SPRINT-2

TEAM ID: PNT2022TMID41422

PROJECT TITLE: IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

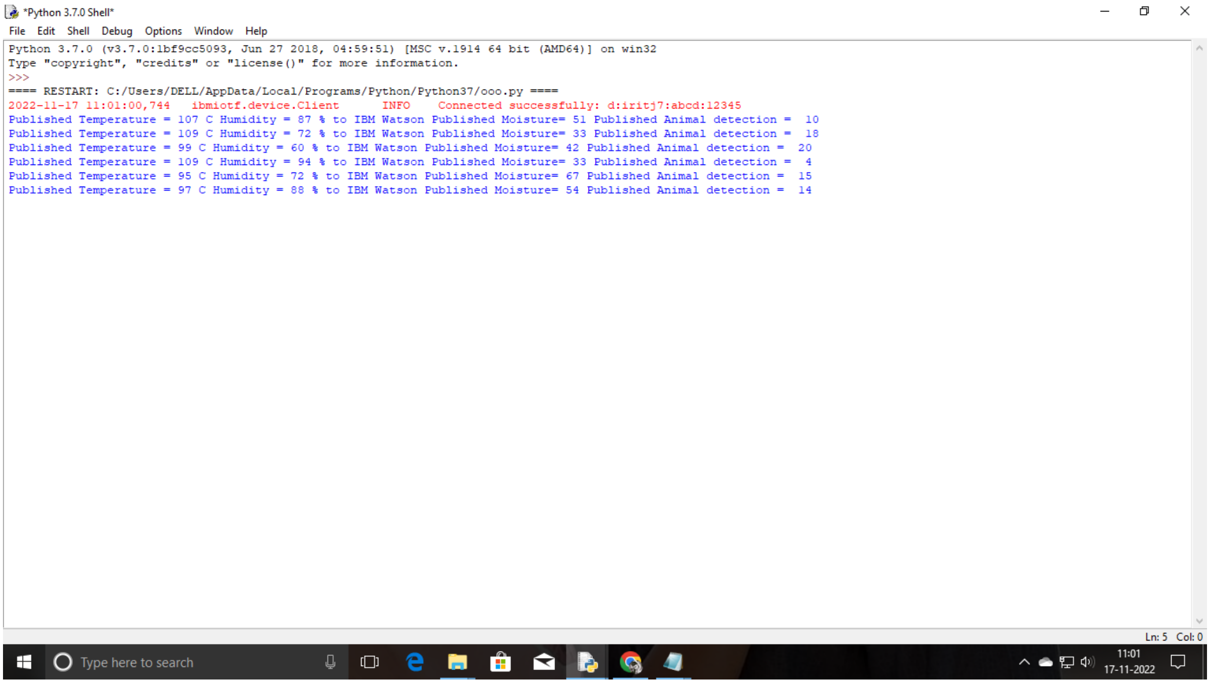
Source code to deployed on IBM Watson Iot platform to generate the sensor data.

SOURCE CODE:

```
import time

import sys

import ibmiotf.application

import ibmiotf.device

import random


#Provide your IBM Watson Device Credentials

organization = "iritj7"

deviceType = "abcd"

deviceId = "12345"

authMethod = "token"

authToken = "12345678"



# Initialize GPIO

def myCommandCallback(cmd):

    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    elif status == "lightoff":
        print ("led is off")
    else :
        print ("please send proper command")



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(90,110)
        Humid=random.randint(60,100)
        Moist=random.randint(20,100)
        Animal_dect=random.randint(1,20)



        data = { 'temp' : temp, 'Humid': Humid, 'Moist' : Moist, 'Animal_dect' : Animal_dect }
        #print data
        def myOnPublishCallback():
            print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, "to IBM Watson", "Published Moisture= %s" % Moist, "Published Animal detection = " , Animal_dect)

        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=myOnPublishCallback)
        if not success:
            print("Not connected to IoTF")
        time.sleep(10)

        deviceCli.commandCallback = myCommandCallback

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

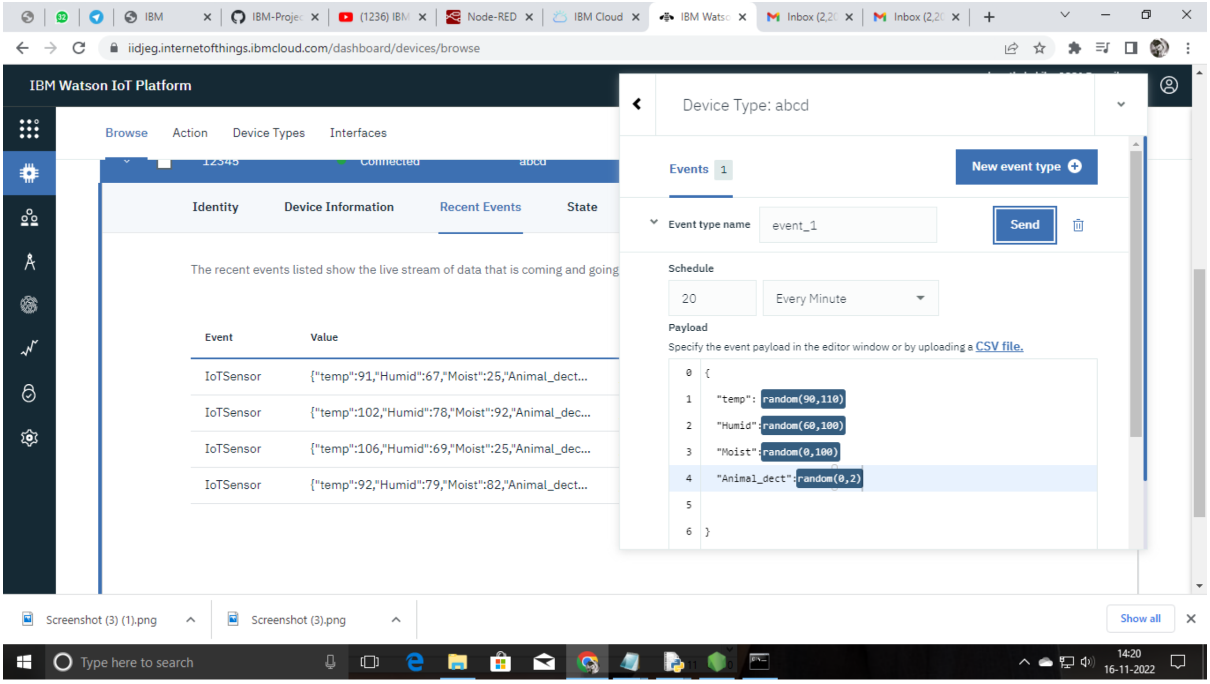
OUTPUT:

OUTPUT:



```
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: C:/Users/DELL/AppData/Local/Programs/Python/Python37/ooo.py ====
2022-11-17 11:01:00,744   ibmiotf.device.Client      INFO    Connected successfully: d:iritj7:abcd:12345
Published Temperature = 107 C Humidity = 87 % to IBM Watson Published Moisture= 51 Published Animal detection =  10
Published Temperature = 109 C Humidity = 72 % to IBM Watson Published Moisture= 33 Published Animal detection =  18
Published Temperature = 99 C Humidity = 60 % to IBM Watson Published Moisture= 42 Published Animal detection =  20
Published Temperature = 109 C Humidity = 94 % to IBM Watson Published Moisture= 33 Published Animal detection =  4
Published Temperature = 95 C Humidity = 72 % to IBM Watson Published Moisture= 67 Published Animal detection =  15
Published Temperature = 97 C Humidity = 88 % to IBM Watson Published Moisture= 54 Published Animal detection =  14
```

SENSOR DATA:



The recent events listed show the live stream of data that is coming and going

Event	Value
IoTSensor	{"temp":91,"Humid":67,"Moist":25,"Animal_dect...
IoTSensor	{"temp":102,"Humid":78,"Moist":92,"Animal_dec...
IoTSensor	{"temp":106,"Humid":69,"Moist":25,"Animal_dec...
IoTSensor	{"temp":92,"Humid":79,"Moist":82,"Animal_dect...

Event type name: event_1

Schedule: 20 Every Minute

Payload

Specify the event payload in the editor window or by uploading a CSV file.

```
{
  "temp": random(90,110)
  "Humid":random(60,100)
  "Moist":random(0,100)
  "Animal_dect":random(0,2)

}
```