

SPRINT-1

DATE	10-11-2022
TEAM ID	PNT2022TMID27922
PROJECT NAME	Gas leakage monitoring and alerting system.

PYTHON CODE:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "msi400"
deviceType = "Gasleak"
deviceId = "6068"
authMethod = "token"
authToken = "123456781"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    elif status == "lightoff":
        print ("led is off")
    else :
        print ("please send proper command")

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
    gas_level=random.randint(25,500)
    temp=random.randint(90,110)
    Humid=random.randint(60,100)
```

```
    data = {'Gas_level':gas_level, 'temp' : temp, 'Humid': Humid }
```

```
    #print data
```

```
    def myOnPublishCallback():
```

```
        print ("Toxicity_of_the_gas=%s ppm"%gas_level,"Published_Temperature = %s C" %
temp,"Humidity = %s %" % Humid, "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 3.7.0 Shell
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/PP SHARMA/Desktop/ibm python code to link to watson.py ==
2022-11-19 18:32:22,628 ibmiotf.device.Client INFO Connected successfully: d:msi400:Gasleak:6068
Toxicity_of_the_gas=214 ppm,Published_Temperature = 108 C ,Humidity = 65 % to IBM Watson
Toxicity_of_the_gas=74 ppm,Published_Temperature = 91 C ,Humidity = 84 % to IBM Watson
Toxicity_of_the_gas=237 ppm,Published_Temperature = 107 C ,Humidity = 67 % to IBM Watson
Toxicity_of_the_gas=106 ppm,Published_Temperature = 99 C ,Humidity = 74 % to IBM Watson
```