Project Design Phase
Solution Architecture
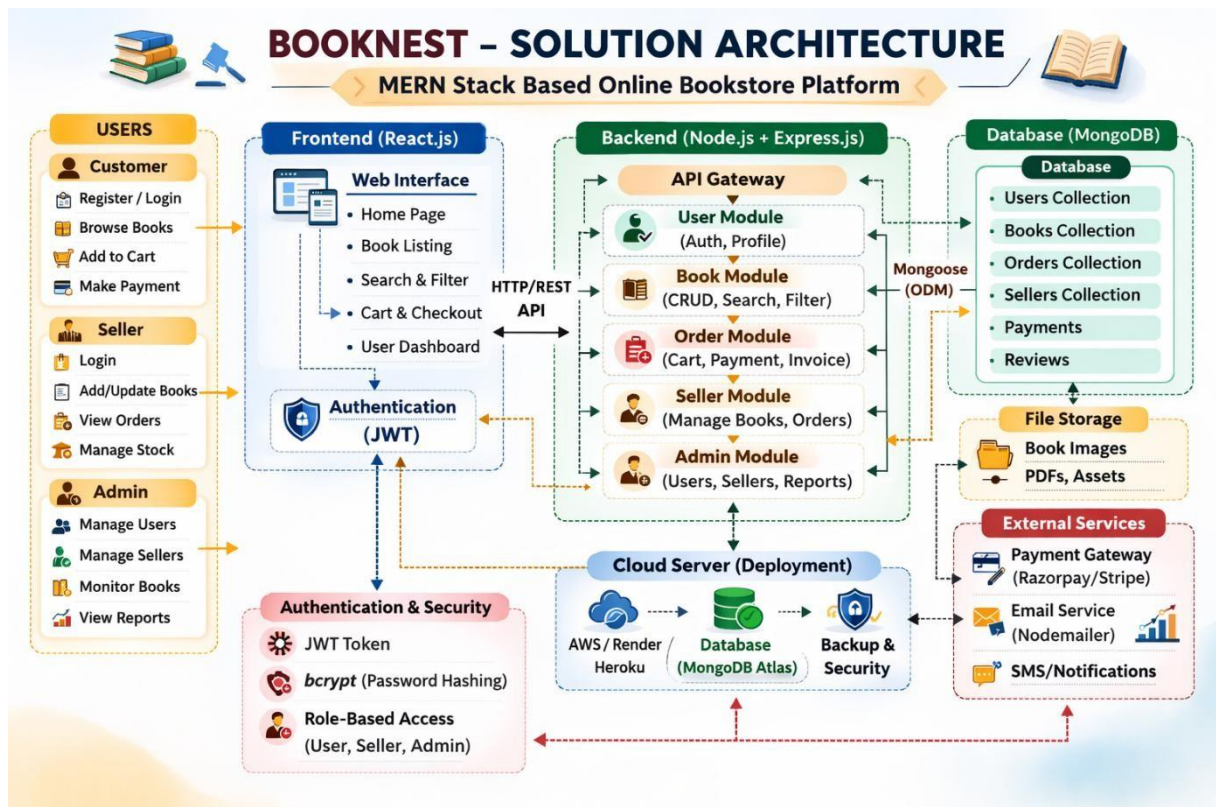
Date	02 February 2026
Team ID	LTVIP2026TMIDS77456
Project Name	BookNest: Where Stories Nestle
Maximum Marks	4 Marks

Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.

- Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.

- Define features, development phases, and solution requirements.

- Provide specifications according to which the solution is defined, managed, and delivered.

Solution Architecture Diagram:

BOOKNEST – SOLUTION ARCHITECTURE
MERN Stack Based Online Bookstore Platform

The above diagram illustrates the overall architecture of BookNest, developed using the MERN stack (MongoDB, Express.js, React.js, Node.js).

Users (Customer, Seller, and Admin) interact with the system through the Reactbased frontend. The frontend communicates with the backend server using HTTP/REST APIs. The backend, built with Node.js and Express.js, processes requests through different modules such as User, Book, Order, Seller, and Admin modules.

The backend interacts with the MongoDB database using Mongoose (ODM) to store and retrieve data like users, books, orders, and reviews. Authentication and security are handled using JWT tokens and bcrypt password hashing to ensure secure access.