

1. Customer:

Represents users who browse and purchase products.

- **CustomerID** (Primary Key): Unique identifier for each customer.
- **UserName**: Customer's user name
- **Email**: Customer's email address (unique, used for login).
- **PhoneNumber**: Contact number for communication.
- **DateOfBirth**: Customer's birth date (for age verification or promotions).
- **CreatedAt**: Timestamp when the account was created.
- **UpdatedAt**: Timestamp for last account update.
- **IsVerified**: email verified yes or no
- **UserType**: customer/admin/superadmin
- **Payment method**:

Notes: Shipping and billing addresses are managed in the **Address** table for normalization.

2. Address (shipping and billing)

Stores customer addresses for billing and shipping (normalized to avoid redundancy).

- **AddressID** (Primary Key): Unique identifier for each address.
- **CustomerID** (Foreign Key): Links to the customer.
- **AddressLine1**: Primary address line.
- **AddressLine2**: Secondary address line (optional).
- **City**: City name.
- **State**: State or region.
- **PostalCode**: ZIP or postal code.
- **Country**: Country name.
- **AddressType**: Type of address (e.g., shipping, billing).

4. Product:

Represents items available for purchase.

- **ProductID** (Primary Key): Unique identifier for each product.
- **Name**: Product name.
- **Description**: Detailed description of the product.
- **SKU**: Stock Keeping Unit for inventory tracking.
- **Price**: Current price of the product.
- **DiscountPrice**: Promotional or discounted price (if applicable).
- **StockQuantity**: Number of items in stock.
- **CategoryID** (Foreign Key): Links to the product category.
- **BrandID** (Foreign Key): Links to the brand (if applicable).
- **Weight**: Product weight (for shipping calculations).
- **ImageURLs**: URLs or file paths for product images.
- **CreatedAt**: Timestamp when the product was added.
- **UpdatedAt**: Timestamp for last product update.
- **IsActive**: Boolean to indicate if the product is available for purchase.

5. Category:

Organizes products into categories for easier browsing.

- **CategoryID** (Primary Key): Unique identifier for each category.
- **Name**: Category name (e.g., Electronics, Clothing).
- **ParentCategoryID** (Foreign Key): Links to parent category for nested categories (self-referential).
- **Description**: Brief description of the category.

6. Order:

Represents a customer's purchase.

- **OrderID** (Primary Key): Unique identifier for each order.
- **CustomerID** (Foreign Key): Links to the customer who placed the order.
- **OrderDate**: Timestamp when the order was placed.
- **TotalAmount**: Total cost of the order (including taxes, shipping, etc.).
- **Status**: Order status (e.g., pending, processing, shipped, delivered, canceled).
- **ShippingAddressID** (Foreign Key): Links to the shipping address.
- **BillingAddressID** (Foreign Key): Links to the billing address.
- **ShippingMethod**: Shipping method chosen (e.g., standard, express).
- **TrackingNumber**: Tracking number for the shipment (if available).
- **PaymentID** (Foreign Key): Links to the payment record.

7. OrderItem

Details individual items within an order (since an order can include multiple products).

- **OrderItemID** (Primary Key): Unique identifier for each order item.
- **OrderID** (Foreign Key): Links to the order.
- **ProductID** (Foreign Key): Links to the product.
- **Quantity**: Number of units ordered.
- **UnitPrice**: Price per unit at the time of purchase.
- **DiscountApplied**: Discount applied to this item (if any).
- **Subtotal**: Total cost for this item (Quantity * UnitPrice - Discount).

8. Payment

Stores payment information for orders.

- **PaymentID** (Primary Key): Unique identifier for each payment.
- **OrderID** (Foreign Key): Links to the order.
- **CustomerID** (Foreign Key): Links to the customer.
- **Amount**: Payment amount.
- **PaymentMethod**: Method used (e.g., credit card, PayPal, bank transfer).
- **PaymentStatus**: Status (e.g., pending, completed, failed, refunded).
- **PaymentDate**: Timestamp of the payment.
- **TransactionID**: Unique ID from the payment gateway.

9. Cart

Represents a customer's shopping cart before checkout.

- **CartID** (Primary Key): Unique identifier for the cart.
- **CustomerID** (Foreign Key): Links to the customer (or session ID for guest users).
- **CreatedAt**: Timestamp when the cart was created.
- **UpdatedAt**: Timestamp for last cart update.

10. CartItem

Details individual items in a customer's cart.

- **CartItemID** (Primary Key): Unique identifier for each cart item.
- **CartID** (Foreign Key): Links to the cart.
- **ProductID** (Foreign Key): Links to the product.
- **Quantity**: Number of units in the cart.
- **AddedAt**: Timestamp when the item was added.

11. Review

Stores customer reviews and ratings for products.

- **ReviewID** (Primary Key): Unique identifier for each review.
- **ProductID** (Foreign Key): Links to the product.
- **CustomerID** (Foreign Key): Links to the customer.
- **Rating**: Numerical rating (e.g., 1–5 stars).
- **Comment**: Text of the review.
- **ReviewDate**: Timestamp when the review was submitted.
- **IsVerified**: Boolean to indicate if the reviewer purchased the product.

13. Inventory

Tracks product stock levels (could be combined with Product table if simple).

- **InventoryID** (Primary Key): Unique identifier for inventory records.
- **ProductID** (Foreign Key): Links to the product.
- **WarehouseID** (Foreign Key): Links to the warehouse (if multiple locations).
- **Quantity**: Stock level at the warehouse.
- **LastUpdated**: Timestamp of the last inventory update.