Python Code

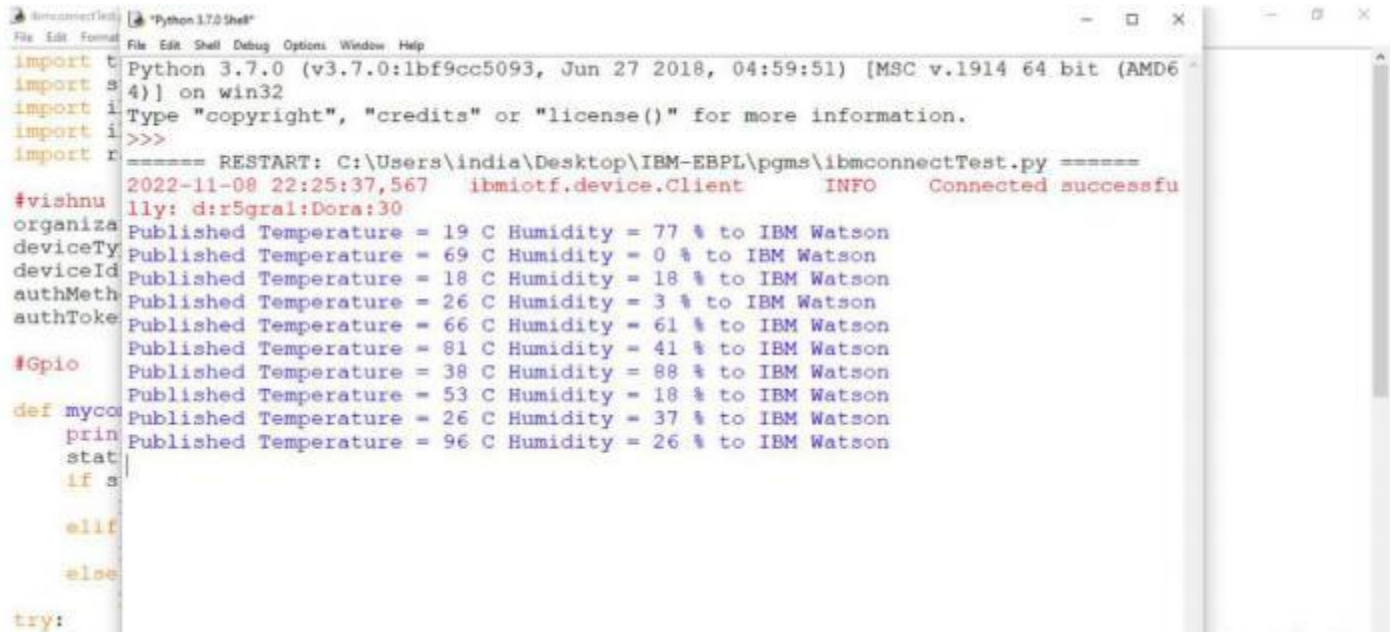
Team ID	PNT2022TMID49367
Project Name	Smart Farmer - IoT enabled smart Farming Application

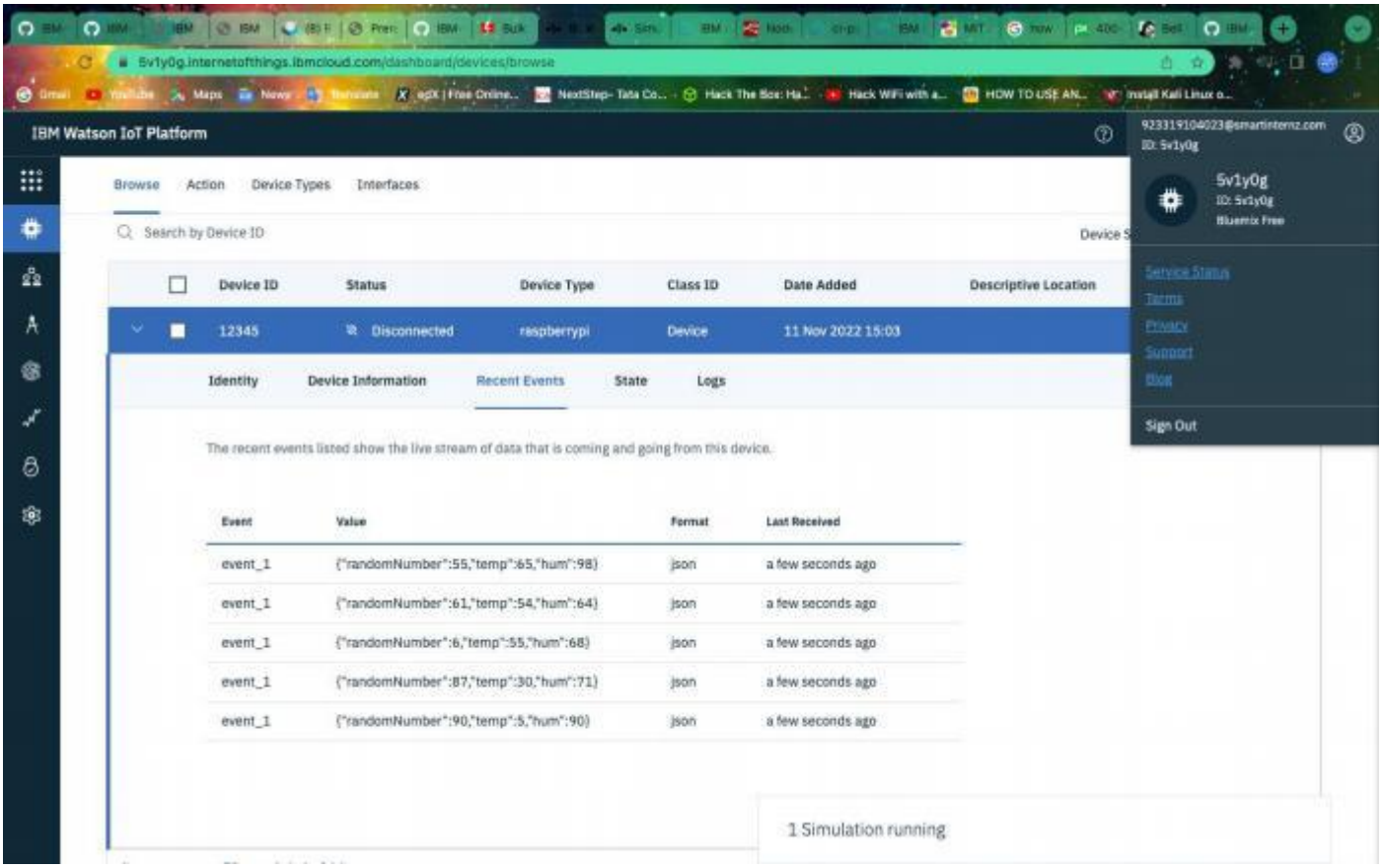
Program Coding:

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

#IBM
organization = "janesh"
deviceType = "raspberrypi"
deviceId = "12345"
authMethod = "use-token-auth"
authToken = "12345678"

#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()

#CONNECCT
deviceCli.connect()

while True:
        temp=random.randint(0,100)
        hum=random.randint(0,100)
```

```
    data={'temp':temp,'hum':hum}

    def myOnPublishCallback():
        print("Published Temperature = %s C"%temp,"Humidity = %s %%" %hum, "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

deviceCli.disconnect()
```

Screenshots:




5v1y0g.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
923319104023@smartinternz.com
ID: 5v1y0g
5v1y0g
ID: 5v1y0g
Bluemix Free
Service Status
Terms
Privacy
Support
Blog
Sign Out
Browse
Action
Device Types
Interfaces
Search by Device ID
Device ID
Status
Device Type
Class ID
Date Added
Descriptive Location
12345
Disconnected
raspberrypi
Device
11 Nov 2022 15:03
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
{"randomNumber":55,"temp":65,"hum":98}
json
a few seconds ago
event_1
{"randomNumber":61,"temp":54,"hum":64}
json
a few seconds ago
event_1
{"randomNumber":6,"temp":55,"hum":68}
json
a few seconds ago
event_1
{"randomNumber":87,"temp":30,"hum":71}
json
a few seconds ago
event_1
{"randomNumber":90,"temp":5,"hum":90}
json
a few seconds ago
1 Simulation running