

## Final Deliverables-**Final Code**

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Team ID	PNT2022TMID41338
Project Name	Project – Smart Farmer – IoT Enabled Smart Farming Application

### **Python Code:**

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

### **#Provide your IBM Watson Device Credentials**

```
organization = "1x108d"
deviceType = "abcd"
deviceId = "12"
authMethod = "token"
authToken = "12345678"
```

### **# Initialize GPIO**

```
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    else :
        print ("led 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()
```