

Pakistan Railway Management System

Project Details and Instructions

This document outlines the details and instructions for running the Pakistan Railway Management System, a database project designed to manage train information, routes, schedules, passengers, bookings, and employees.

Project Details

This project utilizes a relational database structure with eight interconnected tables to manage various aspects of the Pakistan Railway System. The tables and their attributes are as follows:

1. Stations (Station_Id[Primary Key], Station_Name, City): Stores information about railway stations across Pakistan.
2. Trains (Train_Id[Primary Key], Train_Name, Coaches_Quantity, Seats_Quantity): Stores details about trains operating in the system.
3. Routes (Route_Id[Primary Key], Source, Destination, DistanceInKm, Train_Id [Foreign Key]): Defines routes between stations, including the distance and the train assigned to the route (foreign key referencing Trains table).
4. Schedules (Schedule_Id[Primary Key], Departure_Time, Arrival_Time, Train_Id [Foreign Key], Route_Id [Foreign Key]): Defines train schedules with departure and arrival times for each route (foreign keys referencing Trains and Routes tables).
5. Coaches (Coach_Id[Primary Key], Train_Id [Foreign Key], Coach_Type): Tracks individual train coaches with their type (e.g., AC, EC, BUSINESS) and references the train they belong to (foreign key referencing Trains table).
6. Passengers (Passenger_Id[Primary Key], Name, Gender, CNIC, PhoneNo): Stores passenger information for booking purposes.
7. Bookings (Booking_Id[Primary Key], Passenger_Id [Foreign Key], Schedule_Id [Foreign Key], Seat_No, Coach_Id [Foreign Key]): Records passenger bookings for specific train schedules, including seat and coach information (foreign keys referencing Passengers, Schedules, and Coaches tables).
8. Employees (Employee_Id[Primary Key], Employee_Name, Position, ContactNo, Train_Id [Foreign Key]): Manages employee data, including their position and the train they are assigned to (foreign key referencing Trains table).

Running the Project

To set up the Pakistan Railway Management System database, follow these instructions:

Install and launch MySQL Workbench. Download and install MySQL Workbench from the official website (<https://dev.mysql.com/downloads/workbench/>). Launch the application after successful installation.

Open the project.sql file. Navigate to the directory where you have saved your project.sql file, which likely contains all the necessary SQL commands to create the database structure and tables.

Run the script. Click the current logo "Execute" button in the top menu bar. This will execute all the SQL statements within the script, creating the database structure and tables with their respective columns and their data as defined earlier.

Verification

Once the script has run successfully, you can verify the creation of the database and tables by refreshing the connection in MySQL Workbench. You should see the newly created database listed in the Connections panel, and within the database, you will find the eight tables defined in this project.

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