
Planning the Technical Foundation-Dukaan

1. Frontend:

Next.js 15: For server-side rendering, SEO optimization, and routing.

Tailwind CSS: For styling and responsive design.

Shadcn: For consistent UI components.

2. Authentication:

Clerk: Provides secure user authentication and session management.

3. Payment Processing:

Stripe: Handles secure payment transactions and checkout processes.

4. Backend:

Managed through Next.js API routes and serverless functions.

API Endpoints

1. /api/products

Method: GET

Description: Fetch all product details.

```
[  
  
  { "id": 1, "name": "T-Shirt", "price": 20, "category": "Men", "stock": 100 },  
  
  { "id": 2, "name": "Dress", "price": 40, "category": "Women", "stock": 50 }  
  
]
```

2. /api/order

Method: POST

Description: Place an order

```
{  
  
  "user_id": "clerk_user_123",  
  
  "products": [{ "id": 1, "quantity": 2 }],  
  
  "total": 40  
  
}  
  
{ "order_id": "order_123", "status": "Order Placed" }
```

3. /api/checkout-session

Method: POST

Description: Create a Stripe checkout session.

```
{  
  
  "user_id": "clerk_user_123",  
  
  "line_items": [{ "product_id": 1, "quantity": 2 }]  
  
}
```

4. /api/shipment

Method: GET

Description: Track the shipment status of an order.

```
{ "order_id": "order_123" }  
  
{ "status": "Out for delivery", "expected_delivery": "2025-01-20" }
```

Workflow:

1. Authentication:

User logs in/signs up via Clerk.

2. Product Browsing:

User fetches product data via /api/products.

3. Order Placement:

User adds items to the cart and places an order via /api/order.

4. Checkout:

Frontend calls `/api/checkout-session` to create a Stripe session and redirect the user to payment.

5. Shipment Tracking:

User fetches shipping details via `/api/shipment`.

Data Schema Design

Product

```
{  
  
  "id": 1,  
  
  "name": "T-Shirt",  
  
  "category": "Men",  
  
  "price": 20,  
  
  "stock": 100,  
  
  "description": "Comfortable cotton t-shirt."  
  
}
```

Order

```
{  
  
  "order_id": "order_123",  
  
}
```

```
"user_id": "clerk_user_123",  
  
"products": [  
  
  { "id": 1, "quantity": 2 }  
  
],  
  
"total": 40,  
  
"status": "Order Placed"  
  
}
```

User (Clerk)

Managed through Clerk's authentication system, containing details like user_id, email, and name.

Technical Roadmap

Step 1: Setup and Planning

Initialize Next.js 15 project and set up Tailwind CSS.

Integrate Shadcn for consistent UI components.

Configure Clerk for user authentication.

Step 2: API and Backend Development

Build API routes for products, orders, checkout, and shipment tracking.

Integrate Stripe for payment processing.

Step 3: Frontend Development

Design and implement pages for product browsing, checkout, and shipment tracking.

Ensure responsive design using Tailwind CSS.

Step 4: Testing and Deployment

Test all functionalities (authentication, APIs, and payment flow).

Deploy the website using Vercel.

