

Sprint – 1

Team ID: PNT2022TMID03633

Python Code:

Sprint - 1

Team ID: PNT2022TMID12081

import time

import sys

import ibmiotf.application

import ibmiotf.device

import random

#Provide your IBM Watson Device Credentials

organization = "lcft5g"

deviceType = "Final"

deviceId = "Hello"

authMethod = "token"

authToken = "8300113450"

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(0,100)
    Humid=random.randint(0,100)
    Gas=random.randint(0,100)

    data = { 'temp' : temp, 'Humid': Humid,'Gas':gas }
    #print data

    def myOnPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s %" %
Humid, "Gas Concentration = %s"%Gas"to IBM Watson")

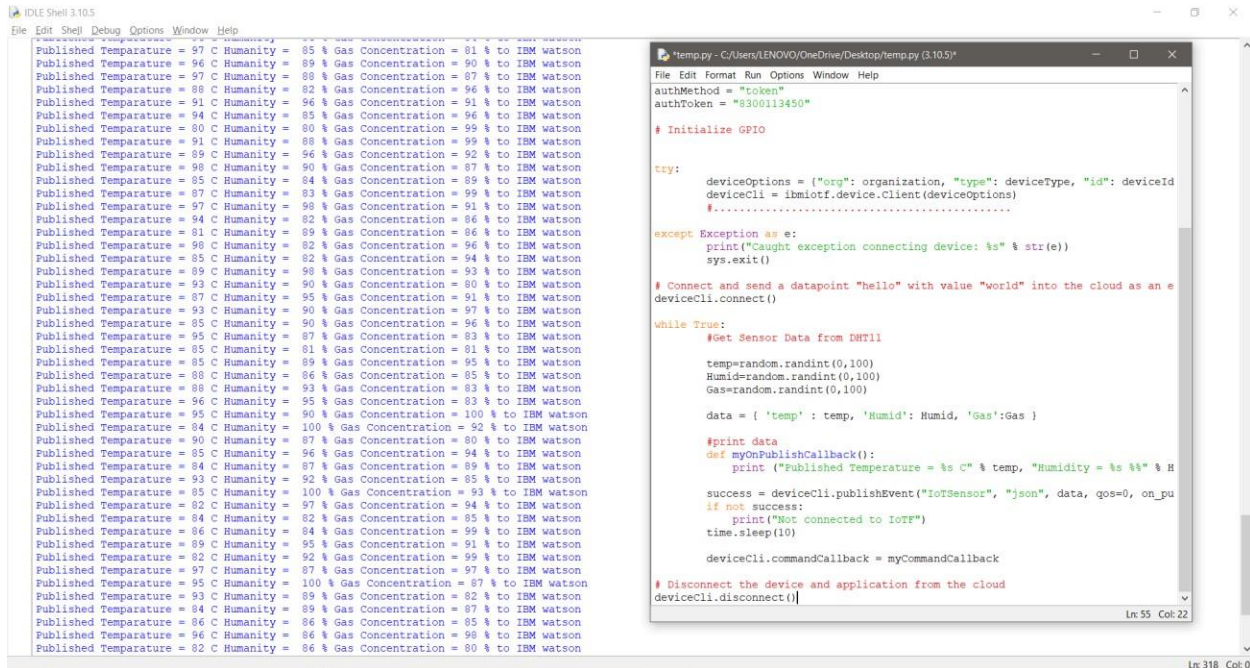
    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to IoT")
        time.sleep(10)

    deviceCli.commandCallback = myCommandCallback

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

```

Output:



The screenshot shows an IDE with two windows. The left window displays the output of a program, consisting of 30 lines of text. Each line represents a data point with three values: Temperature (in degrees Celsius), Humidity (in %), and Gas Concentration (in %). The values for each parameter vary across the lines. The right window shows a Python script named 'temp.py' located at 'C:/Users/LENOVO/OneDrive/Desktop/temp.py (3.10.5)'. The script is designed to connect to the IBM Watson IoT Cloud, initialize GPIO, and then enter a loop where it generates random sensor data and publishes it to the cloud. It includes error handling for connection issues and a function to disconnect the device.

```
Published Temperature = 97 C Humidity = 85 % Gas Concentration = 81 % to IBM watson
Published Temperature = 96 C Humidity = 89 % Gas Concentration = 90 % to IBM watson
Published Temperature = 97 C Humidity = 88 % Gas Concentration = 87 % to IBM watson
Published Temperature = 88 C Humidity = 82 % Gas Concentration = 96 % to IBM watson
Published Temperature = 91 C Humidity = 96 % Gas Concentration = 91 % to IBM watson
Published Temperature = 94 C Humidity = 85 % Gas Concentration = 96 % to IBM watson
Published Temperature = 90 C Humidity = 90 % Gas Concentration = 99 % to IBM watson
Published Temperature = 91 C Humidity = 88 % Gas Concentration = 99 % to IBM watson
Published Temperature = 89 C Humidity = 96 % Gas Concentration = 92 % to IBM watson
Published Temperature = 98 C Humidity = 90 % Gas Concentration = 87 % to IBM watson
Published Temperature = 85 C Humidity = 84 % Gas Concentration = 89 % to IBM watson
Published Temperature = 87 C Humidity = 83 % Gas Concentration = 99 % to IBM watson
Published Temperature = 97 C Humidity = 99 % Gas Concentration = 91 % to IBM watson
Published Temperature = 94 C Humidity = 82 % Gas Concentration = 86 % to IBM watson
Published Temperature = 81 C Humidity = 89 % Gas Concentration = 86 % to IBM watson
Published Temperature = 98 C Humidity = 82 % Gas Concentration = 96 % to IBM watson
Published Temperature = 85 C Humidity = 92 % Gas Concentration = 94 % to IBM watson
Published Temperature = 89 C Humidity = 98 % Gas Concentration = 93 % to IBM watson
Published Temperature = 93 C Humidity = 90 % Gas Concentration = 80 % to IBM watson
Published Temperature = 87 C Humidity = 95 % Gas Concentration = 91 % to IBM watson
Published Temperature = 93 C Humidity = 90 % Gas Concentration = 97 % to IBM watson
Published Temperature = 85 C Humidity = 90 % Gas Concentration = 96 % to IBM watson
Published Temperature = 87 C Humidity = 87 % Gas Concentration = 83 % to IBM watson
Published Temperature = 85 C Humidity = 81 % Gas Concentration = 81 % to IBM watson
Published Temperature = 85 C Humidity = 89 % Gas Concentration = 95 % to IBM watson
Published Temperature = 88 C Humidity = 86 % Gas Concentration = 85 % to IBM watson
Published Temperature = 88 C Humidity = 93 % Gas Concentration = 83 % to IBM watson
Published Temperature = 95 C Humidity = 87 % Gas Concentration = 83 % to IBM watson
Published Temperature = 95 C Humidity = 90 % Gas Concentration = 100 % to IBM watson
Published Temperature = 84 C Humidity = 100 % Gas Concentration = 92 % to IBM watson
Published Temperature = 90 C Humidity = 87 % Gas Concentration = 80 % to IBM watson
Published Temperature = 85 C Humidity = 96 % Gas Concentration = 94 % to IBM watson
Published Temperature = 84 C Humidity = 87 % Gas Concentration = 89 % to IBM watson
Published Temperature = 93 C Humidity = 92 % Gas Concentration = 85 % to IBM watson
Published Temperature = 85 C Humidity = 100 % Gas Concentration = 93 % to IBM watson
Published Temperature = 82 C Humidity = 97 % Gas Concentration = 94 % to IBM watson
Published Temperature = 84 C Humidity = 82 % Gas Concentration = 85 % to IBM watson
Published Temperature = 86 C Humidity = 84 % Gas Concentration = 99 % to IBM watson
Published Temperature = 89 C Humidity = 95 % Gas Concentration = 91 % to IBM watson
Published Temperature = 82 C Humidity = 92 % Gas Concentration = 99 % to IBM watson
Published Temperature = 97 C Humidity = 87 % Gas Concentration = 97 % to IBM watson
Published Temperature = 95 C Humidity = 100 % Gas Concentration = 87 % to IBM watson
Published Temperature = 93 C Humidity = 89 % Gas Concentration = 82 % to IBM watson
Published Temperature = 84 C Humidity = 89 % Gas Concentration = 87 % to IBM watson
Published Temperature = 86 C Humidity = 86 % Gas Concentration = 85 % to IBM watson
Published Temperature = 96 C Humidity = 86 % Gas Concentration = 98 % to IBM watson
Published Temperature = 82 C Humidity = 86 % Gas Concentration = 80 % to IBM watson
```

```
temp.py - C:/Users/LENOVO/OneDrive/Desktop/temp.py (3.10.5)
File Edit Format Run Options Window Help

authMethod = "token"
authToken = "9300113450"

# Initialize GPIO

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId}
    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 e
deviceCli.connect()

while True:
    #Get Sensor Data from DHT11

    temp=random.randint(0,100)
    Humid=random.randint(0,100)
    Gas=random.randint(0,100)

    data = { 'temp' : temp, 'Humid': Humid, 'Gas':Gas }

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

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

    deviceCli.commandCallback = myCommandCallback

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

Ln: 55 Col: 22

Ln: 318 Col: 0