

**Team ID:** PNT2022TMID49709

**Project:** Gas Leakage Monitoring and Alerting  
System using IOT.

### **Python Code:**

```
import time
import sys

import ibmiotf.application
import ibmiotf.device

import random

#Provide your IBM Watson Device Credentials
organization = "abc"
deviceType="TestdriveDevicce"
deviceId = "TestdriveDevice_1"
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()
```

```
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:**

```
*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()

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```

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