API INTEGRATION REPORT FOR RENTAL ECOMMERCE

Prepare By: Areesha Kainat

Introduction:

Day 3 of the **hackathon** was all about diving into the exciting world of **APIs** and exploring how to bring data to life through **integration** and **migration**. The focus was on building a functional marketplace backend by connecting external **APIs** and using **Sanity CMS** as a powerful content management tool.

This report will guide you step by step on how to seamlessly **integrate APIs into a Next.js project** and **migrate the data into Sanity CMS** for a dynamic and scalable solution. By combining the flexibility of APIs, the structured power of Sanity, and the visual appeal of Tailwind CSS, you'll see how we created a stunning front-end experience. With snapshots at every step, you'll get an in-depth look at the process, from setting up schemas to fetching data and rendering it beautifully on the front end.

Let’s dive into this hands-on journey of transforming data into a marketplace-ready application!

Content:

1. Setting Up Environment Variables

First, Create a .env.local file in your project root (if it doesn't exist).

```
NEXT_PUBLIC_SANITY_PROJECT_ID=your_project_id
NEXT_PUBLIC_SANITY_DATASET=production
SANITY_API_TOKEN=your_sanity_token
```

Add these variables:

- NEXT_PUBLIC_SANITY_PROJECT_ID
- NEXT_PUBLIC_SANITY_DATASET
- SANITY_API_TOKEN

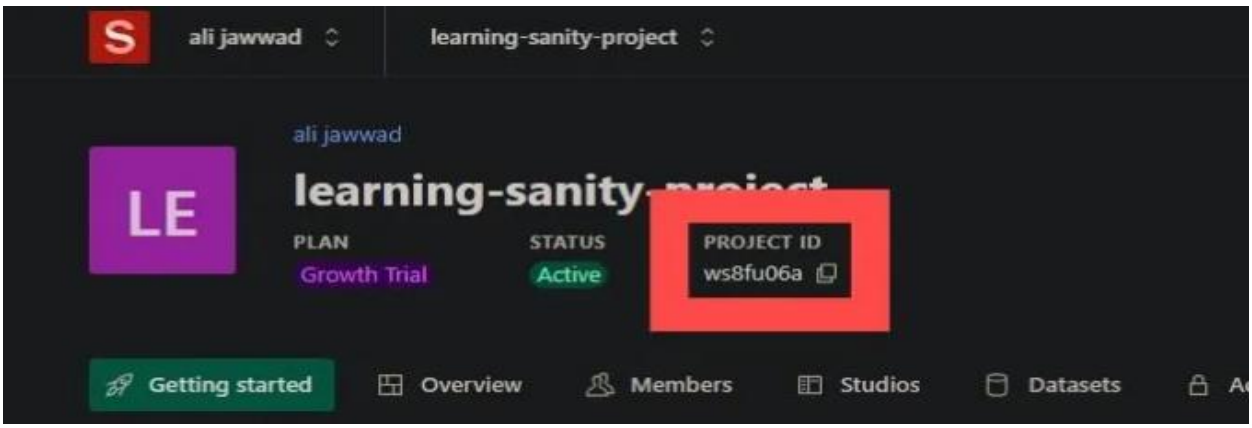
Note: Variables starting with NEXT_PUBLIC_ will be exposed to the browser.

✓ 2. Getting Your Sanity Project ID and API Token

Project ID

To find your Sanity project ID:

1. Log in to Sanity.
2. Select your project.
3. Find the project ID in the dashboard.



Use this ID for NEXT_PUBLIC_SANITY_PROJECT_ID in your .env.local file.

API Token:

To generate a Sanity API token:

1. Go to Sanity and select your project.
2. Go to the "API" tab.
3. Click "Add API token" under "Tokens".
4. Name the token and set permissions (choose "Editor" or “Developer” for full access).
5. Copy the generated token.

Dataset:

Your **dataset** will always be **production.**

3. Creating the Sanity Schema

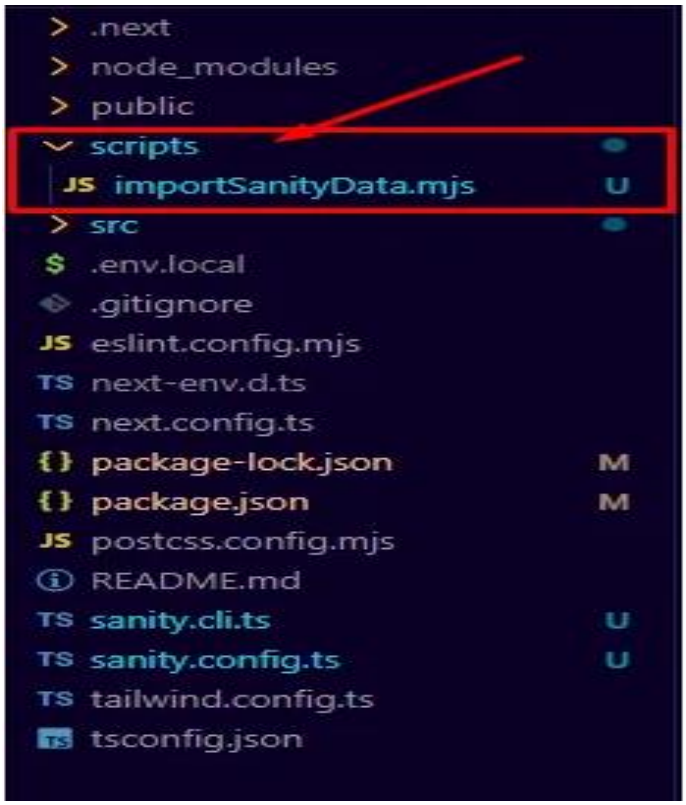
In your sanity/schemaTypes folder, create a file called car.ts.

In your sanity/schemaTypes/index.ts, add the new car schema.

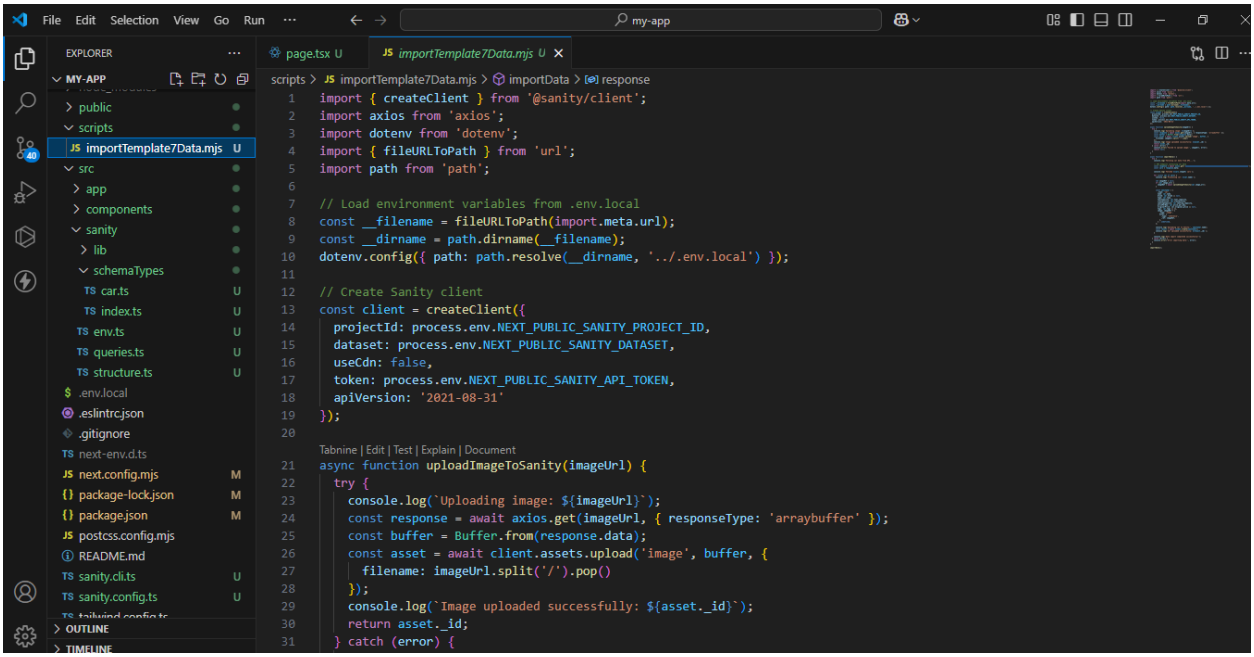
```
my-app
page.tsx U    index.ts U
src > sanity > schemaTypes > index.ts > schema
1  import { type SchemaTypeDefinition } from 'sanity'
2  import car from './car'
3
4  export const schema: { types: SchemaTypeDefinition[] } = {
5    types: [car],
6  }
7
```

4. Setting Up the Data Import Script

1. Create a new file scripts/ importTemplate7Data.mjs in your project root.



Create a new file scripts/importTemplate7Data.mjs in your project root.



5. Install the package

let's install the necessary packages. Run the following command in your terminal:

```
npm install @sanity/client axios dotenv
```

6.Running the Migration Script

- After creating the importTemplate7Data.mjs script, add the following line to your **package.json** file to create a migration script:

"scripts": {

"migrate": "node scripts/importTemplate7Data.mjs"

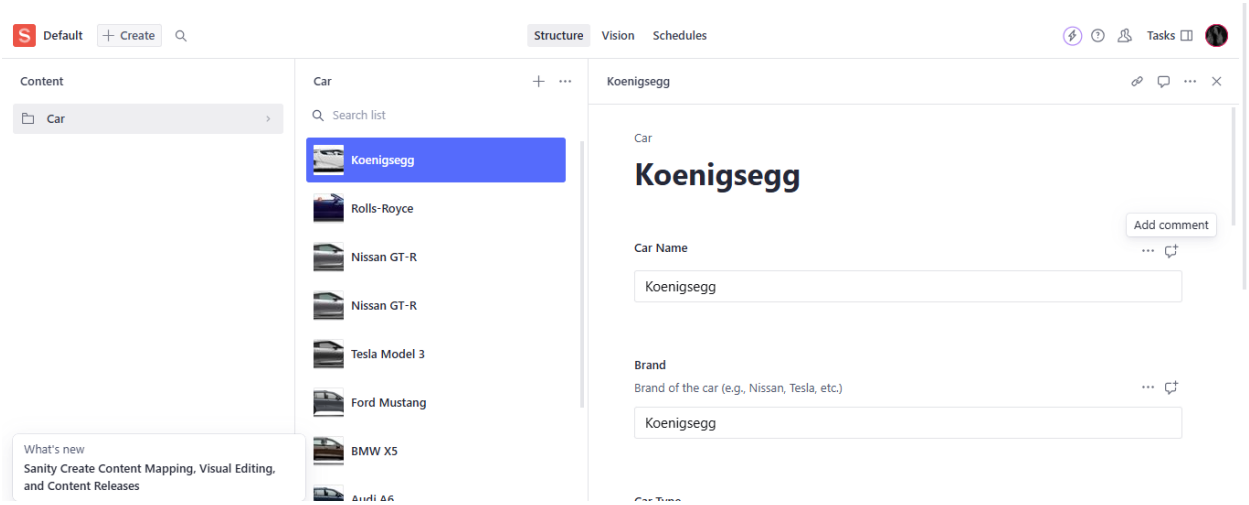
}

- Alternatively, you can run the migration directly by using this command in your terminal:

node scripts/importTemplate7Data.mjs

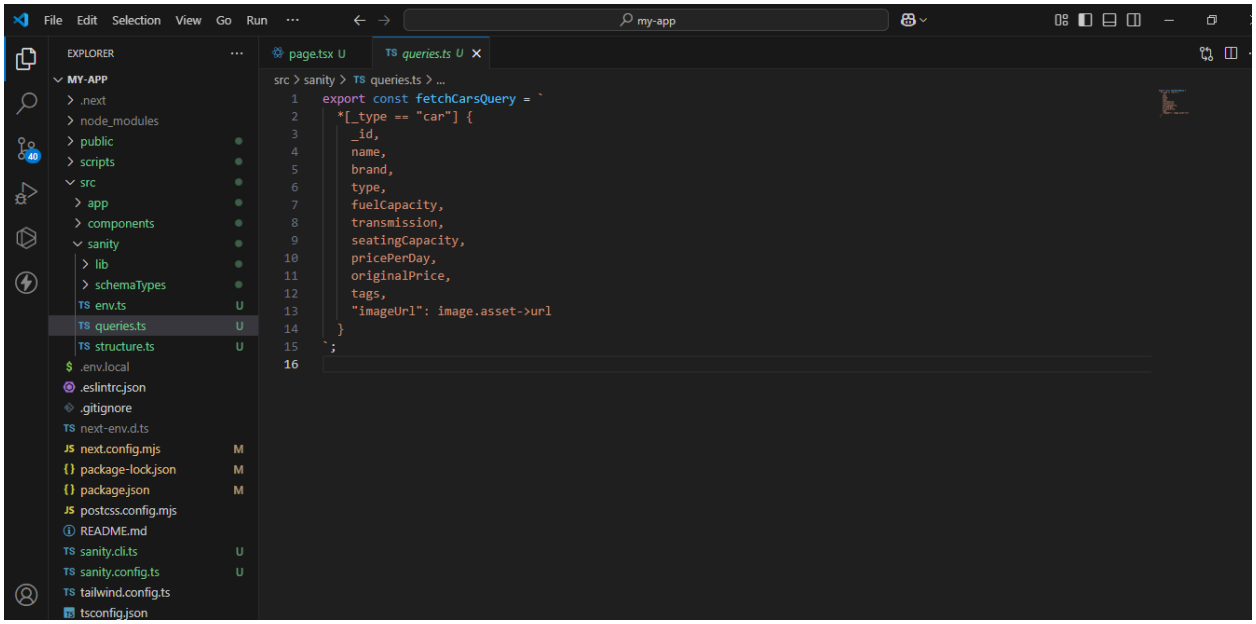
7. Verifying Data Migration in Sanity

Your data has been successfully imported into Sanity! You can check the Sanity Studio to see the newly migrated data.



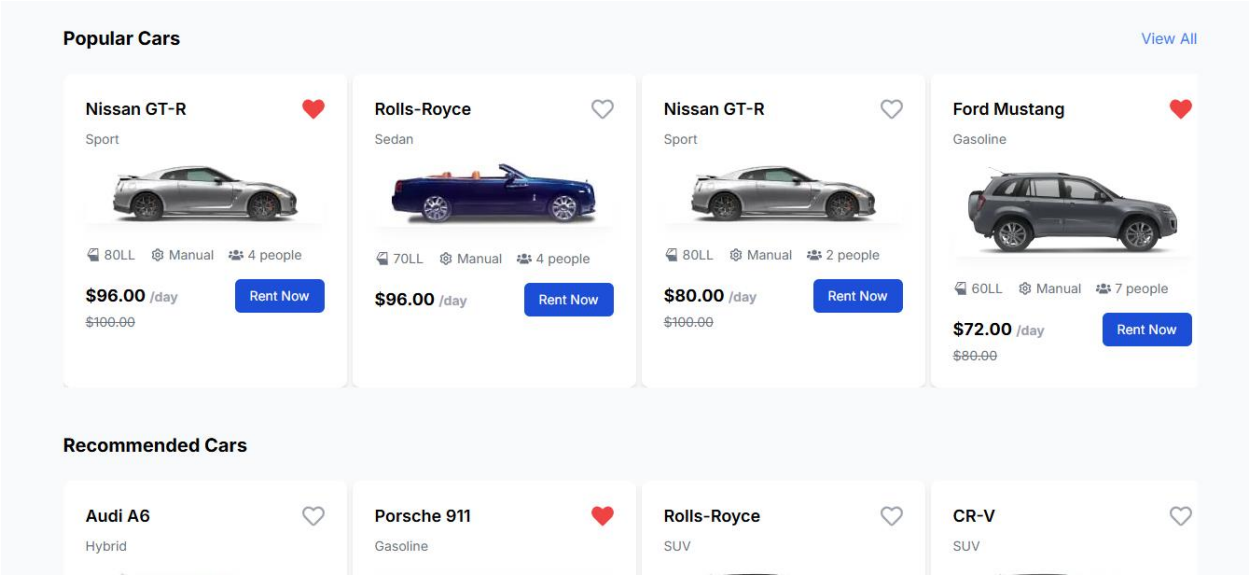
8. Fetch Data from CMS:

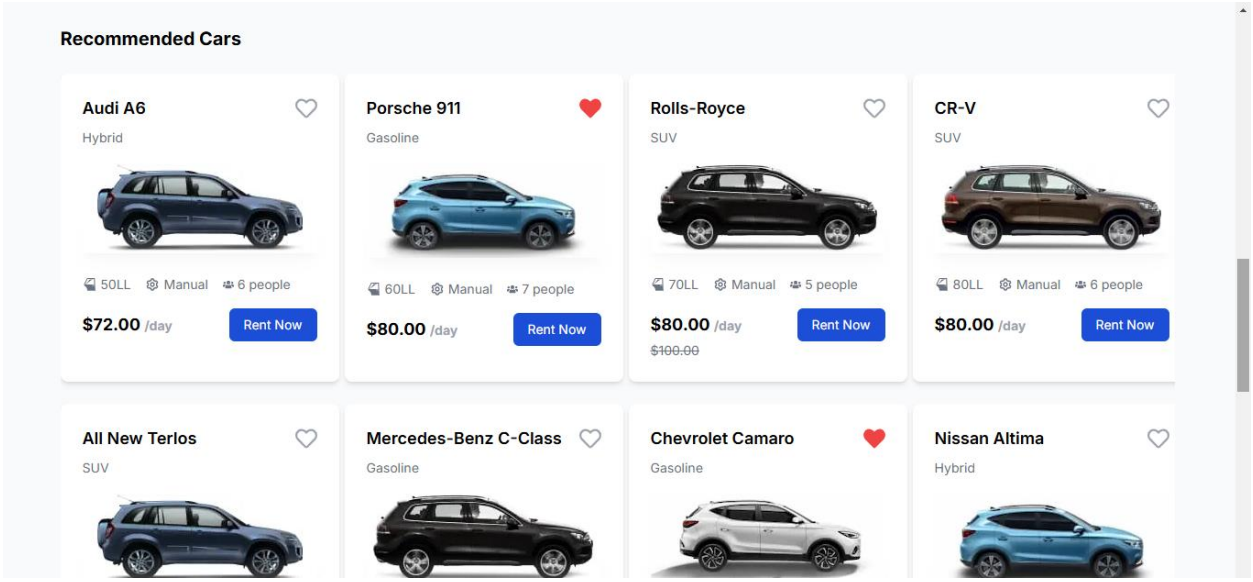
To fetch data, create a queries.ts file in your sanity folder. Here's a sample GROQ query to fetch data:



9. Frontend: Fetch Data

Here's how the fetched data will look in the frontend, displayed based on the query you wrote in queries.ts:



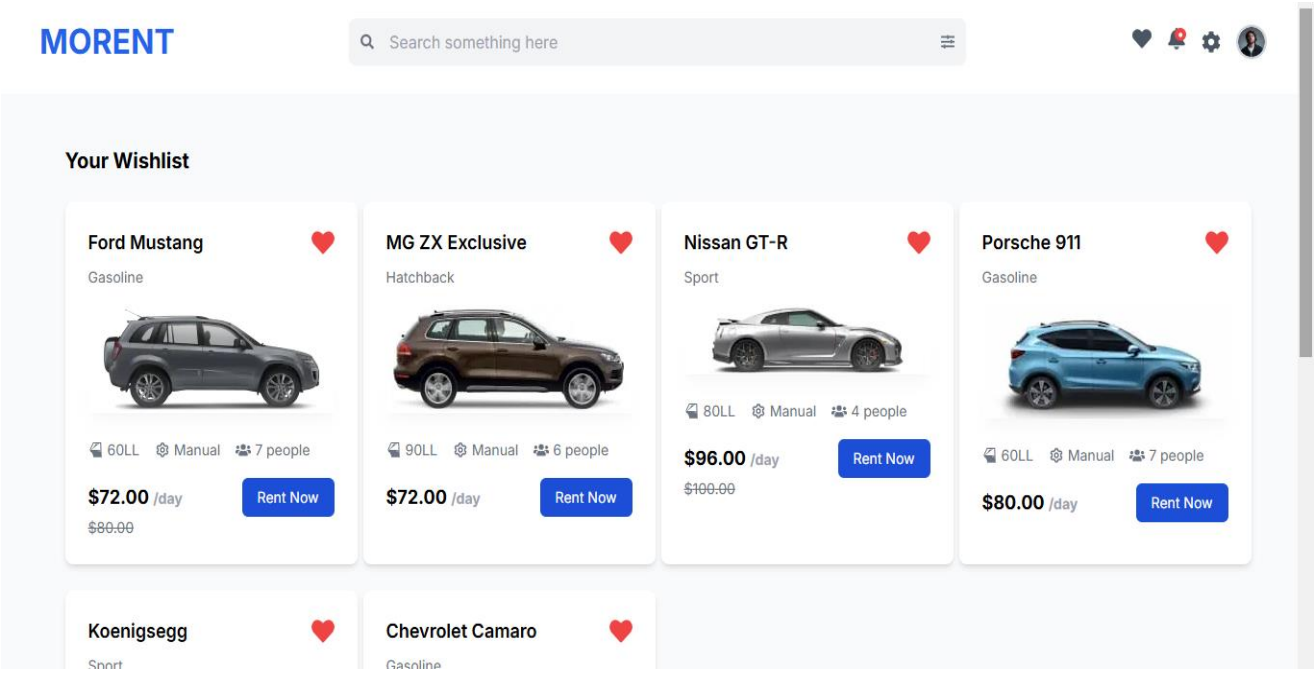


10. Functionality: Wishlist Feature

Since you have the freedom to add extra functionality, a great addition would be a **Wishlist** feature. This allows users to save their favorite cars for later reference. In the image, you can see how this functionality works. users can click on a "heart" icon to add a car to their wishlist. The wishlist will be saved and accessible across sessions. This feature can significantly enhance user experience by letting them easily revisit cars they're interested in.

Here's a basic outline of how you can implement it:

1. **Wishlist Icon**: Add a heart icon next to each car, which users can click to add the car to their wishlist.
2. **State Management**: Use local storage or a backend service to store the wishlist data, making it persistent.
3. **Display Wishlist**: Create a page where users can view the cars they've added to their wishlist.



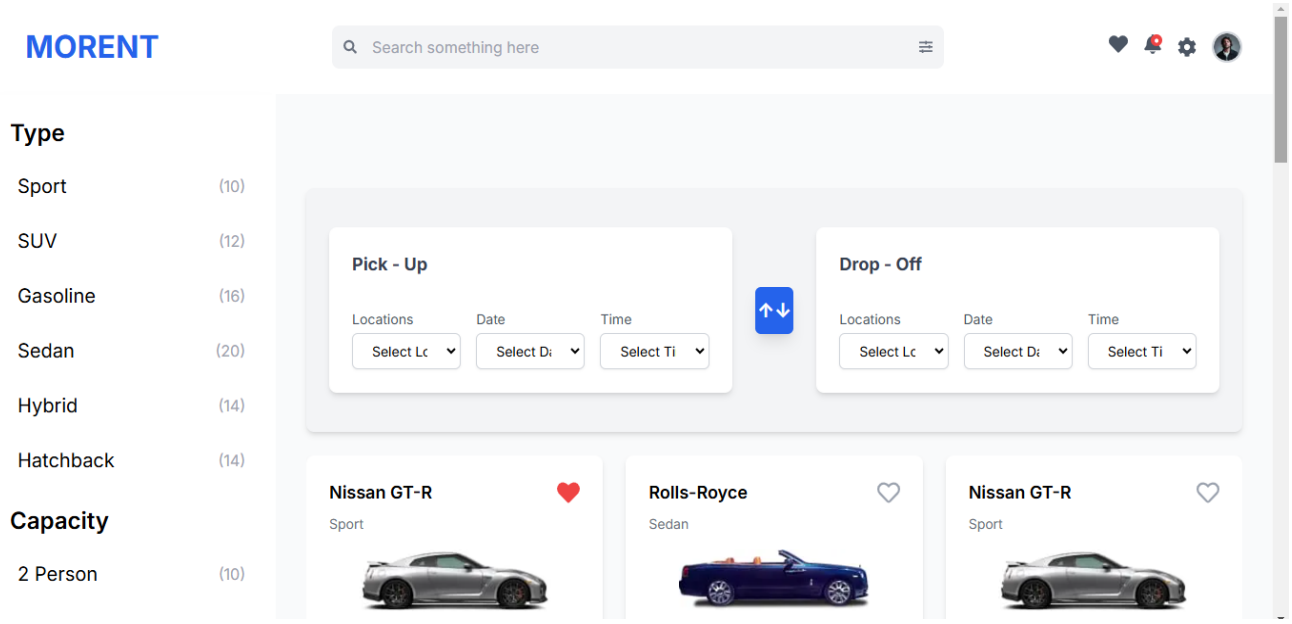
11. Category Page: Dynamic Filtering from Sanity

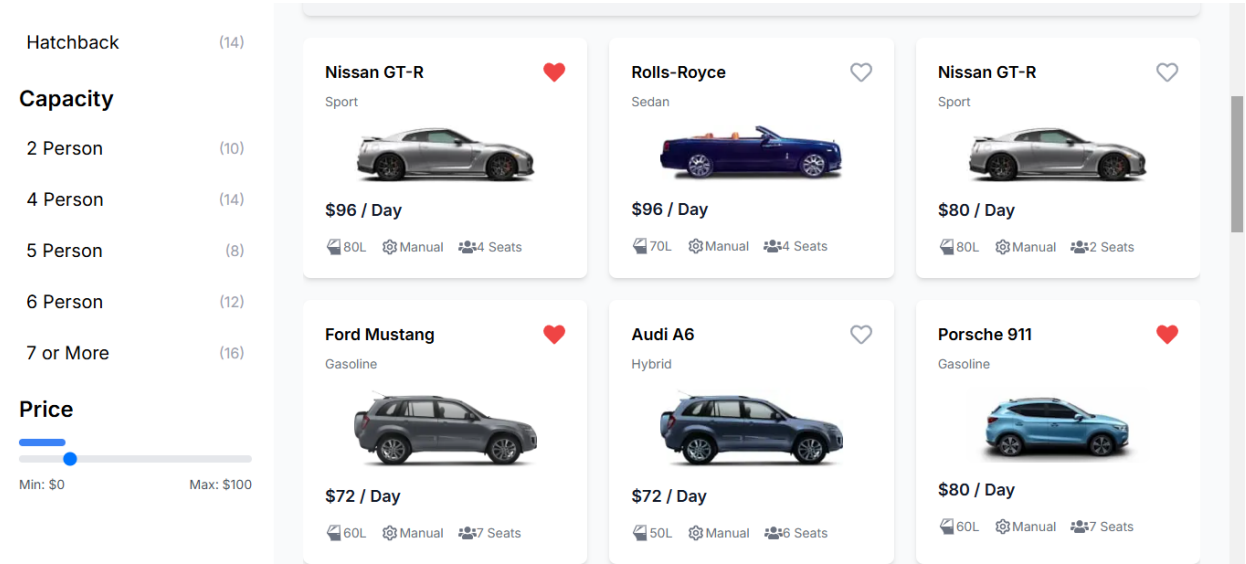
- The **Category Page** dynamically fetches products from Sanity, allowing users to explore different car categories.
- As shown in the image, the filtering functionality enables users to sort cars based on various attributes such as type, capacity, and price.

❖ Here's a breakdown of how the filtering works:

- **Type Filter**: Filters cars based on their type (e.g., sedan, SUV).
- **Capacity Filter**: Allows filtering cars by their seating capacity.
- **Price Filter**: Filters cars within a specific price range.

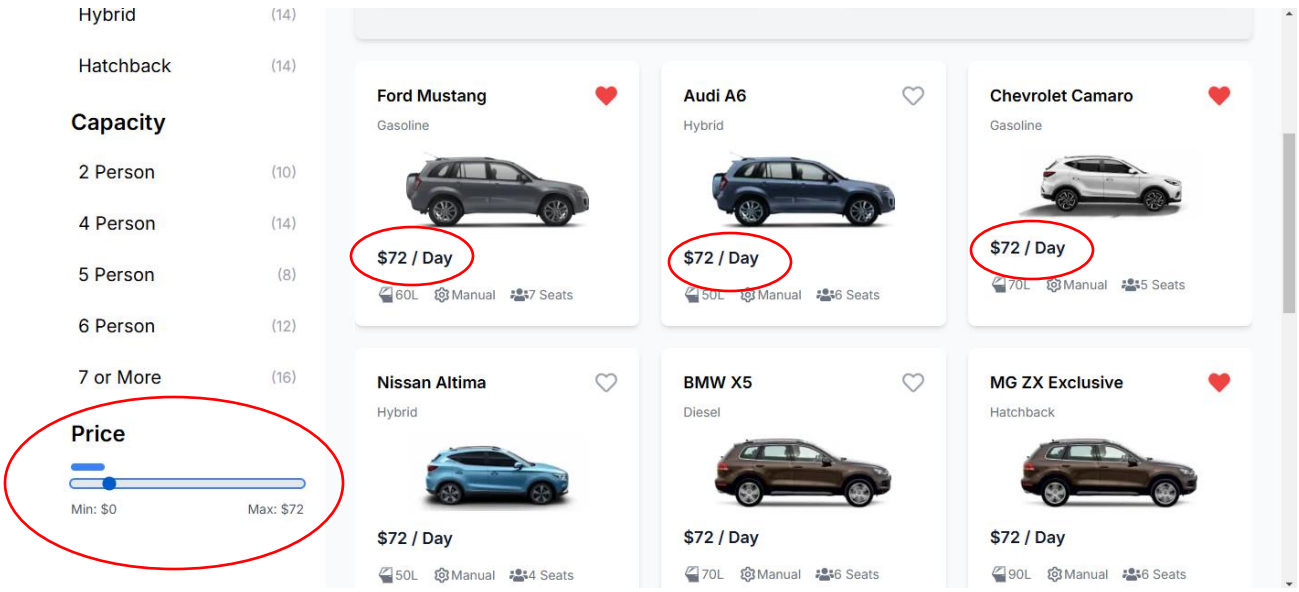
This powerful filtering system gives users more control over their search and helps them find the ideal car based on their preferences.





Dynamic Filtering from Sanity:

- As shown in the image, when you apply a filter, such as the price range, the page dynamically updates to display the relevant products.
- The data is fetched from Sanity, ensuring that the product list reflects your selected filters in real-time.
- This functionality allows users to easily narrow down their choices based on type, capacity, or price range, enhancing their browsing experience.



Conclusion:

Thank you for reviewing this report. I hope it provides you with clear and helpful instructions on how to work with the API and Sanity, making the most of its features. If you have any further questions or need assistance, feel free to reach out!