

SPRINT-2

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PROJECT TITLE: IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

PYTHON CODE TO IBM:

```
import time
```

```
import sys
```

```
import ibmiotf.application
```

```
import ibmiotf.device
```

```
import random
```

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

```
organization = "iritj7"
```

```
deviceType = "abcd"
```

```
deviceId = "12345"
```

```
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")
```

```
elif status == "lightoff":  
    print ("led 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)
```

```
    Moist=random.randint(20,100)
```

```
Animal_dect=random.randint(1,20)
```

```
data = { 'temp' : temp, 'Humid': Humid, 'Moist' : Moist, 'Animal_dect' :  
Animal_dect }
```

```
#print data
```

```
def myOnPublishCallback():
```

```
    print ("Published Temperature = %s C" % temp, "Humidity = %s %" %  
Humid, "to IBM Watson", "Published Moisture= %s" % Moist, "Published  
Animal detection = " , Animal_dect)
```

```
    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()
```