

Sprint-2

Team ID: PNT2022TM ID32078

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 = "wu5b55"
deviceType = "crop1" deviceId = "1234"
authMethod = "token"
authToken = "1234567890"

# Initialize GPIO
try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId,
"authmethod": 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")

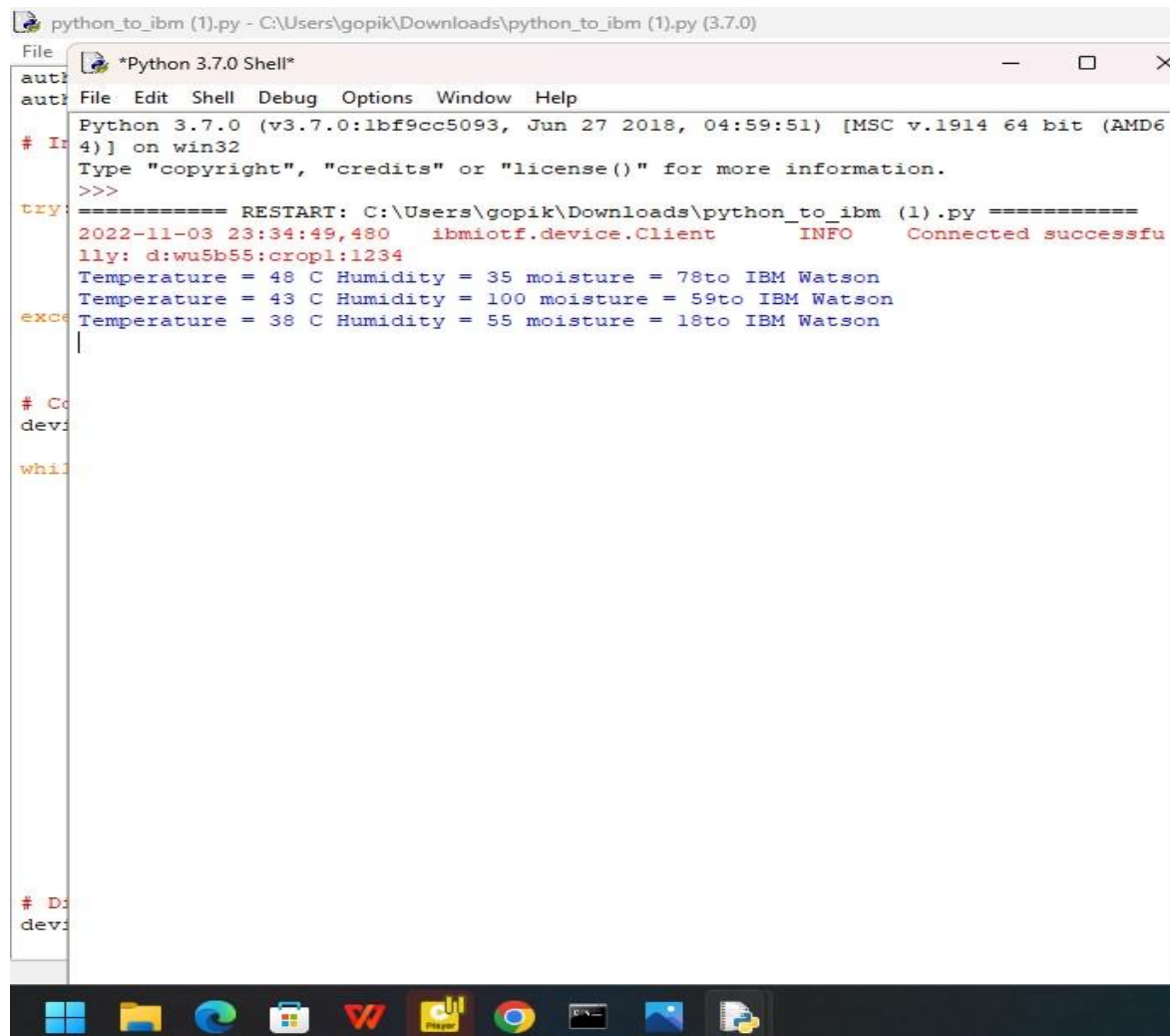
    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
```

```
on_publish=myOnPublishCallback)  
if not success:      print("Not  
connected to IoT")  
time.sleep(10)
```

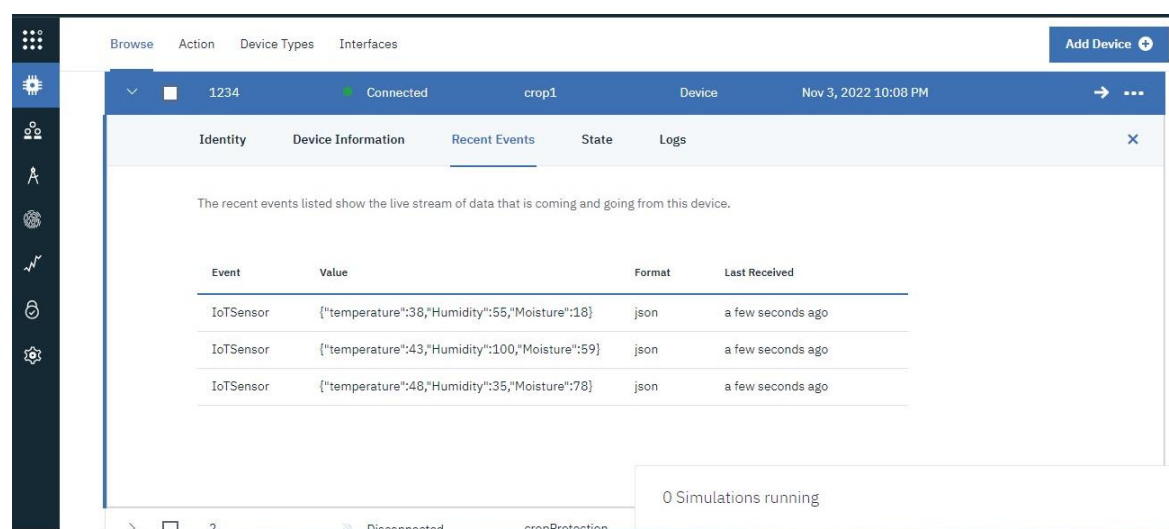
```
    deviceCli.commandCallback = myCommandCallback
```

```
# 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 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:crop1:1234
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
|
# Co
dev
whil
# D
dev
```



| Event | Value | Format | Last Received |
|-----------|---|--------|-------------------|
| IoTSensor | {"temperature":38,"Humidity":55,"Moisture":18} | json | a few seconds ago |
| IoTSensor | {"temperature":43,"Humidity":100,"Moisture":59} | json | a few seconds ago |
| IoTSensor | {"temperature":48,"Humidity":35,"Moisture":78} | json | a few seconds ago |

0 Simulations running