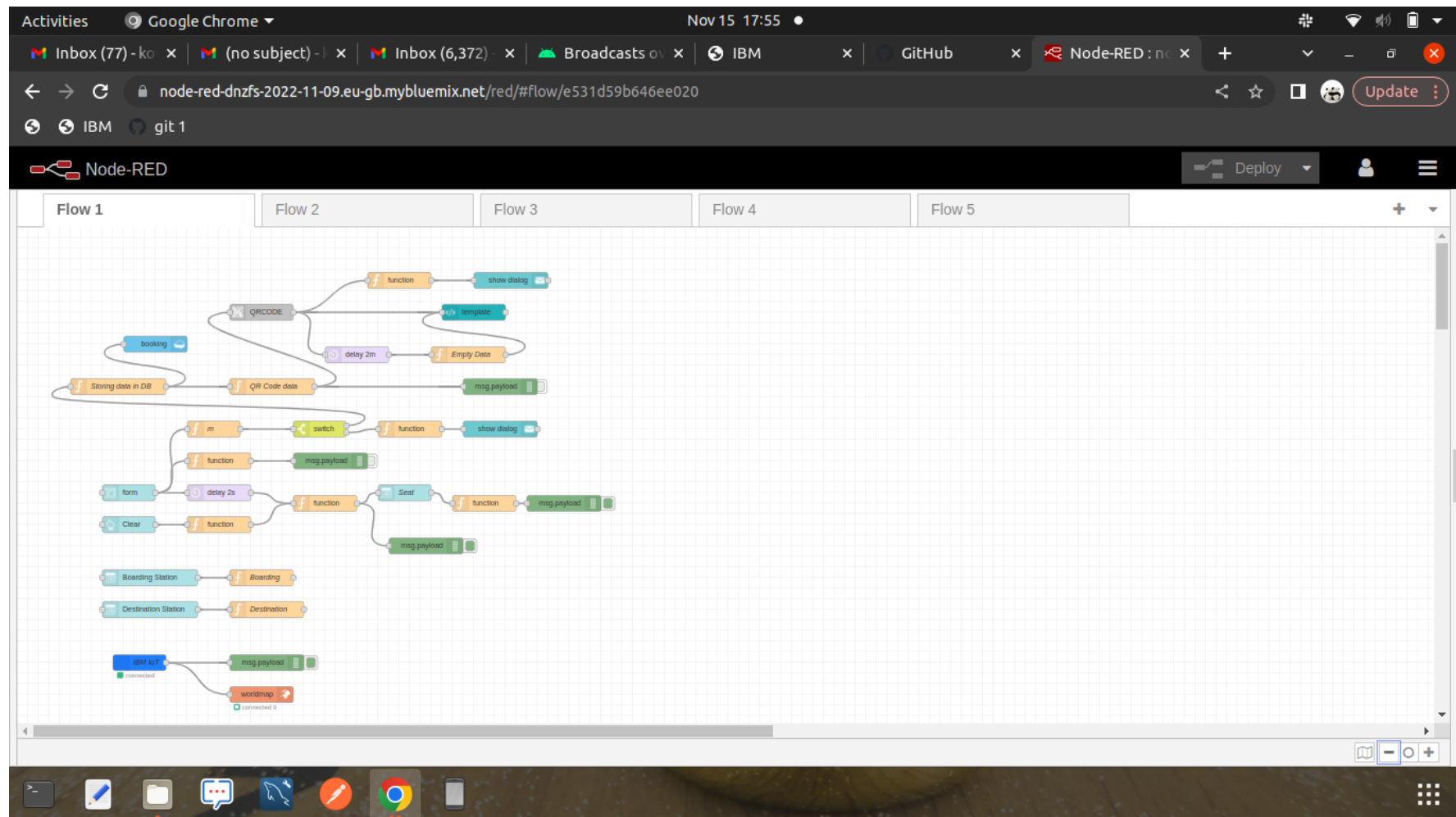


Sprint 3

Develop the web application using Node-RED

Date	5 November 2022
Team ID	PNT2022TMID19465
Project Name	Smart Solutions for Railways
Maximum Marks	8 Marks

Node-RED Flow Chart



Node-RED For IBM IoT

The screenshot displays the Node-RED web interface in a Google Chrome browser. The address bar shows the URL: `node-red-dnzfs-2022-11-09.eu-gb.mybluemix.net/red/#flow/e531d59b646ee020`. The interface is divided into a main workspace and a right-hand configuration panel.

Flow Diagram:

- Flow 1:** Contains a `form` node, a `Clear` node, a `Boarding Station` node, and a `Destination Station` node.
- Flow 2:** Contains a `delay 2s` node and a `function` node.
- Flow 3:** Contains a `function` node.
- Flow 4:** Contains a `Seat` node and a `function` node.

Connections include a `msg.payload` node and a `worldmap` node. The `IBM IoT` node is shown as connected.

Edit ibmiot in node Configuration Panel:

- Authentication:** API Key
- API Key:** apikey1
- Input Type:** Device Event
- Device Type:** ☐ All or railway23
- Device Id:** ☐ All or Device1
- Event:** ☒ All or +
- Format:** ☐ All or json
- QoS:** 0
- Enabled:** ☐ Enabled

Node-RED For World Map

Activities Google Chrome Nov 15 18:50

Inbox (77) x Inbox (2,52 x) Inbox (6,37 x) Broadcasts x IBM x IBM-Projec x Node-RED x milestone x +

node-red-dnzfs-2022-11-09.eu-gb.mybluemix.net/red/#flow/e531d59b646ee020

IBM git 1

Node-RED Deploy

Flow 1 Flow 2 Flow 3 Flow 4

form delay 2s function Seat function

Clear function

Boarding Station Boarding

Destination Station Destination

IBM IoT connected

msg.payload

worldmap connected 0

Edit worldmap node

Delete Cancel Done

Properties

Start Latitude Longitude Zoom

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

Enabled

Node-RED For Boarding Station

The screenshot displays the Node-RED web interface in a Google Chrome browser. The address bar shows the URL: `node-red-dnzs-2022-11-09.eu-gb.mybluemix.net/red/#flow/e531d59b646ee020`. The interface is divided into a main workspace and a right-hand properties panel.

Main Workspace:

- Flow 1:** Contains a `form` node, a `Clear` button, and a `Boarding Station` node. The `form` node is connected to a `function` node (labeled `m`), which is then connected to a `switch` node. The `Clear` button is connected to a `function` node. The `Boarding Station` node is connected to a `function` node labeled `Boarding`.
- Flow 2:** Contains a `delay 2s` node connected to a `function` node.
- Flow 3:** Contains a `msg.payload` node connected to a `function` node.
- Flow 4:** Contains a `Destination Station` node connected to a `function` node labeled `Destination`.

Edit dropdown node Properties Panel:

- Delete:** A button to delete the node.
- Cancel:** A button to cancel the edit.
- Done:** A red button to save the changes.
- Properties:**
 - Group:** [Form] Group
 - Size:** 6 x 1
 - Label:** Boarding Station
 - Tooltip:** optional tooltip
 - Placeholder:** Select option
 - Options:**
 - Dropdown 1: `a_z` Erode (Erode)
 - Dropdown 2: `a_z` Coimbatore (Coimbatore)
- Enabled:** A radio button to enable the node.

The bottom status bar shows the URL: `https://node-red-dnzs-2022-11-09.eu-gb.mybluemix.net/red/#editor-tab-properties`.

Node-RED For Destination Station

Activities Google Chrome Nov 15 20:57

(no subject) - kow: x Meet - zze-jtoh x IBM-EPBL/IBM-Pr x IBM x Node-RED : node- x Node-RED Dashb x +

node-red-dnzfs-2022-11-09.eu-gb.mybluemix.net/red/#flow/e531d59b646ee020

IBM git 1

Node-RED Deploy

Flow 1 Flow 2 Flow 3 Flow 4

form Clear Boarding Station Destination Station

function delay 2s function function m switch msg.payload function

Boarding Destination

Edit dropdown node

Delete Cancel Done

Properties

Options

▼ a _z Erode	Erode	x
▼ a _z Coimbatore	Coimbatore	x
▼ a _z Tirupur	Tirupur	x
▼ a _z Salem	Salem	x

+ option

Allow multiple selections from list: ☐

→ If msg arrives on input, pass through to output: ☒

Enabled

The screenshot displays the Node-RED web interface in a Google Chrome browser. The address bar shows the URL 'node-red-dnzfs-2022-11-09.eu-gb.mybluemix.net/red/#flow/e531d59b646ee020'. The interface features a workspace with four flows (Flow 1 to Flow 4). Flow 1 contains a 'form' node, a 'Clear' button, and a 'Boarding Station' node. Flow 2 includes a 'function' node, a 'delay 2s' node, and another 'function' node. Flow 3 has a 'function' node, a 'switch' node, and a 'msg.payload' node. Flow 4 consists of a 'Boarding' node and a 'Destination' node. The 'Edit dropdown node' panel is open on the right, showing a list of options: Erode, Coimbatore, Tirupur, and Salem. The panel also includes checkboxes for 'Allow multiple selections from list' and 'If msg arrives on input, pass through to output', and an 'Enabled' radio button.

Node-RED For Form

Activities Google Chrome Nov 15 20:59

Inbox (2,526) - kov x Meet - zze-jtoh x IBM-EPBL/IBM-Pr x IBM x Node-RED : node- x Node-RED Dashb x +

node-red-dnzfs-2022-11-09.eu-gb.mybluemix.net/red/#flow/e531d59b646ee020

IBM git 1

Node-RED

Flow 1 Flow 2

form

Clear

Boarding Station

Destination Station

Edit form node

Delete Cancel Done

Properties

Group [Form] Details

Size 6 x 2

Label optional label

Form elements

	Label	Name	Type	Required	UiRows	Remove
≡	Name	Name	Text	<input checked="" type="checkbox"/>		
≡	Age	Age	Number	<input checked="" type="checkbox"/>		
≡	Mobile.No	Num	Number	<input checked="" type="checkbox"/>		

☐ Enabled

Edit function node For Form

Activities Google Chrome Nov 15 21:02

Inbox (2,525) - kov x Meet - zze-jtoh x IBM-EPBL/IBM-Pr x IBM x Node-RED : node- x Node-RED Dashb x +

node-red-dnzfs-2022-11-09.eu-gb.mybluemix.net/red/#flow/e531d59b646ee020

IBM git 1

Node-RED

Flow 1 Flow 2 Flow 3 Flow 4

Storing data in DB QR Code data delay 2m

m switch

function msg.payload

form delay 2s function

Clear function

Boarding Station Boarding

Edit function node

Delete Cancel Done

Properties

Name m

Setup On Start On Message On Stop

```
1 global.set('m',msg.payload)
2 var a = global.get('s')
3 if(a==1 || a==2 || a==3 || a==4 || a==5){
4   msg.payload = 0
5 }
6 else{
7   msg.payload = 1
8 }
9 return msg;
```

Enabled

https://node-red-dnzfs-2022-11-09.eu-gb.mybluemix.net/red/#editor-tab-properties

Edit function node For Storing data DB

The screenshot shows the Node-RED web interface in a Google Chrome browser. The address bar displays the URL: `node-red-dnzfs-2022-11-09.eu-gb.mybluemix.net/red/#flow/e531d59b646ee020`. The interface includes a sidebar with a node palette on the left and a top bar with a 'Deploy' button. The main workspace shows a flow diagram with several nodes, including a function node labeled 'Storing data in DB'. The 'Edit function node' panel is open on the right, showing the following code:

```
1 var m=global.get('m')
2 var d=new Date();
3 var utc=d.getTime()+(d.getTimezoneOffset()*60000);
4 var offset=5.5;
5 newDate=new Date(utc+(3600000*offset));
6 var n=newDate.toISOString()
7 var date=n.slice(0,10)
8 var time=n.slice(11,19)
9 var d1=date+', '+time
10
11 msg.payload={
12   "id":d1,
13   "Name":m.Name,
14   "Age":m.Age,
15   "Mobile":m.Num,
16   "boarding":global.get('h')}
```

The 'Enabled' checkbox is checked at the bottom of the edit panel.

Edit cloudant out node for Booking

The screenshot displays the Node-RED web interface in a Google Chrome browser. The address bar shows the URL: `node-red-dnzs-2022-11-09.eu-gb.mybluemix.net/red/#flow/e531d59b646ee020`. The interface includes a sidebar with a node palette on the left and a main workspace for Flow 1. The workspace contains several nodes: a 'booking' node, a 'form' node, a 'delay 2s' node, a 'function' node, a 'msg.payload' node, a 'switch' node, a 'QR CODE' node, a 'delay 2m' node, and a 'Storing data in DB' node. The 'Edit cloudant out node' configuration panel is open on the right, showing the following settings:

- Service:** `node-red-dnzs-2022--cloudant-16680162778`
- Database:** `booking`
- Operation:** `insert`
- ☒ **Only store msg.payload object?**
- Name:** `Name`

At the bottom of the panel, there is an **Enabled** checkbox.

Edit QR code gen node

The screenshot shows a web browser window with the Node-RED interface. The address bar displays the URL: `node-red-dnzfs-2022-11-09.eu-gb.mybluemix.net/red/#flow/e531d59b646ee020`. The Node-RED workspace shows a flow with several nodes, including a 'QR CODE' node. The 'Edit qrcode gen node' dialog is open on the right side of the screen.

Edit qrcode gen node

Buttons: Delete, Cancel, Done

Properties

- Name:
- ☐ Show actionable string in Status (max 150 char)
- Colors: Background QRcode
- Type:

☒ Text or URL

☐ Enabled

Edit function node template

The screenshot shows a web browser window with Google Chrome at the top. The address bar displays the URL: `node-red-dnzfs-2022-11-09.eu-gb.mybluemix.net/red/#flow/e531d59b646ee020`. The browser tabs include "Inbox (2)", "Sprint 3", "Meet", "Sprint 3", "Sprint 3", "IBM-Pro", "IBM", and two "Node-RE" tabs. The Node-RED interface is visible, showing a flow editor with a sidebar on the left containing various nodes like "discovery", "document loader", "query builder", "V2", "language translator", "document translator", "identify", and "util". The main workspace shows a flow with nodes including "booking", "Storing data in DB", "QR CODE", "QR Code data", "delay 2m", "m", "switch", "function", and "msg.payload". On the right, the "Edit template node" panel is open, displaying the following properties:

- Delete** button
- Cancel** button
- Done** button
- Properties** section:
 - Template type:
 - Group:
 - Size:
 - Class:
 - Name:
- Template** section:
 - 1 ``
- ☐ Enabled