Date	19/02/2026
Team ID	LTVIP2026TMIDS71135
Project Name	LearnHub – Online Learning Platform

1. Project Overview

LearnHub is a full-stack Online Learning Platform (OLP) developed using React.js (Vite) for the frontend, Node.js with Express.js for the backend, and MongoDB for database storage. The platform supports role-based access for Students, Teachers, and Admin users, allowing course browsing, enrollment, learning progress tracking, and course management.

2. Technology Stack

Frontend: React.js, Vite, Axios, Bootstrap, Material UI

Backend: Node.js, Express.js

Database: MongoDB, Mongoose

3. Prerequisites

To run the LearnHub project locally, ensure the following are installed on your system:

• Node.js and npm

• MongoDB Community Server

• Vite (via npm create vite@latest)

• Basic knowledge of HTML, CSS, and JavaScript

4. Installation & Setup

Follow these steps to install dependencies and start the project:

Step 1: Navigate into the project directory:

```
cd containment-zone
```

Step 2: Install frontend dependencies:

```
cd frontend
npm install
```

Step 3: Install backend dependencies:

```
cd ../backend
npm install
```

Step 4: Start the development server:

```
npm start
```
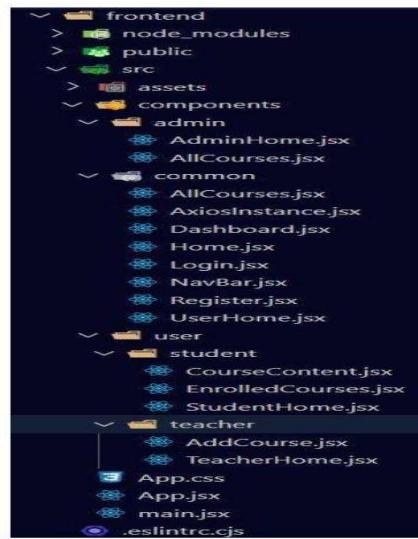
After starting, the application will be accessible at:

```
http://localhost:5172
```
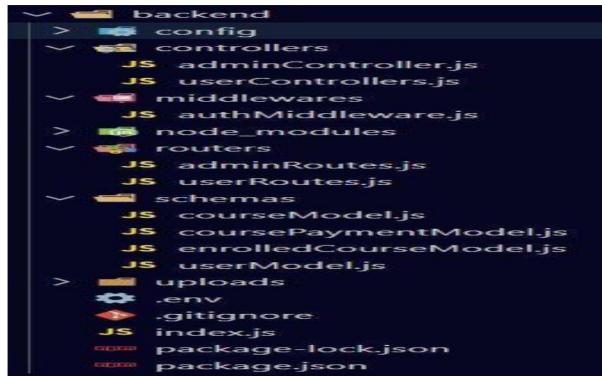
5. Project Structure

The following screenshots represent the folder structure of the LearnHub frontend and backend, along with the root configuration files.
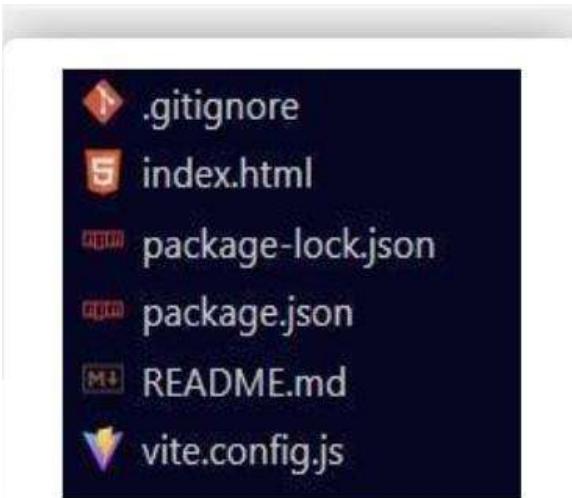
5.1 Frontend Structure (React + Vite)

```
∨ 📁 frontend
  > 📁 node_modules
  > 📁 public
  ∨ 📁 src
    > 📁 assets
    ∨ 📁 components
      ∨ 📁 admin
          ✴ AdminHome.jsx
          ✴ AllCourses.jsx
      ∨ 📁 common
          ✴ AllCourses.jsx
          ✴ AxiosInstance.jsx
          ✴ Dashboard.jsx
          ✴ Home.jsx
          ✴ Login.jsx
          ✴ NavBar.jsx
          ✴ Register.jsx
          ✴ UserHome.jsx
      ∨ 📁 user
        ∨ 📁 student
            ✴ CourseContent.jsx
            ✴ EnrolledCourses.jsx
            ✴ StudentHome.jsx
        ∨ 📁 teacher
            ✴ AddCourse.jsx
            ✴ TeacherHome.jsx
    📄 App.css
    ✴ App.jsx
    ✴ main.jsx
    ◉ .eslintrc.cjs
```

5.2 Backend Structure (Node.js + Express + MongoDB)

```
∨ 📁 backend
  > 📁 config
  ∨ 📁 controllers
      JS adminController.js
      JS userControllers.js
  ∨ 📁 middlewares
      JS authMiddleware.js
  > 📁 node_modules
  ∨ 📁 routers
      JS adminRoutes.js
      JS userRoutes.js
  ∨ 📁 schemas
      JS courseModel.js
      JS coursePaymentModel.js
      JS enrolledCourseModel.js
      JS userModel.js
  > 📁 uploads
    ⚙ .env
    ◆ .gitignore
    JS index.js
    package-lock.json
    package.json
```

5.3 Root Files (Config & Project Metadata)

```
◆ .gitignore
5 index.html
package-lock.json
package.json
M↓ README.md
V vite.config.js
```

6. Conclusion

LearnHub follows a modular full-stack architecture with clear separation between frontend and backend. The structure supports scalability, maintainability, and role-based features for students, teachers, and administrators. This documentation provides the required prerequisites, installation steps, and project structure overview.