

## Develop The Python Code

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Project Title	Gas Leakage Monitoring And Alerting System For Industries

### Python Code:

```
import ibmiotf.application
```

```
import ibmiotf.device
```

```
import time
```

```
import random
```

```
import sys
```

```
#ibm watson device credentials
```

```
organization="griwxv"
```

```
deviceType="ESP32"
```

```
deviceid="12345678"
```

```
authMethod="token"
```

```
authToken="12345678"
```

```
#generate random values for gas leakage
```

```
def myCommandCallback(cmd):
```

```

    print ("command received: %s" %cmd.data['command'])

    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 sending data for gas leakage


deviceCli.connect()


while True:

    Gas=random.randint(0,100)

    Temp=random.randint(0,100)

    Hum=random.randint(0,100)

    Fire=random.randint(0,100)

    data={'Gas':Gas,'Temp':Temp,'Hum':Hum,'Fire':Fire}

    print(data)

    def myOnPublishCallBack():

        print("published Gas %s " %Gas)

        print("published Temp %s " %Temp)

        print("published Hum %s " %Hum)

        print("published Fire %s " %Fire)

    success=deviceCli.publishEvent("IoTSensor","json",data,qos=0,on_publish=myOnPublishCallBack)

    if not success:

        print ("Not connected to IoTF")

```

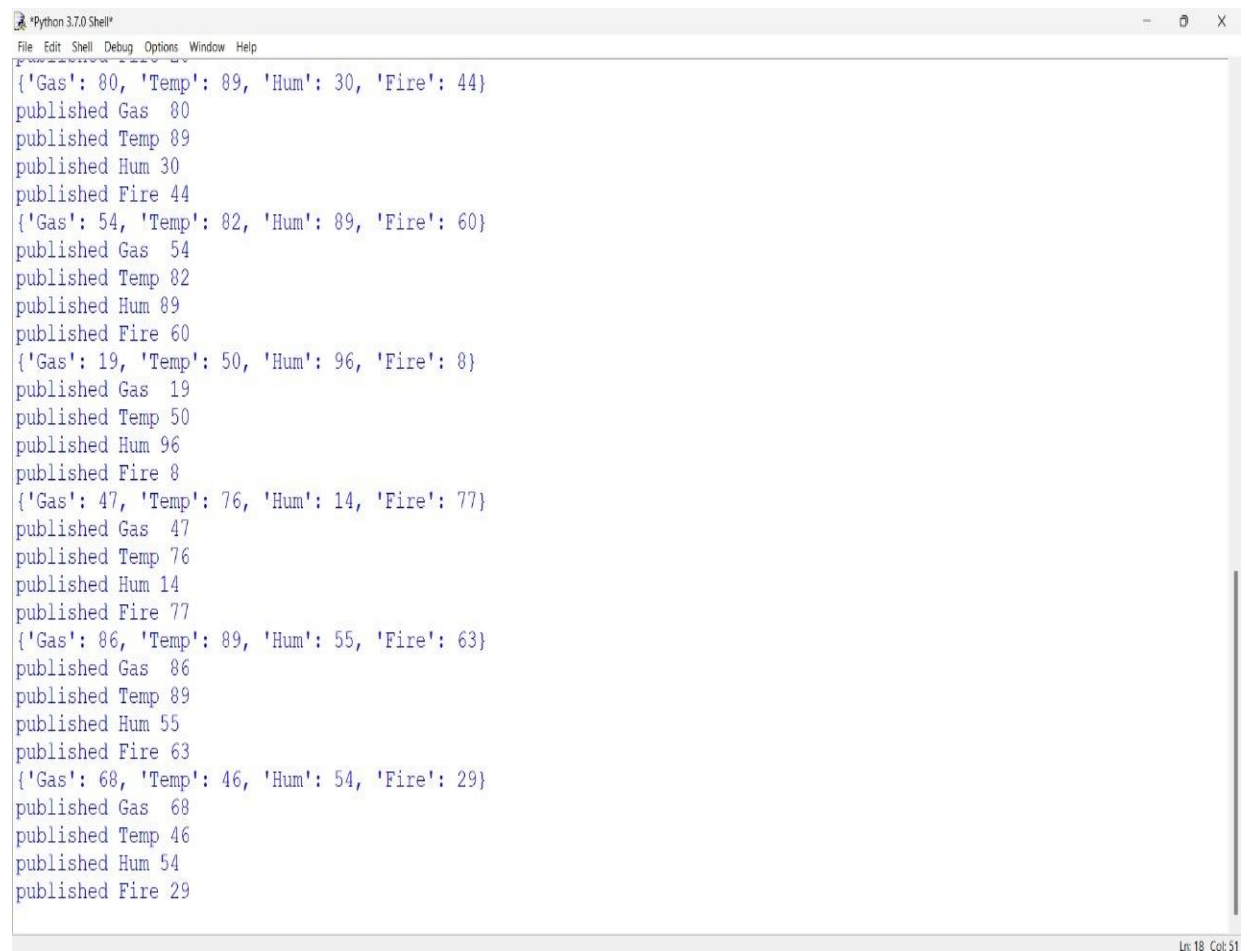
```
time.sleep(1)
```

```
deviceCli.commandCallback=myCommandCallback
```

```
#disconnect the device from the cloud
```

```
deviceCli.connect()
```

## OUTPUT:



```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
{'Gas': 80, 'Temp': 89, 'Hum': 30, 'Fire': 44}
published Gas 80
published Temp 89
published Hum 30
published Fire 44
{'Gas': 54, 'Temp': 82, 'Hum': 89, 'Fire': 60}
published Gas 54
published Temp 82
published Hum 89
published Fire 60
{'Gas': 19, 'Temp': 50, 'Hum': 96, 'Fire': 8}
published Gas 19
published Temp 50
published Hum 96
published Fire 8
{'Gas': 47, 'Temp': 76, 'Hum': 14, 'Fire': 77}
published Gas 47
published Temp 76
published Hum 14
published Fire 77
{'Gas': 86, 'Temp': 89, 'Hum': 55, 'Fire': 63}
published Gas 86
published Temp 89
published Hum 55
published Fire 63
{'Gas': 68, 'Temp': 46, 'Hum': 54, 'Fire': 29}
published Gas 68
published Temp 46
published Hum 54
published Fire 29
Ln: 18 Col: 51
```