

Project Design Phase-II Technology  
Stack (Architecture & Stack)

Date	26-05-2025
Team ID	SWUID20250172428
Project Name	Social Media App
Maximum Marks	4 Marks

Technical Architecture:

The **SocialeX** platform is designed with a scalable, real-time **3-tier architecture**, including:

- Presentation Layer (Frontend):** Built with React.js and Bootstrap, providing a responsive and modern UI.
- Business Logic Layer (Backend):** Node.js and Express.js handle core logic, API routing, authentication, and chat integration.
- Data Storage Layer:** MongoDB stores user profiles, posts, stories, and message logs. Firebase handles media storage.
- Real-time Layer:** Socket.io enables live messaging and notifications.

The architecture emphasizes **real-time interaction**, **security**, and **modularity**, enabling easy integration of future features (e.g., reactions, voice chat, analytics).

Table-1: Components & Technologies

S. No	Component	Description	Technology
1	User Interface	Web interface for social interaction	HTML, CSS, JavaScript, React.js, Bootstrap
2	Application Logic-1	Post/story creation, feed rendering, profile management	Node.js, Express.js
3	Application Logic-2	Chat system, notifications, story expiry automation	React.js, Socket.io, Node.js
4	Database	Stores users, posts, stories, messages	MongoDB (with Mongoose ODM)
5	Media Storage	Secure file storage and access	Firebase Storage

## Table-2: Application Characteristics

S. No	Characteristics	Description	Technology
1	Open-Source Frameworks	Core development frameworks	React.js, Node.js, Bootstrap, Tailwind CSS
2	Scalable Architecture	RESTful APIs, real-time services, modular services	Microservices architecture, Socket.io
3	Real-time Communication	Live messaging, notifications, story sync	Socket.io, WebSocket Protocol
4	Authentication & Security	Secure login and session handling	JWT, Bcrypt, HTTPS, Firebase Rules

### References:

- React.js Official Documentation
- Node.js Best Practices
- MongoDB + Mongoose Guides
- Firebase Storage & Access Rules
- [How to Draw Technical Architecture Diagrams – Medium](#)