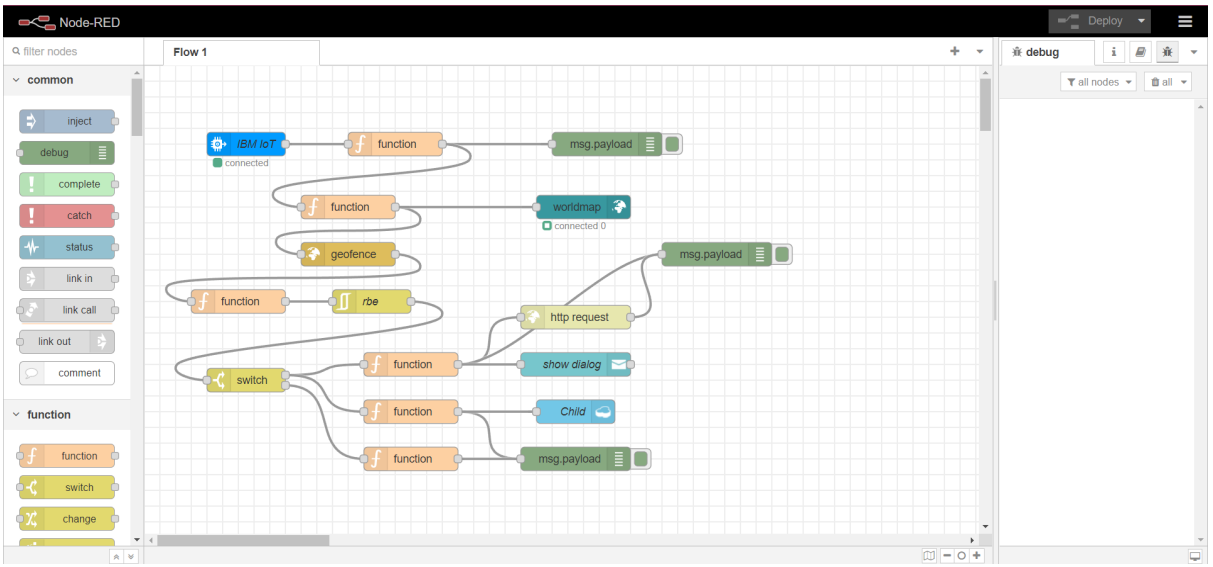
Project Development – Delivery plan sprint-3

IoT Based Safety Gadget for Child Safety Monitoring & Notification

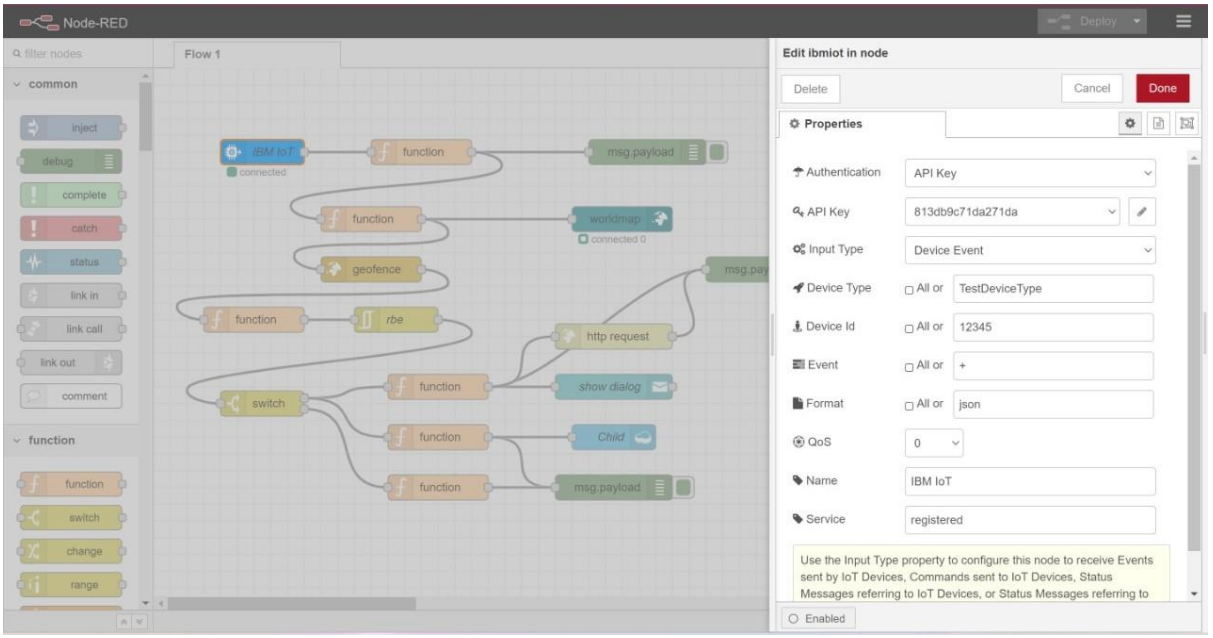
TEAM ID:PNT2022TMID27117

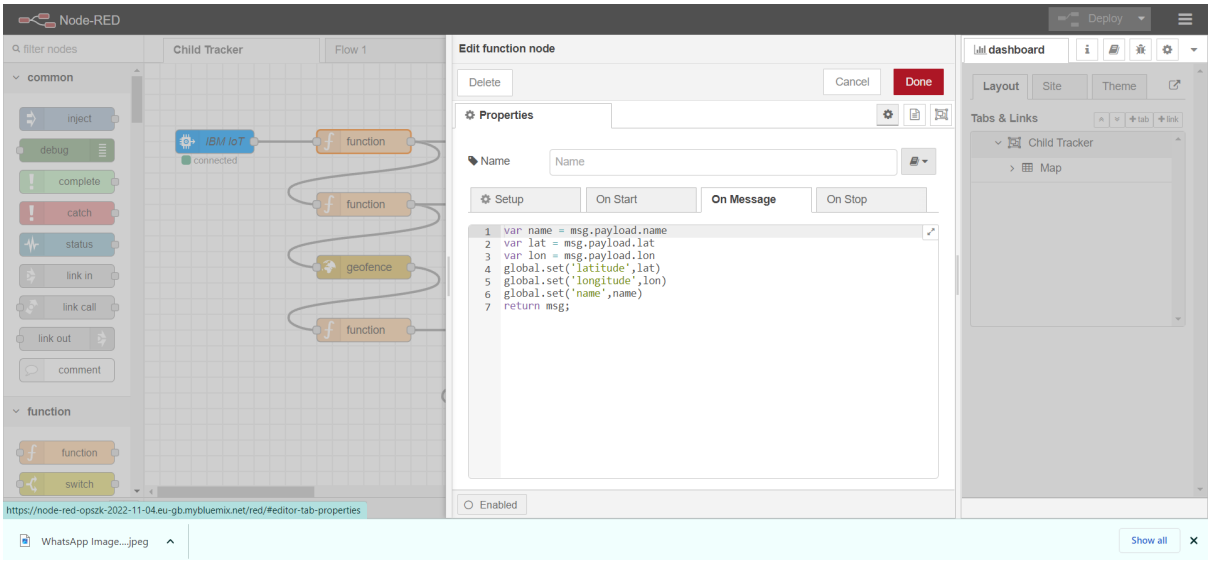
Creating Node-Red service and connecting with IBM cloud

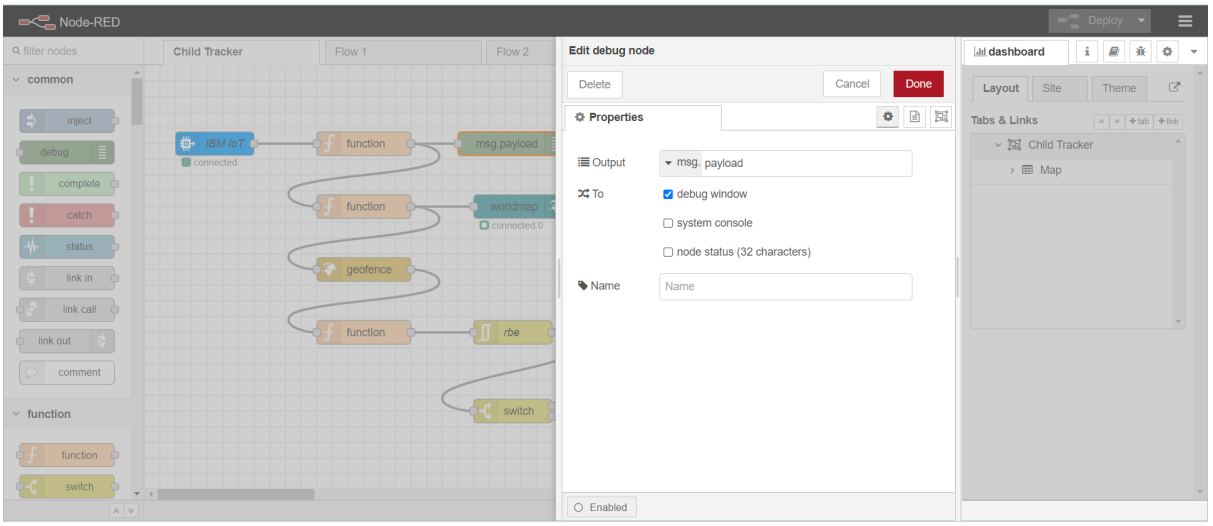
Creating Node-Red service:

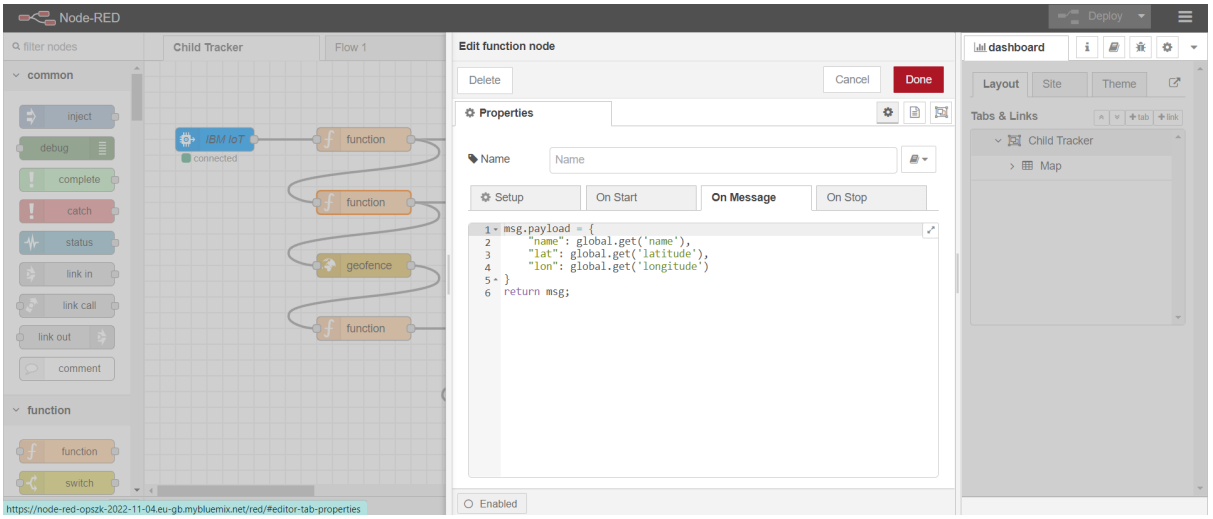


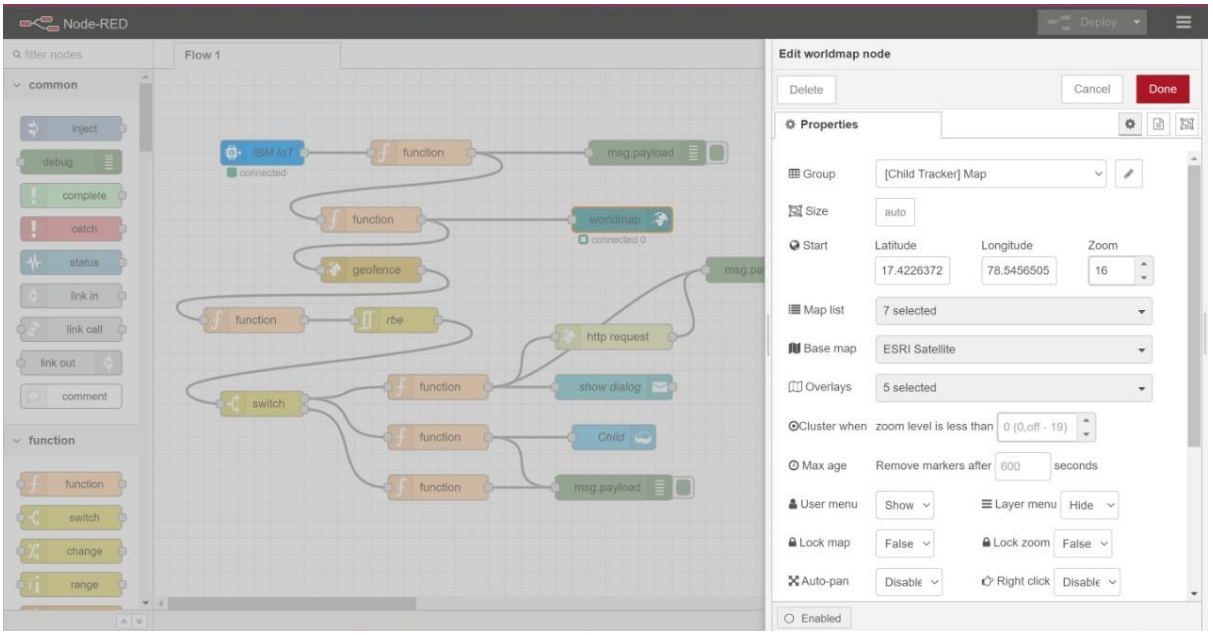
Codes in each Node:

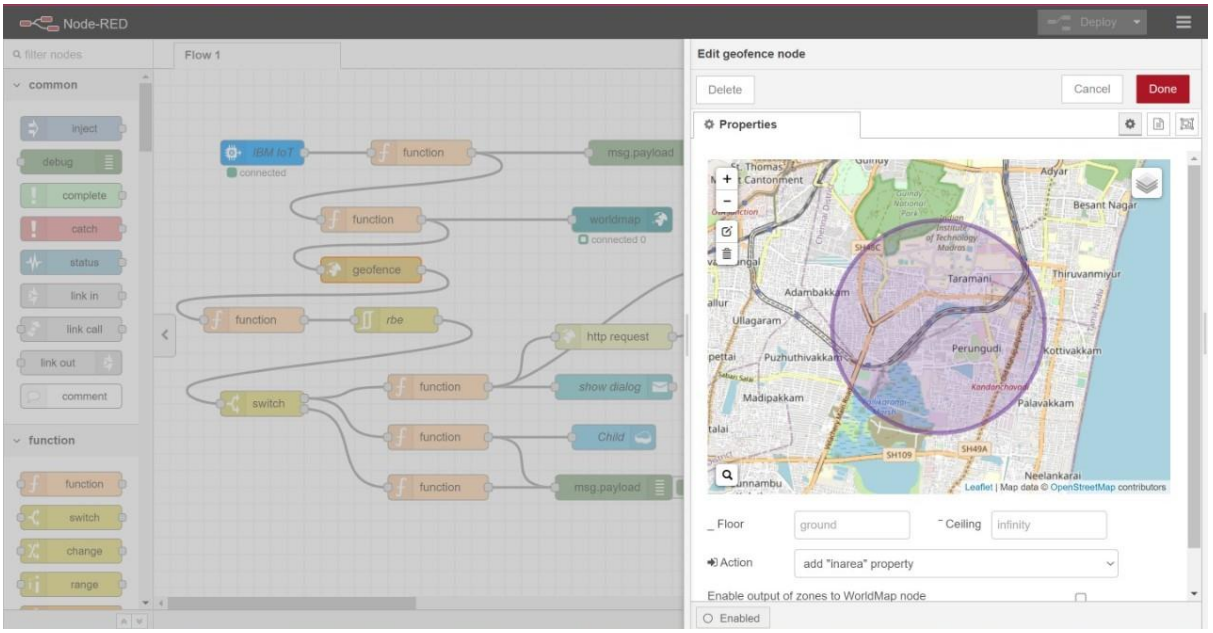


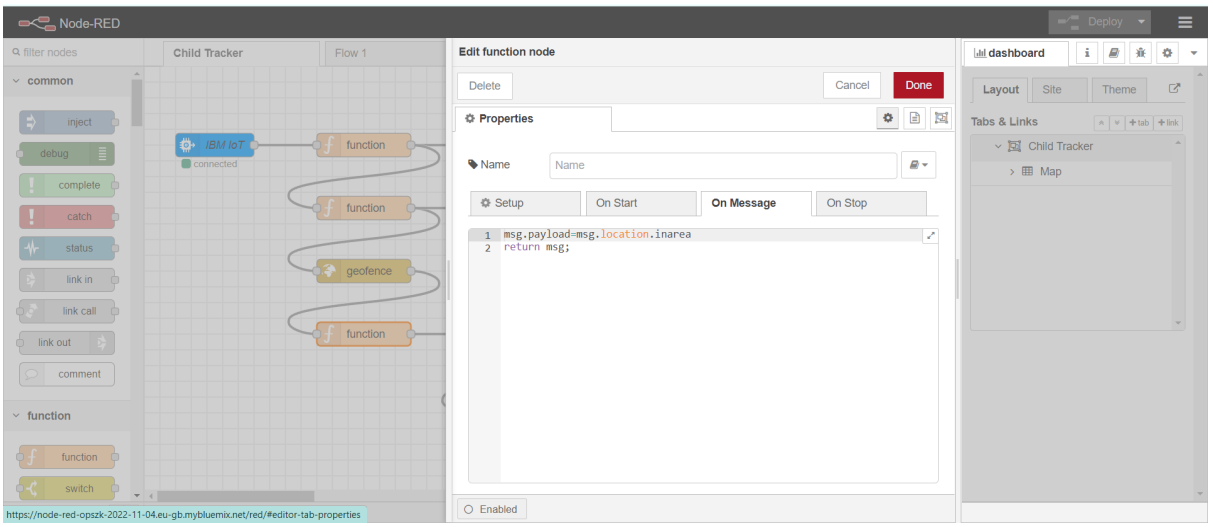

Node-RED
Deploy
filter nodes
Child Tracker
Flow 1
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
IBM IoT
connected
function
function
geofence
function
Edit function node
Delete
Cancel
Done
Properties
Name
Name
Setup
On Start
On Message
On Stop
1 var name = msg.payload.name
2 var lat = msg.payload.lat
3 var lon = msg.payload.lon
4 global.set('latitude',lat)
5 global.set('longitude',lon)
6 global.set('name',name)
7 return msg;
Enabled
dashboard
Layout
Site
Theme
Tabs & Links
Child Tracker
Map
https://node-red-opszk-2022-11-04.eu-gb.mybluemix.net/red/#editor-tab-properties
WhatsApp Image....jpeg
Show all

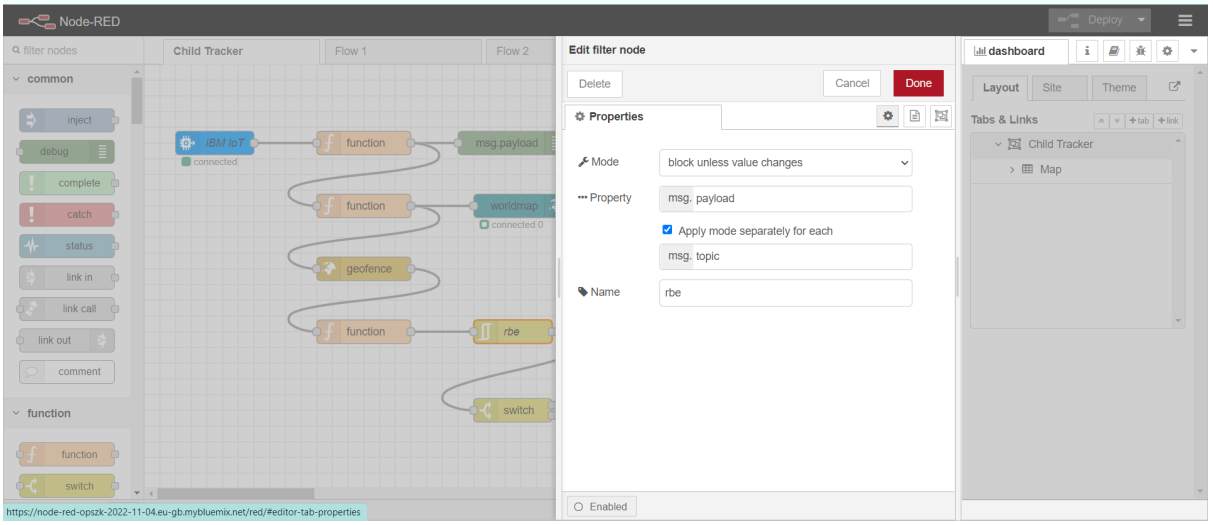

Node-RED
Deploy
filter nodes
Child Tracker
Flow 1
Flow 2
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
IBM IoT
connected
function
function
geofence
function
msg.payload
worldmap
connected 0
rbe
switch
Edit debug node
Delete
Cancel
Done
Properties
Output
msg. payload
To
debug window
system console
node status (32 characters)
Name
Name
Enabled
dashboard
Layout
Site
Theme
Tabs & Links
Child Tracker
Map

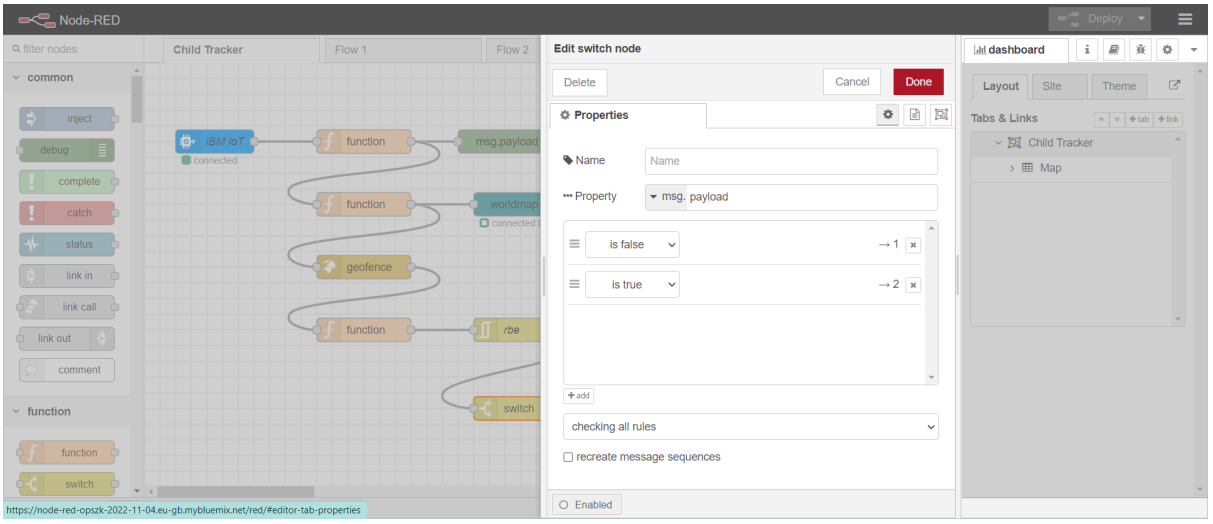

Node-RED
Deploy
filter nodes
Child Tracker
Flow 1
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
IBM IoT
connected
function
function
geofence
function
Edit function node
Delete
Cancel
Done
Properties
Name
Name
Setup
On Start
On Message
On Stop
1 msg.payload = {
2 "name": global.get('name'),
3 "lat": global.get('latitude'),
4 "lon": global.get('longitude')
5 }
6 return msg;
Enabled
dashboard
Layout
Site
Theme
Tabs & Links
Child Tracker
Map
https://node-red-opszk-2022-11-04.eu-gb.mybluemix.net/red/#editor-tab-properties

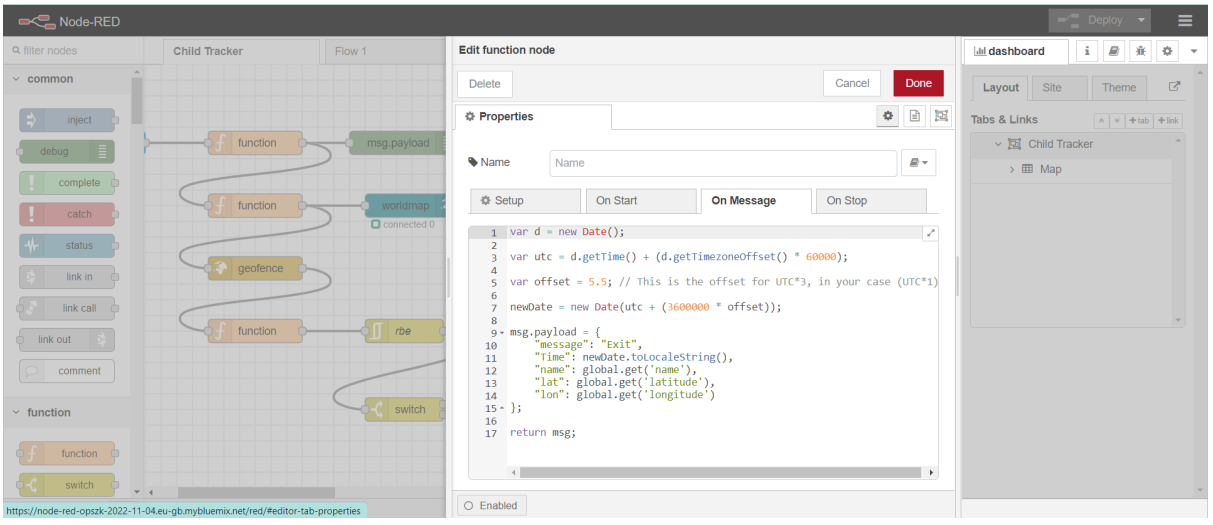

Node-RED
Deploy
Flow 1
Edit worldmap node
Delete
Cancel
Done
Properties
Group
[Child Tracker] Map
Size
auto
Start
Latitude
Longitude
Zoom
17.4226372
78.5456505
16
Map list
7 selected
Base map
ESRI Satellite
Overlays
5 selected
Cluster when
zoom level is less than
0 (0,off - 19)
Max age
Remove markers after
600
seconds
User menu
Show
Layer menu
Hide
Lock map
False
Lock zoom
False
Auto-pan
Disable
Right click
Disable
Enabled
IBM IoT
connected
function
msg.payload
worldmap
connected 0
geofence
rbe
http request
switch
show dialog
Child
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
change
range

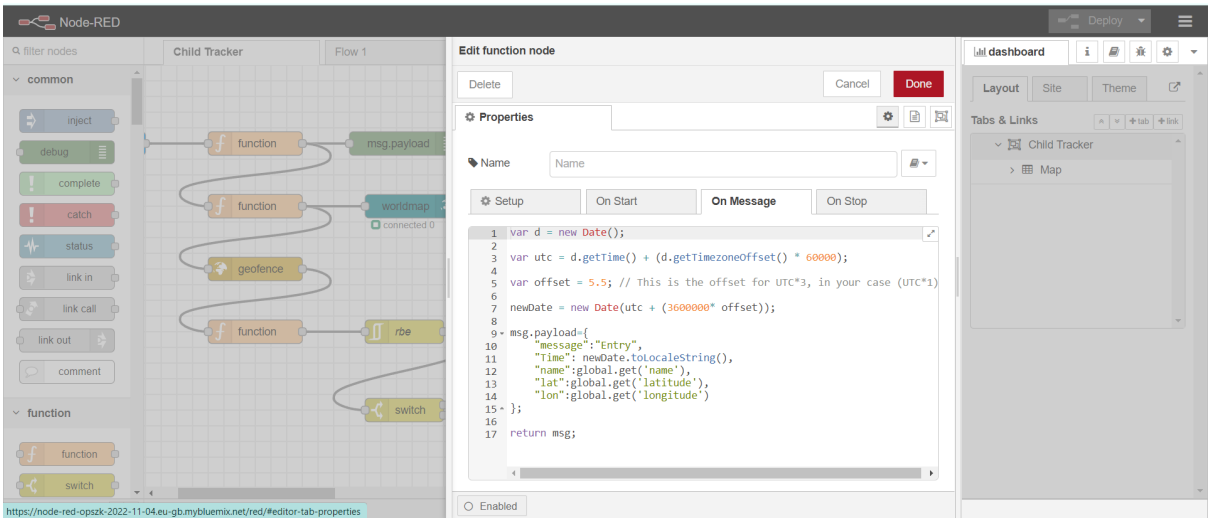

Node-RED
Deploy
Flow 1
Edit geofence node
Delete
Cancel
Done
Properties
Floor
ground
Ceiling
infinity
Action
add "inarea" property
Enable output of zones to WorldMap node
Enabled
Leaflet | Map data © OpenStreetMap contributors
Adyar
Besant Nagar
Taramani
Thiruvanmiyur
Adambakkam
Ullagaram
Perungudi
Kottivakkam
Puzhuthivakkam
Madipakkam
Pallavakkam
Neelankarai
IBM IoT
connected
function
msg.payload
worldmap
connected 0
geofence
rbe
http request
switch
show dialog
Child
common
function

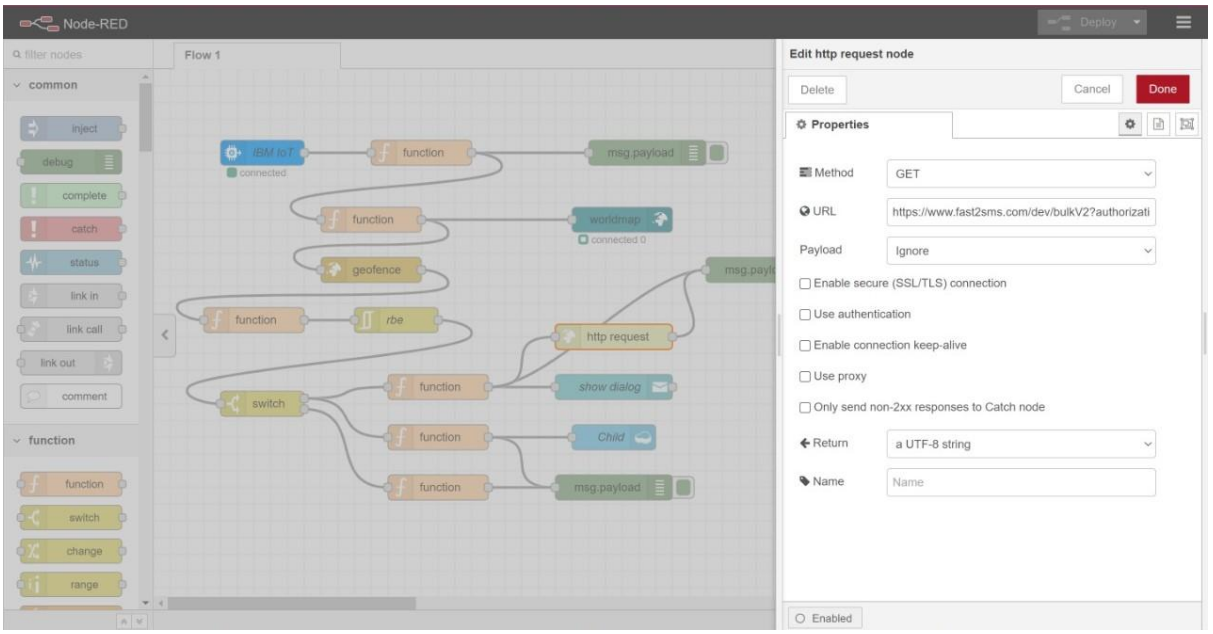

Node-RED
Deploy
Child Tracker
Flow 1
Edit function node
Delete
Cancel
Done
Properties
Name
Name
Setup
On Start
On Message
On Stop
1 msg.payload=msg.location.inarea
2 return msg;
Enabled
dashboard
Layout
Site
Theme
Tabs & Links
Child Tracker
Map
https://node-red-opszk-2022-11-04.eu-gb.mybluemix.net/red/#editor-tab-properties
IBM IoT
connected
function
geofence
common
function

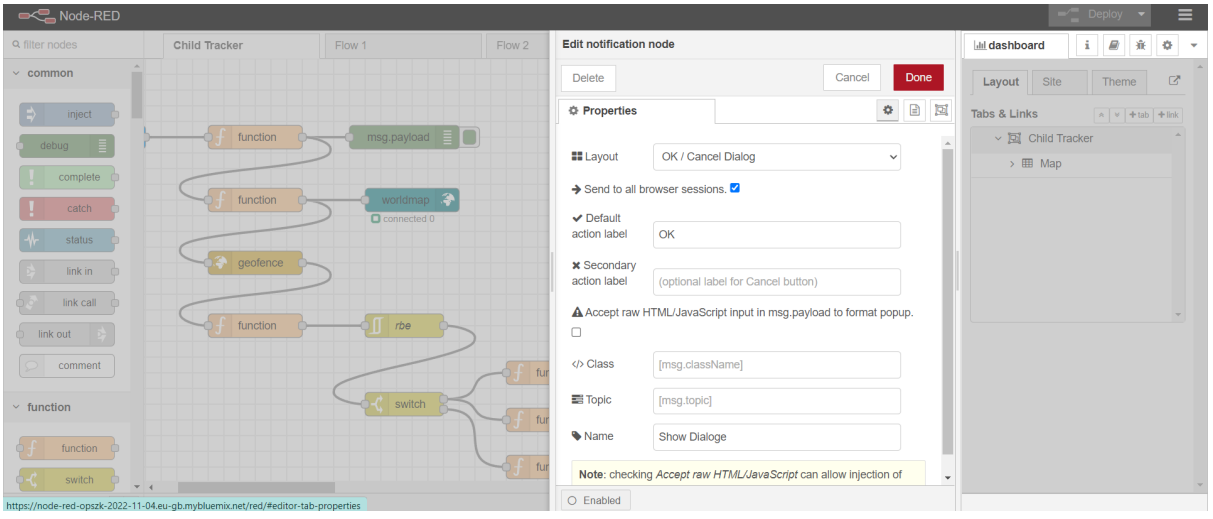

Node-RED
Deploy
filter nodes
Child Tracker
Flow 1
Flow 2
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
IBM IoT
connected
function
msg.payload
function
worldmap
connected 0
geofence
function
rbe
switch
Edit filter node
Delete
Cancel
Done
Properties
Mode
block unless value changes
Property
msg. payload
Apply mode separately for each
msg. topic
Name
rbe
Enabled
dashboard
Layout
Site
Theme
Tabs & Links
Child Tracker
Map
https://node-red-opszk-2022-11-04.eu-gb.mybluemix.net/red/#editor-tab-properties

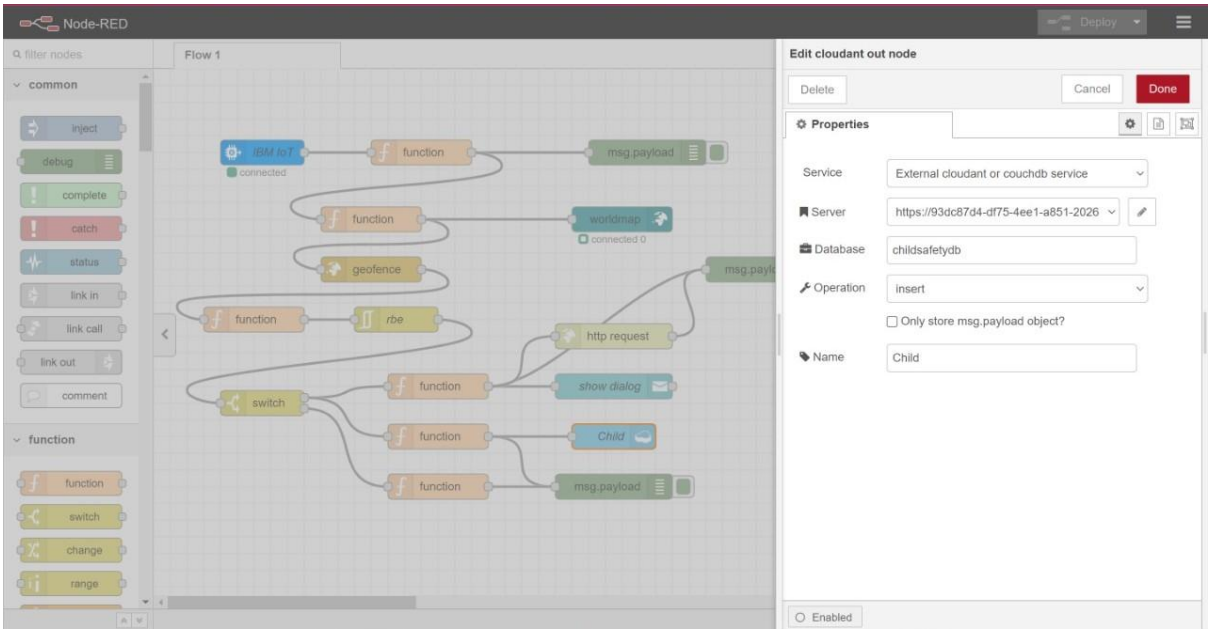

Node-RED
Deploy
filter nodes
Child Tracker
Flow 1
Flow 2
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
IBM IoT
connected
function
msg.payload
function
worldmap
geofence
function
rbe
switch
Edit switch node
Delete
Cancel
Done
Properties
Name
Name
Property
msg. payload
is false
→ 1
is true
→ 2
add
checking all rules
recreate message sequences
Enabled
dashboard
Layout
Site
Theme
Tabs & Links
Child Tracker
Map
https://node-red-opszk-2022-11-04.eu-gb.mybluemix.net/red/#editor-tab-properties


Node-RED
Deploy
filter nodes
Child Tracker
Flow 1
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
function
msg.payload
function
worldmap
connected 0
geofence
function
rbe
switch
Edit function node
Delete
Cancel
Done
Properties
Name
Name
Setup
On Start
On Message
On Stop
var d = new Date();
var utc = d.getTime() + (d.getTimezoneOffset() * 60000);
var offset = 5.5; // This is the offset for UTC*3, in your case (UTC*1)
newDate = new Date(utc + (3600000 * offset));
msg.payload = {
"message": "Exit",
"Time": newDate.toLocaleString(),
"name": global.get('name'),
"lat": global.get('latitude'),
"lon": global.get('longitude')
};
return msg;
Enabled
dashboard
Layout
Site
Theme
Tabs & Links
Child Tracker
Map
https://node-red-opszk-2022-11-04.eu-gb.mybluemix.net/red/#editor-tab-properties

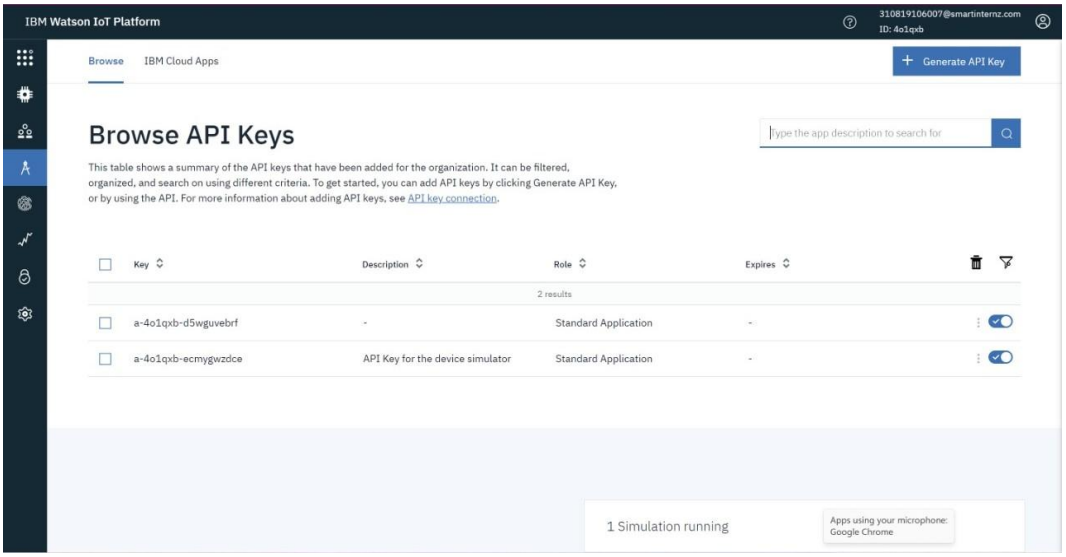

Node-RED
Deploy
filter nodes
Child Tracker
Flow 1
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
function
msg.payload
function
worldmap
connected 0
geofence
function
rbe
switch
Edit function node
Delete
Cancel
Done
Properties
Name
Name
Setup
On Start
On Message
On Stop
1 var d = new Date();
2
3 var utc = d.getTime() + (d.getTimezoneOffset() * 60000);
4
5 var offset = 5.5; // This is the offset for UTC*3, in your case (UTC*1)
6
7 newDate = new Date(utc + (3600000* offset));
8
9 msg.payload={
10 "message":"Entry",
11 "Time": newDate.toLocaleString(),
12 "name":global.get('name'),
13 "lat":global.get('latitude'),
14 "lon":global.get('longitude')
15 };
16
17 return msg;
Enabled
dashboard
Layout
Site
Theme
Tabs & Links
Child Tracker
Map
https://node-red-opszk-2022-11-04.eu-gb.mybluemix.net/red/#editor-tab-properties

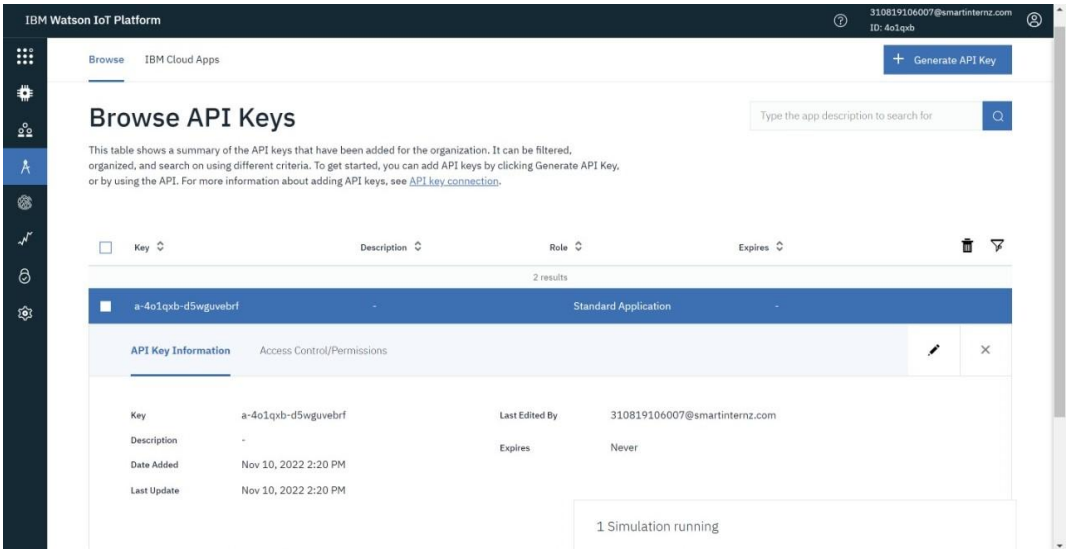

Node-RED
Deploy
filter nodes
Flow 1
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
change
range
IBM IoT
connected
function
msg.payload
function
worldmap
connected 0
geofence
function
rbe
switch
function
function
function
http request
show dialog
Child
msg.payload
Edit http request node
Delete
Cancel
Done
Properties
Method
GET
URL
https://www.fast2sms.com/dev/bulkV2?authorizati
Payload
Ignore
Enable secure (SSL/TLS) connection
Use authentication
Enable connection keep-alive
Use proxy
Only send non-2xx responses to Catch node
Return
a UTF-8 string
Name
Name
Enabled


Node-RED
Deploy
filter nodes
Child Tracker
Flow 1
Flow 2
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
function
msg.payload
function
worldmap
connected 0
geofence
function
rbe
switch
Edit notification node
Delete
Cancel
Done
Properties
Layout
OK / Cancel Dialog
Send to all browser sessions.
Default action label
OK
Secondary action label
(optional label for Cancel button)
Accept raw HTML/JavaScript input in msg.payload to format popup.
Class
[msg.className]
Topic
[msg.topic]
Name
Show Dialoge
Note: checking Accept raw HTML/JavaScript can allow injection of
Enabled
dashboard
Layout
Site
Theme
Tabs & Links
Child Tracker
Map
https://node-red-opszk-2022-11-04.eu-gb.mybluemix.net/red/#editor-tab-properties

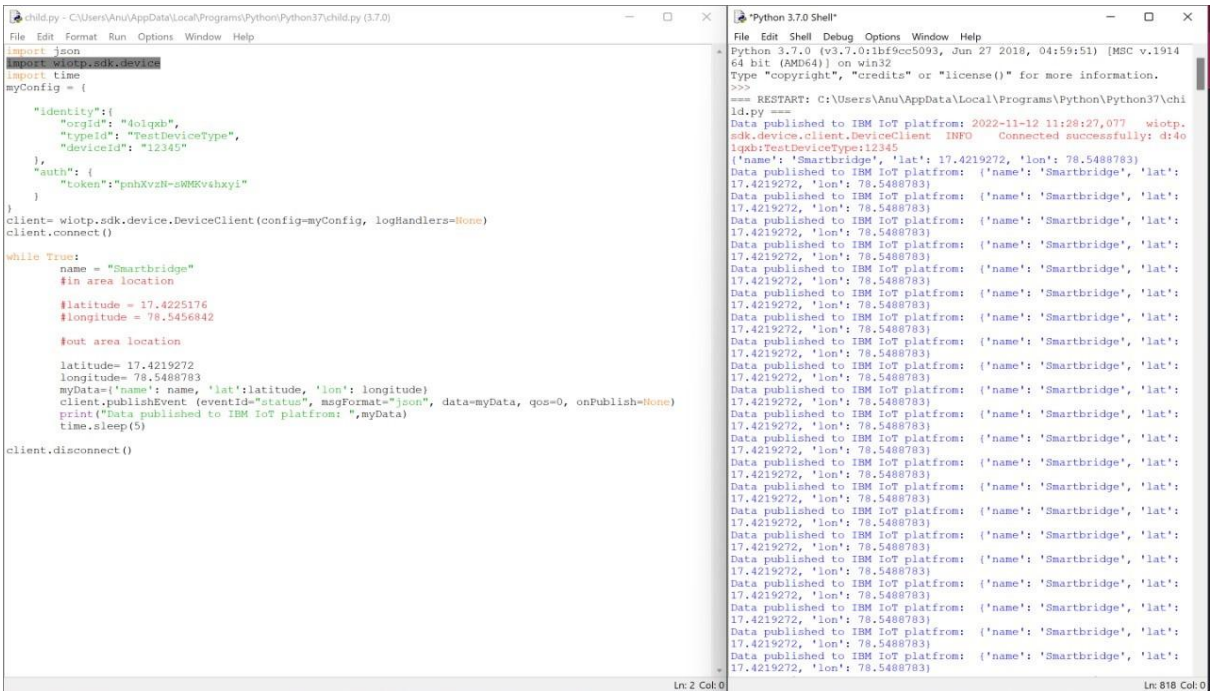


Connecting with IBM Cloud: Using IBM IOT node through the API key





Transferring values from Python Code:



```
import json
import wiotp.sdk.device
import time
myConfig = {

    "identity":{
        "orgId": "4o1qxb",
        "typeId": "TestDeviceType",
        "deviceId": "12345"
    },
    "auth": {
        "token":"pnhXvzN-sWMKv6hxyi"
    }
}
client= wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
        name = "Smartbridge"
        #in area location

        #latitude = 17.4225176
        #longitude = 78.5456842

        #out area location

        latitude= 17.4219272
        longitude= 78.5488783
        myData={'name': name, 'lat':latitude, 'lon': longitude}
        client.publishEvent (eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
        print("Data published to IBM IoT platfrom: ",myData)
        time.sleep(5)

client.disconnect()
```

```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914
64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:\Users\Anu\AppData\Local\Programs\Python\Python37\chi
ld.py ===
Data published to IBM IoT platfrom: 2022-11-12 11:20:27,077   wiotp.
sdk.device.client.DeviceClient  INFO    Connected successfully: d:4o
1qxb:TestDeviceType:12345
{'name': 'Smartbridge', 'lat': 17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
```

Node-Red: