

Day 6: Advanced Features

Enhancing Your RAG System for Real-World Use

Day 6 focuses on adding advanced features that make your RAG system more robust, user-friendly, and production-ready. These features improve usability, organization, and search capabilities.

1. Project Management

Organizing documents by project is essential for multi-user or multi-domain environments.

Key Features:

- **Project Creation:** Users can create and manage multiple projects.
- **Document Association:** Each document is linked to a specific project.
- **Filtering:** Users can filter documents and search results by project.
- **Access Control:** (Optional) Restrict access to documents based on project membership or user roles.

Implementation Details:

- Database tables for projects and project-document relationships (see migrations in [database/migrations/](#)).
- Backend logic for creating, updating, and deleting projects (controllers/services).
- UI components for project selection and management.

2. Progress Tracking

Providing real-time feedback on document upload and processing improves user experience and transparency.

Key Features:

- **Upload Progress:** Show real-time progress bars during file uploads.
- **Processing Status:** Indicate when a document is being processed (e.g., text extraction, embedding generation).
- **Error Reporting:** Display clear error messages if upload or processing fails.

Implementation Details:

- Use JavaScript (AJAX or WebSockets) for real-time progress updates in the frontend.
- Backend endpoints to report processing status.
- UI elements for progress bars and status indicators.

3. Advanced Search

Enhance the search experience with additional filtering, sorting, and navigation options.

Key Features:

- **Filters:** Allow users to filter search results by project, document type, upload date, etc.

- **Sorting:** Enable sorting of results by relevance, date, or other metadata.
- **Pagination:** Support paginated search results for large document sets.

Implementation Details:

- Extend Elasticsearch queries to include filters and sorting parameters.
- Update backend endpoints to accept and process filter/sort options.
- UI components for filter dropdowns, sort controls, and pagination navigation.

Code Reference:

- Look for changes in search-related controllers/services and frontend components.
- Check for new or updated API endpoints for advanced search features.

By the end of Day 6, your RAG system will support project-based organization, real-time progress tracking, and a powerful, user-friendly search experience.