

C. Architecture / Technical Document – Engineering Knowledge Platform

High-Level Architecture

Document Loader → Text Chunking → Embeddings → Vector Database → Retriever → LLM → Web Interface. Role-based personalization applied during retrieval stage.

API-First Approach

REST APIs expose endpoints for:

- Role selection
- Query submission
- Document ingestion
- Feedback capture

Database Layer

- Vector database for semantic search.
- Metadata tagging (Role, Module, Owner, Version).
- Simple relational or document DB for user sessions and feedback.

Web Layer

- Role selection screen (QA / Dev / Ops).
- Chat interface for queries.
- Suggested onboarding plan dashboard.
- Admin interface for document uploads.

Design Simplicity

Single application layer. No microservices. Modular components. Build incrementally and test each component independently.