

# Medical Inventory Management

**College Name: KG COLLEGE OF ARTS AND SCIENCE**

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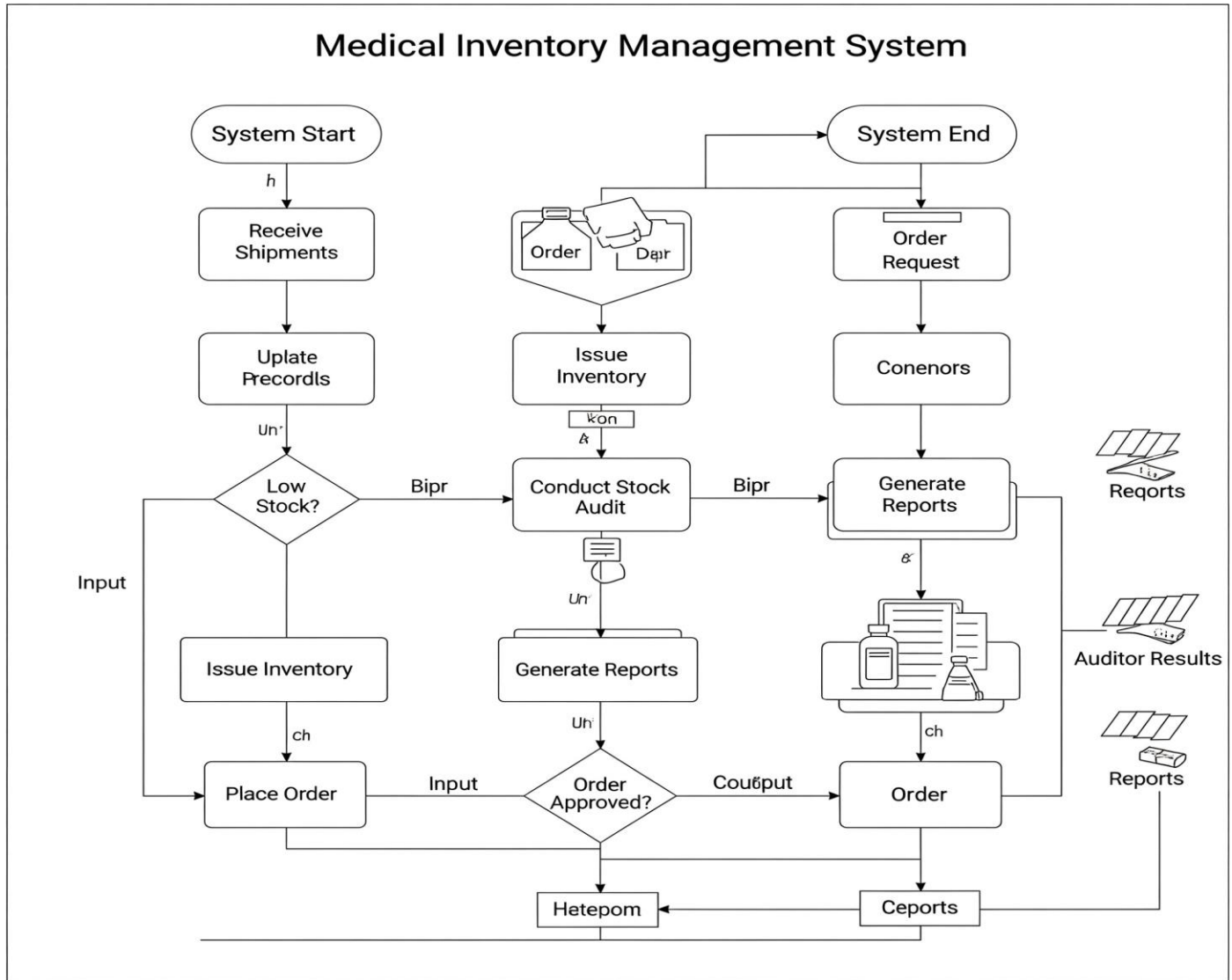
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## 1.INTRODUCTION

### 1.1 Project Overview

The Medical Inventory Management system is designed to streamline the tracking, storage, and distribution of medical supplies. It helps healthcare facilities maintain accurate stock levels, reduce wastage, and ensure timely availability of critical items.



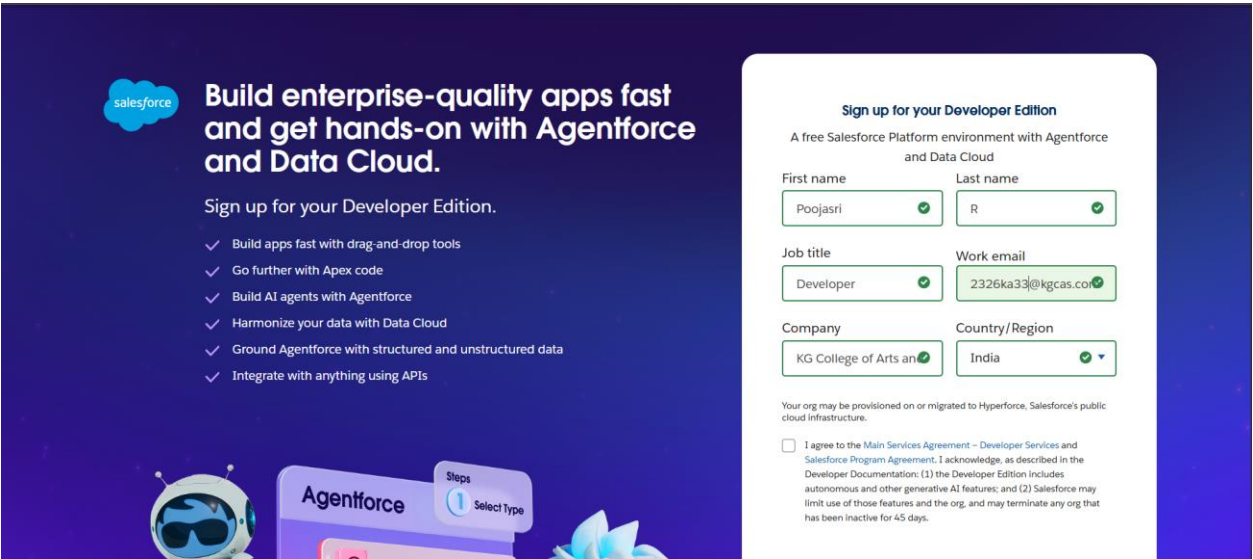
## 1.2 Purpose

The purpose of a Medical Inventory Management system is to ensure the efficient tracking, control, and distribution of medicines and medical supplies. It helps healthcare organizations maintain optimal stock levels, prevent shortages or overstocking, reduce wastage due to expiry, and provide timely availability of essential items for patient care.

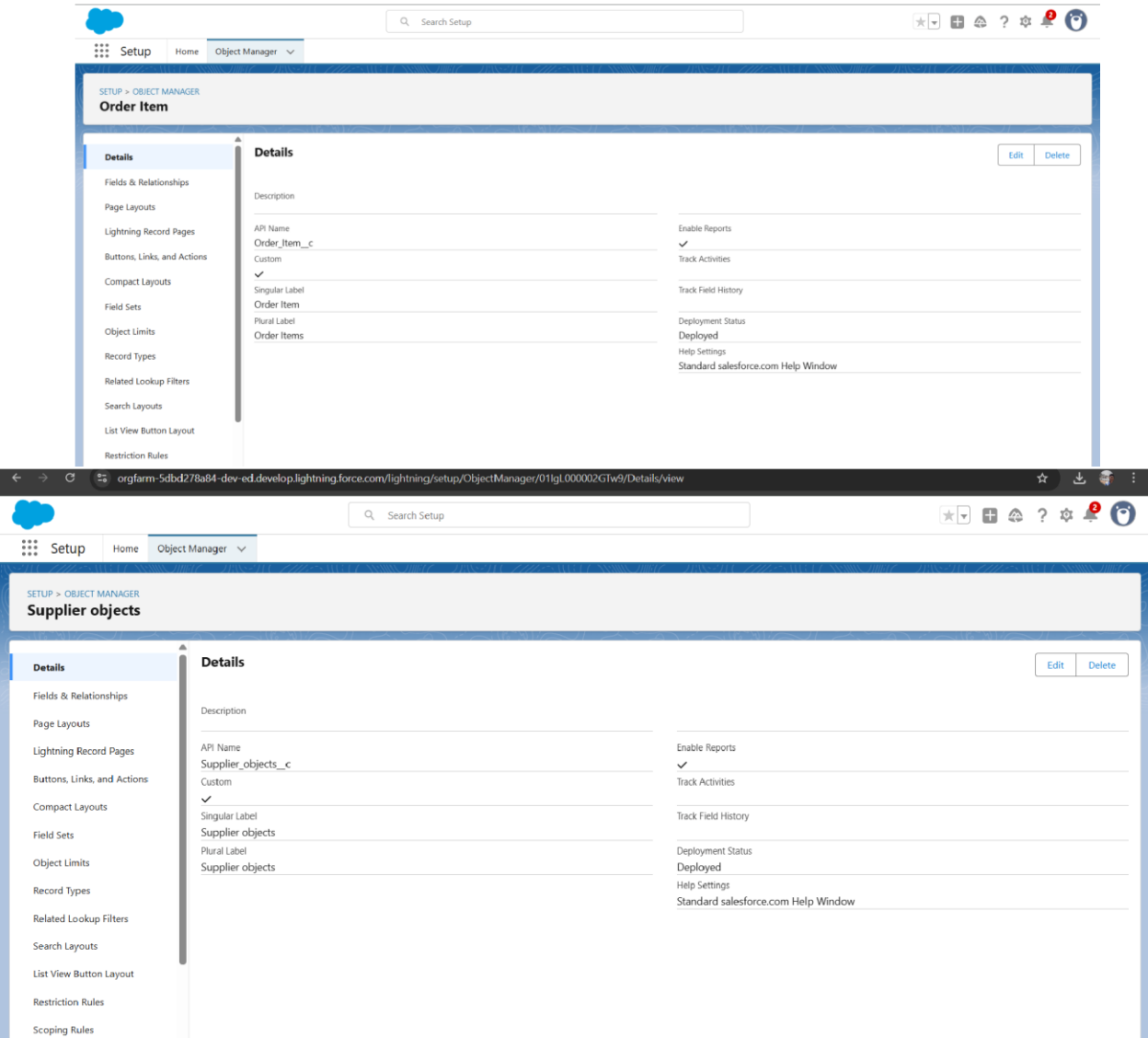
## DEVELOPMENT PHASE

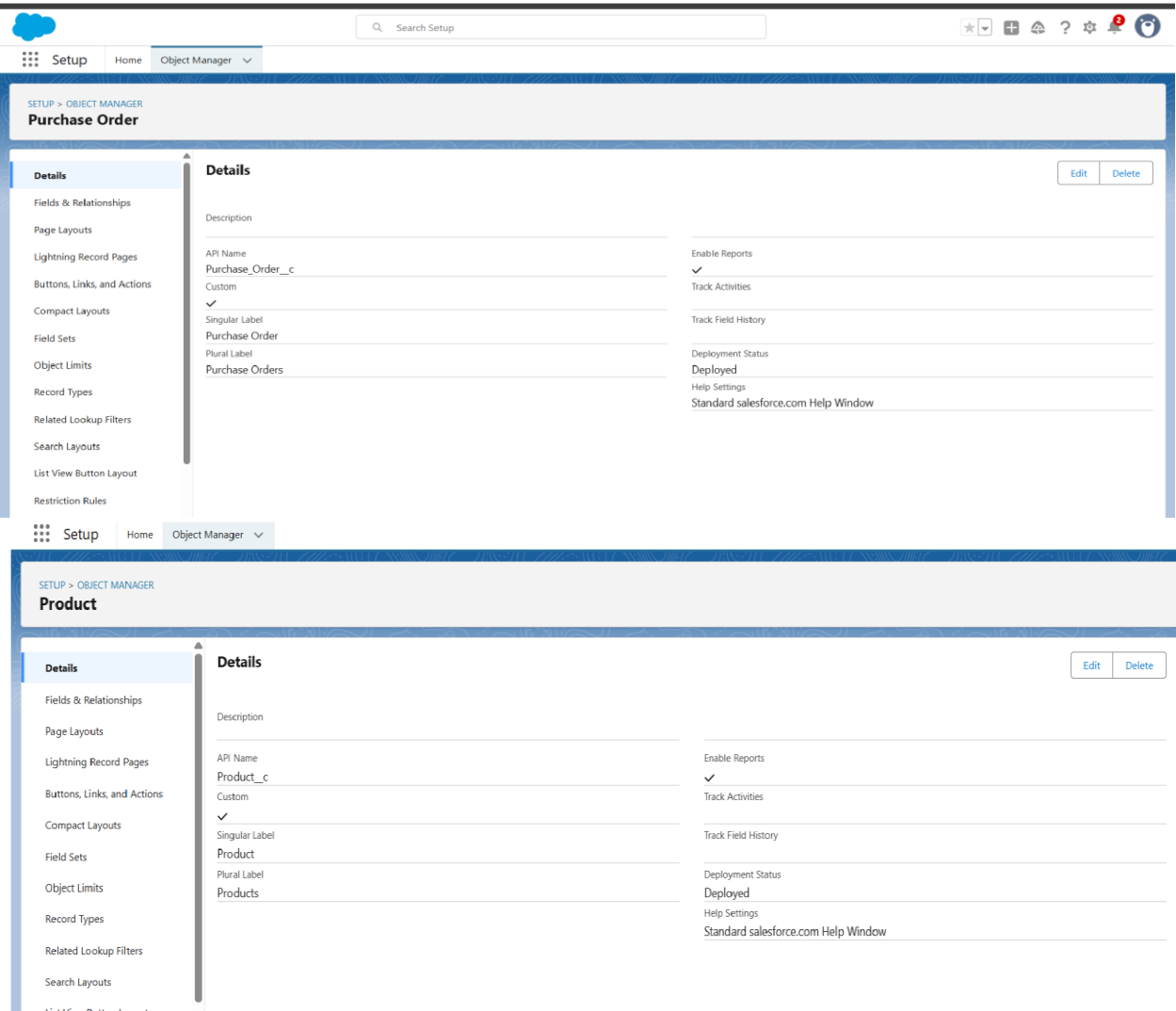
**Creating Developer Account:**

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



- Created objects: Order Item, Supplier, Purchase Order, Product





- Configured fields and relationships

Setup

Home

Object Manager

Search Setup

Star

Share

Help

Settings

Notifications

Profile

SETUP > OBJECT MANAGER

Supplier objects

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout

Fields & Relationships

4 Items, Sorted by Field Label

Quick Find

New

Deleted Fields

Field Dependencies

Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Supplier objects Name	Name	Text(80)		✓

Setup

Home

Object Manager

Search Setup

Star

Share

Help

Settings

Notifications

Profile

SETUP > OBJECT MANAGER

Supplier objects

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout

Restriction Rules

Fields & Relationships

4 Items, Sorted by Field Label

Quick Find

New

Deleted Fields

Field Dependencies

Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Supplier objects Name	Name	Text(80)		✓

The image displays two screenshots of the Salesforce Setup interface, specifically the 'Fields & Relationships' section for two different objects: 'Purchase Order' and 'Product'.

**Top Screenshot: Purchase Order**

The breadcrumb trail is **Setup > OBJECT MANAGER**. The object name is **Purchase Order**. The 'Fields & Relationships' section shows 4 items, sorted by Field Label. The table below lists the fields:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Purchase Order Name	Name	Text(80)		✓

**Bottom Screenshot: Product**

The breadcrumb trail is **Setup > OBJECT MANAGER**. The object name is **Product**. The 'Fields & Relationships' section shows 4 items, sorted by Field Label. The table below lists the fields:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Product ID	Name	Text(80)		✓

- Developed Lightning App with relevant tabs

**App Settings**

- App Details & Branding**
- App Options
- Utility Items (Desktop Only)
- Navigation Items
- User Profiles

### 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 <sup>i</sup>


\* Developer Name <sup>i</sup>

Description <sup>i</sup>

**App Branding**

Image <sup>i</sup>



Primary Color Hex Value <sup>i</sup>


#0070D2

[Clear](#)

Org Theme Options

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

### App Launcher Preview



Medical Inventory Manage...

←

→

↺

orgfarm-5dbd278a84-dev-ed.develop.lightning.force.com/visualEditor/appBuilder.app?id=02ugL000006ngKDQAQ&retUrl=https%3A%2F%2Forgfarm-5dbd278a84-dev-ed.develop.lightning.force.com...

☆

↓

⌵

⋮

Lightning App BuilderApp SettingsPagesMedical Inventory ManagementHelp

App Settings

App Details & Branding

App Options

Utility Items (Desktop Only)

Navigation Items

User Profiles

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

Create

Type to filter list...

Accounts

Activation Targets

Activations

All Sites

Alternative Payment Methods

Analytics

App Launcher

Appointment Categories

Appointment Invitations

Approval Requests

Approval Submission Details

Approval Submissions

Selected Items

Products

Purchase Orders

Order Items

Inventory Transactions

Supplier objects

Lightning App Builder

App Settings

Pages

Medical Inventory Management

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

Type to filter list...

Analytics Cloud Integration User

Analytics Cloud Security User

Anypoint Integration

Authenticated Website

Authenticated Website

B2B Reordering Portal Buyer Profile

Contract Manager

Custom: Marketing Profile

Custom: Sales Profile

Custom: Support Profile

Customer Community Login User

Customer Community Plus Login User

Selected Profiles

System Administrator

Search...

Sales

Home

Opportunities

Leads

Tasks

Files

Accounts

Contacts

Campaigns

Dashboards

Reports

Chatter

Groups

Calendar

More

Accounts

All Accounts

13 items • Sorted by Account Name • Updated a few seconds ago

Search this list...

New

Import

Printable View

Assign Label

<input type="checkbox"/>	Account Name ↑	Acc...	Billing State/Province	Phone	Type	Account Owne...
<input type="checkbox"/>	Burlington Textiles Corp of America		North Carolina	(336) 222-7000	Customer - Direct	OEPICT
<input type="checkbox"/>	Dickenson plc		Kansas	(785) 241-6200	Customer - Channel	OEPICT
<input type="checkbox"/>	Edge Communications		Texas	(512) 757-6000	Customer - Direct	OEPICT
<input type="checkbox"/>	Express Logistics and Transport		Oregon	(503) 421-7800	Customer - Channel	OEPICT
<input type="checkbox"/>	GenePoint		California	(650) 867-3450	Customer - Channel	OEPICT
<input type="checkbox"/>	Grand Hotels & Resorts Ltd		Illinois	(312) 596-1000	Customer - Direct	OEPICT
<input type="checkbox"/>	Pyramid Construction Inc.			(014) 427-4427	Customer - Channel	OEPICT
<input type="checkbox"/>	Sample Account for Entitlements					autoproc
<input type="checkbox"/>	sForce		California	(415) 901-7000		OEPICT
<input type="checkbox"/>	United Oil & Gas Corp.		New York	(212) 842-5500	Customer - Direct	OEPICT
<input type="checkbox"/>	United Oil & Gas, Singapore			(650) 450-8810	Customer - Direct	OEPICT
<input type="checkbox"/>	United Oil & Gas, UK			+44 191 4956203	Customer - Direct	OEPICT
<input type="checkbox"/>	University of Arizona		Arizona	(520) 773-9050	Customer - Direct	OEPICT

- Automates the calculation and tracking of monthly rent for medical equipment or facilities, ensuring timely reminders and accurate records.



The screenshot shows a Salesforce Opportunity record. The top navigation bar includes 'Sales', 'Home', 'Opportunities', 'Leads', 'Tasks', 'Files', 'Accounts', 'Contacts', 'Campaigns', 'Dashboards', 'Reports', 'Chatter', 'Groups', 'Calendar', and 'More'. The opportunity details are as follows:

- Opportunity Name:** Burlington Textiles Weaving Plant Generator
- Account Name:** Burlington Textiles Corp of America
- Close Date:** 7/12/2025
- Amount:** \$235,000.00
- Opportunity Owner:** Orgfarm EPIC

The opportunity is in the 'Closed Won' stage. Below the stage bar, there are tabs for 'Activity', 'Details', and 'Chatter'. The 'Activity' tab is active, showing a list of activities with buttons for 'New Task', 'Log a Call', 'New Event', and 'Email'. The 'Related' section on the right shows 'Products (0)', 'Notes & Attachments (0)', and 'Contact Roles (0)'.

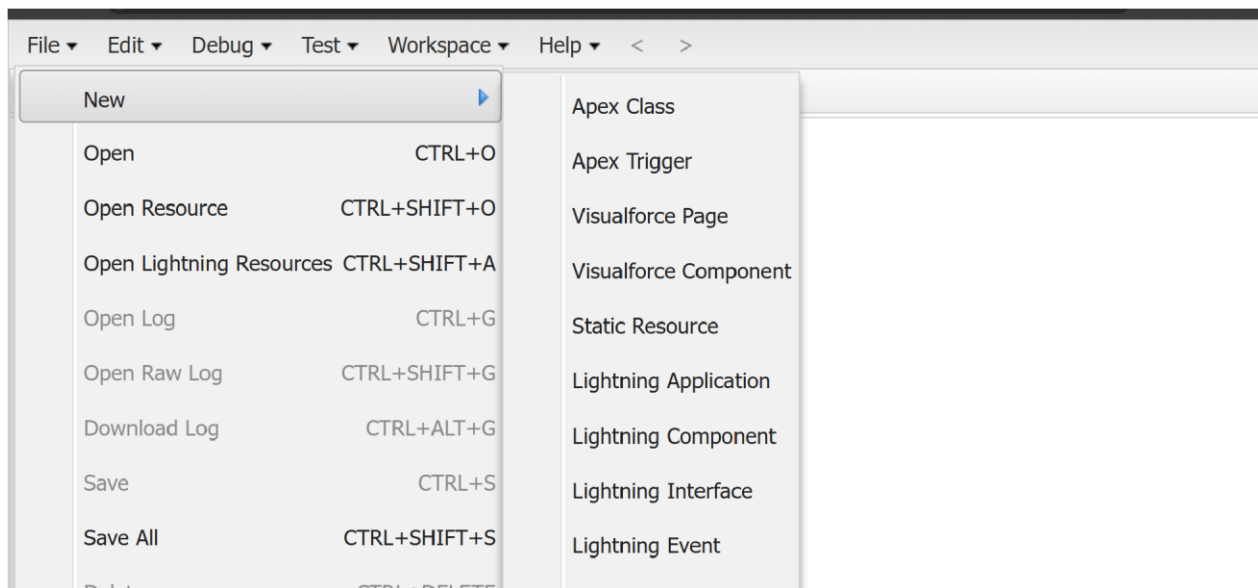
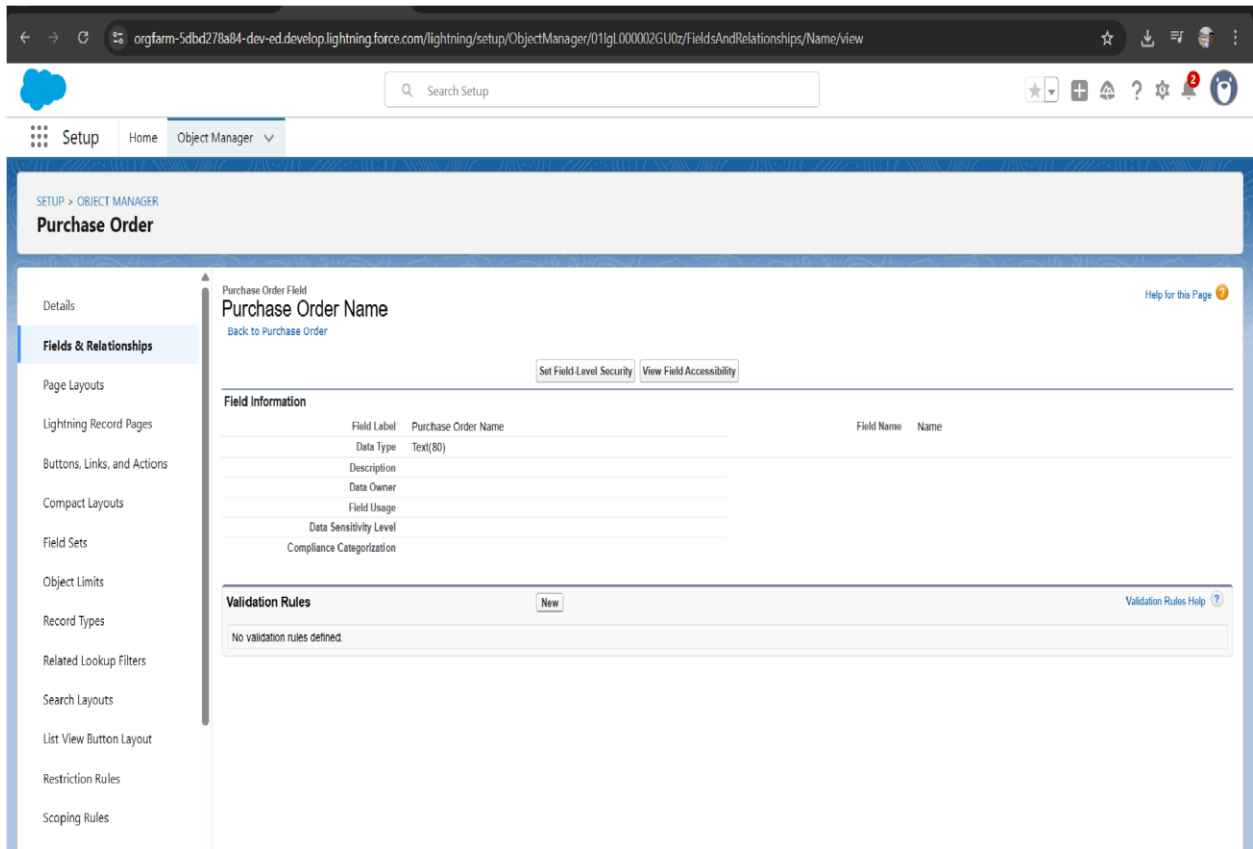
- Ensure that a lease record is valid only if the leased medical equipment has not expired (i.e., medicine/equipment expiry date is later than lease end date).

The screenshot shows the Salesforce Setup page for 'Purchase Order'. The left sidebar contains a navigation menu with options: 'Details', 'Fields & Relationships', 'Page Layouts', 'Lightning Record Pages', 'Buttons, Links, and Actions', 'Compact Layouts', 'Field Sets', 'Object Limits', 'Record Types', 'Related Lookup Filters', 'Search Layouts', 'List View Button Layout', 'Restriction Rules', and 'Scoping Rules'. The 'Fields & Relationships' section is active, showing the 'Purchase Order Name' field. The field details are as follows:

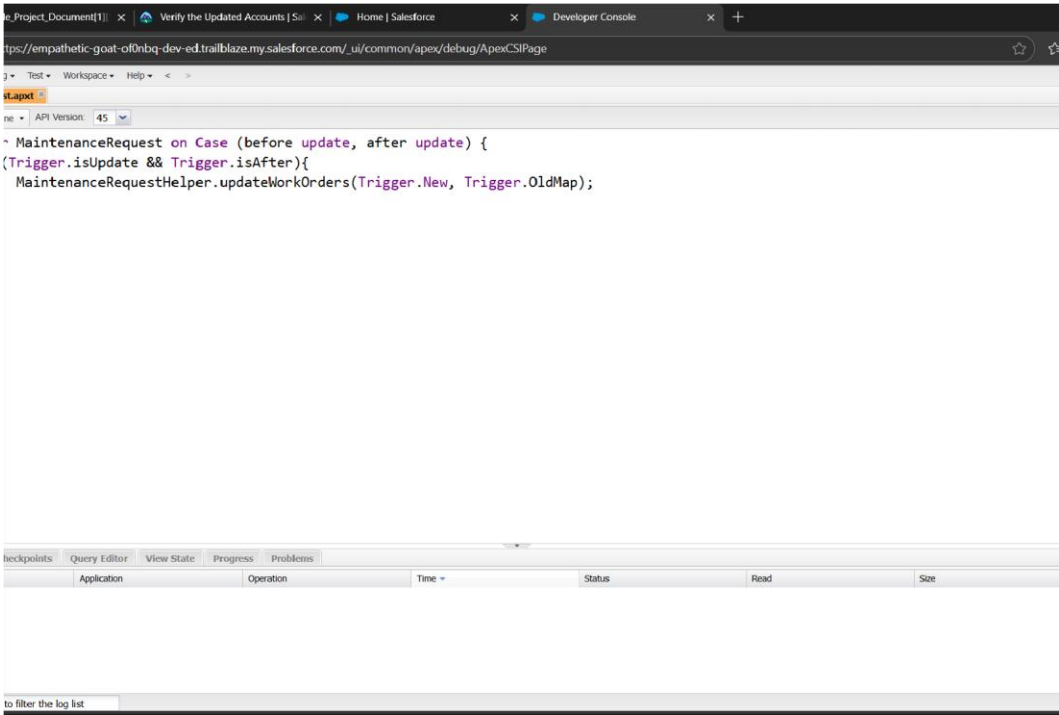
- Field Name:** Purchase Order Name
- Record Name:** Purchase Order Name
- Example:** Account Name
- Data Type:** Text

Below the field details, there is a 'Recent Accounts' table:

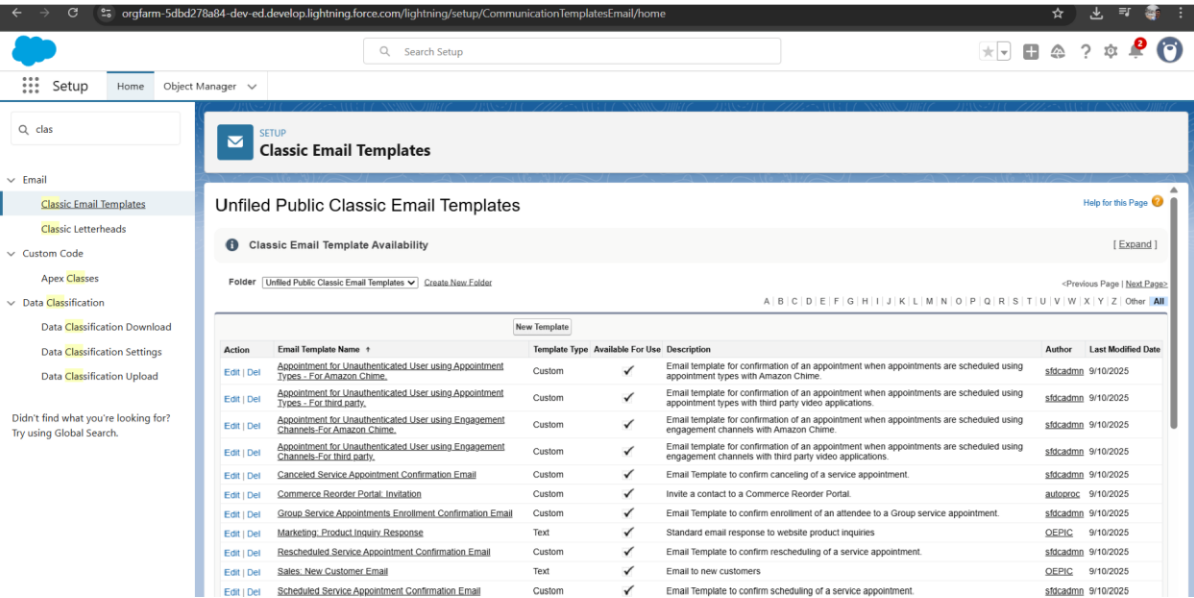
Account Name	City
Acme	New York
Global Media	Toronto
saalesforce.com	San Francisco



- Scheduled monthly reminder emails using Apex class



- Built and tested email templates for Product, Purchase Name, Order Item and Supplier.



Setup Home Object Manager

Search Setup

Classic Email Templates

Text Email Template

Sales: New Customer Email

Preview your email template below.

Email Template Detail

Email Templates from Salesforce	Unified Public Classic Email Templates	Available For Use
Email Template Name	Sales: New Customer Email	<input checked="" type="checkbox"/>
Template Unique Name	SalesNewCustomerEmail	Last Used Date
Encoding	Unicode (UTF-8)	Times Used
Author	OrgFam.EPIC [Change]	
Description	Email to new customers	
Created By	OrgFam.EPIC, 9/10/2025, 5:27 PM	Modified By
	OrgFam.EPIC, 9/10/2025, 5:27 PM	

Send Text and Verify Merge Fields

Subject: Welcome to the GenWatt Community

Plain Text Preview

Dear {Contact.FirstName},

All of us at GenWatt are glad to have {Account.Name} as a customer.

I would like to introduce myself as your Account Manager. Should you have any questions, please feel free to call me at {User.Phone} or email me at {User.Email}.

Setup Home Object Manager

Search Setup

Classic Email Templates

Custom Email Template

Scheduled Service Appointment Confirmation Email

Preview your email template below.

Email Template Detail

Email Templates from Salesforce	Unified Public Classic Email Templates	Available For Use
Email Template Name	Scheduled Service Appointment Confirmation Email	<input checked="" type="checkbox"/>
Template Unique Name	SalesforceSchedulerCreateApptEmailTemplate	Last Used Date
Encoding	General US & Western Europe (ISO-8859-1, ISO-LATIN-1)	Times Used
Author	salesforce.com, inc. [Change]	
Description	Email Template to confirm scheduling of a service appointment.	
Created By	salesforce.com, inc., 9/10/2025, 5:27 PM	Modified By
	salesforce.com, inc., 9/10/2025, 5:27 PM	

Edit Properties Edit HTML Version Edit Text Version Delete Clone

Send Text and Verify Merge Fields

Subject: Your service appointment is scheduled

HTML Preview

Setup Home Object Manager

Search Setup

Classic Email Templates

Custom Email Template

Scheduler Payments: Payment Reminder for Service Appointment Email

Preview your email template below.

Email Template Detail

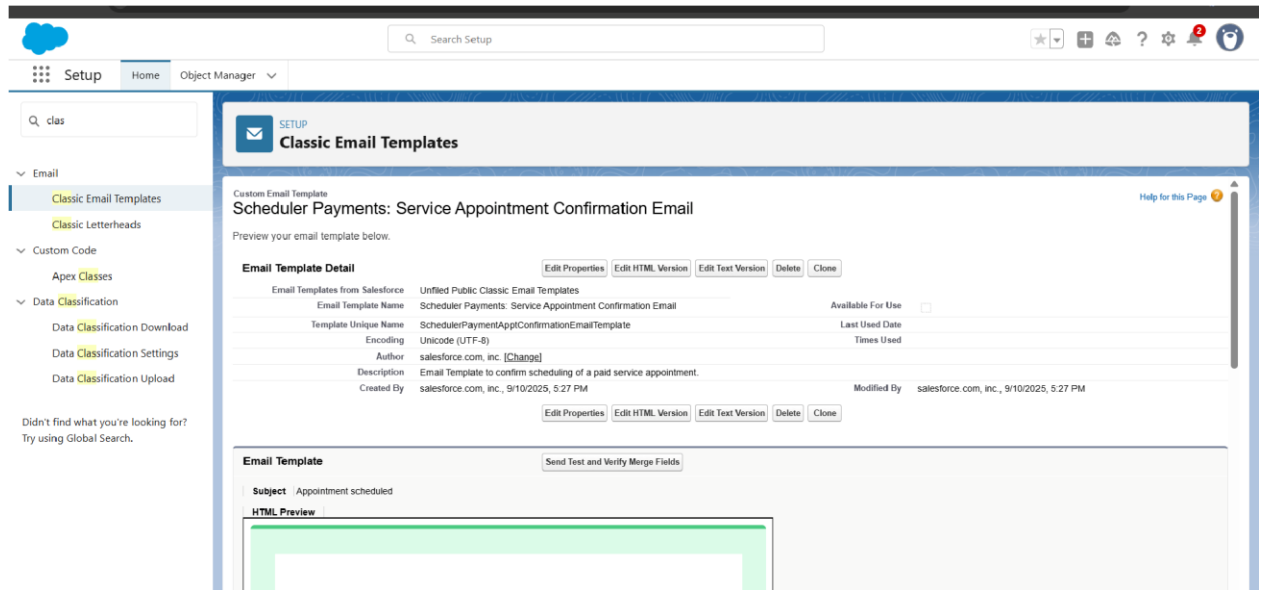
Email Templates from Salesforce	Unified Public Classic Email Templates	Available For Use
Email Template Name	Scheduler Payments: Payment Reminder for Service Appointment Email	<input checked="" type="checkbox"/>
Template Unique Name	SchedulerPaymentReminderEmailTemplate	Last Used Date
Encoding	Unicode (UTF-8)	Times Used
Author	salesforce.com, inc. [Change]	
Description	Email Template to remind customers to pay for their service appointment.	
Created By	salesforce.com, inc., 9/10/2025, 5:27 PM	Modified By
	salesforce.com, inc., 9/10/2025, 5:27 PM	

Edit Properties Edit HTML Version Edit Text Version Delete Clone

Send Text and Verify Merge Fields

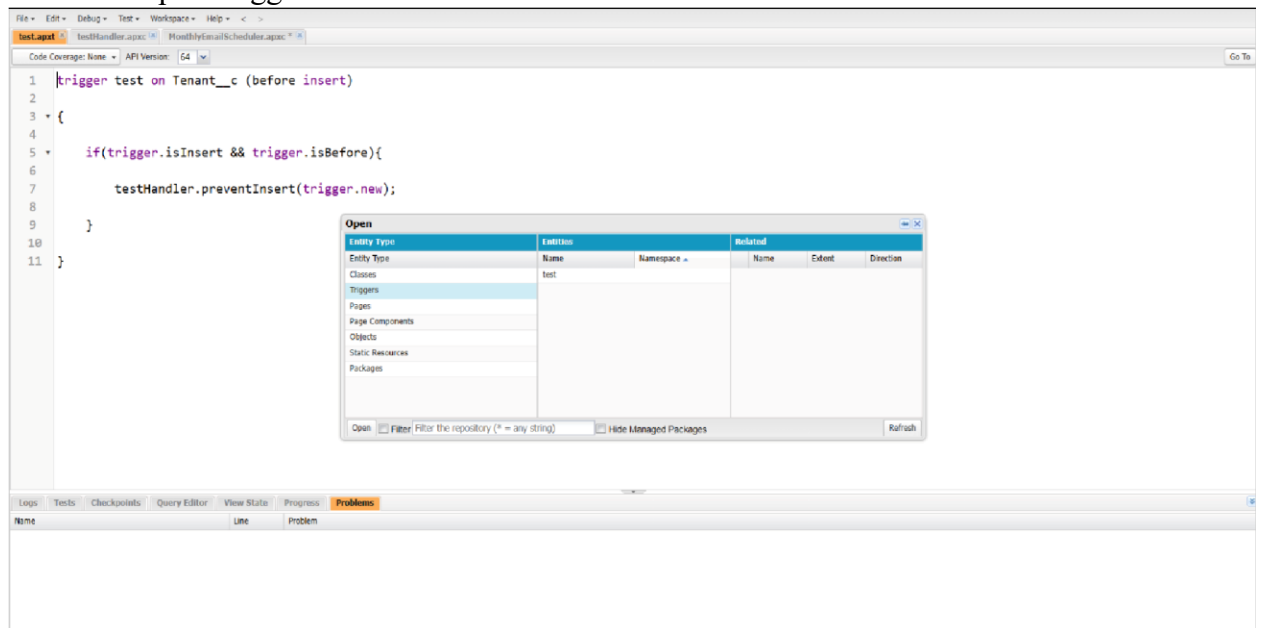
Subject: Complete your payment

HTML Preview

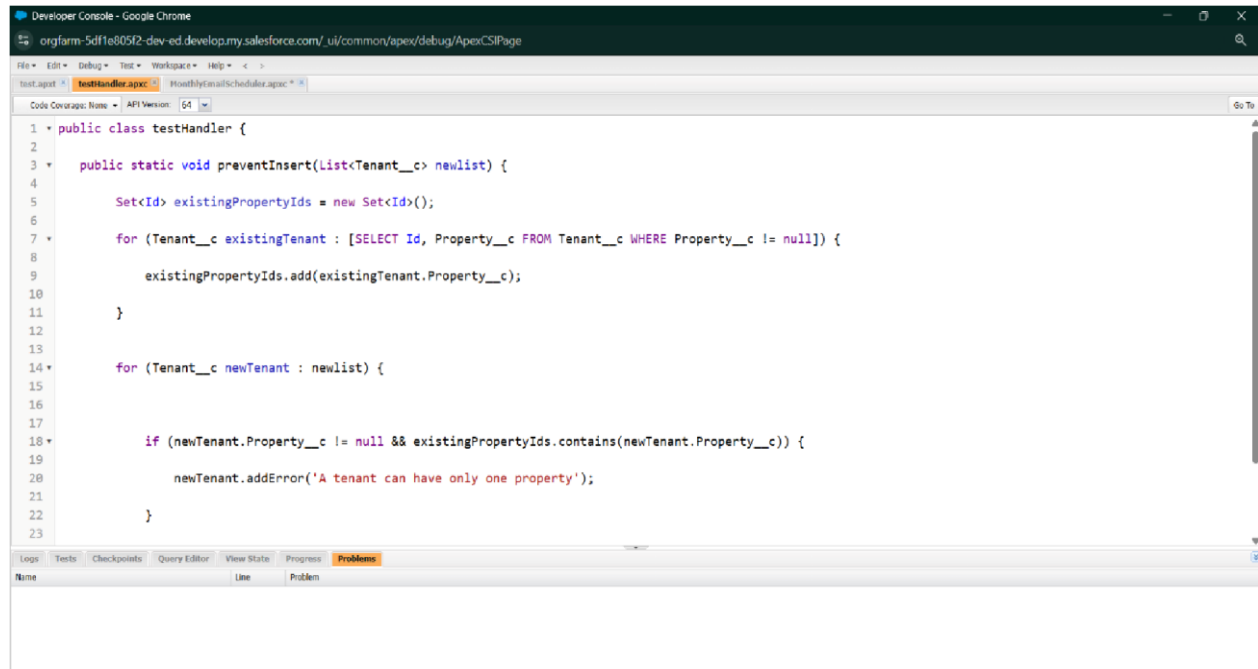
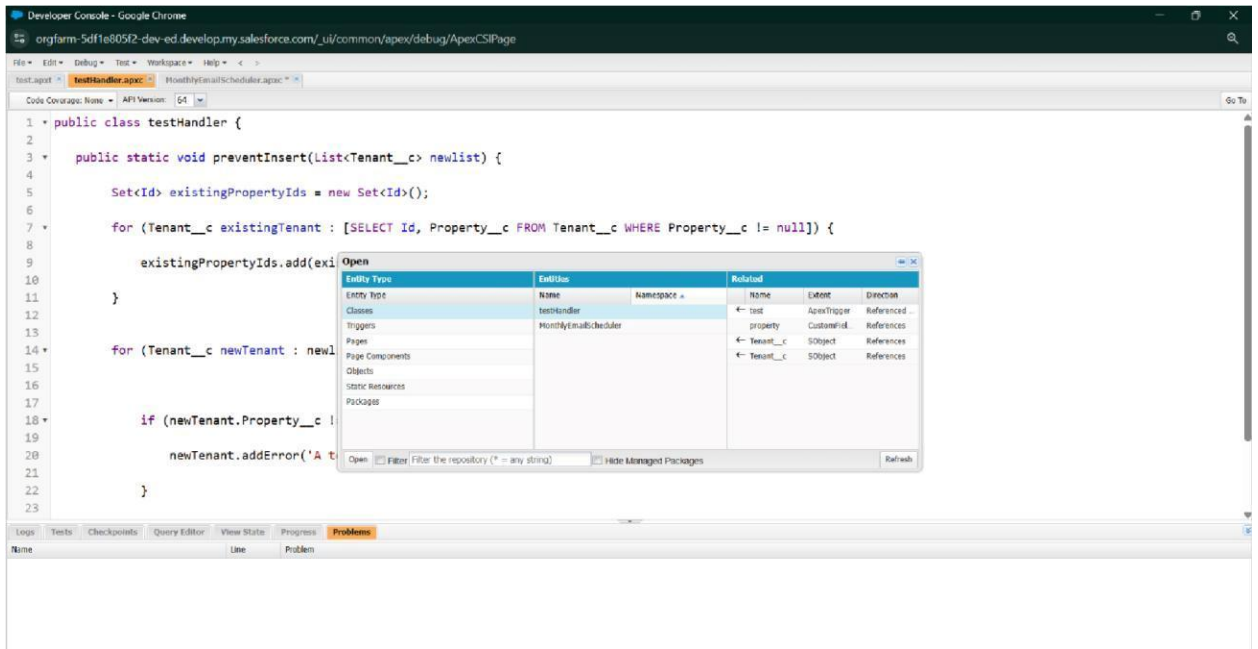


- Apex Trigger

## Create an Apex Trigger



## Create an Apex Handler class



## • FLOWS

The top screenshot shows a Salesforce Flow Builder interface for a flow named "Add or Modify Service Appointment Attendees - V1". The flow consists of the following steps:

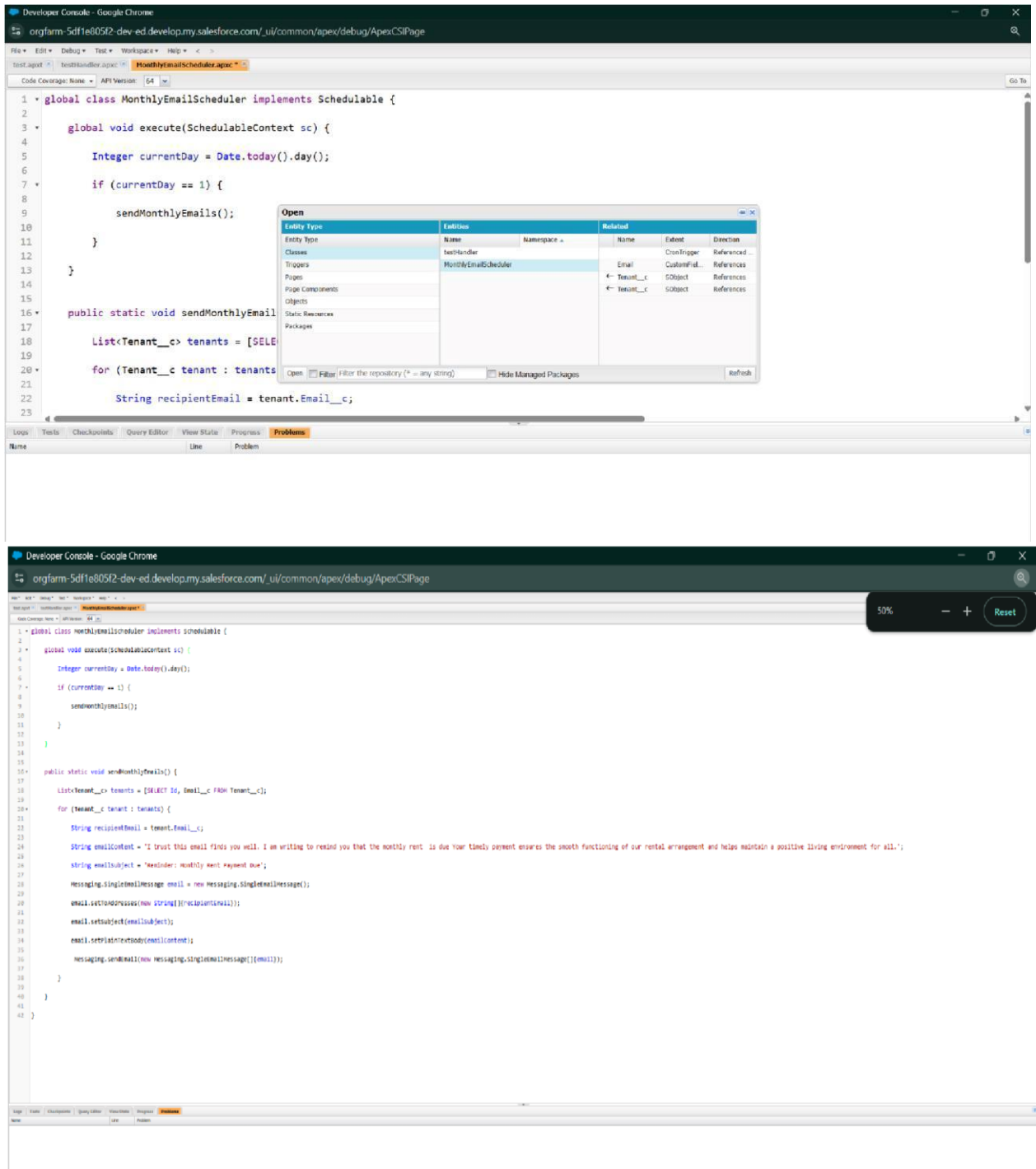
- Salesforce Scheduler Flow** (Start)
- Set Service Appointment ID Variable** (Assignment)
- Add Service Appointment Attendees** (Screen, with 1 connection)
- Save Service Appointment Attendees** (Action)
- Is Mode Individual?** (Decision)

A dashed red line connects the "Save Service Appointment Attendees" action to a "Fault" node, which then leads to a "Add Service Appointment ..." node.

The bottom screenshot shows the same flow diagram, but the "Save Service Appointment Attendees" action is selected, and a configuration panel is open on the right. The configuration panel for "Save Service Appointment Attendees" includes the following fields:

- \* Label**: Save Service Appointment Attendees
- \* API Name**: SaveServiceAppointmentAttendees
- Description**: Calls an action that adds, updates, or deletes the service appointment attendee record from a group service appointment.
- Set Input Values**:
  - A<sub>u</sub> UnenrollUrl**: A<sub>u</sub> unenrollUrlPrefix X (Included)
  - A<sub>a</sub> Attendees Fields**: A<sub>a</sub> ServiceAppointmentAttendeeInformation X (Included)
  - A<sub>e</sub> Email Template Dev Name**: A<sub>e</sub> ...Template (Included)

- Schedule class:  
Create an Apex  
Class



# ADVANTAGES

**Accurate Tracking** – Monitors medicines, suppliers, leases, and patients in real time.



**Automation** – Flows handle monthly rent, payment alerts, and stock updates automatically.

**Error Prevention** – Validation rules ensure data integrity (e.g., lease dates, rent values).

**Reduced Wastage** – Tracks expiry dates to avoid expired stock usage.

**Improved Efficiency** – Saves time by reducing manual record-keeping and errors.

## **DISADVANTAGES**

**Implementation Cost** – Requires investment in Salesforce setup, licenses, or tools.

**Training Need** – Users must learn how to operate the system properly.

**Customization Complexity** – Creating flows, validation rules, and roll-ups may need admin or developer expertise.

**Data Dependency** – System is only as good as the accuracy of the data entered.

**Maintenance** – Requires regular updates, monitoring, and troubleshooting.

## **RESULTS**

### **Output Screenshots**

orgfarm-5dbd278a84-dev-ed.develop.lightning.force.com/lightning/setup/CustomTabs/home

Search Setup

Setup Home Object Manager

Q tabs

User Interface

Rename Tabs and Labels

**Tabs**

Didn't find what you're looking for? Try using Global Search.

### SETUP Tabs

#### Custom Tabs

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.

Action	Label	Tab Style	Description
<a href="#">Edit</a>   <a href="#">Del</a>	<a href="#">Inventory Transactions</a>	Computer	
<a href="#">Edit</a>   <a href="#">Del</a>	<a href="#">Order Items</a>	Leaf	
<a href="#">Edit</a>   <a href="#">Del</a>	<a href="#">Products</a>	Heart	
<a href="#">Edit</a>   <a href="#">Del</a>	<a href="#">Purchase Orders</a>	Desk	
<a href="#">Edit</a>   <a href="#">Del</a>	<a href="#">Supplier objects</a>	Fan	

#### Web Tabs

[New](#) [What Is This?](#)

No Web Tabs have been defined

#### Visualforce Tabs

[New](#) [What Is This?](#)

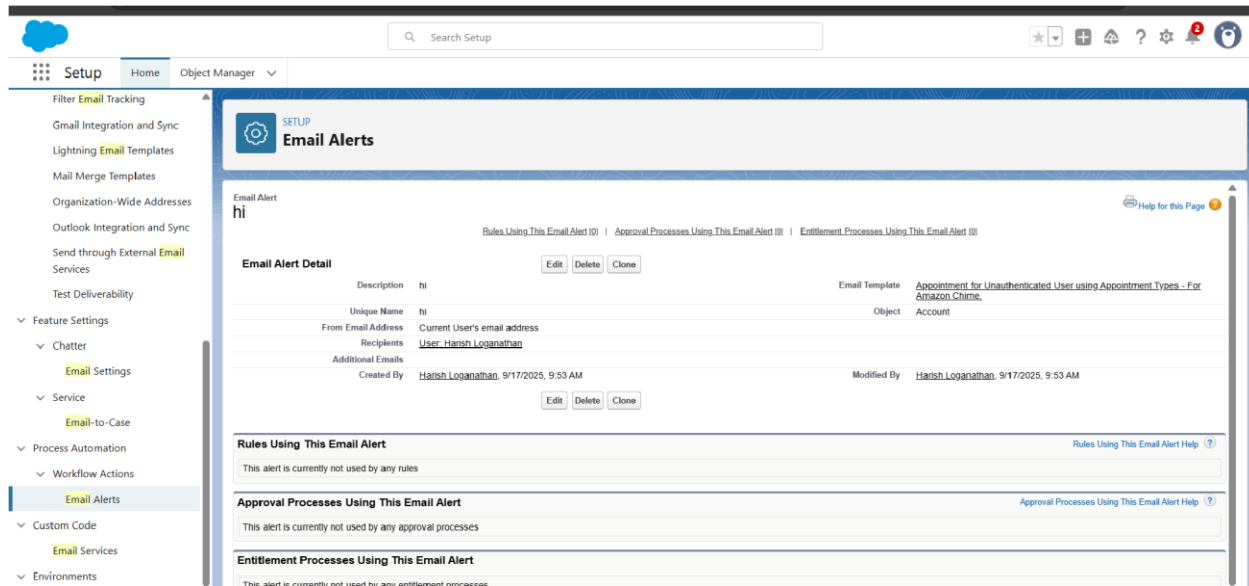
No Visualforce Tabs have been defined

#### Lightning Component Tabs

[New](#) [What Is This?](#)

Tabs for Product, Purchase Order, Order ID, Supplier

Email alerts



## CONCLUSION

The Medical Inventory Management system ensures efficient handling of medicines, suppliers, purchase orders, patients, and lease records. By implementing automation through flows (monthly rent tracking and payment alerts) and enforcing validation rules on the Lease object (such as preventing expired equipment leases), the system enhances accuracy, safety, and compliance. Overall, it reduces manual errors, improves inventory control, and supports timely availability of critical medical supplies.

## APPENDIX

- **Source Code:** Provided in Apex Classes and Triggers

```
public with sharing class MaintenanceRequestHelper {    public static void
updateworkOrders(List<Case> updWorkOrders, Map<Id,Case> nonUpdCaseMap)
{
    Set<Id> validIds = new Set<Id>();
```

```

        For (Case c : updWorkOrders){          if (nonUpdCaseMap.get(c.Id).Status
        != 'Closed' && c.Status == 'Closed'){          if (c.Type == 'Repair' || c.Type ==
        'Routine Maintenance'){          validIds.add(c.Id);

        }
    }
}

if (!validIds.isEmpty()){
    List<Case> newCases = new List<Case>();
    Map<Id,Case> closedCasesM = new Map<Id,Case>([SELECT Id, Vehicle__c,
    Equipment__c, Equipment__r.Maintenance_Cycle__c,(SELECT Id,Equipment__c,Quantity__c
    FROM Equipment_Maintenance_Items__r)
                                FROM Case WHERE Id IN :validIds]);
    Map<Id,Decimal> maintenanceCycles = new Map<ID,Decimal>();
    AggregateResult[] results = [SELECT Maintenance_Request__c,
    MIN(Equipment__r.Maintenance_Cycle__c)cycle FROM Equipment_Maintenance_Item__c
    WHERE Maintenance_Request__c IN :ValidIds GROUP BY Maintenance_Request__c];

    for (AggregateResult ar : results){          maintenanceCycles.put((Id)
    ar.get('Maintenance_Request__c'), (Decimal) ar.get('cycle'));
    }

    for(Case cc : closedCasesM.values()){
        Case nc = new Case (
            ParentId = cc.Id,
            Status = 'New',
            Subject = 'Routine Maintenance',
            Type = 'Routine Maintenance',
            Vehicle__c = cc.Vehicle__c,
            Equipment__c =cc.Equipment__c,
            Origin = 'Web',
            Date_Reported__c = Date.Today()

        );

        If (maintenanceCycles.containsKey(cc.Id)){          nc.Date_Due__c =
        Date.today().addDays((Integer) maintenanceCycles.get(cc.Id));
        }

        newCases.add(nc);
    }
}

```

```

insert newCases;

List<Equipment_Maintenance_Item__c> clonedWPs = new
List<Equipment_Maintenance_Item__c>();      for (Case nc :
newCases){      for (Equipment_Maintenance_Item__c wp :
closedCasesM.get(nc.ParentId).Equipment_Maintenance_Items__r){
Equipment_Maintenance_Item__c wpClone = wp.clone();
wpClone.Maintenance_Request__c = nc.Id;
        ClonedWPs.add(wpClone);

    }
}
insert ClonedWPs;
}
}
}

trigger MaintenanceRequest on Case (before update,
after update) {
    if(Trigger.isUpdate && Trigger.isAfter){
        MaintenanceRequestHelper.updateWorkOrders(Trigger.New, Trigger.OldMap);
    }
}
}

```