## **PROJECT TITLE:**

Medical Inventory Management College Name:

Sri Vasavi College Self Finance Wing, Erode

College Code: bru17

**Team ID: NM2025TMID23315** 

## **TEAM MEMBERS:**

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**Medical Inventory Management Project Documentation** 

## 1. Project Overview

The **Medical Inventory Management System** is a Salesforce application designed to streamline the process of managing medical inventory. It helps track suppliers, products, purchase orders, order items, and inventory transactions in a single platform.

This system improves:

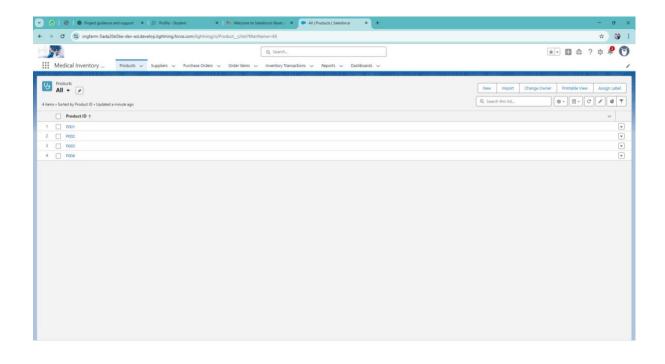
- Supplier tracking
- Stock level monitoring
- Order management
- Expiry date tracking
- Report generation and analytics

## 2. Objectives

The main objectives of this project are:

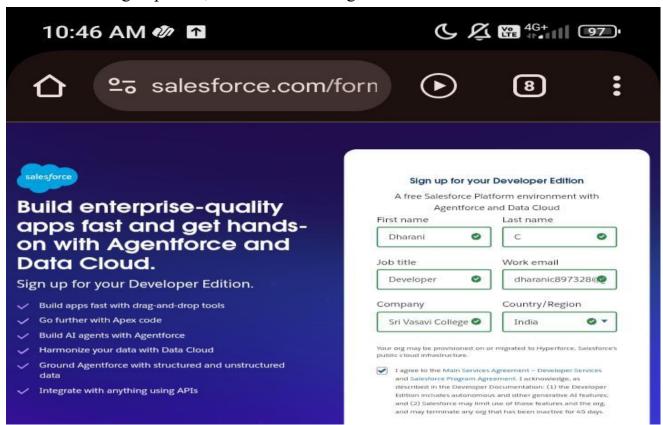
- 1. To efficiently manage and track medical products and their stock levels.
- 2. To streamline the **purchase order process** by linking suppliers and products.
- 3. To ensure **real-time monitoring** of stock and expiry dates.
- 4. To generate insightful reports and dashboards for decision-making.
- 5. To automate repetitive tasks using Salesforce tools like **flows and validation rules**.

## Medical Inventory Management App.



## 3. Created a developer org in salesforce.

- 1. Go to <a href="https://developer.salesforce.com/signup">https://developer.salesforce.com/signup</a>
- 2. On the sign up form, enter the following details:



1. First name & Last name

2. Email

3. Role: Developer

4. Company: College Name

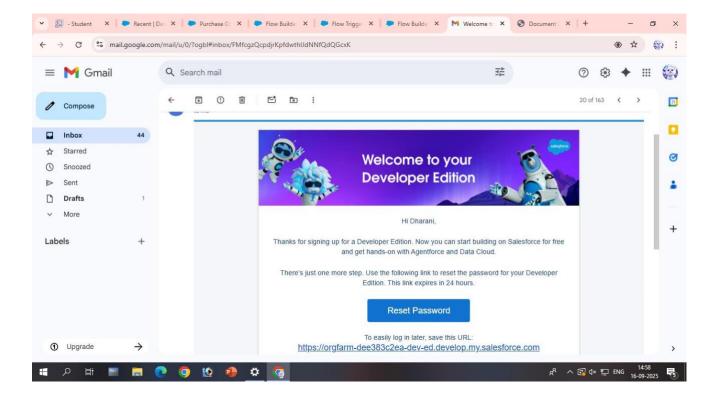
5. County: India

6. Postal Code: pin code

Click on sign me up after filling these.

#### 4. Account Activation

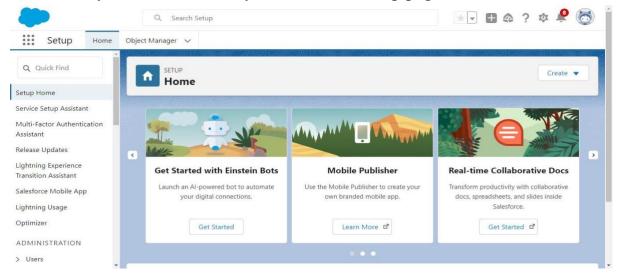
1. Go to the inbox of the email that you used while signing up. Click on the verify account to activate your account. The email may take 5-10mins.



- 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.



## 5. Objects Created

The following **custom objects** were created to manage the system:

## **Object Name** Purpose

To store supplier details like name, contact person, phone, **Supplier** and address.

## **Object Name** Purpose

Product To store product information like unit price, current stock

level, and minimum stock level.

**Purchase Order** To record order details from suppliers.

Order Item

To link products with each purchase order and track

quantities and costs.

**Inventory** 

**Transaction** To track stock movement (Inbound/Outbound).

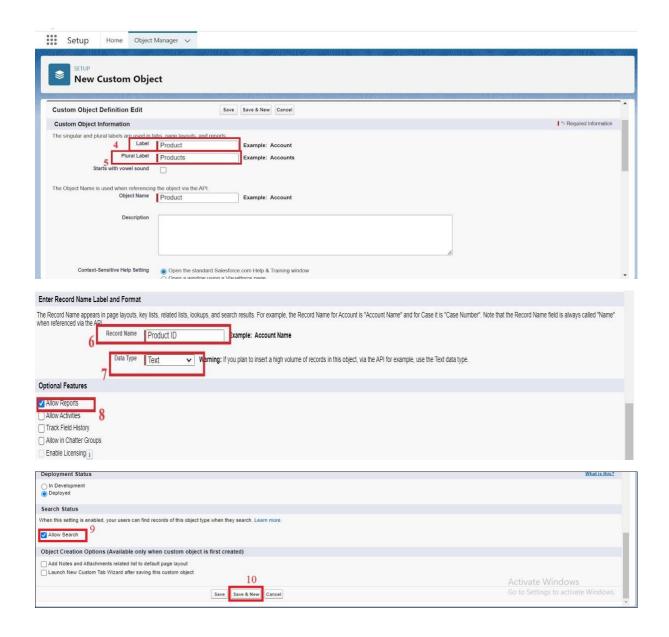
In Salesforce, objects are database tables that allow you to store data specific to your organization.

## To create an 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





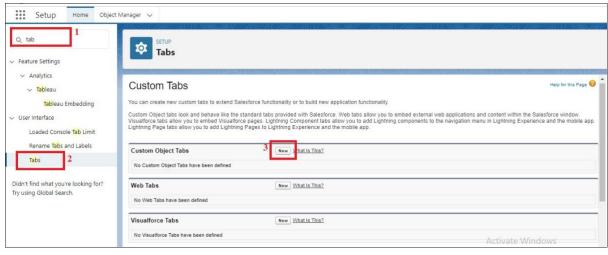
In the same way Created Purchase Order, Order Item, Inventory Transaction and Supplier objects.

#### **6.Tabs Created**

In Salesforce, tabs are used to make the data stored in objects accessible to users through the user interface. Tabs are a fundamental part of the Salesforce interface, providing a way to navigate to different objects and records.

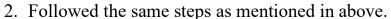
- 1. Go to the setup page >> type Tabs in Quick Find bar
- 2. Click on tabs

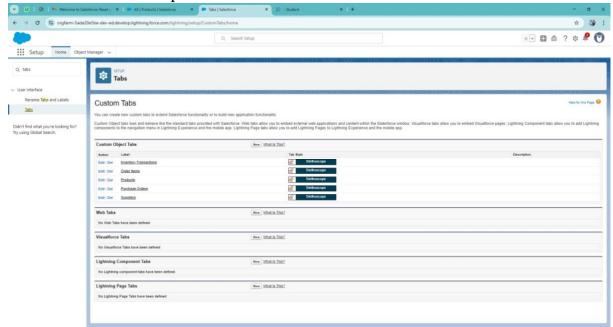
- 3. Click on New (under custom object tab).
- 4. Select Object(Product) >> Select the tab style
- 5. Click on Next >> (Add to profiles page) keep it as default >> Click on Next (Add to Custom App) uncheck the include tab.
- 6. Make sure that the Append tab to user's existing personal customizations is checked.
- 7. Click save





1. Now created the Tabs for the remaining Objects, they are "Purchase Order, Order Item, Inventory Transaction, Supplier".

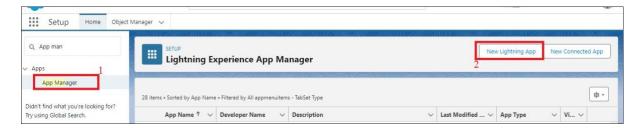




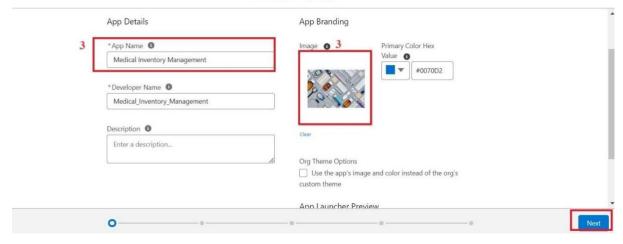
## 7. Created a Lightning App for Medical Inventory Management

- 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.

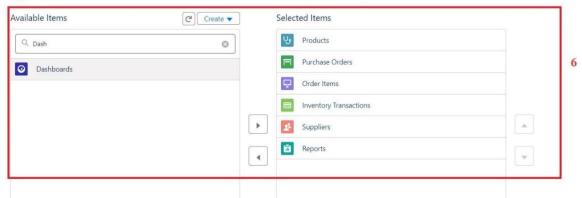


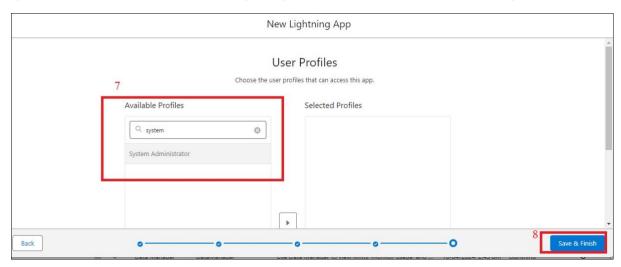
#### New Lightning App



#### Navigation Items

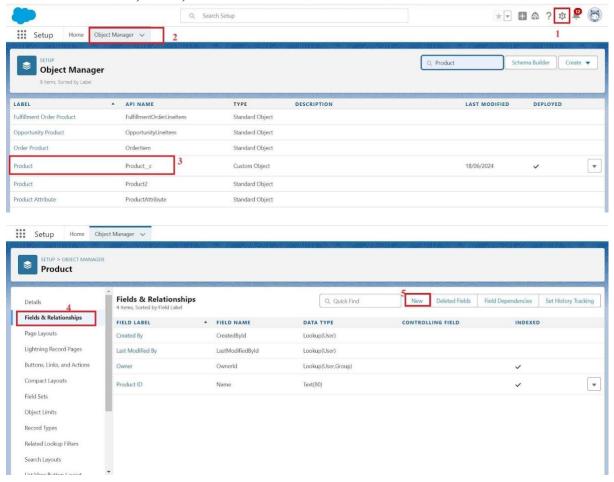
Choose the items to include in the app, and arrange the order in which they appear. Users can personalize the navigation to add or move items, but users can't remove or rename the items that you add. Some navigation items are available only for phone or only for desktop. These items are dropped from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

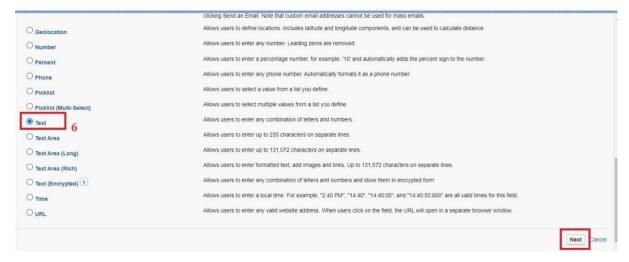




## 8. Created a Text Field in Product Object

- 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.







## Field Added in Object:

Object	Field Name	Data Type
		1_
Product	Product ID(Standard)	Text
	Product Name	Text
	Product Description	Text Area
	ļ	
	Minimum Stock Level	Number(18, 0)
	Current Stock Level	Number(18, 0)
	Current Stock Level	Number (18, 0)
	Unit Price	Currency(16, 2)

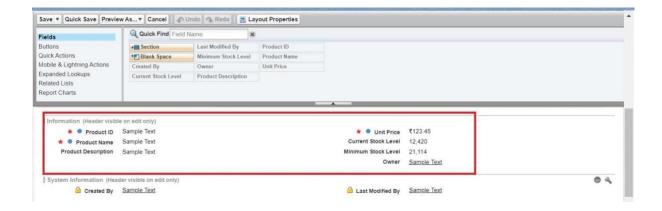
Expiry Date	Date

<b>Purchase Order</b>	Purchase Order ID(Standard)	Text
	Supplier ID	Lookup(Supplier)
	Order Date	Date
	Expected Delivery Date	Date
	Actual Delivery Date	Date
	Order Count	Roll-Up Summary (COUNT Order Item)
	Total Order Cost	Currency(16, 2)
Order Item	Order Item ID(Standard)	Text
	Product ID	Lookup(Product)
	Purchase Order ID	Master-Detail(Purchase Order)
	Quantity Ordered	Number(18, 0)
	Quantity Received	Number(18, 0)
	Unit Price	Formula(Currency)
	Amount	Formula(Currency)
Inventory Transaction	Transaction ID(Standard)	Text
	Purchase Order ID	Lookup(Purchase Order)

	Transaction Date	Date
	Transaction Type	Picklist
	Total Order Cost	Formula(Currency)
Supplier	Supplier ID(Standard)	Text
	Supplier Name	Text
	Contact Person	Text
	Phone Number	Phone
	Email	Email
	Address	TextArea

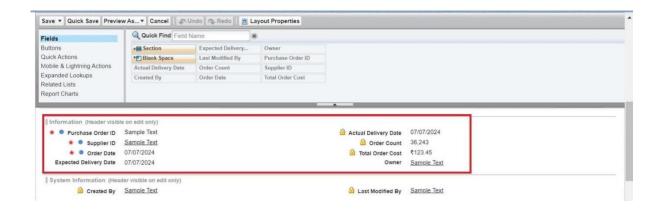
## 9.Edited a Page Layout in Product Object

- 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.

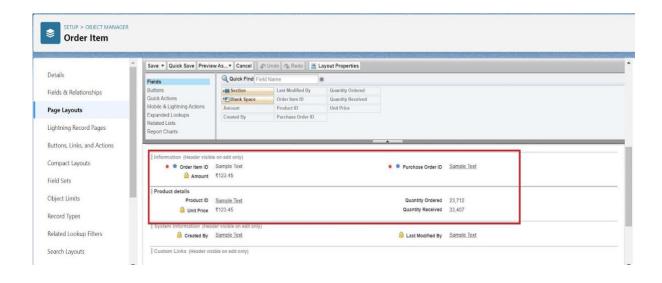


4. Click on Save.

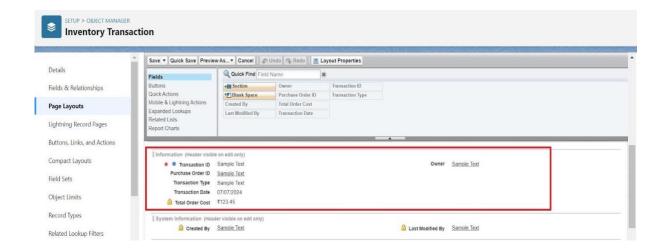
## 9.1Edited a Page Layout in Purchase Order Object



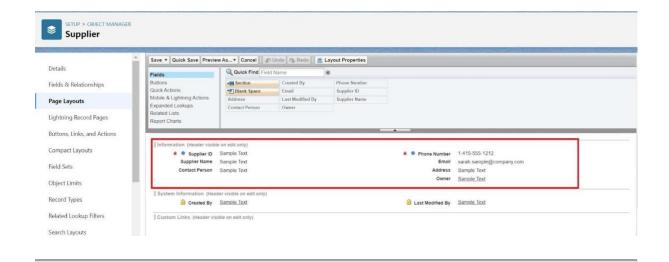
9.2Edited a Page Layout in Order Item Object



## 9.3Edited a Page Layout in Inventory Transaction Object

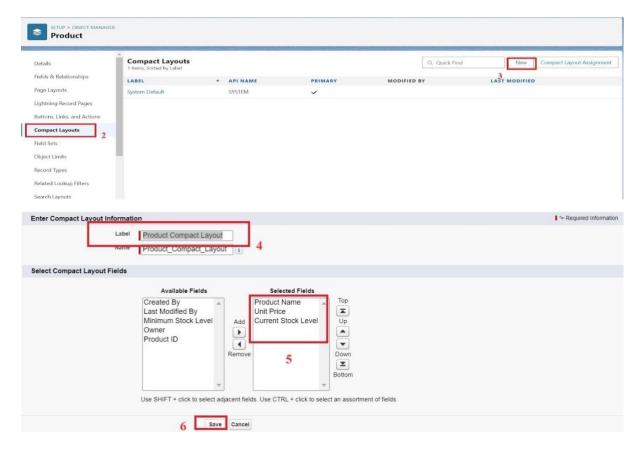


## 9.4Edited a Page Layout in Supplier Object



## 10. Created a Compact Layout to a Product Object

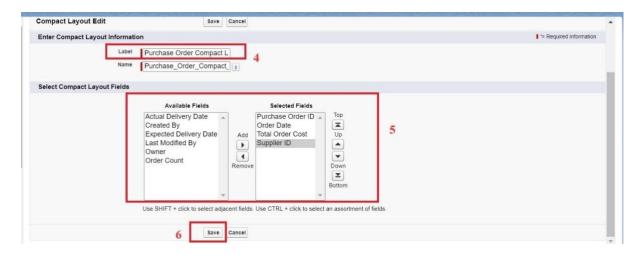
- 1. Go to setup >> click on Object Manager >> type object name(Product) in quick find box >> click on the Product object
- 2. Click on Compact Layouts in the sidebar.
- 3. Click on New.
- 4. Enter the Label as "Product Compact Layout".
- 5. Select the Compact Layout Fields: Select Product name, Unit 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.



## Product Compact Layouts Compact Layout Assignment



## 10.1Created a Compact Layout to a Purchase Order Object



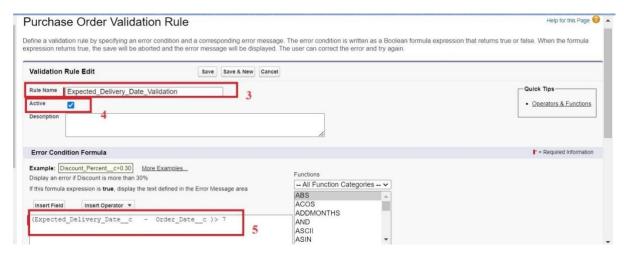
Purchase Order Compact Layouts
Compact Layout Assignment

	10 Save Cancel	
Primary Compact	Layout	
Select the compact lav	rout to use when this object's records appear as list items in the mobile app.	
Primary Compa	t Layout: Purchase Order Compact Layout ✓	
	Save	

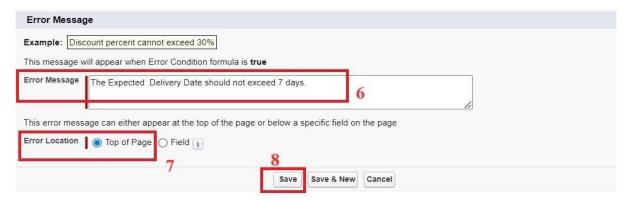
# 11.Create an Expected Delivery Date Validation rule to a Purchase Order Object

- 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 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:

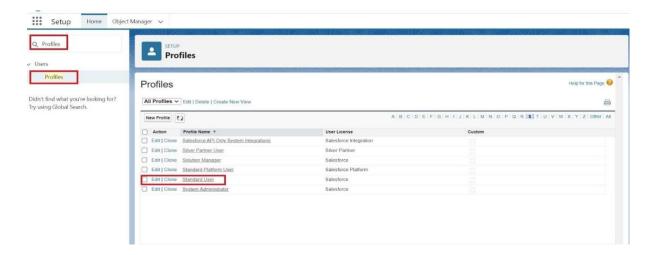
  (Expected Delivery Date c Order Date c)> 7



- 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.

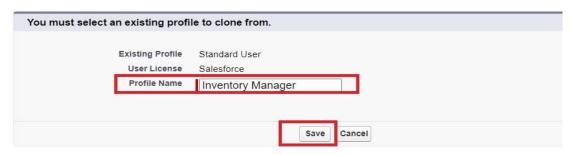


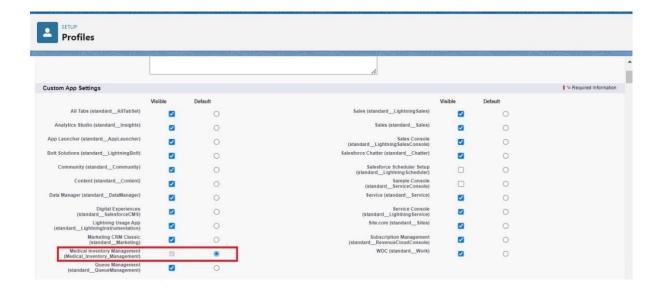
## 12. Created an Inventory Manager Profile



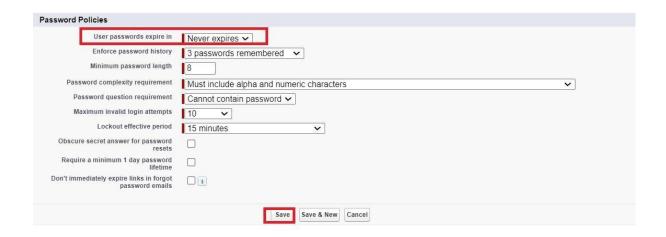
#### Clone Profile

Enter the name of the new profile.

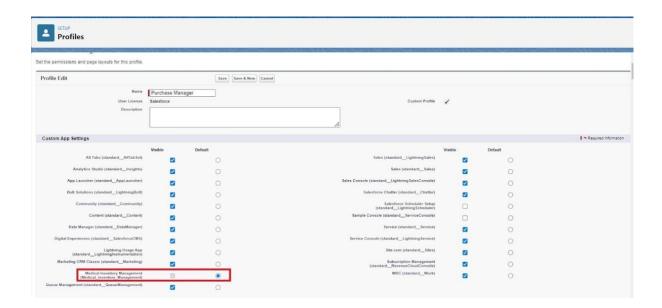






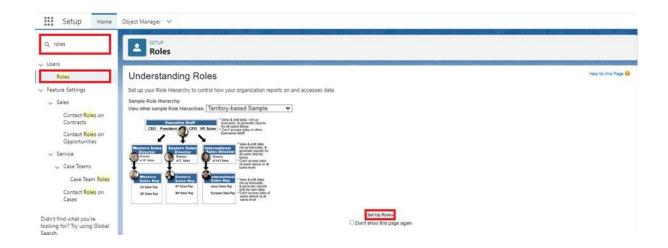


## 12.1Created an Purchase Manager Profile



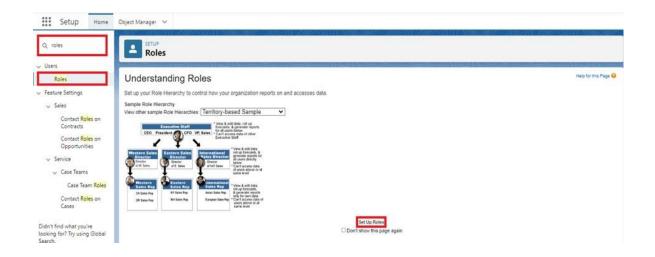


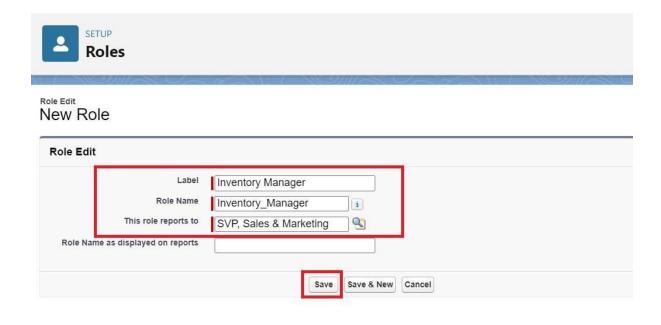
## 13. Created a Purchasing Manager Role.



SETUP Roles		
Role Edit		
New Role		
Role Edit		
1	abel Purchasing Manager	
Role	Purchasing_Manager	
This role rep	ts to SVP, Sales & Marketing	
Role Name as displayed on	iorts	
	Save Save & New Cancel	

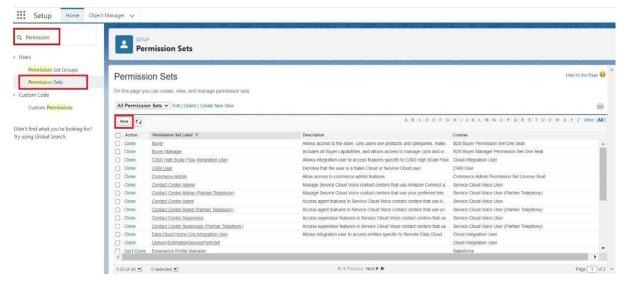
## 13.1Created a Inventory Manager Role.



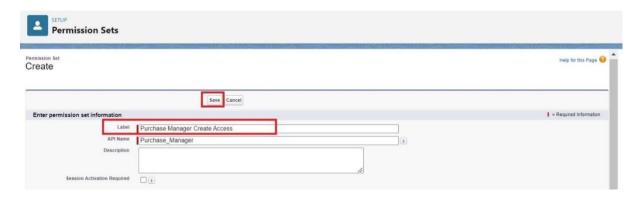


#### 14. Created a Permission Set.

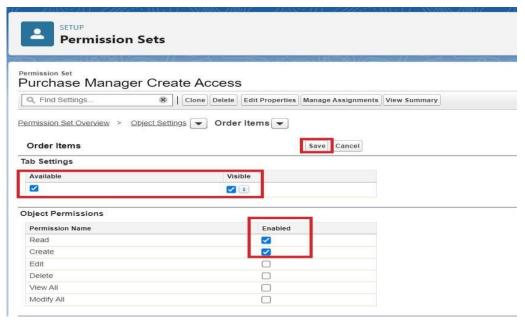
1. Go to setup >> type Permission in quick find box >> Select Permission Set >> click on New.



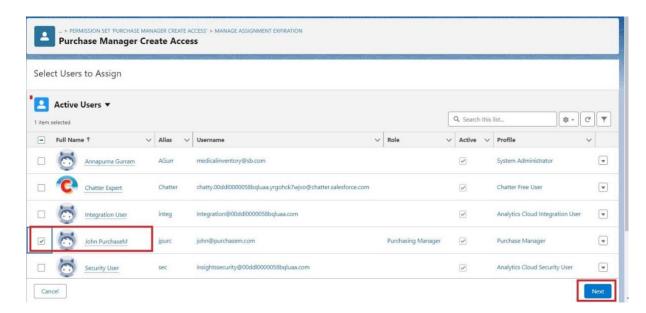
2. Enter Label as Purchase Manager Create Access >> Click on Save.



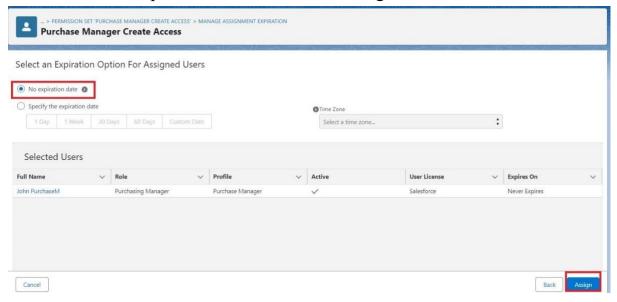
3. From Object Settings >> Select Order Item >> Enable for both Tab Available and Visible >> Enable Read and Create in Object Permissions >> Click on Save.



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.

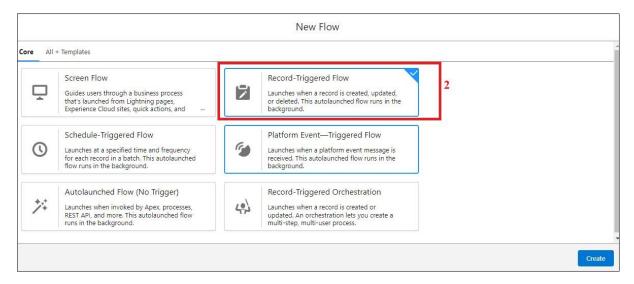


## 15.Created Flow to update the Actual Delivery Date.

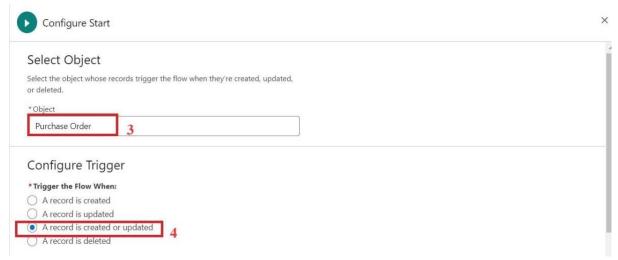
1. Go to setup >> type Flow in quick find box >> Click on the Flow and Select the New Flow >> Start From Scratch.



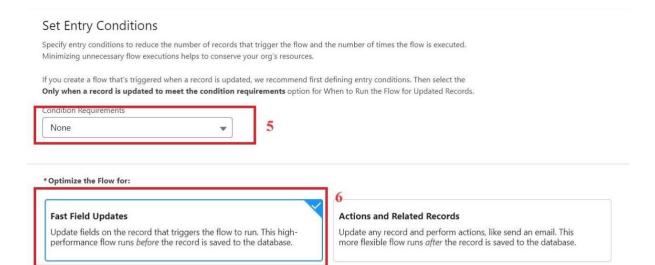
2. Select the record Triggered flow.Click on create.



- 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.

Include a Run Asynchronously path to access an external system after the original transaction for the triggering record is successfully committed

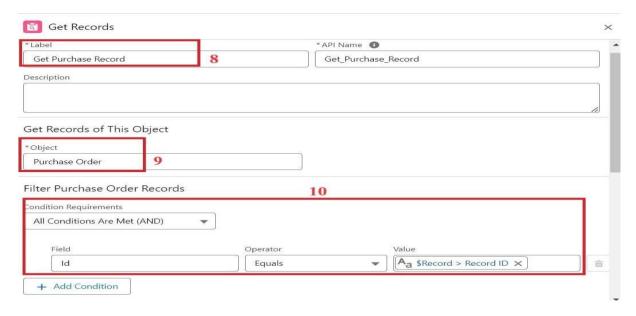
- 8. Enter Label as "Get Purchase Record".
- 9. For Object select Purchase Order.
- 10. For Condition Requirements, select All Conditions are Met(AND)

For the first condition select as follows:

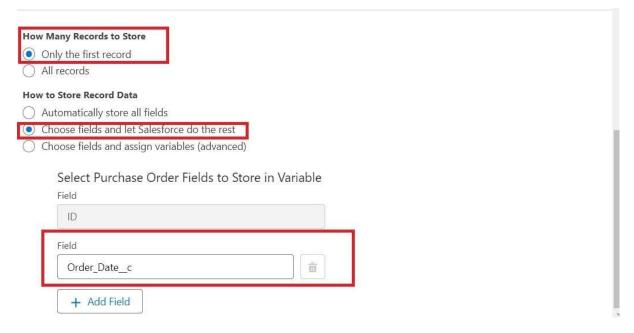
Field: Id

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 >> Click on New Resource >> In the Resource Type dropdown, select Variable.
- 14. Enter API name as ActualDeliveryDate >> Select Data type as Date >> Click on Done.
- 15. From the Toolbox drag and drop Assignment element.

- 16. Enter the label as "Assignment".
- 17. Set Variable Values:

a) Variable : {!ActualDeliveryDate}

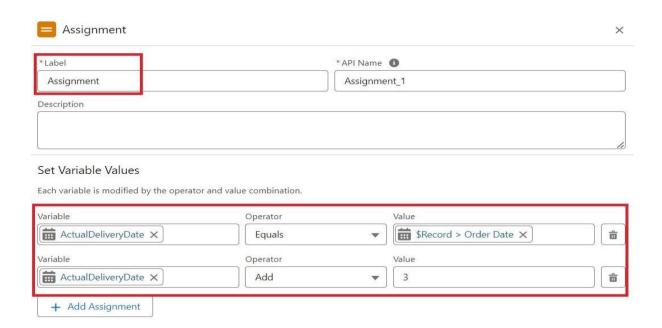
Operator: Equals

Value : {!\$Record.Order\_Date\_c}

b) Variable : {!ActualDeliveryDate}

Operator: Add

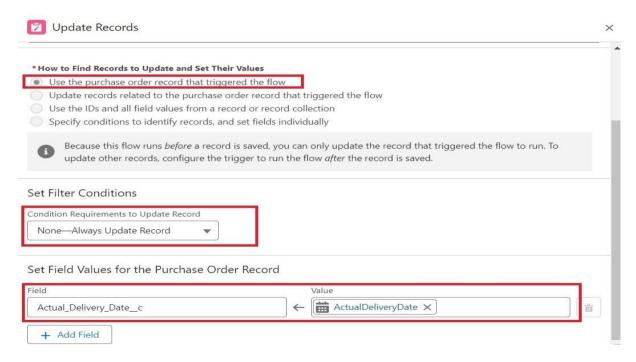
Value: 3



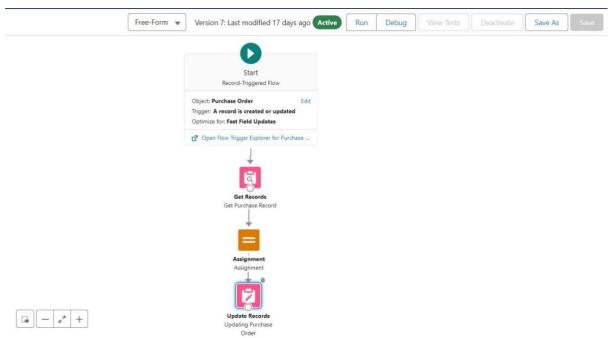
- 18. Click Done
- 19. From the Toolbox drag and drop Update Records element and connect to the Assignment element.
- 20. Enter the label as "Updating Purchasing Order".
- 21. How to Find Records to Update and Set Their Values: Use the Purchase Order record that triggered the flow
- 22. Set Filter Conditions: 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.



## 16. Created a Trigger to Calculate total amount on Order Item.

#### Step 1 : Login to Salesforce:

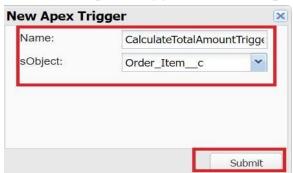
Log in to your Salesforce account with administrative privileges.

#### 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
  Calculate Total Amount Handler.calculate Total (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
                   for (Order Item c ordItem:
|| isDelete) {
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) total Amount
         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);
```

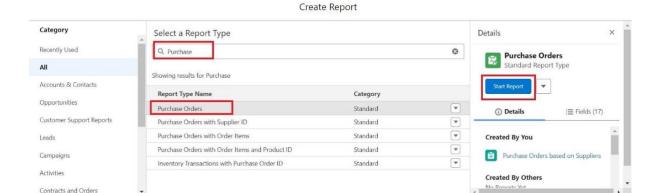
```
}
      // Prepare Purchase Order records for update
      List<Purchase Order c> purchaseToUpdate = new
List<Purchase Order c>();
                                  for (Id purchaseOrderId:
purchaseToUpdateMap.keySet()) {
         Purchase Order c purchaseOrder = new Purchase Order c(Id =
purchaseOrderId, Total Order cost c =
purchaseToUpdateMap.get(purchaseOrderId));
         purchaseToUpdate.add(purchaseOrder);
       }
      // Update Purchase Orders if there are any changes
if (!purchaseToUpdate.isEmpty()) {
                                           update
purchaseToUpdate;
       }
    }
```

## 17.Created a Purchase Orders based on Suppliers(Summary) Report

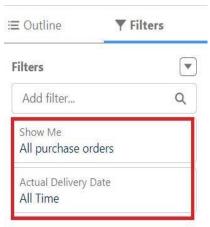
1. Click App Launcher

Save all.

- 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.



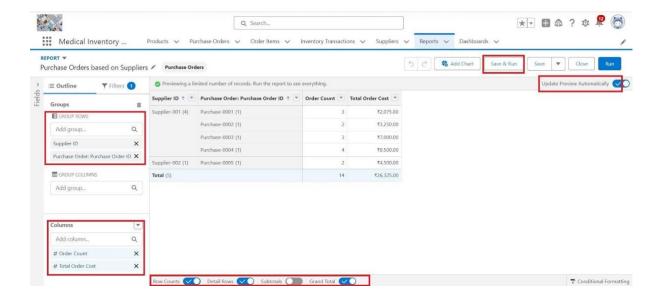
6. Click on Filters and select as follows and click on Apply



- 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

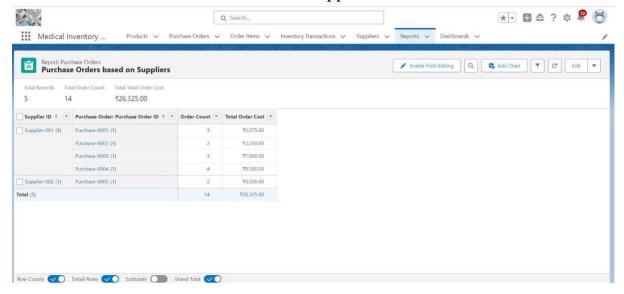
NOTE: In this report you can see your all record of the object you selected for reporting

(What you selects in "Select a report type option")



#### View Report

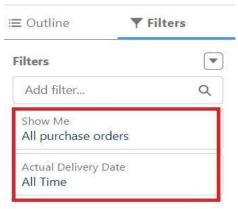
- 1. Click on App Launcher on the left side of the screen.
- 2. Search Medical Inventory Management App & click on it.
- 3. Click on Reports Tab.
- 4. Click on Purchase Orders based on Suppliers and see records.



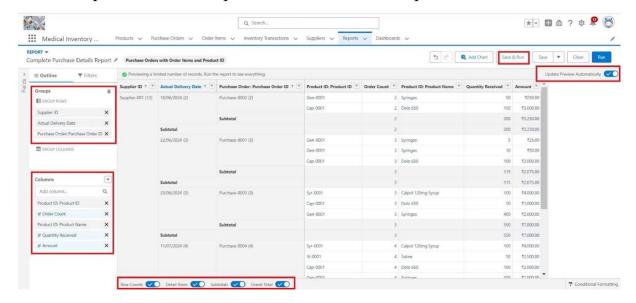
## 17.1Created a Complete Purchase Details Report

- 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

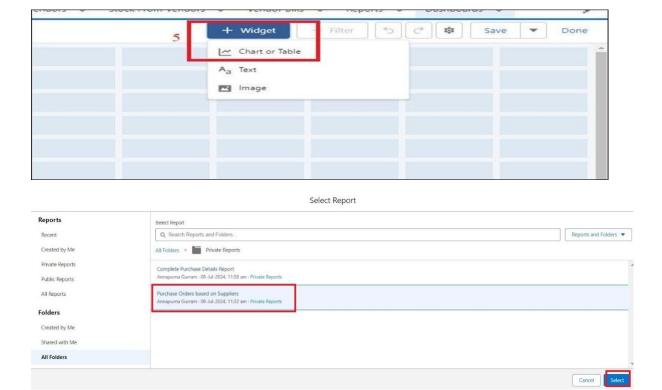


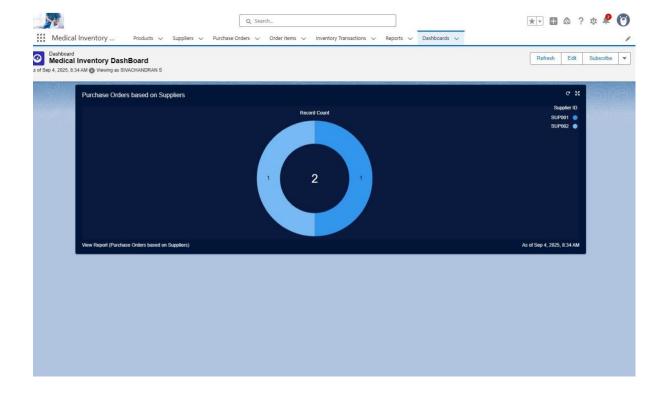
- 7. Customize your report, in group rows select Supplier ID, Actual Delivery Date, Purchase Order: Purchase Order ID, for columns Product ID: Product ID, Product ID: Product Name, Order Count, Quantity Received, Amount (In this way we are making a Summary Report).
- 8. Click save and run
- 9. Give report name Complete Purchase Details Report 10. Click Save



#### 18. Created 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.

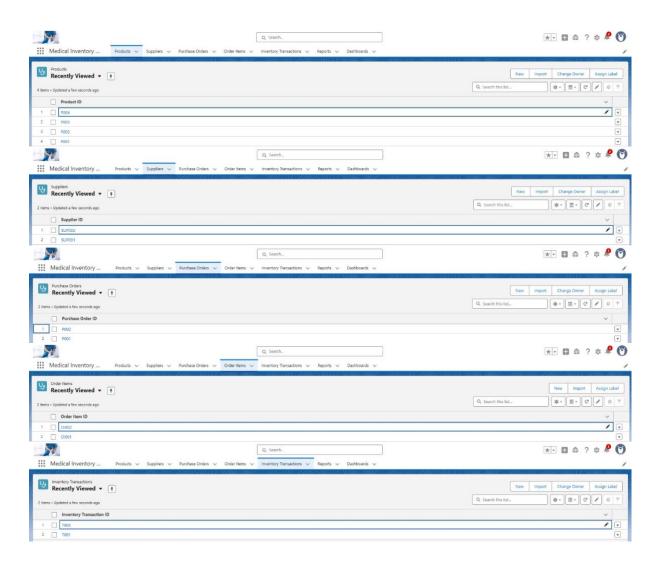


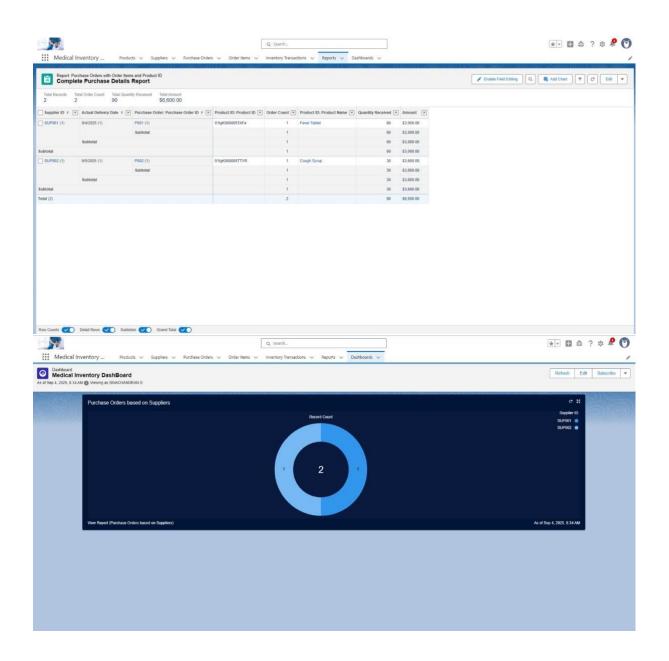


## 19. Testing Approach

To ensure the app works as intended:

- **Step 1:** Created sample suppliers, products, purchase orders, and transactions.
- Step 2: Verified validations by entering incorrect data.
- Step 3: Checked automation by adding inbound transactions to see if stock updated correctly.
- Step 4: Reviewed reports and dashboards to ensure accurate totals.





### 20. Conclusion

The **Medical Inventory Management System** successfully demonstrates how Salesforce can be used to manage medical products, suppliers, and stock efficiently.

By using custom objects, validation rules, flows, reports, and dashboards, the application provides a complete solution for inventory management with realtime tracking and analytics.