

ER Diagram for Hotel Management System

The Entity-Relationship (ER) Diagram for the hotel management system database described earlier. The ER diagram will illustrate the entities (tables), their attributes, and the relationships between them.

Entities and Attributes

1. Guests

- GuestID (Primary Key)
- FirstName
- LastName
- Email
- Phone
- Address
- City
- Country
- ZipCode

2. Rooms

- RoomID (Primary Key)
- RoomNumber
- RoomType
- Capacity
- PricePerNight
- Status

3. Reservations

- ReservationID (Primary Key)
- GuestID (Foreign Key)
- RoomID (Foreign Key)
- CheckInDate
- CheckOutDate
- TotalAmount
- ReservationStatus

4. Staff

- StaffID (Primary Key)
- FirstName
- LastName
- Email
- Phone
- Position
- Salary
- HireDate

5. Services

- ServiceID (Primary Key)
- ServiceName
- Description
- Price

6. ServiceRequests

- RequestID (Primary Key)
- ReservationID (Foreign Key)
- ServiceID (Foreign Key)
- RequestDate
- Quantity

- TotalPrice
- 7. **Billing**
 - BillID (Primary Key)
 - ReservationID (Foreign Key)
 - BillingDate
 - Amount
 - PaymentMethod
 - PaymentStatus
- 8. **Feedback**
 - FeedbackID (Primary Key)
 - GuestID (Foreign Key)
 - FeedbackDate
 - Rating
 - Comments

Relationships

- **Guests to Reservations:** One-to-Many (A guest can have multiple reservations, but each reservation belongs to one guest).
- **Rooms to Reservations:** One-to-Many (A room can have multiple reservations over time, but each reservation is for one room).
- **Reservations to ServiceRequests:** One-to-Many (A reservation can have multiple service requests, but each service request belongs to one reservation).
- **Services to ServiceRequests:** One-to-Many (A service can be requested multiple times, but each service request is for one service).
- **Reservations to Billing:** One-to-One (Each reservation has one billing record).
- **Guests to Feedback:** One-to-Many (A guest can provide multiple feedback entries, but each feedback entry is from one guest).

ER Diagram

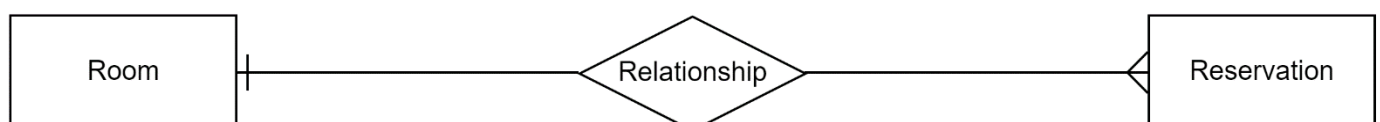
The ER diagram can be visualized using tools like draw.io, Lucidchart, or any ER diagram drawing tool. Here's a textual representation:

: Identify the Cardinality Ratio and Participation

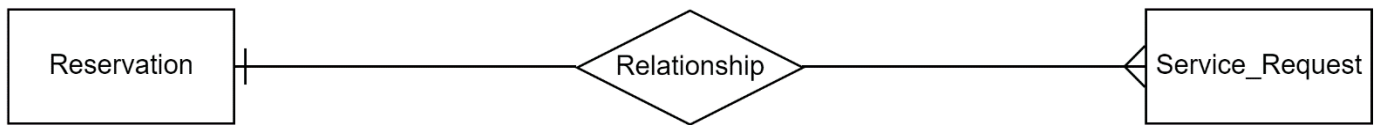
1. **Guests to Reservations:** One-to-Many:



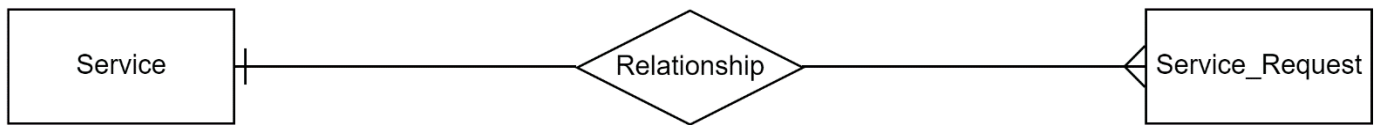
2. **Rooms to Reservations:** One-to-Many:



3. **Reservations** to **ServiceRequests**: One-to-Many :



4: **Services** to **ServiceRequests**: One-to-Many:



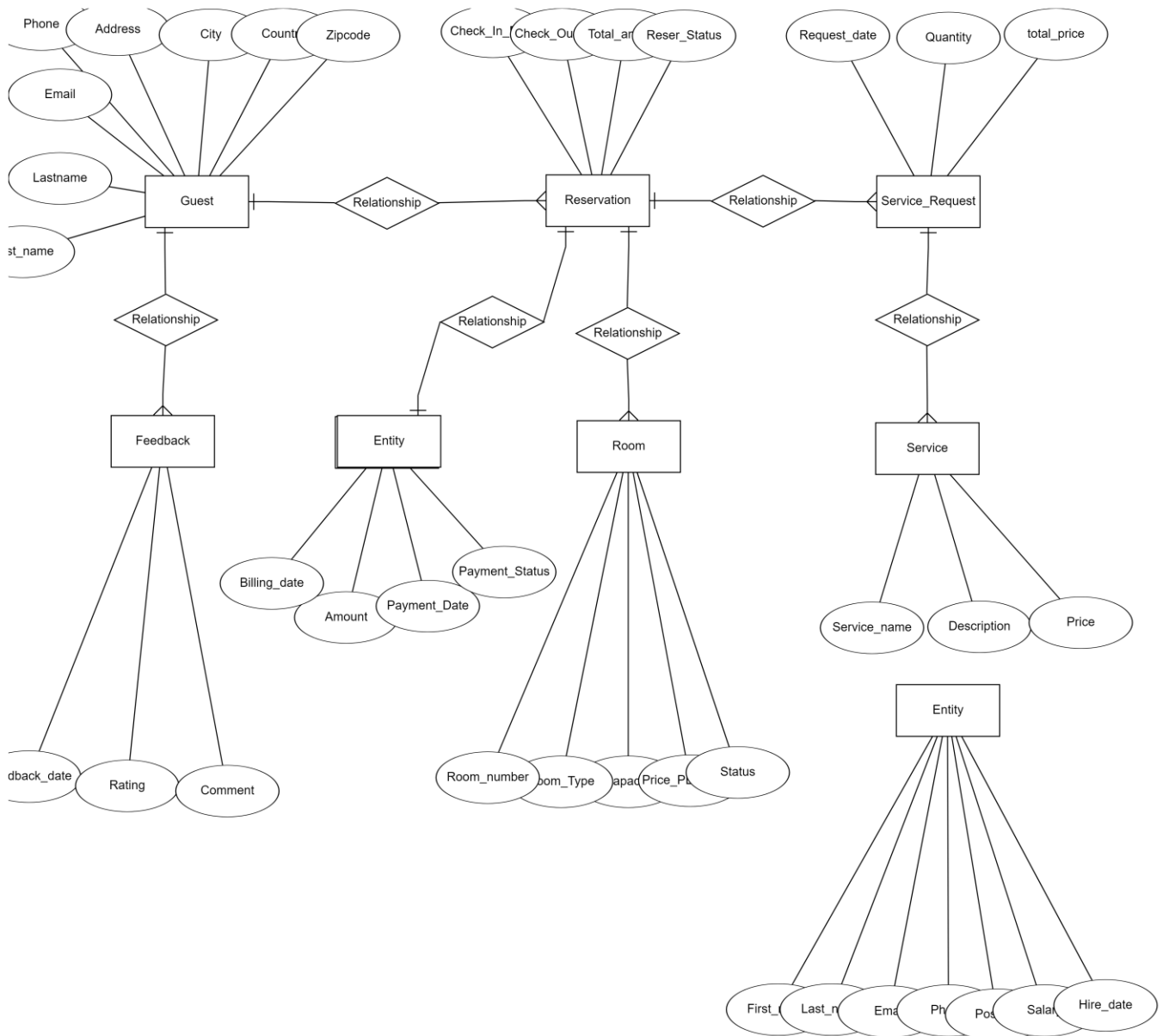
5.**Reservations** to **Billing**: One-to-One:



6. **Guests** to **Feedback**: One-to-Many:



Draw the Diagram :



Screenshot of Hotel Management System database Designer

