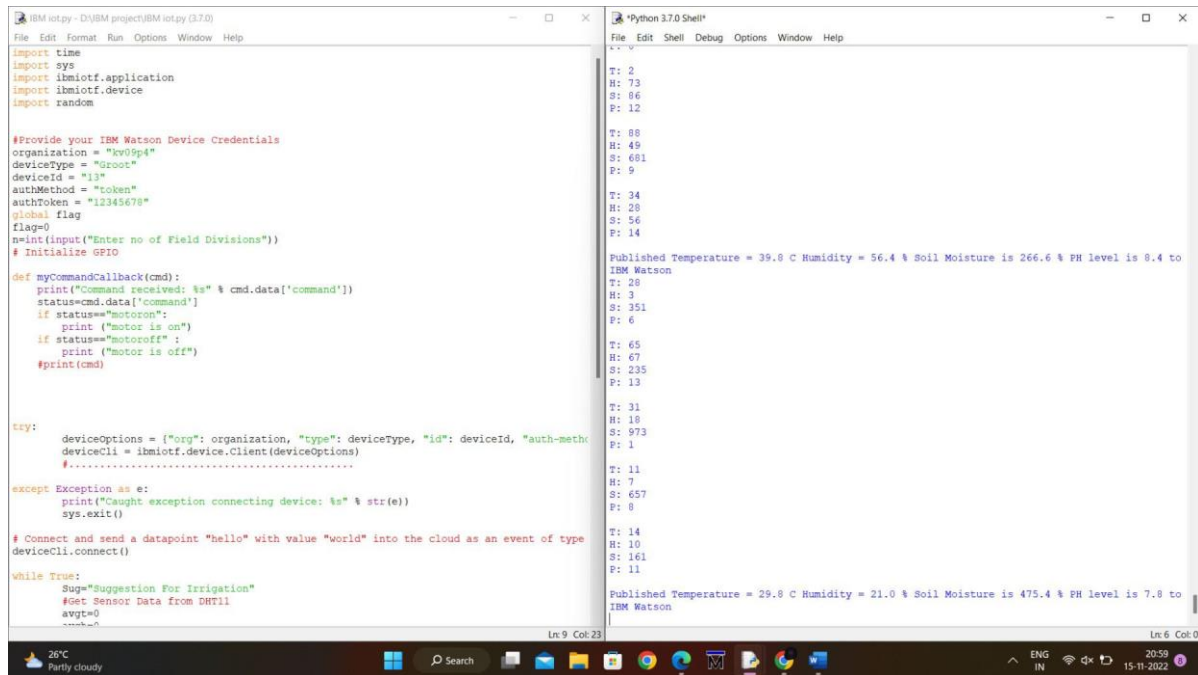


Project Development-Phase 5

Python Code:



The image shows a Python script in an IDE window titled 'IBM iot.py - D:\IBM project\IBM iot.py (3.7.0)'. The script imports time, sys, ibmiotf, and random. It sets up IBM Watson IoT credentials and a device client. A command callback function 'myCommandCallback' is defined to handle 'motoron' and 'motoroff' commands. The script then connects to the device and sends a 'hello' event. A while loop continuously sends sensor data (temperature, humidity, soil moisture, pH) to the cloud. The terminal window on the right shows the output of the script, including the command received, status updates, and the published sensor data.

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "kv09p4"
deviceType = "Groot"
deviceId = "13"
authMethod = "token"
authToken = "12345678"
global flag
flag=0
n=int(input("Enter no of Field Divisions"))
# Initialize GPIO

def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
        print("Motor is on")
    if status=="motoroff":
        print("Motor is off")
    #print(cmd)

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method": authMethod, "auth-token": authToken}
    deviceCli = ibmiotf.device.Client(deviceOptions)
    #.....

except Exception as e:
    print("Caught exception connecting device: %s" % str(e))
    sys.exit()

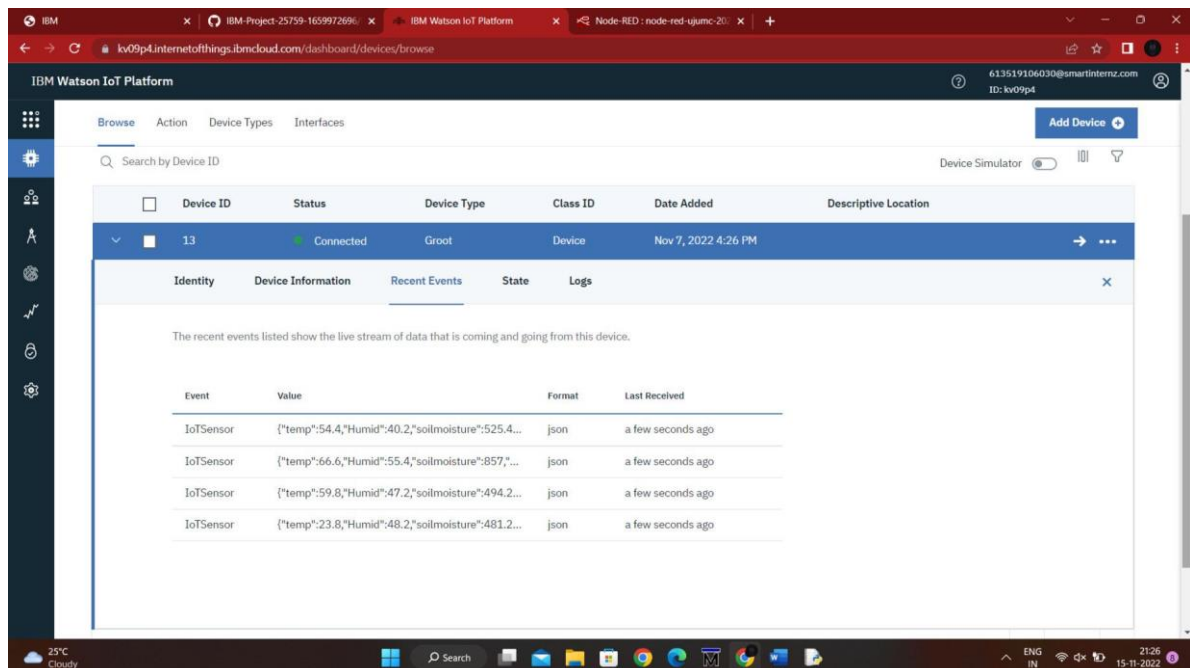
# Connect and send a datapoint "hello" with value "World" into the cloud as an event of type
deviceCli.connect()

while True:
    Sug="Suggestion For Irrigation"
    #Get Sensor Data from DHT11
    awgt=0
    #.....

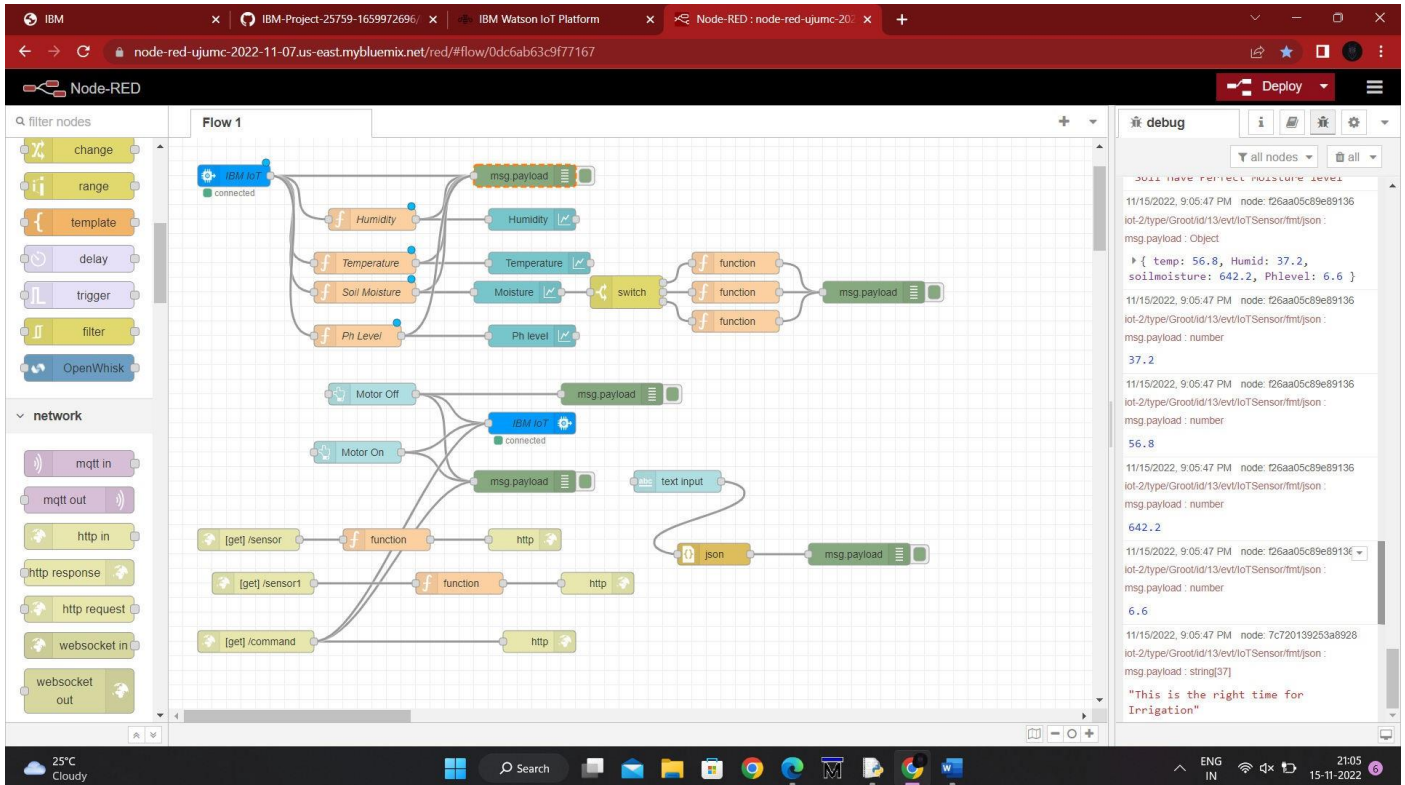
    Published Temperature = 39.8 C Humidity = 56.4 % Soil Moisture is 266.6 % PH level is 8.4 to IBM Watson
    T: 20
    H: 3
    S: 351
    P: 6

    Published Temperature = 29.8 C Humidity = 21.0 % Soil Moisture is 475.4 % PH level is 7.8 to IBM Watson
    T: 14
    H: 10
    S: 161
    P: 11
```

IBM Watson Cloud:



Node-Red:



MIT App Inventor:

