

# **MEDICAL INVENTORY MANAGEMENT**

**College Name : KPR COLLEGE OF ARTS SCIENCE AND RESEARCH**

**College Code : bruaz**

**TEAM ID : NM2025TMID21396**

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# Title : Medical Inventory Management

## Project Overview :

This project is a comprehensive Salesforce application to streamline and manage various operational aspects of medical inventory. The system aims to efficiently maintain supplier details, manage purchase orders, track product details and transactions, and monitor the expiry dates of products. Maintain detailed records of suppliers, including contact information. Catalog product information, including descriptions, stock levels. Monitor and track product expiry dates to avoid using expired items. Comprehensive reports to track supplier performance, and purchase orders.

## Objectives :

- **Streamline Supplier Management:** Centralize and maintain supplier records to enhance communication.
- **Enhance Inventory Control:** Accurately catalog and track products and stock levels in real time.
- **Automate Expiry Monitoring:** Proactively track expiry dates with automated alerts to reduce waste.
- **Optimize Purchase Orders:** Create a seamless system for generating and tracking purchase orders.
- **Improve Operational Transparency:** Provide comprehensive reports for clear visibility into performance and trends.
- **Ensure Data Accuracy and Compliance:** Establish a robust system for tracking all transactions.
- **Increase Operational Efficiency:** Reduce manual data entry and administrative overhead through automation.

## **Student Outcomes:**

- **Hands-on Experience with Inventory Automation:** Students gain practical skills in configuring Salesforce to manage suppliers, products, and purchase orders.
- **Understanding of the Project Lifecycle in a Business Context:** Students learn the complete end-to-end process, from requirements to deployment of a Salesforce application.
- **Enhanced Analytical and Problem-Solving Skills:** Students develop the ability to identify operational challenges and design automated solutions within the Salesforce platform.
- **Improved Collaboration Skills:** Students gain experience working as a team to coordinate key tasks like requirement analysis and system development.
- **Industry-Relevant Exposure:** Students get exposure to real-world uses of Salesforce in healthcare and supply chain sectors.

## **System Requirements :**

### **Hardware Requirements:**

- Computer with min/sum 4 GB RAM, Dual-core processor
- Stable internet connection

### **Software Requirements:**

- Salesforce Developer Edition Org
- Modern Web Browser (e.g., Google Chrome, Firefox)

## Phase 1: Requirement Analysis & Planning :

Utilizing Salesforce, our project streamlines medical inventory management, from supplier details and product tracking to expiry date monitoring, ensuring operational efficiency and data accuracy.

## Phase 2: Salesforce Development - Backend & Configurations :

### Milestone 1- Salesforce Account

#### Activity 1: Creating Developer Account

Creating a developer org in salesforce.

1. Go to <https://developer.salesforce.com/signup>
2. On the sign up form, enter the following details :
  1. First name & Last name
  2. Email
  3. Role : Developer
  4. Company : College Name
  5. County : India
  6. Postal Code : pin code
  7. Username : should be a combination of your name and company

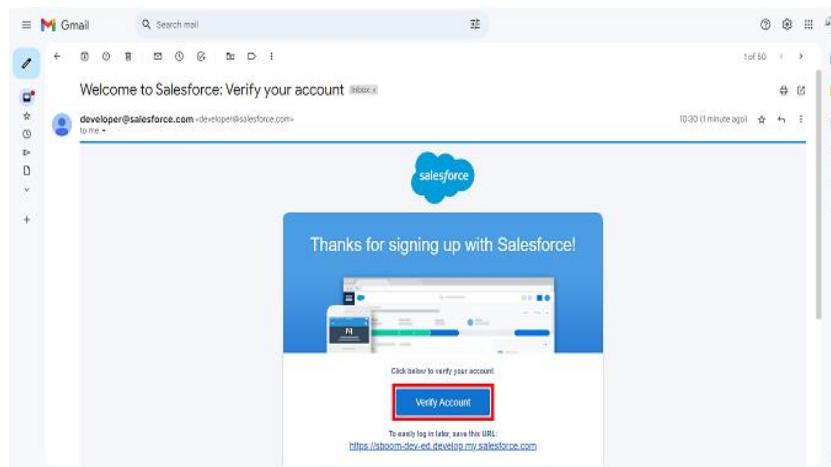
This need not be an actual email id, you can give anything in the format : username@organization.com

Click on sign me up after filling these.

The screenshot shows the 'Sign up for your Developer Edition' page on the Salesforce website. The page has a dark blue header with the Salesforce logo and a sub-header: 'Build enterprise-quality apps fast and get hands-on with Agentforce and Data Cloud.' Below this, there's a call-to-action button: 'Sign up for your Developer Edition.' To the right, there's a form with fields for First name (Mithulya), Last name (S N), Job title (Developer), Work email (23bda036@kprca), Company (KPR College of Art), and Country/Region (India). At the bottom of the form, there's a note about org provisioning and a checkbox for the 'I agree to the Main Services Agreement – Developer Services and Salesforce Program Agreement.' The URL in the browser bar is salesforce.com/form/developer-signup/?d=pb.

## Activity 2: Account Activation

1. Go to the inbox of the email that you used while signing up. Click on the verify account to activate your account. The email may take 5-10mins.
2. Click on Verify Account
3. Give a password and answer a security question and click on change password.
4. Then you will redirect to your salesforce setup page.

A screenshot of the "Change Your Password" page in Salesforce. The page title is "Change Your Password" and it says "Enter a new password for lead@sb.oom". It lists requirements: "Make sure to include at least: 8 characters, 1 letter, 1 number". There are two password input fields: "\* New Password" containing "Good" and "\* Confirm New Password" containing "Munch". Below these are "Security Question" and "Answer" fields. The "Answer" field contains "asdfghijkl". A large red box highlights the entire form area, covering the password fields and the "Change Password" button.

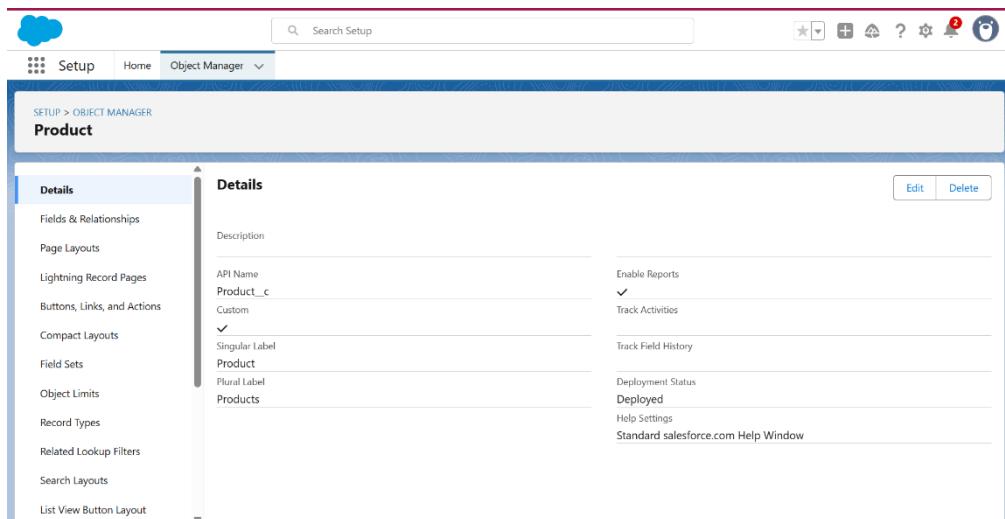
A screenshot of the Salesforce Setup Home page. The top navigation bar shows "Setup" and "Home". The left sidebar has sections like "Service Setup Assistant", "Multi-Factor Authentication Assistant", "Release Updates", "Lightning Experience Transition Assistant", "Salesforce Mobile App", "Lightning Usage Optimizer", and "ADMINISTRATION". The main content area features a "SETUP Home" section with three cards: "Get Started with Einstein Bots", "Mobile Publisher", and "Real-time Collaborative Docs". Each card has a "Get Started" or "Learn More" button. The "Real-time Collaborative Docs" card also has a "Create" button.

## Milestone 2- Objects

### Activity 1:

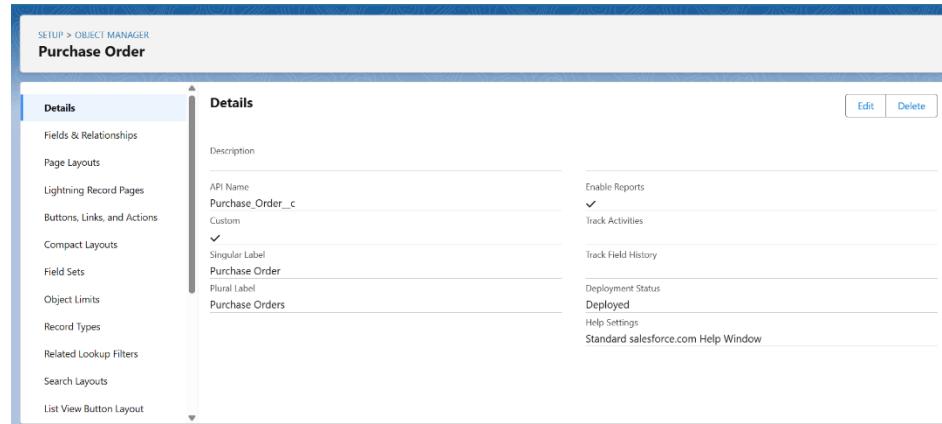
#### Creating a Product Object

1. From the setup page
2. Click on Object Manager
3. Click on Create >> Click on Custom Object.
4. Enter the label name as Product
5. Enter Plural label name as Products
6. Enter Record Name as Product ID
7. Select Data Type as Text.
8. Select Allow reports.
9. Select Allow search.
10. Click on Save and New



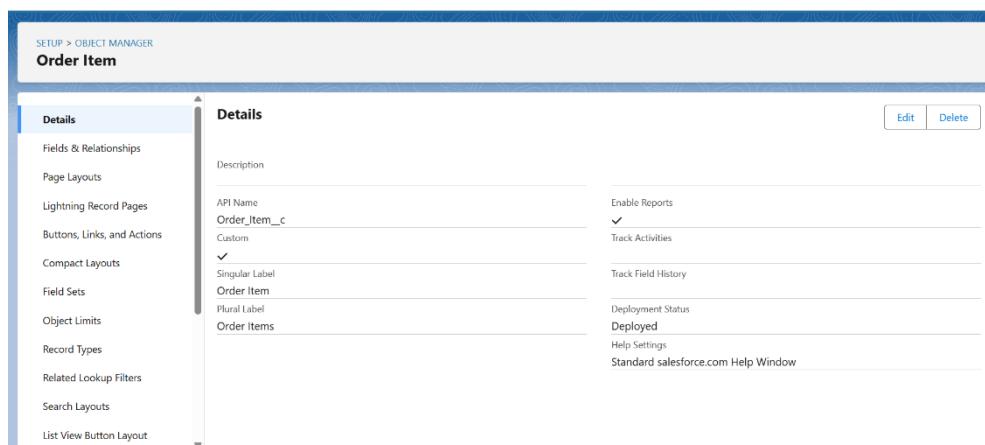
#### Creating a Purchase Order Object

1. From the setup page
2. Click on Object Manager
3. Click on Create >> Click on Custom Object.
4. Enter the label name as Purchase Order
5. Enter Plural label name as Purchase Orders
6. Enter Record Name as Purchase Order ID
7. Select Data Type as Text.
8. Select Allow reports.
9. Select Allow search.
10. Click on Save and New



## Creating a Order Item Object

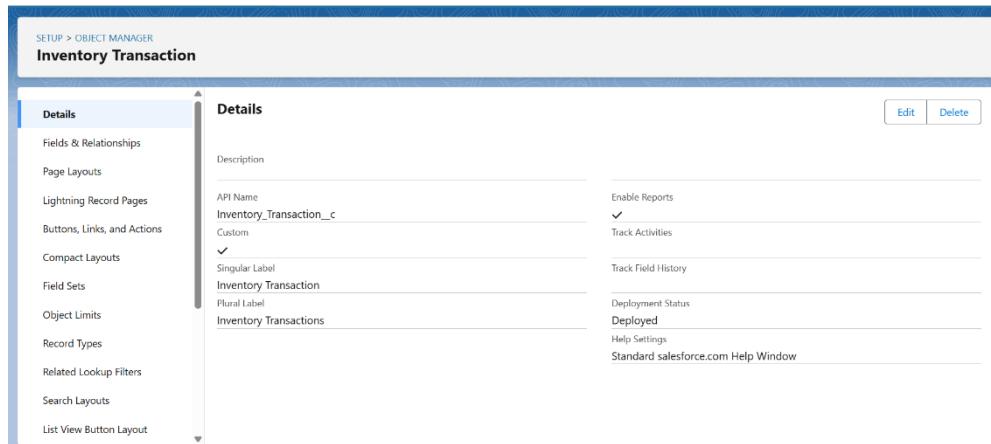
1. From the setup page
2. Click on Object Manager
3. Click on Create >> Click on Custom Object.
4. Enter the label name as Order item
5. Enter Plural label name as Order items
6. Enter Record Name as Order Item ID
7. Select Data Type as Text.
8. Select Allow reports.
9. Select Allow search.
10. Click on Save and New



## Creating a Inventory Transaction Object

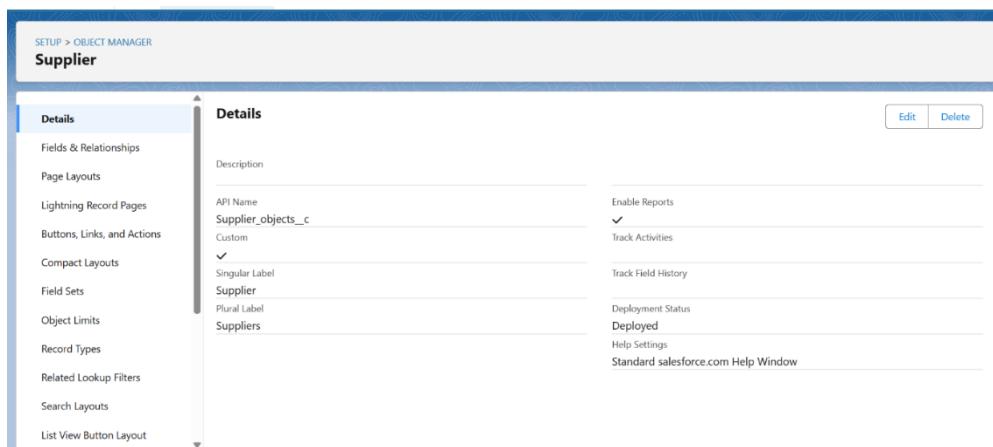
1. From the setup page
2. Click on Object Manager
3. Click on Create >> Click on Custom Object.
4. Enter the label name as Inventory Transaction
5. Enter Plural label name as Inventory Transactions
6. Enter Record Name as Inventory Transaction ID

7. Select Data Type as Text.
8. Select Allow reports.
9. Select Allow search.
10. Click on Save and New



## Creating a Supplier Object

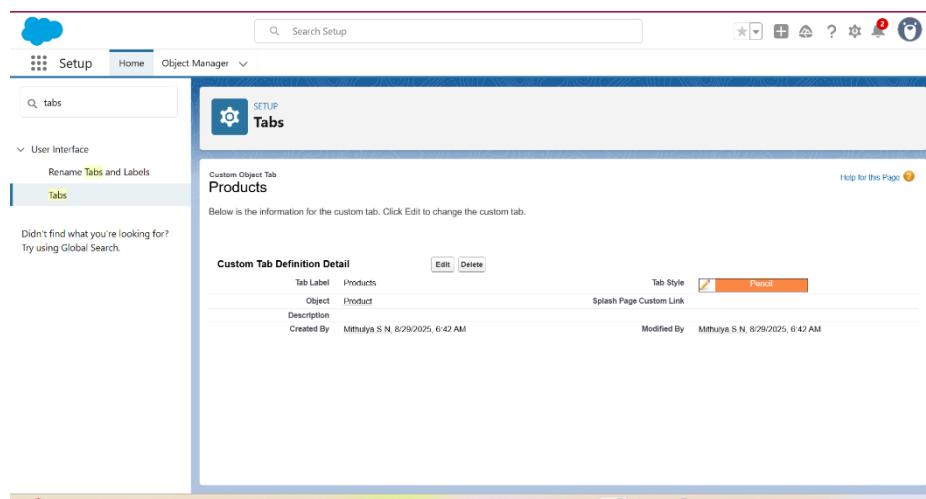
1. From the setup page
2. Click on Object Manager
3. Click on Create >> Click on Custom Object.
4. Enter the label name as Supplier
5. Enter Plural label name as Suppliers
6. Enter Record Name as Supplier ID
7. Select Data Type as Text.
8. Select Allow reports.
9. Select Allow search.
10. Click on Save and New



## Milestone 3- Tabs

### Activity 1: Creating a tab for Product Object

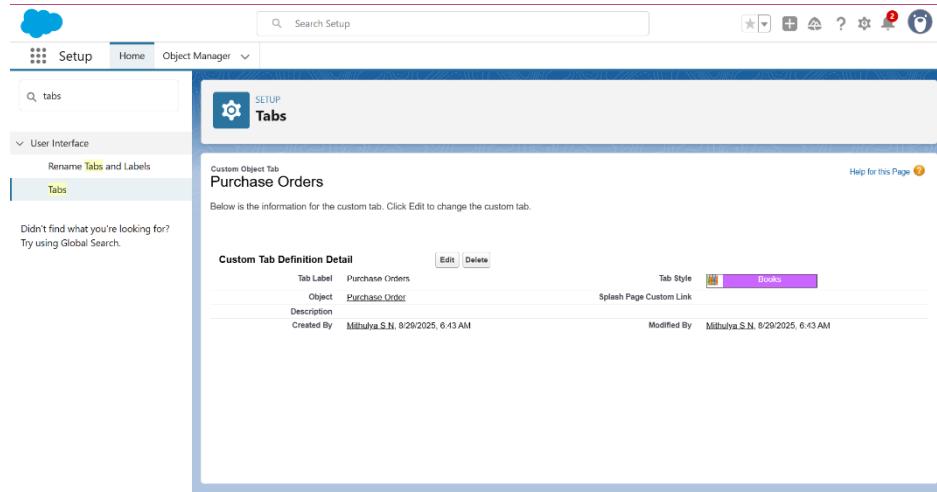
1. Go to the setup page >> type Tabs in Quick Find bar
2. Click on tabs
3. Click on New (under custom object tab).
4. Select Object(Product) >> Select the tab style
5. Click on Next >> (Add to profiles page) keep it as default >> Click on Next (Add to Custom App) uncheck the include tab .
6. Make sure that the Append tab to user's existing personal customizations is checked.
7. Click save



### Activity 2: Creating Remaining Tabs

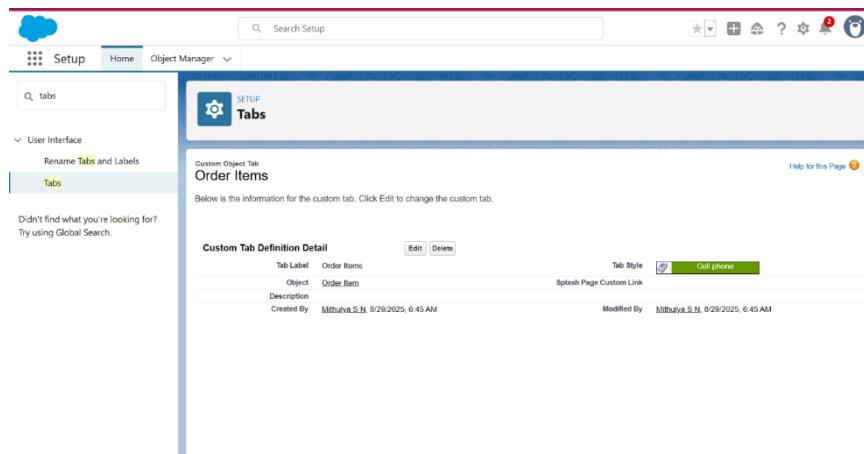
#### Creating Purchase Orders Tab

1. Go to the setup page >> type Tabs in Quick Find bar
2. Click on tabs
3. Click on New (under custom object tab).
4. Select Object(Purchase Order) >> Select the tab style
5. Click on Next >> (Add to profiles page) keep it as default >> Click on Next (Add to Custom App) uncheck the include tab .
6. Make sure that the Append tab to user's existing personal customizations is checked.
7. Click save



## Creating Order Items Tab

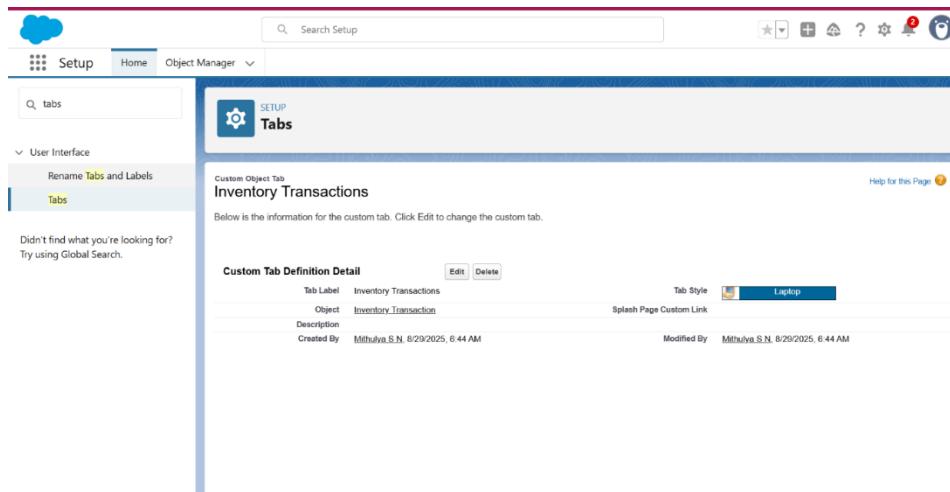
1. Go to the setup page >> type Tabs in Quick Find bar
2. Click on tabs
3. Click on New (under custom object tab).
4. Select Object(Order Item) >> Select the tab style
5. Click on Next >> (Add to profiles page) keep it as default >> Click on Next (Add to Custom App) uncheck the include tab .
7. Make sure that the Append tab to user's existing personal customizations is checked.
- 8.Click save.



## Creating Inventory Transactions Tab

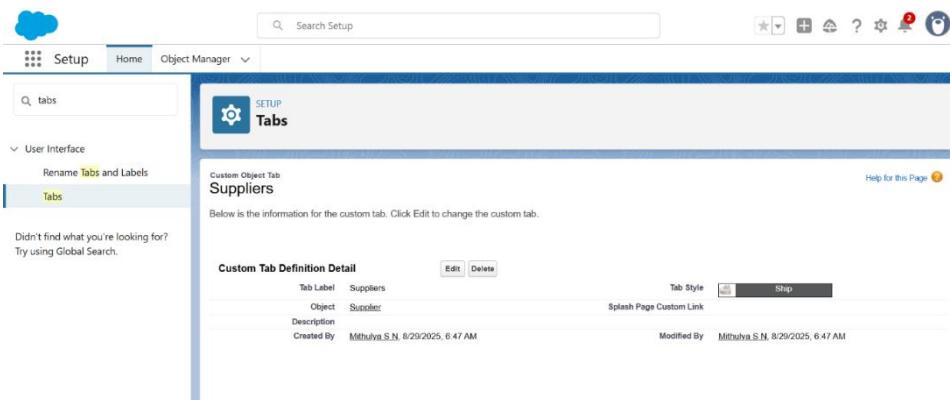
1. Go to the setup page >> type Tabs in Quick Find bar
2. Click on tabs
3. Click on New (under custom object tab).
4. Select Object(Inventory Transaction) >> Select the tab style
5. Click on Next >> (Add to profiles page) keep it as default >> Click on Next (Add to Custom App) uncheck the include tab .

7. Make sure that the Append tab to user's existing personal customizations is checked.
8. Click save.



## Creating Suppliers Tab

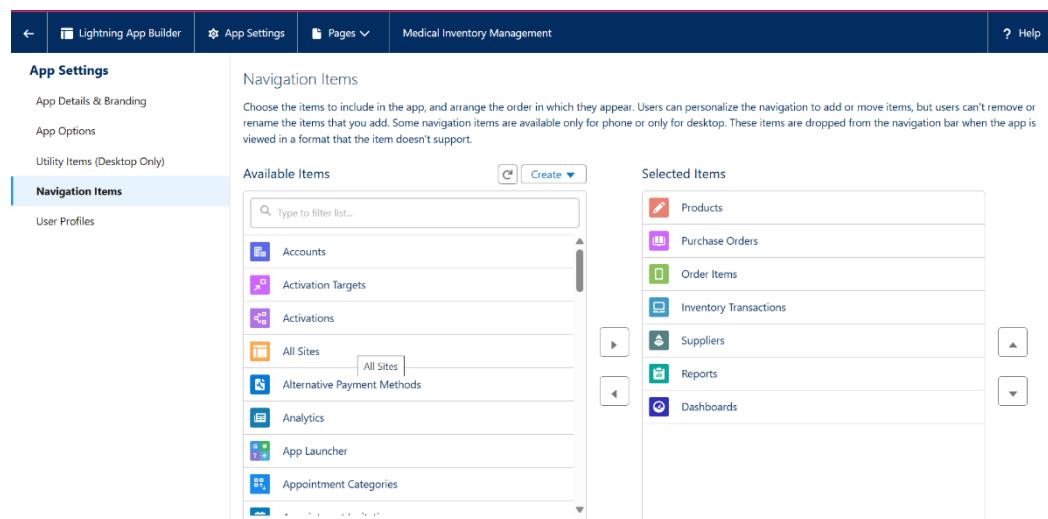
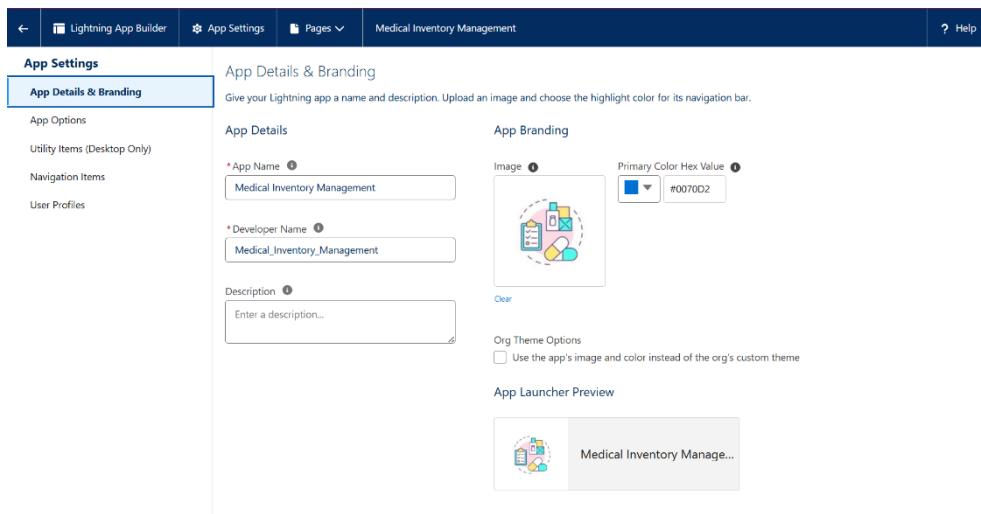
1. Go to the setup page >> type Tabs in Quick Find bar
2. Click on tabs
3. Click on New (under custom object tab).
4. Select Object(Supplier) >> Select the tab style
5. Click on Next >> (Add to profiles page) keep it as default >> Click on
6. Next (Add to Custom App) uncheck the include tab .
7. Make sure that the Append tab to user's existing personal customizations is checked.
8. Click save.



## Milestone 4- The Lightning App

### Activity 1: Create a Lightning App for Medical Inventory Management

1. From Setup, enter App Manager in the Quick Find and select App Manager.
2. Click New Lightning App.
3. Enter Medical Inventory Management as the App Name >> Click on upload image and add an image related to Medical Inventory then click next
4. Under App Options, leave the default selections and click next.
5. Under Utility Items, leave as is and click Next.
6. From Available Items, select Products, Purchase Orders, Order Items, Inventory Transactions, Suppliers, Reports, and Dashboards and move them to Selected Item and Click Next.
7. From Available Profiles, select System Administrator and move it to Selected Profiles.
8. Click Save & Finish.



The screenshot shows the 'User Profiles' section of the Salesforce Lightning App Builder. The left sidebar has 'App Settings' expanded, with 'User Profiles' selected. The main area has two columns: 'Available Profiles' on the left and 'Selected Profiles' on the right. The 'Available Profiles' list contains several user profile names. The 'Selected Profiles' list contains three specific profiles: 'System Administrator', 'Inventory Manager', and 'Purchase Manager'. Navigation icons like back, forward, and search are visible between the columns.

## Milestone 5- Fields

### Activity 1: Creating a Text Field in Product Object

To create fields in an object:

1. Click the gear icon and select Setup. This launches Setup in a new tab.
2. Click the Object Manager tab next to Home.
3. Select Product custom object.
4. Select Fields & Relationships from the left navigation
5. Click on New
6. Select Text field, click Next
7. Enter Field Label as “Product Name” and Length 255.
8. Select Required Field.
9. Click Next, Next, then Save & New.

### Activity 2: Creating a TextArea Field in Product Object

To create fields in an object:

1. Click the gear icon and select Setup. This launches Setup in a new tab.
2. Click the Object Manager tab next to Home.
3. Select Product custom object.
4. Select Fields & Relationships from the left navigation
5. Click on New
6. Select TextArea field, click Next
7. Enter Field Label as “Product Description” .
8. Click Next, Next, then Save & New.

## Activity 3: Creating a Number Field in Product object

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Product) in quick find box >> click on the Product custom object.
2. Now click on “Fields & Relationships”
3. Click on New.
4. Select Data type as “Number” and click Next.
5. Enter Field Label as “ Current Stock Level”.
6. Length - 18, Decimal Places - 0.
7. Click on Next, Next and Save.

## Activity 4: Creating a Currency Field in Product object

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Product) in quick find box >> click on the Product custom object.
2. Now click on “Fields & Relationships”
3. Click on New.
4. Select Data type as “Currency” and click Next.
5. Enter Field Label as “ Unit Price”.
6. Length - 16, Decimal Places - 2.
7. Select Required Field.
8. Click on Next, Next and Save.

Fields & Relationships 11 Items, Sorted by Field Label				
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)		
Minimum Stock Level	Minimum_Stock_Level_c	Number(18, 0)		
Order Date	Order_Date_c	Date		
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)		
Supplier ID	Supplier_c	Lookup(Supplier)	✓	
Unit Price	Unit_Price_c	Currency(16, 2)		

## **Activity 5 : Creating Lookup Relationship in Purchase Order Object**

To Create a relationship from Purchase Order to Supplier .

1. Go to the Setup page >> click on Object manager >> type object name(Purchase Order) in the quick find bar >> click on the Purchase Order object.
2. Click on Fields & Relationship
3. Click on New.
4. Select “Lookup relationship” as data type and click Next.
5. Select the related object “ Supplier”.
6. Click on Next.
7. Give Field Label as “Supplier ID” .
8. Select Required Field.
9. Click on Next , Next, Next , Save.

## **Activity 6: Creating a Date Field in Purchase Order object**

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Purchase Order) in quick find box>> click on the Purchase Order object.
2. Now click on “Fields & Relationships”
3. Click on New.
4. Select Data type as “Date” and click Next.
5. Enter Field Label as “ Order Date”.
6. Click on Next, Next and Save.

## **Activity 7: Creating a Roll-Up Summary Field in Purchase Order object**

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Purchase Order) in quick find box>> click on the Purchase Order object.
2. Now click on “Fields & Relationships”
3. Click on New.
4. Select Data type as “Roll-Up Summary” and click Next.
5. Enter Field Label as “ Order Count”.
6. Choose the Summarized Object as “Order Items”.
7. For Select Roll-Up Type select “Count”.
8. Click on Next, Next and Save.

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		
Product Name	Product_Name__c	Master-Detail(Product)	✓	✓
Purchase Order ID	Name	Text(80)	✓	✓
Supplier ID	Supplier_ID__c	Lookup(Supplier)	✓	✓
Total Order Cost	Total_Order_Cost__c	Roll-Up Summary (SUM Order Item)		

## Activity 8: Creating a Unit Price Formula Field in Order Item object

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Order Item) in quick find box >> click on the Order Item object.
2. Now click on “Fields & Relationships”
3. Click on New.
4. Select Data type as “Formula” and click Next.
5. Enter field label Unit Price.
6. Select formula return type Currency, Click Next
7. Create and insert Advance formula: Product\_ID\_\_r.Unit\_Price\_\_c
8. Click Next, Next, then Save.

## Activity 9: Creating a Amount Formula Field in Order Item object

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Order Item) in quick find box >> click on the Order Item object.
2. Now click on “Fields & Relationships”
3. Click on New.
4. Select Data type as “Formula” and click Next.
5. Enter field label Amount.
6. Select formula return type Currency, Click Next
7. Create and insert Advance formula: Quantity\_Received\_\_c \* Unit\_Price\_\_c
8. Click Next, Next, then Save.

Fields & Relationships			
	Field Label	Type	
Amount	Amount_c	Formula (Currency)	▼
Amount (for Roll-up)	Amount_for_Roll_up_c	Number(18, 0)	▼
Created By	CreatedById	Lookup(User)	▼
Last Modified By	LastModifiedById	Lookup(User)	▼
Order Item	Order_Item__c	Master-Detail(Purchase Order)	▼
Order Item ID	Name	Text(80)	▼
Product	Product_c	Lookup(Product)	▼
Product ID	Product_ID_c	Lookup(Product)	▼
Purchase Order ID	Purchase_Order_ID_c	Text(255)	▼
Quantity Ordered	Quantity_Ordered_c	Number(18, 0)	▼
Quantity Received	Quantity_Received_c	Number(18, 0)	▼
Unit Price	Unit_Price_c	Formula (Currency)	▼

## Activity 10: Creating a Picklist Field in Inventory Transaction Object

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Inventory Transaction) in quick find box>> click on the Inventory Transaction Object.
2. Now click on “Fields & Relationships” .
3. Click on New.
4. Select Data type as “Picklist” and click Next.
5. Enter Field Label as “Transaction Type”.
6. In values select “Enter values, with each value separated by a new line” and enter values as shown below.

Receipt

Issue

Adjustment

7. Click on Next, Next and Save.

## Activity 11: Creating a Total Order Cost Formula Field in Inventory Transaction object

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Inventory Transaction) in quick find box >> click on the Order Item object.
2. Now click on “Fields & Relationships”
3. Click on New.
4. Select Data type as “Formula” and click Next.
5. Enter field label Total Order Cost.
6. Select formula return type Currency, Click Next
7. Create and insert Advance formula: Purchase\_Order\_ID\_\_r.Total\_Order\_Cost\_\_c

8. Click Next, Next, then Save.

The screenshot shows the Salesforce Object Manager interface. The left sidebar has a 'Fields & Relationships' section selected. The main area displays a table titled 'Fields & Relationships' with the following data:

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	Purchase_Order_c	Lookup(Purchase Order)		✓
Purchase Order ID	Purchase_Order_ID_c	Text(30)		
Total Order Cost	Total_Order_Cost_c	Formula(Currency)		
Transaction Date	Transaction_Date__c	Date		
Transaction Type	Transaction_Type_c	Picklist		

## Activity 12: Creating a Phone Field in Supplier object

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Supplier) in quick find box>> click on the Supplier object.
2. Now click on “Fields & Relationships”
3. Click on New.
4. Select Data type as “Phone” and click Next.
5. Enter the Field Label as “ Phone Number”.
6. Select Required Field.
7. Click on Next, Next and Save.

## Activity 13: Creating a Email Field in Supplier object

To create fields in an object:

1. Go to setup >> click on Object Manager >> type object name(Supplier) in quick find box>> click on the Supplier object.
2. Now click on “Fields & Relationships”
3. Click on New.
4. Select Data type as “Email” and click Next.
5. Enter the Field Label as “ Email”.
6. Click on Next, Next and Save.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Address	Address__c	Long Text Area(32768)		
Contact Person	Contact_Person__c	Text(50)		
Created By	CreatedById	Lookup(User)		
Email	Email__c	Email		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Phone Number	Phone_Number__c	Phone		
Supplier ID	Name	Text(80)		✓
Supplier Name	Supplier_Name__c	Text(100)		

## Milestone 6 -Editing of Page Layouts

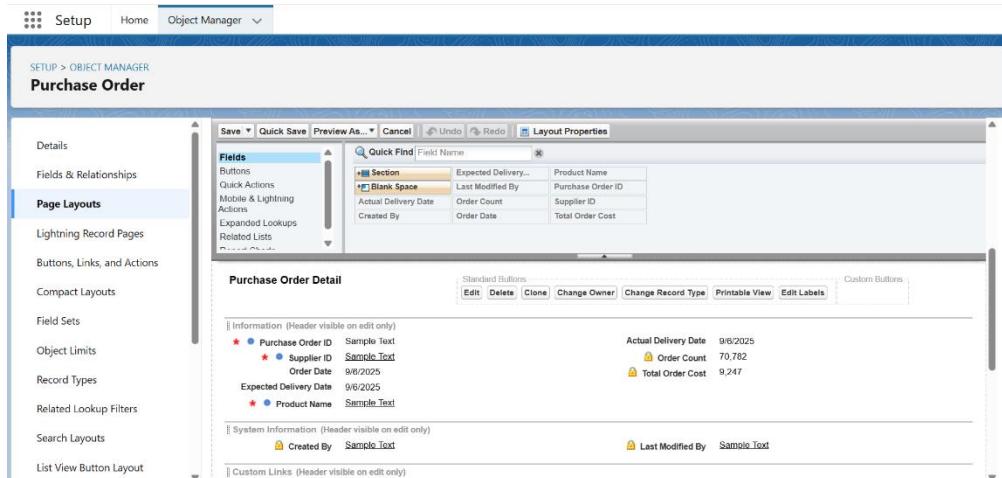
### Activity 1: To edit a Page Layout in Product Object

1. Go to setup >> click on Object Manager >> type object name(Product) in quick find box >> click on the Product object >> Page Layouts .
2. Click on the Product Layout.
3. Drag and Arrange the field as shown below.
4. Click on Save.

### Activity 2: To edit a Page Layout in Purchase Order Object

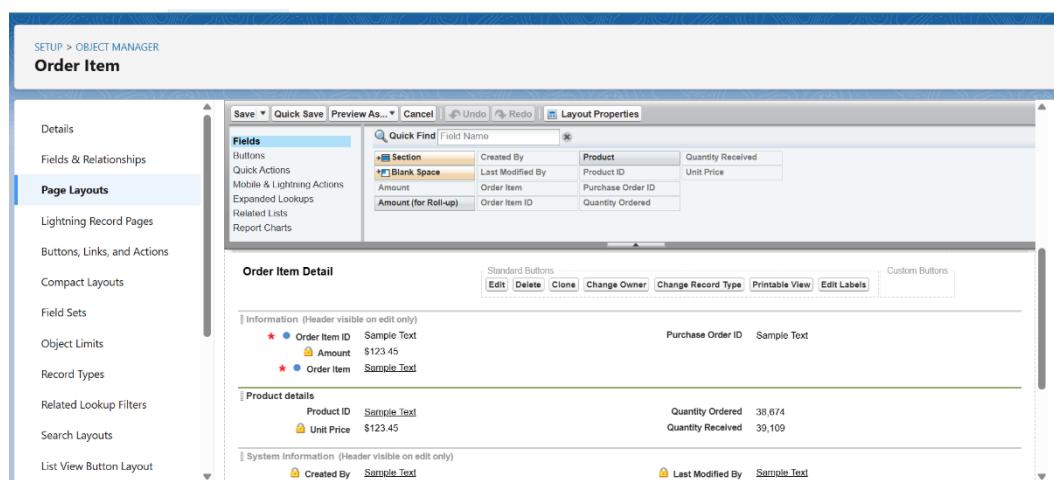
1. Go to setup >> click on Object Manager >> type object name(Purchase Order) in quick find box >> click on the Purchase Order object >> Page Layouts.
2. Click on the Purchase Order Layout
3. Drag and Arrange the field as shown below

4. Click on field Order Date >> click on settings >> select Required and save it.
5. Click on field Total Order Cost >> click on settings >> select Read Only and save it.
6. Click Save.



### **Activity 3: To edit a Page Layout in Order Item Object**

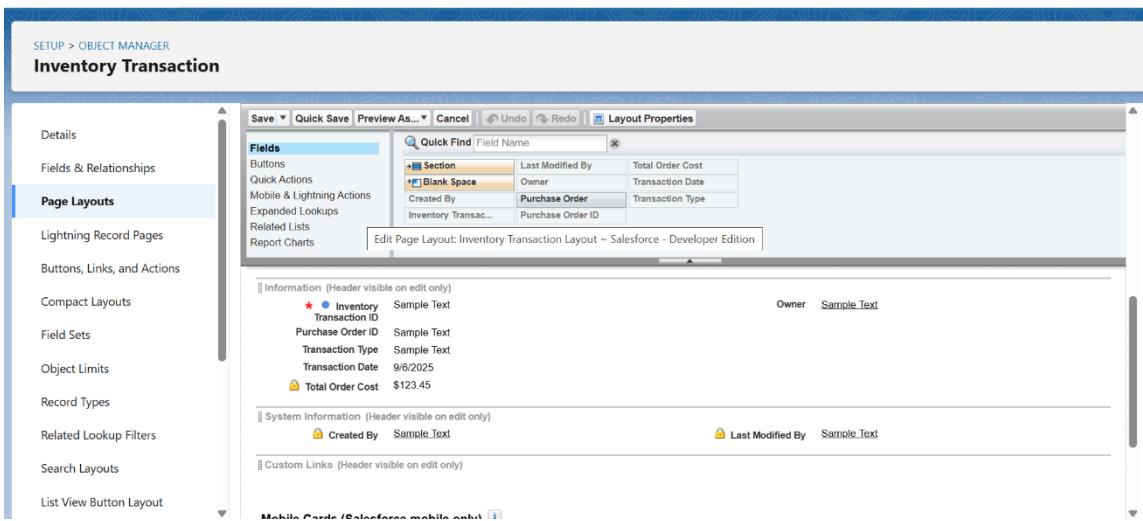
1. Go to setup >> click on Object Manager >> type object name(Order Item) in quick find box >> click on the Order Item object >> Page Layouts.
2. Click on the Order Item Layout
3. Drag and Arrange the field as shown below.
4. Click Save.



### **Activity 4: To edit a Page Layout in Inventory Transaction Object**

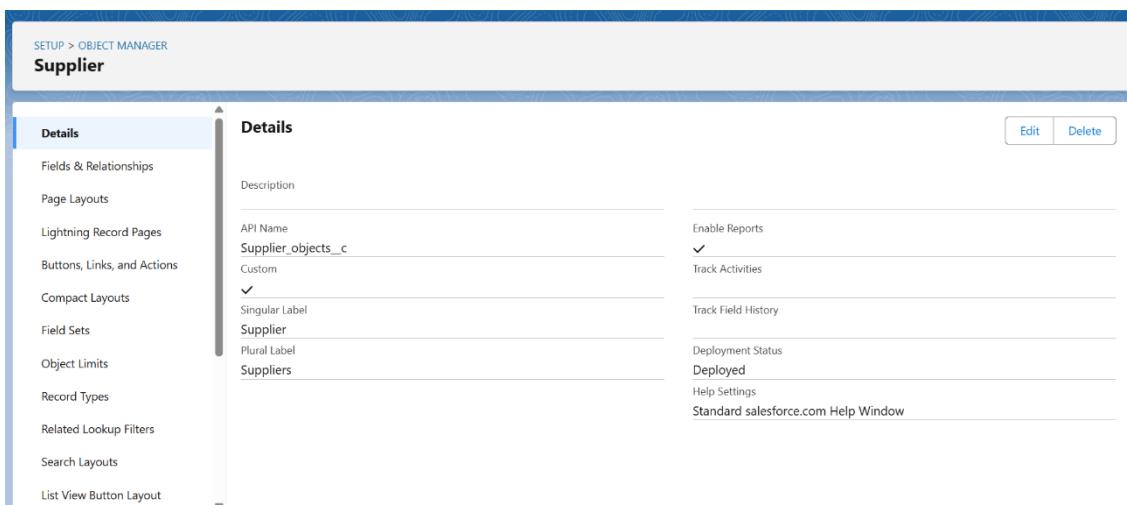
1. Go to setup >> click on Object Manager >> type object name(Inventory Transaction) in quick find box >> click on the Inventory Transaction object >> Page Layouts.
2. Click on the Inventory Transaction Layout

3. Drag and Arrange the field as shown below
4. Click Save.



## Activity 5: To edit a Page Layout in Supplier Object

1. Go to setup >> click on Object Manager >> type object name(Supplier) in quick find box >> click on the Supplier object >> Page Layouts.
2. Click on the Supplier Layout
3. Drag and Arrange the field as shown below
4. Click Save.



## Milestone 7 - Compact Layouts

### Activity 1: To create a Compact Layout to a Product Object

1. Go to setup >> click on Object Manager >> type object name(Product) in quick find box >> click on the Product object
2. Click on Compact Layouts in the sidebar .
3. Click on New.
4. Enter the Label as “Product Compact Layout”.

5. Select the Compact Layout Fields : Select Product name, Unit Price, Current Stock Level.
6. Click Save.
7. Click Compact Layout Assignment.
8. Click Edit Assignment.
9. Choose "Product Compact Layout" from the dropdown.
10. Click Save.

The screenshot shows the Salesforce Object Manager interface for the 'Product' object. The sidebar on the left has a 'Compact Layouts' section selected. The main area displays a 'Compact Layout Detail' for 'Product Compact Layout'. The details shown are:

Label	Product Compact Layout	Object Name	Product
API Name	Product_Compact_Layout		
Included Fields	Product Name Unit Price Current Stock Level		
Created By	Mithulya S.N. 9/5/2025, 7:47 PM	Modified By	Mithulya S.N. 9/5/2025, 7:47 PM

Buttons at the bottom of the detail page include 'Edit', 'Clone', 'Delete', and 'Compact Layout Assignment'.

## Activity 2: To create a Compact Layout to a Purchase Order Object

1. Go to setup >> click on Object Manager >> type object name(Purchase Order) in quick find box >> click on the Purchase Order object
2. Click on Compact Layouts in the sidebar .
3. Click on New.
4. Enter the Label as “Purchase Order Compact Layout”.
5. Select the Compact Layout Fields : Select Purchase Order ID, Order Date, Total Order Cost, Supplier ID.
6. Click Save.
7. Click Compact Layout Assignment.
8. Click Edit Assignment.
9. Choose "Purchase Order Compact Layout" from the dropdown.
10. Click Save.

The screenshot shows the 'Purchase Order Compact Layout' page in the Salesforce Object Manager. The left sidebar lists various setup options like Details, Fields & Relationships, Page Layouts, etc. The main content area displays the 'Compact Layout Detail' for the 'Purchase Order Compact Layout'. Key details shown include:

- API Name:** Purchase\_Order\_Compact\_Layout
- Included Fields:** Purchase Order ID, Order Date, Total Order Cost, Supplier ID
- Created By:** Mithulya S.N. (Created on 9/5/2025, 7:50 PM)
- Modified By:** Mithulya S.N. (Modified on 9/5/2025, 7:50 PM)

Buttons at the bottom include Edit, Clone, Delete, and Compact Layout Assignment.

## Milestone 8 - Validation Rules

### Activity 1: To create an Expected Delivery Date Validation rule to a Employee Object

1. Go to setup >> click on Object Manager >> type object name(Purchase Order) in quick find box>> click on the Purchase Order object
2. Click on the validation rule >> click on New.
3. Enter the Rule name as “Expected Delivery Date Validation”.
4. Select Active
5. Insert the Error Condition Formula as :  
(Expected\_Delivery\_Date\_\_c - Order\_Date\_\_c )> 7
6. Enter the Error Message as “The Expected Delivery Date should not exceed 7 days.”.
7. Select the Error location as Top of Page
8. Click Save.

The screenshot shows the 'Purchase Order Validation Rule' page in the Salesforce Object Manager. The left sidebar lists various setup options like Details, Fields & Relationships, Page Layouts, etc. The main content area displays the 'Validation Rule Detail' for the 'Expected\_Delivery\_Date\_Validation' rule. Key details shown include:

- Rule Name:** Expected\_Delivery\_Date\_Validation
- Error Condition Formula:** (Expected\_Delivery\_Date\_\_c - Order\_Date\_\_c )> 7
- Error Message:** The Expected Delivery Date should not exceed 7 days.
- Description:** (empty)
- Created By:** Mithulya S.N. (Created on 9/5/2025, 7:52 PM)
- Active:** ✓
- Error Location:** Top of Page
- Modified By:** Mithulya S.N. (Modified on 9/5/2025, 7:52 PM)

Buttons at the bottom include Edit and Clone.

## Milestone 9 - Profiles

### Activity 1: To create an Inventory Manager Profile

1. Go to setup >> type profiles in quick find box >> click on profiles >> clone the desired profile (Standard User) >> enter profile name (Inventory Manager) >> Save.
2. While still on the profile page, then click Edit.
3. Select the Custom App settings as default for the Medical Inventory Management.
4. Scroll down to Custom Object Permissions and Give access permissions as mentioned in the below diagram.
5. Change the password policies as mentioned :
6. User passwords expire in should be “ never expires ”.
7. Minimum password length should be “ 8 ”, and click save.

The screenshot shows the Salesforce Setup interface with the 'Profiles' tab selected. A new profile named 'Inventory Manager' is being created. The profile details include:

- Name: Inventory Manager
- User License: Salesforce
- Description: (empty)
- Created By: Mithulya S N, 9/5/2025, 7:54 PM
- Modified By: Mithulya S N, 9/5/2025, 7:57 PM

The 'Page Layouts' section shows assignments for Standard Object Layouts:

Standard Object Layouts	Global	Location Group
Email Application	Global Layout [View Assignment]	Location Group Assignment Location Group Layout [View Assignment]
Home Page Layout	Not Assigned [View Assignment]	Macro Macro Layout [View Assignment]

Custom Object Permissions are listed at the bottom of the page, though they are not fully visible in the screenshot.

### Activity 2: To create an Purchase Manager Profile

1. Go to setup >> type profiles in quick find box >> click on profiles >> clone the desired profile (Standard User) >> enter profile name (Purchase Manager) >> Save.
2. While still on the profile page, then click Edit.
3. Select the Custom App settings as default for the Medical Inventory Management.
4. Scroll down to Custom Object Permissions and Give access permissions as mentioned in the below diagram.

5. Change the password policies as mentioned :
6. User passwords expire in should be “ never expires ”.
7. Minimum password length should be “ 8 ”, and click save.

The screenshot shows the Salesforce Setup interface with the 'Profiles' page selected. The 'Purchase Manager' profile is displayed. Key details include:

- Name:** Purchase Manager
- User License:** Salesforce
- Custom Profile:** ✓
- Created By:** Mithuva S.N. 9/5/2025, 7:58 PM
- Modified By:** Mithuva S.N. 9/5/2025, 8:00 PM

**Page Layouts:**

Standard Object Layouts	Email Application	Home Page Layout	Location Group	Location Group Assignment
Global [View Assignment]	Not Assigned [View Assignment]	Home Page Default [View Assignment]	Macro	Location Group Layout [View Assignment] Location Group Assignment Layout [View Assignment] Macro Layout [View Assignment]

## Milestone 10 - Roles

### Activity 1 : Create a Purchasing Manager Role.

1. Go to quick find >> Search for Roles >> click on Set Up Roles.
2. Click on Expand All and click on add role under SVP, Sales & Marketing role.
3. Give Label as “Purchasing Manager” and Role name gets auto populated. Then click on Save.

### Activity 2 : Create a Purchasing Manager Role.

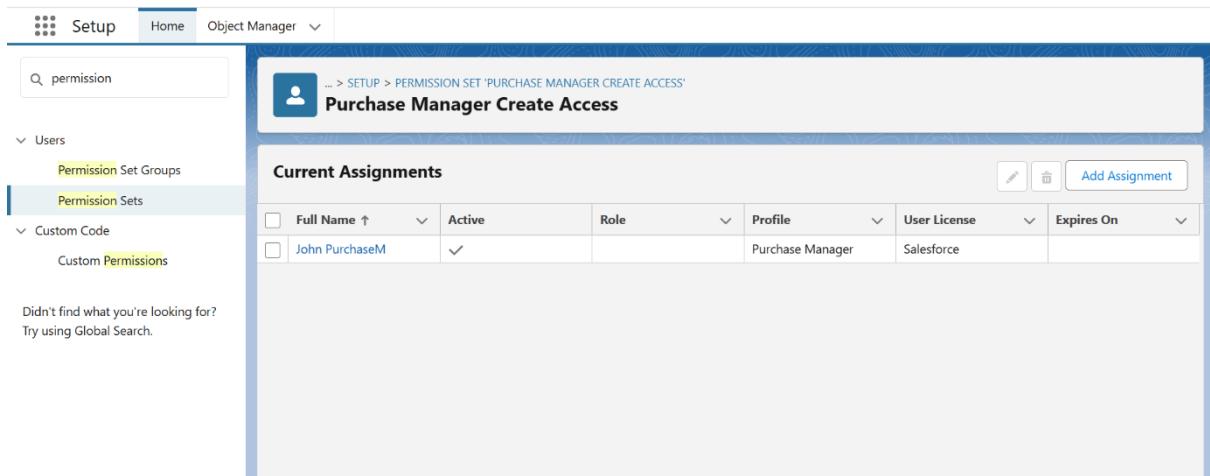
1. Go to quick find >> Search for Roles >> click on Set Up Roles.
2. Click on Expand All and click on add role under SVP, Sales & Marketing role.
3. Give Label as “Inventory Manager” and the Role name gets auto populated. Then click on Save.

## Milestone 12 - Permission Sets

### Activity 1 : Create a Permission Set.

1. Go to setup >> type Permission in quick find box >> Select Permission Set >> click on New.
2. Enter Label as Purchase Manager Create Access >> Click on Save.
3. From Object Settings >> Select Order Item >> Enable for both Tab Available and Visible >> Enable Read and Create in Object Permissions >> Click on Save.
4. Navigate to the Permission Set detail page >> Click Manage Assignments >> Click Add Assignments >> Select the user John PurchaseM to assign the permission set to and click Next.
5. Select No Expiration date >> Click on Assign.

Permission Name	Enabled
Read	<input checked="" type="checkbox"/>
Create	<input checked="" type="checkbox"/>
Edit	<input type="checkbox"/>
Delete	<input type="checkbox"/>
View All Records	<input type="checkbox"/>
Modify All Records	<input type="checkbox"/>
View All Fields	<input type="checkbox"/>



## Milestone 13 - Flows

### Activity 1 : Create Flow to update the Actual Delivery Date.

1. Go to setup >> type Flow in quick find box >> Click on the Flow and Select the New Flow >> Start From Scratch .
2. Select the record Triggered flow.Click on create.
3. Under Object select “Purchase Order”
4. Select A record is created or updated
5. Set Entry Conditions : None
6. Select Fast Field Updates and click on Done
7. Under the record trigger flow click on the “+” icon and select Get Records.
8. Enter Label as “ Get Purchase Record ”.
9. For Object select Purchase Order.
10. For Condition Requirements , select All Conditions are Met(AND)  
For the first condition select as follows:  
Field: Id  
Operator: Equals  
Value: {!\$Record.Id}
11. For How many Records to store Select Only the First Record.
12. For How to Store Record Data select Choose fields and let Salesforce do the rest. Select Field: Order\_Date\_\_c. Click on Done.
13. In the Flow Builder, click on the Manager tab on the left-hand side >>
14. Click on New Resource >> In the Resource Type dropdown, select Variable.
15. Enter API name as ActualDeliveryDate >> Select Data type as Date >> Click on Done.
16. From the Toolbox drag and drop Assignment element.
17. Enter the label as “Assignment”.

## 18. Set Variable Values:

- a) Variable : {!ActualDeliveryDate}  
Operator : Equals  
Value : {!\$Record.Order\_Date\_\_c}
- b) Variable : {!ActualDeliveryDate}  
Operator : Add  
Value : 3

## 18. Click Done

19. From the Toolbox drag and drop Update Records element and connect to the Assignment element.

20. Enter the label as “Updating Purchasing Order”.

21. How to Find Records to Update and Set Their Values : Use the Purchase Order record that triggered the flow

22. Set Filter Conditions : None -Always Update Record

23. Set Field Values for the Trip Record as

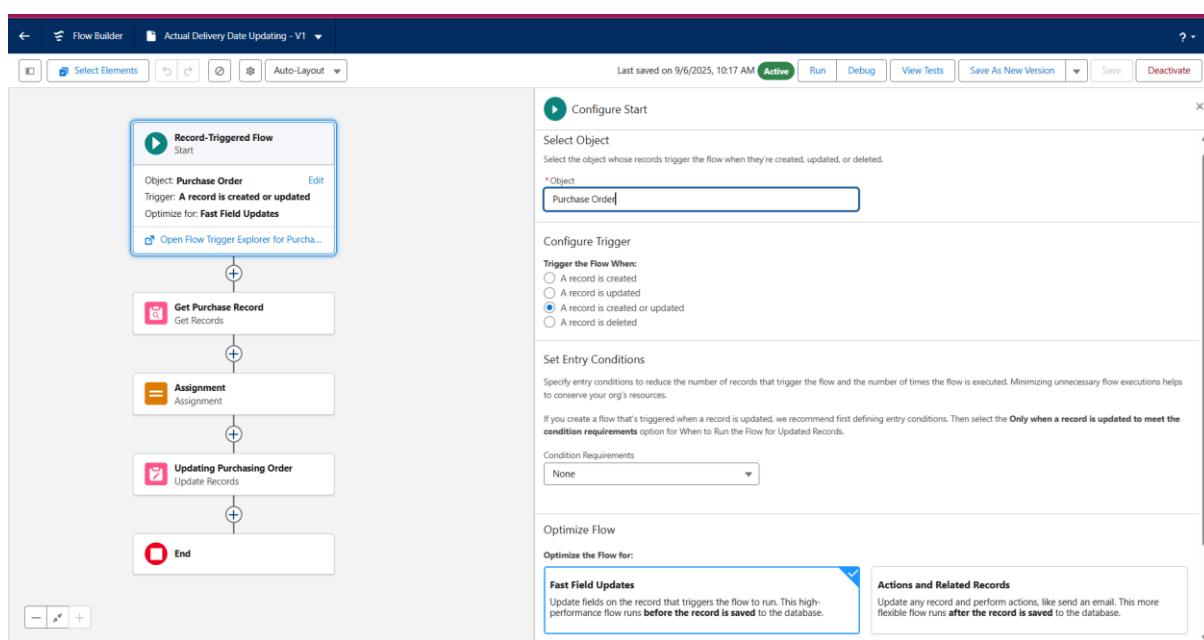
Field : Actual\_Delivery\_Date\_\_c

Value : {!ActualDeliveryDate}

24. Click Done

25. Save the flow as “Actual Delivery Date Updating”.

26. Activate the flow.



**Flow Builder** | Actual Delivery Date Updating - V1 | ?

Last saved on 9/6/2025, 10:17 AM **Active** Run Debug View Tests Save As New Version Save Deactivate

```

graph TD
    Start((Record-Triggered Flow)) --> GetPurchaseRecord[Get Purchase Record]
    GetPurchaseRecord --> Assignment1[Assignment]
    Assignment1 --> UpdatePurchasingOrder[Updating Purchasing Order]
    UpdatePurchasingOrder --> End((End))
  
```

**Flow Builder** | Actual Delivery Date Updating - V1 | ?

Last saved on 9/6/2025, 10:17 AM **Active** Run Debug View Tests Save As New Version Save Deactivate

```

graph TD
    Start((Record-Triggered Flow)) --> GetPurchaseRecord[Get Purchase Record]
    GetPurchaseRecord --> Assignment1[Assignment]
    Assignment1 --> UpdatePurchasingOrder[Updating Purchasing Order]
    UpdatePurchasingOrder --> End((End))
  
```

**Flow Builder** | Actual Delivery Date Updating - V1 | ?

Last saved on 9/6/2025, 10:17 AM **Active** Run Debug View Tests Save As New Version Save Deactivate

```

graph TD
    Start((Record-Triggered Flow)) --> GetPurchaseRecord[Get Purchase Record]
    GetPurchaseRecord --> Assignment1[Assignment]
    Assignment1 --> UpdatePurchasingOrder[Updating Purchasing Order]
    UpdatePurchasingOrder --> End((End))
  
```

## Milestone 14 - Triggers

### Activity 1 : Create a Trigger to Calculate total amount on Order Item.

Step 1 : Login to Salesforce:

Log in to your Salesforce account with administrative privileges.

Step 2:

i) Navigate to Setup: Once logged in, click on the gear icon ?? (Setup) located at the top-right corner of the page. This will open the Setup menu.

ii) Click on Developer Console: Click on the "Developer Console" option from the Setup menu. This will open the Developer Console in a new browser tab or window.

Step 3:

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 Trigger: This will open a new Apex Trigger editor tab.

Create an Apex Trigger:

```
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.isUndelete);  
}
```

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

```
public class CalculateTotalAmountHandler {  
  
    // Method to calculate the total amount for Purchase Orders based on related  
    Order Items
```

```

public static void calculateTotal(List<Order_Item__c> newItems,
List<Order_Item__c> oldItems, Boolean isInsert, Boolean isUpdate, Boolean
isDelete, Boolean isUndelete) {

    // Collect Purchase Order IDs affected by changes in Order_Item__c
    records
    Set<Id> parentIds = new Set<Id>();

    // For insert, update, and undelete scenarios
    if (isInsert || isUpdate || isUndelete) {
        for (Order_Item__c ordItem : newItems) {
            parentIds.add(ordItem.Purchase_Order_Id__c);
        }
    }

    // For update and delete scenarios
    if (isUpdate || isDelete) {
        for (Order_Item__c ordItem : oldItems) {
            parentIds.add(ordItem.Purchase_Order_Id__c);
        }
    }

    // Calculate the total amounts for affected Purchase Orders
    Map<Id, Decimal> purchaseToUpdateMap = new Map<Id, Decimal>();

    if (!parentIds.isEmpty()) {
        // Perform an aggregate query to sum the Amount__c for each Purchase
        Order
        List<AggregateResult> aggrList = [
            SELECT Purchase_Order_Id__c, SUM(Amount__c) totalAmount
            FROM Order_Item__c
            WHERE Purchase_Order_Id__c IN :parentIds
            GROUP BY Purchase_Order_Id__c
        ];
        // Map the result to Purchase Order IDs
        for (AggregateResult aggr : aggrList) {
            Id purchaseOrderId = (Id)aggr.get('Purchase_Order_Id__c');
            Decimal totalAmount = (Decimal)aggr.get('totalAmount');
            purchaseToUpdateMap.put(purchaseOrderId, totalAmount);
        }
    }
}

```

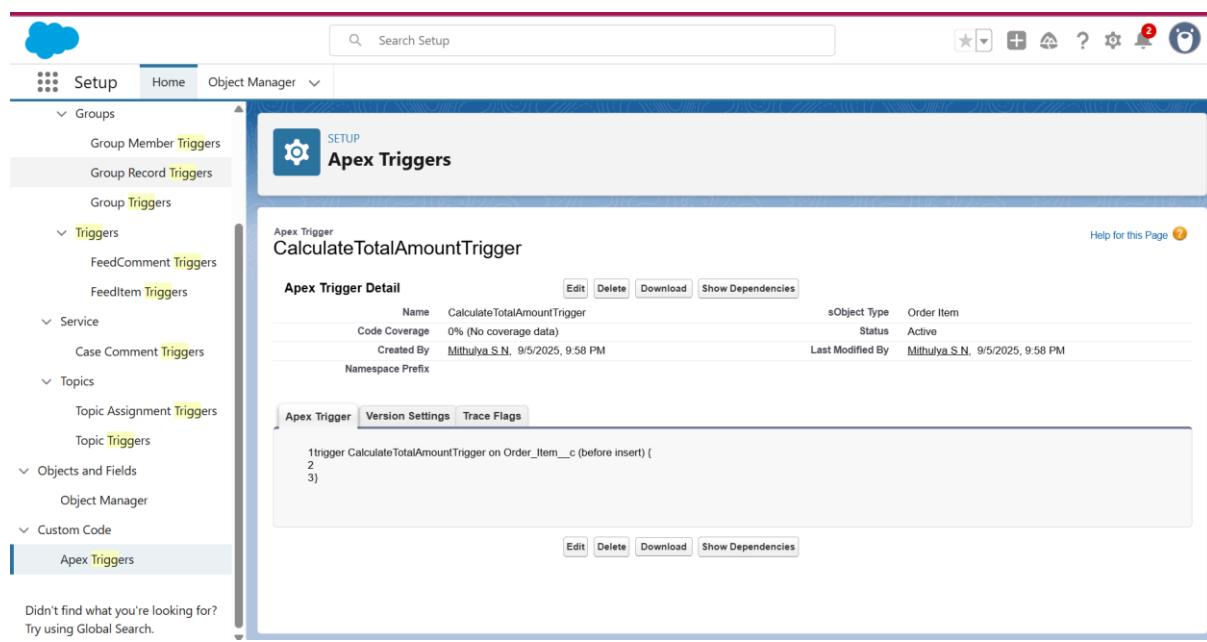
```

// Prepare Purchase Order records for update
List<Purchase_Order__c> purchaseToUpdate = new
List<Purchase_Order__c>();
for (Id purchaseOrderId : purchaseToUpdateMap.keySet()) {
    Purchase_Order__c purchaseOrder = new Purchase_Order__c(Id =
purchaseOrderId, Total_Order_cost__c =
purchaseToUpdateMap.get(purchaseOrderId));
    purchaseToUpdate.add(purchaseOrder);
}

// Update Purchase Orders if there are any changes
if (!purchaseToUpdate.isEmpty()) {
    update purchaseToUpdate;
}
}
}
}
}

```

Save it.



## Milestone 15 - Reports

### Activity 1: Create a Purchase Orders based on Suppliers(Summary) Report

1. Click App Launcher
2. Select Medical Inventory Management App
3. Click on Reports tab
4. Click on New Report.
5. Click the report type as Purchase Orders Click Start report.
6. Click on Filters and select as follows and click on Apply
7. Customize your report, in group rows select - Supplier ID, Purchase Order: Purchase Order ID, for columns Order Count, Total Order Cost (In this way we are making a Summary Report).
8. Click save and run
9. Give report name - Purchase Orders based on Suppliers.
10. Click Save

**NOTE:** In this report you can see your all record of the object you selected for reporting

(What you selects in “Select a report type option”)

The screenshot shows a report titled "Purchase Orders based on Suppliers". The report header includes a search bar and various navigation and filter options. The main content area displays a decorative illustration of a cactus and sun, followed by the text "No Results" and a note: "No records returned. Try editing report filters." At the bottom, there are checkboxes for "Row Counts", "Detail Rows", "Subtotals", and "Grand Total".

## View Report

1. Click on App Launcher on the left side of the screen.
2. Search Medical Inventory Management App & click on it.
3. Click on Reports Tab.
4. Click on Purchase Orders based on Suppliers and see records.

Total Records	Total Order Count	Total Total Order Cost
5	14	₹26,325.00
Report: Purchase Orders Purchase Orders based on Suppliers		
Supplier ID	Purchase Order: Purchase Order ID	Order Count
Supplier-001 (4)	Purchase-0001 (1)	3
	Purchase-0002 (1)	2
	Purchase-0003 (1)	3
	Purchase-0004 (1)	4
Supplier-002 (1)	Purchase-0005 (1)	2
<b>Total (5)</b>	<b>14</b>	<b>₹26,325.00</b>

## Activity 2: Create a Complete Purchase Details Report

1. Click App Launcher
2. Select Medical Inventory Management App
3. Click on Reports tab
4. Click on New Report.
5. Click the report type as Purchase Orders with Order Items and Product ID  
>> Click Start report.
6. Click on Filters and select as follows and click on Apply
7. Customize your report, in group rows select - Supplier ID, Actual Delivery Date, Purchase Order: Purchase Order ID, for columns Product ID : Product ID, Product ID : Product Name, Order Count, Quantity Received, Amount (In this way we are making a Summary Report).
8. Click save and run
9. Give report name - Complete Purchase Details Report
10. Click Save

The screenshot shows a software application window for 'Medical Inventory ...'. At the top, there's a navigation bar with links for Products, Purchase Orders, Order Items, Inventory Transactions, Suppliers, Reports (which is currently selected), Dashboards, and other icons. Below the navigation is a toolbar with buttons for 'Enable Field Editing', 'Search', 'Add Chart', and 'Edit'. The main content area is titled 'Report: Purchase Orders with Order Items and Product ID Complete Purchase Details Report'. It displays summary statistics: Total Records (0), Total Order Count (0), Total Quantity Received (0), and Total Amount (\$0.00). A decorative illustration of a cactus and sun is centered above the message 'No Results'. Below the message, a note says 'No records returned. Try editing report filters.' At the bottom of the report area, there are checkboxes for Row Counts, Detail Rows, Subtotals, and Grand Total.

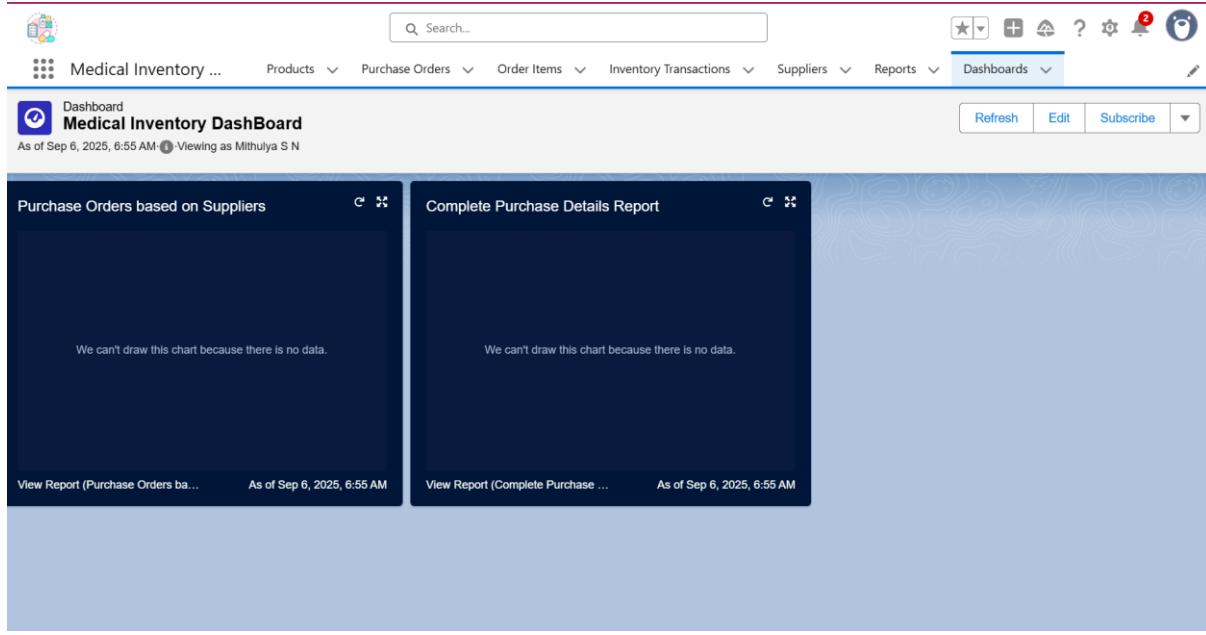
## Milestone 16 - Dashboard

### Activity 1: - Create Dashboard

1. Click on the Dashboards tab from the Medical Inventory Management application.
2. Click on the new dashboard.
3. Give name - Medical Inventory DashBoard
4. Click create
5. Click on +widget
6. Select the Purchase Orders based on Suppliers Report
7. For the data visualization select any of the charts, tables etc. as per your choice/requirement
8. Click add.
9. Click save.

### Activity 2: View Dashboard

1. Click on App Launcher on the left side of the screen.
2. Search Medical Inventory Management & click on it.
3. Click on Dashboard Tab.
4. Click on Medical Inventory DashBoard see graph view of records



## Conclusion :

From a developer's standpoint, creating a **medical inventory management** application with Salesforce is highly valuable. This project provides an opportunity to build a system that automates logistics, offers real-time visibility into stock levels, and generates crucial data for regulatory compliance. The solution empowers healthcare professionals and supply chain teams to prevent product shortages, minimize waste, and ensure the timely availability of essential supplies.

However, the development journey is not without its complexities. It involves tackling challenges like managing highly specific and dynamic product data, integrating with specialized external systems, maintaining strict data security standards to protect sensitive health information, and guaranteeing a robust and scalable architecture that can support critical operations without interruption.

Ultimately, a well-engineered medical inventory system acts as a vital technological link, enhancing operational efficiency and directly supporting patient care. For developers, it's a chance to apply technical skills to solve real-world problems in a high-stakes environment, all while taking on the responsibility of ensuring the solution's security, reliability, and long-term viability.

## **Project Achievements :**

- **Operational Streamlining:** Successfully consolidated supplier management, purchase order processing, and product tracking, boosting efficiency.
- **Real-Time Inventory Control:** Implemented real-time tracking of product stock levels and transaction histories, providing immediate visibility and an audit trail.
- **Enhanced Safety and Compliance:** Developed an automated alert system to flag products nearing expiration, helping prevent the use of expired items.
- **Improved Decision Making:** Created dynamic reports and dashboards that offer valuable insights into supplier performance and purchasing trends.
- **Increased Data Transparency:** Centralized all critical data on Salesforce, establishing a single source of truth that enhances collaboration and provides clear visibility.

## **Student Learning Outcome :**

- **Hands-on Experience:** Students will gain practical skills in Salesforce by configuring objects, automating workflows, and managing real-time inventory.
- **Project Lifecycle Understanding:** Students will learn the end-to-end process of a Salesforce project, from requirements to deployment.
- **Analytical Skills:** Students will develop the ability to identify challenges, design solutions, and troubleshoot issues within the system.
- **Collaboration Skills:** Students will gain experience working in a team on tasks such as requirement gathering, development, and testing.
- **Industry Exposure:** Students will be exposed to real-world applications of Salesforce in a medical context, preparing them for future career opportunities.

## **Future Scope :**

- **Mobile Integration:** Develop a mobile app for on-the-go inventory management.
- **Advanced Analytics & AI-Powered Forecasting:** Use AI to predict inventory needs and minimize waste.
- **Integration with E-commerce & Supplier Portals:** Integrate with supplier portals for automated reordering.
- **Enhanced Barcode & QR Code Scanning:** Enhance the system with barcode and QR code scanning for faster audits.
- **IoT & Sensor Integration:** Integrate IoT sensors for real-time monitoring of sensitive supplies.
- **Multi-Location Management:** Expand the system to manage multiple warehouse locations.
- **Vendor Performance Scoring:** Implement a scoring system to evaluate vendor performance.