

Bus Reservation System ER Diagram

The **ER diagram for bus reservation system** shows the relationships of the bus reservation entities in its database design. This describes the logical structure of the system's database or data storage. It is done by identifying the bus reservation process entities, their properties, and the interactions between them. The database design is sketched out using **bus reservation system ER diagrams**. This database sketch becomes the actual basis of the system's data storage that will serve as data destination and source.

What is an ER Diagram?

The ER Diagram is referred to as the **bus reservation system database design**. This ER diagram is the graphical depiction of relationships between all the entities involved in the system. Its major components are Entities, Attributes, and Relationships.

In DBMS, the **bus reservation system ER Diagram** is used to build and troubleshoot relational databases. It works best with DFD (Data Flow Diagram), which is responsible for data movement. Designing the bus reservation system database would be much easier with the help of ER diagram.

The **bus reservation system ER diagram** aims to answer the bus reservation database design. The system's function is to encode customer information and transaction. Also, the bus reservation admin must have access to the customer information for reports and inventory purposes. The data used in these transactions must be managed and secured well and the use of ER Diagram for Bus Reservation System is needed.

Importance of ER Diagram

The **importance of ER diagram** for bus reservation system is to help in modeling its data storage or database. It is the basis of the project's database foundation for construction. This entity-relationship diagram (ERD) also aids in defining the data types to be stored such as their attributes and characteristics.

In addition to that, the ER Diagram also describes how an entity interacts with other entities. All other real-world projects are presented with ER Diagrams (database designs). To display the details and attributes of a data store, the **er diagram for bus reservation system** is used in conjunction with its data flow diagram. They are very important in building a relational database because they let us visualize how data is connected generically.

Entity-relationship diagrams are utilized in software engineering during the planning phase of software development. It aids in the identification of various system constituents and their interrelationships. **Bus Reservation System ER Diagram** is also used as the foundation of its DFD (Dataflow Diagram)

The **database design for bus reservation system** is the same as its ER diagram. They were used to emphasize the **bus reservation system database** or data storage to determine the data to be stored and their attributes. This is to inform developers about the system's structure in terms of data storing.

Bus Reservation System ER Diagram Description

This **Bus Reservation system database** was made based on bus reservation requirements. The system can encode customers' information. The reservation admin can have access to the customers' status and the information for the important transactions. They can handle the data needed in managing bus and customer information as well as the transactions made. The features included in the system ER diagram were the security and monitoring of the reservation transactions and customer status. These features were also listed and recorded in reports that served as the history of transactions done in the system.

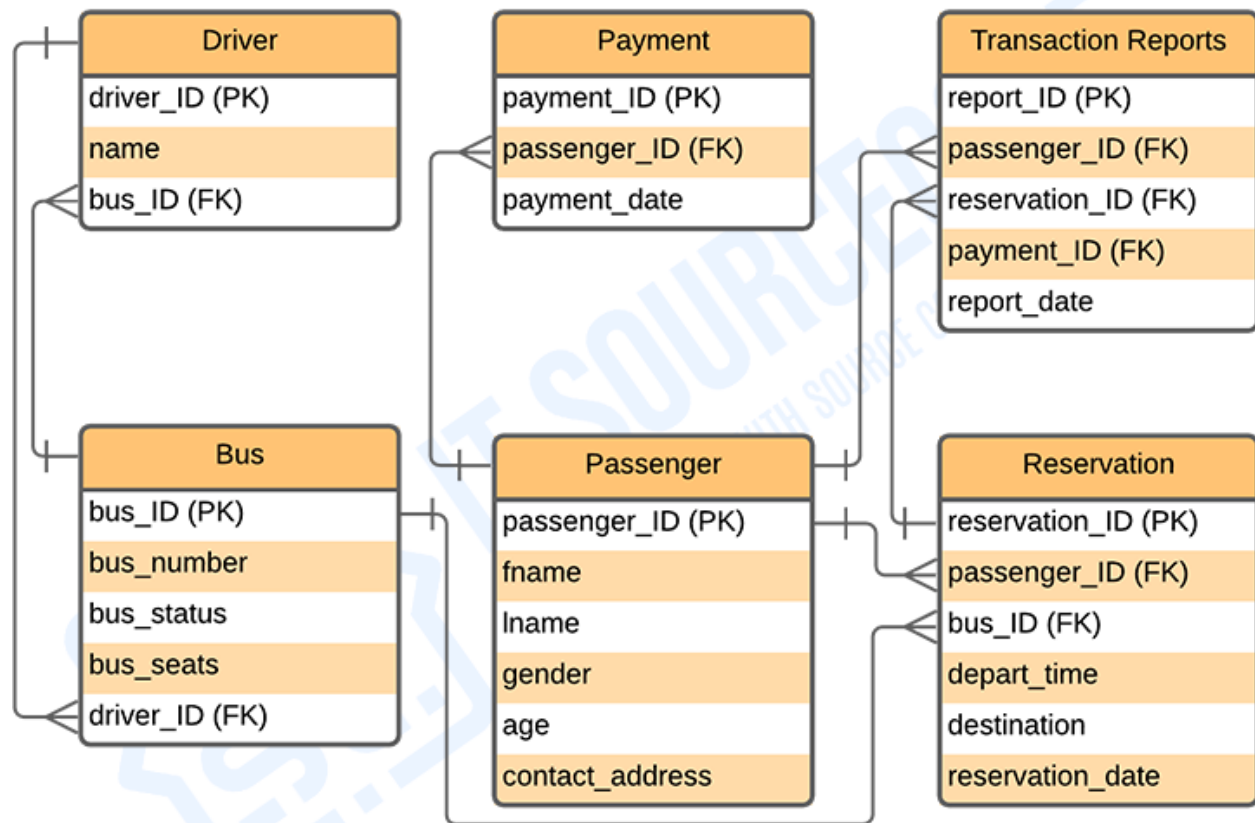
Bus Reservation System Features

- **Reservation Management** - The process of bus reservation includes some considerations such as choosing of date, time, and destination. these are the important details that the system can store and put into reservation transactions.
- **Customer Management** - This feature plays a big role in the system because this gathers important information about the customers. This information was used to track their transactions and other important matters regarding the system.
- **Manage Bus Availability** - In order to create and accept reservations, the bus availability must also be secured to ensure that there is an available seat for the customers. This database design for the Bus reservation system shows where these data are stored and secured.
- **Transaction and Reports Management** - This feature will store the transactions made by the customers including their information and the reports of every transaction and timetables.

ER Diagram for Bus Reservation System

ER (entity-relationship) Diagram of Enrollment System shows the system entity relationships in each entity and their supposed functions in each relationship.

BUS RESERVATION SYSTEM



ENTITY RELATIONSHIP DIAGRAM

Bus Reservation System ER Diagram

Based on the image above, the **ER diagram for this System** is the entity of the **Bus Reservation system database**, which is presented in **tables**; bus, passenger, reservation, payment, driver, and transaction reports. The tables are made to meet the required specification of the system and provide much more specific details of each entity within the system.

Bus Reservation System ER Diagram Tables

These tables below provide the complete database table details such as **Field Name, Descriptions, data types, and character lengths.**

Table Name: Customer

Field	Description	Type	Length
customer_ID (PK)	Customer ID	Int	11
fname	Customer First Name	Varchar	255
lname	Customer Last Name	Varchar	255
gender	Customer Gender	Int	11
age	Customer Age	Int	11
contact_add	Customer Contact Address	Int	11

Table Name: Bus

Field	Description	Type	Length
bus_ID (PK)	Bus ID	Int	11
bus_number	Bus Number	Int	11
bus_status	Bus Status	Varchar	255
bus_seats	Bus Number of Seats	Int	11
driver_ID (FK)	Driver ID	Int	11

Table Name: Orders/Reservation

Field	Description	Type	Length
order_ID (PK)	Order ID	Int	11
customer_ID (FK)	Customer ID	Int	11
order_date	Date of Order	Date	

Table Name: Driver

Field	Description	Type	Length
driver_ID (PK)	Driver ID	Int	11
name	Driver Name	Varchar	255
bus_ID (FK)	Bus ID	Int	11

Table Name: Reservation

Field	Description	Type	Length
reservation_ID (PK)	Reservation ID	Int	11
customer_ID (FK)	Customer ID	Int	11
bus_ID	Bus ID	Int	11
departure_time	Time of Departure	Date Time	
destination	Destination	Varchar	255
reservation_date	Date of Reservation	Date	

Table Name: Payment

Field	Description	Type	Length
payment_ID (PK)	Payment ID	Int	11
customer_ID (FK)	Customer ID	Int	11
reservation_ID (FK)	Reservation Id	Varchar	11
payment_date	Date of Payment	DateInt	

Table Name: Transaction Report

Field	Description	Type	Length
report_ID (PK)	Report ID	Int	11
customer_ID (FK)	Customer ID	Int	11
reservation_ID (FK)	Reservation ID	Int	11
payment_ID (FK)	Payment ID	Int	11
report_date	Date of Report	Date	

The tables given will be the basis for developers on how would they create the **bus reservation system database design**. It has the complete description of the database and they will put this into the program or data storage the same as the names given to each of the tables. They will create a database with the attributes given as well as the value of each attribute