

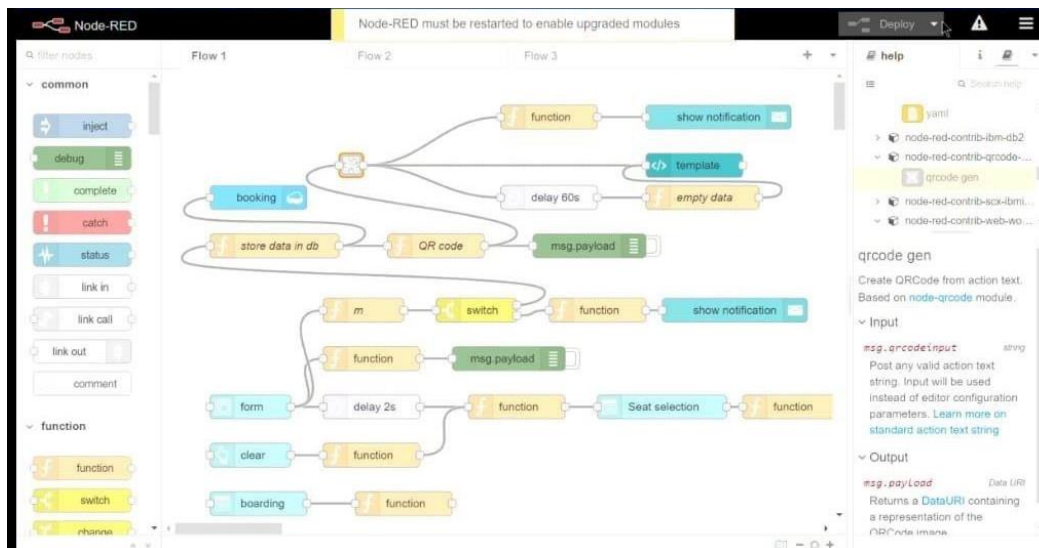
# SMART SOLUTIONS FOR RAILWAYS:

## Develop the web application using Node-RED

### Location Tracking:

- A web application is developed using node red to track the live location of the train by receiving the latitude and longitude value of the location through GPS module.
- The received values will be updated in the IBM Watson IoT Platform through a python code.
- A node red is used to obtain the value form the IBM Watson IoT and to locate the values in the Map.
- When the python code is made to Run the Location is updated in IBM Watson IoT Platform with a delay of 3 seconds.

### 1)Open the Node-RED project:



## 2) Add the code to get QR Generator:

```
service.set_service_url('https://apikey-v2-16u3eirmdpkghhxefdikvpssoh5fwezrmuup5fv5g3ubz:b0ab119145d3e6255eabb97')

cap= cv2.VideoCapture(0)
font = cv2.FONT_HERSHEY_PLAIN

while True:
    _, frame = cap.read()
    decodedObjects = pyzbar.decode (frame)
    for obj in decodedObjects:
        #print ("Data", obj.data)
        a=obj.data.decode('UTF-8')
        cv2.putText(frame, "Ticket", (50, 50), font, 2, (255, 0, 0), 3)

        #print (a)
        try:
            response = service.get_document(
                db='booking',
                doc_id = a
            ).get_result()
            print (response)
            time.sleep(5)
        except Exception as e:
            print ("Not a Valid Ticket")
            time.sleep(5)


    cv2.imshow("Frame", frame)
    if cv2.waitKey(1) & 0xFF ==ord('q'):
        break

cap.release()
```

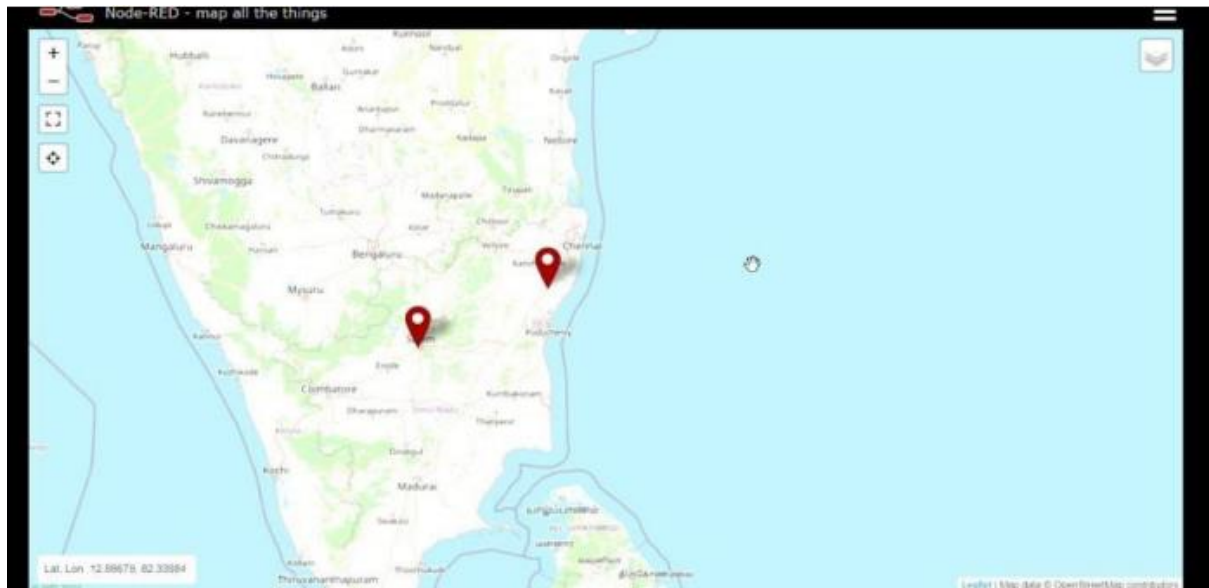
## 3) Create the QR Generator :

Ticket is Generated

Destination



#### 4) Showing the destination to users:



#### **Result:**

Successfully developed the web application using Node-RED