Sprint-2

Team ID: PNT2022TMID32056

Project Name: IoT Based Smart Crop Protection System for Agriculture

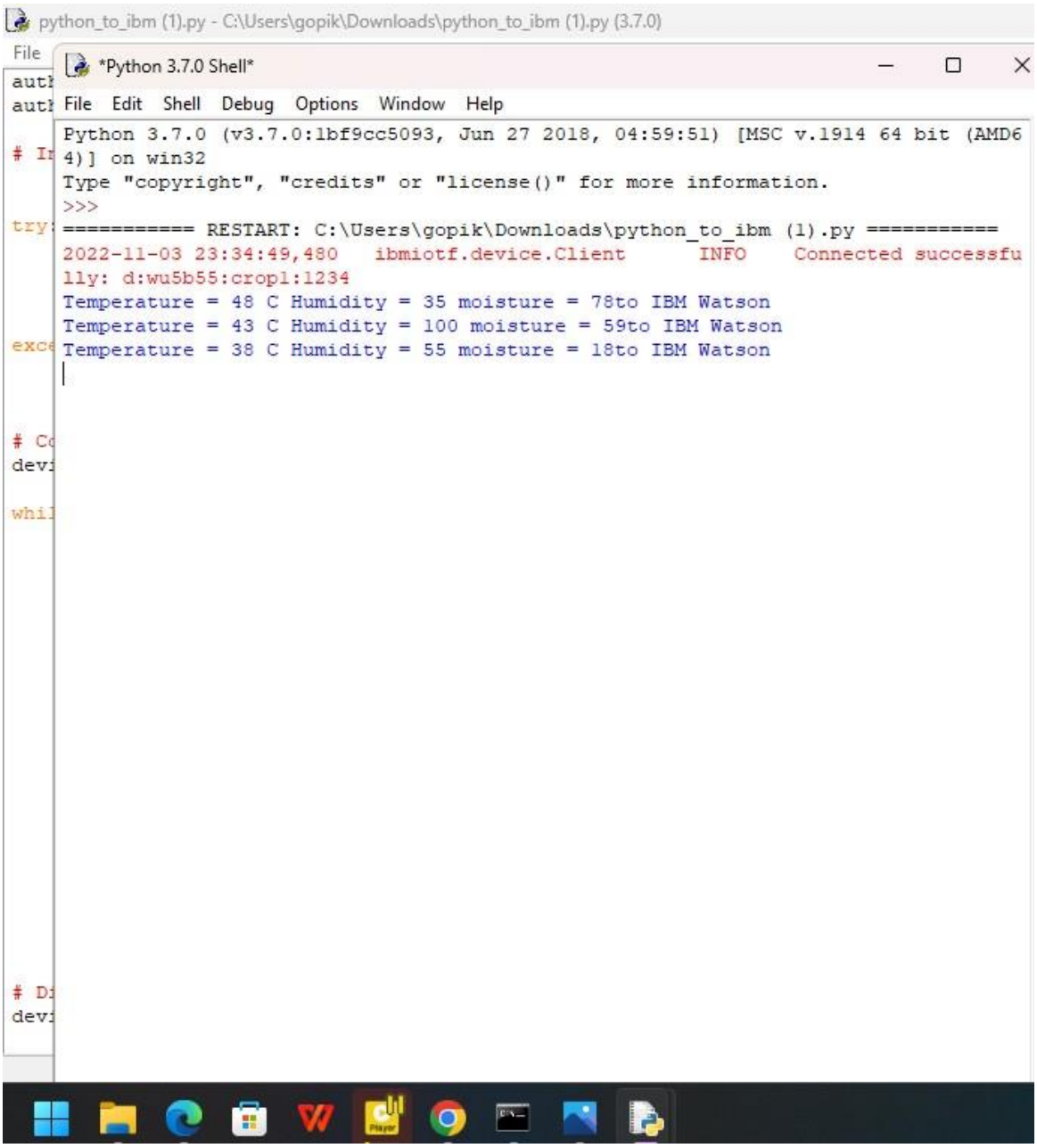
Python code to generate random data and pass it to IBM Watson IoT platform

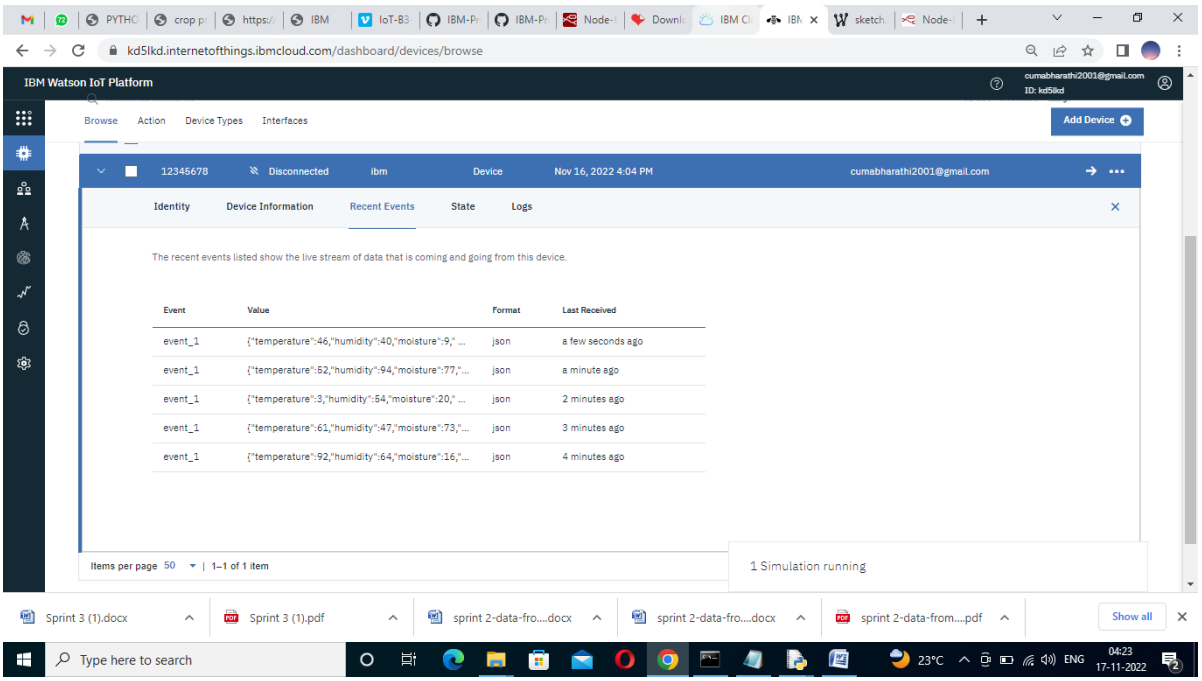
Source Code:

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

#Provide your IBM Watson Device Credentials
organization = "kd5lkd"
deviceType = "ibm"
deviceId = "12345678"
authMethod = "token"
authToken = "87654321"

# Initialize GPIO
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:

    temp=random.randint(0,100)
    Hum=random.randint(0,100)
    moisture=random.randint(0,100)

    data = { 'temperature' : temp, 'Humidity': Hum, 'Moisture':moisture }
```

```
    def myOnPublishCallback():
        print ("Temperature = " + str(temp)+" C Humidity = " + str(hum)+ " moisture = " +
str(moisture) + "to IBM Watson")

      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:


python_to_ibm (1).py - C:\Users\gopik\Downloads\python_to_ibm (1).py (3.7.0)
File
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: C:\Users\gopik\Downloads\python_to_ibm (1).py ==========
2022-11-03 23:34:49,480 ibmiotf.device.Client INFO Connected successfully: d:wu5b55:cropl:1234
Temperature = 48 C Humidity = 35 moisture = 78to IBM Watson
Temperature = 43 C Humidity = 100 moisture = 59to IBM Watson
Temperature = 38 C Humidity = 55 moisture = 18to IBM Watson


kd5lkd.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
cumabharathi2001@gmail.com
ID: kd5lkd
Browse
Action
Device Types
Interfaces
Add Device
12345678
Disconnected
ibm
Device
Nov 16, 2022 4:04 PM
cumabharathi2001@gmail.com
Identity
Device Information
Recent Events
State
Logs
The recent events listed show the live stream of data that is coming and going from this device.
Event
Value
Format
Last Received
event_1
{"temperature":46,"humidity":40,"moisture":9," ...
json
a few seconds ago
event_1
{"temperature":52,"humidity":94,"moisture":77,"...
json
a minute ago
event_1
{"temperature":3,"humidity":54,"moisture":20," ...
json
2 minutes ago
event_1
{"temperature":61,"humidity":47,"moisture":73,"...
json
3 minutes ago
event_1
{"temperature":92,"humidity":64,"moisture":16,"...
json
4 minutes ago
Items per page 50
1–1 of 1 item
1 Simulation running
Sprint 3 (1).docx
Sprint 3 (1).pdf
sprint 2-data-fro....docx
sprint 2-data-fro....docx
sprint 2-data-from....pdf
Show all
Type here to search
23°C
ENG
04:23
17-11-2022