

Project Design Phase

Solution Architecture

Date	11/04/2025
Team ID	SWTID1743003805
Project Name	iMovies - Online Movie Ticket Booking System
Maximum Marks	4 Marks

Solution Architecture Overview:

Solution architecture is the bridge between business problems and technical solutions. For our Movie Ticket Booking System, the solution architecture provides a structured framework that addresses specific business needs while delivering a reliable, scalable technical implementation.

Key Components

Business Problem Solving

The architecture streamlines the ticket booking process, minimizes manual effort, and enhances user convenience for selecting and purchasing movie tickets. It eliminates traditional pain points such as physical queuing and provides 24/7 access to booking services.

Three-Tier Architecture Structure

The system follows a clearly defined three-tier architecture:

- Presentation Layer** – Web-based UI for users and admins
 - Provides intuitive interfaces for browsing movies, selecting seats, and managing bookings
 - Includes separate administrative interface for system management
- Application Layer** – Backend logic handling booking operations
 - Manages core business logic including authentication, booking processing, and payment integration

- Handles data validation, business rules, and transaction processing
3. **Data Layer** – Database storing user, movie, and transaction data
- Utilizes MongoDB for efficient storage and retrieval of structured data
 - Maintains relationships between users, bookings, movies, theaters, and shows

Solution Architecture Diagram:

