



## 1. User Management (Only Customers & Vendors)

The Users table is used only for Customers and Vendors.

Why this design:

- Customers need login, profile, address, orders
- Vendors need login, store details, and product access
- Admin and Delivery Partners are internal system roles, so they are not treated as regular users

This keeps the system secure and clean.

## 2. Admin Module (System-Level Role)

The Admin table represents internal administrators of the platform.

Key points:

- Admin accounts are created internally, not through user registration
- Admin can view all customer and vendor details
- Admin is responsible for:

Approving vendors

Approving delivery partners

Monitoring orders, payments, and deliveries

Admin acts as the central controlling authority of the system.

### 3. Vendor Module

The Vendors table is linked to the Users table using user\_id.

Purpose:

- Vendor identity and login details come from Users
- Admin verifies and approves vendors
- Once approved, vendors can:

Add and manage products

View customer order details related to their products.

This ensures only verified vendors operate on the platform.

### 4. Delivery Partner Module (Internal Accounts)

Delivery partners are managed using the Delivery Agents table.

Design logic:

- Delivery agents are approved by admin
- Admin approval is tracked using approved\_by

This ensures:

Admin has full control over delivery operations

### 5. Product Management

The Products table is linked to Vendors using vendor\_id.

This ensures:

- Each product belongs to a verified vendor
- Admin can track product ownership
- Vendors can manage only their own product listings

### 6. Cart System

The Cart table links:

user\_id → customer

product\_id → selected product

This allows:

- Customers to add products to cart
- System to know which customer selected which product
- Smooth conversion of cart items into orders

## 7. Orders Management

The Orders table is linked to the Users table using `user_id`.

Why this matters:

- Every order belongs to a customer
- Order lifecycle is tracked clearly
- Admin and vendors can monitor order progress

## 8. Payments Processing

The Payments table connects:

- `order_id` → order reference
- `user_id` → customer making payment

This ensures:

- Secure and traceable transactions
- Clear mapping between customer, order, and payment
- Easy handling of failures and refunds

## 9. Delivery Tracking

The Deliveries table connects:

- `agent_id` → delivery partner
- `order_id` → order

This allows:

- Assignment of delivery partners to orders
- Tracking delivery status
- Accurate delivery timestamps

## 10. Reviews & Ratings

The Reviews table links:

- `product_id` → reviewed product
- `user_id` → customer

This ensures:

- Only genuine customers can give reviews
- Reviews are tied to actual purchases
- Better trust and product transparency

## 11. Address Management

The Addresses table is linked to the Users table.

This allows:

- Multiple addresses per customer
- Accurate delivery locations
- Better customer experience