1.User Sign-Up Flow with Data Flow:	1
+	v
User Interface	++
(React/Next.js Frontend)	User Confirmation
++	(User Interface)
User submits registration details (name, email, password)	++
v	1
+	6. User clicks on confirmation link in email
Registration API	1
(Backend - Node.js)	v
+	++
2. Sends user data (name, email, password) to backend	User Confirmation API
V	(Backend)
++	++
User Authentication	1
(JWT/Auth Service)	7. Confirms user account status
++	1
I	v
3. Authentication handled (Password Hashing, JWT	++
token)	User Profile Data
V	(Sanity CMS)
tt	++
User Data Storage	I
(Sanity CMS/MongoDB)	8. Updates user status to confirmed in database
+	I
	v
4. Saves user data (name, email) in the database	++
v	User Redirected to
++	Homepage / Dashboard
Confirmation Email API	++
(Email Service)	I
+	9. User is redirected to the dashboard/homepage (logged-in)
	(logged-iii)
5. Sends confirmation email to user	V

```
| Logged-In State |
| (Frontend UI/State) |
+----+
2. User Browses Products:
+----+
| Product Categories |
| (React/Next.js Frontend)|
+----+
    | 1. User browses product categories
+----+
| Fetch Product Data API |
| (Sanity CMS API) |
+----+
    | 2. Frontend requests product data (categories, listings)
from the backend
    +----+
| Sanity CMS (Backend) |
| (Product Data) |
+----+
    | 3. Backend retrieves data from the database (product
listings, details)
    +----+
| Return Data to Frontend|
| (Product Listings) |
```

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+-----+
    | 4. Displays product categories and listings dynamically
on the UI
+----+
| User Interface |
| (React/Next.js Frontend) |
+----+
```

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+----+
                                                             4. Backend saves order details (products, quantities)
                                                         +----+
                                                         | Checkout API |
                                                         | (Backend - Node.js) |
                                                         +----+
3. User Adds Item to Cart and Proceeds to Checkout:
                                                             | 5. User proceeds to checkout (shipping info, payment)
+----+
| Add to Cart Button |
| (User Interface) |
                                                         +-----+
+----+
                                                         | Payment Gateway API |
    Ι
                                                         | (Third-Party Service) |
    | 1. User adds product to cart
                                                             V
+----+
                                                              | 6. Payment details are sent to payment gateway for
                                                         processing
| Cart State |
| (React/Next.js) |
    | Payment Confirmation |
    | 2. Cart state is updated with the new product
                                                         | (Payment Gateway) |
+----+
                                                             | Cart API
         - 1
                                                              | 7. Payment processed, confirmation received
| (Backend - Node.js) |
    Ι
                                                         +----+
    | 3. Sends updated cart data to backend
                                                         | Order Status API |
                                                         | (Backend - Node.js) |
+----+
                                                         +----+
| Order Details Storage |
```

| (Sanity CMS/MongoDB) |

```
| 8. Backend updates order status (e.g., "pending" ->
                                                           | Third-Party Shipping |
"paid"
                                                           | (Shipment Service) |
                                                            +----+
                                                                | Order Confirmation |
                                                                | 3. Shipment tracking details returned (e.g., status, ETA)
| (User Interface) |
+----+
    +----+
    | 9. Confirmation of order and shipping details displayed
                                                           | Shipment Status API |
to user
                                                           | (Backend - Node.js) |
                                                            +----+
| User Interface |
                                                                | 4. Backend updates the order with shipment details
| (React/Next.js Frontend) |
+----+
4. Shipment Tracking and Updates:
                                                            +----+
                                                           | Order Status Display |
+----+
| Track Order Button |
                                                           | (User Interface) |
| (User Interface) |
                                                            +----+
+----+
                                                                | 5. Shipment status is displayed to the user (shipped, in
                                                           transit, delivered)
    | 1. User clicks on "Track Order" button
                                                                +-----+
+----+
                                                           | User Interface |
| Shipment Tracking API |
                                                            | (React/Next.js Frontend) |
| (Third-Party API) |
                                                            +----+
    | 2. Request for shipment status sent to third-party
tracking API
```