**CASE STUDY TABLE CREATION:**

mysql> CREATE DATABASE TransportManagement;

Query OK, 1 row affected (0.02 sec)

mysql> USE TransportManagement;

Database changed

mysql> CREATE TABLE Vehicles (VehicleID INT AUTO\_INCREMENT PRIMARY KEY,Model VARCHAR(50),Capacity DECIMAL(10,2),Type VARCHAR(50),Status VARCHAR(50));

Query OK, 0 rows affected (0.06 sec)

mysql> desc vehicles;

+-----------+---------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-----------+---------------+------+-----+---------+----------------+

| VehicleID | int | NO | PRI | NULL | auto\_increment |

| Model | varchar(50) | YES | | NULL |

|

| Capacity | decimal(10,2) | YES | | NULL |

|

| Type | varchar(50) | YES | | NULL |

|

| Status | varchar(50) | YES | | NULL | |

+-----------+---------------+------+-----+---------+----------------+

5 rows in set (0.01 sec)

mysql> CREATE TABLE Routes (RouteID INT AUTO\_INCREMENT PRIMARY KEY,StartDestination VARCHAR(50),EndDestination VARCHAR(50),Distance DECIMAL(10,2));

Query OK, 0 rows affected (0.07 sec)

mysql> desc routes;

+------------------+---------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+------------------+---------------+------+-----+---------+----------------+

| RouteID | int | NO | PRI | NULL | auto\_increment |

| StartDestination | varchar(50) | YES | | NULL | |

| EndDestination | varchar(50) | YES | | NULL | |

| Distance | decimal(10,2) | YES | | NULL | |

+------------------+---------------+------+-----+---------+----------------+

4 rows in set (0.00 sec)

mysql> CREATE TABLE Trips (TripID INT AUTO\_INCREMENT PRIMARY KEY,VehicleID INT,RouteID INT,DepartureDate DATETIME,ArrivalDate DATETIME,Status VARCHAR(50) DEFAULT 'Scheduled',TripType VARCHAR(50) DEFAULT 'Freight', MaxPassengers INT,FOREIGN KEY (VehicleID) REFERENCES Vehicles(VehicleID), FOREIGN KEY (RouteID) REFERENCES Routes(RouteID));

Query OK, 0 rows affected (0.09 sec)

mysql> desc trips;

+---------------+-------------+------+-----+-----------+----------------+

| Field | Type | Null | Key | Default | Extra |

+---------------+-------------+------+-----+-----------+----------------+

| TripID | int | NO | PRI | NULL | auto\_increment |

| VehicleID | int | YES | MUL | NULL | |

| RouteID | int | YES | MUL | NULL | |

| DepartureDate | datetime | YES | | NULL | |

| ArrivalDate | datetime | YES | | NULL | |

| Status | varchar(50) | YES | | Scheduled | |

| TripType | varchar(50) | YES | | Freight | |

| MaxPassengers | int | YES | | NULL | |

+---------------+-------------+------+-----+-----------+----------------+

8 rows in set (0.00 sec)

mysql> CREATE TABLE Passengers ( PassengerID INT AUTO\_INCREMENT PRIMARY KEY,FirstName VARCHAR(50), Gender VARCHAR(50),Age INT,Email VARCHAR(50) UNIQUE, PhoneNumber VARCHAR(50));

Query OK, 0 rows affected (0.09 sec)

mysql> desc passengers;

+-------------+-------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-------------+-------------+------+-----+---------+----------------+

| PassengerID | int | NO | PRI | NULL | auto\_increment |

| FirstName | varchar(50) | YES | | NULL |

|

| Gender | varchar(50) | YES | | NULL |

|

| Age | int | YES | | NULL |

|

| Email | varchar(50) | YES | UNI | NULL |

|

| PhoneNumber | varchar(50) | YES | | NULL |

|

+-------------+-------------+------+-----+---------+----------------+

6 rows in set (0.00 sec)

mysql> CREATE TABLE Bookings (BookingID INT AUTO\_INCREMENT PRIMARY KEY,TripID INT,PassengerID INT, BookingDate DATETIME,Status VARCHAR(50) DEFAULT 'Confirmed', FOREIGN KEY (TripID) REFERENCES Trips(TripID),FOREIGN KEY (PassengerID) REFERENCES Passengers(PassengerID));

Query OK, 0 rows affected (0.09 sec)

mysql> desc bookings;

+-------------+-------------+------+-----+-----------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-------------+-------------+------+-----+-----------+----------------+

| BookingID | int | NO | PRI | NULL | auto\_increment |

| TripID | int | YES | MUL | NULL |

|

| PassengerID | int | YES | MUL | NULL |

|

| BookingDate | datetime | YES | | NULL |

|

| Status | varchar(50) | YES | | Confirmed |

|

+-------------+-------------+------+-----+-----------+----------------+

5 rows in set (0.01 sec)

mysql> CREATE TABLE Drivers (DriverID INT AUTO\_INCREMENT PRIMARY KEY,FirstName VARCHAR(255), LastName VARCHAR(255), LicenseNumber VARCHAR(100) UNIQUE,Status VARCHAR(50) DEFAULT 'Available');

Query OK, 0 rows affected (0.09 sec)

mysql> desc drivers;

+---------------+--------------+------+-----+-----------+----------------+

| Field | Type | Null | Key | Default | Extra |

+---------------+--------------+------+-----+-----------+----------------+

| DriverID | int | NO | PRI | NULL | auto\_increment |

| FirstName | varchar(255) | YES | | NULL | |

| LastName | varchar(255) | YES | | NULL | |

| LicenseNumber | varchar(100) | YES | UNI | NULL | |

| Status | varchar(50) | YES | | Available | |

+---------------+--------------+------+-----+-----------+----------------+

5 rows in set (0.00 sec)

mysql> CREATE TABLE DriverAllocation ( AllocationID INT AUTO\_INCREMENT PRIMARY KEY,TripID INT, DriverID INT,FOREIGN KEY (TripID) REFERENCES Trips(TripID), FOREIGN KEY (DriverID) REFERENCES Drivers(DriverID));

Query OK, 0 rows affected (0.14 sec)

mysql> desc driverallocation;

+--------------+------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+--------------+------+------+-----+---------+----------------+

| AllocationID | int | NO | PRI | NULL | auto\_increment |

| TripID | int | YES | MUL | NULL | |

| DriverID | int | YES | MUL | NULL | |

+--------------+------+------+-----+---------+----------------+

3 rows in set (0.00 sec)