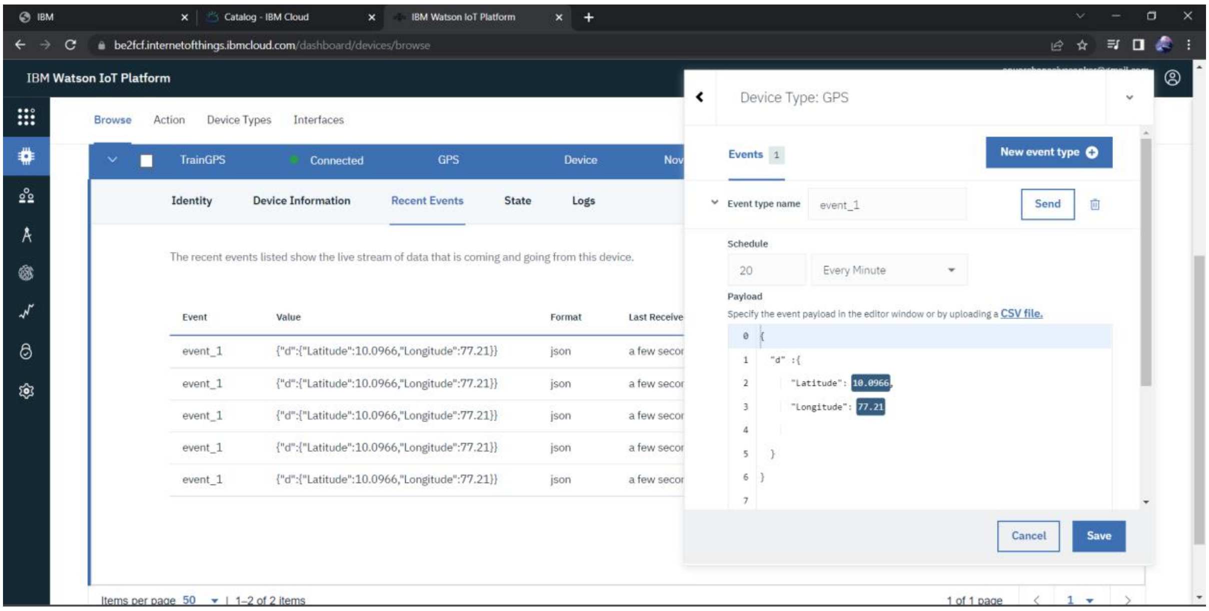
Sprint 3

PNT2022TMID06140 – Smart Solutions for Railways



TrainGPS Connected GPS Device

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Receive
event_1	{"d":{"Latitude":10.0966,"Longitude":77.21}}	json	a few secor
event_1	{"d":{"Latitude":10.0966,"Longitude":77.21}}	json	a few secor
event_1	{"d":{"Latitude":10.0966,"Longitude":77.21}}	json	a few secor
event_1	{"d":{"Latitude":10.0966,"Longitude":77.21}}	json	a few secor
event_1	{"d":{"Latitude":10.0966,"Longitude":77.21}}	json	a few secor

Event type name: event_1

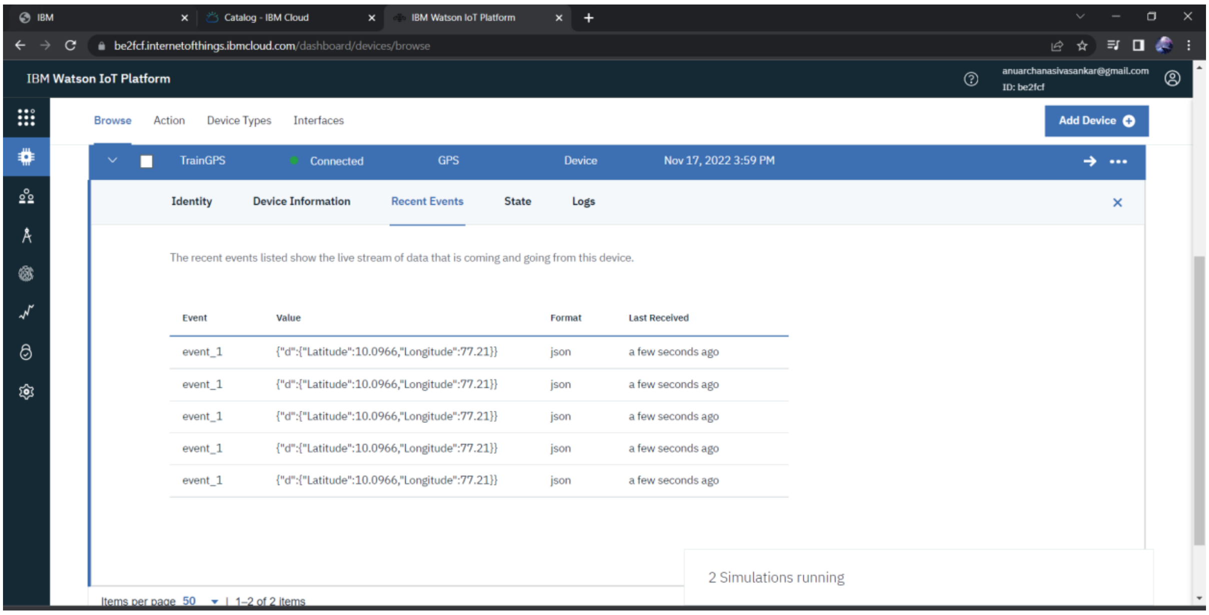
Schedule: 20 Every Minute

Payload

Specify the event payload in the editor window or by uploading a CSV file.

```
{
  "d" :{
     "Latitude": 10.0966,
     "Longitude": 77.21

  }
}
```



TrainGPS Connected GPS Device Nov 17, 2022 3:59 PM

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1	{"d":{"Latitude":10.0966,"Longitude":77.21}}	json	a few seconds ago
event_1	{"d":{"Latitude":10.0966,"Longitude":77.21}}	json	a few seconds ago
event_1	{"d":{"Latitude":10.0966,"Longitude":77.21}}	json	a few seconds ago
event_1	{"d":{"Latitude":10.0966,"Longitude":77.21}}	json	a few seconds ago
event_1	{"d":{"Latitude":10.0966,"Longitude":77.21}}	json	a few seconds ago

2 Simulations running

Code:

```
import time
import sys

import ibmiotf.application

import ibmiotf.device

import random

import requests

import json


#Provide your IBM Watson Device Credentials

organization = "be2fcf"

deviceType = "GPS"        #Credentials of Watson IoT sensor simulator

deviceId = "TrainGPS"

authMethod = "token"

authToken = "pa2tTjP1b3VRKFFP7R"




# Initialize the device client.

L=0


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:
    overpass_url = "http://overpass-api.de/api/interpreter"
    overpass_query = """
    [out:json];area[name="India"];(node[place="village"](area););out;
    """

    response = requests.get(
    overpass_url,
    params={'data': overpass_query}
    )

    coords = []
    if response.status_code == 200:
        data = response.json()
        places = data.get('elements', [])
        for place in places:
            coords.append((place['lat'], place['lon']))
        print ("Got %s village coordinates!" % len(coords))
        print (coords[0])
    else:
        print("Error")

    i = random.randint(1,100)
    L = coords[i]
    #Send random gprs data to node-red to IBM Watson
    data = {"d":{ 'Latitude' : L[0], 'Longitude' : L[1]}}
    #print data
    def myOnPublishCallback():
        print("Published gprs location = ", L, "to IBM Watson")

    success = deviceCli.publishEvent("Data", "json", data, qos=0, on_publish=myOnPublishCallback)
    time.sleep(12)
    if not success:
        print("Not connected to IoTF")
    time.sleep(1)

deviceCli.disconnect()
```