

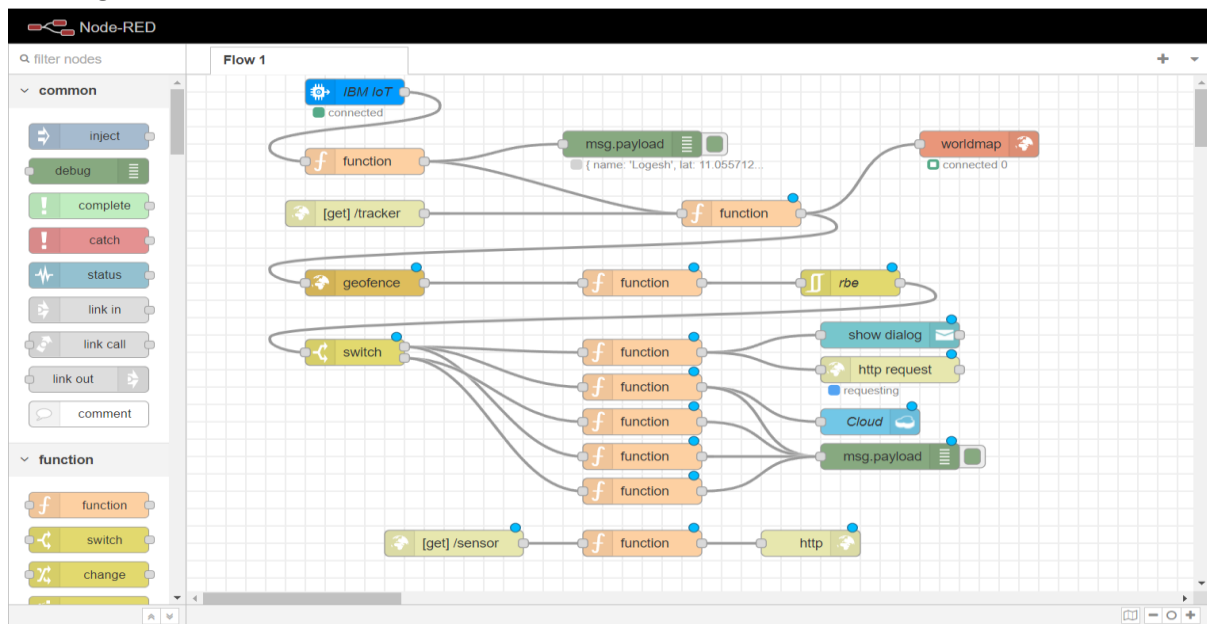
# Project Development – Delivery plan sprint-3

## IoT Based Safety Gadget for Child Safety Monitoring & Notification

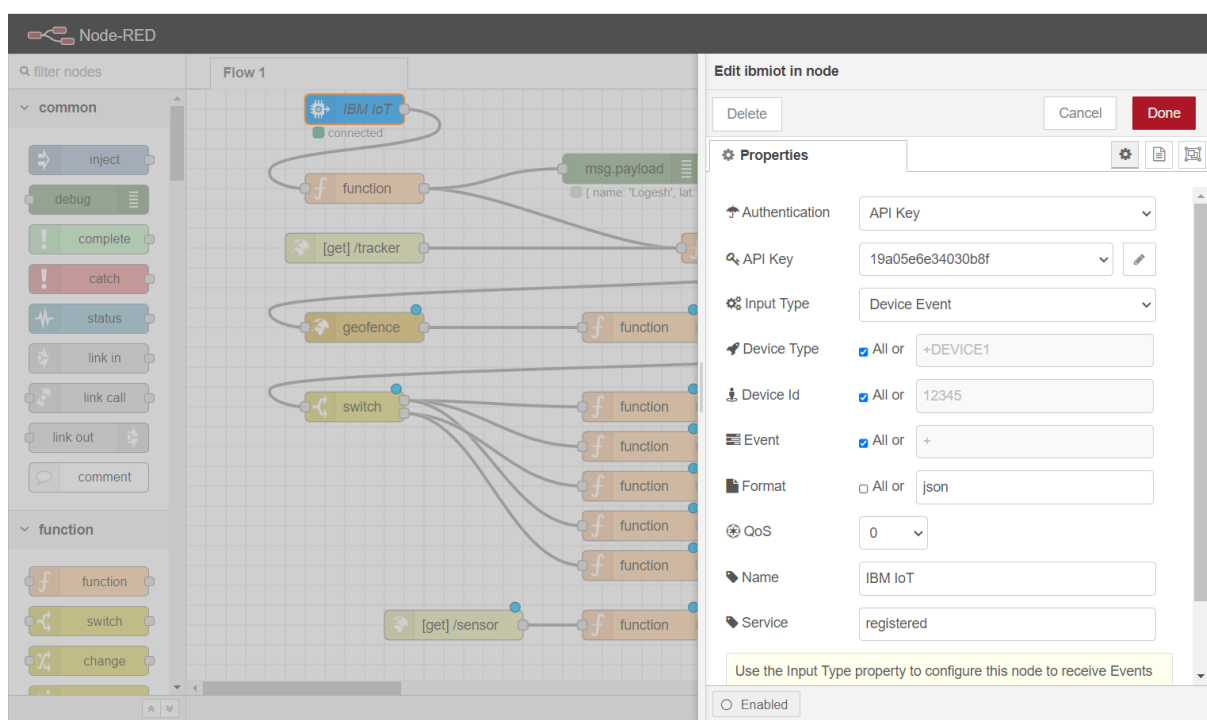
TEAM ID:PNT2022TMID22325

### Creating Node-Red service and connecting with IBM cloud

Creating Node-Red service:



Codes in each Node:





Node-RED

filter nodes

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change

Flow 1

IBM IoT

connected

function

[get] /tracker

geofence

switch

[get] /sensor

msg.payload

Edit debug node

Delete

Cancel

Done

Properties

Output

msg. payload

To

- ☒ debug window
- ☐ system console
- ☒ node status (32 characters)

same as debug output

Name

Name

Enabled

Node-RED

filter nodes

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change

Flow 1

IBM IoT

connected

function

[get] /tracker

geofence

switch

[get] /sensor

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

Node-RED

filter nodes

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change

Flow 1

IBM IoT

connected

function

[get] /tracker

geofence

switch

[get] /sensor

Edit worldmap node

Delete

Cancel

Done

Properties

Start

Latitude

Longitude

Zoom

50.4219272

110.548878

16

Map list

7 selected

Base map

OpenStreetMap Greyscale

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

Show

Lock map

False

Lock zoom

False

Auto-pan

Disable

Right click

Enable

Co-ordinates

Not shown

Graticule

Not shown

Enabled

Node-RED

filter nodes

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change

Flow 1

IBM IoT (connected)

function

[get] /tracker

geofence

switch

[get] /sensor

Edit geofence node

Delete Cancel Done

Properties

Map

Floor ground Ceiling infinity

Action add "inarea" property

Enabled

Node-RED

filter nodes

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change

Flow 1

IBM IoT (connected)

function

[get] /tracker

geofence

switch

[get] /sensor

Edit function node

Delete Cancel Done

Properties

Name

Setup On Start On Message On Stop

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

Enabled

Node-RED

filter nodes

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change

Flow 1

IBM IoT (connected)

function

[get] /tracker

geofence

switch

[get] /sensor

Edit switch node

Delete Cancel Done

Properties

Name

Property msg.payload

is false → 1

is true → 2

checking all rules

recreate message sequences

Enabled

Node-RED

filter nodes

Flow 1

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change

IBM IoT

connected

function

[get] /tracker

geofence

switch

[get] /sensor

Edit function node

Delete Cancel Done

Properties

Name

Setup On Start On Message On Stop

```
1 // Code added here will be run once
2 // whenever the node is started.
3 var d = new Date();
4 var utc = d.getTime() + (d.getTimezoneOffset() * 60000);
5 var offset = 5.5;
6 newDate = new Date(utc +(3600000 * offset));
7
8
9
10
11 msg.payload = {
12   "message": "child crossed the geofence",
13   "time": newDate.toLocaleString(),
14   "name": global.get("name"),
15   "lat": global.get("latitude"),
16   "lon": global.get("longitude")
17 };
18
19 return msg;
```

Enabled

Node-RED

filter nodes

Flow 1

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change

IBM IoT

connected

function

[get] /tracker

geofence

switch

[get] /sensor

Edit function node

Delete Cancel Done

Properties

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;
6
7 newDate = new Date(utc +(3600000 * offset));
8
9
10 msg.payload = {
11   "message": "Entry",
12   "time": newDate.toLocaleString(),
13   "name": global.get("name"),
14   "lat": global.get("latitude"),
15   "lon": global.get("longitude")
16 };
17
18 return msg;
```

Enabled

Node-RED

filter nodes

Flow 1

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change

IBM IoT

connected

function

[get] /tracker

geofence

switch

[get] /sensor

Edit function node

Delete Cancel Done

Properties

Name

Setup On Start On Message On Stop

```
1 global.set('alarm',1)
2 return msg;
```

Enabled

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

IBM Watson IoT Platform

vishala.cse19@veltechmultitech.org  
ID: 046bct

Browse Action Device Types Interfaces

Add Device

## Browse Devices

All Devices Diagnose

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

Device Simulator

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
12345	Disconnected	DEVICE1	Device	10 Nov 2022 10:44	

Items per page 50 | 1-1 of 1 item

1 of 1 page

IBM Watson IoT Platform

vishala.cse19@veltechmultitech.org  
ID: 046bct

Browse Action Device Types Interfaces

Add Device

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

Device Simulator

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
12345	Disconnected	DEVICE1	Device	10 Nov 2022 10:44	

Identity Device Information Recent Events State Logs

Device ID: 12345

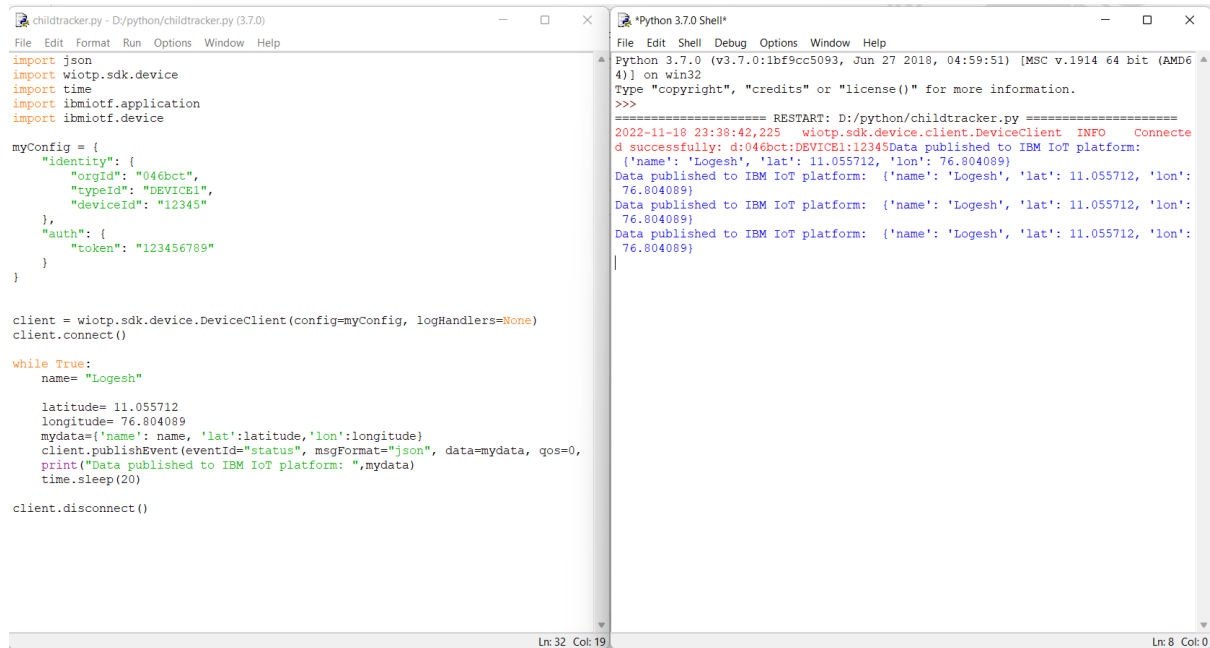
Device Type: DEVICE1

Date Added: 10 Nov 2022 10:44

Added By: vishala.cse19@veltechmultitech.org

Connection Status: **Disconnected**  
Last Connected: 18 Nov 2022 14:50  
Client Address: 106.198.27.33 SecureToken  
Duration: 5 minutes  
Data Transferred: 4.7 KB

## Transferring values from Python Code:



```
childtracker.py - D:/python/childtracker.py (3.7.0)
File Edit Format Run Options Window Help

import json
import wiotp.sdk.device
import time
import ibmiotf.application
import ibmiotf.device

myConfig = {
    "identity": {
        "orgId": "046bct",
        "typeId": "DEVICE1",
        "deviceId": "12345"
    },
    "auth": {
        "token": "123456789"
    }
}

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
    name= "Logesh"

    latitude= 11.055712
    longitude= 76.804089
    mydata={'name': name, 'lat':latitude, 'lon':longitude}
    client.publishEvent(eventId="status", msgFormat="json", data=mydata, qos=0,
    print("Data published to IBM IoT platform: ",mydata)
    time.sleep(20)

client.disconnect()
```

```
Python 3.7.0 Shell*
File Edit Shell Debug Options Window Help

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: D:/python/childtracker.py =====
2022-11-18 23:38:42,225 wiotp.sdk.device.client.DeviceClient INFO Connecte
d successfully: dt:046bct:DEVICE1:12345Data published to IBM IoT platform:
{'name': 'Logesh', 'lat': 11.055712, 'lon': 76.804089}
Data published to IBM IoT platform: {'name': 'Logesh', 'lat': 11.055712, 'lon':
76.804089}
Data published to IBM IoT platform: {'name': 'Logesh', 'lat': 11.055712, 'lon':
76.804089}
Data published to IBM IoT platform: {'name': 'Logesh', 'lat': 11.055712, 'lon':
76.804089}
|
```

## Node-Red:

