

## Final Source Code

Date:	19 <sup>th</sup> November 2022
Team ID	PNT2022TMID27964
Project Name	Project – Smart Farmer- IoT basedSmartFarmingApplication

### Source Code (Python) :

```
import time
```

```
import sys
```

```
import ibmiotf.application
```

```
import ibmiotf.device
```

```
import random
```

```
#Provide your IBM Watson Device Credentials
```

```
organization = " asgkbm "
```

```
deviceType = "smart_farming"
```

```
deviceId = "69696969"
```

```
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()
```

```
# 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)
```

```
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 IoT")
```

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

```
    deviceCli.commandCallback = myCommandCallback
```

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

```
deviceCli.disconnect()
```