

Eleva Shop

mermaid

Copy

```
graph TD
    Frontend(Next.js) --> BackendAPIs(Backend APIs)
    BackendAPIs --> CMS(Sanity CMS)
    BackendAPIs --> Database(Database)
    BackendAPIs --> ThirdPartyAPIs(Third-party APIs)
    Authentication(Authentication Service) --> Database
    Caching(Caching Layer) --> BackendAPIs
    Monitoring(Monitoring & Error Tracking) --> Frontend
    Monitoring --> BackendAPIs
    Monitoring --> Database
    Monitoring --> ThirdPartyAPIs
    CDN(CDN) --> Frontend
    CI_CD(CI/CD Pipeline) --> Frontend
    CI_CD --> BackendAPIs
```

Explanation of Components:

1. Frontend (Next.js):

- Handles user interface and interactions.
- Utilizes server-side and client-side rendering for performance and SEO.

2. Backend APIs:

- Manages data processing and business logic.
- Includes Product Data API, Shipment Tracking API, and Payment Gateway API.

3. CMS (Sanity):

- Manages content and provides data to Backend APIs.

4. Database:

- Stores persistent data such as user information and orders.
- Could be relational (e.g., PostgreSQL) or NoSQL (e.g., MongoDB).

5. Third-party APIs:

- External services like Shipment Tracking (e.g., UPS, FedEx) and Payment Gateway (e.g., Stripe, PayPal).

6. Authentication Service:

- Handles user authentication and session management.
- Integrates with providers like Google, GitHub (using NextAuth.js).

7. Caching Layer:

- Improves performance by caching frequently accessed data.
- Tools like Redis or Memcached can be used.

8. Monitoring & Error Tracking:

- Monitors system health and tracks errors.
- Tools like Sentry or New Relic can be employed.

9. CDN:

- Serves static assets efficiently, improving load times.

10. CI/CD Pipeline:

- Automates testing and deployment.
- Tools like GitHub Actions or Jenkins are suitable.

Key Considerations:

- **Security:** Ensure data transmission security using HTTPS and input validation.
- **Scalability:** Design components to scale independently to handle increased load.
- **Redundancy:** Consider failover mechanisms for critical components.