

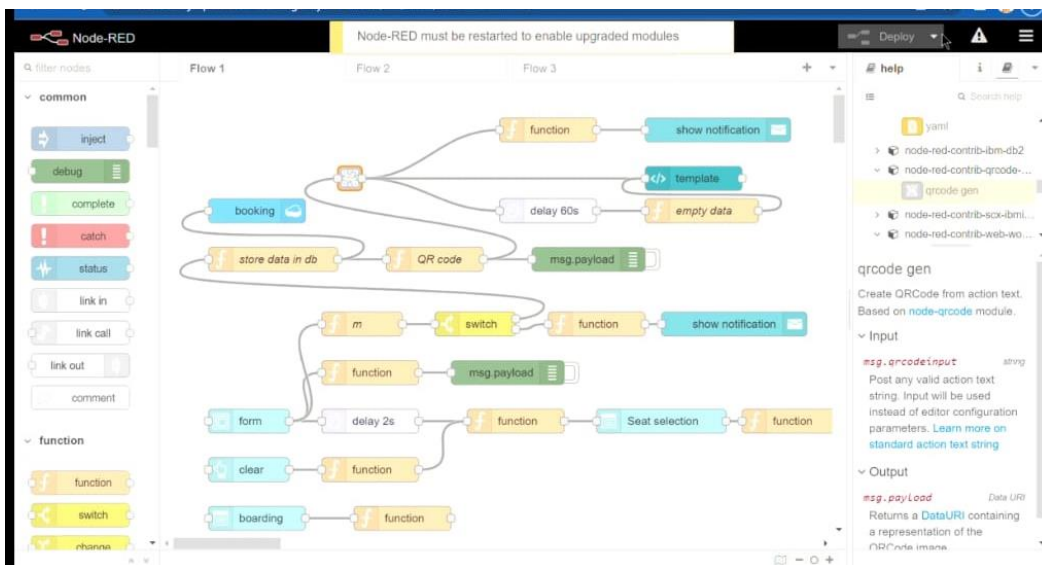
Develop the web application using Node-REDSteps Followed

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Team ID	PNT2022TMID01176
Project Name	Project – Smart Solution For Railways

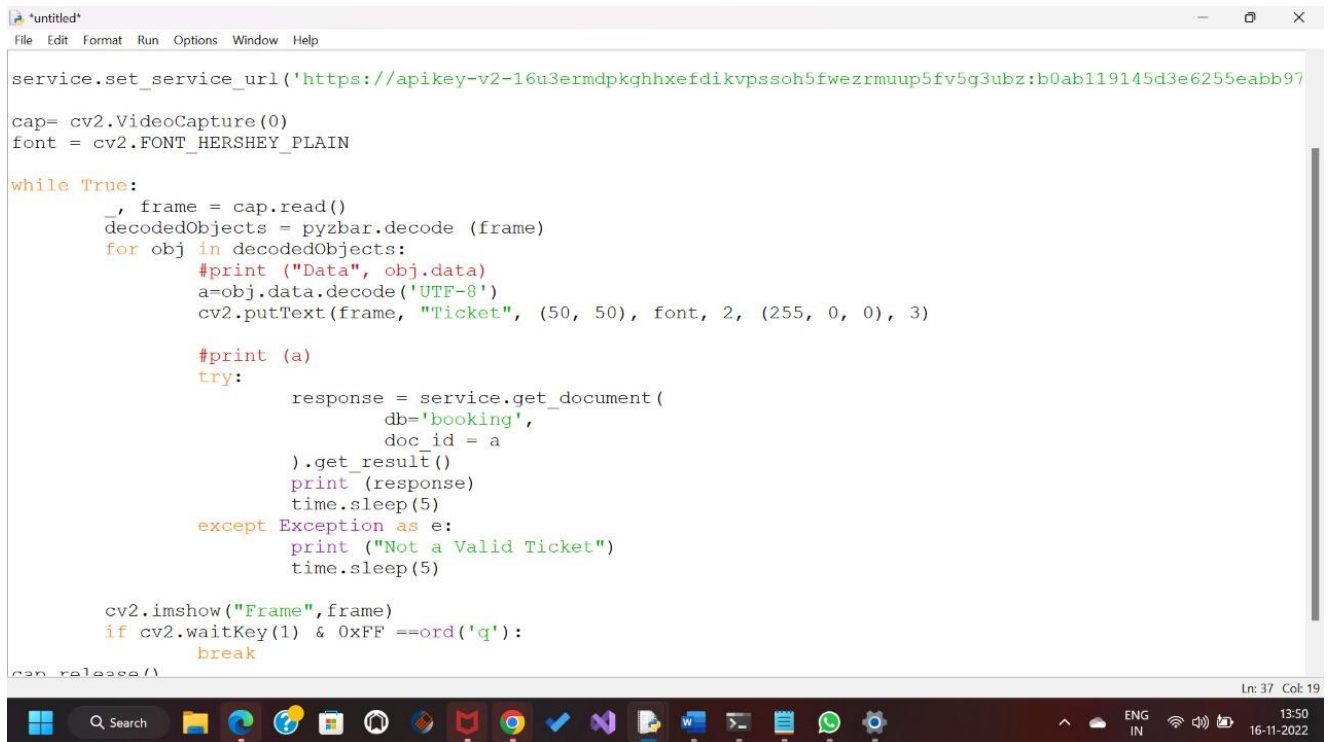
Develop The Web Application Using Node-RED

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 tolocate the values in the Map.
 - When the python code is made to Run the Location is updated in IBMWatson IoT Platform with a delay of 3 seconds.
- Open the Node-RED project:



- Added code to get QR Generator:



```
service.set_service_url('https://apikey-v2-16u3ermdpkgqhhxefdikvpssoh5fwezrmuup5fv5q3ubz: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()
```

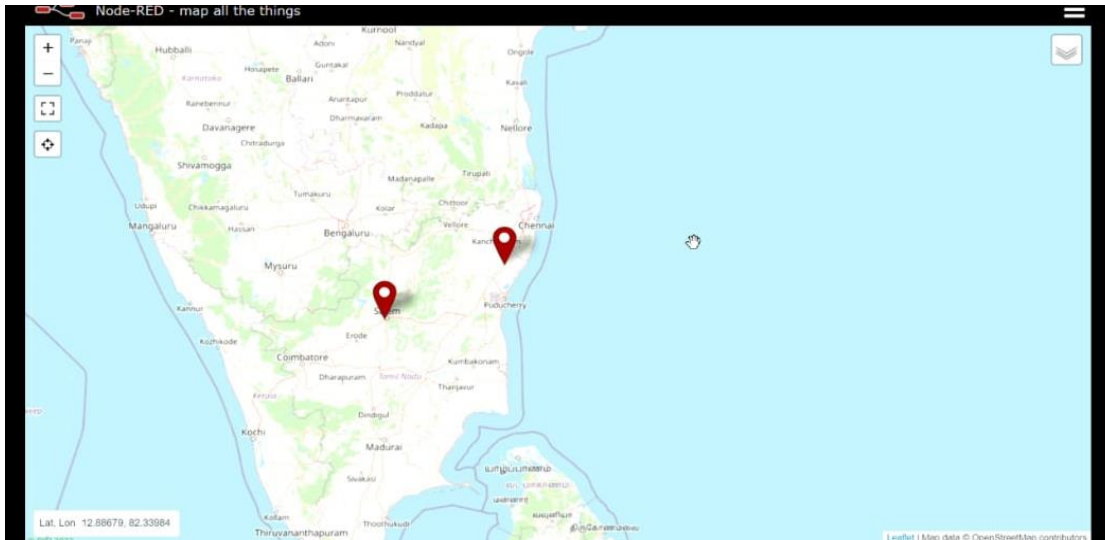
The screenshot shows a Windows desktop environment. At the top, a code editor window titled "untitled*" is open, displaying Python code. The code initializes a service URL, sets up a video capture and font, and enters a loop where it reads frames from the camera, decodes QR codes, and prints the ticket information. It also attempts to fetch document data from a database using the decoded QR code. The Windows taskbar at the bottom shows various application icons and the system clock indicating 13:50 on 16-11-2022.

- Create the QR Generator :

The screenshot displays a web browser window with multiple tabs. The active tab is titled "Node-RED : node-red-oybfp-20...". The address bar shows the URL "node-red-oybfp-2022-11-04.eu-gb.mybluemix.net/ui/#/0?socketid=7R_f49CyabN5RM5nAA8g". A dark grey notification banner at the top left of the interface states "Ticket is Generated". The main content area features a form with the following elements:

- A "Destination" dropdown menu currently set to "Coimbatore".
- Input fields for "Name", "Age", and "Mobile", each followed by a red asterisk indicating a required field.
- Two blue buttons: "SUBMIT" and "CANCEL".
- A large QR code.
- A blue "CLEAR" button at the bottom.

- Showing the destination to users:



Result: Successfully developed the web application using Node-RED