Code

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#program to publish data in ibm watson iot platform
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials

#Org_ID
organization = "84708c"
#Device Type
deviceType = "abcd"
#device ID
deviceId = "12345"
#Method of Authentication
authMethod = "token"
#Auth-token
authToken = "12345678"

# exception handling method
#try block
try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method":authMethod, "auth-token":authToken}
```

```
        deviceCli= ibmiotf.device.Client (deviceOptions)

#to handle the errors
except Exception as e:
        print ("Caught evention connecting device: %s" % str(e))
        sys.exit()
#device connection
deviceCli.connect()
#while Loop for getting the values
while True:
    Ph=random.randint (6,8)
    WaterTurbidity=random.randint (15,100)
    salinity=random.randint (500,1000)
    DissolvedOxygen=random.randint (60,130)
    conductivity=random.randint (100,1200)
    data = {'Ph' : Ph, 'WaterTurbidity':WaterTurbidity,'salinity':salinity,'DissolvedOxygen':DissolvedOxygen,'conductivity':conductivity}
    #define myonpublishcallback function
    def myonPublishCallback():
        print ("Published Ph = %s" % Ph, "WaterTurbidity = %s %%" % WaterTurbidity,"salinity = %s" % salinity,"DissolvedO2 = %s" % DissolvedOxygen,"conductivity = %s" % conductivity)
        if(Ph<7.4 and salinity < 600 and DissolvedOxygen < 80 and conductivity < 200):
            if(Ph>7.4 and salinity > 900 and DissolvedOxygen > 120 and conductivity > 1100):
                print("UNSAFE, THE VALUES OF PARAMETERS ARE NOT IN THE RANGE")
        else:
            print("Quality of River water is measured and its correct")


    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish = myonPublishCallback)
    if not success:
        print("Not connected to IOTF")
    #sleep time
    time.sleep(10)
#disconnect device
deviceCli.disconnect()
```