
Software Project Plan: Hotel Booking System

Group Name: TISM Tech

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Introduction / Overview

- **Project Name:** Hotel Booking Microservices System
 - **Description:** A microservices-based hotel booking platform supporting guest reservations, hotel management, and travel agent bookings, designed using the MERN stack and containerized with Docker.
 - **Need Addressed:** Enables scalable hotel room booking, management of room availability, secure payment simulation, and customer feedback collection.
 - **Sponsor:** TISM Tech
 - **Deliverables:**
 - Deliverable 1: Planning Documents, Setup, Initial Sprints
 - Deliverable 2: Detailed Documentation + Sprint 1 and Sprint 2 Implementation
 - Deliverable 3: Sprint 3 Implementation + Testing + Deployment
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Project Organization

- **Ayaan Khan** - Scrum Master, Project Manager, Tester
- **Ayaan Mughal** - UI Designer, Developer
- **Mishal Ali** - Requirement Architect, Developer

Management and Technical Approach

- **Management Objectives:**
 - Deliver a scalable, modular hotel booking solution.
 - Achieve sprint goals timely with continuous integration and testing.
- **Project Control:**
 - Scrum-based sprint planning and monitoring.
 - Trello board for task management.
 - GitHub for version control and branching.
- **Risk Management:**
 - Early integration testing to avoid service mismatches.
 - Regular backups during Dockerization to avoid deployment risks.
- **Technical Processes:**
 - Node.js Microservices with Express
 - MongoDB database per service
 - React.js Web Client
 - Docker and Docker Compose for orchestration

Project Scope

- **Major Work Packages:**

- Deliverable 1 (Planning and Documentation)
 - Deliverable 2 (Sprint 1 and Sprint 2 Implementation)
 - Deliverable 3 (Sprint 3 Implementation, Testing, Deployment)
 - **Key Deliverables:**
 - Project Reports
 - Source Code for all Sprints
 - Final Deployment (Dockerized)
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Work Breakdown Structure (WBS)

The Work Breakdown Structure (WBS) for the **Hotel Booking Microservices Project** organizes the entire scope of work into hierarchical levels, making it easier to manage, track, and complete tasks systematically.

At the **top level**, the project is divided into three major deliverables corresponding to the academic deliverable phases:

- **Deliverable 1:** Focused on planning activities, setting up documentation, preparing the project management environment (Trello, GitHub), and defining user stories and initial backlog items.
- **Deliverable 2:** Emphasized the development and implementation of **Sprint 1** (basic CRUD operations) and **Sprint 2** (advanced features like filtering, pricing adjustments, and payment simulation), along with refinement of project documentation.
- **Deliverable 3:** Concentrated on completing **Sprint 3**, conducting thorough black-box and white-box testing, and preparing the final Dockerized deployment of the project.

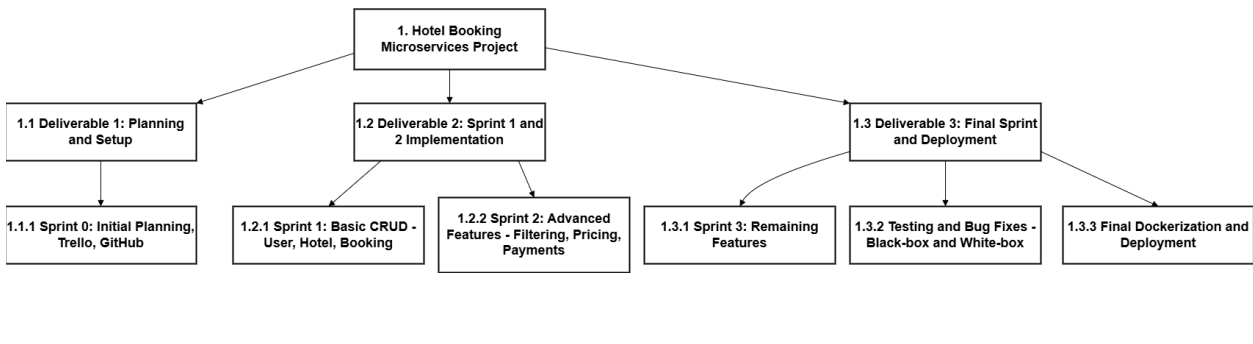
Each deliverable is further broken down into **sprints**, **activities**, and **tasks** at multiple levels (1.1, 1.1.1, etc.).

This structured breakdown ensures that the team can manage progress incrementally while maintaining alignment with project goals and deadlines.

WBS Table

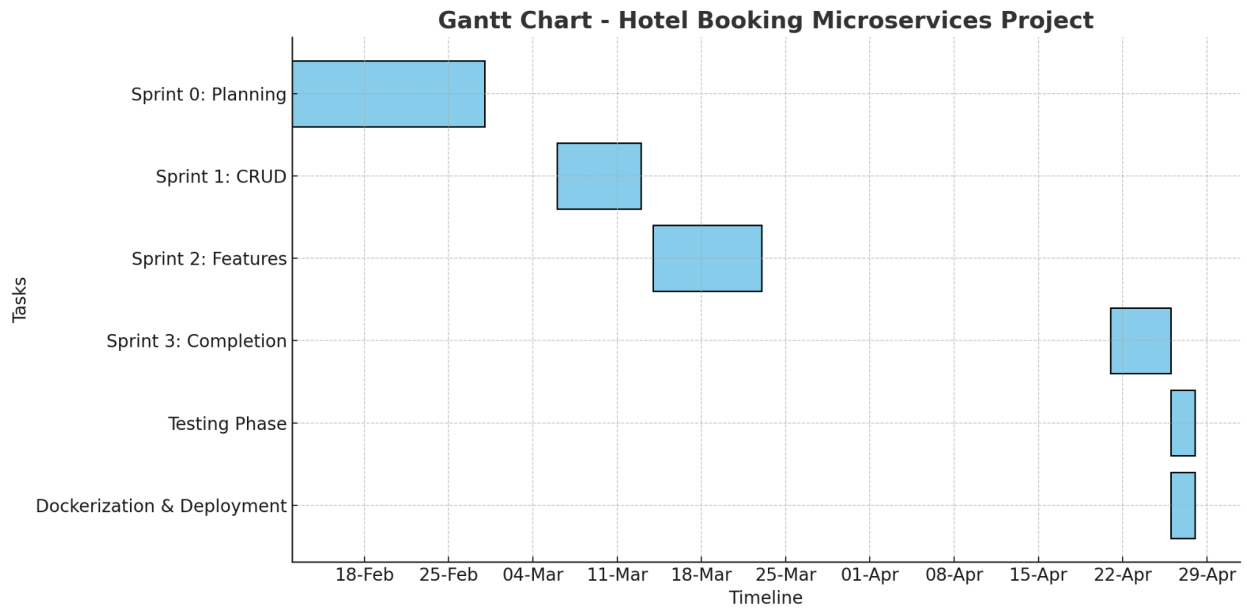
	A	B	C
1	Level	Work Package / Task	Details
2	1	Hotel Booking Microservices Project	Entire project lifecycle
3	1.1	Deliverable 1: Planning and Setup	Project team info, user stories, initial documents
4	1.1.1	Sprint 0: Initial Planning, Trello, GitHub	Set up project repositories and task management tools
5	1.2	Deliverable 2: Sprint 1 and 2 Implementation	Complete SRS, Sprint 1 and Sprint 2 implementation
6	1.2.1	Sprint 1: Basic CRUD (User, Hotel, Booking)	CRUD operations and basic system functionalities
7	1.2.2	Sprint 2: Advanced features (Filtering, Pricing, Payments)	Implement filtering, pricing adjustments, and dummy payments
8	1.3	Deliverable 3: Final Sprint and Deployment	Sprint 3, system completion, and deployment
9	1.3.1	Sprint 3: Remaining Features	Complete pending user stories, system refinements
10	1.3.2	Testing and Bug Fixes (Black-box and White-box Testing)	Conduct Black-box and White-box testing
11	1.3.3	Final Dockerization and Deployment	Docker Compose setup for production deployment

WBS Diagram (Structure)



Project Schedule

Gantt Chart Timeline



Textual Summary:

- **Feb 12–28:** Deliverable 1 (Planning, Setup)
- **March 6–23:** Deliverable 2 (Sprints 1 & 2 Coding)
- **April 21–28:** Deliverable 3 (Sprint 3 Coding, Testing, Final Submission)

Budget

Category	Percentage(%)
Developer Resources	80
DevOps Tools	10
Testing	10