

DATA DICTIONARY — HOTEL BOOKING SYSTEM

1 ENTITIES DESCRIPTIONS

1. Departments

Stores information about different departments in the hotel
Used to group employees according to their department.

2. Employees

Stores personal and employment-related information for all hotel staff members.

3. Guests

Represents hotel customers who make reservations or stay at the hotel.

4. Guests-Phones

Stores additional phone numbers for guests (because one guest may have multiple phone numbers).

5. Room-Types

Represents categories of rooms (e.g., Single, Double, Suite) with specifications and pricing.

6. Rooms

Represents individual rooms inside the hotel, including room number, type, features, and nightly price.

7. Bookings

Represents a reservation made by a guest, including check-in/check-out dates, status, and total cost.

8. Payments

Represents payment transactions related to bookings (amount, method, status).

9. Services

Represents additional services provided by the hotel.

10. Booking-Services

Associates services with a booking (many-to-many).

Shows which services the guest used and the cost.

2 ATTRIBUTES DEFINITIONS

1. Departments

Attribute	Type	Description
Department_ID	INT (PK)	Unique identifier of each department.
Department_Name	VARCHAR	Name of the department.
Location	VARCHAR	Physical location within the hotel.
Budget	DECIMAL	Budget of the department.

2. Employees

Attribute	Type	Description
Employee_ID	INT (PK)	Unique identifier for each employee.
First_Name	VARCHAR	Employee's first name.
Last_Name	VARCHAR	Employee's last name.
Position	VARCHAR	Job title.
Department_ID	INT (FK)	The department the employee belongs to.

Attribute	Type	Description
Email	VARCHAR	Employee email address.
Phone	VARCHAR	Employee phone number.
Hire_Date	DATE	Date the employee was hired.
Salary	DECIMAL	Employee salary.

3. Guests

Attribute	Type	Description
Guest_ID	INT (PK)	Unique identifier for each guest.
First_Name	VARCHAR	Guest first name.
Last_Name	VARCHAR	Guest last name.
Email	VARCHAR	Guest email address.
Phone	VARCHAR	Contact phone.
National_ID	VARCHAR	ID number.
Date_of_Birth	DATE	Guest birth date.
Nationality	VARCHAR	Guest nationality.
Address	VARCHAR	Guest home address.
Registration_Date	DATE	Date the guest registered in the system.

4. Guests-Phones

Attribute	Type	Description
Phone_ID	INT (PK)	Unique identifier for phone record.
Guest_ID	INT (FK)	The guest who owns this phone.
Phone_Number	VARCHAR	Additional phone number.
Phone_Type	VARCHAR	(Mobile, Home, Work).

5. Room-Types

Attribute	Type	Description
Room_Type_ID	INT (PK)	Unique identifier for room type.
Type_Name	VARCHAR	Type of room .
Description	TEXT	Description of the room type.
Base_Price	DECIMAL	Base price per night.
Max_Occupancy	INT	Maximum capacity of guests.
Bed_Type	VARCHAR	(Single Bed, Double Bed, King Bed).
Size_SQM	DECIMAL	Room area in square meters.

6. Rooms

Attribute	Type	Description
Room_ID	INT (PK)	Unique room identifier.
Room_Number	VARCHAR	Room number inside the hotel.
Room_Type_ID	INT (FK)	Type of the room.
Floor	INT	Floor number.
Price_Per_Night	DECIMAL	Price per night for that room.
Status	VARCHAR	(Available, Occupied, Maintenance).
View_Type	VARCHAR	(Sea View, City View, Garden View).
Has_Balcony	BOOLEAN	Whether the room has a balcony.
Last_Maintenance	DATE	Date of last maintenance check.

7. Bookings

Attribute	Type	Description
Booking_ID	INT (PK)	Unique booking identifier.
Guest_ID	INT (FK)	Guest who made the booking.
Room_ID	INT (FK)	Room assigned to the booking.
Employee_ID	INT (FK)	Employee who processed the booking.
Check_In_Date	DATE	Planned check-in date.
Check_Out_Date	DATE	Planned check-out date.
Number_of_Guests	INT	Total number of guests staying.
Total_Price	DECIMAL	Total cost for the stay.
Booking_Status	VARCHAR	(Reserved, Checked-In, Completed, Cancelled).
Booking_Date	DATE	Date of booking creation.
Special_Requests	TEXT	Customer notes.

8. Payments

Attribute	Type	Description
Payment_ID	INT (PK)	Unique payment identifier.
Booking_ID	INT (FK)	Booking associated with this payment.
Payment_Date	DATE	Date of payment.
Amount	DECIMAL	Amount paid.
Payment_Method	VARCHAR	(Cash, Card, Online).
Payment_Status	VARCHAR	(Completed, Pending, Failed).
Transaction_ID	VARCHAR	External transaction reference.
Processed_By	INT (FK)	Employee who processed the payment.

9. Services

Attribute	Type	Description
Service_ID	INT (PK)	Unique service identifier.
Service_Name	VARCHAR	Name of the service (Spa, Breakfast...).
Description	TEXT	Service details.
Price	DECIMAL	Cost of the service.
Service_Type	VARCHAR	(Daily, One-Time, On-Demand).
Availability	VARCHAR	When the service is available.

10. Booking-Services

Attribute	Type	Description
Booking_Service_ID	INT (PK)	Unique identifier for booking-service entry.
Booking_ID	INT (FK)	The booking receiving the service.
Service_ID	INT (FK)	The service used.
Service_Date	DATE	Date the service was provided.
Quantity	INT	Number of units of the service.
Total_Cost	DECIMAL	Total cost = Price × Quantity.
Status	VARCHAR	(Provided, Pending, Cancelled).
Note	TEXT	Extra comments about the service.

3 RELATIONSHIPS

Departments 1 — * Employees

A department has many employees.
Each employee belongs to one department.

Guests 1 — * Guests-Phones

A guest can have multiple phone numbers.
Each phone entry belongs to one guest.

Room-Types 1 — * Rooms

A room type describes multiple rooms.
Each room belongs to one room type.

Guests 1 — * Bookings

A guest can make many bookings.
Each booking is linked to one guest.

Rooms 1 — * Bookings

A room can appear in many bookings over time.
Each booking refers to one room.

Employees 1 — * Bookings

A staff member can create many bookings.
Each booking is processed by one employee.

Bookings 1 — * Payments

A booking can have multiple payments.
Each payment belongs to one booking.

Bookings * — * Services (via Booking-Services)

A booking can include many services.
A service can be used by many bookings.