

PROJECT DEVELOPMENT PHASE

SPRINT - 1

Date	14 November 2022
Team ID	PNT2022TMID38668
Project Name	Gas Leakage Monitoring And Alerting System For Industries

PYTHON SOURCE CODE :

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

#Provide your IBM Watson Device Credentials
organization = "bd91hr"
deviceType = "android"
deviceId = "1902"
authMethod = "token"
authToken = "12345678"

# Initialize GPIO

def mycommandCallback(cmd):
    print("Command received :%s" %cmd.data['command'])
    status = cmd.data['command']
    if status == "NO LEAKAGE":
        print("OPEN PIPELINE")
    elif status == "LEAKAGE":
        print("CLOSE PIPELINE")
    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

    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:

```
gas source code.py - C:/Users/sakthi/AppData/Local/Programs/Python/Python37/gas source code.py (3.7.0)
File Edit Format Run Options Window Help

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try:
    deviceOptions = {"org": organization, "type": deviceType, "id":
deviceCli = ibmiotf.device.Client(deviceOptions)
#.....

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# Connect and send a datapoint "hello" with value "world" into the cloud
deviceCli.connect()

while True:
    #Get Sensor Data from DHT11

    temp=random.randint(0,100)
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    data = { 'temp' : temp, 'Humid': Humid, 'Gas':Gas }

    #print data
    def myOnPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s"
success = deviceCli.publishEvent("IoTSensor", "json", data, qos=
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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```

```
*Python 3.7.0 Shell*
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2022-11-17 11:35:404 ibmiotf.device.Client INFO Connected successfully:
dbbd91hr:android:1902
Published Temperature = 99 C Humidity = 2 % Gas Concentration = 45 to IBM Watson
Published Temperature = 56 C Humidity = 43 % Gas Concentration = 39 to IBM Watson
Published Temperature = 5 C Humidity = 46 % Gas Concentration = 65 to IBM Watson
Published Temperature = 45 C Humidity = 40 % Gas Concentration = 14 to IBM Watson
Published Temperature = 34 C Humidity = 3 % Gas Concentration = 5 to IBM Watson
Published Temperature = 95 C Humidity = 9 % Gas Concentration = 26 to IBM Watson
Published Temperature = 63 C Humidity = 0 % Gas Concentration = 59 to IBM Watson
Published Temperature = 10 C Humidity = 84 % Gas Concentration = 54 to IBM Watson
Published Temperature = 95 C Humidity = 13 % Gas Concentration = 15 to IBM Watson
Published Temperature = 84 C Humidity = 75 % Gas Concentration = 38 to IBM Watson
Published Temperature = 47 C Humidity = 89 % Gas Concentration = 97 to IBM Watson
Published Temperature = 74 C Humidity = 72 % Gas Concentration = 90 to IBM Watson
Published Temperature = 52 C Humidity = 89 % Gas Concentration = 43 to IBM Watson
Published Temperature = 44 C Humidity = 4 % Gas Concentration = 94 to IBM Watson
Published Temperature = 92 C Humidity = 53 % Gas Concentration = 58 to IBM Watson
Published Temperature = 39 C Humidity = 39 % Gas Concentration = 87 to IBM Watson
Published Temperature = 38 C Humidity = 60 % Gas Concentration = 48 to IBM Watson
Published Temperature = 60 C Humidity = 80 % Gas Concentration = 43 to IBM Watson
Published Temperature = 99 C Humidity = 65 % Gas Concentration = 55 to IBM Watson
Published Temperature = 33 C Humidity = 50 % Gas Concentration = 44 to IBM Watson
Published Temperature = 28 C Humidity = 6 % Gas Concentration = 35 to IBM Watson
Published Temperature = 90 C Humidity = 71 % Gas Concentration = 52 to IBM Watson
Published Temperature = 26 C Humidity = 67 % Gas Concentration = 75 to IBM Watson
Published Temperature = 95 C Humidity = 58 % Gas Concentration = 58 to IBM Watson
Published Temperature = 12 C Humidity = 76 % Gas Concentration = 69 to IBM Watson
Published Temperature = 70 C Humidity = 89 % Gas Concentration = 78 to IBM Watson
Published Temperature = 83 C Humidity = 2 % Gas Concentration = 63 to IBM Watson
Published Temperature = 5 C Humidity = 49 % Gas Concentration = 41 to IBM Watson
Published Temperature = 62 C Humidity = 85 % Gas Concentration = 79 to IBM Watson
Published Temperature = 71 C Humidity = 29 % Gas Concentration = 96 to IBM Watson
Published Temperature = 89 C Humidity = 25 % Gas Concentration = 85 to IBM Watson
Published Temperature = 47 C Humidity = 73 % Gas Concentration = 45 to IBM Watson
Published Temperature = 2 C Humidity = 24 % Gas Concentration = 7 to IBM Watson
Published Temperature = 20 C Humidity = 37 % Gas Concentration = 19 to IBM Watson
Published Temperature = 92 C Humidity = 93 % Gas Concentration = 65 to IBM Watson
Published Temperature = 50 C Humidity = 2 % Gas Concentration = 47 to IBM Watson
Published Temperature = 13 C Humidity = 87 % Gas Concentration = 3 to IBM Watson
Published Temperature = 95 C Humidity = 66 % Gas Concentration = 21 to IBM Watson
Published Temperature = 66 C Humidity = 70 % Gas Concentration = 39 to IBM Watson

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```