

## Project development phase

### Sprint - 2

Date	05 Nov 2022
Team ID	PNT2022TMID46768
Project Name	Gas leakage Monitoring and alerting System for Industries

#### Step-1

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

#Provide your IBM Watson Device Credentials
organization = "w9v805"
deviceType = "nodegas"
deviceId = "12345"
authMethod = "token"
authToken = "12345678"

# Initialize GPIO

def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="alarmon":
        print ("alarm is on")
    else :
        print ("alarm is off")

    #print(cmd)

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)

    data = { 'temp' : temp, 'Humid': Humid }
    #print data
    def myOnPublishCallback():
        print ("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 IoTFF")
            time.sleep(1)

        deviceCli.commandCallback = myCommandCallback

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

```

output:

```

python node.py - C:\Users\chare\AppData\Local\Programs\Python\Python37\python node.py (3.7.0)
File Edit Format Run Options Window Help

organization = "999805"
deviceType = "nodegas"
deviceId = "12345"
authMethod = "token"
authToken = "12345678"

# Initialize GPIO

def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="alarm":
        print ("alarm is on")
    else :
        print ("alarm is off")
    #print(cmd)

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-meth":
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
deviceCli.connect()

while True:
    #Get Sensor Data from DHT11
    temp=random.randint(0,100)
    Humid=random.randint(0,100)

    data = { 'temp' : temp, 'Humid': Humid }
    #print data
    def myOnPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, "to IBM
    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=myOnPub
    if not success:
        print("Not connected to IoTFF")
        time.sleep(1)

        deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the cloud
deviceCli.disconnect()
ibmiotpublishsubscribe.py
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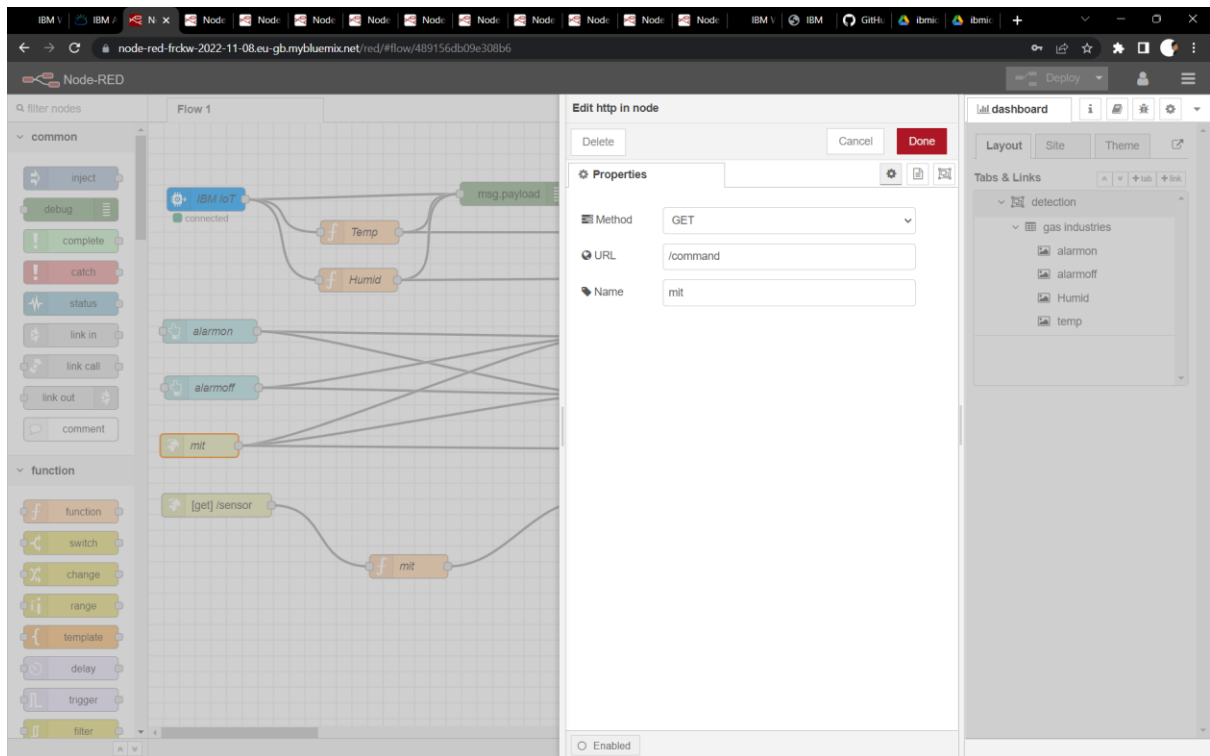
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help

Published Temperature = 79 C Humidity = 6 % to IBM Watson
Published Temperature = 72 C Humidity = 97 % to IBM Watson
Published Temperature = 28 C Humidity = 67 % to IBM Watson
Published Temperature = 26 C Humidity = 98 % to IBM Watson
Published Temperature = 93 C Humidity = 39 % to IBM Watson
Published Temperature = 98 C Humidity = 49 % to IBM Watson
Published Temperature = 30 C Humidity = 15 % to IBM Watson
Published Temperature = 49 C Humidity = 36 % to IBM Watson
Published Temperature = 4 C Humidity = 88 % to IBM Watson
Published Temperature = 6 C Humidity = 90 % to IBM Watson
Published Temperature = 64 C Humidity = 71 % to IBM Watson
Published Temperature = 7 C Humidity = 73 % to IBM Watson
Published Temperature = 92 C Humidity = 96 % to IBM Watson
Published Temperature = 87 C Humidity = 79 % to IBM Watson
Published Temperature = 89 C Humidity = 65 % to IBM Watson
Published Temperature = 13 C Humidity = 42 % to IBM Watson
Published Temperature = 21 C Humidity = 86 % to IBM Watson
Published Temperature = 8 C Humidity = 20 % to IBM Watson
Published Temperature = 69 C Humidity = 4 % to IBM Watson
Published Temperature = 79 C Humidity = 34 % to IBM Watson
Published Temperature = 4 C Humidity = 74 % to IBM Watson
Published Temperature = 22 C Humidity = 90 % to IBM Watson
Published Temperature = 36 C Humidity = 49 % to IBM Watson
Published Temperature = 54 C Humidity = 50 % to IBM Watson
Published Temperature = 35 C Humidity = 41 % to IBM Watson
Published Temperature = 60 C Humidity = 62 % to IBM Watson
Published Temperature = 2 C Humidity = 98 % to IBM Watson
Published Temperature = 92 C Humidity = 72 % to IBM Watson
Published Temperature = 69 C Humidity = 47 % to IBM Watson
Published Temperature = 90 C Humidity = 98 % to IBM Watson
Published Temperature = 57 C Humidity = 55 % to IBM Watson
Published Temperature = 28 C Humidity = 86 % to IBM Watson
Published Temperature = 95 C Humidity = 83 % to IBM Watson
Published Temperature = 71 C Humidity = 88 % to IBM Watson
Published Temperature = 25 C Humidity = 19 % to IBM Watson
Published Temperature = 10 C Humidity = 87 % to IBM Watson
Published Temperature = 63 C Humidity = 17 % to IBM Watson
Published Temperature = 46 C Humidity = 50 % to IBM Watson
Published Temperature = 24 C Humidity = 53 % to IBM Watson
Published Temperature = 47 C Humidity = 52 % to IBM Watson
Published Temperature = 74 C Humidity = 81 % to IBM Watson
Published Temperature = 15 C Humidity = 28 % to IBM Watson
Published Temperature = 64 C Humidity = 39 % to IBM Watson
Published Temperature = 41 C Humidity = 89 % to IBM Watson
Published Temperature = 85 C Humidity = 47 % to IBM Watson
Published Temperature = 92 C Humidity = 27 % to IBM Watson
Published Temperature = 77 C Humidity = 84 % to IBM Watson
Published Temperature = 95 C Humidity = 6 % to IBM Watson
Published Temperature = 35 C Humidity = 87 % to IBM Watson
Published Temperature = 26 C Humidity = 21 % to IBM Watson
Published Temperature = 89 C Humidity = 34 % to IBM Watson
Published Temperature = 89 C Humidity = 36 % to IBM Watson
Published Temperature = 30 C Humidity = 48 % to IBM Watson
Published Temperature = 89 C Humidity = 82 % to IBM Watson
Ln: 5 Col: 0

```

<https://node-red-frckw-2022-11-08.eu-gb.mybluemix.net/red/#flow/489156db09e308b6>

Get/command



Get / sensor

