Marketplace Technical Foundation - **General eCommaerce:**

1. System Architecture Overview:

Diagram:

[Frontend (Next.js)]

|

[Sanity CMS]

|

[Product Data API] --> [Third-Party APIs]

| |

[Shipment Tracking API] [Payment Gateway]

Component Descriptions:

Frontend (Next.js):

The primary interface where customers search for products, manage their cart, and make orders.

Communicates with Sanity CMS and APIs to retrieve dynamic data and render it in real-time.

Sanity CMS:

A headless CMS that deals with product data, inventory, and order records.

Serves as the backend database for the marketplace.

Product Data API:

Connects the frontend to Sanity CMS to retrieve and update product information.

Example endpoint: /products to get all products.

Third-Party APIs:

Shipment Tracking API:

Tracks orders in real-time for customers.

Payment Gateway: Processes secure payments through ShipEngine for seamless integration.

2. Major Workflows:

Workflow:

User Adds Products to Cart

Step 1: User selects a product on the frontend.

Step 2: Frontend sends a request to the Product Data API to retrieve product details.

Step 3: Product is added to the cart of the user and the cart data is updated in Sanity CMS.

Step 4: User checks out where data is validated through APIs.

Workflow:

User Places an Order

Step 1: User confirms the items in the cart on the checkout page.

Step 2: Frontend interacts with the Payment Gateway for payment processing.

Step 3: Once payment is successful, order details are sent to the Shipment Tracking API.

Step 4: Order status is updated in the CMS and real-time tracking is given to the user.

3. Category-Specific Instructions:

General eCommerce:

Product Browsing Workflow:

Endpoint: **/products**

Description: Fetch all the product listings from Sanity CMS.

Cart Management Workflow:

Endpoint**: /cart**

Description: Update, delete or fetch items in the cart.

Order Placement Workflow:

Endpoint: **/order**

Description: Place a new order and get order details.

4. API Endpoints:

EndPoiont	**Method**	**Purpose**	**Respnse Example**
/products	GET	Fetch all product details	{“id”:1,”name”:”product”,”price”:100}
/cart	POST	Add a product to the cart	{cartId”:123,”status”:”siccess”}
/order	POST	Place a new order	{“orderid”:456,”status”:”comfirmed”}

/track-order	GET	Fetch shipment tracking details	{“orderid”:456,”status”:”tramsit”}

5. Sanity Schem:

```
import { defineType } from "sanity"



export const product = defineType({

    name: "product",

    title: "Product",

    type: "document",

    fields: [

        {

            name: "title",

            title: "Title",

            validation: (rule) => rule.required(),

            type: "string"

        },

        {

            name:"description",

            type:"text",

            validation: (rule) => rule.required(),

            title:"Description",

        },

        {
```

```
            name: "productImage",
            type: "image",
            validation: (rule) => rule.required(),
            title: "Product Image"
        },
        {
            name: "price",
            type: "number",
            validation: (rule) => rule.required(),
            title: "Price",
        },
        {
            name: "tags",
            type: "array",
            title: "Tags",
            of: [{ type: "string" }]
        },
        {
            name:"dicountPercentage",
            type:"number",
            title:"Discount Percentage",
        },
        {
            name:"isNew",
            type:"boolean",
```

```
            title:"New Badge",

        }

    ]

})
```