

SPRINT -1  
TEAM ID : PNT2022TMID01812

```
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")
```

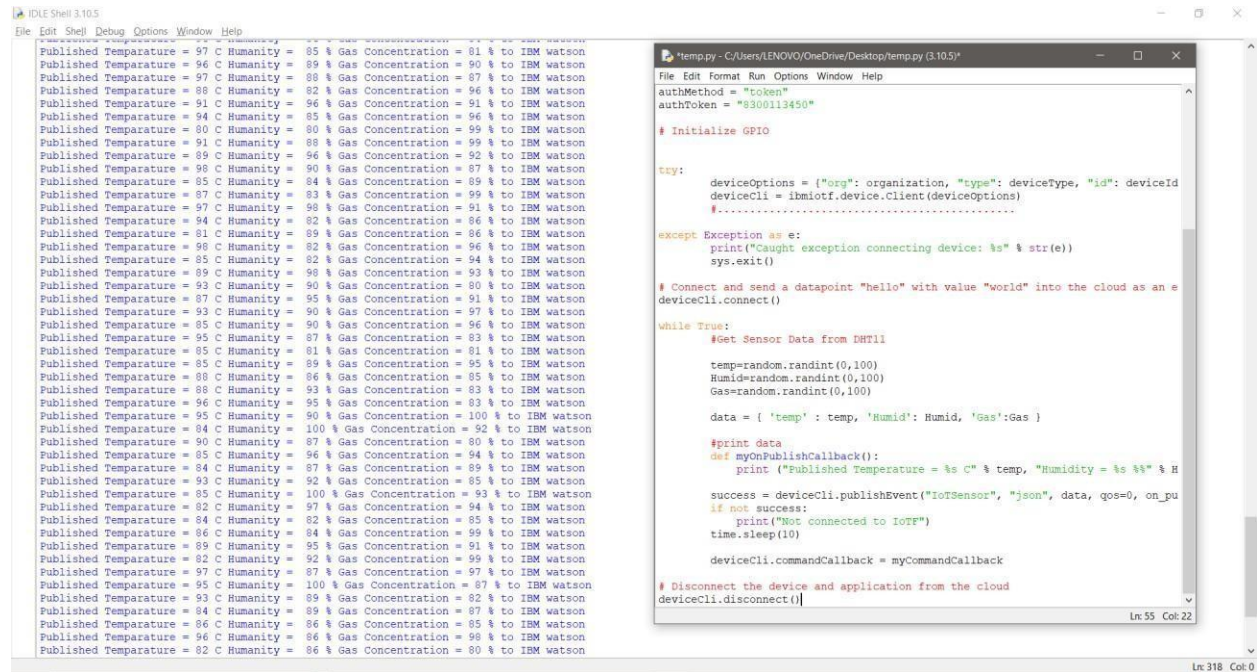
```
            time.sleep(10)
```

```
        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 sensor data. Each line contains three values: Temperature (e.g., 97 C), Humidity (e.g., 85 %), and Gas Concentration (e.g., 81 %), followed by the text 'to IBM watson'. The right window shows a Python script named 'temp.py' located at 'C:/Users/LENOVO/OneDrive/Desktop/temp.py (3.10.5)'. The script imports the 'random' module and defines an 'authToken' variable with the value '8300113450'. It includes a comment '# Initialize GPIO'. A 'try:' block contains code to create a 'deviceOptions' dictionary, instantiate a 'deviceCli' object from 'ibmiotf.device.Client', and connect to the cloud. An 'except Exception as e:' block handles connection errors by printing a message and exiting. A 'while True:' loop follows, which generates random sensor data (temp, humid, gas) and publishes it to the cloud using 'deviceCli.publishEvent'. It includes a 'myOnPublishCallback' function that prints the published data. The script also has a 'deviceCli.commandCallback = myCommandCallback' line and a 'finally' block that calls 'deviceCli.disconnect()'.

```
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 = 80 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 = 98 % 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 = 96 C Humidity = 82 % Gas Concentration = 96 % to IBM watson
Published Temperature = 85 C Humidity = 82 % Gas Concentration = 94 % to IBM watson
Published Temperature = 89 C Humidity = 90 % 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 = 95 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 = 96 C Humidity = 95 % 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 = "8300113450"

# 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 IoTTF")
        time.sleep(10)

    deviceCli.commandCallback = myCommandCallback

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

Ln: 55 Col: 22

Ln: 318 Col: 0