MODULE OVERVIEW: The Product Catalog module aims to offer a comprehensive solution for managing the inventory of an e-commerce platform. It provides RESTful APIs to create, read, update, and delete (CRUD) products, manage product categories, handle product variations, and enable search functionalities.

FUNCTIONAL REQUIREMENTS

1. Product Management1.1 Create Product• API to add a product with additional fields like SEO copy, swatches, and various attributes.1.2 Update Product• API to modify all details of an existing product.1.3 Delete Product• API to delete a product.1.4 Read Product• API to view product details including extended attributes.• Bulk API for multiple products.2. Category Hierarchy Management2.1 Create Super-Category• API to create a super-category above categories.2.2 Create Category• API to create categories under a super-category.

2.3 Create Sub-Category

• API to create sub-categories under a category.

2.4 Update/Delete/List Hierarchies

• APIs to update, delete, and list these hierarchical categories.

DATA MODEL: 1. Super-Category• SuperCategoryID (Primary key)• Name• SEO\_Copy• Description2. Category• CategoryID (Primary key)• SuperCategoryID (Foreign key)• Name• SEO\_Copy• Description3. Sub-Category• SubCategoryID (Primary key)• CategoryID (Foreign key)• Name• SEO\_Copy• Description4. Product• ProductID (Primary key)• SubCategoryID (Foreign key)• Name• SKU• SEO\_Copy• Description• Price• Stock• Swatches• Attributes (JSON/Key-Value pairs)5. Attributes• AttributeID (Primary key)• Name• DataType• PossibleValues (Array/JSON)6. Swatch• SwatchID (Primary key)• ProductID (Foreign key)• ImageURL• Description