

Railway Ticket Booking System

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Problem Statement: -

Build a Railway Ticket Booking System that allows passenger to book train tickets Online , search for availability of trains and seats and also allows for viewing and cancelling tickets online.

Technologies used:

1. Java
2. Spring framework
3. Mongo DB
4. REST APIs
5. Junit for testing
6. Swagger
7. Eureka server and API gateway.

Micro service used

- USER SERVICE
- TRAIN SERVICE
- ADMIN SERVICE
- PASSENGER SERVICE

Features: -

1. The admin should be able to add Train Routes consisting of all the middle stations.
2. System should allow Passenger and Train officials (admin) to login and perform various operations.
3. Searching for Trains from source to destination on particular date.
4. Checking for availability of seats in the train.
5. View/ Print booked Train Tickets.
6. Facility for cancellation of tickets.

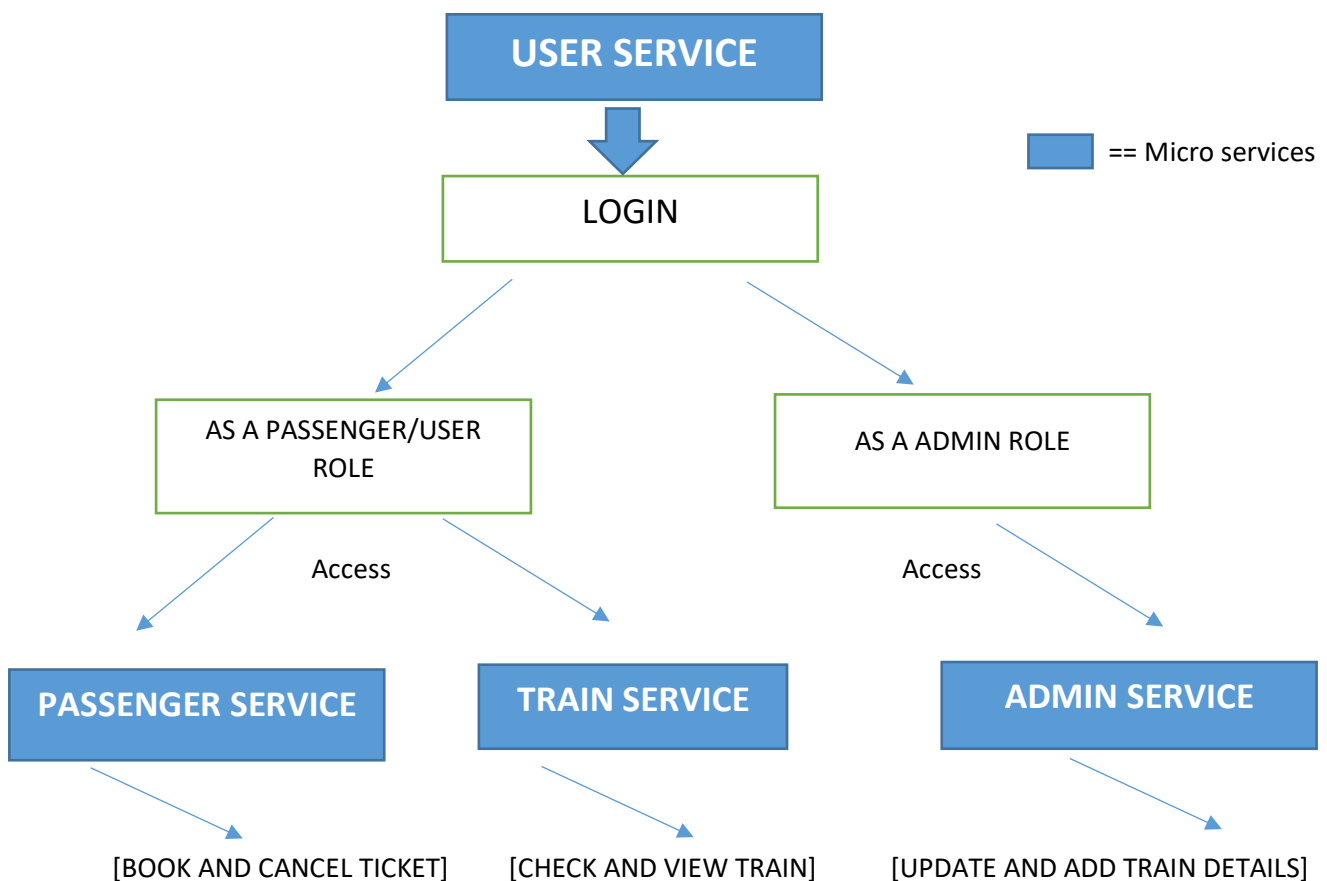
Users are privileged with following services: -

1. Register / Login as a passenger by providing certain personal details
2. Search for Availability for trains for particular route and get the fare details.
3. Make fresh reservations for one or more tickets.
4. Allow cancellation of tickets.

Administrator is privileged with following services: -

1. Add Train, Station and Route.
2. See users and passengers' details.

ARCHITECTURE /WORKFLOW OF SERVICES AND THEIR FUNCTIONALITY



IMPORTANT FUNCTIONALITY

- User service after login functionality take JWT token from JWT service
- Admin service contact to JWT service in order to verify the token.
- Passenger service also contact to JWT service in order to verify the token.

Business Scenarios: -

BS1	User A wants to book a ticket from Pune to Mumbai on 15-05-2021
Prerequisites: -	<ul style="list-style-type: none"> User A needs to visit "Ticket Booking" portal.
Input: -	Journey Details(Mandatory): <ol style="list-style-type: none"> Source Station: Pune Destination Station: Mumbai Date: 1-08-2018 Time
Steps: -	[User A carries out the following steps] BS1.1 Enter details and Search Trains BS1.2 Choose from Available Trains BS1.3 Accept Passenger Details BS1.4 Confirm ticket by clicking "Book Now" option.
Result: -	User will be directed to Booked Tickets as CNF Status
BS1.1	User A enters journey details and clicks "View Available Trains".
BS1.1 Conclusion	List of all available trains will be displayed on the page.
BS1.2	User chooses Train from displayed result.
BS1.2 Conclusions	Train details such as Train number, Fare, Train Type will be displayed.
BS1.3	User enters passenger details such as Name, Age, Gender, etc.
BS1.3 Conclusion	Summary of entire ticket booking will be displayed.

BS2	User A wants to view past bookings.
Prerequisites: -	<ul style="list-style-type: none"> User A is logged in to the portal. User A has done reservations in past.
Input: -	Reservation Details(Optional): <ol style="list-style-type: none"> Booking ID Date: 1-08-2018 Source or Destination Station
Steps: -	[User A carries out the following steps] <ol style="list-style-type: none"> Enter details and Search for past bookings Enter Filtering Criteria for result Select booked ticket order.
Result: -	Train Booking details will be displayed to user.

BS3	Adding Train Route to database.
Prerequisites: -	<ul style="list-style-type: none"> Administrator is logged in to portal.
Input: -	Train & Route Details(Mandatory): <ol style="list-style-type: none"> Add Train Details Add intermediate stations details (Unique Sequence Number in Route) Enter Arrival and Departure Time Train Availability details
Steps: -	[Admin carries out the following steps] <ol style="list-style-type: none"> Enter train details Enter separate record for Each Intermediate Station between source and destination station in Train's route. Accept Distance in KMs from source for calculation of fare. Enter availability details.
Result: -	Train route will be added to database.

BS4	Cancellation of reservation.
Prerequisites: -	<ul style="list-style-type: none"> User is logged in to the portal. Tickets booked in past.
Input: -	Booking Details: <ol style="list-style-type: none"> Booking ID: PN1012MUM
Steps: -	[User carries out the following steps] <ol style="list-style-type: none"> Click on "Ticket Cancellation" Enter unique Booking ID or select booking from the list. Click on "Cancel Reservation"
Result: -	Reservation cancelled message will be displayed As True.