

Sprint-2

Team ID: PNT2022TMD41422

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, "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 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 Shell*
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.
>>>
try:
===== 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
except:
Temperature = 38 C Humidity = 55 moisture = 18to IBM Watson

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```

