

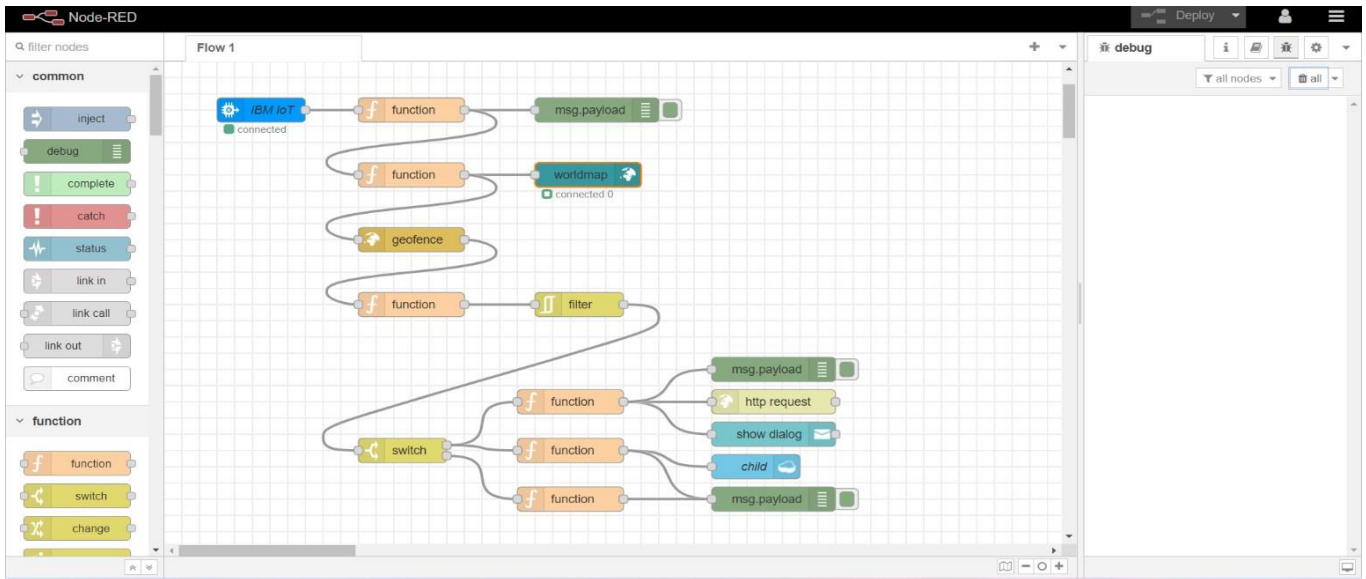
Project Development – Delivery plan sprint-3

IoT Based Safety Gadget for Child Safety Monitoring & Notification

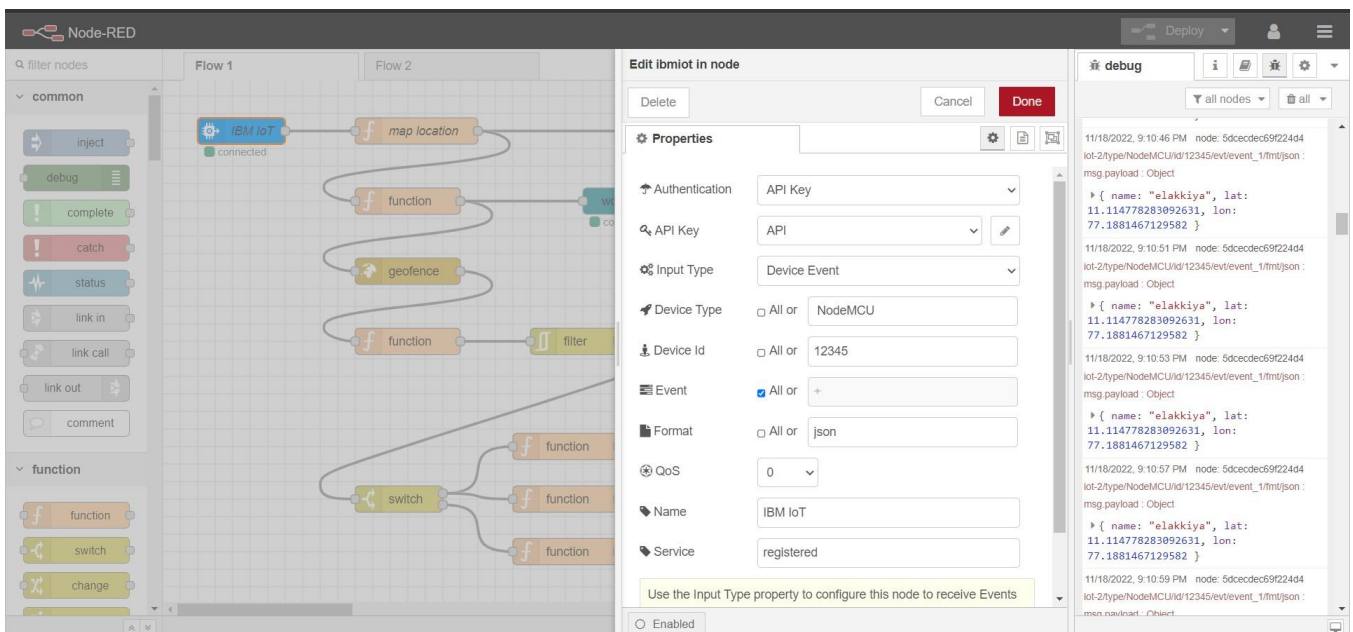
TEAM ID:PNT2022TMID42554

Creating Node-Red service and connecting with IBM cloud

Creating Node-Red service:



Codes in each Node:



Node-RED interface showing a flow with an IBM IoT node connected to a function node. The function node is being edited, showing the following code:

```
1 var name= msg.payload.name
2 var lat= msg.payload.lat
3 = msg.payload.lon
4 global.set('latitude',lat)
5 global.set('longitude',lon)
6 global.set('name',name)
7 return msg;
```

The debug console shows the following log entries:

```
11/18/2022, 9:10:46 PM node: 5dcecd69224d4
iot-2/type/NodeMCUID/12345/evl/event_1/fmt/json :
msg.payload : Object
> { name: "elakkiya", lat:
11.114778283092631, lon:
77.1881467129582 }
```

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```


Node-RED interface showing a flow configuration and the 'Edit geofence node' dialog.

Flow 1: IBM IoT (connected) → function → function → geofence → function → switch.

Edit geofence node:

- Properties:** Map showing a geofence area (purple circle) on a street map. The map includes labels for 'Rosary Church Road' and 'Leaflet | Map data © OpenStreetMap contributors'.
- Floor:** ground
- Ceiling:** infinity
- Action:** add "inarea" property
- Enabled:** ☐

Debug Console:

```
11/18/2022, 9:10:46 PM node: 5dcecd69f224d4
iot-2/type/NodeMCUID/12345/ev/1event_1/1mttjson :
msg.payload : Object
  { name: "elakkiya", lat: 11.114778283092631, lon: 77.1881467129582 }

11/18/2022, 9:10:51 PM node: 5dcecd69f224d4
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11/18/2022, 9:10:57 PM node: 5dcecd69f224d4
iot-2/type/NodeMCUID/12345/ev/1event_1/1mttjson :
msg.payload : Object
  { name: "elakkiya", lat: 11.114778283092631, lon: 77.1881467129582 }

11/18/2022, 9:10:59 PM node: 5dcecd69f224d4
iot-2/type/NodeMCUID/12345/ev/1event_1/1mttjson :
msg.payload : Object
  { name: "elakkiya", lat: 11.114778283092631, lon: 77.1881467129582 }
```

Node-RED interface showing a flow configuration and the 'Edit function node' dialog.

Flow 1: IBM IoT (connected) → function → function → geofence → function → switch.

Edit function node:

- Properties:** Name: Name
- Setup:** ☐
- On Start:** ☐
- On Message:** ☒
- On Stop:** ☐
- Code:**

```
1 msg.payload=msg.location.inarea
2 return msg;
```
- Enabled:** ☐

Debug Console:

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```


Node-RED interface showing a flow with an IBM IoT node, function nodes, a geofence node, a filter node, and a switch node. The "Edit filter node" panel is open, showing properties: Mode (block unless value changes), Property (msg. payload), and Name (Name). The debug console shows log messages for the filter node.

Edit filter node

Delete Cancel Done

Properties

Mode: block unless value changes

Property: msg. payload

☒ Apply mode separately for each

Name: Name

☐ Enabled

debug

all nodes all

11/18/2022, 9:10:46 PM node: 5dcecd659f224d4
iot-2/type/NodeMCUId/12345/ev/evnt_1/fmt/json :
msg.payload : Object
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msg.payload : Object

Node-RED interface showing a flow with an IBM IoT node, function nodes, a geofence node, a filter node, and a switch node. The "Edit switch node" panel is open, showing properties: Name (Name), Property (msg. payload), and rules (is false, is true). The debug console shows log messages for the switch node.

Edit switch node

Delete Cancel Done

Properties

Name: Name

Property: msg. payload

is false → 1

is true → 2

checking all rules

☐ recreate message sequences

☐ Enabled

debug

all nodes all

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Node-RED interface showing a flow with an IBM IoT node connected to a function node. The function node is configured with the following code:

```
1 var d = new Date();
2 var utc = d.getTime() + (d.getTimezoneoffset() * 60000);
3
4 var offset = 5.5;
5
6 newDate = new Date(utc + (360000*offset));
7
8
9 msg.payload = {
10   "message": "Exit",
11   "Time": newDate.toLocaleString(),
12   "name": global.get('name'),
13   "lat": global.get('latitude'),
14   "lon": global.get('longitude')
15 };
16
17 return msg;
```

The debug console shows the following log entries:

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2 var utc = d.getTime() + (d.getTimezoneoffset() * 60000);
3
4 var offset = 5.5;
5
6 newDate = new Date(utc + (360000*offset));
7
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;
```

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```

Node-RED

filter nodes

common

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

function

- function

Flow 1

IBM IoT

connected

function

function

geofence

function

rbe

switch

function

function

function

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

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

function

geofence

function

filter

switch

function

function

function

Flow 2

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 Name

Note: checking Accept raw HTML/JavaScript can allow injection of code. Ensure the input comes from trusted sources.

☐ Enabled

debug

all nodes

all

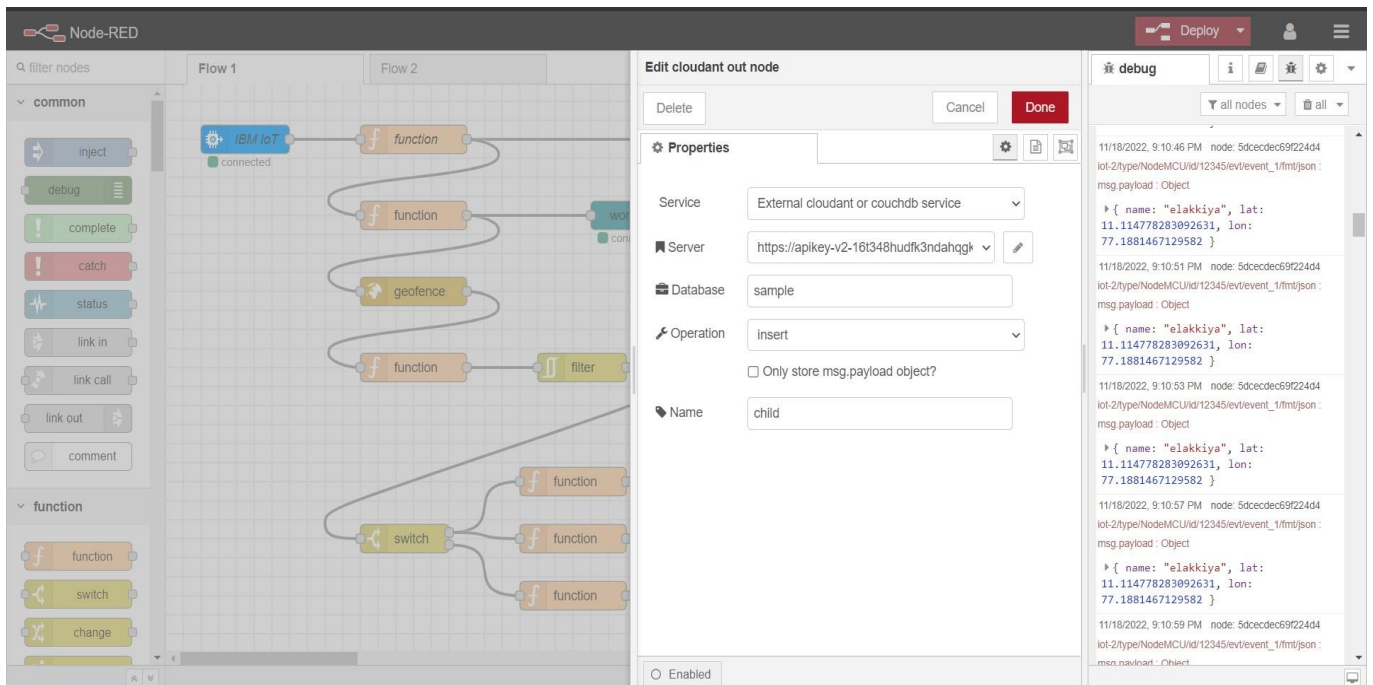
11/18/2022, 9:10:46 PM node: 5dcecd6922464
lot-2/type/NodeMCU/12345/ev1event_1/fmt/json :
msg.payload : Object
{ name: "elakkiya", lat: 11.114778283892631, lon: 77.1881467129582 }

11/18/2022, 9:10:51 PM node: 5dcecd6922464
lot-2/type/NodeMCU/12345/ev1event_1/fmt/json :
msg.payload : Object
{ name: "elakkiya", lat: 11.114778283892631, lon: 77.1881467129582 }

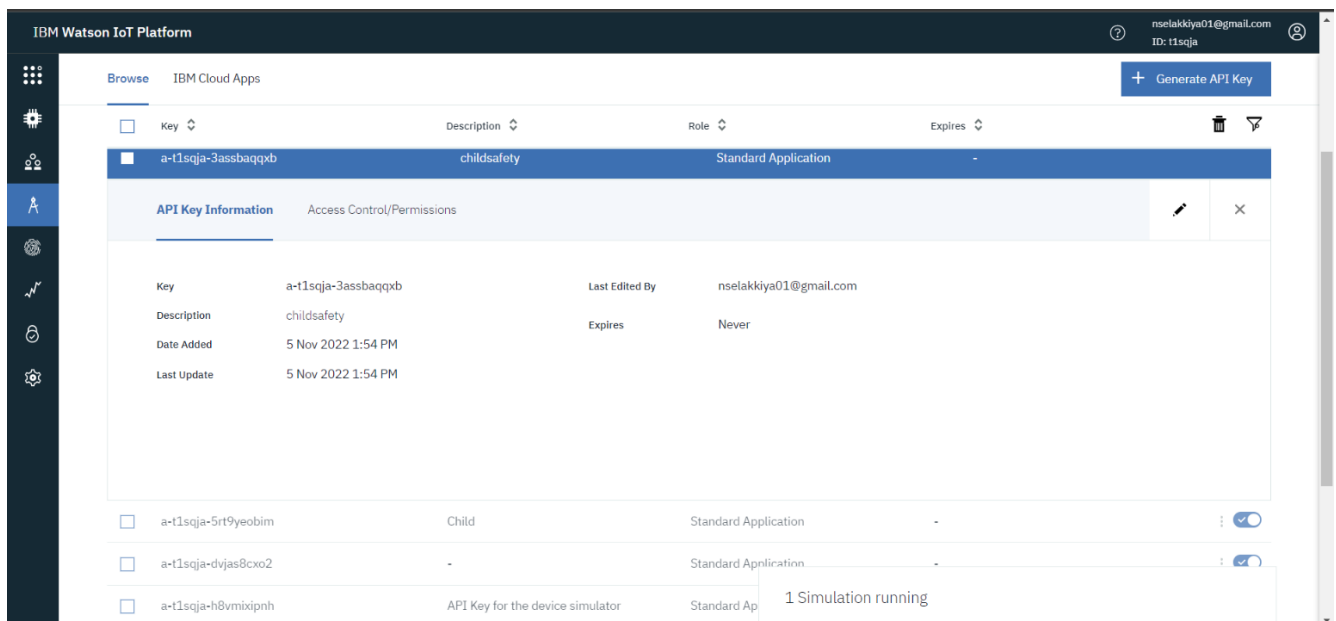
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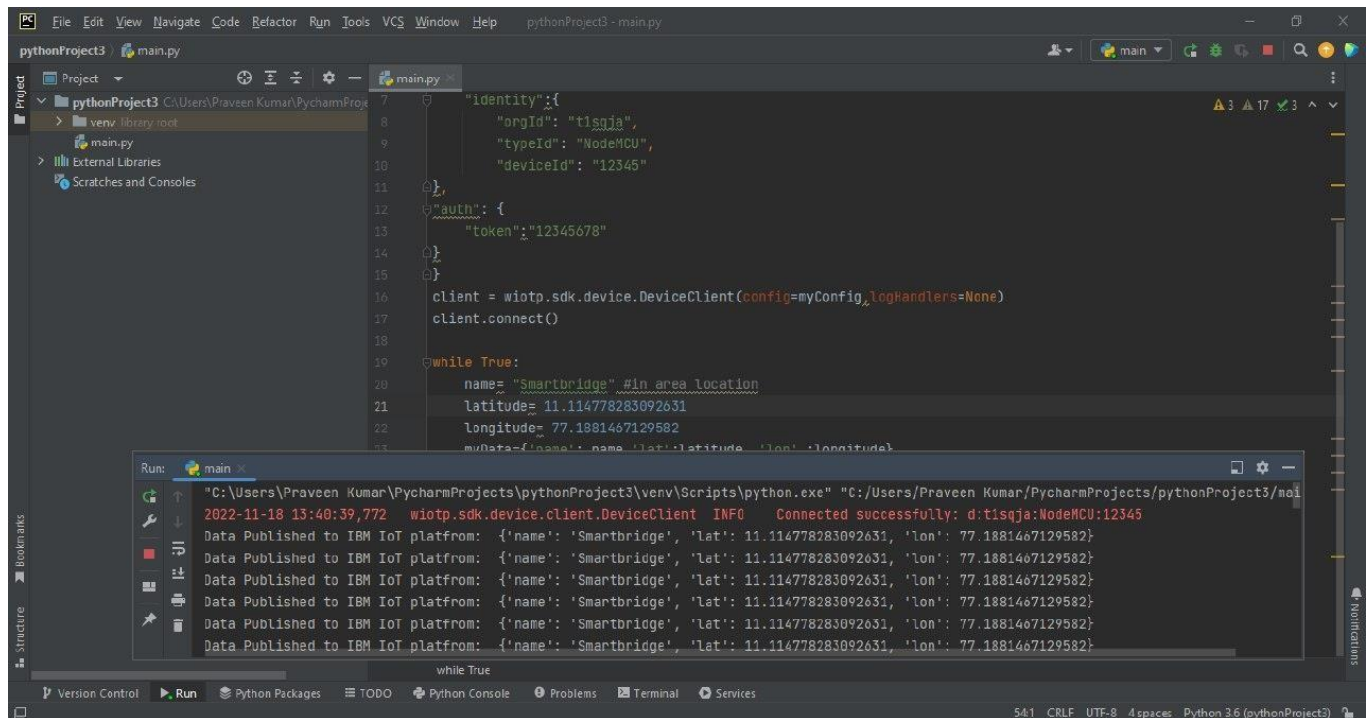
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Connecting with IBM Cloud: Using IBM IOT node through the API key



Transferring values from Python Code:



Node-Red:

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

