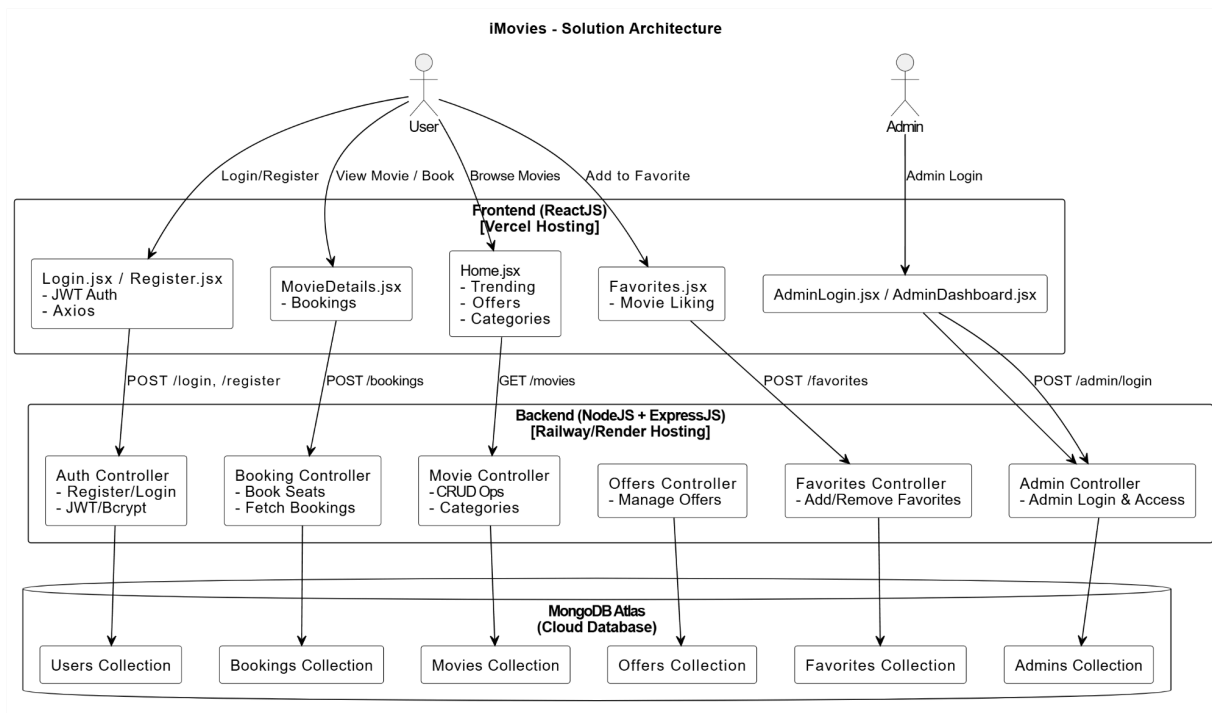


Project Design Phase Solution Architecture

Date	13 April 2025
Team ID	SWTID1743509015
Project Name	iMovies – Online Movie Ticket Booking System
Maximum Marks	4 Marks

Solution Architecture Diagram



1. Architectural Overview

The iMovies project follows a three-tier architecture consisting of:

- Presentation Layer (Frontend) – React.js-based user interface
- Application Layer (Backend API) – Node.js and Express.js handling business logic
- Data Layer (Database) – MongoDB Atlas for data persistence

2. Solution Characteristic

- Scalable: MongoDB and Node.js can scale horizontally
- Secure: Token-based auth and role-based routing
- Modular: Separation of concerns across components and routes
- Cloud-Hosted: Deployed on cloud platforms (MongoDB Atlas, Railway, Vercel)

3. Key Features Defined by Architecture

Feature	Responsibility Layer
User Authentication	Backend (JWT, bcrypt)
Movie Search and Filtering	Backend + Frontend
Offer Management	Admin Panel (Backend + DB)
Seat Booking & Availability	Backend + MongoDB
Favorite Tracking	Backend + User DB
Responsive UI	Frontend (React + SCSS)

4. Development Phases

Phase	Description
Phase 1	User Auth, Movie Browsing, Home Page with Carousel, Categories
Phase 2	Booking System, Offers, Favorites
Phase 3	Admin Panel, Dashboard Views
Phase 4	Deployment, Testing, UI Polish, Optional Payment Gateway