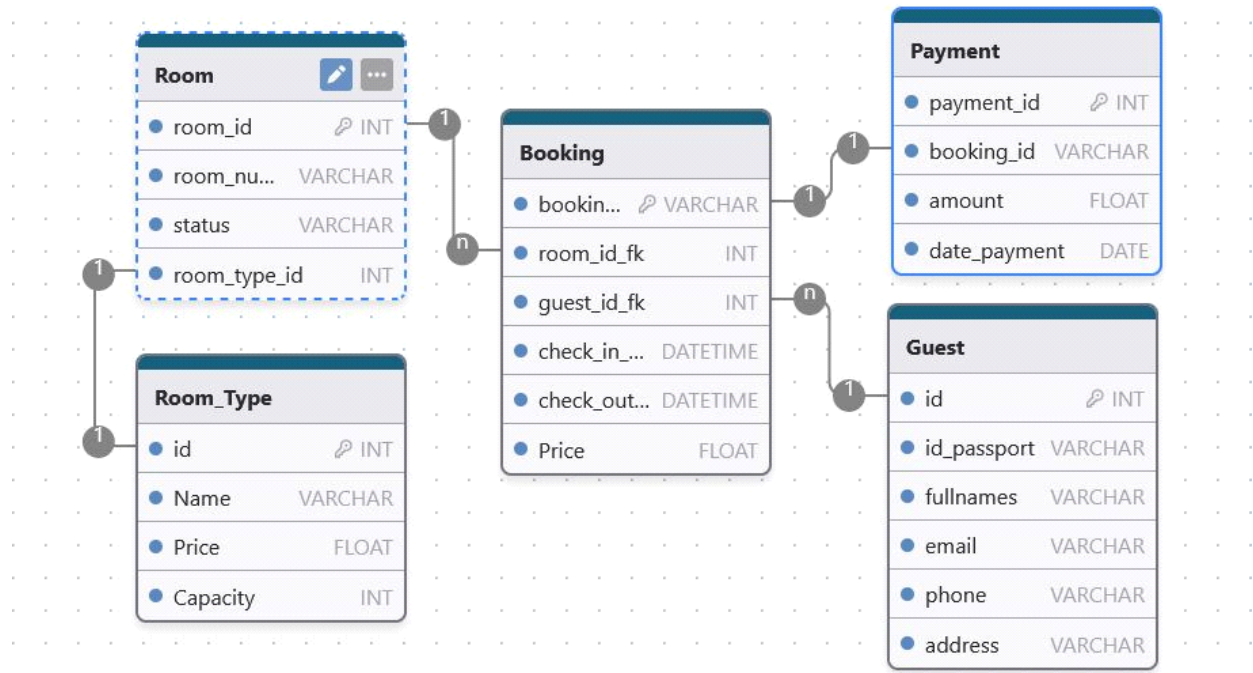


## 1) HOTEL MANAGEMENT SYSTEM

2) The hotel management system is designed to efficiently operate CRUD [CREATE, READ, UPDATE, DELETE] Operations. It allows hotel management to manage room allocations, track room types and availability, record guest information, make and manage bookings, and process payments seamlessly. The system enables management to easily assign rooms to guests based on their preferences and availability, while also providing guests with a smooth booking and payment experience. With features such as updates on room availability, detailed guest profiles, and payment processing.

3)



```

CREATE TABLE Room_Types (
    id INT PRIMARY KEY,
    Name VARCHAR(255) NOT NULL,
    Price DECIMAL(10,2) NOT NULL,
    Capacity INT NOT NULL
  )
  
```

);

CREATE TABLE Room (

room\_id INT PRIMARY KEY,

room\_number VARCHAR(20) NOT NULL,

status VARCHAR(20) NOT NULL,

room\_type\_id INT NOT NULL,

FOREIGN KEY (room\_type\_id) REFERENCES Room\_Type(id)

);

CREATE TABLE Guestss (

id INT PRIMARY KEY,

id\_passport VARCHAR(20),

fullnames VARCHAR(255) NOT NULL,

email VARCHAR(255),

phone VARCHAR(20),

address VARCHAR(255)

);

CREATE TABLE Booking (

booking\_id VARCHAR(20) PRIMARY KEY,

room\_id\_fk INT NOT NULL,

guest\_id\_fk INT NOT NULL,

check\_in DATE NOT NULL,

check\_out DATE NOT NULL,

price FLOAT NOT NULL,

FOREIGN KEY (room\_id\_fk) REFERENCES Room(room\_id),

FOREIGN KEY (guest\_id\_fk) REFERENCES Guestss(id)

);

CREATE TABLE Payments (

payment\_id INT PRIMARY KEY,

```

booking_id VARCHAR(20) NOT NULL,

amount FLOAT NOT NULL,

date_payment DATE NOT NULL,

FOREIGN KEY (booking_id) REFERENCES Booking(booking_id)

);

INSERT INTO Room_Type (id, Name, Price, Capacity) VALUES (1, 'queen', 1000.00, 2);

INSERT INTO Room_Type (id, Name, Price, Capacity) VALUES (2, 'abiale', 1200.00, 3);

INSERT INTO Room_Type (id, Name, Price, Capacity) VALUES (3, 'orion', 800.00, 2);

INSERT INTO Room_Type (id, Name, Price, Capacity) VALUES (4, 'maelyse', 500.00, 1);

INSERT INTO Room_Type (id, Name, Price, Capacity) VALUES (5, 'giana', 1000.00, 2);

INSERT INTO Room_Type (id, Name, Price, Capacity) VALUES (6, 'Studio', 1200.00, 4);

INSERT INTO Room_Type (id, Name, Price, Capacity) VALUES (7, 'Suite', 3000.00, 2);

INSERT INTO Room_Type (id, Name, Price, Capacity) VALUES (8, 'Connecting rooms', 1500.00, 1);

INSERT INTO Room_Type (id, Name, Price, Capacity) VALUES (9, 'Presidential Suites', 5800.00, 2);

INSERT INTO Room_Type (id, Name, Price, Capacity) VALUES (111, 'Junior Suites', 700.00, 1);

select *from Room_Type;

INSERT INTO Room (room_id,room_number, status,room_type_id)

VALUES (1,'101', 'Available',1);

INSERT INTO Room (room_id,room_number, status,room_type_id)

VALUES (2,'203', 'Occupied',2);

INSERT INTO Room (room_id,room_number, status,room_type_id)

VALUES (3,'312', 'Cleaning',3);

INSERT INTO Room (room_id,room_number, status,room_type_id)

VALUES (4,'401', 'Available',1);

INSERT INTO Room (room_id,room_number, status,room_type_id)

VALUES (5,'503', 'Occupied',5);

INSERT INTO Room (room_id,room_number, status,room_type_id)

VALUES (6,'612', 'Available',7);

```

```
INSERT INTO Room (room_id,room_number, status,room_type_id)
```

```
VALUES (7,'701', 'Available',1);
```

```
INSERT INTO Room (room_id,room_number, status,room_type_id)
```

```
VALUES (8,'803', 'Occupied',5);
```

```
INSERT INTO Room (room_id,room_number, status,room_type_id)
```

```
VALUES (9,'912', 'Cleaning',3);
```

```
INSERT INTO Room (room_id,room_number, status,room_type_id)
```

```
VALUES (10,'1012', 'Cleaning',10);
```

```
INSERT INTO Guestss (id,id_passport, fullnames, email, phone,  
address)VALUES(1,'RW12333','giana','giana@gmail.com','0781678947','KN123ST');
```

```
INSERT INTO Guestss (id,id_passport, fullnames, email, phone,  
address)VALUES(2,'RW14433','Belyse','belyse@gmail.com','0791678947','KG123ST');
```

```
INSERT INTO Guestss (id,id_passport, fullnames, email, phone,  
address)VALUES(3,'RW144303','Diane','diane@gmail.com','0791678947','KG123ST');
```

```
INSERT INTO Guestss (id,id_passport, fullnames, email, phone,  
address)VALUES(4,'RW144303','mimi','mimi@gmail.com','0791678947','KG123ST');
```

```
INSERT INTO Guestss (id,id_passport, fullnames, email, phone,  
address)VALUES(5,'RW09144303','Jeannette','jane@gmail.com','0791678947','KG123ST');
```

```
INSERT INTO Guestss (id,id_passport, fullnames, email, phone,  
address)VALUES(6,'RW09144303','Aline','Aline@gmail.com','0781678947','KG223ST');
```

```
INSERT INTO Guestss (id,id_passport, fullnames, email, phone,  
address)VALUES(7,'RW0879144303','orion','orion@gmail.com','0781678947','KG223ST');
```

```
INSERT INTO Guestss (id,id_passport, fullnames, email, phone,  
address)VALUES(8,'RW049144303','maelyse','maelyse@gmail.com','0781678947','KG223ST');
```

```
INSERT INTO Booking (booking_id, room_id_fk, guest_id_fk, check_in, check_out, price)
```

```
VALUES ('B001', '1', '2', '2004-12-12', '2004-12-14', 1000.00);
```

```
INSERT INTO Booking (booking_id, room_id_fk, guest_id_fk, check_in, check_out, price)
```

```
VALUES ('B002', '2', '3', '2004-12-13', '2004-12-14', 1000.00);
```

```
INSERT INTO Booking (booking_id, room_id_fk, guest_id_fk, check_in, check_out, price)
VALUES ('B003', '3', '3', '2004-12-13', '2004-12-14', 1000.00);
```

```
INSERT INTO Booking (booking_id, room_id_fk, guest_id_fk, check_in, check_out, price)
VALUES ('B004', '3', '6', '2024-12-15', '2025-01-14', 1000.00);
```

```
INSERT INTO Booking (booking_id, room_id_fk, guest_id_fk, check_in, check_out, price)
VALUES ('B005', '6', '6', '2024-12-15', '2025-01-14', 1000.00);
```

```
INSERT INTO Booking (booking_id, room_id_fk, guest_id_fk, check_in, check_out, price)
VALUES ('B006', '10', '5', '2024-12-15', '2025-01-14', 1000.00);
```

```
INSERT INTO Booking (booking_id, room_id_fk, guest_id_fk, check_in, check_out, price)
VALUES ('B007', '7', '7', '2024-12-15', '2025-01-14', 1000.00);
```

```
INSERT INTO Booking (booking_id, room_id_fk, guest_id_fk, check_in, check_out, price)
VALUES ('B008', '5', '10', '2025-01-15', '2025-02-14', 1000.00);
```

```
INSERT INTO Booking (booking_id, room_id_fk, guest_id_fk, check_in, check_out, price)
VALUES ('B009', '10', '1', '2025-01-17', '2025-03-14', 1000.00);
```

```
INSERT INTO Booking (booking_id, room_id_fk, guest_id_fk, check_in, check_out, price)
VALUES ('B010', '9', '6', '2025-01-17', '2025-03-14', 1000.00);
```

```
INSERT INTO Payments (payment_id, booking_id, amount, date_payment)
VALUES (1, 'B001', 1000.00, '12/JAN/2004');
```

```
INSERT INTO Payments (payment_id, booking_id, amount, date_payment)
VALUES (2, 'B002', 1000.00, '12/JAN/2004');
```

```
INSERT INTO Payments(payment_id, booking_id, amount, date_payment)
VALUES (3, 'B002', 1000.00, '17/JAN/2004');
```

```
INSERT INTO Payments(payment_id, booking_id, amount, date_payment)
VALUES (4, 'B005', 1000.00, '20/JAN/2004');
```

```
INSERT INTO Payments (payment_id, booking_id, amount, date_payment)
VALUES (5, 'B006', 1000.00, '20/JAN/2044');
```

```
INSERT INTO Payments (payment_id, booking_id, amount, date_payment)
VALUES (6, 'B007', 1000.00, '20/JAN/2044');
```

```
INSERT INTO Payments (payment_id, booking_id, amount, date_payment)
VALUES (7, 'B003', 1000.00, '20/JAN/2044');
```

```
INSERT INTO Payments (payment_id, booking_id, amount, date_payment)
VALUES (8, 'B008', 1000.00, '29/JAN/2044');
```

```
INSERT INTO Payments (payment_id, booking_id, amount, date_payment)
VALUES (9, 'B009', 1000.00, '29/JAN/2044');
```

```
INSERT INTO Payments(payment_id, booking_id, amount, date_payment)
VALUES (10, 'B010', 1000.00, '29/FEB/2044');
```

```
update Room_Types
```

```
set capacity=7 ,Price=3000
```

```
where Name='Suite';
```

```
select *from Guestss;
```

```
select *from Booking;
```

```
select *from Room_Type;
```

```
select *from payments;
```

```
delete from payments;
```

```
SELECT
```

```
    b.booking_id,  
    g.fullnames AS guest_name,  
    r.room_number,  
    rt.Name AS room_type,  
    b.check_in,  
    b.check_out,  
    b.price
```

```
FROM
```

```
    Booking b
```

```
JOIN
```

```
    Guestss g ON b.guest_id_fk = g.id
```

```
JOIN
```

```
    Room r ON b.room_id_fk = r.room_id
```

```
JOIN
```

```
    Room_Types rt ON r.room_type_id = rt.id;
```

```
=====
```

```
UPDATE Room_Types
```

```
SET Price = 3500.00
```

```
WHERE Name = 'Suite';
```

```
INSERT INTO Booking (booking_id, room_id_fk, guest_id_fk, check_in, check_out, price)
```

```
VALUES ('B011', 8, 4, '2024-12-01', '2024-12-10', 1200.00);
```

```
=====
```

```
SELECT
```

```
    b.booking_id,
```

```
b.check_in,
b.check_out,
b.price
FROM
    Booking b
JOIN
    Guestss g ON b.guest_id_fk = g.id
WHERE
    g.fullnames = 'Diane';
SELECT
    rt.Name AS room_type,
    COUNT(b.booking_id) AS number_of_bookings
FROM
    Booking b
JOIN
    Room r ON b.room_id_fk = r.room_id
JOIN
    Room_Types rt ON r.room_type_id = rt.id
GROUP BY
    rt.Name;
```

=====



```

131 update Room_Types
132 set capacity=7 ,Price=3000
133 where Name='Suite';
134
135
136
137
138

```

Data Output Explain Messages Notifications

UPDATE 0

Query returned successfully in 123 msec.

select \*from Guestss;

```

134 select *from Guestss;
135
136
137
138

```

Data Output Explain Messages Notifications

|   | id<br>[PK] integer | id_passport<br>character varying (20) | fullnames<br>character varying (255) | email<br>character varying (255) | phone<br>character varying (20) | address<br>character varying (255) |
|---|--------------------|---------------------------------------|--------------------------------------|----------------------------------|---------------------------------|------------------------------------|
| 1 | 1                  | RW12333                               | giana                                | giana@gmail.com                  | 0781678947                      | KN123ST                            |
| 2 | 2                  | RW14433                               | Belyse                               | belyse@gmail.com                 | 0791678947                      | KG123ST                            |
| 3 | 3                  | RW144303                              | Diane                                | diane@gmail.com                  | 0791678947                      | KG123ST                            |
| 4 | 4                  | RW144303                              | mimi                                 | mimi@gmail.com                   | 0791678947                      | KG123ST                            |
| 5 | 5                  | RW09144303                            | Jeannette                            | jane@gmail.com                   | 0791678947                      | KG123ST                            |
| 6 | 6                  | RW09144303                            | Aline                                | Aline@gmail.com                  | 0781678947                      | KG223ST                            |
| 7 | 7                  | RW0879144303                          | orion                                | orion@gmail.com                  | 0781678947                      | KG223ST                            |

select \*from Booking;

```
135 select *from Booking;
136
137
138
139
```

|   | booking_id                  | room_id_fk | guest_id_fk | check_in   | check_out  | price            |  |
|---|-----------------------------|------------|-------------|------------|------------|------------------|--|
|   | [PK] character varying (20) | integer    | integer     | date       | date       | double precision |  |
| 1 | B001                        | 1          | 2           | 2004-12-12 | 2004-12-14 | 1000             |  |
| 2 | B002                        | 2          | 3           | 2004-12-13 | 2004-12-14 | 1000             |  |
| 3 | B003                        | 3          | 3           | 2004-12-13 | 2004-12-14 | 1000             |  |
| 4 | B004                        | 3          | 6           | 2024-12-15 | 2025-01-14 | 1000             |  |
| 5 | B005                        | 6          | 6           | 2024-12-15 | 2025-01-14 | 1000             |  |
| 6 | B006                        | 10         | 5           | 2024-12-15 | 2025-01-14 | 1000             |  |
| 7 | B007                        | 7          | 7           | 2024-12-15 | 2025-01-14 | 1000             |  |

select \*from Room\_Type;

```
136 select *from Room_Type;
137
138
139
140
141
142
143
144
145
146
147
148
```

|   | id           | name                    | price          | capacity |  |
|---|--------------|-------------------------|----------------|----------|--|
|   | [PK] integer | character varying (255) | numeric (10,2) | integer  |  |
| 1 | 1            | queen                   | 1000.00        | 2        |  |
| 2 | 2            | king                    | 1200.00        | 3        |  |
| 3 | 3            | twin                    | 800.00         | 2        |  |
| 4 | 4            | single                  | 500.00         | 1        |  |
| 5 | 5            | Deluxe Room             | 1000.00        | 2        |  |
| 6 | 6            | Studio                  | 1200.00        | 4        |  |
| 7 | 7            | Suite                   | 3000.00        | 2        |  |

select \*from payments;

```
137 select *from payments;
138
139 |
140
141
142
143
144
145
```

Data Output Explain Messages Notifications

|   | payment_id<br>[PK] integer | booking_id<br>character varying (20) | amount<br>double precision | date_payment<br>date |
|---|----------------------------|--------------------------------------|----------------------------|----------------------|
| 1 | 1                          | B001                                 | 1000                       | 2004-01-12           |
| 2 | 2                          | B002                                 | 1000                       | 2004-01-12           |
| 3 | 3                          | B002                                 | 1000                       | 2004-01-17           |
| 4 | 4                          | B005                                 | 1000                       | 2004-01-20           |
| 5 | 5                          | B006                                 | 1000                       | 2044-01-20           |
| 6 | 6                          | B007                                 | 1000                       | 2044-01-20           |
| 7 | 7                          | B003                                 | 1000                       | 2044-01-20           |

delete from payments;

```
138 delete from payments;
139
140
141
142
143
144
145
146
```

Data Output Explain Messages Notifications

DELETE 10

Query returned successfully in 163 msec.

Retrieve

```

162 SELECT
163     b.booking_id,
164     b.check_in,
165     b.check_out,
166     b.price
167 FROM
168     Booking b
169 JOIN
170     Guestss g ON b.guest_id_fk = g.id
171 WHERE
172     g.fullnames = 'Diane';
173
174
175

```

Data Output Explain Messages Notifications

|   | booking_id<br>[PK] character varying (20) | check_in<br>date | check_out<br>date | price<br>double precision |  |
|---|---|------------------|-------------------|---------------------------|--|
| 1 | B002                                      | 2004-12-13       | 2004-12-14        | 1000                      |  |
| 2 | B003                                      | 2004-12-13       | 2004-12-14        | 1000                      |  |
|   |   |                  |                   |                           |  |

Count

```
173 SELECT
174     rt.Name AS room_type,
175     COUNT(b.booking_id) AS number_of_bookings
176 FROM
177     Booking b
178 JOIN
179     Room r ON b.room_id_fk = r.room_id
180 JOIN
181     Room_Types rt ON r.room_type_id = rt.id
182 GROUP BY
183     rt.Name;
184
185
```

Data Output Explain Messages Notifications

|   | room_type               | number_of_bookings |
|---|-------------------------|--------------------|
| ▲ | character varying (255) | bigint             |