

Day 2: Planning the Technical Foundation

1. Technical Requirements

Frontend Requirements:

Home: Displays product categories and featured products.

Product Listing: Lists products with filtering and sorting options.

Product Details: Shows detailed information about a single product.

Cart: Allows users to review and edit selected products.

Checkout: Processes payment and shipping details.

Order Confirmation: Displays order summary and confirmation.

Backend Requirements (Sanity CMS)

Data entities:

Products:

Name, Price, Stock, Description, Category, Images.

Orders:

Customer Info (Name, Email, Address), Products Ordered, Total Price, Payment Status.

Customers:

Name, Email, Address, Purchase History.

Third-Party APIs

Payment Gateway:

Integrate with Stripe for secure transaction processing.

Shipment Tracking API:

Use Shippo API to provide real-time tracking updates.

2. Design System Architecture

How Components Interact:

Frontend (Next.js):

Users interact with pages like Home, Product Listing, and Checkout.

Sanity CMS:

Stores data for products, orders, and customers.

Third-Party APIs:

Payment Gateway: Processes payments securely.

Shipment Tracking API: Tracks delivery status.

Workflow Example:

User selects products → Frontend fetches product data from Sanity CMS.

User places an order → Frontend sends order details to Sanity CMS.

Payment processed via Payment Gateway.

Shipment tracking updates fetched via Shipment Tracking API.

3. API Requirements

API Endpoints:

Fetch Products:

Endpoint: /products

Method: GET

Response: { "id": 1, "name": "Product A", "price": 100 }

Place Order:

Endpoint: /orders

Method: POST

Payload: { "customer": {...}, "products": [...], "total": 500 }

Response: { "orderId": 123, "status": "Success" }

Track Shipment:

Endpoint: /shipment

Method: GET

Response: { "orderId": 123, "status": "In Transit", "ETA": "15 mins" }

API Specification Example:

/products: Fetches product details for frontend.

/orders: Saves order details to Sanity CMS.

/shipment: Tracks delivery status via external API.

Systematic Architecture Diagram

