

SPRINT 1

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REAL TIME RIVER-WATER QUALITY MONITORING AND CONTROL SYSTEM

PYTHON CODE:

```
import time import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "84708c" deviceType = "abcd" deviceId =
"12345" authMethod = "token" authToken = "12345678"
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 evention connecting device: %s" % str(e))
    sys.exit()
```

```

deviceCli.connect() while True:
temp=random.randint (90,110)
Humid=random.randint (60,100)
Ph=random.randint (0,14)
Water_turbidity=random.randint (15,60) data = {'temp' : temp,
'Humid': Humid, 'Ph' : Ph, 'Water_turbidity':
Water_turbidity} def
myonPublishCallback():
print ("Published Temperature = %s C" % temp, "Humidity = %s %" %
Humid,"Ph = %s" % Ph,"Water Turbidity = %s NTU" % Water_turbidity, "to
IBM Watson") success = deviceCli.publishEvent("IoTSensor", "json",
data, qos=0,
on_publish = myonPublishCallback)
if not success: print("Not
connected to IOTF")
time.sleep (10)
deviceCli.commandCallback = myCommandCallback
deviceCli.disconnect()

```

OUTPUT:

The screenshot shows the IBM Watson IoT Platform interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. The main content area displays a table of devices, with the first device (ID 12345) highlighted. Below the device list, the 'Recent Events' tab is selected, showing a live stream of data points. The data points are JSON objects containing temperature, humidity, pH, and water turbidity values. A status bar at the bottom indicates '1 Simulation running'.

Event	Value	Format	Last Received
IoTSensor	{"temp":91,"Humid":80,"Ph":9,"Water_turbidity":...	json	a few seconds ago
IoTSensor	{"temp":95,"Humid":92,"Ph":14,"Water_turbidity":...	json	a few seconds ago
IoTSensor	{"temp":99,"Humid":91,"Ph":5,"Water_turbidity":...	json	a few seconds ago
IoTSensor	{"temp":103,"Humid":60,"Ph":6,"Water_turbidity":...	json	a few seconds ago
IoTSensor	{"temp":105,"Humid":96,"Ph":12,"Water_turbidity":...	json	a few seconds ago