

DevOps Technical Assessment-1

Project Assignment: AI-Powered Application Builder Platform.

You are required to design and build a simplified version of a full-stack AI application builder or AI-powered code generation interfaces. The objective is to evaluate your ability to integrate **AI**, **frontend**, **backend**, **system design**, and **DevOps workflows** into a cohesive project.

Core Requirements

Authentication

- Implement user login/signup (email/password or OAuth).
- Use JWT/session-based authentication.

2. AI Project Generator

The user should be able to enter a natural language prompt such as:

“Create a project management dashboard with analytics.” Your system must:

- Call an AI model (OpenAI, Gemini, Groq, etc.)
- Generate:
 - A basic code structure (frontend + backend)
 - Sample UI components
 - Sample API routes
- Store the generated project in the database.

3. Project Workspace

- List all generated projects.
- View a project and show editable code (Monaco Editor recommended).
- Ability to update/save changes.

4. DevOps Component

- A Dockerfile for the generated project.
- CI pipeline using GitHub Actions to:
 - Install dependencies
 - Run simple tests

- Build Docker image
- Push the image to a container registry
- Optional: Auto-deploy to Render/Railway/Fly.io.

5. Documentation

Submit a short system design document covering:

- Architecture overview
 - Database schema
 - Sequence flow (prompt → AI → project generation → storage → deployment)
 - CI/CD pipeline design
 - Infra/DevOps choices
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Deliverables

- GitHub repository with structured frontend, backend, and infra.
- 5–10 min demo video (walkthrough).
- Architecture/System design document.
- Live deployed demo (optional but strongly preferred).

Submission

Send your GitHub link, documentation, and demo video to: [Dinesh Prabhu](#)