

## Hotel Reservation Management System

A luxury hotel chain wants to design a database system to handle its reservations, guests, rooms, and payments efficiently. The chain operates several hotels:

- Each identified by a unique hotel ID, name, star rating, address, city, and contact number.
- Each hotel has a manager responsible for operations, and every manager is also recorded in the system as a staff member.

Each hotel contains multiple rooms:

- Every room has a room number unique within that hotel, along with details such as room type (single, double, suite), capacity, daily rate, and availability status.
- Some rooms may offer additional amenities like sea view, balcony, or kitchen, which should also be stored.

Guests are the central focus of the system:

- Each guest has a unique guest ID, full name, date of birth, contact details, nationality, and ID/passport number.
- A guest can make multiple reservations, and some reservations can include more than one guest (such as families or business groups).

A reservation is made for one or more rooms in a specific hotel:

- It includes details such as reservation ID, check-in date, check-out date, booking date, number of adults and children, total price, and reservation status (e.g., confirmed, checked-in, canceled, completed).
- Because guests may share a reservation, the relationship between guests and reservations must support multiple guests per booking.

Each reservation can have one or more payments associated with it:

- Payments record payment ID, date, amount, method (credit card, cash, online), and confirmation number.
- Sometimes, a single reservation may be paid in multiple installments, while one payment may cover multiple reservations if handled by travel agencies.

## The hotel also employs several staff members:

- Each identified by a staff ID. For each staff member, the system should record full name, position (e.g., receptionist, cleaner, manager), salary, and the hotel they work at.
- Staff can be assigned to assist with multiple reservations — for example, a receptionist handles check-in/check-out, and a room service staff member may serve multiple guests.

Additionally, guests may request services during their stay, such as laundry, spa, or transportation

- Each service request should record a service ID, service name, request date, charge, and staff member who provided it
- Since one reservation can have many service requests, and staff members can fulfill requests for many reservations, this relationship must be carefully modeled.

