Inventory & Order Tracking System

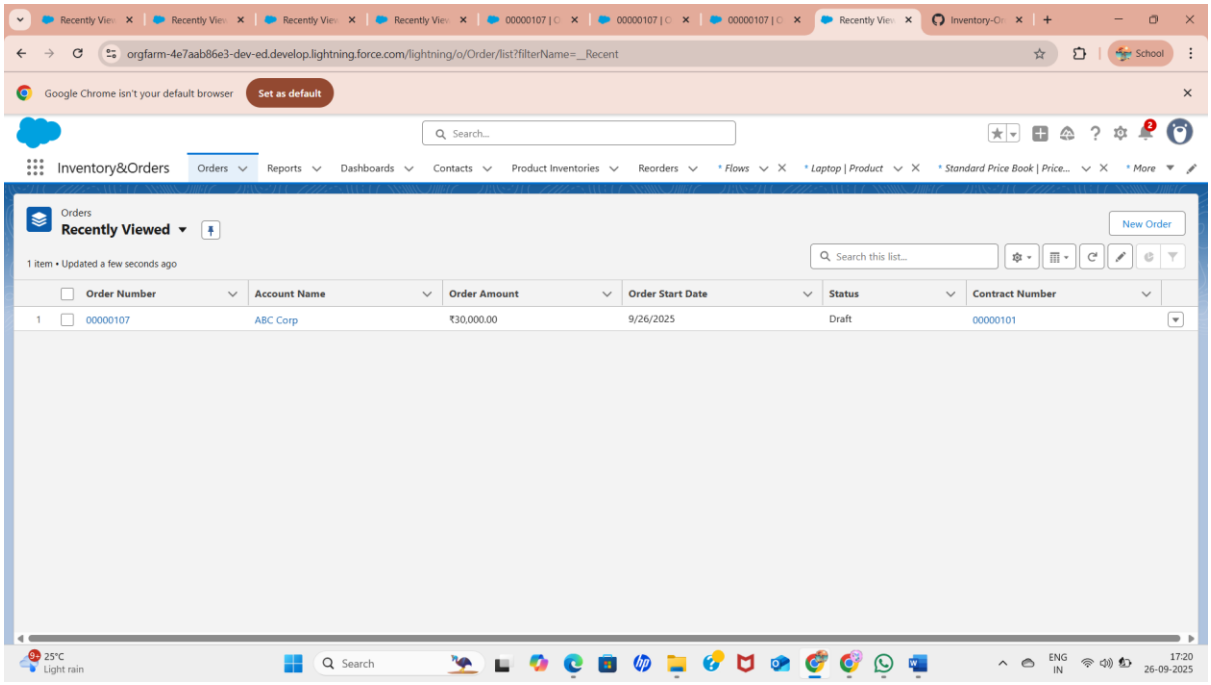
Final Phase Documentation

1. Project Overview

The **Inventory & Order Tracking System** is designed to efficiently manage products, stock levels, and customer orders. The system ensures accurate inventory tracking, smooth order processing, and timely alerts for low stock to prevent operational delays.

Objectives:

- Maintain accurate stock information.
- Track customer orders and status.
- Automate stock updates and alerts.
- Generate reports for decision-making.



2. System Architecture

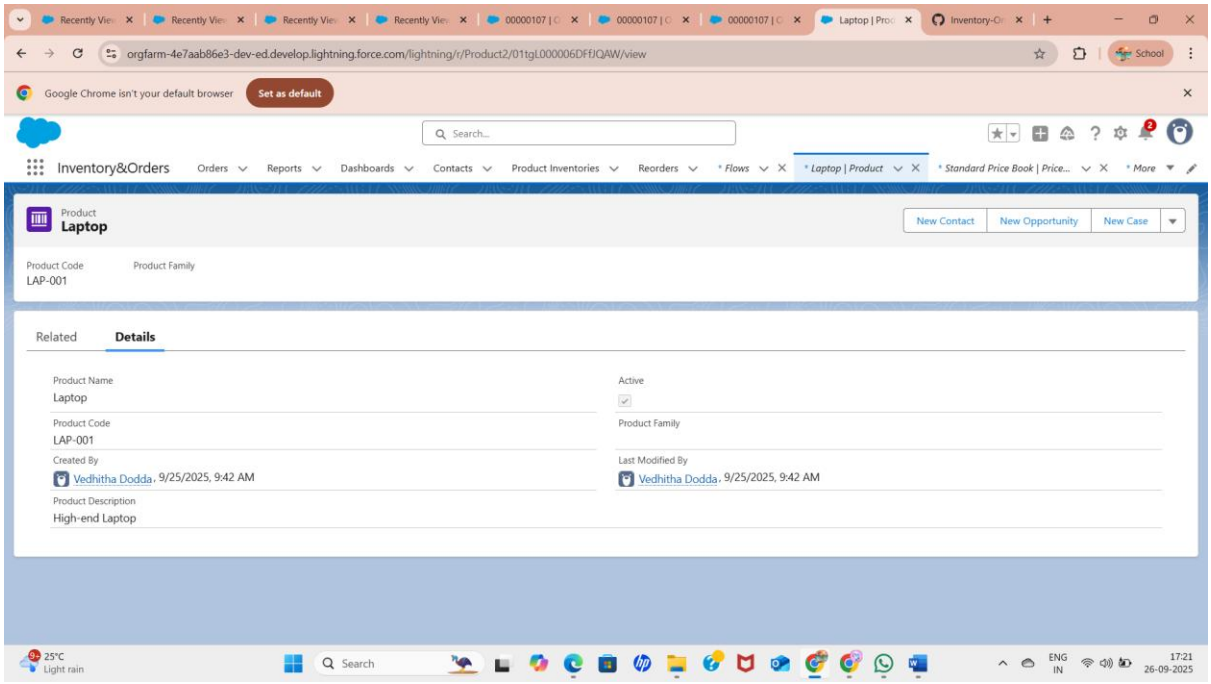
The system consists of the following main **objects**:

Object	Key Fields	Relationship
Product	Name, SKU, Price, Description, Owner	Master of Inventory
Inventory	Product Lookup, Stock Quantity, Reorder Level, Stock Status	Master-Detail with Product

Object	Key Fields	Relationship
Order	Customer, Product, Quantity, Total Amount, Status	Lookup → Product & Customer

Relationships:

- Product → Inventory: One-to-One
- Product → Orders: One-to-Many
- Inventory → Low Stock Alerts: Trigger/Flow



3. Objects & Fields

A. Product

- **Fields:** Product Name, SKU, Price, Owner
- **Purpose:** Maintain a catalog of all products.

B. Inventory

- **Fields:** Product, Available Quantity, Reorder Level, Stock Status (Formula)
- **Stock Status Formula:**
- IF(Stock_Quantity__c <= Reorder_Level__c, "Low Stock", "Sufficient Stock")
- **Purpose:** Track stock levels and manage reordering.

C. Order

- **Fields:** Customer, Product, Quantity, Total Amount, Status (Pending/Confirmed/Rejected)

- **Purpose:** Process and track customer orders.
- **Automation:** Auto-calculate total price, update inventory on confirmation.

4. Automation

A. Total Price Calculation

- Trigger calculates order total: Quantity × Product Price
- Reduces manual errors.

B. Stock Deduction

- Inventory is automatically reduced when order status is **Confirmed**.

C. Low Stock Alerts

- Automated notifications sent to the inventory manager when stock ≤ Reorder Level.
- Implemented using **Flow** or **Process Builder**.

D. Validation Rules

- Inventory: Stock Quantity >= 0
- Order: Quantity > 0

5. Page Layouts & Tabs

Page Layouts

- **Product:** Product Info, Related Inventory
- **Inventory:** Product, Quantity, Reorder Level, Stock Status
- **Order:** Customer Info, Product, Quantity, Total Amount, Status

Tabs

- Products
- Inventory
- Orders

6. Reporting & Dashboards

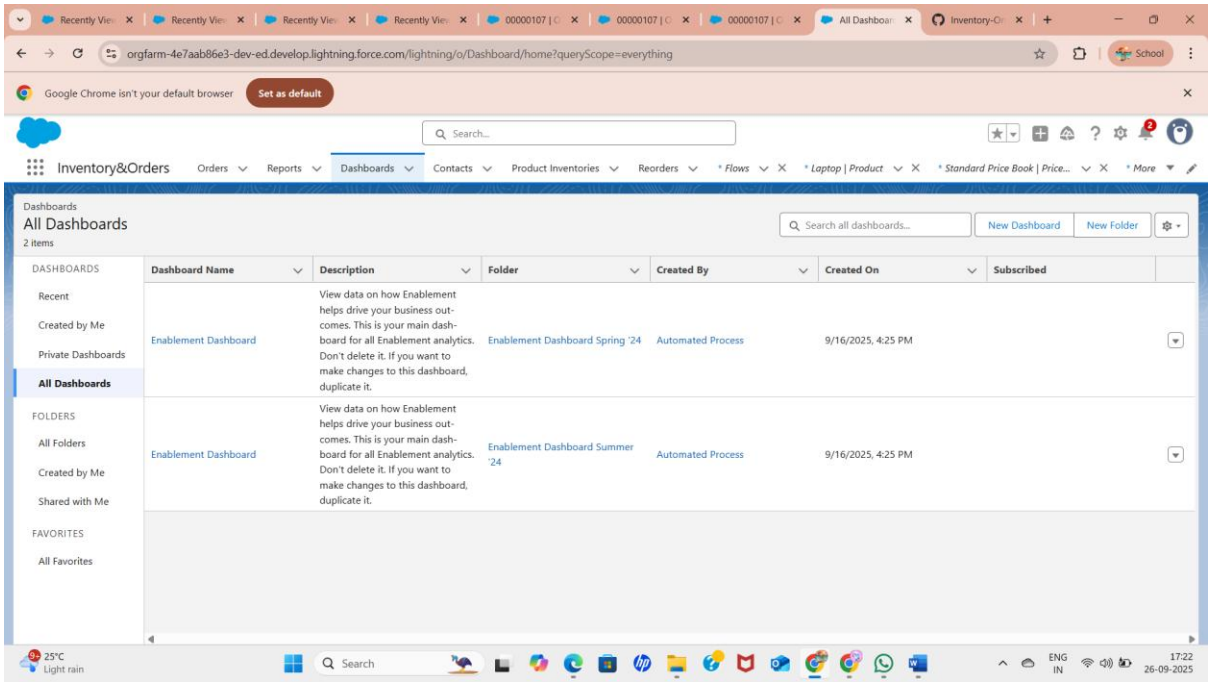
Reports

1. Orders by Status (Pending, Confirmed, Rejected)
2. Products below Reorder Level
3. Top Selling Products

4. Inventory Valuation (Stock × Price)

Dashboard Components

- Low Stock Alerts (Bar Chart)
- Orders Status Distribution (Pie Chart)
- Total Orders Today (Metric)
- Inventory Overview (Table/Chart)



7. Apex Triggers (Automation Examples)

A. Order Total Calculation Trigger

```
trigger OrderTotalTrigger on Order__c (before insert, before update) {
    Set<Id> productIds = new Set<Id>();
    for(Order__c o : Trigger.new){
        if(o.Product__c != null) productIds.add(o.Product__c);
    }
    Map<Id, Product__c> products = new Map<Id, Product__c>(
        [SELECT Id, Price__c FROM Product__c WHERE Id IN :productIds]
    );
    for(Order__c o : Trigger.new){
        if(o.Product__c != null && products.containsKey(o.Product__c)){
            o.Total_Amount__c = o.Quantity__c * products.get(o.Product__c).Price__c;
```

```
        }
    }
}
```

B. Inventory Update Trigger

```
trigger StockDeductionTrigger on Order__c (after insert, after update) {
    List<Inventory__c> updates = new List<Inventory__c>();
    for(Order__c o : Trigger.new){
        if(o.Status__c == 'Confirmed' && o.Product__c != null){
            Inventory__c inv = [SELECT Id, Stock_Quantity__c FROM Inventory__c WHERE
Product__c = :o.Product__c LIMIT 1];
            inv.Stock_Quantity__c -= o.Quantity__c;
            updates.add(inv);
        }
    }
    if(!updates.isEmpty()) update updates;
}
```

8. Security & Permissions

- Profiles: Admin, Inventory Manager, Sales Staff
- **Tab Settings:** Default On for all key tabs.
- Role Hierarchy: Admin → Inventory Manager → Sales Staff
- Access Controls:
    - Inventory Manager: Full access to inventory and orders
    - Sales Staff: Create orders, view inventory

9. Optional Enhancements

- Multi-product orders
- Automatic reorder generation
- Customer notifications on order status
- Integration with email or SMS for low stock alerts

10. Project Summary

- Inventory & Order Tracking system implemented successfully.
- Automations reduce manual workload.
- Reports & dashboards provide real-time insights.
- Ready for deployment.