

Shopping Cart Allowing Quantities Exceeding Available Stock

Description: A critical inventory issue was discovered where users could potentially add more items to their cart than were actually available in stock, leading to overselling and order fulfillment problems.

Steps to Reproduce:

1. Browse a product with limited stock (e.g., 3 units)
2. Add the product to cart
3. Increase the quantity to a value higher than available stock (e.g., 10)
4. Proceed with checkout

Expected Behavior: The system should prevent adding quantities that exceed available stock and notify the user of the stock limitation.

Actual Behavior: Without proper checks, the system would allow adding excessive quantities, potentially leading to orders that cannot be fulfilled.

Severity: High

Affected Component: CartService

Root Cause: Missing validation when adding or updating cart item quantities against current stock levels.

Fix Implemented: Added stock validation in the `addToCart` method of `CartService.java`