

Test Scenario Document: Order Management and Transaction Functions

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1. PURPOSE

This document describes the test scenario for verifying order management and transaction functions in the E-commerce Application. This includes creating orders, managing transactions, and generating reports.

2. PREREQUISITES

- Application setup completed successfully
- Database connection established
- Customer and product data available
- At least one customer and one product in database

3. TEST STEPS

3.1 Order Management Tests - Start the application console UI - Navigate to Order Management menu (Option 3) - Test 1: List all orders - Expected: Shows existing orders or “No orders found” - Test 2: Create new order - Select existing customer ID - Add at least one existing product with quantity - Expected: Order created successfully with calculated total - Test 3: View order details - Enter existing order ID - Expected: Order details with customer and items displayed correctly - Test 4: Update order status - Select existing order, change status to ‘processing’ - Expected: Order status updated successfully - Test 5: Cancel order - Select created order, confirm cancellation - Expected: Order cancelled successfully

3.2 Transaction Management Tests - Navigate to Transactions menu (Option 4) - Test 6: Transfer credit between customers - Enter valid source and target customer IDs - Enter valid positive amount - Expected: Credit transferred successfully - Test 7: Place order with inventory check - Create order with valid customer and product - Expected: Order placed with inventory validated - Test 8: Cancel order with refund - Select an existing order, confirm cancellation - Expected: Order cancelled and amount refunded to customer

3.3 Report Generation Tests - Navigate to Reports menu (Option 5) - Test 9: Generate sales summary report - Expected: Report with total customers, orders, revenue displayed - Test 10: Generate top products report - Expected: List of top selling products displayed - Test 11: Generate customer order report - Expected: Customer order summaries displayed - Test 12: Generate inventory report - Expected: Product inventory status displayed - Test 13: Generate monthly sales report - Expected: Monthly sales data displayed - Test 14:

Generate category performance report - Expected: Category performance data displayed

3.4 Data Import Tests - Navigate to Data Import menu (Option 6) - Test 15: Import customers from CSV - Provide valid customers.csv file path - Expected: Customers imported successfully with count displayed - Test 16: Import products from CSV - Provide valid products.csv file path - Expected: Products imported successfully with count displayed - Test 17: Import customers from JSON - Provide valid customers.json file path - Expected: Customers imported successfully with count displayed - Test 18: Import products from JSON - Provide valid products.json file path - Expected: Products imported successfully with count displayed

4. VERIFICATION STEPS

4.1 Database Verification - After order creation, verify Orders and OrderItems tables updated - After transaction, verify customer credit limits updated - After cancellation, verify order status changed and refunds processed

4.2 Business Logic Verification - Confirm order totals calculated correctly - Verify inventory constraints enforced - Confirm transaction atomicity maintained

4.3 Report Accuracy Verification - Ensure reports aggregate data from multiple tables correctly - Verify calculated values are accurate - Confirm reports include relevant data from 3+ tables

5. SUCCESS CRITERIA

- Orders created and managed successfully
- Transactions execute with proper atomicity
- Reports generate with accurate aggregated data
- Data import operations complete successfully
- All operations maintain data integrity
- Business rules enforced correctly

6. FAILURE CONDITIONS

- Order creation fails
- Transaction operations fail or lose atomicity
- Reports generate incorrect data
- Data import operations fail
- Data integrity violated
- Business rules not enforced

7. ERROR HANDLING

- If order creation fails, verify customer and product exist
- If transaction fails, check customer funds and permissions

- If report generation fails, verify database connections
- If import fails, check file format and permissions
- If data integrity errors occur, verify foreign key constraints

8. POST-CONDITIONS

- Order data integrity maintained
- Transaction consistency preserved
- Reports reflect current database state
- Imported data validated and persisted
- All business rules enforced
- Error conditions handled gracefully