

Project Development Phase
Sprint 2

Date	05 November 2022
Team ID	PNT2022TMID46764
Project Name	Hazardous area monitoring for industrial plant powered by IOT

Develop The Python Script

Develop a python script to publish the random sensor data to the IBM IoT platform

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

```
#Provide your IBM Watson Device Credentials
organization = "uaqu4v"
deviceType = "nodered"
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")

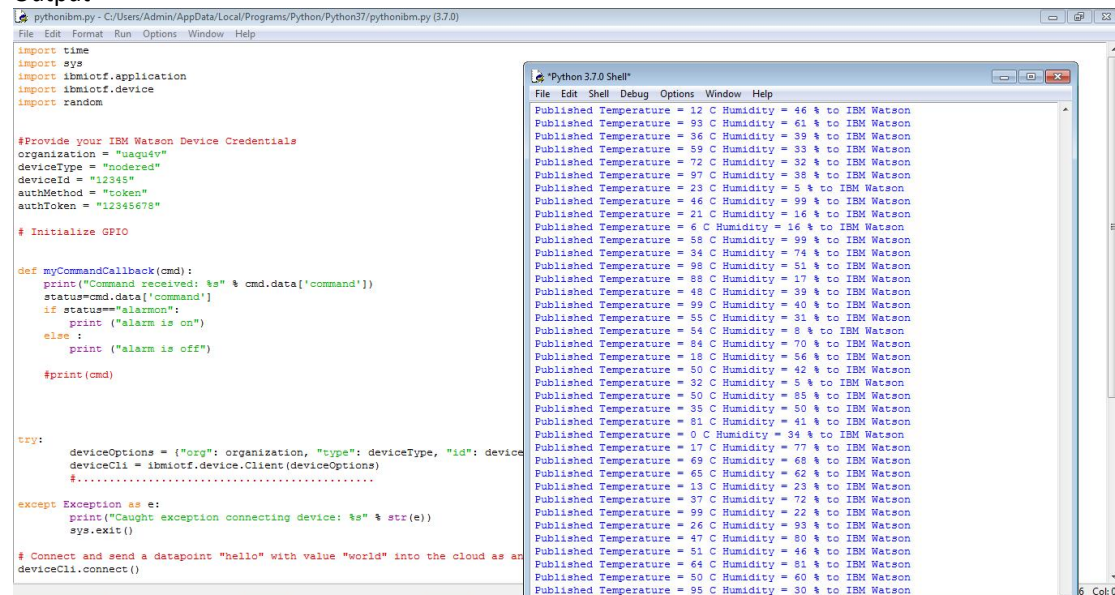
        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
        if not success:
            print("Not connected to IoT")
            time.sleep(1)

        deviceCli.commandCallback = myCommandCallback

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

```

Output



```

pythonbm.py - C:/Users/Admin/AppData/Local/Programs/Python/Python37/pythonbm.py (3.7.0)
File Edit Format Run Options Window Help

import time
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import ibmiotf.application
import ibmiotf.device
import random

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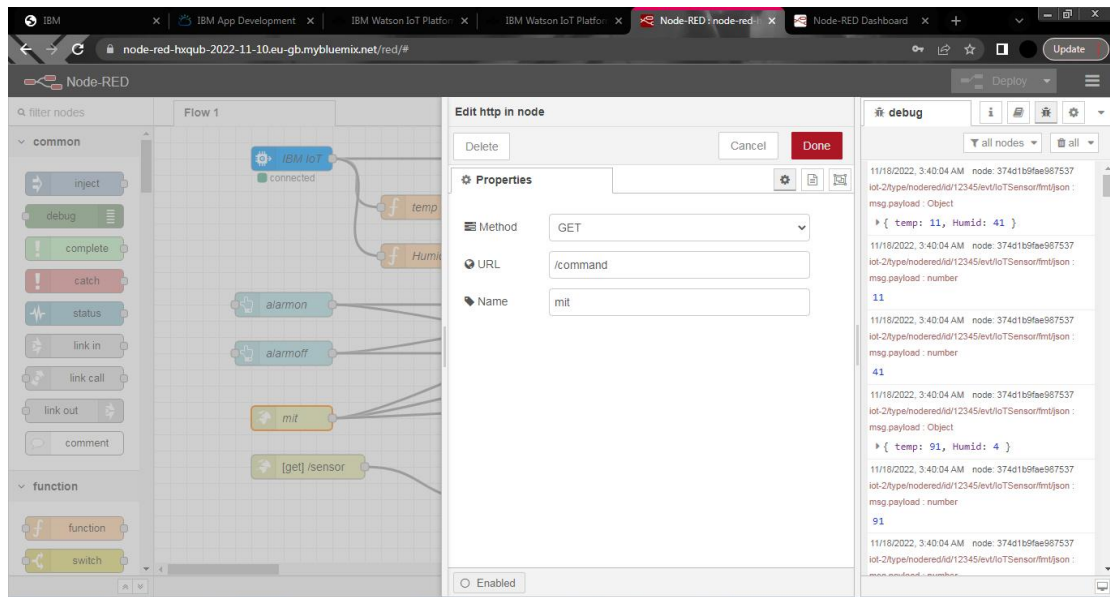
# Connect and send a datapoint "hello" with value "world" into the cloud as an
deviceCli.connect()

Published Temperature = 12 C Humidity = 48 % to IBM Watson
Published Temperature = 83 C Humidity = 61 % to IBM Watson
Published Temperature = 36 C Humidity = 39 % to IBM Watson
Published Temperature = 59 C Humidity = 33 % to IBM Watson
Published Temperature = 72 C Humidity = 32 % to IBM Watson
Published Temperature = 97 C Humidity = 38 % to IBM Watson
Published Temperature = 23 C Humidity = 5 % to IBM Watson
Published Temperature = 46 C Humidity = 99 % to IBM Watson
Published Temperature = 21 C Humidity = 16 % to IBM Watson
Published Temperature = 6 C Humidity = 16 % to IBM Watson
Published Temperature = 58 C Humidity = 99 % to IBM Watson
Published Temperature = 34 C Humidity = 74 % to IBM Watson
Published Temperature = 98 C Humidity = 81 % to IBM Watson
Published Temperature = 88 C Humidity = 17 % to IBM Watson
Published Temperature = 48 C Humidity = 39 % to IBM Watson
Published Temperature = 99 C Humidity = 40 % to IBM Watson
Published Temperature = 85 C Humidity = 31 % to IBM Watson
Published Temperature = 84 C Humidity = 8 % to IBM Watson
Published Temperature = 84 C Humidity = 70 % to IBM Watson
Published Temperature = 18 C Humidity = 56 % to IBM Watson
Published Temperature = 50 C Humidity = 42 % to IBM Watson
Published Temperature = 32 C Humidity = 5 % to IBM Watson
Published Temperature = 50 C Humidity = 85 % to IBM Watson
Published Temperature = 35 C Humidity = 50 % to IBM Watson
Published Temperature = 81 C Humidity = 41 % to IBM Watson
Published Temperature = 0 C Humidity = 34 % to IBM Watson
Published Temperature = 17 C Humidity = 77 % to IBM Watson
Published Temperature = 69 C Humidity = 66 % to IBM Watson
Published Temperature = 65 C Humidity = 62 % to IBM Watson
Published Temperature = 13 C Humidity = 23 % to IBM Watson
Published Temperature = 37 C Humidity = 72 % to IBM Watson
Published Temperature = 99 C Humidity = 22 % to IBM Watson
Published Temperature = 26 C Humidity = 93 % to IBM Watson
Published Temperature = 47 C Humidity = 80 % to IBM Watson
Published Temperature = 51 C Humidity = 46 % to IBM Watson
Published Temperature = 64 C Humidity = 81 % to IBM Watson
Published Temperature = 50 C Humidity = 60 % to IBM Watson
Published Temperature = 95 C Humidity = 30 % to IBM Watson

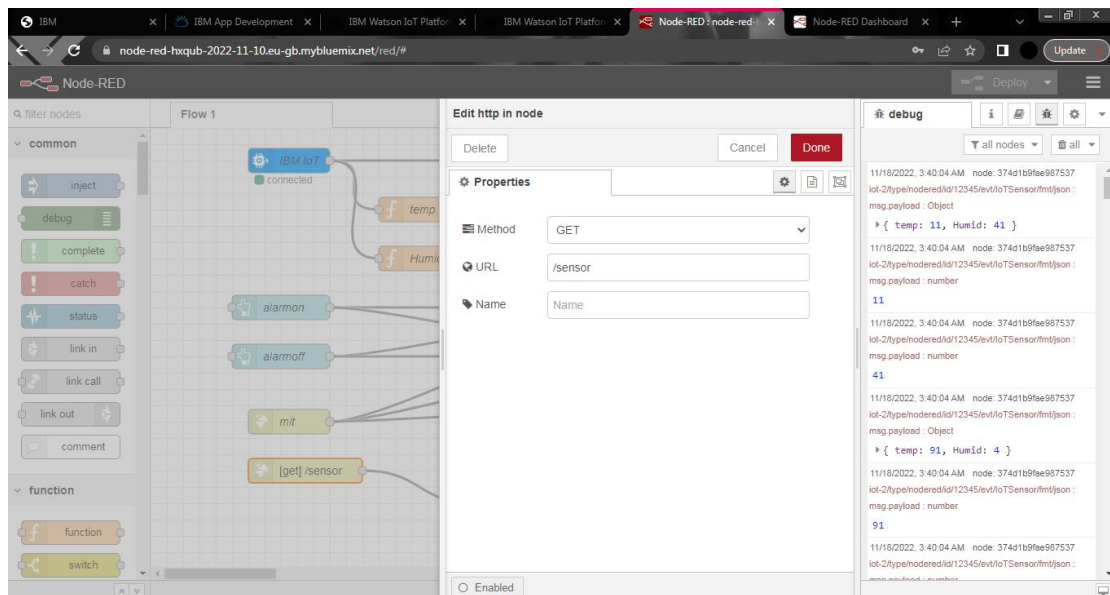
```

http link:<https://node-red-hxqub-2022-11-10.eu-gb.mybluemix.net/red/#>

Get/command



Get/sensor



http link: <https://node-red-hxqub-2022-11-10.eu-gb.mybluemix.net/ui/#!/0?socketid=XuhtWZxohxsiyDPPAAAX>