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PARTNER

Medical Inventory Management

SUBMITTED BY :

SWATHI M-813022104046

SWETHA R-813022104047

TENDILKAR K-813022104048

SUMATHRA A-813022104045

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:

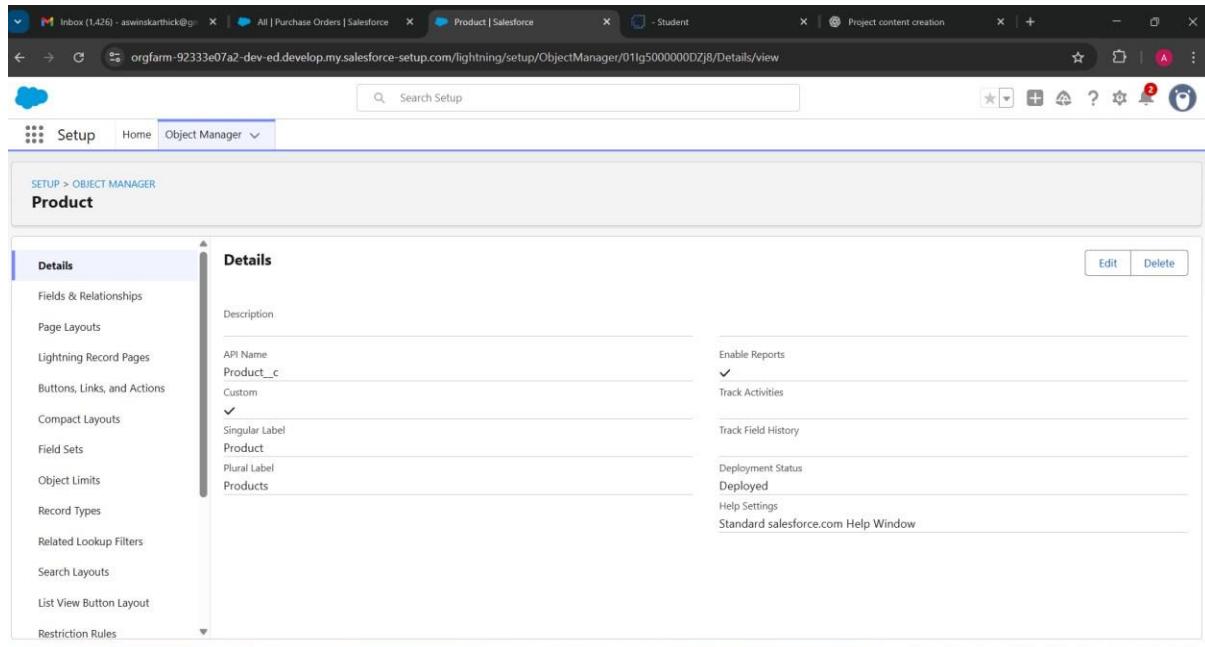
- A. **Automate Inventory Processes:** Create a seamless workflow for tracking purchase orders, supplier details, and product stock updates.
- B. **Optimize Stock Levels:** Prevent overstocking or shortages by maintaining real-time visibility of inventory quantities.
- C. **Improve Supplier Management:**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

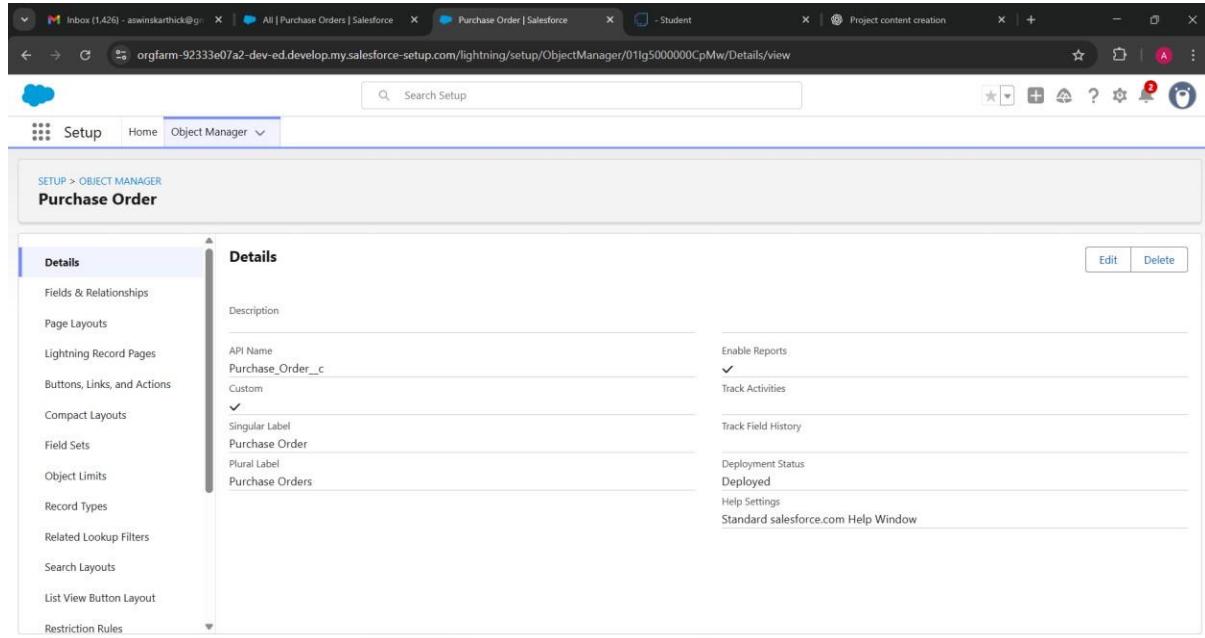
1. **Product:** Stores detailed information about each medical item such as product name, description, stock level, and unit price.



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 managing objects. The main title is 'SETUP > OBJECT MANAGER' followed by 'Order Item'. On the left, there's a sidebar with various configuration options like 'Fields & Relationships', 'Page Layouts', and 'Buttons, Links, and Actions'. The main panel is titled 'Details' and contains fields for 'Description', 'API Name' (set to 'Order_Item__c'), 'Custom' (checked), 'Singular Label' (set to 'Order Item'), 'Plural Label' (set to 'Order Items'), and several checkboxes for reporting and tracking. At the bottom right are 'Edit' and 'Delete' buttons.

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' for 'Order Item' in the Salesforce Setup. It displays the same configuration details, including the API name 'Order_Item__c', custom status, and singular/plural labels.

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

The screenshot shows the Salesforce Object Manager interface. The top navigation bar includes tabs for 'Inbox (1,426)', 'All | Purchase Orders | Salesforce', 'Supplier | Salesforce', 'Student', and 'Project content creation'. Below the navigation is a search bar labeled 'Search Setup' and a toolbar with various icons. The main area is titled 'SETUP > OBJECT MANAGER' and shows the 'Supplier' object. On the left, a sidebar lists tabs such as '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 right side displays the 'Details' section for the Supplier object, which includes fields like 'Description', 'API Name (Supplier__c)', 'Custom (✓)', 'Singular Label (Supplier)', 'Plural Label (Suppliers)', 'Enable Reports (✓)', 'Track Activities (✓)', 'Track Field History', 'Deployment Status (Deployed)', 'Help Settings', and 'Standard salesforce.com Help Window'. There are 'Edit' and 'Delete' buttons at the bottom right of the details section.

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.

The screenshot shows the Salesforce Setup interface with the 'Tabs' page selected. The 'Custom Object Tabs' section lists several tabs with their corresponding icons and labels:

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	Building	

The 'Web Tabs' and 'Visualforce Tabs' sections both indicate that no 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.

The screenshot shows the Lightning App Builder interface with the 'App Details & Branding' tab selected. The 'App Details' section contains the following information:

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

The 'App Branding' section includes:

- Image:** A placeholder image showing medical supplies.
- Primary Color Hex Value:** #6DF128
- Org Theme Options:** A checkbox labeled 'Use the app's image and color instead of the org's custom theme'.

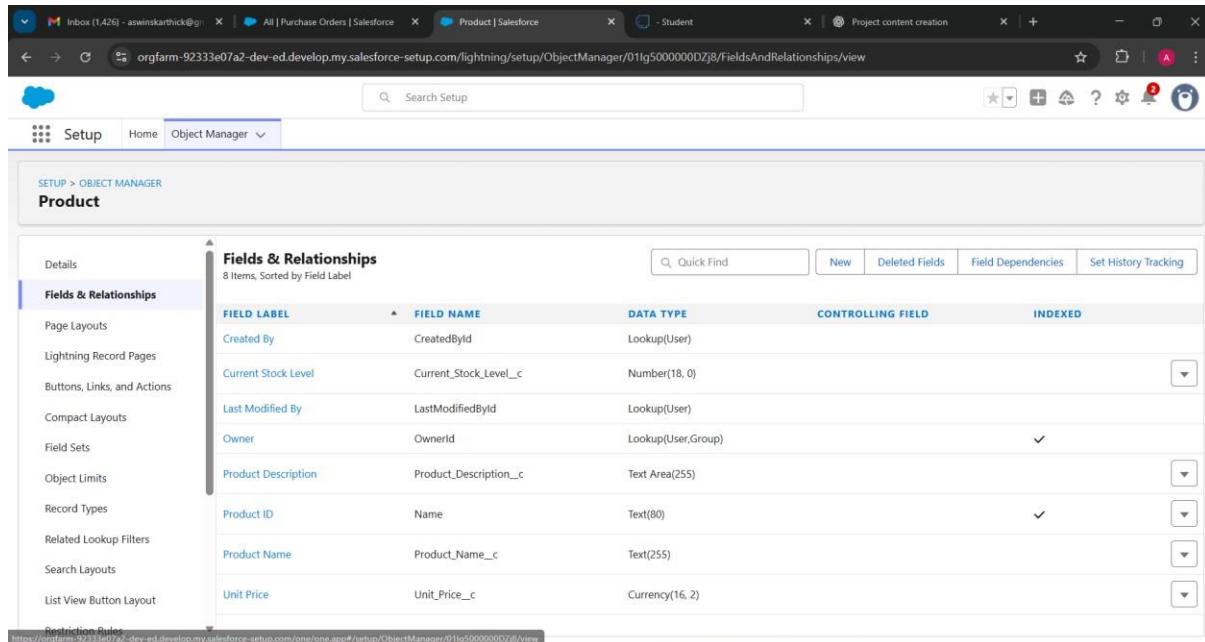
The 'App Launcher Preview' section shows a small preview of the app icon and its label.

. 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, Lightning Record Pages, 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 whether each field is indexed or 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.

The screenshot shows the Salesforce Object Manager interface for the Purchase Order object. On the left, a sidebar lists various setup options like Page Layouts, Lightning Record Pages, and Field Sets. The main area is titled 'Fields & Relationships' and displays a table of fields. The columns are FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields listed are:

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.

The screenshot shows the Salesforce Object Manager interface for the Order Item object. The sidebar contains the same setup options as the previous screenshot. The main area is titled 'Details' and shows the object's configuration. The right side has sections for Description, API Name (Order_Item__c), Singular Label (Order Item), and Plural Label (Order Items). On the far right, there are checkboxes for Enable Reports (checked), Track Activities, Track Field History, Deployment Status (Deployed), Help Settings, and a link to Standard salesforce.com Help Window. At the bottom right are 'Edit' and 'Delete' buttons.

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.

The screenshot shows the Salesforce setup interface for the 'Object Manager'. The left sidebar is titled 'Fields & Relationships' under 'Inventory Transaction'. The main area displays a table of fields:

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.

The screenshot shows the Salesforce setup interface for the 'Object Manager'. The left sidebar is titled 'Fields & Relationships' under 'Supplier'. The main area displays a table of fields:

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 displays 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.
- Right Panel:** Shows the 'Supplier Detail' page layout. It includes sections for 'Information', 'System Information', and 'Custom Links'. Fields visible include Supplier Name, Contact Number, Email, Address, Rating, Phone Number, Owner, Created By, Last Modified By, and Last Modified Date.

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.
- Right Panel:** Shows the 'Transaction' page layout. It includes sections for 'Information', 'System Information', and 'Custom Links'. Fields visible include Transaction ID, Product, Transaction Date, Quantity, Type, Transaction Date, Purchase Order, Owner, Created By, Last Modified By, and Last Modified Date.

Setup Home Object Manager

SETUP > OBJECT MANAGER Order Item

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 Restriction Rules

Save Quick Save Preview As... Cancel Undo Redo Layout Properties

Quick Find Field Name: Order Item ID

Fields Buttons Quick Actions Mobile & Lightning Actions Expanded Lookups Related Lists Report Charts

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 Buttons Edit Delete Close Change Owner Change Record Type Printable View Sharing Sharing Hierarchy Edit Labels Custom Buttons

Information (Header visible on edit only)
Order Item ID 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)

Sample Text

Owner Sample Text

Last Modified By Sample Text

Setup Home Object Manager

SETUP > OBJECT MANAGER Purchase Order

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 Restriction Rules

Save Quick Save Preview As... Cancel Undo Redo Layout Properties

Quick Find Field Name: Purchase Order ID

Fields Buttons Quick Actions Mobile & Lightning Actions Expanded Lookups Related Lists Report Charts

Information (Header visible on edit only)
Purchase Order ID Sample Text Order Date 10/30/2025 Total Amount \$123.45 Quantity Received 43 Unit Price c \$123.45 Total Amount \$123.45 Expected Delivery Date 10/30/2025 Order Date c 10/30/2025
System Information (Header visible on edit only)
Created By Sample Text Last Modified By Sample Text
Custom Links (Header visible on edit only)

Supplier ID Sample Text

Order Date 10/30/2025

Total Amount \$123.45

Quantity Received 43

Unit Price c \$123.45

Total Amount \$123.45

Expected Delivery Date 10/30/2025

Order Date c 10/30/2025

Owner Sample Text

Last Modified By Sample Text

Setup Home Object Manager

SETUP > OBJECT MANAGER Product

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 Restriction Rules

Save Quick Save Preview As... Cancel Undo Redo Layout Properties

Quick Find Field Name: Products ID

Fields Buttons Quick Actions Mobile & Lightning Actions Expanded Lookups Related Lists Report Charts

Information (Header visible on edit only)
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 (Header visible on edit only)
Created By Sample Text Last Modified By Sample Text
Custom Links (Header visible on edit only)

Owner Sample Text

Product Description Sample Text

Stock Quantity 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

Created By Sample Text

Last Modified By Sample Text

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 standard object layouts for various objects like Global, Email Application, Home Page Layout, Account, Alternative Payment Method, Location Group, Location Group Assignment, Macro, Object Milestone, and Operating Hours. Each layout is linked to a specific assignment.

- *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, and Created By. The 'Page Layouts' section shows standard object layouts for various objects like 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. Each layout is linked to a specific assignment.

- **Permission Set:**

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

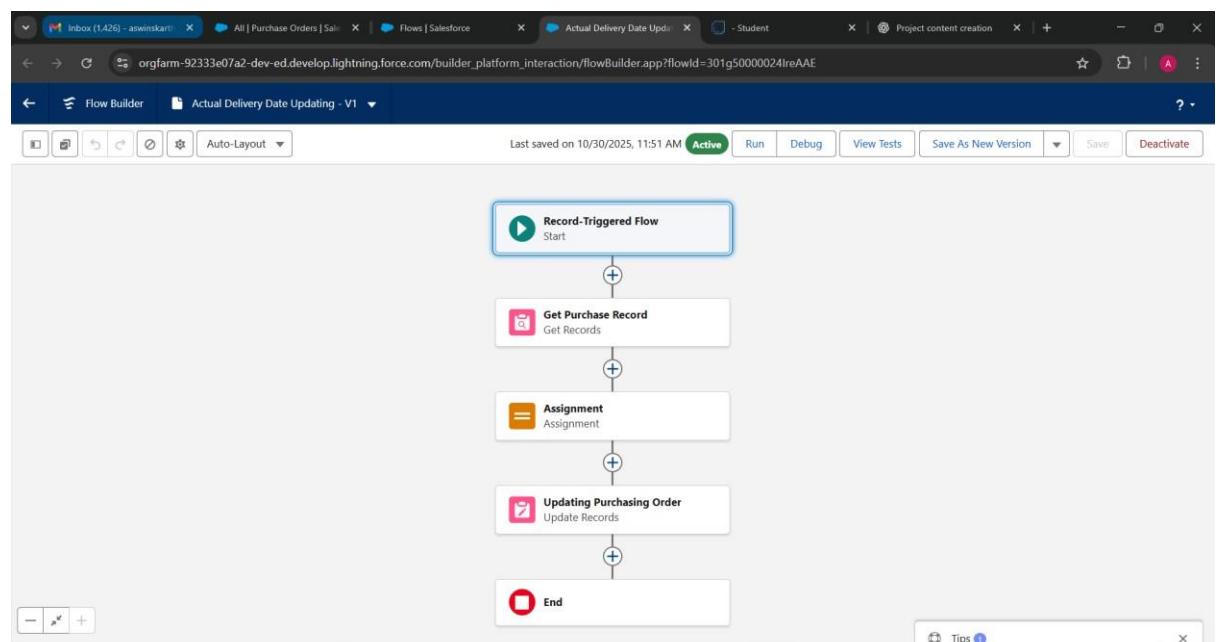
Action	Permission Set Name	Description	License
<input type="checkbox"/>	Partner Connect Part...	Set up Partner Conn...	Salesforce
<input type="checkbox"/>	Clone	Payments Administr...	Salesforce Payne...
<input type="checkbox"/>	Clone	Promot Template Ma...	Einstein Prompt T...
<input type="checkbox"/>	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 Manage...	

. 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`

The screenshot shows the Salesforce Setup interface with the following details:

- Page Title: orgfarm-9233e07a2-dev-ed.develop.my.salesforce.com/lightning/setup/ObjectManager/01lg5000000Dj8/CompactLayouts/view
- Section: SETUP > OBJECT MANAGER
- Object: Product
- Left sidebar (Compact Layouts section):
 - Details
 - Fields & Relationships
 - Page Layouts
 - Lightning Record Pages
 - Buttons, Links, and Actions
 - Compact Layouts** (selected)
 - Field Sets
 - Object Limits
 - Record Types
 - Related Lookup Filters
 - Search Layouts
 - List View Button Layout
 - Restriction Rules
- Main Content:
 - Compact Layouts**: 2 items, Sorted by Label
 - Table:| 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.

```
1 +trigger CalculateTotalAmountTrigger on Order_Item__c (after insert, after update, after delete, after undelete) {
2
3     // Call the handler class to handle the logic
4
5     CalculateTotalAmountHandler.calculateTotal(Trigger.new, Trigger.old, Trigger.isInsert, Trigger.isUpdate, Trigger.isDelete, Trigger.isUn
6
7 }
8
9
10
11 Step 4:
12
13 i) In the Developer Console window, go to the top menu and click on "File".
14
15
16 ii) Select New: From the dropdown menu under "File", select "New".
17
18
19
20 iii) Choose Apex Class: Name it as CalculateTotalAmountHandler
21
22
23
24
```

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 report titled "Purchase Orders Report" with the following details:

Total Records	Total Total Amount
1	\$0.00

Below the table, there are filter options and a single data row:

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

At the bottom, there is a "Total (1)" row with a value of \$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 a report titled "New Purchase Orders Report" with the following details:

Total Records	Total Total Amount
1	\$0.00

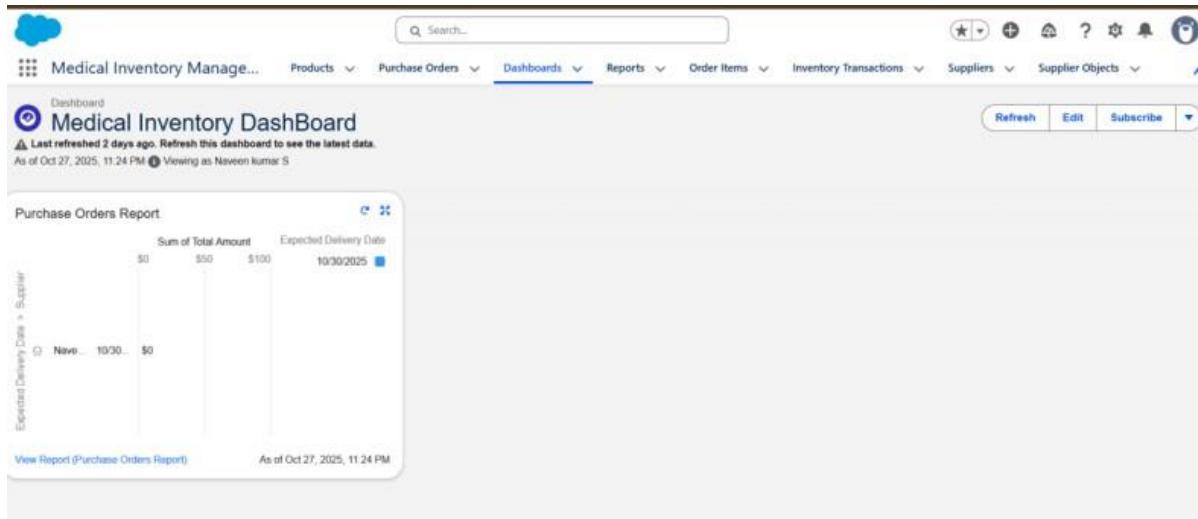
Below the table, there are filter options and a single data row:

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

At the bottom, there is a "Total (1)" row with a value of \$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.

