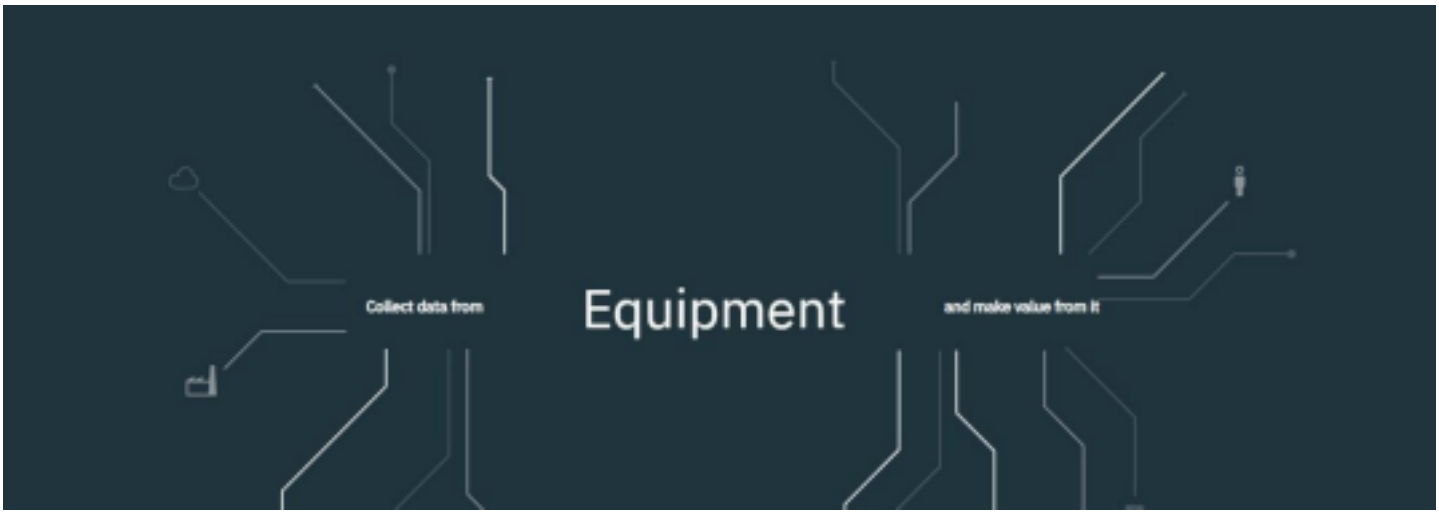
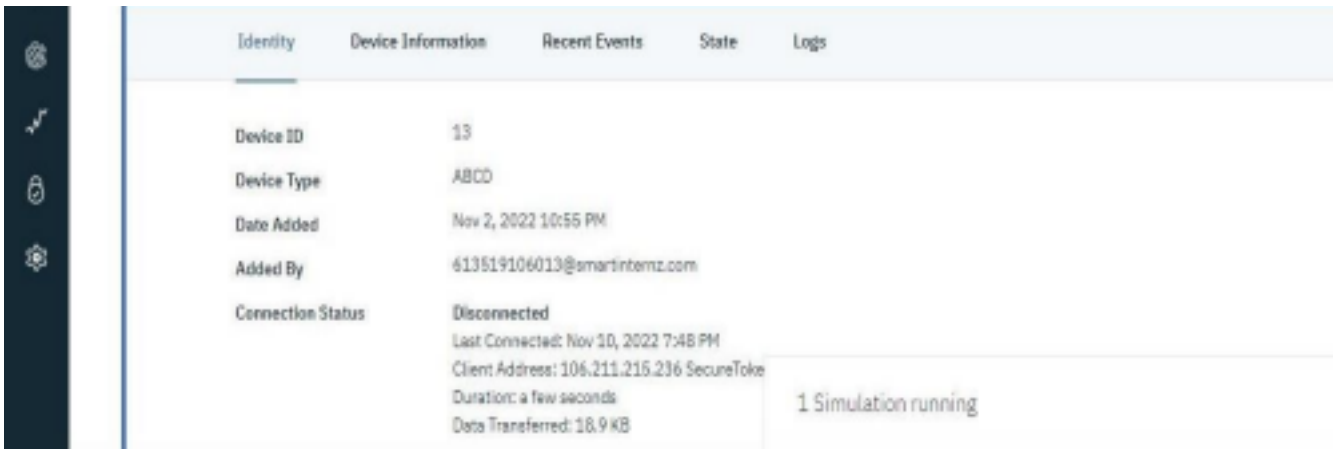
IOT Based Safety Gadget for Child SafetyMonitoring and Notification

Creating and Connecting IBM cloud for Project

TEAM ID: PNT2022TMID04693

Creating IBM Cloud Service and creating the device:



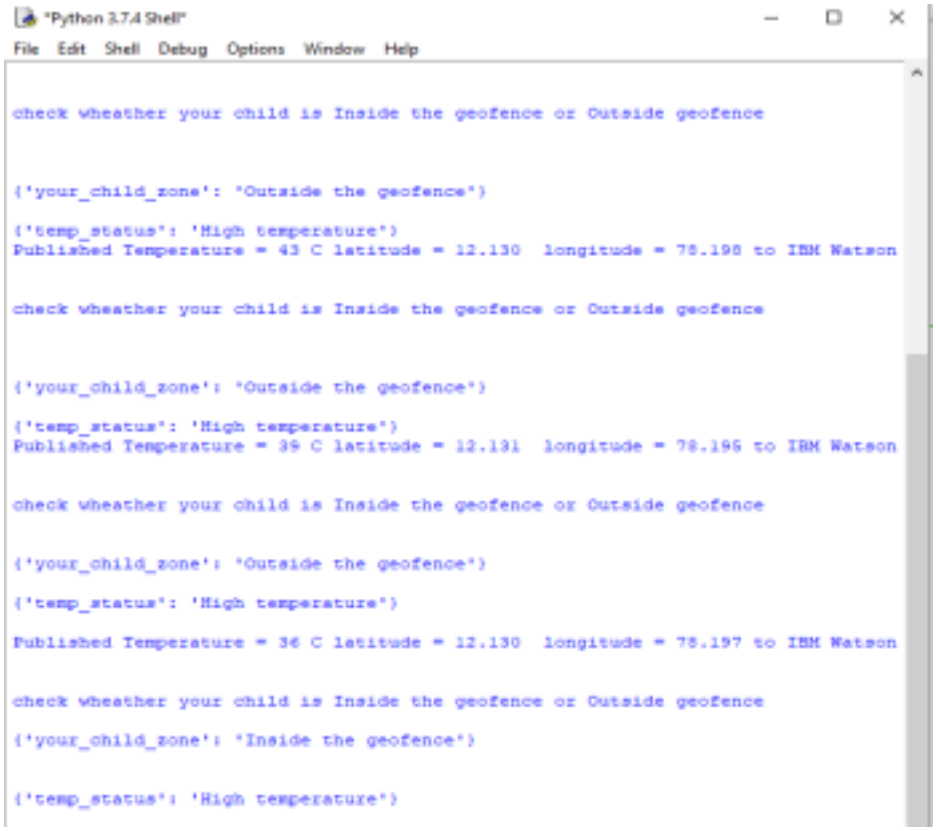


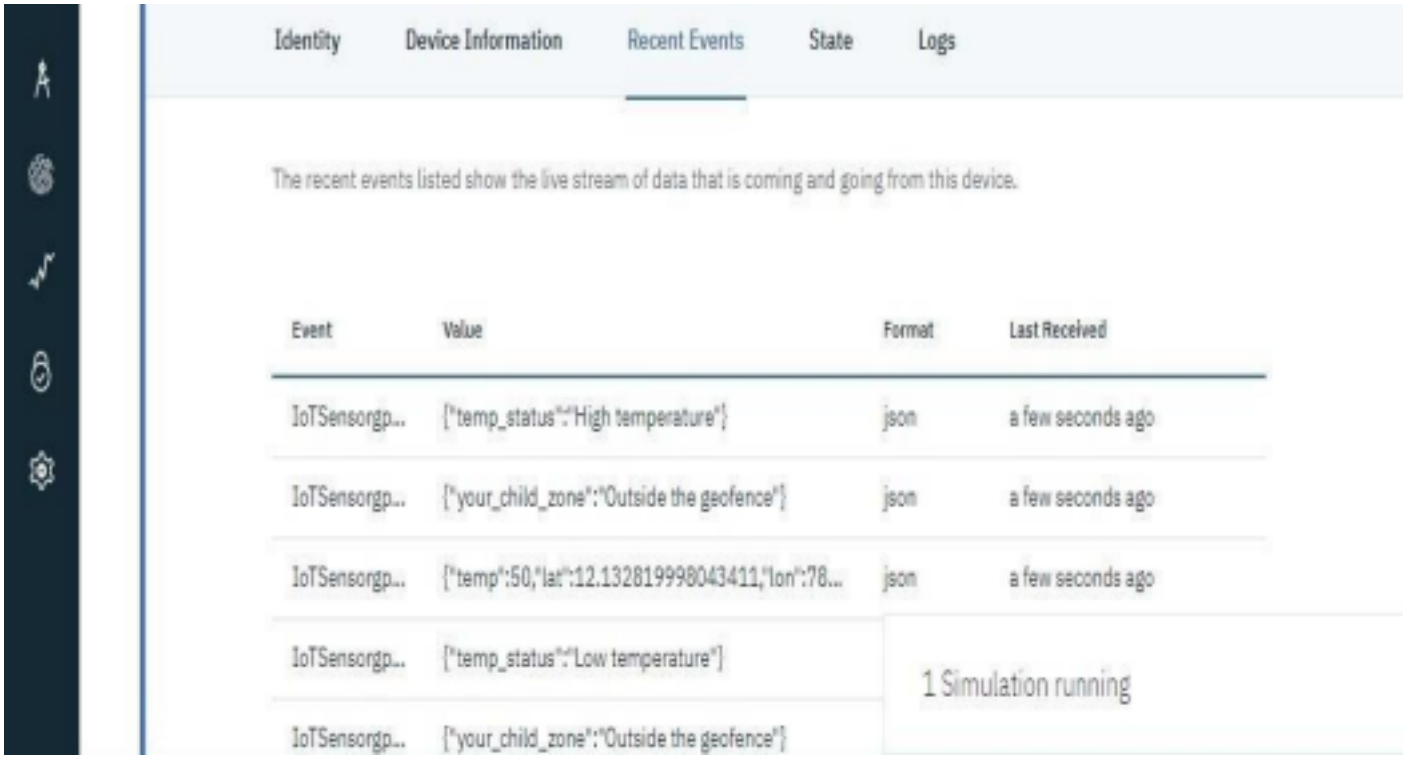
Utilization and Optimization of Python Code:

```
import timeimport
sys
import ibmiotf.applicationimport
ibmiotf.device import random
#Provide your IBM Watson Device Credentialsorganization = "zwx6lb"
deviceType = "ABCD" deviceId = "13"
authMethod = "token" authToken =
"12345678"
#api key {a-illza1-mbdxqo6z0s} #api token
{zSYzISuAWF&F_x7GkT}

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
print("power on ")
print("checking connection to waston iot...")time.sleep(2)
deviceCli.connect()
print("dear user ... welcome to IBM-IOT ")
print("i can provide your children live location and temperature ")print()
name=str(input("enter your child name:"))while True:
    temperature=random.randint(20,50)#random temperature for your child latitude=random.uniform(10.781377,10.78643)#random  latitude
    for your child longitude=random.uniform(79.129113,79.134014)#random longitude for your childa="Child inside the geofence" b=" Child
    outside the geofence"c="High
    temperature"
    d="Low temperature"
    x={'your_child_Zone':a}
    y={'your_child_Zone':b}
```

```
        z={'temp_condition':c}
        w={'temp_condition':d}

        data = { 'temp' : temperature, 'lat': latitude,'lon':longitude,'name':name }#print data

        def myOnPublishCallback():

            print ("Published Temperature = %s C" % temperature, "latitude = %s %%" % latitude,"longitude = %s %%" % longitude, "to IBM Watson")

            print("\n")

        success = deviceCli.publishEvent("IoTSensorgpsdata", "json", data, qos=0,on_publish=myOnPublishCallback)


        if latitude>=10.78200 and latitude<=10.786000 and longitude >=79.130000 and longitude
<=79.133000:
deviceCli.publishEvent("IoTSensorgpsdata","json",data=x,qos=0,on_publish=myOnPublishCallb ack)

            print(x) print("\n")
        else:


deviceCli.publishEvent("IoTSensorgpsdata","json",data=y,qos=0,on_publish=myOnPublishCallb ack)

            print(y) print("\n")


        if (temperature>35):


deviceCli.publishEvent("IoTSensorgpsdata","json",data=z,qos=0,on_publish=myOnPublishCallb ack)

                print(c) print("\n")
        else:

        deviceCli.publishEvent("IoTSensorgpsdata","json",data=w,qos=0,on_publish=myOnPublishCall back)

                print(d) print("\n")

        if not success:

            print("Not connected to IoTF")print("\n")
        time.sleep(3)

# Disconnect the device and application from the clouddeviceCli.disconnect()
```

Connecting IBM Watson and python Code Debugging and Traceability:


"Python 3.7.4 Shell"
File Edit Shell Debug Options Window Help
check wheather your child is Inside the geofence or Outside geofence
{'your_child_zone': 'Outside the geofence'}
{'temp_status': 'High temperature'}
Published Temperature = 43 C latitude = 12.130 longitude = 78.198 to IBM Watson
check wheather your child is Inside the geofence or Outside geofence
{'your_child_zone': 'Outside the geofence'}
{'temp_status': 'High temperature'}
Published Temperature = 39 C latitude = 12.131 longitude = 78.196 to IBM Watson
check wheather your child is Inside the geofence or Outside geofence
{'your_child_zone': 'Outside the geofence'}
{'temp_status': 'High temperature'}
Published Temperature = 36 C latitude = 12.130 longitude = 78.197 to IBM Watson
check wheather your child is Inside the geofence or Outside geofence
{'your_child_zone': 'Inside the geofence'}
{'temp_status': 'High temperature'}


Identity
Device Information
Recent Events
State
Logs
The recent events listed show the live stream of data that is coming and going from this device.
Event
Value
Format
Last Received
IoTSensorgp...
{"temp_status":"High temperature"}
json
a few seconds ago
IoTSensorgp...
{"your_child_zone":"Outside the geofence"}
json
a few seconds ago
IoTSensorgp...
{"temp":50,"lat":12.132819998043411,"lon":78...
json
a few seconds ago
IoTSensorgp...
{"temp_status":"Low temperature"}
IoTSensorgp...
{"your_child_zone":"Outside the geofence"}
1 Simulation running