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Internz**



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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:

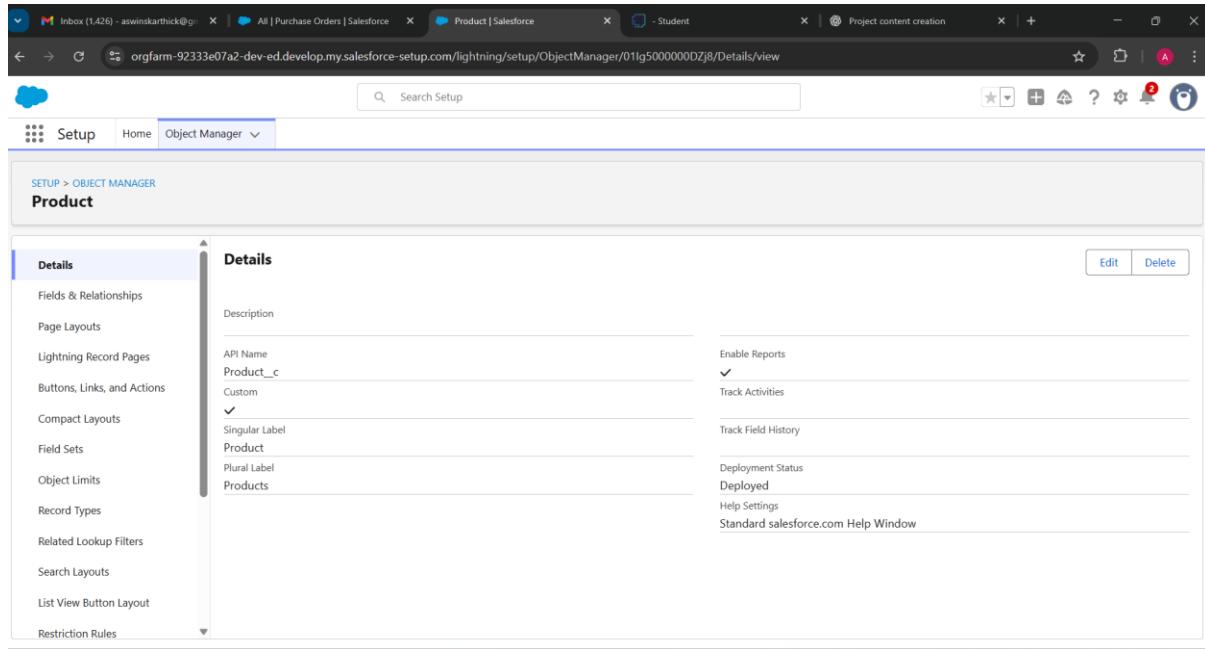
- A. Automate Inventory Processes:** Create a seamless workflow for tracking purchase orders, supplier details, and product stock updates.
- B. Optimize Stock Levels:** Prevent overstocking or shortages by maintaining real-time visibility of inventory quantities.
- C. Improve Supplier Management:** Establish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

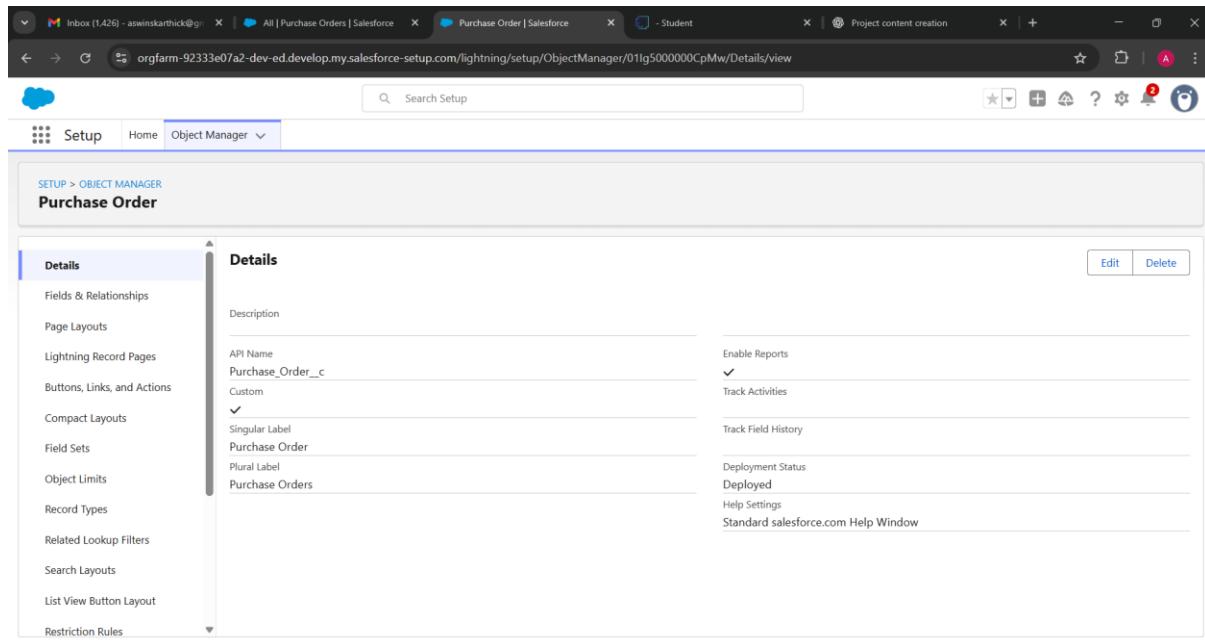
1. **Product:** Stores detailed information about each medical item such as product name, description, stock level, and unit price.



The screenshot shows the Salesforce Object Manager interface for the 'Product' custom object. The left sidebar lists various setup options: 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 pane shows the following configuration for the 'Product' object:

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

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' custom object. The left sidebar lists various setup options: 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 pane shows the following configuration for the 'Purchase Order' object:

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

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

The screenshot shows the Salesforce Setup interface for the Object Manager. The left sidebar lists various configuration options like Fields & Relationships, Page Layouts, and Lightning Record Pages. The main panel displays the 'Details' section for the 'Order Item' object. It includes fields for Description, API Name (set to 'Order_Item__c'), and other settings such as Enable Reports (checked), Track Activities, and Deployment Status (set to 'Deployed').

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

This screenshot is identical to the one above, showing the 'Object Manager' setup for the 'Order Item' object. It displays the same configuration details, including the API name 'Order_Item__c' and deployment status 'Deployed'.

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

The screenshot shows the Salesforce Setup interface with the 'Object Manager' for the 'Supplier' object. The left sidebar has a 'Details' tab selected, listing various configuration options: 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 displays the API Name as 'Supplier_c', with 'Custom' checked. It also shows Singular Label as 'Supplier' and Plural Label as 'Suppliers'. On the right, there are sections for Reports (Enable Reports checked), Activities (Track Activities checked), Field History (Track Field History checked), Deployment Status (Deployed), and Help Settings (Standard salesforce.com Help Window).

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.

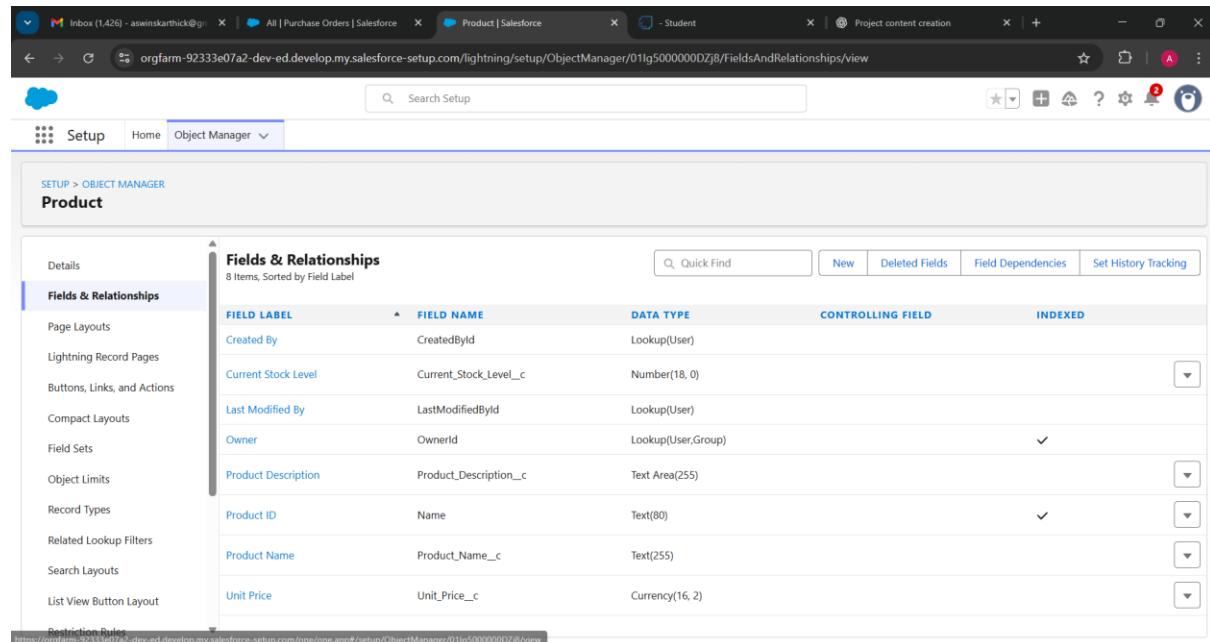
This app provides a single interface for administrators to monitor inventory and purchases efficiently.

. 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 with the URL <https://orgfarm-92333e07a2-dev-ed.my.salesforce.com/lightning/setup/ObjectManager/01lg5000000DZj8/FieldsAndRelationships/view>. The page is titled 'Object Manager' under 'Setup > OBJECT MANAGER'. It is specifically viewing the 'Product' object. On the left, there is a sidebar with options like Details, Fields & Relationships (which is selected), Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, and List View Button Layout. The main content area is titled 'Fields & Relationships' and shows 8 items, sorted by Field Label. The table has columns for FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The data is as follows:

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.

The screenshot shows the Salesforce Setup interface with the URL <https://orgfarm-92333e07a2-dev-ed.develop.my.salesforce-setup.com/lightning/setup/ObjectManager/01lg5000000CpMw/FieldsAndRelationships/view>. The page title is "Purchase Order". The left sidebar has "Fields & Relationships" selected. The main content area is titled "Fields & Relationships" and lists 8 items, sorted by Field Label. The table columns are FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED.

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.

The screenshot shows the Salesforce Setup interface with the URL <https://orgfarm-92333e07a2-dev-ed.develop.my.salesforce-setup.com/lightning/setup/ObjectManager/01lg5000000CpV/Details/view>. The page title is "Order Item". The left sidebar has "Details" selected. The main content area is titled "Details" and shows the object's configuration. The right side has "Edit" and "Delete" buttons.

Description	Enable Reports
API Name <u>Order_Item__c</u>	✓ Track Activities
Custom	Track Field History
✓ Singular Label Order Item	Deployment Status Deployed
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.

Inventory Transaction

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.

Supplier

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, demonstrating the configuration of page layouts for the Supplier and Transaction objects.

Supplier Page Layout Configuration:

- Fields & Relationships:** The "Page Layouts" tab is selected.
- Layout Properties:** Shows sections for Buttons, Quick Actions, Mobile & Lightning Actions, Expanded Lookups, Related Lists, and Report Charts.
- Supplier Detail:** The main content area displays the "Supplier Detail" page layout. It includes sections for Information (Supplier Name, Contact Number, Email, Address, Rating, Phone Number), System Information (Created By, Last Modified By), and Custom Links.
- Buttons:** Standard buttons include Edit, Delete, Close, Change Owner, Change Record Type, Printable View, Sharing, Sharing Hierarchy, Edit Labels, and Custom Buttons.

Transaction Page Layout Configuration:

- Fields & Relationships:** The "Page Layouts" tab is selected.
- Layout Properties:** Shows sections for Buttons, Quick Actions, Mobile & Lightning Actions, Expanded Lookups, Related Lists, and Report Charts.
- Transaction Detail:** The main content area displays the "Transaction Detail" page layout. It includes sections for Information (Transaction ID, Product, Quantity, Type, Transaction Date, Purchase Order), System Information (Created By, Last Modified By), and Custom Links.
- Buttons:** Standard buttons include Edit, Delete, Close, Change Owner, Change Record Type, Printable View, Sharing, Sharing Hierarchy, Edit Labels, and Custom Buttons.

SETUP > OBJECT MANAGER

Order Item

The screenshot shows the 'Object Manager' interface for the 'Order Item' object. The left sidebar lists various configuration options like 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 'Page Layouts' option is selected. The main area displays the 'Order Item Detail' page layout. It includes a 'Fields' section with a 'Quick Find' bar, a 'Section' field containing 'Order Item ID' and 'Owner', and a 'Blank Space' field. Below this is a note about overriding predefined actions. The 'Order Item Detail' section contains fields for 'Information' (Order Item ID, Sample Text), 'System Information' (Created By, Sample Text, Last Modified By, Sample Text), and 'Custom Links'. A toolbar at the top of the layout section includes Save, Quick Save, Preview As, Cancel, Undo, Redo, and Layout Properties.

SETUP > OBJECT MANAGER

Purchase Order

The screenshot shows the 'Object Manager' interface for the 'Purchase Order' object. The left sidebar lists various configuration options. The 'Page Layouts' option is selected. The main area displays the 'Purchase Order Detail' page layout. It includes a 'Fields' section with a 'Quick Find' bar, a 'Section' field containing 'Last Modified By', 'Product', 'Supplier', and 'Unit Price', and a 'Blank Space' field. Below this is a note about overriding predefined actions. The 'Purchase Order Detail' section contains fields for 'Information' (Supplier ID, Sample Text, Purchase Order ID, Sample Text, Order Date, 10/30/2025, Total Amount, \$123.45, Quantity Received, 43, Unit Price, \$123.45, Total Amount, \$123.45, Expected Delivery Date, 10/30/2025, Order Date, 10/30/2025), 'System Information' (Created By, Sample Text, Last Modified By, Sample Text), and 'Custom Links'. A toolbar at the top of the layout section includes Save, Quick Save, Preview As, Cancel, Undo, Redo, and Layout Properties.

SETUP > OBJECT MANAGER

Product

The screenshot shows the 'Object Manager' interface for the 'Product' object. The left sidebar lists various configuration options. The 'Page Layouts' option is selected. The main area displays the 'Product Detail' page layout. It includes a 'Fields' section with a 'Quick Find' bar, a 'Section' field containing 'Current Stock Level', 'Owner', 'Purchase Description', and 'Stock Quantity', and a 'Blank Space' field. Below this is a note about overriding predefined actions. The 'Product Detail' section contains fields for 'Information' (Products ID, Sample Text, Product Name, Sample Text, Purchase Description, Sample Text, Supplier ID, Sample Text, Unit Price, \$123.45, Expiry Date, 10/30/2025, Order Date, 10/30/2025, Current Stock Level, 37.747, Product Description, Sample Text), 'System Information' (Created By, Sample Text, Last Modified By, Sample Text), and 'Custom Links'. A toolbar at the top of the layout section includes Save, Quick Save, Preview As, Cancel, Undo, Redo, and Layout Properties.

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'. Below it, a sidebar shows 'Users' and 'Profiles' (which is highlighted). The main content area displays the 'Inventory Manager' profile. It includes a 'Profile Detail' section with fields like Name (Inventory Manager), User License (Salesforce), and Description. Below this is a 'Page Layouts' section for various standard object layouts, such as Global, Email Application, Home Page Layout, Account, Alternative Payment Method, Location Group, Location Group Assignment, Macro, Object Milestone, 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'. Below it, a sidebar shows 'Users' and 'Profiles' (which is highlighted). The main content area displays the 'Purchase Manager' profile. It includes a 'Profile Detail' section with fields like Name (Purchase Manager), User License (Analytics Cloud Integration User), and Description. Below this is a 'Page Layouts' section for various standard object layouts, such as Global, Email Application, Home Page Layout, Account, Alternative Payment Method, Appointment Invitation, Asset, Location Group, Location Group Assignment, Macro, Object Milestone, Operating Hours, Opportunity, and Opportunity Product.

- **Permission Set:**

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

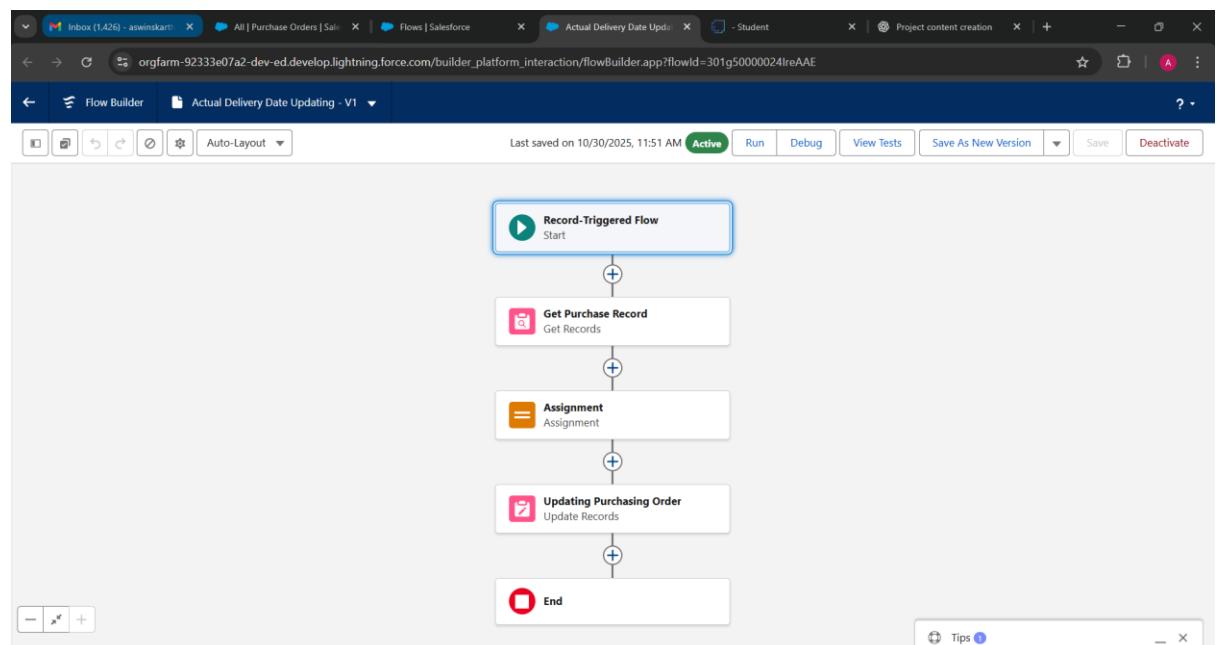
Action	Permission Set Name...	Description	License
<input type="checkbox"/>	Partner Connect Part...	Set up Partner Conn...	Salesforce
<input type="checkbox"/>	Clone	Payments Administra...	Salesforce Payme...
<input type="checkbox"/>	Clone	Prompt Template Ma...	Einstein Prompt T...
<input type="checkbox"/>	Clone	Prompt Template User...	Einstein Prompt Tem...
<input type="checkbox"/>	Clone	PromptTemplatePor...	Cloud Integration User
<input type="checkbox"/>	Clone	Published Suggested fo...	Access the Core A...
<input type="checkbox"/>	Del Clone	Purchase Manage...	Cloud Integration User

. 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`

SETUP > OBJECT MANAGER
Product

Compact Layouts

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
}

Step 4:
i) In the Developer Console window, go to the top menu and click on "File".
ii) Select New: From the dropdown menu under "File", select "New".
iii) Choose Apex Class: Name it as CalculateTotalAmountHandler
```

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.

The screenshot shows a software interface titled "Medical Inventory Manage...". The top navigation bar includes "Products", "Purchase Orders", "Dashboards", "Reports" (which is currently selected), "Order Items", "Inventory Transactions", "Suppliers", and "Supplier Objects". Below the navigation is a search bar and a toolbar with various icons. The main content area is titled "Report: Purchase Orders" and "Purchase Orders Report". It displays a table with the following data:

Total Records	Total Total Amount
1	\$0.00

Below the table are sorting and filtering options: "Supplier ID", "Expected Delivery Date", "Purchase Order: Purchase Order ID", "Order Date", and "Total Amount". The table body contains one row for "Naveen Srik (1)" with details: "Purchasing Manager (1)", "10/30/2025", "\$0.00". A "Total (1)" row at the bottom shows "\$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.

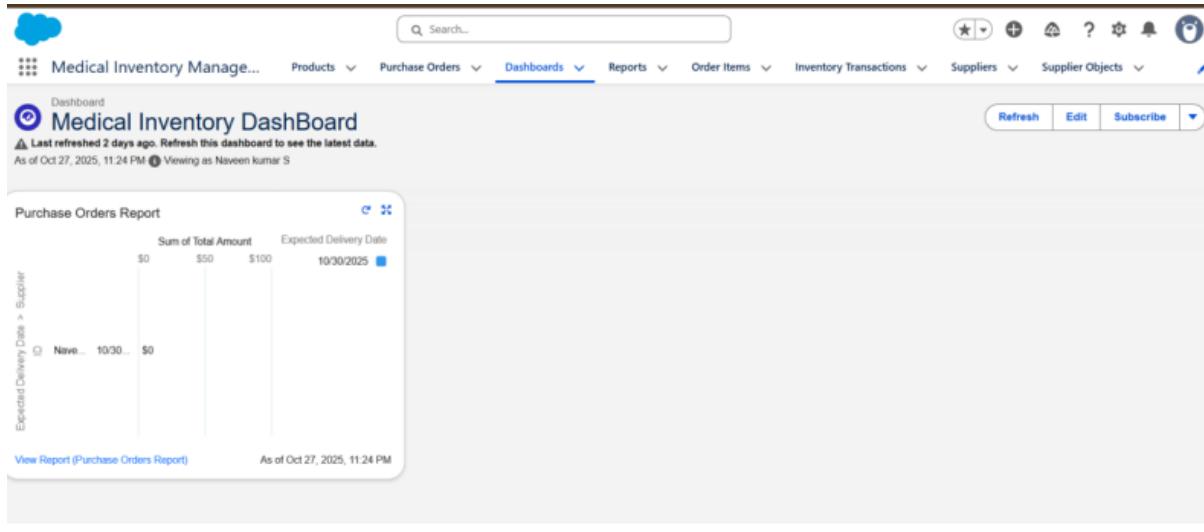
The screenshot shows the same software interface as the previous report. The top navigation bar and search bar are identical. The main content area is titled "Report: Purchase Orders" and "New Purchase Orders Report". It displays a table with the following data:

Total Records	Total Total Amount
1	\$0.00

Below the table are sorting and filtering options: "Purchase Order: Purchase Order ID", "Product", "Quantity", "Total Amount", and "Order Date". The table body contains one row for "Purchasing Manager (1)" with details: "- (1)", "- (1)", "\$0.00", "10/30/2025". A "Total (1)" row at the bottom shows "\$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.

