

Hotel Management System – DBMS Project

Progress Report

1. Project Summary

This project simulates a real-world **Hotel Operations Management System**, developed using **MySQL**. It supports the following operations:

- Room bookings
- Guest management
- Check-in and check-out processing
- Payment and invoice tracking
- Reporting and business insights:
 - Daily and monthly revenue
 - Guest booking history
 - Room occupancy rate
 - Average Daily Rate (ADR)
 - Revenue Per Available Room (RevPAR)
 - Room usage stats and frequency
 - Revenue by hotel and room type
 - Discount summaries and payment status

2. Overview

#	Milestone
1	Requirement analysis, planning, version control setup
2	Schema design, table creation, constraints and keys
3	Sample data population and insert scripts for all tables
4	Room booking logic, check-in/check-out features, room status updates
5	Advanced SQL queries (revenue, occupancy, ADR, RevPAR, guest history)
6	Financial tracking: invoices, discounts, payments, reporting
7	SQL optimization: indexing and error handling
8	ER Diagram creation, documentation & presentation prep (In Progress)

3. Completed Technical Components

Component	Description
Database Schema	18 interlinked tables with primary/foreign keys
Sample Data	Full dataset using clean <code>INSERT INTO</code> scripts
Room Logic	Booking, availability checks, room status updates
Guest Handling	Guest creation, retrieval, and booking association
Check-in/Check-out	SQL queries to update and manage room state
Invoice Management	Invoices with tax, total, discount integration
Reports	Daily/monthly revenue, ADR, RevPAR, occupancy rate
Guest History	Booking history, total amount spent, last stay
Discount Handling	Discounts applied by room type or dates
Indexed Queries	Performance-optimized fields (e.g., guest ID, status)
Views	SQL views for financial and guest reports
ER Diagram	Auto-generated PNG diagram of database structure

4. Project Status Summary

Component	Status
Database schema and relationships	Completed
Sample data and insertion scripts	Completed
Room booking & check-in/out logic	Completed
Report queries and KPIs	Completed
Invoice, discount tracking	Completed
SQL indexing and optimization	Completed
ER Diagram export	Completed
Presentation slides (optional)	In Progress

5. Deliverables Overview

- `schema.sql` — Complete database schema with data
- `Advance project_queries.sql` — Core queries, reports, and logic
- `er_diagram.png` — ER Diagram visual overview
- `documentation / slides.pptx` — *In progress*