

Here's a summary of the database tables with their corresponding columns and descriptions for your mobile e-commerce website:

1. Product Table

Column Name	Column Type	Description
ProductID	INT (PK)	Unique identifier for each product
Name	VARCHAR(255)	Name of the product
Description	TEXT	Product description
Price	DECIMAL(10, 2)	Base price of the product
StockQuantity	INT	Stock quantity for non-specific attributes
CategoryID	INT (FK)	Foreign key to the Category table
CreatedDate	DATETIME	Date the product was added

2. Category Table

Column Name	Column Type	Description
CategoryID	INT (PK)	Unique identifier for each category
Name	VARCHAR(255)	Name of the category
Description	TEXT	Description of the category
ParentCategoryID	INT (FK)	Self-referencing foreign key for subcategories

3. ProductAttribute Table

Column Name	Column Type	Description
ProductAttributeID	INT (PK)	Unique identifier for the attribute
Name	VARCHAR(255)	Attribute name (e.g., 'Color')
Description	TEXT	Description of the attribute

4. Product_ProductAttribute_Mapping Table

Column Name	Column Type	Description
MappingID	INT (PK)	Unique identifier for the mapping record
ProductID	INT (FK)	Links to Product
ProductAttributeID	INT (FK)	Links to ProductAttribute
IsRequired	BOOLEAN	Indicates if the attribute is required
DisplayOrder	INT	Display order of the attribute

5. ProductAttributeValue Table

Column Name	Column Type	Description
AttributeValueID	INT (PK)	Unique identifier for attribute value
ProductAttributeMappingID	INT (FK)	Links to Product_ProductAttribute_Mapping
Name	VARCHAR(255)	Value for the attribute (e.g., 'Red')
PriceAdjustment	DECIMAL(10, 2)	Additional cost for this attribute value
DisplayOrder	INT	Display order for the attribute value

6. PredefinedProductAttributeValue Table

Column Name	Column Type	Description
PredefinedAttributeValueID	INT (PK)	Unique identifier for predefined value
ProductAttributeID	INT (FK)	Links to ProductAttribute
Name	VARCHAR(255)	Predefined value (e.g., 'Black')
DisplayOrder	INT	Order of display for the predefined value

7. ProductAttributeCombination Table

Column Name	Column Type	Description
CombinationID	INT (PK)	Unique identifier for attribute combination
ProductID	INT (FK)	Links to Product
AttributesXML	XML	Serialized XML of attribute values
StockQuantity	INT	Stock quantity for this combination
SKU	VARCHAR(50)	Optional unique SKU for the combination
Price	DECIMAL(10, 2)	Optional price for this combination

8. Customer Table

Column Name	Column Type	Description
CustomerID	INT (PK)	Unique identifier for the customer
Name	VARCHAR(255)	Name of the customer
Email	VARCHAR(255)	Customer's email address
PhoneNumber	VARCHAR(20)	Customer's phone number
PasswordHash	VARCHAR(255)	Secure hash of customer's password
CreatedDate	DATETIME	Date the customer registered

9. Order Table

Column Name	Column Type	Description
OrderID	INT (PK)	Unique identifier for the order
CustomerID	INT (FK)	Links to Customer
OrderDate	DATETIME	Date of the order
TotalAmount	DECIMAL(10, 2)	Total amount for the order

Column Name	Column Type	Description
StatusID	INT (FK)	Foreign key linking to the OrderStatus table
ShippingAddressID	INT (FK)	Links to Address

10. OrderStatus Table

Column Name	Column Type	Description
OrderStatusID	INT (PK)	Unique identifier for the order status
StatusName	VARCHAR(50)	Name of the status (e.g., 'Pending')

11. OrderItem Table

Column Name	Column Type	Description
OrderItemID	INT (PK)	Unique identifier for the order item
OrderID	INT (FK)	Links to Order
ProductID	INT (FK)	Links to Product
ProductAttributeCombinationID	INT (FK)	Links to ProductAttributeCombination
Quantity	INT	Quantity of the product
PriceAtPurchase	DECIMAL(10, 2)	Price of the product at purchase

12. Payment Table

Column Name	Column Type	Description
PaymentID	INT (PK)	Unique identifier for the payment
OrderID	INT (FK)	Links to Order
PaymentMethod	VARCHAR(50)	Payment method (e.g., credit card, PayPal)
PaymentStatus	VARCHAR(50)	Status of the payment (e.g., completed)
Amount	DECIMAL(10, 2)	Amount paid

Column Name	Column Type	Description
PaymentDate	DATETIME	Date of the payment

13. Shipping Table

Column Name	Column Type	Description
ShippingID	INT (PK)	Unique identifier for the shipping record
OrderID	INT (FK)	Links to Order
ShippingMethod	VARCHAR(50)	Shipping method (e.g., Standard, Express)
ShippingCost	DECIMAL(10, 2)	Cost of shipping
TrackingNumber	VARCHAR(50)	Tracking number for the shipment
ShippedDate	DATETIME	Date the order was shipped
DeliveryDate	DATETIME	Expected delivery date

14. Image Table

Column Name	Column Type	Description
ImageID	INT (PK)	Unique identifier for the image
ProductID	INT (FK)	Links image to Product
URL	VARCHAR(255)	Path or URL of the image
AltText	VARCHAR(255)	SEO-friendly description
DisplayOrder	INT	Display order of the image

15. Review Table

Column Name	Column Type	Description
ReviewID	INT (PK)	Unique identifier for the review
ProductID	INT (FK)	Links to Product

Column Name	Column Type	Description
CustomerID	INT (FK)	Links to Customer
Rating	INT	Rating value (e.g., 1 to 5 stars)
Comment	TEXT	Text review of the product
CreatedDate	DATETIME	Date the review was created

16. Wishlist Table

Column Name	Column Type	Description
WishlistID	INT (PK)	Unique identifier for the wishlist item
CustomerID	INT (FK)	Links to Customer
ProductID	INT (FK)	Links to Product
AddedDate	DATETIME	Date the item was added to the wishlist

17. Address Table

Column Name	Column Type	Description
AddressID	INT (PK)	Unique identifier for the address
CustomerID	INT (FK)	Links to Customer
Street	VARCHAR(255)	Street address
City	VARCHAR(100)	City name
State	VARCHAR(100)	State or region
PostalCode	VARCHAR(20)	Postal or ZIP code
Country	VARCHAR(100)	Country name
CreatedDate	DATETIME	Date the address was created

18. Audit Table

Column	Data Type	Description
AuditID	INT (PK)	Unique identifier for the audit record
TableAffected	VARCHAR(100)	Name of the table affected
RecordID	INT	Identifier of the affected record
Action	VARCHAR(50)	Action performed (e.g., Insert, Update, Delete)
Timestamp	DATETIME	Date and time of the action
UserID	INT (FK)	Links to a user table (if applicable)

Total Number of Tables

You have **18 tables** in your database schema for the mobile e-commerce website.

1. Product Table

- **Description:** This table stores all the information related to the products being sold on the website, including the name, description, price, stock quantity, and category.

2. Category Table

- **Description:** This table categorizes products into various types (e.g., smartphones, accessories). It includes hierarchical categorization through the ParentCategoryID for subcategories.

3. ProductAttribute Table

- **Description:** This table defines the attributes that products can have, such as color or size. Each attribute can be used to provide more details about a product.

4. Product_ProductAttribute_Mapping Table

- **Description:** This table creates a many-to-many relationship between products and their attributes, allowing you to specify which attributes apply to which products.

5. ProductAttributeValue Table

- **Description:** This table stores the possible values for the product attributes defined in the ProductAttribute table (e.g., 'Red', 'Blue' for the Color attribute).

6. PredefinedProductAttributeValue Table

- **Description:** This table holds predefined values for product attributes that can be reused across multiple products, ensuring consistency in attribute values.

7. ProductAttributeCombination Table

- **Description:** This table is used to store combinations of product attributes. For example, a shirt might come in different colors and sizes, and each combination can have its own stock quantity and price.

8. Customer Table

- **Description:** This table stores customer information, including their name, email, phone number, and password hash for account security.

9. Order Table

- **Description:** This table records orders placed by customers, linking to the customer and storing the order date, total amount, and order status.

10. OrderStatus Table

- **Description:** This table defines the various statuses that an order can have (e.g., 'Pending', 'Shipped'), allowing for tracking of order progress.

11. OrderItem Table

- **Description:** This table holds the individual items within an order, linking to the product and storing details like quantity and price at the time of purchase.

12. Payment Table

- **Description:** This table tracks payment details for orders, including the payment method, status, and amount paid.

13. Shipping Table

- **Description:** This table contains shipping information for orders, including shipping method, cost, and tracking information.

14. Image Table

- **Description:** This table stores images associated with products, including the image URL and alt text for SEO purposes.

15. Review Table

- **Description:** This table allows customers to leave reviews on products, capturing the rating, comments, and the date the review was made.

16. Wishlist Table

- **Description:** This table tracks products that customers wish to save for later, allowing them to easily access desired items.

17. Address Table

- **Description:** This table stores customer address details, which can be used for shipping or billing purposes.

18 . Audit Table

- Adding an **Audit Table** can be a helpful approach to track changes to important tables, such as Order and OrderItem. This allows you to log every modification made to these tables, including who made the change and when. This can be crucial for compliance, debugging, and data analysis purposes.