# Railway Reservation System

## Database Design & E-R Diagram

**Entities of the Railway Reservation system:**

1.Admin

- Create_new_account
- Login_Existing

2.User

- User_Sign_up
- User_Login

3.Railway

- Train_No
- Train_Name
- Boarding_Station
- Departure_Station
- Date_of_Journey
- Arrival_Time
- Departure_Time

4.Chart

- PNR
- Name
- Age
- Gender
- Train_No
- Seat_No
- Coach

The attributes and relationships of each entity for the Railway Reservation System.

### Admin:

● Attributes:

- Admin ID (Primary Key)
- Name
- Email
- Gender
- Phone No.

● Relationships:

One Admin can Log In in more than one Railway for Update (One-to-many)

**User:**

● Attributes:

- User ID (Primary Key)
- Name
- Email
- Gender
- Phone No.

● Relationships:

One User can book ticket in more than one Railway (One-to-Many)

**Chart:**

● Attributes:

- Update chart
- Delete_chart
- Retrieve Details

● Relationships:

Many Charts can be updated by one Admin (Many-to-One)

**Railway:**

● Attributes:

- Train No
- Train Name
- Boarding Station
- Departure Station
- Arrival Time
- Departure Time

● Relationships:

Many Railways information can be updated by one Admin (Many-to-One)

**Databases Setup:**

Step 1: Create Database name Railway

-- Create a new database called 'Railway' CREATE DATABASE railway;

-- Switch to the newly created database USE Railway;

Step 2: Create Tables: admin, user, train and chart

-- Create the 'admin' table

```
CREATE TABLE admin (
uname VARCHAR(255),
pass VARCHAR(255),
age INT,
g VARCHAR(255),
timestamp TIMESTAMP,
sno INT AUTO_INCREMENT,
PRIMARY KEY (sno) );
```

-- Create the 'user' table

```
CREATE TABLE user (
uname VARCHAR(255),
pass VARCHAR(255),
age INT,
g VARCHAR(255),
timestamp TIMESTAMP,
sno INT AUTO_INCREMENT,
PRIMARY KEY (sno) );
```

```
-- Create the 'train' table

CREATE TABLE train (
tnum INT, tname VARCHAR(255),
seats INT,
bp VARCHAR(255),
dp VARCHAR(255),
fAC INT,
sAC INT,
tAC INT,
sc INT,
doj DATE,
dtime VARCHAR(255),
atime VARCHAR(255),
sno INT AUTO_INCREMENT,
PRIMARY KEY (sno) );

-- Create the 'chart' table

CREATE TABLE chart (
pnr INT,
name VARCHAR(255),
age INT,
gender VARCHAR(255),
seatno INT,
coach VARCHAR(255),
status VARCHAR(255),
timestamp TIMESTAMP,
dot DATE,
sno INT AUTO_INCREMENT,
```

tnum INT,

PRIMARY KEY (sno),

FOREIGN KEY (tnum) REFERENCES train(sno) );

## Database screenshots:

## Create Database:

```
mysql> show databases;
+------------------------+
| Database               |
+------------------------+
| customerdb             |
| employeedb             |
| hibernateprojectexample |
| information_schema     |
| mysql                  |
| performance_schema     |
| railway                |
| sys                    |
+------------------------+
8 rows in set (0.01 sec)
```

### Using Database:

```
mysql> use railway;
Database changed
mysql> show tables;
+-----------------+
| Tables_in_railway |
+-----------------+
| chart           |
| train           |
| user            |
+-----------------+
```

**Describing Chart Table:**

```
mysql> desc chart;
+-----------+--------------+------+-----+---------+----------------+
| Field     | Type         | Null | Key | Default | Extra          |
+-----------+--------------+------+-----+---------+----------------+
| pnr       | int          | YES  |     | NULL    |                |
| name      | varchar(255) | YES  |     | NULL    |                |
| age       | int          | YES  |     | NULL    |                |
| gender    | varchar(255) | YES  |     | NULL    |                |
| seatno    | int          | YES  |     | NULL    |                |
| coach     | varchar(255) | YES  |     | NULL    |                |
| status    | varchar(255) | YES  |     | NULL    |                |
| timestamp | timestamp    | YES  |     | NULL    |                |
| dot       | date         | YES  |     | NULL    |                |
| sno       | int          | NO   | PRI | NULL    | auto_increment |
| tnum      | int          | YES  | MUL | NULL    |                |
+-----------+--------------+------+-----+---------+----------------+
11 rows in set (0.03 sec)
```

**Describing Train Table:**

```
mysql> desc train;
+-------+--------------+------+-----+---------+----------------+
| Field | Type         | Null | Key | Default | Extra          |
+-------+--------------+------+-----+---------+----------------+
| tnum  | int          | YES  |     | NULL    |                |
| tname | varchar(255) | YES  |     | NULL    |                |
| seats | int          | YES  |     | NULL    |                |
| bp    | varchar(255) | YES  |     | NULL    |                |
| dp    | varchar(255) | YES  |     | NULL    |                |
| fAC   | int          | YES  |     | NULL    |                |
| sAC   | int          | YES  |     | NULL    |                |
| tAC   | int          | YES  |     | NULL    |                |
| sc    | int          | YES  |     | NULL    |                |
| doj   | date         | YES  |     | NULL    |                |
| dtime | varchar(255) | YES  |     | NULL    |                |
| atime | varchar(255) | YES  |     | NULL    |                |
| sno   | int          | NO   | PRI | NULL    | auto_increment |
+-------+--------------+------+-----+---------+----------------+
13 rows in set (0.00 sec)
```

**Describing User Table:**

```
mysql> desc user;
+-----------+--------------+------+-----+---------+----------------+
| Field     | Type         | Null | Key | Default | Extra          |
+-----------+--------------+------+-----+---------+----------------+
| uname     | varchar(255) | YES  |     | NULL    |                |
| pass      | varchar(255) | YES  |     | NULL    |                |
| age       | int          | YES  |     | NULL    |                |
| g         | varchar(255) | YES  |     | NULL    |                |
| timestamp | timestamp    | YES  |     | NULL    |                |
| sno       | int          | NO   | PRI | NULL    | auto_increment |
+-----------+--------------+------+-----+---------+----------------+
6 rows in set (0.00 sec)
```

**Data on Train Table;**

```
mysql> select * from train;
+------+-----------------+-------+------+------+------+------+------+------+----------+----------+-----+
| tnum | tname           | seats | bp   | dp   | fAC  | sAC  | tAC  | sc   | doj      | dtime    | atime    | sno |
+------+-----------------+-------+------+------+------+------+------+------+----------+----------+----------+-----+
| 13294 | SampoorankrantiEXP |  965 | PBNE | NDLS | 2300 | 1900 | 1350 |  650 | 2024-02-15 | 19:30:00 | 08:05:00 |   4 |
| 11986 | RamavatiEXP        | 1050 | CSMT | NDLS | 3300 | 2550 | 1800 | 1120 | NULL       | 18:45:00 | 13:20:00 |   5 |
+------+-----------------+-------+------+------+------+------+------+------+----------+----------+----------+-----+
```

**Railway Reservation System:**

```
**********************************************************************************************************

                                RAILWAY RESERVATION SYSTEM

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~~~~~~~~~~~~~~~~~~~~~~~~~~~~MAIN MENU~~~~~~~~~~~~~~~~~~~~~~~~~~~~
1. Admin Mode
2. User Mode
3. Exit
```

**Admin Mode:**

```
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~MAIN MENU~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
1. Admin Mode
2. User Mode
3. Exit
1
Enter password : nikhil
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ADMINISTRATOR MENU~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
1. Create detail database of trains
2. Add Details of trains
3. Display all the database of trains
4. Display Chart of a train
5. Display all users
6. Update train date
7. Return to main menu
8. Exit
```

**User Mode:**

```
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~WELCOME TO USER MENU~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
1. Login
2. Sign Up
3. Return to main menu
4. Exit
1
Enter Username : Nikhil
Please Enter Your Password : nikhil
1. Book a ticket
2. Cancel a ticket
3. Enquiry
4. Return to main menu
5. Exit
```

# Railway Reservation System E-R DIAGRAM