

SPRINT – 2

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Python Code

```
import time

import sys

import ibmiotf.application

import ibmiotf.device

import random


#Provide your IBM Watson Device
Credentialsorganization = "2melo1"

deviceType = "waste"

deviceId = "1234"

authMethod = "token"

authToken = "12345678"


# Initialize GPIO


def myCommandCallback(cmd):

    print("Command received: %s" % cmd.data['command'])

    status=cmd.data['command']

    if status=="waste level":

        print ("waste level monitored")

    else :

        print ("weight level monitored")
```

```
#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
```

```
    level=random.randint(0,100)
```

```
    weight=random.randint(0,100)
```

```
    data = { 'level': level, 'weight': weight
```

```
    } #print data
```

```

def myOnPublishCallback():

    print ("Published Level = %s %%" % level, "Weight = %s %%" % weight, "to IBM Watson")

    success = deviceCli.publishEvent("IoTSensor", "json", data,
qos=0,on_publish=myOnPublishCallback)

    if not success:

        print("Not connected to IoT")

    time.sleep(20)

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
Published Temperature = 32 C Humidity = 8 % to IBM Watson
Published Temperature = 32 C Humidity = 8 % to IBM Watson
Published Temperature = 32 C Humidity = 8 % to IBM Watson
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===== RESTART: C:/Users/safri/Desktop/ibmiot.py =====
2022-10-29 20:53:32.786 ibmiotf.device.Client INFO Connected successfully: d:xqn2dp:weatherdevice:ibm-weather
Published Temperature = 90 C Humidity = 90 % to IBM Watson
Published Temperature = 50 C Humidity = 72 % to IBM Watson
Published Temperature = 95 C Humidity = 61 % to IBM Watson
Published Temperature = 95 C Humidity = 70 % to IBM Watson
Published Temperature = 75 C Humidity = 84 % to IBM Watson
Published Temperature = 9 C Humidity = 78 % to IBM Watson
Published Temperature = 45 C Humidity = 45 % to IBM Watson
Published Temperature = 11 C Humidity = 65 % to IBM Watson
Published Temperature = 18 C Humidity = 25 % to IBM Watson
Published Temperature = 13 C Humidity = 15 % to IBM Watson
Published Temperature = 80 C Humidity = 63 % to IBM Watson
Published Temperature = 29 C Humidity = 91 % to IBM Watson
Published Temperature = 46 C Humidity = 21 % to IBM Watson
Published Temperature = 94 C Humidity = 90 % to IBM Watson
Published Temperature = 41 C Humidity = 20 % to IBM Watson
Published Temperature = 48 C Humidity = 24 % to IBM Watson
Published Temperature = 46 C Humidity = 59 % to IBM Watson
Published Temperature = 69 C Humidity = 92 % to IBM Watson
Published Temperature = 20 C Humidity = 25 % to IBM Watson
Published Temperature = 27 C Humidity = 87 % to IBM Watson
Published Temperature = 85 C Humidity = 58 % to IBM Watson
Published Temperature = 85 C Humidity = 0 % to IBM Watson
Published Temperature = 94 C Humidity = 13 % to IBM Watson
Published Temperature = 71 C Humidity = 22 % to IBM Watson
Published Temperature = 10 C Humidity = 100 % to IBM Watson
Published Temperature = 15 C Humidity = 85 % to IBM Watson
Published Temperature = 86 C Humidity = 9 % to IBM Watson
Published Temperature = 70 C Humidity = 4 % to IBM Watson
Published Temperature = 98 C Humidity = 6 % to IBM Watson

```

NODE RED INPUT AND OUPUT:

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. The main content area displays the details for a device with ID 12345, which is a NodeMCU. The 'Recent Events' tab is selected, showing a table of events. The table has columns for 'Event', 'Value', 'Format', and 'Last Received'. The events are listed as follows:

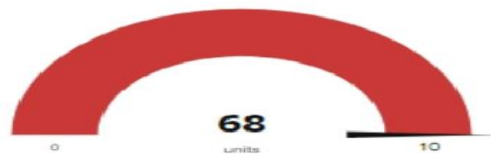
Event	Value	Format	Last Received
event_1	{"temperature":20,"humidity":12}	json	a few seconds ago
event_1	{"temperature":26,"humidity":4}	json	a few seconds ago
event_1	{"temperature":50,"humidity":75}	json	a few seconds ago
event_1	{"temperature":66,"humidity":42}	json	a few seconds ago
event_1	{"temperature":3,"humidity":7}	json	a few seconds ago

At the bottom of the dashboard, it indicates '1 Simulation running'.

The screenshot shows the Node-RED web interface. The flow is titled 'Flow 1' and is currently running. The flow starts with an 'IBM IoT' node (connected) which sends data to a 'msg.payload' node. The data is then processed by a 'level' node and a 'value' node. The 'level' node outputs to a 'humidity level' node, and the 'value' node outputs to a 'temperature value' node. The debug console on the right shows the following log entries:

```
iot-2hype/NodeMCUID/12345/ev/level_1/mt/json :  
msg.payload : Object  
  { temperature: 33, humidity: 43 }  
11/7/2022, 11:55:29 AM node: msg.payload  
iot-2hype/NodeMCUID/12345/ev/level_1/mt/json :  
msg.payload : Object  
  { temperature: 33, humidity: 43 }  
11/7/2022, 11:55:29 AM node: msg.payload  
iot-2hype/NodeMCUID/12345/ev/level_1/mt/json :  
msg.payload : Object  
  { temperature: 33, humidity: 43 }  
11/7/2022, 11:55:32 AM node: msg.payload  
iot-2hype/NodeMCUID/12345/ev/level_1/mt/json :  
msg.payload : Object  
  { temperature: 11, humidity: 70 }  
11/7/2022, 11:55:32 AM node: msg.payload  
iot-2hype/NodeMCUID/12345/ev/level_1/mt/json :  
msg.payload : Object  
  { temperature: 11, humidity: 70 }  
11/7/2022, 11:55:32 AM node: msg.payload  
iot-2hype/NodeMCUID/12345/ev/level_1/mt/json :  
msg.payload : Object  
  { temperature: 11, humidity: 70 }
```

Temperature



Humidity

