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COLLEGE OF ARTS & SCIENCE**  
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**TOPIC: Medical Inventory Management**

**TEAM ID: NM2025TMID22687**

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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 system

## 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:

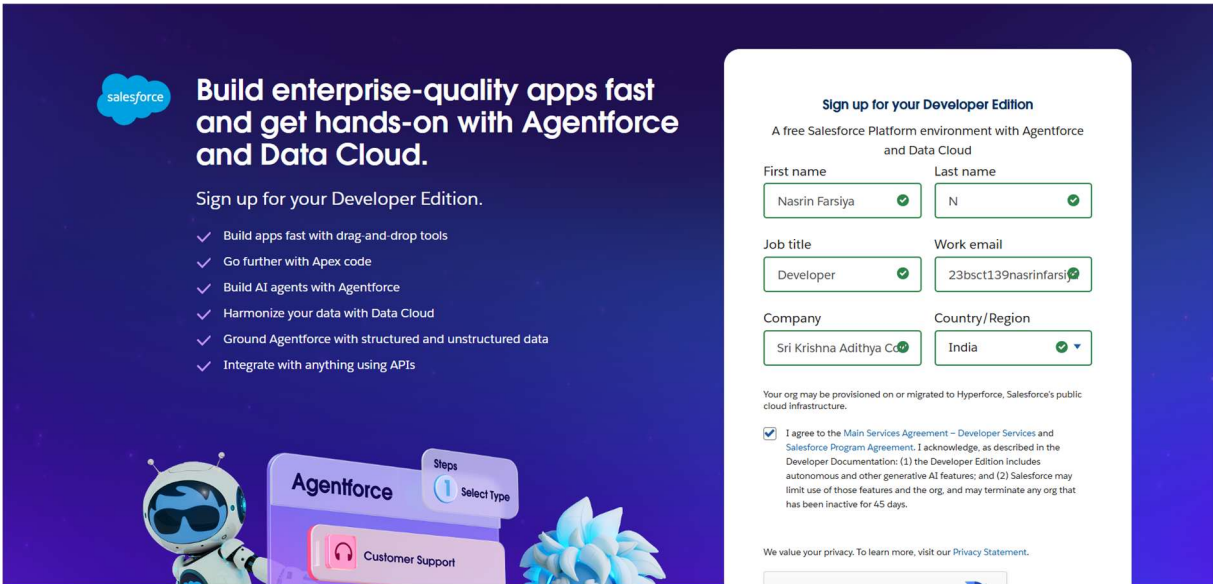
- Strengthen coordination between healthcare staff, suppliers, and administrators.
- Facilitate faster approval workflows for procurement and restocking.
- Provide secure, role-based access to ensure accountability.

## 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):

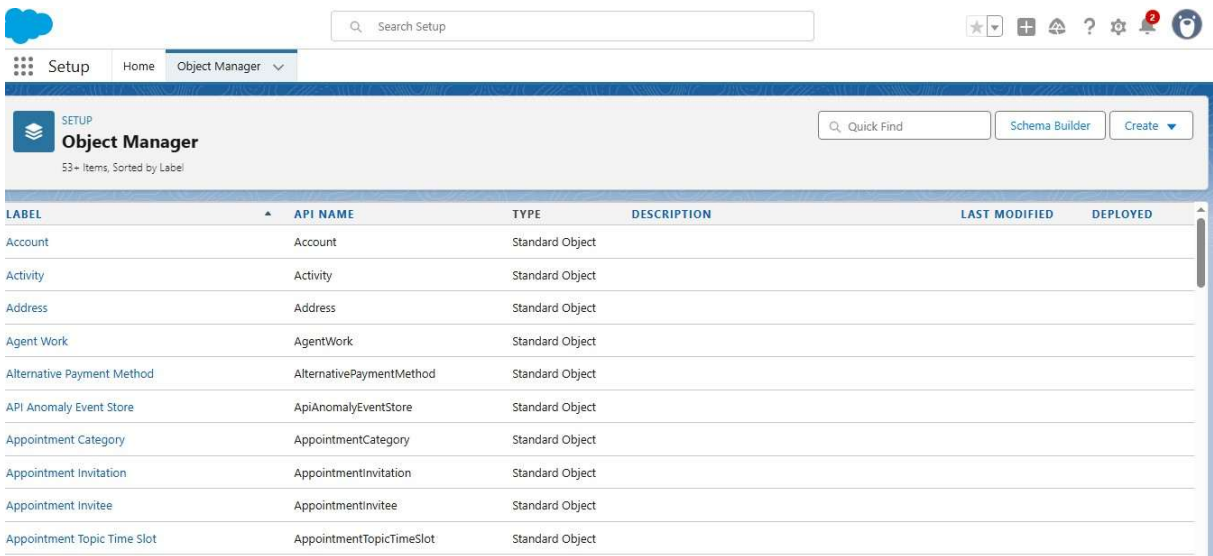
Logging in through Salesforce Developer Edition provided a secure and free environment to design, test, and implement project components without affecting real data. It enabled hands-on practice with objects, apps, reports, and dashboards, offering a risk-free platform to build and demonstrate the Medical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



# 2.Creation of Objects:

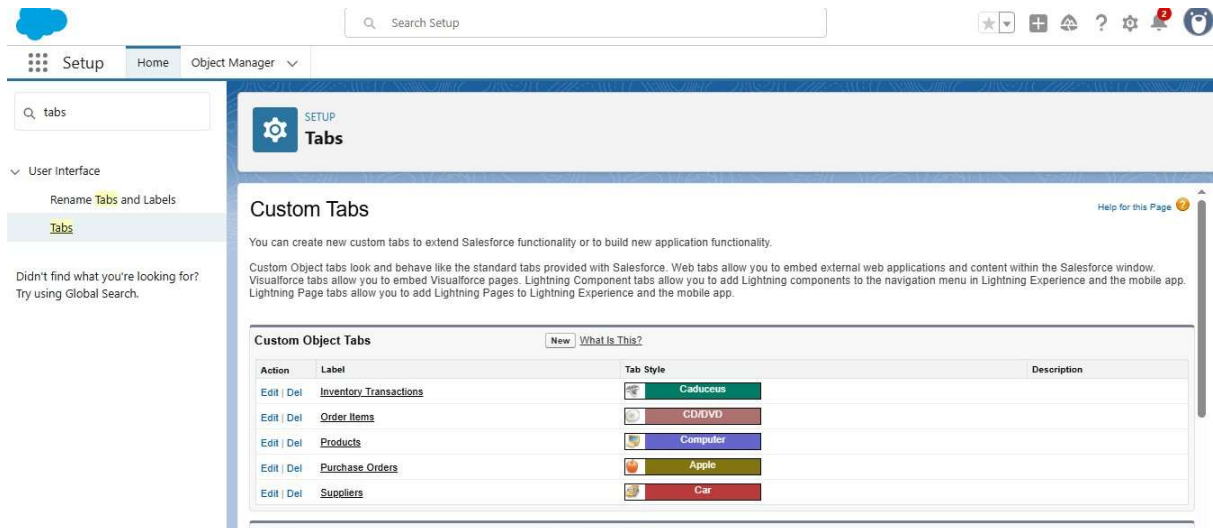
Objects act as structured containers for storing and organizing data related to specific business processes. Creating custom objects allows the system to manage all aspects of medical inventory efficiently and systematically.

**Custom Objects: Product, Purchase order, Supplier, Order item and Inventory Transactions are created.**



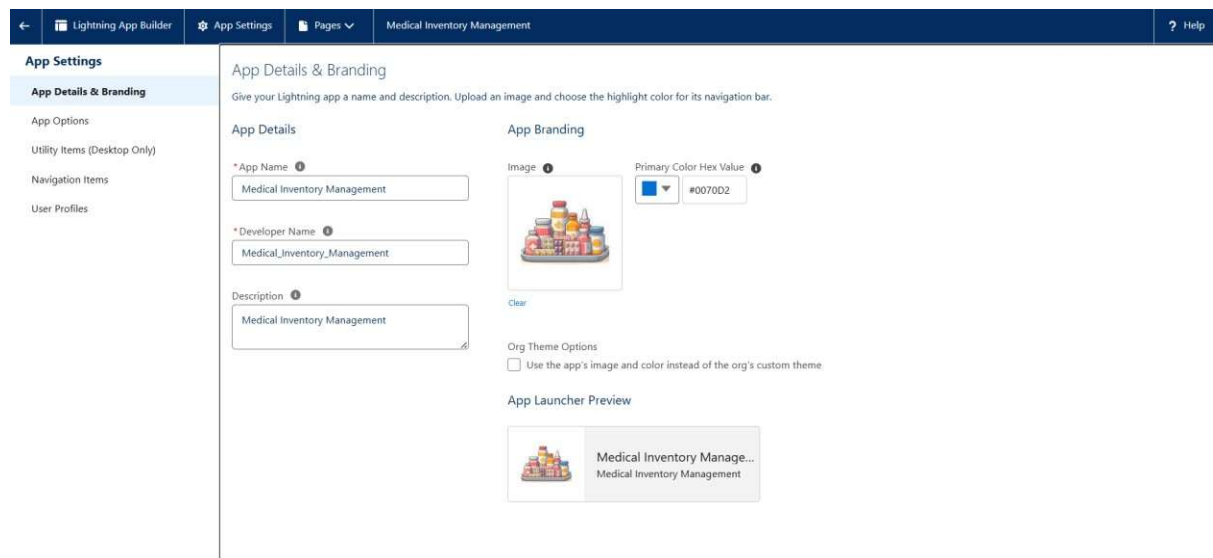
### **3.Creation of Tabs:**

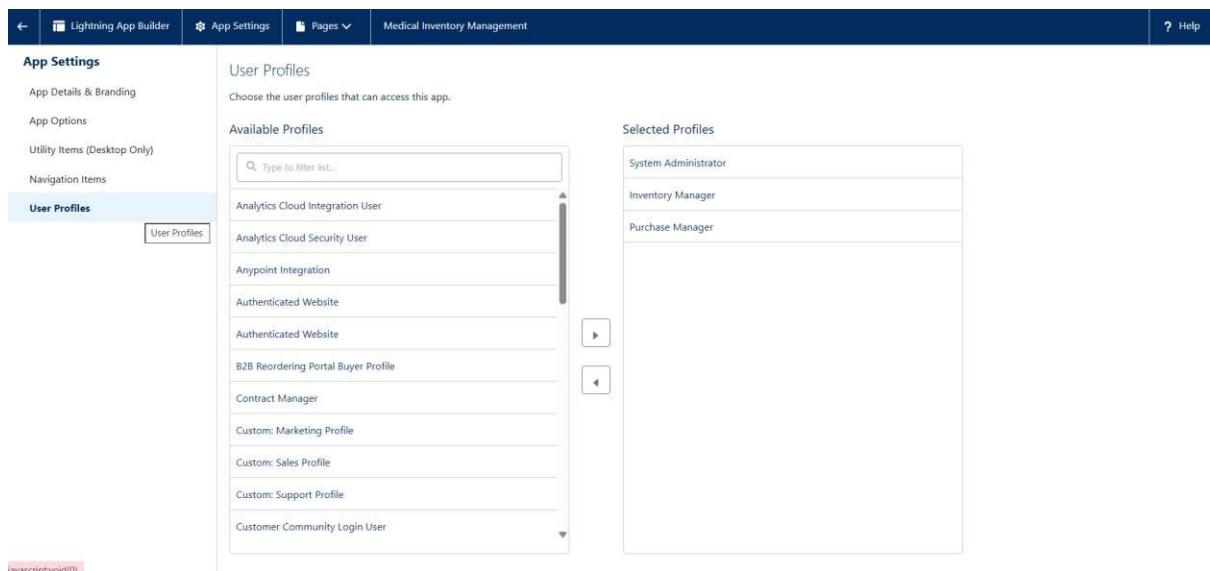
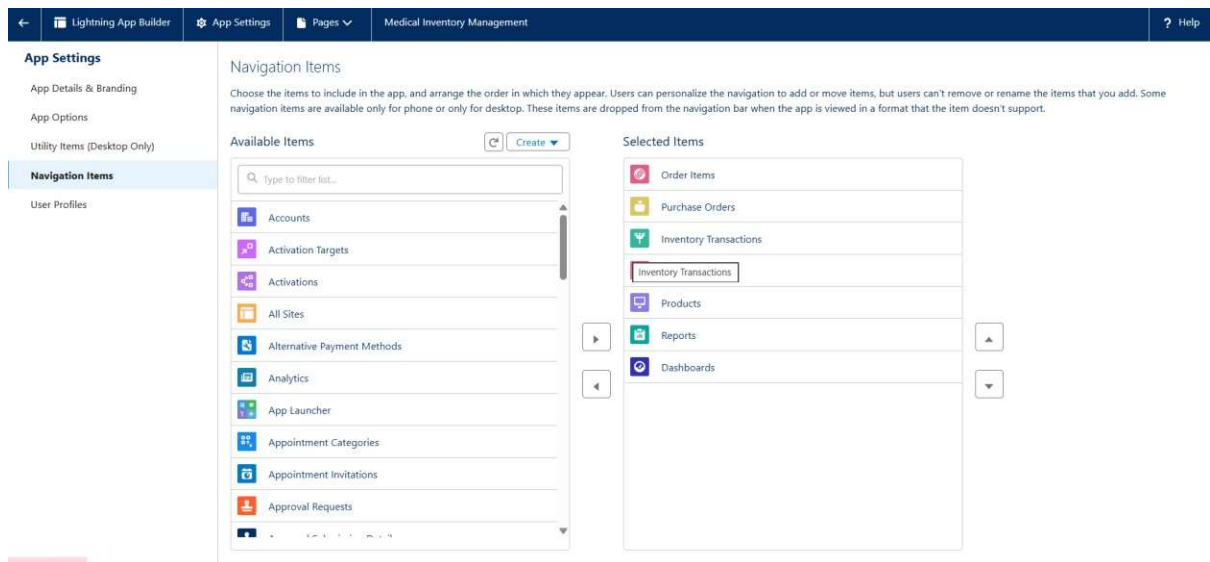
Tabs serve as the primary navigation elements that allow users to access and manage different objects within the application creating, these custom tabs ensures that key records are easily accessible, organized, and user-friendly.



## 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.



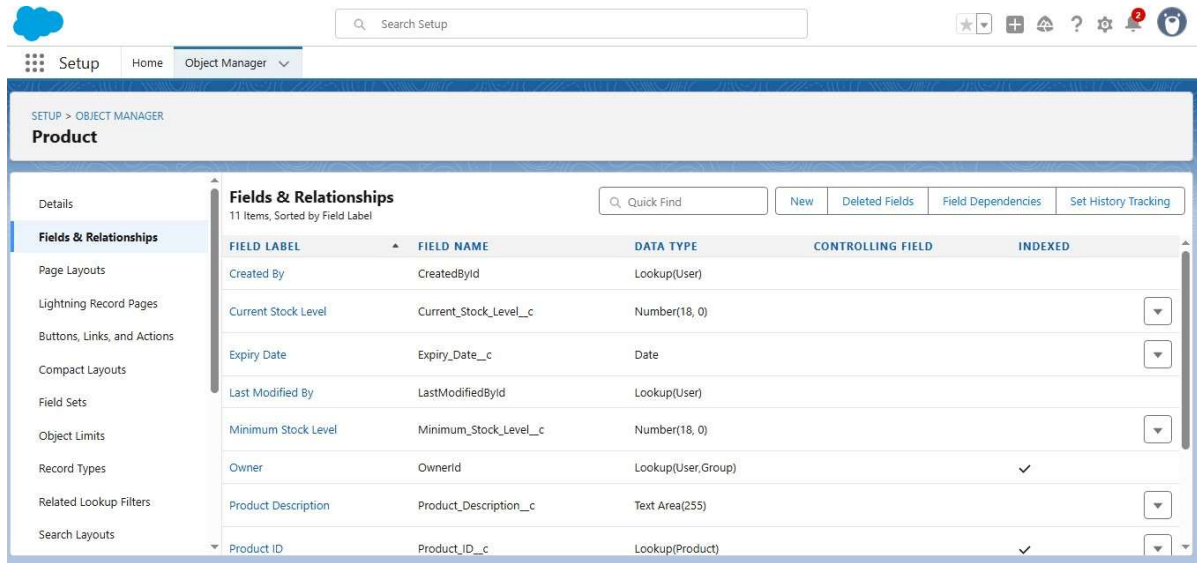


## 5.Creation of Fields:

→ Inventory Records:

### • Products:

Store detailed information about medicines, consumables, and equipment, including batch numbers, stock levels, expiry dates, and product descriptions, product ID and product names.

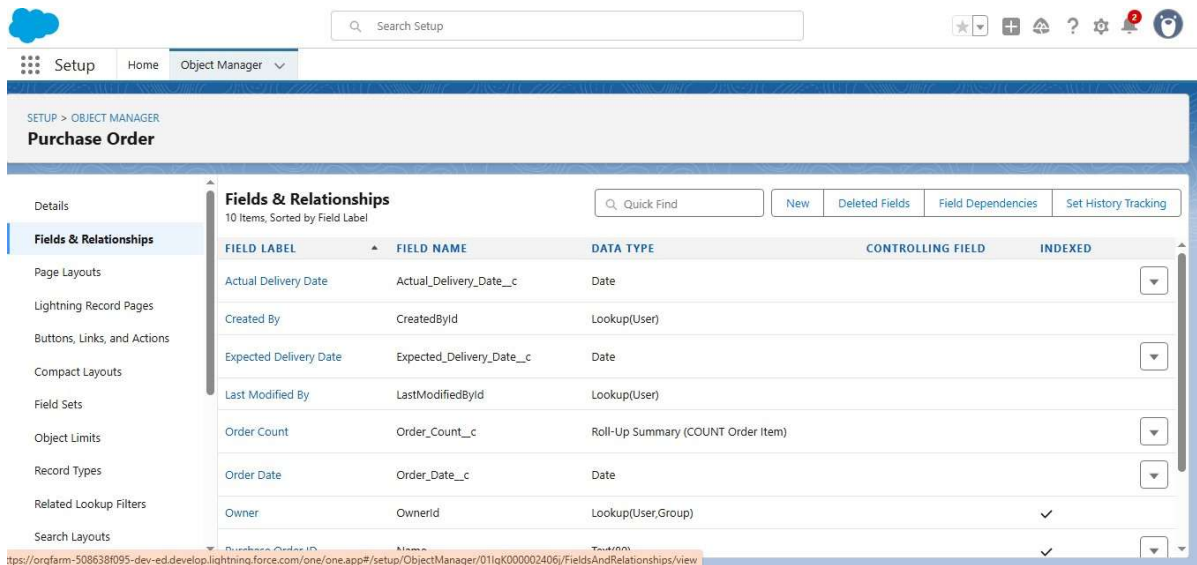


The screenshot shows the Salesforce Object Manager interface for the 'Product' object. The left sidebar contains navigation links: Details, Fields & Relationships (selected), Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, and Search Layouts. The main content area is titled 'Fields & Relationships' and shows 11 items sorted by Field Label. The table below lists the fields:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Current Stock Level	Current_Stock_Level__c	Number(18, 0)		
Expiry Date	Expiry_Date__c	Date		
Last Modified By	LastModifiedById	Lookup(User)		
Minimum Stock Level	Minimum_Stock_Level__c	Number(18, 0)		
Owner	OwnerId	Lookup(User,Group)		✓
Product Description	Product_Description__c	Text Area(255)		
Product ID	Product_ID__c	Lookup(Product)		✓

## • 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.



The screenshot shows the Salesforce Object Manager interface for the 'Purchase Order' object. The left sidebar contains navigation links: Details, Fields & Relationships (selected), Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, and Search Layouts. The main content area is titled 'Fields & Relationships' and shows 10 items sorted by Field Label. The table below lists the fields:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Actual Delivery Date	Actual_Delivery_Date__c	Date		
Created By	CreatedById	Lookup(User)		
Expected Delivery Date	Expected_Delivery_Date__c	Date		
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	Purchase_Order_ID__c	Text(255)		✓

## • 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.



SETUP > OBJECT MANAGER

**Order Item**

Details

**Fields & Relationships**  
10 Items, Sorted by Field Label

Quick Find

New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount_c	Formula (Currency)		
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Order Item ID	Name	Text(80)		✓
Product ID	Product_ID__c	Lookup(Product)		✓
Purchase Order ID	Purchase_Order_ID__c	Master-Detail(Purchase Order)		✓
Quantity Ordered	Quantity_Ordered__c	Number(18, 0)		

### • 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 activities.

SETUP > OBJECT MANAGER

**Inventory Transaction**

Details

**Fields & Relationships**  
8 Items, Sorted by Field Label

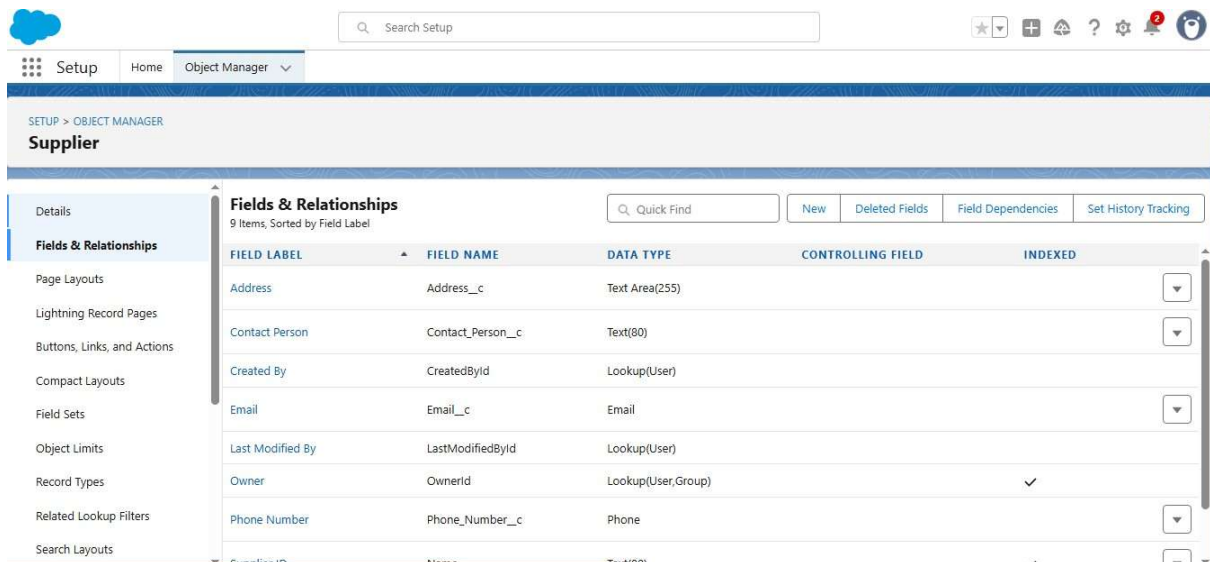
Quick Find

New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Purchase Order ID	Purchase_Order_ID__c	Lookup(Purchase Order)		✓
Total Order Cost	Total_Order_Cost__c	Formula (Currency)		
Transaction Date	Transaction_Date__c	Date		
Transaction ID	Name	Text(80)		✓
Transaction Type	Transaction_Type__c	Picklist		

### • Supplier:

Store and manage detailed information about suppliers, including contact person, phone number, supplier ID and supplier name, enabling efficient procurement and strong vendor relationships.



## → 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.

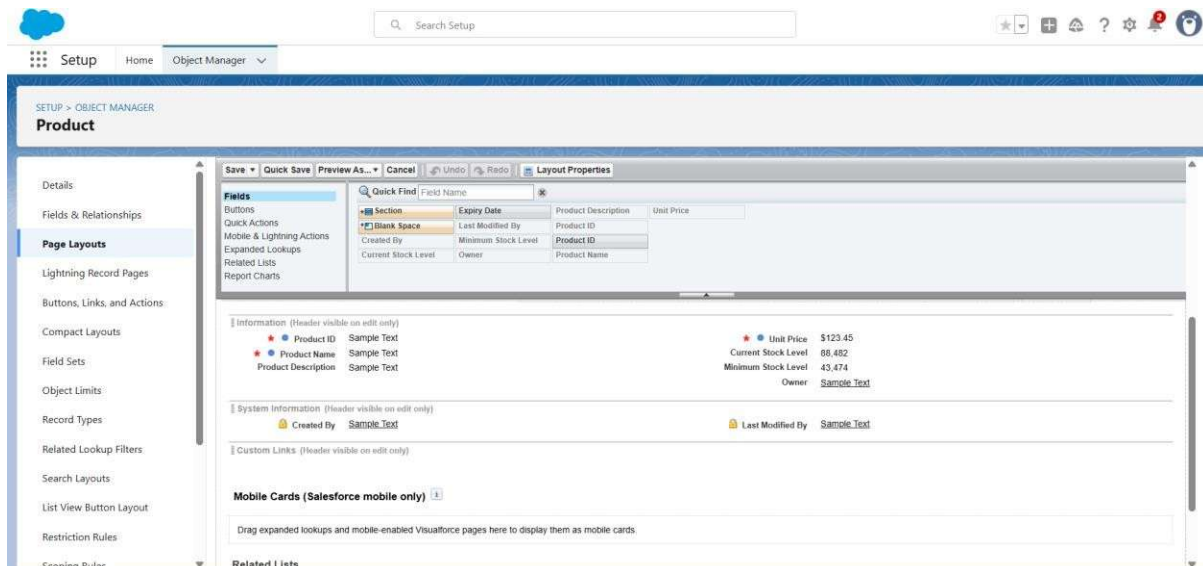
### • Lookup Relationships:

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:

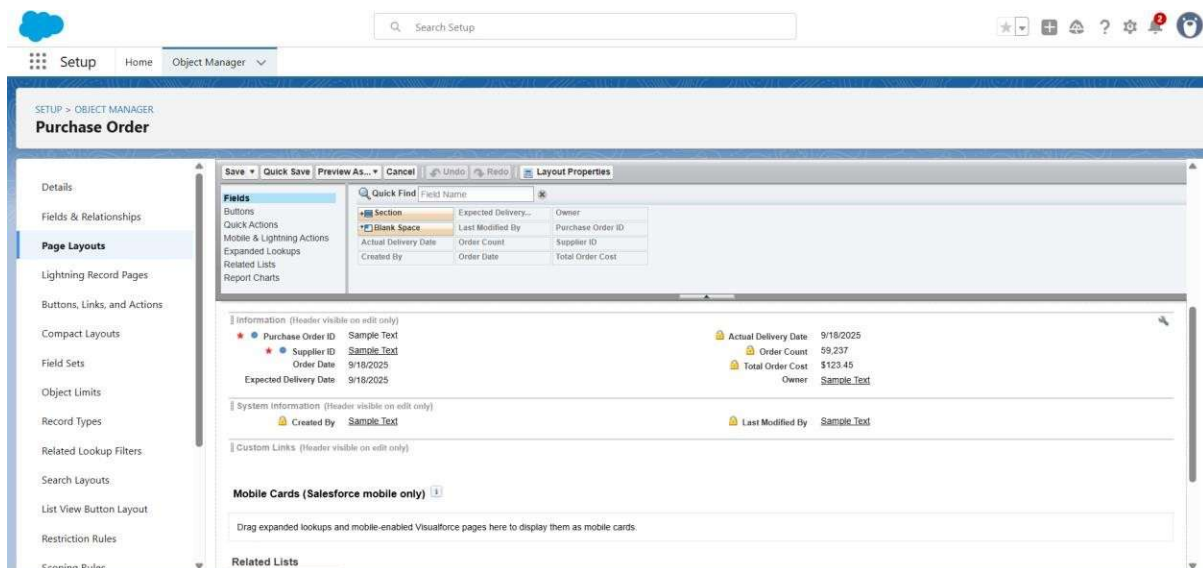
### → Edit a page layout in product object:

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.



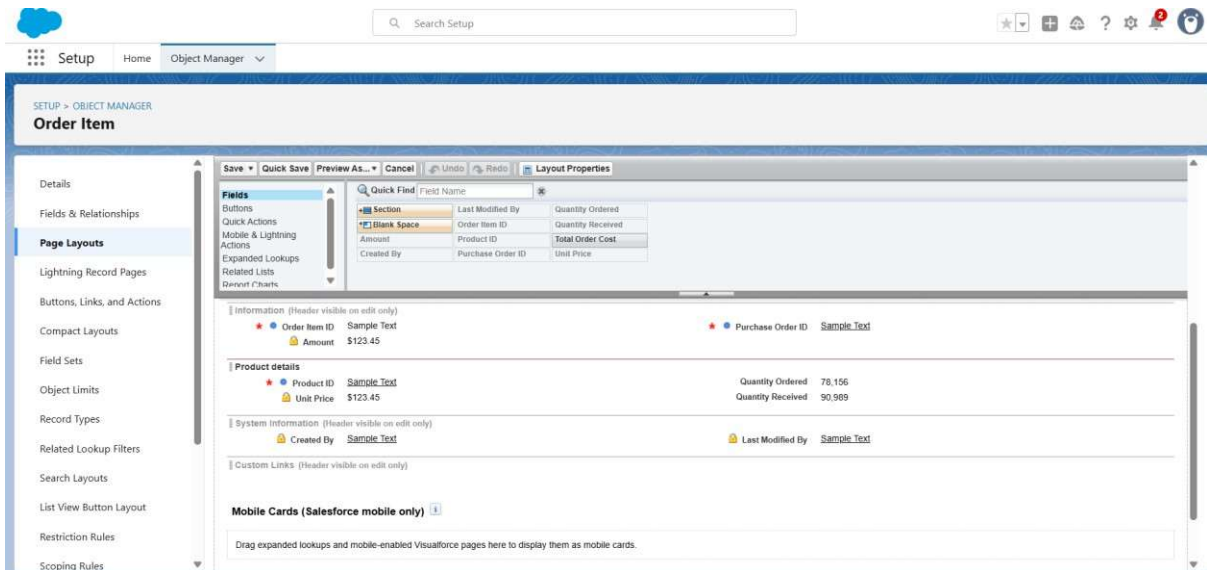
### → Edit a page layout in purchase order object:

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. This improves order tracking, compliance, and overall workflow in the procurement process.



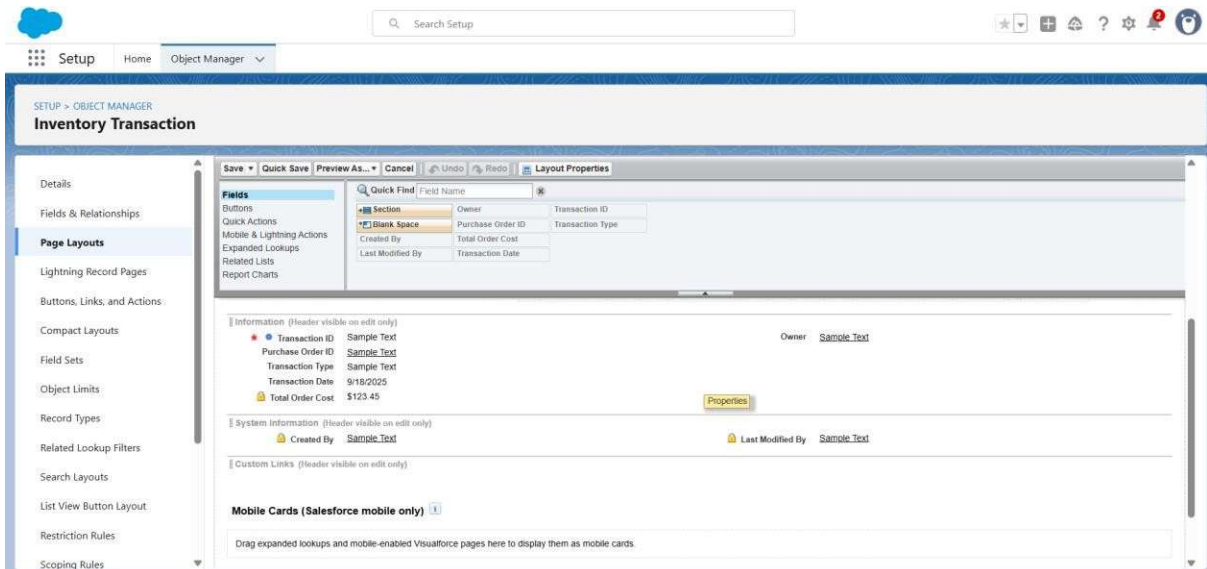
### → Edit a page layout in order item object:

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.



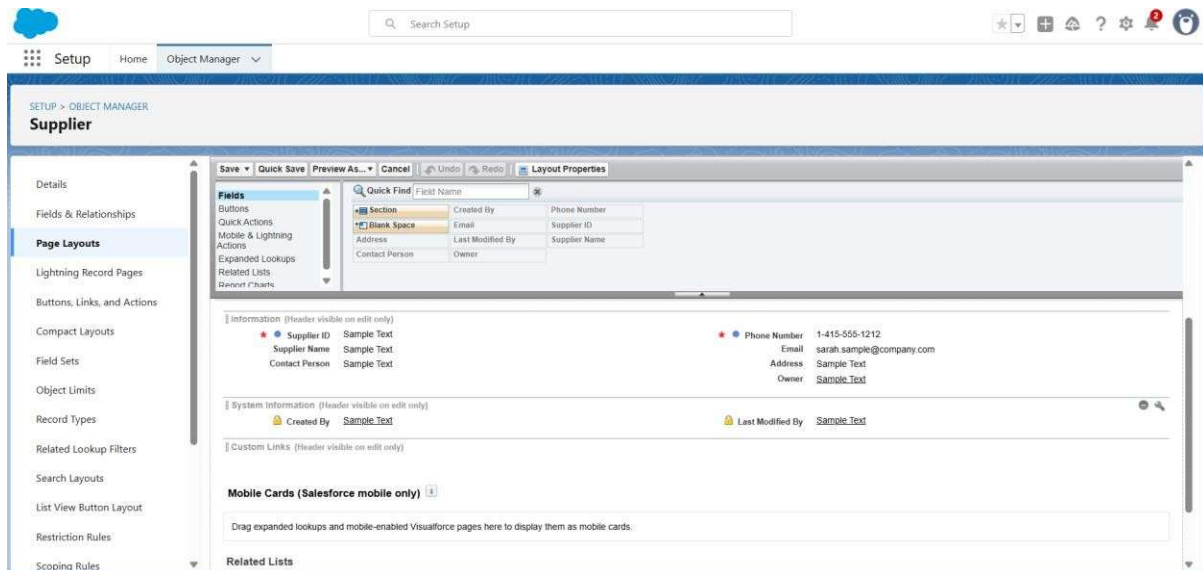
### → Edit a page layout in inventory transaction object:

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:

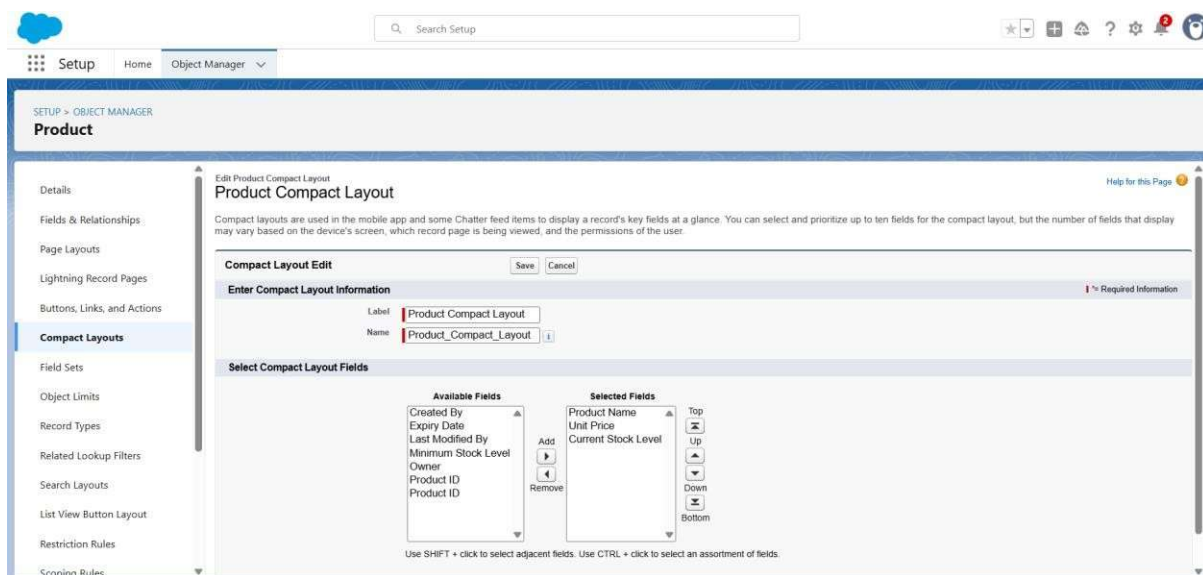
Editing the Supplier page layout allows for clear organization of key supplier details like name, contact info, and product categories. It ensures users can quickly access and update supplier records accurately. This supports efficient procurement processes and maintains reliable supplier data.



## 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.



### → 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.

The screenshot shows the 'Purchase Order Compact Layout' configuration page in Salesforce Setup. The left sidebar contains navigation links: 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, and Scoping Rules. The main content area is titled 'Purchase Order Compact Layout' and includes a 'Compact Layout Edit' section with 'Save' and 'Cancel' buttons. Below this is the 'Enter Compact Layout Information' section with fields for 'Label' (Purchase Order Compact L) and 'Name' (Purchase\_Order\_Compact). The 'Select Compact Layout Fields' section shows two columns: 'Available Fields' (Actual Delivery Date, Created By, Expected Delivery Date, Last Modified By, Order Count, Owner) and 'Selected Fields' (Purchase Order ID, Order Date, Total Order Cost, Supplier ID). Arrows indicate the ability to move fields between the columns. A note at the bottom states: 'Use SHIFT + click to select adjacent fields. Use CTRL + click to select an assortment of fields.'

## 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.

The screenshot shows the 'Validation Rules' configuration page in Salesforce Setup. The left sidebar is identical to the previous screenshot. The main content area is titled 'Validation Rules' and shows '1 Items, Sorted by Rule Name'. A table lists the validation rules:

RULE NAME	ERROR LOCATION	ERROR MESSAGE	ACTIVE	MODIFIED BY
Expected_Delivery_Date_Validation	Top of Page	The Expected Delivery Date should not exceed 7 days.	✓	Nasrin Farsiya N, 9/8/2025, 2:34 AM

## 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.



Setup

Home

Object Manager

Search Setup

Setup

Profiles

Order Items

Products

Suppliers

Session Settings

Session Times Out After

2 hours of inactivity

Session Security Level Required at Login

--None--

Password Policies

User passwords expire in

Never expires

Enforce password history

3 passwords remembered

Minimum password length

8

Password complexity requirement

Must include alpha and numeric characters

Password question requirement

Cannot contain password

Maximum invalid login attempts

10

Lockout effective period

15 minutes

Obsecure secret answer for password resets

Require a minimum 1 day password lifetime

Don't immediately expire links in forgot password emails

Save

Save & New

Cancel

Setup

Home

Object Manager

Search Setup

Setup

Users

User

John PuchaseM

Permission Set Assignments | Activation Required | Permission Set Group Assignments | Permission Set License Assignments | Personal Groups | Public Group Membership | Queue Membership | Team | Managers in the Role Hierarchy | OAuth Apps | Third-Party Account Links | Built-in Authenticators | Installed Mobile Apps | Authentication Settings for External Systems | Login History | User Provisioning Accounts

User Detail

Edit

Sharing

Reset Password

Freeze

View Summary

Name

John PuchaseM

Role

Purchasing Manager

Alias

jpuch

User License

Salesforce

Email

23boc113nasin@sfarsyan@skacas.ac.in [Verified]

Profile

Purchase Manager

Username

nasrin@ct.com

Active

Marketing User

Nickname

John

Offline User

Title

Company

Knowledge User

Department

Flow User

Division

Service Cloud User

Address

Site.com Contributor User

Time Zone

(GMT-07:00) Pacific Daylight Time (America/Los\_Angeles)

Site.com Publisher User

Locale

English (United States)

WDC User

Language

English

Mobile Push Registrations

Delegated Approver

Data.com User Type

Manager

Accessibility Mode (Classic Only)

Receive Approval Request Emails

Only if I am an approver

Debug Mode

Federation ID

High Contrast Palette on Charts

Setup

Home

Object Manager

Search Setup

Setup

Users

User

Ram Krishna

Permission Set Assignments | Activation Required | Permission Set Group Assignments | Permission Set License Assignments | Personal Groups | Public Group Membership | Queue Membership | Team | Managers in the Role Hierarchy | OAuth Apps | Third-Party Account Links | Built-in Authenticators | Installed Mobile Apps | Authentication Settings for External Systems | Login History | User Provisioning Accounts

User Detail

Edit

Sharing

Reset Password

Freeze

View Summary

Name

Ram Krishna

Role

Inventory Manager

Alias

rkris

User License

Salesforce

Email

23boc113nasin@sfarsyan@skacas.ac.in [Verified]

Profile

Inventory Manager

Username

23boc113nasin@sfarsyan@skacas.ac.in

Active

Marketing User

Nickname

User17581712190913468956

Offline User

Title

Company

Knowledge User

Department

Flow User

Division

Service Cloud User

Address

Site.com Contributor User

Time Zone

(GMT-07:00) Pacific Daylight Time (America/Los\_Angeles)

Site.com Publisher User

Locale

English (United States)

WDC User

Language

English

Mobile Push Registrations

Delegated Approver

Data.com User Type

Manager

Accessibility Mode (Classic Only)

Receive Approval Request Emails

Only if I am an approver

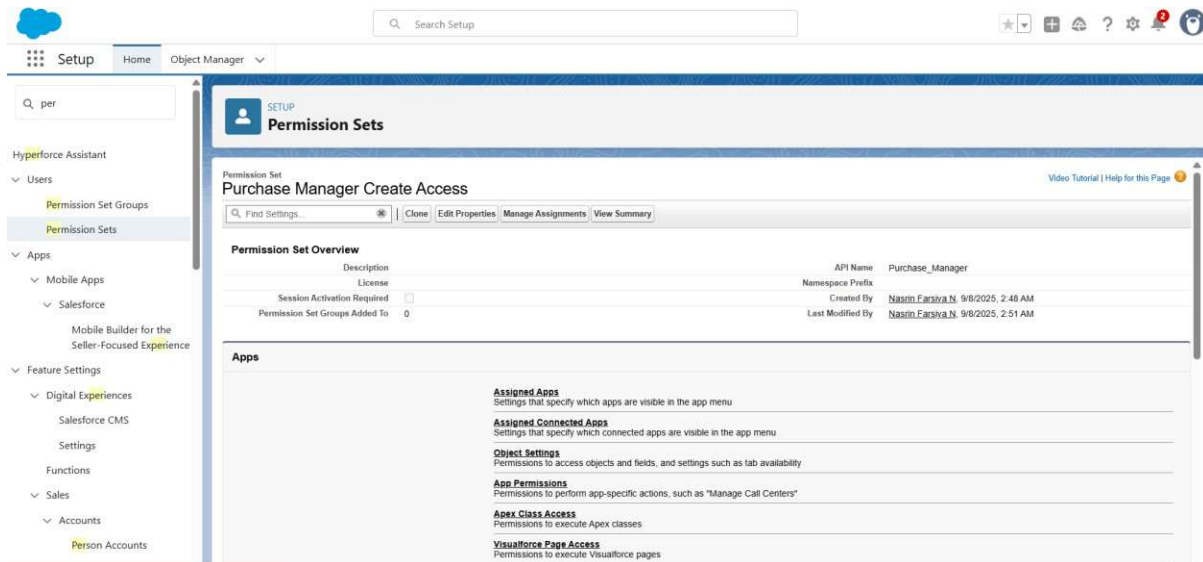
Debug Mode

Federation ID

High Contrast Palette on Charts

## → Creation of Permission sets:

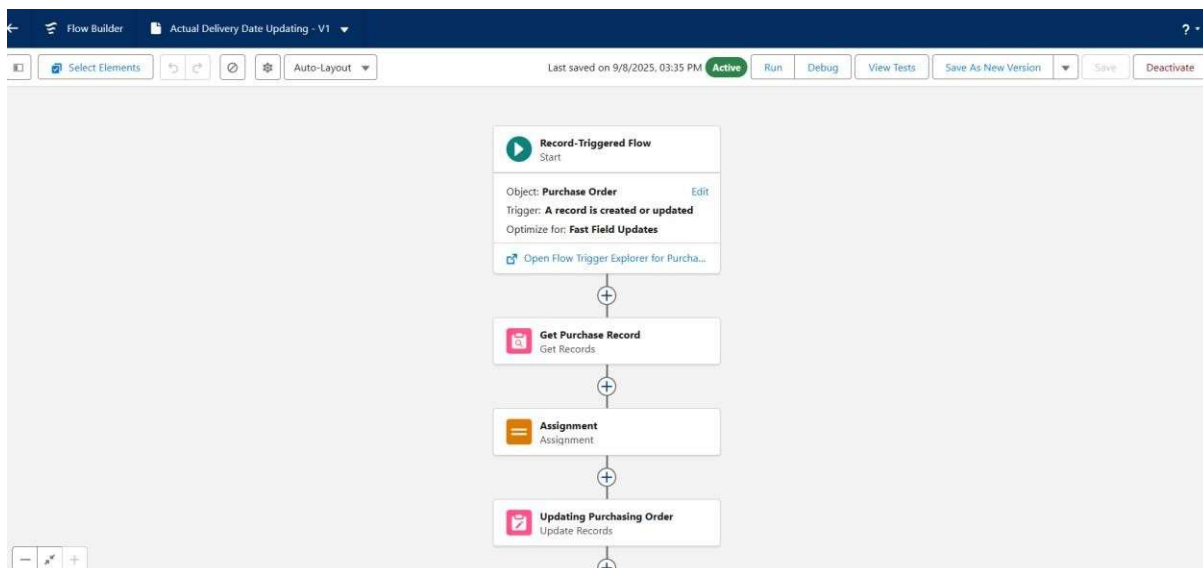
Permission Sets are used to extend access beyond what is defined in user profiles, without changing the core profile settings. Permission Sets (Purchase Manager Create Access) ensure that specific users can access additional features or objects as needed, while still maintaining data security.



## 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.

The screenshot shows the Salesforce Setup interface. On the left, a navigation menu includes 'Setup', 'Home', and 'Object Manager'. Below this, a search bar contains 'apex'. The main content area is titled 'Apex Triggers' and displays details for a trigger named 'CalculateTotalAmountTrigger'. The trigger is active, has a status of 'Active', and was created by 'Nasrin Farsiya N.' on 9/8/2025 at 3:07 AM. The trigger code is shown in a text area, starting with '1 trigger CalculateTotalAmountTrigger on Order\_Item\_\_c (after insert, after update, after delete, after undelete) {'. Below the code, there are buttons for 'Edit', 'Delete', 'Download', and 'Show Dependencies'.

→ **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:**

The screenshot shows the Salesforce Reports interface. The top navigation bar includes 'Medical Inventory ...', 'Order Items', 'Purchase Orders', 'Inventory Transactions', 'Suppliers', 'Products', 'Reports', and 'Dashboards'. The main content area is titled 'Report: Purchase Orders' and 'Purchase Orders based on Suppliers'. It shows a table with 1 total record. The table has columns for 'Purchase Order: ID', 'Actual Delivery Date', 'Expected Delivery Date', 'Order Date', 'Purchase Order: Owner Name', 'Purchase Order: Owner Alias', 'Purchase Order: Owner Role', 'Purchase Order: Created By', and 'Purchase Order: Last Modified By'. The data row shows a purchase order ID of 'a01gK0000K0u2rf', an actual delivery date of '9/12/2025', an expected delivery date of '9/12/2025', an order date of '9/9/2025', and an owner name of 'Nasrin Farsiya N.'. Below the table, there are checkboxes for 'Row Counts', 'Detail Rows', 'Subtotals', 'Grand Total', and 'Stacked Summaries'.

→ **Complete Purchase Details Report:**

**Report: Purchase Orders with Order Items and Product ID**  
**Complete Purchase Details Report**

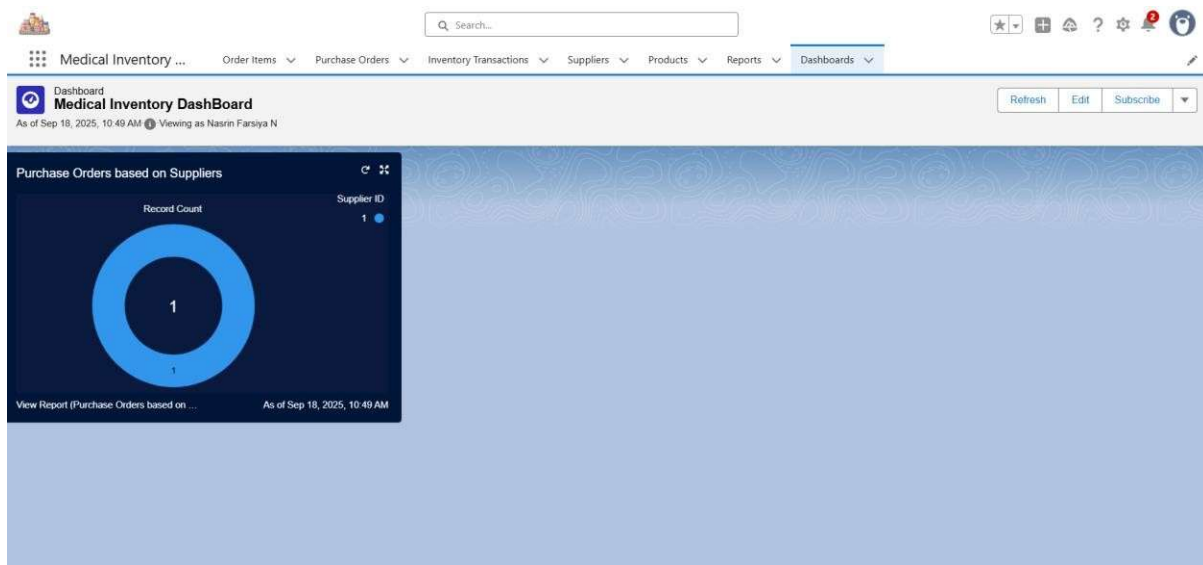
Total Records: 1    Total Order Count: 1    Total Quantity Received: 25    Total Amount: \$625,000.00

Supplier ID	Actual Delivery Date	Purchase Order: Purchase Order ID	Product ID: Product ID	Product ID: Product Name	Order Count	Quantity Received	Amount
1 (1)	9/12/2025 (1)	201 (1)	201	x-ray machine	1	25	\$625,000.00
Subtotal					1	25	\$625,000.00
Subtotal					1	25	\$625,000.00
Total (1)					1	25	\$625,000.00

Row Counts: ☒    Detail Rows: ☒    Subtotals: ☒    Grand Total: ☒

## → 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.