

# E-commerce System – E-R Diagram

## 1. Introduction

The E-commerce system manages the end-to-end process of ordering products online. This documentation presents a detailed sequence diagram that illustrates the interactions between the customer, website, payment gateway, warehouse, and delivery system during a typical order flow.

## 2. Sequence of Operations

1. **Customer browses products** on the website.
2. **Customer adds product to cart.**
3. **Customer places order**, triggering the website to initiate the payment process.
4. **Website requests payment** from the payment gateway.
5. **Payment Gateway responds** with success or failure.
6. **Website confirms order** to the customer if payment succeeds.
7. **Website informs the warehouse** to prepare the shipment.
8. **Warehouse dispatches the product** through the delivery system.
9. **Delivery System delivers the product** to the customer.

## 3. Explanation of Diagram

- **Customer → Website:** The initial interactions for browsing, adding to cart, and placing orders.
- **Website → Payment Gateway:** Handles payment authorization.
- **Payment Gateway → Website:** Sends response back with success/failure.
- **Website → Customer:** Sends order confirmation.
- **Website → Warehouse → Delivery System → Customer:** Ensures that the physical product is shipped and delivered.
- **Delivery System Duplicate Lifeline:** Provides a clearer view of delivery as the final step in the sequence.

## E-R Diagram - E-commerce

