

Develop the Python code

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Project Name	Smart Farmer - IoT Enabled Smart Farming Application

DEVELOP A PYTHON SCRIPT TO PUBLISH AND SUBSCRIBE TO IBM IOT PLATFORM:

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

#NARASIMHAN IBM

```
organization = "59lw3i"
deviceType = "device_1"
deviceId = "12345"
authMethod = "token"
authToken = "123456789"
```

#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

```
deviceCli.connect()
```

```
while True:
```

```
    temperature=random.randint(0,100)  
    humidity=random.randint(0,100)  
    moisture=random.randint(0,100)
```

```
    data={'temperature':temperature,'humidity':humidity,'moisture':moisture}
```

```
    def myOnPublishCallback():
```

```
        print("Published Temperature = %s C"%temperature,"Humidity = %s %" %humidity,"Moisture = %s %" %moisture, "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

```
deviceCli.disconnect()
```