

Domain: Web Development

Project 5: Chat Application

Project Title: Real-Time Secure Chat Application with Group & Media Sharing

Project Objective:

The project aims to build a real-time secure chat application using React.js, Node.js, Socket.io, and MongoDB, supporting one-to-one and group messaging with media sharing. It includes authentication, notifications, search, and encryption, deployed with Docker and AWS, ensuring scalability, performance, and advanced features like voice/video calls.

Technologies to Use:

- Used React.js/Next.js for frontend and TailwindCSS for styling.
- Built backend with Node.js, Express.js, and Socket.io.
- Used MongoDB for database and Redis for caching.
- Implemented authentication with JWT and security with Helmet.js.
- Integrated AWS S3/Firebase for media storage and sharing.
- Deployed using Docker, Nginx, and CI/CD pipelines.

Tasks Breakdown:

1. Setup project with frontend, backend, and database integration.
2. Implemented user registration, login, and JWT authentication.
3. Developed one-to-one real-time chat with message status.
4. Built group chat with admin and member features.
5. Added media sharing (images, videos, files) via cloud storage.
6. Integrated search, emojis, typing indicators, and notifications.
7. Secured with end-to-end encryption and performance optimization.
8. Deployed app with Docker, AWS, and CI/CD pipeline.
9. Added bonus features like voice/video calls and theme toggle.

Submission:

- Submit the complete project folder containing all code files asset files.
- Project must be fully functional in a browser.

Submit the project folder in ZIP file.

The ZIP will includes all files that used to create the project and Project Report PDF file

Note:

Make sure your project in running condition.