SB8096-Salesforce Developer

(Nan Mudhalvan)

Project Title : MEDICAL INVENTORY MANAGEMENT

Team ID : NM2025TMID02545

TEAM SIZE(4):

Team Leader : DURGA.S (813022205013)

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Team Member : RAMYA.R (813022205034)

Team Member : DIVYA.T (813022205012)

Project Overview

The**MedicalInventoryManagementSystem**isdesignedtoautomateandstreamlin e the process of managing medical supplies, purchase orders, stock levels, and supplier details within a healthcare or pharmacy environment. The system ensures accurate tracking of product information, supplier interactions, inventory transactions, and purchase activities — all within a unified Salesforce platform.

This project leverages Salesforce's automation tools such as **Flows, Validation Rules, Triggers,and Apex Classes** to manage product details, monitor purchase activity, and maintain optimal stock levels. By digitizing manual processes, the system improves operational efficiency and minimizes human errors in inventory control.

2. Objective

Themaingoalof the MedicalInventoryManagementSystemis toprovide a **centralized andautomatedplatform** formanagingmedicalproduct data, supplier relationships, and inventory movements.

Business Goals:

A. **AutomateInventory Processes:** Create a seamless workflow for tracking purchase orders, supplier details, and product stock updates.

B. **OptimizeStockLevels:**Preventoverstockingorshortagesbymaintainingreal-time visibility of inventory quantities.

C. **Improve Supplier Management:** Establish accurate and transparent communication between the purchasing and supplier departments.

D. **EnhanceDecision-Making:**Providereal-timedatathroughreportsanddashboards for better forecasting and analysis.

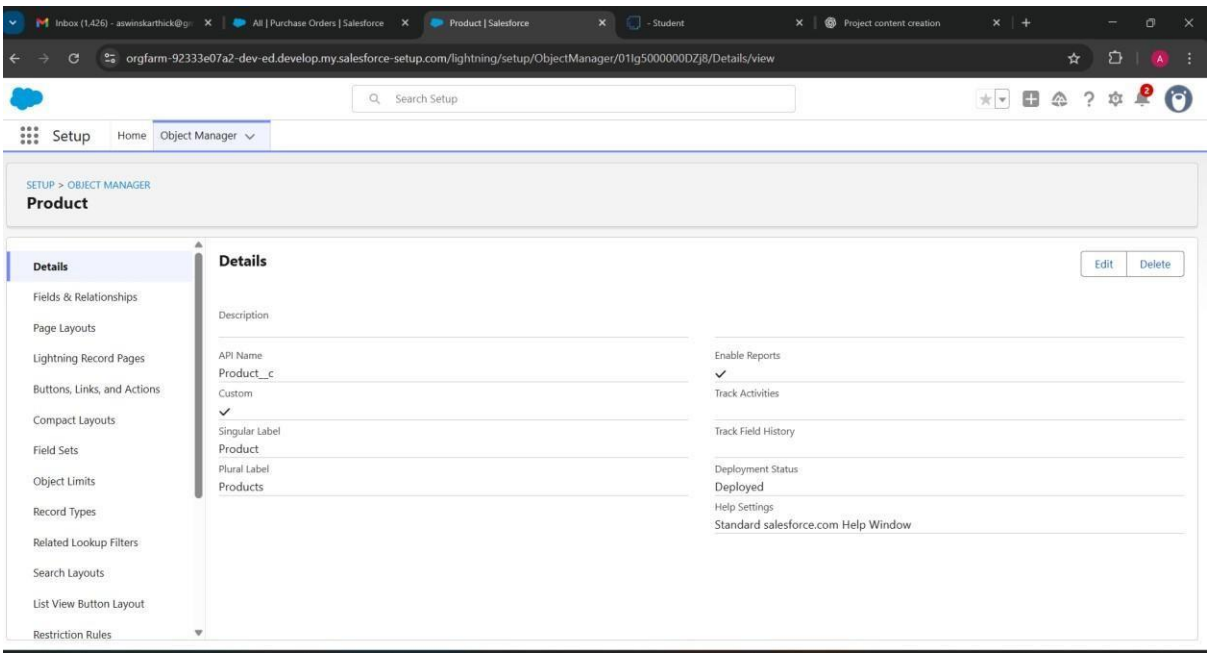
E. **Reduce Manual Effort:** Use automation, formulas, and triggers to eliminate repetitive tasks and maintain data consistency.

3. Salesforce Key Features and Concepts Utilized

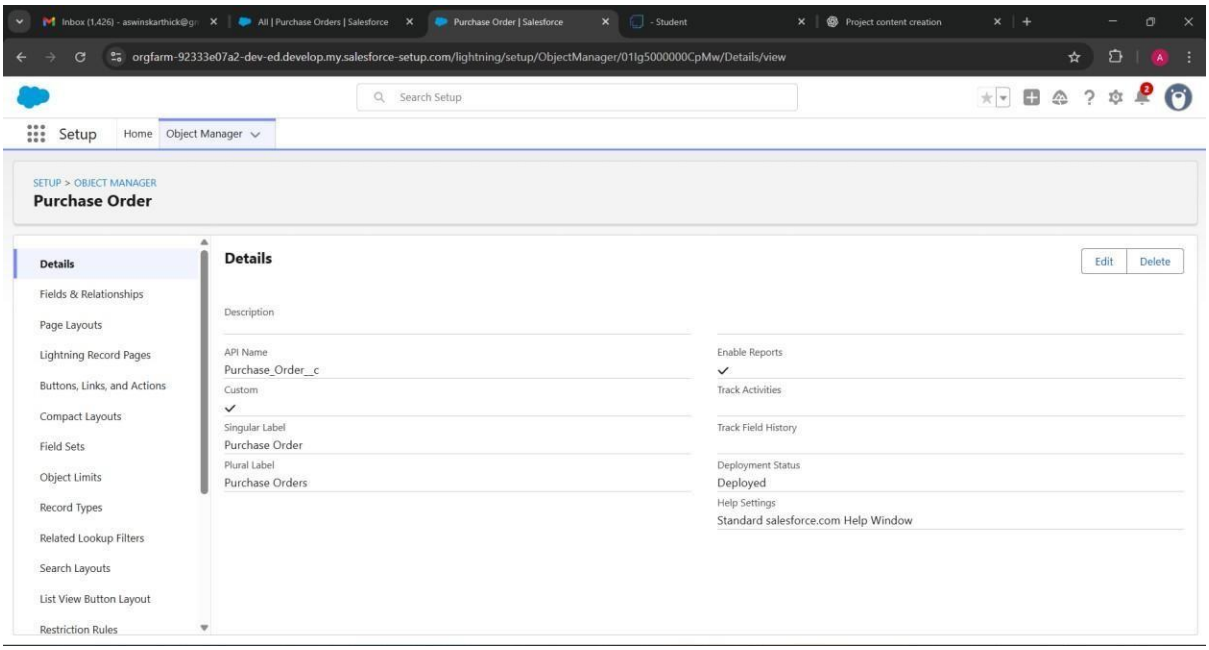
The Medical Inventory Management System uses several Salesforce components and features to efficiently handle the end-to-end medical inventory workflow.

Custom Objects

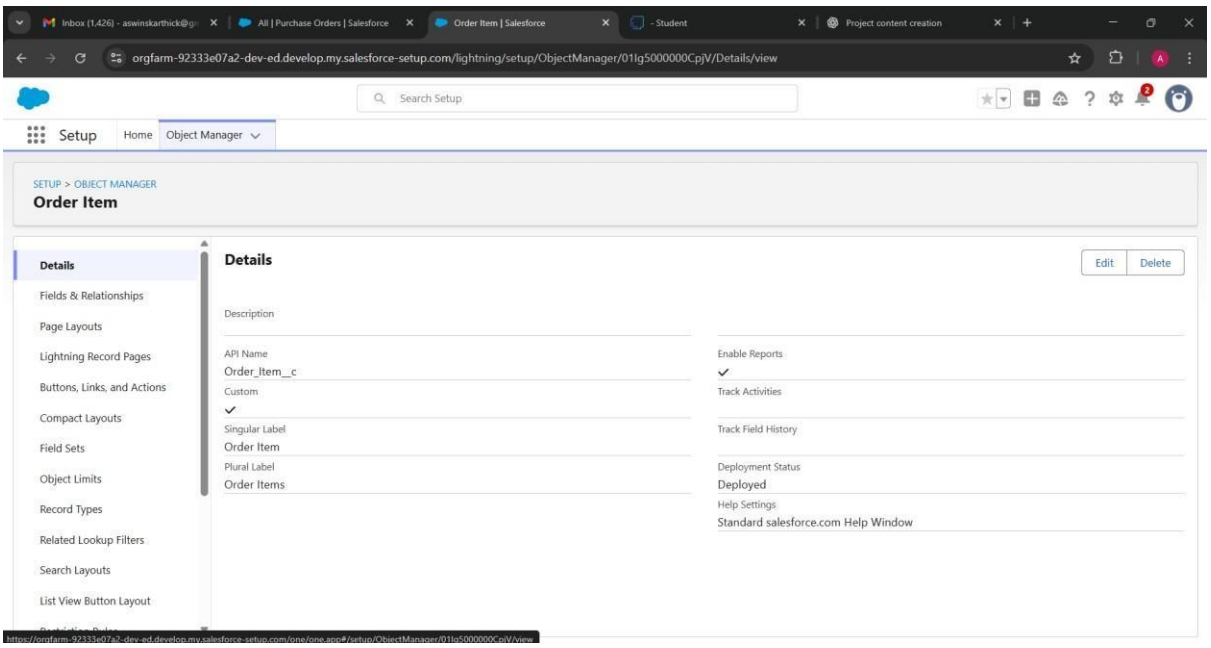
1. **Product:** Stores detailed informationabout each medical item such as product name, description, stock level, and unit price.



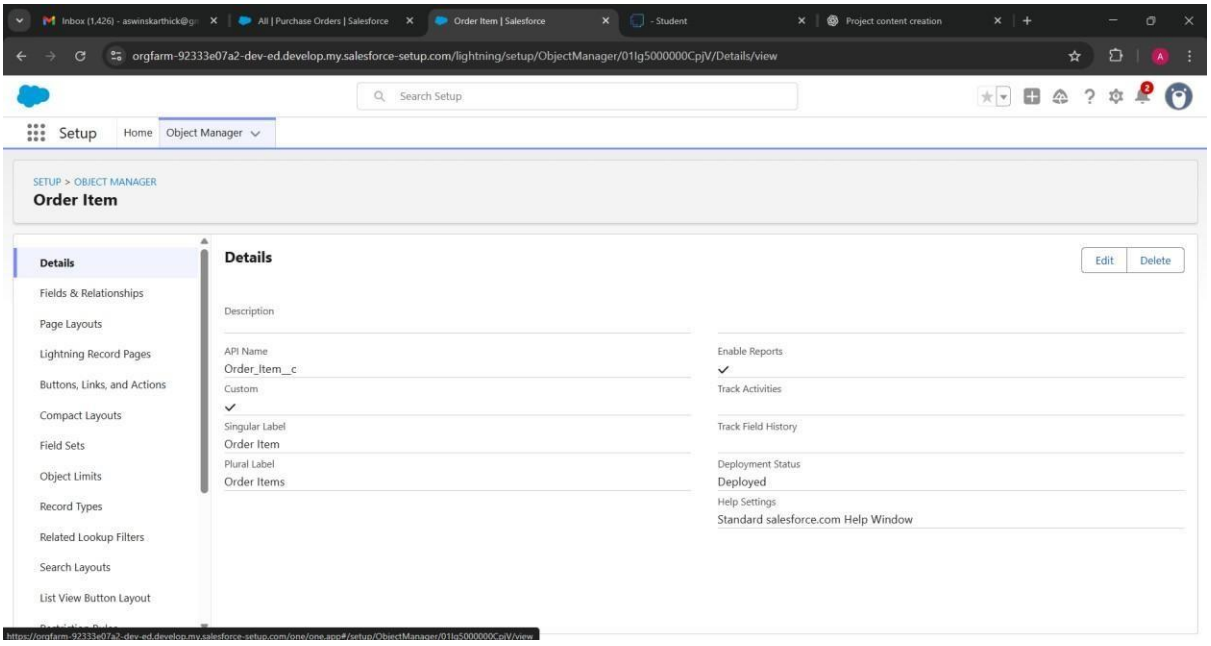
2. **Purchase Order:** Manages purchase-related information like supplier details, order date, and total order cost.



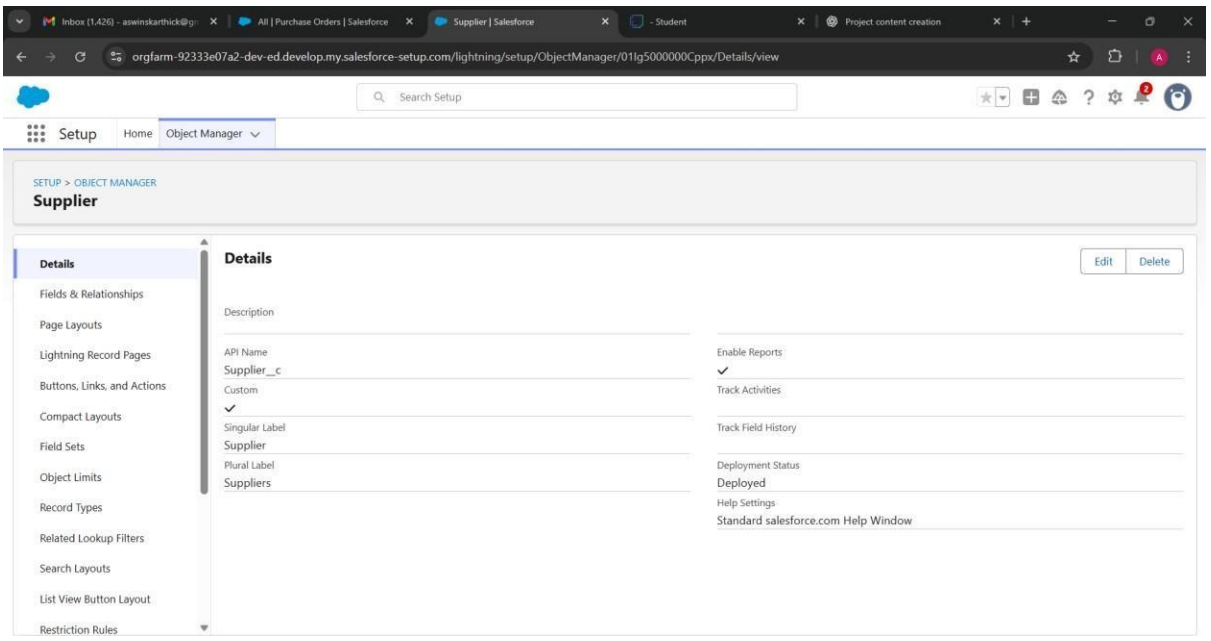
3. **OrderItem:** Tracks individual items purchased withina specific purchase order, including quantity received and price.



4. **Inventory Transaction:** Records movements of medical products, including receipts, issues, and adjustments.



5. **Supplier:** Contains supplier information such as name, contact number, and email.



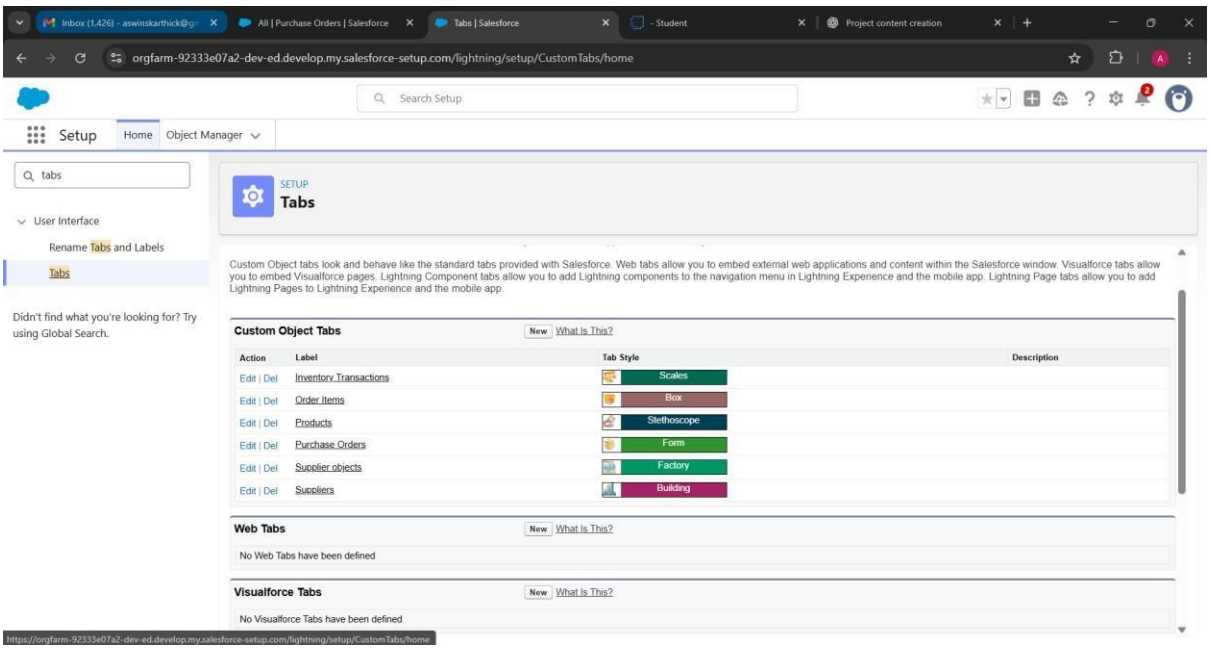
Relationships

- **Purchase Order → Supplier (Lookup Relationship):**
  Links each purchase order to a specific supplier for clear tracking.
- **Order Item → Purchase Order (Master-Detail Relationship):**
  Ensures each order item belongs to one purchase order and supports roll-up summary calculations.
- **Inventory Transaction → Product (Lookup Relationship):**
  Connects inventory transactions to products for stock tracking.

These relationships ensure accurate data connections and dependency between records.

Tabs:

Tabs are created in Salesforce to easily access and manage custom object records. In theMedical InventoryManagementproject, tabs were createdforProducts, Purchase Orders, Order Items, Inventory Transactions, and Suppliers.
This allows users to quickly view, create, and organize records for each module directly from the Salesforce navigation bar.

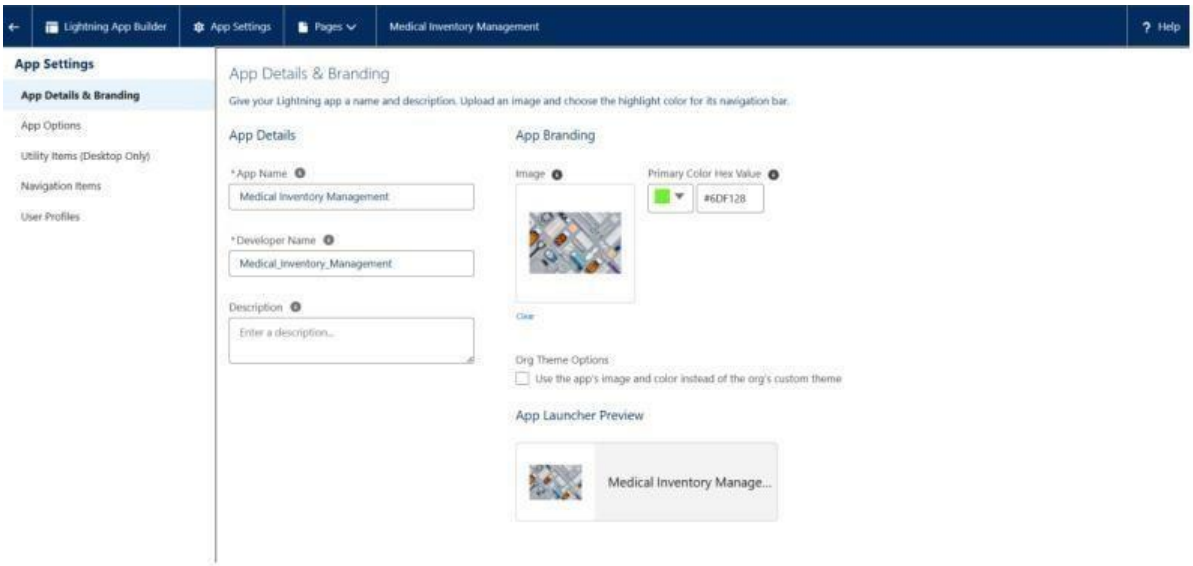


Lightning App Development

A**LightningApp**named*MedicalInventoryManagement*wascreatedthrough**App Manager** to organize all the custom objects.

Tabs Added:
Products, Purchase Orders, Order Items, Inventory Transactions, Suppliers, Reports, Dashboards.

This app provides a single interface for administrators to monitor inventory and purchases efficiently.

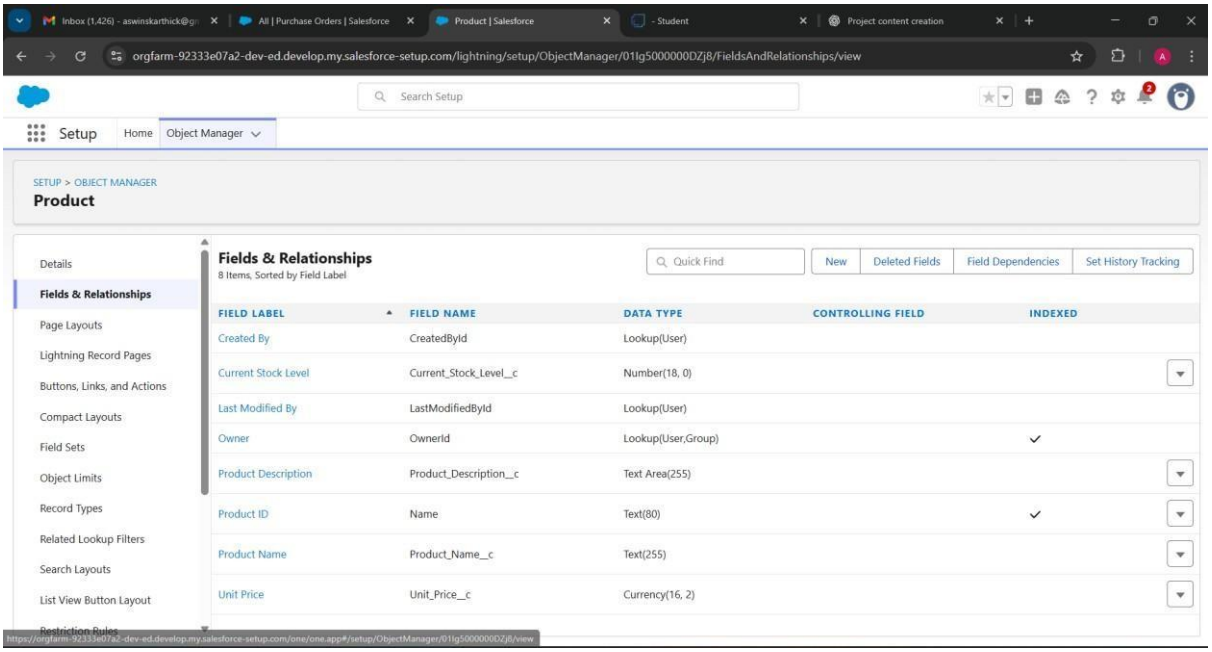


. Field Configurations and Validation Rules

Key fields and formulas were configured in each object to store relevant information accurately.

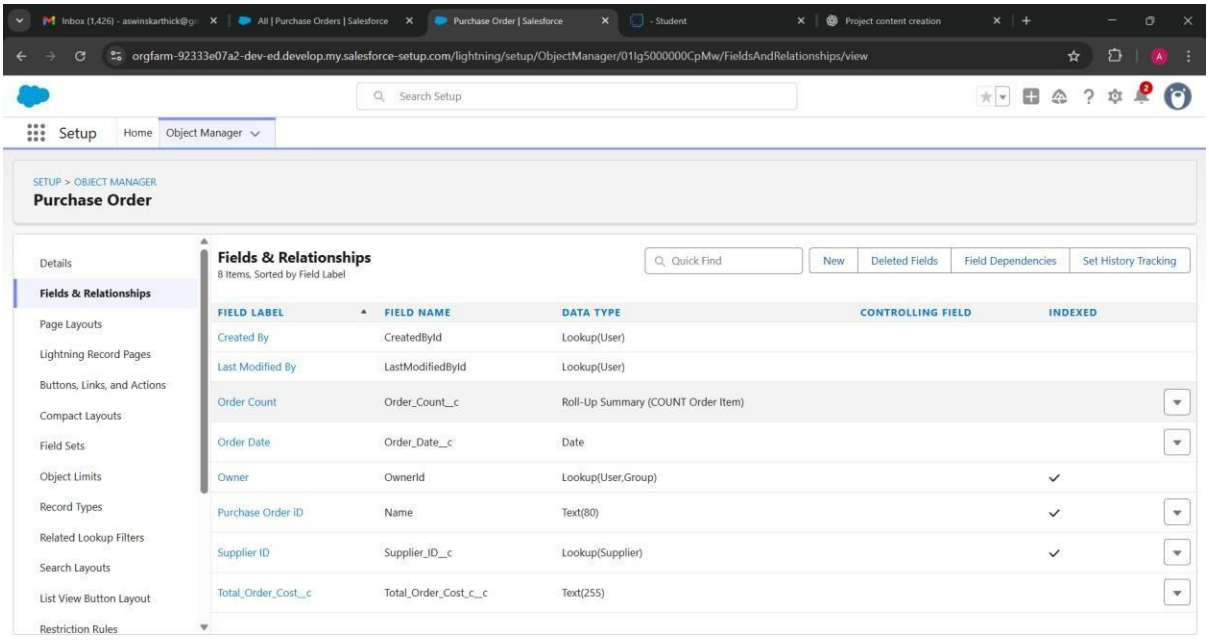
Product Object

Thesefieldsallowadministratorstomonitorinventoryavailability, calculateproduct value, andidentifywhichitems need to bereordered. They aredirectly usedininventory transaction and purchase order calculations.



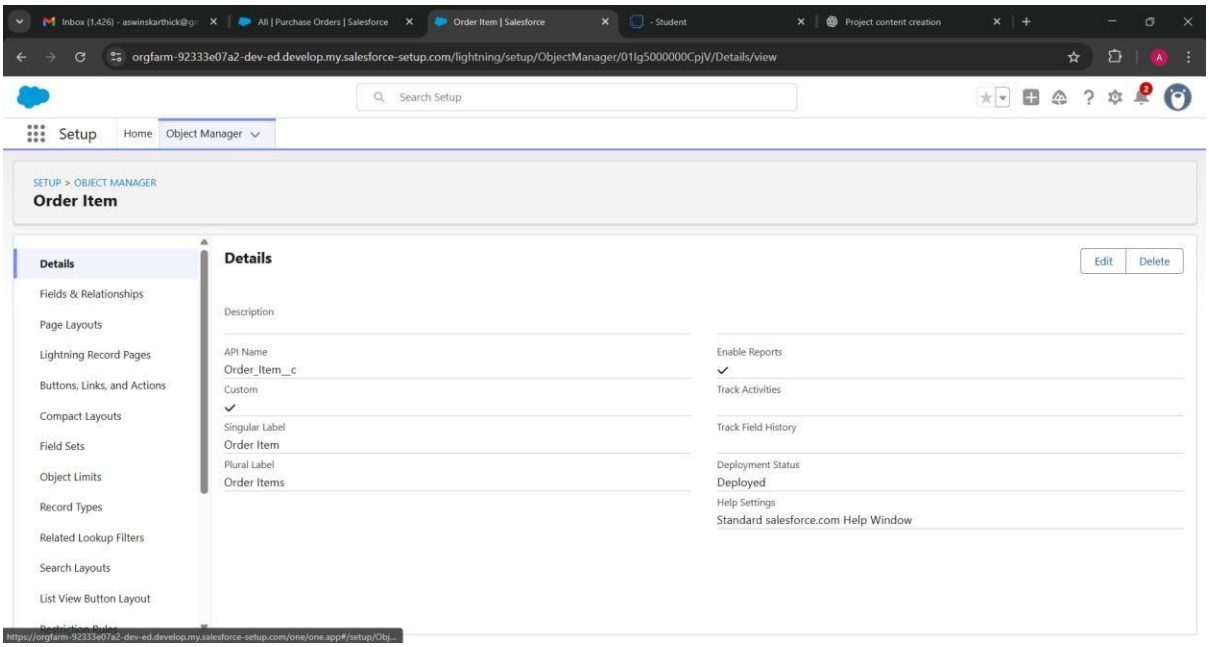
Purchase Order Object

This object acts as the main control center for the purchasing process, helping managers track supplier relationships, delivery timelines, and total purchase costs.



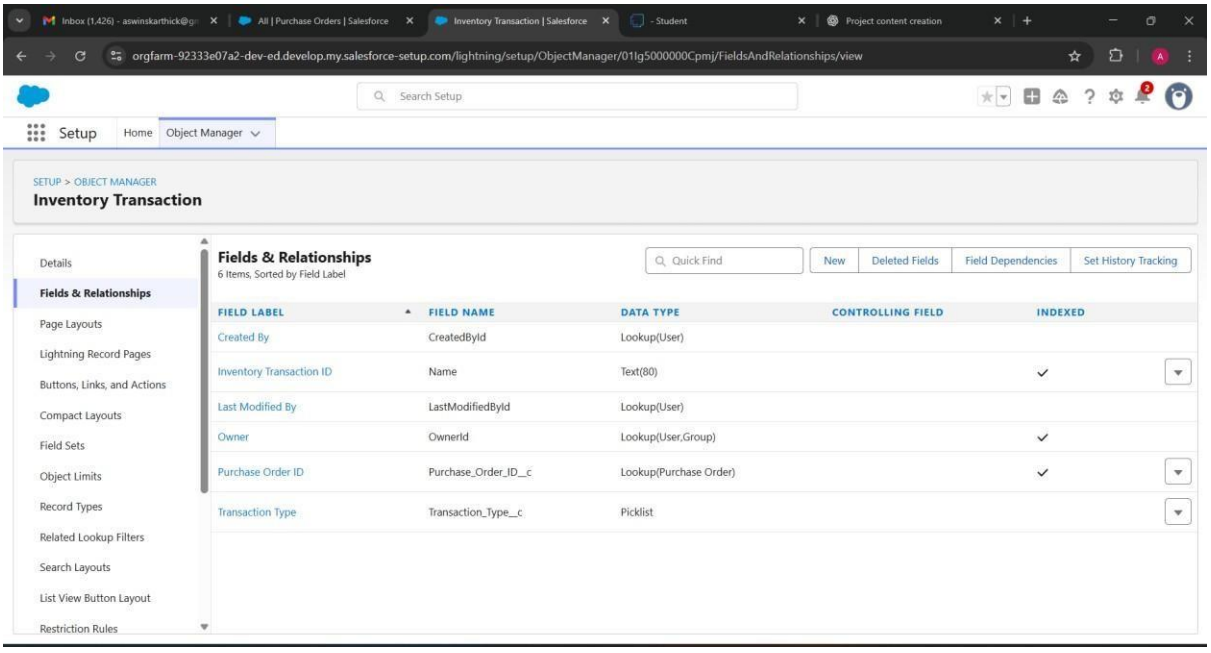
Order Item Object

Eachorder itemcontributes to the total purchase cost. The data fromthese fields is aggregated in the **Purchase Order** object to compute total expenditure.



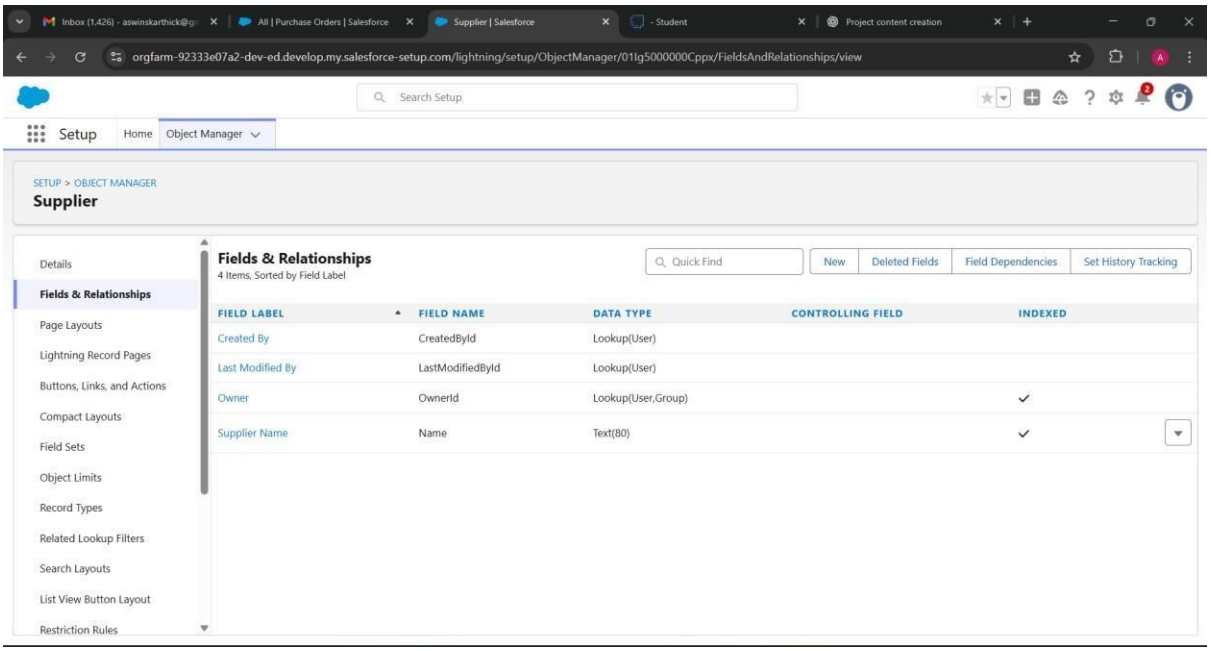
Inventory Transaction Object

These fields enable full traceability of stock movements, allowing the admin to track whether items were added, issued, or adjusted, ensuring stock integrity.



Supplier Object

Maintains an up-to-date supplier directory that supports lookup relationships with purchase orders. These fields enable automatic communication and accurate supplierbased reporting.



Page Layouts:

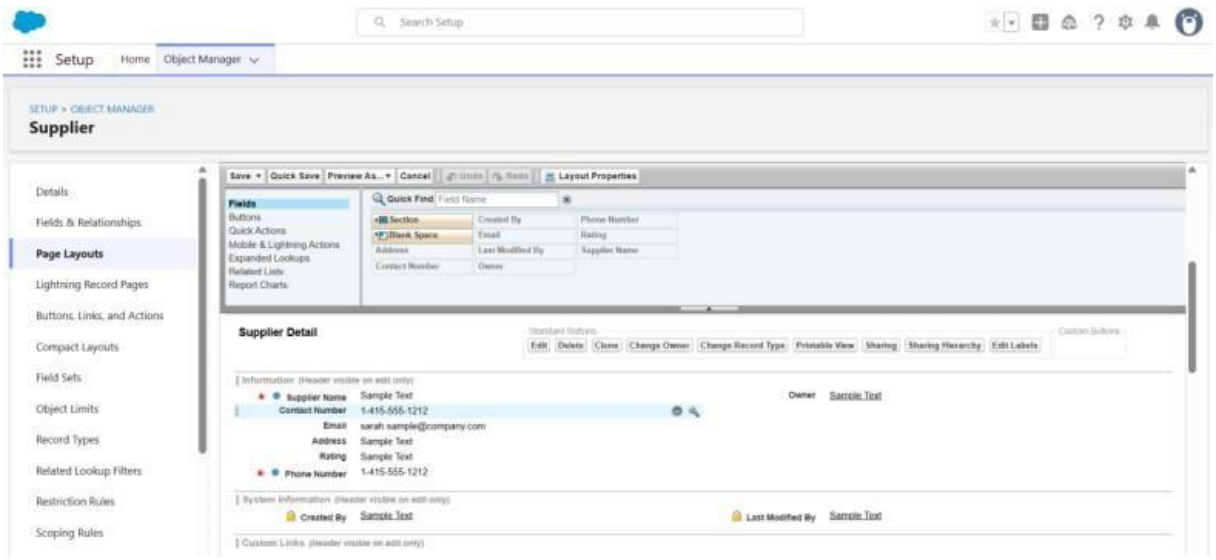
Editing **Page Layouts** in Salesforce helps organize how fields, sections, and related lists appear on record pages for better clarity and data entry.

In the **Medical Inventory Management** project, page layouts were customized for **Product, Purchase Order, Order Item, Inventory Transaction, and Supplier** objects. Fieldssuchas**OrderDate,TotalOrderCost,SupplierID,Product Name,andUnit**

Price were properly arranged for a clean and structured view.

Some important fields like **Order Date** were marked as *Required*, while calculated fields such as **TotalOrderCost** were set as *Read-Only*to maintain data accuracyand prevent manual modification.

These layout edits make data management easier and improve user experience across all modules.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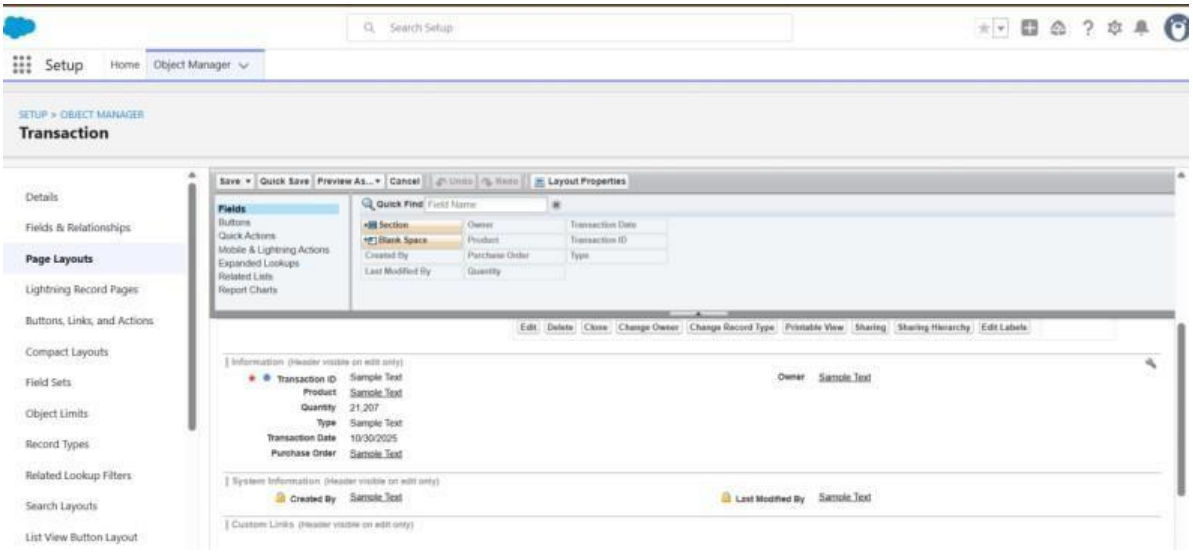
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Sharing Hierarchy
Edit Labels
Transaction ID
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Product
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Owner
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Created By
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Last Modified By
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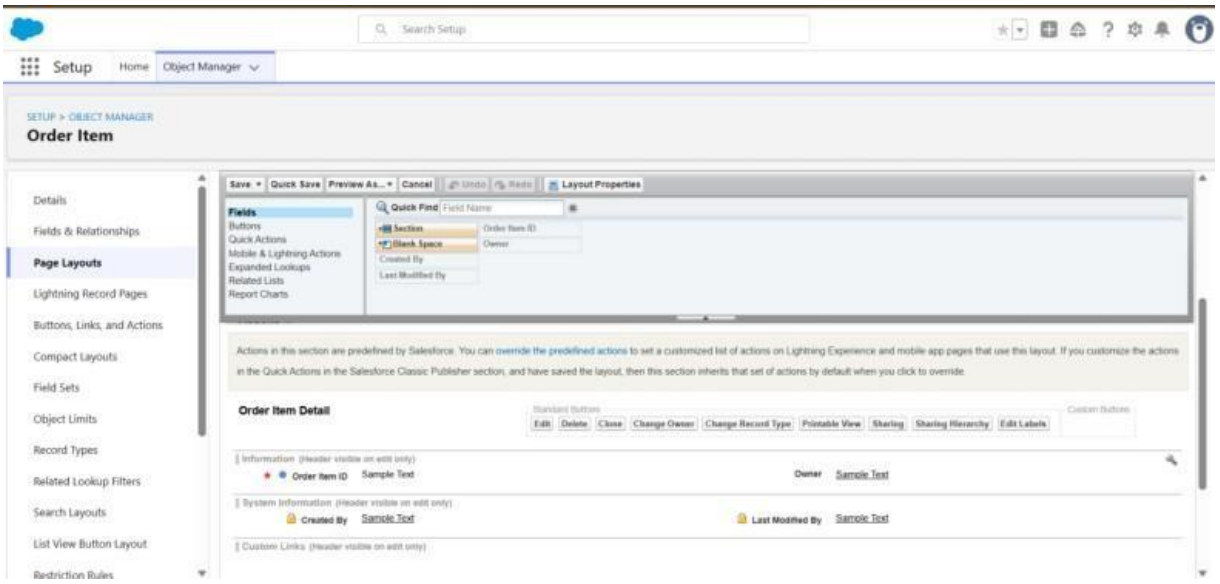
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Actions in this section are predefined by Salesforce. You can override the predefined actions to set a customized list of actions on Lightning Experience and mobile app pages that use this layout. If you customize the actions in the Quick Actions in the Salesforce Classic Publisher section, and have saved the layout, then this section inherits that set of actions by default when you click to override.
Order Item Detail
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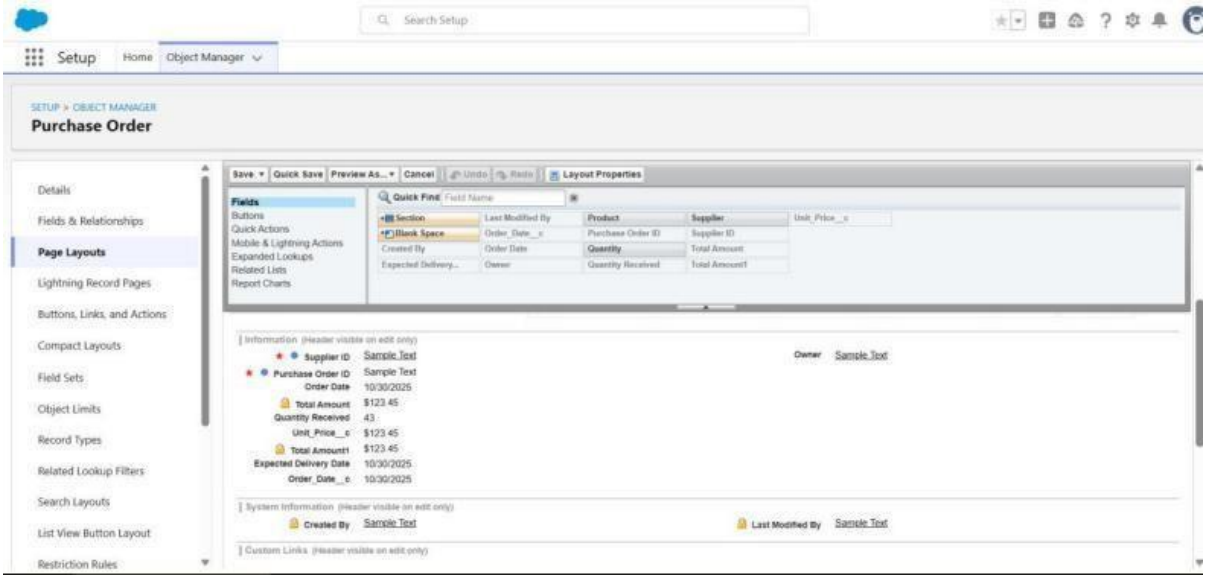
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Quantity Received
Total Amount1
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Owner
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Purchase Order ID
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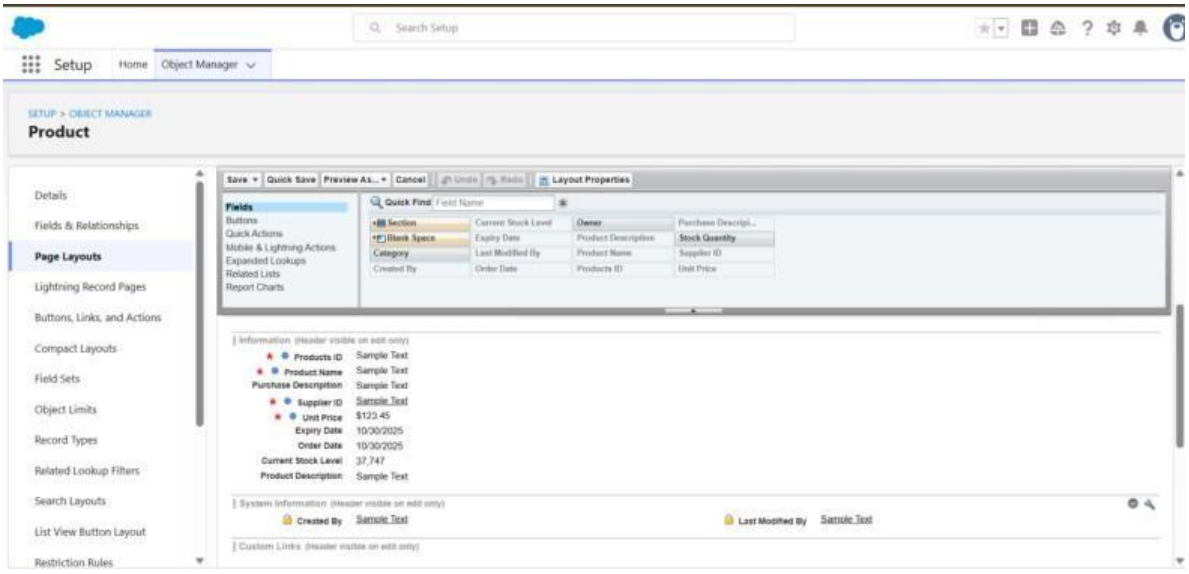
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Product Name
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Product Description
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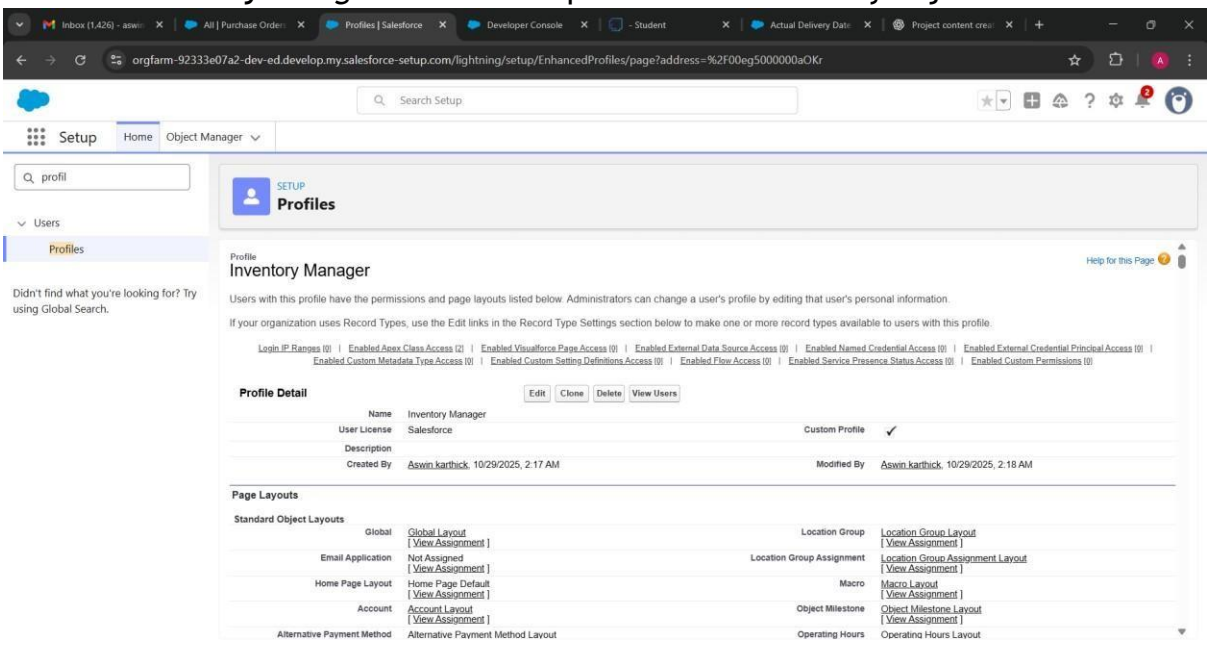
Profiles and Permission

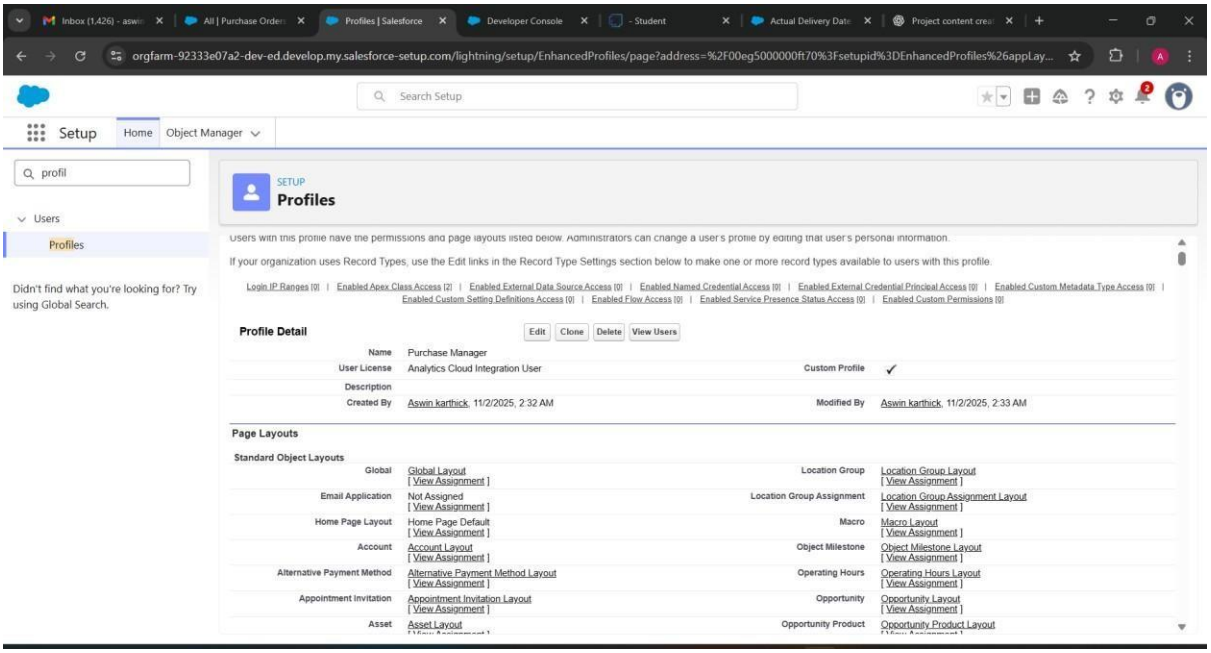
Sets Profiles

Created:

- *InventoryManager* – Access to product and inventory objects.

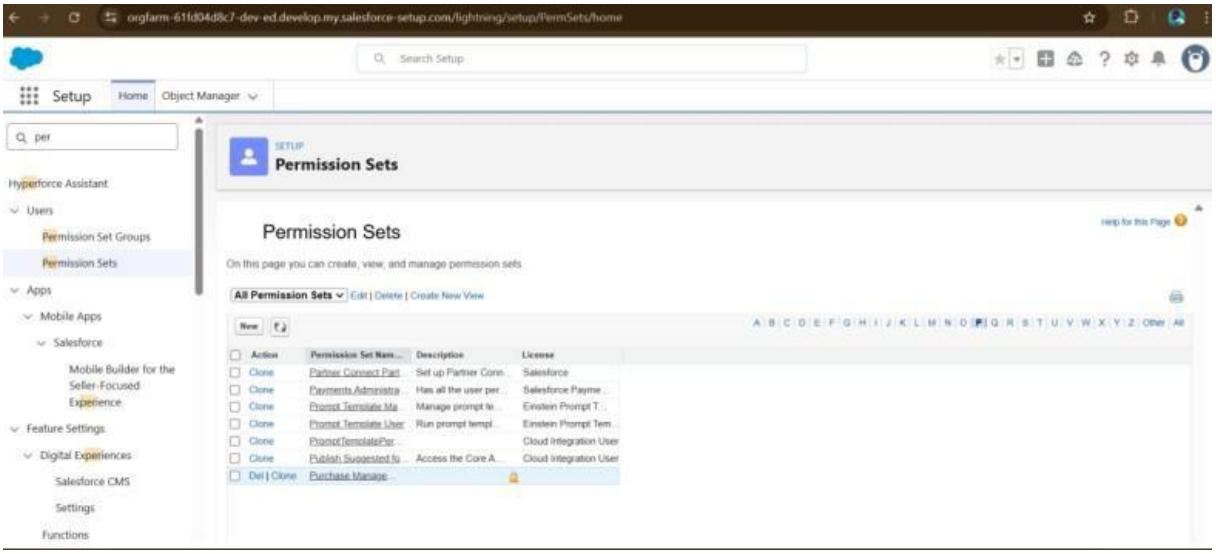


- *Purchase Manager* – Access to purchase order and supplier objects.



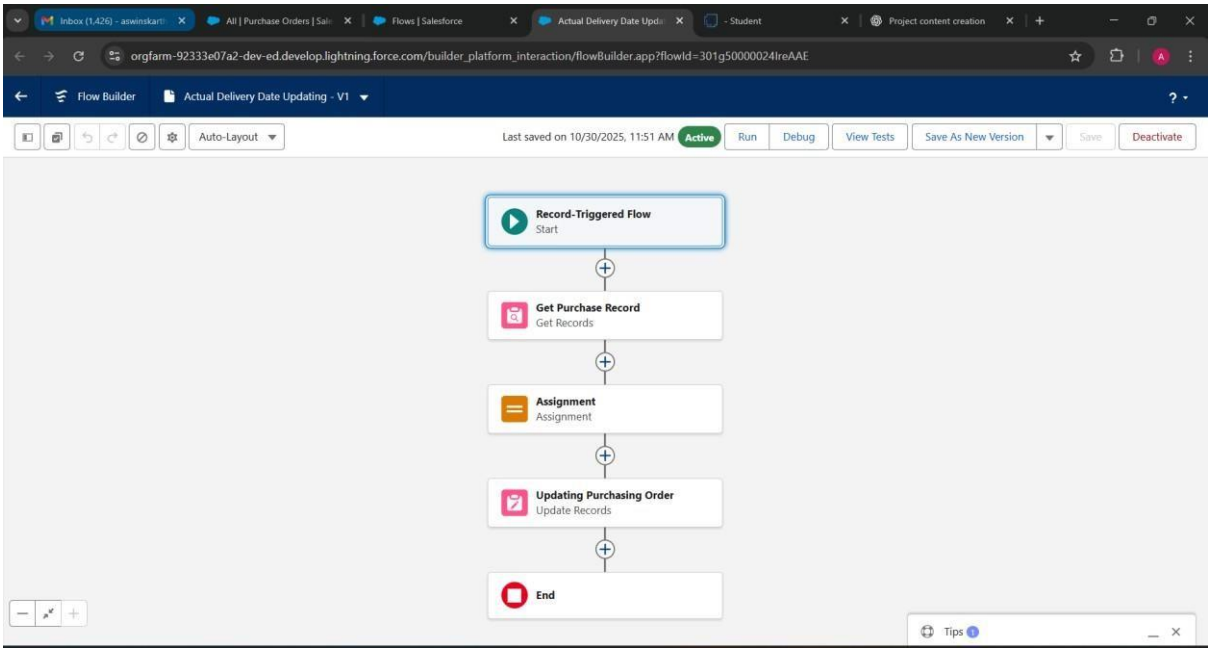
- **Permission Set:**

PurchaseManagerCreateAccess — Allows creation of Order Items and visibility of related records.



. Automations and Flows

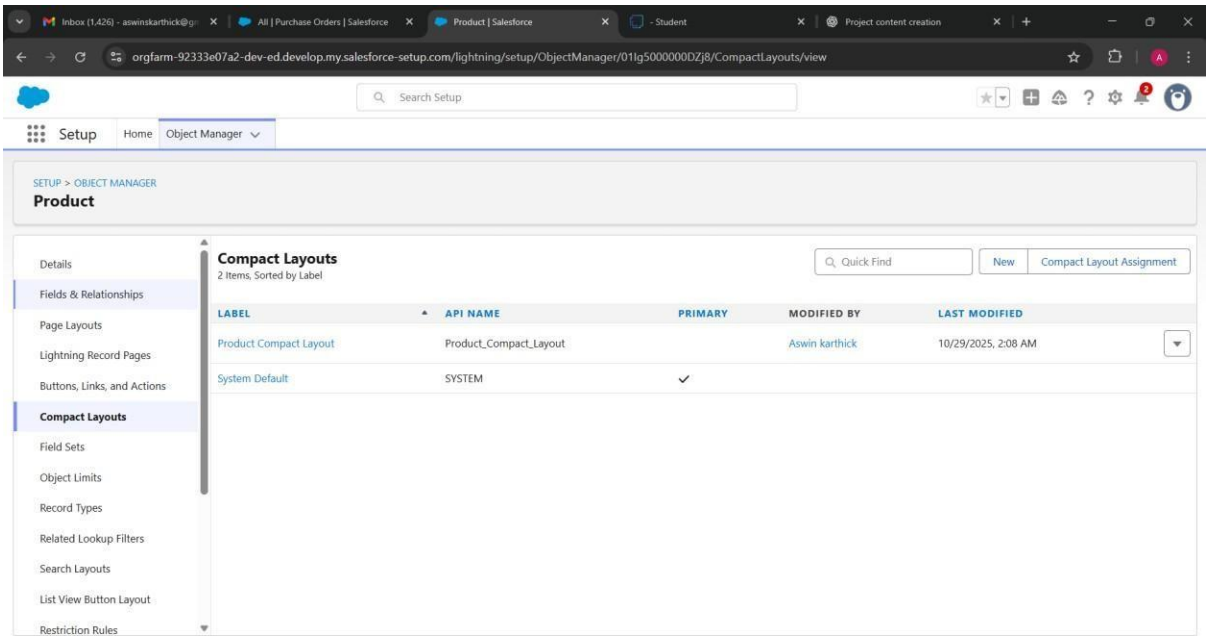
- **Flow – Actual Delivery Date Automation:**
  A Record-TriggeredFlowautomaticallyupdates the *ActualDeliveryDate* fieldto be 3 days after the *Order Date*.
  This ensures delivery tracking happens withoutmanualupdates.



- **Formula Fields:**

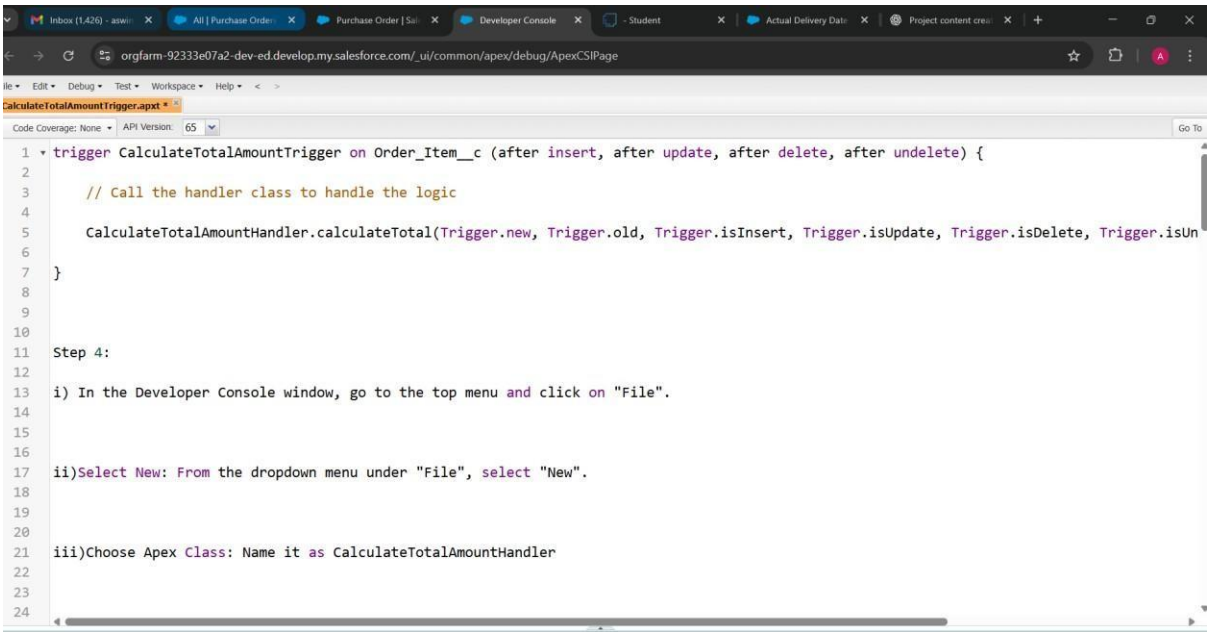
Inthe **OrderItem** object, an *Amount*formula field calculates:

Quantity_Received c * Unit_Price _c



Apex Trigger and Handler

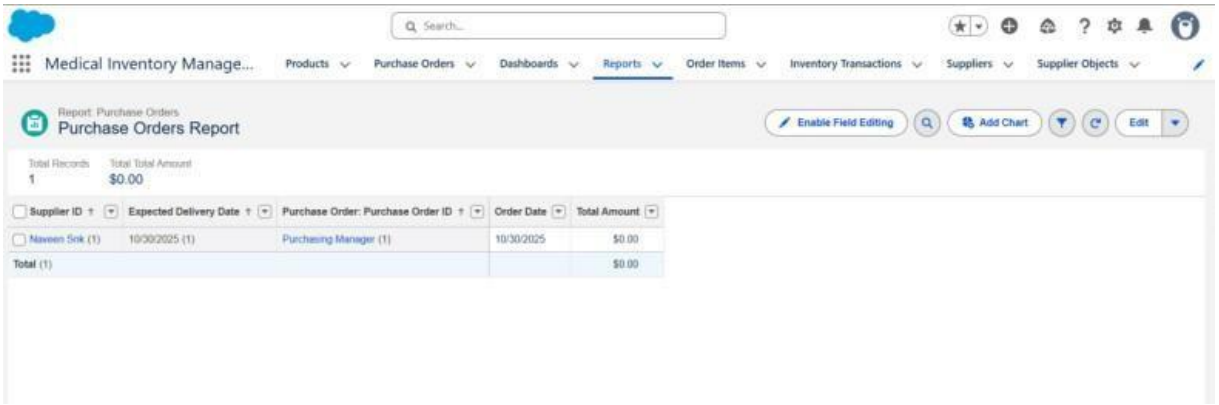
An **Apex Trigger and Handler Class** were created to automatically calculate the *Total OrderCost* whenever Order Items are inserted, updated, or deleted.



Reports:

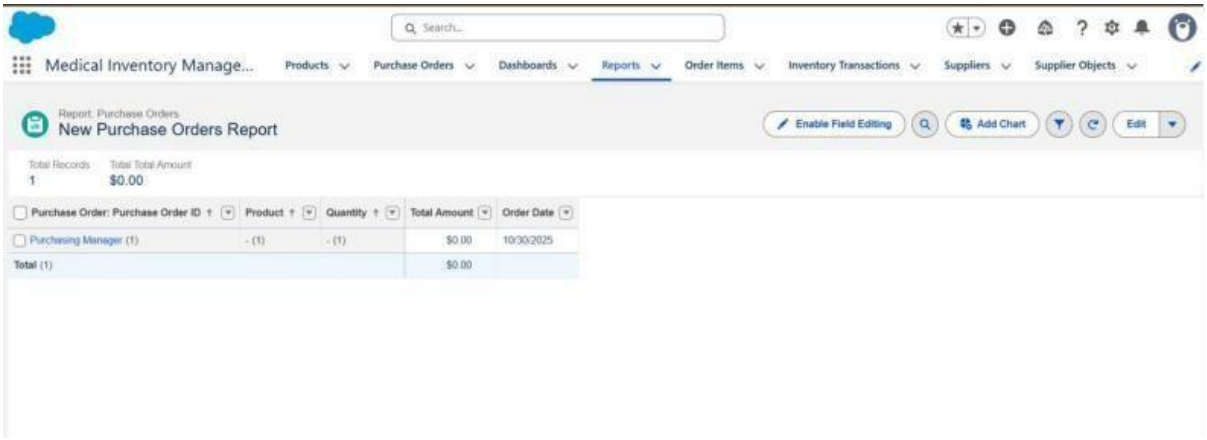
1. **Purchase Orders based on Suppliers**

   A summary report groupingrecords by Supplier ID and Purchase Order ID, displaying Order Count and Total Order Cost.



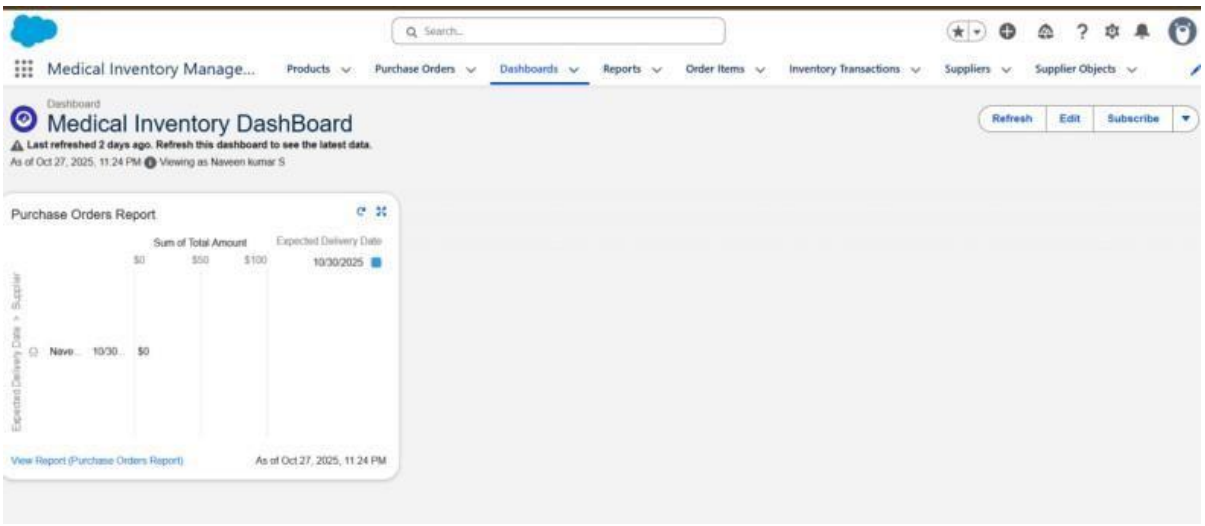
2. **Complete Purchase Details Report**

   A detailed report combining Purchase Orders, Order Items, and Products with grouped columns for Supplier, Product, Quantity, and Amount.



Dashboard:

A dashboard named *MedicalInventoryDashboard* visualizes purchase data, supplier performance, and total order cost using charts and tables derived from reports.



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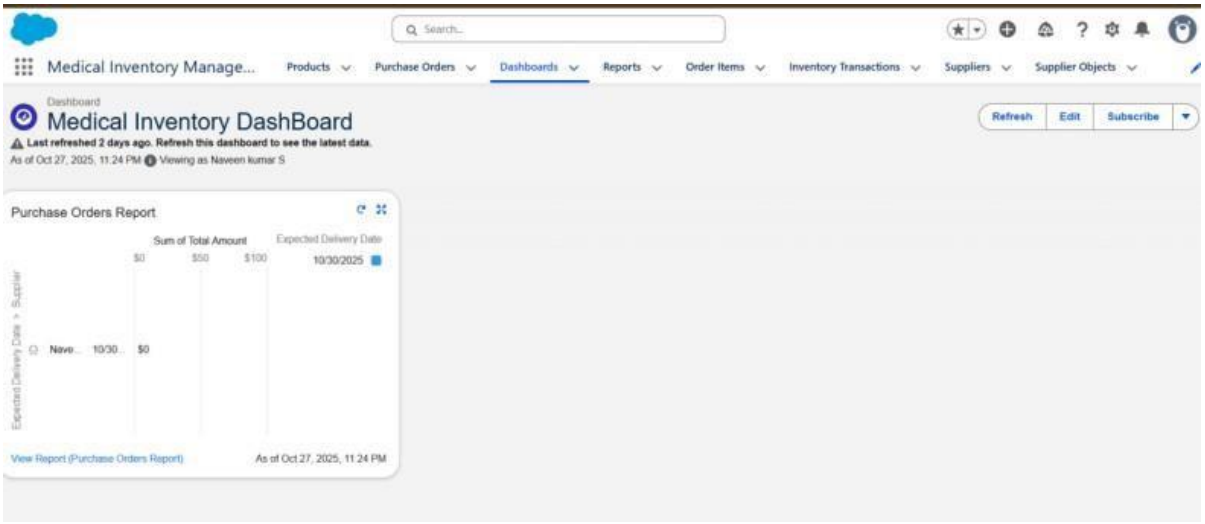
11. Key Scenarios Addressed by Salesforce

1. **Inventory Accuracy:**
   Automatestracking of stock levels and transactions to prevent shortages.
2. **Supplier Management:**
   Centralizes supplier data with email and phone contact integration.
3. **Purchase Monitoring:**
   Enables managers to view real-time order progress through reports and dashboards.
4. **Automated Calculations:**
   Formula fields and triggers keep costdata updated automatically.
5. **Role-Based Access:**
   Profiles and permission sets control which users can create or edit records.
6. **Data Validation:**
   Validation rules prevent incorrect deliverydate entries and ensure reliable data.

12. Conclusion

The **Medical Inventory Management System** successfully automates the core functions of a medical procurement and inventory process using Salesforce.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Products
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Suppliers
Supplier Objects
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