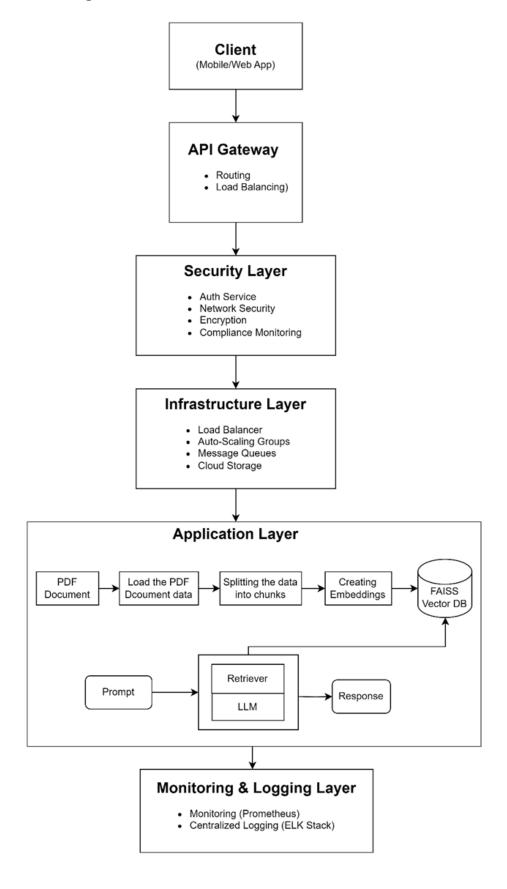
Architecture Diagram:



Explanation:

- 1. **Clients**: The users interact with the system through web or mobile applications.
- 2. **API Gateway**: Routes requests from clients to the appropriate services in the application layer and provides load balancing.
- 3. **Security Layer**:
 - o **Auth Service**: Manages authentication and authorization.
 - Network Security: Includes firewalls and VPC configurations to protect the system.
 - o **Encryption**: Ensures data is encrypted both in transit and at rest.
 - o **Compliance Monitoring**: Ensures the system adheres to relevant regulations.

4. Infrastructure Layer:

- o **Load Balancer**: Distributes incoming network traffic across multiple servers.
- Auto-Scaling Groups: Automatically adjusts the number of instances in response to the load.
- Message Queues: Manages asynchronous processing tasks.
- Cloud Storage: Stores large datasets and other resources.

5. Application Layer:

- o **LLM Model**: Handles natural language processing tasks using a Ollama model.
- Embedding Generation Service: Generates embeddings for the document chunks.

6. Data Layer:

Vector Database: Stores embeddings and facilitates fast similarity searches.

7. Monitoring & Logging Layer:

- Monitoring: Tracks system performance and health metrics.
- Centralized Logging: Collects and stores logs for analysis and troubleshooting.