**HOTEL MANAGEMENT SYSTEM (HMS)**



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# Introduction

This is a management system for managing the general activities of a hotel like booking of rooms, billing etc. The purpose of this document is to collect, analyze and define high-level needs and features of the Hotel Management System. It focuses on the capabilities needed by the stakeholders, and the target users, and why these needs exist. The details of how the Hotel Management System fulfills these needs are detailed in the use-case and supplementary specifications.

## **Project Objective**

The objectives of Hotel Management System are to develop a project which maintains booking of rooms and handles accounts of a hotel. It is a database-based application to be implemented in oracle. This management system is aimed at facilitating the prompt, accurate and easy management of a hotel. It will be very helpful to the manager on the one hand and to the customer as they would be able to get good and fast service.

## **Project Scope**

In this management system, Hotel management can add new customers and manage that customer information. Hotel manager can add hotel bill in that customer bill. This management system works at all hotels that cater to a large number of customers and want to computerize the complete management process.

## **Key Stakeholders**

This project was made by my team as a course project for educational purposes.

Following are the key stakeholders in my project:

* My team members.
* Hotel staff.
* Hotel Management.

## **Software Requirements**

* **Oracle 11 G**
* **Microsoft Word**
* **ERDPlus (**[ERDPlus](https://erdplus.com/)**)**

## **Features Given to users**

* Provide useful information about hotel.
* Provide ease of access.
* Offer security of user data, payment.
* Online room booking.
* E-payment.
* Reservation Email.
* Online payment Integration.

# Database Design

## **Table Description**

1. **DEPT:** This table consists of details about the various departments in the hotel. The information stored in this table includes department number and department name available in that department.

***Constraint***: Department name will be unique for each department; department number will be the **Primary Key** in DEPT Table. Department number and department name can’t be NULL

1. **HOTEL:** This table consists of details about the various hotels. The information stored in this table includes hotel ID, hotel name and hotel location for that hotel.

***Constraint***: hotel ID will be the **Primary Key** in HOTEL Table. Hotel ID, hotel name and hotel location can’t be NULL

1. **EMP:** This table stores information about all the employees working for the hospital and the departments they are associated with. Each employee is given an identity number. The information stored in this table includes employee number, employee name, job, salary, hire date, department number and hotel ID.

***Constraint***: Employee number will be the **Primary Key** in EMP Table. Department number will be **Foreign Key** references to Department number of DEPT Table. Hotel ID will be **Foreign Key** references to hotel ID of HOTEL Table. Employee number, employee name, job, salary, hire date, department number and hotel ID can’t be NULL.

1. **ROOM:** This table consists of details about rooms in various hotels.The information stored in this table includes room ID, room type, room status, room price and hotel ID for each room.

***Constraint***: Room ID will be the **Primary Key** in ROOM Table. Hotel ID will be **Foreign Key** references to hotel ID of HOTEL Table. Room ID, room type, room status, room price and hotel ID can’t be NULL.

1. **CUSTOMER:** This table consists of details about customers in various hotels. The information stored in this table includes customer ID, customer name, customer address, contact number, customer CNIC, room ID and hotel ID for each customer.

***Constraint***: Customer ID, ROOM ID, HOTEL ID will be the **Composite primary Key** in CUSTOMER Table. Room ID will be **Foreign Key** references to room ID of ROOM Table. Hotel ID will be **Foreign Key** references to hotel ID of HOTEL Table. Customer ID, customer name, customer address, contact number, customer CNIC, room ID and hotel ID can’t be NULL.

1. **RESERVATION:** This table consists of details about customer’s reservation. The information stored in this table includes reservation ID, start date, end date, period, booking payment, customer ID, room ID and hotel ID for each customer.

***Constraint***: RESERVATION ID, Customer ID, ROOM ID, HOTEL ID will be the **Composite primary Key** in RESERVATION Table. Customer ID, room ID and hotel ID will be **Composite foreign Key** references to customer ID, room ID and hotel ID of CUSTOMER Table. Reservation ID, start date, end date, period, booking payment, customer ID, room ID and hotel ID can’t be NULL.

1. **INVOICE:** This table consists of details about customer’s invoice. The information stored in this table includes invoice ID, laundry charges, food charges, other charges, total payment, customer ID, room ID and hotel ID for each customer.

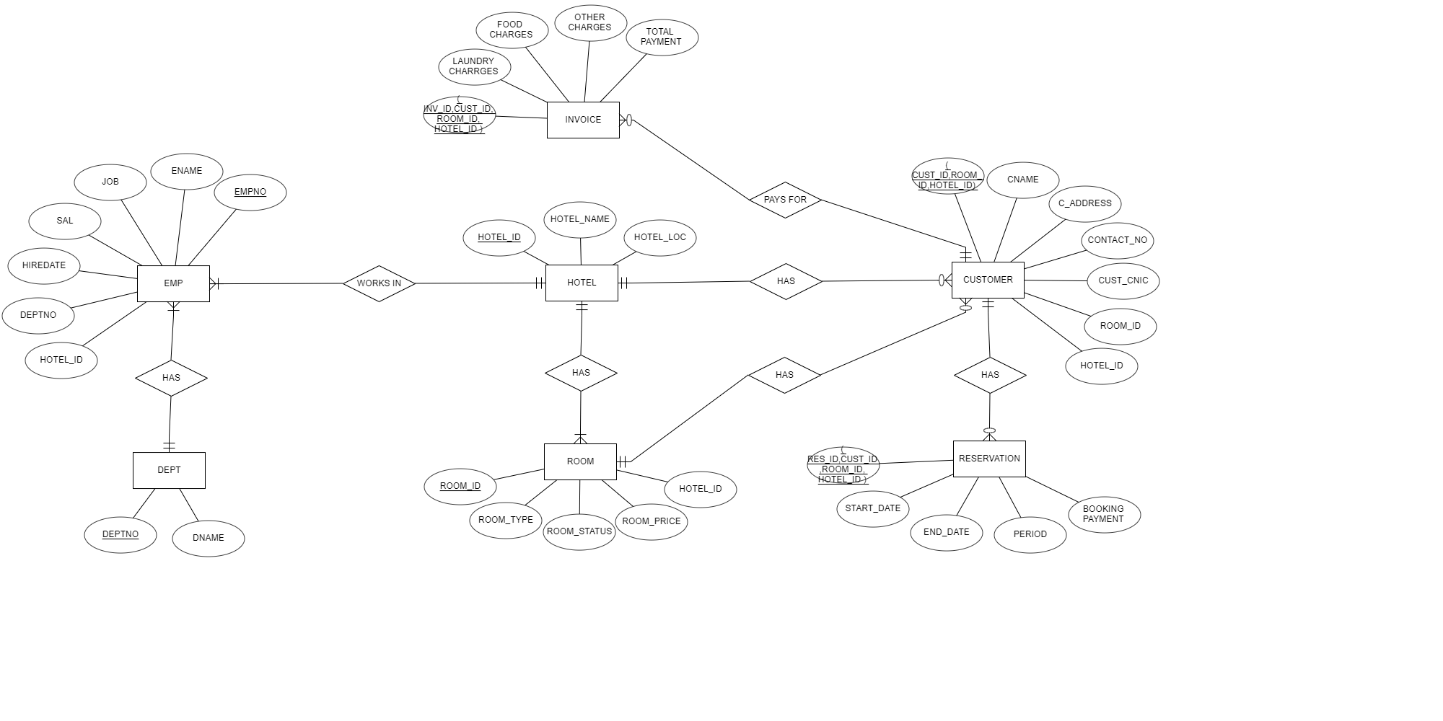
***Constraint***: Invoice ID, Customer ID, ROOM ID, HOTEL ID will be the **Composite primary Key** in INVOICE Table. Customer ID, room ID and hotel ID will be **Composite foreign Key** references to customer ID, room ID and hotel ID of CUSTOMER Table. Invoice ID, laundry charges, food charges, other charges, total payment, customer ID, room ID and hotel ID can’t be NULL.

## **Relational Database Schema**

Relational database schema of above seven tables.

1. DEPT(DEPTNO, DNAME)
2. HOTEL(HOTEL\_ID, HOTEL\_NAME, HOTEL\_LOC)
3. EMP(EMPNO, ENAME, JOB, SAL, HIREEDATE, DEPTNO, HOTEL ID)
4. ROOM(ROOM\_ID, ROOM\_TYPE, ROOM\_STATUS, ROOM\_PRICE, HOTEL\_ID)
5. CUSTOMER(CUST\_ID, CNAME, C\_ADDRESS, CONTACT\_NO, CUST\_CNIC, ROOM\_ID, HOTEL\_ID)
6. RESERVATION(RES\_ID,CUST\_ID, ROOM\_ID, HOTEL\_ID, START\_DATE, END\_DATE, PERIOD, BOOKING\_PAYMENT)
7. INVOICE(INV\_ID,CUST\_ID, ROOM\_ID, HOTEL\_ID, LAUNDRY\_CHARGES, FOOD\_CHARGES, OTHER\_CHARGES, TOTAL\_PAYMENT)

## **ER Diagram**



**TABLES**

SELECT \* FROM EMP;

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **EMPNO** | **ENAME** | **JOB** | **SAL** | **HIREDATE** | **DEPTNO** | **HOTEL\_ID** |
| 1710 | Asad | Manager | 50000 | 01/11/2011 | 1 | 1 |
| 1730 | Raheem | Manager | 55000 | 02/19/2010 | 1 | 2 |
| 1750 | Akram | Manager | 59000 | 06/23/2010 | 1 | 3 |
| 1715 | Faisal | Head Chef | 51000 | 10/13/2011 | 2 | 1 |
| 1725 | Umer | Head Chef | 53000 | 11/13/2010 | 2 | 2 |
| 1735 | Zia | Head Chef | 52300 | 04/19/2010 | 2 | 3 |
| 1745 | Kareem | Supervisor | 56300 | 12/19/2013 | 3 | 1 |
| 1755 | Luqman | Supervisor | 55300 | 05/19/2012 | 3 | 2 |
| 1765 | Luqman | Supervisor | 56000 | 09/01/2012 | 3 | 3 |
| 1720 | Fareed | Manager | 58000 | 09/21/2009 | 4 | 1 |
| 1740 | Faheem | Manager | 57000 | 07/03/2009 | 4 | 2 |
| 1760 | Noman | Manager | 59000 | 07/03/2012 | 4 | 3 |
| 1711 | Ali | Waiter | 26000 | 03/03/2013 | 1 | 1 |
| 1712 | Saleem | Waiter | 26000 | 02/05/2013 | 1 | 1 |
| 1731 | Rehman | Waiter | 27900 | 10/11/2014 | 1 | 2 |
| 1732 | Shareef | Waiter | 27900 | 10/13/2014 | 1 | 2 |
| 1751 | Qamar | Waiter | 26200 | 10/17/2013 | 1 | 3 |
| 1752 | Moaz | Waiter | 26200 | 10/09/2013 | 1 | 3 |
| 1716 | Qasim | Chef | 46200 | 11/09/2012 | 2 | 1 |
| 1717 | Naem | Chef | 46200 | 11/13/2012 | 2 | 1 |
| 1726 | Rafay | Chef | 44800 | 08/13/2014 | 2 | 2 |
| 1727 | Danish | Chef | 44800 | 08/10/2014 | 2 | 2 |
| 1736 | Farah | Chef | 47100 | 05/19/2014 | 2 | 3 |
| 1737 | Naila | Chef | 47100 | 05/11/2014 | 2 | 3 |
| 1746 | Wasif | Bell Boy | 29100 | 05/21/2012 | 3 | 1 |
| 1747 | Taha | Bell Boy | 29100 | 05/01/2012 | 3 | 1 |
| 1756 | Ilyas | Bell Boy | 28400 | 10/01/2012 | 3 | 2 |
| 1757 | Shazia | Bell Girl | 28400 | 10/09/2012 | 3 | 2 |
| 1766 | Shazia | Bell Girl | 28700 | 02/09/2012 | 3 | 3 |
| 1767 | Sadia | Bell Girl | 28700 | 02/09/2012 | 3 | 3 |
| 1721 | Saba | Receptionist | 31700 | 01/09/2012 | 4 | 1 |
| 1722 | Faiza | Receptionist | 31700 | 01/01/2012 | 4 | 1 |
| 1741 | Yasir | Receptionist | 33000 | 06/01/2012 | 4 | 2 |
| 1742 | Rabia | Receptionist | 33000 | 06/13/2012 | 4 | 2 |
| 1761 | Nida | Receptionist | 30000 | 01/11/2014 | 4 | 3 |
| 1762 | Tania | Receptionist | 30000 | 01/11/2014 | 4 | 3 |

SELECT \* FROM DEPT;

|  |  |
| --- | --- |
| **DEPTNO** | **DNAME** |
| 1 | Food And Beverages |
| 2 | Food Production |
| 3 | House Keeping |
| 4 | Front Office |

SELECT \* FROM HOTEL;

|  |  |  |
| --- | --- | --- |
| **HOTEL\_ID** | **HOTEL\_NAME** | **HOTEL\_LOC** |
| 1 | Pearl Continental | Lahore |
| 2 | Pearl Continental | Islamabad |
| 3 | Pearl Continental | Karachi |

SELECT \* FROM CUSTOMER;

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CUST\_ID** | **CNAME** | **C\_ADDRESS** | **CONTACT\_NO** | **CUST\_CNIC** | **ROOM\_ID** | **HOTEL\_ID** |
| 5101 | Saleem | 18/2 st. 3 Ali Town,Sargoda | 03005173921 | 31202-7822988-9 | 103 | 1 |
| 5102 | Qasim | 101/3 st. 17 Noor Town,Siakot | 03091273921 | 31202-7212988-9 | 106 | 1 |
| 5103 | Faisal | 11/9 st. 7 Faiz Town,Narowal | 03091212321 | 31202-7212912-9 | 108 | 1 |
| 5201 | Umer | 21/8 st. 2 Hamd Town,Noorpur | 03099012321 | 31202-7212892-9 | 203 | 2 |
| 5202 | Ayesha | 211/1 st. 1 HBFC,Islampur | 03029452321 | 31212-7212182-9 | 205 | 2 |
| 5203 | Alia | 91/11 st. 11 SLI,Attock | 03059452981 | 31212-72212182-9 | 206 | 2 |
| 5208 | Wasif | 91 st. 3 PT1,Swabi | 03059452981 | 31212-72212182-9 | 208 | 2 |
| 5205 | Wasif | 91 st. 3 PT1,Swabi | 03059452981 | 31212-72212182-9 | 207 | 2 |
| 5206 | Kashif | 53 st. 1 Muradpur,Karak | 03159453981 | 31212-72222182-1 | 209 | 2 |
| 5207 | Akbar | 3 st. 2 Fasilpur,Hasilpur | 03209753971 | 31212-21322172-1 | 210 | 2 |
| 5301 | ALi | 121/2 st. 9 Alipur,Khushab | 03332752971 | 31232-21399172-1 | 301 | 3 |
| 5302 | Ishaq | 71/8 st. 19 Clifton,Karachi | 03332752111 | 31232-21619172-1 | 307 | 3 |
| 5303 | Ishaq | 71/8 st. 19 Clifton,Karachi | 03332752111 | 31232-21619172-1 | 308 | 3 |
| 5304 | Imran | 901 st. 12 QBI,Karachi | 03332752861 | 31202-51616172-9 | 309 | 3 |

SELECT \* FROM ROOM;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ROOM\_ID** | **ROOM\_TYPE** | **ROOM\_STATUS** | **ROOM\_PRICE** | **HOTEL\_ID** |
| 101 | Single | Available | 1500 | 1 |
| 102 | Single | Available | 1500 | 1 |
| 103 | Single | Unavailable | 1500 | 1 |
| 104 | Double | Available | 2500 | 1 |
| 105 | Double | Available | 2500 | 1 |
| 106 | Double | Unavailable | 2500 | 1 |
| 107 | Queen | Available | 3500 | 1 |
| 108 | Queen | Unavailable | 3500 | 1 |
| 109 | King | Available | 4500 | 1 |
| 110 | Studio | Available | 5500 | 1 |
| 201 | Single | Available | 1500 | 2 |
| 202 | Single | Available | 1500 | 2 |
| 203 | Single | Unavailable | 1500 | 2 |
| 204 | Double | Available | 2500 | 2 |
| 205 | Double | Unavailable | 2500 | 2 |
| 206 | Double | Unavailable | 2500 | 2 |
| 207 | Queen | Unavailable | 3500 | 2 |
| 208 | Queen | Unavailable | 3500 | 2 |
| 209 | King | Unavailable | 4500 | 2 |
| 210 | Studio | Unavailable | 5500 | 2 |
| 301 | Single | Unavailable | 1500 | 3 |
| 302 | Single | Available | 1500 | 3 |
| 303 | Single | Available | 1500 | 3 |
| 304 | Double | Available | 2500 | 3 |
| 305 | Double | Available | 2500 | 3 |
| 306 | Double | Available | 2500 | 3 |
| 307 | Queen | Unavailable | 3500 | 3 |
| 308 | Queen | Unavailable | 3500 | 3 |
| 309 | King | Unavailable | 4500 | 3 |
| 310 | Studio | Available | 5500 | 3 |

SELECT \* FROM INVOICE;

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **INV\_ID** | **CUST\_ID** | **HOTEL\_ID** | **ROOM\_ID** | **LAUNDRY\_CHARGES** | **FOOD\_CHARGES** | **OTHER\_CHARGES** | **TOTAL\_PAYMENT** |
| 9101 | 5101 | 1 | 103 | 1000 | 1500 | 500 | 3000 |
| 9102 | 5102 | 1 | 106 | 1000 | 1500 | 1000 | 3500 |
| 9103 | 5103 | 1 | 108 | 1000 | 2500 | 1000 | 4500 |
| 9201 | 5201 | 2 | 203 | 1000 | 1500 | 0 | 2500 |
| 9202 | 5202 | 2 | 205 | 1000 | 2500 | 0 | 3500 |
| 9203 | 5203 | 2 | 206 | 2000 | 2500 | 0 | 4500 |
| 9204 | 5205 | 2 | 207 | 2000 | 2500 | 0 | 4500 |
| 9205 | 5206 | 2 | 209 | 2000 | 2500 | 0 | 4500 |
| 9206 | 5207 | 2 | 210 | 2000 | 2500 | 0 | 4500 |
| 9207 | 5208 | 2 | 208 | 2000 | 2500 | 0 | 4500 |
| 9301 | 5301 | 3 | 301 | 2000 | 2500 | 0 | 4500 |
| 9302 | 5302 | 3 | 307 | 2000 | 2500 | 0 | 4500 |
| 9303 | 5303 | 3 | 308 | 2000 | 2500 | 0 | 4500 |
| 9304 | 5304 | 3 | 309 | 2000 | 2500 | 0 | 4500 |

SELECT \* FROM RESERVATION;

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **RES\_ID** | **CUST\_ID** | **ROOM\_ID** | **HOTEL\_ID** | **START\_DATE** | **END\_DATE** | **BOOKING\_PAYMENT** | **PERIOD** |
| 7101 | 5101 | 103 | 1 | 02/15/2016 | 02/17/2016 | 3000 | 2 |
| 7102 | 5102 | 106 | 1 | 02/15/2016 | 02/17/2016 | 5000 | 2 |
| 7103 | 5103 | 108 | 1 | 02/15/2016 | 02/17/2016 | 7000 | 2 |
| 7201 | 5201 | 203 | 2 | 02/15/2016 | 02/17/2016 | 3000 | 2 |
| 7202 | 5202 | 205 | 2 | 02/15/2016 | 02/17/2016 | 5000 | 2 |
| 7203 | 5203 | 206 | 2 | 02/11/2016 | 02/12/2016 | 2500 | 1 |
| 7204 | 5205 | 207 | 2 | 02/11/2016 | 02/12/2016 | 3500 | 1 |
| 7205 | 5206 | 209 | 2 | 02/11/2016 | 02/12/2016 | 4500 | 1 |
| 7206 | 5207 | 210 | 2 | 02/11/2016 | 02/12/2016 | 5500 | 1 |
| 7207 | 5208 | 208 | 2 | 02/11/2016 | 02/12/2016 | 3500 | 1 |
| 7301 | 5301 | 301 | 3 | 02/11/2016 | 02/12/2016 | 1500 | 1 |
| 7302 | 5302 | 307 | 3 | 02/11/2016 | 02/12/2016 | 3500 | 1 |
| 7303 | 5303 | 308 | 3 | 02/11/2016 | 02/12/2016 | 3500 | 1 |
| 7304 | 5304 | 309 | 3 | 02/11/2016 | 02/12/2016 | 4500 | 1 |