

Industry-specific intelligent fire management system

Sprint 2

Python code and IBM Watson

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

#Provide your IBM Watson Device Credentials
organization = "2piqlm"
deviceType = "Code"
deviceId = "123456"
authMethod = "token"
authToken = "12345678"

# Initialize GPIO

def myCommandCallback1(cmd):
    print("Command received: %s" % cmd.data['command'])
    status = cmd.data['command']
    if status == "sprinkleron":
        print("sprinkler is on")
    else:
        print("sprinkler is off")

    print(cmd)

def myCommandCallback2(cmd):
    print("Command received: %s" % cmd.data['command'])
    status = cmd.data['command']
    if status == "fanon":
        print("fan is on")
    else:
        print("fan is off")

    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 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

    temp=random.randint(0,70)
    gas=random.randint(0,100)
    flame=random.randint(0,1)

    data = { 'temp' : temp, 'gas': gas, 'flame': flame }
    #print data
    def myOnPublishCallback():
        print ("Published Temperature = %s C" % temp, "Gas = %s %" %
gas, "flame = %s %" % flame,"to IBM Watson")

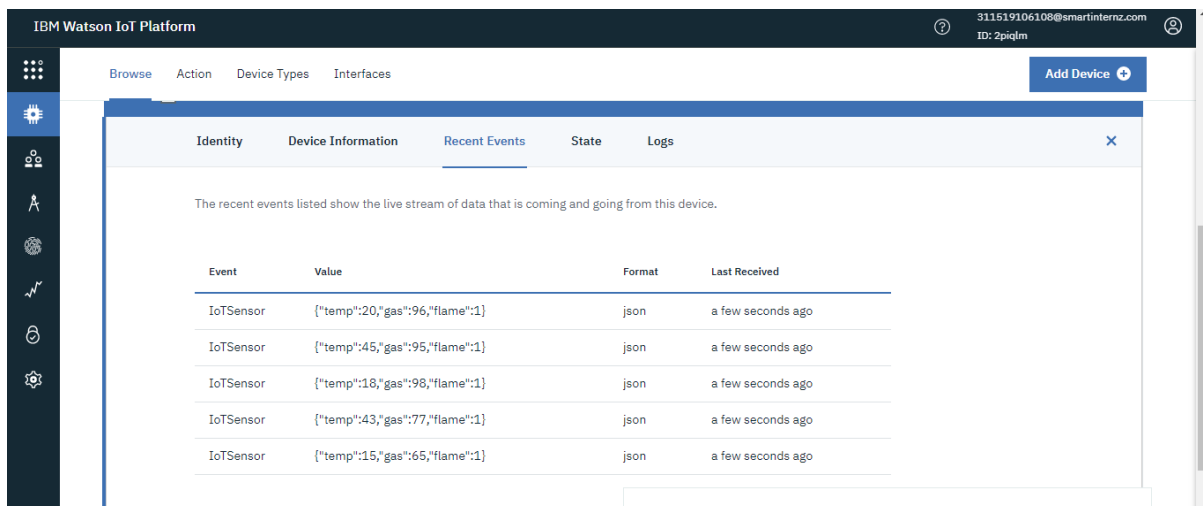
        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
        if not success:
            print("Not connected to IoT")
            time.sleep(1)

        deviceCli.commandCallback1 = myCommandCallback1
        deviceCli.commandCallback2 = myCommandCallback2

# Disconnect the device and application from the cloud
deviceCli.disconnect()

```

IBM WATSON CONNECTION:



The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons for navigation. The main content area shows the 'Recent Events' tab for a device named 'IoTSensor'. The events are listed in a table with columns for Event, Value, Format, and Last Received.

Event	Value	Format	Last Received
IoTSensor	{"temp":20,"gas":96,"flame":1}	json	a few seconds ago
IoTSensor	{"temp":45,"gas":95,"flame":1}	json	a few seconds ago
IoTSensor	{"temp":18,"gas":98,"flame":1}	json	a few seconds ago
IoTSensor	{"temp":43,"gas":77,"flame":1}	json	a few seconds ago
IoTSensor	{"temp":15,"gas":65,"flame":1}	json	a few seconds ago

