SPRINT-3

PROJECT DEVELOPMENT PHASE

Date	8 Nov 2022
Team Id	PNT2022TMID49537
Project Name	SmartFarmer -IoT Enabled Smart Farming Application
Maximum Mark	8 Marks

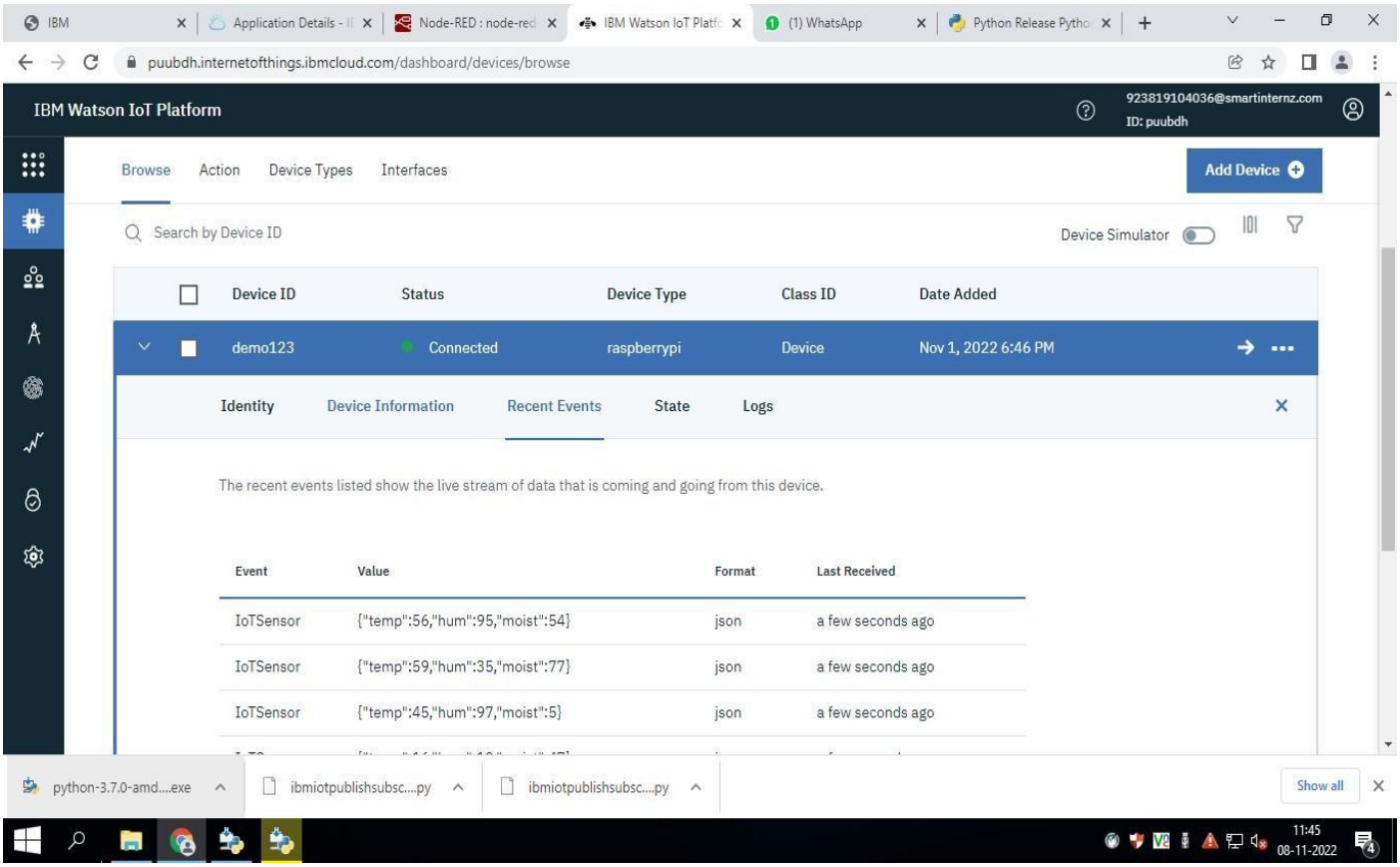
Coding:

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


#Provide your IBM Watson Device Credentials
organization = "puubdh"
deviceType = "raspberrypi"
deviceId = "demo123"
authMethod = "token"
authToken = "12345678"

# Initialize GPIO

def myCommandCallback(cmd):
    print("Command received: %s" %
    cmd.data['command']) status=cmd.data['command']
    if status=="motoron":
        print ("motor ison")
    else :
        print ("motor isoff")

    #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
"greeting" 10 times
deviceCli.connect()

while True:
      #Get Sensor Data from DHT11

      temp=random.randint(0,100)
      hum=random.randint(0,100)
      moist=random.randint(0,100
      )

      data = { 'temp' : temp, 'hum': hum, 'moist' : moist
      } #print data
      def myOnPublishCallback():
         print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % hum, "Soil Moisture
= %s " % moist, "to IBM Watson")

      success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
      if not success:
         print("Not connected to IoTF")
      time.sleep(5)

      deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the
cloud deviceCli.disconnect()
```

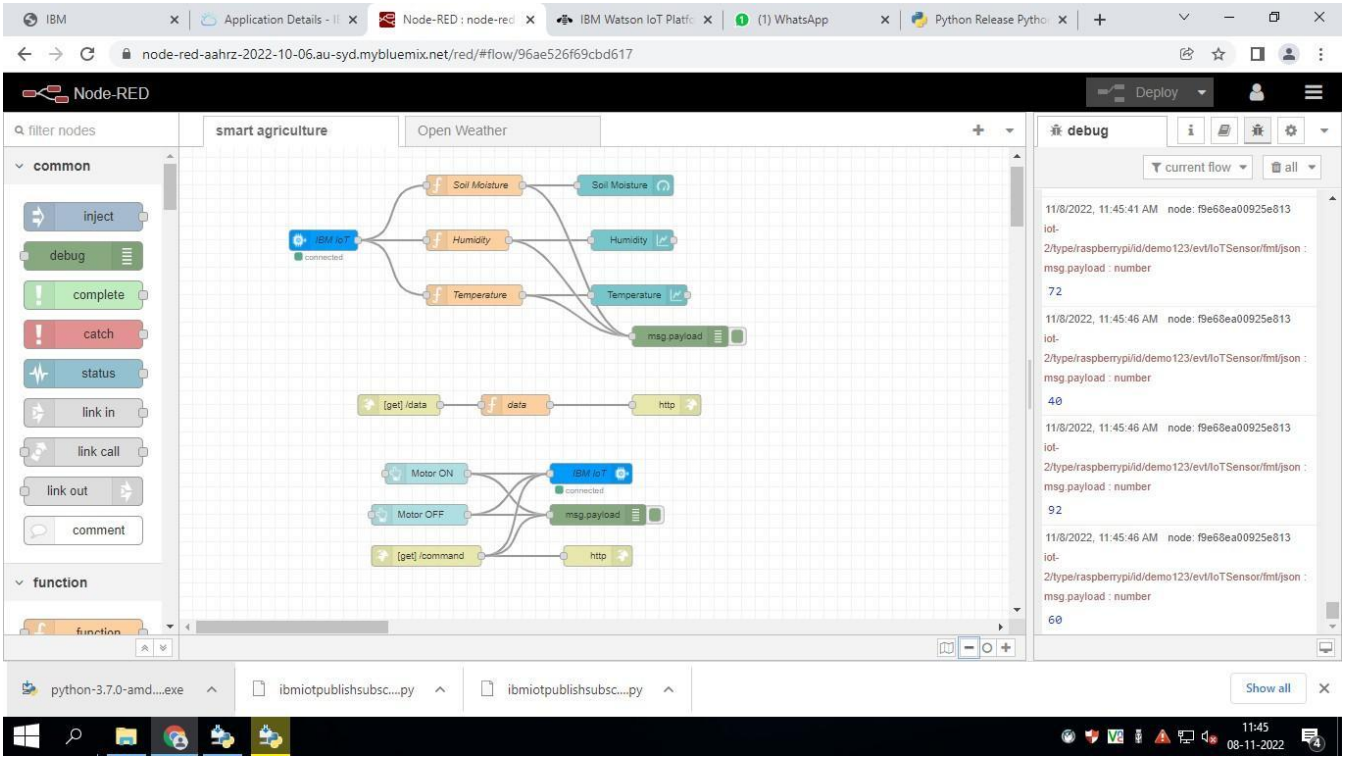
TEST CASE

Recent Event:

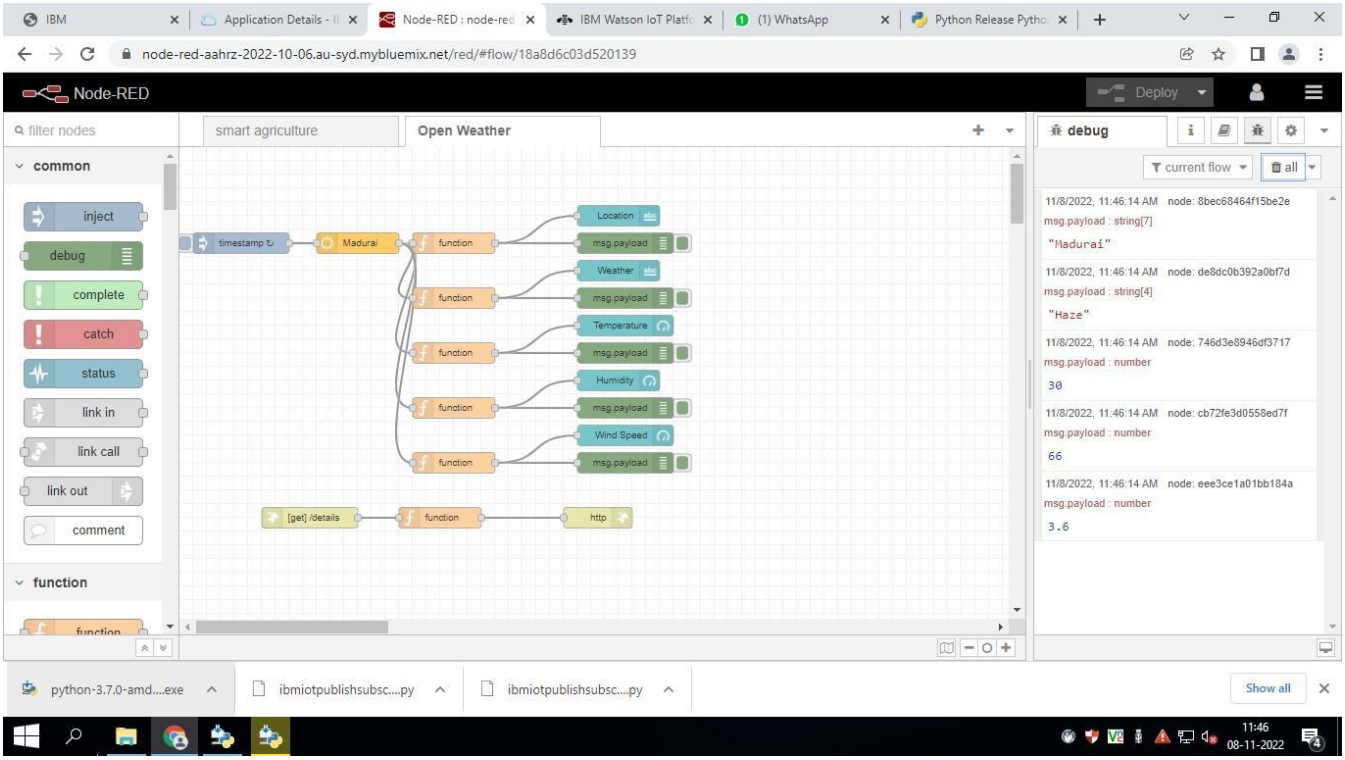


Node-Red Output:

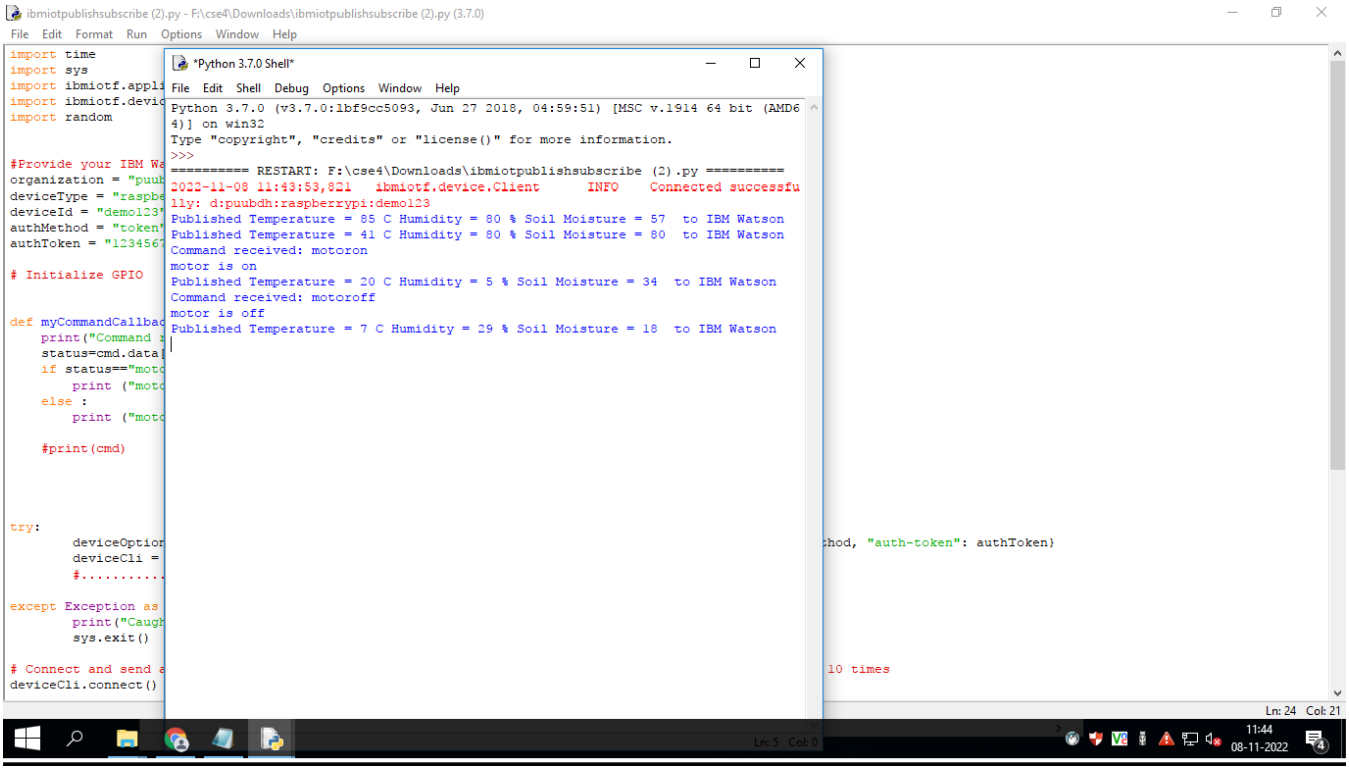
Smart Agriculture:



OpenWeather:



Output:


ibmiotpublishsubscribe (2).py - F:\cse4\Downloads\ibmiotpublishsubscribe (2).py (3.7.0)
File Edit Format Run Options Window Help
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: F:\cse4\Downloads\ibmiotpublishsubscribe (2).py ==========
2022-11-08 11:43:53,821 ibmiotf.device.Client INFO Connected successfully: d:puubdh:raspberrypi:demo123
Published Temperature = 85 C Humidity = 80 % Soil Moisture = 57 to IBM Watson
Published Temperature = 41 C Humidity = 80 % Soil Moisture = 80 to IBM Watson
Command received: motoron
motor is on
Published Temperature = 20 C Humidity = 5 % Soil Moisture = 34 to IBM Watson
Command received: motoroff
motor is off
Published Temperature = 7 C Humidity = 29 % Soil Moisture = 18 to IBM Watson
Ln: 24 Col: 21
11:44
08-11-2022