

# Project Report: Freelance Platform (SB Works)

## 1. Introduction

This project is a full-stack freelance platform named SB Works, designed to connect clients and freelancers. It allows users to register as freelancers, clients, or admins and perform role-based actions such as posting projects, bidding, and assigning work. The application supports real-time communication via Socket.IO and user authentication via JWT stored in local storage.

## 2. Technologies Used

- Frontend: React.js with React Router
- Backend: Node.js, Express.js
- Database: MongoDB (Mongoose ODM)
- Real-time Communication: Socket.IO
- Security: bcryptjs for password hashing
- Deployment-ready Structure

## 3. Features

- Authentication: Login and registration with role selection (freelancer/client/admin).
- Project Management: Clients can post new projects and assign freelancers.
- Freelancers: Can bid on projects and submit completed work.
- Admin Dashboard: Manage users and monitor system activity.
- Chat System: Real-time messaging using Socket.IO.
- Responsive Design: Optimized for various device screens.

## 4. Project File Structure

- `client/`
  - `src/components`: UI components like Navbar, Login, Register, etc.
  - `src/context`: Global state using React Context API.
  - `src/pages`: Page components by user roles (freelancer, client, admin).
- `server/`
  - `index.js`: Main Express server.
  - `models`: Mongoose schemas.
  - `SocketHandler.js`: Handles WebSocket logic.

## 5. Future Enhancements

- Payment Integration
- Email Notifications
- User Profile Customization

- Review and Rating System

## **6. Conclusion**

The Freelance Platform project successfully demonstrates a MERN stack-based full-fledged application that facilitates the end-to-end freelance hiring process. With features like real-time interaction and secure authentication, the project stands as a strong foundation for a production-level application.