

# **RAILWAY RESERVATOIN MANAGEMENT SYSTEM**

A DBMS PROJECT REPORT

Submitted by

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To

The APJ Abdul Kalam Technological University

In partial completion of the criteria for the degree award

Of

Bachelor of Technology



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**SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY**

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JANUARY 2023

# **ABSTRACT**

This project is about creating a database about the Railway Reservation Management System. The Railway Reservation Management System facilitates the passengers to enquire about the trains available on the basis of source and destination, booking and cancelation of tickets, enquire about the status of the booked tickets etc.

This project contains introduction to the Railways Reservation System. It is the computerized system of reserving the train seats in advance. It is mainly used for long route train journey. Online reservation has made the process for the reservation of seats very much easier than ever before.

The aim of this project is to design and develop a database maintaining the records of different trains, stations and passengers. The record of the train includes its number, name, days on which it is available, source station and destination station and the departure and arrival time. Passenger can book their tickets for the train in which seats are available. For this, passengers have to provide the desired train number and the date for which ticket is to be booked. Before booking a ticket for a passenger, the validity of train number and booking date is checked.

Once the train number and booking dates are validated, it is checked whether the seat is available. If yes, the ticket is booked with confirm status and corresponding ticket number is generated which is stored along with other details of the passenger. The ticket once booked can be cancelled any time.

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# **1 INTRODUCTION**

Database is an organized collection of data. The data is typically organized to model aspects of reality in a way that supports processes requiring information. A DBMS makes it possible for end users to create, read, update, and delete data in a database. The DBMS essentially serves as an interface between the database and the end users or application programs, ensuring the data is consistently organized and remains easily accessible.

The main purpose of maintaining database for Railway Reservation System is to reduce the manual errors involved in the booking and cancelling of tickets and make it convenient for the customers. Due to automation many loopholes that exist in the manual maintenance of the records can be removed. The speed of obtaining and processing the data will be fast. For future expansion the proposed system can be web enabled so that clients can make various enquiries about trains between stations.

## **2 PROPOSED SYSTEM**

This project is about the Railway Reservation Management System which is used to view train Schedule, search trains, seat availability, train timings. We can get information about train between two stations. We can book seats online. This provides a safe and secure seat reservation system.

The objective of the online railway reservation management system project is to design a software to fully automate the process of issuing a railway ticket.

That is –

1. To create a database of the trains and stations.
2. To search the available trains between two stations.
3. To search a train's arrival and departure time
4. To check availability of the seats
5. To calculate fare
6. To book the ticket
7. To cancel the ticket if necessary.

### 3 SYSTEM DESIGN

The project includes both the Admin and Customer features. The passengers can create an account and login to book a ticket, search trains, etc. The Admin has the control to insert, delete, update train and station details and manage the database.

The Admin have the following access to this website –

- Login
- Add Trains
- Add Station
- Add train schedule
- Update Trains
- Remove or cancel trains
- View trains
- Profile edit
- Logout

The Users have the following access –

- Register
- Login
- View trains
- Search trains between stations
- Check seat availability
- Book ticket
- View profile
- Update profile
- Logout

Technologies used –

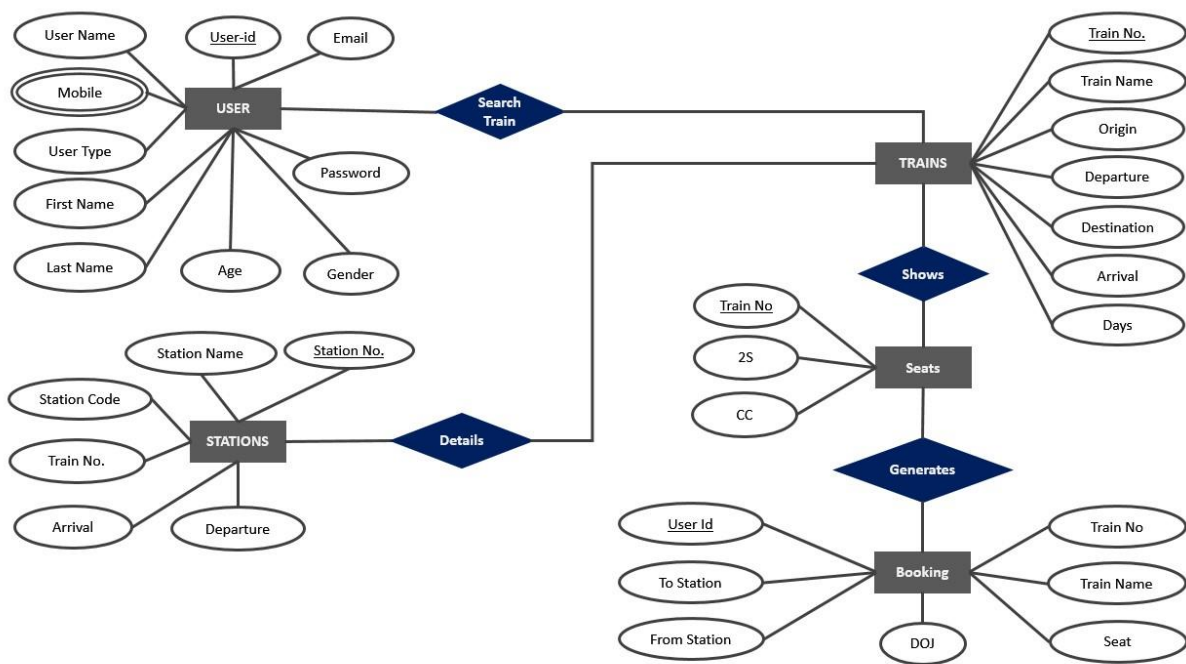
1. Front-End Development :

- a. HTML
- b. CSS
- c. Bootstrap
- d. Java Script

2. Back-End Development :

- a. PHP
- b. MySQL
- c. phpMyAdmin


### 3.1 ER DIAGRAM




## 3.2 DATABASE DESIGN

The Database consist of following tables:

### 3.2.1 USER TABLE


	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1	<b>userid</b> 	int(11)			No	None		AUTO_INCREMENT
<input type="checkbox"/>	2	<b>username</b>	varchar(30)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	3	<b>password</b>	varchar(50)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	4	<b>firstname</b>	varchar(20)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	5	<b>lastname</b>	varchar(20)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	6	<b>age</b>	int(11)			No	None		
<input type="checkbox"/>	7	<b>gender</b>	varchar(6)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	8	<b>usertype</b>	char(1)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	9	<b>email</b>	varchar(40)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	10	<b>mobile</b>	bigint(15)			No	None		

### 3.2.2 TRAIN TABLE


	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1	<b>train_no</b> 	int(11)			No	None		
<input type="checkbox"/>	2	<b>train_name</b>	varchar(20)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	3	<b>origin</b>	varchar(20)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	4	<b>departure</b>	varchar(10)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	5	<b>destination</b>	varchar(20)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	6	<b>arrival</b>	varchar(10)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	7	<b>days</b>	varchar(30)	utf8mb4_general_ci		No	None		



### 3.2.3 STATION TABLE

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1	s.no 	int(11)			No	None		AUTO_INCREMENT
<input type="checkbox"/>	2	station_code	varchar(5)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	3	station_name	varchar(20)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	4	train_no	int(11)			No	None		
<input type="checkbox"/>	5	arrival	time			No	None		
<input type="checkbox"/>	6	departure	time			No	None		

### 3.2.4 SEATS TABLE

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1	train_no 	int(11)			No	None		
<input type="checkbox"/>	2	2S	int(11)			No	None		
<input type="checkbox"/>	3	CC	int(11)			No	None		

### 3.2.5 BOOKING TABLE

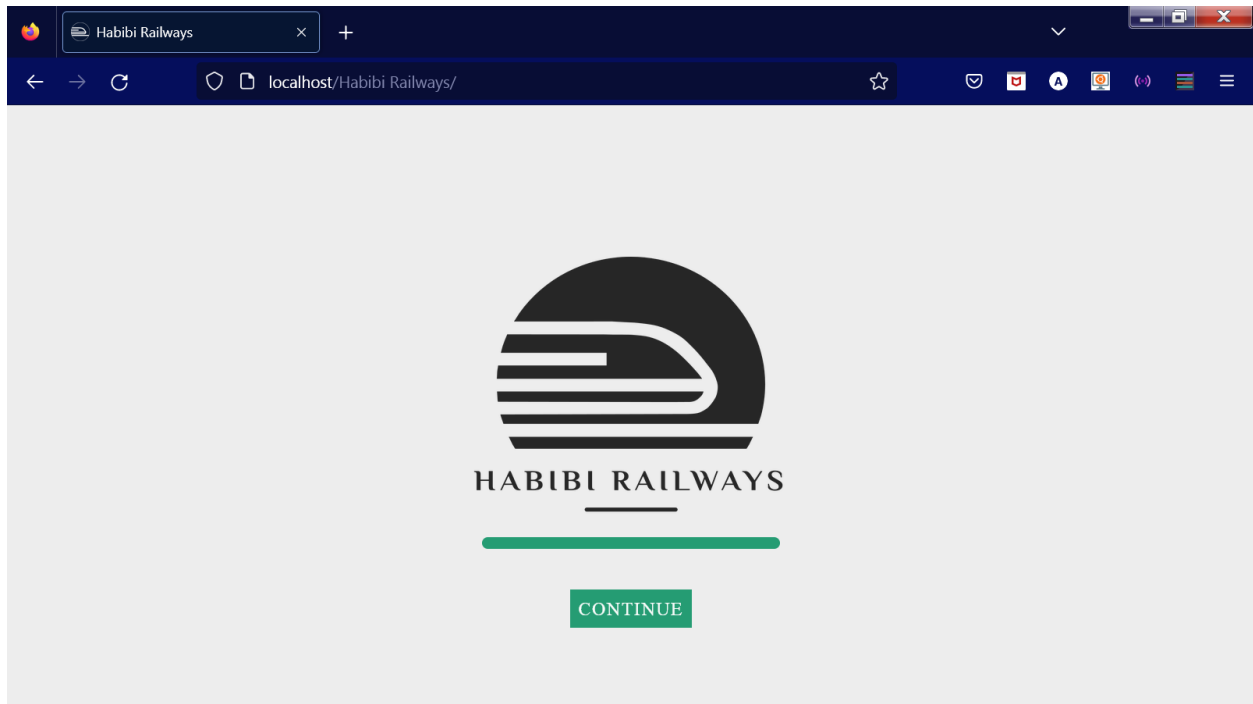
	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1	userid	int(11)			No	None		
<input type="checkbox"/>	2	train_no	int(11)			No	None		
<input type="checkbox"/>	3	from_station	varchar(20)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	4	to_station	varchar(20)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	5	date	date			No	None		
<input type="checkbox"/>	6	seat	varchar(2)	utf8mb4_general_ci		No	None		

## 4 INTERFACE AND RESULTS

### 4.1 USER INTERFACE

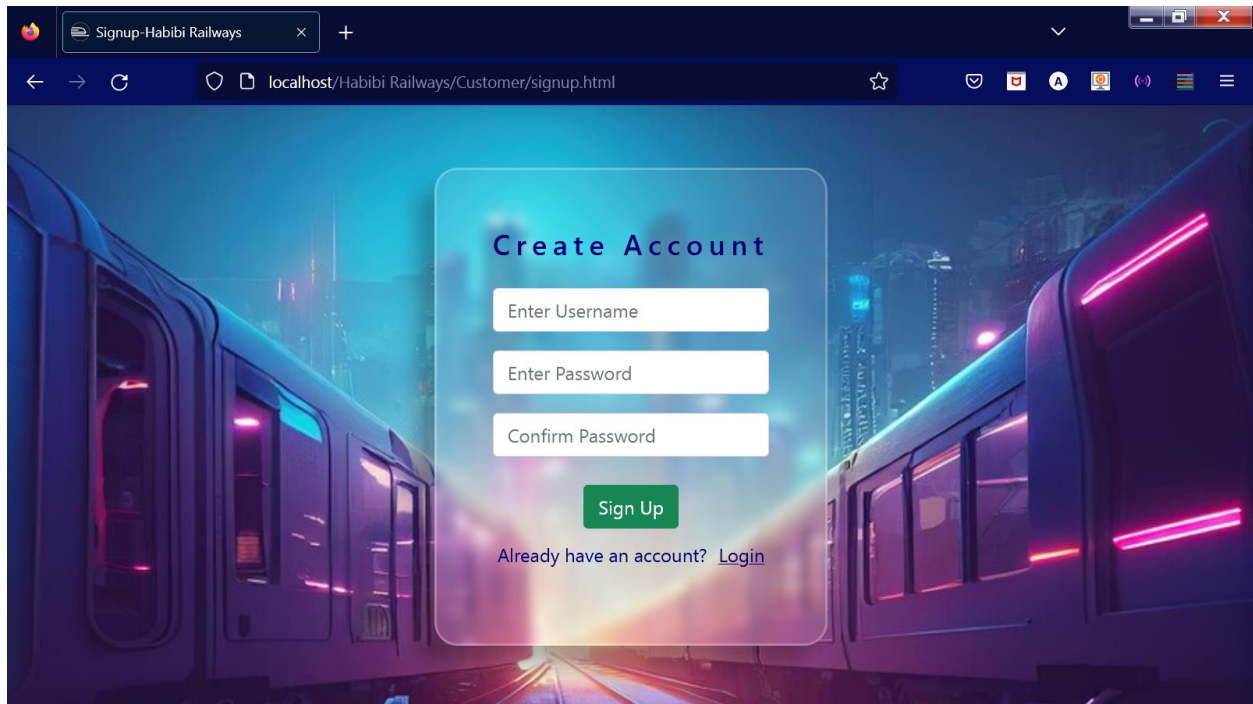
#### 4.1.1 Welcome Page

This is the first window shown when the application is executed.



## 4.1.2 Sign Up Page

This page allows new users (customers) to create a new account.



Signup - Habibi Railways

localhost/Habibi Railways/Customer/signup.html

### Create Account

Enter Username

Enter Password

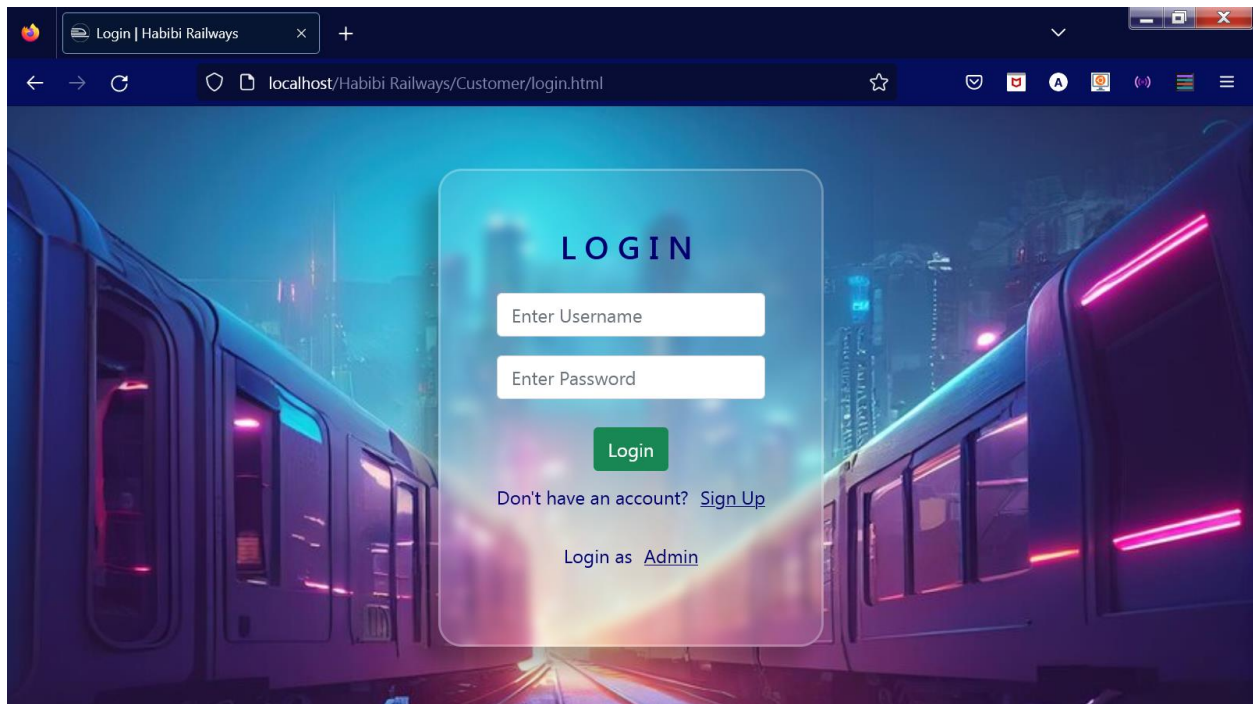
Confirm Password

Sign Up

Already have an account? [Login](#)

## 4.1.3 Login Page

This page allows users to login to the website by giving their respective credentials.



Login | Habibi Railways

localhost/Habibi Railways/Customer/login.html

### LOGIN

Enter Username

Enter Password

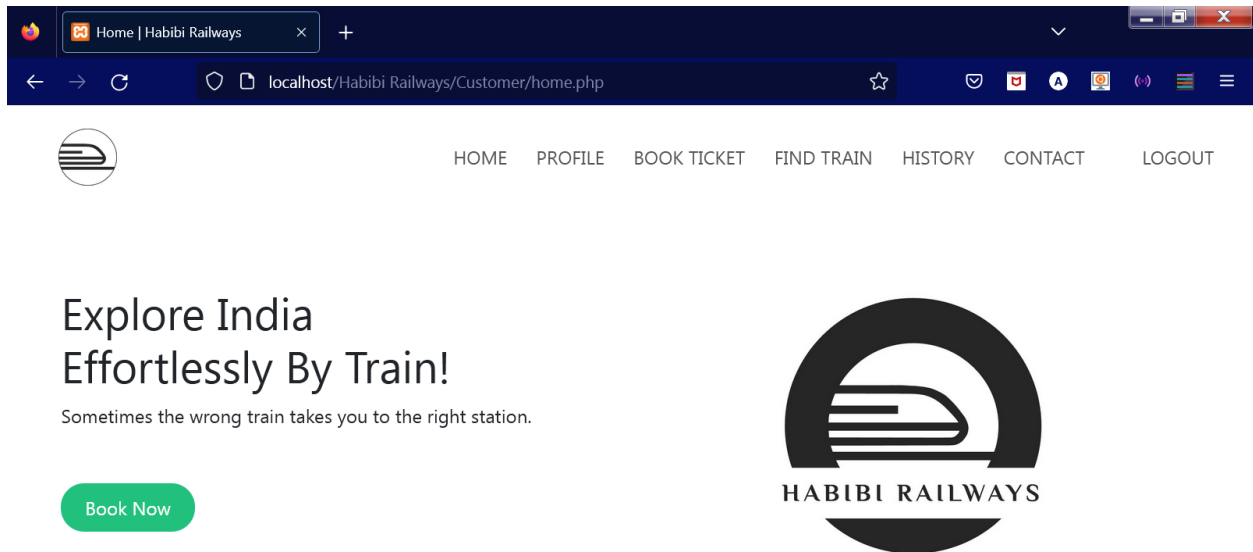
Login

Don't have an account? [Sign Up](#)

Login as [Admin](#)

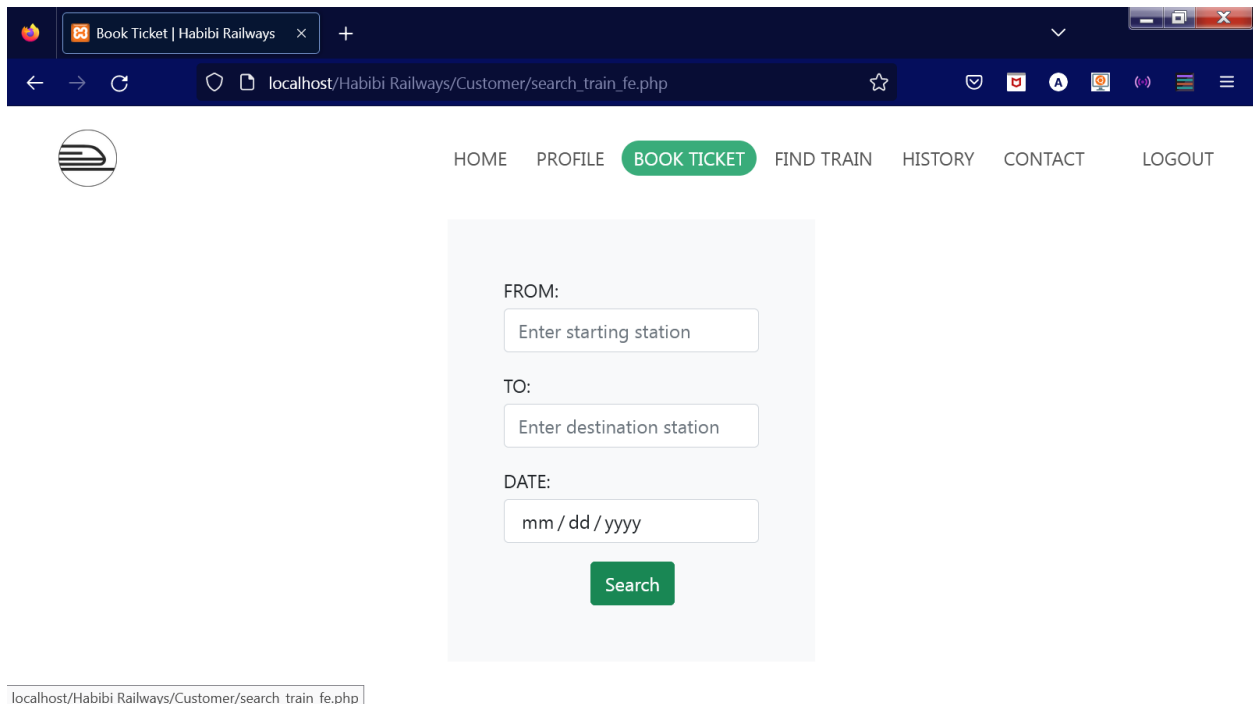
## 4.1.4 Home Page

After successful login, the user is welcomed by home page.

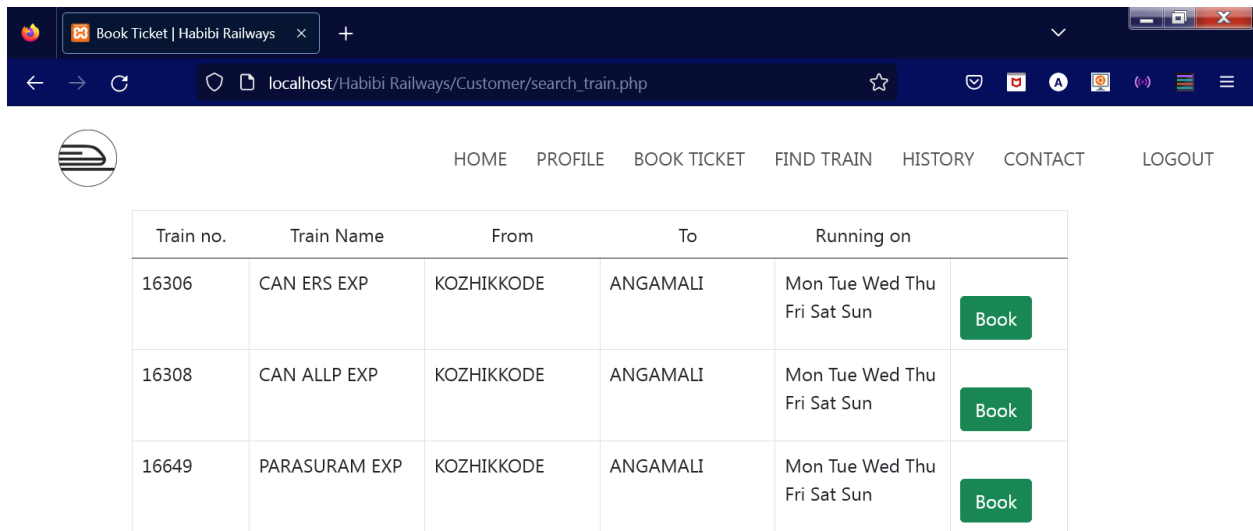


## 4.1.5 Search Train Page

In this page, the user can search for trains between two stations on a given date.



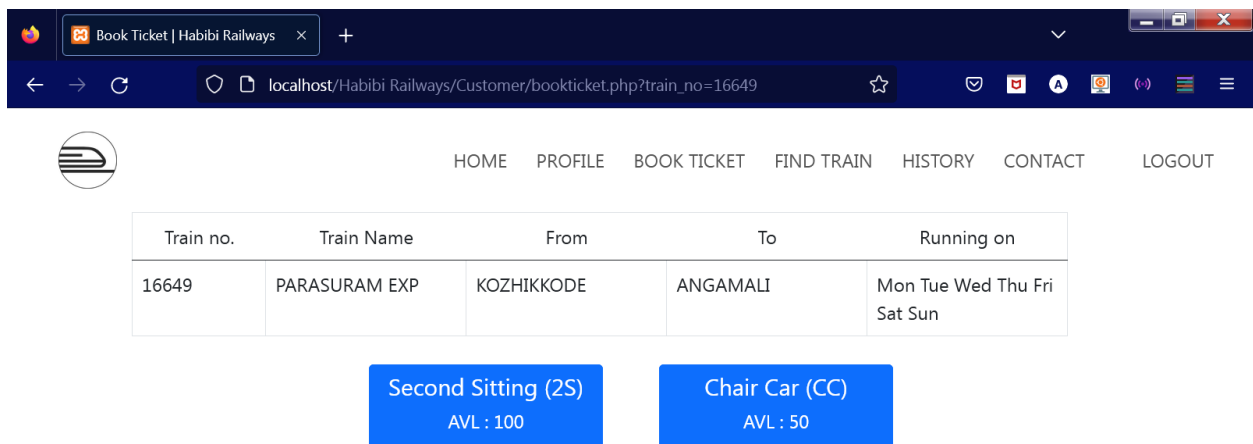
Using the details provided by the user, all the available trains are shown.



The screenshot shows a web browser window with the URL `localhost/Habibi Railways/Customer/search_train.php`. The page features a navigation bar with links: HOME, PROFILE, BOOK TICKET, FIND TRAIN, HISTORY, CONTACT, and LOGOUT. Below the navigation bar is a table listing available trains. Each row includes the train number, name, origin (From), destination (To), running days, and a 'Book' button.

Train no.	Train Name	From	To	Running on	
16306	CAN ERS EXP	KOZHIKKODE	ANGAMALI	Mon Tue Wed Thu Fri Sat Sun	<a href="#">Book</a>
16308	CAN ALLP EXP	KOZHIKKODE	ANGAMALI	Mon Tue Wed Thu Fri Sat Sun	<a href="#">Book</a>
16649	PARASURAM EXP	KOZHIKKODE	ANGAMALI	Mon Tue Wed Thu Fri Sat Sun	<a href="#">Book</a>

The couches and their respective remaining seats of the selected train is shown of the next page.



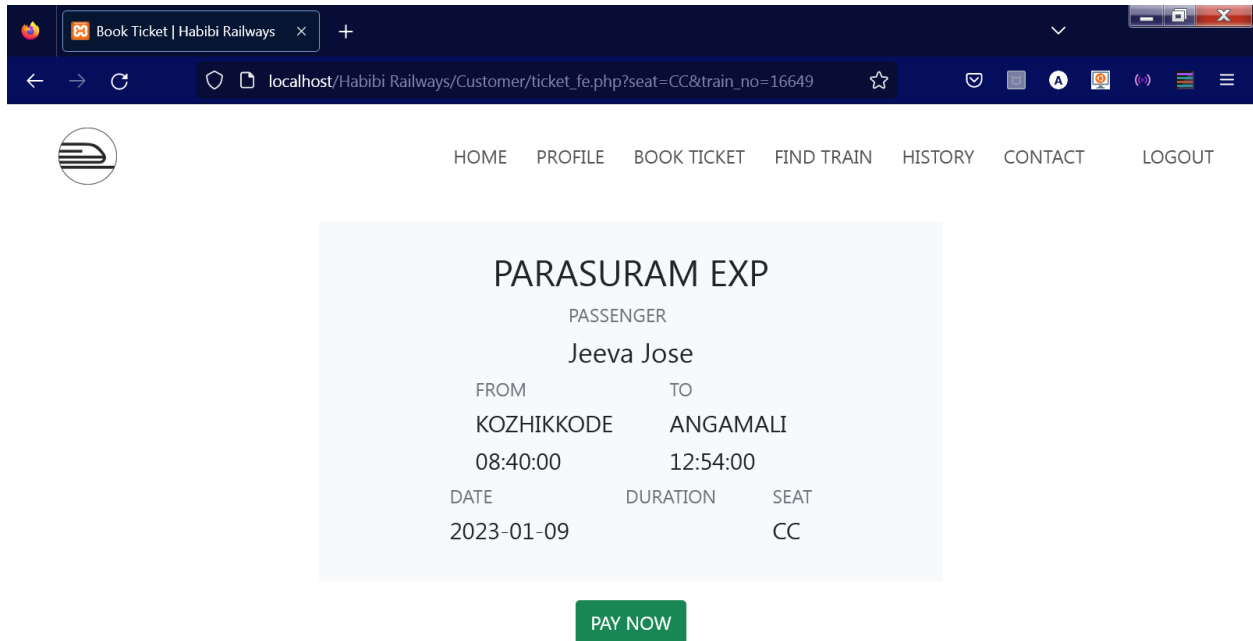
The screenshot shows a web browser window with the URL `localhost/Habibi Railways/Customer/bookticket.php?train_no=16649`. The page displays the details for train 16649 (PARASURAM EXP) and offers two seating options: Second Sitting (2S) and Chair Car (CC). Each option shows the available seats (AVL).

Train no.	Train Name	From	To	Running on
16649	PARASURAM EXP	KOZHIKKODE	ANGAMALI	Mon Tue Wed Thu Fri Sat Sun

Second Sitting (2S)  
AVL : 100

Chair Car (CC)  
AVL : 50

The selected details and the ticket is shown in the next page. The user can now confirm his booking details and go for payment.



The screenshot shows a web browser window with the address bar displaying 'localhost/Habibi Railways/Customer/ticket\_fe.php?seat=CC&train\_no=16649'. The page features a dark blue header with a logo on the left and navigation links: HOME, PROFILE, BOOK TICKET, FIND TRAIN, HISTORY, CONTACT, and LOGOUT. The main content area is a light gray box containing the following information:

**PARASURAM EXP**  
PASSENGER  
Jeeva Jose

FROM	TO
KOZHIKKODE	ANGAMALI
08:40:00	12:54:00

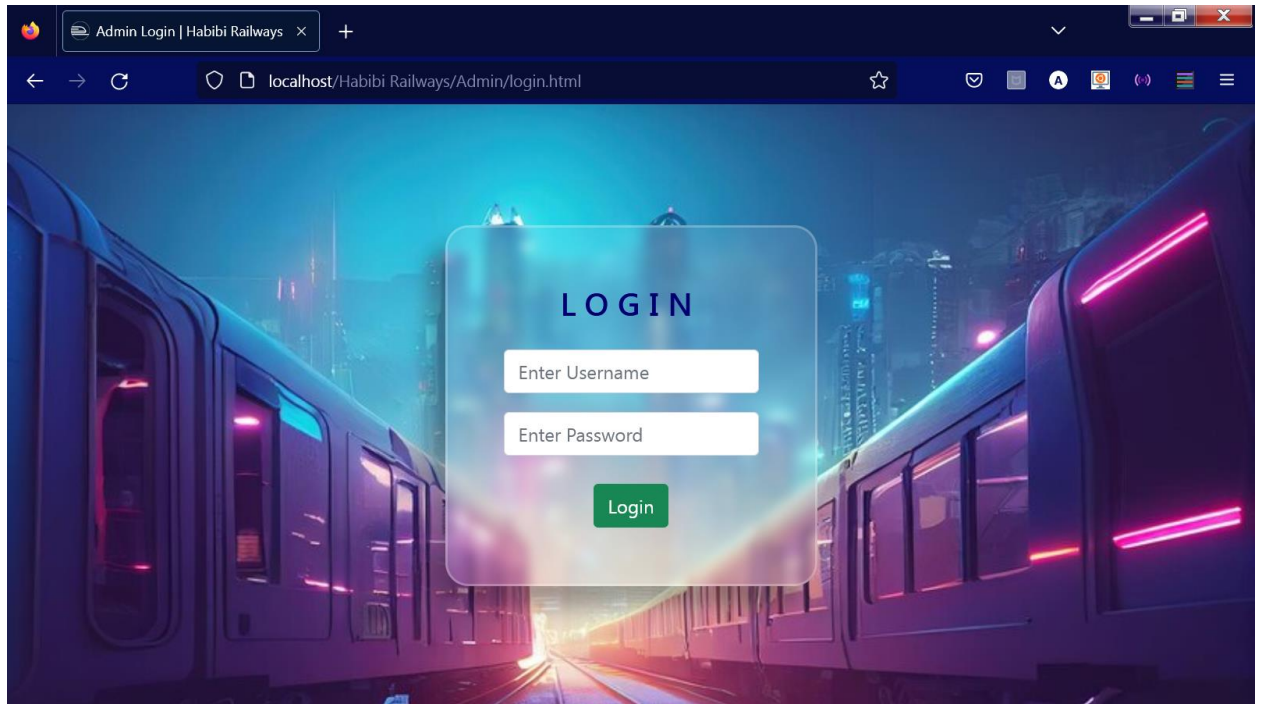
DATE	DURATION	SEAT
2023-01-09		CC

A green button labeled 'PAY NOW' is positioned below the ticket details.

## 4.2 ADMIN INTERFACE

### 4.2.1 Login Page

This page allows admin to login to the website by giving their respective credentials.



## 4.2.2 Trains Page

In this page, the admin can view and edit all the trains and their details entered into the database.

The screenshot shows the 'Trains' page of the Habibi Railways admin interface. The browser address bar shows 'localhost/Habibi Railways/Admin/train.php'. The navigation menu includes 'HOME', 'PROFILE', 'TRAINS' (highlighted), 'STATIONS', 'CUSTOMERS', and 'LOGOUT'. A blue 'Add Train' button is located at the top left. Below it is a table listing three trains:

Train no.	Train Name	Origin	Destination	Runs on	Seats	
12075	TVC JANSHTABDI	Station: KOZHIKKODE Departure: 13:45	Station: TRIVANDRUM CNTL Arrival: 21:25	Mon Tue Wed Thu Fri Sat Sun	2S: 100 CC: 50	<a href="#">Edit</a>
12081	TVC JANSHTABDI	Station: KANNUR Departure: 04:50	Station: TRIVANDRUM CNTL Arrival: 14:10	Mon Tue Thu Fri Sat	2S: 100 CC: 50	<a href="#">Edit</a>
16305	ERS CAN EXPRESS	Station: ERNAKULAM JN Departure: 06:00	Station: KANNUR Arrival: 11:45	Mon Tue Wed Thu Fri Sat Sun	2S: 100 CC: 50	<a href="#">Edit</a>

The Admin can also add new trains.

The screenshot shows the 'trainadd\_fe.php' page in the Habibi Railways admin interface. The browser address bar shows 'localhost/Habibi Railways/Admin/trainadd\_fe.php'. The navigation menu includes 'HOME', 'PROFILE', 'TRAINS' (highlighted), 'STATIONS', 'CUSTOMERS', and 'LOGOUT'. A form for adding a new train is displayed, with the following fields:

- Train no. :
- Train Name:
- Origin:
- Departure:
- Destination:
- Arrival:
- Runs on:
- Second Sitting (2S):
- Chair Car (CC):
- [Submit](#)



### 4.2.3 Stations Page

In this page, the admin can add a new station. The station can either be added manually or by importing the station schedules as a .csv file.

Station Code :

Station Name:

Train no.:

Arrival:

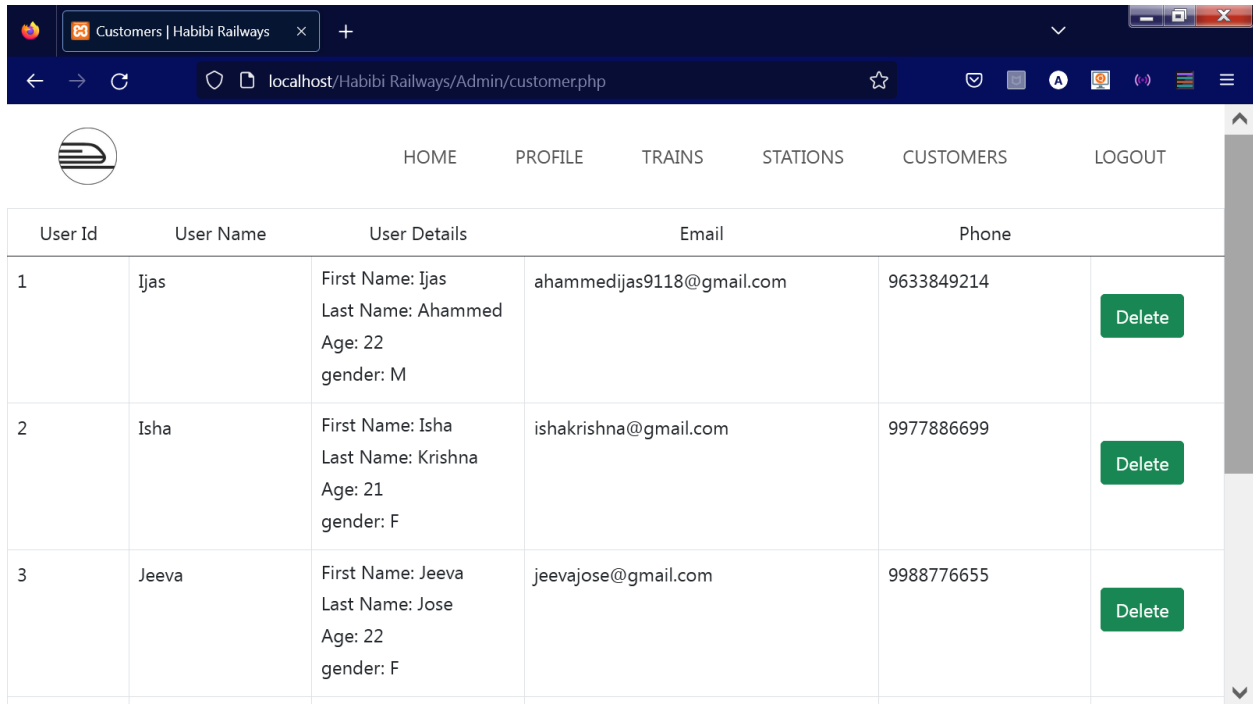
Departure:

[Import data](#)

Choose CSV File:

## 4.2.4 Customers Page

The admin can also view the details of all the customers, i.e. users, who have signed up into the website.



User Id	User Name	User Details	Email	Phone	
1	Ijas	First Name: Ijas Last Name: Ahammed Age: 22 gender: M	ahammedijas9118@gmail.com	9633849214	<a href="#">Delete</a>
2	Isha	First Name: Isha Last Name: Krishna Age: 21 gender: F	ishakrishna@gmail.com	9977886699	<a href="#">Delete</a>
3	Jeeva	First Name: Jeeva Last Name: Jose Age: 22 gender: F	jeevajose@gmail.com	9988776655	<a href="#">Delete</a>

## **5 CONCLUSION**

Our system can successfully give information on any train, find trains running between two stations, book tickets and cancel tickets. This system could be used for official train booking. However several other features could be added like booking meals on trains etc.

Also payment gateways have to be implemented to make sure the transactions happen securely.

## **6 Bibliography**

1. <https://www.phptutorial.net/>
2. <https://www.w3shools.com>
3. <https://stackoverflow.com/>