

Project Development Phase SPRINT-2


Date	07 November 2022
Team ID	PNT2022TMID43472
Project Name	IoT Based Safety Gadget for Child Safety Monitoring & Notification
Maximum Marks	20 marks

Sprint-2	US-1	Configuration the connection security and create API keys that are used in the Node-RED	10
Sprint-2	US-2	Service for accessing the IBM IoT platform. Create a Node-RED service.	10

The API key has been added.

Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the API key to generate a new authentication token.

Generated Details

API Key a-cci0bq-mnyawbswml 

Authentication Token YrFLGag2gUDd7@j6YP 



Make a note of the generated authentication token.
Lost authentication tokens cannot be recovered. If you lose the token, you must reregister the API to generate a new token.

API Key Information

Description -

Role Standard Application

Expires Never

Node-RED interface showing a flow named "Flow 1" with two nodes: "IBM IoT" (connected) and "msg payload". The "debug" console displays a series of messages received from the IoT device, each containing a timestamp, node name, and a JSON payload with latitude and longitude coordinates.

```
04/11/2022, 02:16:25 node: msg payload
iot-2/type/LocationId/PNT2022TMID47484/evt/event_1/fmt/json : msg payload : Object
  ↳ { Latitude: -36, Longitude: 108 }

04/11/2022, 02:16:28 node: msg payload
iot-2/type/LocationId/PNT2022TMID47484/evt/event_1/fmt/json : msg payload : Object
  ↳ { Latitude: 80, Longitude: 43 }

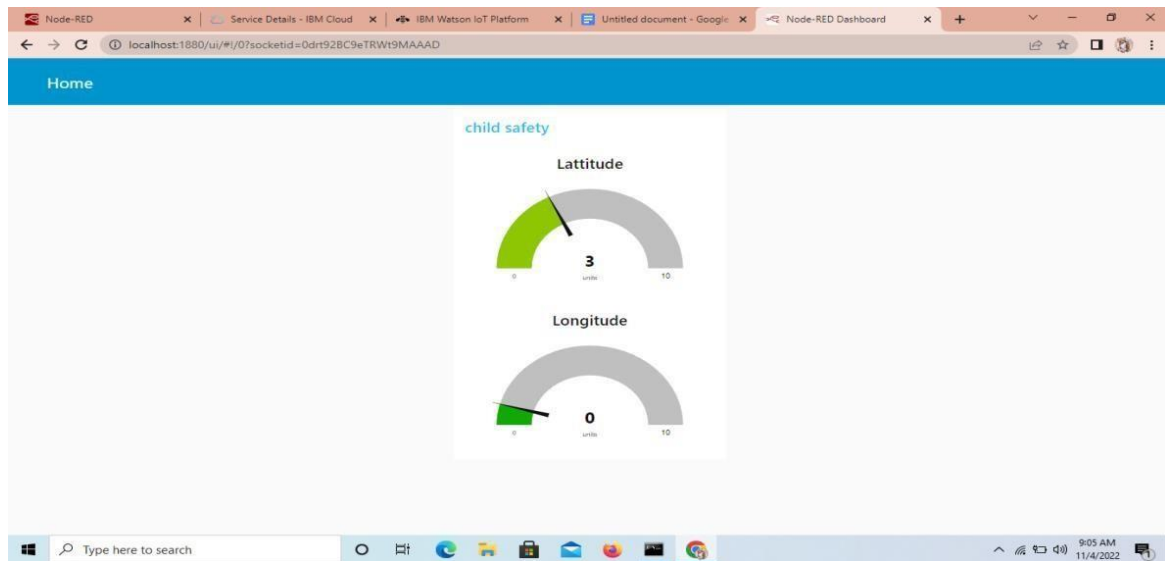
04/11/2022, 02:16:31 node: msg payload
iot-2/type/LocationId/PNT2022TMID47484/evt/event_1/fmt/json : msg payload : Object
  ↳ { Latitude: -28, Longitude: 141 }

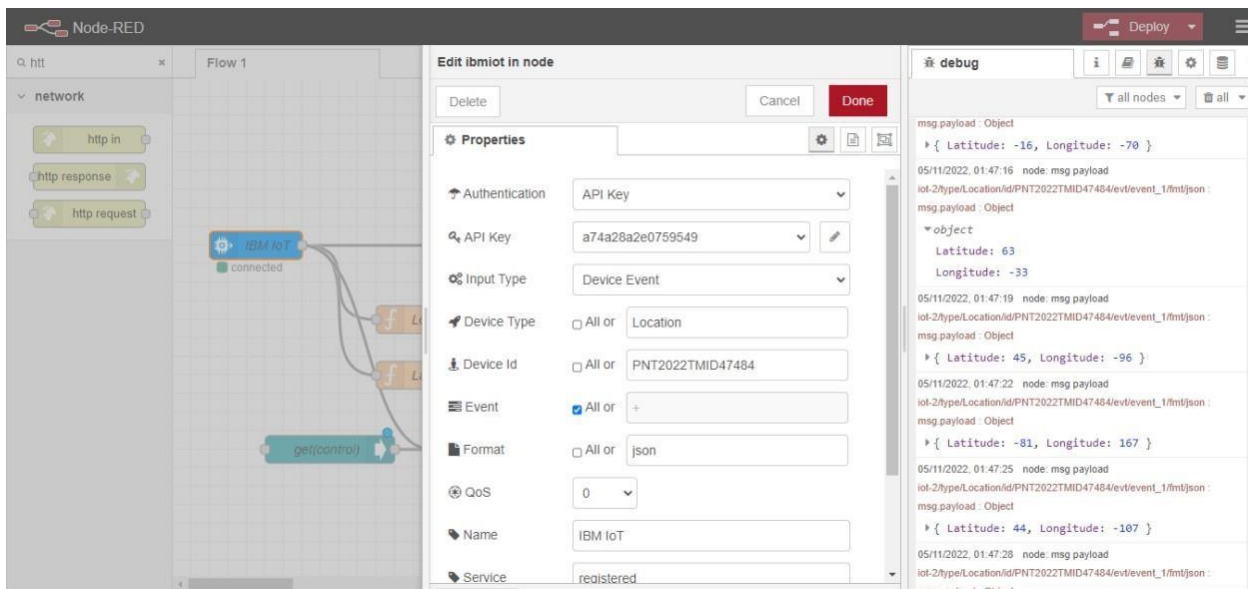
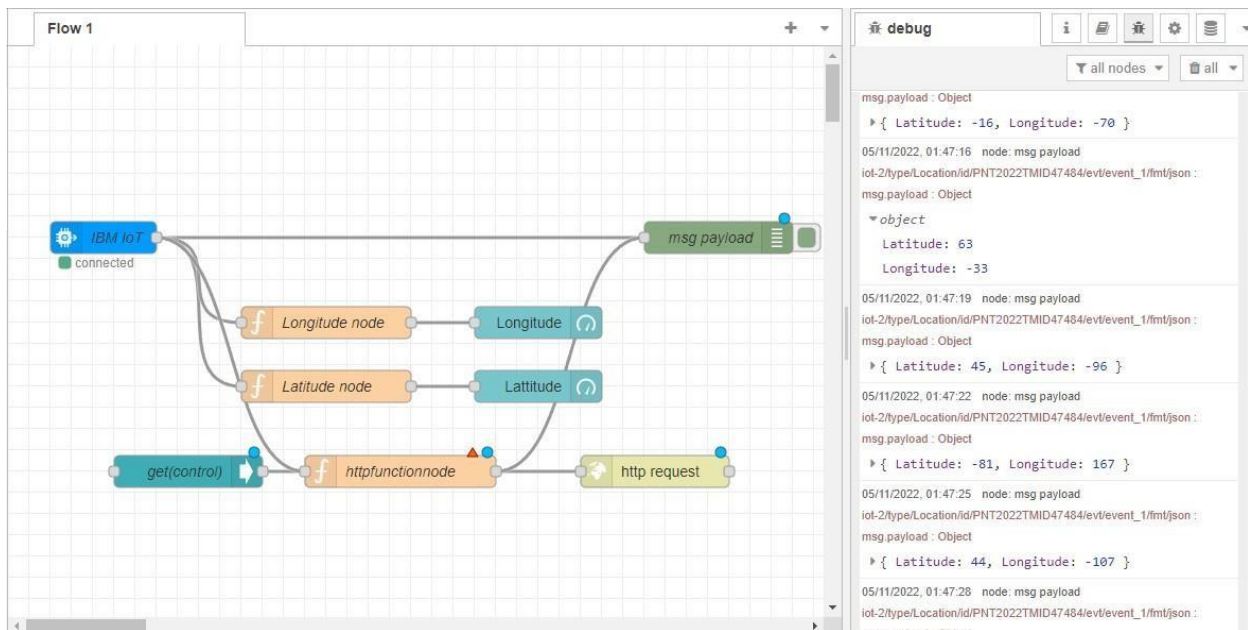
04/11/2022, 02:16:34 node: msg payload
iot-2/type/LocationId/PNT2022TMID47484/evt/event_1/fmt/json : msg payload : Object
  ↳ { Latitude: 58, Longitude: -58 }

04/11/2022, 02:16:37 node: msg payload
iot-2/type/LocationId/PNT2022TMID47484/evt/event_1/fmt/json : msg payload : Object
  ↳ { Latitude: -7, Longitude: 124 }

04/11/2022, 02:16:40 node: msg payload
iot-2/type/LocationId/PNT2022TMID47484/evt/event_1/fmt/json : msg payload : Object
  ↳ { Latitude: -39, Longitude: -122 }

04/11/2022, 02:16:43 node: msg payload
iot-2/type/LocationId/PNT2022TMID47484/evt/event_1/fmt/json : msg payload : Object
  ↳ { Latitude: -48, Longitude: 75 }
```





Node-RED interface showing the "Edit function node" configuration. The node is named "Longitude node" and is configured to run "On Message". The function code is:

```
1 msg.payload = msg.payload.Longitude
2 return msg;
```

The debug console shows the following log entries:

```
msg.payload : Object
  { Latitude: -16, Longitude: -70 }

05/11/2022, 01:47:16 node: msg payload
iot-2/type/Location/id/PNT2022TMD47484/ev/levent_1/fmt/json :
msg.payload : Object
  { Latitude: 63, Longitude: -33 }

05/11/2022, 01:47:19 node: msg payload
iot-2/type/Location/id/PNT2022TMD47484/ev/levent_1/fmt/json :
msg.payload : Object
  { Latitude: 45, Longitude: -96 }

05/11/2022, 01:47:22 node: msg payload
iot-2/type/Location/id/PNT2022TMD47484/ev/levent_1/fmt/json :
msg.payload : Object
  { Latitude: -81, Longitude: 167 }

05/11/2022, 01:47:25 node: msg payload
iot-2/type/Location/id/PNT2022TMD47484/ev/levent_1/fmt/json :
msg.payload : Object
  { Latitude: 44, Longitude: -107 }

05/11/2022, 01:47:28 node: msg payload
iot-2/type/Location/id/PNT2022TMD47484/ev/levent_1/fmt/json :
```

Node-RED interface showing the "Edit gauge node" configuration. The node is named "Longitude" and is configured to run "On Message". The gauge is set to display "Longitude" with a range from 0 to 10. The colour gradient is set to green, yellow, and red. The debug console shows the following log entries:

```
msg.payload : Object
  { Latitude: -16, Longitude: -70 }

05/11/2022, 01:47:16 node: msg payload
iot-2/type/Location/id/PNT2022TMD47484/ev/levent_1/fmt/json :
msg.payload : Object
  { Latitude: 63, Longitude: -33 }

05/11/2022, 01:47:19 node: msg payload
iot-2/type/Location/id/PNT2022TMD47484/ev/levent_1/fmt/json :
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05/11/2022, 01:47:25 node: msg payload
iot-2/type/Location/id/PNT2022TMD47484/ev/levent_1/fmt/json :
msg.payload : Object
  { Latitude: 44, Longitude: -107 }

05/11/2022, 01:47:28 node: msg payload
iot-2/type/Location/id/PNT2022TMD47484/ev/levent_1/fmt/json :
```

Node-RED

Flow 1

network

- http in
- http response
- http request

IBM IoT

connected

get(control)

Edit gauge node

Properties

- Group: [Home] child safety
- Size: auto
- Type: Gauge
- Label: Latitude
- Value format: {{value}}
- Units: units
- Range: min 0 max 10
- Colour gradient: [Green, Yellow, Red]
- Sectors: 0 optional optional 10
- Name:

debug

msg.payload - Object

```
{ Latitude: -16, Longitude: -70 }
```

05/11/2022, 01:47:16 node: msg payload
iot-2/type/Locaton/Id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg.payload - Object

object

```
{ Latitude: 63, Longitude: -33 }
```

05/11/2022, 01:47:19 node: msg payload
iot-2/type/Locaton/Id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg.payload - Object

```
{ Latitude: 45, Longitude: -96 }
```

05/11/2022, 01:47:22 node: msg payload
iot-2/type/Locaton/Id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg.payload - Object

```
{ Latitude: -81, Longitude: 167 }
```

05/11/2022, 01:47:25 node: msg payload
iot-2/type/Locaton/Id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg.payload - Object

```
{ Latitude: 44, Longitude: -107 }
```

05/11/2022, 01:47:28 node: msg payload
iot-2/type/Locaton/Id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg.payload - Object

Node-RED

Flow 1

network

- http in
- http response
- http request

IBM IoT

connected

Edit function node

Properties

- Name: Latitude node
- Setup
- On Start
- On Message
- On Stop

```
1 msg.payload = msg.payload.Latitude  
2 return msg;
```

debug

msg.payload - Object

```
{ Latitude: -16, Longitude: -70 }
```

05/11/2022, 01:47:16 node: msg payload
iot-2/type/Locaton/Id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg.payload - Object

object

```
{ Latitude: 63, Longitude: -33 }
```

05/11/2022, 01:47:19 node: msg payload
iot-2/type/Locaton/Id/PNT2022TMD47484/ev/evnt_1/fmt/json :
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{ Latitude: 45, Longitude: -96 }
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iot-2/type/Locaton/Id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg.payload - Object

```
{ Latitude: -81, Longitude: 167 }
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05/11/2022, 01:47:25 node: msg payload
iot-2/type/Locaton/Id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg.payload - Object

```
{ Latitude: 44, Longitude: -107 }
```

05/11/2022, 01:47:28 node: msg payload
iot-2/type/Locaton/Id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg.payload - Object

Node-RED interface showing a function node configuration and a debug console.

Function Node Configuration:

- Name: httpfunctionnode
- Trigger: On Message
- Code:

```
1 msg.payload={"longitude":global.get(long)
2
3   "latitude": global.get(lati)}
4 return msg;
```

Debug Console:

msg payload : Object

{ Latitude: -16, Longitude: -70 }

05/11/2022, 01:47:16 node: msg payload
iot-2type/location/id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg payload : Object

object

Latitude: 63
Longitude: -33

05/11/2022, 01:47:19 node: msg payload
iot-2type/location/id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg payload : Object

{ Latitude: 45, Longitude: -96 }

05/11/2022, 01:47:22 node: msg payload
iot-2type/location/id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg payload : Object

{ Latitude: -81, Longitude: 167 }

05/11/2022, 01:47:25 node: msg payload
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05/11/2022, 01:47:28 node: msg payload
iot-2type/location/id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg payload : Object

Node-RED interface showing a function node configuration and a debug console.

Function Node Configuration:

- Name: httpfunctionnode
- Trigger: On Message
- Code:

```
1 msg.payload = msg.payload.command
2 return msg;
```

Debug Console:

msg payload : Object

{ Latitude: -16, Longitude: -70 }

05/11/2022, 01:47:16 node: msg payload
iot-2type/location/id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg payload : Object

object

Latitude: 63
Longitude: -33

05/11/2022, 01:47:19 node: msg payload
iot-2type/location/id/PNT2022TMD47484/ev/evnt_1/fmt/json :
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iot-2type/location/id/PNT2022TMD47484/ev/evnt_1/fmt/json :
msg payload : Object

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

Flow Configuration:

- Nodes: `http in`, `http response`, `http request`, `IBM IoT` (connected), `http`.
- Connections: `http in` connects to `http response`. `http request` connects to `IBM IoT`. `IBM IoT` connects to `http`.

Edit http in node dialog:

- Method: GET
- URL: /control
- Name: Name

Debug Console:

```
msg payload : Object
  { Latitude: -16, Longitude: -70 }

05/11/2022, 01:47:16 node: msg payload
iot-2/type/location/id/PNT2022TMD47484/evts/event_1/mtljson :
msg payload : Object
  object
    Latitude: 63
    Longitude: -33

05/11/2022, 01:47:19 node: msg payload
iot-2/type/location/id/PNT2022TMD47484/evts/event_1/mtljson :
msg payload : Object
  { Latitude: 45, Longitude: -96 }

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