GRT INSITITUTE OF ENGINEERING AND TECHNOLOGY –TIRUTTANI – 631209 Affiliated

IoT Based Safety Gadget For Child Safety Monitoring & Notification

Team Member

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AREA OF THE PROJECT

INTERNET OF THINGS(IOT)

OBJECTIVES

- Enables tracking of the child’s location and capturing of data remotely such as where the child located,distance,etc.
- To show the child’s actual data with reference values.
- Enables sending of notification if the child is out of location or when the device realizes abnormal conditions/situations.
- Develop a prototype of IoT wearable smart band connected to parent’s mobile apps so that they can monitor the actual condition of children at anytime and anyplace.

LITERATURE SURVEY

Author	Title	Proposed Methods	Journal, Year
David Hanes, Gonzalo, Patrick Grosetete, Robert, Barton, Jerome.	"IoT Fundamental and Networking Technologies, Protocols"	During an emergency, mobile apps alert the control room of nearby police stations or caretakers of children. The literature shows that location tracking devices are available in the market but it does not provide a complete solution to the problem. The solution to this problem is to design an IoT device, which senses the child's location and environment and during an emergency, it should send the alert to the parents automatically.	Cisco,2017
Aditi Gupta, Vibhor Harit.	Child Safety & Tracking Management System by using GPS.	This paper proposed a model for child safety through smartphones that provide the option to track the location of their children as well as in case of emergency children are able to send a quick message and its current location via Short Message Services. Merits: The advantages of smart phones they offer rich features like Google maps, GPS, SMS etc. Demerits: This system is unable to sense the human behaviour of children.	IEEE,2016
K. N. H. Srinivas, T. D. S. Sarveswara Rao, E. Kusuma Kumari.	Smart IoT Device for Child Safety and Tracking.	The system is developed using Link-It ONE board programmed in embedded C and interfaced with temperature, heartbeat, touch sensors and also GPS, GSM& digital camera modules. The novelty of the work is thatthe system automatically alerts the parent/caretaker by sending SMS when immediate attention is required for thechild during an emergency.	IEEE,2019

METHODOLOGY

- ✓ It focuses on the key aspect that a missing child can be assisted bythe people around the child and can play a remarkable role in the child’s safety until reunited with the parents.

- ✓ If any deviant readings are disclosed by the sensor, then an SMS andphone calls are set off to the parent's mobile. Also, it overhauls the parental app through the cloud.

- ✓ The technique is equipped with GSM and GPS modules for sendingand receiving calls, and SMS between the safety gadget and the parental phones.
- ✓ The system also consists of a Wi-Fi/cellular data module used to implement IoT and send all the monitored parameters to the cloudfor android app monitoring on the parental phones.
- ✓ The panic alert system is used during panic situations alerts are sentto the parental phone, seeking help also the alert parameters are updated to the cloud. Most of the wearables available today are focused on providing the location, and activity of the child to the parents.

METHODOLOGY

HARDWARE REQUIREMENTS:

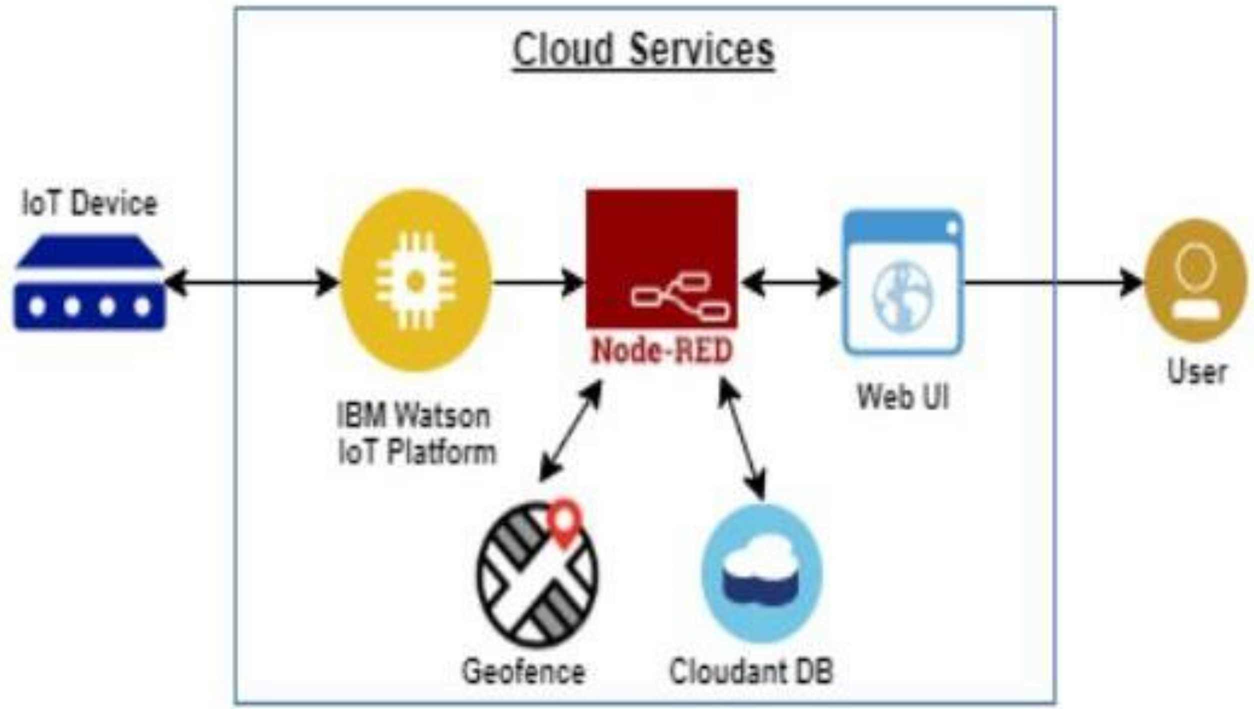
IoT deviceGSM
Mobile(Notification)GPS

SOFTWARE REQUIREMENTS:

IBM Cloud

IBM IoT PlatformIBM Node
red IBM Cloudant DB

PROPOSED BLOCK DIAGRAM/TECHNICAL ARCHITECTURE



SIMULATION AND RESULTS

IBM WATSON IOT PLATFORM

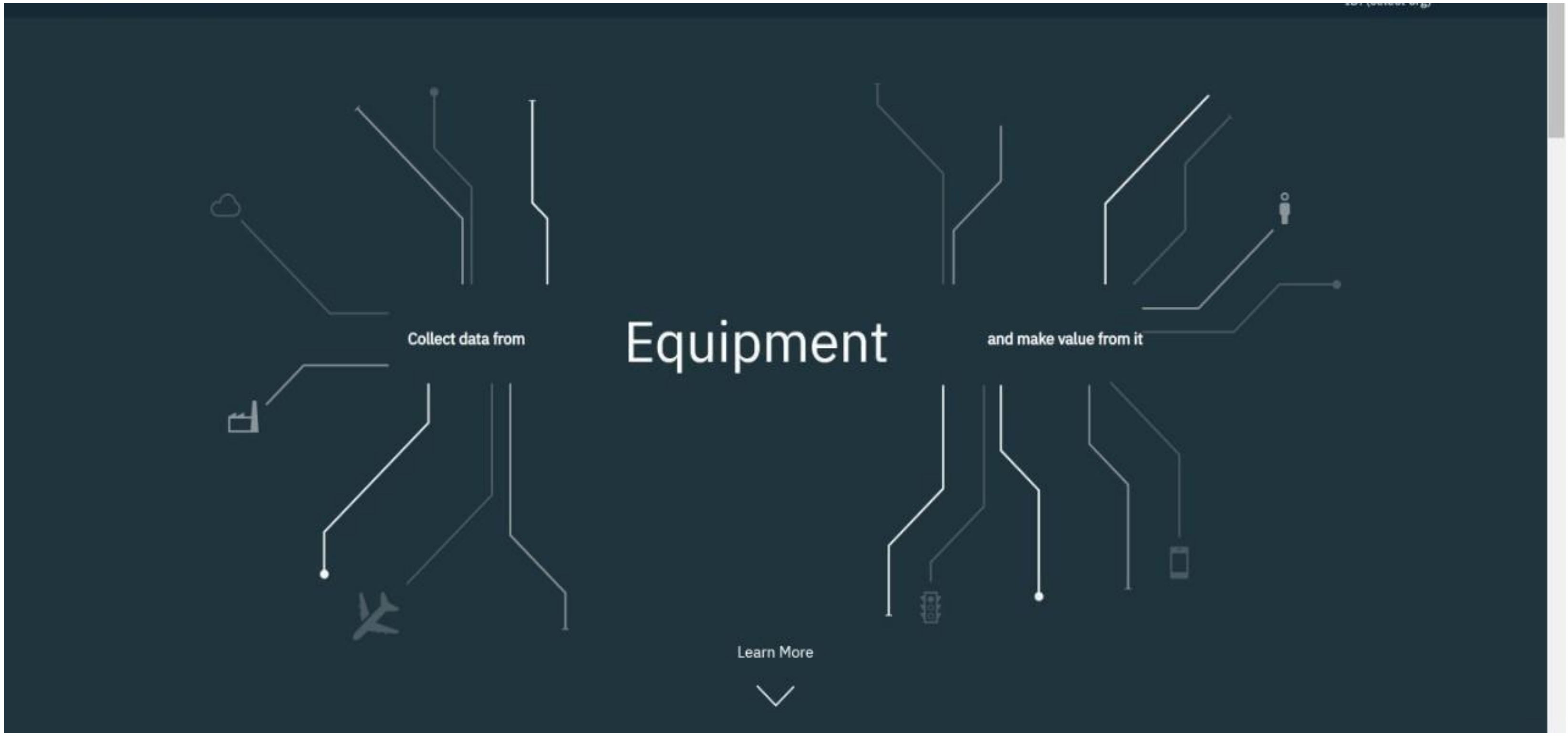
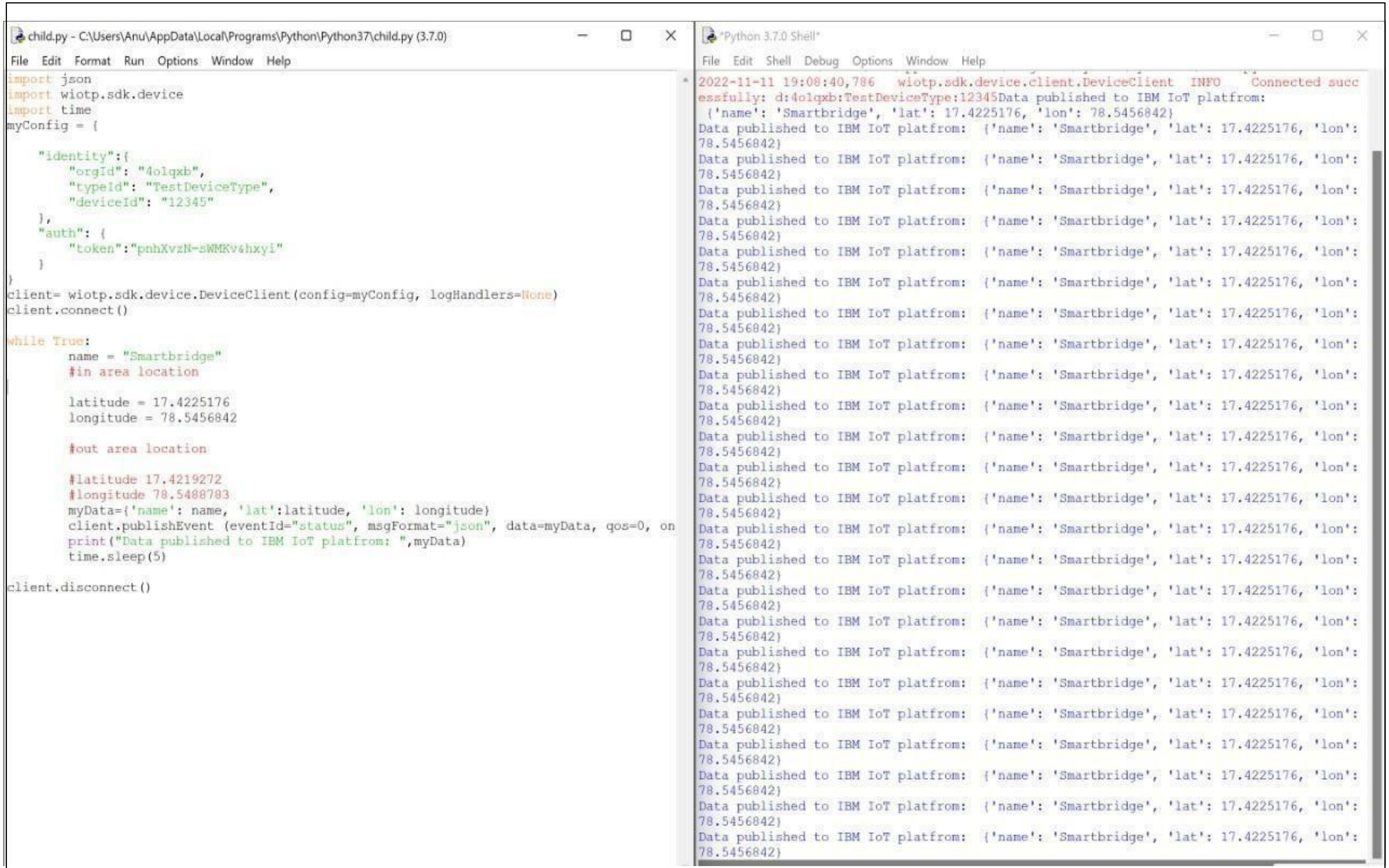


Fig.1,Creating IBM Cloud Service and creating the device

Creating Python Code:

```
import json
import wiotp.sdk.device
import time
import random
myConfig = {
"identity":{"orgId": "4o1qxb",
"typeId": "TestDeviceType",
"deviceId": "12345"},
"auth": {"token":"pnhXvzN-
sWMKv&hxyi"} }
client = wiotp.sdk.device.DeviceClient
(config=myConfig, logHandlers=None)
client.connect()
```

```
while True:
name= "Smartbridge"#in
area location latitude=
17.4225176
longitude= 78.5458842#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()
```



child.py - C:\Users\Anu\AppData\Local\Programs\Python\Python37\child.py (3.7.0)
File Edit Format Run Options Window Help
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help

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

    "identity":{
        "orgId": "4o1qxb",
        "typeId": "TestDeviceType",
        "deviceId": "12345"
    },
    "auth": {
        "token":"pnhXvzN-sWMKv&hxyi"
    }
}
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, on
        print("Data published to IBM IoT platfrom: ",myData)
        time.sleep(5)

client.disconnect()
```

```
2022-11-11 19:08:40,786   wiotp.sdk.device.client.DeviceClient  INFO    Connected succ
essfully: d:4o1qxb:TestDeviceType:12345Data published to IBM IoT platfrom:
 {'name': 'Smartbridge', 'lat': 17.4225176, 'lon': 78.5456842}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat': 17.4225176, 'lon':
78.5456842}
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Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat': 17.4225176, 'lon':
78.5456842}
```
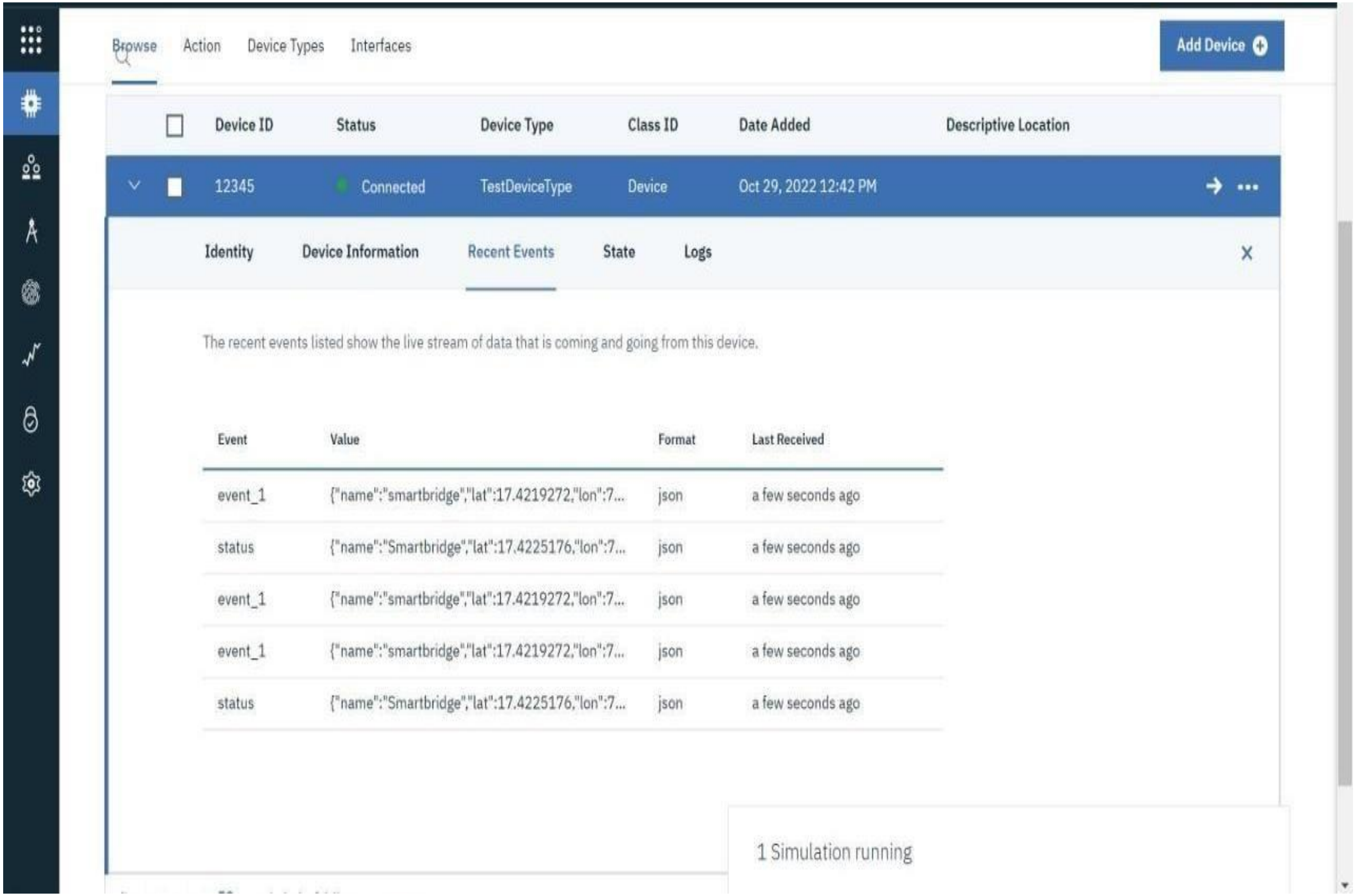

Fig.2,In-Area Location

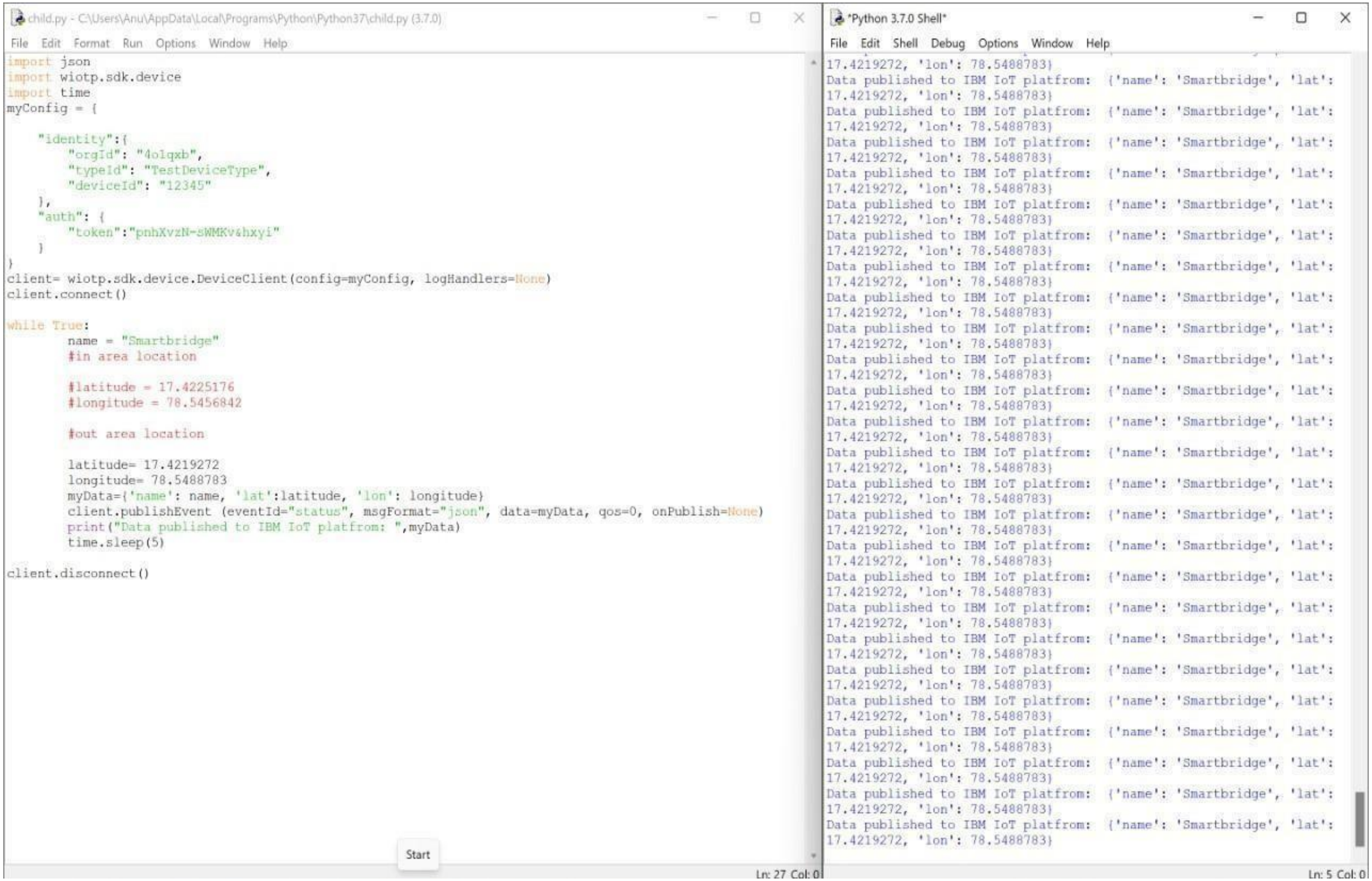


	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
□	12345	● Connected	TestDeviceType	Device	Oct 29, 2022 12:42 PM	

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	{"name":"smartbridge","lat":17.4219272,"lon":7...	json	a few seconds ago
status	{"name":"Smartbridge","lat":17.4225176,"lon":7...	json	a few seconds ago
event_1	{"name":"smartbridge","lat":17.4219272,"lon":7...	json	a few seconds ago
event_1	{"name":"smartbridge","lat":17.4219272,"lon":7...	json	a few seconds ago
status	{"name":"Smartbridge","lat":17.4225176,"lon":7...	json	a few seconds ago

1 Simulation running


child.py - C:\Users\Anu\AppData\Local\Programs\Python\Python37\child.py (3.7.0)
File Edit Format Run Options Window Help
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Start
Ln: 27 Col: 0
Ln: 5 Col: 0

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

    "identity":{
        "orgId": "4o1qxb",
        "typeId": "TestDeviceType",
        "deviceId": "12345"
    },
    "auth": {
        "token":"pnhXvzN-sWMKv&hxyi"
    }
}
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()
```

```
17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
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Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
```
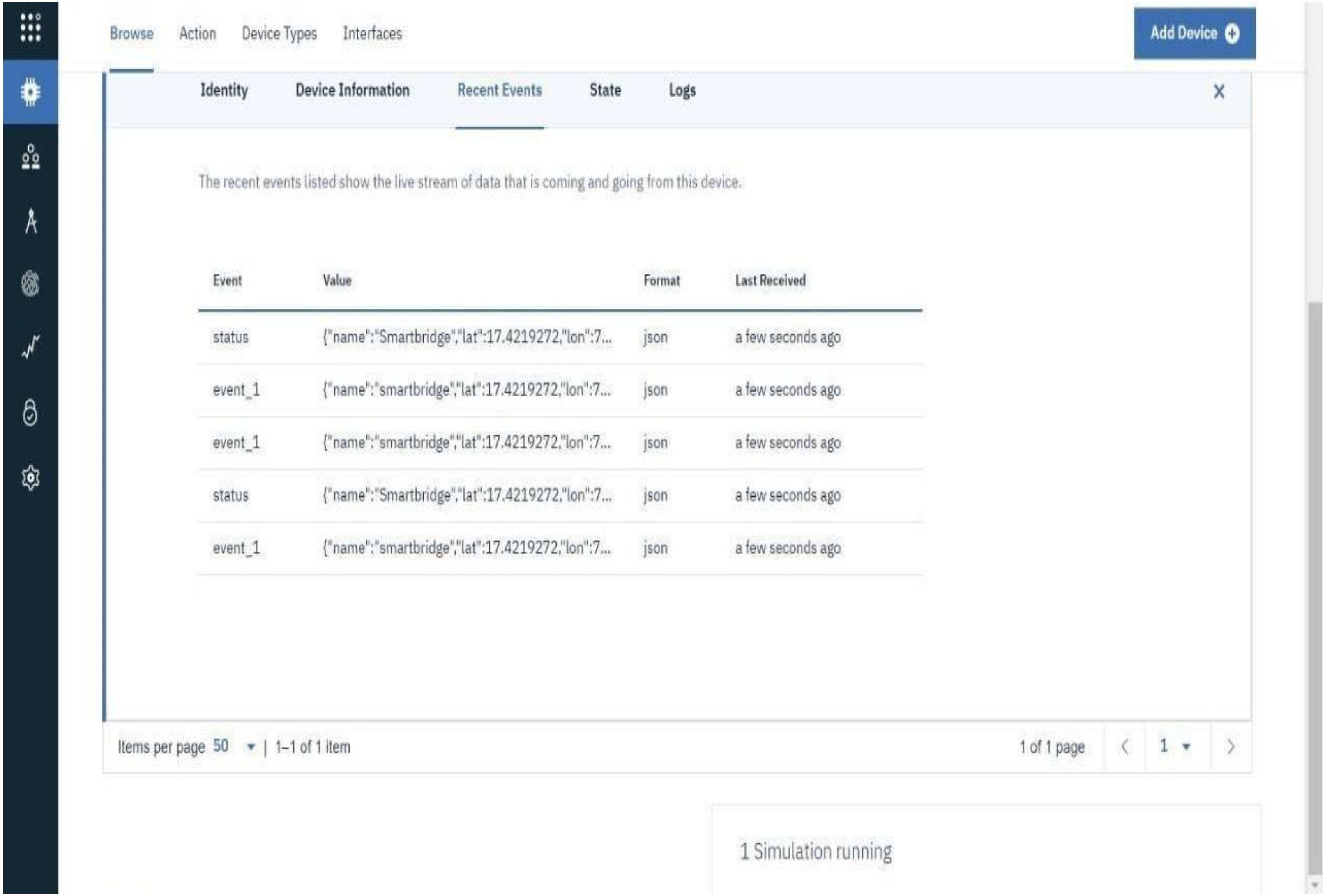

Fig.3, Out-Area Location



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

Event	Value	Format	Last Received
status	{"name":"Smartbridge","lat":17.4219272,"lon":7...	json	a few seconds ago
event_1	{"name":"smartbridge","lat":17.4219272,"lon":7...	json	a few seconds ago
event_1	{"name":"smartbridge","lat":17.4219272,"lon":7...	json	a few seconds ago
status	{"name":"Smartbridge","lat":17.4219272,"lon":7...	json	a few seconds ago
event_1	{"name":"smartbridge","lat":17.4219272,"lon":7...	json	a few seconds ago

1 Simulation running

NODE-RED SERVICE

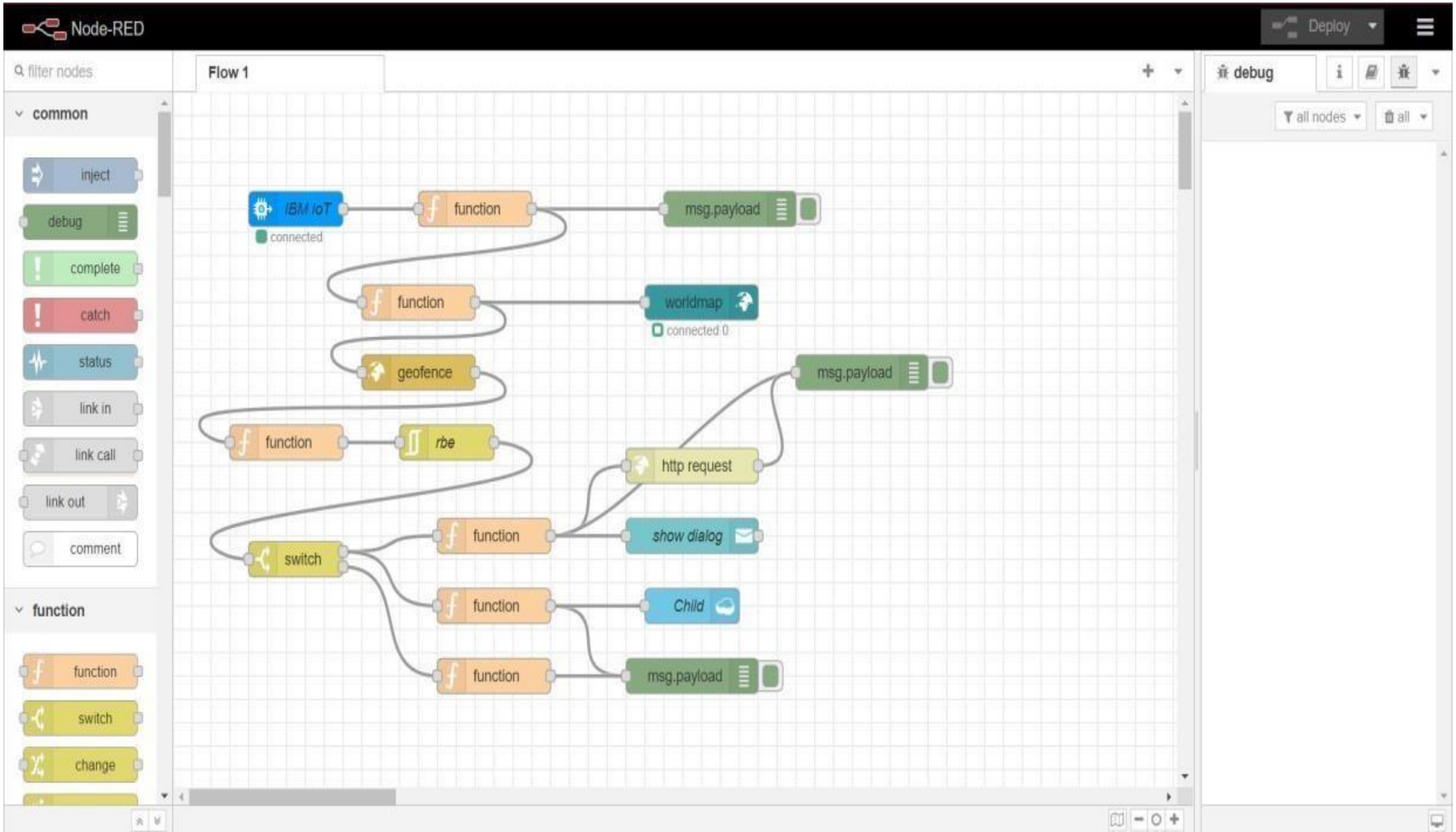
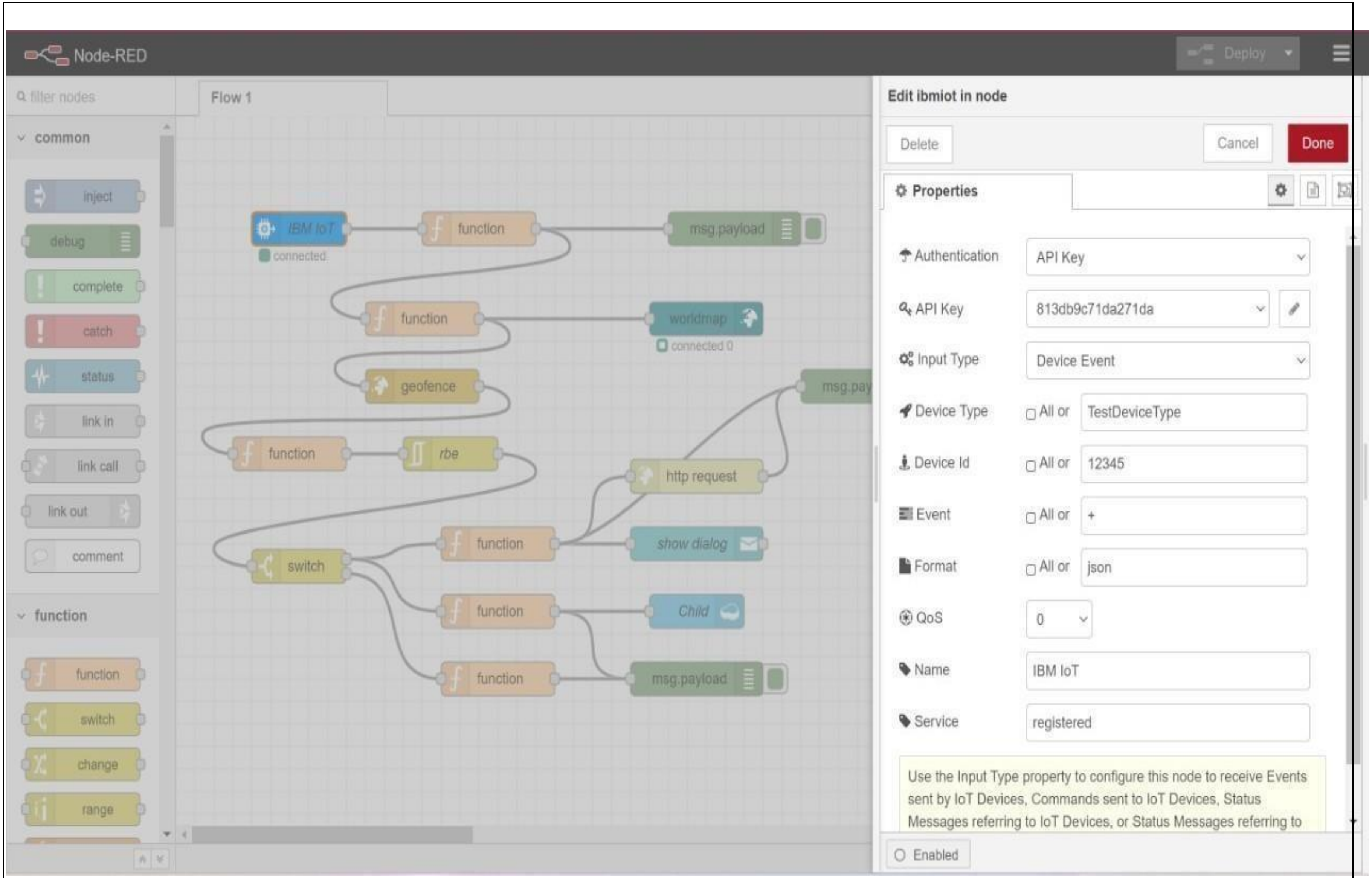


Fig.4,Create Node red service



Edit ibmiot in node

Authentication: API Key

API Key: 813db9c71da271da

Input Type: Device Event

Device Type: □ All or TestDeviceType

Device Id: □ All or 12345

Event: □ All or +

Format: □ All or json

QoS: 0

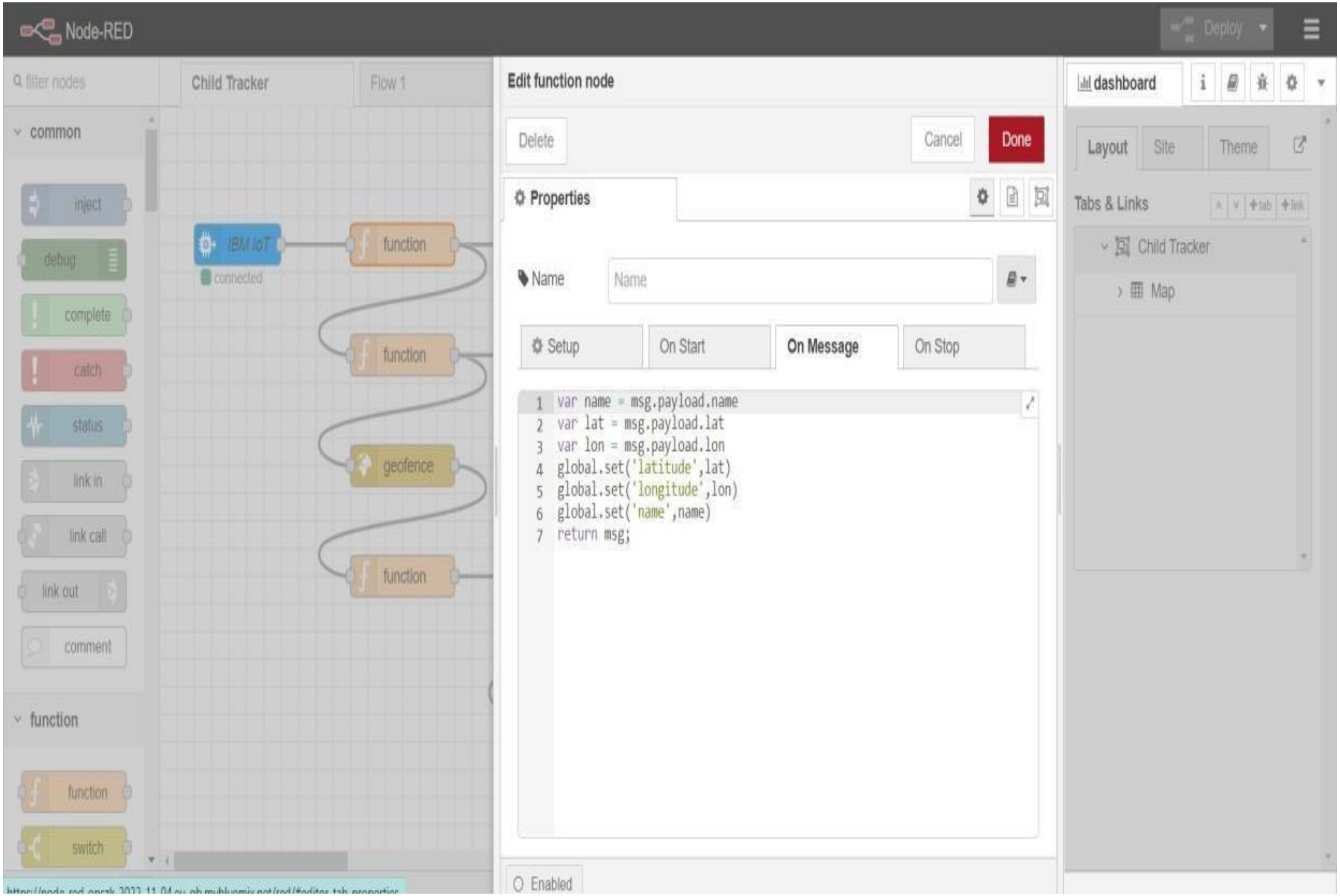
Name: IBM IoT

Service: registered

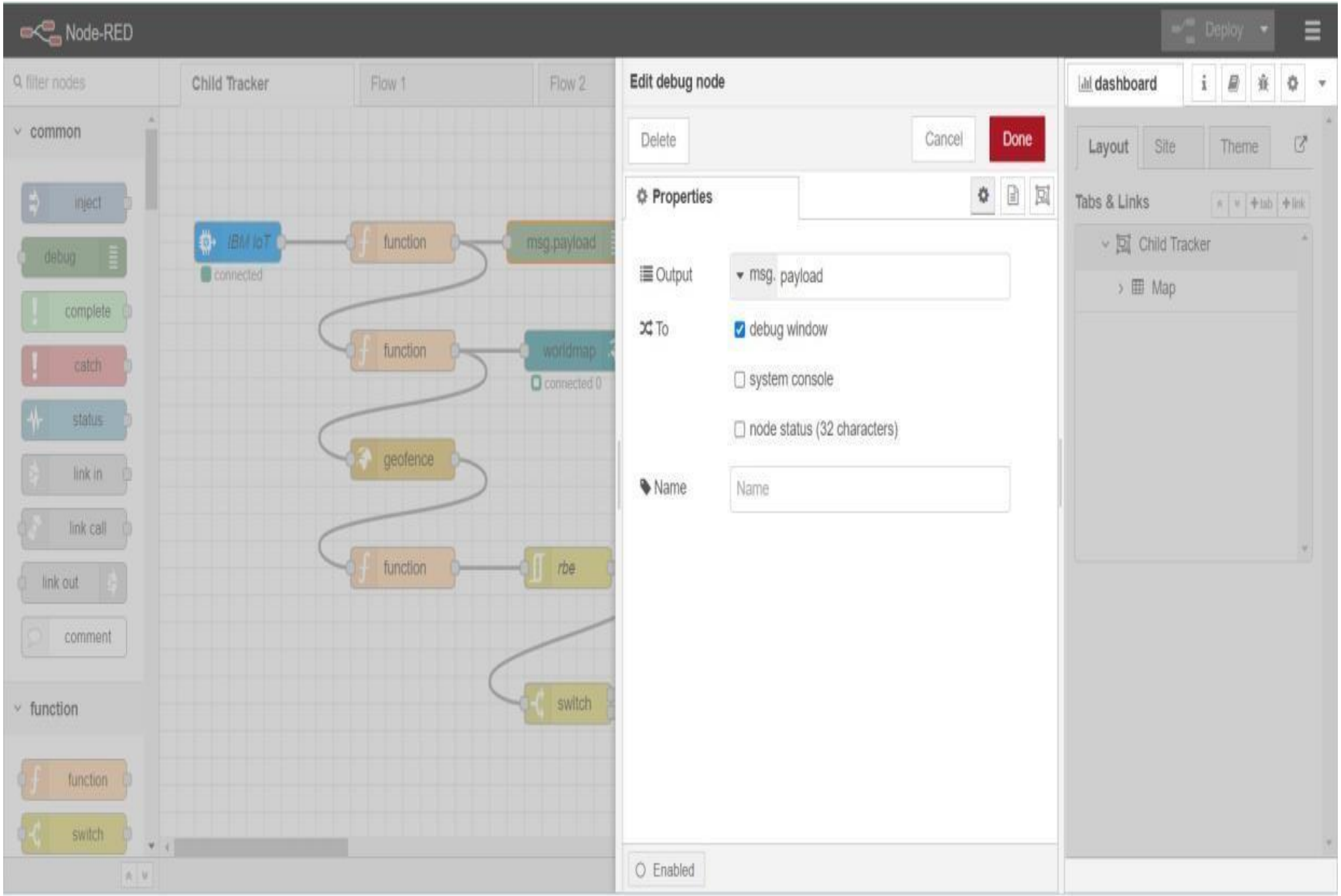
Use the Input Type property to configure this node to receive Events sent by IoT Devices, Commands sent to IoT Devices, Status Messages referring to IoT Devices, or Status Messages referring to

○ Enabled

Fig.5,Code in each nodes



```
var name = msg.payload.name
var lat = msg.payload.lat
var lon = msg.payload.lon
global.set('latitude',lat)
global.set('longitude',lon)
global.set('name',name)
return msg;
```



Edit debug node

Output: msg. payload

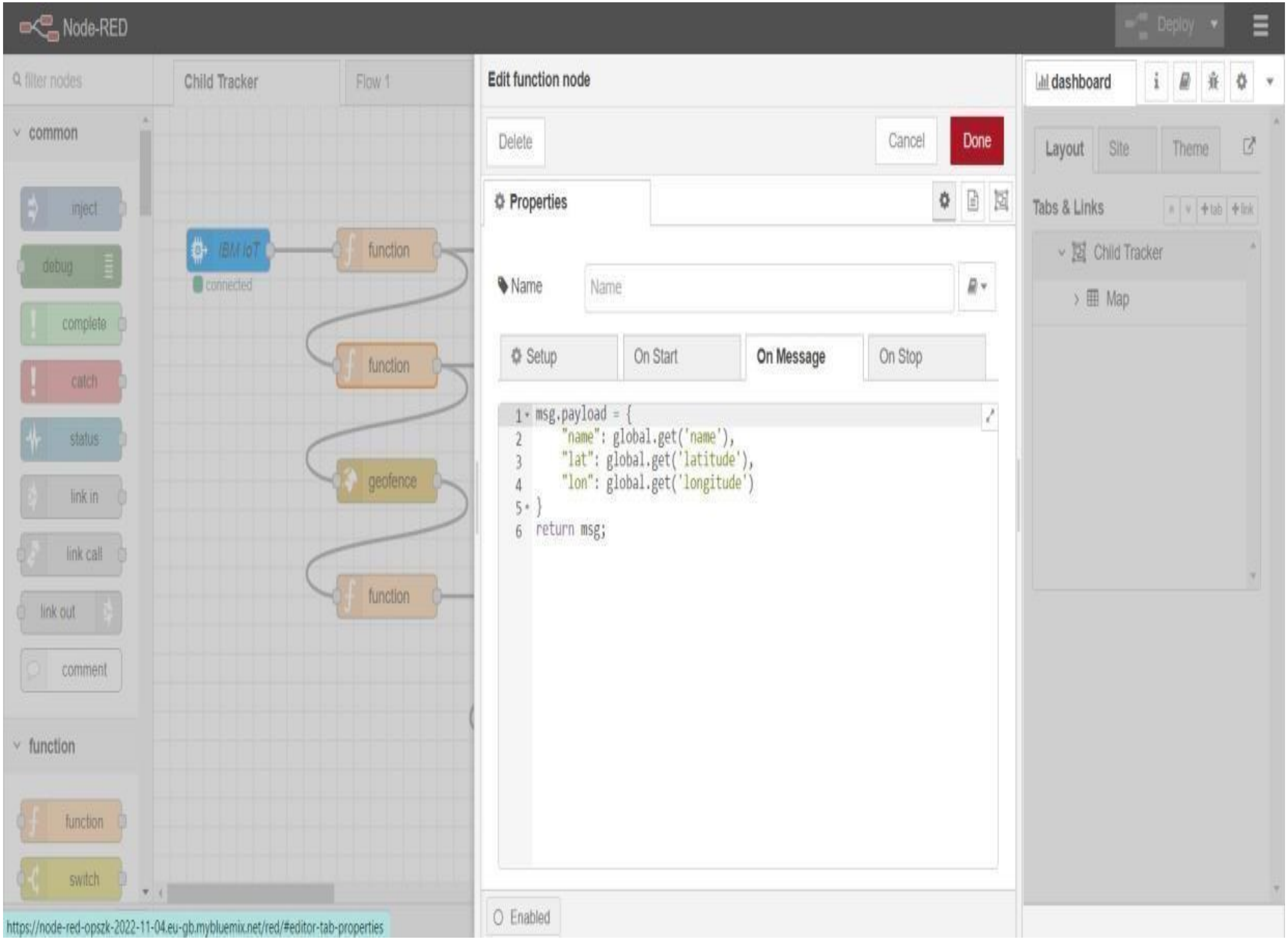
To: ☑ debug window

☐ system console

☐ node status (32 characters)

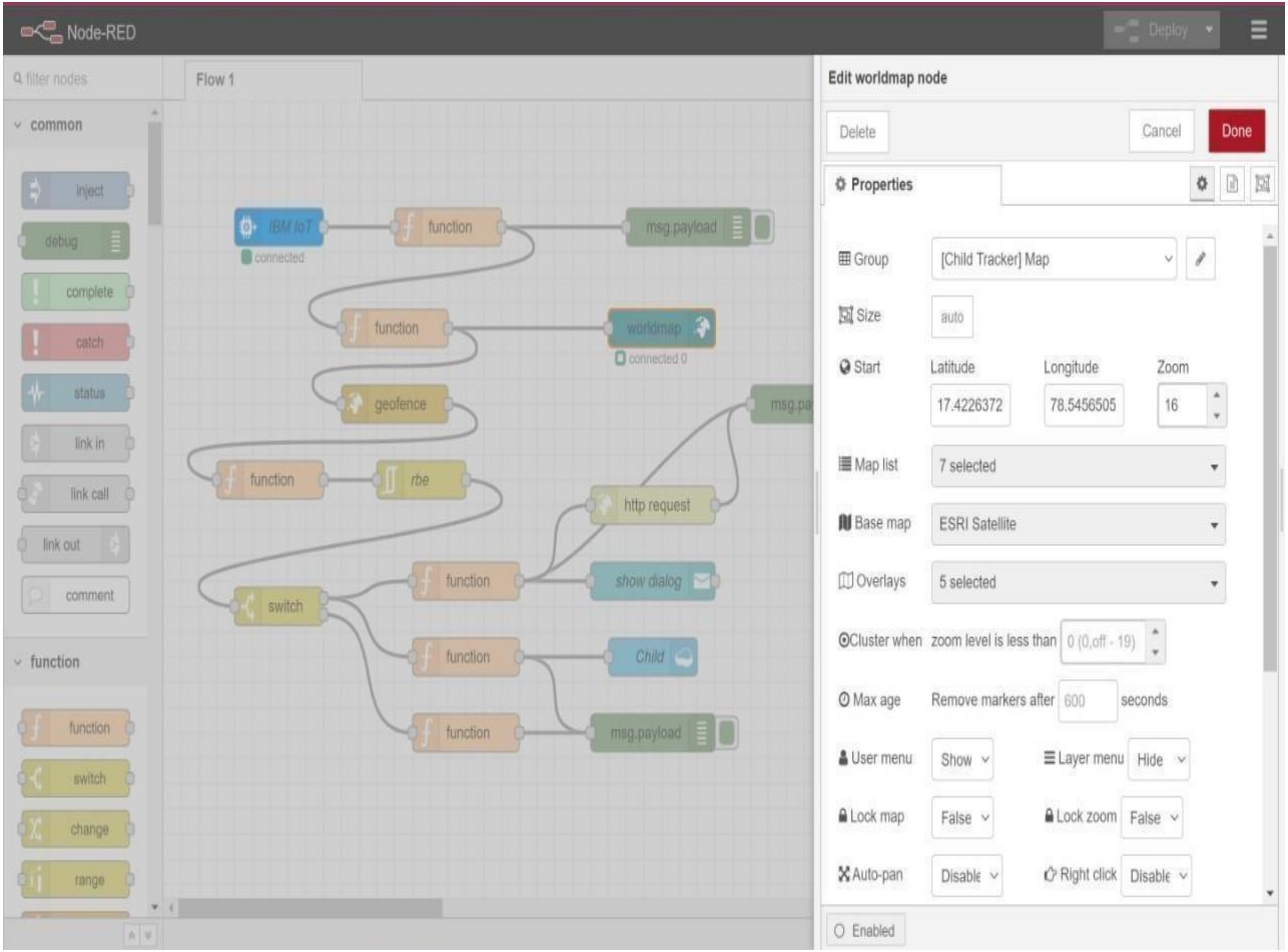
Name: Name

○ Enabled



Edit function node — Properties — On Message

```
msg.payload = {
    "name": global.get('name'),
    "lat": global.get('latitude'),
    "lon": global.get('longitude')
}
return msg;
```



Edit worldmap node

Delete | Cancel | Done

Properties

Group: [Child Tracker] Map

Size: auto

Start: Latitude 17.4226372 Longitude 78.5456505 Zoom 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

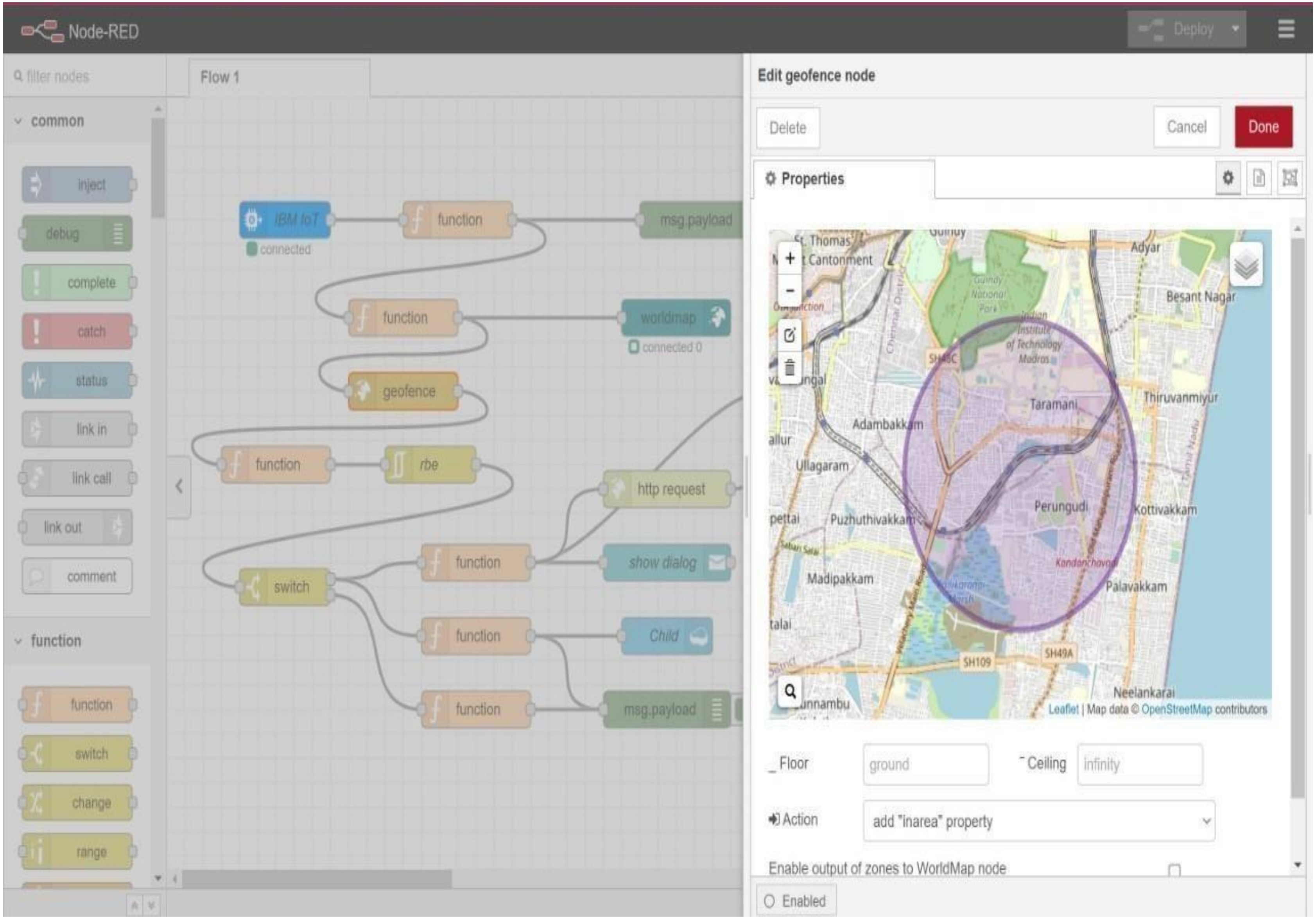
Lock map: False

Lock zoom: False

Auto-pan: Disable

Right click: Disable

○ Enabled



Edit geofence node

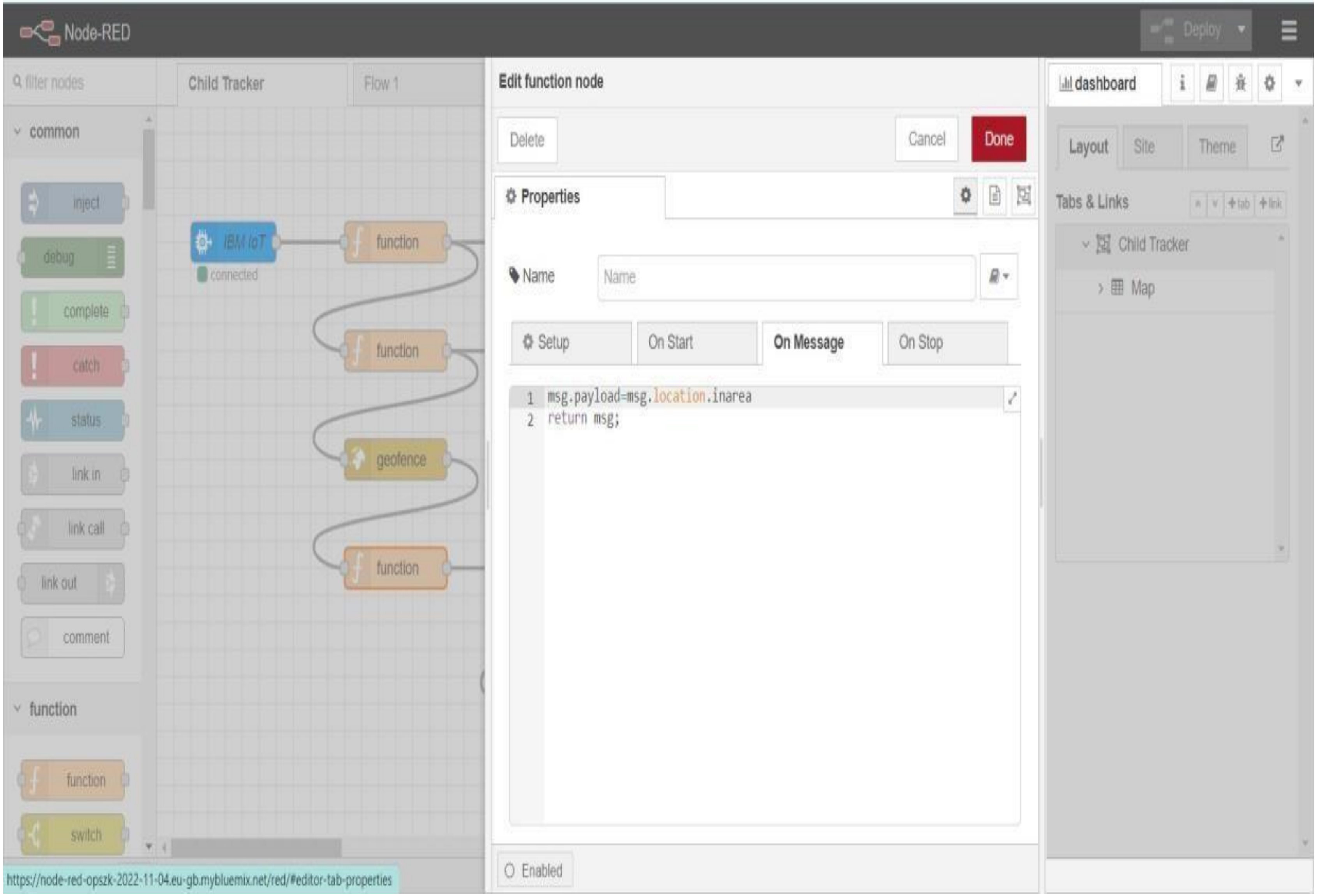
Floor: ground

Ceiling: infinity

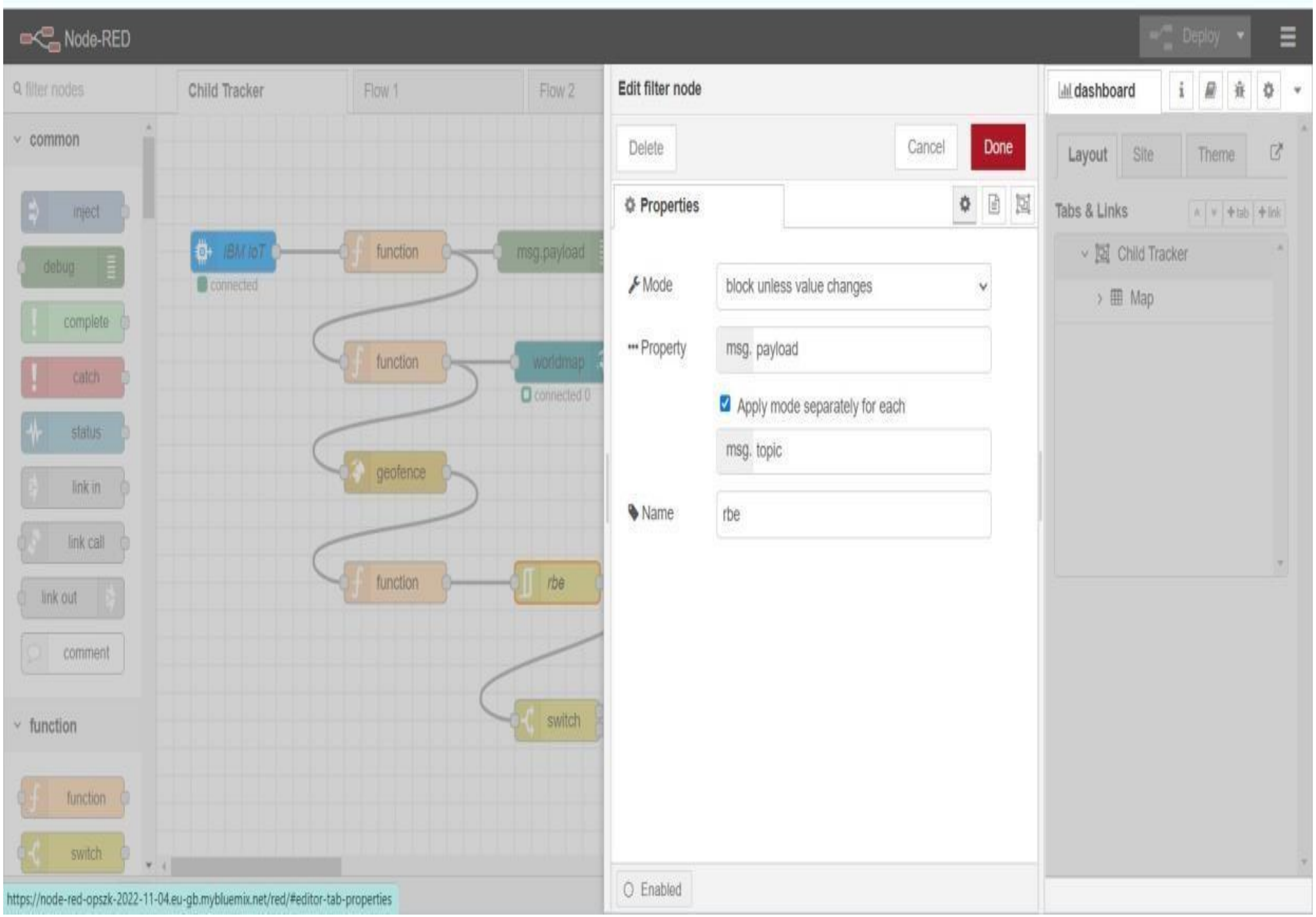
Action: add "inarea" property

Enable output of zones to WorldMap node □

○ Enabled



```
msg.payload=msg.location.inarea
return msg;
```



Edit filter node

Mode: block unless value changes

Property: msg. payload

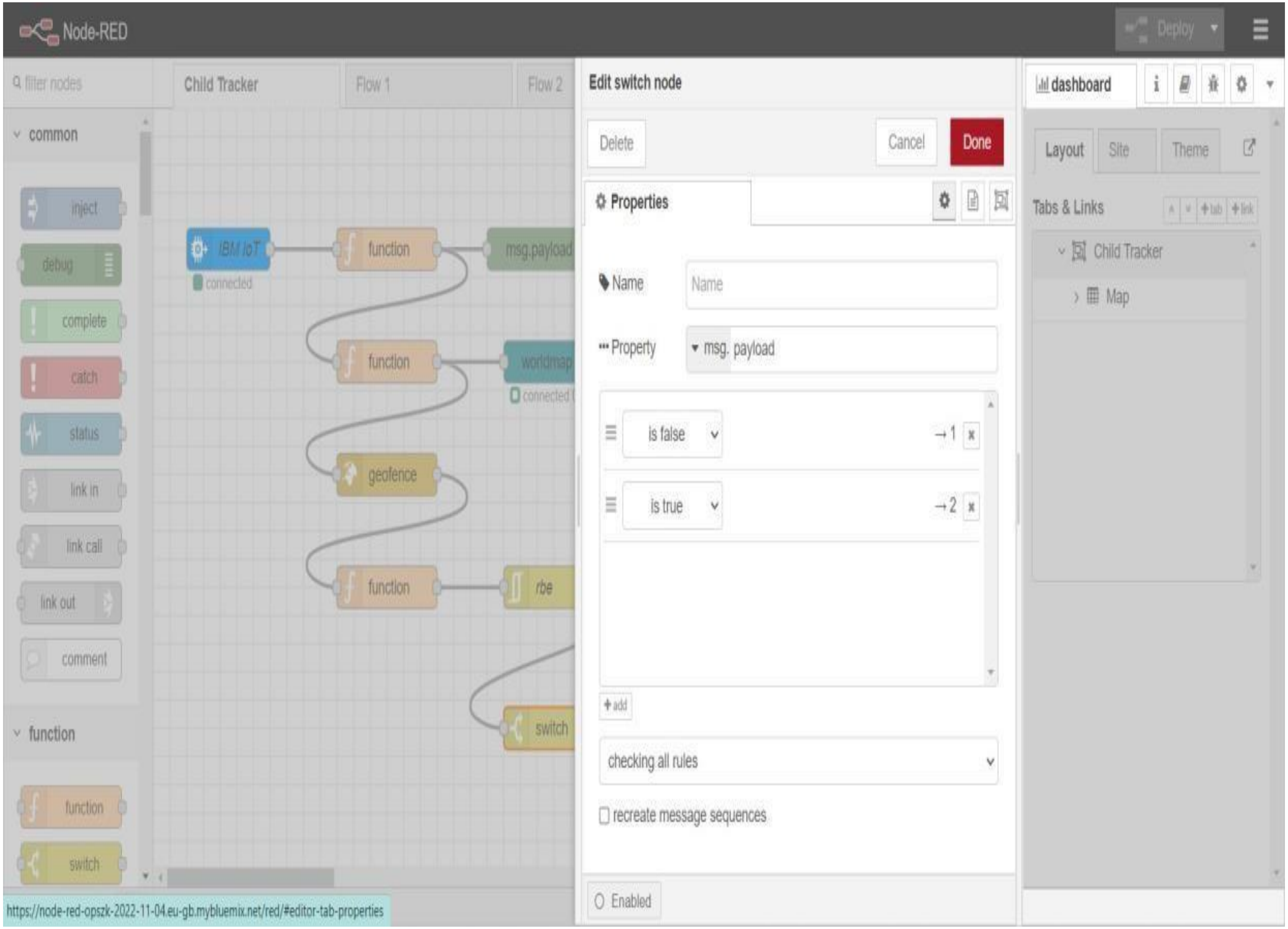
☑ Apply mode separately for each

msg. topic

Name: rbe

○ Enabled

https://node-red-opszk-2022-11-04.eu-gb.mybluemix.net/red/#editor-tab-properties



Edit switch node

Delete Cancel Done

Properties

Name: Name

Property: msg. payload

is false →1

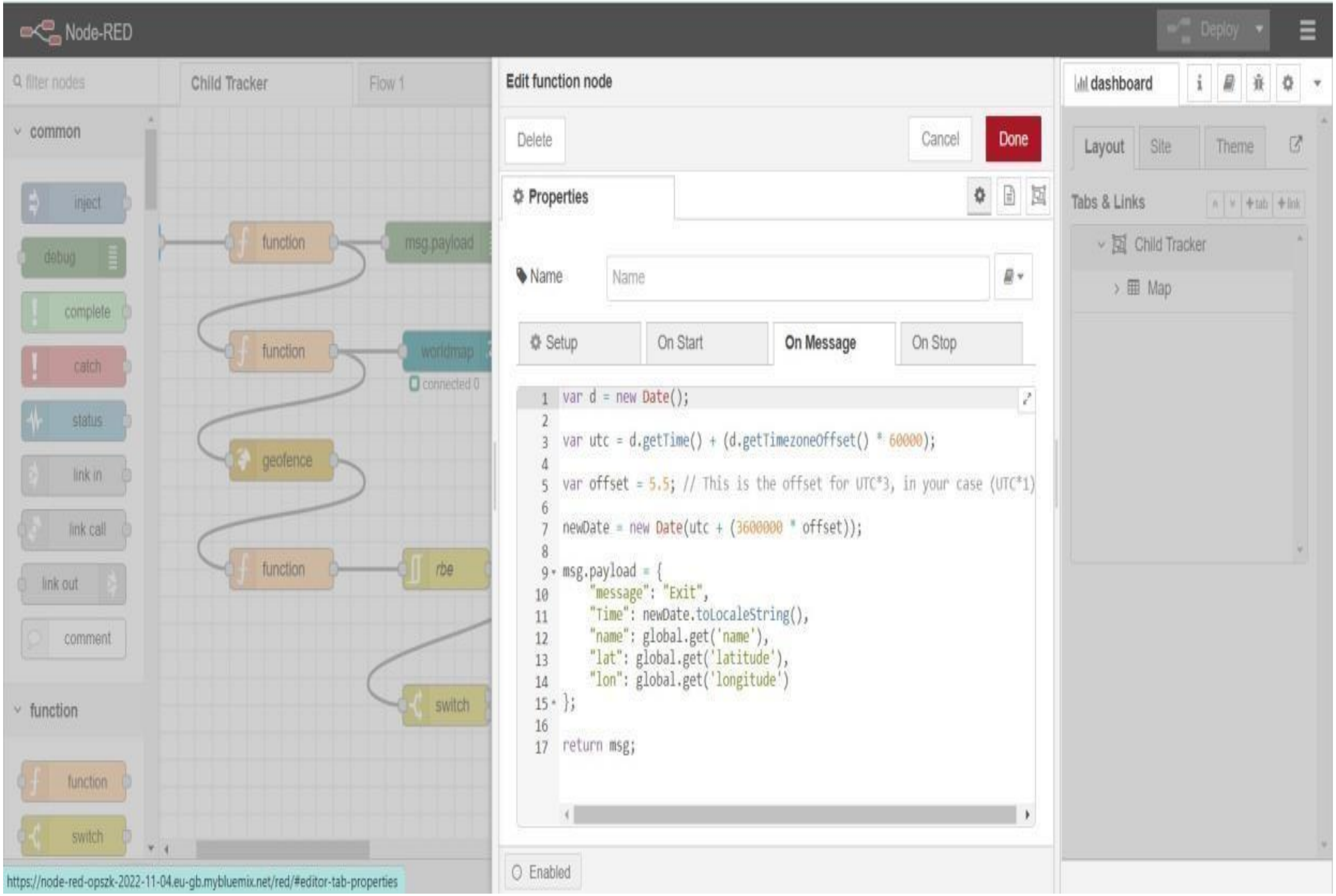
is true →2

+add

checking all rules

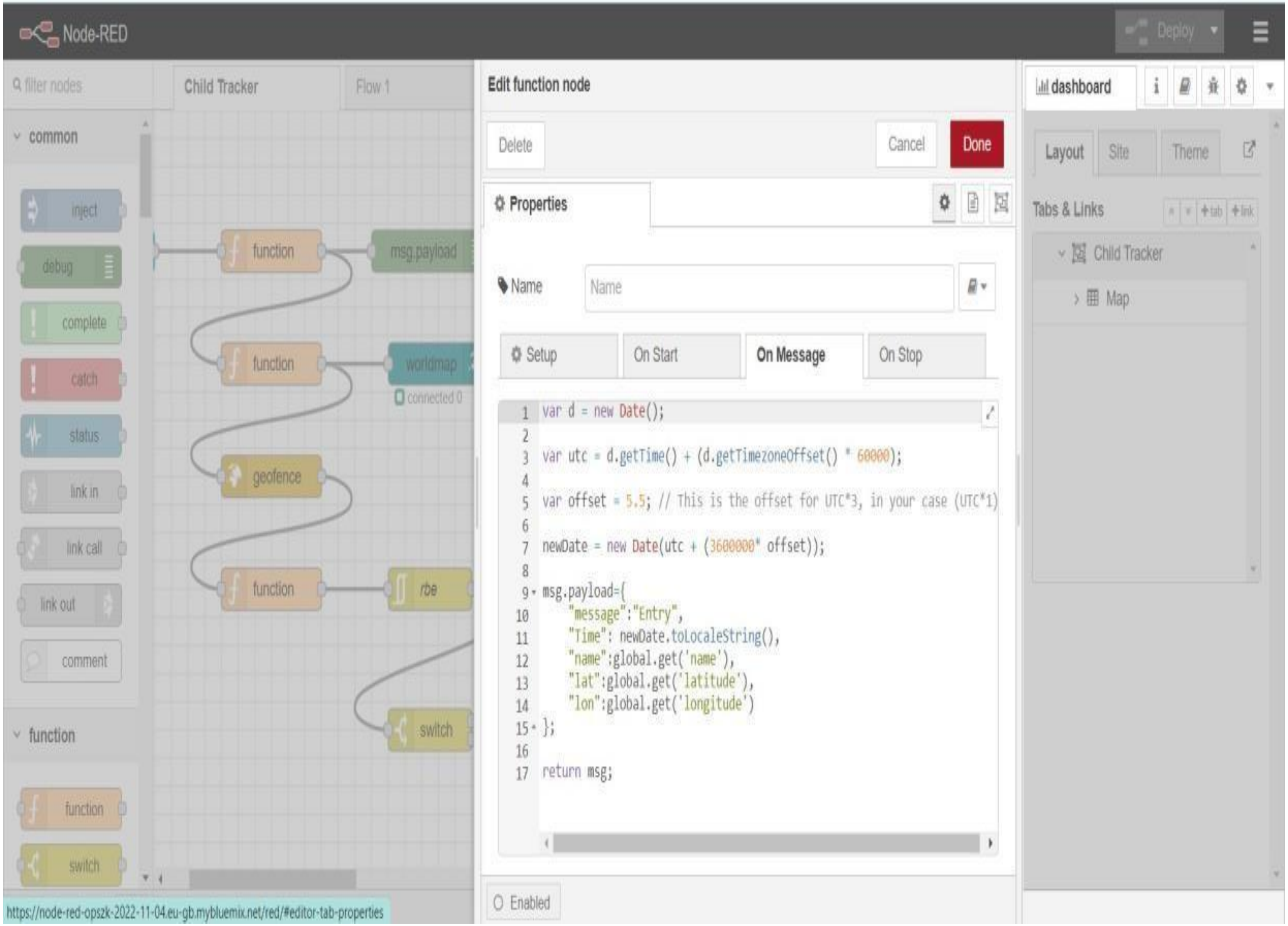
□ recreate message sequences

○ Enabled

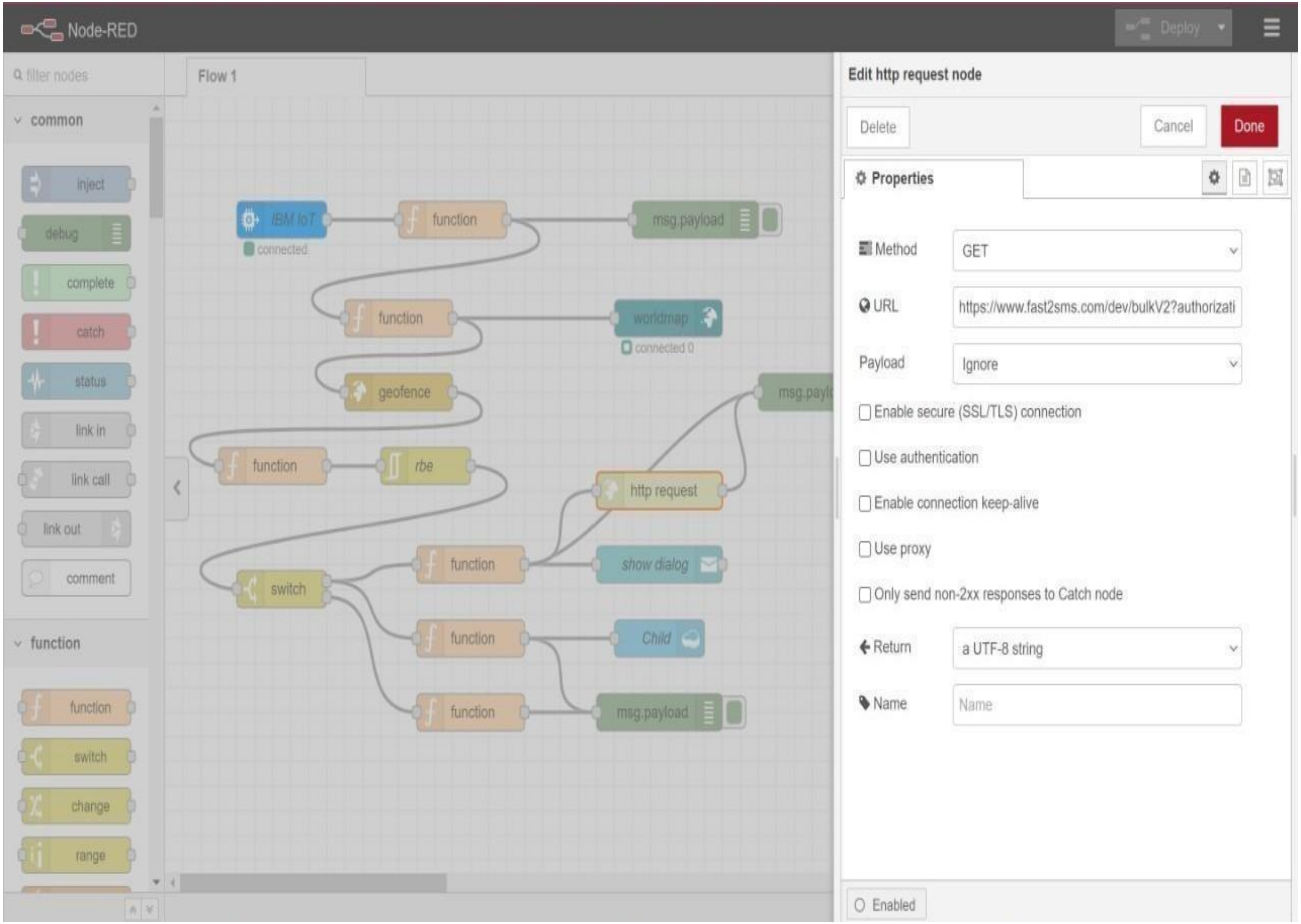


Name: Name

```
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;
```



```
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":"Entry",
    "Time": newDate.toLocaleString(),
    "name":global.get('name'),
    "lat":global.get('latitude'),
    "lon":global.get('longitude')
};

return msg;
```



Edit http request node

Method: GET

URL: https://www.fast2sms.com/dev/bulkV2?authorizati

Payload: Ignore

□ Enable secure (SSL/TLS) connection

□ Use authentication

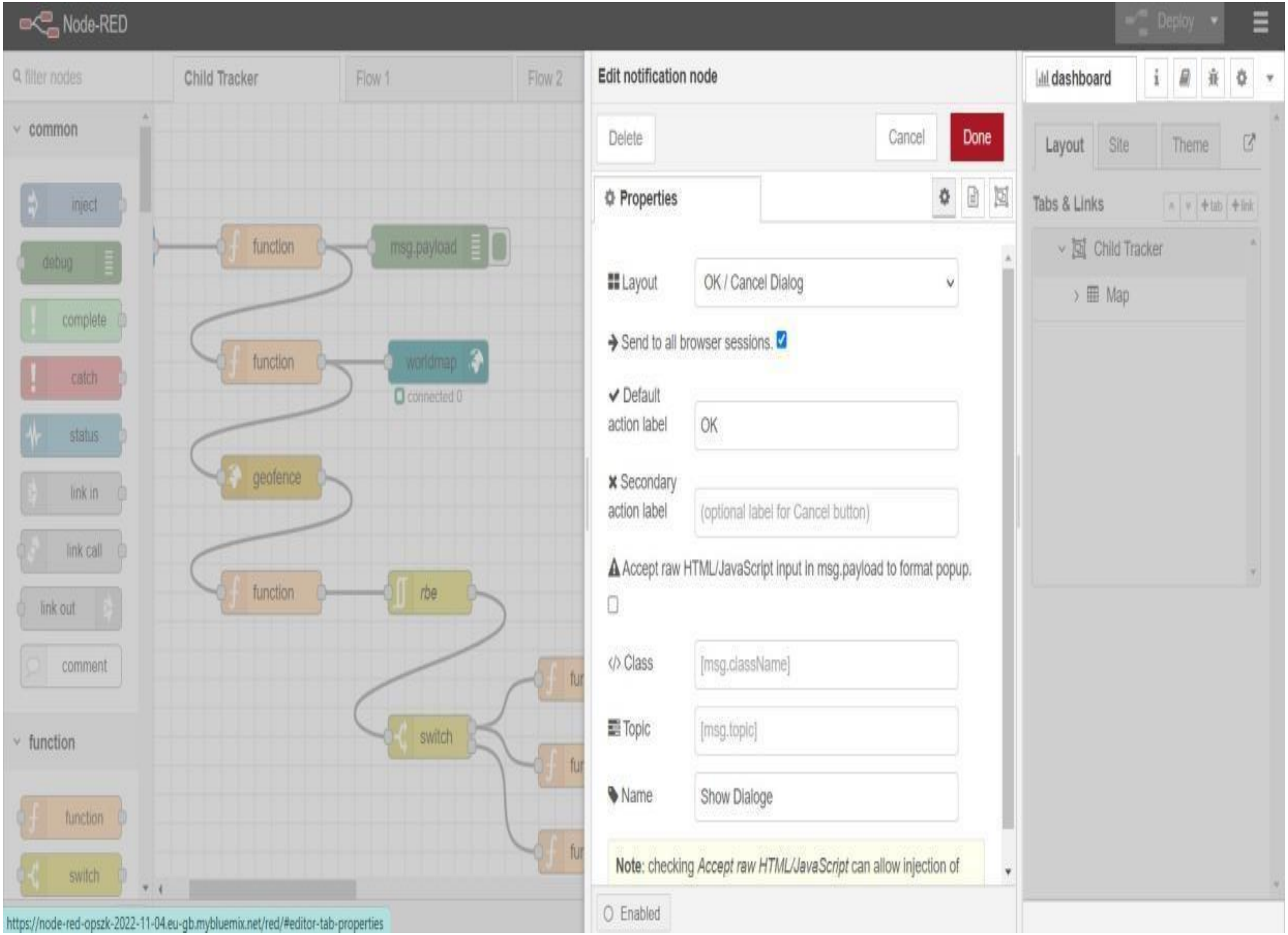
□ Enable connection keep-alive

□ Use proxy

□ Only send non-2xx responses to Catch node

Return: a UTF-8 string

Name: Name



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.
□

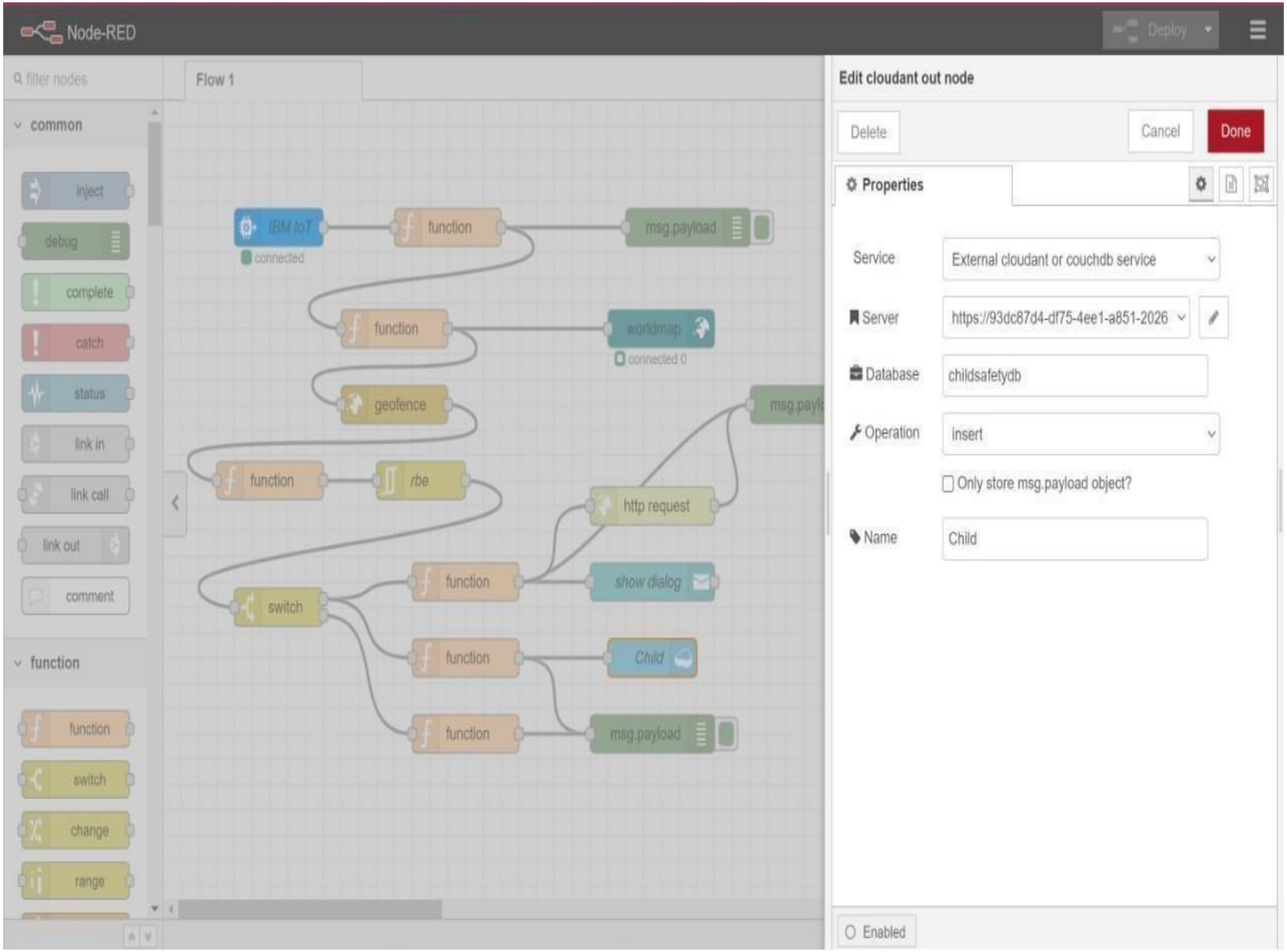
Class: [msg.className]

Topic: [msg.topic]

Name: Show Dialoge

Note: checking *Accept raw HTML/JavaScript* can allow injection of

○ Enabled



Edit cloudant out node

Delete | Cancel | Done

Properties

Service: External cloudant or couchdb service

Server: https://93dc87d4-df75-4ee1-a851-2026

Database: childsafetydb

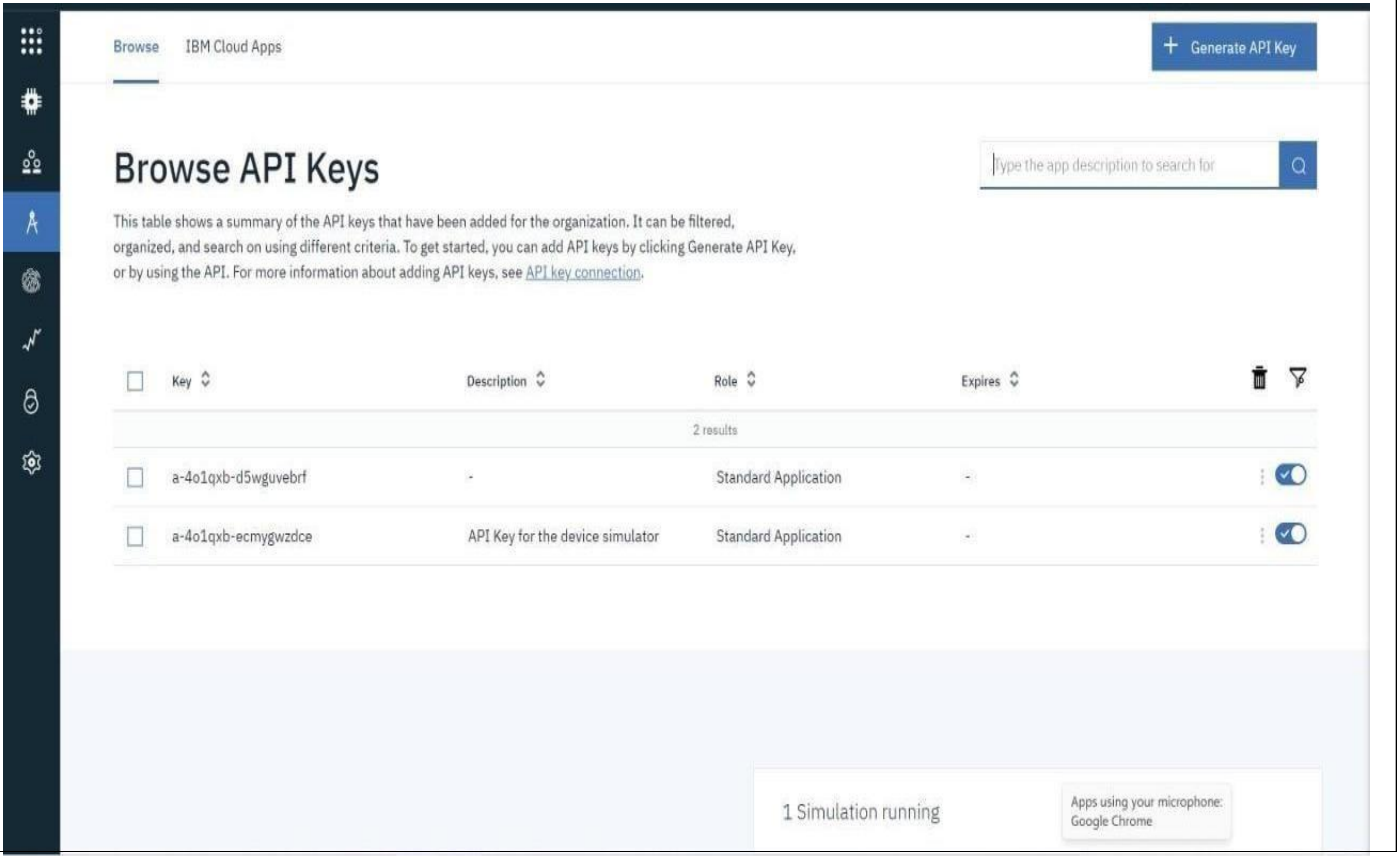
Operation: insert

☐ Only store msg.payload object?

Name: Child

○ Enabled

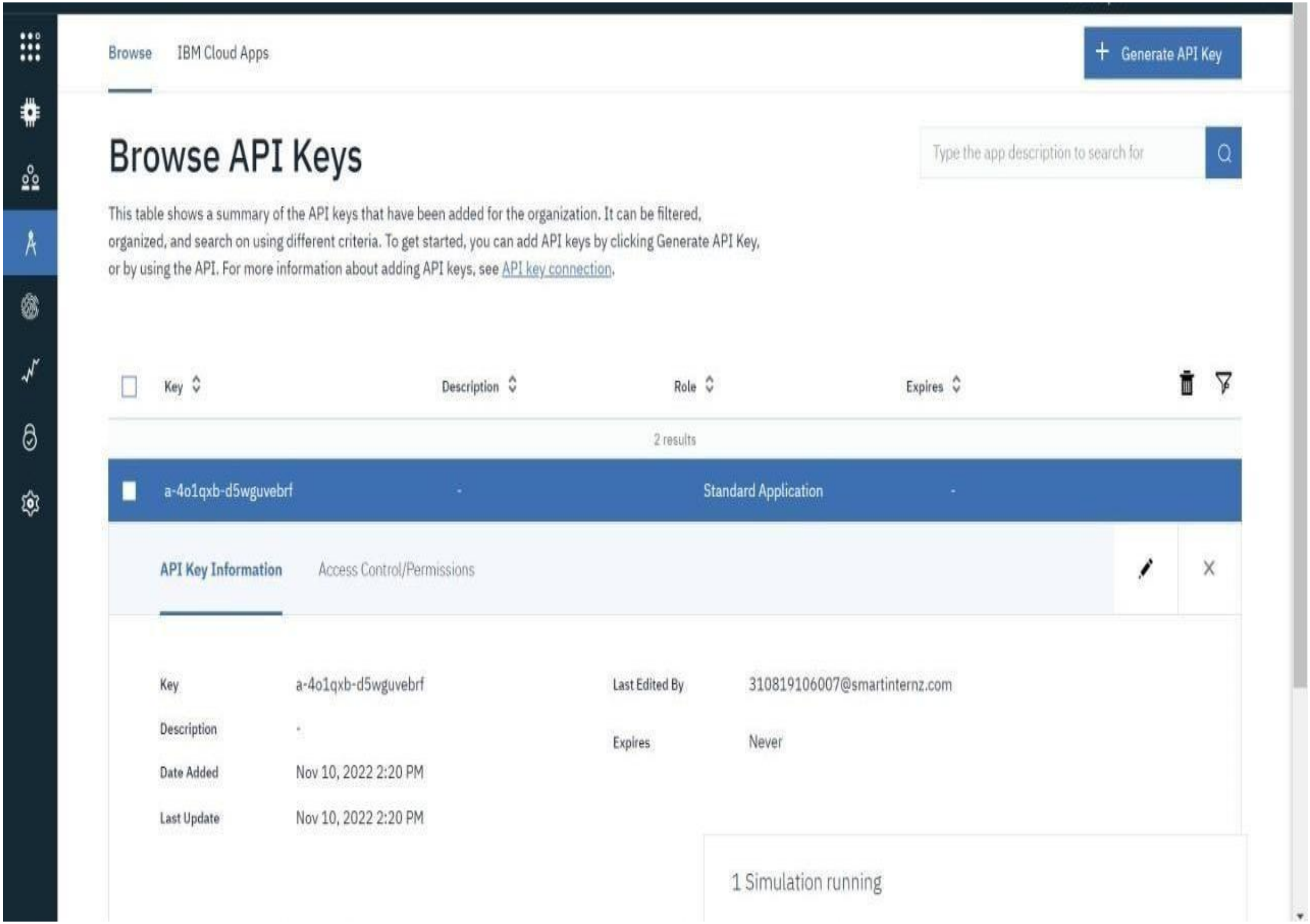
Connecting with IBM Cloud: Using IBM IOT nodethrough the API key



Browse API Keys

This table shows a summary of the API keys that have been added for the organization. It can be filtered, organized, and search on using different criteria. To get started, you can add API keys by clicking Generate API Key, or by using the API. For more information about adding API keys, see API key connection.

□	Key	Description	Role	Expires
	2 results			
□	a-4o1qxb-d5wguvebrf	-	Standard Application	-
□	a-4o1qxb-ecmygwzdce	API Key for the device simulator	Standard Application	-



Browse API Keys

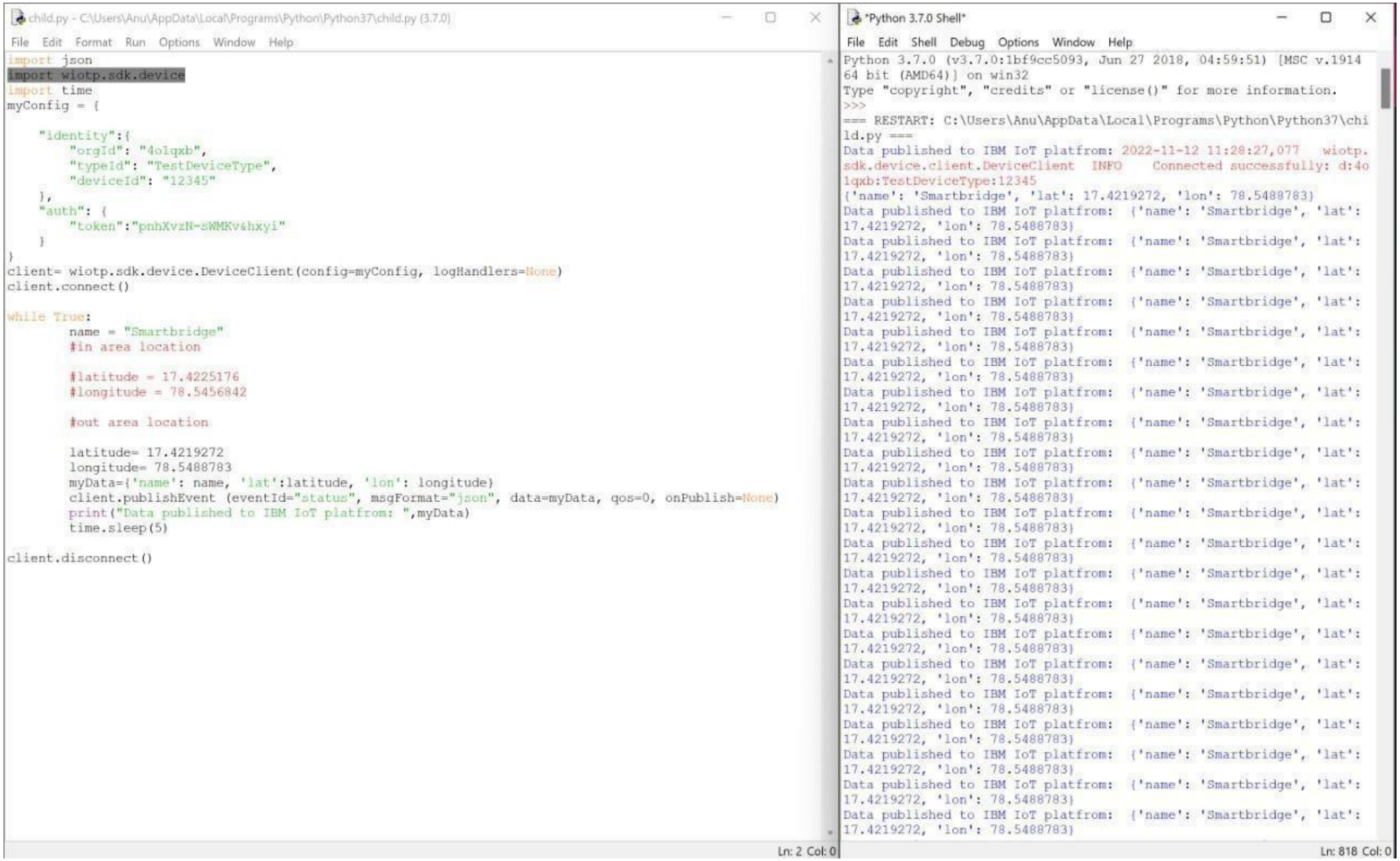
This table shows a summary of the API keys that have been added for the organization. It can be filtered, organized, and search on using different criteria. To get started, you can add API keys by clicking Generate API Key, or by using the API. For more information about adding API keys, see API key connection.

☐	Key	Description	Role	Expires
		2 results		
■	a-4o1qxb-d5wguvebrf	-	Standard Application	-

Key	a-4o1qxb-d5wguvebrf	Last Edited By	310819106007@smartinternz.com
Description	-	Expires	Never
Date Added	Nov 10, 2022 2:20 PM		
Last Update	Nov 10, 2022 2:20 PM		

1 Simulation running

Transferring values from Python Code:


child.py - C:\Users\Anu\AppData\Local\Programs\Python\Python37\child.py (3.7.0)
File Edit Format Run Options Window Help
Ln: 2 Col: 0
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Ln: 818 Col: 0

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

    "identity":{
        "orgId": "4olqxb",
        "typeId": "TestDeviceType",
        "deviceId": "12345"
    },
    "auth": {
        "token":"pnhXvzN-sWMKv&hxyi"
    }
}
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 11:28:27,077   wiotp.
sdk.device.client.DeviceClient  INFO    Connected successfully: d:4o
lqxb:TestDeviceType:12345
{'name': 'Smartbridge', 'lat': 17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
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17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
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17.4219272, 'lon': 78.5488783}
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17.4219272, 'lon': 78.5488783}
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17.4219272, 'lon': 78.5488783}
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17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
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17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
Data published to IBM IoT platfrom:  {'name': 'Smartbridge', 'lat':
17.4219272, 'lon': 78.5488783}
```
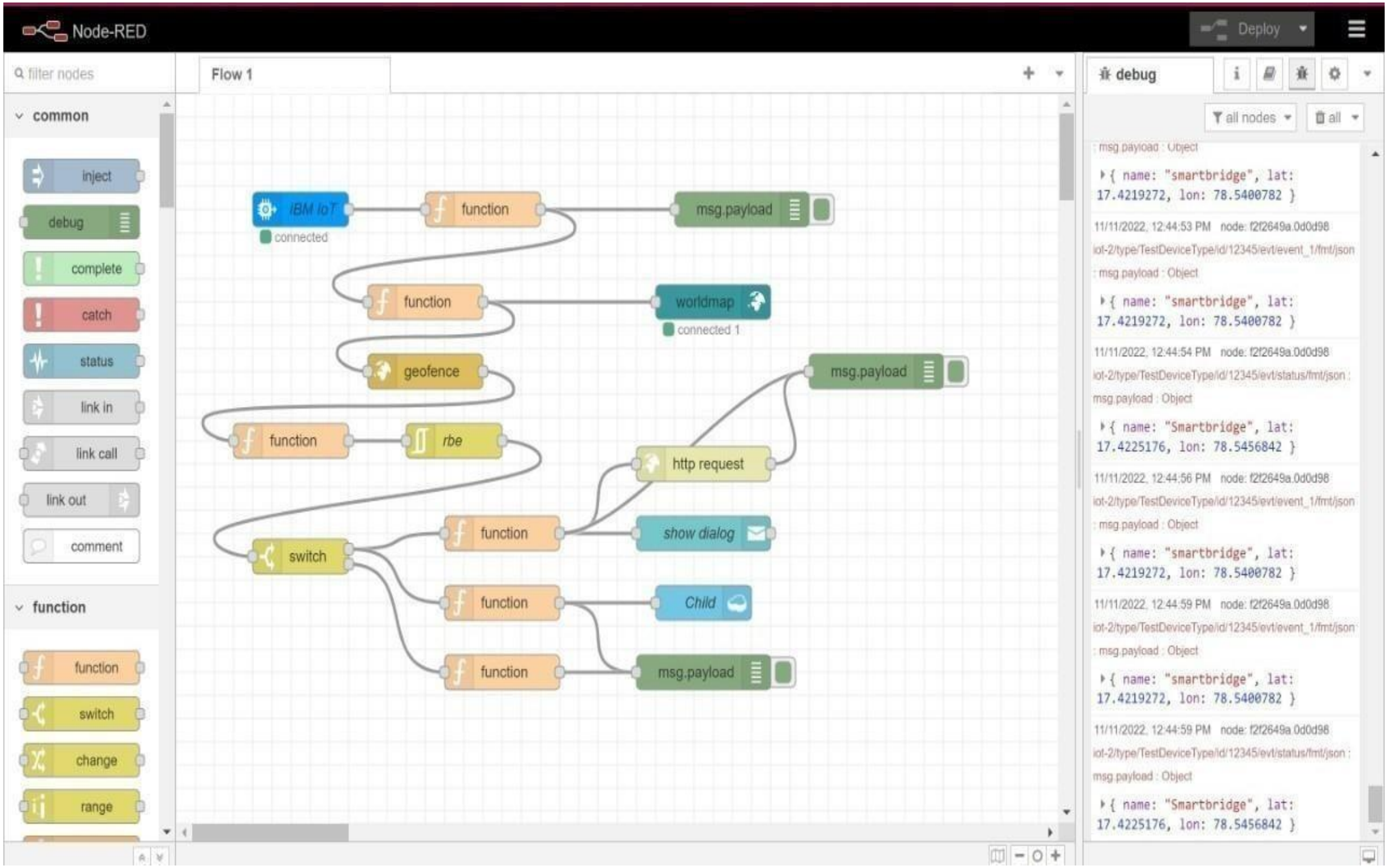
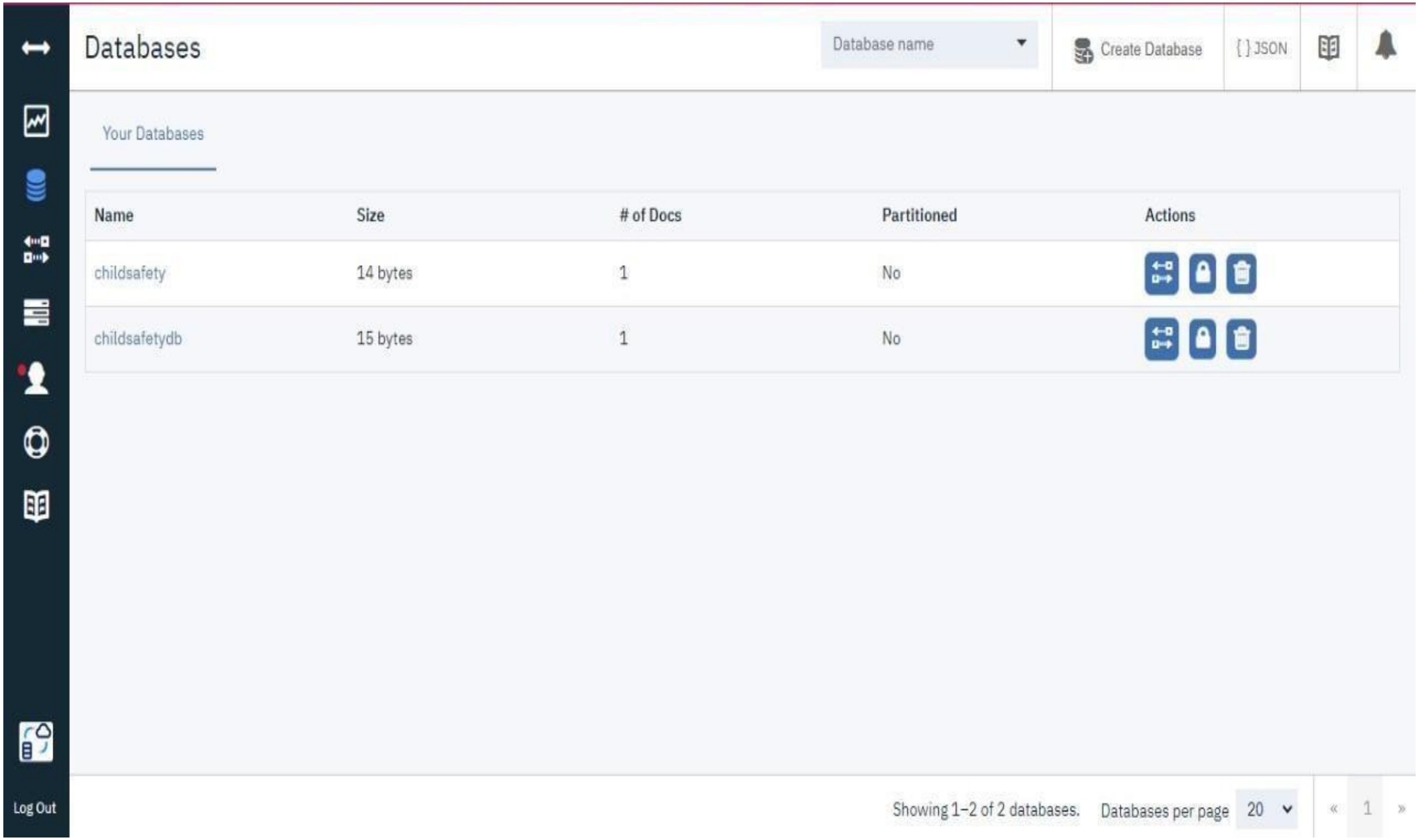

Node-Red:



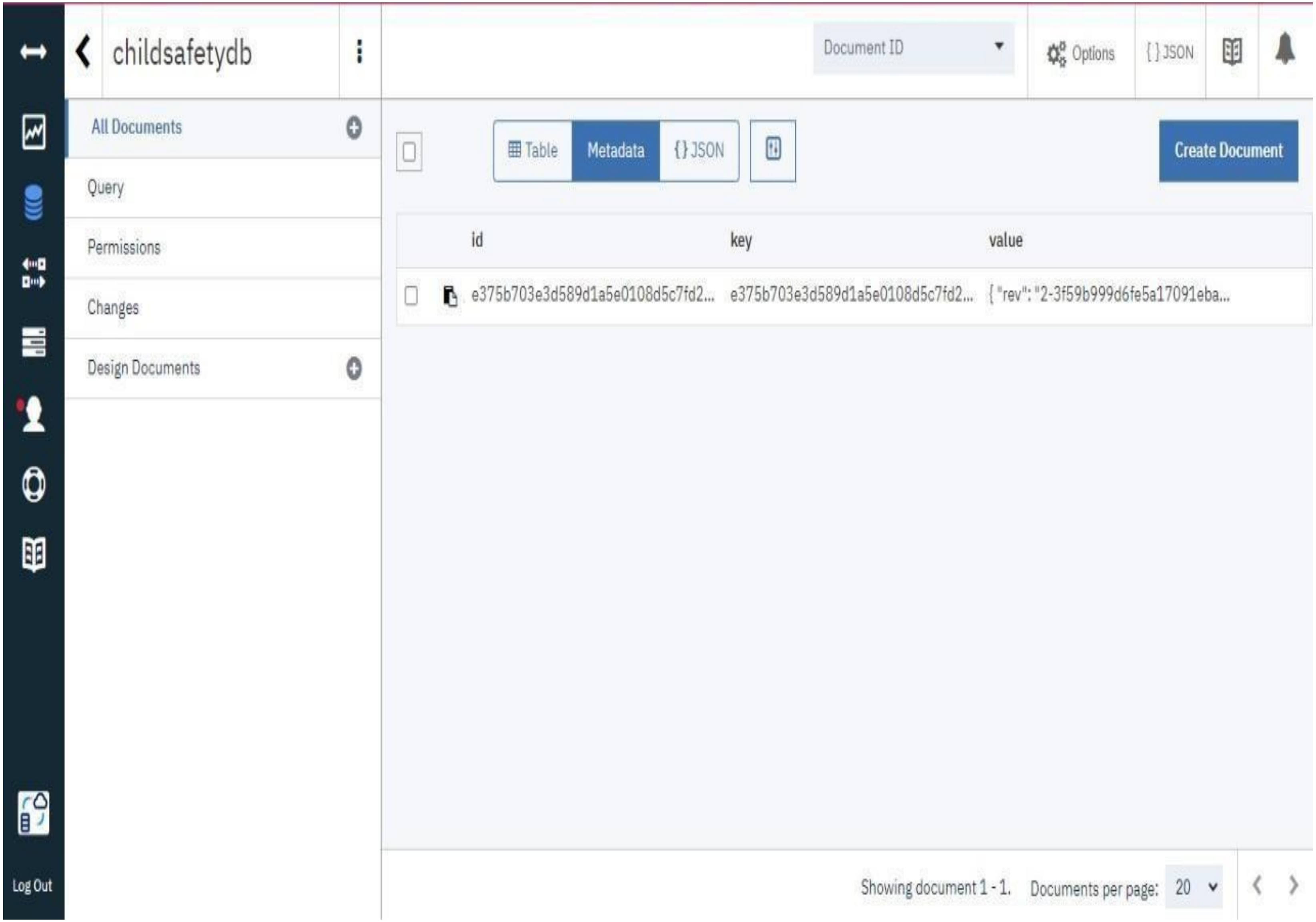
```
: msg.payload : Object
▸{ name: "smartbridge", lat:
17.4219272, lon: 78.5400782 }
11/11/2022, 12:44:53 PM   node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/12345/evt/event_1/fmt/json
: msg.payload : Object
▸{ name: "smartbridge", lat:
17.4219272, lon: 78.5400782 }
11/11/2022, 12:44:54 PM   node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ name: "Smartbridge", lat:
17.4225176, lon: 78.5456842 }
11/11/2022, 12:44:56 PM   node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/12345/evt/event_1/fmt/json
: msg.payload : Object
▸{ name: "smartbridge", lat:
17.4219272, lon: 78.5400782 }
11/11/2022, 12:44:59 PM   node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/12345/evt/event_1/fmt/json
: msg.payload : Object
▸{ name: "smartbridge", lat:
17.4219272, lon: 78.5400782 }
11/11/2022, 12:44:59 PM   node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ name: "Smartbridge", lat:
17.4225176, lon: 78.5456842 }
```

Creating Cloudant DB and integrating Node-Red with the Web UI



Name	Size	# of Docs	Partitioned	Actions
childsafety	14 bytes	1	No	
childsafetydb	15 bytes	1	No	

Showing 1–2 of 2 databases. Databases per page 20

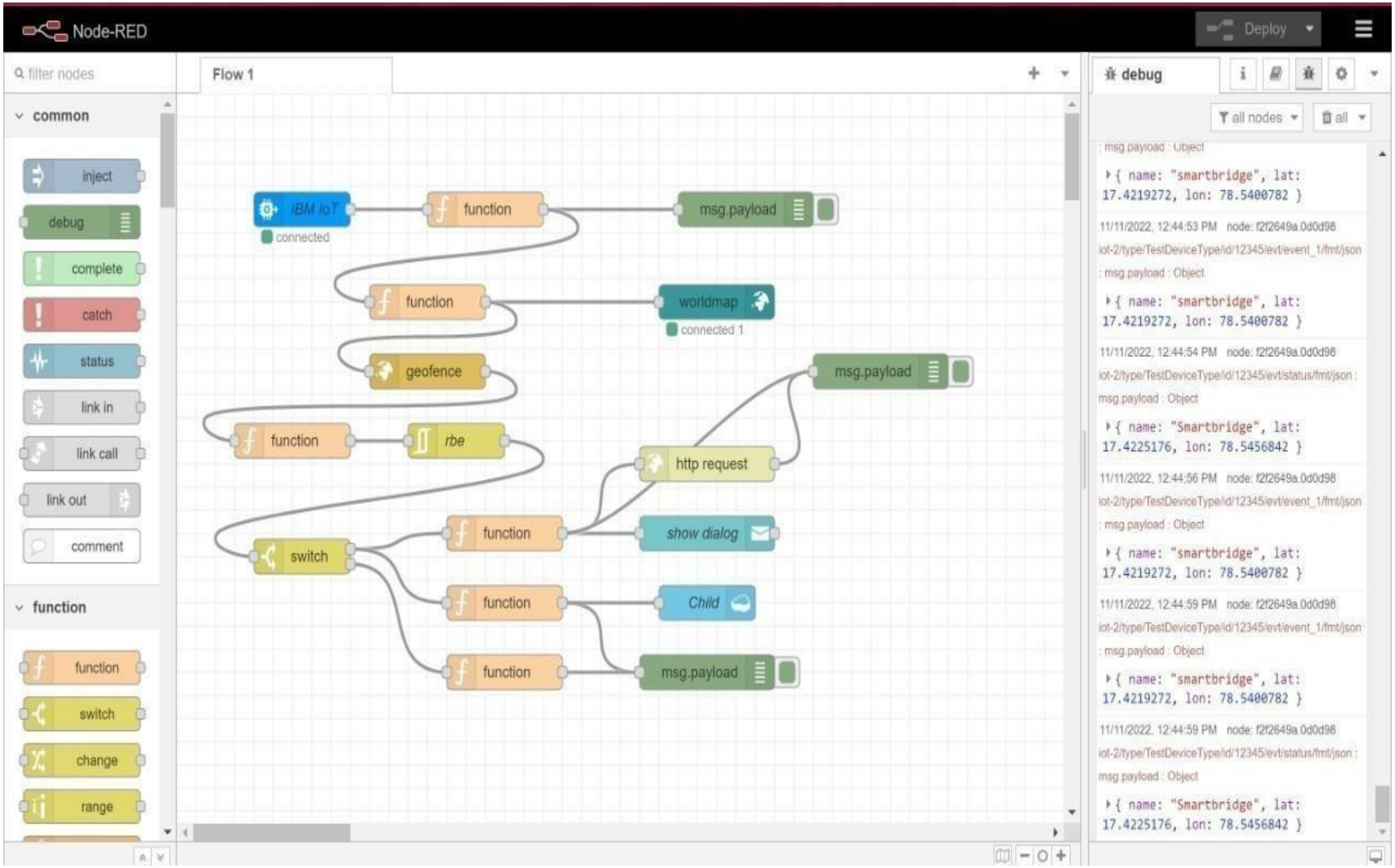


childsafetydb

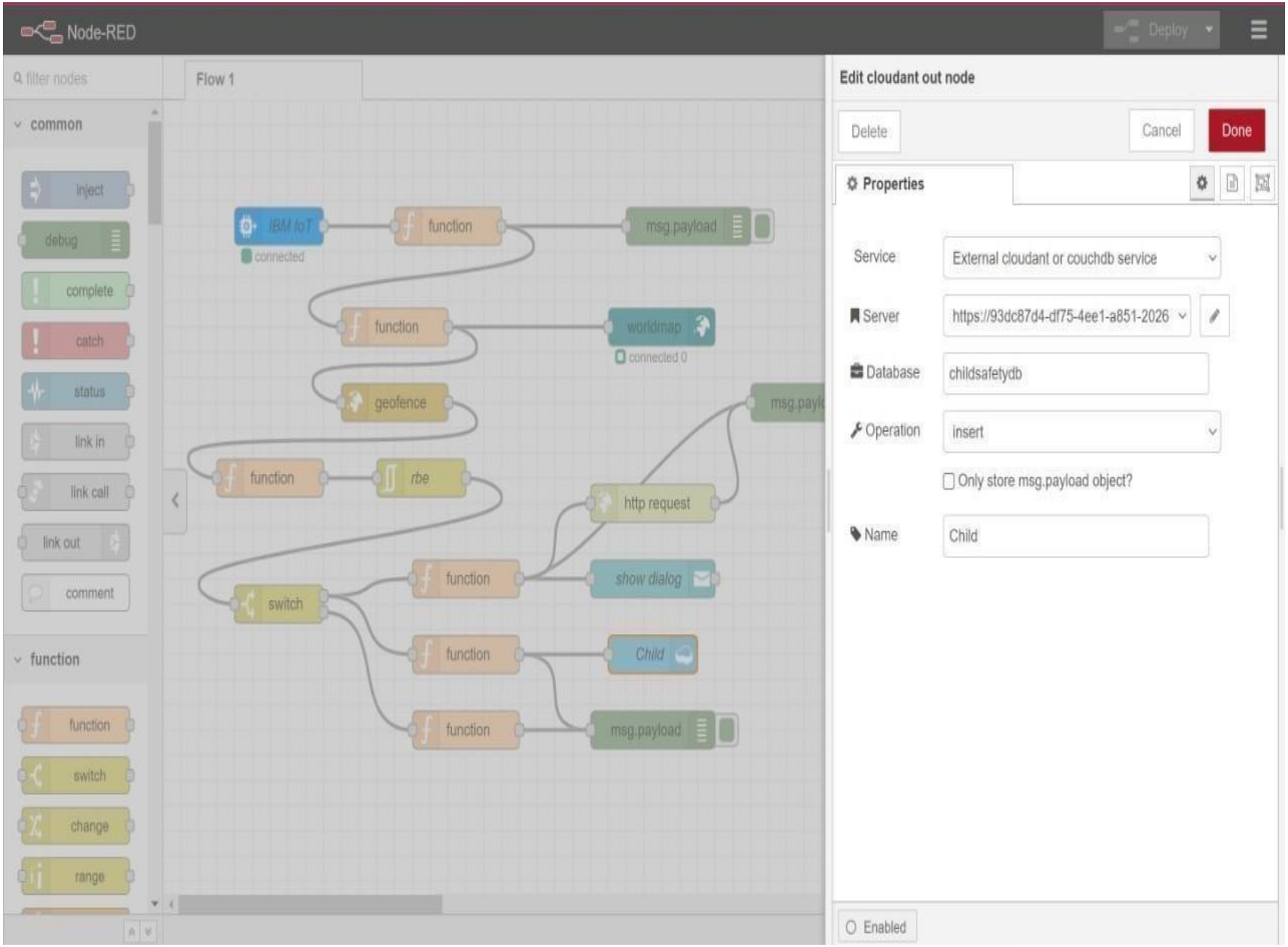
id	key	value
e375b703e3d589d1a5e0108d5c7fd2...	e375b703e3d589d1a5e0108d5c7fd2...	{ "rev": "2-3f59b999d6fe5a17091eba...

Showing document 1 - 1. Documents per page: 20

Node-Red Service with Cloudant Database:



```
: msg.payload : Object
▸{ name: "smartbridge", lat:
17.4219272, lon: 78.5400782 }
11/11/2022, 12:44:53 PM   node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/12345/evt/event_1/fmt/json
: msg.payload : Object
▸{ name: "smartbridge", lat:
17.4219272, lon: 78.5400782 }
11/11/2022, 12:44:54 PM   node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ name: "Smartbridge", lat:
17.4225176, lon: 78.5456842 }
11/11/2022, 12:44:56 PM   node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/12345/evt/event_1/fmt/json
: msg.payload : Object
▸{ name: "smartbridge", lat:
17.4219272, lon: 78.5400782 }
11/11/2022, 12:44:59 PM   node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/12345/evt/event_1/fmt/json
: msg.payload : Object
▸{ name: "smartbridge", lat:
17.4219272, lon: 78.5400782 }
11/11/2022, 12:44:59 PM   node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ name: "Smartbridge", lat:
17.4225176, lon: 78.5456842 }
```



Edit cloudant out node

Service: External cloudant or couchdb service

Server: https://93dc87d4-df75-4ee1-a851-2026

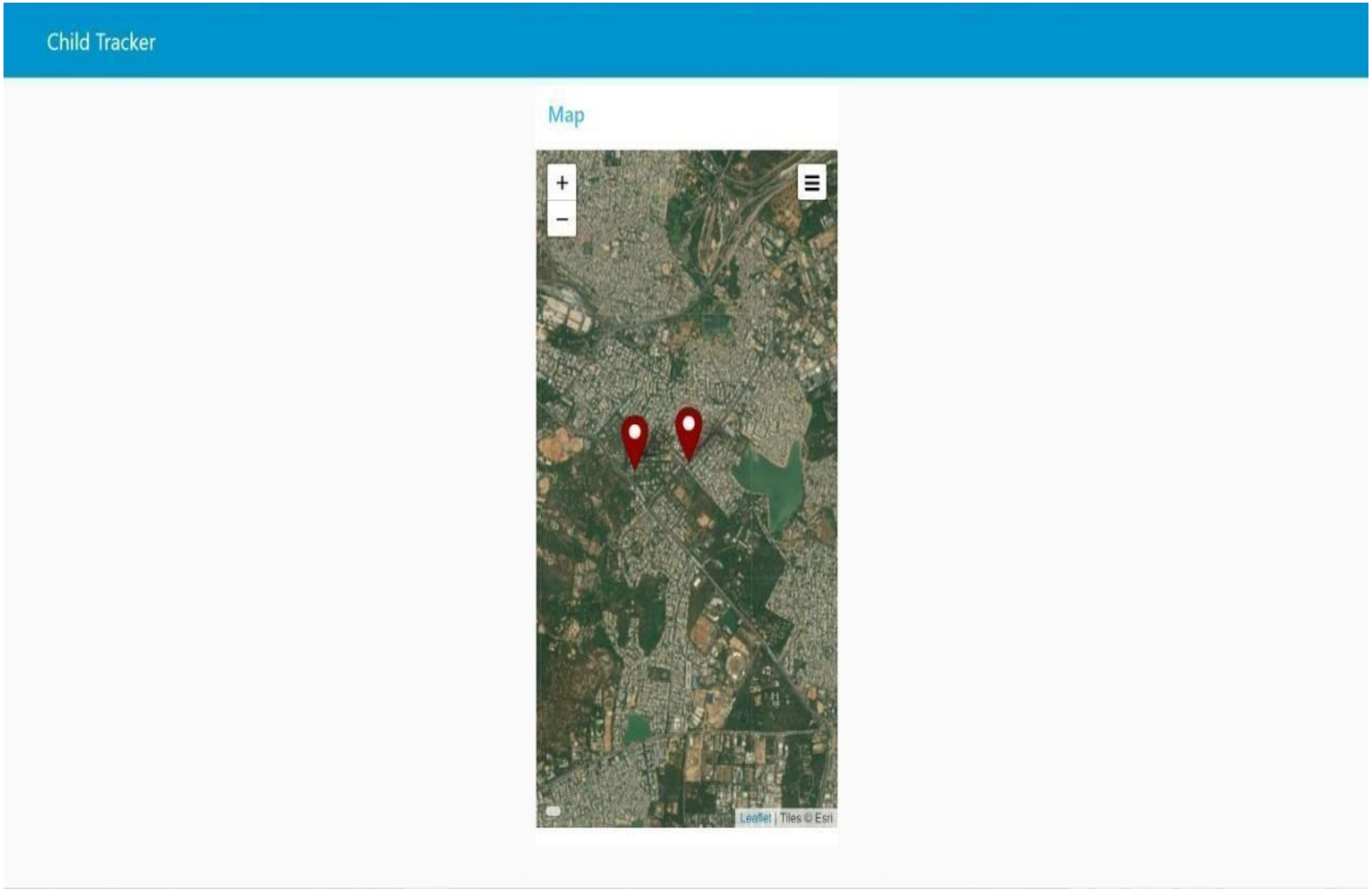
Database: childsafetydb

Operation: insert

☐ Only store msg.payload object?

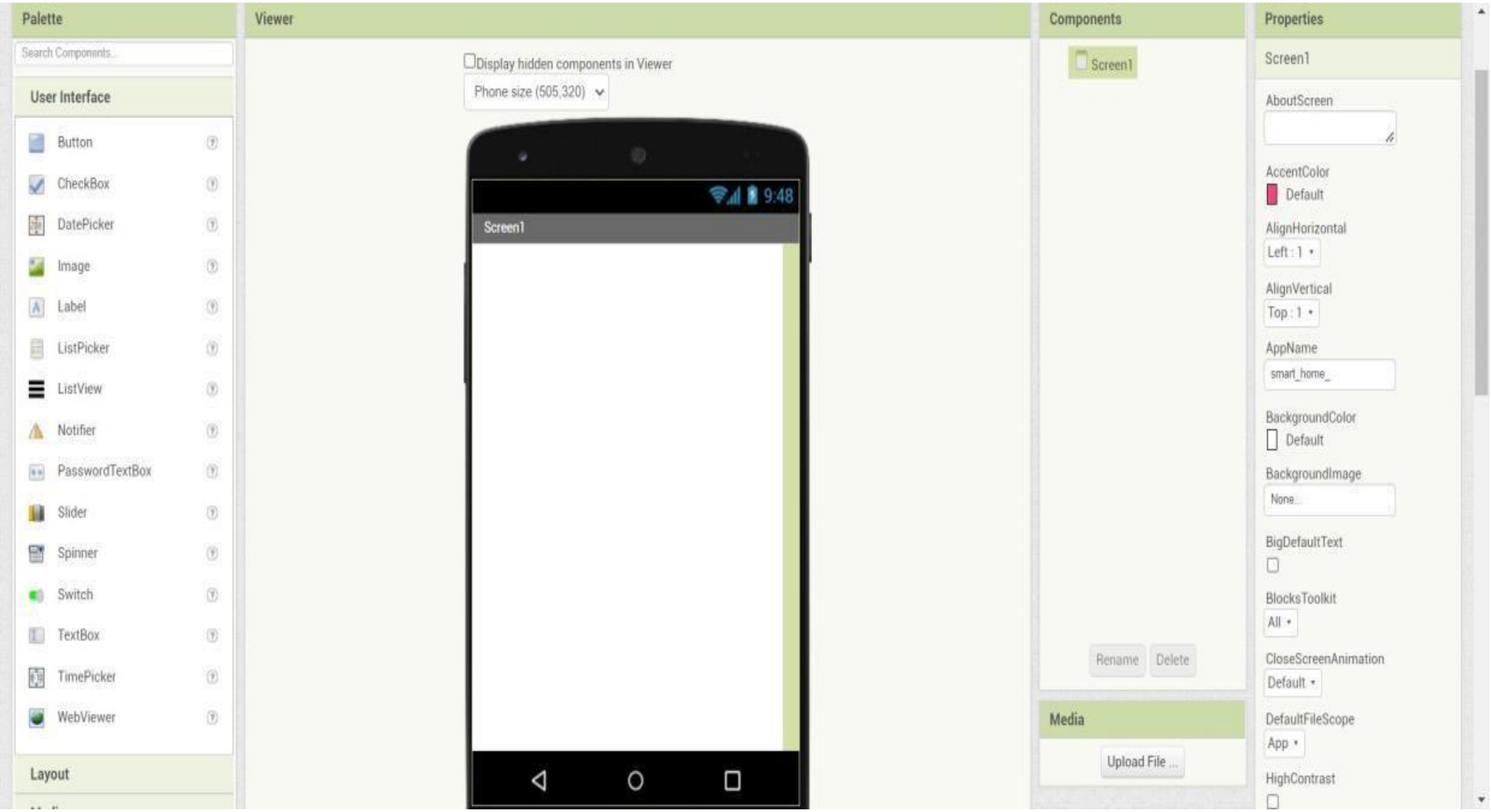
Name: Child

Node-Red Dashboard(Web ui):



Creating the MIT app and Showing the child's location

Create App in MIT App inventor:



Screen1

AboutScreen

AccentColor: Default

AlignHorizontal: Left : 1

AlignVertical: Top : 1

AppName: smart_home_

BackgroundColor: Default

BackgroundImage: None...

BigDefaultText: □

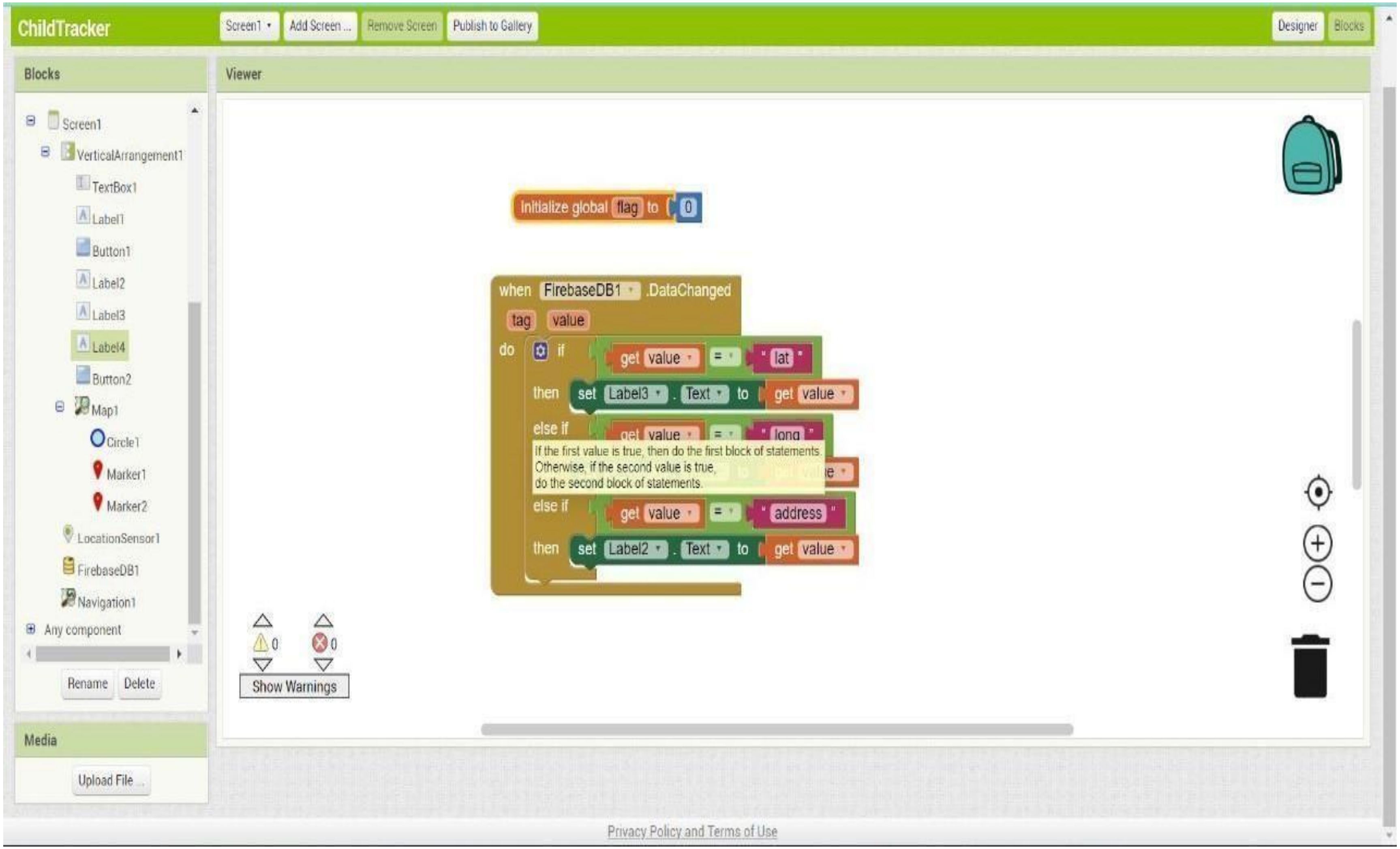
BlocksToolkit: All

CloseScreenAnimation: Default

DefaultFileScope: App

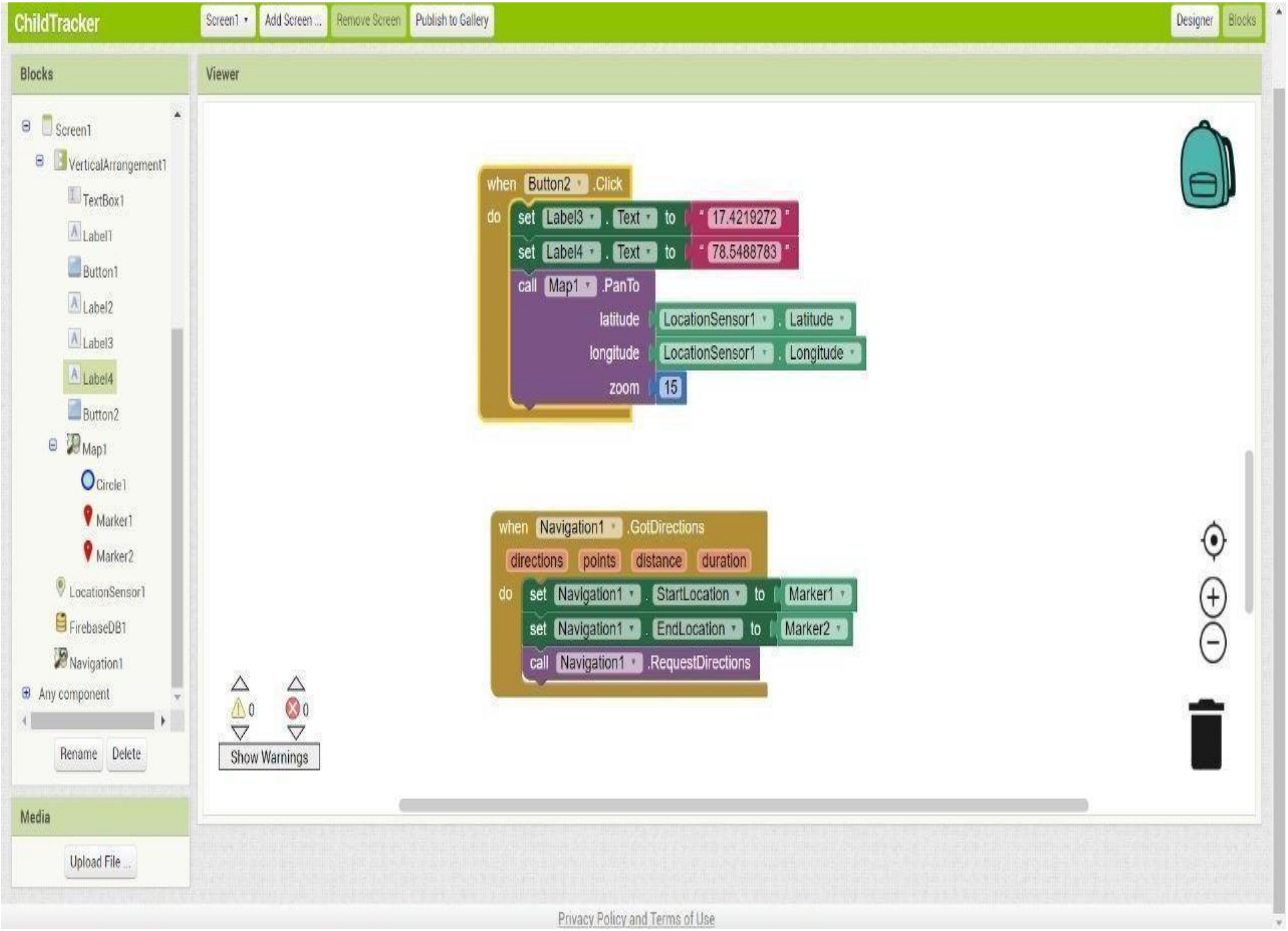
HighContrast: □

Block Configuration:



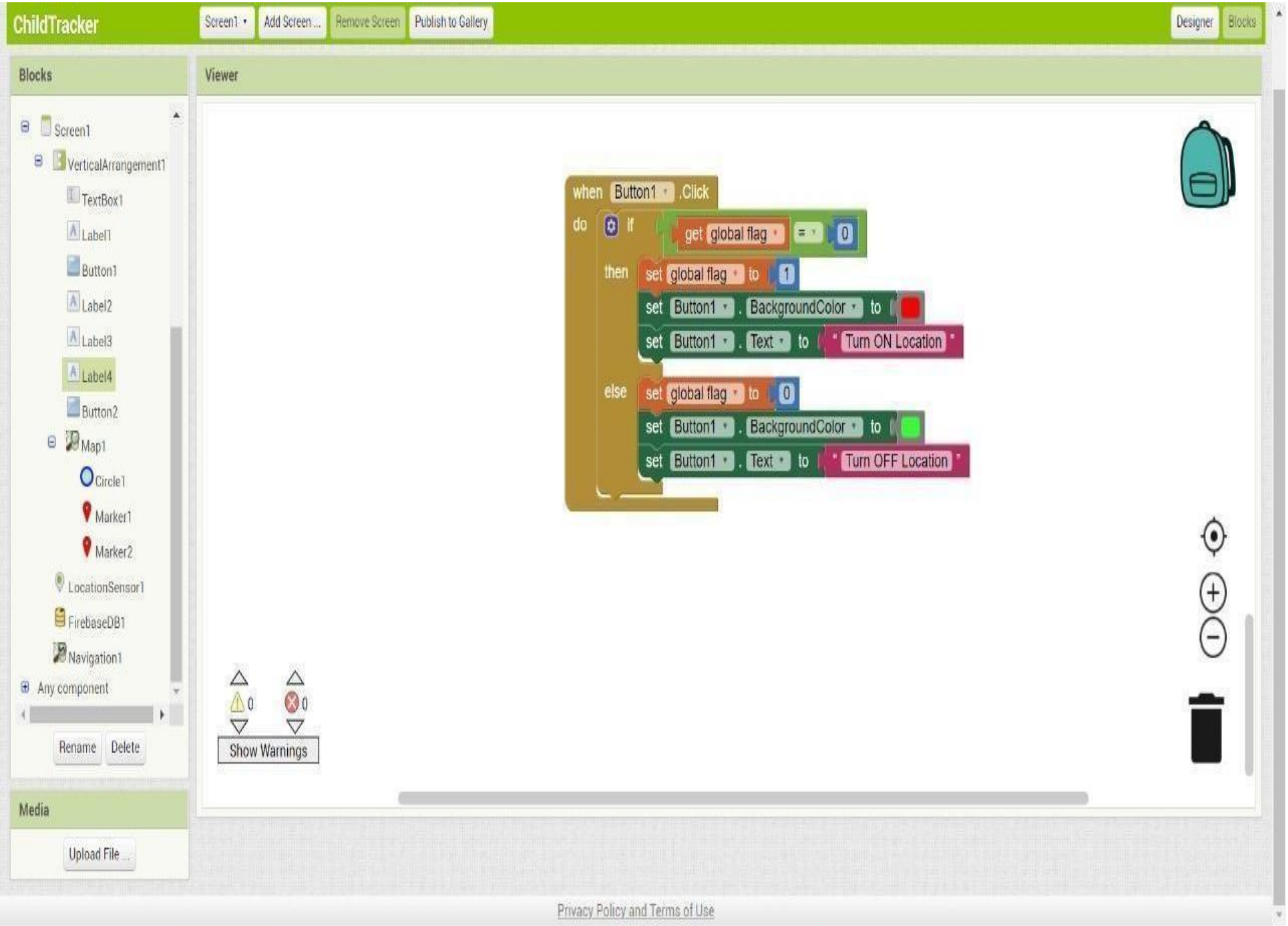
```
initialize global flag to 0

when FirebaseDB1 .DataChanged
  tag  value
do  if     get value = "lat"
    then   set Label3 . Text to get value
    else if get value = "long"
    else if get value = "address"
    then   set Label2 . Text to get value
```

If the first value is true, then do the first block of statements.
Otherwise, if the second value is true,
do the second block of statements.

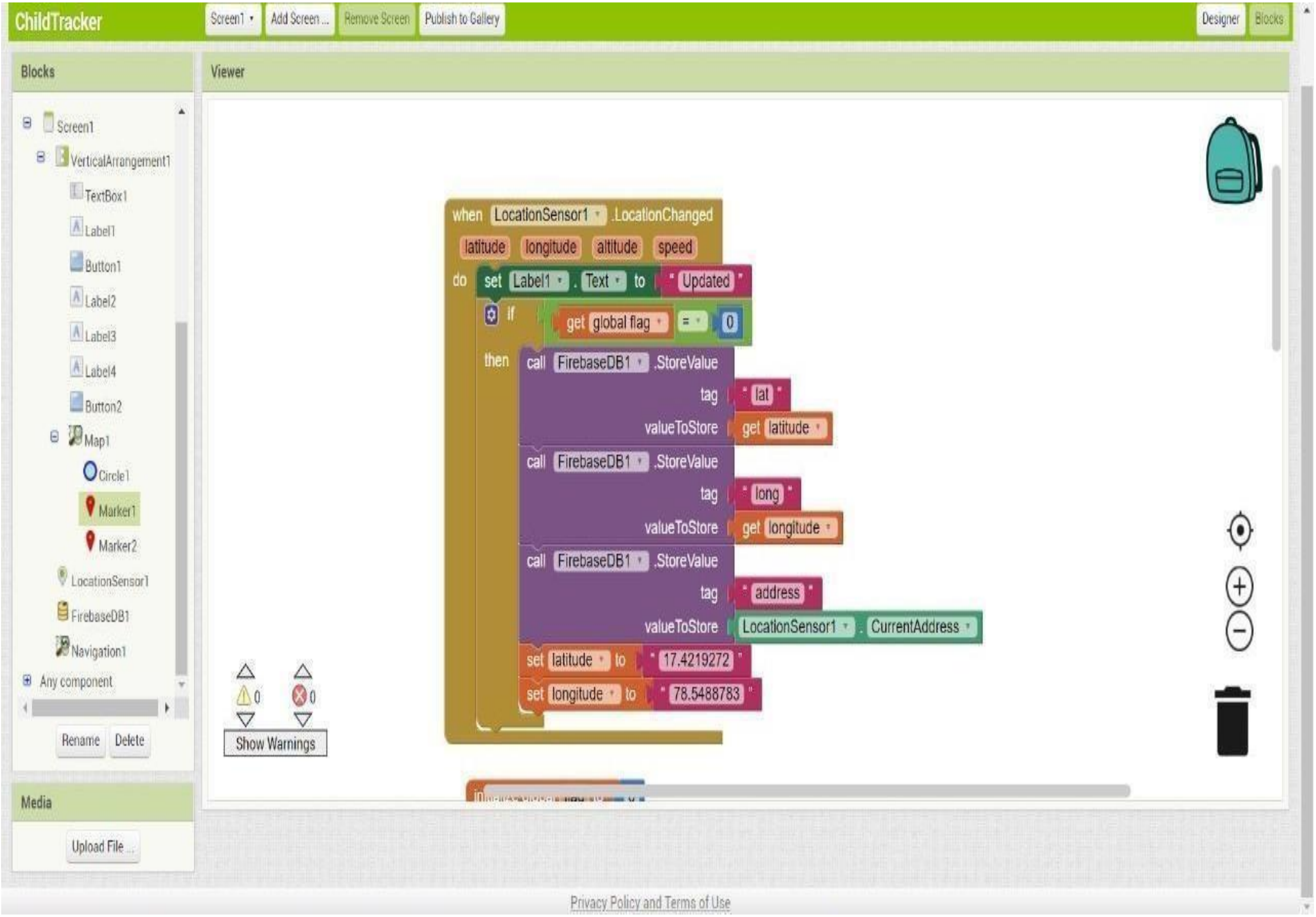


```
when Button2 .Click
do  set Label3 . Text to " 17.4219272 "
    set Label4 . Text to " 78.5488783 "
    call Map1 .PanTo
                latitude  LocationSensor1 . Latitude
                longitude LocationSensor1 . Longitude
                zoom      15
```

```
when Navigation1 .GotDirections
 directions  points  distance  duration
do  set Navigation1 . StartLocation to Marker1
    set Navigation1 . EndLocation to Marker2
    call Navigation1 .RequestDirections
```

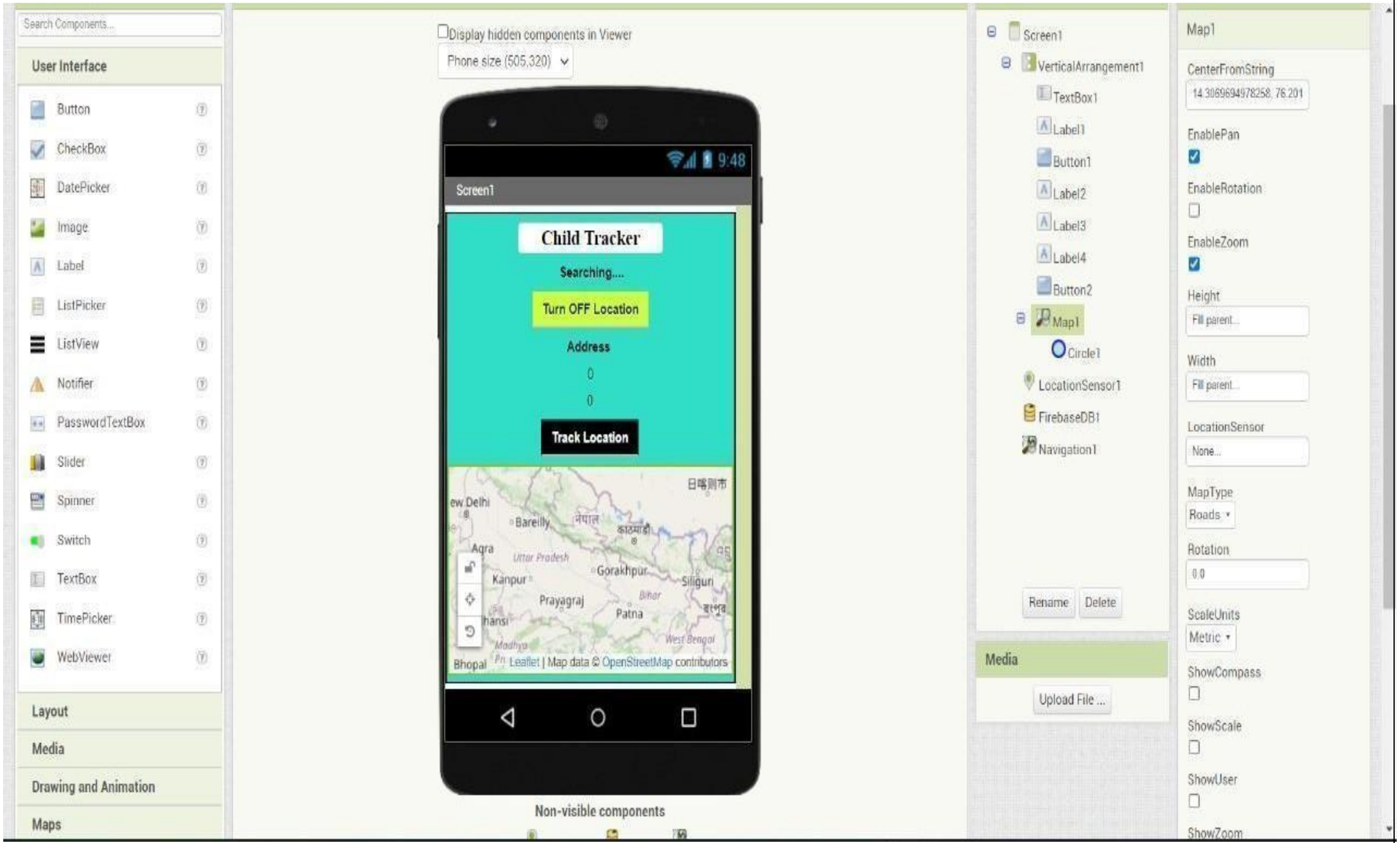


```
when Button1 .Click
do  if  get global flag = 0
    then  set global flag to 1
          set Button1 . BackgroundColor to 🟥
          set Button1 . Text to " Turn ON Location "
    else  set global flag to 0
          set Button1 . BackgroundColor to 🟩
          set Button1 . Text to " Turn OFF Location "
```



```
when LocationSensor1 .LocationChanged
  latitude  longitude  altitude  speed
do  set Label1 . Text to " Updated "
    if  get global flag = 0
    then  call FirebaseDB1 .StoreValue
                        tag " lat "
               valueToStore get latitude
          call FirebaseDB1 .StoreValue
                        tag " long "
               valueToStore get longitude
          call FirebaseDB1 .StoreValue
                        tag " address "
               valueToStore LocationSensor1 . CurrentAddress
          set latitude to " 17.4219272 "
          set longitude to " 78.5488783 "
```

Output(App inventor):



Map1

CenterFromString
14.3069694978258, 76.201

EnablePan
☑

EnableRotation
□

EnableZoom
☑

Height
Fill parent...

Width
Fill parent...

LocationSensor
None...

MapType
Roads

Rotation
0.0

ScaleUnits
Metric

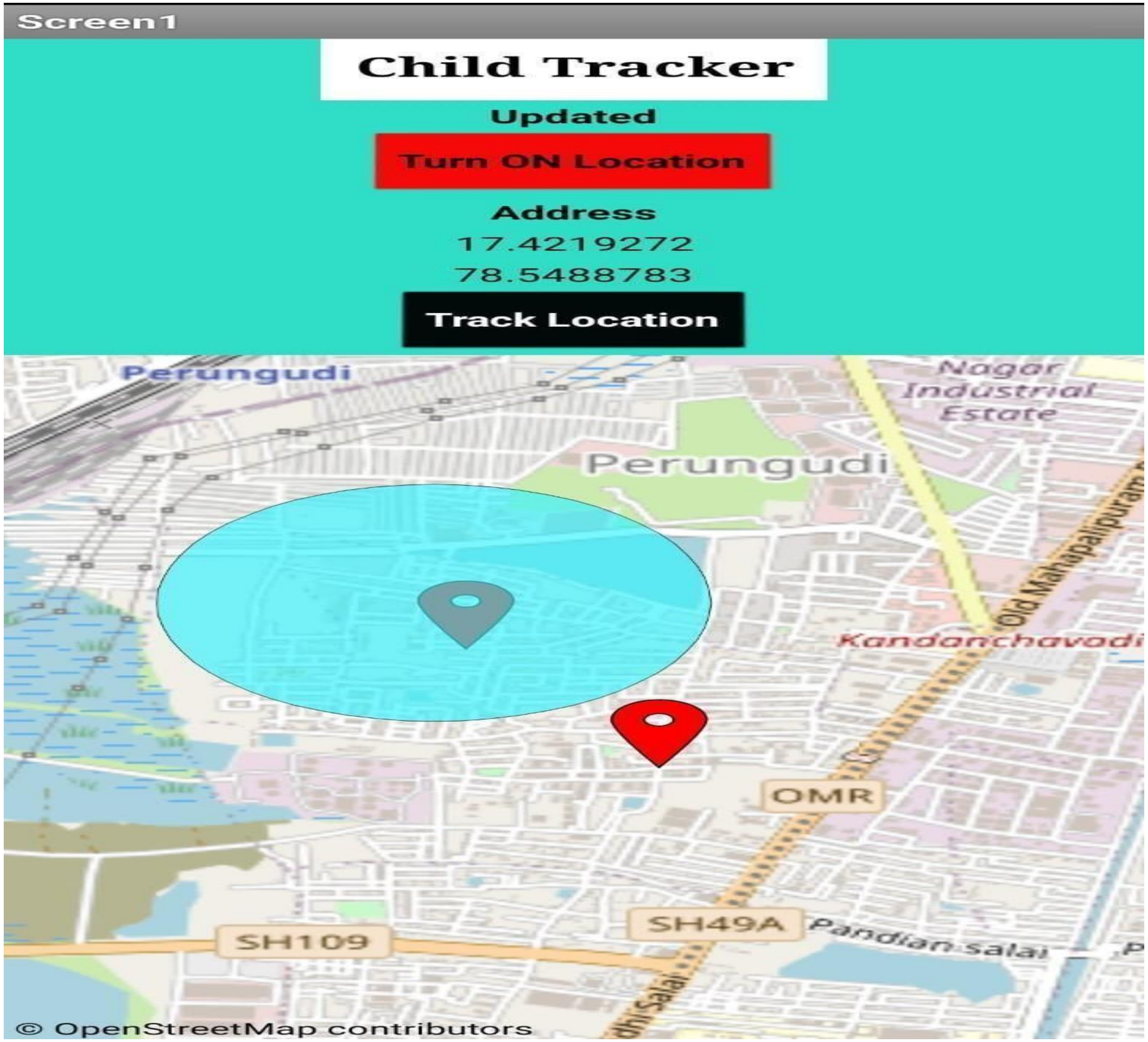
ShowCompass
□

ShowScale
□

ShowUser
□

ShowZoom

Location Status:



Screen1

Child Tracker

Updated

Turn ON Location

Address

17.4219272

78.5488783

Track Location

CONCLUSION

This paper to ensure the safety of children and increase their confidence. Many experimenters are operating in this area and have formulated different technologies to aid children. The key represented in this paper takes the advantage of smartphones which proposes affluent elements like Google maps, SMS, etc. The child safety and protection device is proficient in acting as a smart IoT device. It equips parents with real-time location, thesurrounding temperature, and along with an alarm buzzer for their child’s circumstances and the capability to locate their child. This paper depicts thefundamental design concept and functionality along with the anticipated consequences.

REFERENCES

{1} Authors: David Hanes, Gonzalo, Patrick Grosetete, Robert, Barton, Jerome. Title: Henry “IoT Fundamental and Networking Technologies, Protocols”- CISCO 2016 https://books.google.co.in/books/about/IoT_Fundamentals.html?id=F6GxjgEACAAJ&redir_esc=y

{2} Authors: Aditi Gupta, Vibhor Harit. Published in: 2016 IEEE. Title: ChildSafety & Tracking Management System by using GPS https://scholar.archive.org/work/djydjnxvovbdhhbthlunfw7tye

{3} Authors: K. N. H. Srinivas, T. D. S. Sarveswara Rao, E. Kusuma Kumari. Title:Smart IoT Device for Child Safety and Tracking. Published in: 2019 IEEE. https://ijsrcseit.com/paper/CSEIT206288.pdf

{4} Authors: Akash Moodbidri, Hamid Shahnasser. Title: Child safety wearabledevice. Published in: 2017 IEEE. https://ieeexplore.ieee.org/document/7899531