**Project Design: FlightFinder:Navigating your air travel options.**

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| Date | 30-06-2025 |
| Team ID | LTVIP2025TMID53188 |
| Project Name | FlightFinder:Navigating your air travel options. |
| Maximum Marks | 4 Marks |

# Solution Architecture

The solution architecture of the Flight Finder Platform is designed with scalability, reliability,and user experience in mind. It comprises multiple layers:

**1. Frontend (React.js)**

UI components: Search Form, Flight List, Booking Form, Login/Register, Dashboard

Axios or Fetch for API calls

JWT token stored in localStorage or cookies for session

**2. Backend (Node.js + Express.js)**

Routes: /api/flights, /api/bookings, /api/users

Controllers: Handle logic for each route

Middlewares:

Auth: Check JWT for protected routes

CORS: Allow frontend requests

Services: Business logic (e.g., filter flights by date or destination)

**3. MongoDB Database**

users → { username, email, passwordHash, role }

flights → { flightId, from, to, date, price, airline }

bookings → { userId, flightId, passengers, date }

**4. Authentication (JWT)**

User registers or logs in → receives a token

Token sent in Authorization header for protected routes

Backend verifies token on every request

**5. Admin Functionality**

Role-based access (user/admin)

Admin dashboard:

Add/Edit/Delete flight data

View all booking