

ECOMMERCE DATABASE DESIGN (B2B)& (B2C)

1. Categories

Description: This table contains information about the main categories of products in the store.

- **id:** INTEGER NOT NULL AUTO_INCREMENT
 - **category_name:** VARCHAR(255) NOT NULL
 - **description:** TEXT
 - **url_slug:** VARCHAR(255) UNIQUE
 - **status:** TINYINT(1) DEFAULT 1
 - **created_at:** DATETIME DEFAULT CURRENT_TIMESTAMP
 - **updated_at:** DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
 - **deleted_at:** DATETIME DEFAULT NULL
-

2. Sub_Categories

Description: Stores details of subcategories linked to categories.

- **id:** INTEGER NOT NULL AUTO_INCREMENT
 - **parent_id:** INTEGER DEFAULT NULL
 - **name:** VARCHAR(255) NOT NULL
 - **description:** TEXT
 - **created_at:** DATETIME DEFAULT CURRENT_TIMESTAMP
 - **updated_at:** DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
 - **deleted_at:** DATETIME DEFAULT NULL
 - **FOREIGN KEY (parent_id) REFERENCES categories(id) ON DELETE SET NULL**
-

3. Brands

Description: Holds details of product brands available in the store.

- **id:** INTEGER NOT NULL AUTO_INCREMENT
- **brand_name:** VARCHAR(255) NOT NULL UNIQUE
- **logo:** VARCHAR(255) DEFAULT NULL
- **description:** TEXT DEFAULT NULL
- **website:** VARCHAR(255) DEFAULT NULL
- **created_at:** DATETIME DEFAULT CURRENT_TIMESTAMP
- **updated_at:** DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
- **deleted_at:** DATETIME DEFAULT NULL

4. Products

Description: Stores details of all products available in the store.

- **id:** INTEGER NOT NULL AUTO_INCREMENT
- **product_name:** VARCHAR(255) NOT NULL
- **url_slug:** VARCHAR(255) UNIQUE
- **category_id:** INTEGER NOT NULL
- **sub_category_id:** INTEGER DEFAULT NULL
- **brand_id:** INTEGER DEFAULT NULL
- **description:** TEXT
- **summary:** TEXT
- **price:** DECIMAL(10, 2) NOT NULL
- **stock_quantity:** INTEGER DEFAULT 0
- **weight:** DECIMAL(10, 2) DEFAULT NULL
- **dimensions:** VARCHAR(100) DEFAULT NULL
- **is_active:** TINYINT(1) DEFAULT 1
- **created_at:** DATETIME DEFAULT CURRENT_TIMESTAMP
- **updated_at:** DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
- **deleted_at:** DATETIME DEFAULT NULL
- **FOREIGN KEY (category_id)** REFERENCES categories(id) ON DELETE CASCADE
- **FOREIGN KEY (sub_category_id)** REFERENCES sub_categories(id) ON DELETE SET NULL
- **FOREIGN KEY (brand_id)** REFERENCES brands(id) ON DELETE SET NULL

5. Product_Attributes

Description: Defines attributes for products, such as size, color, and material.

- **id:** INTEGER NOT NULL AUTO_INCREMENT
- **name:** VARCHAR(100) NOT NULL
- **value:** VARCHAR(255) NOT NULL
- **description:** TEXT DEFAULT NULL
- **is_filterable:** TINYINT(1) DEFAULT 0

6. Product_SKUs

Description: Stores stock-keeping unit (SKU) information for products, including variants.

- **id:** INTEGER NOT NULL AUTO_INCREMENT
- **product_id:** INTEGER NOT NULL
- **size_attribute_id:** VARCHAR(50)
- **color_attribute_id:** VARCHAR(50)
- **material:** VARCHAR(100) DEFAULT NULL
- **stock_quantity:** INTEGER DEFAULT 0
- **weight:** DECIMAL(10, 2) DEFAULT NULL
- **SKU:** VARCHAR(255)
- **price:** DECIMAL(10, 2) NOT NULL
- **is_active:** TINYINT(1) DEFAULT 1
- **created_at:** DATETIME DEFAULT CURRENT_TIMESTAMP
- **updated_at:** DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
- **deleted_at:** DATETIME DEFAULT NULL
- **FOREIGN KEY (product_id)** REFERENCES products(id) ON DELETE CASCADE

7. inventory

Description: This table manages the stock details of products, tracking their current quantity, reorder thresholds, and update history

- **id:** INTEGER NOT NULL AUTO_INCREMENT
- **sku_id:** INTEGER NOT NULL
- **stock_quantity:** INTEGER NOT NULL
- **recorded_level:** VARCHAR(255)
- **last_updated:** DATETIME DEFAULT CURRENT_TIMESTAMP

8. Offers

Description: Contains promotional offers applicable to products.

- **id:** INTEGER NOT NULL AUTO_INCREMENT
 - **product_id:** INTEGER NOT NULL
 - **discount_percentage:** DECIMAL(10,2)
 - **color_attribute_id:** VARCHAR(50)
 - **start_date:** DATETIME DEFAULT CURRENT_TIMESTAMP
 - **end_date:** DATETIME DEFAULT CURRENT_TIMESTAMP
 - **conditions:** JSON
-

9. Users

This table stores the details of all users registered in the system.

- **id:** INTEGER NOT NULL AUTO_INCREMENT
- **avatar:** VARCHAR(255) DEFAULT NULL
- **first_name:** VARCHAR(100) NOT NULL
- **last_name:** VARCHAR(100) NOT NULL
- **user_name:** VARCHAR(100) NOT NULL
- **email:** VARCHAR(255) UNIQUE NOT NULL
- **password:** VARCHAR(255) NOT NULL
- **phone_number:** VARCHAR(15) UNIQUE DEFAULT NULL
- **birth_date:** DATE DEFAULT NULL
- **age:** INTEGER NOT NULL
- **account_created_date:** DATETIME DEFAULT CURRENT_TIMESTAMP
- **last_login_date:** DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP

10. Customers

This table stores the details of customers some important record

- **customer_id** : INTEGER NOT NULL AUTO INCREMENT
 - **loyalty_points**: INTEGER DEFAULT 0
 - **subscription_status**: TINYINT
 - **preferences**: JSON DEFAULT NULL
-

11. sellers

This table stores information about sellers, including their store details, business type, and performance metrics.

- **id**: INTEGER NOT NULL AUTO_INCREMENT
- **user_id**: INTEGER NOT NULL
- **product_id**: INTEGER NOT NULL
- **store_name**: VARCHAR(255) NOT NULL
- **business_type**: ENUM('Retail', 'Fashion', 'Automotive', 'Books', 'Health & Beauty', 'Sports', 'Electronics', 'Home & Garden', 'Toys', 'Entertainment', 'Grocery', 'Arts & Crafts') NOT NULL
- **store_description**: TEXT DEFAULT NULL
- **store_logo**: VARCHAR(255) DEFAULT NULL
- **join_date**: DATETIME DEFAULT CURRENT_TIMESTAMP
- **status**: ENUM('active', 'inactive') DEFAULT 'active'
- **rating**: TINYINT(1) DEFAULT 0

12. User_Addresses

This table manages addresses associated with users for shipping or billing purposes.

- **id**: INTEGER NOT NULL AUTO_INCREMENT
 - **user_id**: INTEGER NOT NULL
 - **title**: VARCHAR(50) DEFAULT NULL
 - **address_line_1**: VARCHAR(255) NOT NULL
 - **address_line_2**: VARCHAR(255) DEFAULT NULL
 - **country**: VARCHAR(100) NOT NULL
 - **state**: VARCHAR(100) NOT NULL
 - **city**: VARCHAR(100) NOT NULL
 - **postal_code**: VARCHAR(20) NOT NULL
 - **landmark**: VARCHAR(255) DEFAULT NULL
 - **created_at**: DATETIME DEFAULT CURRENT_TIMESTAMP
 - **updated_at**: DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
 - FOREIGN KEY (**user_id**) REFERENCES **users(id)** ON DELETE CASCADE
-

13. Cart

This table manages users' shopping carts, tracking the total items and price of products added.

- **id**: INTEGER NOT NULL AUTO_INCREMENT
- **user_id**: INTEGER NOT NULL
- **total_items**: INTEGER DEFAULT 0
- **total_price**: DECIMAL(10, 2) DEFAULT 0.00
- **created_at**: DATETIME DEFAULT CURRENT_TIMESTAMP
- **updated_at**: DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
- FOREIGN KEY (**user_id**) REFERENCES **customers(id)** ON DELETE CASCADE

14. Cart_Items

This table tracks the items added to a cart, including their quantities and prices.

- **id**: INTEGER NOT NULL AUTO_INCREMENT
- **cart_id**: INTEGER NOT NULL
- **product_id**: INTEGER NOT NULL
- **product_sku_id**: INTEGER DEFAULT NULL
- **quantity**: INTEGER NOT NULL
- **unit_price**: DECIMAL(10, 2) NOT NULL
- **total_price**: DECIMAL(10, 2) NOT NULL (calculated as unit_price * quantity)
- **created_at**: DATETIME DEFAULT CURRENT_TIMESTAMP
- **updated_at**: DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
- FOREIGN KEY (cart_id) REFERENCES cart(id) ON DELETE CASCADE
- FOREIGN KEY (product_id) REFERENCES products(id) ON DELETE CASCADE
- FOREIGN KEY (product_sku_id) REFERENCES product_variants(id) ON DELETE SET NULL

15. Orders

This table records details of orders placed by users.

- **id**: INTEGER NOT NULL AUTO_INCREMENT
- **user_id**: INTEGER NOT NULL
- **total_amount**: DECIMAL(10, 2) NOT NULL
- **discount_amount**: DECIMAL(10, 2) DEFAULT 0.00
- **shipping_amount**: DECIMAL(10, 2) DEFAULT 0.00
- **net_amount**: DECIMAL(10, 2) NOT NULL
- **status**: ENUM('Pending', 'Processing', 'Shipped', 'Delivered', 'Cancelled', 'Refunded') DEFAULT 'Pending'
- **order_date**: DATETIME DEFAULT CURRENT_TIMESTAMP
- **shipped_date**: DATETIME DEFAULT NULL
- **delivery_date**: DATETIME DEFAULT NULL
- FOREIGN KEY (user_id) REFERENCES users(id) ON DELETE CASCADE

16. Order_Items

This table tracks the items included in each order.

- **id**: INTEGER NOT NULL AUTO_INCREMENT
- **order_id**: INTEGER NOT NULL
- **product_id**: INTEGER NOT NULL
- **product_sku_id**: INTEGER DEFAULT NULL
- **quantity**: INTEGER NOT NULL
- **unit_price**: DECIMAL(10, 2) NOT NULL
- **total_price**: DECIMAL(10, 2) NOT NULL
- FOREIGN KEY (**order_id**) REFERENCES **orders(id)** ON DELETE CASCADE
- FOREIGN KEY (**product_id**) REFERENCES **products(id)** ON DELETE CASCADE
- FOREIGN KEY (**product_sku_id**) REFERENCES **product_variants(id)** ON DELETE CASCADE

17. Payments

This table contains information about payments made for orders.

- **id**: INTEGER NOT NULL AUTO_INCREMENT
- **order_id**: INTEGER NOT NULL
- **transaction_id**: VARCHAR(255) UNIQUE DEFAULT NULL
- **provider**: VARCHAR(100) NOT NULL
- **status**: ENUM('Pending', 'Completed', 'Failed', 'Refunded') DEFAULT 'Pending'
- **amount**: DECIMAL(10, 2) NOT NULL
- **payment_date**: DATETIME DEFAULT CURRENT_TIMESTAMP
- FOREIGN KEY (**order_id**) REFERENCES **orders(id)** ON DELETE CASCADE

18. Shipping

This table manages the shipping details of orders.

- **id**: INTEGER NOT NULL AUTO_INCREMENT
- **order_id**: INTEGER NOT NULL
- **courier_service**: VARCHAR(255) DEFAULT NULL
- **address_id**: INTEGER NOT NULL
- **full_address**: VARCHAR(255) DEFAULT NULL
- **state** : VARCHAR(255) DEFAULT NULL
- **city**: VARCHAR(255) DEFAULT NULL
- **zip_code**: VARCHAR(255) DEFAULT NULL
- **phone** : VARCHAR(255) DEFAULT NULL
- **tracking_number**: VARCHAR(255) DEFAULT NULL
- **shipping_provider**: VARCHAR(255) DEFAULT NULL
- **estimated_delivery_date**: DATE DEFAULT NULL
- **actual_delivery_date**: DATE DEFAULT NULL
- **shipment_status**: ENUM('Pending', 'In Transit', 'Delivered', 'Cancelled') DEFAULT 'Pending'
-
- FOREIGN KEY (**order_id**) REFERENCES **orders(id)** ON DELETE CASCADE
- FOREIGN KEY (**address_id**) REFERENCES **user_addresses(id)** ON DELETE CASCADE

19. Refund

This table manages the refund details of orders.

- **id**: INTEGER NOT NULL AUTO_INCREMENT
- **order_id**: INTEGER NOT NULL
- **reason**: TEXT
- **refund_status**: TINYINT
- **refund_amount**: DECIMAL(10, 2)
- **processed_date**: DATE DEFAULT NULL

20. Wishlist

This table manages the products that users save to their wishlist.

- **id**: INTEGER NOT NULL AUTO_INCREMENT
- **user_id**: INTEGER NOT NULL
- **product_id**: INTEGER NOT NULL
- **status**: TINYINT
- **created_at**: DATETIME DEFAULT CURRENT_TIMESTAMP
- **updated_at**: DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
- **deleted_at**: DATETIME DEFAULT NULL
- FOREIGN KEY (**user_id**) REFERENCES customers(**id**) ON DELETE CASCADE
- FOREIGN KEY (**product_id**) REFERENCES products(**id**) ON DELETE CASCADE

21. Reviews

This table stores reviews provided by users for products.

- **id**: INTEGER NOT NULL AUTO_INCREMENT
- **user_id**: INTEGER NOT NULL
- **product_id**: INTEGER NOT NULL
- **rating**: TINYINT(1) NOT NULL
- **review**: TEXT DEFAULT NULL
- **status**: TINYINT(1) DEFAULT 1
- **created_at**: DATETIME DEFAULT CURRENT_TIMESTAMP
- **updated_at**: DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
- FOREIGN KEY (**user_id**) REFERENCES users(**id**) ON DELETE CASCADE
- FOREIGN KEY (**product_id**) REFERENCES products(**id**) ON DELETE CASCADE

22. Analytics

This table tracks user interactions with products, such as views and purchases, for analysis purposes.

- **id:** INTEGER NOT NULL AUTO_INCREMENT
- **user_id:** INTEGER NOT NULL
- **views_count:** INTEGER NOT NULL
- **purchase_count:** INTEGER NOT NULL
- **product_sku_id:** INTEGER DEFAULT NULL
- **date:** DATETIME DEFAULT CURRENT_TIMESTAMP