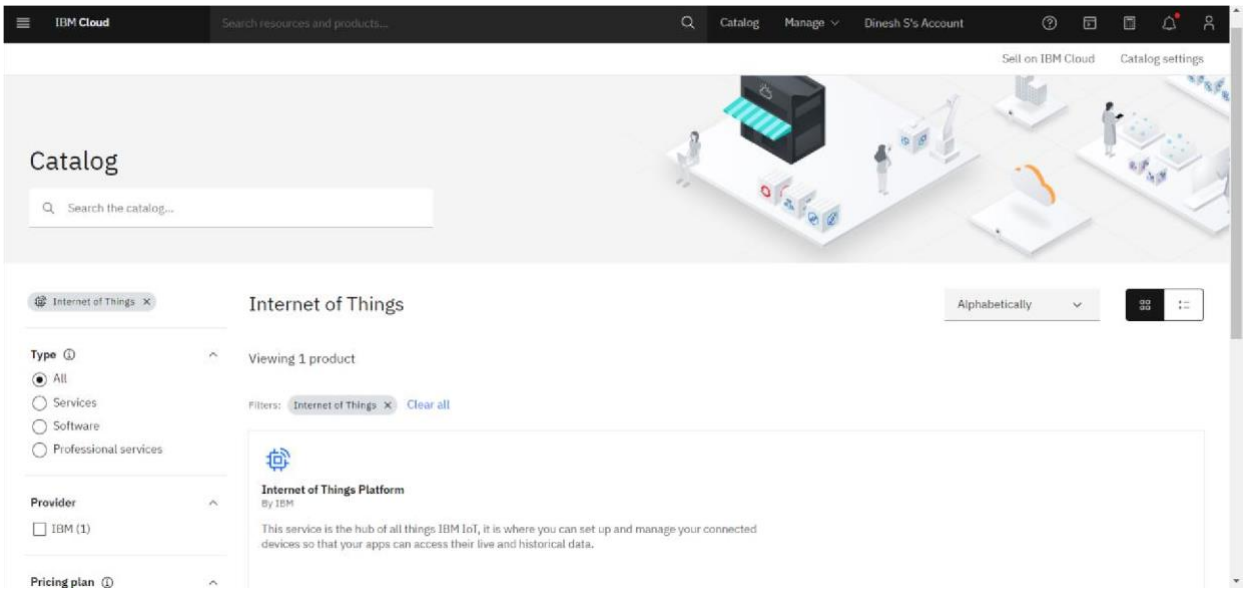
Login into IBM cloud:



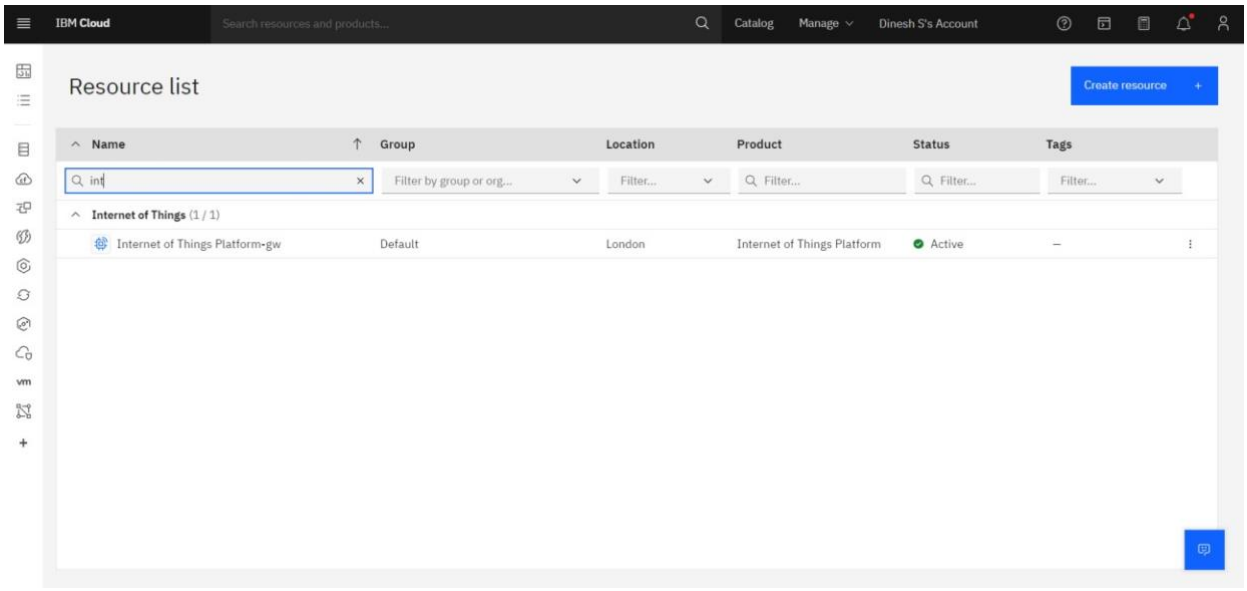
Click the Catlag button



After clicking the catlog .Select the Internet of Things and then click.

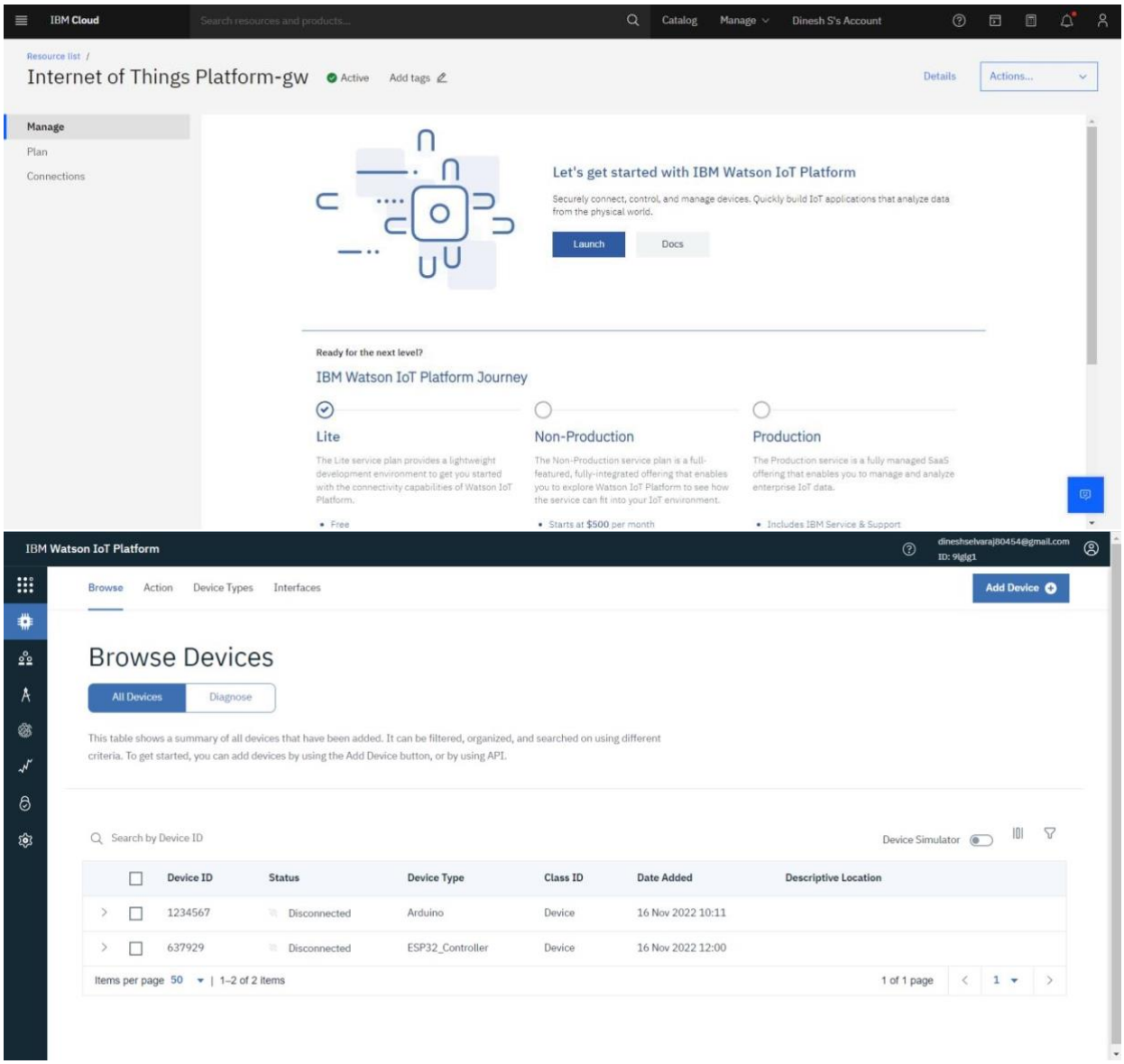


If you have already existing plan we can continue or we have to create new one.

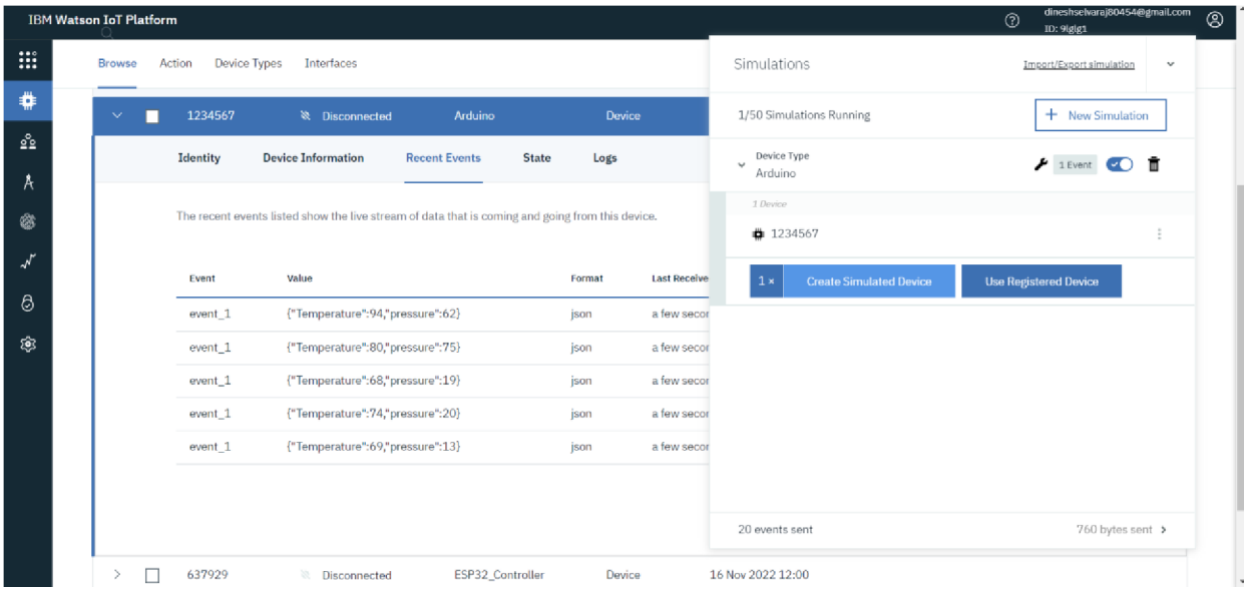


Next window will be appear after clicking the exiting plan and click the launch button.

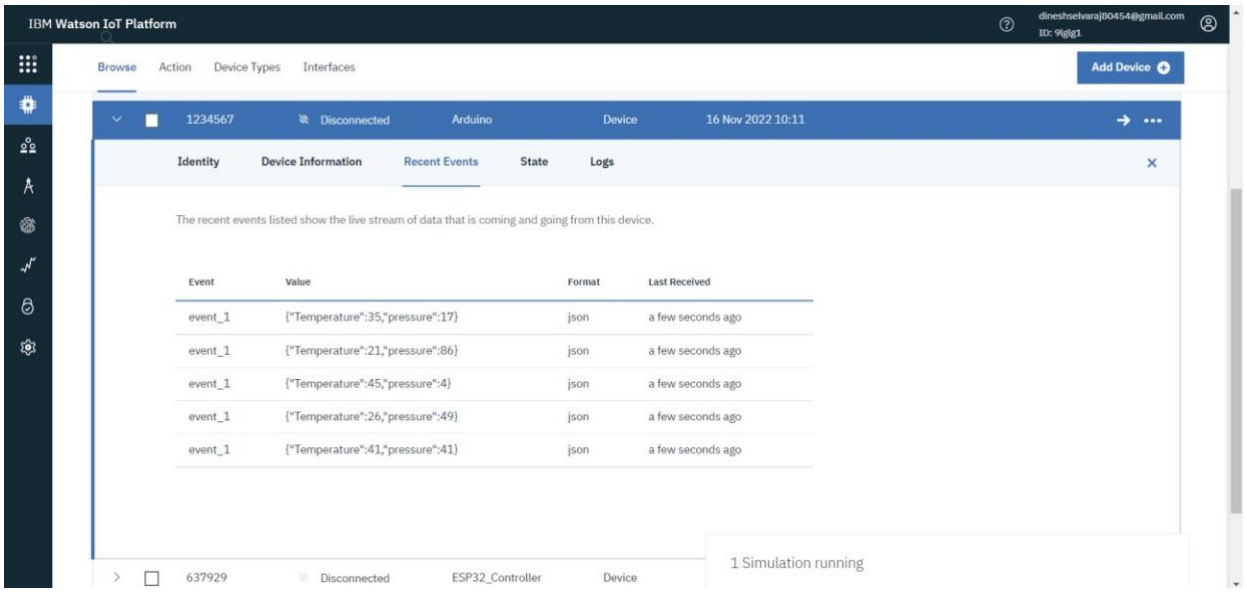
Now we have to Register Device in the Watson platform. click register device button.



Type the device type and device id and then click the next button.



Now we have give to give one authentication token that token is more than 8 characters and below 36 characters.



Then click the finish button.

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My Device Credentials:

Organization ID : 9lglg1

Device Type : Arduino

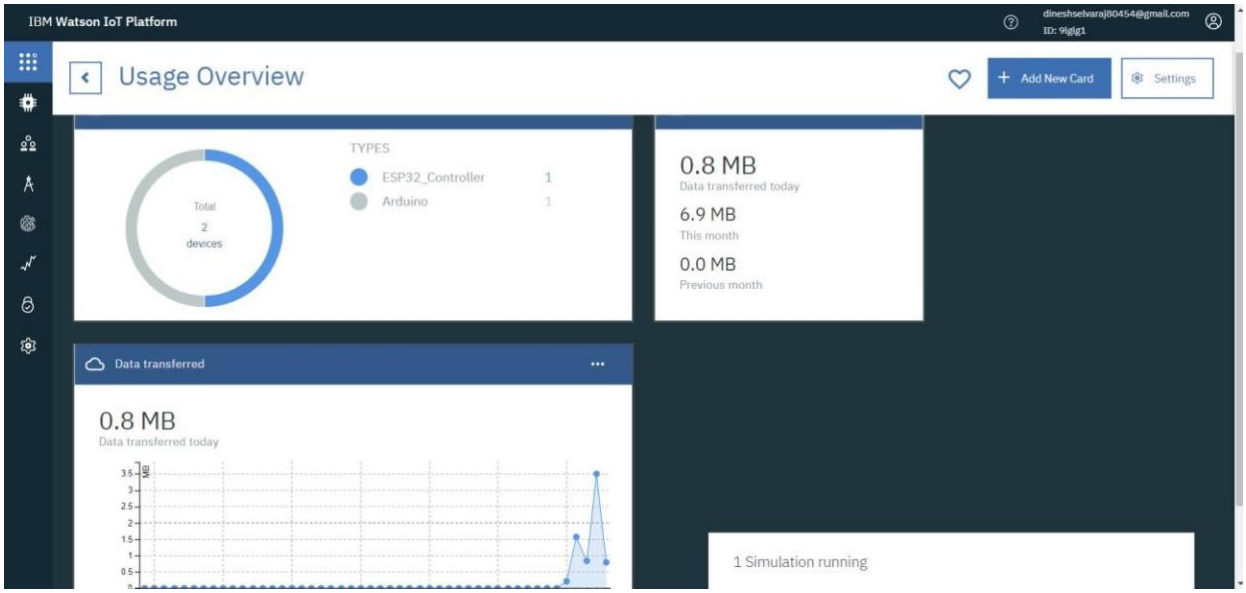
Device ID : 1234567

Authentication Method : use-token-auth

Authentication Token : 123456789

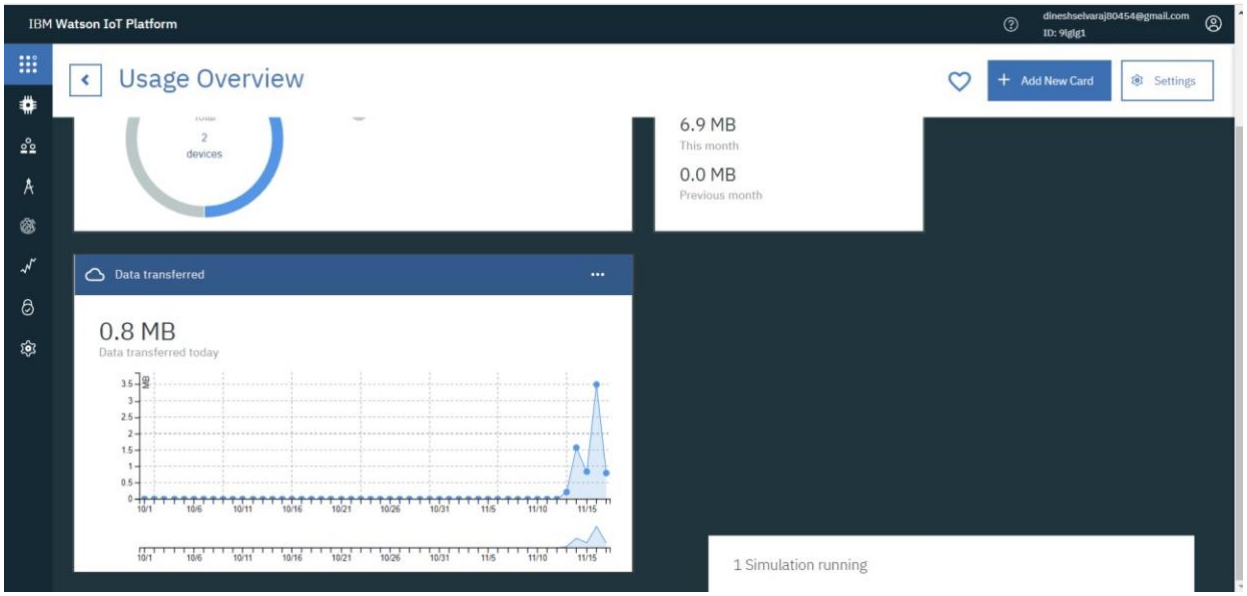
Now we have to add boards. Because we can data as graph model.

After adding boards we can run simulation and see the simulation as shown below. You will receive the simulator data in cloud .



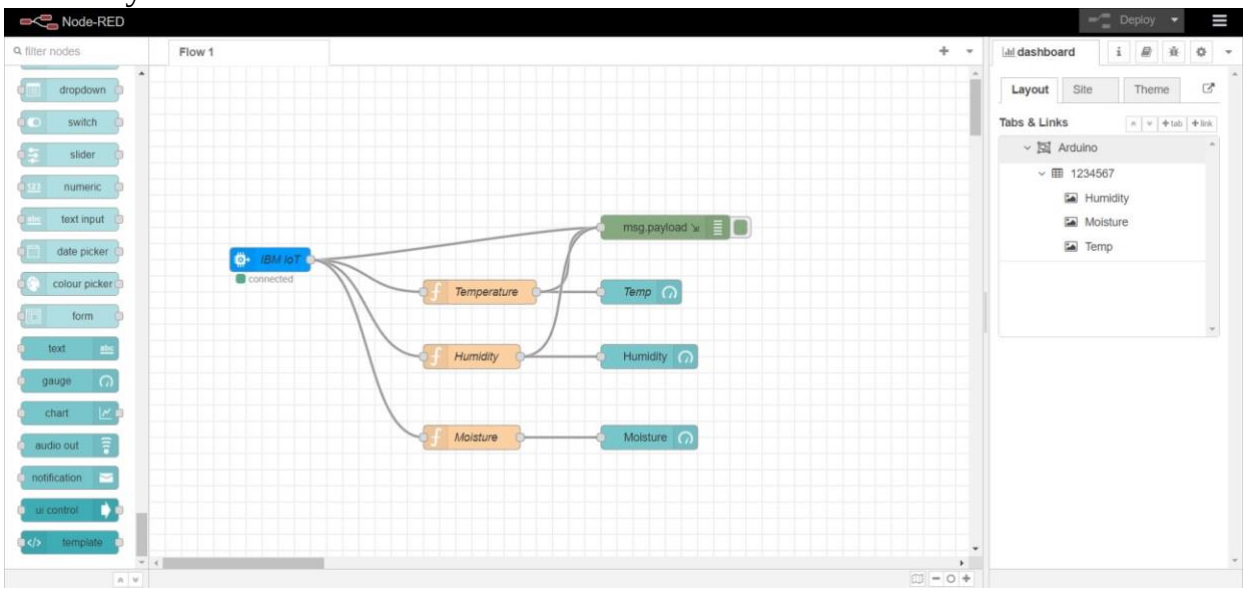
Now getting the random temperature and humidity values in the IBM Watson.

You can see the received data in Recent Events under your device. So finally we can generate temperature and humidity values as like real sensors.

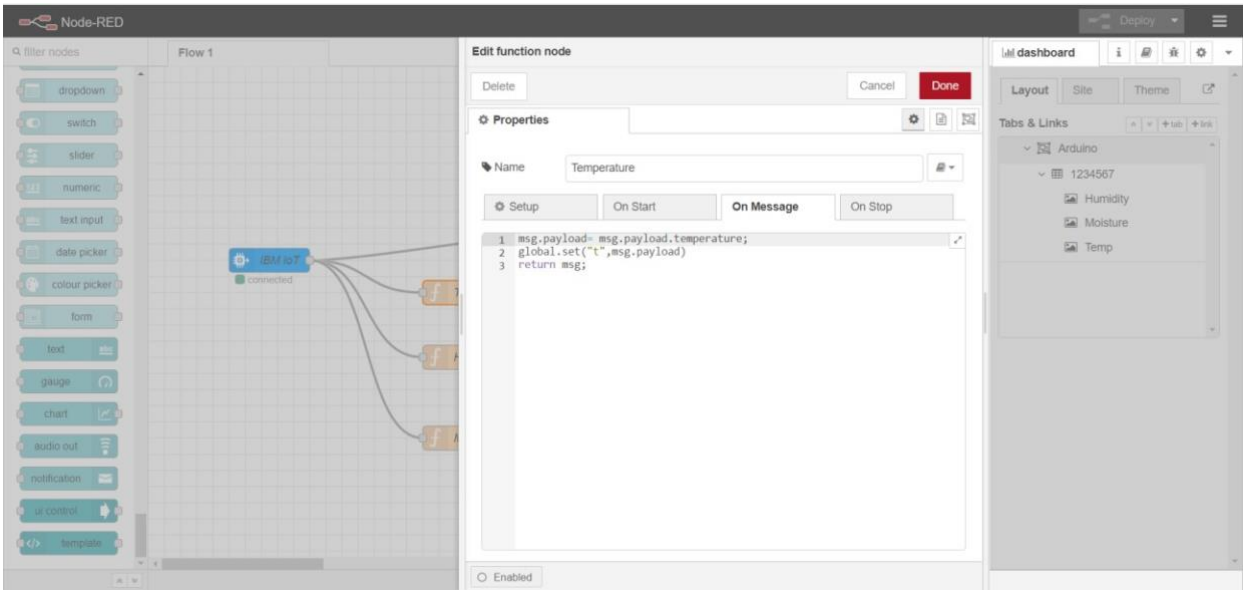


Now Configuration the Node-Red with IBM Watson Platform to collect the IBM cloud data:

The IBM Watson 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 to the Node-Red it receives the data from the Watson. Displaying the data using debug node in the left side of the workspace. And also see the results in the debug node



Connect function node and write the Java script code to get each reading separately.

Function node is rename as the temperature and humidity. And write json code on message.

Json code for Temperature: msg.payload=

msg.payload.temperature

global.set('t',msg.payload) return msg.

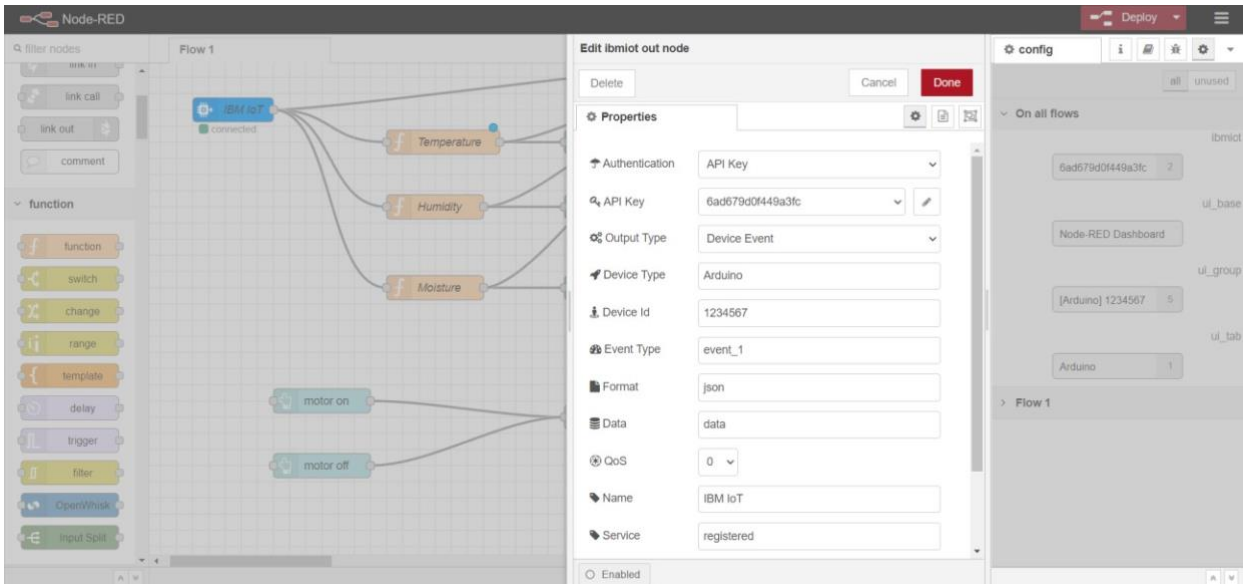
Json code for Humidity: msg.payload=

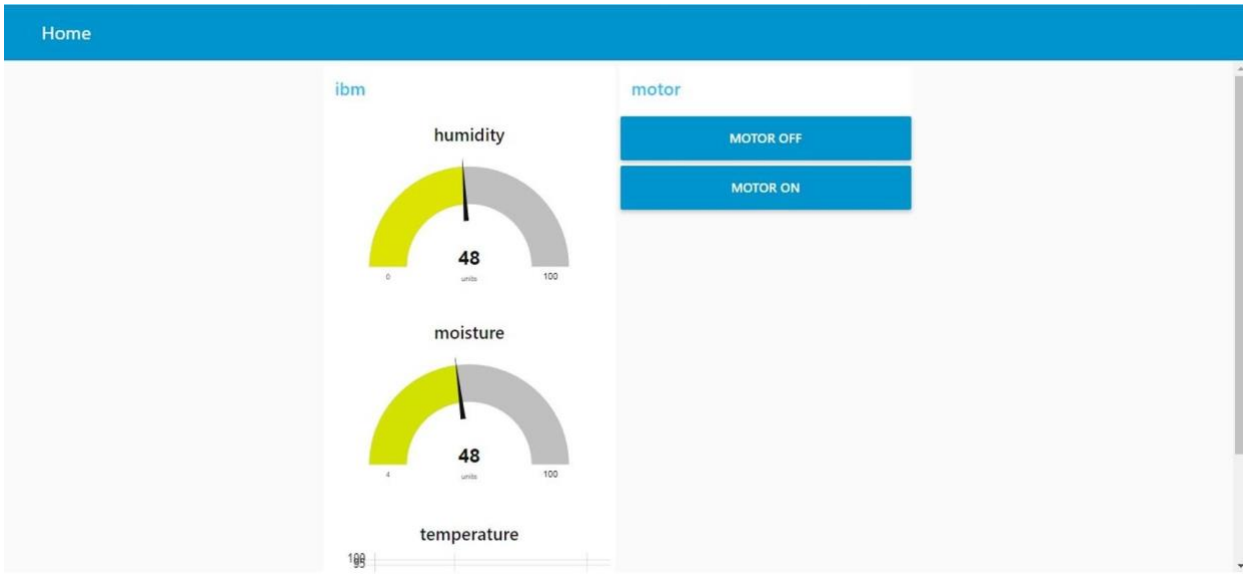
msg.payload.humidity

global.set('h',msg.payload) return msg.

Finally connect the Gauge nodes from node-red to see the data in the node-red dashboard UI:

Now we can see the output in the node-red dashboard.


Node-RED
Deploy
Flow 1
filter nodes
link call
link out
comment
function
function
switch
change
range
template
delay
trigger
filter
OpenWhisk
Input Split
IBM IoT
connected
Temperature
Humidity
Moisture
motor on
motor off
Edit ibmiot out node
Delete
Cancel
Done
Properties
Authentication
API Key
API Key
6ad679d0f449a3fc
Output Type
Device Event
Device Type
Arduino
Device Id
1234567
Event Type
event_1
Format
json
Data
data
QoS
0
Name
IBM IoT
Service
registered
Enabled
config
all
unused
On all flows
ibmiot
6ad679d0f449a3fc
2
ui_base
Node-RED Dashboard
ui_group
[Arduino] 1234567
5
ui_tab
Arduino
1
Flow 1


Home
ibm
humidity
48
0
100
moisture
48
4
100
temperature
motor
MOTOR OFF
MOTOR ON