

Deployment Approval Workflow System

Submission■Ready Interview Evaluation Document

Overview

This project implements a multi■step deployment approval workflow using a formal state machine. It demonstrates backend engineering, state management, and frontend interaction suitable for DevOps and backend engineering interviews.

Key Capabilities

- Deployment request creation
- Multi■stage approval workflow
- State■driven lifecycle using transitions library
- REST API with FastAPI
- Lightweight HTML/JS frontend

System Architecture



The frontend communicates with the FastAPI backend through REST APIs. The backend initializes and controls the deployment lifecycle using a formal state machine. Deployment states are persisted in the database.

Design Decisions & Tradeoffs

- **State Machine:** Used transitions library to avoid adhoc status flags.
- **FastAPI:** Chosen for simplicity, async support, and OpenAPI docs.
- **SQLite:** Lightweight and suitable for demonstration purposes.
- **Frontend:** Plain HTML/JS to keep focus on backend logic.

Interview Value

This project demonstrates clean architecture, API design, state management, and deployment workflow concepts commonly used in DevOps and platform engineering teams.