

1. Models and Serialization (JSON/XML)

The core of our API design is to expose our Django models (Store, Product, and Review) in a machine-readable format. We will use Django REST Framework's `ModelSerializer` to achieve this.

The primary format for our resources will be **JSON (JavaScript Object Notation)**, as it is lightweight, human-readable, and widely supported by modern web applications. We have also configured the API to support **XML (Extensible Markup Language)** for vendors who may prefer a different format.

- **Store Model:** The `StoreSerializer` will convert `Store` model instances into a JSON object containing the `vendorID`, `name`, and `description`.
 - **Product Model:** The `ProductSerializer` will serialize `Product` instances, exposing the `store ID`, `name`, `description`, and `price`.
 - **Review Model:** The `ReviewSerializer` will convert `Review` objects, representing the `product ID`, `user ID`, `review text`, and `is_verified` status.
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2. API Endpoints

Our API endpoints are designed to be clear and follow **RESTful best practices**, using specific URLs to represent resources and standard HTTP methods to perform actions on them.

- **For Creating Resources (Authentication Required):**
 - `POST /api/stores/create/`: Allows a vendor to create a new store by sending a JSON payload.
 - `POST /api/products/add/`: Allows a vendor to add a new product to an existing store.
- **For Retrieving Resources (Public Access):**
 - `GET /api/stores/all/`: Retrieves a list of all stores from every vendor.
 - `GET /api/products/all/`: Retrieves a list of all products from every store.
- **For Retrieving Resources (Authentication Required):**
 - `GET /api/reviews/vendor/`: Allows a vendor to retrieve all reviews for their own products.
 - `GET /api/stores/vendor/`: Allows a vendor to retrieve a list of only their own stores.
 - `GET /api/products/vendor/xml/`: This unique endpoint allows a vendor to retrieve their products in **XML format**, demonstrating support for multiple serialization formats.

Each endpoint is designed to be self-explanatory and to handle the specific permissions required for its action.