E-commerce API Specifications

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1 API Specifications

1.1 Fetch All Product Categories

Purpose Fetches a list of all product categories available in the e-commerce platform.

Endpoint `GET /categories`

HTTP Method GET

Parameters None

Response Format JSON array of category objects, each containing:

- `category_id` (integer): Unique identifier for the category.
- `name` (string): Name of the category.
- `parent_id` (integer or null): ID of the parent category, if any.
- `discount_percentage` (decimal): Discount percentage applied to the category.

Notes Retrieves all categories, including hierarchical relationships via `parent_id`.

1.2 Fetch Products by Category

Purpose Fetches a list of products that belong to a specific category.

Endpoint `GET /category/{category_id}/products/`

HTTP Method GET

Parameters

- `category_id` (path parameter, integer): The ID of the category to fetch products from.

Response Format JSON array of product objects, each containing:

- `product_id` (integer): Unique identifier for the product.
- `name` (string): Name of the product.
- `description` (string): Description of the product.
- `base_price` (decimal): Base price of the product.
- `category_id` (integer): ID of the category the product belongs to.
- `created_at` (timestamp): Creation timestamp of the product.
- `variants` (array): Array of variant objects, each with `variant_id` (integer), `color` (string), `size` (string), `sku` (string).

Notes Retrieves products and their variants for the specified category.

1.3 Search Products with Filters

Purpose Allows users to search (full-text search) for products using various filters and search terms.

Endpoint `GET /products/search`

HTTP Method GET

Parameters

- `q` (query parameter, string, optional): Keyword for full-text search on product name and description.
- `category_id` (query parameter, integer, optional): Filter by category ID.
- `min_price` (query parameter, decimal, optional): Minimum price filter.
- `max_price` (query parameter, decimal, optional): Maximum price filter.
- `color` (query parameter, string, optional): Filter by product variant color.

Response Format JSON array of product objects, each containing:

- `product_id` (integer): Unique identifier for the product.
- `name` (string): Name of the product.
- `description` (string): Description of the product.
- `base_price` (decimal): Base price of the product.
- `category_id` (integer): ID of the category the product belongs to.
- `created_at` (timestamp): Creation timestamp of the product.
- `variants` (array): Array of variant objects, filtered by `color` if specified.

Notes Supports full-text search and filtering by category, price range, and color.

1.4 Create Order and Process Payment

Purpose Creates a new order and processes the payment.

Endpoint `POST /orders`

HTTP Method POST

Parameters

- `user_id` (body, integer): ID of the user placing the order.
- `address_id` (body, integer): ID of the shipping address.
- `payment_method` (body, string): Payment method (e.g., "Credit Card").
- `items` (body, array): List of items, each with `variant_id` (integer) and `quantity` (integer).

Response Format JSON object representing the created order, including:

- `order_id` (integer): Unique identifier for the order.
- `user_id` (integer): ID of the user.
- `address_id` (integer): ID of the shipping address.
- `order_date` (timestamp): Date and time of order creation.
- `status` (string): Status of the order (e.g., "Pending").
- `subtotal` (decimal): Subtotal of the order.
- `shipping_fee` (decimal): Shipping fee.
- `tax` (decimal): Tax amount.
- `total` (decimal): Total amount including tax and shipping.
- `payment_method` (string): Payment method used.
- `payment_status` (string): Status of the payment (e.g., "Processed").
- `items` (array): Array of order items with `order_item_id` (integer), `variant_id` (integer), `quantity` (integer), `unit_price` (decimal), `discount` (decimal).

Notes Calculates totals, applies discounts, processes payment, and triggers an asynchronous email confirmation.

1.5 Send Order Confirmation Email

Purpose Sends an order confirmation email to the user (processed asynchronously with the order creation flow).

Endpoint N/A (background task triggered after order creation).

HTTP Method N/A

Parameters N/A

Response Format N/A

Notes Sends an email with order details (items, subtotal, tax, shipping fee, total, payment status) asynchronously.