

LearnHub - Online Learning Platform

1. Introduction

LearnHub is a full-stack web application designed to provide an online learning platform where users can register, log in, explore courses, enroll in courses, and manage learning activities. The platform includes separate modules for users and administrators.

2. Objectives

- Provide secure authentication using JWT
- Allow users to browse and enroll in courses
- Enable admin to manage courses
- Implement payment and enrollment tracking

3. Technologies Used

Frontend: React.js with Vite Backend: Node.js with Express.js Database: MongoDB Authentication: JSON Web Token (JWT) API Testing: Postman / Thunder Client

4. System Architecture

The project follows a client-server architecture:

- Frontend (React + Vite) runs on port 5173
- Backend (Node + Express) runs on port 8000
- MongoDB stores user, course, and payment data

5. Modules

User Module: - Register / Login - View Courses - Enroll in Courses Admin Module: - Add Courses - Manage Courses Payment Module: - Store payment details - Track enrolled courses

6. Database Models

- User Model
- Course Model
- Enrolled Course Model
- Course Payment Model

7. How to Run the Project

Backend: 1. cd backend 2. npm install 3. npm start
Frontend: 1. cd frontend 2. npm install 3. npm run dev

8. Conclusion

LearnHub successfully demonstrates a full-stack web application integrating frontend and backend technologies with secure authentication and database management. The project can be further enhanced with features like video streaming, quizzes, and advanced payment gateways.