**LearnHub – Project Setup & Configuration**

**1. 🔍 Project Overview**

* **Goal:** A platform for users to learn and improve skills through curated content, interactive modules, and certifications.
* **Features:**
  + User authentication (login/signup)
  + Skill categories & courses
  + Progress tracking
  + Admin dashboard for course uploads

**2. 🗃️ Tech Stack (MERN Example)**

| **Component** | **Technology** |
| --- | --- |
| Frontend | React.js (Vite or Create React App) |
| Backend | Node.js + Express.js |
| Database | MongoDB (Cloud via Atlas or local) |
| Auth | JWT / OAuth2 (Google, GitHub) |
| Styling | Tailwind CSS / Bootstrap / CSS Modules |
| Hosting | Vercel (Frontend) + Render / Heroku (Backend) |

**3. 🏗️ Project Structure**

bash

CopyEdit

learnhub/

│

├── client/ # React frontend

│ ├── public/

│ ├── src/

│ │ ├── components/

│ │ ├── pages/

│ │ ├── utils/

│ │ └── App.jsx

│ └── package.json

│

├── server/ # Node.js backend

│ ├── controllers/

│ ├── models/

│ ├── routes/

│ ├── config/

│ └── index.js

│

├── .env # Environment variables

├── README.md

└── package.json # For managing shared dev tools or scripts

**4. Configuration Steps**

**✅ 4.1 Initializing the Repo**

bash

CopyEdit

mkdir learnhub && cd learnhub

git init

**✅ 4.2 Frontend Setup (React)**

bash

CopyEdit

npx create-react-app client

cd client

npm install axios react-router-dom

**✅ 4.3 Backend Setup (Node + Express)**

bash

CopyEdit

mkdir server && cd server

npm init -y

npm install express mongoose dotenv cors bcryptjs jsonwebtoken

**✅ 4.4 MongoDB Setup**

* Use **MongoDB Atlas** (cloud) or install locally.
* In .env:

bash

CopyEdit

MONGO\_URI=your\_mongodb\_connection\_string

JWT\_SECRET=your\_jwt\_secret

**5. 🔒 Authentication (JWT Example)**

* Create login/register endpoints in Express
* Protect routes with JWT middleware
* On frontend, store token securely (preferably in httpOnly cookies or memory, avoid localStorage for sensitive apps)

**6. 🌐 API Routing Example**

**Backend (/server/routes/userRoutes.js)**:

js

CopyEdit

const express = require('express');

const router = express.Router();

const { registerUser, loginUser } = require('../controllers/userController');

router.post('/register', registerUser);

router.post('/login', loginUser);

module.exports = router;

**7. 🚀 Deployment**

* **Frontend:** [Vercel](https://vercel.com)
* **Backend:** [Render](https://render.com) or [Railway](https://railway.app)
* **Environment Variables:** Set via dashboard in both platforms