MEDICAL INVENTORY MANAGEMENT

College Name: Navarasam Arts and Science College for Women-Arachalur

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Introduction

Project Overview

Medical inventory mismanagement often leads to shortages of essential medicines or surplus stock going unused. This project uses Sales force CRM to build an application that manages the procurement, storage, and distribution of medical supplies. The system connects suppliers, hospitals, pharmacies, and administrators to streamline the supply chain. With the help of custom objects, flows, triggers, and reports, the process is automated and transparent. The project demonstrates how technology can be applied to ensure efficient medical inventory management and support better healthcare services.

Objectives

- **Enhance Medical Supply Distribution Efficiency**: Enable real-time tracking of medicine procurement, stock levels, and delivery to healthcare facilities.
- **Ensure Transparency**: Maintain accurate records of suppliers, purchase orders, and medical inventory usage.
- **Improve Resource Coordination**: Automate purchase requests, restocking alerts, and task assignments for medical staff.
- **Optimize Inventory Management**: Track medicines, equipment, and consumables to avoid shortages or wastage.
- **Enhance Real-Time Visibility**: Provide live updates of stock availability, pending orders, and delivery status for administrators.
- **Promote Healthcare Impact**: Build a transparent and efficient system that ensures essential medical supplies are always available to serve patients.

Student Outcomes

- **Hands-on Experience with Inventory Automation**: Students gain practical skills in configuring Sales force objects, automating workflows, and managing real-time stock tracking.
- **Understanding of Project Lifecycle in Healthcare CRM**: Students learn the end-to-end process from requirement gathering to deployment, enhancing their ability to execute real-world Sales force projects.
- **Enhanced Analytical and Problem-Solving Skills**: Students develop the ability to identify operational challenges in medical supply management, design solutions, and troubleshoot issues effectively.

- **Improved Collaboration Skills**: Students gain experience working as a team, coordinating tasks like requirement gathering, development, and testing.
- **Industry-Relevant Exposure**: Students get exposure to real-world use cases of Sales force CRM in healthcare management, preparing them for future career opportunities.

System Requirements

Hardware Requirements

- Computer with minimum 4 GB RAM, Dual-core processor
- Stable internet connection

Software Requirements

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

Project Duration: 31 Hours

Phases Overview

Phase No.	Phase Name	Description	Page Numbers
1	**Requirement Analysis & Planning**	Gathering requirements from suppliers, hospitals, and pharmacies; defining scope and goals; planning data model and workflows.	**5**
2	**Sales force Development – Backend & Configurations**	Creating custom objects, fields, relationships; setting up Flows and Apex Triggers for automation.	**5-11**
3	**UI/UX Development & Customization**	Building Lightning App, customizing layouts, adding fields, implementing Flows, and developing UI logic.	**11-24**
4	**Data Migration, Testing & Security**	Creating Users, Profiles, Public Groups, Sharing Rules; configuring Report Types, Reports, Dashboards; testing functionalities and ensuring data security.	**24-31**
5	**Deployment, Documentation & Maintenance**	Designing and finalizing Home Page, deploying solution to live environment, preparing documentation, conclusion, and ongoing system maintenance.	**31-35**

Phase 1: Requirement Analysis & Planning

Medical Inventory Management:

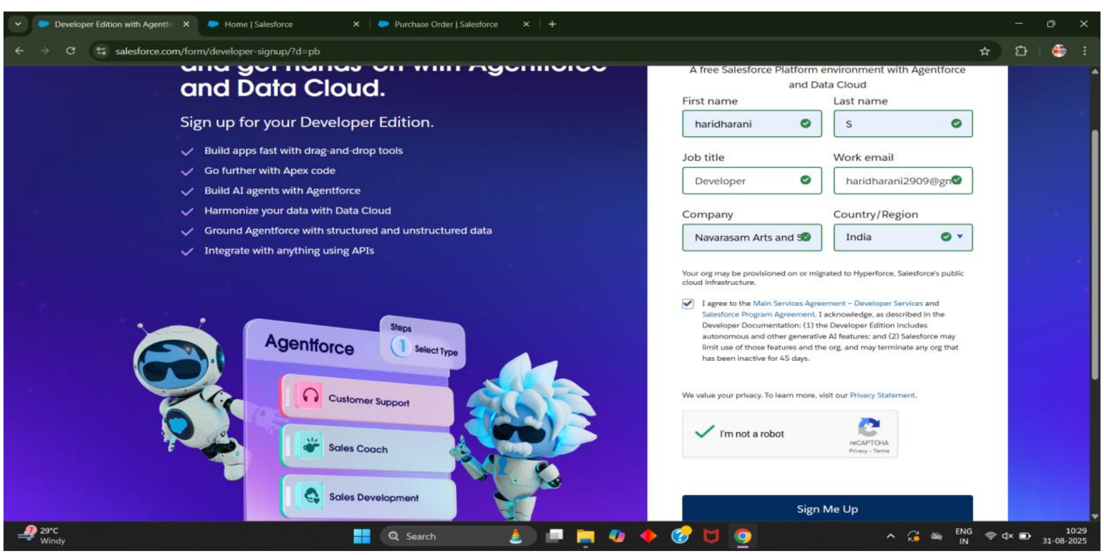
Utilizing Sales force, our project streamlines the procurement, tracking, and distribution of medical supplies, ensuring efficiency, transparency, and uninterrupted availability of essential healthcare resources.

Phase 2: Salesforce Development – Backend & Configuration

Milestone1: Salesforce Account

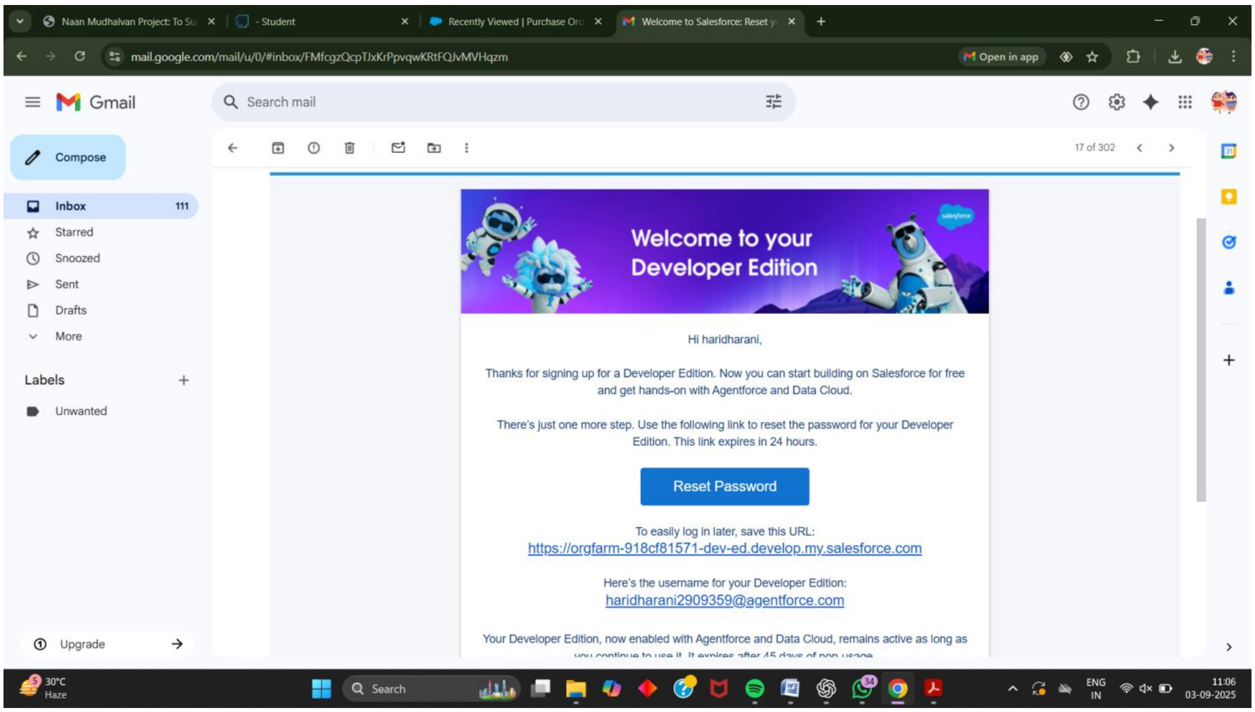
Activity 1: Creating developer account

1. Go to https://developer.salesforce.com/signup
2. Fill the details in sign up page.



Activity 2: Account Activation

Go to the inbox in your mail and in this mail give the reset password.



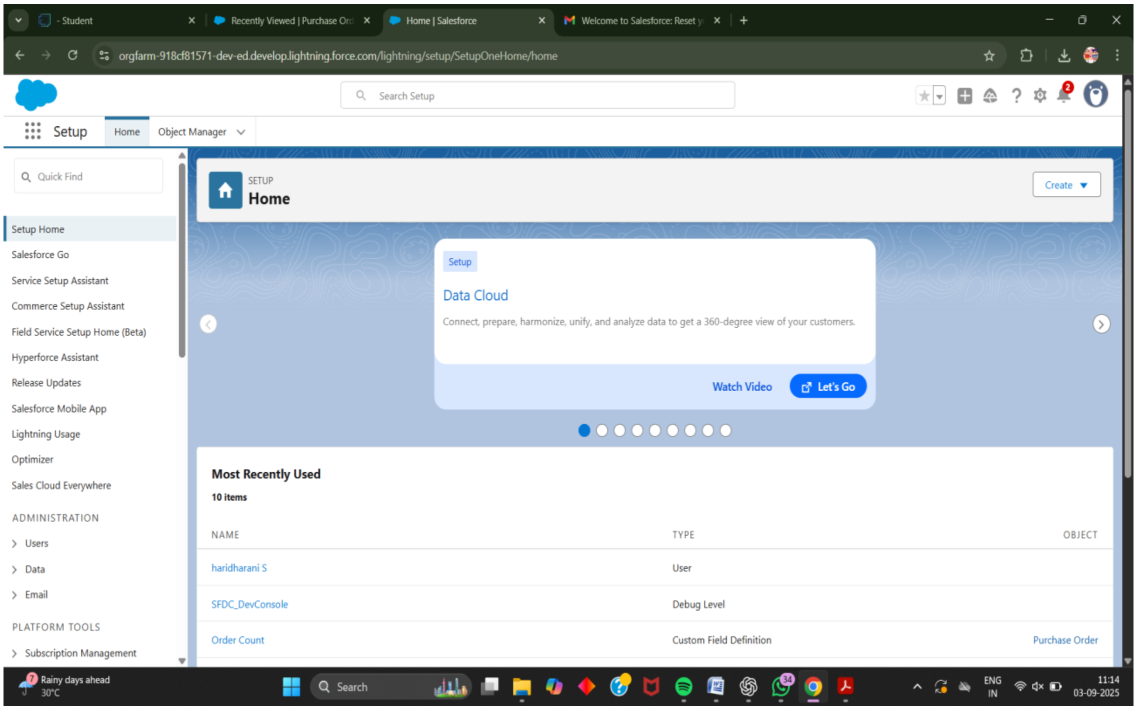
Enter the new password and confirm password with security question.

Milestone 2: Objects

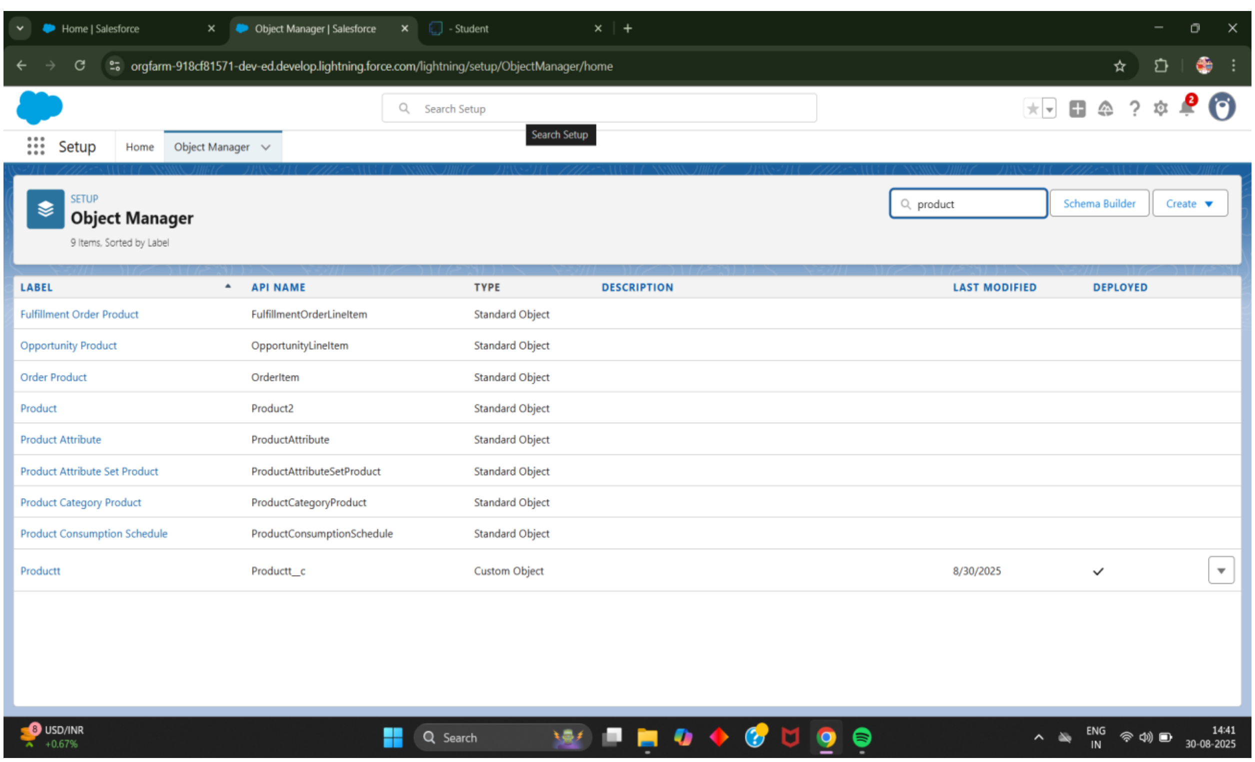
Activity 1: Creating a product object

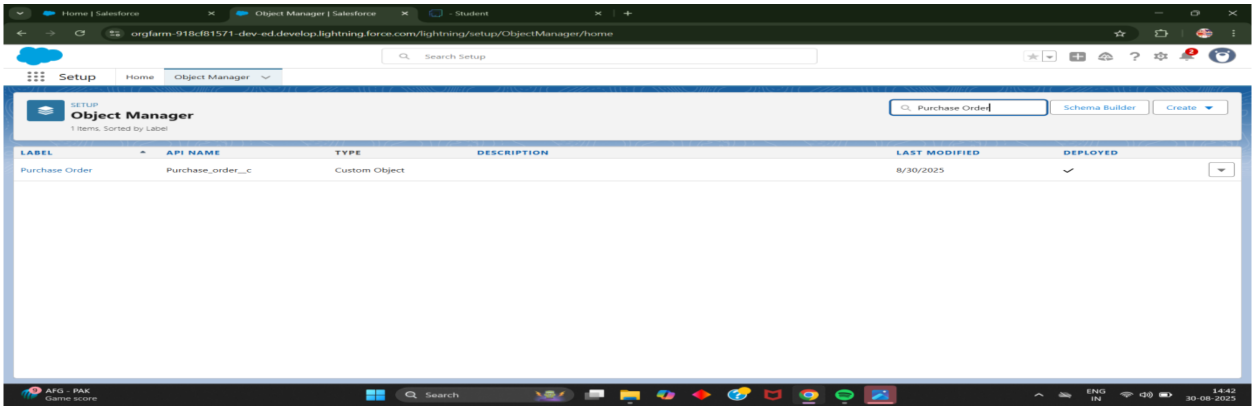
1. Go to setup page, click object manager in that click custom object

2. Enter the label name as Product.



Similarly create the Purchase Order, Order Items, Inventory Transaction, Supplier objects.

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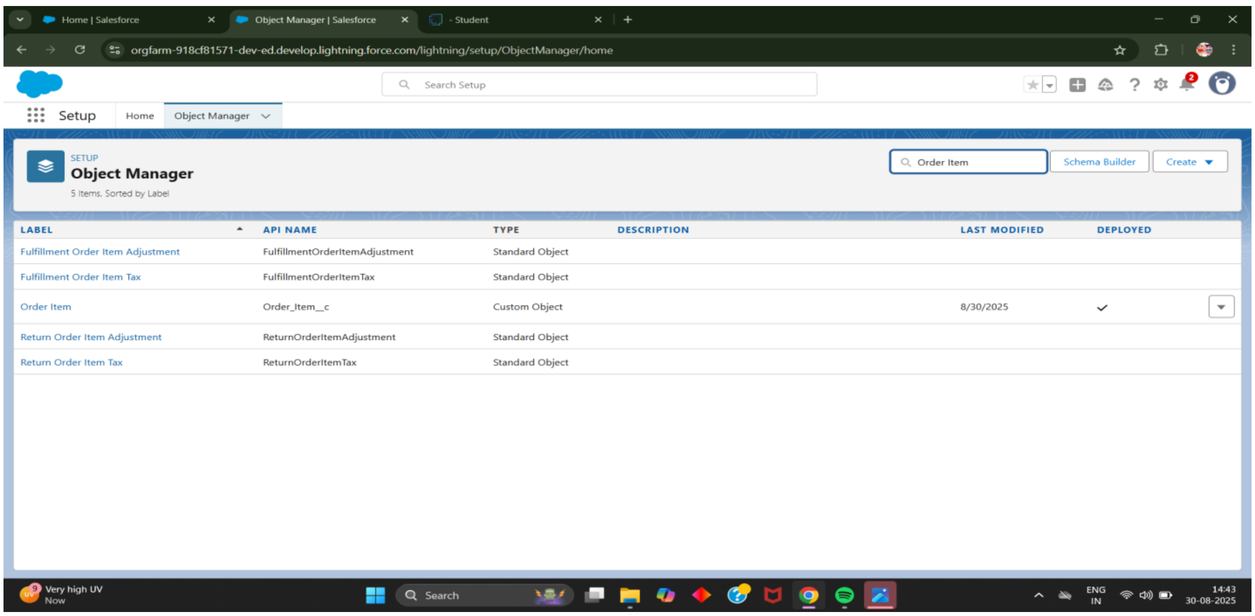
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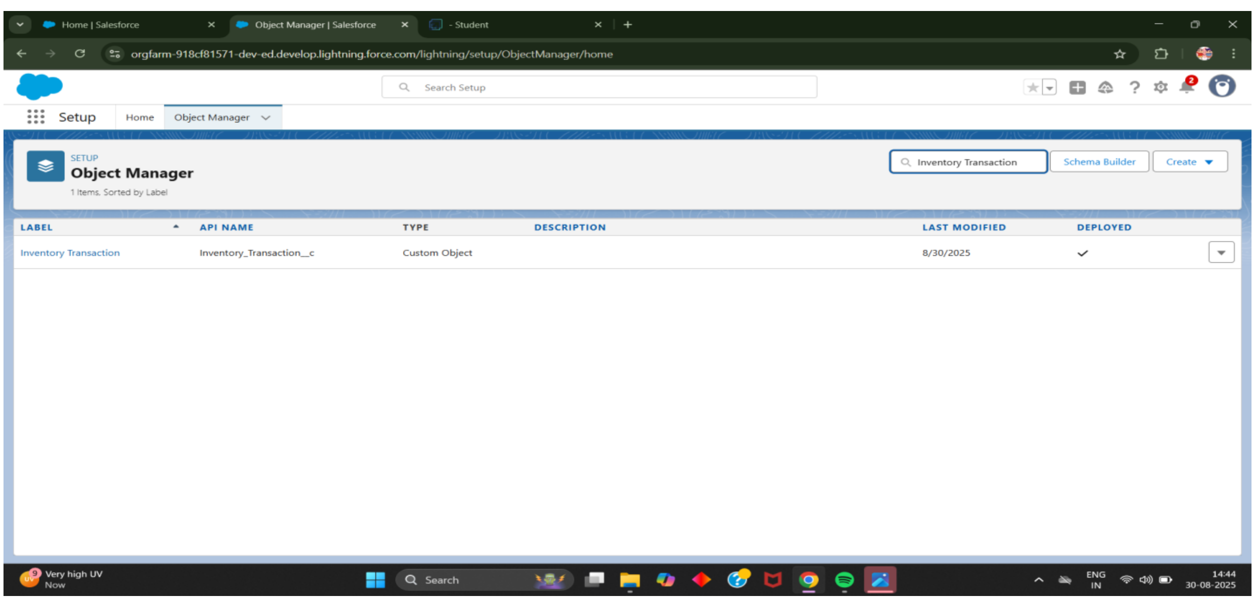
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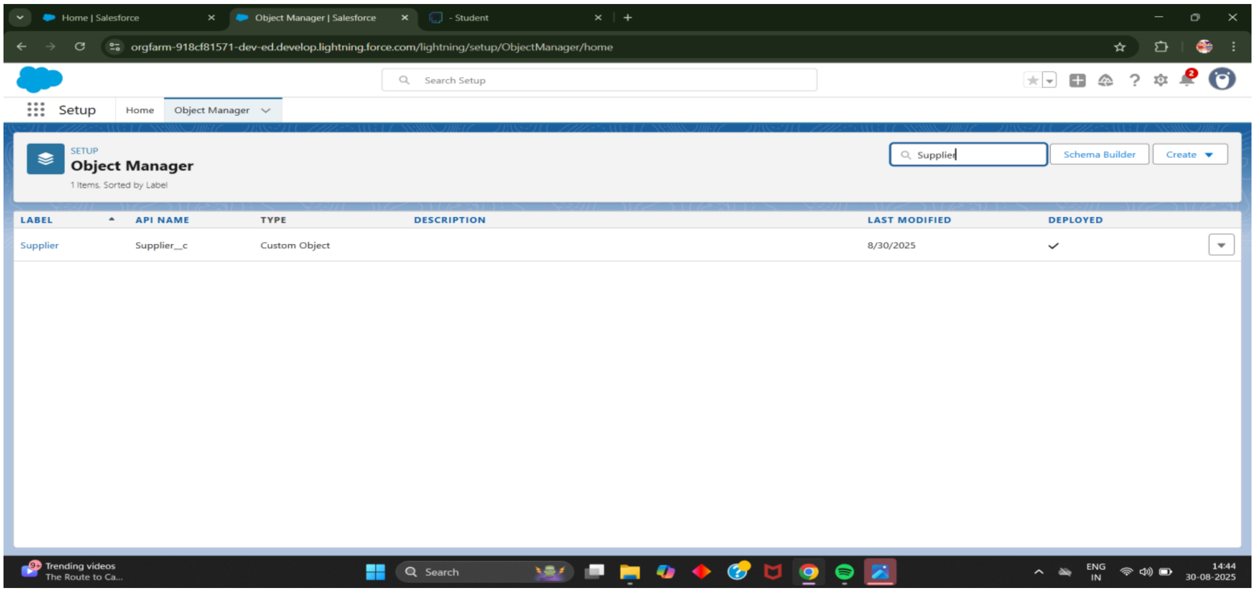

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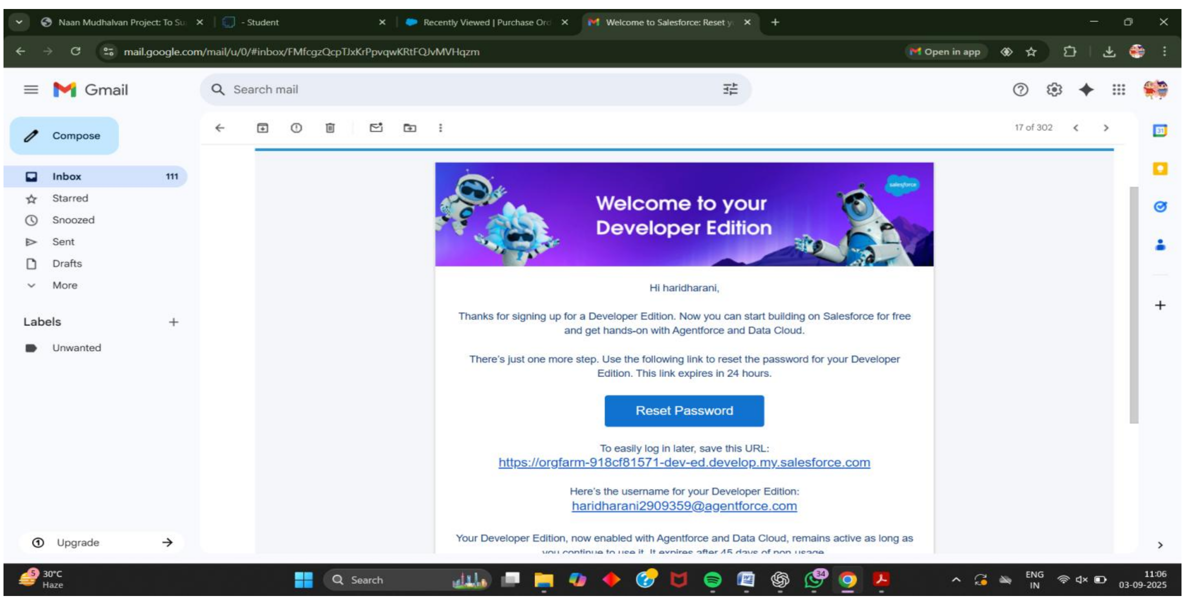


Enter the new password and confirm password with security question.

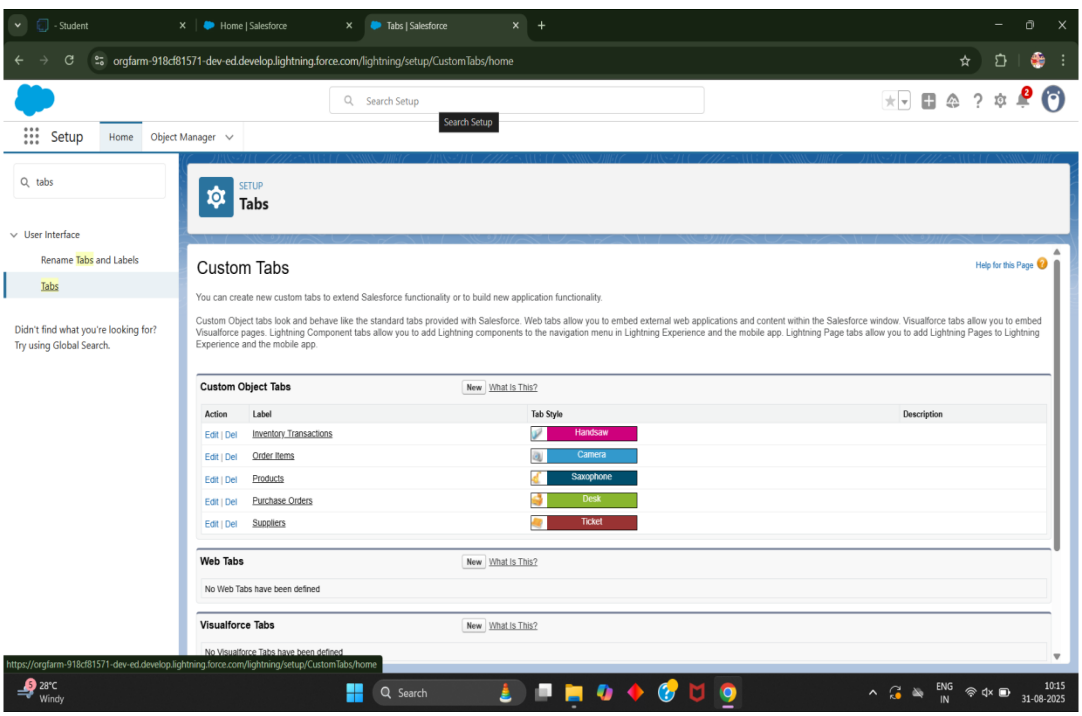
Milestone 3: Tabs

Activity 1: Creating A Tab for product object

1. In set up, quick find box search for Tabs click Tabs.
2. Click New in tabs.
3. Select Product as object and Select tab style.
4. Click Next, Next and uncheck the include tab.
5. Click Save.

Activity 2: Creating remaining tabs

Similar to activity1 create the tab for Purchase Order, Order Items, Inventory Transaction, Supplier objects.

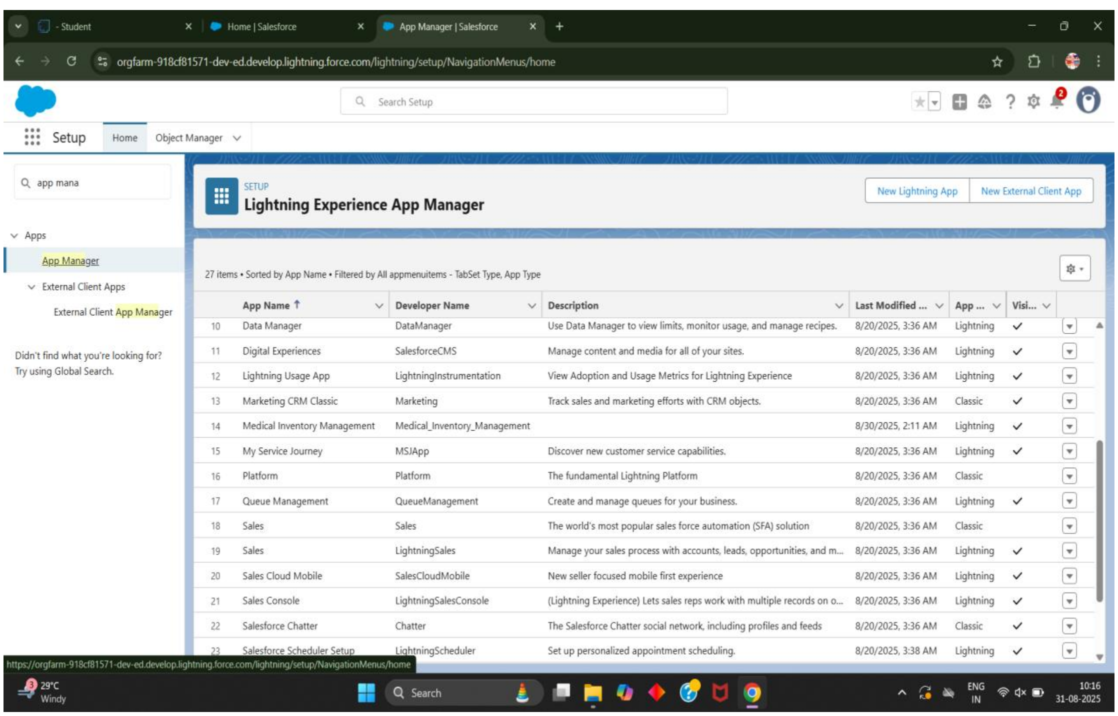


Phase 3: UI/UX Development & Customization

Milestone 4: The Lightning App

Activity 1: Create a Lightning App for Medical Inventory Management

1. In set up, quick find box search for App Manager.
2. Click New Lightning App.
3. Enter App Name as Medical Inventory Management and upload image.
4. In Navigation Items, Select Products, Purchase Order, Order Items, Inventory Transaction, Supplier, Reports, Dashboard.
5. In User Profiles, Select System Administration.



Milestone 5: Fields

Activity 1: Creating a Text field in Product object

1. In set up, go to object manager.
2. Search for Product object, Click Fields & Relationship and then New
3. Select data type as text and field name as Product Name and length as 255, check the required box and Next, Next, save.

Activity 2: Creating a TextArea field in Product object

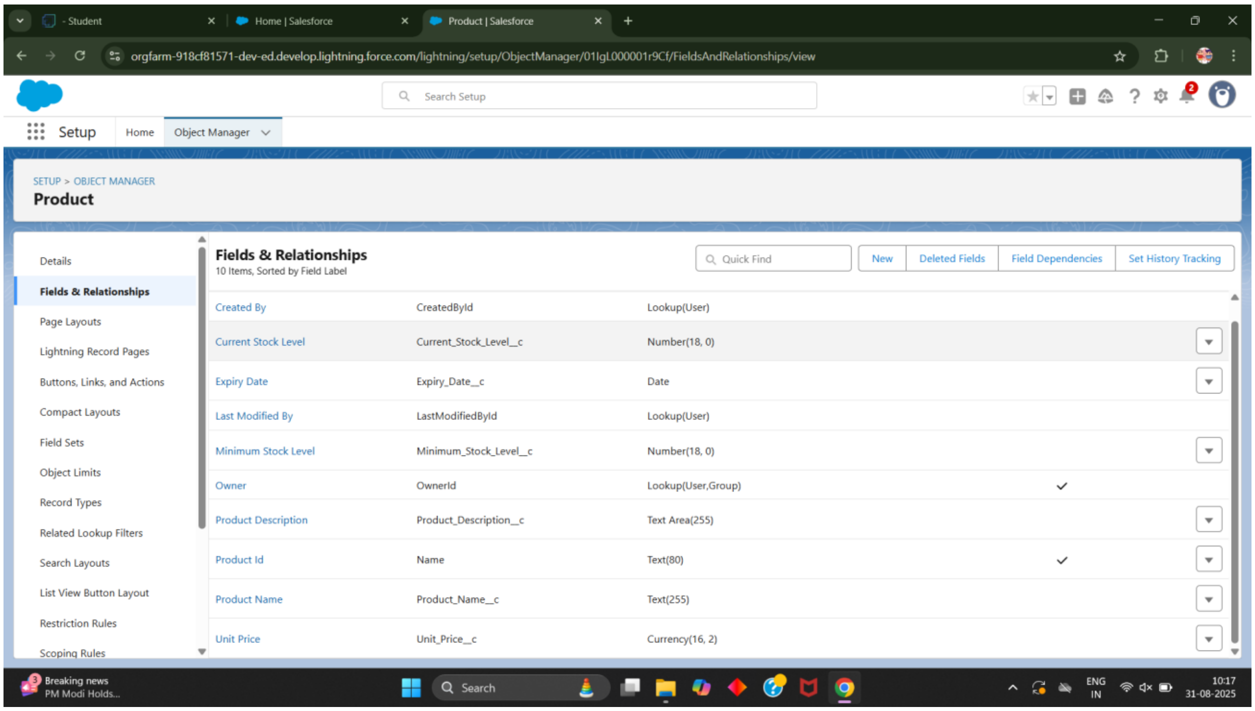
1. In set up, go to object manager.
2. Search for Product object, Click Fields & Relationship and then New
3. Select data type as TextArea and field name as Product Description and check the required box and Next, Next, save.

Activity 3: Creating a Number field in Product object

1. In set up, go to object manager.
2. Search for Product object, Click Fields & Relationship and then New.
3. Select data type as Number and field name as Current Stock Level and length-18, decimal place-0 check the required box.
4. Click on Next, Next, save.

Activity 4: Creating a currency field in Product object

1. In set up, go to object manager.
2. Search for Product object, Click Fields & Relationship and then New
3. Select data type as Currency and field name as Unit Price and length-16, Decimal place-2, check the required box.
4. Click on Next, Next, save.



Activity 5: Creating a Lookup relationship in Purchase Order object

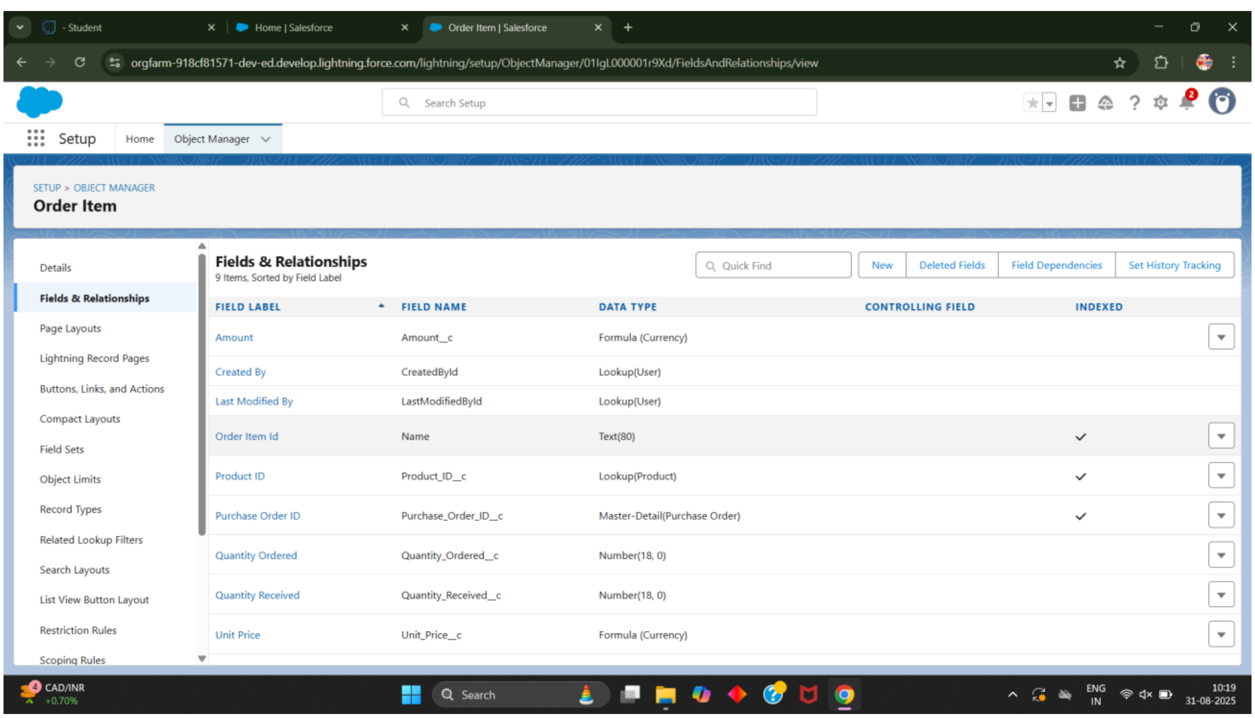
1. In set up, go to object manager.
2. Search for Purchase Order object, Click Fields & Relationship and then New
3. Select data type as Lookup relationship and Select the related object as Supplier, field name as Supplier ID, check the required box.
4. Click on Next, Next, save.

Activity 6: Creating a Date field in Purchase Order object

1. In set up, go to object manager.
2. Search for Purchase Order object, Click Fields & Relationship and then New
3. Select data type as Date and field name as Order Date
4. Click on Next, Next, save.

Activity 7: Creating a Roll-up summary field in Purchase order object

1. In set up, go to object manager.
2. Search for Purchase Order object, Click Fields & Relationship and then New
3. Select data type as Roll-up relationship and field name as Order Count and Select summary object as Order Items, roll-up type as Count.
4. Click on Next, Next, save.

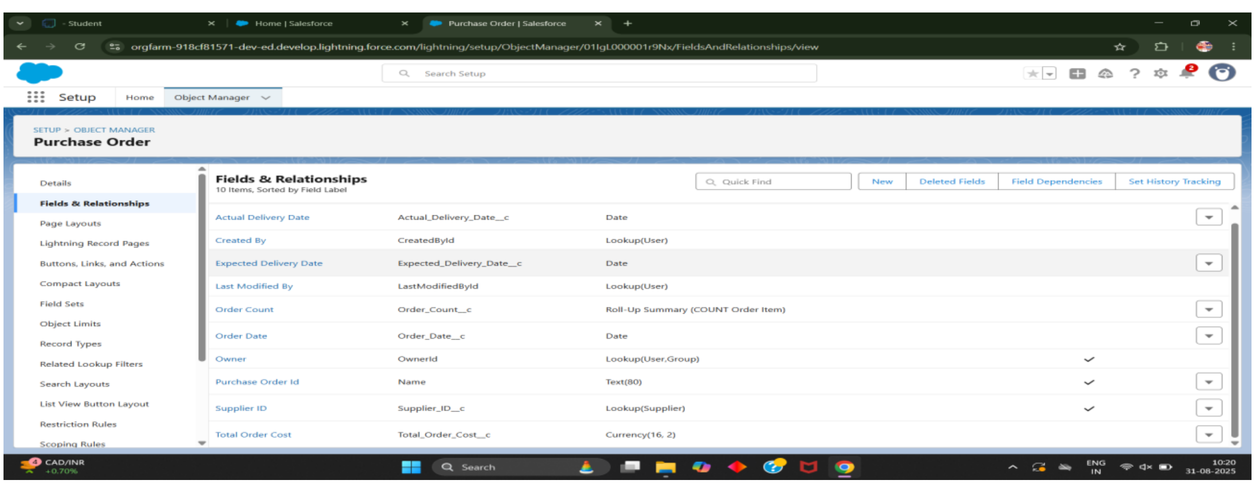


Activity 8: Creating a Unit Price formula field in Order Item object

1. In set up, go to object manager.
2. Search for Order Items object, Click Fields & Relationship and then New
3. Select data type as Formula and field name as Unit Price and Formula return type Currency.
4. Insert Advanced formula: Product_ID__r.Unit_Price__c
5. Click on Next, Next, save.

Activity 9: Creating a Amount Formula fields in Order Item object

1. In set up, go to object manager.
2. Search for Order Items object, Click Fields & Relationship and then New
3. Select data type as Formula and field name as Amount and Formula return type Currency.
4. Insert Advanced formula: Quantity_Received__c * Unit_Price__c
5. Click on Next, Next, save.



Activity 10: Creating a Picklist field in Inventory Transaction object

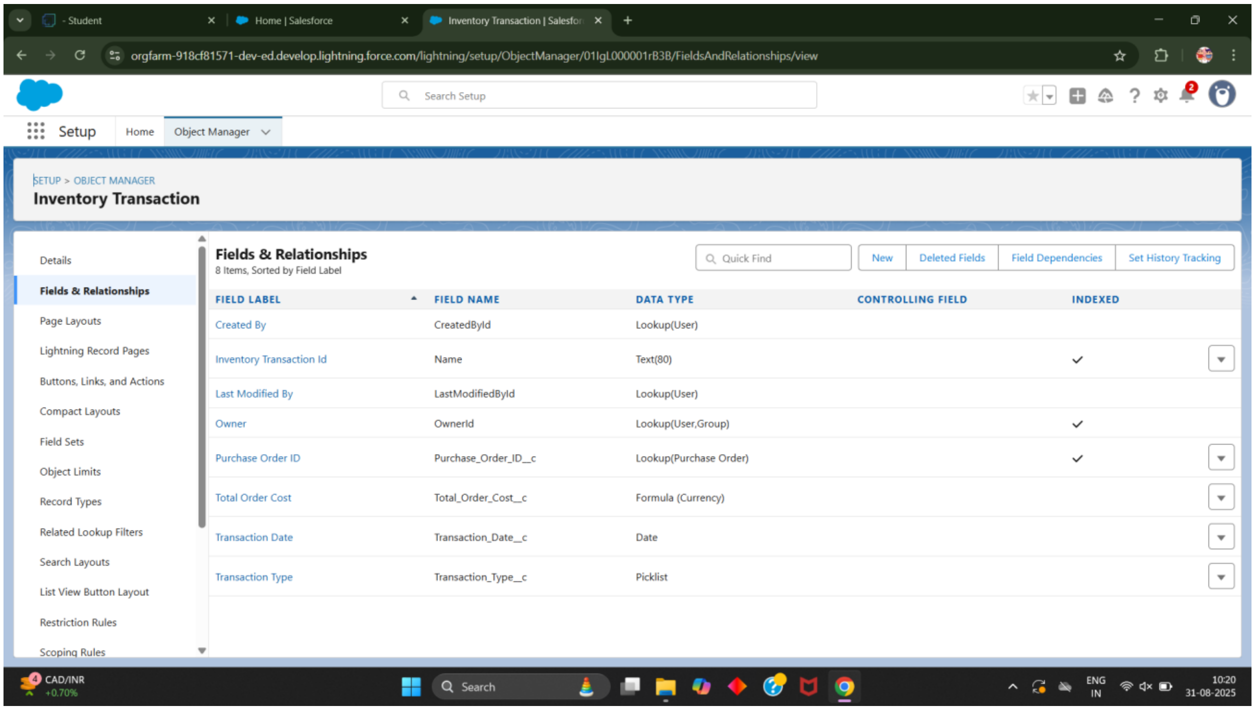
1. In set up, go to object manager.
2. Search for Inventory Transaction object, Click Fields & Relationship and then New
3. Select data type as Picklist and field name as Transaction Type.
4. Click Enter values, with each value separated by new line, Enter the values following:

   Receipt
   Issue
   Adjustment

5. Click on Next, Next, save.

Activity 11: Creating a Total Cost formula field in Inventory Transaction object

1. In set up, go to object manager.
2. Search for Inventory Transaction object, Click Fields & Relationship and then New
3. Select data type as Formula and field name as Total Order Cost and Formula return type Currency.
4. Insert Advanced formula: Purchase_Order_ID__r.Total_Order_Cost__c
5. Click on Next, Next, save.

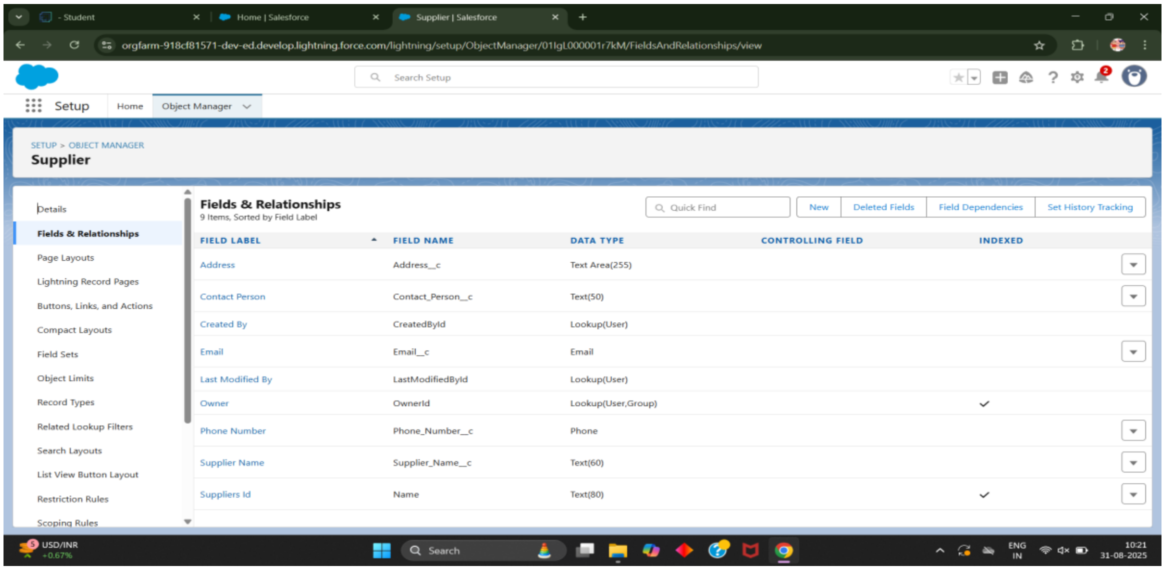


Activity 12: Creating a Phone fields in Supplier object

1. In set up, go to object manager.
2. Search for Supplier object, Click Fields & Relationship and then New
3. Select data type as Phone and field name as Phone Number.
4. Select Required box.
5. Click on Next, Next, save.

Activity 13: Creating a Email field in Supplier object

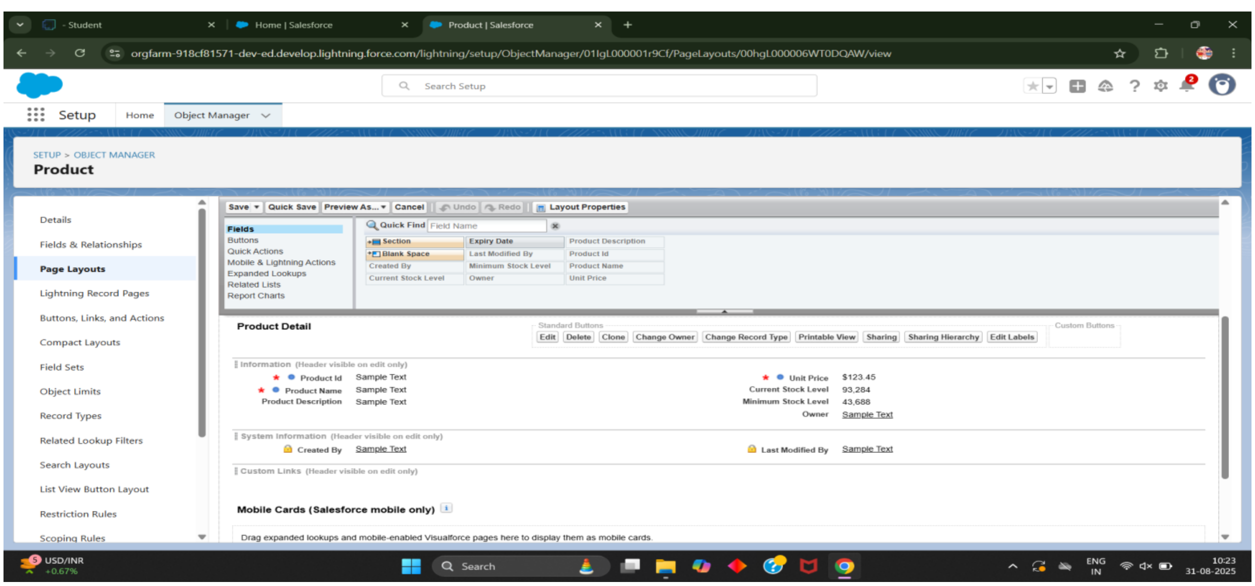
1. In set up, go to object manager.
2. Search for Product object, Click Fields & Relationship and then New
3. Select data type as Email and field name as Email
4. Click on Next, Next, save.



Milestone 6: Editing of page layout

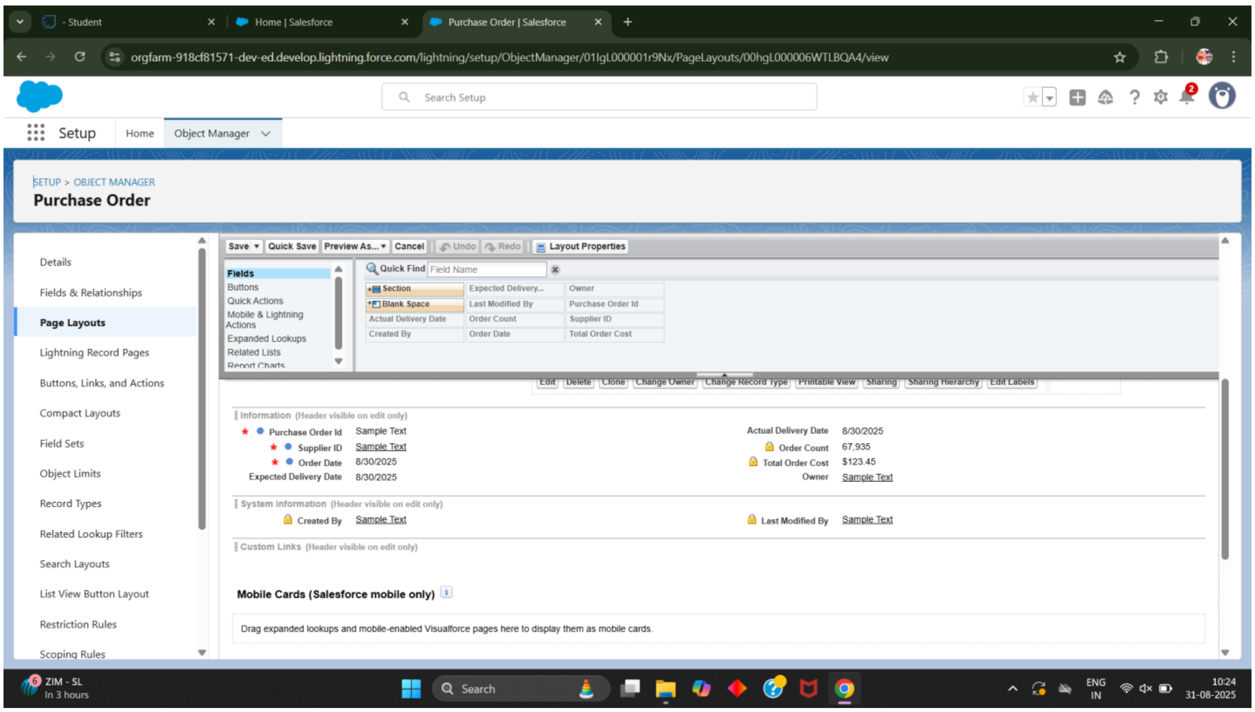
Activity 1: To edit a page layout in Product object

1. In set up, object manager search for Products object.
2. In Product object, go to Page Layout.
3. Click Product Layout.
4. Drag and place the required fields.
5. Click save.



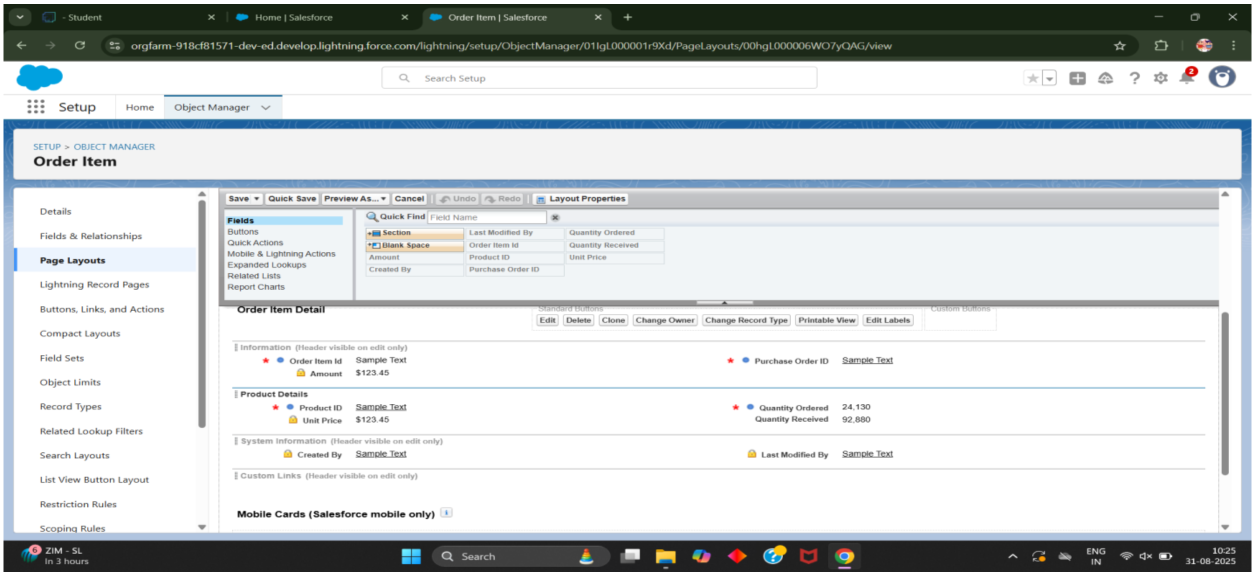
Activity 2: To edit a page layout in Purchase order object

1. In set up, object manager search for Purchase Order object.
2. In Product object, go to Page Layout.
3. Click Purchase Order Layout.
4. Drag and place the required fields.
5. Click save.



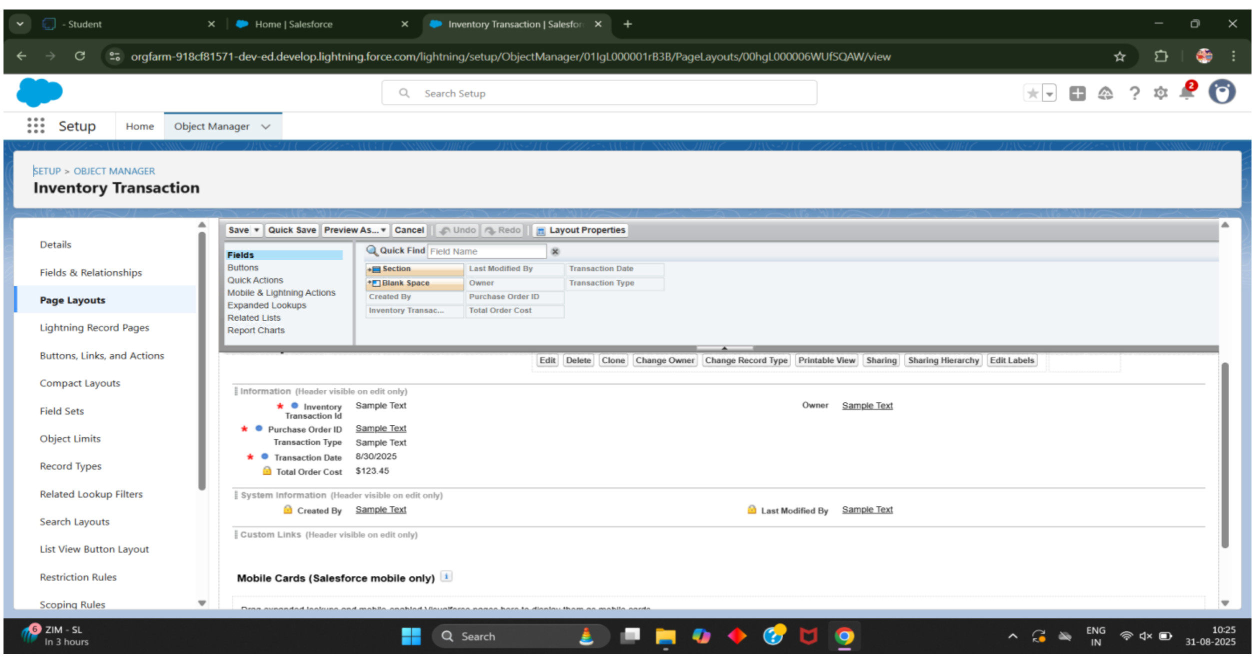
Activity 3: To edit a page layout in Order Items object

1. In set up, object manager search for Order Items object.
2. In Product object, go to Page Layout.
3. Click Order Items Layout.
4. Drag and place the required fields.
5. Click save.



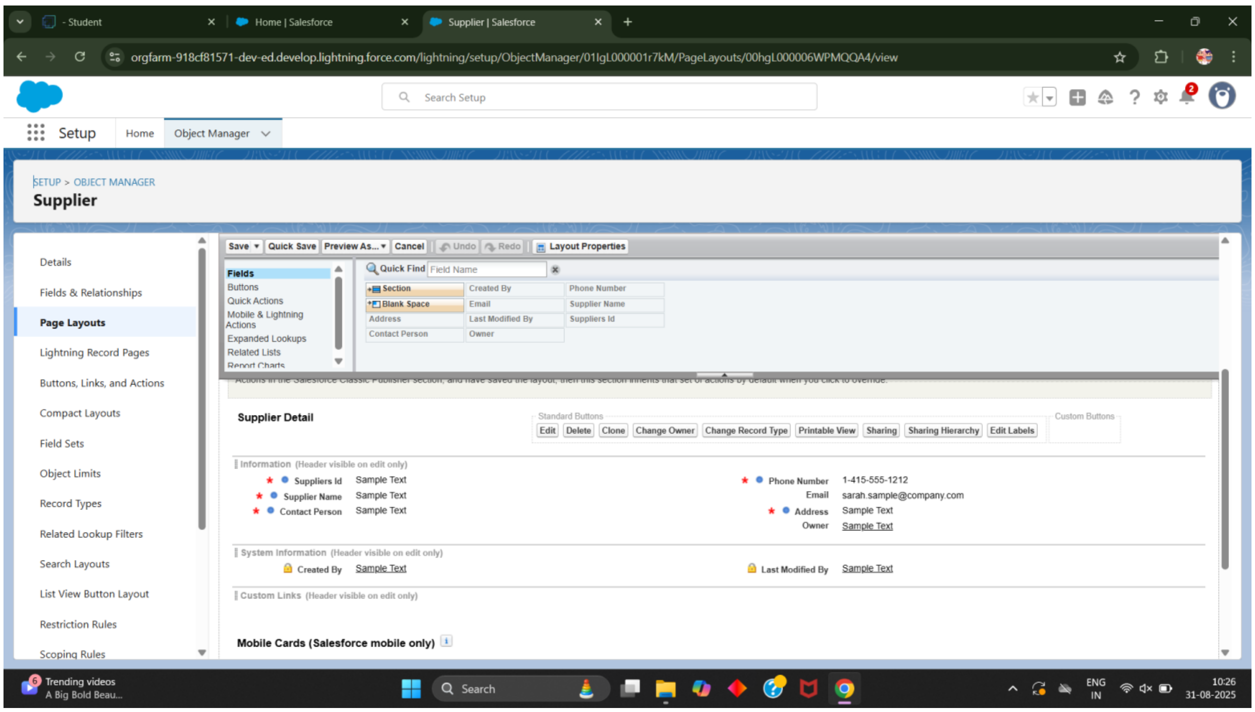
Activity 4: To edit a page layout in Inventory Transaction object

1. In set up, object manager search for Inventory Transaction object.
2. In Product object, go to Page Layout.
3. Click Inventory Transaction Layout.
4. Drag and place the required fields.
5. Click save.



Activity 5: To edit a page layout in Supplier object

1. In set up, object manager search for Supplier object.
2. In Product object, go to Page Layout.
3. Click Supplier Layout.
4. Drag and place the required fields.
5. Click save.

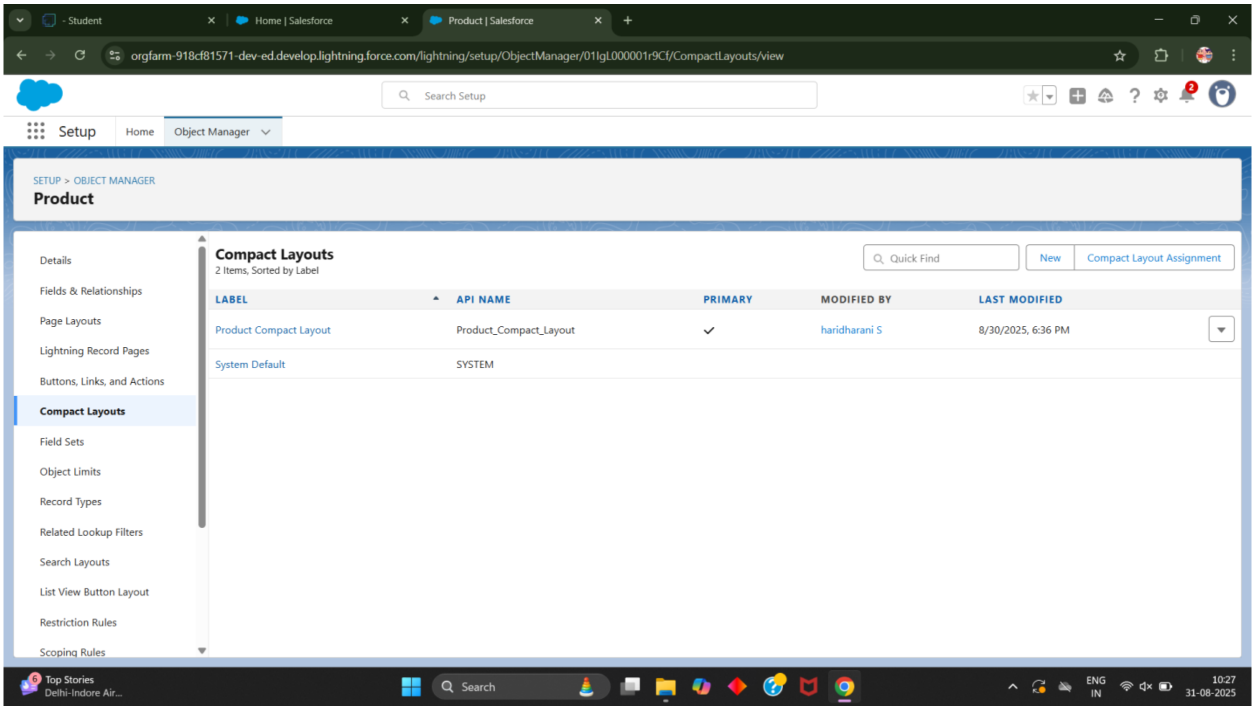


Milestone 7: Compact Layout

Activity 1: To create a compact layout to a Product object

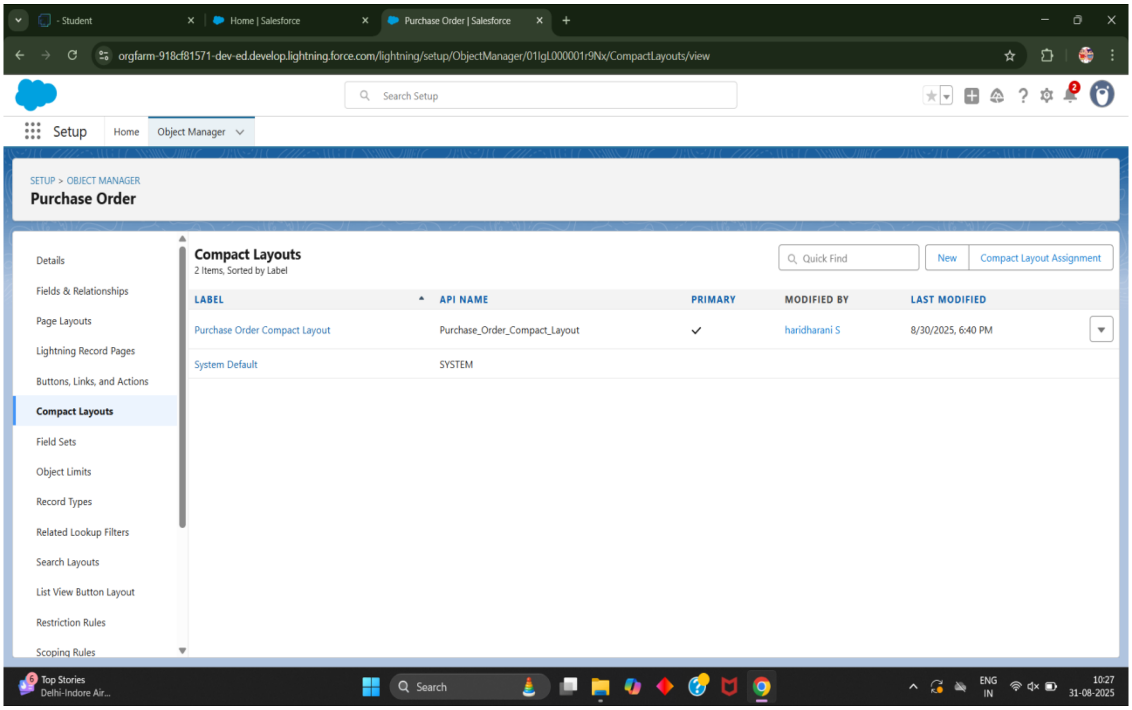
1. In set up, object manager search for Product object.
2. Click on Compact Layout in left panel.
3. Enter label as Product Compact Layout.
4. Select Fields as Product name, Unit Price, Current Stock Level.
5. Click save.
6. Click Compact Layout Assignment.

7. Click Edit Assignment, Click Product Compact Layout from dropdown.
8. Click save.



Activity 1: To create a compact layout to a Purchase Order object

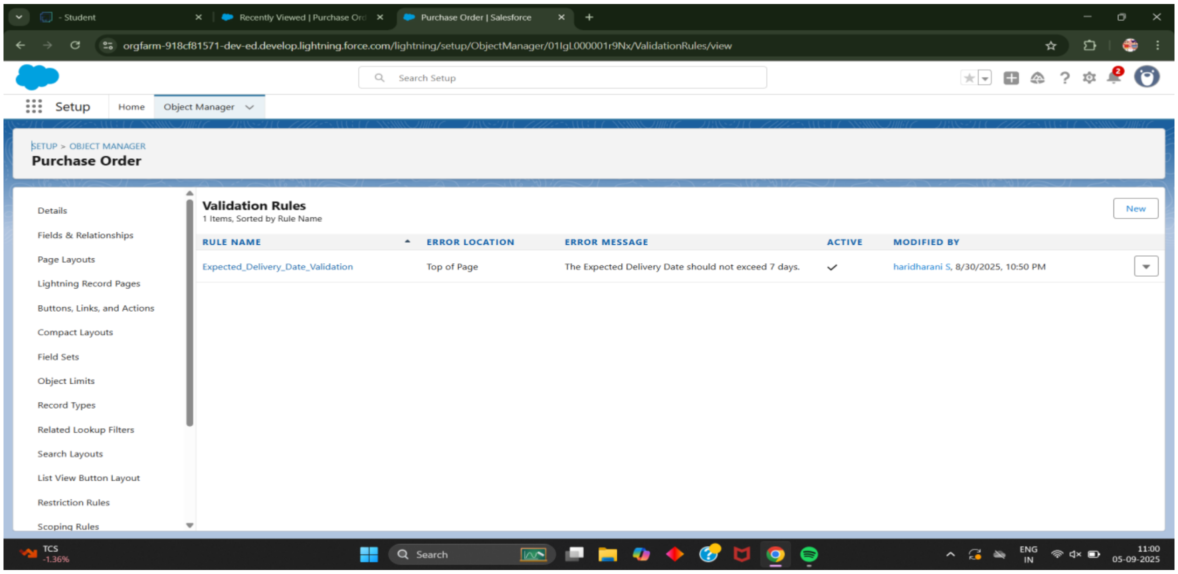
1. In set up, object manager search for Purchase Order object.
2. Click on Compact Layout in left panel.
3. Enter label as Purchase Order Compact Layout.
4. Select Fields as purchase Order ID, Order ID, Total Order Cost, Supplier ID.
5. Click save.
6. Click Compact Layout Assignment.
7. Click Edit Assignment, Click Purchase Order Compact Layout from dropdown.
8. Click save.



Milestone 8: Validation Rules

Activity 1: To create an Expected Delivery date Validation Rule to a Employee object

1. In set up, object manager search for Purchase Order object.
2. Click on Validation Rules, click New.
3. Rule name as Expected Delivery Date Validation.
4. Select Active.
5. Insert the formula, (Expected_Delivery_Date__c - Order_Date__c)> 7
6. Enter the error msg as “The Expected Delivery Date should not exceed 7 days.”.
7. Error location as Top of Page.
8. Click save.

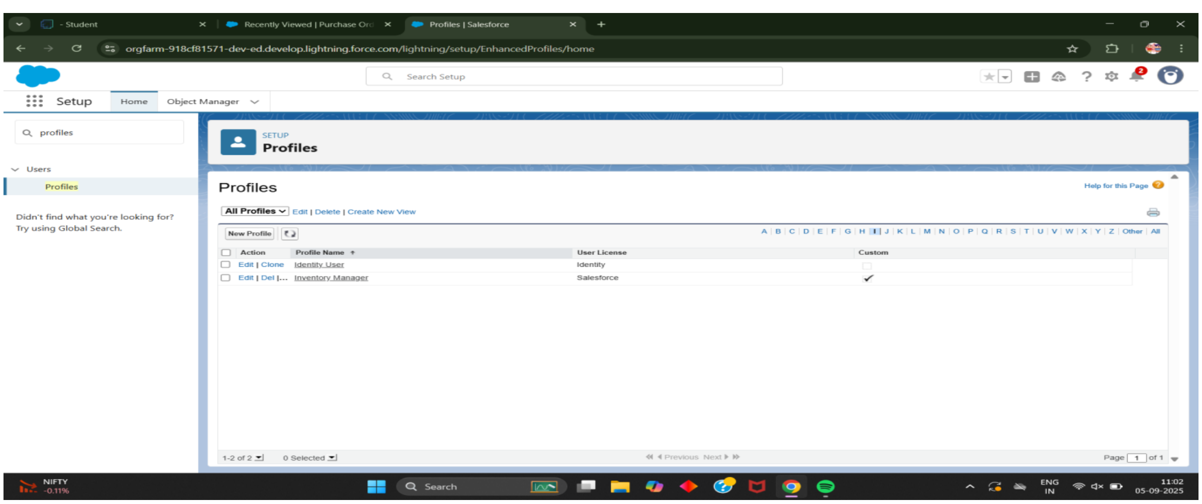


Phase 4: Data Migration, Testing & Security

Milestone 9: Profiles

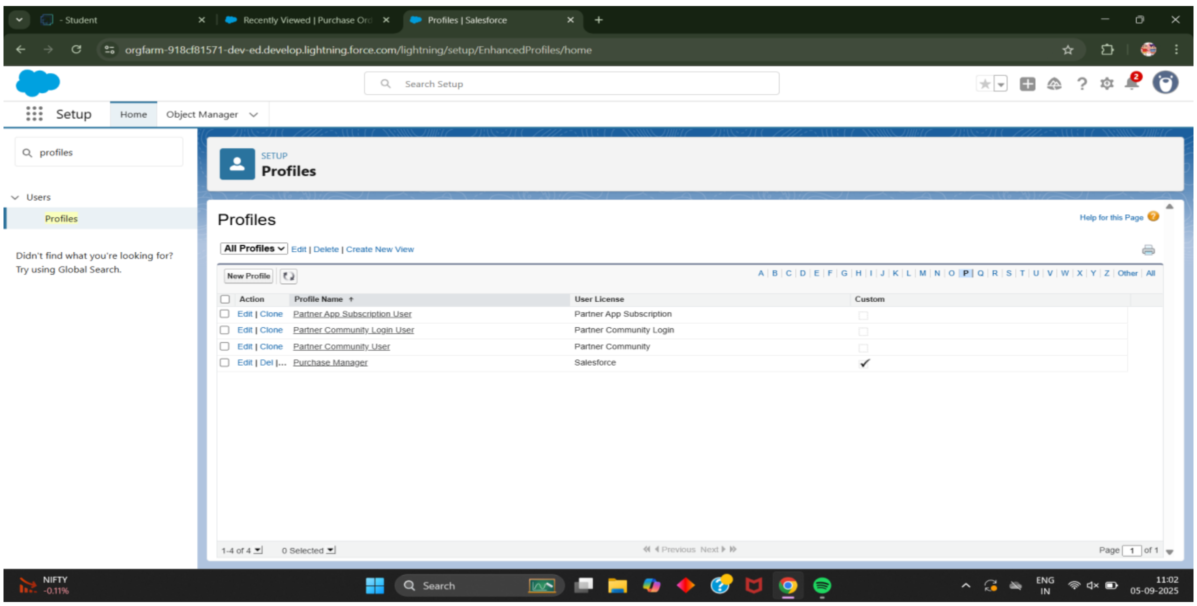
Activity 1: To create an Inventory Manager profile

1. In set up, Profiles.
2. Click clone next to Standard User, profile name as Inventory Manager, Click save.
3. Click Edit check the fields which are required.
4. Click save.



Activity 2: To create an Purchase Manager profile

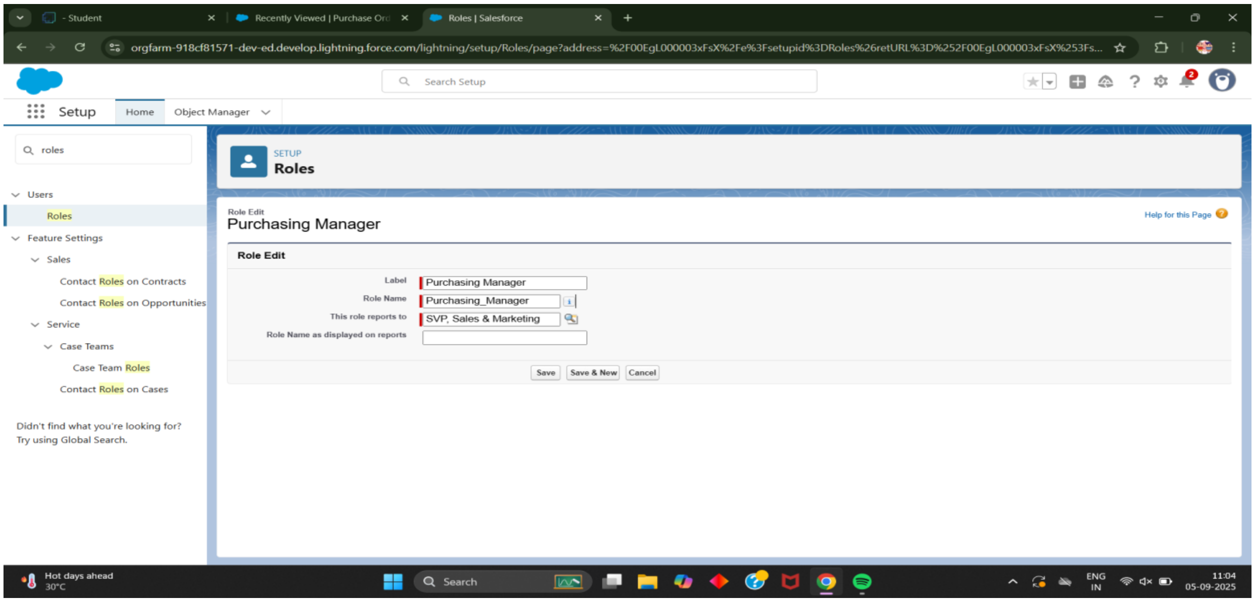
1. In set up, Profiles.
2. Click clone next to Standard User, profile name as Purchase Manager, Click save.
3. Click Edit check the fields which are required.
4. Click save.



Milestone 10: Roles

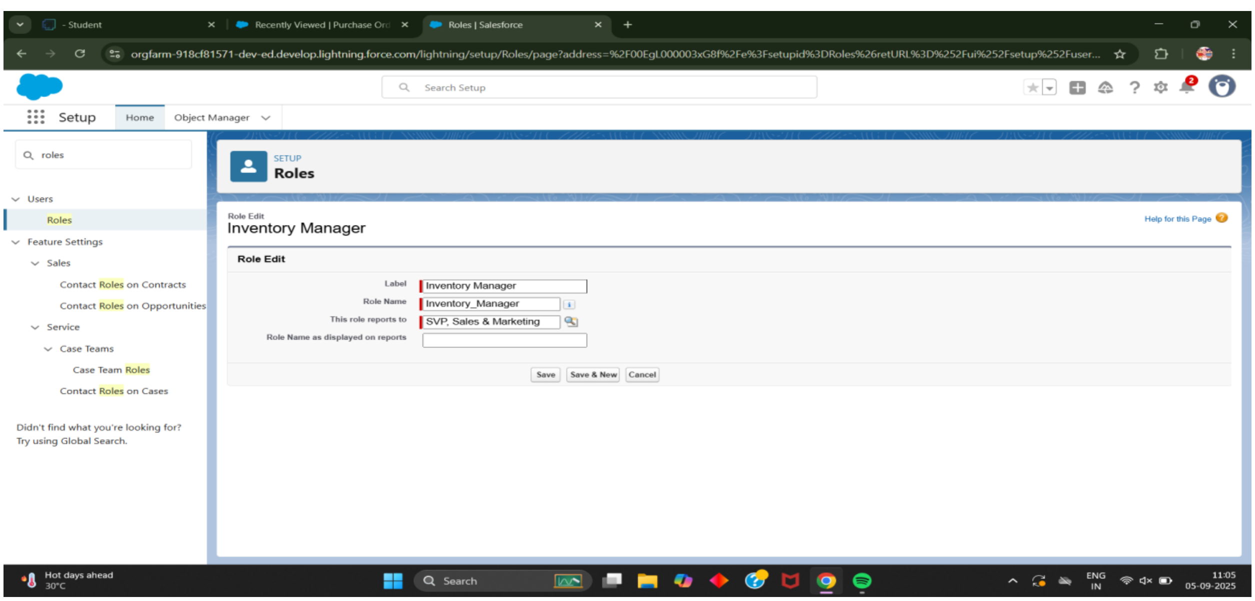
Activity 1: Create a Purchase Manager Role

1. In set up, roles click Set Up Roles.
2. Click Expand all and click add role under SVP,Sales & Marketing role.
3. Label as Purchasing Manager
4. Click save.



Activity 1: Create a Purchase Manager Role

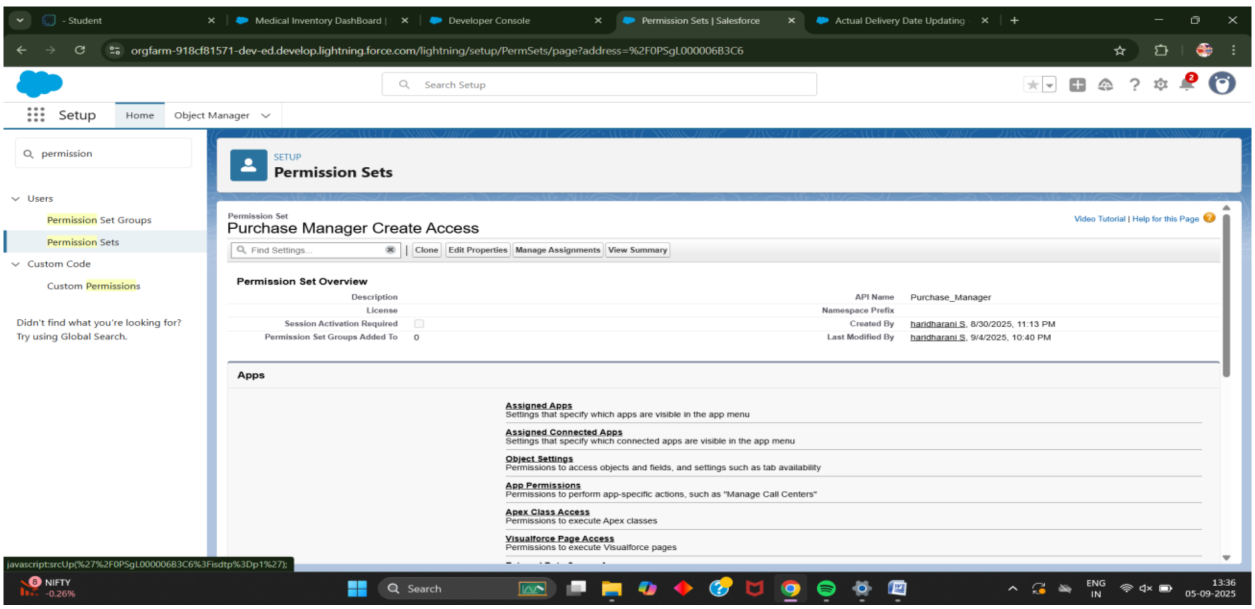
1. In set up, roles click Set Up Roles.
2. Click Expand all and click add role under SVP,Sales & Marketing role.
3. Label as Inventory Manager
4. Click save.



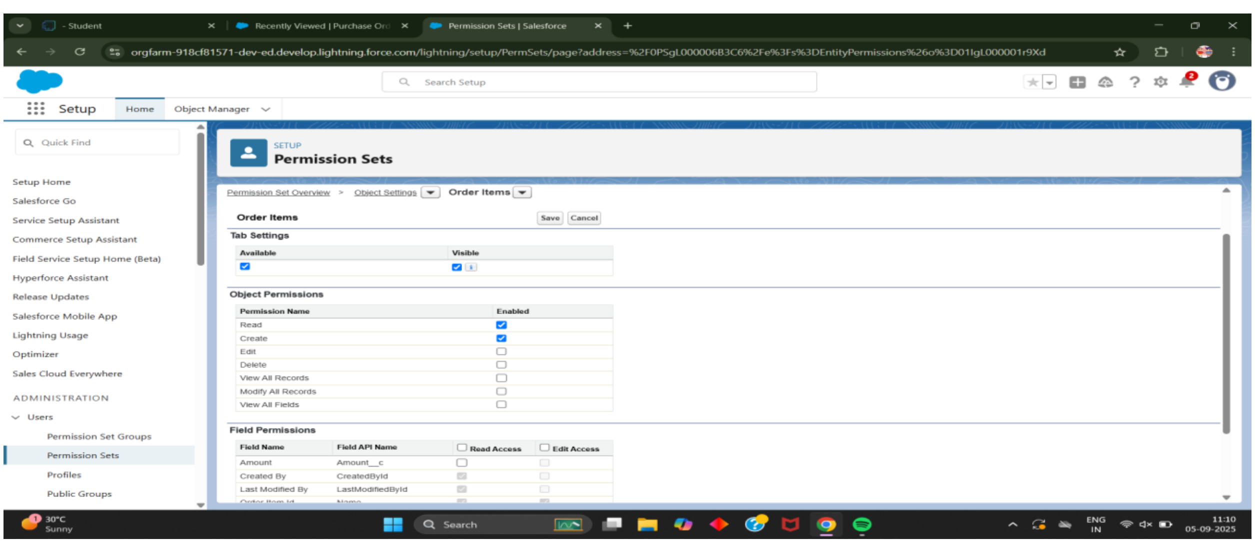
Milestone 12: Permission sets

Activity 1: Create a Permission Set

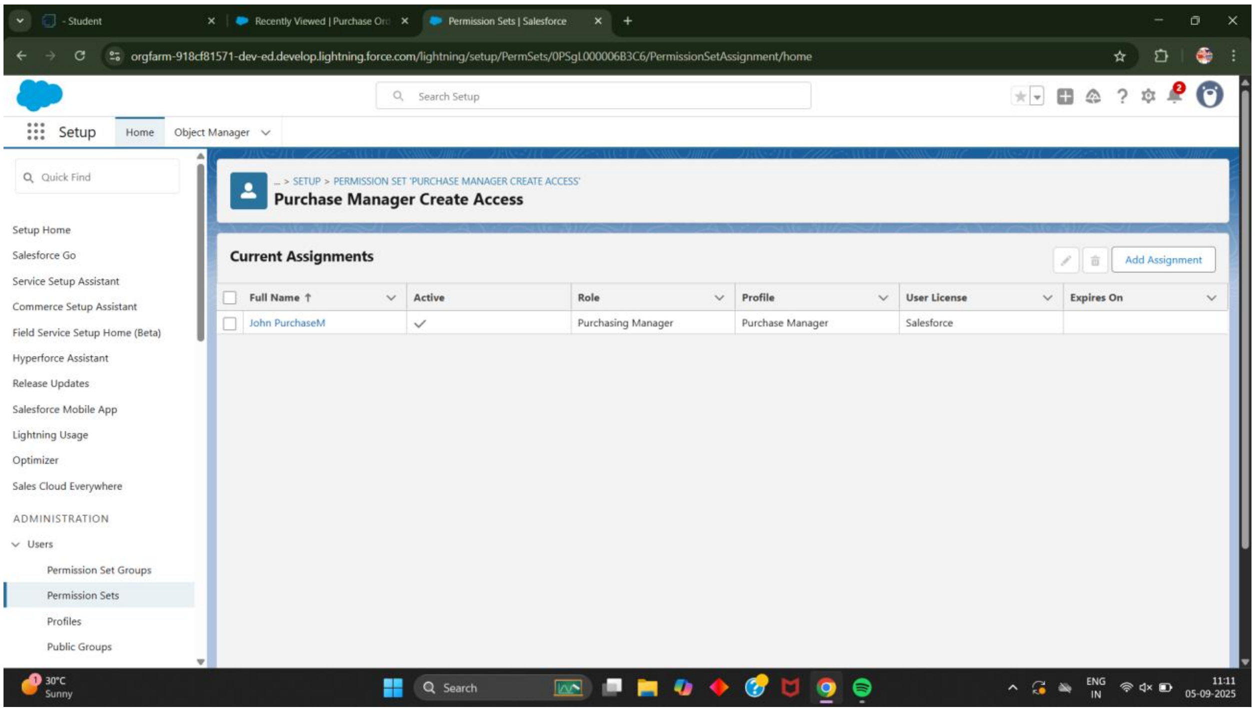
1. In set up, Permission Sets.
2. Click New, Label as Purchase Manager Create Access
3. Click save.



4. Click Object Settings, Select Order Items.
5. Click edit, and check the fields as shown below.



6. Click Manage Assignment, Click Add Assignment, Select John PurchaseM and Click Next.
7. Select No Expiration date.
8. Click Assign.



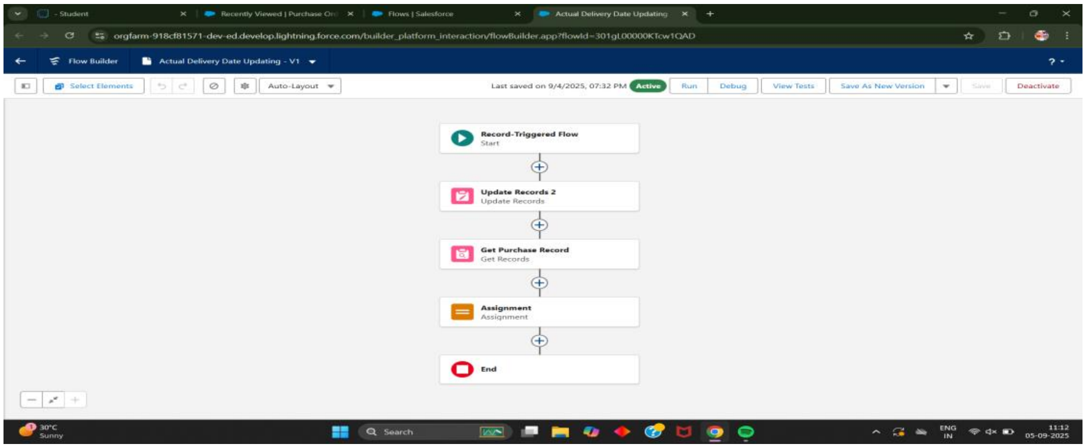
Milestone 13: Flows

Activity 1: Create flow to update the Actual Delivery Date

1. In set up, flows click New Flow.
2. Select Start From Scratch, select Record Trigger flow.
3. Select object as Purchase Order.
4. Select A record is created or updated.
5. Entry Condition : None.
6. Select Fast Field Updates
7. Add Get Purchase Record, object as Purchase Order.
8. Condition Required: All Condition are Met(AND).

i)Field: Id Operator: Equals Value: {!$Record.Id}

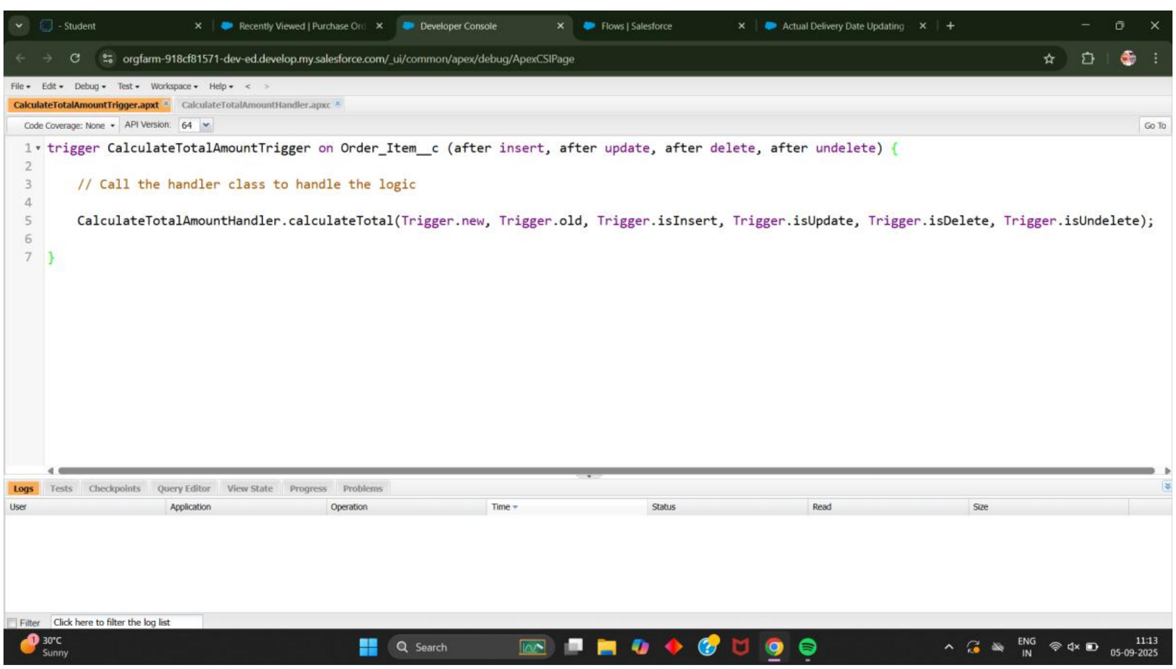
9. Select Only the First record, Select Choose fields and let Salesforce do the rest.
10. Select field as Order_Date__c.
11. Select Manage Tab, Click New Resourse
12. Select variable, API name as ActualDeliveryDate
13. Select data type as Date, Click Done.
14. Set Variable Values:
    a) Variable : {!ActualDeliveryDate}
       Operator : Equals
       Value : {!$Record.Order_Date__c}
    b) Variable : {!ActualDeliveryDate}
       Operator : Add
       Value : 3
15. Click Done.
16. Add Assignment Element, Enter label as Updating Purchasing Order.
17. Select Use the Purchase Order record that triggered the flow. Set Filter Condition: None.
18. Set Field Values for the Trip Record as
    Field : Actual_Delivery_Date__c
    Value : {!ActualDeliveryDate}.
19. Click Done, Save the flow Actual Delivery Date Updating.
20. Activate the flow.



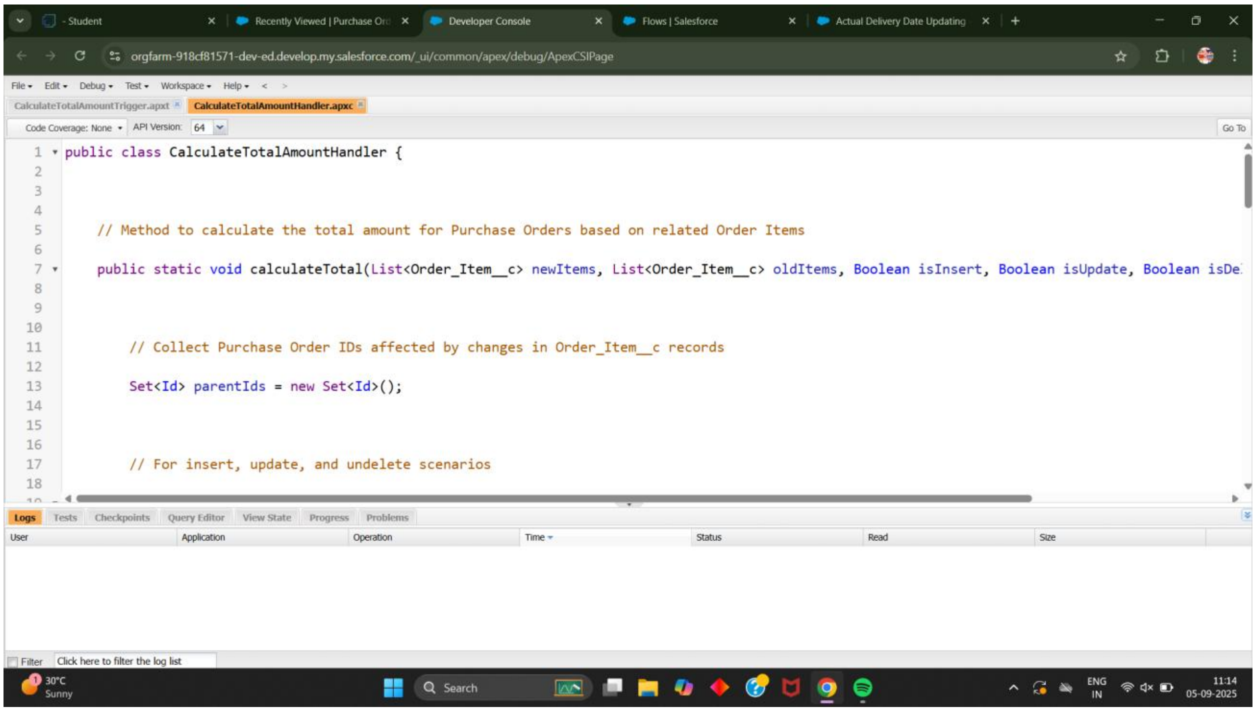
Milestone 14: Triggers

Activity 1: Create a Trigger To Calculate Total Amount on Order Item

1. In set up, Open Developer Console.
2. In Developer Console, Click New→File→Apex Trigger.
3. Name: CalculateTotalAmountTrigger, sObject: Order_Item__c.
4. Enter the code.



5. Click New→File→Apex Class.
6. Name: CalculateTotalAmountAhandler.
7. Enter the code.



Phase 5: Development, Documentation & Maintenance

Milestone 15: Reports

Activity 1: Create a Purchase Order based on Supplier(Summary) Report

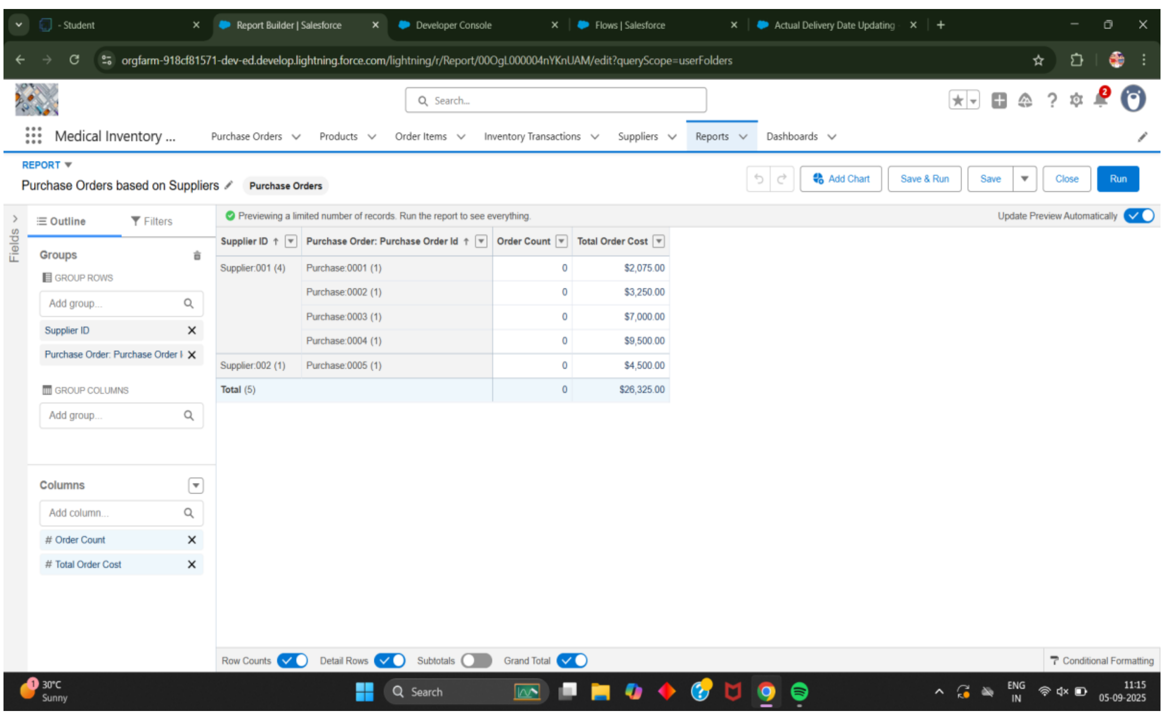
1. Click App Launcher.
2. Select Medical Inventory Management App.
3. Click Reports→New Report.
4. Select Report type as Purchase Order, Click Start Report.
5. Select show me: All purchase orders.
6. Customize your report, in group rows select – Supplier ID, Purchase Order: Purchase Order ID, for

columns Order Count, Total Order Cost (In this way we are making a Summary Report).

7. Click Save&Run.
8. Report name: Purchase Order based on Supplier.
9. Click Save.

View Report

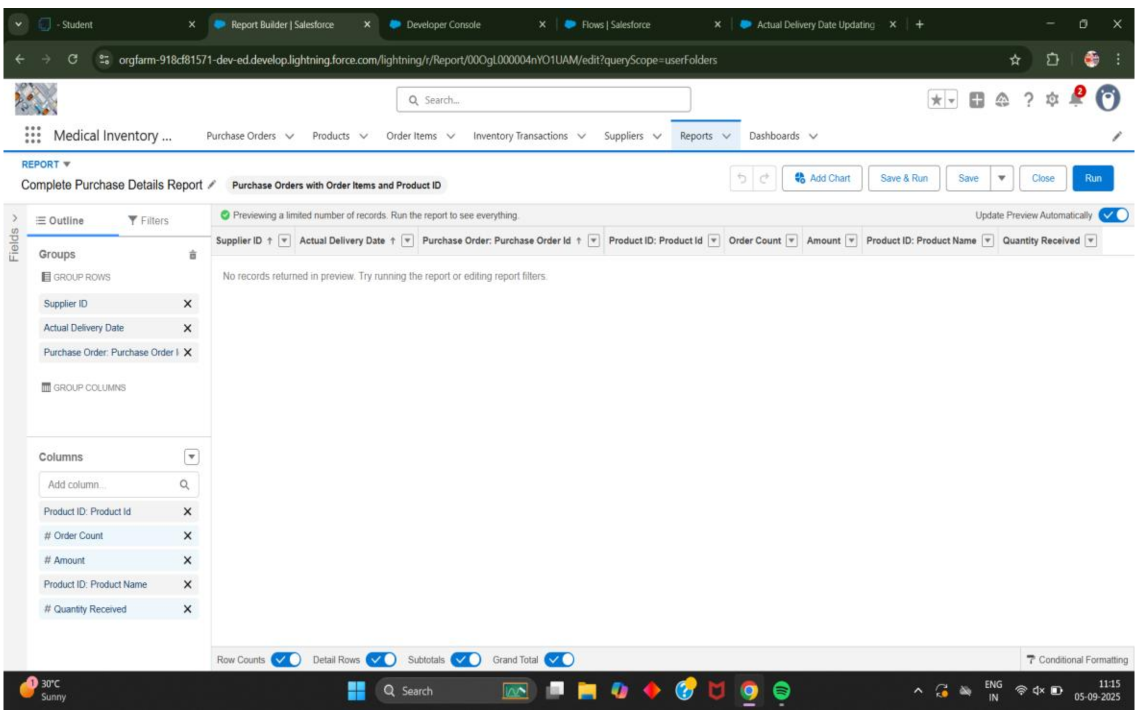
1. Click App Launcher.
2. Select Medical Inventory Management App.
3. Click Reports Tab.
4. Click Purchase Order based on Supplier and see records.



Activity 1: Create a complete Purchase Details report

1. Click App Launcher.
2. Select Medical Inventory Management App.
3. Click Reports→New Report.

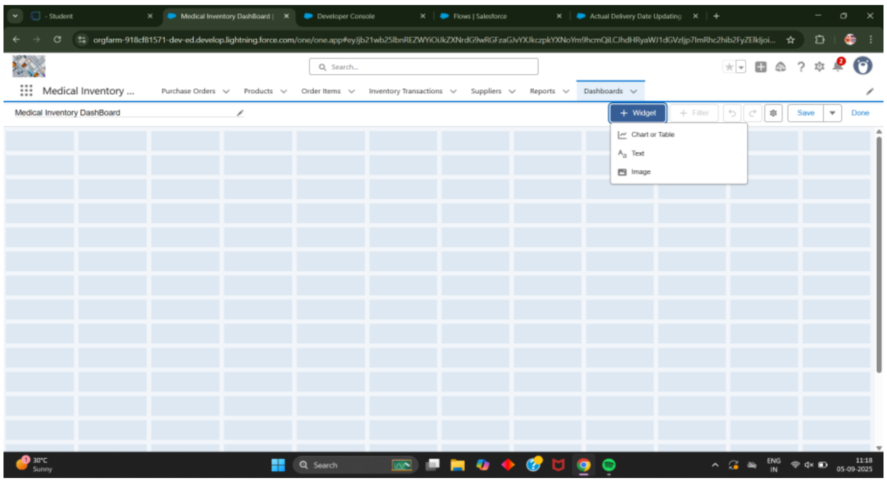
4. Select Report type as Purchase Order with Order Items and Product ID, Click Start Report.
5. Select show me: All purchase orders.
6. Customize your report, in group rows select – Supplier ID, Actual Delivery Date, Purchase Order: Purchase Order ID, for columns Product ID : Product ID, Product ID : Product Name, Order Count, Quantity Received, Amount (In this way we are making a Summary Report).
7. Click Save&Run.
8. Report name: Purchase Order based on Supplier.
9. Click Save.



Milestone 16: Dashboards

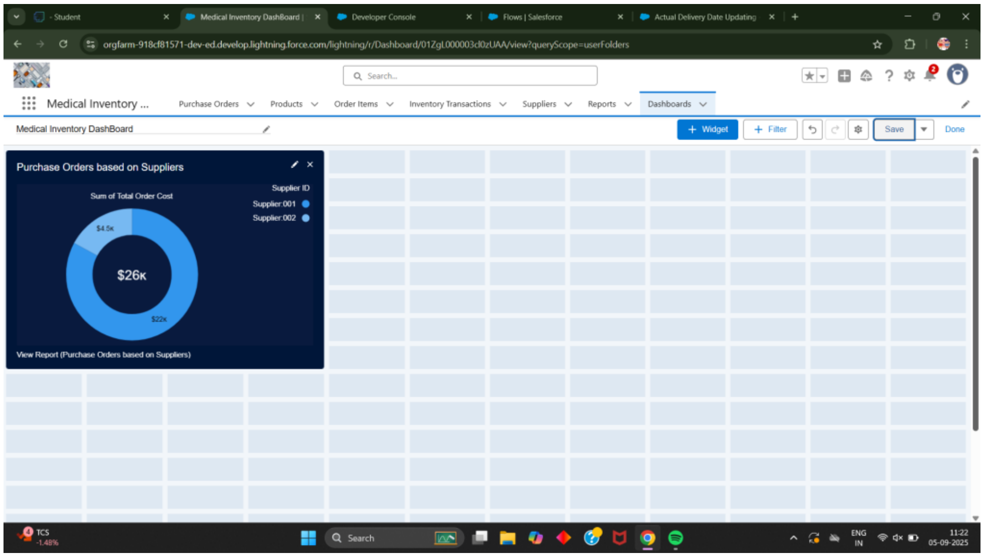
Activity 1: Create Dashboard

1. In Medical Inventory Management App, Click Dashboard Tab.

2. Click New Dashboard.
3. Name: Medical Inventory Dashboard
4. Click Create
5. Click +Widget, Select Purchase Order based on Supplier.
6. For the data visualization select any of the charts, tables etc. as per your choice/requirement
7. Click add→save.
8. 

Activity 2: View Dashboard

1. Click on App Launcher, Search Medical Inventory Management App.
2. In Medical Inventory Management App, Click Dashboard Tab.
3. Click Medical Inventory Dashboard and see the Widget.


Medical Inventory ...
Purchase Orders
Products
Order Items
Inventory Transactions
Suppliers
Reports
Dashboards
Medical Inventory DashBoard
Widget
Filter
Save
Done
Purchase Orders based on Suppliers
Supplier ID
Sum of Total Order Cost
Supplier:001
Supplier:002
$4.5K
$26K
$22K
View Report (Purchase Orders based on Suppliers)