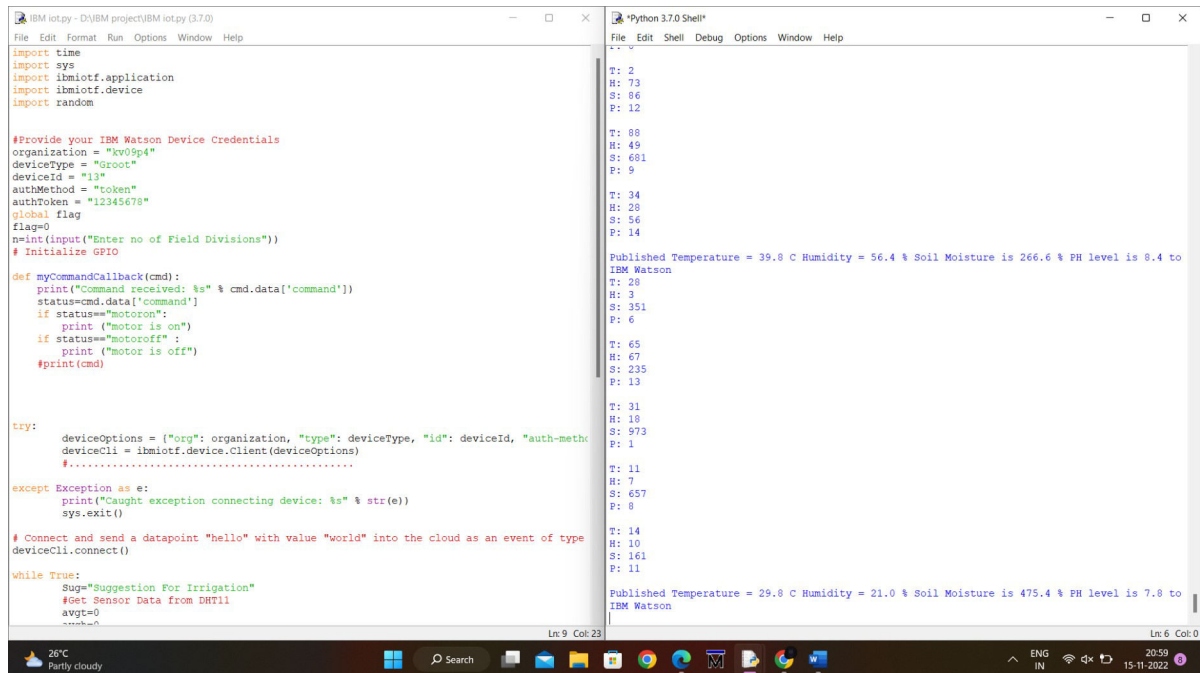


Project Development-Delivery of Sprint 4

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 defines organization, deviceType, deviceId, authMethod, and authToken. It then initializes GPIO and sets up a callback function myCommandCallback. The script connects to the IBM Watson IoT Platform and sends a datapoint 'hello' with value 'world'. It then enters a while loop that gets sensor data from DHT11 and publishes it to IBM Watson.

```
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, "device-id": deviceId}
    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
    avgt=0
    #.....
```

The terminal window shows the output of the script, including sensor data and the published temperature, humidity, soil moisture, and pH level.

```
T: 2
H: 73
S: 86
P: 12

T: 88
H: 49
S: 681
P: 9

T: 34
H: 28
S: 56
P: 14

Published Temperature = 39.8 C Humidity = 56.4 % Soil Moisture is 266.6 % PH level is 8.4 to IBM Watson
T: 28
H: 3
S: 351
P: 6

T: 65
H: 67
S: 235
P: 13

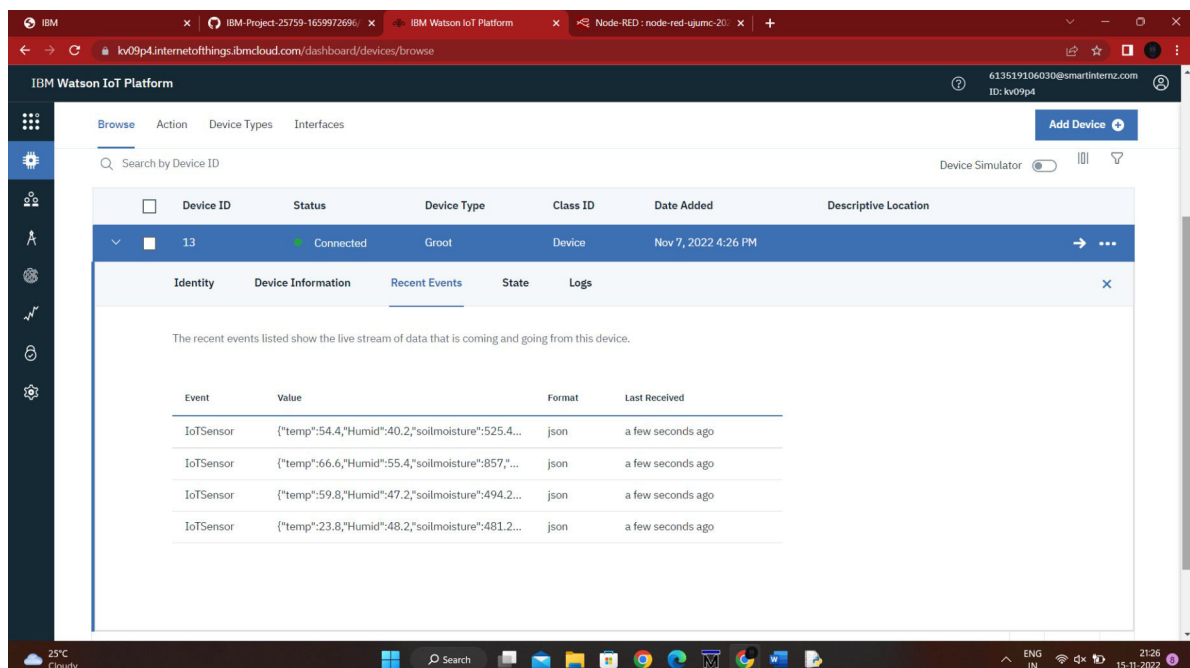
T: 31
H: 18
S: 973
P: 1

T: 11
H: 7
S: 657
P: 8

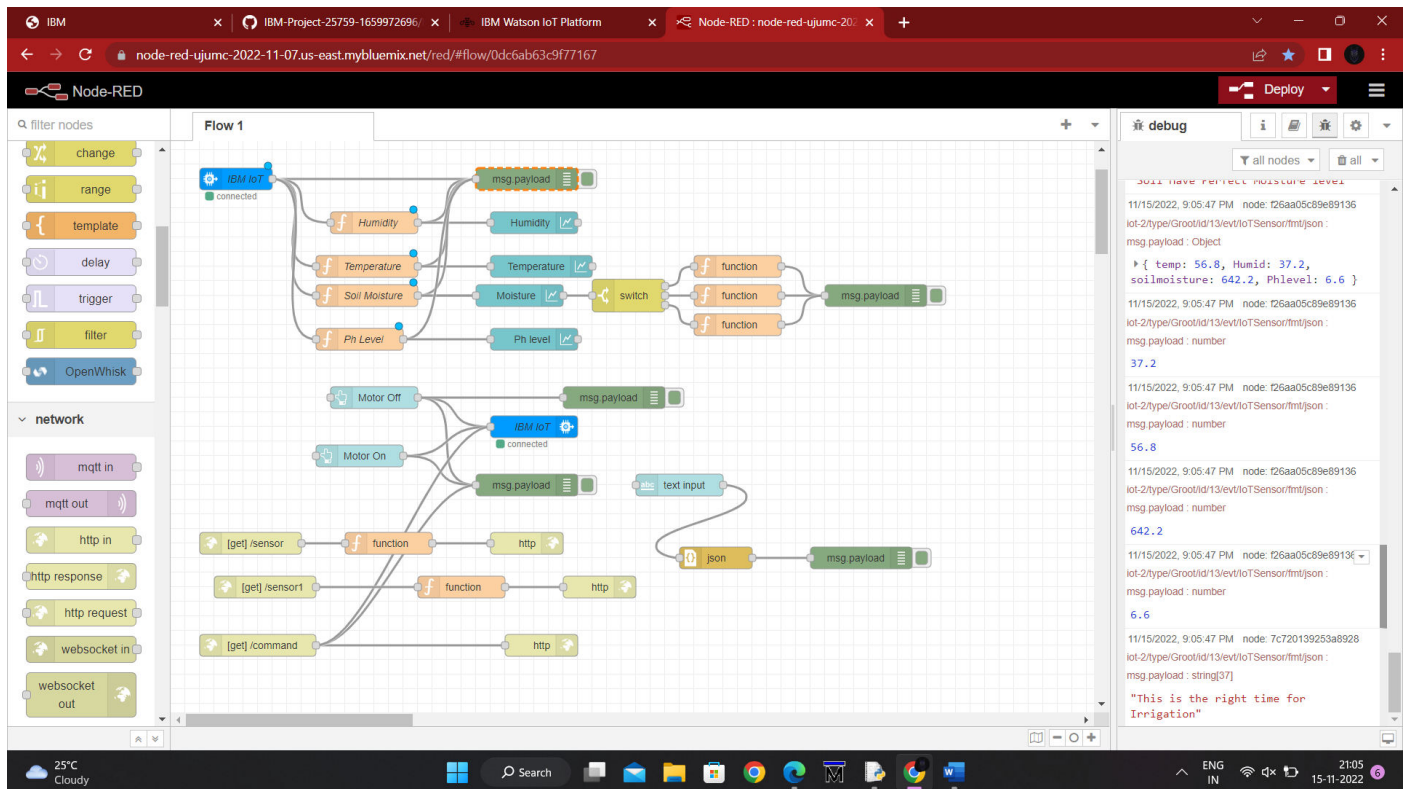
T: 14
H: 10
S: 161
P: 11

Published Temperature = 29.8 C Humidity = 21.0 % Soil Moisture is 475.4 % PH level is 7.8 to IBM Watson
```

IBM Watson Cloud:



Node-Red:



MIT App Inventor:

