



**Smart
Internz**

SMARTBRIDGE
Let's Bridge the Gap
a Veranda Enterprise



PARTNER

Medical Inventory Management

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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:

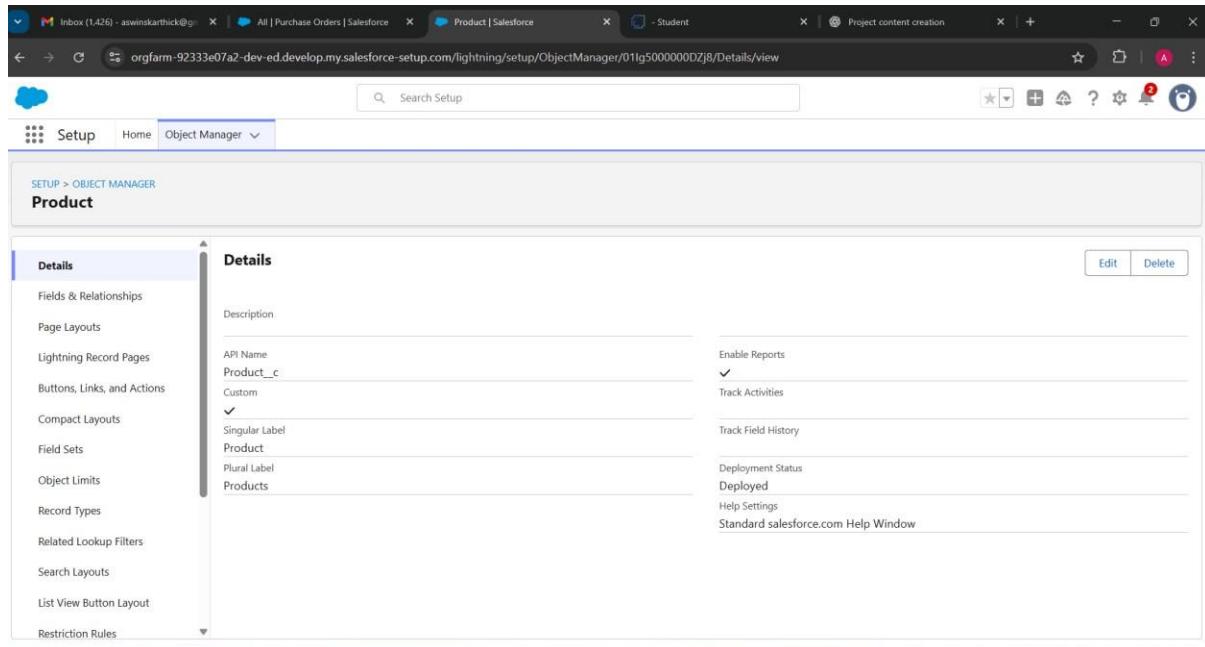
- A. **Automate Inventory Processes:** Create a seamless workflow for tracking purchase orders, supplier details, and product stock updates.
- B. **Optimize Stock Levels:** Prevent overstocking or shortages by maintaining real-time visibility of inventory quantities.
- C. **Improve Supplier Management:** 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.

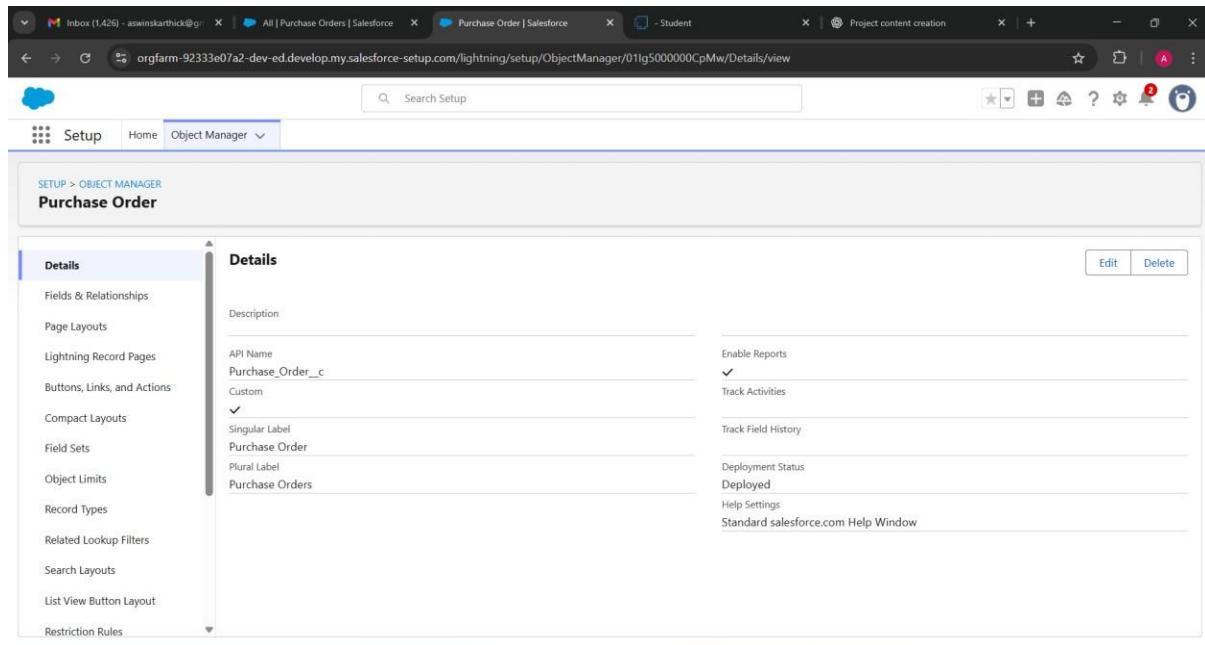


The screenshot shows the Salesforce Object Manager interface for the 'Product' object. The left sidebar lists various setup options: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, and Restriction Rules. The main 'Details' tab is selected, displaying the following configuration:

Description	Enable Reports
API Name Product_c	✓
Custom	Track Activities
Singular Label Product	Track Field History
Plural Label Products	Deployment Status Deployed Help Settings Standard salesforce.com Help Window

At the bottom right of the main area are 'Edit' and 'Delete' buttons.

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



The screenshot shows the Salesforce Object Manager interface for the 'Purchase Order' object. The left sidebar lists various setup options: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, and Restriction Rules. The main 'Details' tab is selected, displaying the following configuration:

Description	Enable Reports
API Name Purchase_Order_c	✓
Custom	Track Activities
Singular Label Purchase Order	Track Field History
Plural Label Purchase Orders	Deployment Status Deployed Help Settings Standard salesforce.com Help Window

At the bottom right of the main area are 'Edit' and 'Delete' buttons.

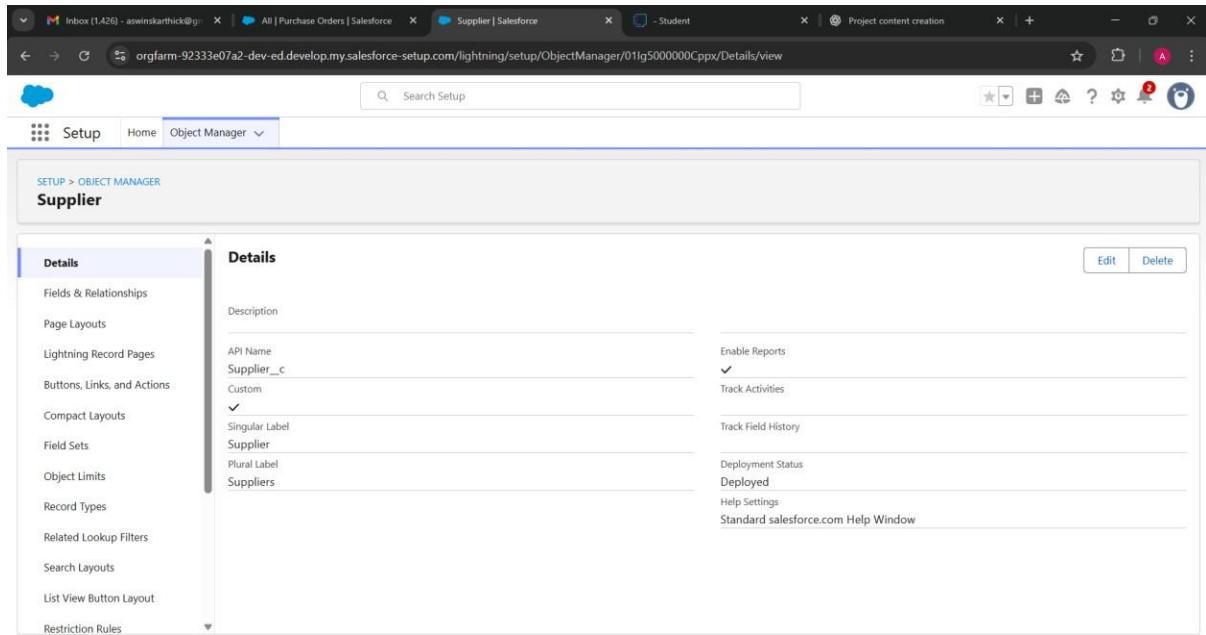
3. **Order Item:** Tracks individual items purchased within a specific purchase order, including quantity received and price.

The screenshot shows the Salesforce Object Manager interface. The left sidebar lists various setup options like Fields & Relationships, Page Layouts, Lightning Record Pages, etc. The main pane displays the 'Order Item' object details. The 'Details' section includes fields for Description, API Name (Order_Item__c), Singular Label (Order Item), Plural Label (Order Items), and several checkboxes for reports, activities, field history, deployment status, and help settings. Buttons for Edit and Delete are at the top right.

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

This screenshot is identical to the one above, showing the 'Order Item' object details in the Salesforce Object Manager. It displays the same fields, checkboxes, and layout configuration options.

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.

Custom Object Tabs

Action	Label	Tab Style	Description
Edit Del	Inventory Transactions	Scales	
Edit Del	Order Items	Box	
Edit Del	Products	Stethoscope	
Edit Del	Purchase Orders	Form	
Edit Del	Supplier Objects	Factory	
Edit Del	Suppliers	Bulding	

Web Tabs

No Web Tabs have been defined.

Visualforce Tabs

No Visualforce Tabs have been defined.

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.

App Details & Branding

Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.

App Details

- *App Name: Medical Inventory Management
- *Developer Name: Medical_Inventory_Management
- Description: Enter a description...

App Branding

- Image:
- Primary Color Hex Value: #6DF128

Org Theme Options:

- Use the app's image and color instead of the org's custom theme

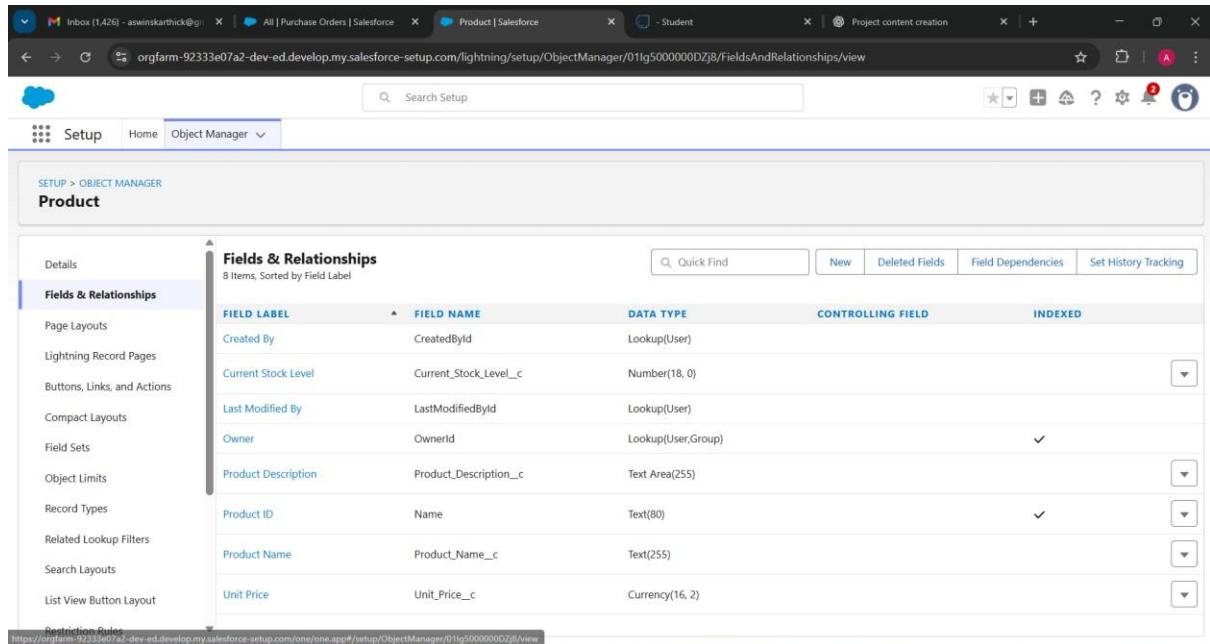
App Launcher Preview

. 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 left sidebar lists various configuration options like Details, Fields & Relationships, Page Layouts, etc. The main content area is titled 'Fields & Relationships' and displays eight fields sorted by field label. Each row includes columns for Field Label, Field Name, Data Type, Controlling Field, and Indexed status. The indexed column contains dropdown arrows, indicating that some fields are indexed while others are not.

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.

Purchase Order

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	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.

Order Item

Description	Enable Reports <input checked="" type="checkbox"/>
API Name Order_Item__c	Track Activities
Custom <input checked="" type="checkbox"/>	Track Field History
Singular Label Order Item	Deployment Status
Plural Label Order Items	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.

Fields & Relationships
6 items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedBy	Lookup(User)		
Inventory Transaction ID	Name	Text(80)		
Last Modified By	LastModifiedBy	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		
Purchase Order ID	Purchase_Order_ID_c	Lookup(Purchase Order)		
Transaction Type	Transaction_Type_c	Picklist		

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.

Fields & Relationships
4 items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedBy	Lookup(User)		
Last Modified By	LastModifiedBy	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		
Supplier Name	Name	Text(80)		

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 image contains two screenshots of the Salesforce Object Manager interface, specifically the layout editor for the Supplier and Transaction objects.

Supplier Layout Editor:

- Left Sidebar:** 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, Scoping Rules.
- Top Bar:** Save, Quick Save, Preview As..., Cancel, Layout Properties.
- Fields Section:**

Section	Created By	Phone Number
Blank Space	Email	Rating
Address	Last Modified By	Supplier Name
Contact Number	Owner	
- Supplier Detail Section:**

Supplier Detail		Standard Buttons	
Information (Header visible on edit only)		Edit	Delete
Supplier Name	Sample Text	Close	Change Owner
Contact Number	1-415-555-1212	Change Record Type	Printable View
Email	sample@example.com	Sharing	Sharing Hierarchy
Address	Sample Text	Edit Labels	
Rating	Sample Text		
Phone Number	1-415-555-1212		
System Information (Header visible on edit only)			
Created By	Sample Text	Last Modified By	Sample Text
Custom Links (Header visible on edit only)			

Transaction Layout Editor:

- Left Sidebar:** Details, Fields & Relationships, **Page Layouts** (selected), Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout.
- Top Bar:** Save, Quick Save, Preview As..., Cancel, Layout Properties.
- Fields Section:**

Section	Owner	Transaction Date
Blank Space	Product	Transaction ID
Created By	Purchase Order	Type
Last Modified By	Quantity	
- Transaction Section:**

Transaction		Standard Buttons	
Information (Header visible on edit only)		Edit	Delete
Transaction ID	Sample Text	Close	Change Owner
Product	Sample Text	Change Record Type	Printable View
Quantity	21,207	Sharing	Sharing Hierarchy
Type	Sample Text	Edit Labels	
Transaction Date	10/30/2025		
Purchase Order	Sample Text		
System Information (Header visible on edit only)			
Created By	Sample Text	Last Modified By	Sample Text
Custom Links (Header visible on edit only)			

SETUP > OBJECT MANAGER Order Item

The screenshot shows the 'Object Manager' interface for the 'Order Item' object. The left sidebar lists various configuration options under 'Page Layouts'. The main area displays the 'Order Item Detail' page layout. The layout properties pane is open, showing the 'Fields' section with a tree view of fields: 'Section' (selected), 'Blank Space', 'Created By', and 'Last Modified By'. A note at the bottom states: '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.' Below this are sections for 'Information', 'System Information', and 'Custom Links'.

SETUP > OBJECT MANAGER Purchase Order

The screenshot shows the 'Object Manager' interface for the 'Purchase Order' object. The left sidebar lists configuration options. The main area displays the 'Purchase Order Detail' page layout. The layout properties pane is open, showing the 'Fields' section with a tree view of fields: 'Section' (selected), 'Blank Space', 'Created By', and 'Last Modified By'. A note at the bottom states: '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.' Below this are sections for 'Information', 'System Information', and 'Custom Links'.

SETUP > OBJECT MANAGER Product

The screenshot shows the 'Object Manager' interface for the 'Product' object. The left sidebar lists configuration options. The main area displays the 'Product Detail' page layout. The layout properties pane is open, showing the 'Fields' section with a tree view of fields: 'Section' (selected), 'Blank Space', 'Category', 'Created By', 'Current Stock Level', 'Expiry Date', 'Last Modified By', 'Owner', 'Product Description', 'Product Name', 'Supplier ID', and 'Unit Price'. A note at the bottom states: '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.' Below this are sections for 'Information', 'System Information', and 'Custom Links'.

Profiles and Permission Sets

- **Profiles Created:**

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

The screenshot shows the Salesforce Setup interface with the 'Profiles' tab selected. A search bar at the top contains 'profil'. The main area displays the 'Inventory Manager' profile details. The profile name is 'Inventory Manager', user license is 'Salesforce', and it is a 'Custom Profile'. The 'Profile Detail' section includes fields for Name, User License, Description, Created By, and Modified By. The 'Page Layouts' section shows assignments for various standard object layouts like Global, Email Application, Home Page Layout, Account, and Alternative Payment Method. It also lists location group assignments, macros, object milestones, and operating hours.

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

The screenshot shows the Salesforce Setup interface with the 'Profiles' tab selected. A search bar at the top contains 'profil'. The main area displays the 'Purchase Manager' profile details. The profile name is 'Purchase Manager', user license is 'Analytics Cloud Integration User', and it is a 'Custom Profile'. The 'Profile Detail' section includes fields for Name, User License, Description, Created By, and Modified By. The 'Page Layouts' section shows assignments for various standard object layouts like Global, Email Application, Home Page Layout, Account, Alternative Payment Method, Appointment invitation, and Asset. It also lists location group assignments, macros, object milestones, operating hours, opportunities, and opportunity products.

- **Permission Set:**

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

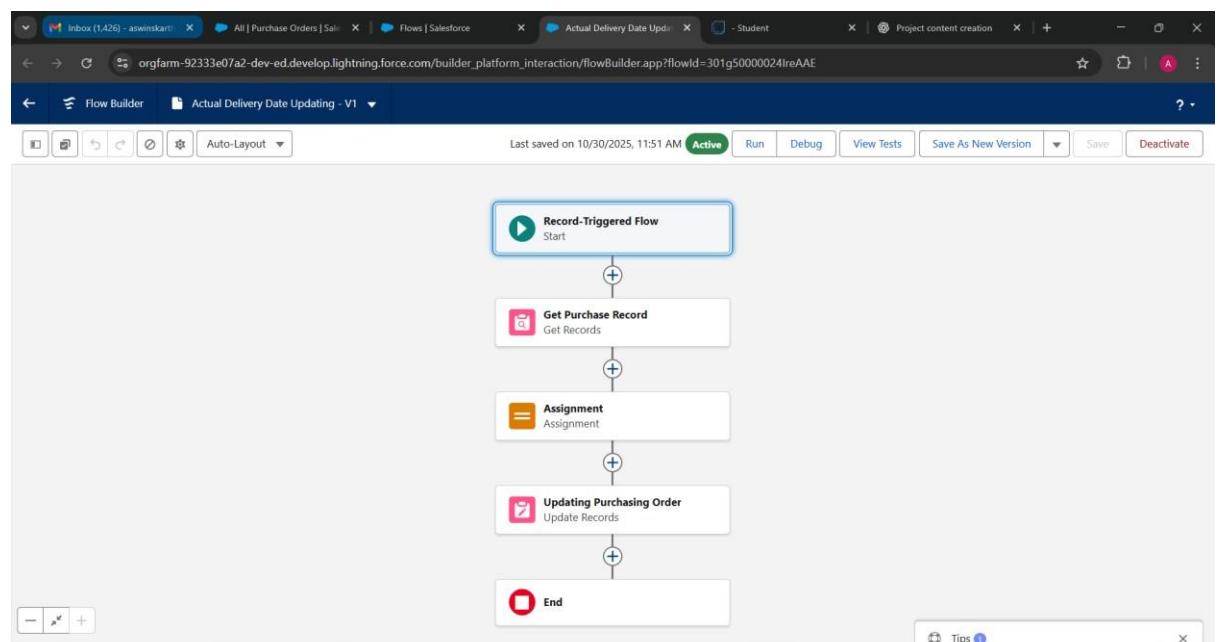
Action	Permission Set Name	Description	License
<input type="checkbox"/>	Partner Connect Part...	Set up Partner Conn...	Salesforce
<input type="checkbox"/>	Clone	Payments Administr...	Salesforce Payne...
<input type="checkbox"/>	Clone	Promot Template Ma...	Einstein Prompt T...
<input type="checkbox"/>	Clone	Promot Template Us...	Einstein Prompt Tem...
<input type="checkbox"/>	Clone	PromoTemplatePer...	Cloud Integration User
<input type="checkbox"/>	Clone	Publish Suggested fo...	Cloud Integration User
<input type="checkbox"/>	Def Clone	Purchase Manager	

. 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:

`Quantity_Received_c * Unit_Price_c`

LABEL	API NAME	PRIMARY	MODIFIED BY	LAST MODIFIED
Product Compact Layout	Product_Compact_Layout		Aswin karthick	10/29/2025, 2:08 AM
System Default	SYSTEM	✓		

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.

```
trigger CalculateTotalAmountTrigger on Order_Item__c (after insert, after update, after delete, after undelete) {
    // Call the handler class to handle the logic
    CalculateTotalAmountHandler.calculateTotal(Trigger.new, Trigger.old, Trigger.isInsert, Trigger.isUpdate, Trigger.isDelete, Trigger.isUn
}
```

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.

Medical Inventory Manage... Products Purchase Orders Dashboards Reports Order Items Inventory Transactions Suppliers Supplier Objects

Report: Purchase Orders Purchase Orders Report

Total Records	Total Total Amount
1	\$0.00

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

Purchasing Manager (1)	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.

Medical Inventory Manage... Products Purchase Orders Dashboards Reports Order Items Inventory Transactions Suppliers Supplier Objects

Report: Purchase Orders New Purchase Orders Report

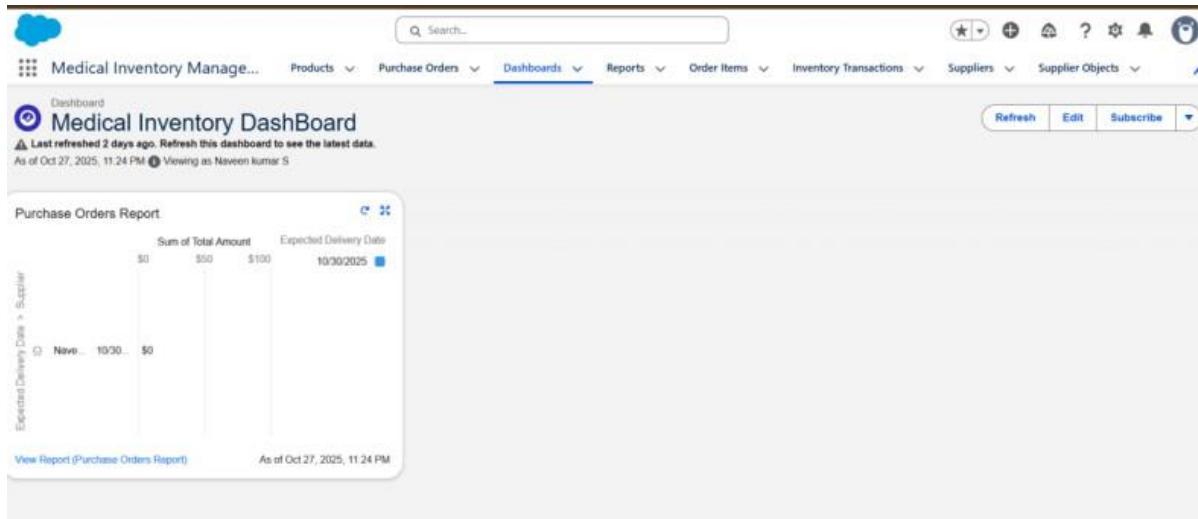
Total Records	Total Total Amount
1	\$0.00

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

Purchasing Manager (1)	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.

