

PROJECT-01

HOTEL MANAGEMENT SYSTEM

TOP-DOWN APPROACH

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INTRODUCTION

In this project, we have created a Hotel Management System using various tables, entities, roles and permissions.

We have followed these steps:

Create a database for a Hotel management system. Tasks included are:

- a. Identifying entities and attributes
- b. Identifying relationships among them
- c. Drawing ER diagram
- d. Translate the ER diagram to mysql code. While doing so, carefully select data types and include appropriate integrity constraints.
- e. Make some sample insert-values entries for each table
- f. Execute the mysql-code and Insert statements in mysql client
- g. Show ER diagram in MySQL WorkBench
- h. Grant roles/authority to users, translate into code and execute the code in mysql server
- i. Write script to backup database

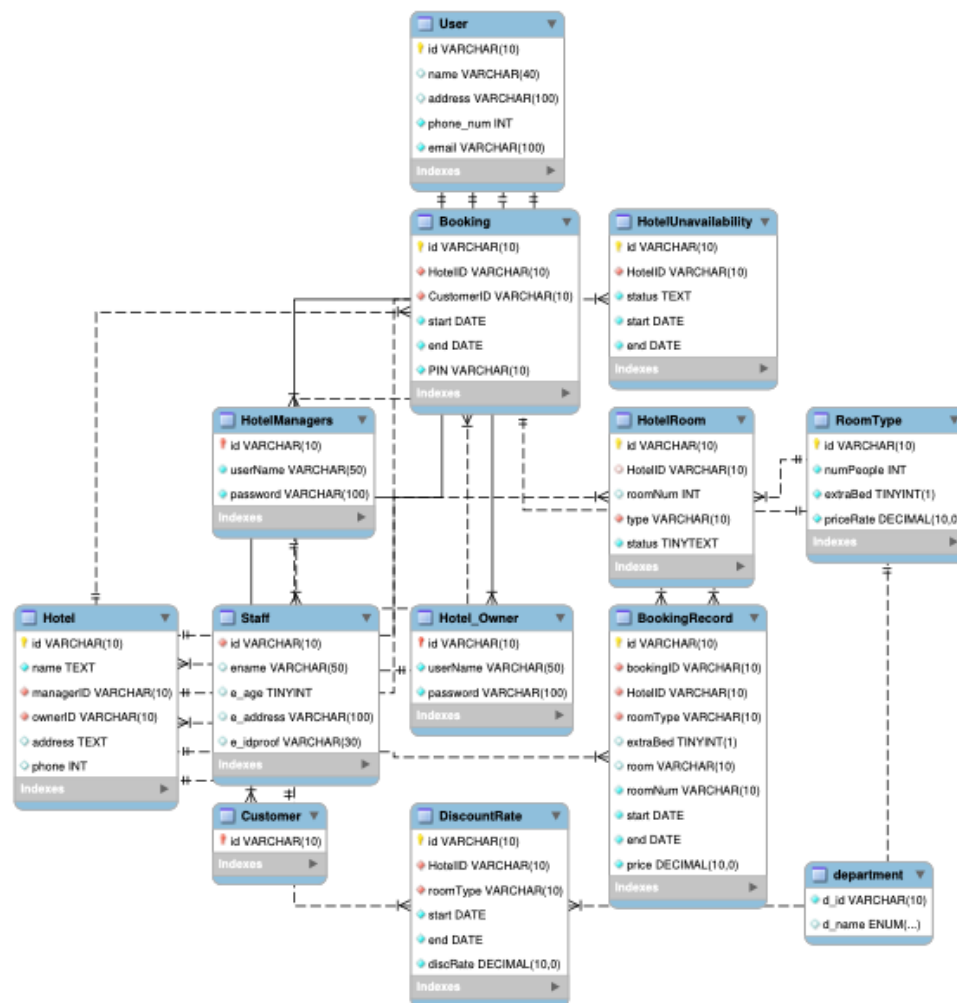
TABLES:

1. BookingRecord
2. User
3. HotelManagers
4. Hotel_Owner
5. Booking
6. Department
7. Customer
8. Hotel
9. Staff
10. RoomType
11. DiscountRate

This repository contains:

- a) The Code
- b) ERD Diagram (.pdf)
- c) Report containing case, assumptions, etc.

ERD Diagram



ASSUMPTIONS:

1. User ID is unique.
2. Department ID is unique.
3. ID proof is unique.
4. Username is unique.
4. User ID is the often used Foreign Key.
5. Hotel Owners have access to all tables.
6. Each Department ID corresponds to a department of the staff and the manager.
7. Managers have access to all tables except Managers & Owners.
8. Staff has access to the Customer, BookingRecord, Booking tables, DiscountRate only.

CODE

```
DROP TABLE IF EXISTS BookingRecord;
DROP TABLE IF EXISTS DiscountRate;
DROP TABLE IF EXISTS Booking;
DROP TABLE IF EXISTS Department;
DROP TABLE IF EXISTS RoomType;
DROP TABLE IF EXISTS Staff;
DROP TABLE IF EXISTS Hotel;
DROP TABLE IF EXISTS Hotel_Owner;
DROP TABLE IF EXISTS HotelManagers;
DROP TABLE IF EXISTS Customer;
DROP TABLE IF EXISTS User;

create table User (
id VARCHAR(10) PRIMARY KEY,name VARCHAR(40),address
VARCHAR(100),phone_num INT NOT NULL,email VARCHAR(100) NOT NULL);

create table Hotel_Owner (
id VARCHAR(10) PRIMARY KEY, userName VARCHAR(50) NOT NULL, password
VARCHAR(100) NOT NULL, FOREIGN KEY(id) REFERENCES User(id), CONSTRAINT
userNameOwner_integrity UNIQUE(userName));

create table HotelManagers (
id VARCHAR(10) PRIMARY KEY, userName VARCHAR(50) NOT NULL, password
VARCHAR(100) NOT NULL, FOREIGN KEY (id) REFERENCES User(id) ,
CONSTRAINT userNameManager_integrity UNIQUE(userName));

create table Customer (
id VARCHAR(10), PRIMARY KEY (id), FOREIGN KEY (id) REFERENCES
User(id));

DROP TABLE IF EXISTS Hotel;

create table Hotel (
id VARCHAR(10), name text NOT NULL, managerID Varchar(10) NOT NULL
UNIQUE, ownerID VARCHAR(10) NOT NULL, address text, phone INTEGER,
PRIMARY KEY (id), FOREIGN KEY (managerID) REFERENCES HotelManagers(id),
FOREIGN KEY (ownerID) REFERENCES Hotel_Owner(id));
DROP TABLE IF EXISTS HotelUnavailability ;

create table HotelUnavailability (
id VARCHAR(10), HotelID VARCHAR(10) NOT NULL, status text NOT NULL,
start DATE NOT NULL, end DATE NOT NULL, PRIMARY KEY (id), FOREIGN KEY
(HotelID) REFERENCES Hotel(id));

create table RoomType (
id VARCHAR(10), numPeople INTEGER NOT NULL, extraBed BOOLEAN NOT NULL,
priceRate decimal NOT NULL, PRIMARY KEY(id));

create table department (
d_id VARCHAR(10) PRIMARY KEY, id VARCHAR(10) NOT NULL, d_name
ENUM('Reception', 'Room_Service', 'Dining', 'Travel_Forex',
```

```
'Maintenance', 'Accounts', 'Administration', 'Security',  
'Sales'),FOREIGN KEY (id) REFERENCES User(id)) ;
```

```
create table Staff (  
id VARCHAR(10) NOT NULL,d_id VARCHAR(10) NOT NULL, ename VARCHAR(50),  
e_age tinyint, e_address VARCHAR(100), e_idproof VARCHAR(30), FOREIGN  
KEY (id) REFERENCES User(id));
```

```
create table HotelRoom (  
id VARCHAR(10), HotelID VARCHAR(10), roomNum INTEGER, type VARCHAR(50)  
NOT NULL, status text(20) NOT NULL, PRIMARY KEY(id), FOREIGN KEY  
(HotelID) REFERENCES Hotel(id), FOREIGN KEY (type) REFERENCES  
RoomType(id), UNIQUE (HotelID,roomNum));
```

```
create table DiscountRate (  
id VARCHAR(10), HotelID VARCHAR(10) NOT NULL, roomType VARCHAR(10) NOT  
NULL, start DATE NOT NULL, end DATE NOT NULL, discRate decimal NOT  
NULL, PRIMARY KEY(id), FOREIGN KEY (HotelID) REFERENCES Hotel(id),  
FOREIGN KEY (roomType) REFERENCES RoomType(id));
```

```
create table Booking (  
id VARCHAR(10), HotelID VARCHAR(10) NOT NULL, CustomerID VARCHAR(10)  
NOT NULL, start DATE NOT NULL, end DATE NOT NULL, PIN VARCHAR(10) NOT  
NULL, PRIMARY KEY (id), FOREIGN KEY(HotelID) REFERENCES Hotel(id),  
FOREIGN KEY (CustomerID) REFERENCES Customer(id));
```

```
create table BookingRecord (  
id VARCHAR(10), bookingID VARCHAR(10) NOT NULL, HotelID VARCHAR(10) NOT  
NULL, roomType VARCHAR(10) NOT NULL, extraBed BOOLEAN, room VARCHAR(10)  
REFERENCES HotelRoom(id), roomNum VARCHAR(10) NOT NULL, start DATE NOT  
NULL, end DATE NOT NULL, price decimal NOT NULL, PRIMARY KEY (id),  
FOREIGN KEY (bookingID) REFERENCES Booking(id), FOREIGN KEY (RoomType)  
REFERENCES RoomType(id), FOREIGN KEY (HotelID) REFERENCES Hotel(id));
```

```
insert into User (id,name,address,phone_num,email) values  
('AZX1','John','1 Anzac Pde., NSW 2035','040111111','john@gmail.com');  
insert into User (id,name,address,phone_num,email) values  
('AZX2','Sameer Ghosh','287, Ghaziabad,  
UP','999933543','rameshji@gmail.com');  
insert into User (id,name,address,phone_num,email) values  
('AZX3','Dhruv Jones','333, Kamlesh Nagar,  
Delhi','999987788','khoses@gmail.com');  
insert into User (id,name,address,phone_num,email) values  
('AZX4','Ayushi','17, Kanpur, UP','9976764398','ekkk1991@gmail.com');  
insert into User (id,name,address,phone_num,email) values  
('AZX5','Majnu Singh','555, Shakur Basti,  
Delhi','966122190','shakurbastitheif@gmail.com');  
insert into User (id,name,address,phone_num,email) values  
('AZX6','Mary','2AnzacPde NSW2035','904444111','mary@gmail.com');  
insert into User (id,name,address,phone_num,email) values  
('AZX7','Eric','3 Anzac Pde., NSW 2035','040111113','eric@gmail.com');  
insert into Hotel_Owner (id, userName, password) values  
('OWN1','john','password');
```

```

insert into Hotel_Owner (id, userName, password) values
('OWN2','paul','pop1');
insert into Hotel_Owner (id, userName, password) values
('OWN3','dinesh','pop2');
insert into Hotel_Owner (id, userName, password) values
('OWN4','branson','pop21');
insert into Hotel_Owner (id, userName, password) values
('OWN5','jack','pop12');

```

```

insert into HotelManagers values ('MNG1','jacks','password111');
insert into HotelManagers values ('MNG2','Deep','password19');
insert into HotelManagers values ('MNG3','Punnesh','password101');
insert into HotelManagers values ('MNG4','rameshji','password909');
insert into HotelManagers values ('MNG5','donesh','password998');
insert into HotelManagers values ('MNG6','erica','passwordss8');

```

```

insert into Hotel (name,managerID,ownerID,address,phone) values
('Gurugram Branch','MNG2','OWN1','Sector 26',040111114);
insert into Hotel (name,managerID,ownerID,address,phone) values ('Noida
Branch','MNG1','OWN1','101, Sector 18',040111115);

```

```

insert into RoomType values ('ABX7',2,0,3500);
insert into RoomType values ('ABX8',3,1,4500);
insert into RoomType values ('ABX9',2,0,2599);
insert into RoomType values ('ABX10',3,1,4700);
insert into RoomType values ('ABX11',2,0,5000);

```

```

insert into HotelRoom (hotelID,roomNum,type,status) values
('AAA1',10,'Single Room (with 1 single bed)', 'Available');
insert into HotelRoom (hotelID,roomNum,"type",status) values
('AAA2',11,'Single Room (with 1 single bed)', 'Available');
insert into HotelRoom (hotelID,roomNum,"type",status) values
('AAA3',12,'Single Room (with 1 single bed)', 'Available');
insert into HotelRoom (hotelID,roomNum,"type",status) values
('AAA4',21,'Single Room (with 1 double bed)', 'Available');
insert into HotelRoom (hotelID,roomNum,"type",status) values
('AAA5',22,'Single Room (with 2 single beds)', 'Available');
insert into HotelRoom (hotelID,roomNum,"type",status) values
('AAA6',23,'Single Room (with 3 single beds)', 'Not-Available');
select * from User ;
select * from RoomType ;

```

```

CREATE USER 'jack'@'localhost' IDENTIFIED BY 'jack';
GRANT ALL PRIVILEGES ON *.* TO 'jack'@'localhost';

```

```

CREATE USER 'john'@'localhost' IDENTIFIED BY 'john';
GRANT ALL PRIVILEGES ON *.* TO 'john'@'localhost';

```

```

CREATE USER 'branson'@'localhost' IDENTIFIED BY 'branson';
GRANT ALL PRIVILEGES ON *.* TO 'branson'@'localhost';

```

```

CREATE USER 'dinesh'@'localhost' IDENTIFIED BY 'dinesh';
GRANT ALL PRIVILEGES ON *.* TO 'dinesh'@'localhost';

```

```
CREATE USER 'paul'@'localhost' IDENTIFIED BY 'paul';
GRANT ALL PRIVILEGES ON *.* TO 'paul'@'localhost';
```

```
#Creating user id for managers
```

```
CREATE USER 'jacks'@'localhost' IDENTIFIED BY 'jacks';
GRANT ALL PRIVILEGES ON Customer, HotelRoom, Hotel, RoomType,
DiscountRate, Booking, BookingRecord TO 'jacks'@'localhost';
```

```
CREATE USER 'deep'@'localhost' IDENTIFIED BY 'deep';
GRANT ALL PRIVILEGES ON Customer, HotelRoom, Hotel, RoomType,
DiscountRate, Booking, BookingRecord TO 'deep'@'localhost' ;
```

```
CREATE USER 'punnessh'@'localhost' IDENTIFIED BY 'punnessh';
GRANT ALL PRIVILEGES ON Customer, HotelRoom, Hotel, RoomType,
DiscountRate, Booking, BookingRecord TO 'punnessh'@'localhost' ;
```

```
CREATE USER 'rameshji'@'localhost' IDENTIFIED BY 'rameshji';
GRANT ALL PRIVILEGES ON Customer, HotelRoom, Hotel, RoomType,
DiscountRate, Booking, BookingRecord TO 'rameshji'@'localhost' ;
```

```
CREATE USER 'rameshji'@'localhost' IDENTIFIED BY 'rameshji';
GRANT ALL PRIVILEGES ON Customer, HotelRoom, Hotel, RoomType,
DiscountRate, Booking, BookingRecord TO 'rameshji'@'localhost' ;
```

```
CREATE USER 'donnesh'@'localhost' IDENTIFIED BY 'donnesh';
GRANT ALL PRIVILEGES ON Customer, HotelRoom, Hotel, RoomType,
DiscountRate, Booking, BookingRecord TO 'donnesh'@'localhost' ;
```

```
CREATE USER 'erica'@'localhost' IDENTIFIED BY 'erica';
GRANT ALL PRIVILEGES ON Customer, HotelRoom, Hotel, RoomType,
DiscountRate, Booking, BookingRecord TO 'erica'@'localhost' ;
```