Day 3 - API Integration and Data Migration

API Integration Process

Overview:

The goal of the API integration was to connect an external API providing furniture data to the Sanity CMS project for seamless product management and display on the website. This involved several steps including environment setup, configuring API calls, data fetching, processing, and document creation in Sanity.

Steps Taken:

Environment Setup:

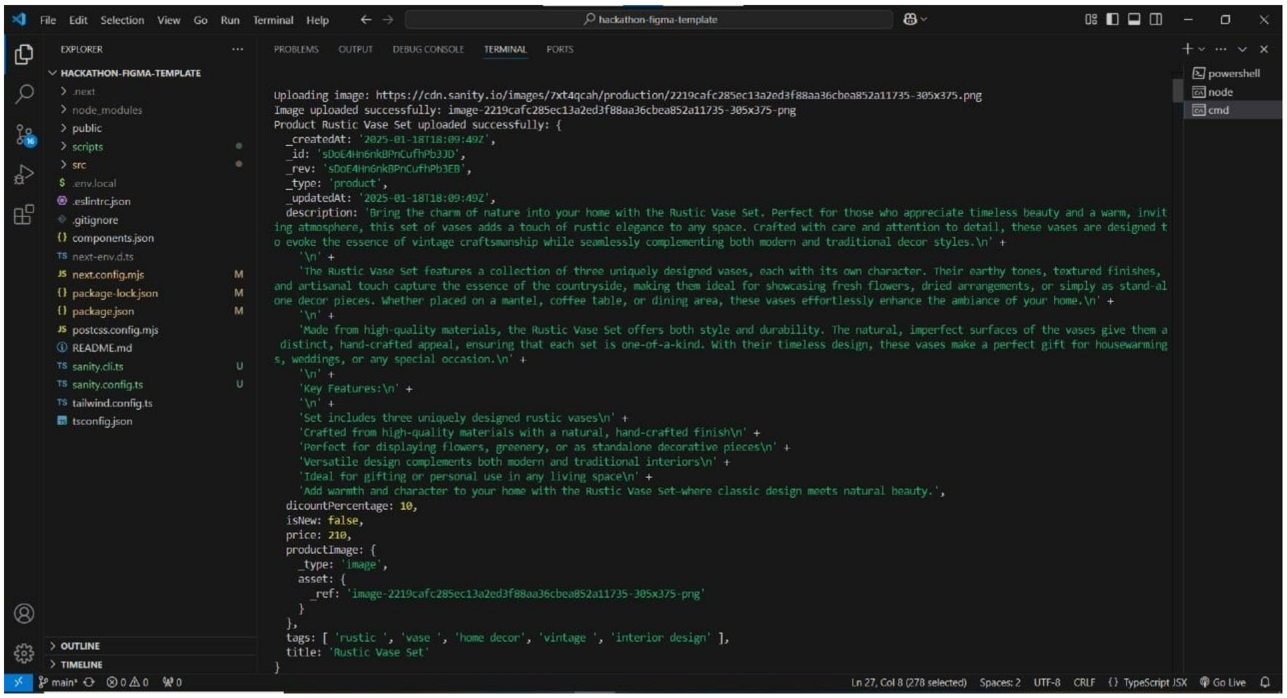
- Utilized `dotenv` to load environment variables from `.env.local`.
- Key variables:
  - `NEXT_PUBLIC_SANITY_PROJECT_ID`
  - `NEXT_PUBLIC_SANITY_DATASET`
  - `SANITY_TOKEN`

Sanity Configuration:

- Used `@sanity/client` to establish a connection to the Sanity project.
- Configured the client with the project ID, dataset, API version, and authentication token.

Data Fetching:

- Made concurrent API calls to fetch furniture data.
- **Endpoints accessed:**
  - `https://template6-six.vercel.app/api/products`



```
Uploading image: https://cdn.sanity.io/images/7xt4qcah/production/2219cafc285ec13a2ed3f88aa36cbea852a11735-305x375.png
Image uploaded successfully: image-2219cafc285ec13a2ed3f88aa36cbea852a11735-305x375-png
Product Rustic Vase Set uploaded successfully: {
  _createdAt: '2025-01-18T18:09:49Z',
  _id: 'sDoE4Hn6nkBPnCufhPb3JD',
  _rev: 'sDoE4Hn6nkBPnCufhPb3EB',
  _type: 'product',
  _updatedAt: '2025-01-18T18:09:49Z',
  description: 'Bring the charm of nature into your home with the Rustic Vase Set. Perfect for those who appreciate timeless beauty and a warm, invit
ing atmosphere, this set of vases adds a touch of rustic elegance to any space. Crafted with care and attention to detail, these vases are designed t
o evoke the essence of vintage craftsmanship while seamlessly complementing both modern and traditional decor styles.\n' +
    '\n' +
    'The Rustic Vase Set features a collection of three uniquely designed vases, each with its own character. Their earthy tones, textured finishes,
and artisanal touch capture the essence of the countryside, making them ideal for showcasing fresh flowers, dried arrangements, or simply as stand-al
one decor pieces. Whether placed on a mantel, coffee table, or dining area, these vases effortlessly enhance the ambiance of your home.\n' +
    '\n' +
    'Made from high-quality materials, the Rustic Vase Set offers both style and durability. The natural, imperfect surfaces of the vases give them a
 distinct, hand-crafted appeal, ensuring that each set is one-of-a-kind. With their timeless design, these vases make a perfect gift for housewarming
s, weddings, or any special occasion.\n' +
    '\n' +
    'Key Features:\n' +
    '\n' +
    'Set includes three uniquely designed rustic vases\n' +
    'Crafted from high-quality materials with a natural, hand-crafted finish\n' +
    'Perfect for displaying flowers, greenery, or as standalone decorative pieces\n' +
    'Versatile design complements both modern and traditional interiors\n' +
    'Ideal for gifting or personal use in any living space\n' +
    'Add warmth and character to your home with the Rustic Vase Set—where classic design meets natural beauty.',
  dicountPercentage: 10,
  isNew: false,
  price: 210,
  productImage: {
    _type: 'image',
    asset: {
      _ref: 'image-2219cafc285ec13a2ed3f88aa36cbea852a11735-305x375-png'
    }
  },
  tags: [ 'rustic ', 'vase ', 'home decor', 'vintage ', 'interior design' ],
  title: 'Rustic Vase Set'
}
```

Data Processing:

- Iterated through the fetched data to handle and organize it appropriately for Sanity CMS.
- Uploaded images to Sanity's asset library using the `client.assets.upload()` method.

Sanity Document Creation:

- Transformed the fetched data into Sanity-compatible document structures.
- Uploaded each document using `client.create()`.

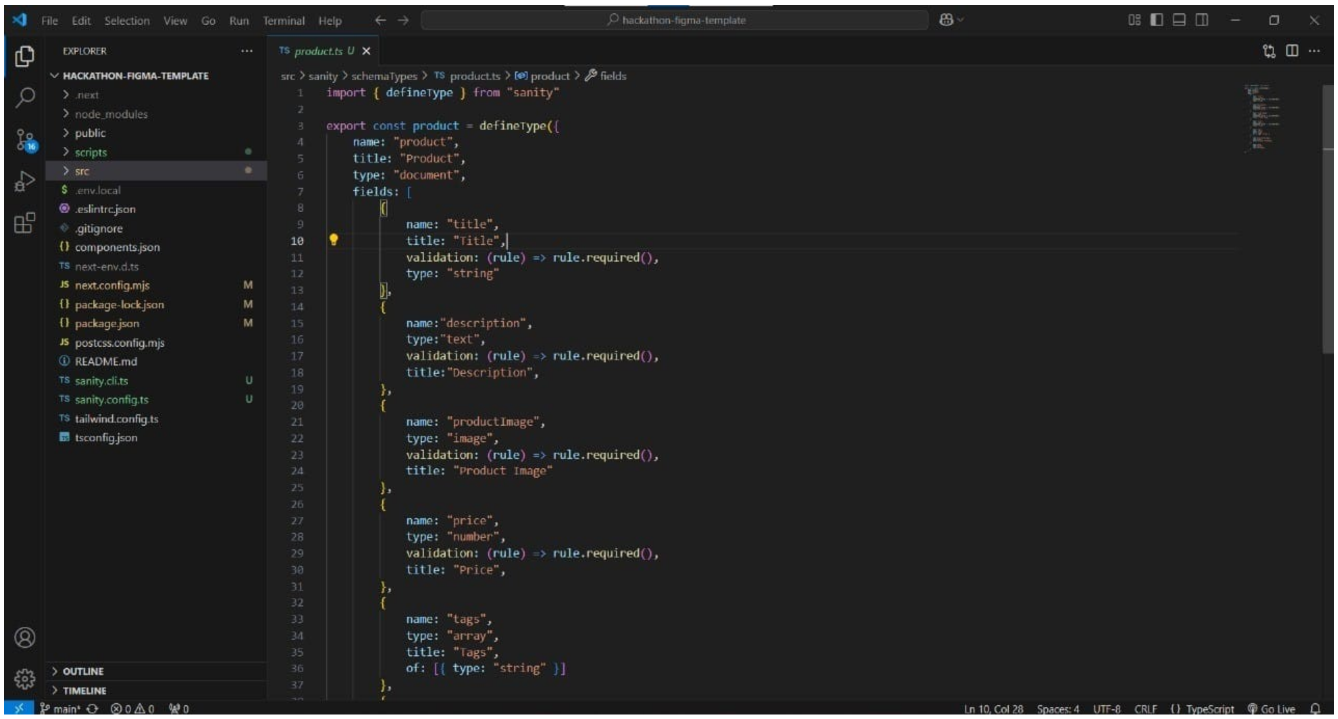
Error Handling:

- Implemented `try-catch` blocks for API calls and Sanity operations to handle potential errors.
- Logged errors for debugging purposes.

Adjustments Made to Schemas:

Furniture Schema :

- **Title**: Required string field for the product name.
- **Description**: Required text field to provide detailed information about the product.
- **Product Image**: Required image field to upload the product image.
- **Price**: Required number field for the price of the product.
- **Tags**: Array of strings for any tags relevant to the product.
- **Discount Percentage**: Optional number field for applying a discount on the product.
- **New Badge**: Boolean field to indicate if the product is new.



```
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" }]
        },
```

Migration Steps and Tools Used

Migration Steps:

Preparation:

- Analyzed the API data structure and matched it with existing Sanity schemas.
- Created the Sanity schema for the furniture, adding necessary fields for integration.

Data Import Script:

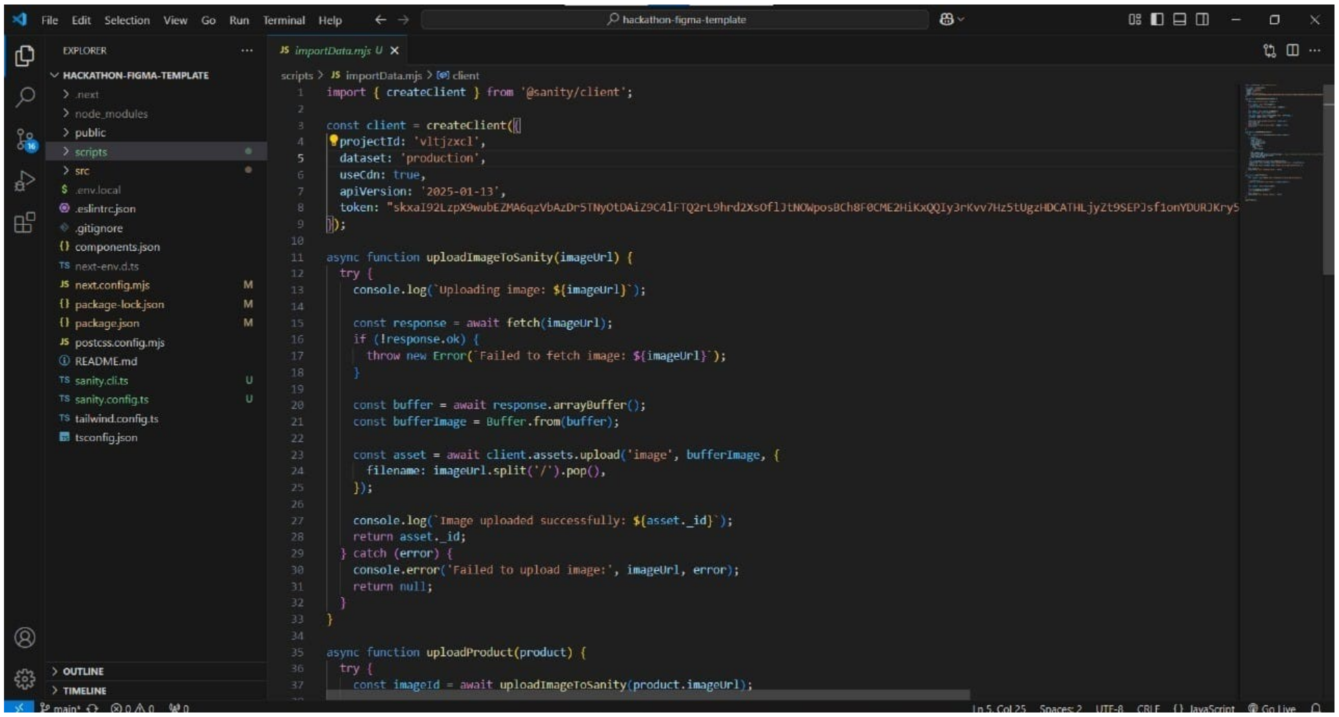
- Developed the `importData.mjs` script to automate the data fetching, processing, and uploading process.
- **Tools Used:**
    - `@sanity/client` for CMS interaction

Image Handling:

- Downloaded images and uploaded them to Sanity, storing asset references in document fields.

Document Creation:

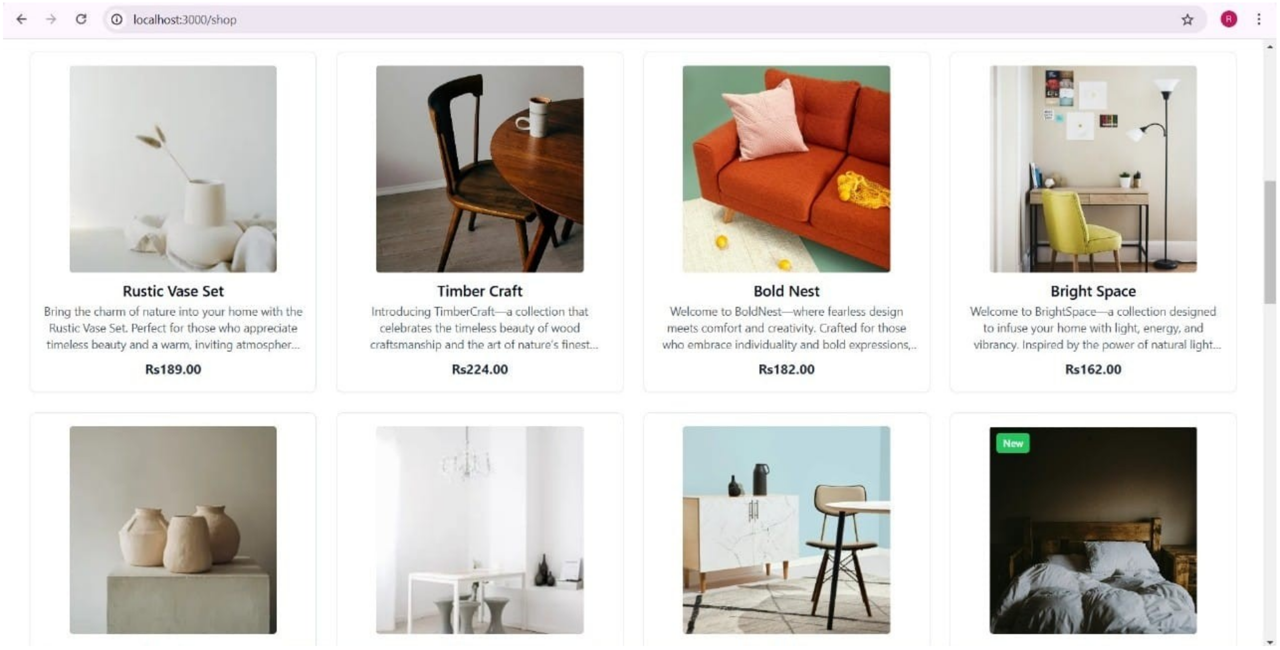
- Mapped the API data fields to the Sanity schema fields.
- Ensured fallback values for any optional or missing fields.



```
import { createClient } from '@sanity/client';

const client = createClient({
  projectId: 'vltjzxcl',
  dataset: 'production',
  useCdn: true,
  apiVersion: '2025-01-13',
  token: "skxaI92LzpX9wubEZMA6qzVbAzDr5TNyOtDAiZ9C4lFTQ2rL9hrd2XsOflJtNOWposBCh8F0CME2HiKxQQIy3rKvv7Hz5tUgzHDCATHLjyZt9SEPJsf1onYDURJKry5
});

async function uploadImageToSanity(imageUrl) {
  try {
    console.log(`Uploading image: ${imageUrl}`);

    const response = await fetch(imageUrl);
    if (!response.ok) {
      throw new Error(`Failed to fetch image: ${imageUrl}`);
    }

    const buffer = await response.arrayBuffer();
    const bufferImage = Buffer.from(buffer);

    const asset = await client.assets.upload('image', bufferImage, {
      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 uploadProduct(product) {
  try {
    const imageId = await uploadImageToSanity(product.imageUrl);
```

Frontend Data Display:

- The fetched data is now displayed on the frontend with full product details, including title, pricing, description, and images.



localhost:3000/shop

Rustic Vase Set
Bring the charm of nature into your home with the Rustic Vase Set. Perfect for those who appreciate timeless beauty and a warm, inviting atmospher...
Rs189.00

Timber Craft
Introducing TimberCraft—a collection that celebrates the timeless beauty of wood craftsmanship and the art of nature's finest...
Rs224.00

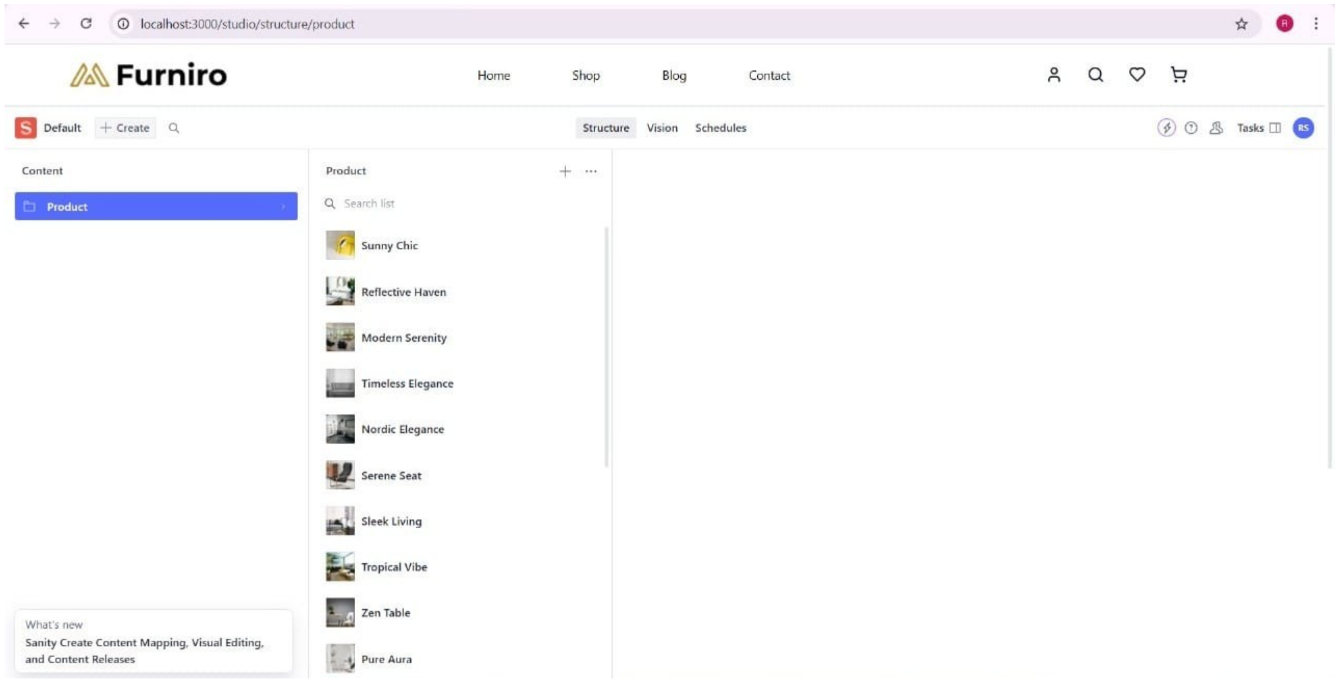
Bold Nest
Welcome to BoldNest—where fearless design meets comfort and creativity. Crafted for those who embrace individuality and bold expressions,...
Rs182.00

Bright Space
Welcome to BrightSpace—a collection designed to infuse your home with light, energy, and vibrancy. Inspired by the power of natural light...
Rs162.00

New

Studio Data View

- The products are now visible in the Sanity Studio with the correct attributes, allowing content managers to easily manage and edit the product data.



Tools Used:

- **Node.js Modules:**
  - `dotenv` for environment variable management
  - `@sanity/client` for CMS interactions
- **Sanity Features:**
  - Asset management for image uploads
  - API versioning for consistent schema support
- **Utilities:**
  - `fileURLToPath` and `path` for resolving file paths

Day 3 - API Integration Checklist:

- **API Understanding:**
  - ✔
- **Schema Validation:**
  - ✔
- **Data Migration:**

    - ✔
- **API Integration in Next.js:**
    - ✔
- **Submission Preparation:**
    - ✔