

SMARTFARMER-IOT ENABLED SMART FARMING APPLICATION

SOURCE CODE: PYTHON

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

#Provide your IBM Watson Device Credentials
organization = "ytk599"
deviceType = "wxyz"
deviceId = "27"
authMethod = "token"
authToken = "27012701"

# 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()

# 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(90,110)
    Humid=random.randint(60,100)

    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 IoTTF")
```

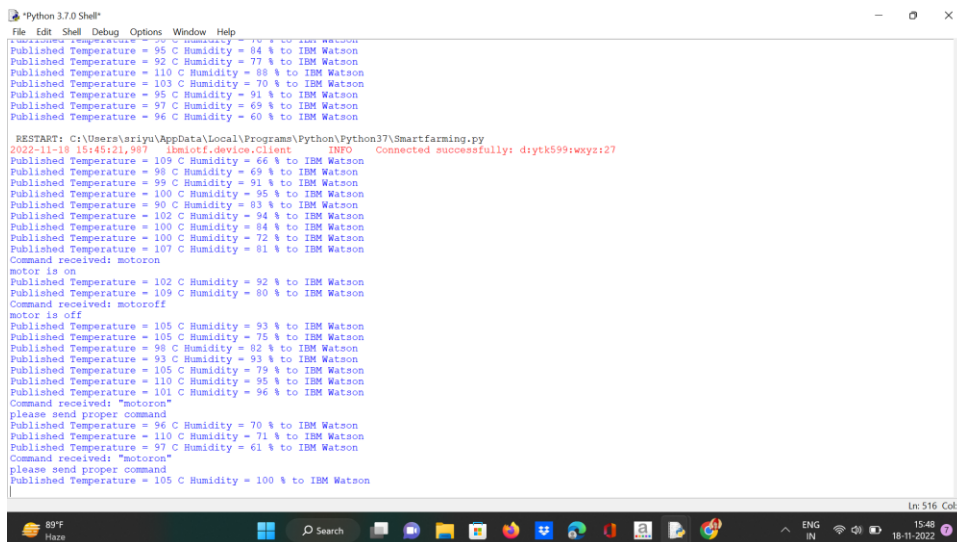
```
    time.sleep(10)
```

```
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 = 95 C Humidity = 84 % to IBM Watson
Published Temperature = 92 C Humidity = 77 % to IBM Watson
Published Temperature = 110 C Humidity = 88 % to IBM Watson
Published Temperature = 103 C Humidity = 70 % to IBM Watson
Published Temperature = 95 C Humidity = 91 % to IBM Watson
Published Temperature = 97 C Humidity = 69 % to IBM Watson
Published Temperature = 96 C Humidity = 60 % to IBM Watson

RESTART: C:\Users\sriya\AppData\Local\Programs\Python\Python37\Smartfarming.py
2022-11-18 15:45:21,987  ibmiotf.device.Client  INFO  Connected successfully: dytk599:ways:27
Published Temperature = 109 C Humidity = 66 % to IBM Watson
Published Temperature = 98 C Humidity = 69 % to IBM Watson
Published Temperature = 99 C Humidity = 91 % to IBM Watson
Published Temperature = 100 C Humidity = 95 % to IBM Watson
Published Temperature = 90 C Humidity = 83 % to IBM Watson
Published Temperature = 102 C Humidity = 94 % to IBM Watson
Published Temperature = 100 C Humidity = 84 % to IBM Watson
Published Temperature = 100 C Humidity = 72 % to IBM Watson
Published Temperature = 107 C Humidity = 81 % to IBM Watson
Command received: motoron
motor is on
Published Temperature = 102 C Humidity = 92 % to IBM Watson
Published Temperature = 109 C Humidity = 80 % to IBM Watson
Command received: motorooff
motor is off
Published Temperature = 105 C Humidity = 93 % to IBM Watson
Published Temperature = 105 C Humidity = 75 % to IBM Watson
Published Temperature = 98 C Humidity = 82 % to IBM Watson
Published Temperature = 93 C Humidity = 93 % to IBM Watson
Published Temperature = 105 C Humidity = 79 % to IBM Watson
Published Temperature = 110 C Humidity = 95 % to IBM Watson
Published Temperature = 101 C Humidity = 96 % to IBM Watson
Command received: "motoron"
please send proper command
Published Temperature = 96 C Humidity = 70 % to IBM Watson
Published Temperature = 110 C Humidity = 71 % to IBM Watson
Published Temperature = 97 C Humidity = 61 % to IBM Watson
Command received: "motoron"
please send proper command
Published Temperature = 105 C Humidity = 100 % to IBM Watson
```