MEDICAL INVENTORY MANAGEMENT

College Name: shri nehru maha vidyalaya college of arts and science

College Code: bru26

TEAM ID: **NM2025TMID20627**

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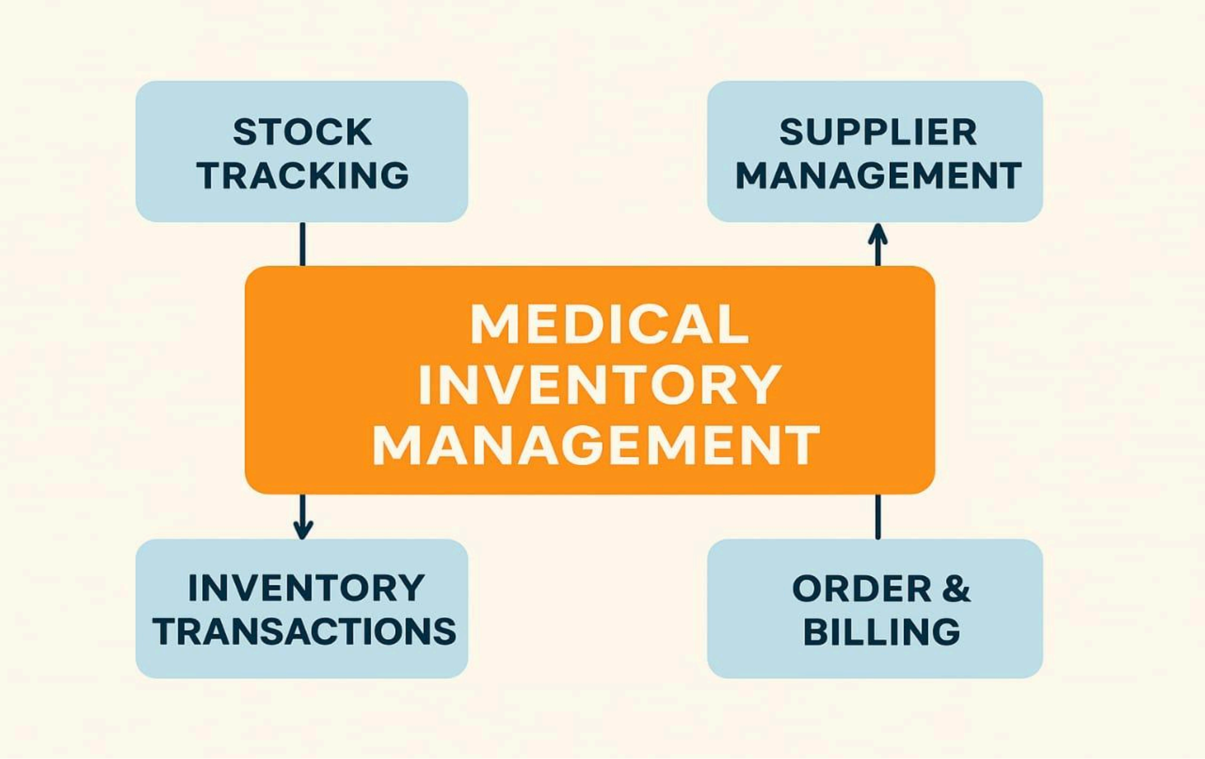
1.INTRODUCTION

1.1 Project Overview

The Medical Inventory Management System is a Salesforce-based website designed to help hospitals, pharmacies, and clinics manage their medical supplies efficiently. It enables users to track stock levels, monitor expiry dates, manage suppliers, and automate reordering, reducing manual errors and preventing shortages or wastage.



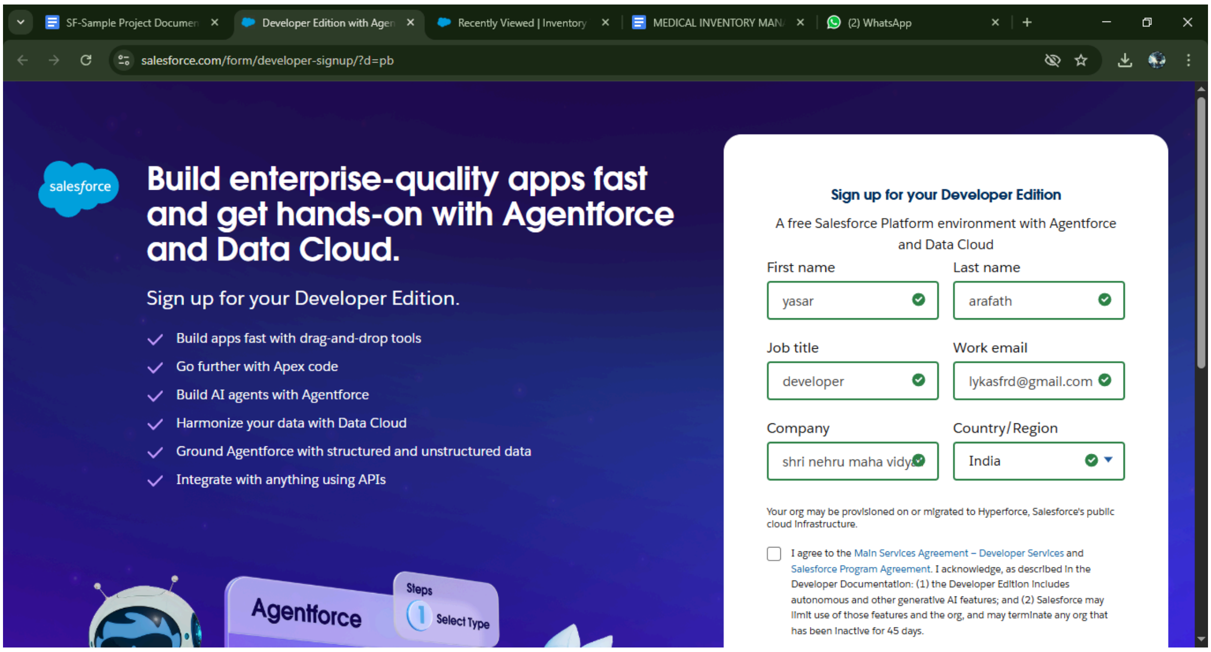
1.2 Purpose

The main objective of the project is to help healthcare organizations manage medical supplies effectively. It reduces manual errors, prevents stock shortages or wastage, and ensures timely availability of essential medicines and equipment. The system also improves accuracy, saves time, and provides better control over suppliers and inventory data.

DEVELOPMENT PHASE

Creating Developer Account:

By using this URL - **https://www.salesforce.com/form/developer-signup/?d=pb**


SF-Sample Project Documen
Developer Edition with Agen
Recently Viewed | Inventory
MEDICAL INVENTORY MAN
(2) WhatsApp
salesforce.com/form/developer-signup/?d=pb
salesforce
Agentforce
Steps
1 Select Type

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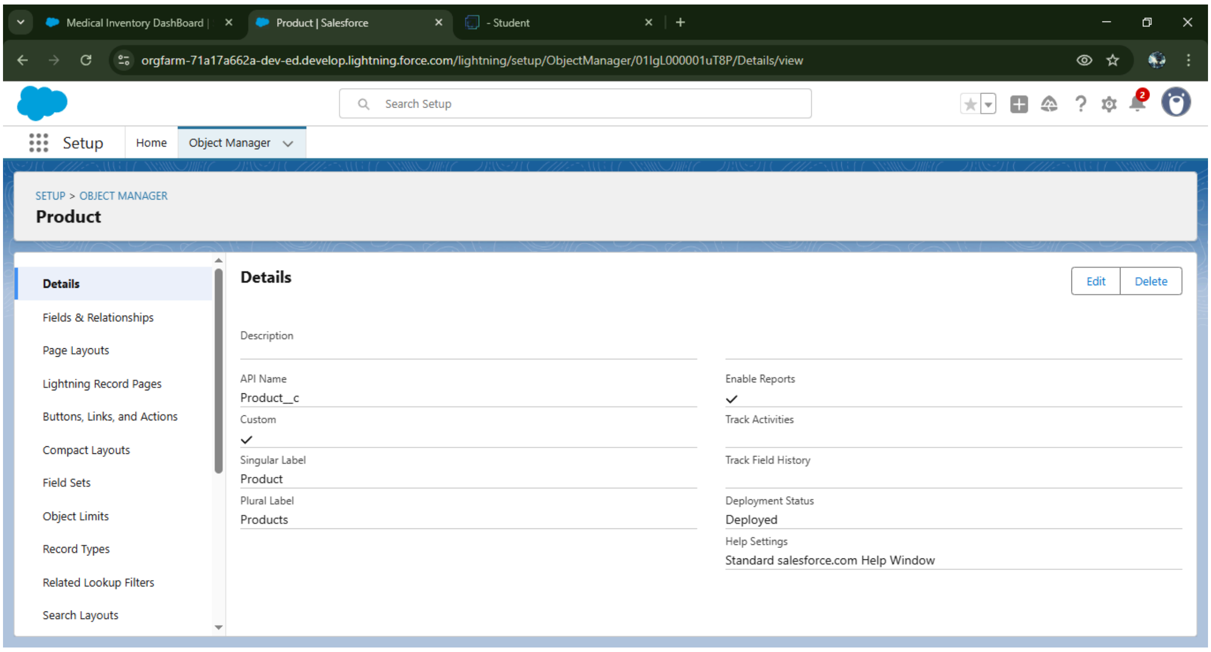
First name yasar ✓	Last name arafath ✓
Job title developer ✓	Work email lykasfrd@gmail.com ✓
Company shri nehru maha vidy ✓	Country/Region India ✓

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.

- Created objects: Product, Purchase order , Order Item , Inventory Transaction , Supplier.

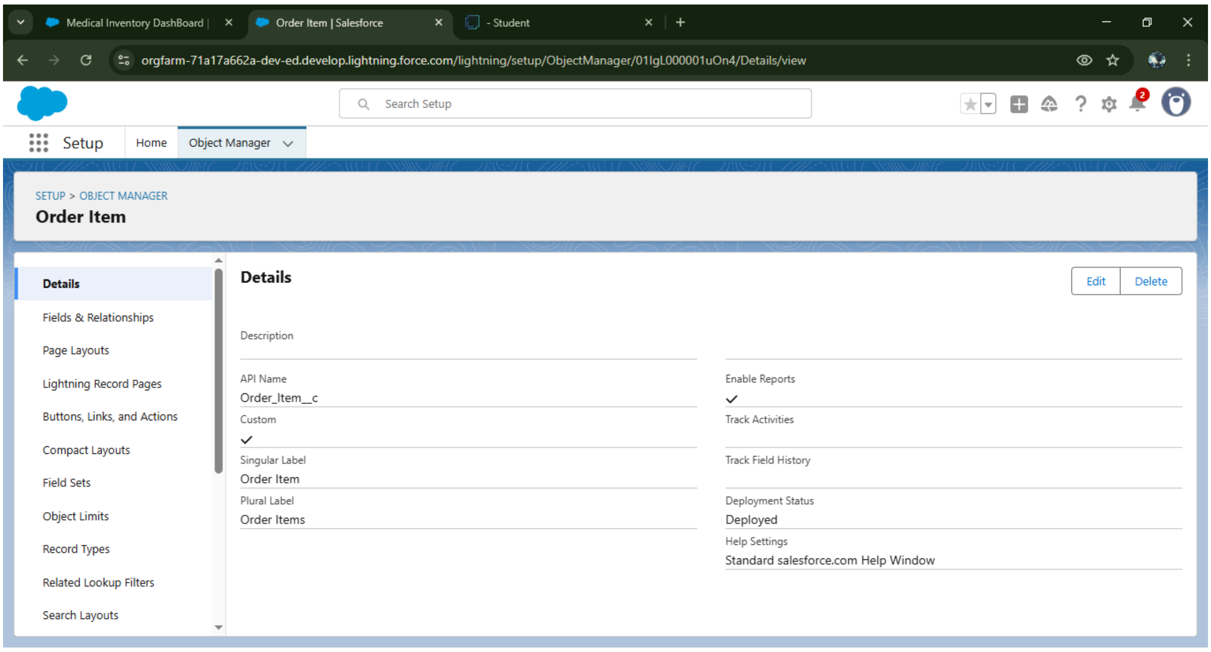


SETUP > OBJECT MANAGER

Product

Details

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

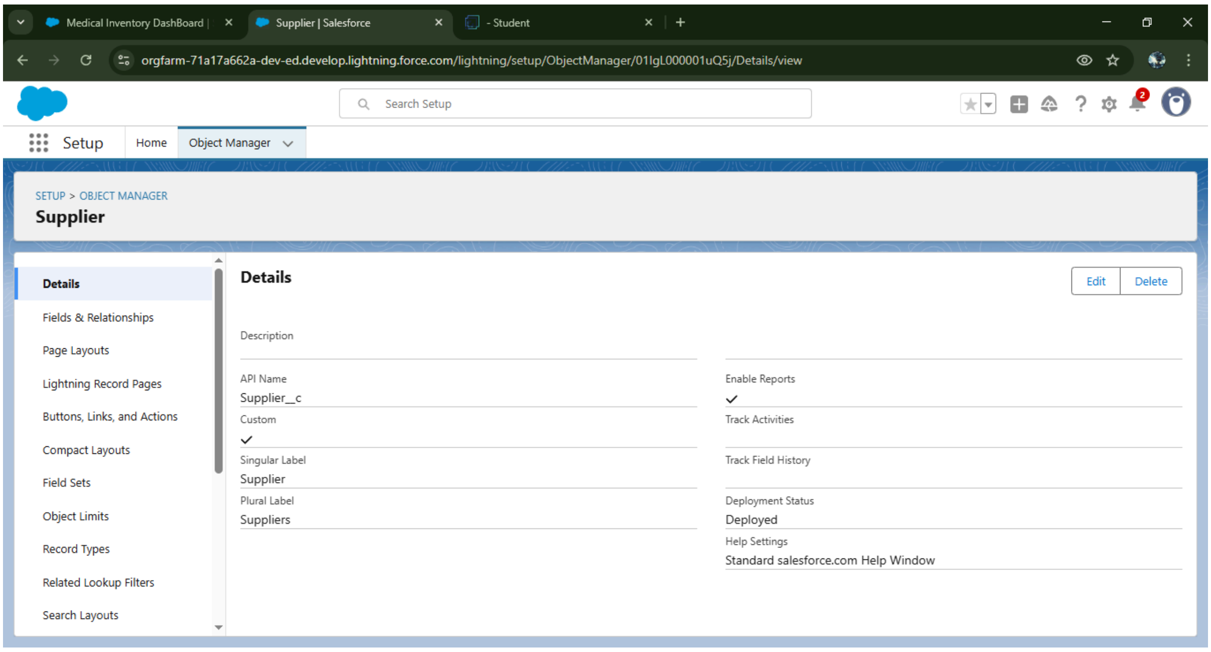


SETUP > OBJECT MANAGER

Order Item

Details

Description	
API Name Order_Item__c	Enable Reports ✓
Custom ✓	Track Activities
Singular Label Order Item	Track Field History
Plural Label Order Items	Deployment Status Deployed
	Help Settings Standard salesforce.com Help Window

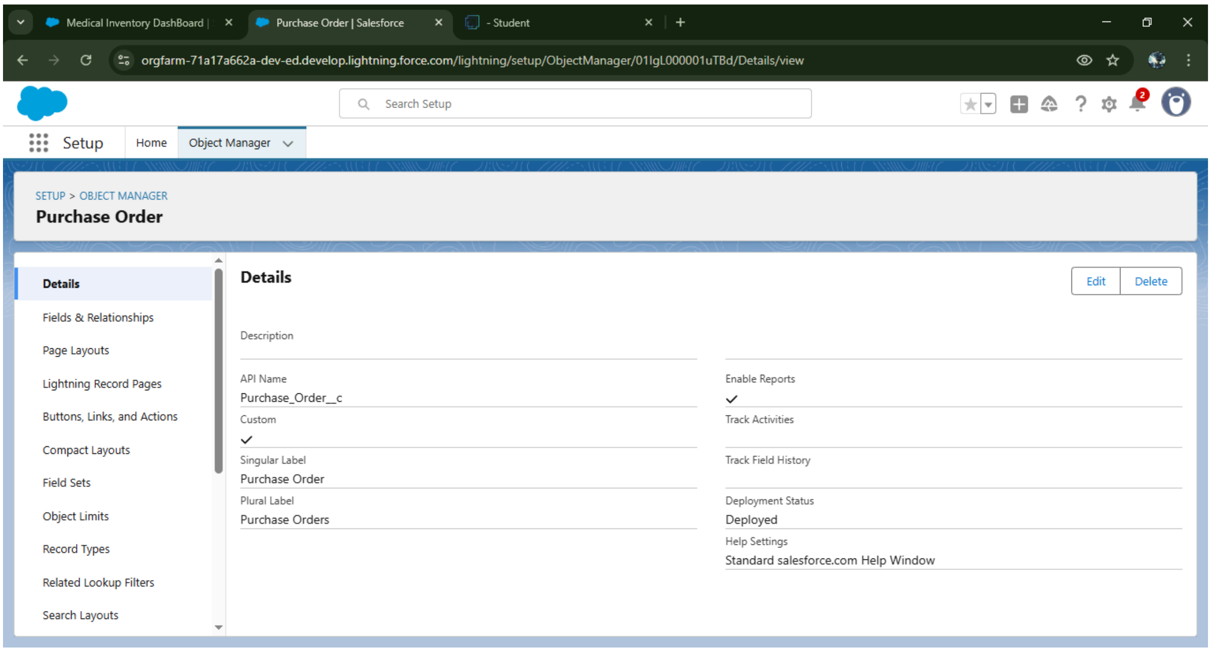


SETUP > OBJECT MANAGER

Supplier

Details

Description	
API Name Supplier__c	Enable Reports ✓
Custom ✓	Track Activities
Singular Label Supplier	Track Field History
Plural Label Suppliers	Deployment Status Deployed
	Help Settings Standard salesforce.com Help Window

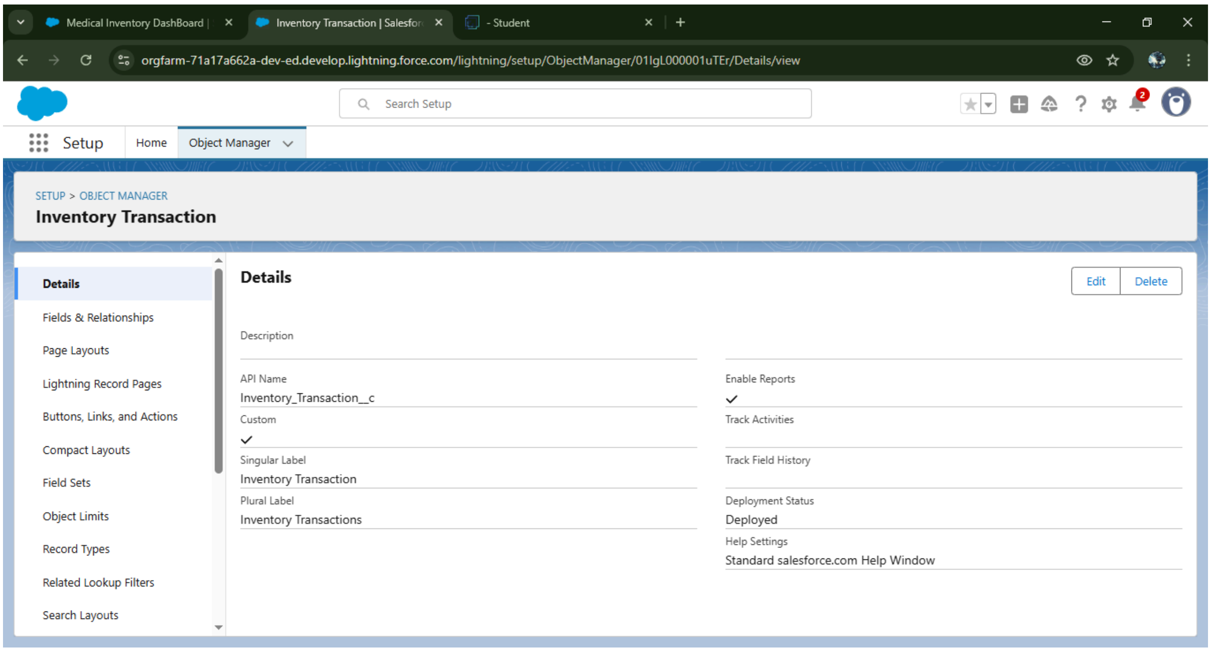


SETUP > OBJECT MANAGER

Purchase Order

Details

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



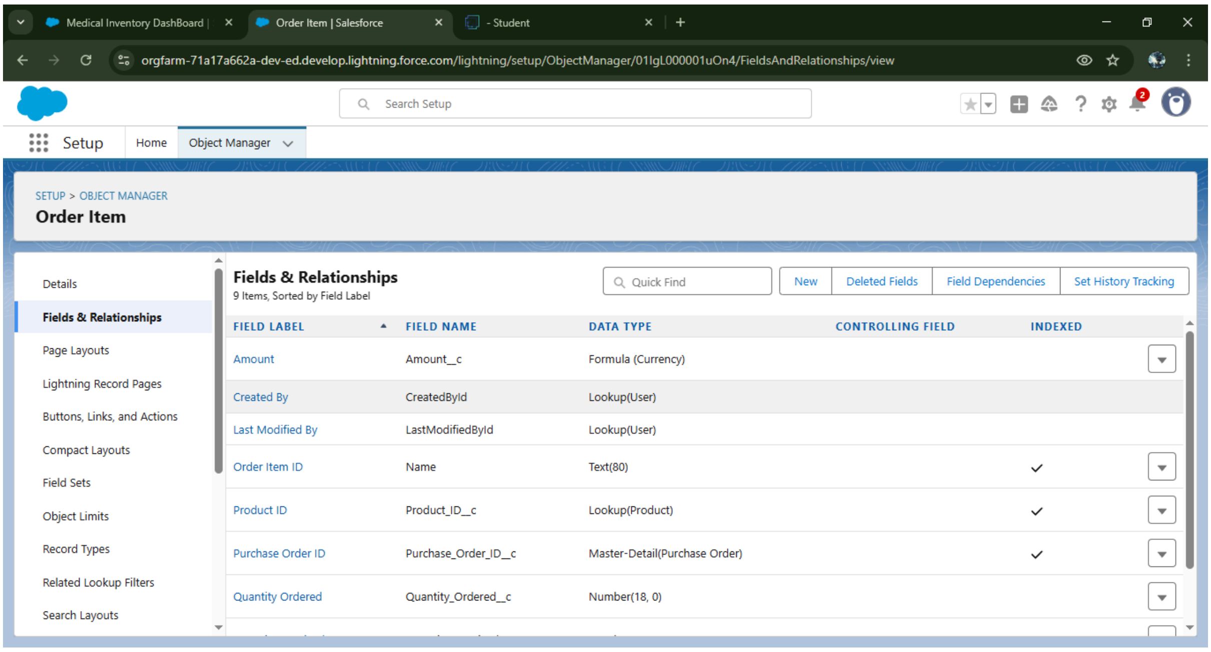
SETUP > OBJECT MANAGER

Inventory Transaction

Details

Description	
API Name Inventory_Transaction__c	Enable Reports ✓
Custom ✓	Track Activities
Singular Label Inventory Transaction	Track Field History
Plural Label Inventory Transactions	Deployment Status Deployed
	Help Settings Standard salesforce.com Help Window

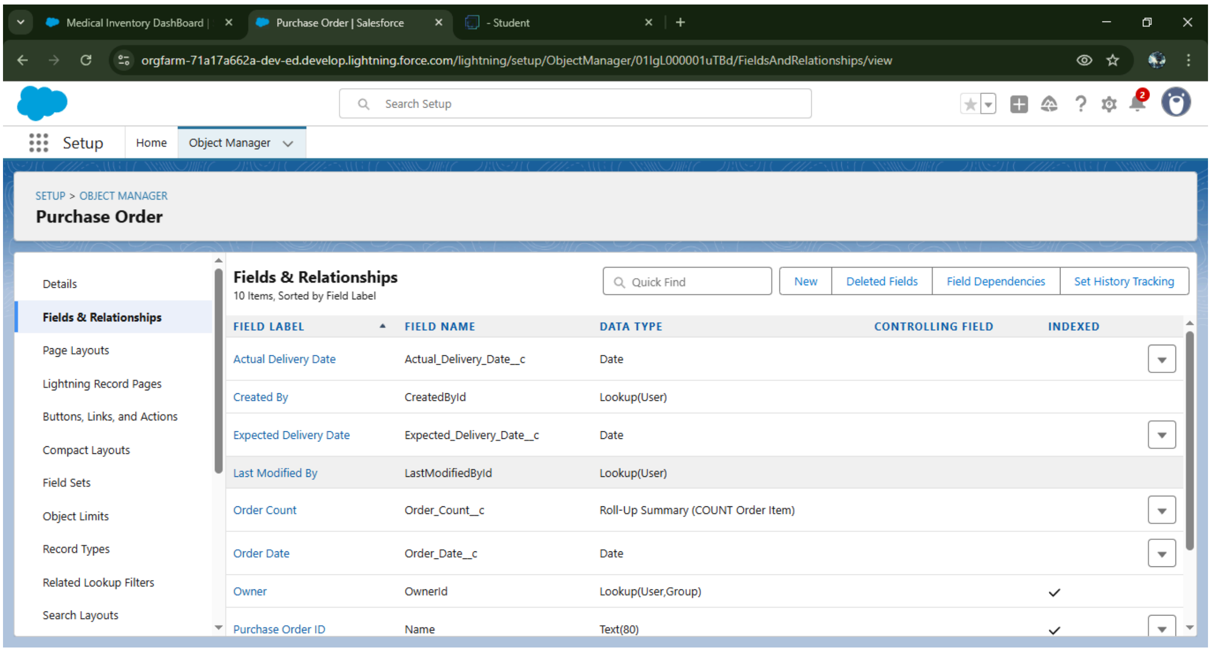
- Configured fields and relationships



Fields & Relationships

9 Items, Sorted by Field Label

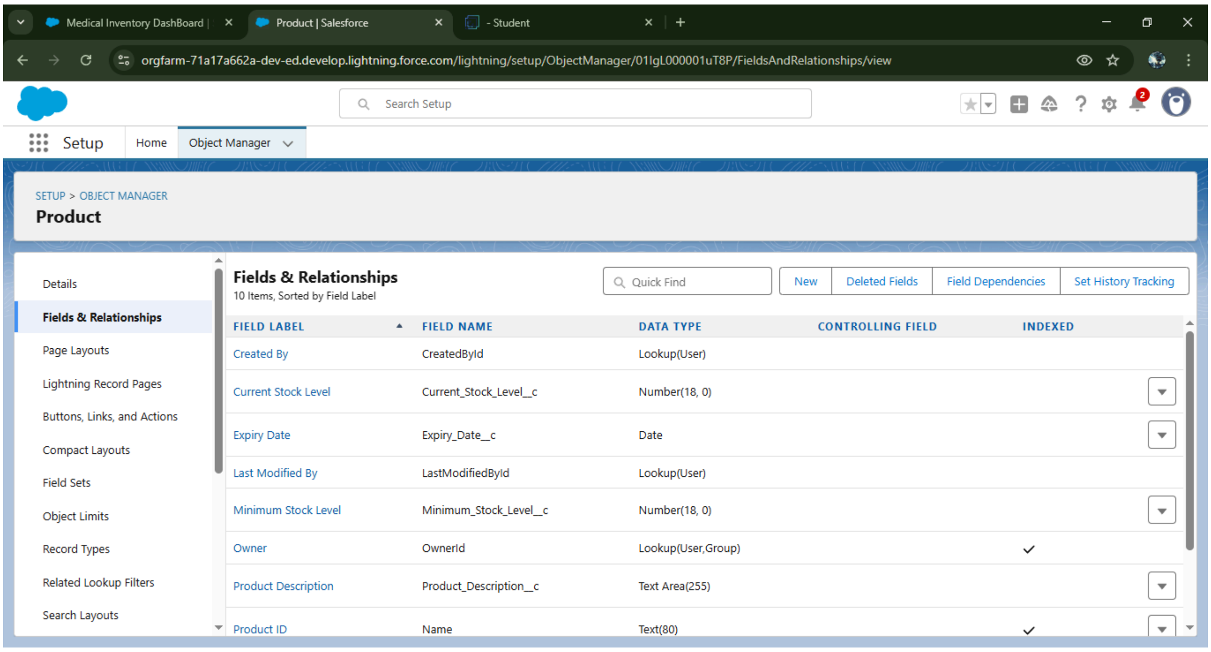
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount__c	Formula (Currency)		
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Order Item ID	Name	Text(80)		✓
Product ID	Product_ID__c	Lookup(Product)		✓
Purchase Order ID	Purchase_Order_ID__c	Master-Detail(Purchase Order)		✓
Quantity Ordered	Quantity_Ordered__c	Number(18, 0)		



Fields & Relationships

10 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Actual Delivery Date	Actual_Delivery_Date__c	Date		
Created By	CreatedById	Lookup(User)		
Expected Delivery Date	Expected_Delivery_Date__c	Date		
Last Modified By	LastModifiedById	Lookup(User)		
Order Count	Order_Count__c	Roll-Up Summary (COUNT Order Item)		
Order Date	Order_Date__c	Date		
Owner	OwnerId	Lookup(User,Group)		✓
Purchase Order ID	Name	Text(80)		✓

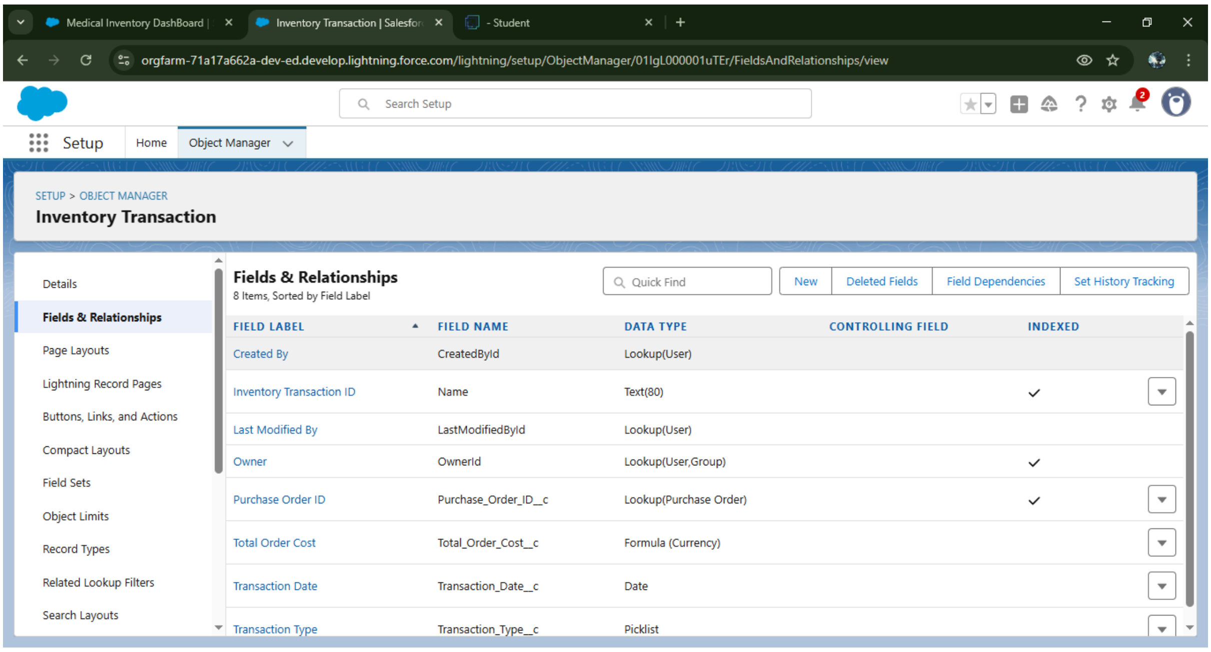


Product

Fields & Relationships

10 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Current Stock Level	Current_Stock_Level__c	Number(18, 0)		
Expiry Date	Expiry_Date__c	Date		
Last Modified By	LastModifiedById	Lookup(User)		
Minimum Stock Level	Minimum_Stock_Level__c	Number(18, 0)		
Owner	OwnerId	Lookup(User,Group)		✓
Product Description	Product_Description__c	Text Area(255)		
Product ID	Name	Text(80)		✓

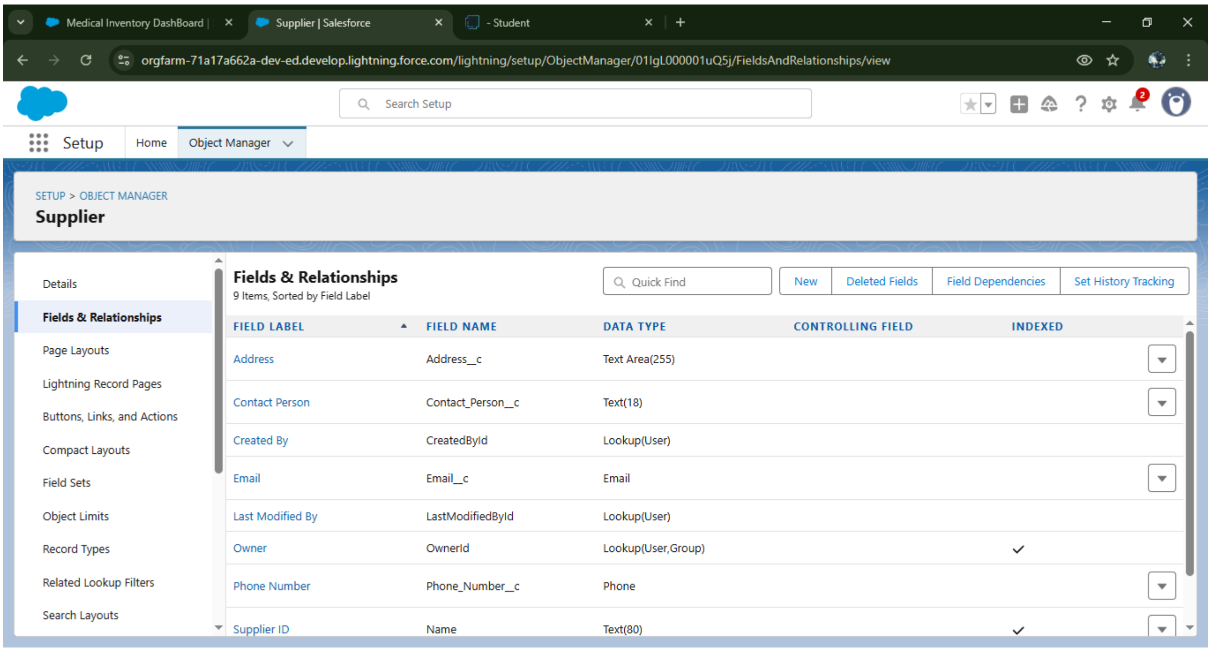


Inventory Transaction

Fields & Relationships

8 Items, Sorted by Field Label

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 Date	Transaction_Date__c	Date		
Transaction Type	Transaction_Type__c	Picklist		



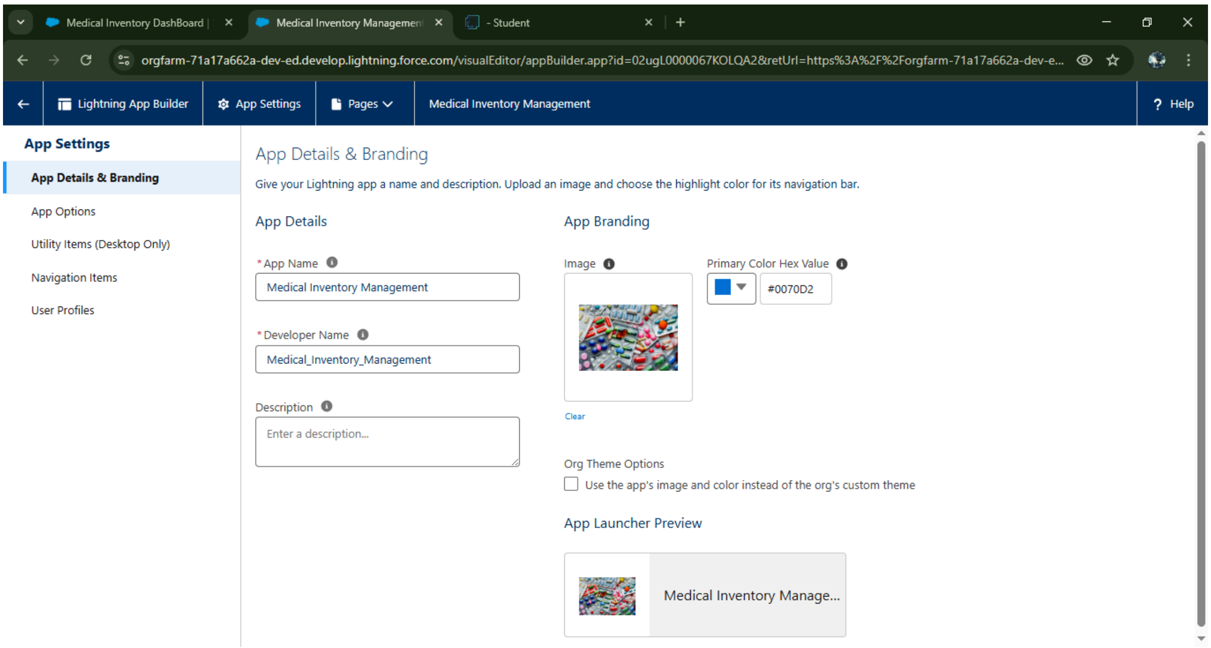
Supplier

Fields & Relationships

9 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Address	Address__c	Text Area(255)		
Contact Person	Contact_Person__c	Text(18)		
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)		✓

- Developed Lightning App with relevant tabs


Medical Inventory DashBoard |
Medical Inventory Managemen
- Student
orgfarm-71a17a662a-dev-ed.develop.lightning.force.com/visualEditor/appBuilder.app?id=02ugL0000067KOLQA2&retUrl=https%3A%2F%2Forgfarm-71a17a662a-dev-e...
Lightning App Builder
App Settings
Pages
Medical Inventory Management
Help
App Settings
App Details & Branding
App Options
Utility Items (Desktop Only)
Navigation Items
User Profiles
Clear

App Details & Branding

Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.

App Details

* App Name: Medical Inventory Management

* Developer Name: Medical_Inventory_Management

Description: Enter a description...

App Branding

Image

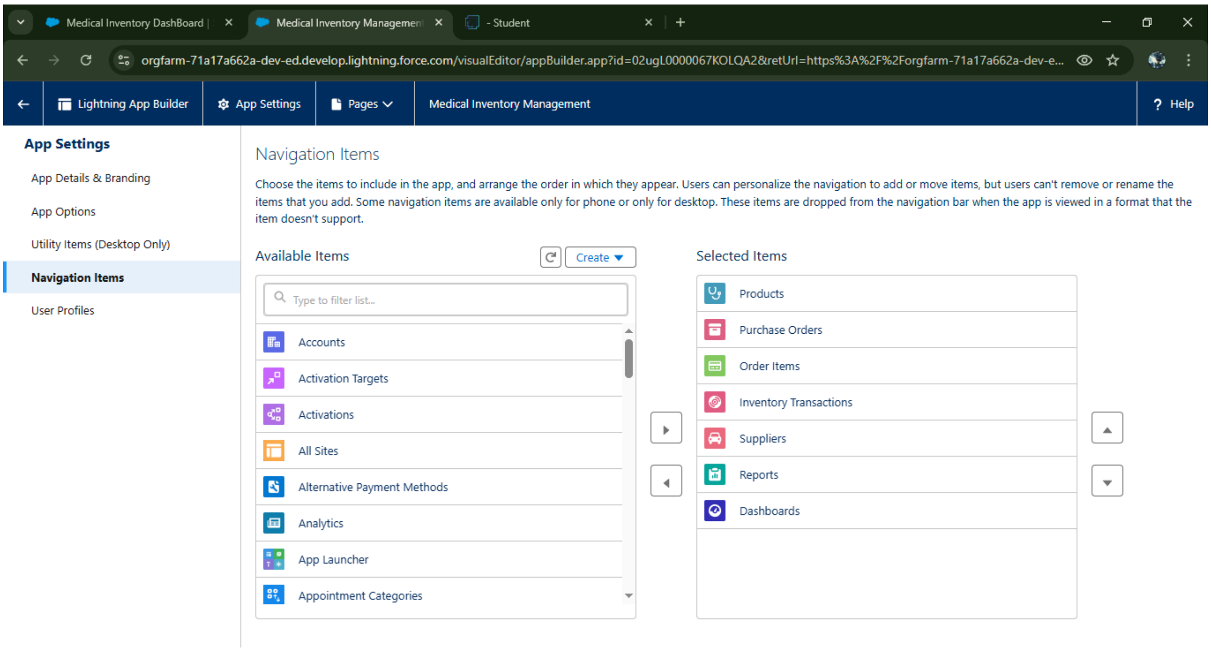
Primary Color Hex Value: #0070D2

Org Theme Options

□ Use the app's image and color instead of the org's custom theme

App Launcher Preview

Medical Inventory Manage...


Medical Inventory DashBoard |
Medical Inventory Managemen
- Student
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Lightning App Builder
App Settings
Pages
Medical Inventory Management
Help
App Settings
App Details & Branding
App Options
Utility Items (Desktop Only)
Navigation Items
User Profiles
Create
Type to filter list...

Navigation Items

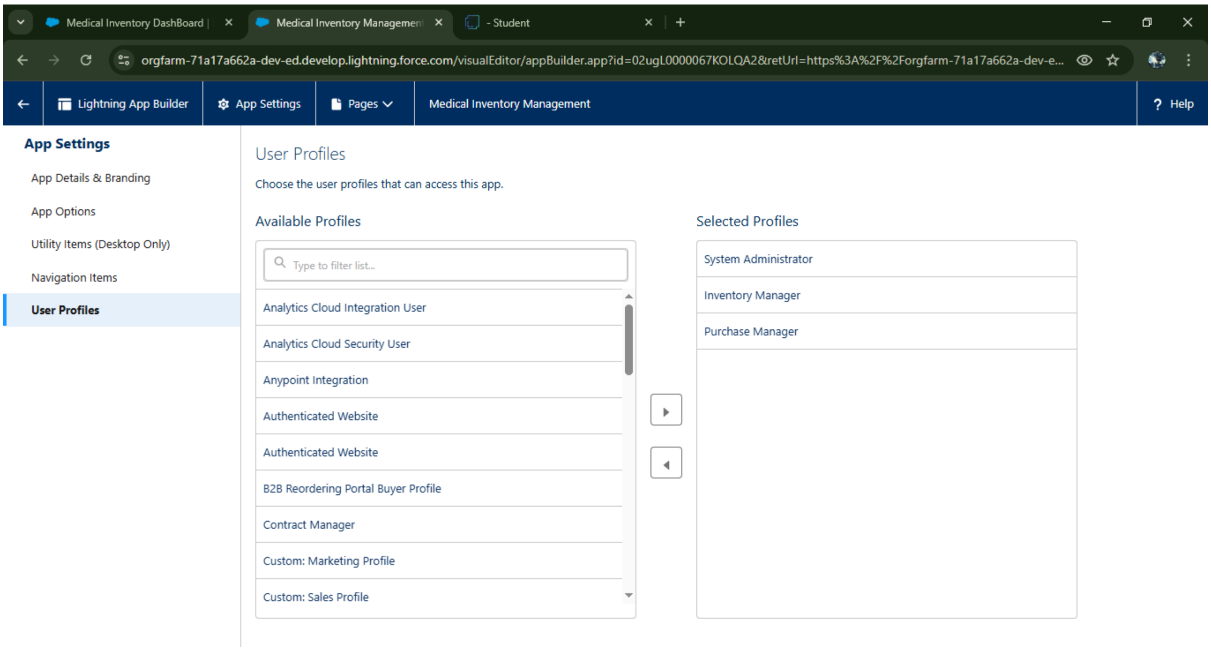
Choose the items to include in the app, and arrange the order in which they appear. Users can personalize the navigation to add or move items, but users can't remove or rename the items that you add. Some navigation items are available only for phone or only for desktop. These items are dropped from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

Available Items

- Accounts
- Activation Targets
- Activations
- All Sites
- Alternative Payment Methods
- Analytics
- App Launcher
- Appointment Categories

Selected Items

- Products
- Purchase Orders
- Order Items
- Inventory Transactions
- Suppliers
- Reports
- Dashboards


Medical Inventory DashBoard |
Medical Inventory Managemen
- Student
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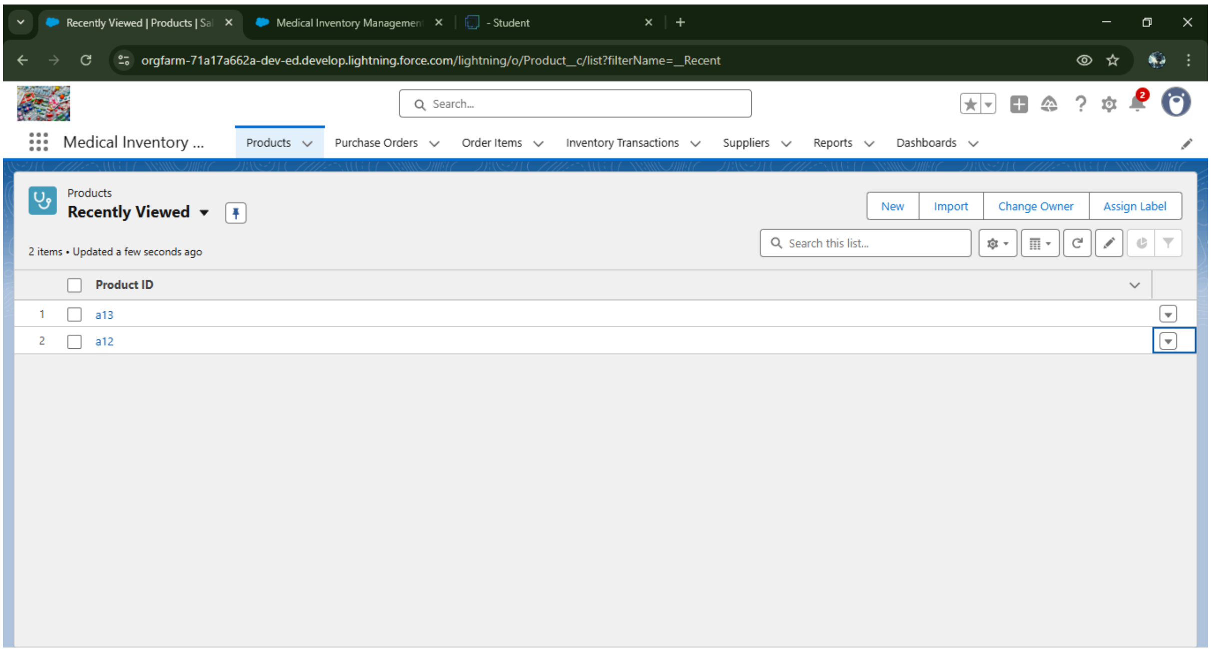
Lightning App Builder
App Settings
Pages
Medical Inventory Management
Help
App Settings
App Details & Branding
App Options
Utility Items (Desktop Only)
Navigation Items
User Profiles

User Profiles

Choose the user profiles that can access this app.

Available Profiles	Selected Profiles
Analytics Cloud Integration User	System Administrator
Analytics Cloud Security User	Inventory Manager
Anypoint Integration	Purchase Manager
Authenticated Website	
Authenticated Website	
B2B Reordering Portal Buyer Profile	
Contract Manager	
Custom: Marketing Profile	
Custom: Sales Profile	



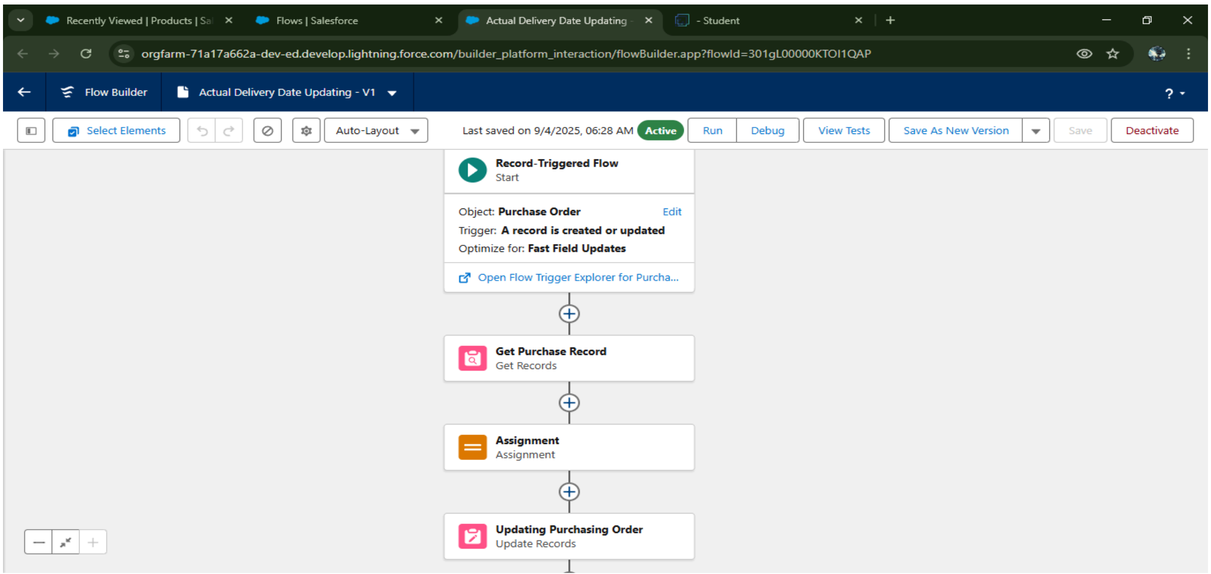
Products

Recently Viewed

2 items • Updated a few seconds ago

	Product ID
1	a13
2	a12

- Implemented Flow to update the Actual Delivery Date


Recently Viewed | Products | Sa
Flows | Salesforce
Actual Delivery Date Updating
- Student
orgfarm-71a17a662a-dev-ed.develop.lightning.force.com/builder_platform_interaction/flowBuilder.app?flowId=301gL00000KTOI1QAP
Flow Builder
Actual Delivery Date Updating - V1
Select Elements
Auto-Layout
Active
Run
Debug
View Tests
Save As New Version
Save
Deactivate
Edit
Open Flow Trigger Explorer for Purcha...

Last saved on 9/4/2025, 06:28 AM

Record-Triggered Flow
Start

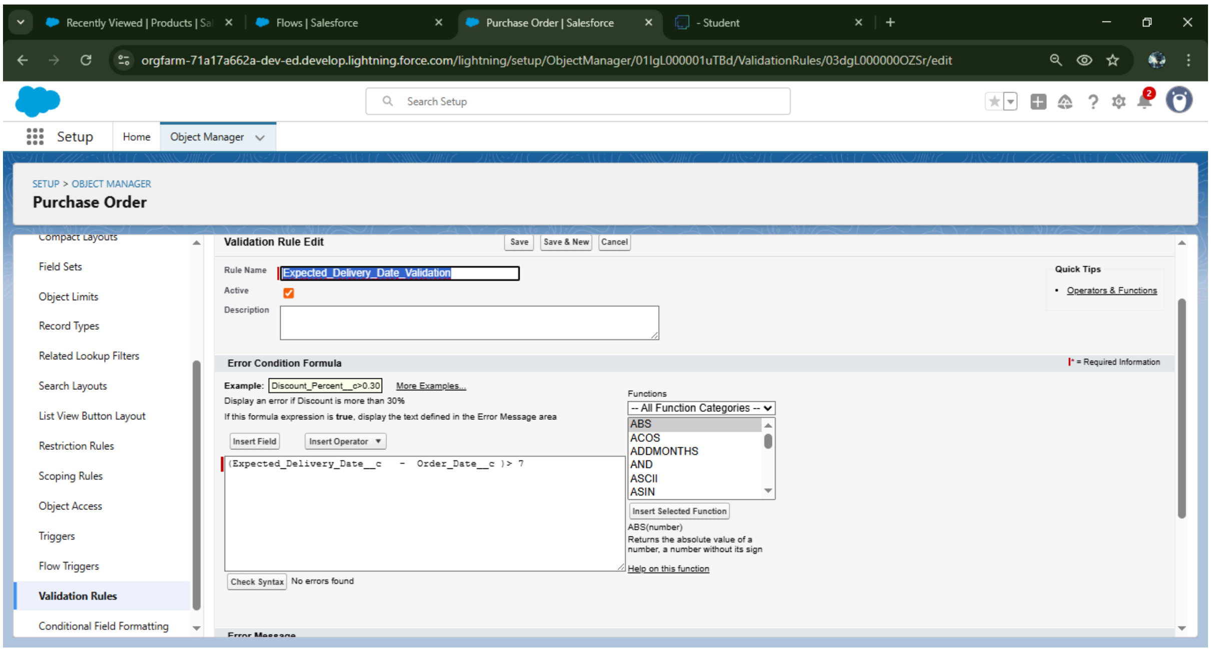
Object: Purchase Order
Trigger: A record is created or updated
Optimize for: Fast Field Updates

Get Purchase Record
Get Records

Assignment
Assignment

Updating Purchasing Order
Update Records

- To create a validation rule to a Purchase Order Object



Purchase Order

Validation Rule Edit

Rule Name: Expected_Delivery_Date_Validation

Active: ☑

Description:

Error Condition Formula

| = Required Information

Example: Discount_Percent__c>0.30

Display an error if Discount is more than 30%

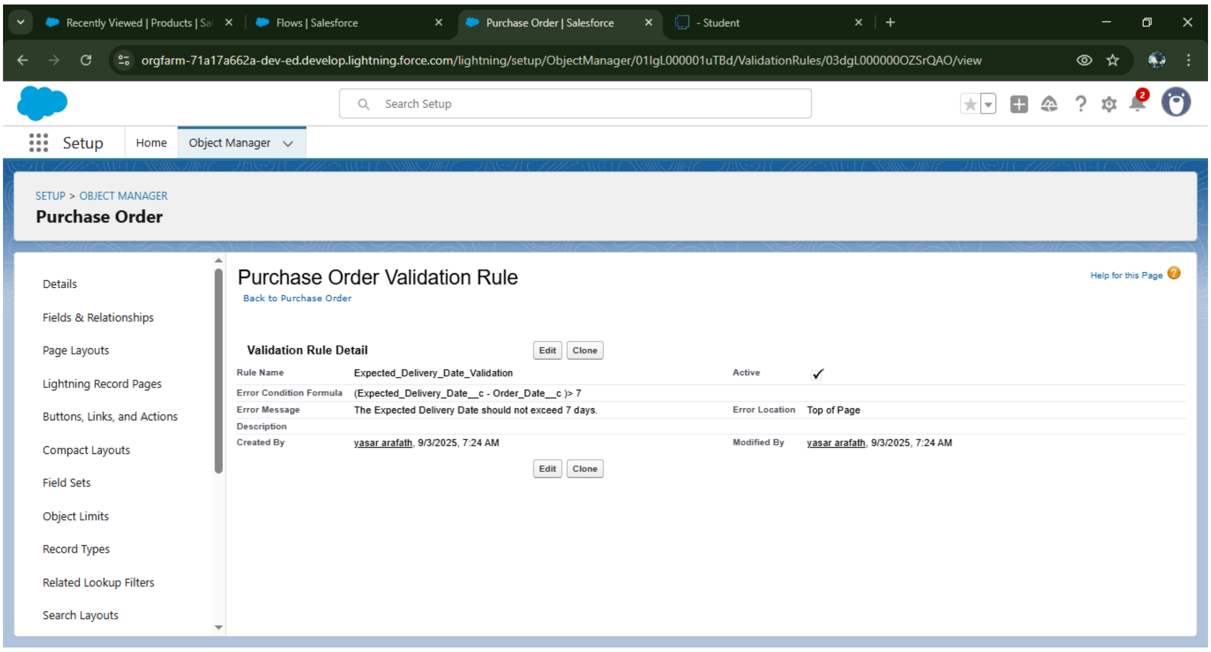
If this formula expression is **true**, display the text defined in the Error Message area

```
(Expected_Delivery_Date__c   -  Order_Date__c )> 7
```

No errors found

ABS(number)
Returns the absolute value of a number, a number without its sign

Error Message



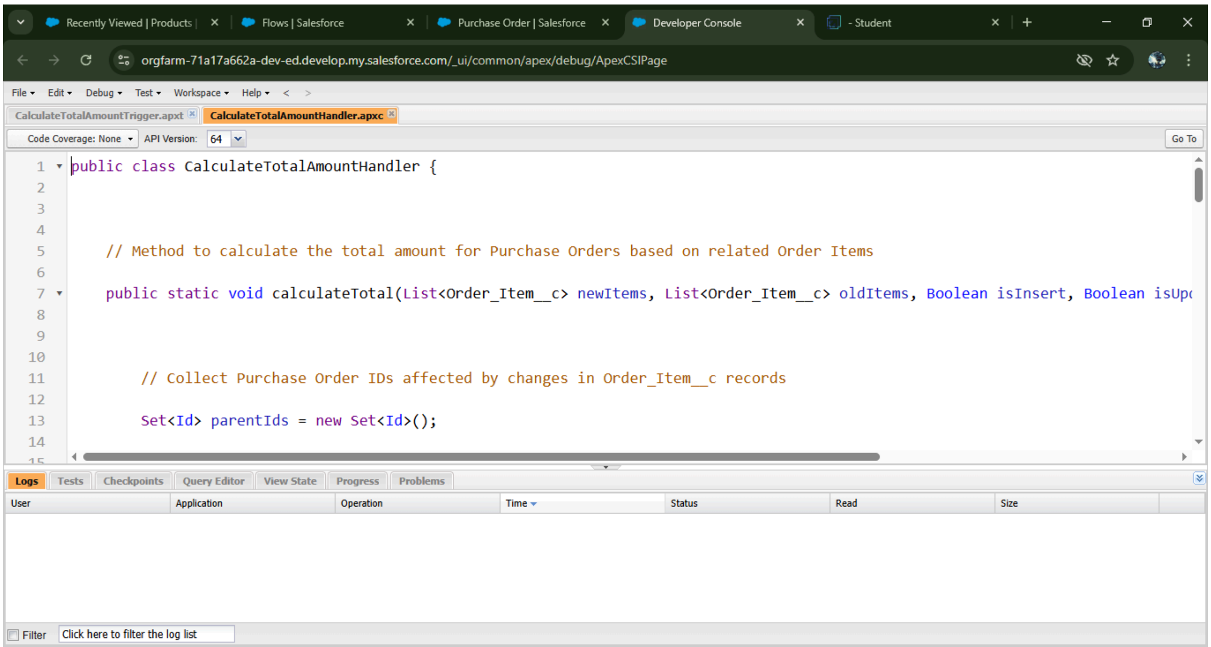
Purchase Order

Purchase Order Validation Rule

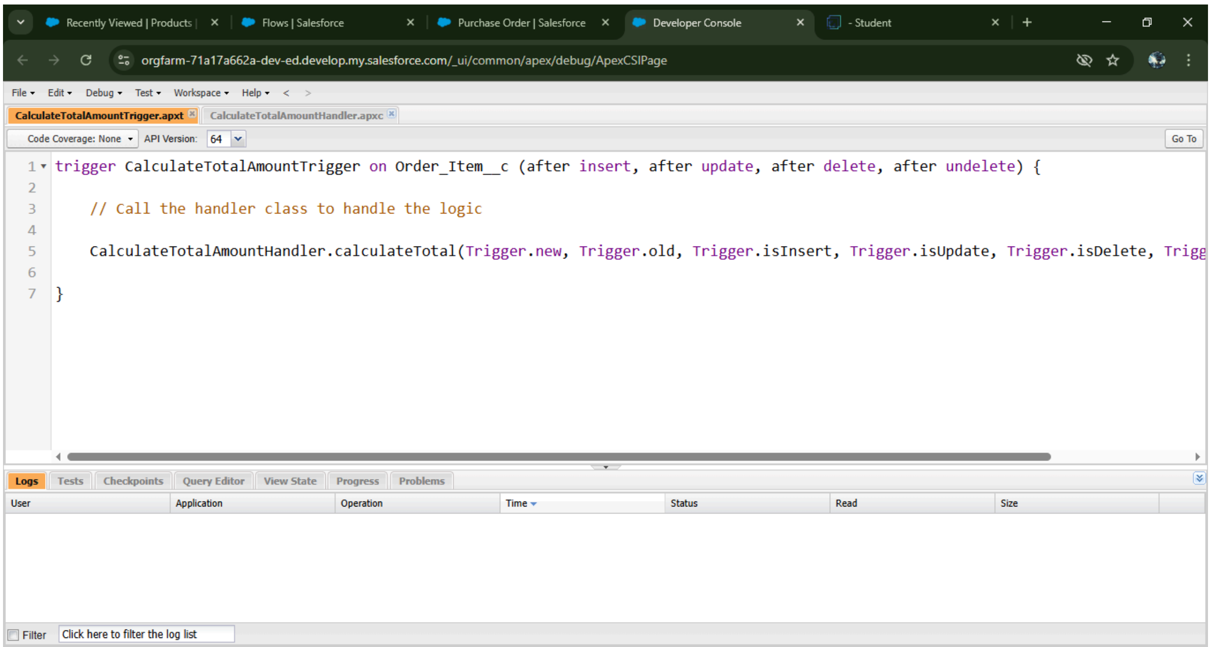
Validation Rule Detail

Rule Name	Expected_Delivery_Date_Validation	Active	✓
Error Condition Formula	(Expected_Delivery_Date__c - Order_Date__c)> 7		
Error Message	The Expected Delivery Date should not exceed 7 days.	Error Location	Top of Page
Description			
Created By	yasar arafath, 9/3/2025, 7:24 AM	Modified By	yasar arafath, 9/3/2025, 7:24 AM

- Added a apex class and Trigger to Calculate total amount on Order Item


Recently Viewed | Products |
Flows | Salesforce
Purchase Order | Salesforce
Developer Console
- Student
orgfarm-71a17a662a-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage
File
Edit
Debug
Test
Workspace
Help
CalculateTotalAmountTrigger.apxt
CalculateTotalAmountHandler.apxc
Code Coverage: None
API Version:
64
Go To
Logs
Tests
Checkpoints
Query Editor
View State
Progress
Problems
User
Application
Operation
Time
Status
Read
Size
Filter
Click here to filter the log list

```
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 isUp



        // Collect Purchase Order IDs affected by changes in Order_Item__c records

        Set<Id> parentIds = new Set<Id>();

```

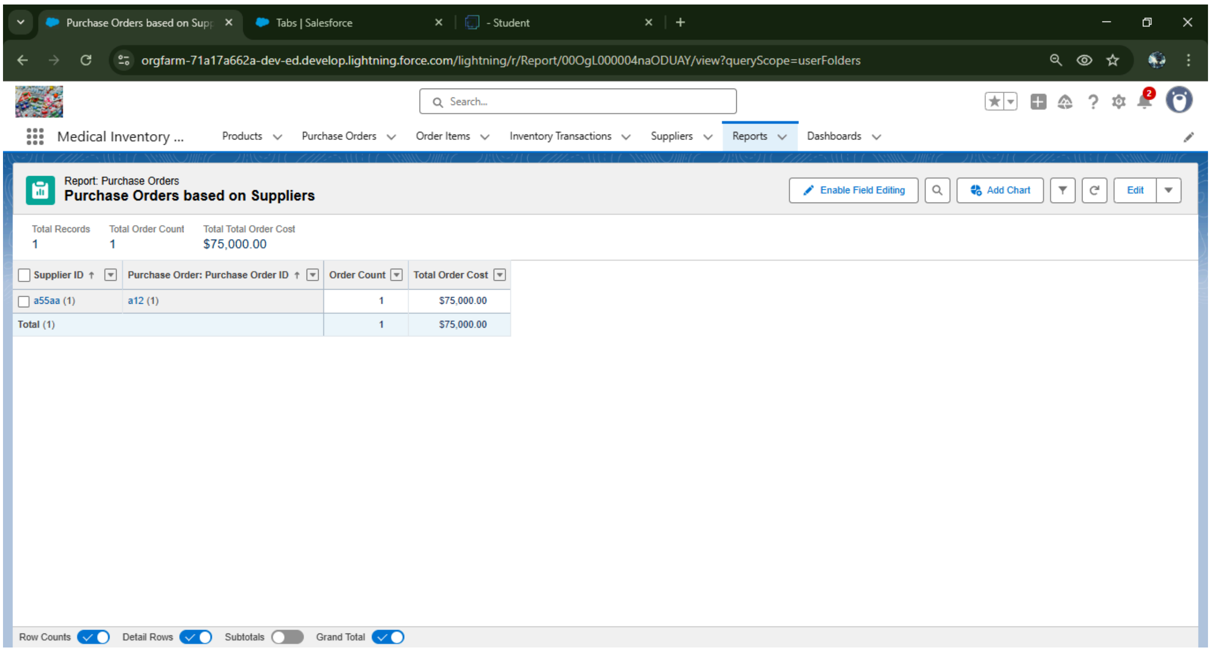

Recently Viewed | Products |
Flows | Salesforce
Purchase Order | Salesforce
Developer Console
- Student
orgfarm-71a17a662a-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage
File
Edit
Debug
Test
Workspace
Help
CalculateTotalAmountTrigger.apxt
CalculateTotalAmountHandler.apxc
Code Coverage: None
API Version:
64
Go To
Logs
Tests
Checkpoints
Query Editor
View State
Progress
Problems
User
Application
Operation
Time
Status
Read
Size
Filter
Click here to filter the log list

```
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, Trigg

}
```

RESULTS

Output Screenshots

- **REPORTS**



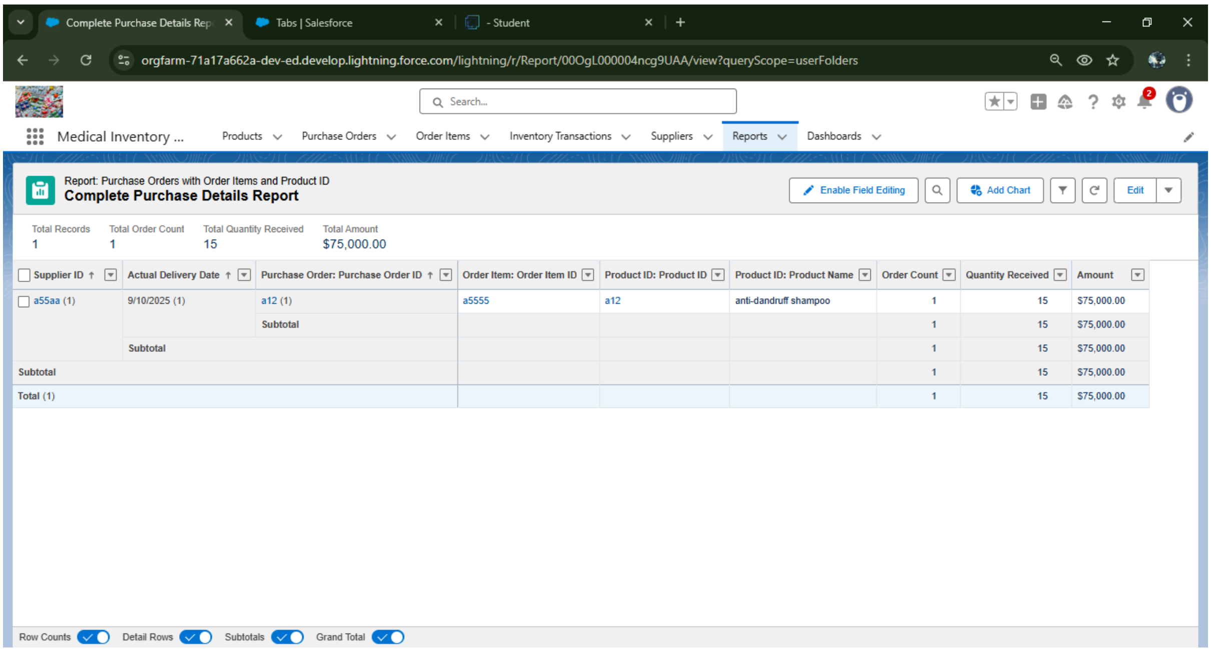
Report: Purchase Orders

Purchase Orders based on Suppliers

Total Records	Total Order Count	Total Total Order Cost
1	1	$75,000.00

□ Supplier ID ↑	Purchase Order: Purchase Order ID ↑	Order Count	Total Order Cost
□ a55aa (1)	a12 (1)	1	$75,000.00
Total (1)		1	$75,000.00

Row Counts ● Detail Rows ● Subtotals ○ Grand Total ●



Report: Purchase Orders with Order Items and Product ID

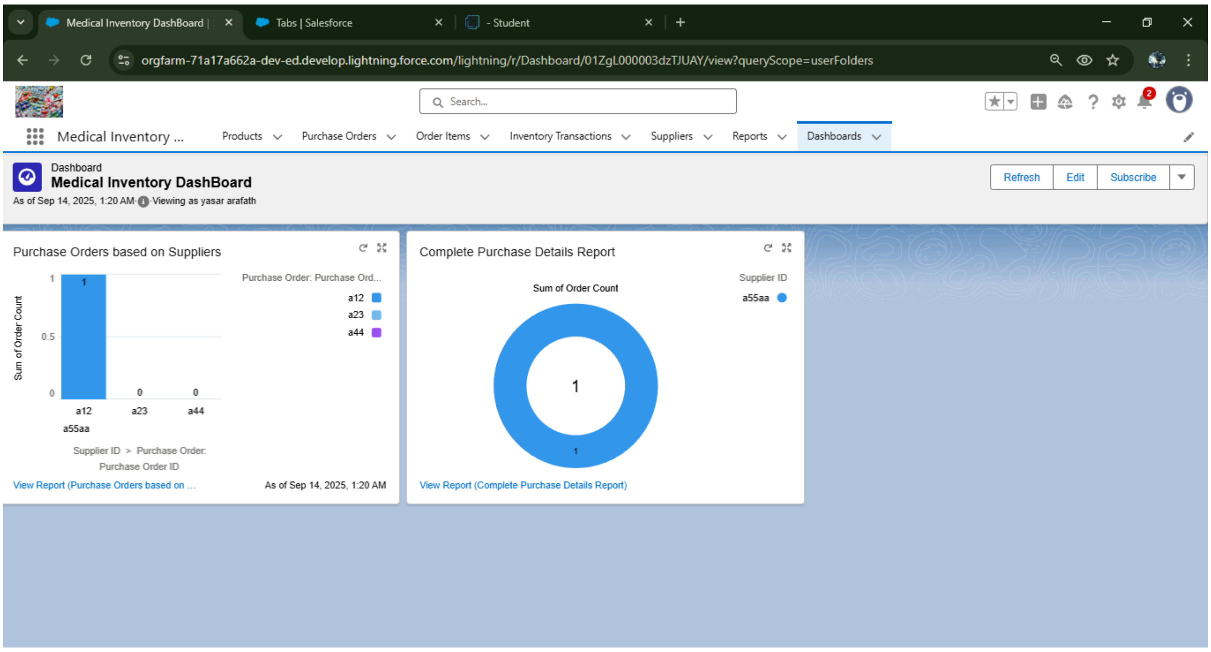
Complete Purchase Details Report

Total Records	Total Order Count	Total Quantity Received	Total Amount
1	1	15	$75,000.00

□ Supplier ID ↑	Actual Delivery Date ↑	Purchase Order: Purchase Order ID ↑	Order Item: Order Item ID	Product ID: Product ID	Product ID: Product Name	Order Count	Quantity Received	Amount
□ a55aa (1)	9/10/2025 (1)	a12 (1)	a5555	a12	anti-dandruff shampoo	1	15	$75,000.00
		Subtotal				1	15	$75,000.00
	Subtotal					1	15	$75,000.00
Subtotal						1	15	$75,000.00
Total (1)						1	15	$75,000.00

Row Counts ● Detail Rows ● Subtotals ● Grand Total ●

- **DASHBOARD**



Medical Inventory DashBoard |
Tabs | Salesforce
- Student
orgfarm-71a17a662a-dev-ed.develop.lightning.force.com/lightning/r/Dashboard/01ZgL000003dzTJUAY/view?queryScope=userFolders
Search...
Medical Inventory ...
Products
Purchase Orders
Order Items
Inventory Transactions
Suppliers
Reports
Dashboards
Refresh
Edit
Subscribe

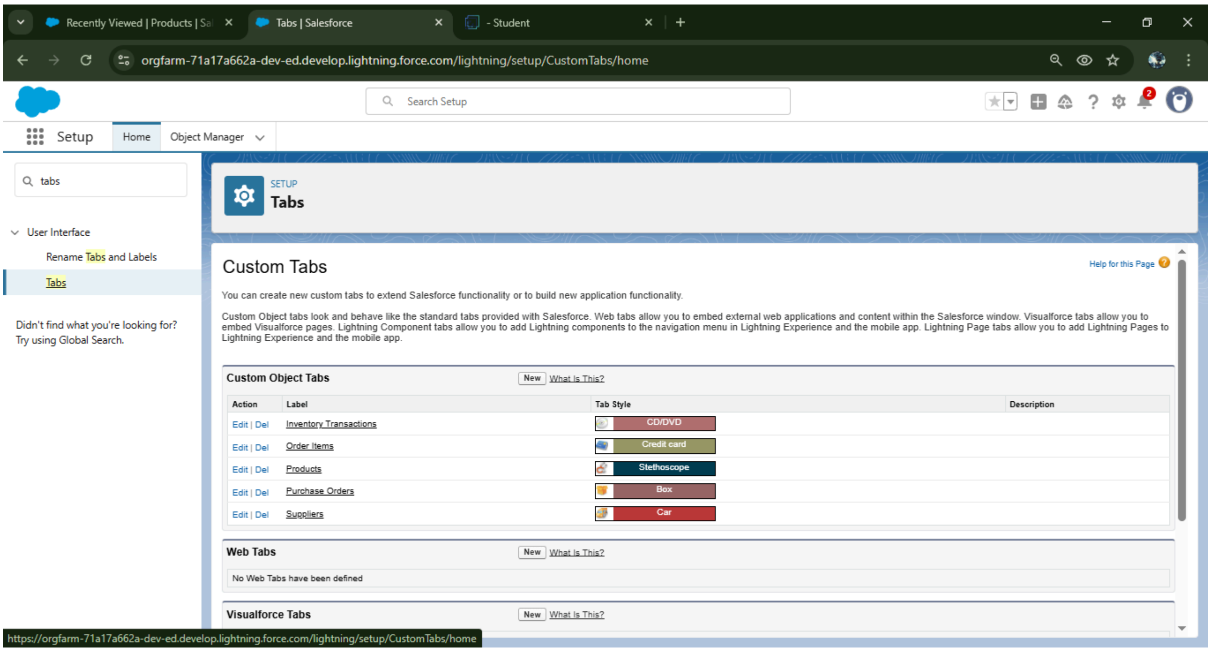
Dashboard

Medical Inventory DashBoard

As of Sep 14, 2025, 1:20 AM · Viewing as yasar arafath

Purchase Orders based on Suppliers
Sum of Order Count
1
0.5
0
1
0
0
a12
a23
a44
a55aa
Supplier ID > Purchase Order: Purchase Order ID
Purchase Order: Purchase Ord...
a12
a23
a44
View Report (Purchase Orders based on ...
As of Sep 14, 2025, 1:20 AM
Complete Purchase Details Report
Sum of Order Count
Supplier ID
a55aa
1
1
View Report (Complete Purchase Details Report)

- Tabs for product, purchase order, order item, inventory transaction, supplier objects



Recently Viewed | Products | Sa
Tabs | Salesforce
- Student
orgfarm-71a17a662a-dev-ed.develop.lightning.force.com/lightning/setup/CustomTabs/home
Search Setup
Setup
Home
Object Manager
tabs
User Interface
Rename Tabs and Labels
Tabs
Didn't find what you're looking for? Try using Global Search.
https://orgfarm-71a17a662a-dev-ed.develop.lightning.force.com/lightning/setup/CustomTabs/home

SETUP

Tabs

Custom Tabs

Help for this Page

You can create new custom tabs to extend Salesforce functionality or to build new application functionality.

Custom Object tabs look and behave like the standard tabs provided with Salesforce. Web tabs allow you to embed external web applications and content within the Salesforce window. Visualforce tabs allow you to embed Visualforce pages. Lightning Component tabs allow you to add Lightning components to the navigation menu in Lightning Experience and the mobile app. Lightning Page tabs allow you to add Lightning Pages to Lightning Experience and the mobile app.

Custom Object Tabs New What Is This?

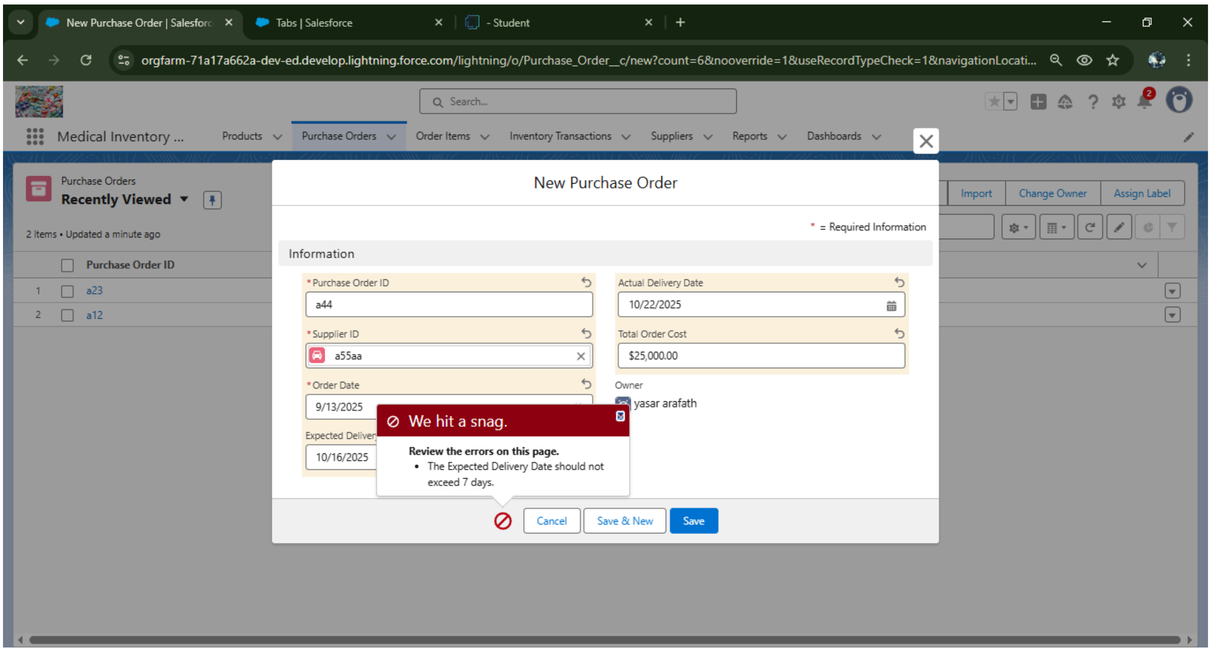
Action	Label	Tab Style	Description
Edit | Del	Inventory Transactions	CD/DVD	
Edit | Del	Order Items	Credit card	
Edit | Del	Products	Stethoscope	
Edit | Del	Purchase Orders	Box	
Edit | Del	Suppliers	Car	

Web Tabs New What Is This?

No Web Tabs have been defined

Visualforce Tabs New What Is This?

- Trigger error message



	Purchase Order ID
1	a23
2	a12

New Purchase Order

* = Required Information

Information

*Purchase Order ID: a44

*Supplier ID: a55aa

*Order Date: 9/13/2025

Expected Deliver: 10/16/2025

Actual Delivery Date: 10/22/2025

Total Order Cost: $25,000.00

Owner: yasar arafath

We hit a snag.

Review the errors on this page.

- The Expected Delivery Date should not exceed 7 days.

ADVANTAGES & DISADVANTAGES

ADVANTAGE

1. Reduces Errors – Avoids mistakes in manual stock tracking.

2. Saves Time – Automates ordering and reporting.

3. Prevents Shortages – Sends alerts when stock is low.

4. Tracks Expiry – Keeps medicines safe and up to date.

5. Better Control – Easy monitoring of suppliers and transactions.

DISADVANTAGE

1. High Cost – Initial setup and maintenance can be expensive.

2. Training Needed – Staff must learn how to use the system.

3. Technical Issues – System errors or downtime may cause delays.

4. Data Security Risks – Sensitive information must be protected.

5. Dependence on Internet/Software – Cannot work properly if system or network fails.

CONCLUSION

The Medical Inventory Management System makes it easier for healthcare organizations to track and manage supplies. It improves accuracy, saves time, and ensures that essential medicines and equipment are always available when needed.

APPENDIX

- **Source Code:** Provided in Apex Class and Trigger

CalculateTotalAmountHandler.apxc:

```
 public class CalculateTotalAmountHandler {

   // Method to calculate the total amount for Purchase Orders based on related Order
Items
   public static void calculateTotal(List<Order_Item__c> newItems,
List<Order_Item__c> oldItems, Boolean isInsert, Boolean isUpdate, Boolean isDelete,
Boolean isUndelete) {

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

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

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

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

        if (!parentIds.isEmpty()) {
            // Perform an aggregate query to sum the Amount__c for each Purchase Order
            List<AggregateResult> aggrList = [
                SELECT Purchase_Order_Id__c, SUM(Amount__c) totalAmount
                FROM Order_Item__c
                WHERE Purchase_Order_Id__c IN :parentIds
                GROUP BY Purchase_Order_Id__c
            ];

            // Map the result to Purchase Order IDs
            for (AggregateResult aggr : aggrList) {
                Id purchaseOrderId = (Id)aggr.get('Purchase_Order_Id__c');
                Decimal totalAmount = (Decimal)aggr.get('totalAmount');
                purchaseToUpdateMap.put(purchaseOrderId, totalAmount);
            }

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

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

CalculateTotalAmountTrigger.apxt:

```
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);
}
```