

EduSite – Full Stack SaaS Design Document

EduSite is a full stack SaaS learning platform designed as a real-world practice project. This document captures architectural decisions, backend design, database schema, authentication strategy, and frontend structure before implementation.

Project Goals

- Build a production-style full stack SaaS application
- Implement authentication and role-based access
- Design subscription and payment-ready architecture
- Use Docker for frontend, backend, and database
- Follow documentation-first system design

Technology Stack

- Frontend: Vite, React, TypeScript, Tailwind CSS, shadcn/ui
- Backend: FastAPI (Python)
- Database: PostgreSQL
- Authentication: JWT with role-based authorization
- Infrastructure: Docker & Docker Compose

Core Design Principles

- Backend is the single source of truth
- Frontend reflects backend permissions
- Roles and subscriptions are enforced server-side
- Simple schemas first, extensible later
- Documentation before implementation

This document represents Checkpoint 2 of the EduSite project and serves as a stable reference before moving into backend implementation.