

MEDICAL INVENTORY

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COLLEGE CODE: BRU26

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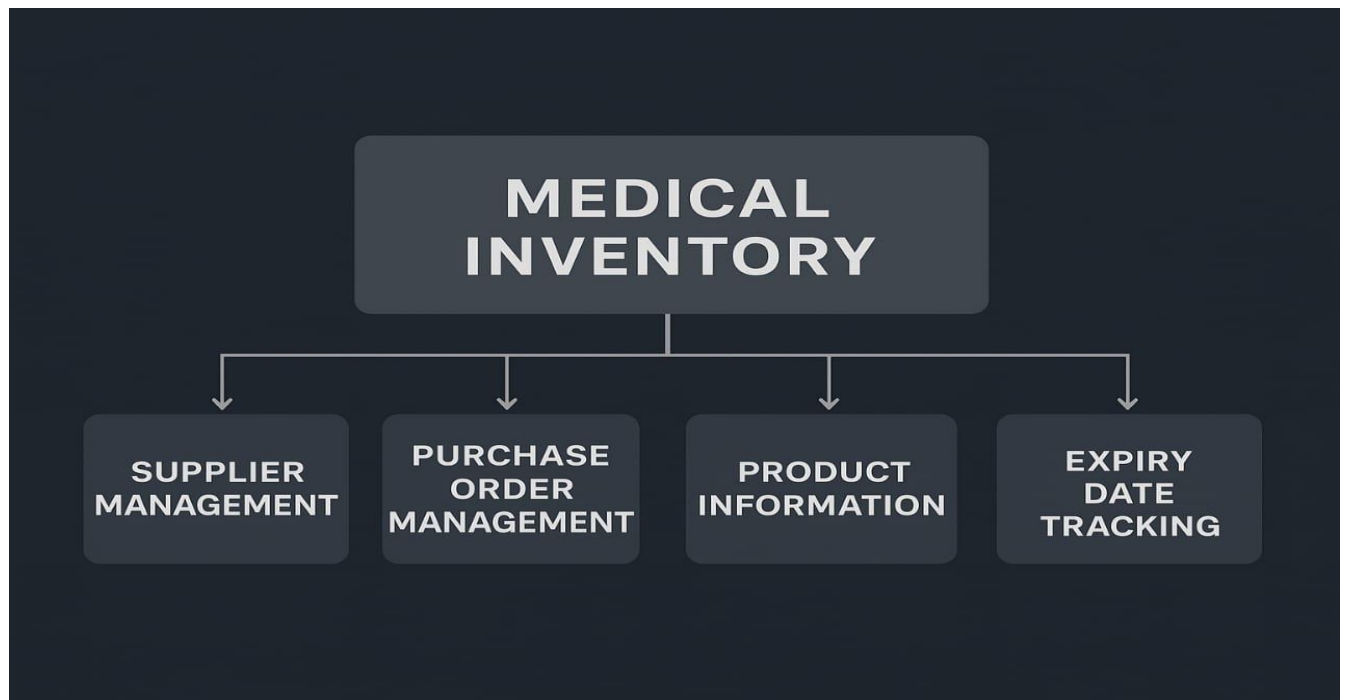
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1.INTRODUCTION

1.1 Project Overview

The Medical Inventory Management System is a comprehensive Salesforce application designed to streamline and manage various operational aspects of the medical inventory. It can efficiently maintain supplier details, manage purchase orders, track product details and transactions, and monitor expiry dates of products, thereby improving operational efficiency, data accuracy, and reporting capabilities.



1.2 Purpose

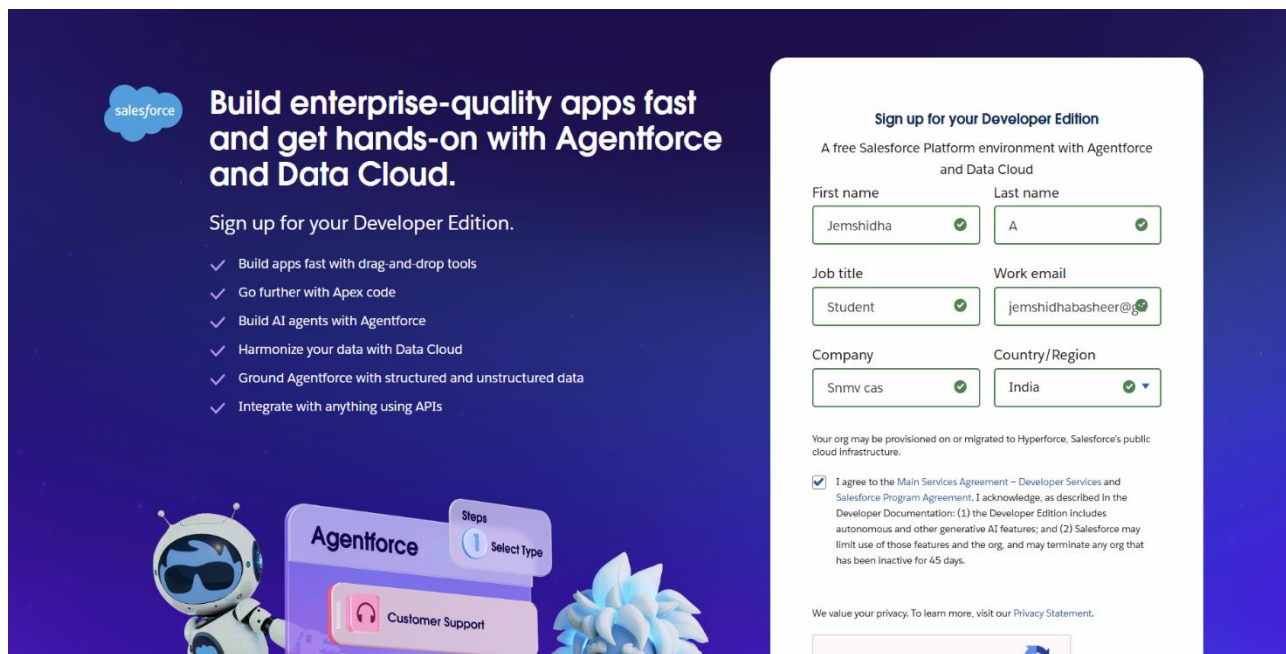
This project is a comprehensive Salesforce application to streamline and manage various operational aspects of medical inventory. The system aims to efficiently maintain supplier details, manage purchase orders, track product details and transactions, and

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.

DEVELOPMENT PHASE

Creating Developer Account:

By using this URL - <https://developer.salesforce.com/signup>



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First name: Jemshidha ✓ Last name: A ✓

Job title: Student ✓ Work email: jemshidhasheer@5 ✓

Company: Snmv cas ✓ Country/Region: India ✓

Your org may be provisioned on or migrated to Hyperforce, Salesforce's public cloud infrastructure.

☒ I agree to the Main Services Agreement - Developer Services and Salesforce Program Agreement. I acknowledge, as described in the Developer Documentation: (1) the Developer Edition includes autonomous and other generative AI features; and (2) Salesforce may limit use of those features and the org, and may terminate any org that has been inactive for 45 days.

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OBJECT:

Created Objects:

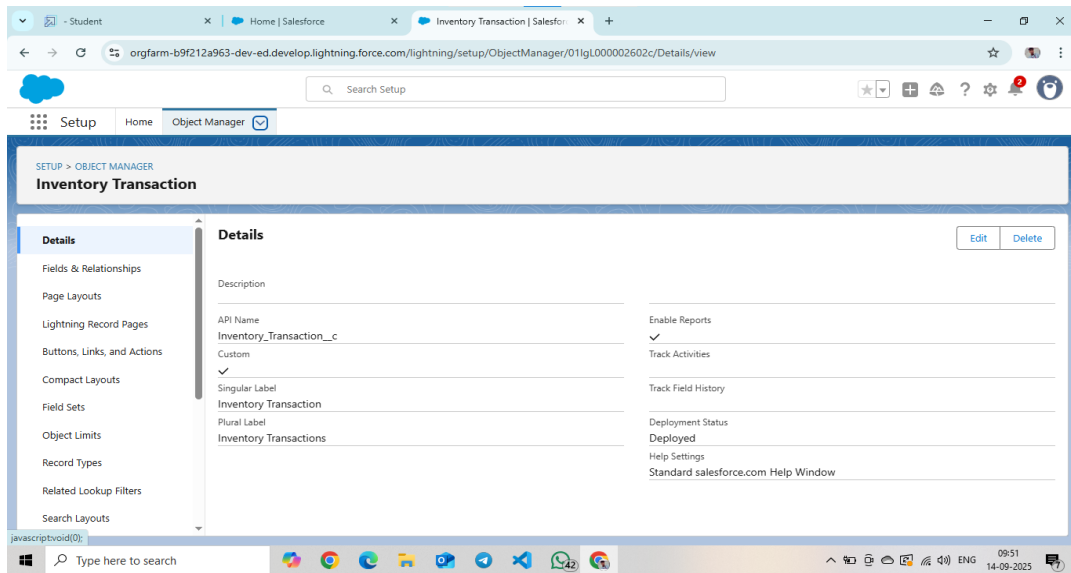
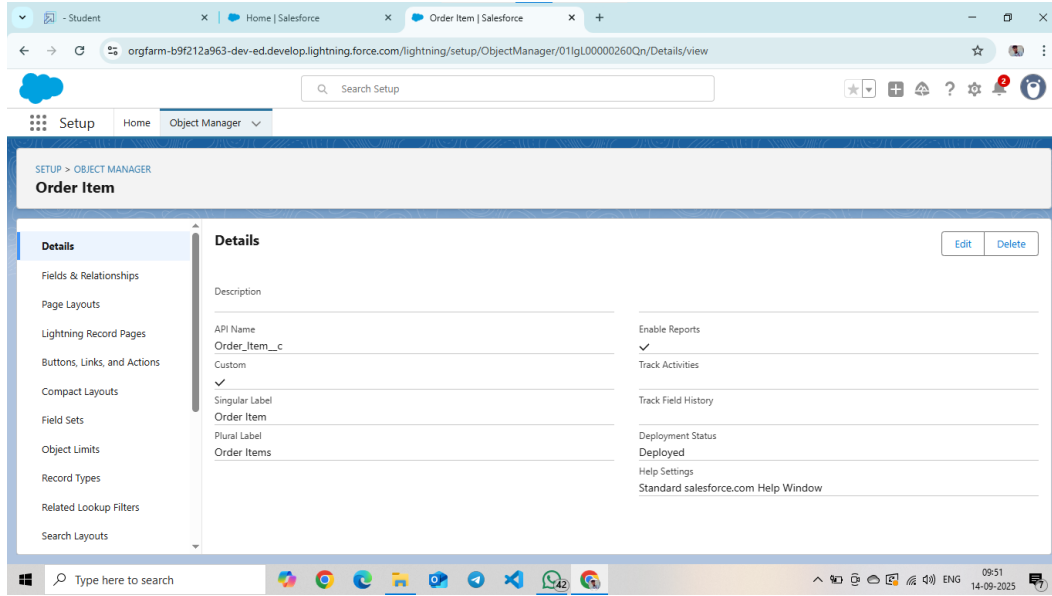
- ✓ **Product**
- ✓ **Purchase Order**
- ✓ **Order Item**
- ✓ **Inventory Transaction**
- ✓ **Supplier**

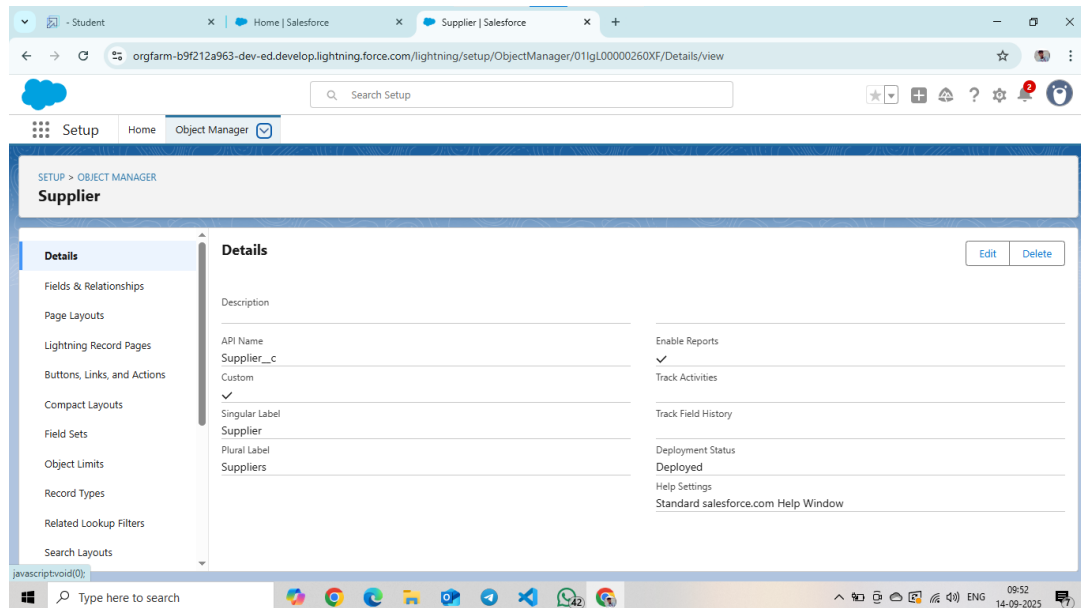
Screenshot of the Salesforce Setup page for the 'Product' object. The browser address bar shows the URL: `orgfarm-b9f212a963-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01lgL0000025zrJ/Details/view`. The page title is 'Product'. The left sidebar shows the 'Details' section selected. The main content area displays the following details:

Field	Value
Description	
API Name	Product__c
Custom	✓
Singular Label	Product
Plural Label	Products
Enable Reports	✓
Track Activities	
Track Field History	
Deployment Status	Deployed
Help Settings	Standard salesforce.com Help Window

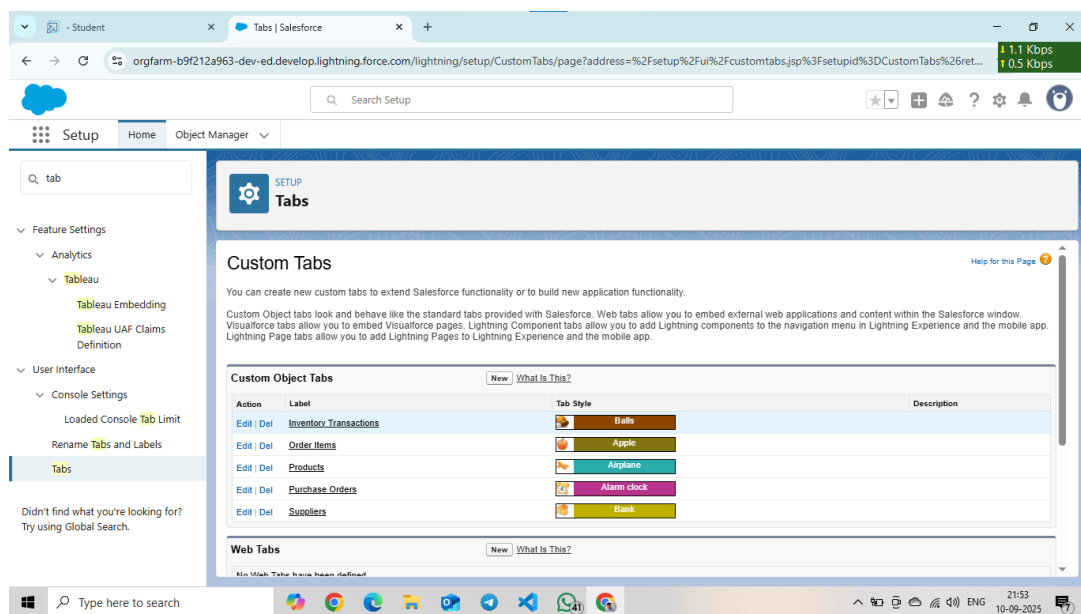
Screenshot of the Salesforce Setup page for the 'Purchase Order' object. The browser address bar shows the URL: `orgfarm-b9f212a963-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01lgL00000260H7/Details/view`. The page title is 'Purchase Order'. The left sidebar shows the 'Details' section selected. The main content area displays the following details:

Field	Value
Description	
API Name	Purchase_Order__c
Custom	✓
Singular Label	Purchase Order
Plural Label	Purchase Orders
Enable Reports	✓
Track Activities	
Track Field History	
Deployment Status	Deployed
Help Settings	Standard salesforce.com Help Window

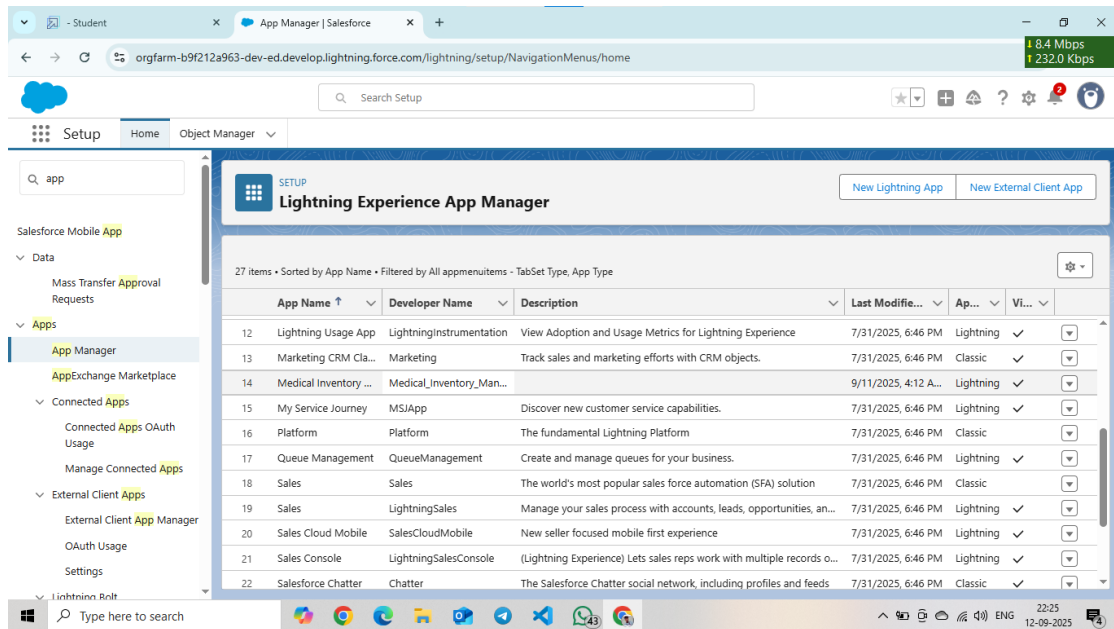




Created Tabs:

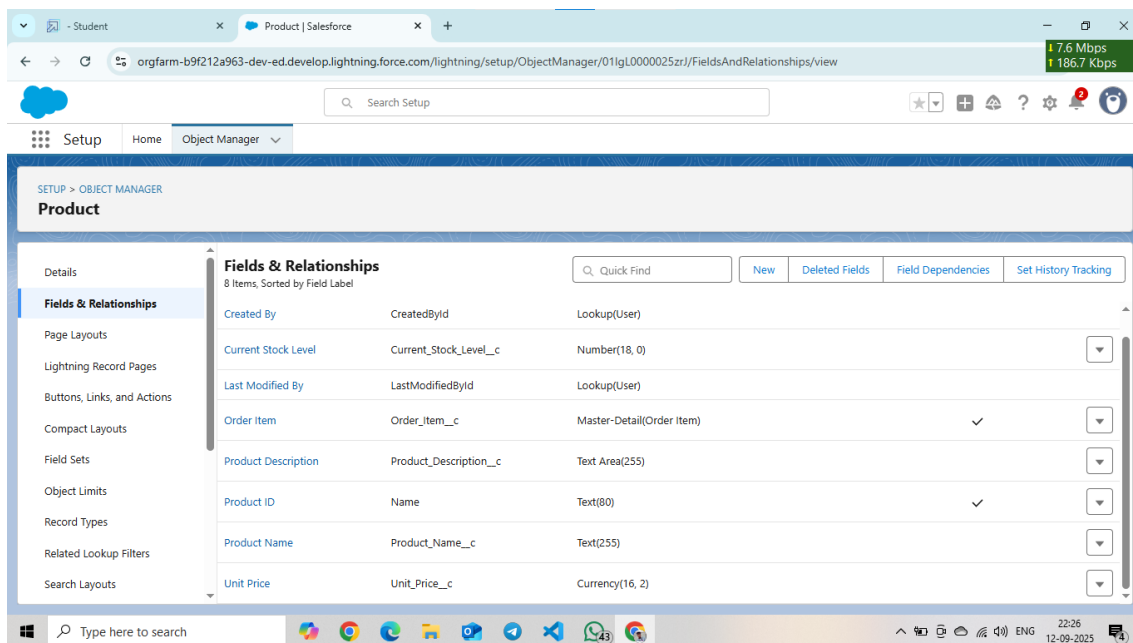


Created a Lightning App

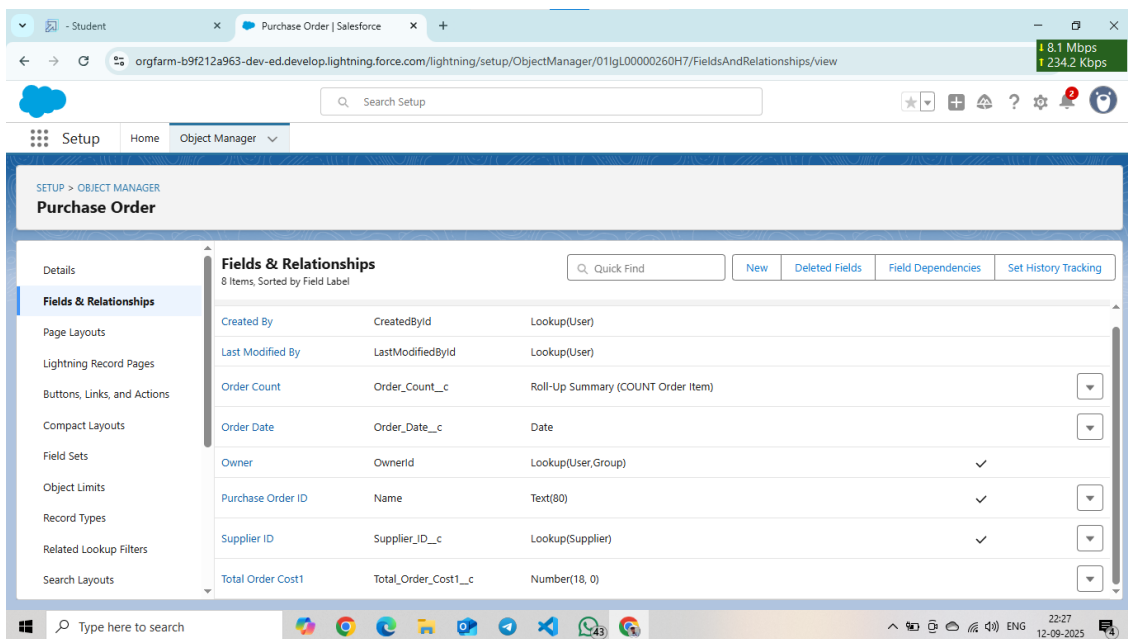


FIELDS:

Creation of fields for the Product object:



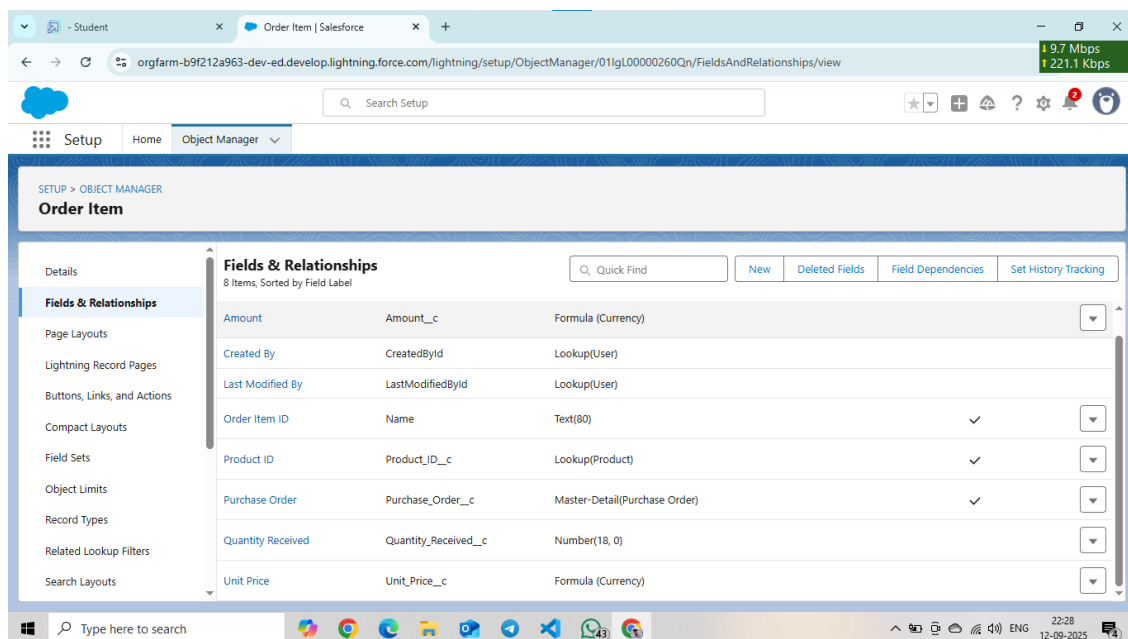
Creation of fields for the Purchase Order object



The screenshot shows the Salesforce Setup interface for the Purchase Order object. The left sidebar contains a navigation menu with options: Details, Fields & Relationships (selected), Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, and Search Layouts. The main content area is titled 'Purchase Order' and displays the 'Fields & Relationships' section. It shows 8 items, sorted by Field Label. The fields are listed in a table with columns for Field Label, Field Name, and Field Type. The fields are: Created By (CreatedById, Lookup(User)), Last Modified By (LastModifiedById, Lookup(User)), Order Count (Order_Count__c, Roll-Up Summary (COUNT Order Item)), Order Date (Order_Date__c, Date), Owner (Ownerid, Lookup(User,Group)), Purchase Order ID (Name, Text(80)), Supplier ID (Supplier_ID__c, Lookup(Supplier)), and Total Order Cost1 (Total_Order_Cost1__c, Number(18, 0)).

Field Label	Field Name	Field Type
Created By	CreatedById	Lookup(User)
Last Modified By	LastModifiedById	Lookup(User)
Order Count	Order_Count__c	Roll-Up Summary (COUNT Order Item)
Order Date	Order_Date__c	Date
Owner	Ownerid	Lookup(User,Group)
Purchase Order ID	Name	Text(80)
Supplier ID	Supplier_ID__c	Lookup(Supplier)
Total Order Cost1	Total_Order_Cost1__c	Number(18, 0)

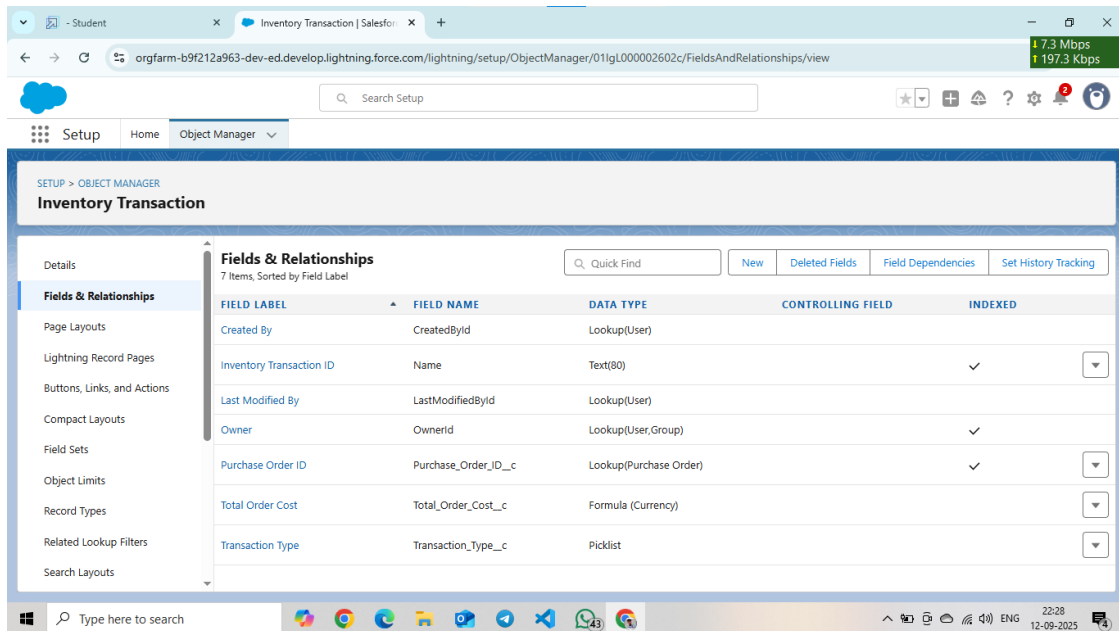
Creation of fields for the Order Item object



The screenshot shows the Salesforce Setup interface for the Order Item object. The left sidebar contains a navigation menu with options: Details, Fields & Relationships (selected), Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, and Search Layouts. The main content area is titled 'Order Item' and displays the 'Fields & Relationships' section. It shows 8 items, sorted by Field Label. The fields are listed in a table with columns for Field Label, Field Name, and Field Type. The fields are: Amount (Amount__c, Formula (Currency)), Created By (CreatedById, Lookup(User)), Last Modified By (LastModifiedById, Lookup(User)), Order Item ID (Name, Text(80)), Product ID (Product_ID__c, Lookup(Product)), Purchase Order (Purchase_Order__c, Master-Detail(Purchase Order)), Quantity Received (Quantity_Received__c, Number(18, 0)), and Unit Price (Unit_Price__c, Formula (Currency)).

Field Label	Field Name	Field Type
Amount	Amount__c	Formula (Currency)
Created By	CreatedById	Lookup(User)
Last Modified By	LastModifiedById	Lookup(User)
Order Item ID	Name	Text(80)
Product ID	Product_ID__c	Lookup(Product)
Purchase Order	Purchase_Order__c	Master-Detail(Purchase Order)
Quantity Received	Quantity_Received__c	Number(18, 0)
Unit Price	Unit_Price__c	Formula (Currency)

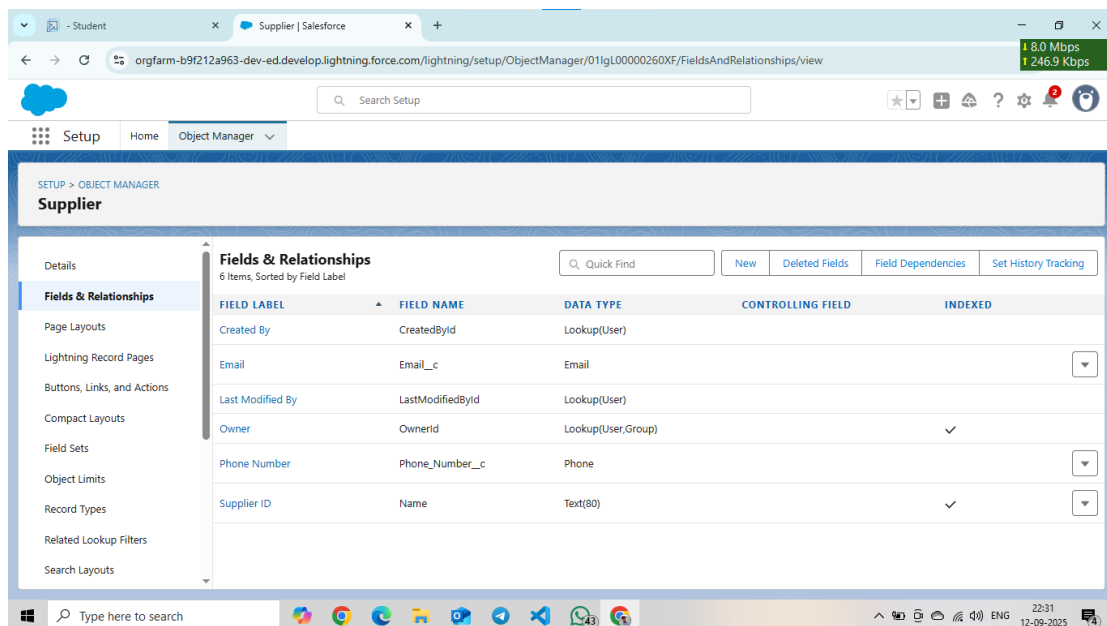
Creation of fields for the Inventory Transaction Object



The screenshot shows the Salesforce Object Manager interface for the 'Inventory Transaction' object. The 'Fields & Relationships' section is active, displaying a table of 7 fields. The table has columns for FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields are: Created By (Lookup(User)), Inventory Transaction ID (Text(80)), Last Modified By (Lookup(User)), Owner (Lookup(User,Group)), Purchase Order ID (Lookup(Purchase Order)), Total Order Cost (Formula (Currency)), and Transaction Type (Picklist).

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

Creation of fields for the Supplier object



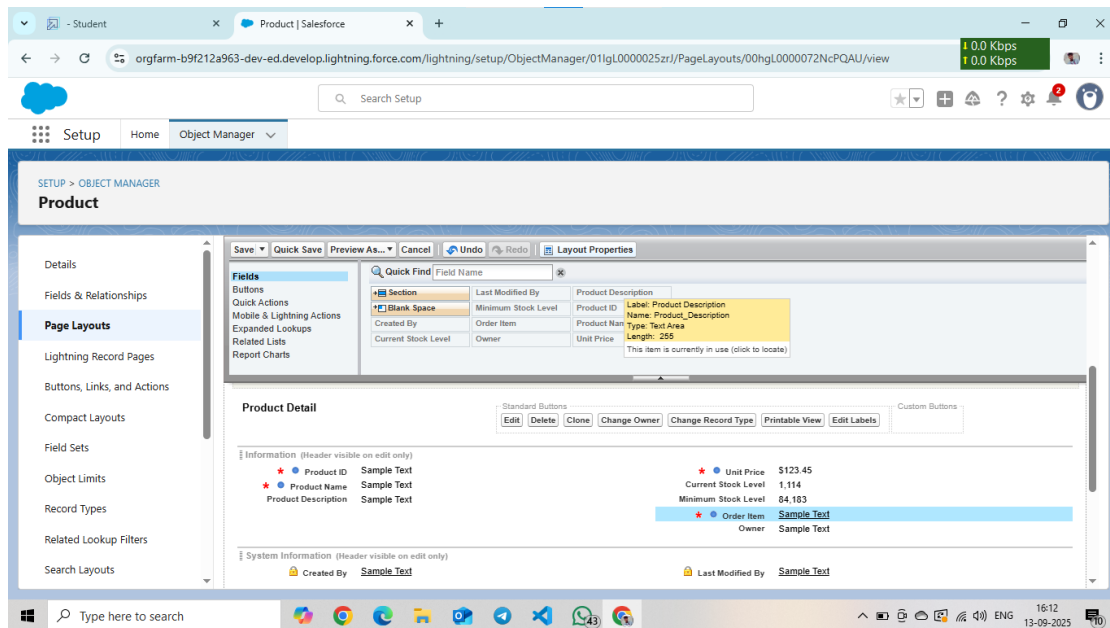
The screenshot shows the Salesforce Object Manager interface for the 'Supplier' object. The 'Fields & Relationships' section is active, displaying a table of 6 fields. The table has columns for FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields are: Created By (Lookup(User)), Email (Email), Last Modified By (Lookup(User)), Owner (Lookup(User,Group)), Phone Number (Phone), and Supplier ID (Text(80)).

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
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)		✓

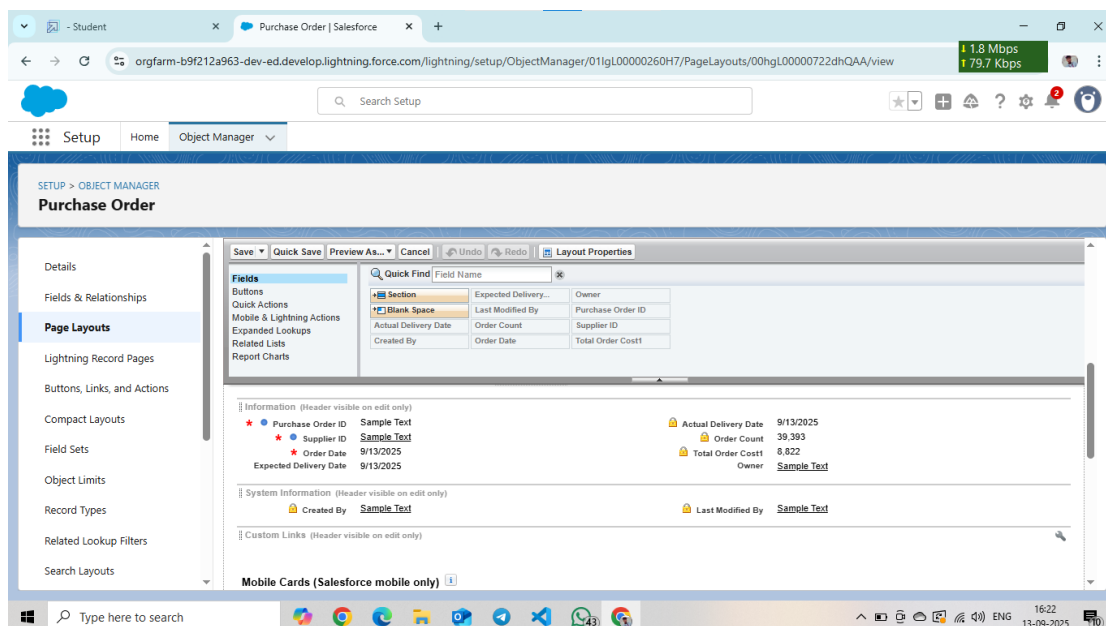
Page Layouts;

Editing of Page Layouts:

Editing of Page Layout for the Product object



Editing of Page Layout for the Purchase Order object



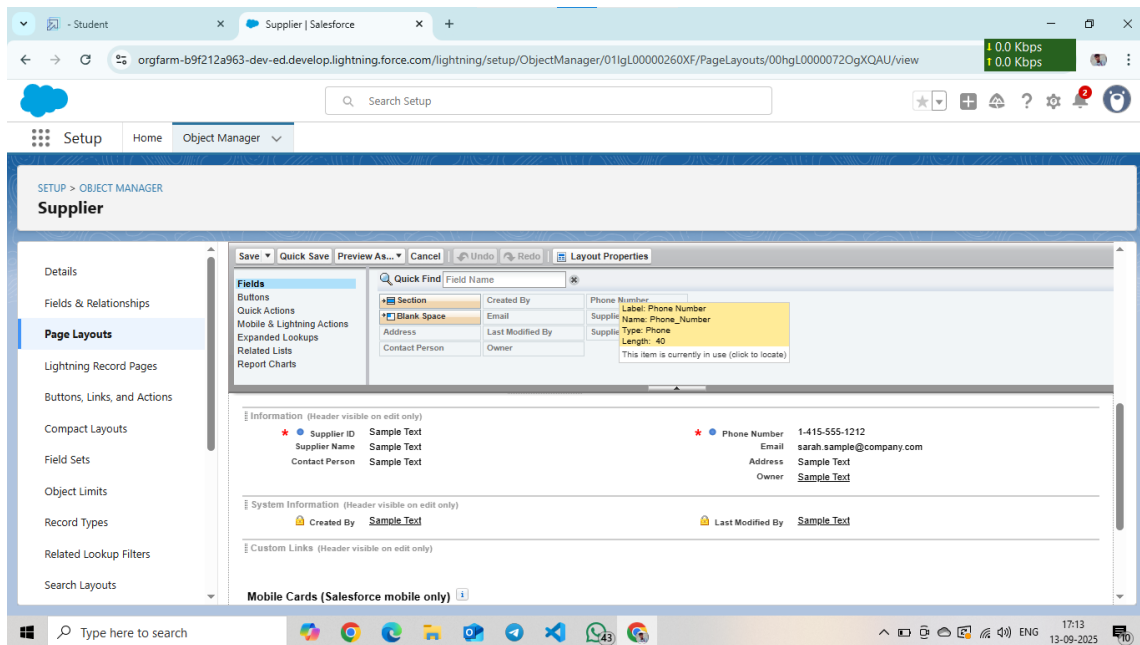
Editing of Page Layout for the Order Item object

The screenshot shows the Salesforce Setup interface for editing the page layout of the Order Item object. The left sidebar contains a navigation menu with options like Details, Fields & Relationships, Page Layouts (selected), Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, and Search Layouts. The main content area displays the 'Order Item Detail' page layout. At the top, there are tabs for 'Save', 'Quick Save', 'Preview As...', 'Cancel', 'Undo', and 'Redo', along with a 'Layout Properties' button. Below these tabs is a 'Quick Find' search bar and a list of fields to be added to the layout, including 'Section', 'Blank Space', 'Amount', 'Created By', 'Last Modified By', 'Order Item ID', 'Product ID', 'Purchase Order', 'Quantity Ordered', 'Quantity Received', and 'Unit Price'. The layout itself is divided into three main sections: 'Information (Header visible on edit only)' containing 'Order Item ID' and 'Amount', 'Product details' containing 'Product ID' and 'Unit Price', and 'System Information (Header visible on edit only)' containing 'Created By' and 'Last Modified By'. The right side of the layout shows a preview of the page with fields like 'Purchase Order', 'Sample Text', 'Quantity Ordered', 'Quantity Received', and 'Unit Price'.

Editing of Page Layout for the Inventory Transaction object

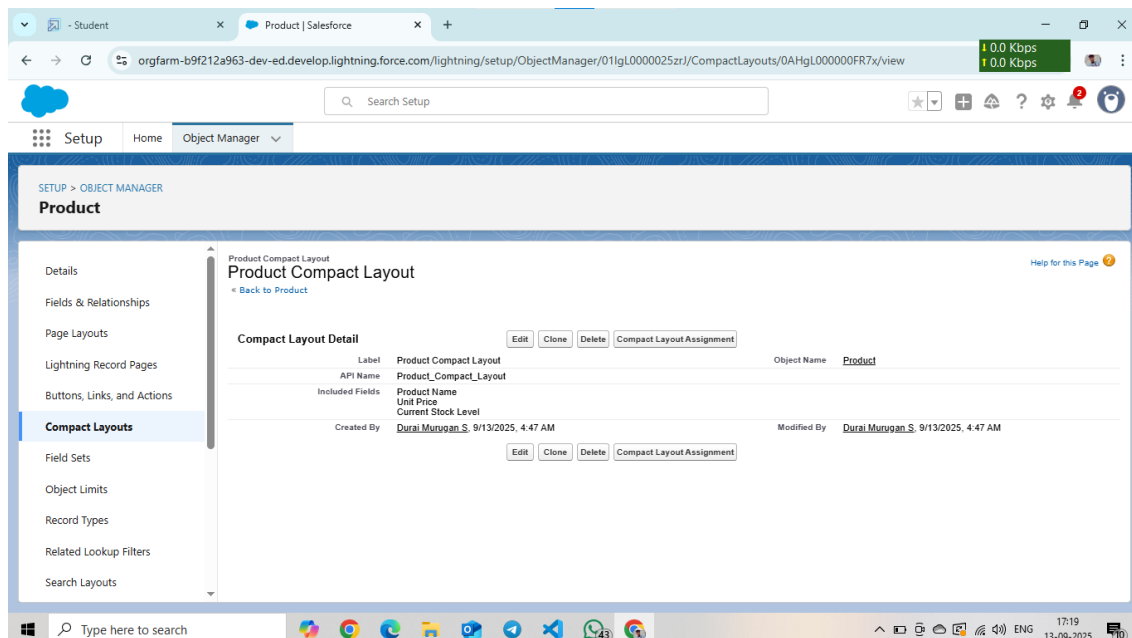
The screenshot shows the Salesforce Setup interface for editing the page layout of the Inventory Transaction object. The left sidebar contains a navigation menu with options like Details, Fields & Relationships, Page Layouts (selected), Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, and Search Layouts. The main content area displays the 'Inventory Transaction' page layout. At the top, there are tabs for 'Save', 'Quick Save', 'Preview As...', 'Cancel', 'Undo', and 'Redo', along with a 'Layout Properties' button. Below these tabs is a 'Quick Find' search bar and a list of fields to be added to the layout, including 'Section', 'Blank Space', 'Owner', 'Transaction Date', 'Purchase Order ID', 'Transaction ID', 'Transaction Type', 'Total Order Cost', 'Created By', and 'Last Modified By'. The layout itself is divided into three main sections: 'Information (Header visible on edit only)' containing 'Transaction ID', 'Purchase Order ID', 'Transaction Date', and 'Total Order Cost', 'System Information (Header visible on edit only)' containing 'Created By' and 'Last Modified By', and 'Custom Links (Header visible on edit only)'. The right side of the layout shows a preview of the page with fields like 'Owner', 'Sample Text', 'Transaction Date', 'Transaction ID', 'Transaction Type', 'Total Order Cost', 'Created By', and 'Last Modified By'.

Editing of Page Layout for the Supplier object

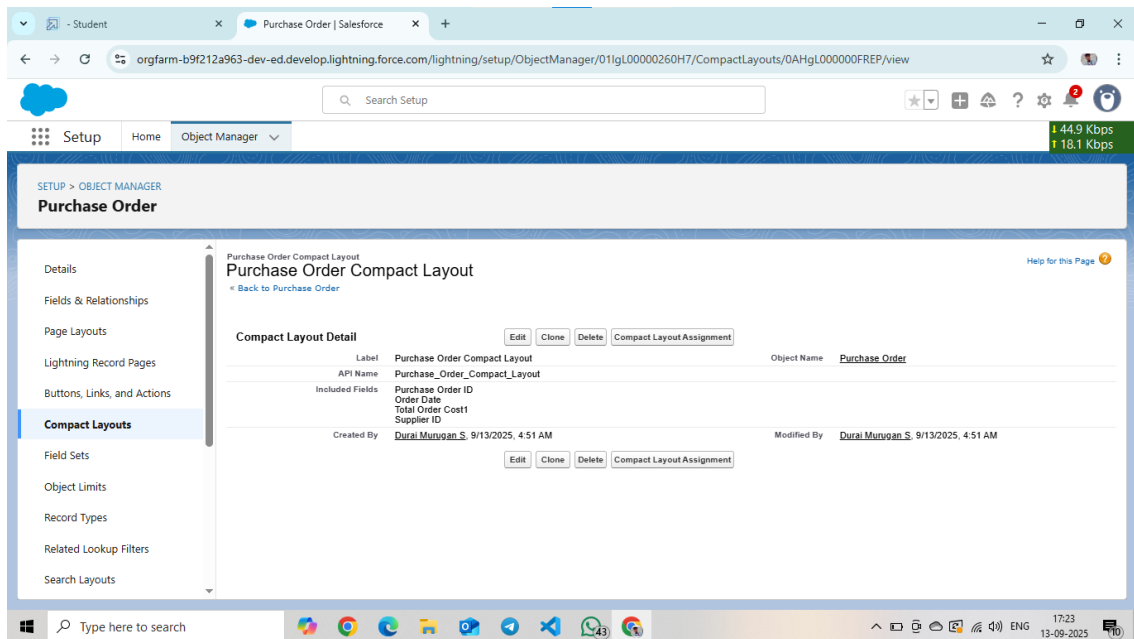


Compact Layouts

Created a Compact Layout for the Product Object

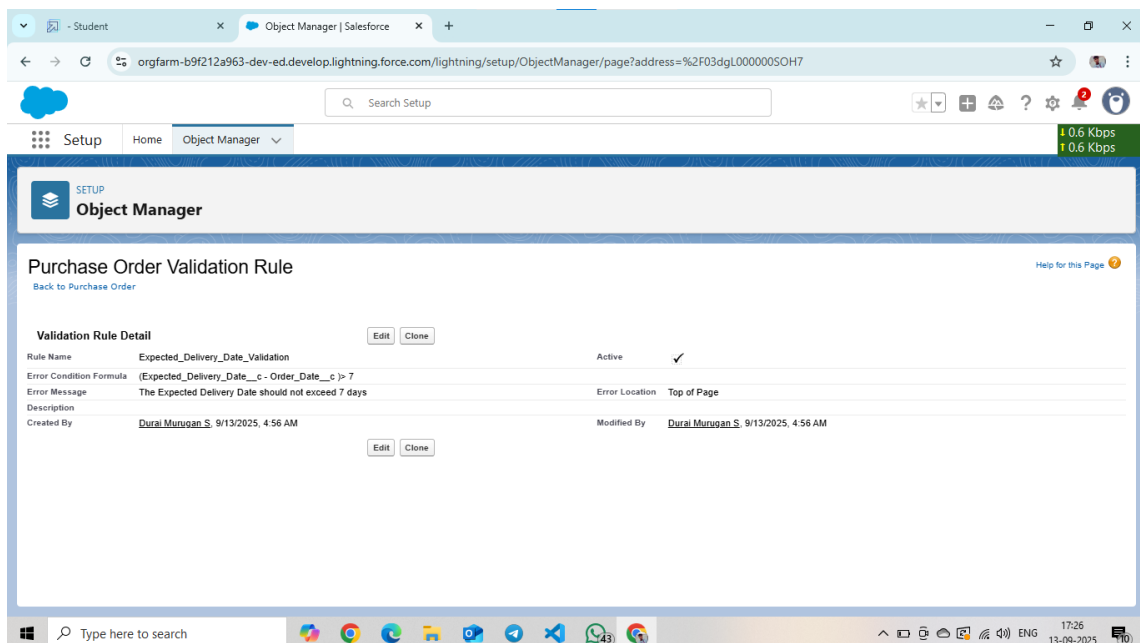


Created a Compact Layout for the Purchase Order Object



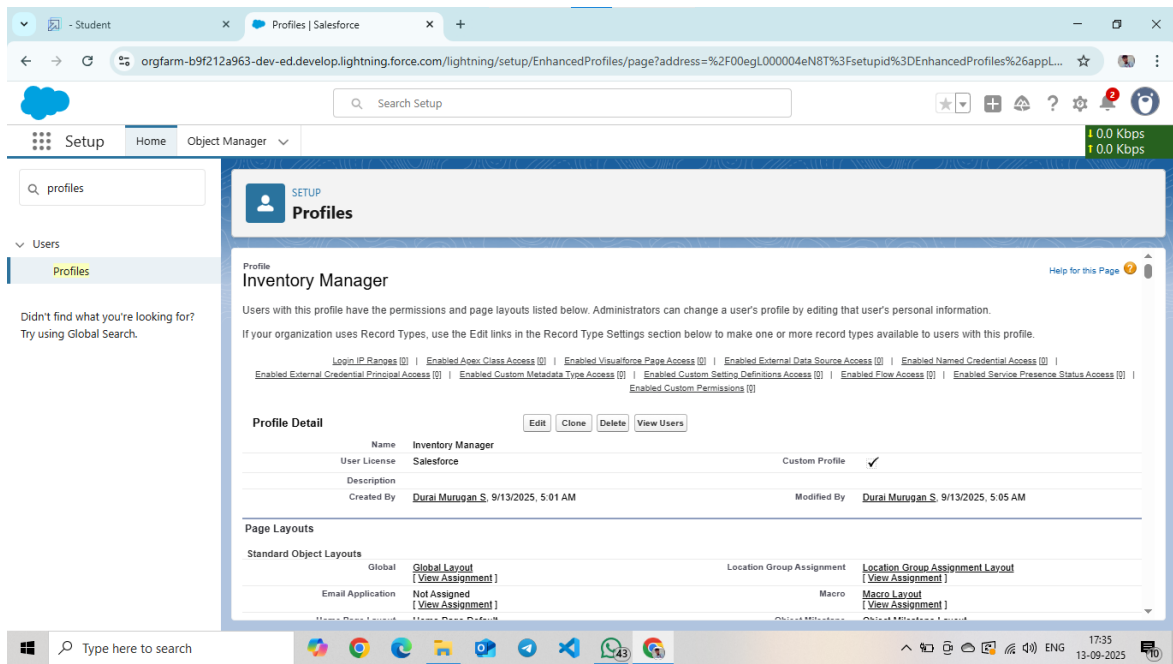
Validation Rules

Created an Expected Delivery Date Validation rule to an Employee Object

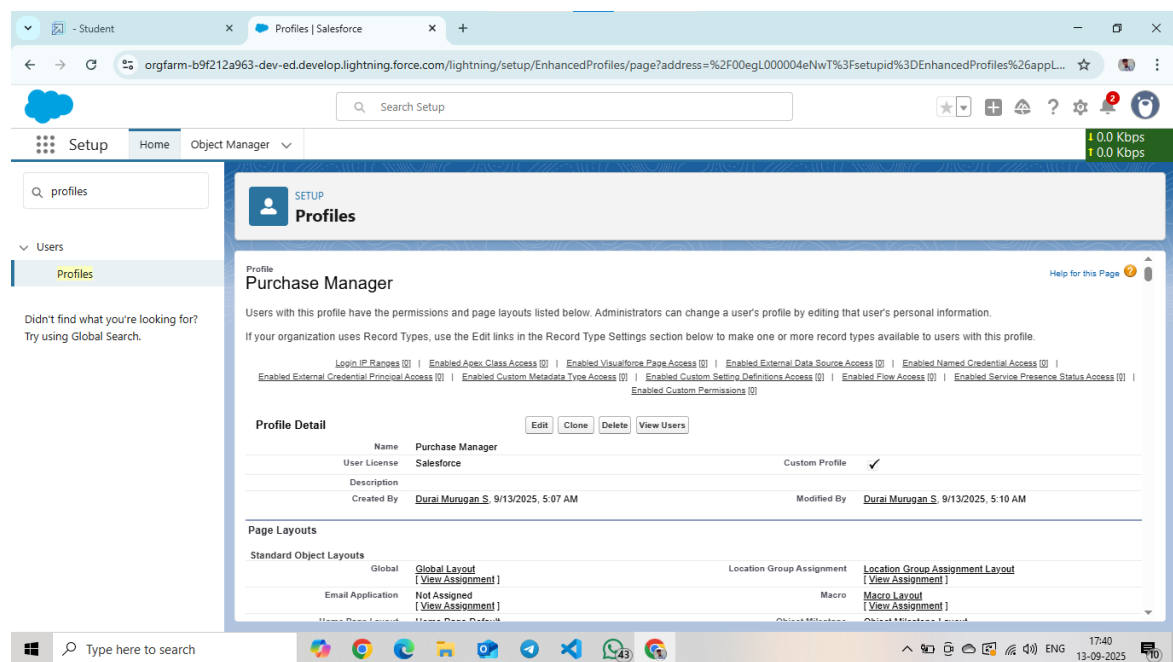


Profiles

Created an Inventory Manager Profile

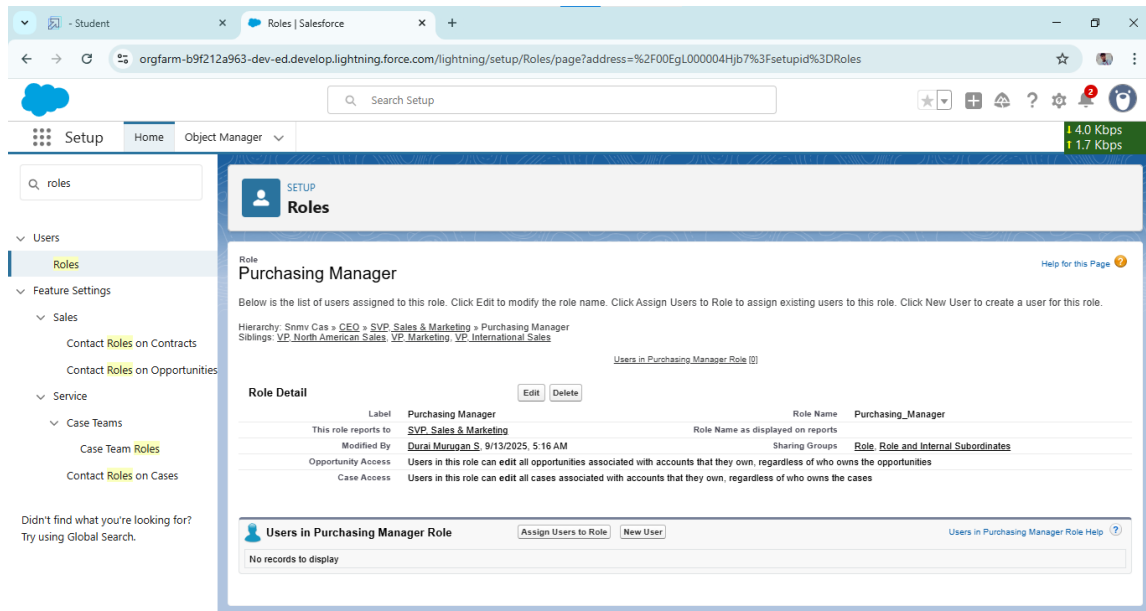


Created a Purchase Manager Profile

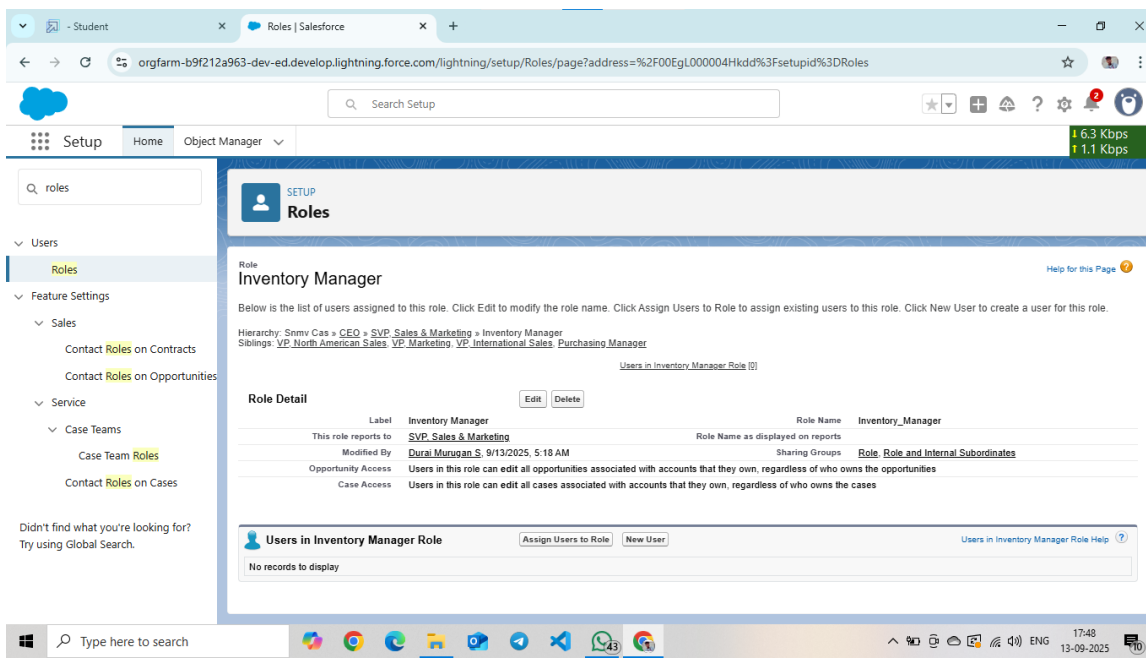


Roles

Created a Purchasing Manager Role (Purchasing Manager)

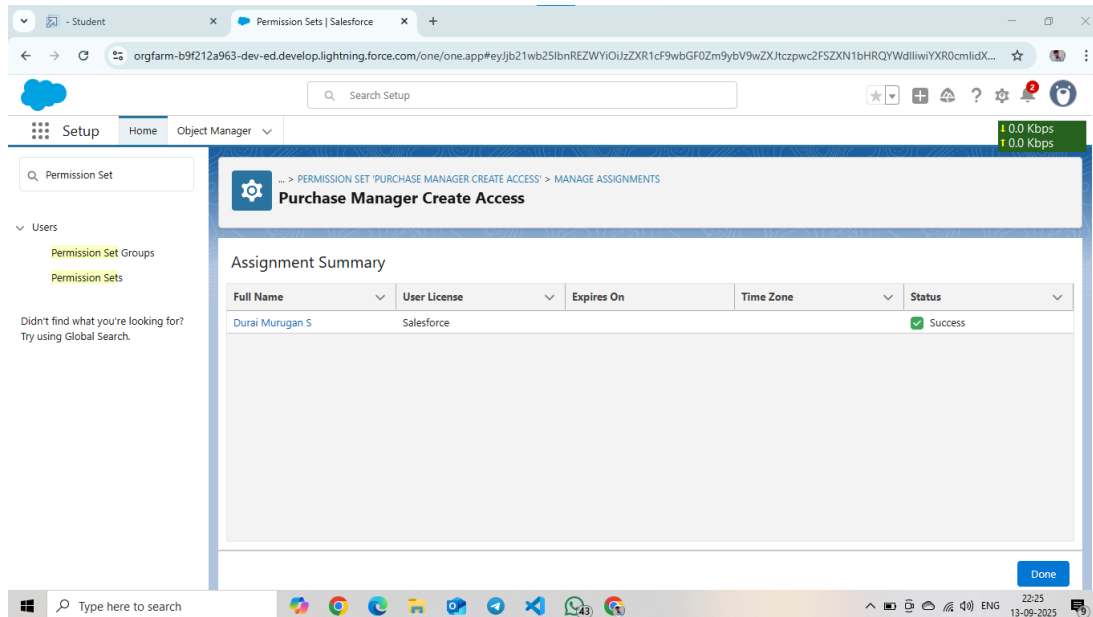


Created a Purchasing Manager Role (Inventory Manager)



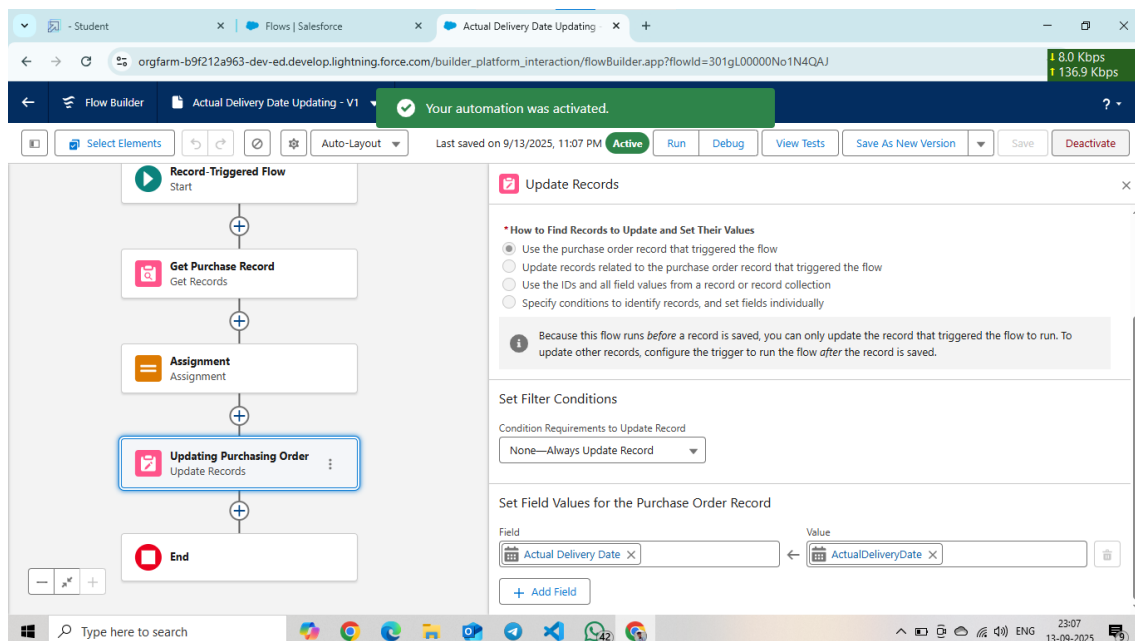
Permission Sets

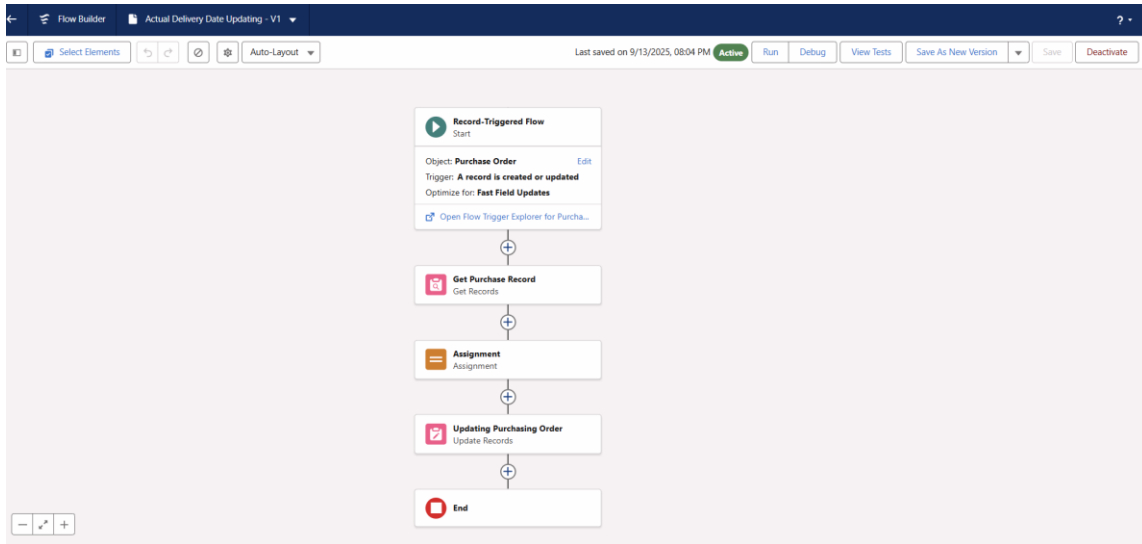
Create a Permission Set



Flows

Created Flow to update the Actual Delivery Date





Triggers

Create an Apex Trigger

```

1 trigger CalculateTotalAmountTrigger on Order_Item__c (after insert, after update, after delete, after undelete) {
2
3     // Call the handler class to handle the logic
4
5     CalculateTotalAmountHandler.calculateTotal(trigger.new, trigger.old, trigger.isInsert, trigger.isUpdate, trigger.isDelete, trigger.isUndelete);
6
7 }
8

```

Coding

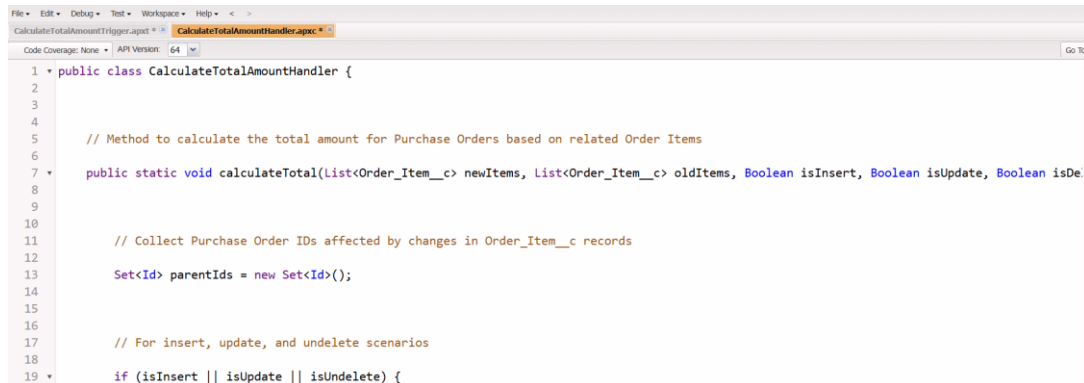
trigger CalculateTotalAmountTrigger on Order_Item__c (after insert, after update, after delete, after undelete) {

 // Call the handler class to handle the logic

 CalculateTotalAmountHandler.calculateTotal(trigger.new, trigger.old, trigger.isInsert, trigger.isUpdate, trigger.isDelete, trigger.isUndelete);

}

Create an Apex Class



```

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

];

for (AggregateResult aggr : aggrList) {

    Id purchaseOrderId = (Id)aggr.get('Purchase_Order_Id__c');

    Decimal totalAmount = (Decimal)aggr.get('totalAmount');

    purchaseToUpdateMap.put(purchaseOrderId, totalAmount);

}

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);

}

if (!purchaseToUpdate.isEmpty()) {

    update purchaseToUpdate;

}

}

}

```

Reports

Created a Purchase Orders based on Suppliers (Summary) Report

Medical Inventory ... Products Purchase Orders Order Items Inventory Transactions Suppliers Reports Dashboards

Report: Purchase Orders
Purchase Orders based on Suppliers

Enable Field Editing Add Chart Edit

Total Records: 5 Total Order Count: 8 Total Total Order Cost: 420

Supplier ID	Purchase Order: Purchase Order ID	Order Count	Total Order Cost
SUP-001 (2)	PO-001 (1)	1	10
	PO-002 (1)	2	350
SUP-002 (1)	PO-003 (1)	3	40
SUP-003 (2)	PO-004 (1)	1	20
	po1 (1)	1	0
Total (5)		8	420

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

Created a Complete Purchase Details Report

Medical Inventory ... Products Purchase Orders Order Items Inventory Transactions Suppliers Reports Dashboards

Report: Purchase Orders
Purchase Orders based on Suppliers

Enable Field Editing Add Chart Edit

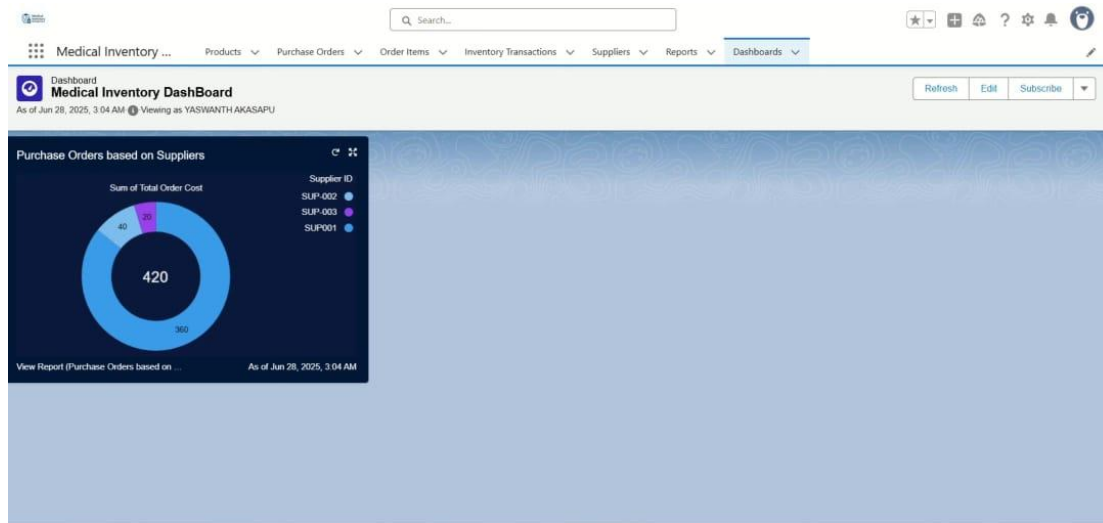
Total Records: 5 Total Order Count: 8 Total Total Order Cost: 420

Supplier ID	Purchase Order: Purchase Order ID	Order Count	Total Order Cost
SUP-001 (2)	PO-001 (1)	1	10
	PO-002 (1)	2	350
SUP-002 (1)	PO-003 (1)	3	40
SUP-003 (2)	PO-004 (1)	1	20
	po1 (1)	1	0
Total (5)		8	420

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

Dashboards

Creation and view of Dashboard



Conclusion

The Salesforce-based Medical Inventory Management System successfully streamlines and automates the key operational aspects of medical inventory. By integrating supplier management, purchase order tracking, product cataloging, and expiry date monitoring, the system ensures accuracy, efficiency, and reliability in handling medical supplies. It reduces the risk of errors, prevents the use of expired products, and enhances decision-making through comprehensive reports and analytics. Overall, this project demonstrates how Salesforce can be effectively utilized to improve healthcare inventory operations, contributing to better resource management and patient safety.