MEDICAL INVENTORY MANAGEMENT

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1. Project Overview

The medical inventory management System is a Salesforce CRM-based application created to handle medical supplies, medicines, and equipment with accuracy and efficiency. It simplifies operations such as purchase order handling, supplier management, and inventory tracking..

2. Objectives

The system has been developed with the following goals:

- Keep all medical inventory information in a single, centralized place.
- Make the purchase order process faster through automation and approvals.
- Record supplier details and track their order history for better accountability.
- Alert users whenever stock is low or products are nearing expiry.

3.Scope of the Project

What is included:

- Tracking of medicines and medical equipment.
- Supplier records and purchase order processing.
- Role-based security for users.
- Salesforce automation (triggers, workflows, approval processes).
- Reports and dashboards for monitoring and insights.

What is not included:

- Billing or payment system integration with hospitals.
- Advanced demand forecasting using AI/ML.
- Offline mobile application development.

4.Key Modules

1. **Inventory Management** – Add, update, and view medical items.
2. **Supplier Management** – Save supplier details and monitor past orders.
3. **Purchase Order Management** – Automate creation, approvals, and cost calculations.
4. **Stock Monitoring** – Notifications for low quantity or expired items.
5. **Reports & Dashboards** – Summaries and visual reports for managers.
6. **User Management** – Roles and profiles for secure access.

5.Benefits

- Reduced wastage and better stock control.
- Less manual effort in creating and approving purchase orders.
- Stronger supplier accountability.
- Real-time access to inventory and cost details.

6.Student Learning Outcomes

1. **Knowledge of Salesforce CRM** – Hands-on customization for practical applications.
2. **Cloud Development Skills** – Creating custom fields, objects, layouts, and relationships.
3. **Business Automation Experience** – Building triggers, workflows, and approval processes.
4. **Data Analytics Skills** – Developing dashboards and reports for inventory insights.
5. **Security Management** – Implementing user profiles with different access permissions.
6. **Problem-Solving Ability** – Addressing real challenges in healthcare inventory.
7. **Documentation & Presentation Skills** – Preparing clear technical reports.
8. **Collaboration & Project Management** – Working effectively with peers to meet deadlines (for team projects).
9. **Problem-Solving Ability** – Addressing real challenges in healthcare inventory.
10. **Documentation & Presentation Skills** – Preparing clear technical reports.
11. **Collaboration & Project Management** – Working effectively with peers to meet deadlines (for team projects).

7.System Requirements

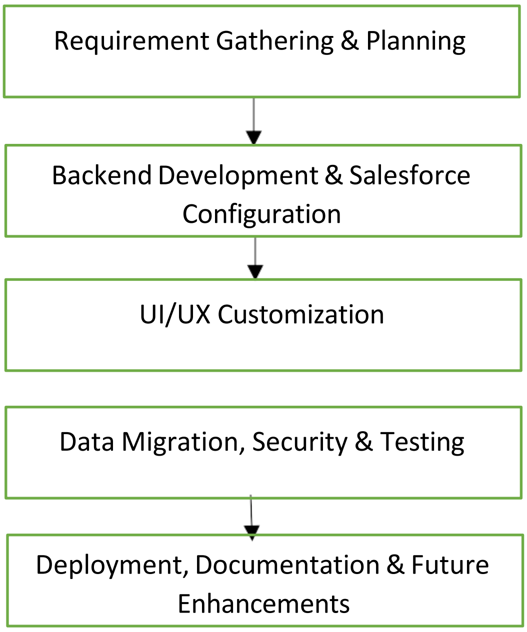
(a)Hardware

- **Processor:** Intel Core i3 / AMD equivalent or higher
- **RAM:** 4 GB minimum (8 GB preferred)
- **Storage:** At least 20 GB free space
- **Display:** 1024×768 or higher
- **Connectivity:** Reliable internet connection

(b)Software

- **OS:** Windows 10/11, Linux, or macOS
- **Browser:** Chrome, Firefox, or Edge (latest versions)
- **Salesforce Edition:** Developer Edition (*Naan Mudhalvan provided*)
- **Optional Tools:** Developer Console, VS Code with Salesforce extensions
- **Documentation Tools:** MS Office, Google Docs

9.PROJECT PHASES



Phase 1: Requirement Analysis & Planning

- Clear understanding of the requirements collected from healthcare staff, administrators, and inventory managers.
- Well-defined project objectives and scope.
- Drafted preliminary data model and workflow diagrams for suppliers, purchase orders, and medical items.
- Structured project roadmap prepared for smooth execution in later phases.

Phase 2: Salesforce Development – Backend & Configurations

1. **Milestone 1**: Salesforce Developer
2. Registered for a Salesforce Developer Edition account through the official signup page:
3. https://developer.salesforce.com/signup
4. Configured the developer org to serve as the working environment for backend customization and application development.

Milestone 2: Creating custom object

Steps to create the custom object *Product*:

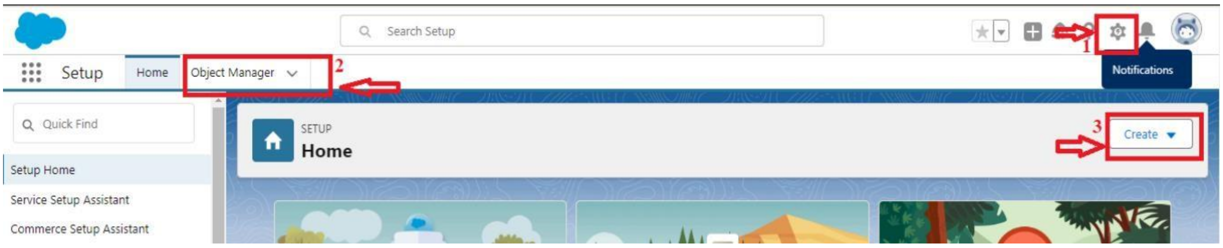
- Navigate to Setup in Salesforce.
- Select Object Manager from the menu.
- Click Create → Custom Object.

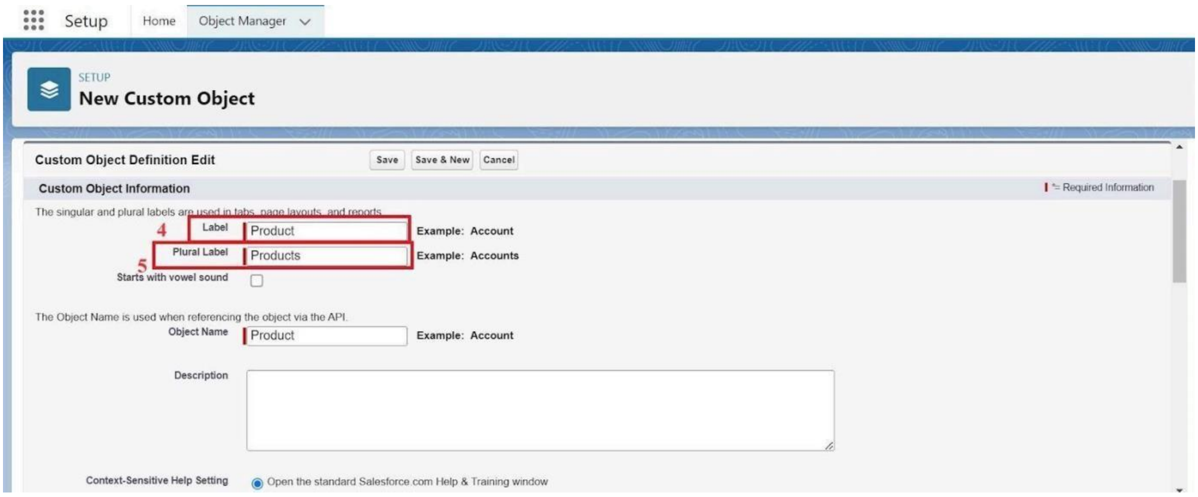
Provide the following details:

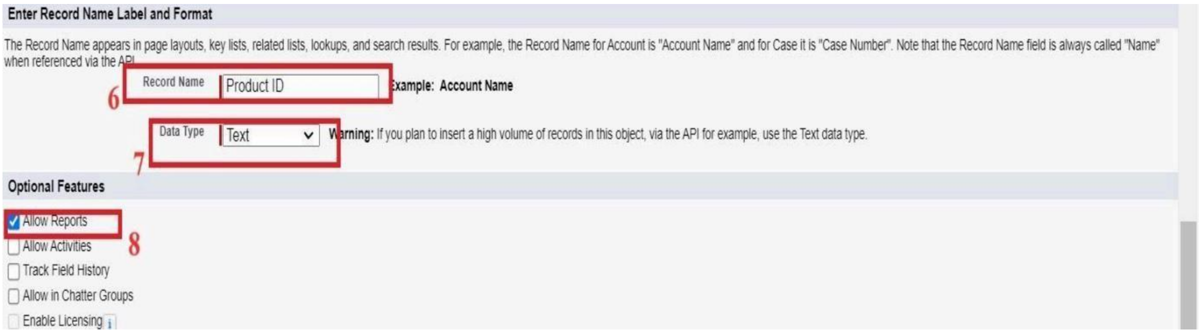
- Label Name: Product
- Plural Label: Products
- Record Name: Product ID
- Data Type: Text

Enable the following options:

- Allow Reports
- Allow Search
- Click Save and New to complete the process.



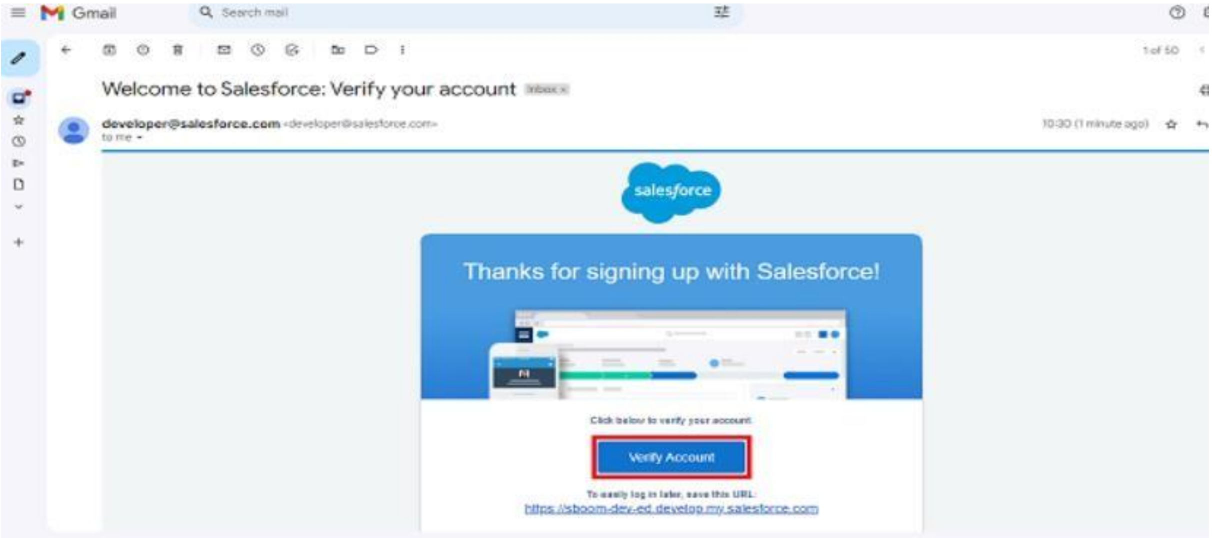




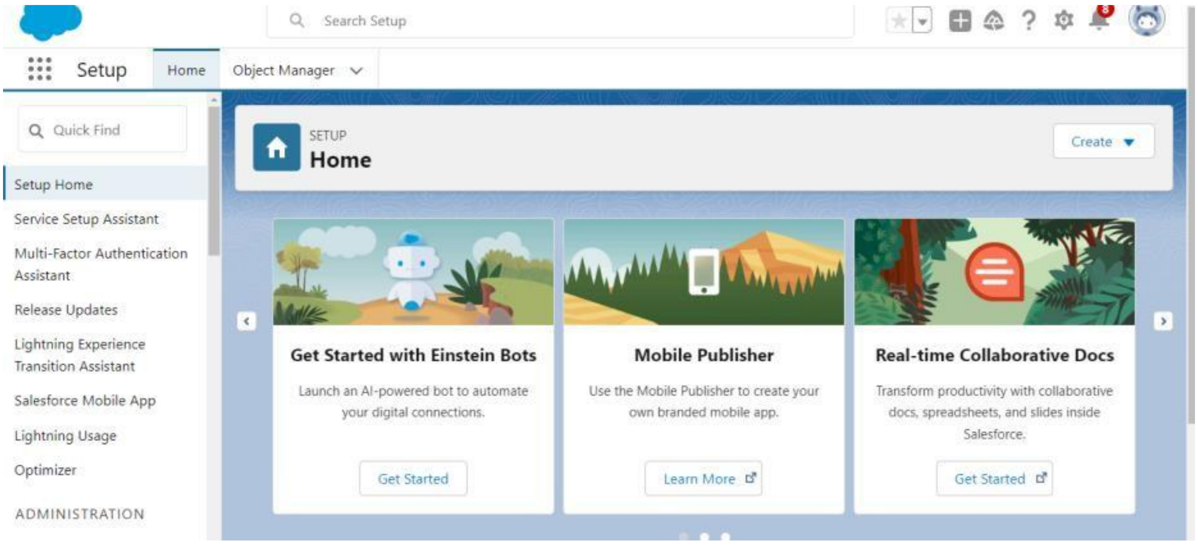
Activity 2: Account Activation

Steps to verify and activate the Salesforce Developer Account:

- Open the inbox of the email address used during signup and look for the verification email (may take 5–10 minutes to arrive).
- Click on the “Verify Account” link provided in the email.



- Open the inbox of the email address used during signup (the email may take 5–10 minutes to arrive).
- Click on the “Verify Account” link provided in the email.
- Set a new password, choose and answer a security question, then click Change Password.
- After completing the setup, you will be redirected to your Salesforce Setup Home Page.

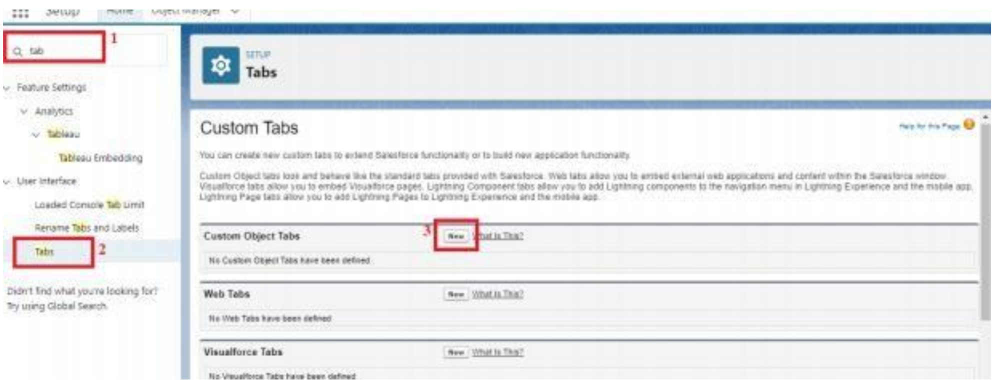


Milestone 3: Creating Tabs

Activity 1: Creating a Tab for the Product Object

Procedure:

1. Navigate to **Setup** and type **Tabs** in the Quick Find search bar.
2. Select **Tabs** from the available options.
3. Under **Custom Object Tabs**, click **New**.
4. From the list, choose **Product** as the object and select an appropriate **Tab Style**.
5. Click **Next**. On the **Add to Profiles** page, retain the default settings and click **Next** again.
6. On the **Add to Custom Apps** page, uncheck the option **Include Tab**.
7. Make sure the option **Append tab to user's existing personal customizations** is selected.
8. Finally, click **Save** to complete the tab creation process.

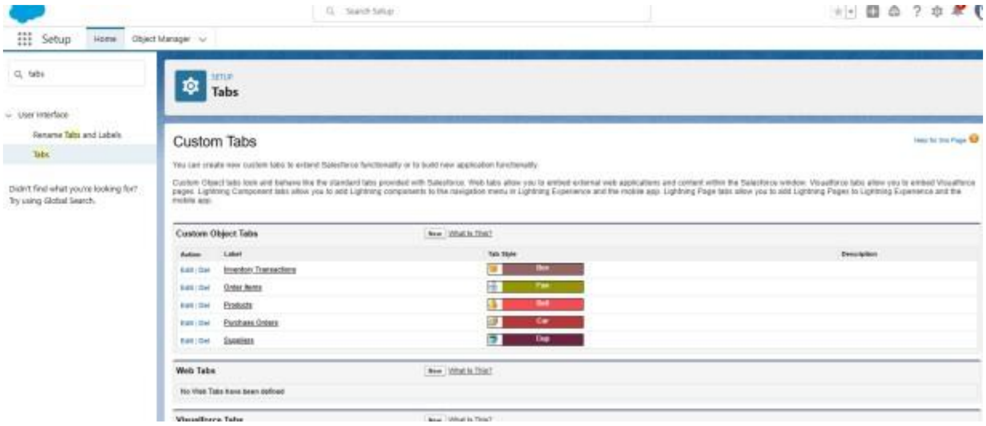


Milestone 3: Creating Tabs

Activity 2: Creating Remaining Tabs

Procedure:

- Create tabs for the following objects:
- Purchase Order
- Order Item
- Inventory Transaction
- Supplier
- Follow the same steps as described in **Activity 1 (Creating a Tab for the Product Object)** to complete the process for each object.



Milestone 4: The Lightning App

Activity 1: Creating a Lightning App for Medical Inventory Management

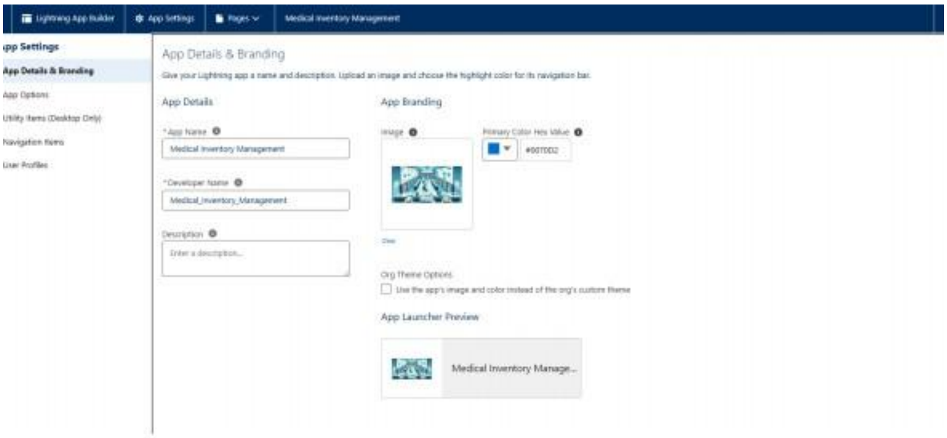
Procedure:

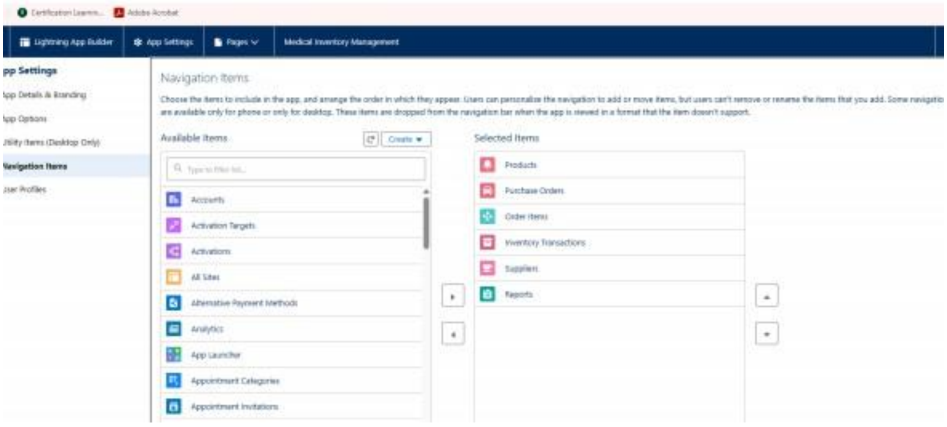
1. From **Setup**, enter **App Manager** in the Quick Find bar and select **App Manager**.
2. Click **New Lightning App**.
3. Enter **Medical Inventory Management** as the **App Name**.

   Optionally, upload an image related to medical inventory.

   Click **Next**.

4. Under **App Options**, leave the default selections and click **Next**.
5. Under **Utility Items**, retain the default configuration and click **Next**.



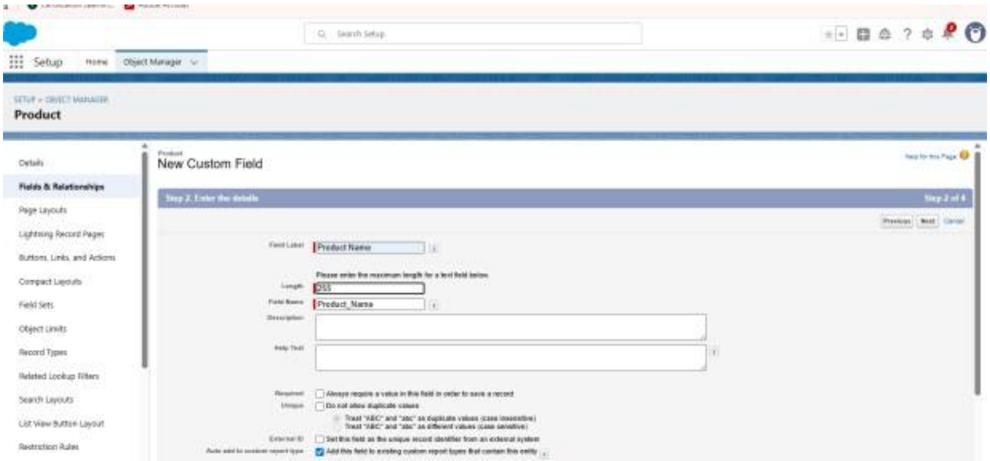


Milestone 5: Fields

Activity 1: Creating a Text Field in the Product Object

Steps:

1. Click the **gear icon** and select **Setup** (opens in a new tab).
2. In Setup, go to the **Object Manager** tab.
3. Select the **Product** custom object.
4. From the left navigation, click **Fields & Relationships**.
5. Click **New**.
6. Choose **Text** as the field type and click **Next**.
7. Enter the following details:
   - **Field Label:** Product Name
   - **Length:** 255
8. Select the **Required Field** checkbox.
9. Click **Next** → **Next** → **Save & New** to create the field.



Milestone 5: Fields

Activity 2: Creating a Text Area Field in the Product Object

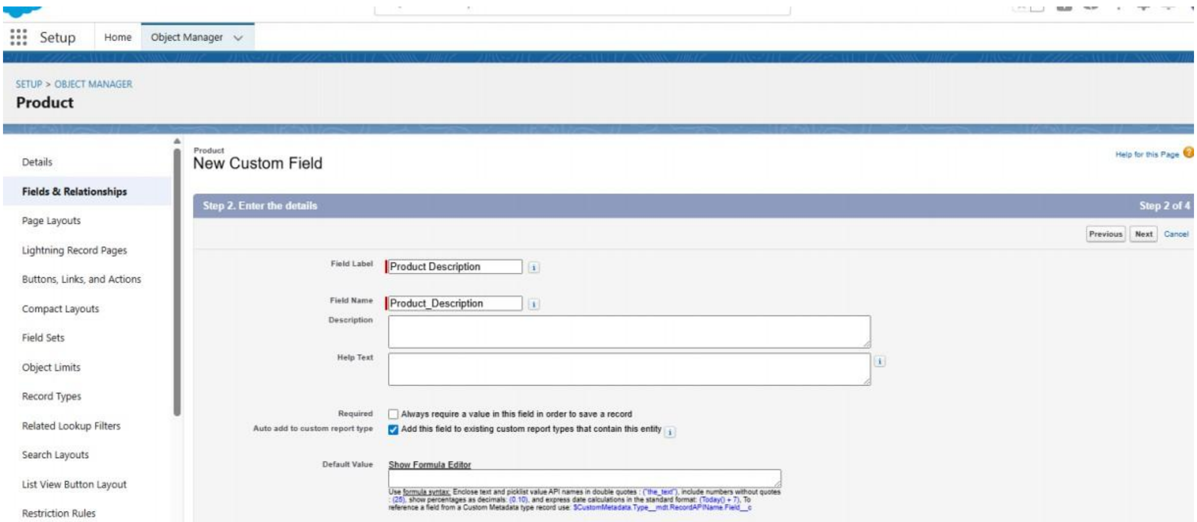
Steps:

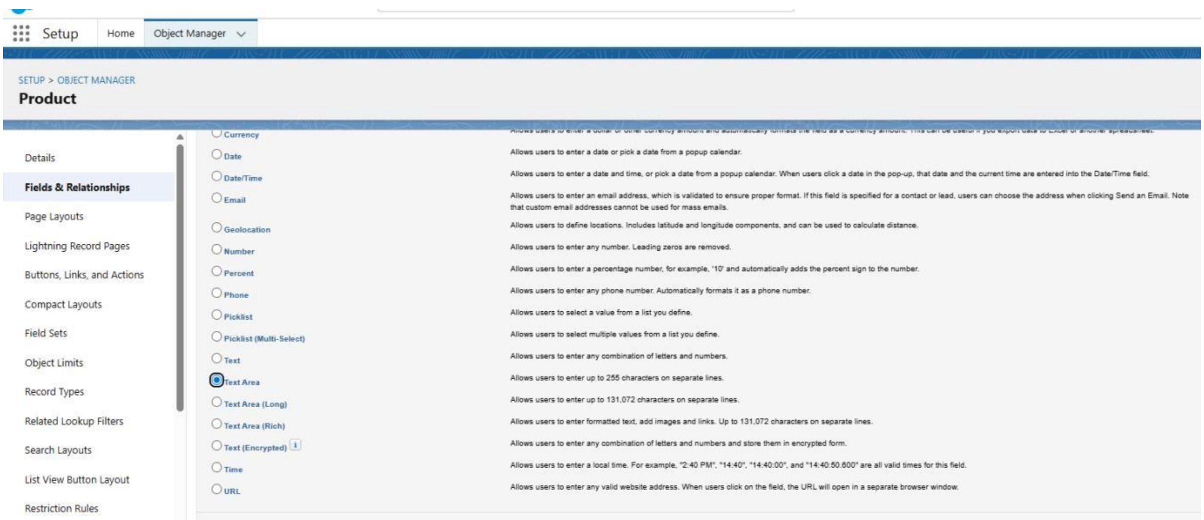
- Click the gear icon and select Setup (opens in a new tab).
- In Setup, go to the Object Manager tab.
- Select the Product custom object.
- From the left navigation, click Fields & Relationships.
- Click New.
- Choose Text Area as the field type and click Next.

Enter the following details:

Field Label: Product Description

Click Next → Next → Save & New to complete the field creation.





Activity 3: Creating a Number Field in the Product Object

Steps:

- Go to Setup → click on Object Manager.
- In the Quick Find box, type Product and select the Product custom object.
- From the left panel, click Fields & Relationships.
- Click New.
- Choose Number as the data type and click Next.

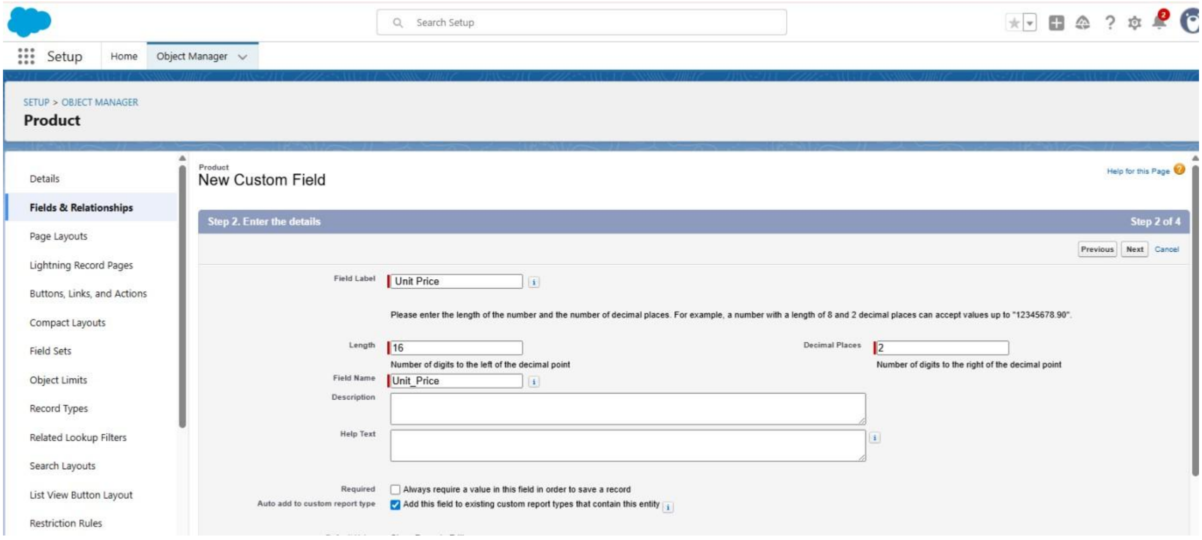
Enter the details:

Field Label: Current Stock Level

Length: 18

Decimal Places: 0

- Click Next → Next → Save to finish creating the field. **Activity 4:** Creating a Currency Field in the Product Object Steps:
- Go to Setup → click on Object Manager.
- In the Quick Find box, type Product and select the Product custom object.
- From the left-hand menu, select Fields & Relationships.
- Click New.
- Choose Currency as the data type and click Next.



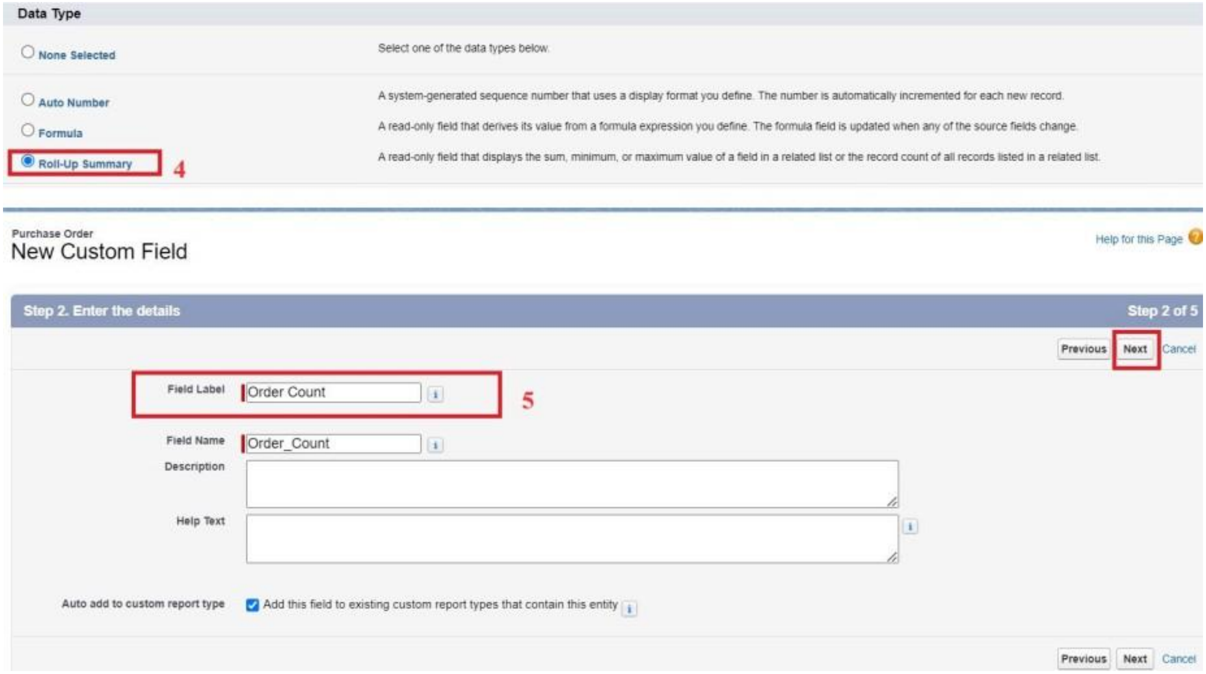
Activity 6: Creating a Date Field in the Purchase Order Object

Steps:

- Go to Setup → click on Object Manager.
- In the Quick Find box, type Purchase Order and select the Purchase Order custom object.
- From the left-hand menu, click Fields & Relationships.

Activity 7: Creating a Roll-Up Summary Field in Purchase Order object Select Data type as “Roll-Up Summary” and click Next.

1. Enter Field Label as “ Order Count”.
2. Choose the Summarized Object as “Order Items”.
3. For Select Roll-Up Type select “Count”.
4. Click on Next, Next and Save



Activity 8: Creating a Unit Price Formula Field in the Order Item Object

Steps:

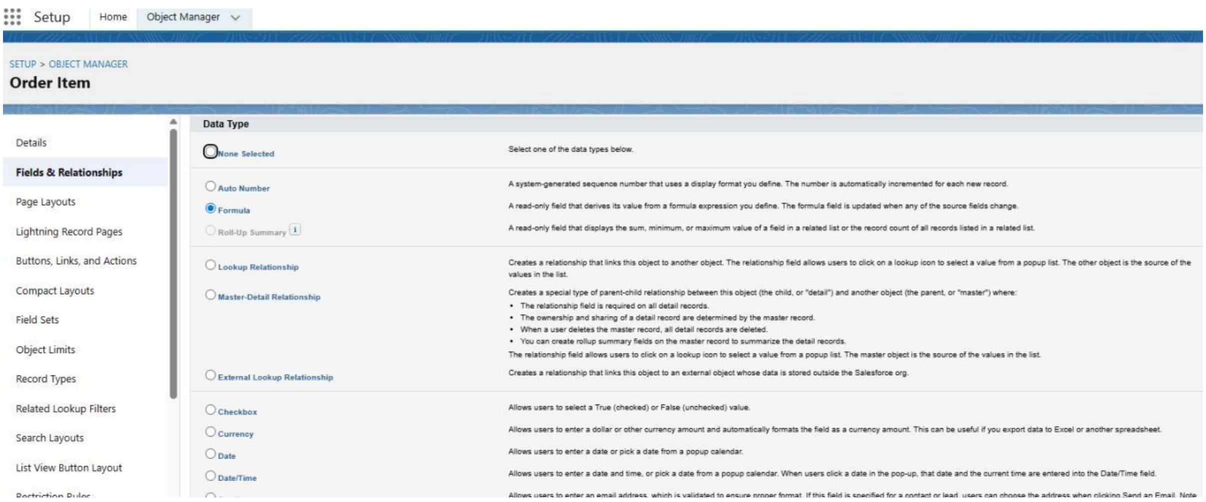
- In the Quick Find box, type **Order Item** and select the **Order Item** custom object.
- From the left-hand menu, click **Fields & Relationships**.
- Click **New**.
- Select **Formula** as the data type and click

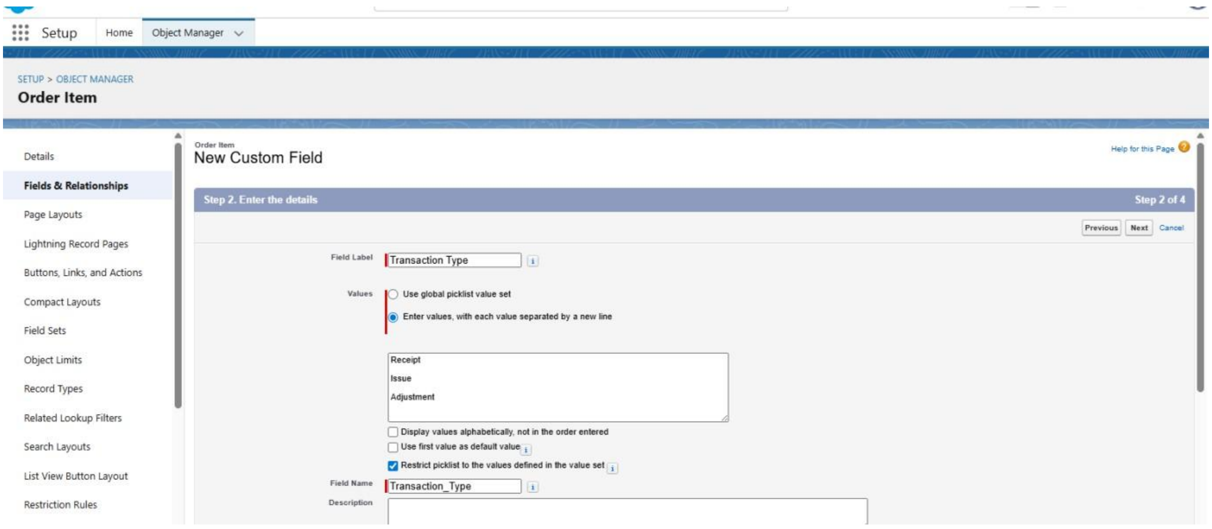
  Next. **Enter the following details:**

Field Label: Unit Price

Formula Return Type: Currency

In the formula editor, enter the advanced formul





Activity 11: Creating a Total Order Cost Formula Field in the Inventory Transaction Object

Steps:

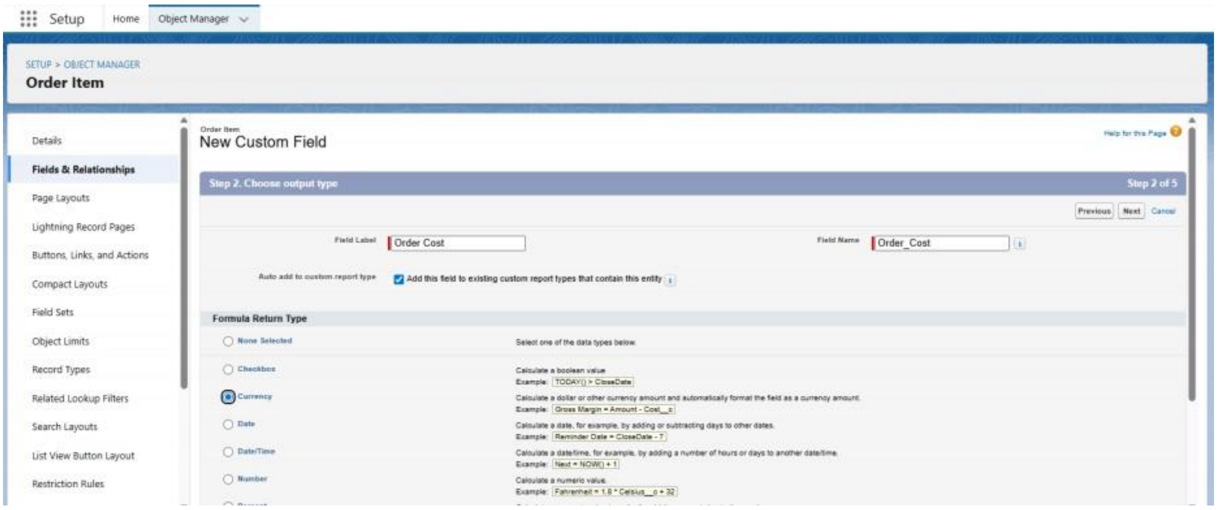
-Go to Setup → click on Object Manager.

-In the Quick Find box, type Inventory Transaction and select the object.

-From the left-hand menu, click Fields & Relationships.

-Click New.

-Select Formula as the data type and click Next.



Activity 12: Creating a Phone Field in the

Supplier Object

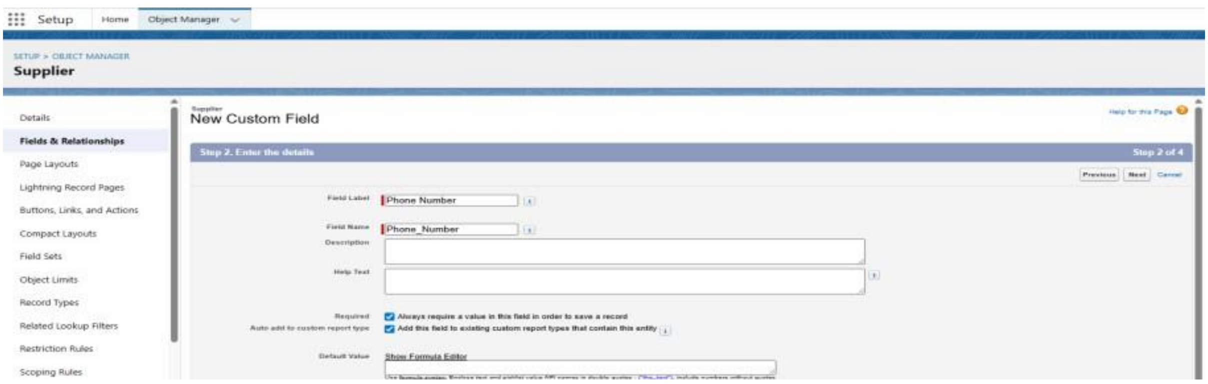
Steps:

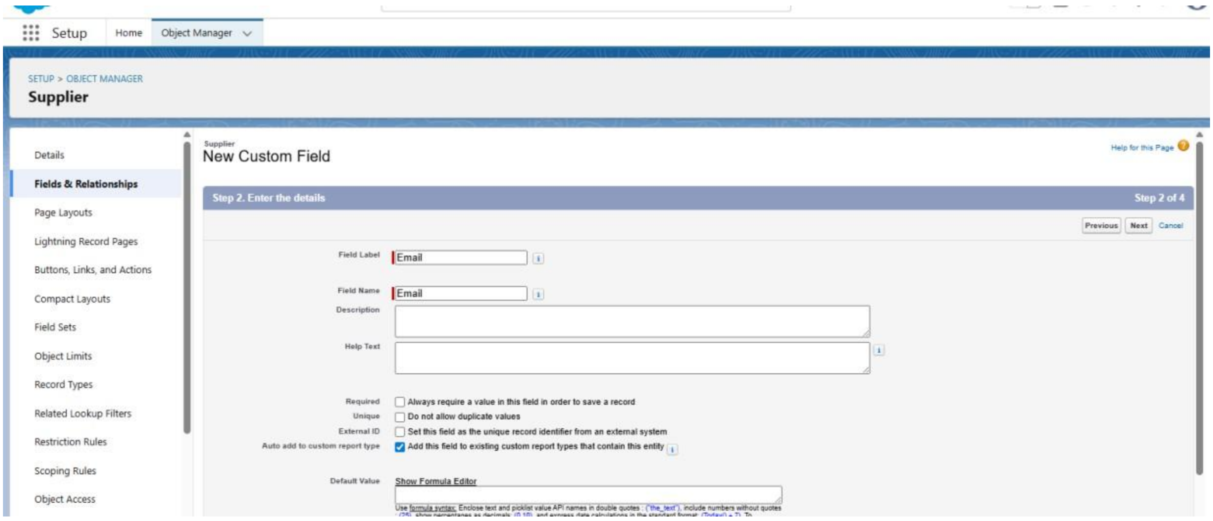
- Go to Setup → click on Object Manager.
- In the Quick Find box, type Supplier and select the Supplier custom object.
- From the left-hand menu, click Fields & Relationships.
- Click New.
- Select Phone as the data type and click Next.

Enter the following details:

Field Label: Phone Number

- Mark the field as Required.
- Click Next → Next → Save to complete the field creation.



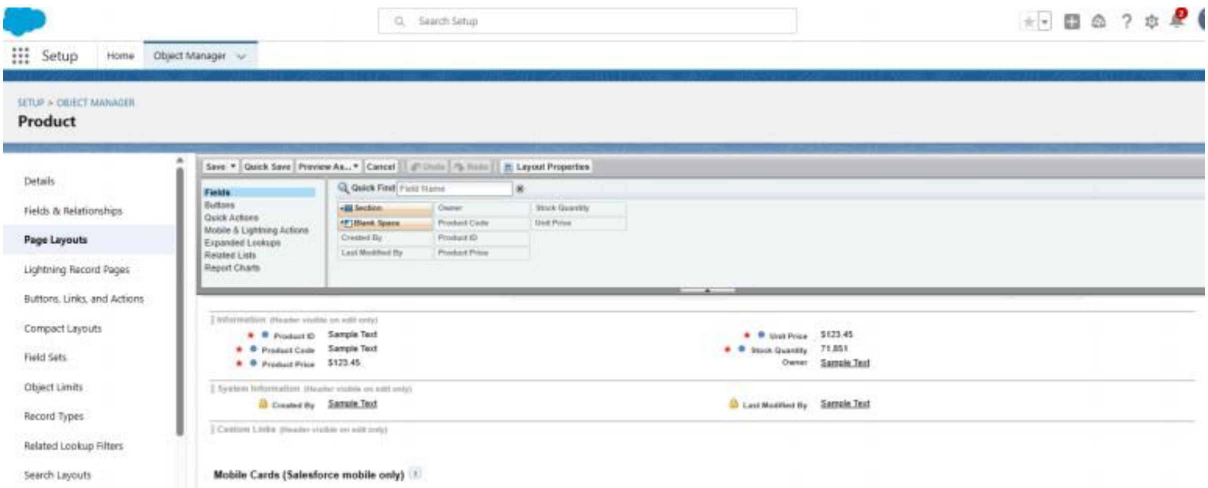


Milestone 6: Page Layout Customization

Activity 1: Editing a Page Layout in the Product Object

Steps:

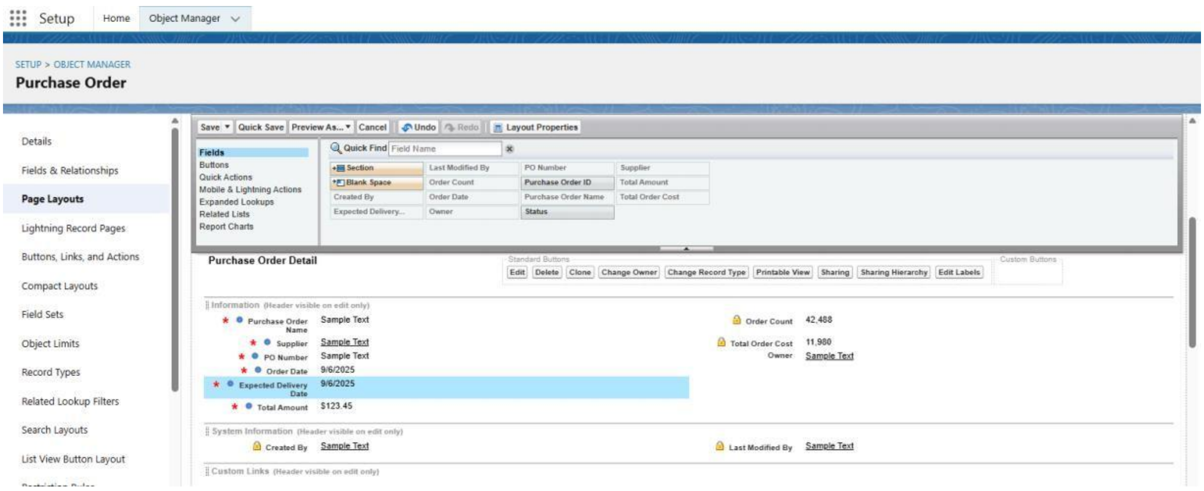
- Go to Setup → click on Object Manager.
- In the Quick Find box, type Product and select the Product custom object.
- From the left-hand menu, click Page Layouts.
- Select the layout named Product Layout.
- Drag and arrange the fields on the page layout as required to optimize data entry and display.
- Save it

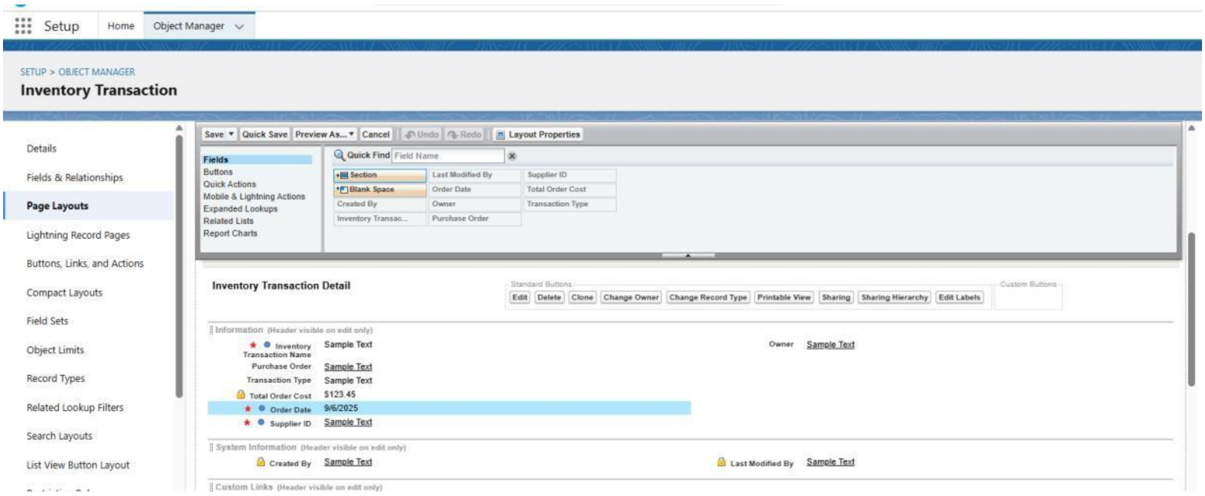


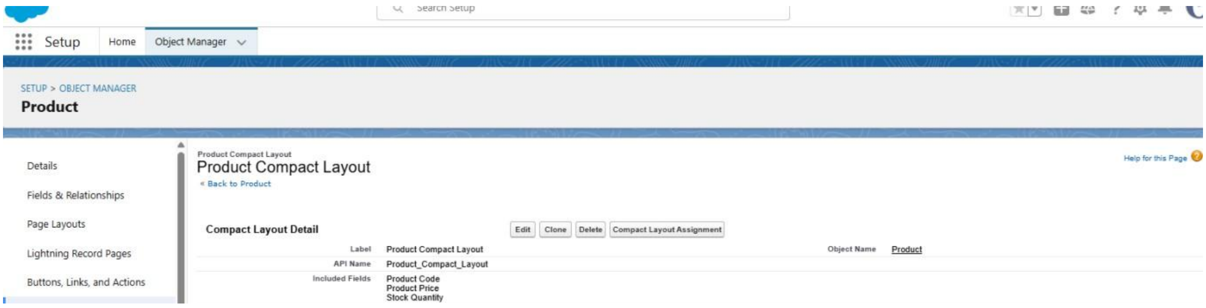
Activity 2: Editing a Page Layout in the Purchase Order Object

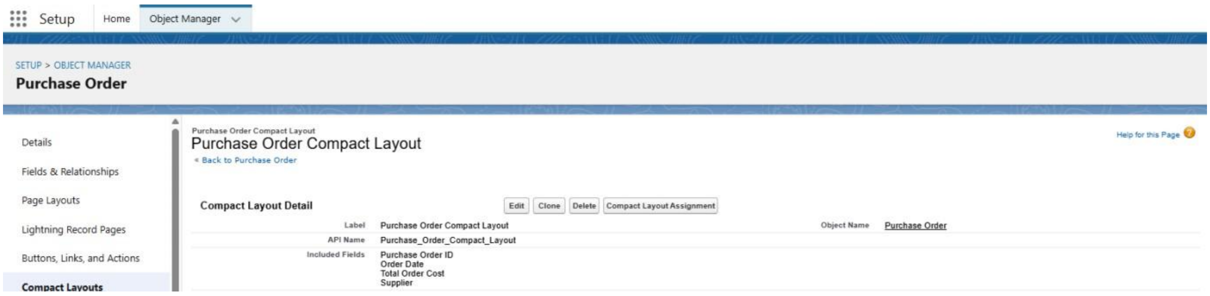
Steps:

- Go to Setup → click on Object Manager.
- In the Quick Find box, type Purchase Order and select the Purchase Order custom object.
- From the left-hand menu, click Page Layouts.
- Select the layout named Purchase Order Layout.
- Drag and arrange the fields on the layout as required to optimize data entry and display.









Milestone 8: Validation Rules

Activity 1: Creating an Expected Delivery Date Validation Rule for the Purchase Order Object

Steps:

1. Go to **Setup** → click on **Object Manager**.
2. In the Quick Find box, type **Purchase Order** and select the **Purchase Order** custom object

Milestone 9: Profiles

Activity 1: Creating an Inventory Manager

Profile Steps:

Go to Setup → type Profiles in the Quick Find box → click Profiles.

Locate Standard User → click Clone.

Enter the Profile Name: Inventory Manager → click

Save. On the newly created profile page, click Edit.

Configure the following settings:

Custom App Settings: Set Medical Inventory Management as

default. Password Policies:

User passwords expire in: Never Expires

Minimum password length: 8

Click Save.

Activity 2: Creating a Purchase Manager Profile

Steps:

Go to Setup → type Profiles in the Quick Find box → click Profiles.

Locate Standard User → click Clone.

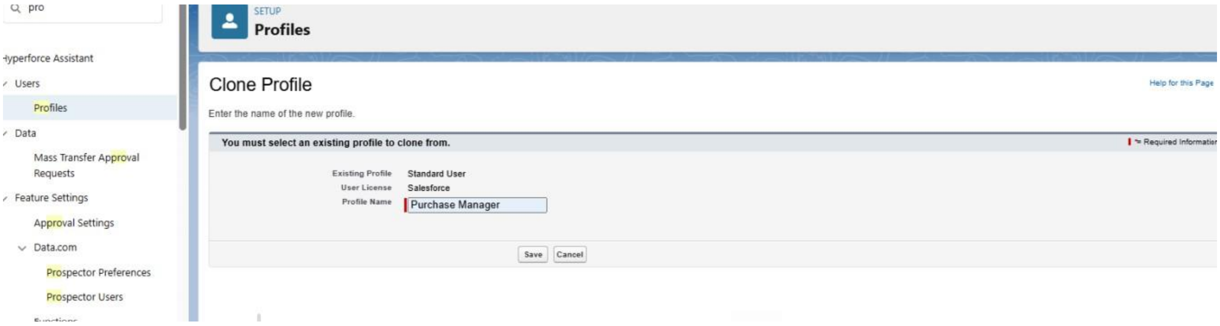
Enter the Profile Name: Purchase Manager → click

Save. On the newly created profile page, click Edit.

Configure the following settings:

Custom App Settings: Set Medical Inventory Management as

default. Click Save.

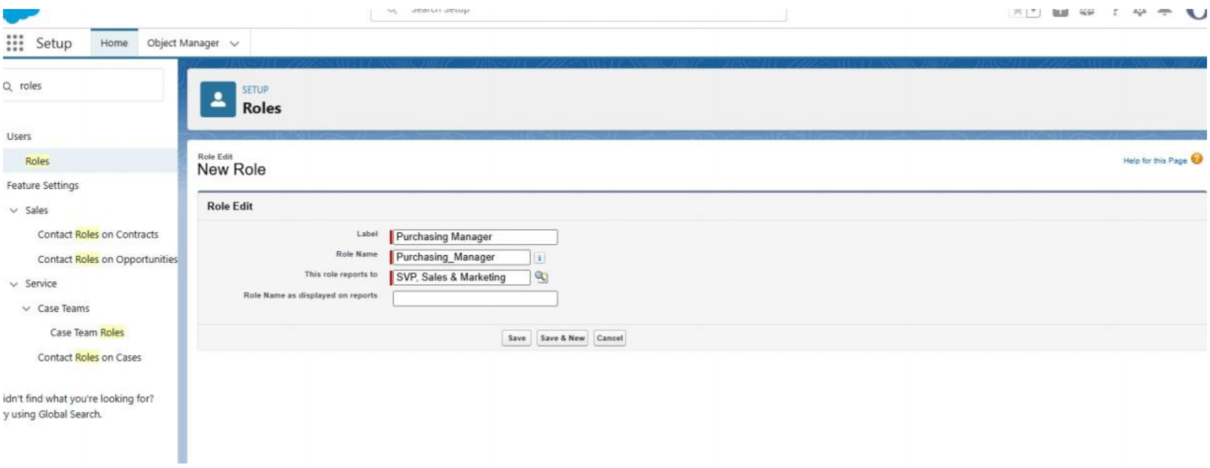


Milestone 10: Roles

Activity 1: Creating a Purchasing Manager Role

Steps:

1. Go to Setup → type Roles in the Quick Find box → click Set Up Roles.
2. Click Expand All to view the role hierarchy.
3. Under the SVP, Sales & Marketing role, click Add Role.
4. Enter the following details:
   - Label: Purchasing Manager
   - The Role Name will auto-populate.
5. Click Save to create the role.



Activity 2: Creating an Inventory Manager Role

Steps:

Go to Setup → type Roles in the Quick Find box → click Set Up

Roles. Click Expand All to view the role hierarchy.

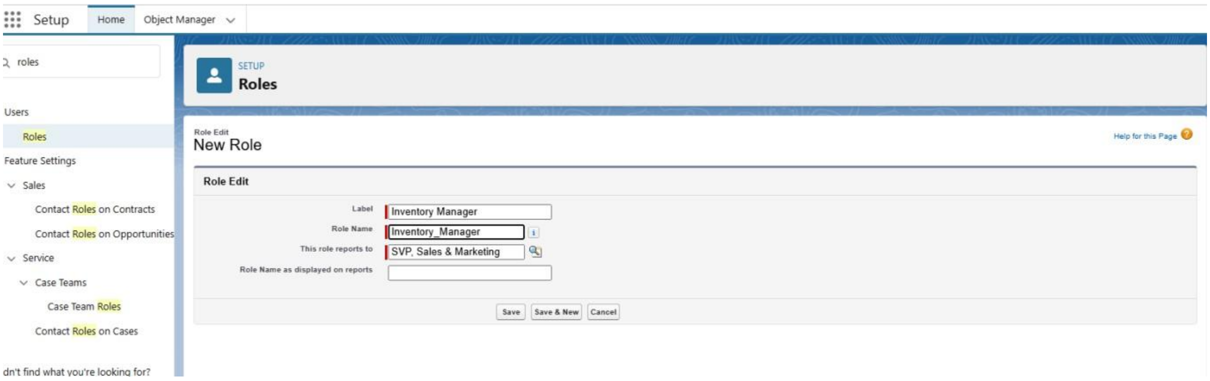
Under the SVP, Sales & Marketing role, click Add Role.

Enter the following details:

Label: Inventory Manager

The Role Name will auto-populate.

Click Save to create the role.



Milestone 12: Permission Sets

Activity 1: Creating a Permission

Set Steps:

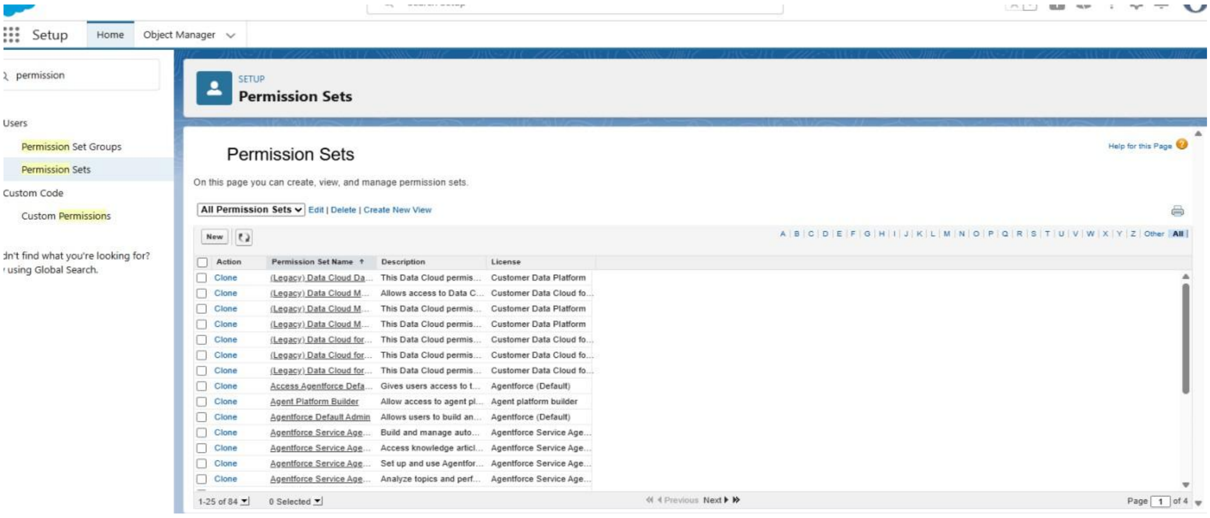
Go to Setup → type Permission in the Quick Find box → select Permission

Sets. Click New.

Enter the following details:

Label: Purchase Manager Create Access

Click Save to create the permission set.



Milestone 13: Flows

Activity 1: Creating a Flow to Update the Actual Delivery Date

Steps:

- Go to Setup → type Flow in the Quick Find box → click Flows → New Flow → select Start From Scratch.
- Choose Record-Triggered Flow → click

  Create. Under Object, select Purchase

  Order.
- Configure the trigger: A record is created or

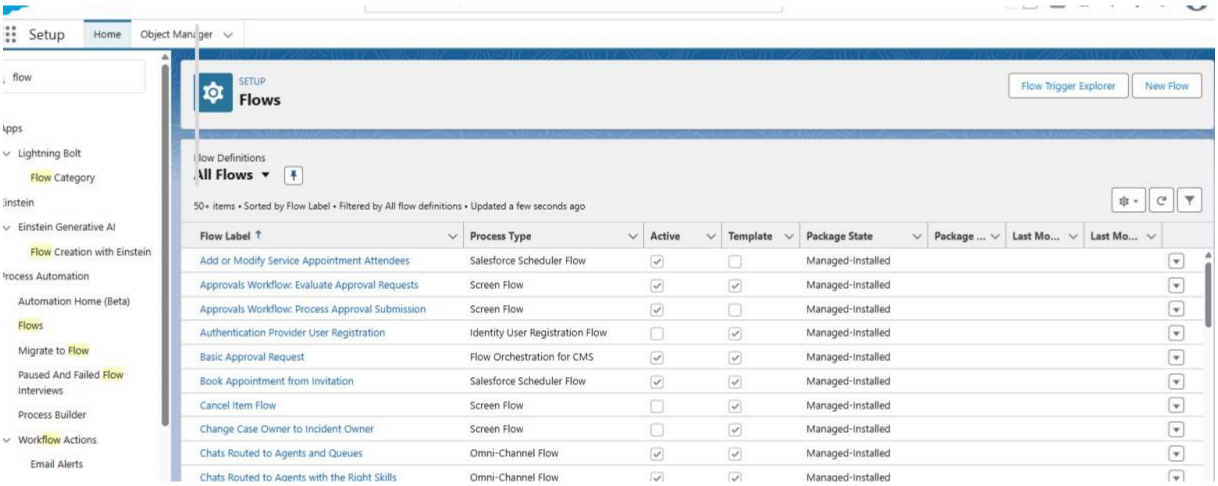
  updated. Set Entry Conditions: None.
- Select Fast Field Updates → click Done.

Get Records Element

7. Click the "+" icon → select Get Records.
8. Enter Label: Get Purchase Record.
9. Select Object: Purchase Order.
10. For Condition Requirements, choose All Conditions Are Met (AND).
11. Set the condition:

a) Create a Variable
b) In Flow Builder, click Manager → New Resource.
c) Resource Type: Variable
d) API Name: ActualDeliveryDate
e) Data Type: Date → click Done.

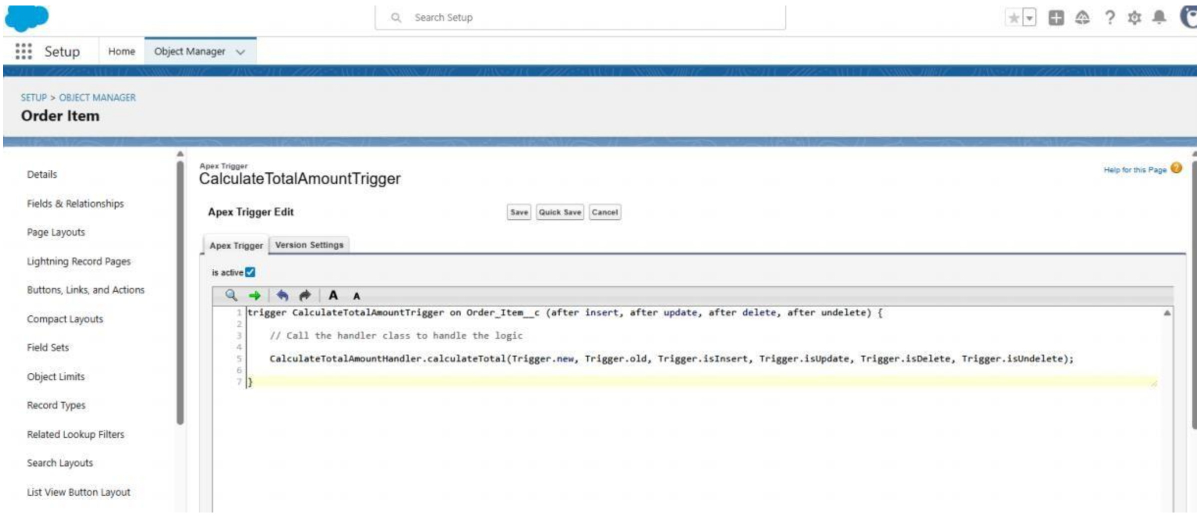
f) Assignment Element
g) Drag and drop Assignment from the Toolbox.
h) Enter Label: Assignment.
i) Save and Activate Flow
j) Save the flow as Actual Delivery Date Updating.
k) Activate the flow.



Step 5: Save and Test

Click **Save** for both the Trigger and the Handler Class.

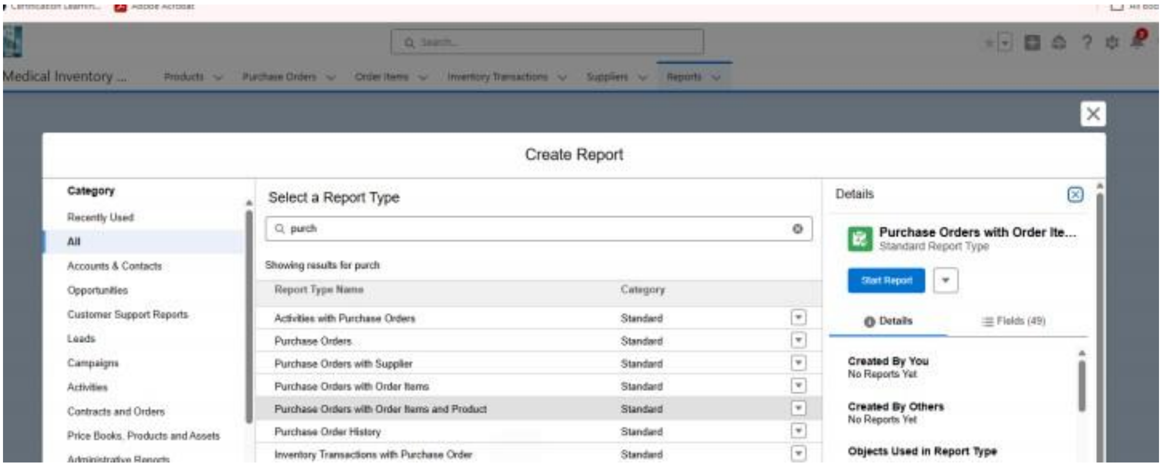
Test by creating, updating, or deleting **Order Items**. The **Total Order Cost** on the related Purchase Order should update automatically.



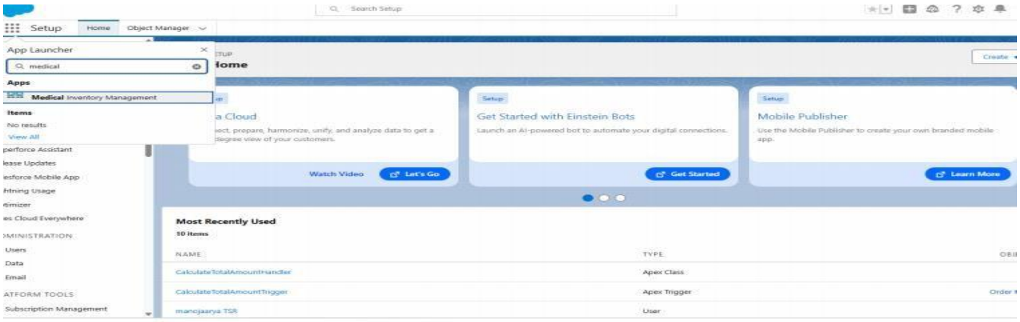
Milestone 15 - Reports

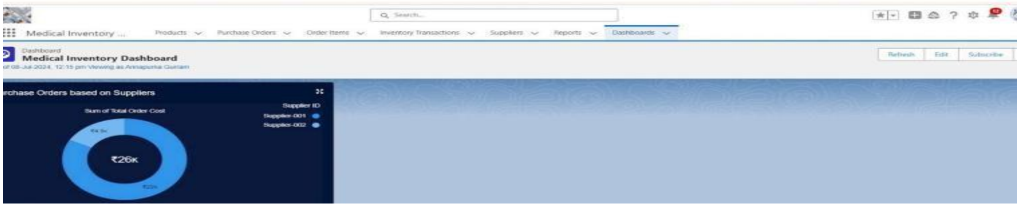
Activity 1: Create a Purchase Orders based on Suppliers(Summary) Report

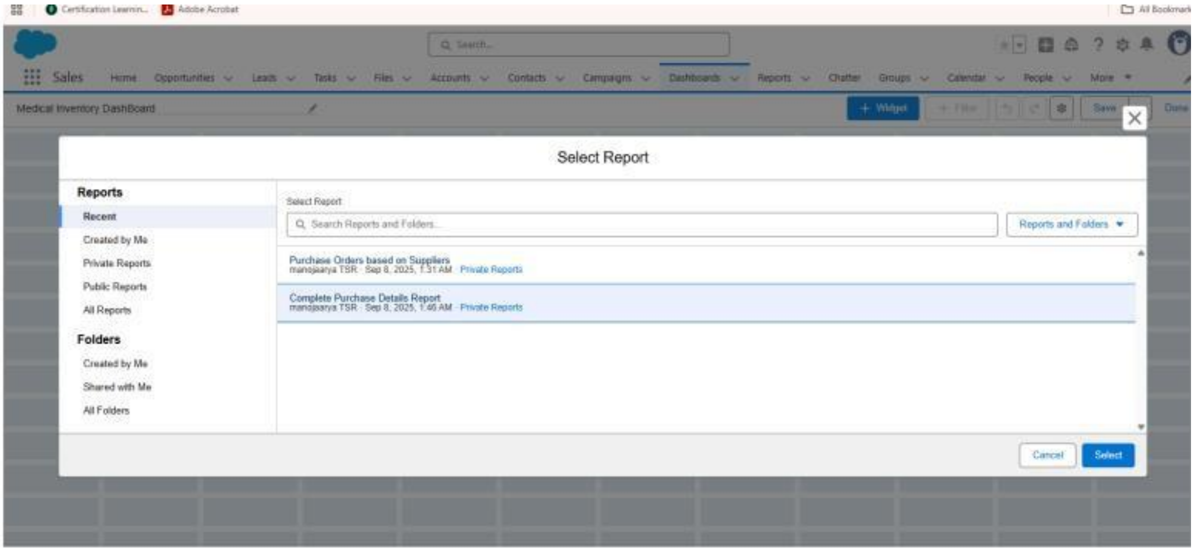
1. Click App Launcher
2. Select Medical Inventory Management App
3. Click on Reports tab
4. Click on New Report.
5. Click the report type as Purchase Orders Click Start report.
6. Click on Filters and select as follows and click on Apply
7. Customize your report, in group rows select – Supplier ID



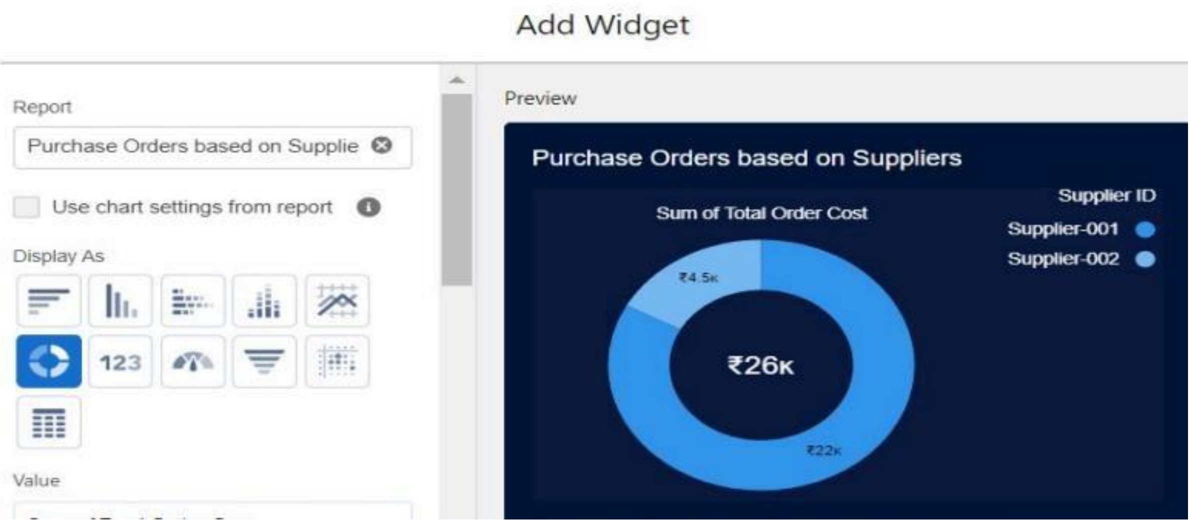
Click Add → then Save.







Sales
Medical Inventory DashBoard
Select Report
Reports
Recent
Created by Me
Private Reports
Public Reports
All Reports
Folders
Created by Me
Shared with Me
All Folders
Select Report
Reports and Folders
Purchase Orders based on Suppliers
Private Reports
Complete Purchase Details Report
Private Reports
Cancel
Select



Add Widget
Report
Purchase Orders based on Supplie
Use chart settings from report
Display As
123
Value
Preview
Purchase Orders based on Suppliers
Sum of Total Order Cost
Supplier ID
Supplier-001
Supplier-002
₹4.5K
₹26K
₹22K

Conclusion

The Medical Inventory Management System effectively automates and streamlines inventory management in a healthcare environment. By leveraging Salesforce CRM features, the system improves efficiency, ensures data accuracy, and enhances transparency in managing medical supplies. This project highlights the practical application of Salesforce in addressing real-world challenges, as part of the Naan Mudhalvan initiative.