TOPIC: Medical Inventory Management

NM_ID: NM2025TMID22706

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1. Project Overview

Medical Inventory Management is a Salesforce-based solution designed to streamline the tracking, storage, and distribution of medical supplies. The system provides **real-time visibility of stock**, **automated alerts for low or expiring items**, and **seamless supplier integration** to ensure uninterrupted availability of critical resources.

By leveraging Salesforce dashboards, forecasting tools, and role-based access, the solution helps healthcare providers **reduce waste, minimize shortages, cut costs, and improve patient care**. Beyond efficiency, the project ensures **compliance, transparency, and sustainability**, creating a reliable model for modern healthcare systems.

2. Objectives

- Ensure **accurate tracking** of medical supplies, consumables and equipment.
- Provide **real-time inventory visibility** across multiple locations.
- Automate **stock replenishment and alerts** for low or expiring items.
- Maintain **compliance and audit readiness** through accurate records.
- Improve **efficiency in procurement and distribution** of medical items.

3. Business Goals:

- **Ensure Resource Availability**: Maintain optimal stock levels of medicines, equipment, and consumables to prevent shortages and delays in patient care.
- **Minimize Waste:** Track usage and expiration dates to reduce overstocking and wastage of critical medical supplies.
- **Optimize Operations**: Automate inventory management, procurement, and reporting to streamline processes and reduce manual errors.
- **Enhance Compliance and Accountability:** Provide transparent tracking, audit-ready reports, and secure role-based access to ensure regulatory adherence and trust.

4. Specific Outcomes:

→ Centralized Inventory Control:
- Maintain a unified platform to track medicines, consumables, and equipment across locations.
- Provide real-time visibility into stock levels, usage, and expiration dates.
- Generate compliance-ready reports for audits and regulatory needs**.**

→ Smart Automation:
- Trigger automatic purchase requests when stock reaches minimum thresholds.

- Send proactive alerts for upcoming expirations to minimize wastage.
- Optimize supply distribution to ensure timely availability in critical areas,

→ Seamless Collaboration:
- Strengthen coordination between healthcare staff, suppliers, and administrators.
- Facilitate faster approval workflows for procurement and restocking.
- Provide secure, role-based access to ensure accountability.

5. Salesforce Key Features and Concepts Utilized:

Medical Inventory Management leverages the capabilities of Salesforce to build a reliable, transparent, and efficient platform for managing healthcare supplies. Here's how Salesforce features have been applied:

1. Creation of Salesforce Account (Developer Edition):

Logging in through Salesforce Developer Edition provided a secure and free environment to design, test, and implement project components without affecting real data. It enabled hands-on practice with objects, apps, reports, and dashboards, offering a risk-free platform to build and demonstrate the Medical Inventory project effectively.

2 Creation of Objects:

Objects act as structured containers for storing and organizing data related to specific business processes. Creating custom objects allows the system to manage all aspects of medical inventory efficiently and systematically.
Custom Objects: Product, Purchase order, Supplier, Order item and Inventory Transactions are created.

3 Creation of Tabs:

Tabs serve as the primary navigation elements that allow users to access and manage different objects within the application creating, these custom tabs ensures that key records are easily accessible, organized, and user-friendly.

4 Creation of App Manager:

The App Manager is used to design and organize custom applications that bring together all the required tabs, objects, and tools in one place by creating a custom app through the App Manager ensures that users can work in a focused, role-specific environment tailored to healthcare operations.

App Settings

App Details & Branding
App Options
Utility Items (Desktop Only)
Navigation Items
User Profiles

App Details & Branding

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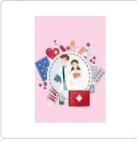
App Details

*App Name ⓘ

Medical Inventory Management

*Developer Name ⓘ

Medical_Inventory_Management

Description ⓘ

Medical Inventory Management

App Branding

Image ⓘ

Clear

Primary Color Hex Value ⓘ

■ ▼ #0070D2

Org Theme Options

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

App Launcher Preview

Medical Inventory Manage...
Medical Inventory Management

App Settings

App Details & Branding
App Options
Utility Items (Desktop Only)
Navigation Items
User Profiles

Navigation Items

Choose the items to include in the app, and arrange the order in which they appear. Users can personalize the navigation to add or move items, but users can't remove or rename the navigation items are available only for phone or only for desktop. These items are dropped from the navigation bar when the app is viewed in a format that the item doesn't support.

| Available Items	Create ▼	Selected Items
🔍 Type to filter list...		¥ Products
Accounts		Purchase orders
Activation Targets		Order Items
Activations		Inventory Transactions
All Sites		Suppliers
Alternative Payment Methods	▶	Reports
Analytics		Dashboards
App Launcher	◀	
Appointment Categories		
Appointment Invitations		
Approval Requests		
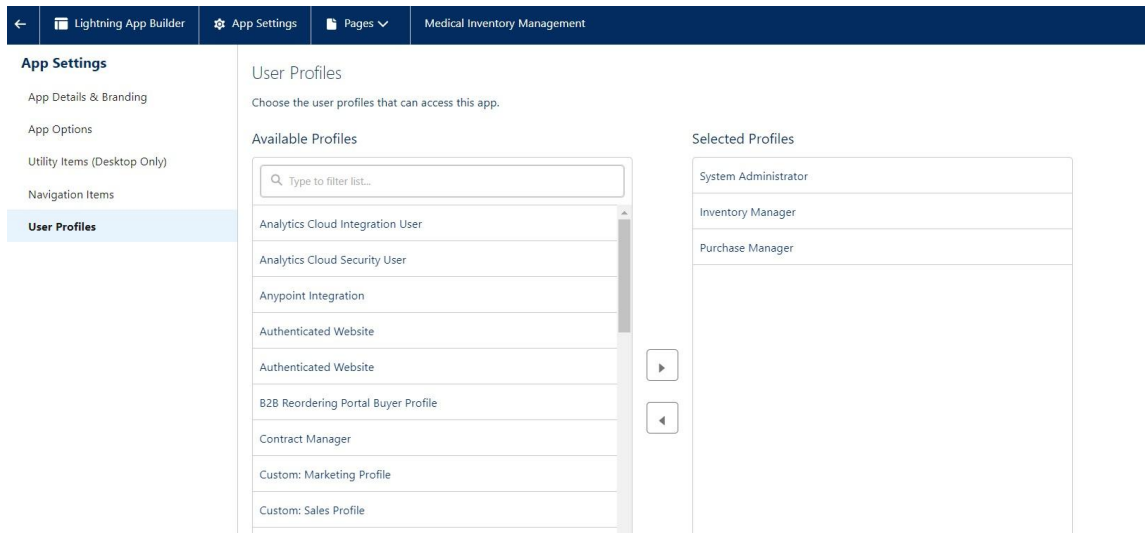
5 Creation of Fields:

→ Inventory Records:

α. **Products:**
 Store detailed information about medicines, consumables, and equipment, including batch numbers, stock levels, expiry dates, and product descriptions, product ID and product names.
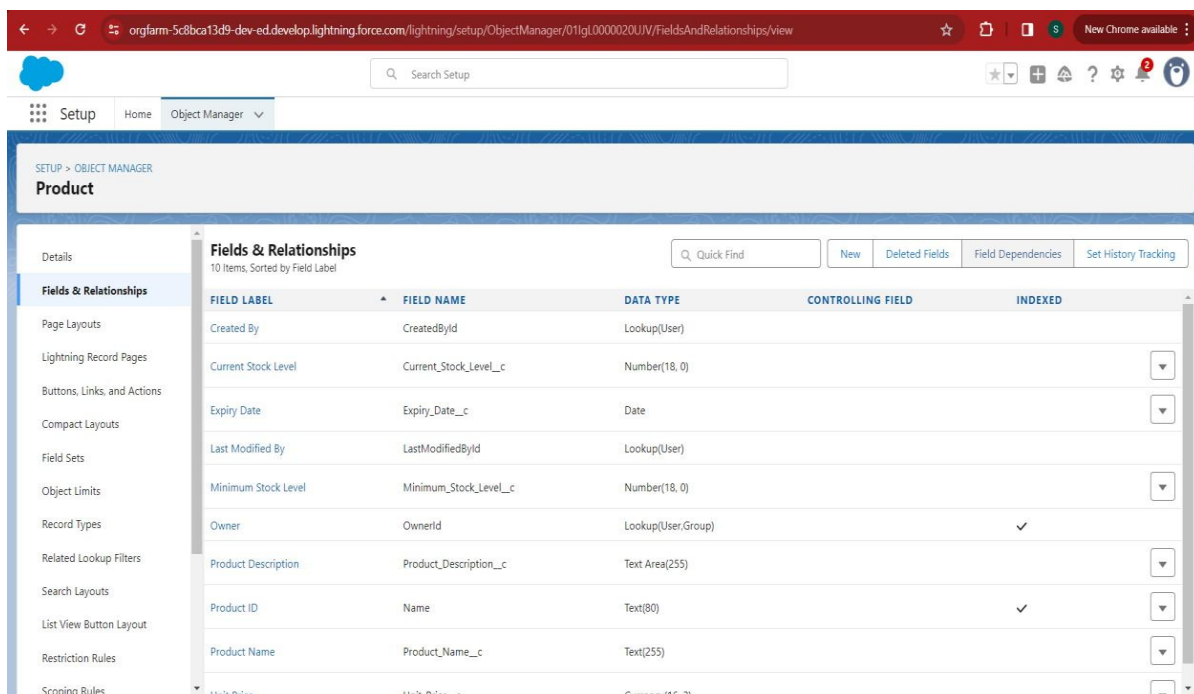
- Purchase Orders:

Record and manage supplier orders with details such as items requested, order count, order dates, purchase order ID and supplier ID, making it easier for staff to track procurement and ensure timely restocking

- Order Items:

Track and manage individual items within each purchase order, with fields for product name, quantity ordered, quantity received, unit price, and total order cost ensuring clarity and accuracy in procurement records.

- Inventory Transactions:

Maintain a centralized log of all stock movements, including details of items issued, received, returned, or adjusted, along with inventory transaction ID, Purchase order id, Transaction dates and Transaction types and Total order cost ensuring complete transparency and traceability of inventory activeities

- Supplier:

Store and manage detailed information about suppliers, including contact person, phone

number, supplier ID and supplier name, enabling efficient procurement and strong vendor relationship

Relationships:

- **Master–Detail Relationships:**
  Create structured connections, such as linking *purchase orders* to their *order items*, ensuring data consistency and clear hierarchy in inventory records.
- **Lookup Relationships:**
  Enable flexible associations, like connecting *inventory transactions* to *suppliers* or

storage locations, allowing dynamic tracking and management of stock movements

6 Editing of page layouts:

➜ Edit a page layout in product object:

Editing the Product page layout ensures relevant fields are organized for easy data entry and viewing. It improves accuracy and efficiency by showing only necessary information based on user roles.
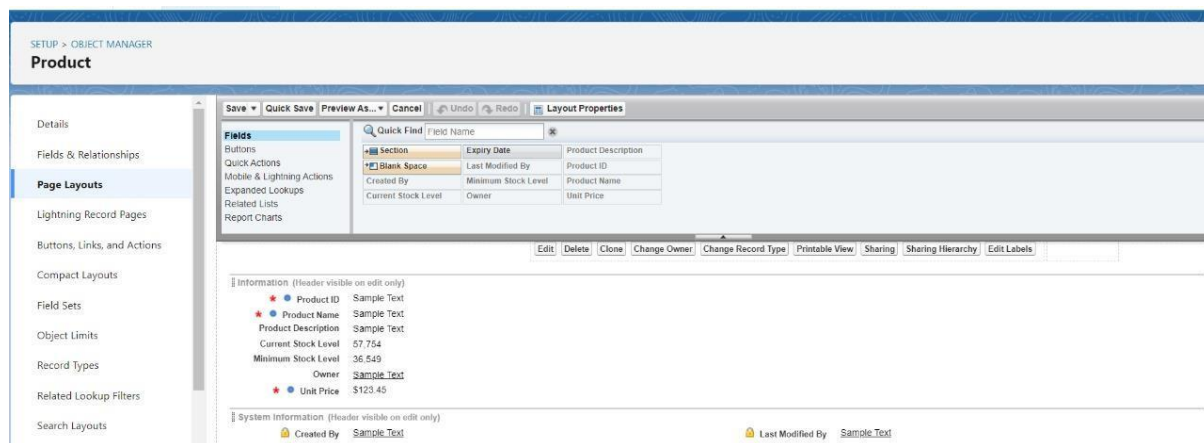
Edit a page layout in purchase order object:

Editing the Purchase Order page layout ensures clear organization of vendor, product, and delivery details for efficient data entry. It helps users focus on relevant fields based on their roles, reducing errors. Thiimproves order tracking, compliance, and overall workflow in the procurement process
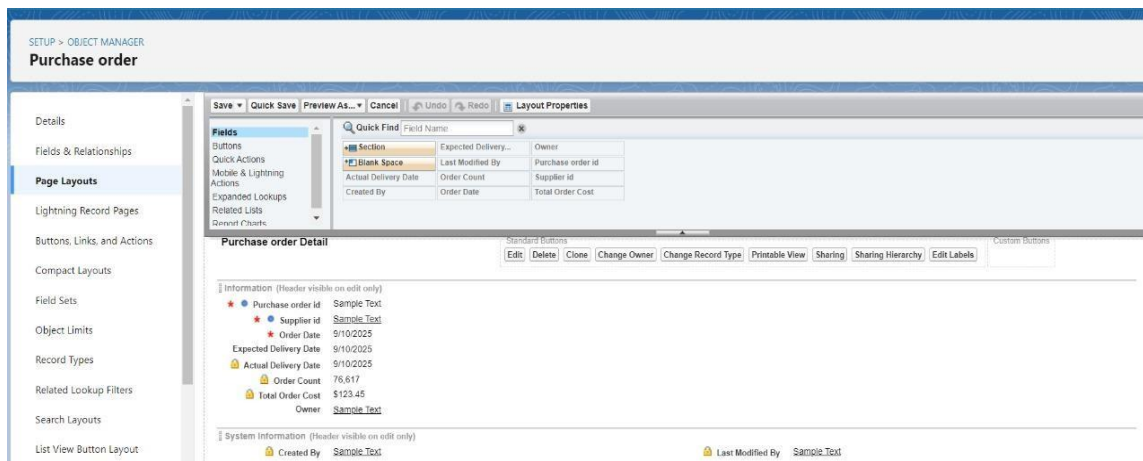
Edit a page layout in order item object:

Editing the Order Item page layout helps display key details like product name, quantity, and price in a clear and organized manner. It ensures accurate data entry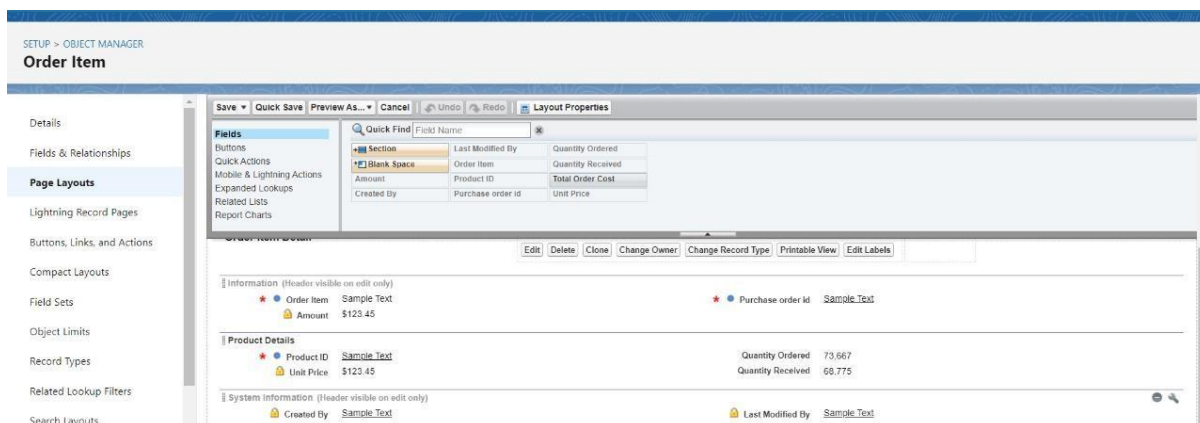 and simplifies tracking of individual items within a purchase order. This enhances inventory accuracy and supports efficient order processing.


Edit a page layout in inventory transaction object:

Editing the Inventory Transaction page layout ensures clear visibility of transaction details like product, quantity, date, and transaction type. It helps users record and track stock movements accurately. This supports effective inventory control and audit readiness in the medical inventory system.
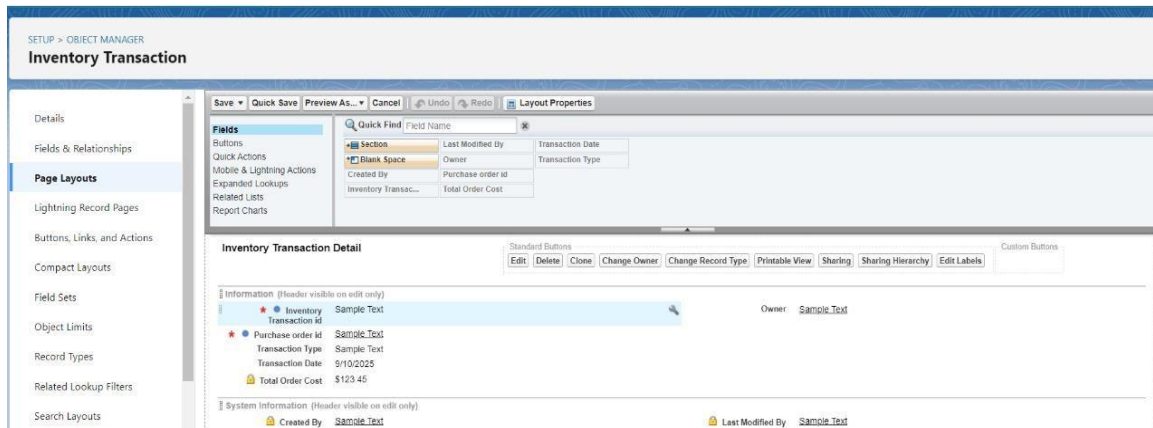
Edit a page layout in supplier object:

Editing the Supplier page layout allows for clear organization of key supplier details like name, contact info, and product categories. It ensures users can quickly access and update supplier records accurately. This supports efficient procurement processes and maintains reliable supplier data.
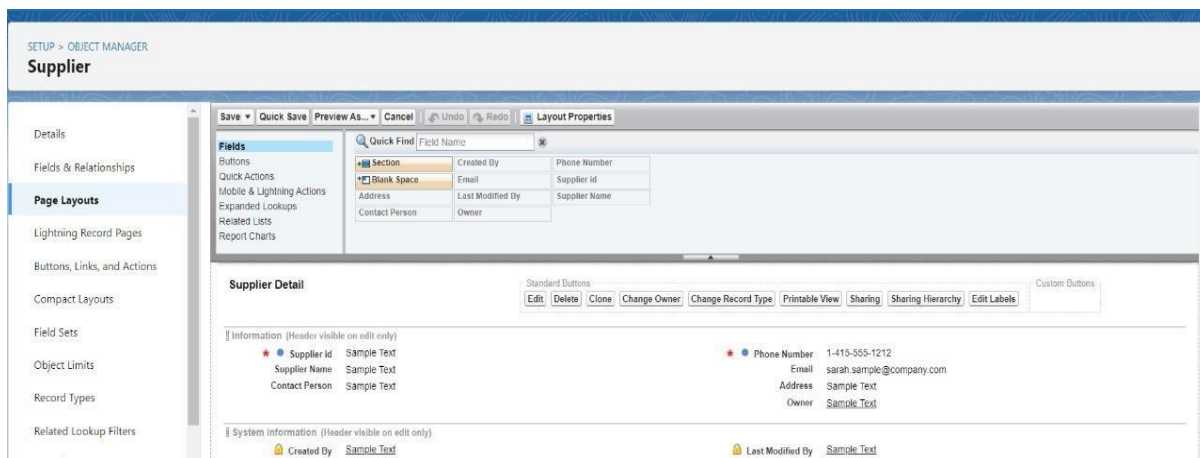
7 Compact layouts:

➔ Create a compact layout to a product object:

Creating a compact layout for the Product object ensures that essential product details (like name, code, and stock status) are visible at a glance. It improves user efficiency by showing key info in list views, lookups, and mobile views. This supports faster decision-making and streamlined inventory management

Product Compact Layout
Product Compact Layout
« Back to Product

Help for this Page ?

Compact Layout Detail   Edit Clone Delete Compact Layout Assignment

Label	Product Compact Layout
API Name	Product_Compact_Layout
Included Fields	Product Name
	Current Stock Level
	Unit Price
Created By	Sastika R. 9/5/2025, 11:51 PM

Object Name   Product

Modified By   Sastika R. 9/6/2025, 9:37 PM

Edit Clone Delete Compact Layout Assignment

Create a compact layout to a purchase order object:

Creating a compact layout for the Purchase Order object allows key information like order number, vendor, and status to be easily seen in list views and search results. It improves quick access and selection of records for users. This boosts efficiency in managing and tracking purchase orders within the medical inventory system.

Purchase order Compact Layout
Purchase Order Compact Layout
« Back to Purchase order

Help for this Page ?

Compact Layout Detail   Edit Clone Delete Compact Layout Assignment

Label	Purchase Order Compact Layout
API Name	Purchase_Order_Compact_Layout
Included Fields	Purchase order id
	Order Date
	Total Order Cost
	Supplier id
Created By	Sastika R. 9/5/2025, 11:57 PM

Object Name   Purchase order

Modified By   Sastika R. 9/5/2025, 11:57 PM

Edit Clone Delete Compact Layout Assignment

8 Validation rules:

➔ Create an expected delivery date validation rule to a employee object:

Creating an expected delivery date validation rule on the Employee object ensures that delivery dates entered are realistic and not set in the past. It helps maintain accurate scheduling and inventory planning. This improves reliability and prevents errors in the medical inventory management process.

Purchase order Validation Rule
Back to Purchase order

Help for this Page ?

Validation Rule Detail   Edit Clone

Rule Name	Expected_Delivery_Date_Validation	Active	✓
Error Condition Formula	(Expected_Delivery_Date__c - Order_Date__c)> 7		
Error Message	The Expected Delivery Date should not exceed 7 days.	Error Location	Top of Page
Description			
Created By	Sastika R. 9/6/2025, 12:03 AM	Modified By	Sastika R. 9/6/2025, 12:03 AM

Edit Clone

9 Data Sharing and Security:

➔ Profiles and Roles:

Define both inventory manager and purchasing manager roles with specific access permissions, ensuring that administrators, hence staff can collaborate effectively while protecting sensitive medical and supplier data.

➔ Creation of Permission sets:

Permission Sets are used to extend access beyond what is defined in user profiles, without changing the core profile settings. Permission Sets (Purchase Manager Create Access) ensure that specific users can access additional features or objects as needed, while still maintaining data security.
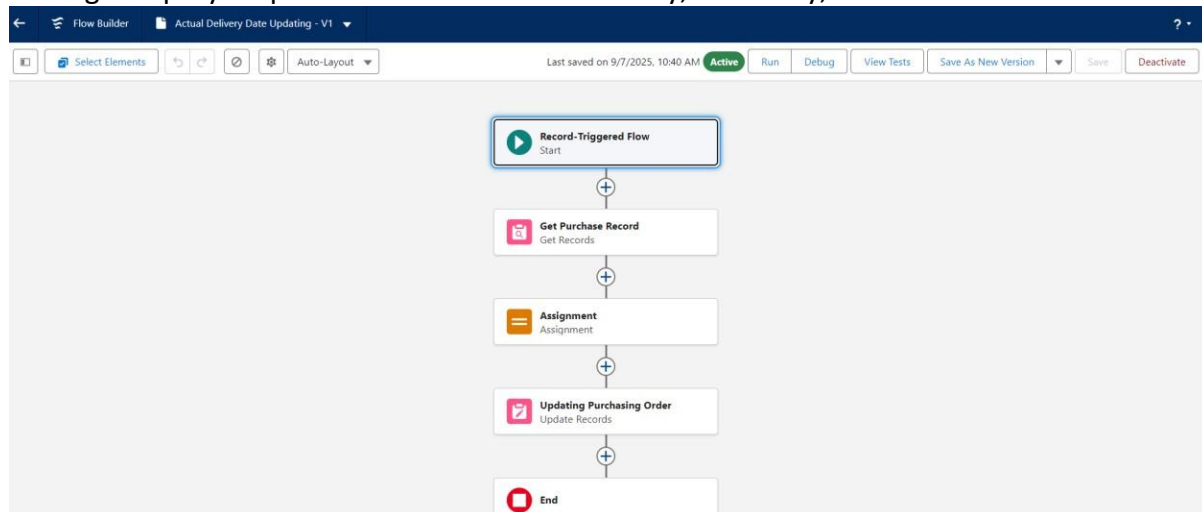

10. Automations and Workflows:

➔ Flows:

Automate processes such as creating purchase orders or updating stock levels, guiding users through step-by-step workflows to ensure accuracy, efficiency, and reduced manual effort.
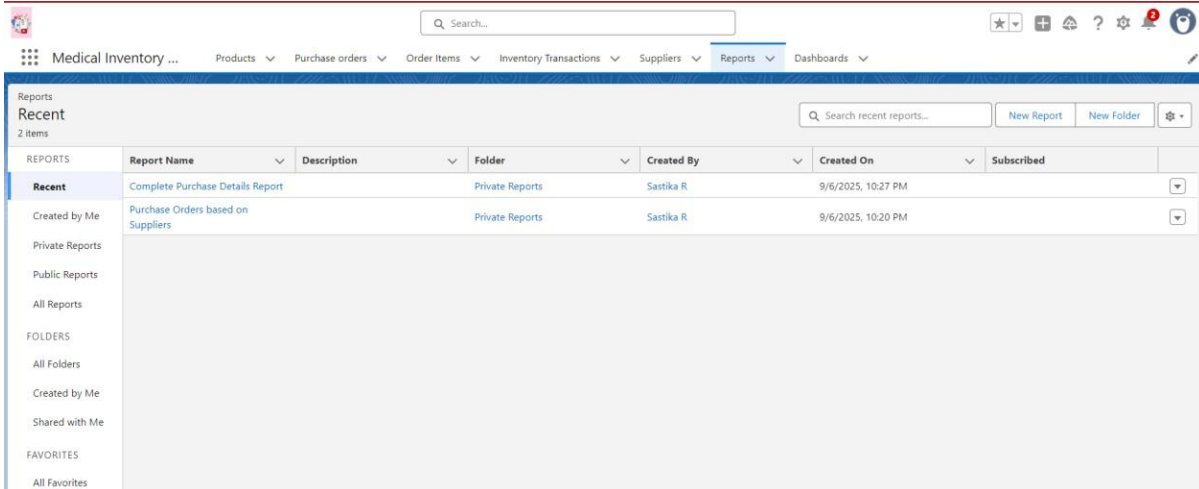

➔ Apex Triggers:

Implement custom logic, such as automatically updating inventory quantities when order items are received or triggering alerts for near-expiry medicines, to maintain accuracy and optimize stock management.
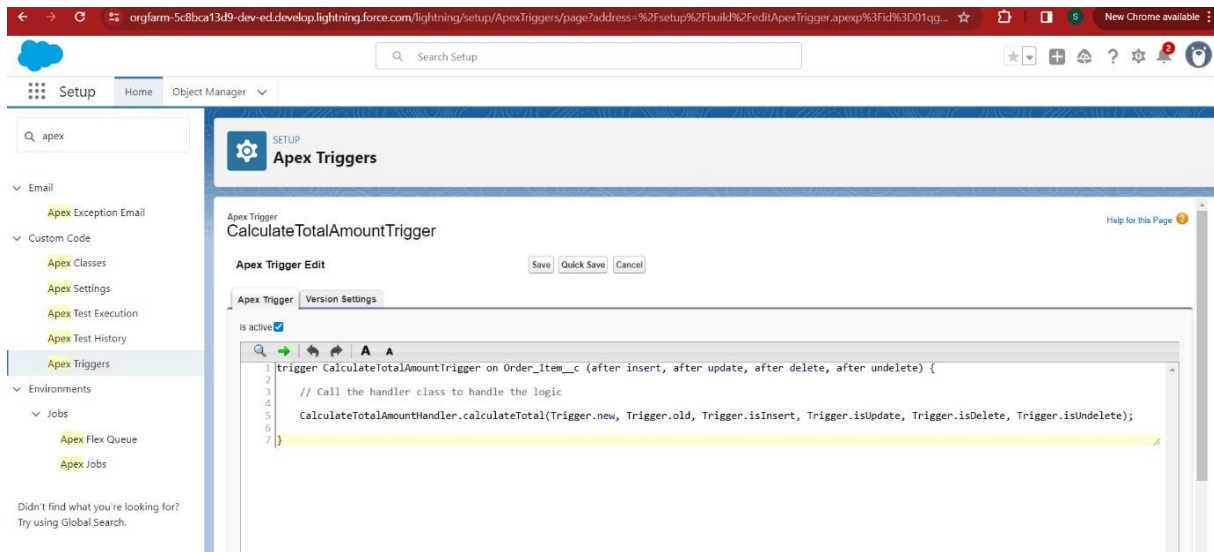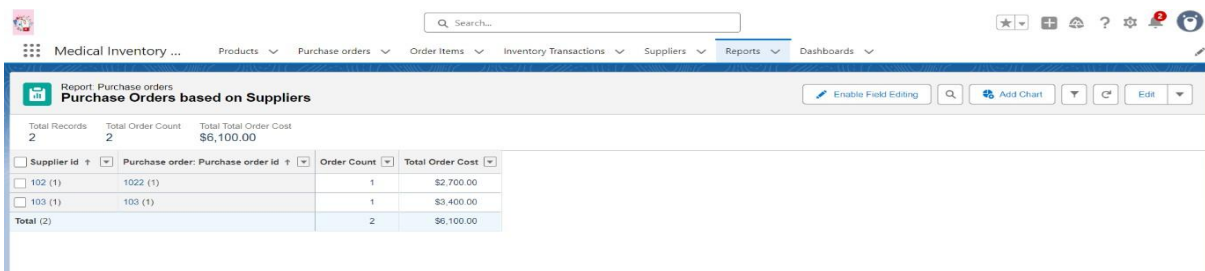
Reports:

Reports are used to organize, summarize, and analyze data stored in the system, creating reports helps healthcare staff and administrators make data-driven decisions, track inventory performance, and maintain operational efficiency.
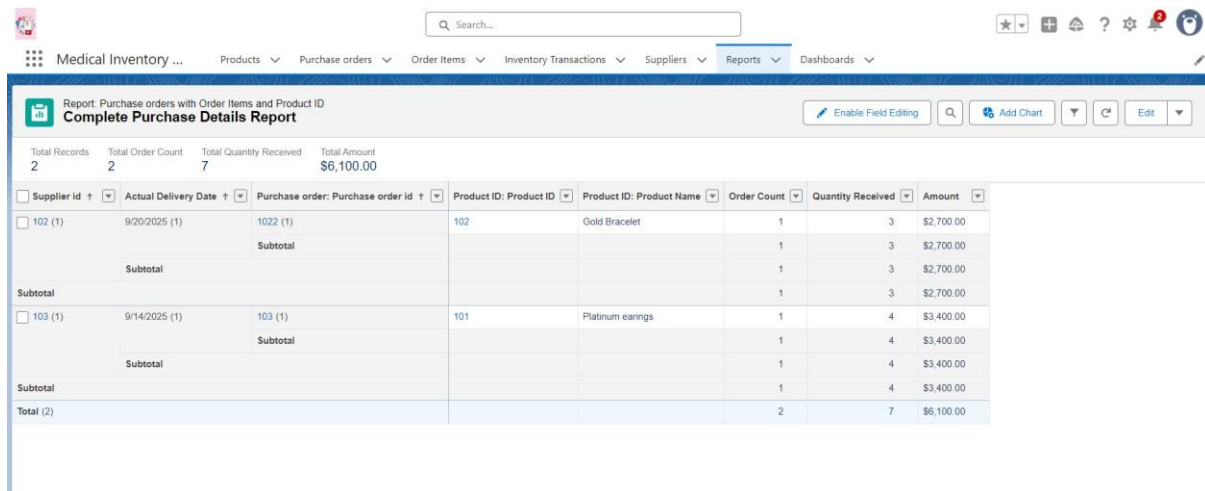

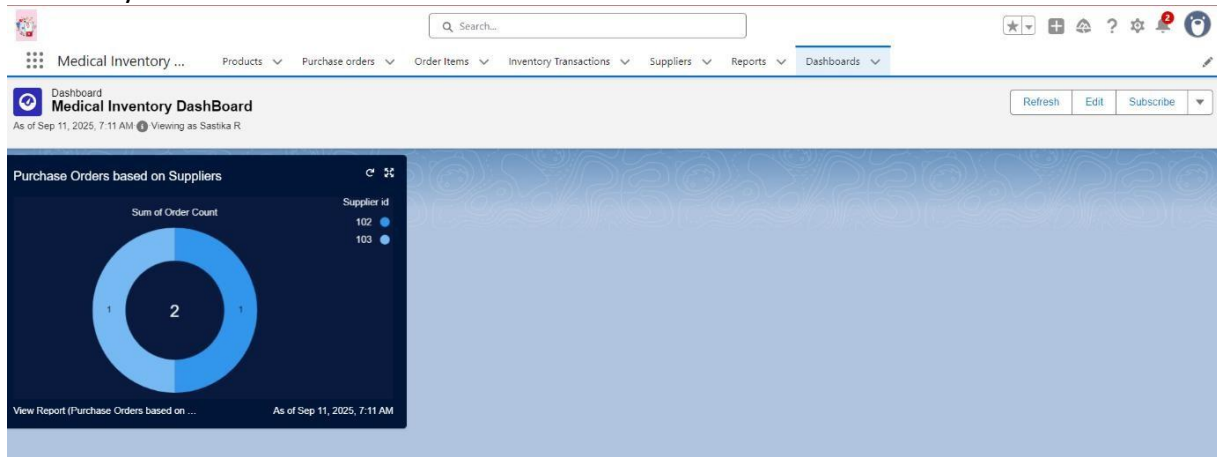### Purchase Orders based on Suppliers:

➔ **Complete Purchase Details Report**

Dashboards:

Dashboards provide visual representations of key data, helping users understand trends and make informed decisions at a glance. The dashboard (Medical Inventory Management) help administrators, pharmacists, and healthcare staff monitor inventory and procurement efficiently.

6. Conclusion:

The development of the Medical Inventory Dashboard has significantly enhanced the monitoring and management of purchase orders within the system. By providing supplier-based insights through interactive visualizations, the dashboard simplifies data interpretation and promotes informed decision-making. Real-time updates ensure accuracy, while integrated reports allow users to access detailed information seamlessly. The clear representation of order distribution across suppliers improves transparency and accountability. Additionally, the ability to refresh, edit, and subscribe to the dashboard increases its usability and adaptability. This solution not only optimizes procurement tracking but also strengthens inventory control processes.

Overall, the dashboard contributes to improved efficiency, better supplier management, and a more effective medical supply chain.