Hackathon: 3
Day 3
(17th January 2025)

API INTEGRATION AND DATA MIGRATION

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Introduction

This document details the seamless integration of external data into the **Sanity CMS** for "Hekto," an innovative furniture e-commerce platform. The goal of this integration is to automate content management for products such as sofas, chairs, office desks, and other furniture categories, enabling dynamic updates to the backend and synchronization with the **Next.js frontend.**

This guide also includes screenshots of each step for better understanding and visualization.
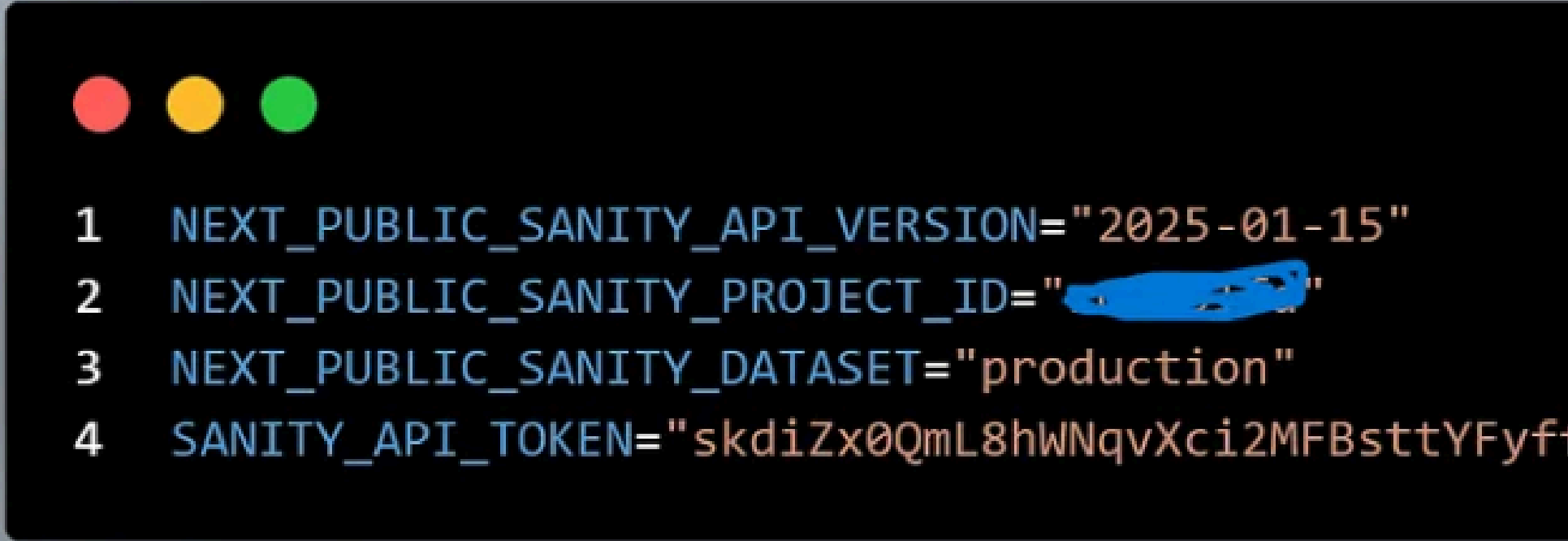
. . .

Contents Outline

2. Setting Up Environment Variables

- **Dependencies Installed:**

- `@sanity/client`

- `dotenv`

```
Microsoft Windows [Version 10.0.19045.5371]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Dell\Desktop\Quarter-2\figma-hacthon-2\figma-hackthon>npm install @sanity/client dotenv
```

- **Environment Configuration:**

- Created a `.env.local` file to securely store:

```
1   NEXT_PUBLIC_SANITY_API_VERSION="2025-01-15"
2   NEXT_PUBLIC_SANITY_PROJECT_ID="        "
3   NEXT_PUBLIC_SANITY_DATASET="production"
4   SANITY_API_TOKEN="skdiZx0QmL8hWNqvXci2MFBsttYFyf
```

Sanity API Token: For secure access to the Sanity CMS.

API Endpoint: URL to fetch furniture product data:

`https://next-ecommerce-template-4.vercel.app/api/product.`

natural wooden elements and a modern look.","discountPercentage":10,"isFeaturedProduct":true,"stockLevel":25,"category":"Chair"},{"id":"2","name":"Armchair Tortuga","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (35).png","price":"850","description":"An elegant armchair with plush cushions and a curved design for comfort.","discountPercentage":0,"isFeaturedProduct":false,"stockLevel":10,"category":"Chair"},{"id":"3","name":"Uchiwa Quilted Lounge Chair","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (6).png","price":"1600","description":"A spacious lounge chair with a quilted back and soft cushioning.","discountPercentage":20,"isFeaturedProduct":true,"stockLevel":5,"category":"Chair"},{"id":"4","name":"Stylish Golden Metal Legs Mint Blue Fabric Velvet Sofa Leisure Armchair","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (3).png","price":"780","description":"A luxurious armchair with velvet fabric and golden metal legs.","discountPercentage":0,"isFeaturedProduct":false,"stockLevel":12,"category":"Sofa"},{"id":"5","name":"Hans Wegner Style Three-Legged Shell Chair","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (4).png","price":"990","description":"Iconic three-legged chair with faux leather and ash plywood frame.","discountPercentage":10,"isFeaturedProduct":false,"stockLevel":8,"category":"Chair"},{"id":"6","name":"Rapson Thirty-Nine Guest Chair","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (7).png","price":"1500","description":"A mid-century modern chair with clean lines and durable materials.","discountPercentage":15,"isFeaturedProduct":true,"stockLevel":20,"category":"Chair"},{"id":"7","name":"Nautilus Lounge Chair","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (8).png","price":"1450","description":"A lounge chair with a shell-inspired design and premium upholstery.","discountPercentage":12,"isFeaturedProduct":true,"stockLevel":10,"category":"Chair"},{"id":"8","name":"High Quality Modern Customized Plastic Chair","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (9).png","price":"150","description":"A simple and lightweight chair ideal for dining or casual use.","discountPercentage":0,"isFeaturedProduct":false,"stockLevel":50,"category":"Chair"},{"id":"9","name":"Cozy Armchair","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (10).png","price":"520","description":"Compact armchair with a cozy design for small spaces.","discountPercentage":8,"isFeaturedProduct":false,"stockLevel":15,"category":"Chair"},{"id":"10","name":"Alpha Chair - Solid Ebonised Oak","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (11).png","price":"900","description":"A sturdy oak chair with a sleek and minimalist design.","discountPercentage":10,"isFeaturedProduct":false,"stockLevel":18,"category":"Chair"},{"id":"11","name":"Replica Hans Wegner Wishbone Chair","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (12).png","price":"750","description":"Classic wishbone chair with a dark walnut frame and cord seat.","discountPercentage":10,"isFeaturedProduct":false,"stockLevel":25,"category":"Chair"},{"id":"12","name":"Futuristic Sleek Modern Chair","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (14).png","price":"2000","description":"A modern chair with a carbon fiber frame and bold red accents.","discountPercentage":0,"isFeaturedProduct":true,"stockLevel":3,"category":"Chair"},{"id":"13","name":"Liberty Wood 63' Floating Entertainment Center","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (15).png","price":"1100","description":"Versatile entertainment chair for modern interiors.","discountPercentage":8,"isFeaturedProduct":true,"stockLevel":7,"category":"Chair"},{"id":"14","name":"Leisure Sofa Chair Set","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (16).png","price":"1800","description":"A comfortable set of chairs with soft cushions for relaxation.","discountPercentage":10,"isFeaturedProduct":true,"stockLevel":6,"category":"Sofa"},{"id":"15","name":"Diondre Chair - Tuft Button - Acrylic Legs","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (17).png","price":"720","description":"A tufted chair with acrylic legs for a chic, modern touch.","discountPercentage":7,"isFeaturedProduct":false,"stockLevel":10,"category":"Chair"},{"id":"16","name":"Matilda Velvet Chair - Pink","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (18).png","price":"600","description":"A vibrant pink velvet chair with a retro-inspired design.","discountPercentage":15,"isFeaturedProduct":true,"stockLevel":12,"category":"Chair"},{"id":"17","name":"Varmora Plastic Chair Solid","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (19).png","price":"100","description":"Durable and lightweight plastic chair for everyday use.","discountPercentage":25,"isFeaturedProduct":false,"stockLevel":100,"category":"Chair"},{"id":"18","name":"Sobuy Blue Folding Chair Wooden Padded","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (21).png","price":"120","description":"A foldable wooden chair with a padded seat for extra comfort.","discountPercentage":12,"isFeaturedProduct":false,"stockLevel":30,"category":"Chair"},{"id":"19","name":"Nordic Net Red Chair","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (22).png","price":"320","description":"An acrylic dining chair with a sleek and minimalist Nordic design.","discountPercentage":10,"isFeaturedProduct":true,"stockLevel":20,"category":"Chair"},{"id":"20","name":"Cantilever Chair","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (23).png","price":"780","description":"A modern cantilever chair with a unique floating effect.","discountPercentage":15,"isFeaturedProduct":true,"stockLevel":5,"category":"Chair"},{"id":"21","name":"Luxury Flower Shell Sofa Chair","imagePath":"https://next-ecommerce-template-4.vercel.app/product/Chair (34).png","price":"2500","description":"A luxurious shell-shaped chair with gold brass metal legs.","discountPercentage":0,"isFeaturedProduct":true,"stockLevel":2,"category":"Sofa"}]}

3. Obtaining Sanity Project ID and API Token

To authenticate and interact with the Sanity CMS:

- Retrieved the **Project ID** and **API Token** from the Sanity dashboard.

- Configured the `sanityClient` with:

- `projectId` : Unique ID of the Sanity project.

- `dataset` : Dataset used for the platform (e.g., "production").

- `apiVersion` : To specify the API version.

- `useCdn` : Enabled for faster delivery.

```
1  import { createClient } from 'next-sanity'
2
3  import { apiVersion, dataset, projectId } from '../env'
4
5  export const client = createClient({
6    projectId,
7    dataset,
8    apiVersion,
9    useCdn: true, // Set to false if statically generating pages, using ISR or tag-based revalidation
10 })
11
```

Step 1: Fetching Data from API

- Used Node.js and `fetch` to retrieve data.

- Extracted product details such as titles, prices, descriptions, and categories.

```json
{
  "products": [
    {
      "id": "1",
      "name": "Tribù Elio Chair",
      "imagePath": "https://next-ecommerce-template-4.vercel.app/product/Chair (5).png",
      "price": "1200",
      "description": "A sleek outdoor chair with natural wooden elements and a modern look.",
      "discountPercentage": 10,
      "isFeaturedProduct": true,
      "stockLevel": 25,
      "category": "Chair"
    },
    {
      "id": "2",
      "name": "Armchair Tortuga",
      "imagePath": "https://next-ecommerce-template-4.vercel.app/product/Chair (35).png",
      "price": "850",
      "description": "An elegant armchair with plush cushions and a curved design for comfort.",
      "discountPercentage": 0,
      "isFeaturedProduct": false,
      "stockLevel": 10,
      "category": "Chair"
    },
    {
      "id": "3",
      "name": "Uchiwa Quilted Lounge Chair",
      "imagePath": "https://next-ecommerce-template-4.vercel.app/product/Chair (6).png",
      "price": "1600",
      "description": "A spacious lounge chair with a quilted back and soft cushioning.",
      "discountPercentage": 20,
      "isFeaturedProduct": true,
      "stockLevel": 5,
      "category": "Chair"
    },
    {
      "id": "4",
      "name": "Stylish Golden Metal Legs Mint Blue Fabric Velvet Sofa Leisure Armchair",
      "imagePath": "https://next-ecommerce-template-4.vercel.app/product/Chair (3).png",
      "price": "780",
```

4. Enhancing the Sanity Schema

To manage furniture product details efficiently, the schema was updated with the following fields:

Schema Fields:

- `name (string)` : The product's name (required).

- `image (image)` : High-quality images of the product.

- `price (string)` : Product price (required).

- `description (text)` : Short description (up to 150 characters).

- `discountPercentage (number)` : Discount on the product (0-100%).

- `isFeaturedProduct (boolean)` : Indicates if the product is featured.

- `stockLevel (number)` : Tracks the product's stock (must be positive).

- `category (reference)` : Links the product to its category (e.g., "Sofas," "Chairs").

```
export default {
  name: 'product',
  type: 'document',
  title: 'Product',
  fields: [
    {
      name: 'name',
      type: 'string',
      title: 'Name',
      validation: (Rule: any) => Rule.required().error('Name is required'),
    },
    {
      name: 'image',
      type: 'image',
      title: 'Image',
      options: {
        hotspot: true,
      },
      description: 'Upload an image of the product.',
    },
    {
      name: 'price',
      type: 'string',
      title: 'Price',
      validation: (Rule: any) => Rule.required().error('Price is required'),
    },
    {
      name: 'description',
      type: 'text',
      title: 'Description',
      validation: (Rule: any) =>
        Rule.max(150).warning('Keep the description under 150 characters.'),
    },
    {
      name: 'discountPercentage',
      type: 'number',
      title: 'Discount Percentage',
      validation: (Rule: any) =>
        Rule.min(0).max(100).warning('Discount must be between 0 and 100.'),
    },
    {
      name: 'isFeaturedProduct',
      type: 'boolean',
      title: 'Is Featured Product',
    },
    {
      name: 'stockLevel',
      type: 'number',
      title: 'Stock Level',
      validation: (Rule: any) => Rule.min(0).error('Stock level must be a positive number.'),
    },
    {
      name: 'category',
      type: 'string',
      title: 'Category',
      options: {
        list: [
          { title: 'Chair', value: 'Chair' },
          { title: 'Sofa', value: 'Sofa' },
        ],
      },
      validation: (Rule: any) => Rule.required().error('Category is required'),
    },
  ],
};
```

```
1  import { type SchemaTypeDefinition } from 'sanity'
2  import products from './products'
3
4  export const schema: { types: SchemaTypeDefinition[] } = {
5    types: [products],
6  }
7
```

5. Running the Import Script

- Configured the script using environment variables.

- Executed the script via **Node.js** to fetch and upload data to **Sanity**.

- Verified successful data migration in the **Sanity** dashboard.

```
1   import { createClient } from '@sanity/client';
2   import axios from 'axios';
3   import dotenv from 'dotenv';
4   import { fileURLToPath } from 'url';
5   import path from 'path';
6
7   const __filename = fileURLToPath(import.meta.url);
8   const __dirname = path.dirname(__filename);
9   dotenv.config({ path: path.resolve(__dirname, '../../.env') });
10
11  const client = createClient({
12      projectId: process.env.NEXT_PUBLIC_SANITY_PROJECT_ID,
13      dataset: process.env.NEXT_PUBLIC_SANITY_DATASET,
14      token: process.env.SANITY_API_TOKEN,
15      apiVersion: '2025-01-15',
16      useCdn: false,
17  });
```

```javascript
import { createClient } from '@sanity/client';
import axios from 'axios';
import dotenv from 'dotenv';
import { fileURLToPath } from 'url';
import path from 'path';

const __filename = fileURLToPath(import.meta.url);
const __dirname = path.dirname(__filename);
dotenv.config({ path: path.resolve(__dirname, '../../.env') });

const client = createClient({
  projectId: process.env.NEXT_PUBLIC_SANITY_PROJECT_ID,
  dataset: process.env.NEXT_PUBLIC_SANITY_DATASET,
  token: process.env.SANITY_API_TOKEN,
  apiVersion: '2025-01-15',
  useCdn: false,
});

async function uploadImageToSanity(imageUrl) {
  try {
    console.log(`Uploading Image : ${imageUrl}`);
    const response = await axios.get(imageUrl, { responseType: 'arraybuffer' });
    const buffer = Buffer.from(response.data);
    const asset = await client.assets.upload('image', buffer, {
      filename: imageUrl.split('/').pop(),
    });
    console.log(`Image Uploaded Successfully : ${asset._id}`);
    return asset._id;
  } catch (error) {
    console.error('Failed to Upload Image:', imageUrl, error);
    return null;
  }
}

async function importData() {
  try {
    console.log('Fetching Product Data From API ...');

    const response = await axios.get("https://next-ecommerce-template-4.vercel.app/api/product")
    const products = response.data.products;

    for (const item of products) {
      console.log(`Processing Item: ${item.name}`);

      let imageRef = null;
      if (item.imagePath) {
        imageRef = await uploadImageToSanity(item.imagePath);
      }

      const sanityItem = {
        _type: 'product',
        name: item.name,
        category: item.category || null,
        price: item.price,
        description: item.description || '',
        discountPercentage: item.discountPercentage || 0,
        stockLevel: item.stockLevel || 0,
        isFeaturedProduct: item.isFeaturedProduct,
        image: imageRef
          ? {
              _type: 'image',
              asset: {
                _type: 'reference',
                _ref: imageRef,
              },
            }
          : undefined,
      };

      console.log(`Uploading ${sanityItem.category} - ${sanityItem.name} to Sanity !`);
      const result = await client.create(sanityItem);
      console.log(`Uploaded Successfully: ${result._id}`);
      console.log("-----------------------------------------------------------")
      console.log("\n\n")
    }

    console.log('Data Import Completed Successfully !');
  } catch (error) {
    console.error('Error Importing Data : ', error);
  }
}

importData();
```

Content

📁 Product ›

What's new

Product + ...

🔍 Search list

🪑 Cozy Armchair •

🪑 Luxury Flower Shell Sofa Chair

🪑 Cantilever Chair

🪑 Nordic Net Red Chair

🪑 Sobuy Blue Folding Chair Wooden P...

🪑 Varmora Plastic Chair Solid

🪑 Matilda Velvet Chair – Pink

🪑 Diondre Chair - Tuft Button - Acrylic...

🪑 Leisure Sofa Chair Set

🪑 Liberty Wood 63' Floating Entertain...

Nordic Net Red Chair 🔗 💬 ...

Product

Nordic Net Red Chair

Add comment

Name ... 💬

Nordic Net Red Chair

Image ... 💬
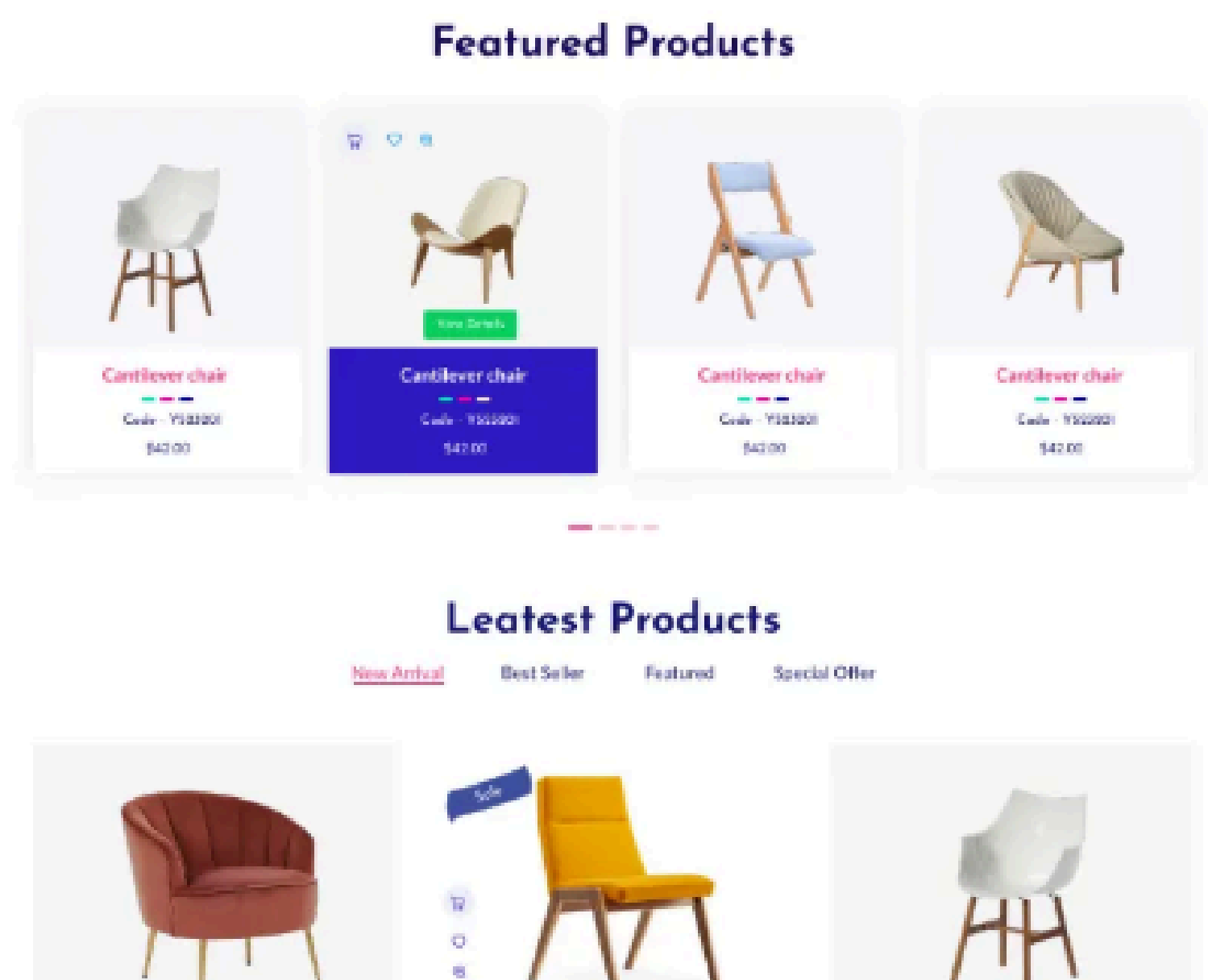Upload an image of the product.

6. Frontend Display

Screenshot: Latest Products and Featured Products sections dynamically rendered on the frontend.

- The integration allows the frontend to display products with real-time data from the Sanity CMS.

- Categories, prices, images, and descriptions are automatically updated on the website.6. Running the Import Script

Featured Products

Cantilever chair	Cantilever chair	Cantilever chair	Cantilever chair
Code - Y503001	Code - Y503001	Code - Y503001	Code - Y503001
$42.00	$42.00	$42.00	$42.00

Leatest Products

New Arrival   Best Seller   Featured   Special Offer

Checklist

- API Understanding: ✓

- Schema Validation: ✓

- Data Migration: ✓

- API Integration in Next.js: ✓

- Submission Preparation: ✓

- Screenshots of Each Step: ✓

What This Guide Offers:

By following this guide, you can easily integrate external APIs and migrate data to **Sanity CMS** for your e-commerce platform. The process ensures real-time data synchronization between the backend and frontend, making content management smoother and more efficient.

Benefits include:

- **Automated Product Management**: No manual input is needed to update product details.

- **Real-Time Data Sync**: Changes made in the backend immediately reflect on the frontend.

- **Easy Content Updates**: Admins can easily manage product listings and categories in one central CMS.