

Medical Inventory Management

SUBMITTED BY :

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Project Overview

The **Medical Inventory Management System** is designed to automate and streamline 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

The main goal of the Medical Inventory Management System is to provide a **centralized and automated platform** for managing medical product data, supplier relationships, and inventory movements.

Business Goals:

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

B. **Optimize Stock Levels:** Prevent overstocking or shortages by maintaining real-time visibility of inventory quantities.

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

D. **Enhance Decision-Making:** Provide real-time data through reports and dashboards for better forecasting and analysis.

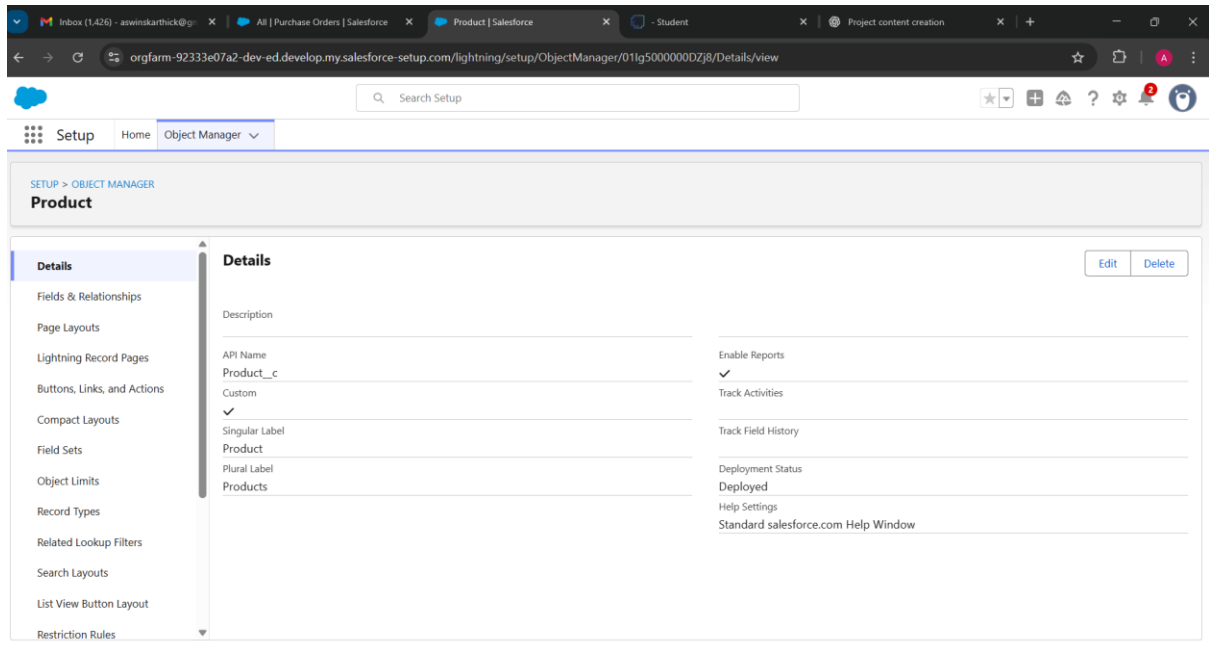
E. **Reduce Manual Effort:** Use automation, formulas, and triggers to eliminate repetitive tasks and maintain data consistency.

3. Salesforce Key Features and Concepts Utilized

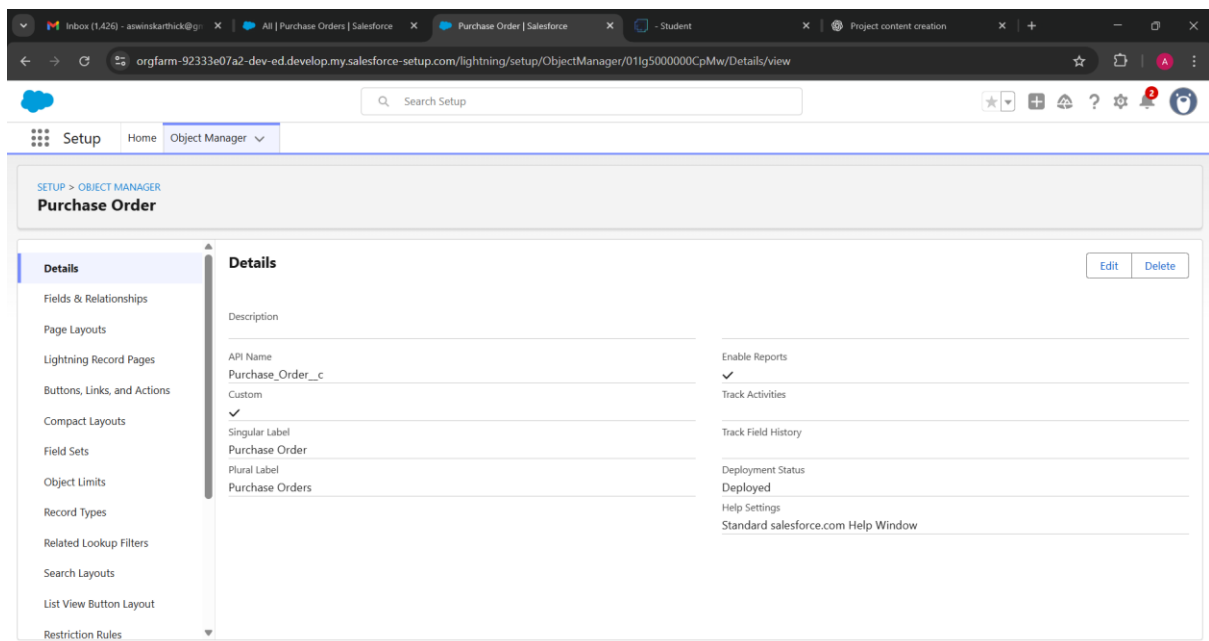
The Medical Inventory Management System uses several Salesforce components and features to efficiently handle the end-to-end medical inventory workflow.

Custom Objects

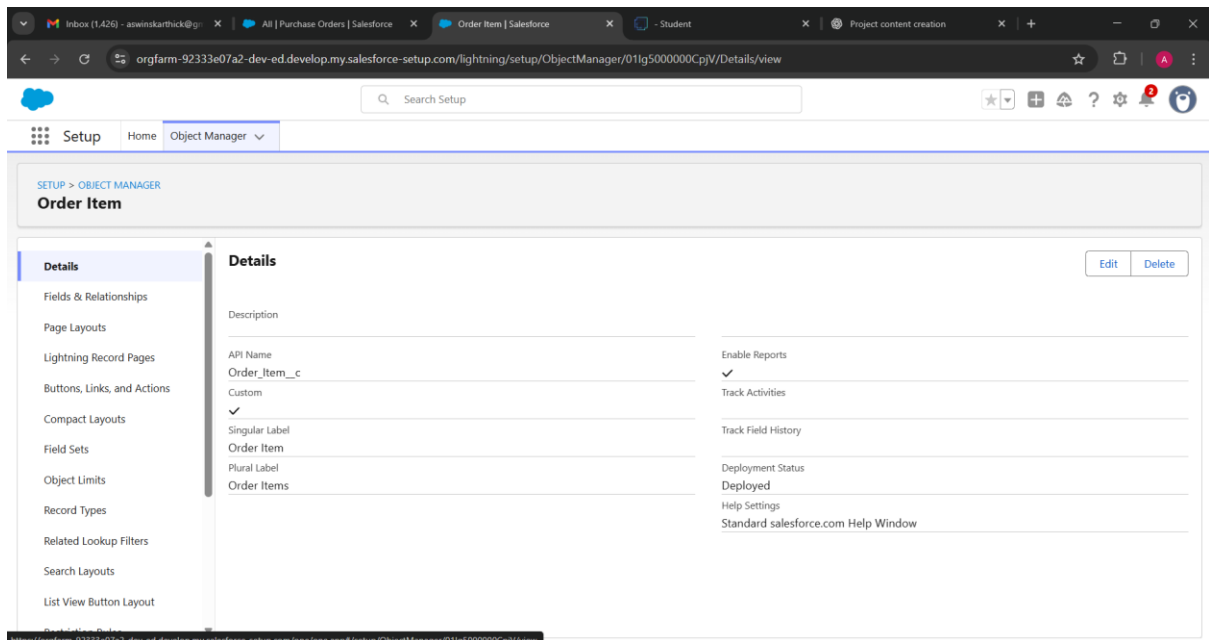
1. **Product:** Stores detailed information about each medical item such as product name, description, stock level, and unit price.



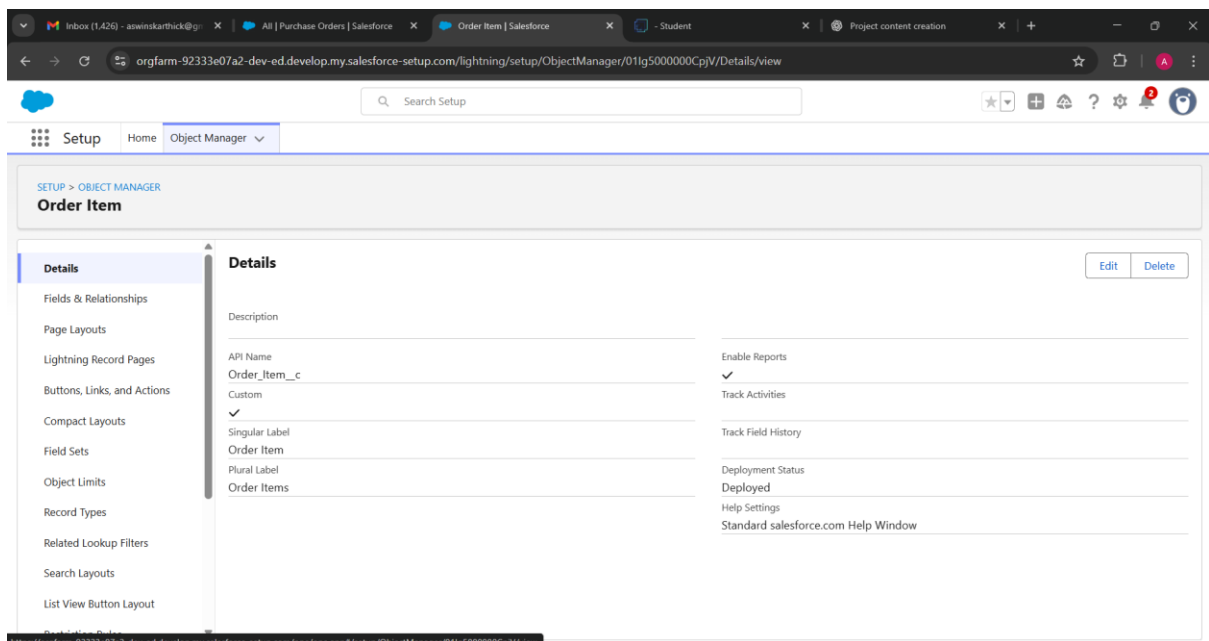
2. **Purchase Order:** Manages purchase-related information like supplier details, order date, and total order cost.



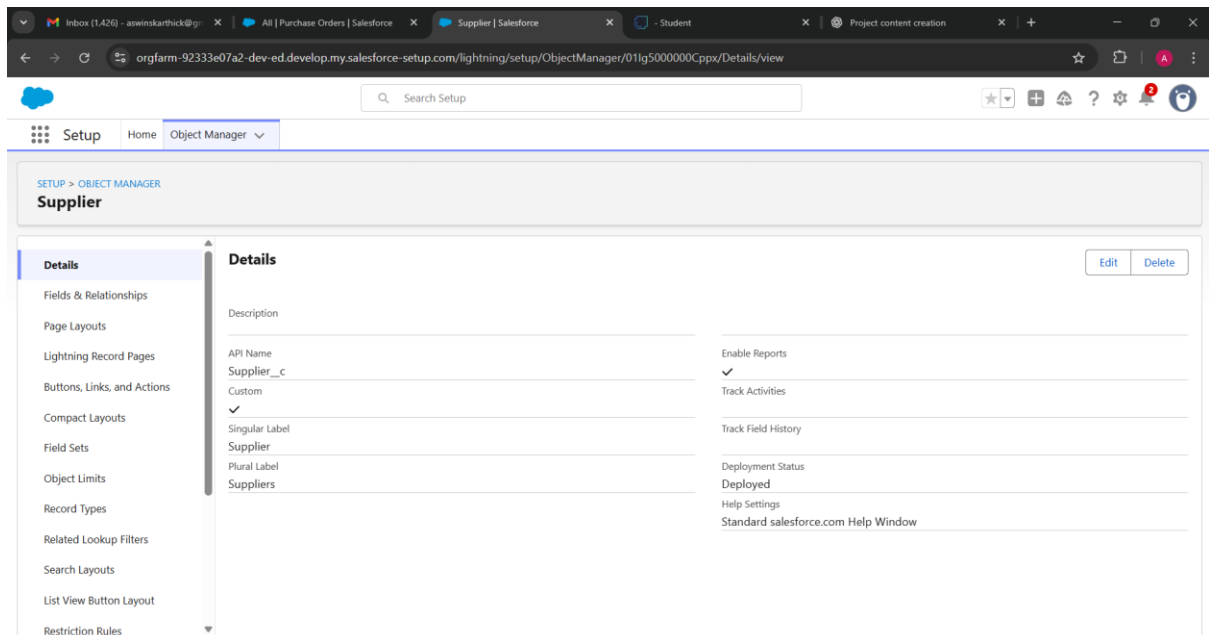
3. **Order Item:** Tracks individual items purchased within a specific purchase order, including quantity received and price.



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.



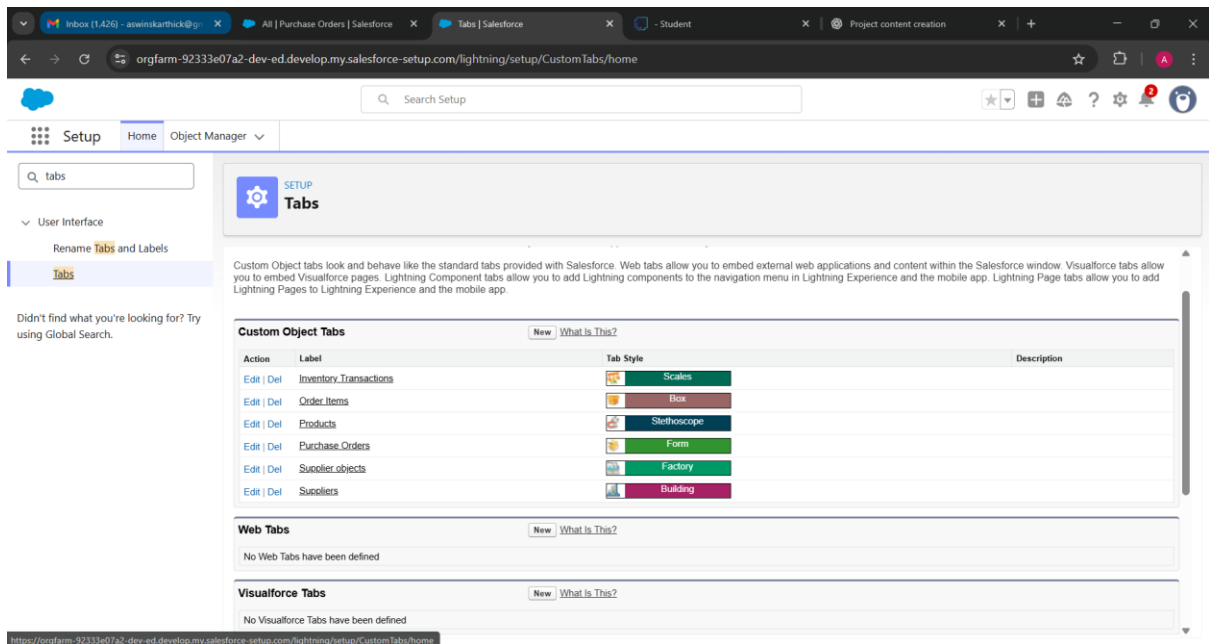
Relationships

- **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 the Medical Inventory Management project, tabs were created for Products, 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.



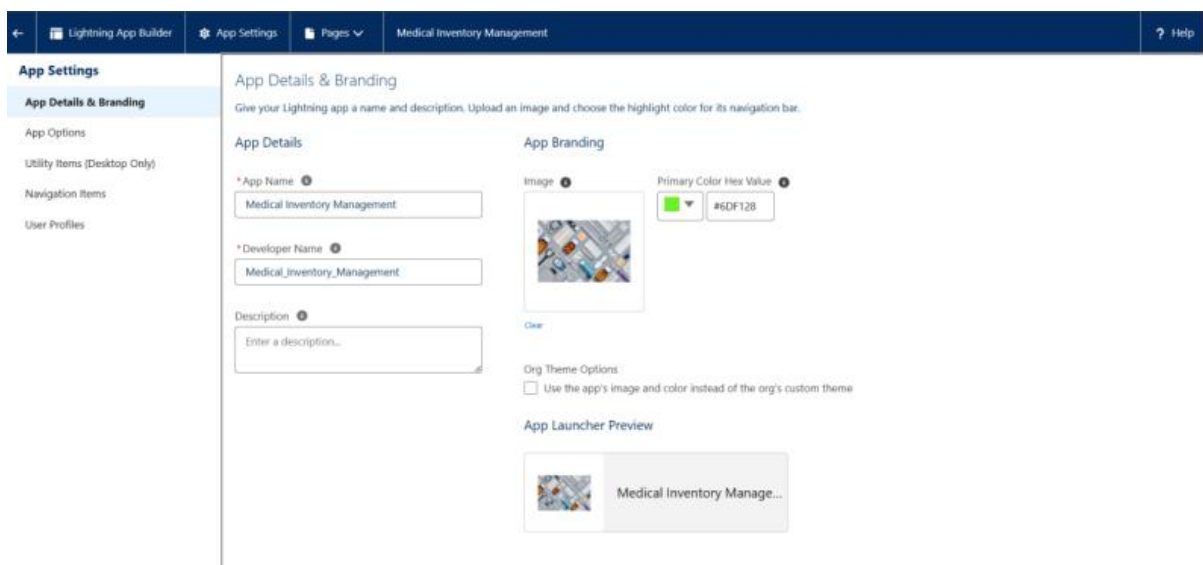
Lightning App Development

A **Lightning App** named *Medical Inventory Management* was created through **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.

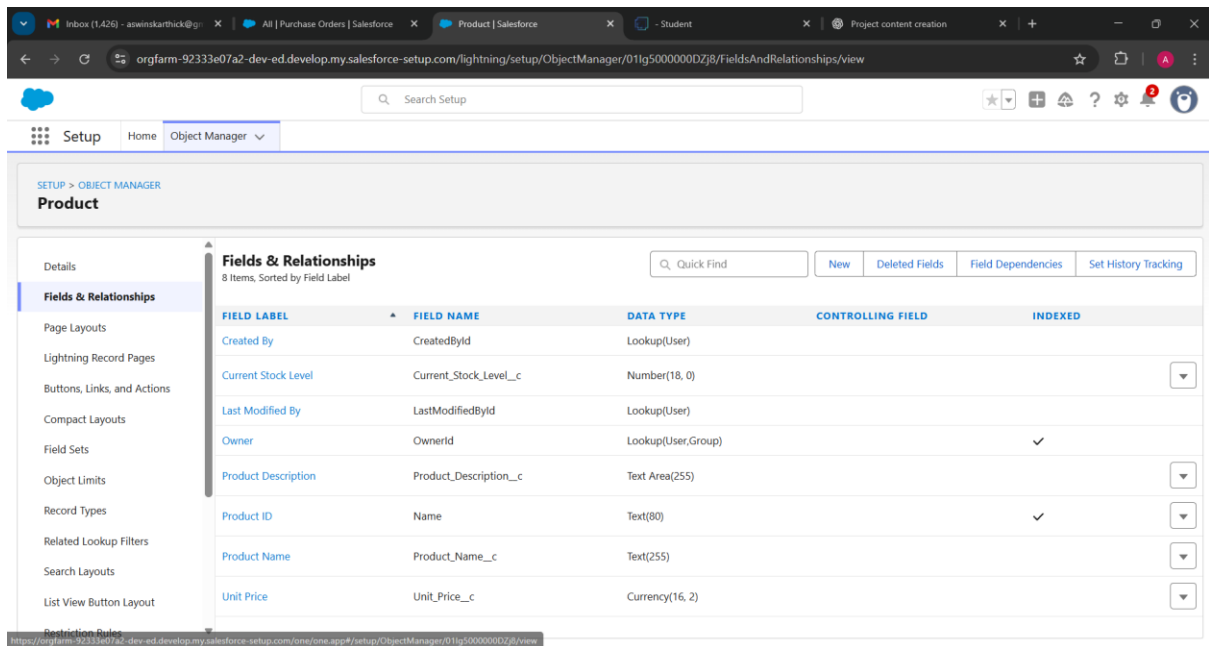


. Field Configurations and Validation Rules

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

Product Object

These fields allow administrators to monitor inventory availability, calculate product value, and identify which items need to be reordered. They are directly used in inventory transaction and purchase order calculations.



The screenshot shows the Salesforce Setup interface for the 'Product' object. The 'Fields & Relationships' section is active, displaying a list of 8 fields. The fields are sorted by Field Label. The table includes columns for Field Label, Field Name, Data Type, Controlling Field, and Indexed status. The fields listed are: Created By, Current Stock Level, Last Modified By, Owner, Product Description, Product ID, Product Name, and Unit Price.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Current Stock Level	Current_Stock_Level__c	Number(18, 0)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Product Description	Product_Description__c	Text Area(255)		
Product ID	Name	Text(80)		✓
Product Name	Product_Name__c	Text(255)		
Unit Price	Unit_Price__c	Currency(16, 2)		

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.

Screenshot of the Salesforce Setup interface showing the **Purchase Order** object configuration. The left sidebar lists various setup options, and the main area displays the **Fields & Relationships** section for the **Purchase Order** object.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Order Count	Order_Count__c	Roll-Up Summary (COUNT Order Item)		
Order Date	Order_Date__c	Date		
Owner	OwnerId	Lookup(User,Group)		✓
Purchase Order ID	Name	Text(80)		✓
Supplier ID	Supplier_ID__c	Lookup(Supplier)		✓
Total_Order_Cost__c	Total_Order_Cost__c	Text(255)		

Order Item Object

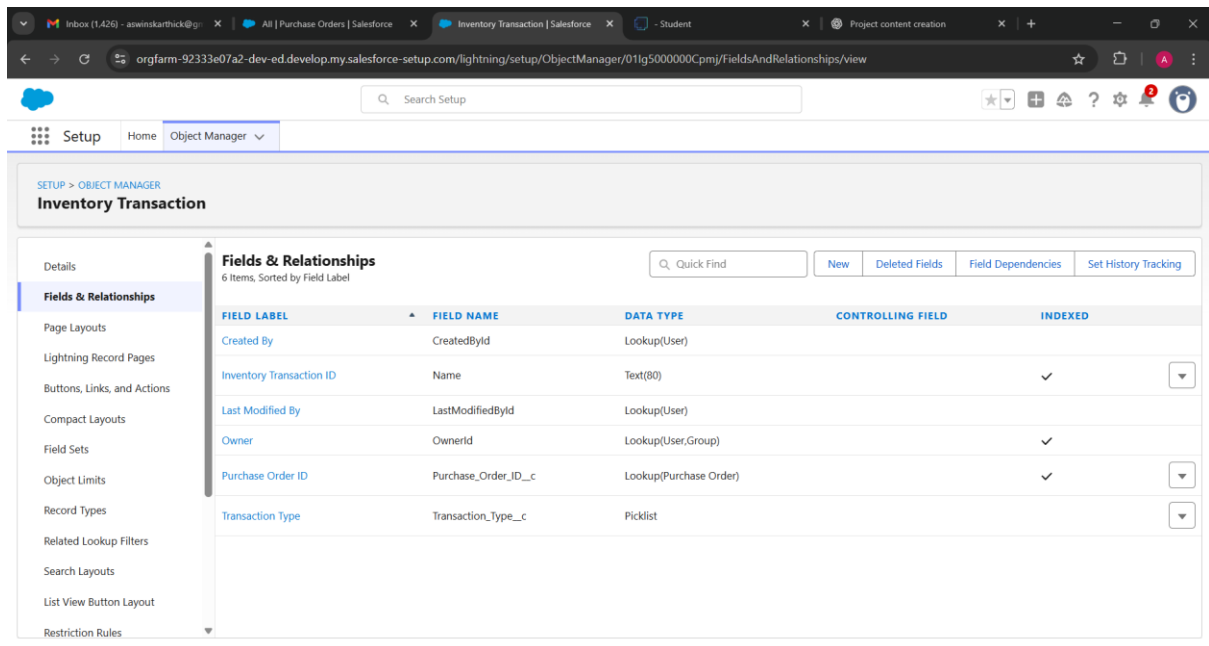
Each order item contributes to the total purchase cost. The data from these fields is aggregated in the **Purchase Order** object to compute total expenditure.

Screenshot of the Salesforce Setup interface showing the **Order Item** object configuration. The left sidebar lists various setup options, and the main area displays the **Details** section for the **Order Item** object.

Field Name	Value
Description	
API Name	Order_Item__c
Custom	✓
Singular Label	Order Item
Plural Label	Order Items
Enable Reports	✓
Track Activities	
Track Field History	
Deployment Status	Deployed
Help Settings	Standard salesforce.com Help Window

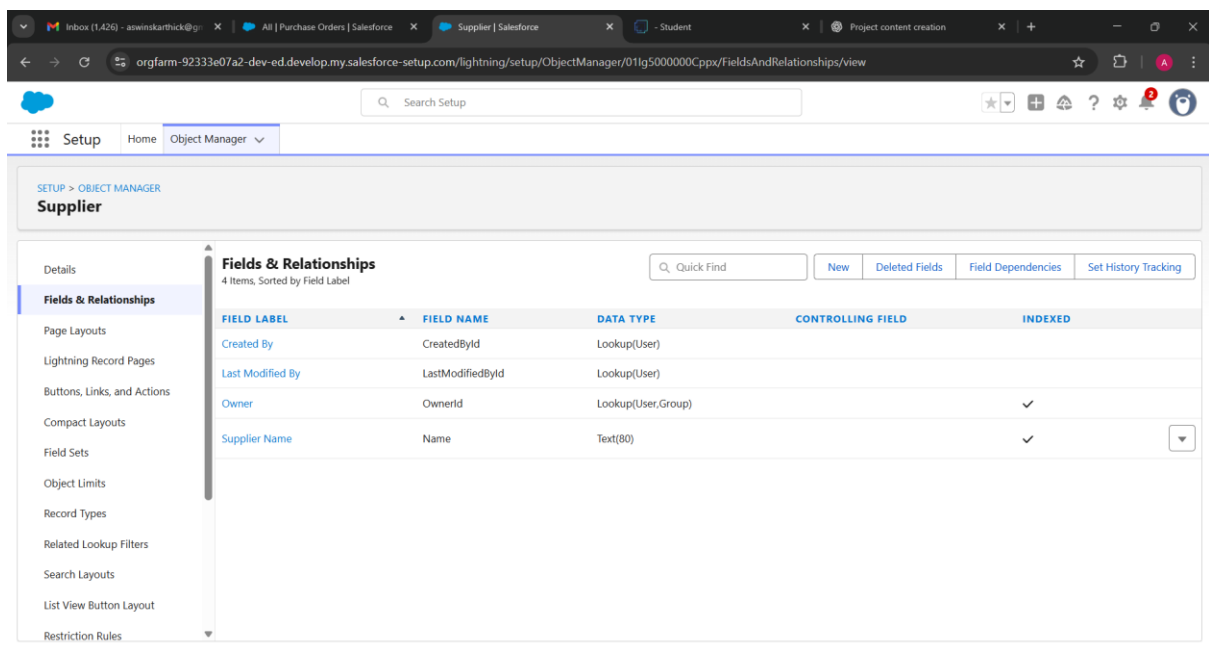
Inventory Transaction Object

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 supplier-based 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.


Fields such as **Order Date, Total Order Cost, Supplier ID, Product Name, and Unit 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 **Total Order Cost** were set as *Read-Only* to maintain data accuracy and prevent manual modification.

These layout edits make data management easier and improve user experience across all modules.

The screenshot shows the Salesforce Setup interface for the 'Supplier' object. The left sidebar contains a navigation menu with options like 'Details', 'Fields & Relationships', 'Page Layouts' (selected), 'Lightning Record Pages', 'Buttons, Links, and Actions', 'Compact Layouts', 'Field Sets', 'Object Limits', 'Record Types', 'Related Lookup Filters', 'Restriction Rules', and 'Scoping Rules'. The main content area displays the 'Supplier Detail' layout. At the top, there's a 'Save' button and a 'Quick Find' search bar. Below this, a 'Fields' section lists available fields: 'Section', 'Created By', 'Phone Number', 'Blank Space', 'Email', 'Rating', 'Address', 'Last Modified By', 'Supplier Name', and 'Contact Number'. The layout itself shows a header with 'Supplier Name' and 'Owner', followed by a section for 'Contact Information' with fields like 'Contact Number', 'Email', 'Address', 'Rating', and 'Phone Number'. System information at the bottom shows 'Created By' and 'Last Modified By'.

The screenshot shows the Salesforce Setup interface for the 'Transaction' object. The left sidebar is identical to the previous screenshot, with 'Page Layouts' selected. The main content area displays the 'Transaction Detail' layout. Similar to the Supplier layout, it has a 'Save' button and a 'Quick Find' search bar. The 'Fields' section lists available fields: 'Owner', 'Transaction Date', 'Product', 'Transaction ID', 'Created By', 'Purchase Order', 'Type', and 'Quantity'. The layout shows a header with 'Transaction ID' and 'Owner', followed by a section for 'Transaction Information' with fields like 'Product', 'Quantity', 'Type', 'Transaction Date', and 'Purchase Order'. System information at the bottom shows 'Created By' and 'Last Modified By'.



Search Setup

Setup Home Object Manager

SETUP > OBJECT MANAGER

Order Item

DetailsFields & RelationshipsPage LayoutsLightning Record PagesButtons, Links, and ActionsCompact LayoutsField SetsObject LimitsRecord TypesRelated Lookup FiltersSearch LayoutsList View Button LayoutRestriction Rules

SaveQuick SavePreview As...CancelUndoRedoLayout Properties

Fields

Quick FindField Name

SectionOrder Item IDBlank SpaceOwnerCreated ByLast Modified By

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

Standard ButtonsEditDeleteCloneChange OwnerChange Record TypePrintable ViewSharingSharing HierarchyEdit LabelsCustom Buttons

Information (Header visible on edit only)

Order Item IDSample Text


OwnerSample Text

System Information (Header visible on edit only)

Created BySample Text

Last Modified BySample Text

Custom Links (Header visible on edit only)



Search Setup

Setup Home Object Manager

SETUP > OBJECT MANAGER

Purchase Order

DetailsFields & RelationshipsPage LayoutsLightning Record PagesButtons, Links, and ActionsCompact LayoutsField SetsObject LimitsRecord TypesRelated Lookup FiltersSearch LayoutsList View Button LayoutRestriction Rules

SaveQuick SavePreview As...CancelUndoRedoLayout Properties

Fields

Quick FindField Name

SectionLast Modified ByProductSupplierUnit Price_cOrder Date_cPurchase Order IDSupplier IDCreated ByOrder DateQuantityTotal AmountExpected Delivery...OwnerQuantity ReceivedTotal Amount

Information (Header visible on edit only)

Supplier IDSample Text

OwnerSample Text

Purchase Order IDSample Text

Order Date10/30/2025

Total Amount\$123.45

Quantity Received43

Unit Price_c\$123.45

Total Amount\$123.45

Expected Delivery Date10/30/2025


Order Date_c10/30/2025

System Information (Header visible on edit only)

Created BySample Text

Last Modified BySample Text

Custom Links (Header visible on edit only)



Search Setup

Setup Home Object Manager

SETUP > OBJECT MANAGER

Product

DetailsFields & RelationshipsPage LayoutsLightning Record PagesButtons, Links, and ActionsCompact LayoutsField SetsObject LimitsRecord TypesRelated Lookup FiltersSearch LayoutsList View Button LayoutRestriction Rules

SaveQuick SavePreview As...CancelUndoRedoLayout Properties

Fields

Quick FindField Name

SectionCurrent Stock LevelOwnerPurchase Descri...Expiry DateProduct DescriptionStock QuantityCategoryLast Modified ByProduct NameSupplier IDCreated ByOrder DateProducts IDUnit Price

Information (Header visible on edit only)

Products IDSample Text

Product NameSample Text

Purchase DescriptionSample Text

Supplier IDSample Text

Unit Price\$123.45

Expiry Date10/30/2025

Order Date10/30/2025

Current Stock Level37,747

Product DescriptionSample Text

System Information (Header visible on edit only)

Created BySample Text

Last Modified BySample Text

Custom Links (Header visible on edit only)

Profiles and Permission Sets

- **Profiles Created:**

- *Inventory Manager* — Access to product and inventory objects.

The screenshot shows the Salesforce Setup interface for the 'Inventory Manager' profile. The left sidebar includes a search bar with 'profil' and a list of items: Users, Profiles, and a message 'Didn't find what you're looking for? Try using Global Search.' The main content area is titled 'Profiles' and shows details for the 'Inventory Manager' profile. It includes a list of enabled permissions (Login IP Ranges, Apex Class Access, Visualforce Page Access, External Data Source Access, Named Credential Access, External Credential Principal Access, Custom Metadata Type Access, Custom Setting Definitions Access, Flow Access, Service Presence Status Access, Custom Permissions) and a 'Profile Detail' section with fields for Name, User License, Description, Created By, and Modified By. Below this is a 'Page Layouts' section with a table of standard object layouts.

Standard Object Layouts	Global	Location Group
Global	Global Layout [View Assignment]	Location Group Layout [View Assignment]
Email Application	Not Assigned [View Assignment]	Location Group Assignment Layout [View Assignment]
Home Page Layout	Home Page Default [View Assignment]	Macro [View Assignment]
Account	Account Layout [View Assignment]	Object Milestone Layout [View Assignment]
Alternative Payment Method	Alternative Payment Method Layout	Operating Hours [View Assignment]

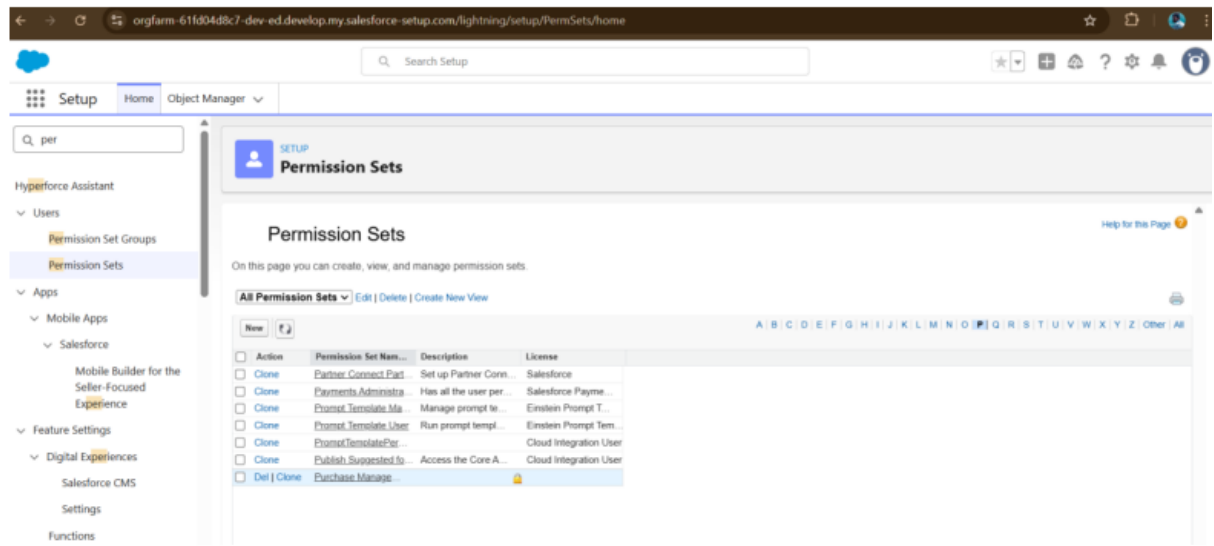
- *Purchase Manager* — Access to purchase order and supplier objects.

The screenshot shows the Salesforce Setup interface for the 'Purchase Manager' profile. The left sidebar is identical to the previous screenshot. The main content area shows details for the 'Purchase Manager' profile, including a list of enabled permissions and a 'Profile Detail' section. The 'Page Layouts' section contains a table of standard object layouts.

Standard Object Layouts	Global	Location Group
Global	Global Layout [View Assignment]	Location Group Layout [View Assignment]
Email Application	Not Assigned [View Assignment]	Location Group Assignment Layout [View Assignment]
Home Page Layout	Home Page Default [View Assignment]	Macro [View Assignment]
Account	Account Layout [View Assignment]	Object Milestone Layout [View Assignment]
Alternative Payment Method	Alternative Payment Method Layout [View Assignment]	Operating Hours [View Assignment]
Appointment Invitation	Appointment Invitation Layout [View Assignment]	Opportunity Layout [View Assignment]
Asset	Asset Layout [View Assignment]	Opportunity Product Layout [View Assignment]

- **Permission Set:**

Purchase Manager Create Access — Allows creation of Order Items and visibility of related records.

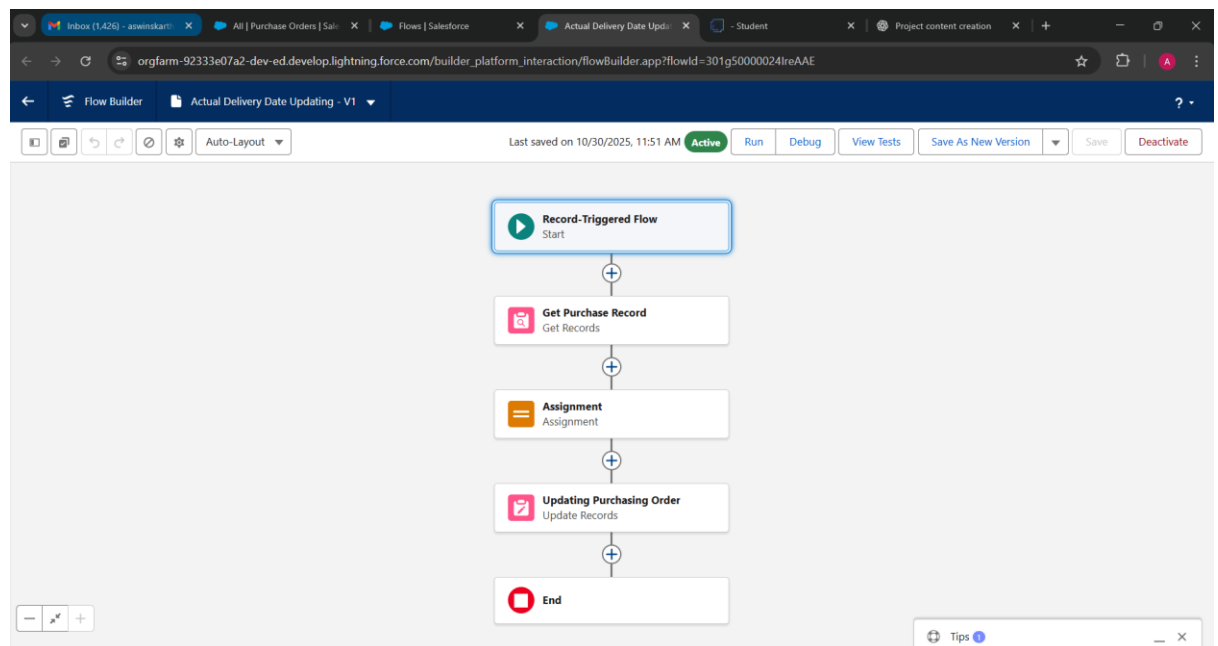


. Automations and Flows

- **Flow – Actual Delivery Date Automation:**

A Record-Triggered Flow automatically updates the *Actual Delivery Date* field to be 3 days after the *Order Date*.

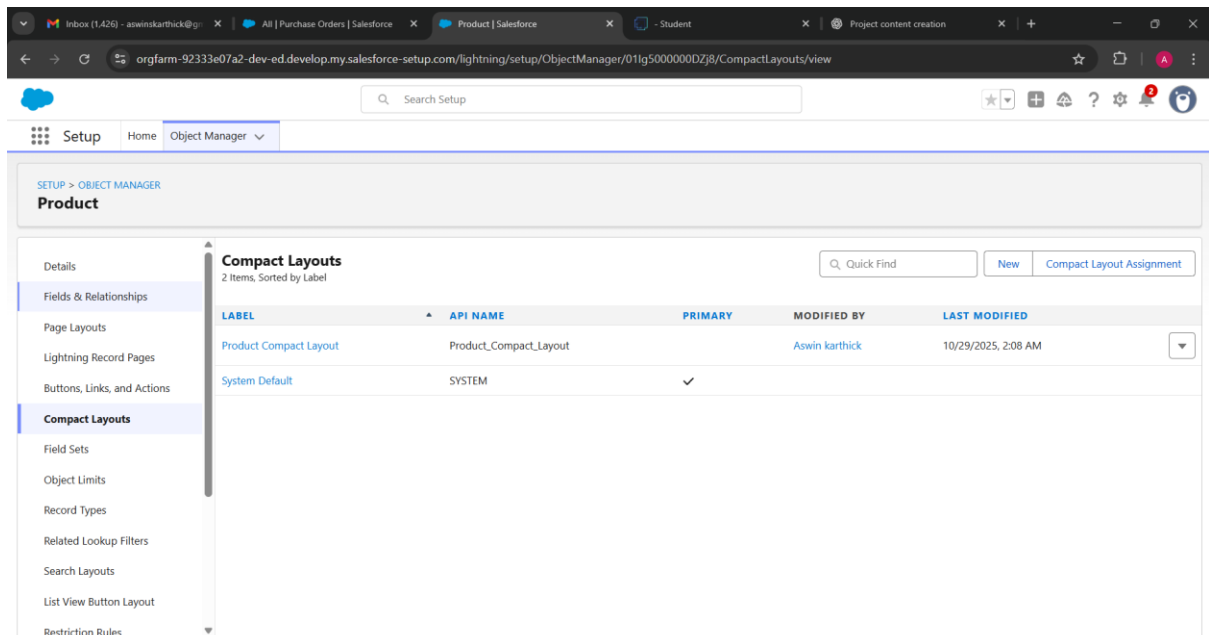
This ensures delivery tracking happens without manual updates.



- **Formula Fields:**

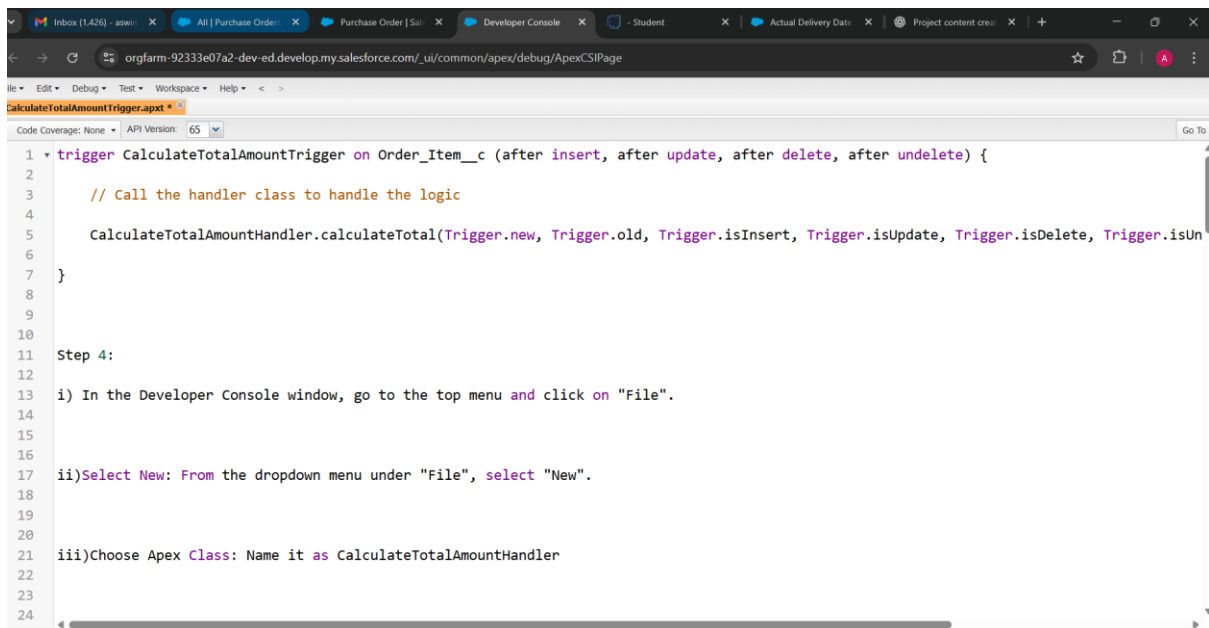
In the **Order Item** object, an *Amount* formula field calculates:

$\text{Quantity_Received_c} * \text{Unit_Price_c}$



Apex Trigger and Handler

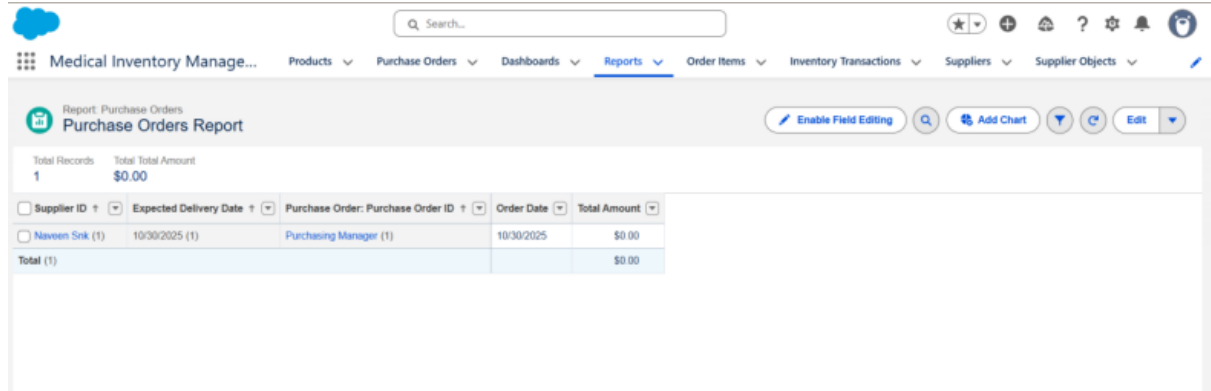
An **Apex Trigger and Handler Class** were created to automatically calculate the *Total Order Cost* whenever Order Items are inserted, updated, or deleted.



Reports:

1. Purchase Orders based on Suppliers

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



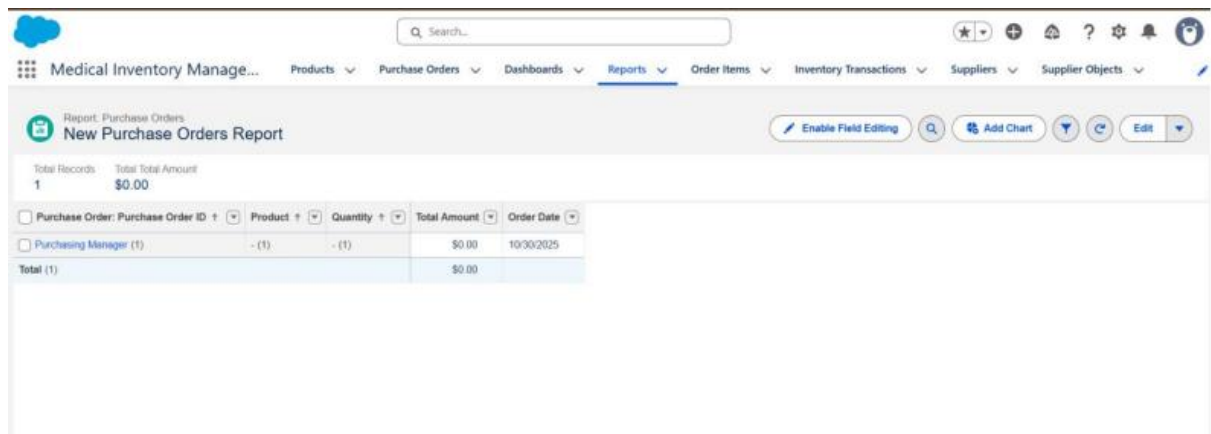
Report: Purchase Orders
Purchase Orders Report

Total Records: 1 Total Total Amount: \$0.00

Supplier ID	Expected Delivery Date	Purchase Order: Purchase Order ID	Order Date	Total Amount
Naveen Srik (1)	10/30/2025 (1)	Purchasing Manager (1)	10/30/2025	\$0.00
Total (1)				\$0.00

2. Complete Purchase Details Report

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



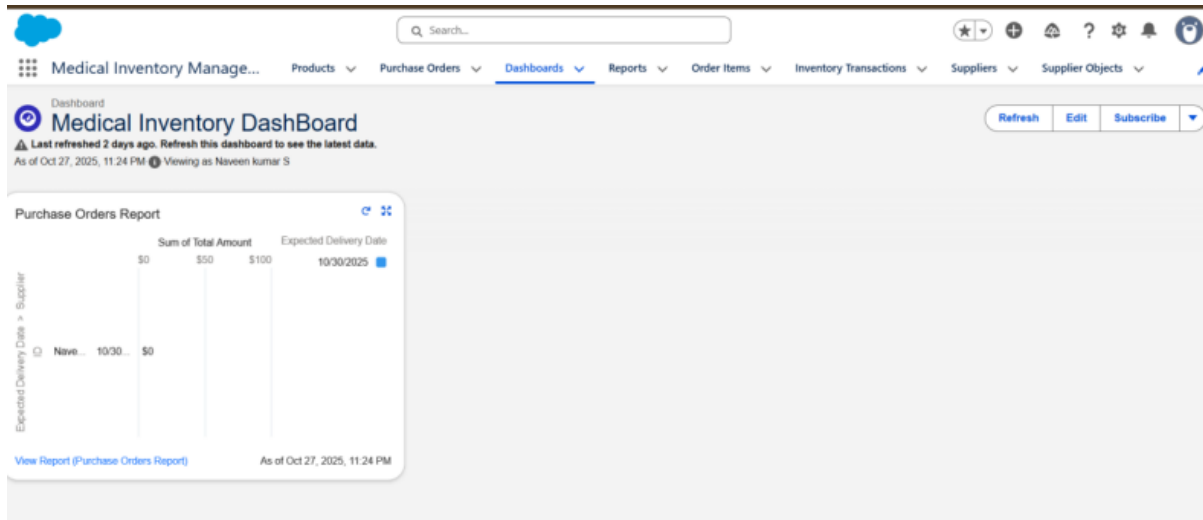
Report: Purchase Orders
New Purchase Orders Report

Total Records: 1 Total Total Amount: \$0.00

Purchase Order: Purchase Order ID	Product	Quantity	Total Amount	Order Date
Purchasing Manager (1)	- (1)	- (1)	\$0.00	10/30/2025
Total (1)			\$0.00	

Dashboard:

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



11. Key Scenarios Addressed by Salesforce

1. Inventory Accuracy:

Automates tracking 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 cost data 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 delivery date 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.

