IOT ENABLED SMART FARMING APPLICATION

Sprint delivery-2

TEAMID: **PNT2022TMID03145**

8.IoT Simulator:

In our project for simulation we have used Watson iot platform for simulation. Watson IoT Platform features Analytics and Watson APIs Completely manage your IoT landscape and make better business decisions. Using a secure, smart and scalable platform as the hub of your IoT, get real-time analysis of user, machine and system-generated data, including speech, text video and social sentiment.

. The link for simulator- https://www.ibm.com/cloud/watson-iot-platform/details

9.Open weather API:

Open Weather platform is a set of elegant and widely recognizable APIs. Powered by convolutional machine learning solutions, it is capable of delivering all the weather information necessary for decision-making for any location on the globe.

Website link: https://openweathermap.org/appid

10.Building project:

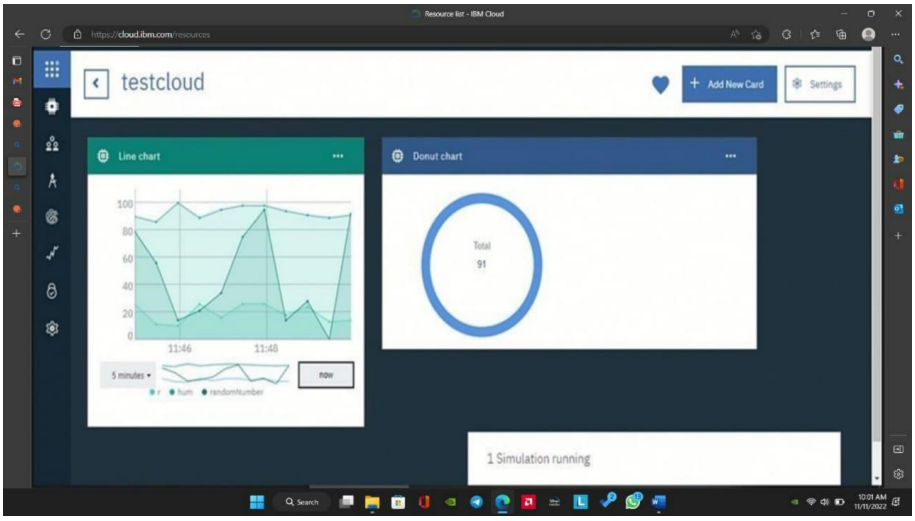
Give the credentials of your device in IBM Watson IoT Platform

My credentials given to simulator are: OrgID: 957tf2 api: a-957tf2f5rg4qowe2 Device type: wxyz token:

3agoaaQHNWFEgUYT4?

Device ID : 7687132

Device Token : 87412864



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 .

{

"d": {

▪ "name": "wxyz",

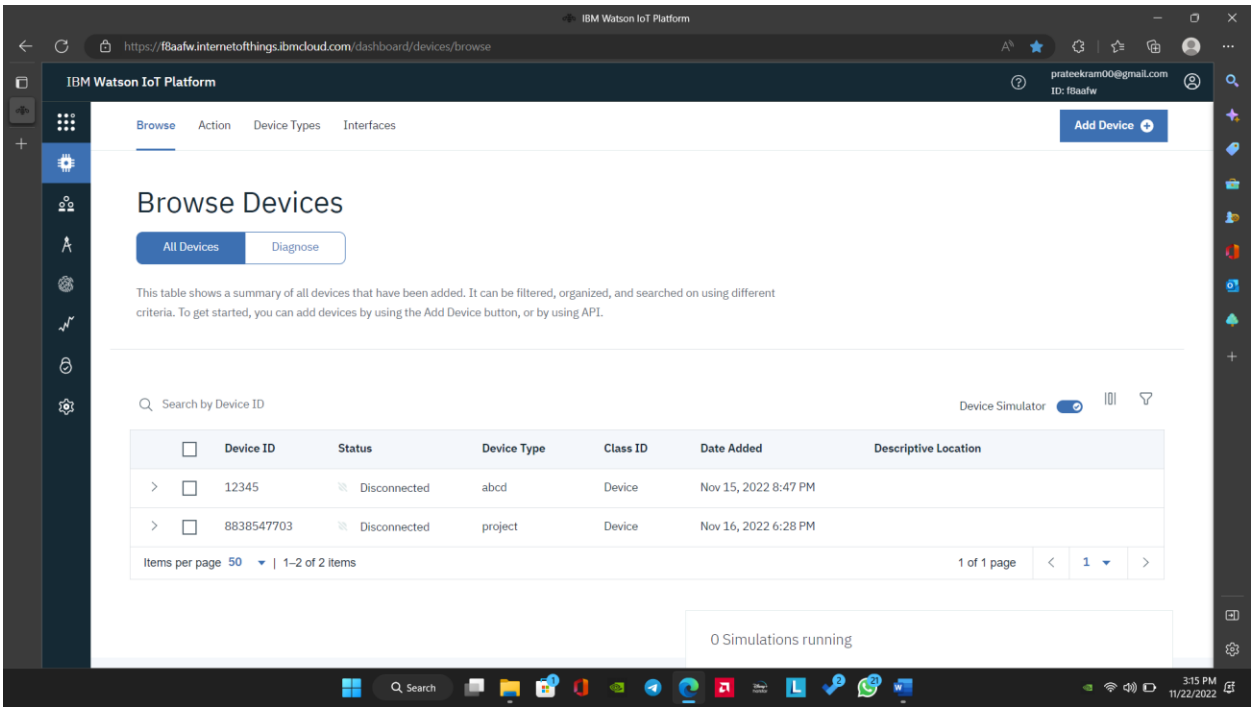
▪ "temperature": 25,

▪ "humidity": 82,

▪ "Moisture ": 15

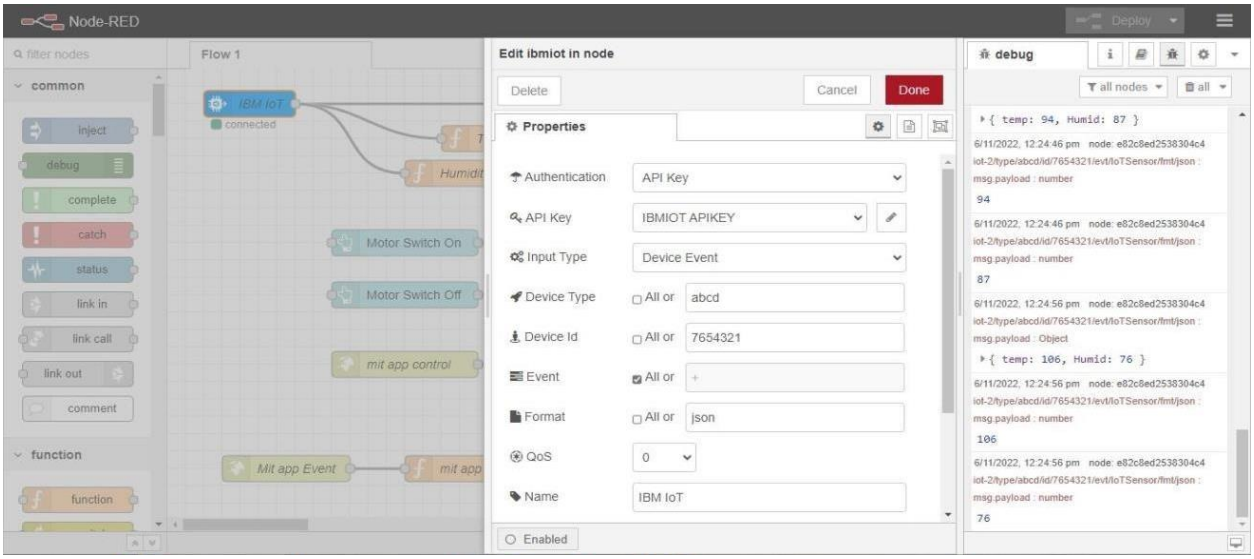
}

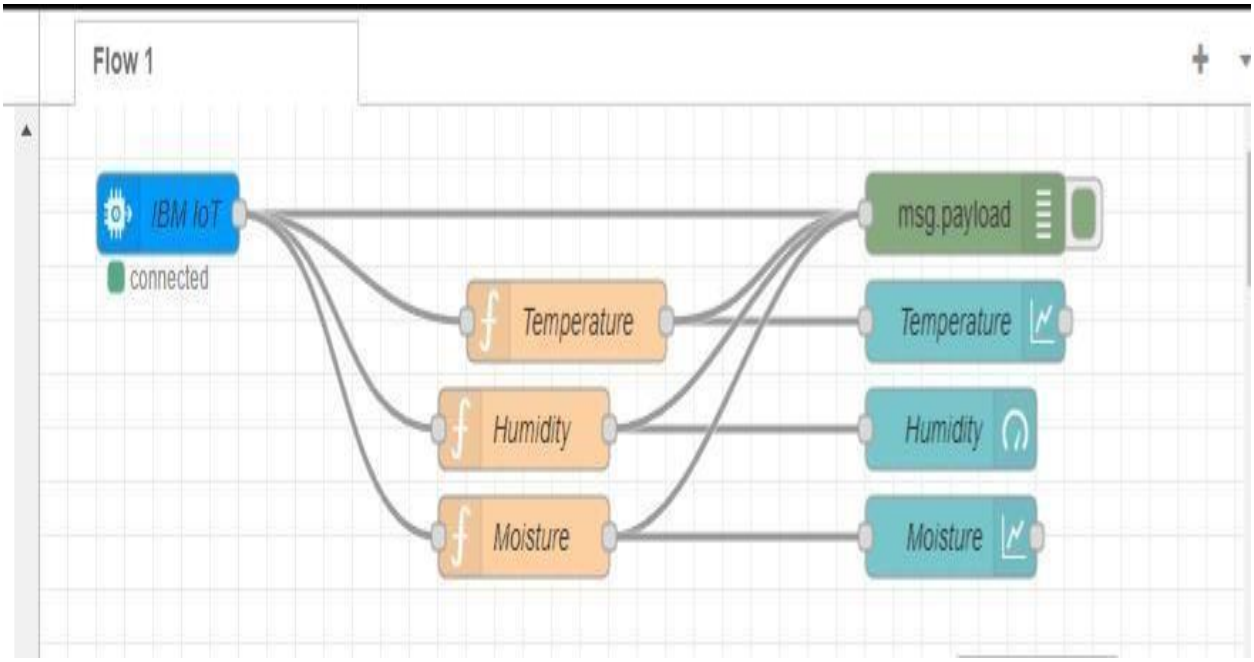
}



11.Collecting IBM cloud data by NODE-Red:

Below steps are used to collect the data from IBM cloud to NODE-Red platform





Collecting Data From OpenWeather API:

The node-red collects data from OpenWeather API

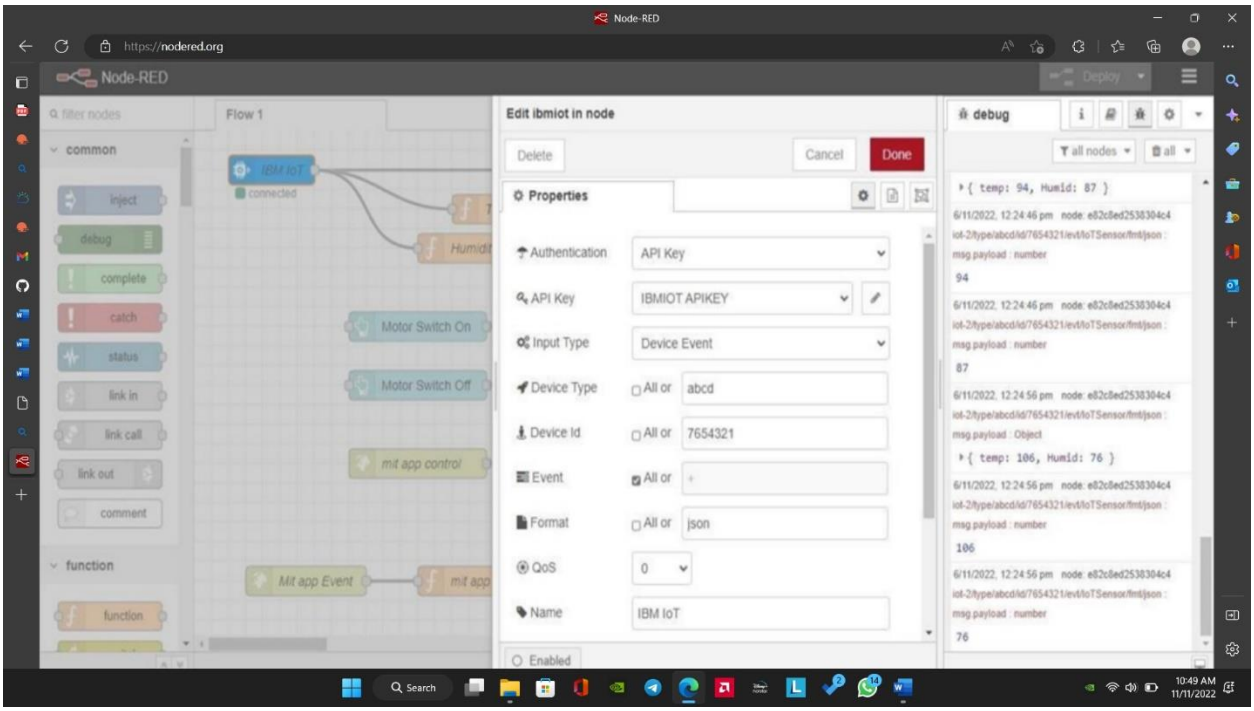
format:{"coord":{"lon":79.85,"lat":14.13},"weather":[{"id":803,"main":"Clouds","
description":"brokenclouds","icon":"04n"}],"base":"stations","main":{"temp":307
59,"feels_like":305.5,"temp_min":307.59,"temp_max":307.59,"pressure":1002,"h
umidity":35,"sea_level":1002,"grnd_level":1000},"wind":{"speed":6.23,"deg":170}
,"clouds":{"all":68},"dt":1589991979,"sys":{"country":"IN","sunrise":1589933553,
"sunset":1589979720},"timezone":19800,"id":1270791,"name":"Gūdūr","cod":20
0}

var temperature = msg.payload.main.temp;

temperature = temperature-273.15;

return {payload : temperature.toFixed(2)};

in this code, the temperature parameter is initially in kelvin and converted to Celsius


Node-RED
https://nodered.org
Node-RED
Deploy
Flow 1
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
IBM IoT
connected
Motor Switch On
Motor Switch Off
mit app control
Mit app Event
Edit ibmiot in node
Delete
Cancel
Done
Properties
Authentication
API Key
API Key
IBMIOT APIKEY
Input Type
Device Event
Device Type
All or
abcd
Device Id
All or
7654321
Event
All or
Format
All or
json
QoS
0
Name
IBM IoT
Enabled
debug
all nodes
all
{ temp: 94, Humid: 87 }
6/11/2022, 12:24:46 pm node: e82c8ed2538304c4
iot-2/type/abcd/id/7654321/evt/IoTSensor/fmt/json :
msg.payload : number
94
6/11/2022, 12:24:46 pm node: e82c8ed2538304c4
iot-2/type/abcd/id/7654321/evt/IoTSensor/fmt/json :
msg.payload : number
87
6/11/2022, 12:24:56 pm node: e82c8ed2538304c4
iot-2/type/abcd/id/7654321/evt/IoTSensor/fmt/json :
msg.payload : Object
{ temp: 106, Humid: 76 }
6/11/2022, 12:24:56 pm node: e82c8ed2538304c4
iot-2/type/abcd/id/7654321/evt/IoTSensor/fmt/json :
msg.payload : number
106
6/11/2022, 12:24:56 pm node: e82c8ed2538304c4
iot-2/type/abcd/id/7654321/evt/IoTSensor/fmt/json :
msg.payload : number
76
Search
10:49 AM
11/11/2022