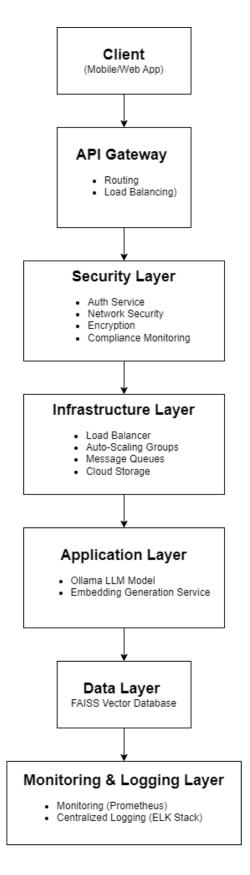
Architecture Diagram:



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.
- o Message Queues: Manages asynchronous processing tasks.
- o **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:

o **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.