

## Development of Python Script

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Team ID	PNT2022TMID43416
Project Name	Project - SMART WASTE MANAGEMENT SYSTEM

### Python Script:

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

### #Provide your IBM Watson Device Credentials

```
organization = "8wd932"
deviceType = "Node_Mcu"
deviceId = "123456789"
authMethod = "token"
authToken = "123456789"
```

### # Initialize GPIO

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

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
```

```
    time.sleep(5)
```

```
    ult_son=random.randint(0,80)
```

```
    weight=random.randint(0,100)
```

```
    lat = round(random.uniform(11.03, 11.50), 6)
```

```
    long = round(random.uniform(76.80, 76.90), 6)
```

```
    gps = str(lat) + str(',') + str(long)
```

```
    data = {'Ultrasonic ' : ult_son, ' Weight ' : weight , ' GPS ' : gps}
```

```
    #print data
```

```
    def myOnPublishCallback():
```

```
        print ("Published Ultrasonic = %s Cm" %ult_son, "Weight:%s kg " %weight, "GPS: %s"  
%gps)
```

```
        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()

```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Published Ultrasonic = 36 Cm Weight:57 kg GPS: 11.383015,76.800231
Published Ultrasonic = 34 Cm Weight:89 kg GPS: 11.312959,76.886119
Published Ultrasonic = 66 Cm Weight:34 kg GPS: 11.445265,76.899388
Published Ultrasonic = 73 Cm Weight:10 kg GPS: 11.280478,76.836166
Published Ultrasonic = 76 Cm Weight:87 kg GPS: 11.108539,76.838175
Published Ultrasonic = 27 Cm Weight:78 kg GPS: 11.248061,76.838169
Published Ultrasonic = 65 Cm Weight:67 kg GPS: 11.383952,76.845471
Published Ultrasonic = 43 Cm Weight:27 kg GPS: 11.103042,76.873368
Published Ultrasonic = 62 Cm Weight:46 kg GPS: 11.111769,76.817279
Published Ultrasonic = 61 Cm Weight:24 kg GPS: 11.38878,76.862917
Published Ultrasonic = 30 Cm Weight:25 kg GPS: 11.348464,76.883396
Published Ultrasonic = 25 Cm Weight:7 kg GPS: 11.312117,76.893309
Published Ultrasonic = 8 Cm Weight:11 kg GPS: 11.218212,76.831101
Published Ultrasonic = 65 Cm Weight:77 kg GPS: 11.282639,76.850093
Published Ultrasonic = 73 Cm Weight:89 kg GPS: 11.457832,76.851632
Published Ultrasonic = 38 Cm Weight:55 kg GPS: 11.454065,76.829667
Published Ultrasonic = 9 Cm Weight:21 kg GPS: 11.425123,76.899813
Published Ultrasonic = 28 Cm Weight:9 kg GPS: 11.460471,76.887548
Published Ultrasonic = 29 Cm Weight:81 kg GPS: 11.40829,76.832934
Published Ultrasonic = 76 Cm Weight:62 kg GPS: 11.465103,76.881902
Published Ultrasonic = 20 Cm Weight:52 kg GPS: 11.157175,76.802974
Published Ultrasonic = 34 Cm Weight:75 kg GPS: 11.179063,76.874957
Published Ultrasonic = 78 Cm Weight:56 kg GPS: 11.033513,76.868389
Published Ultrasonic = 71 Cm Weight:8 kg GPS: 11.0429,76.869494
Published Ultrasonic = 64 Cm Weight:4 kg GPS: 11.191871,76.866949
Published Ultrasonic = 43 Cm Weight:3 kg GPS: 11.361708,76.869441
Published Ultrasonic = 58 Cm Weight:55 kg GPS: 11.215006,76.848475
Published Ultrasonic = 78 Cm Weight:4 kg GPS: 11.034341,76.874417
Published Ultrasonic = 47 Cm Weight:63 kg GPS: 11.390546,76.801317
Published Ultrasonic = 66 Cm Weight:19 kg GPS: 11.148573,76.877965
Published Ultrasonic = 76 Cm Weight:15 kg GPS: 11.099222,76.864466
Published Ultrasonic = 65 Cm Weight:55 kg GPS: 11.272139,76.893776
Published Ultrasonic = 52 Cm Weight:70 kg GPS: 11.136642,76.846503
Published Ultrasonic = 3 Cm Weight:83 kg GPS: 11.16468,76.883502
Published Ultrasonic = 35 Cm Weight:75 kg GPS: 11.124509,76.84634
Published Ultrasonic = 29 Cm Weight:42 kg GPS: 11.477444,76.887777
Published Ultrasonic = 69 Cm Weight:73 kg GPS: 11.070386,76.834175
Published Ultrasonic = 73 Cm Weight:97 kg GPS: 11.406488,76.854108
Published Ultrasonic = 7 Cm Weight:96 kg GPS: 11.340246,76.85118
Ln 157 Col 67
```