

SPRINT - 4

Date	15 November 2022
Team ID	PNT2022TMID04642
Project Name	Smart Farmer-IoT Enabled Smart Farming Application

Receiving commands from IBM cloud

```
import time

import sys

import ibmiotf.application

import ibmiotf.device

import random

#Provide your IBM Watson Device Credentialsorganization = "3wc7ia" deviceType = "NodeMCU"
deviceId = "12345" authMethod = "token" authToken = "12345678"

# Initialize GPIO

def myCommandCallback(cmd):

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

    status=cmd.data['command']

    if status=="motoron":

        print ("motor is on")

    elif status == "motoroff":

        print ("motor 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()

    deviceCli.connect()

while True:
```

```
#Get Sensor Data from DHT11
```

```
temp=random.randint(90,110)
```

```
Humid=random.randint(60,100)
```

```
Mois=random.Randint(20,120)
```

```
data = { 'temp' : temp, 'Humid': Humid , 'Mois': Mois}
```

```
#print data
```

```
def myOnPublishCallback( ):
```

```
    print ("Published Temperature = %s C" % temp, "Humidity = %s %" %Humid, "Moisture =%s deg c"  
    % Mois "to IBM Watson")
```

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

```
    if not success:
```

```
        print("Not connected to IoTF")
```

```
        time.sleep(10)
```

```
        deviceCli.commandCallback = myCommandCallback
```

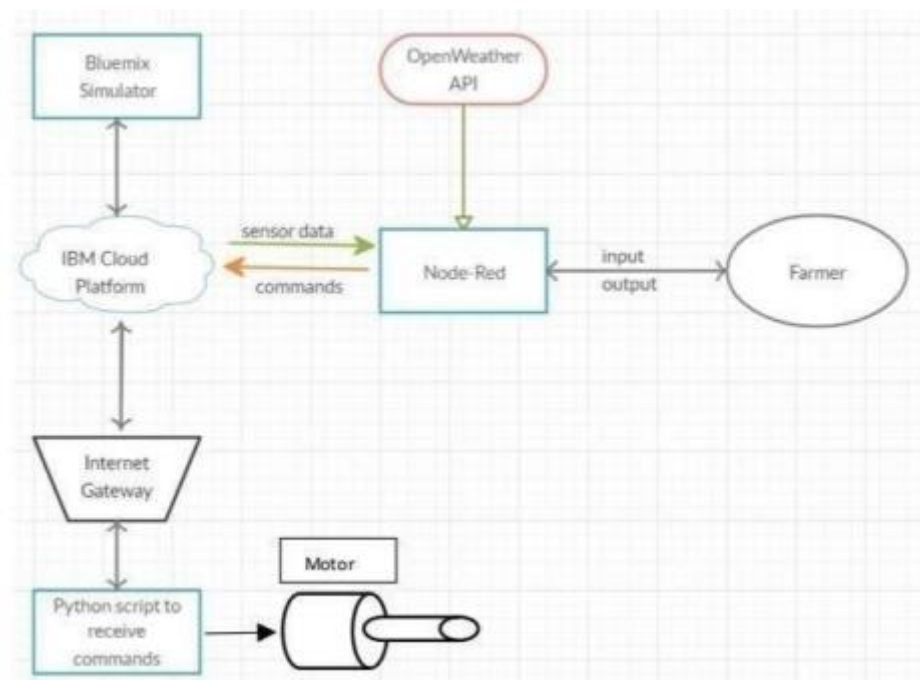
```
# Disconnect the device and application from the cloud
```

```
deviceCli.disconnect()
```

```
Pubsub.py - C:\Users\jeevi\OneDrive\Documents\Pubsub.py (3.7.4)
File Edit Format Run Options Window Help

import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "3wc7ia"
deviceType = "NodeMCU"
deviceId = "12345"
authMethod = "token"
authToken = "12345678"
# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
        print ("motor is on")
    elif status == "motoroff":
        print ("motor 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()
deviceCli.connect()
while True:
    #Get Sensor Data from DHT11
    temp=random.randint(90,110)
    Humid=random.randint(60,100)
    Mois=random.randint(20,120)
    data = { 'temp' : temp, 'Humid': Humid , 'Mois': Mois}
    #print data
    def myOnPublishCallback( ) :
        print("Published Temperature = %s C" % temp, "Humidity = %s %" %Humid, "Moisture =%s deg c" %Mois, " to IBM Watson")
    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to IoTF")
        time.sleep(10)
        deviceCli.commandCallback = myCommandCallback
# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

Flow Chart



Result

The screenshot shows a Python 3.7.4 Shell window with the following output:

```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 [tags/v3.7.4:e09359112e, Jul 8 2019, 20:34:20] [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\jeevi\OneDrive\Documents\Pubsub.py =====
2022-11-19 14:17:47,251 ibmiotf.device.Client INFO Connected successfully: d:3wc7ia:NodeMCU:12345
Published Temperature = 12 C Humidity = 90 % Moisture =115 deg c to IBM Watson
Published Temperature = 91 C Humidity = 71 % Moisture =41 deg c to IBM Watson
Published Temperature = 67 C Humidity = 72 % Moisture =33 deg c to IBM Watson
Published Temperature = 26 C Humidity = 80 % Moisture =55 deg c to IBM Watson
Published Temperature = 92 C Humidity = 96 % Moisture =88 deg c to IBM Watson
>>>
```

The background shows a Word document with the following code:

```
"auth-method": authMethod, "auth-token": authToken)

id, "Moisture =%s deg c" %Mois, " to IBM Watson")
lish=myOnPublishCallback)
```

