

# Garage Management system

**College Name:** Nandha Arts and Science College

**College Code:** bru4j

**TEAM ID:** NM2025TMID23165

**TEAM SIZE:** 4

**TEAM MEMBERS:**

**Team Leader Name:** CATHARINE SHOBIYA L

**Email:** catharineshobiya7@gmail.com

**Team Member:** DEEPAN R

**Email:** theepanr2005@gmail.com

**Team Member:** DHANALAKSHMI C

**Email:** theepanr2005@gmail.com

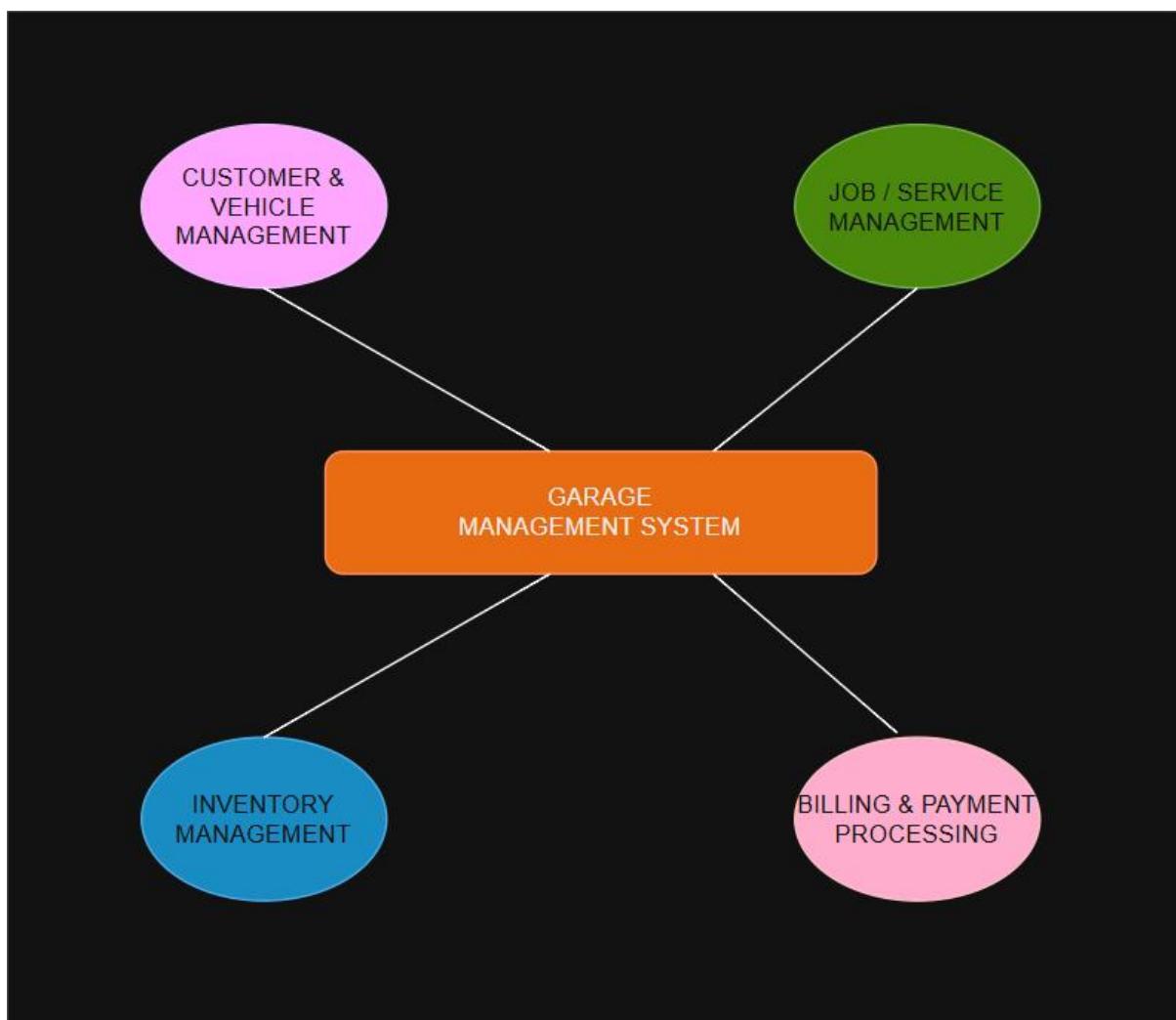
**Team Member:** DHANUSRI V

**Email:** dhanusrid634@gmail.com

# 1. INTRODUCTION

## 1.1 Project Overview

The Garage Management System (GMS) is a software solution developed to simplify and automate the daily operations of automobile service centers. It provides an integrated platform to manage customer details, vehicle information, job assignments, spare parts inventory, billing, and reporting. The system eliminates the challenges of traditional manual methods, such as misplaced records, delayed service, and inventory mismanagement. By offering real-time data access and automation, the GMS improves workflow efficiency, enhances accuracy, and reduces human effort. Ultimately, it helps garages deliver faster and more reliable services, leading to improved customer satisfaction and better business performance.



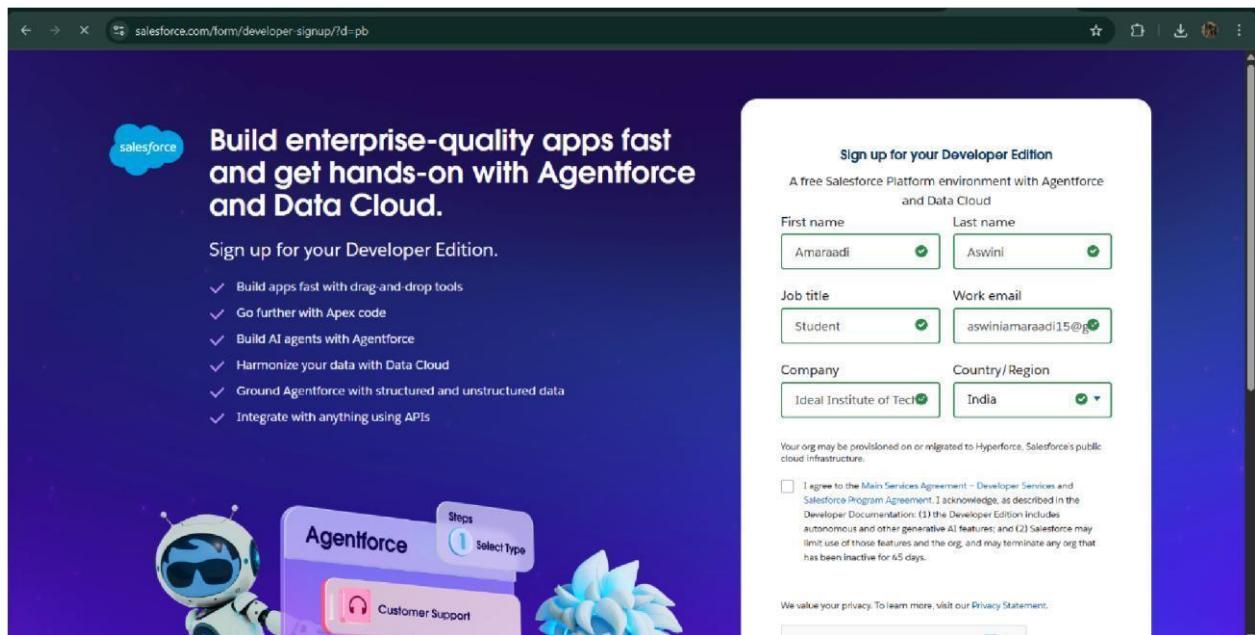
## 1.2 Purpose

The main purpose of the Garage Management System is to automate and streamline the daily operations of automobile service centers. It reduces dependency on manual records by providing a digital platform to manage customers, vehicles, repair jobs, spare parts, and billing activities. Accurate and quick record-keeping of customer and vehicle details. Efficient job assignment and progress tracking for mechanics. Real-time monitoring of spare parts inventory. Instant invoice generation and payment tracking. Improved communication between staff and customers. By integrating these features, the GMS enhances operational efficiency, minimizes errors, and improves overall customer satisfaction.

# DEVELOPMENT PHASE

### Creating Developer Account:

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



- Created objects: Customer Details, Appointment, Service records, Billing details and feedback

The image displays two screenshots of the Salesforce Setup interface, one above the other, showing the configuration of the Customer Details and Appointment objects respectively.

**Salesforce Setup - Customer Details Configuration:**

- Object Manager:** SETUP > OBJECT MANAGER
- Customer Details Object Configuration:**
  - 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, Scoping Rules, Object Access, Triggers.
  - Description:** API Name: Customer\_Details\_\_c, Custom: ✓, Singular Label: Customer Details, Plural Label: Customer Details.
  - Enable Reports:** ✓
  - Track Activities:** ✓
  - Track Field History:** ✓
  - Deployment Status:** Deployed
  - Help Settings:** Standard salesforce.com Help Window

**Salesforce Setup - Appointment Configuration:**

- Object Manager:** SETUP > OBJECT MANAGER
- Appointment Object Configuration:**
  - 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, Scoping Rules, Object Access, Triggers.
  - Description:** API Name: Appointment\_\_c, Custom: ✓, Singular Label: Appointment, Plural Label: Appointments.
  - Enable Reports:** ✓
  - Track Activities:** ✓
  - Track Field History:** ✓
  - Deployment Status:** Deployed
  - Help Settings:** Standard salesforce.com Help Window

The screenshots show a Windows desktop environment with multiple browser tabs open to the Salesforce setup pages. The taskbar at the bottom indicates the date as 13-09-2025 and the time as 01:51 PM. Weather information for 33°C and Partly sunny is also visible on the taskbar.

The screenshot shows the Salesforce Setup interface under the Object Manager section. A new object named "Service records" is being created. The API Name is set to "Service\_records\_c". The object is custom (checked) and has a singular label "Service records" and a plural label "Service records". The "Enable Reports" checkbox is checked. Deployment status is set to "Deployed".

**Service records**

**Details**

Description

API Name: Service\_records\_c

Custom: ✓

Singular Label: Service records

Plural Label: Service records

Enable Reports: ✓

Track Activities: ✓

Track Field History: ✓

Deployment Status: Deployed

Help Settings: Standard salesforce.com Help Window

**Billing details and feedback**

**Details**

Description

API Name: Billing\_details\_and\_feedback\_c

Custom: ✓

Singular Label: Billing details and feedback

Plural Label: Billing details and feedback

Enable Reports: ✓

Track Activities: ✓

Track Field History: ✓

Deployment Status: Deployed

Help Settings: Standard salesforce.com Help Window

- Configured fields and relationships

**Customer Details**

**Fields & Relationships**  
6 items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Customer Name	Name	Text(80)		✓
Gmail	Gmail__c	Email		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Phone number	Phone_number__c	Phone		

**Appointment**

**Fields & Relationships**  
13 items, Sorted by Field Label

FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Appointment Date	Date		
Appointment Name	Name	Auto Number	✓
Created By	CreatedById	Lookup(User)	
Customer Details	Customer_Details__c	Lookup(Customer Details)	✓
Customer Name	Customer__c	Text(10)	
Last Modified By	LastModifiedById	Lookup(User)	
Maintenance service	Maintenance_service__c	Checkbox	
Owner	OwnerId	Lookup(User,Group)	✓
Payment Paid	Payment_Paid__c	Currency(18, 0)	
Repairs	Repairs__c	Checkbox	
Replacement Parts	Replacement_Parts__c	Checkbox	
Service Amount	Service_Amount__c	Currency(18, 0)	

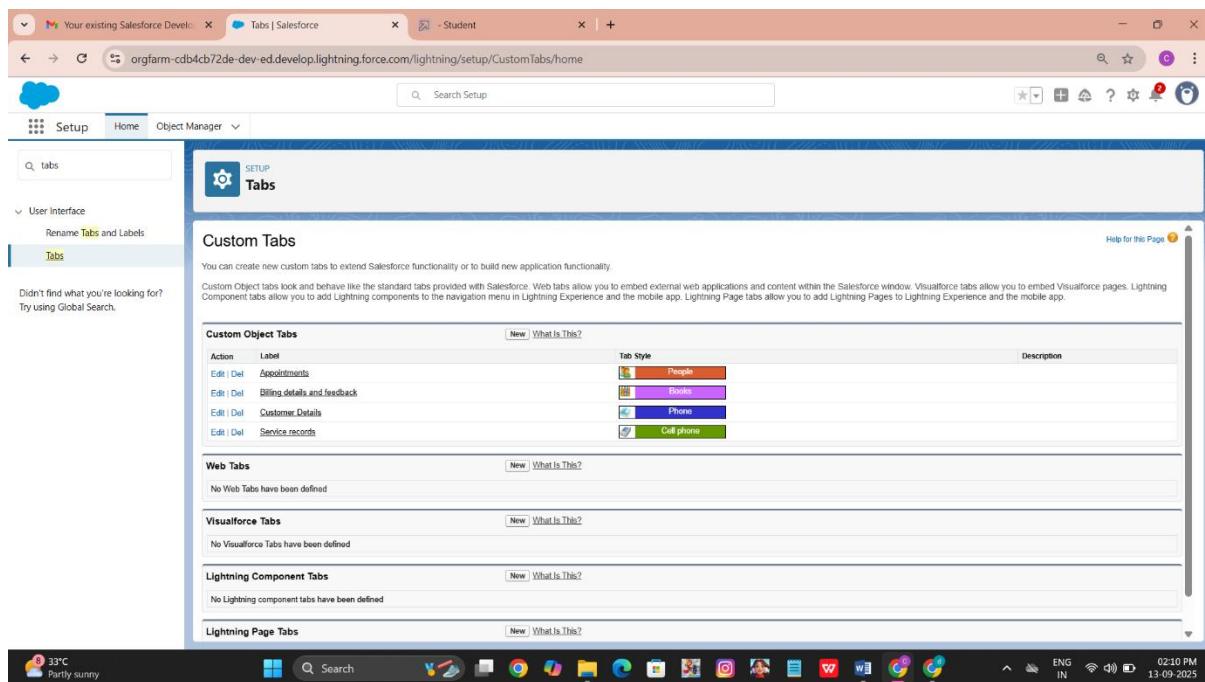
**Service records**

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Appointment	Appointment__c	Lookup(Appointment)		✓
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User/Group)		✓
Quality Check Status	Quality_Check_Status__c	Checkbox		
service date	service_date__c	Formula (Date)		
Service records Name	Name	Auto Number		✓
Service Status	Service_Status__c	Picklist		

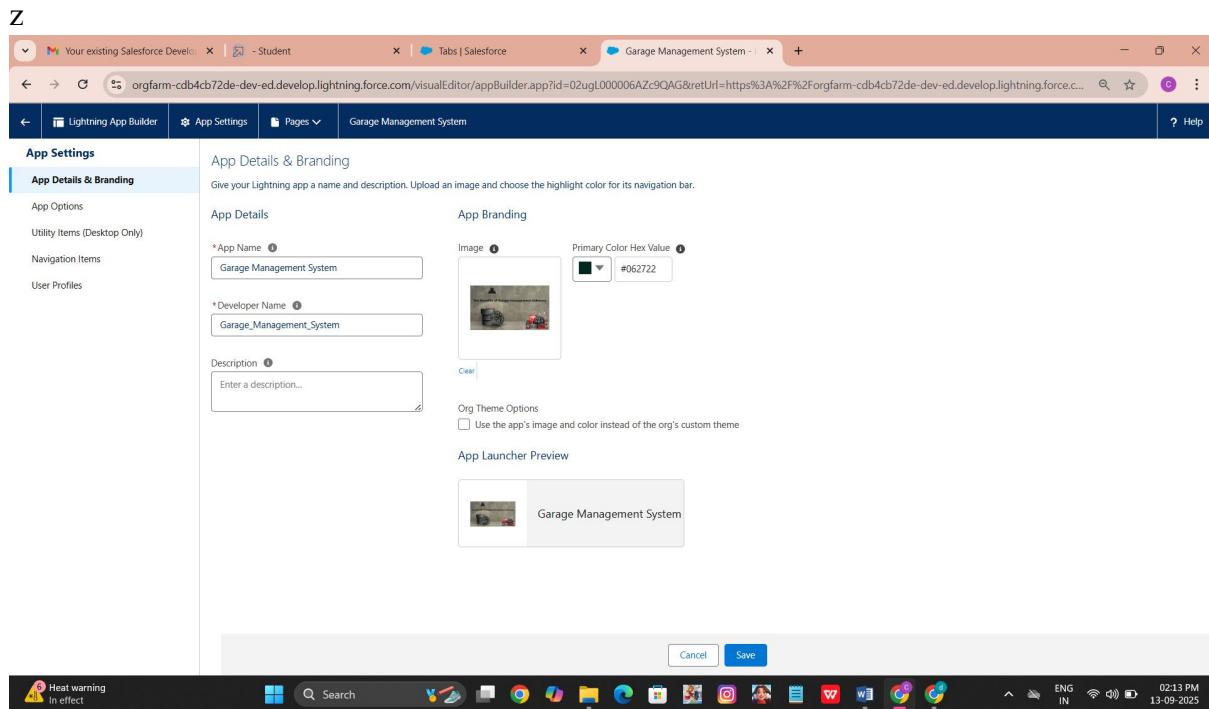
**Billing details and feedback**

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Billing details and feedback Name	Name	Auto Number		✓
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User/Group)		✓
Payment Paid	Payment_Paid__c	Currency(4, 2)		
Payment Status	Payment_Status__c	Picklist		
Rating for service	Rating_for_service__c	Text(1)		
Service Amount	Service_Amount__c	Currency(18, 0)		
Service records	Service_records__c	Lookup(Service records)		✓

- Creating tabs: Customer Details, Appointment, Service records, Billing details and feedback



- Developed Lightning App with relevant tabs



The screenshot shows the Lightning App Builder interface with the "Navigation Items" tab selected. On the left, a sidebar lists "App Settings", "App Details & Branding", "App Options", "Utility Items (Desktop Only)", and "Navigation Items". Under "Navigation Items", there is a sub-section for "User Profiles". The main area is titled "Navigation Items" and contains two panels: "Available Items" and "Selected Items". The "Available Items" panel lists various items like Accounts, Activation Targets, Activations, All Sites, Alternative Payment Methods, Analytics, App Launcher, Appointment Categories, Appointment Invitations, Approval Requests, Approval Submission Details, Approval Submissions, and more. The "Selected Items" panel contains "Customer Details", "Appointments", "Service records", "Billing details and feedback", "Reports", and "Dashboards". Arrows between the panels indicate the ability to move items between them.

**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**

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**

- Customer Details
- Appointments
- Service records
- Billing details and feedback
- Reports
- Dashboards

**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
- Customer Community Plus User

**Selected Profiles**

- System Administrator
- Manager
- sales person

- Creation of fields for the Customer Details object

The screenshot displays two consecutive screenshots of the Salesforce Object Manager interface.

**Screenshot 1: Data Type Selection**

This screen shows the "Object Manager" setup page for creating a custom field. The "Data Type" section is open, listing various options:

- None Selected
- Auto Number: A system-generated sequence number that uses a display format you define. The number is automatically incremented for each new record.
- Checkbox: Allows users to select a True (checked) or False (unchecked) value.
- Currency: Allows users to enter a dollar or other currency amount and automatically formats the field as a currency amount. This can be useful if you export data to Excel or another spreadsheet.
- Date: Allows users to enter a date or pick a date from a popup calendar.
- Date/Time: Allows users to enter a date and time, or pick a date from a popup calendar. When users click a date in the pop-up, that date and the current time are entered into the Date/Time field.
- Email: Allows users to enter an email address, which is validated to ensure proper format. If this field is specified for a contact or lead, users can choose the address when clicking Send an Email. Note that custom email addresses cannot be used for mass emails.
- Number: Allows users to enter any number. Leading zeros are removed.
- Percent: Allows users to enter a percentage number, for example, '10' and automatically adds the percent sign to the number.
- Phone: Allows users to enter any phone number. Automatically formats it as a phone number.
- Picklist: Allows users to select a value from a list you define.
- Picklist (Multi-Select): Allows users to select multiple values from a list you define.
- Text: Allows users to enter any combination of letters and numbers.
- Text Area: Allows users to enter up to 255 characters on separate lines.
- Text Area (Long): Allows users to enter up to 131,072 characters on separate lines.
- Time: Allows users to enter a local time. For example, "2:40 PM", "14:40", "14:40:00", and "14:40:50:600" are all valid times for this field.
- URL: Allows users to enter any valid website address. When users click on the field, the URL will open in a separate browser window.

**Screenshot 2: Field Creation Step 2**

This screen shows the "Edit Customer Details Custom Field" page, specifically "Phone number". It's Step 2 of 3 for creating the field.

**Field Label:** Phone number

**Field Name:** Phone\_number

**Description:** (empty)

**Help Text:** (empty)

**Required:**  Always require a value in this field in order to save a record

**Default Value:** Show Formula Editor

Use formula editor. Enclose text and picking value API names in double quotes ('Phone\_number'), include numbers without quotes ('123'), show percentages as decimals ('0.10'), and express date calculations in the standard format ('Today()'). To reference a field from a Custom Metadata type record use '{CustomMetadata\_\_Type\_\_r.RecordName.FieldName}'.

Buttons at the bottom: Previous, Save, Next, Cancel

- For lookup field,

Your existing Salesforce Development Environment - Student | Tabs | Salesforce | Object Manager | Salesforce

orgfarm-cdb4cb72de-dev-ed.lightning.force.com/lightning/setup/ObjectManager/page?address=%2Fp%2Fsetup%2Ffield%2FCustomFieldStageManager%3Fid%3D00NgL00001Uj9Lx%26e...

Setup Home Object Manager

## Object Manager

### Edit Appointment Custom Field Customer Details

Step 1. Choose the field type

Specify the type of information that the custom field will contain.

**Data Type**

None Selected

Lookup Relationship

Master-Detail Relationship

Select one of the data types below:

Creates a relationship that links this object to another object. The relationship field allows users to click on a lookup icon to select a value from a popup list. The other object is the source of the values in the list.

- The relationship field is required on all detail records.
- The ownership and sharing of a detail record are determined by the master record.
- When a user deletes the master record, all detail records are deleted.
- You can create rollup summary fields on the master record to summarize the detail records.

The relationship field allows users to click on a lookup icon to select a value from a popup list. The master object is the source of the values in the list.

Next Cancel

Very hot weather Now | Search | V | S | C | G | F | M | E | W | I | O | P | A | R | D | Y | Z | ENG IN 02:18 PM 13-09-2025

Your existing Salesforce Development Environment - Student | Tabs | Salesforce | Object Manager | Salesforce

orgfarm-cdb4cb72de-dev-ed.lightning.force.com/lightning/setup/ObjectManager/page?address=%2Fp%2Fsetup%2Ffield%2FCustomFieldStageManager%3Fid%3D00NgL00001Uj9Lx%26e...

Setup Home Object Manager

## Object Manager

### Edit Relationship Appointment

Step 2. Enter the label and name for the lookup field

Field Label: Customer Details

Field Name: Customer\_Details

Description:

Help Text:

Child Relationship Name: Appointments

Required:  Always require a value in this field in order to save a record  
 Clear the value of this field. You can't choose this option if you make this field required.  
 Don't allow deletion of the lookup record that's part of a lookup relationship.

Lookup Filter

Optional: create a filter to limit the records available to users in the lookup field. Tell me more!

Show Filter Settings

Very hot weather Now | Search | V | S | C | G | F | M | E | W | I | O | P | A | R | D | Y | Z | ENG IN 02:18 PM 13-09-2025

The screenshot shows the Salesforce Object Manager interface for the 'Appointment' object. On the left, a sidebar lists various setup options like Details, Fields & Relationships, Page Layouts, and Triggers. The main area is titled 'Fields & Relationships' and displays 13 items sorted by Field Label. Each item shows the field name, label, and type. For example, 'Appointment Date' is a Date field, 'Appointment Name' is a Name field, and 'Customer Details' is a Customer Details\_\_c field. The interface includes a search bar at the top and a toolbar with buttons for New, Deleted Fields, Field Dependencies, and Set History Tracking.

- create a validation rule to an Appointment Object

The screenshot shows the Salesforce Validation Rules editor for the 'Appointment' object. The 'Validation Rules' tab is selected in the sidebar. A new rule is being created with the following details:

- Rule Name:** Vehicle
- Active:** checked
- Description:** (empty)

The 'Error Condition Formula' section contains the formula: `NOT( REGEX( Vehicle_number_plate__c , "[A-Z]{2}[0-9]{2}[A-Z]{2}[0-9]{4}" ))`. A dropdown menu for functions is open, showing categories like All Function Categories, ABS, ACOS, ADDMONTHS, AND, ASCII, ASIN, etc. The 'Error Message' section contains the message: `Please enter valid number`.

**Appointment**

**Error Condition Formula**

Example: `[Discount_Percent >= 30]` [More Examples...](#)

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

`NOT( REGEX( Vehicle_number_plate__c , "[A-Z]{2}[0-9]{2}[A-Z]{2}[0-9]{4}"))`

**Functions**

- All Function Categories -
- ABS
- ACOS
- ADDMONTHS
- AND
- ASCII
- ASIN

[Insert Selected Function](#)

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

[Help on this function](#)

**Error Message**

Example: `[Discount percent cannot exceed 30%]`

This message will appear when Error Condition formula is true

Error Message: `Please enter valid number`

This error message can either appear at the top of the page or below a specific field on the page

Error Location:  Top of Page  Field `Vehicle number plate`

[Save](#) [Save & New](#) [Cancel](#)

**Billing details and feedback**

**Validation Rule**

Rule Name: `rating_should_be_less_than_5`

Active:

Description:

**Error Condition Formula**

Example: `[Discount_Percent <= 30]` [More Examples...](#)

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

`NOT( REGEX( Rating_for_service__c , "[1-5]{1}"))`

**Functions**

- All Function Categories -
- ABS
- ACOS
- ADDMONTHS
- AND
- ASCII
- ASIN

[Insert Selected Function](#)

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

[Help on this function](#)

**Error Message**

Example: `[Discount percent cannot exceed 30%]`

This message will appear when Error Condition formula is true

Error Message: `rating should be from 1 to 5`

[Save](#) [Save & New](#) [Cancel](#)

**Billing details and feedback**

**Error Condition Formula**

Example: `[Discount_Percent__c >= 30]` [More Examples...](#)

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

`NOT( REGEX( Rating_for_service__c , "[1-5]{1}" ) )`

**Error Message**

Example: `Discount percent cannot exceed 30%`

This message will appear when Error Condition formula is true

Error Message: Rating should be from 1 to 5

**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
- Scoping Rules
- Object Access
- Triggers

## Duplicate rule

- To create a matching rule to an Customer details Object

Matching Rule Detail	
Object	Customer Details
Rule Name	Matching customer details
Unique Name	Matching_customer_details
Description	
Matching Criteria	<code>[Customer_Details: Email EXACT MatchBlank = FALSE] AND [Customer_Details: Phone_number EXACT MatchBlank = FALSE]</code>
Status	Active
Created By	Catherine Shobya L 9/3/2025, 2:51 AM
Modified By	Catherine Shobya L 9/3/2025, 2:51 AM

- create a Duplicate rule to an Customer details Object,

The image consists of three vertically stacked screenshots of the Salesforce Duplicate Rules setup page.

**Screenshot 1: Duplicate Rule Edit - Step 1**

This screenshot shows the 'Duplicate Rule Edit' page for creating a new rule. The 'Rule Details' section is filled out as follows:

- Rule Name:** Customer Detail duplicate
- Description:** (empty)
- Object:** Customer Details
- Record-Level Security:** Enforce sharing rules (selected)

The 'Actions' section specifies what happens when a user tries to save a duplicate record:

- Action On Create:** Allow (selected), Alert (selected), Report (selected)
- Action On Edit:** Allow (selected), Alert (unchecked), Report (unchecked)
- Alert Text:** Use one of these records?

The 'Matching Rules' section defines how duplicate records are identified:

- Compare Customer Details With:** Customer Details
- Matching Rule:** Matching customer details
- Matching Criteria:** (Customer Details: Gmail EXACT MatchBlank = FALSE) AND (Customer Details: Phone\_number EXACT MatchBlank = FALSE)
- Field Mapping:** Mapping Selected

**Screenshot 2: Duplicate Rule Detail - Step 2**

This screenshot shows the 'Customer Detail duplicate' rule after it has been created. The 'Duplicate Rule Detail' page displays the following information:

- Rule Name:** Customer Detail duplicate
- Description:** (empty)
- Object:** Customer Details
- Record-Level Security:** Enforce sharing rules
- Action On Create:** Allow
- Action On Edit:** Allow
- Alert Text:** Use one of these records?
- Active:** ✓
- Matching Rule:** Matching customer details
- Matching Criteria:** (Customer Details: Gmail EXACT MatchBlank = FALSE) AND (Customer Details: Phone\_number EXACT MatchBlank = FALSE)
- Conditions:** Created By: Catherine Shobha L | 9/3/2025, 2:52 AM
- Modified By:** Catherine Shobha L | 9/13/2025, 1:58 AM

**Screenshot 3: Duplicate Rule Detail - Step 3**

This screenshot shows the same 'Customer Detail duplicate' rule detail page, but with a different timestamp at the bottom of the screen (02:28 PM). The rest of the information is identical to Screenshot 2.

## Profiles

- Manager Profile,

The screenshot shows the Salesforce Setup interface with the 'Profiles' page open. The 'Manager' profile is selected, showing its basic details: Name (Manager), User License (Salesforce), and Description (empty). The 'Custom Profile' checkbox is checked. The 'Custom App Settings' section lists various standard and custom apps with checkboxes for 'Visible' and 'Default'. The 'Tab Settings' section shows standard tab settings for various objects like Accounts, Activities, and Assets, with dropdown menus for 'Home' and 'Default On' or 'Default Off'. A note at the bottom says 'Didn't find what you're looking for? Try using Global Search.'

Your existing Salesforce Development Environment | Profiles | Salesforce

orgfarm-cdb4cb72de-dev-ed.lightning.force.com/lightning/setup/EnhancedProfiles/page?address=%2F00egL000004Nlht%2Fe%3FretURL%3D%252F00e%253Ffc%253D00BgL00000G7m...

Setup Home Object Manager

Q Search Setup

Cloud icon

Standard Object Permissions

The permissions defined here control access at the object level. Access to individual records within that object type is controlled by the sharing model. Set access levels based on the functional requirements for the profile. For example, create different groups of permissions for individual contributors, managers, and administrators. [How do I choose?](#)

Basic Access Data Administration

	Read	Create	Edit	Delete	View All Records	Modify All Records	View All Fields
Accounts	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Attribute	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Contact Point	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Contact Point Field	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Contact Point Source	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Data Model Field	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Data Source	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Definition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Platforms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Platform Activation Attributes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Platform Audience Identifiers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Platform Data Connector for S3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Platform Fields	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Platform Field Values	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activation Platform Field Value Definitions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basic Access Data Administration

	Read	Create	Edit	Delete	View All Records	Modify All Records	View All Fields
Data Share Target Definition	<input type="checkbox"/>						
Data Share Target Definition Maps	<input type="checkbox"/>						
Data Sources	<input type="checkbox"/>						
Data Source Bundles	<input type="checkbox"/>						
Data Source Data Model Field Mappings	<input type="checkbox"/>						
Data Source Fields	<input type="checkbox"/>						
Data Source Objects	<input type="checkbox"/>						
Data Source Parameters	<input type="checkbox"/>						
Data Source Tenants	<input type="checkbox"/>						
Data Streams	<input type="checkbox"/>						
Data Stream Definitions	<input type="checkbox"/>						
Data Stream Templates	<input type="checkbox"/>						
Data Stream Template Connection Parameters	<input type="checkbox"/>						
Data Tag Detection Configurations	<input type="checkbox"/>						

Basic Access Data Administration

	Read	Create	Edit	Delete	View All Records	Modify All Records	View All Fields
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Custom Object Permissions

Basic Access Data Administration

	Read	Create	Edit	Delete	View All Records	Modify All Records	View All Fields
Appointments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Billing details and feedback	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Customer Details

Service records

Session Settings

Session Times Out After: 8 hours of inactivity

Session Security Level Required at Login: None

Password Policies

User passwords expire in: Never expires

Enforce password history: 3 passwords remembered

Minimum password length: 8

Password complexity requirement: Must include alpha and numeric characters

Password question requirement: Cannot contain password

Maximum invalid login attempts: 10

Lockout effective period: 15 minutes

Save Save & New Cancel

Cloud icon

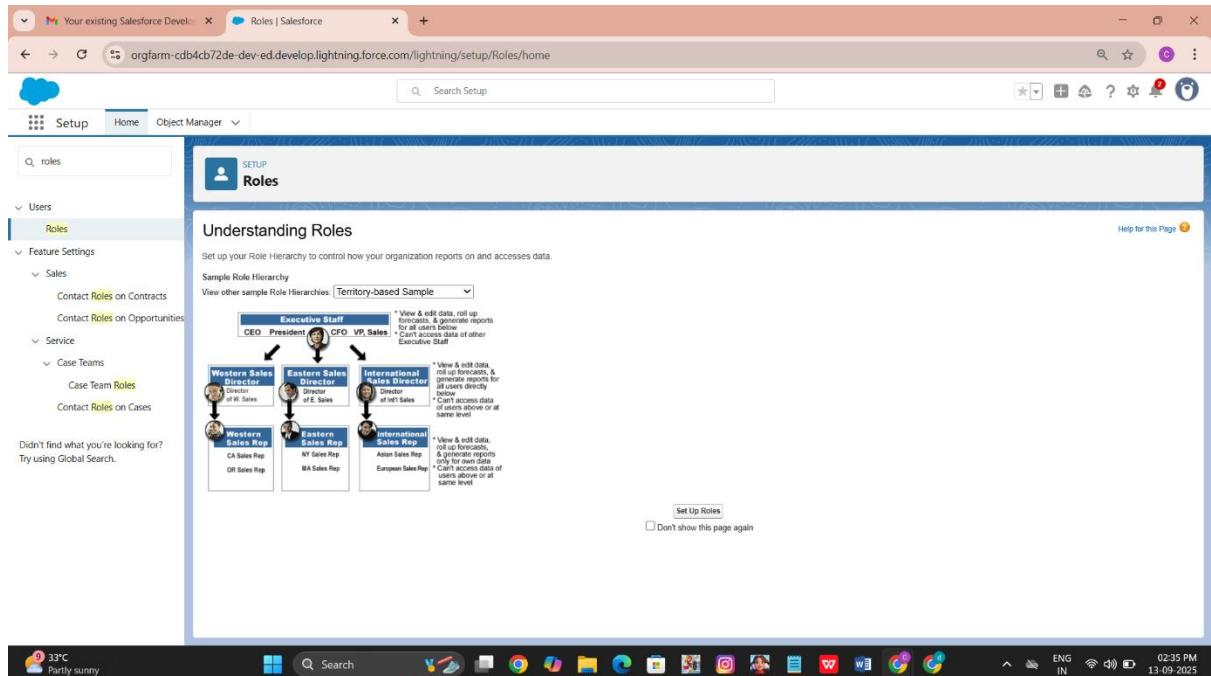
33°C Partly sunny

Search bar

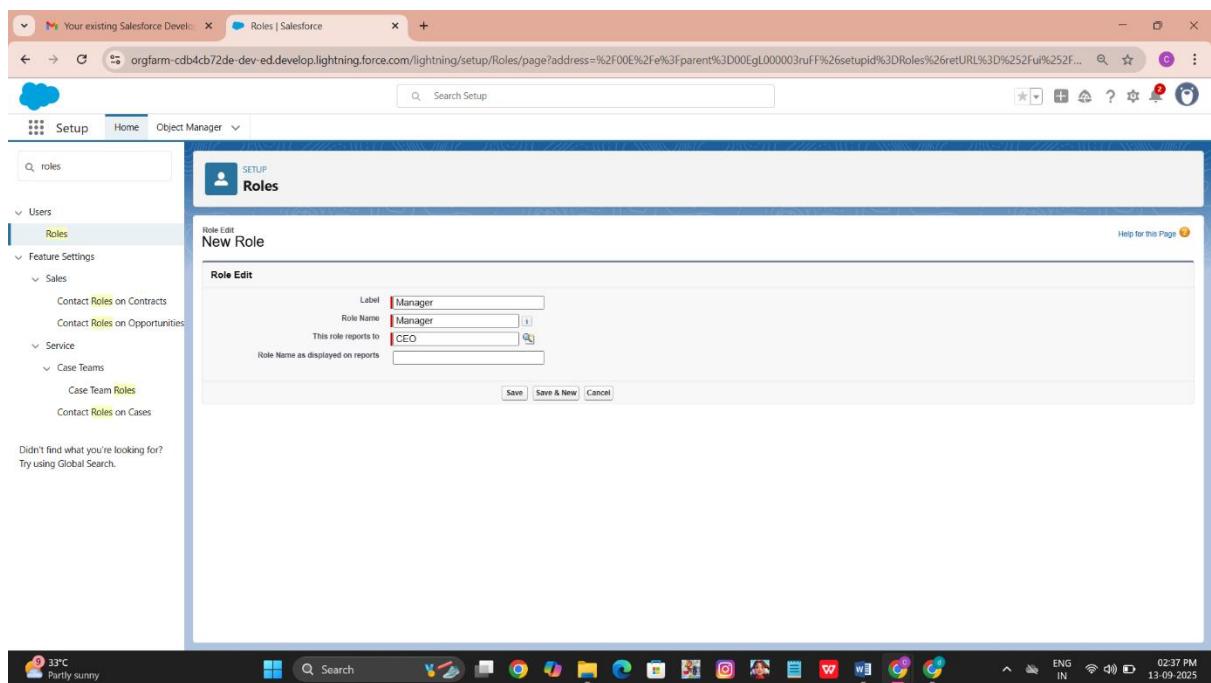
Windows taskbar

02:32 PM 13-09-2025

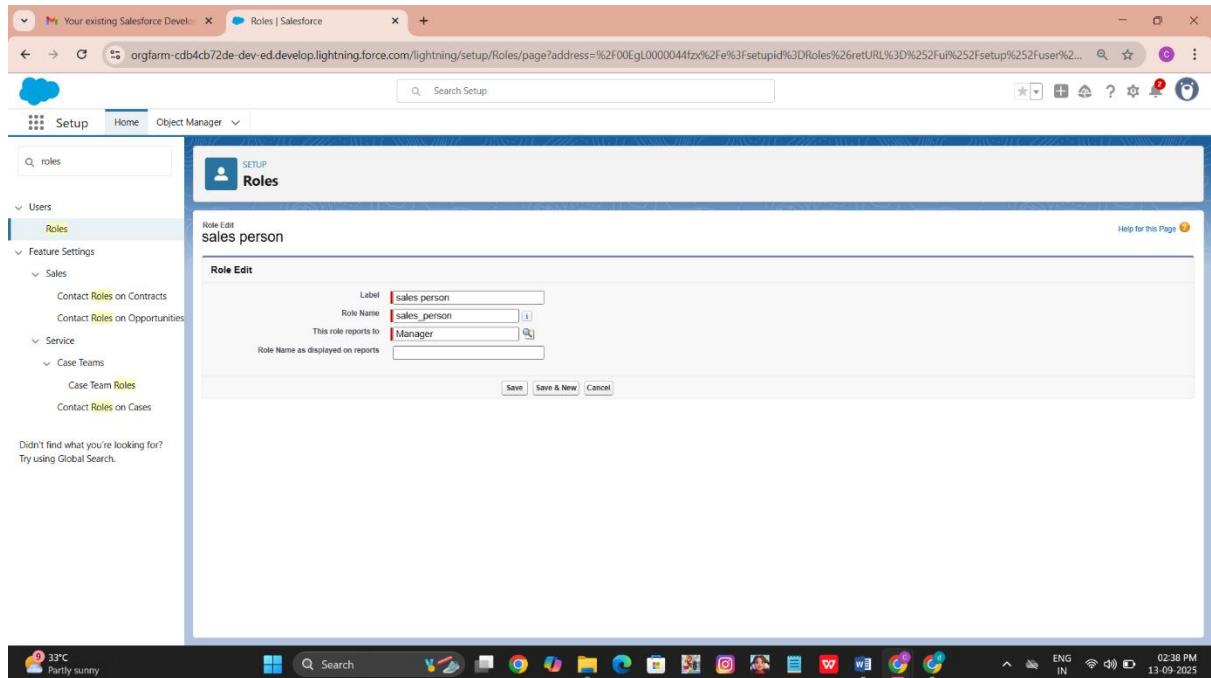
## Role & Role Hierarchy



- Creating Manager Role,

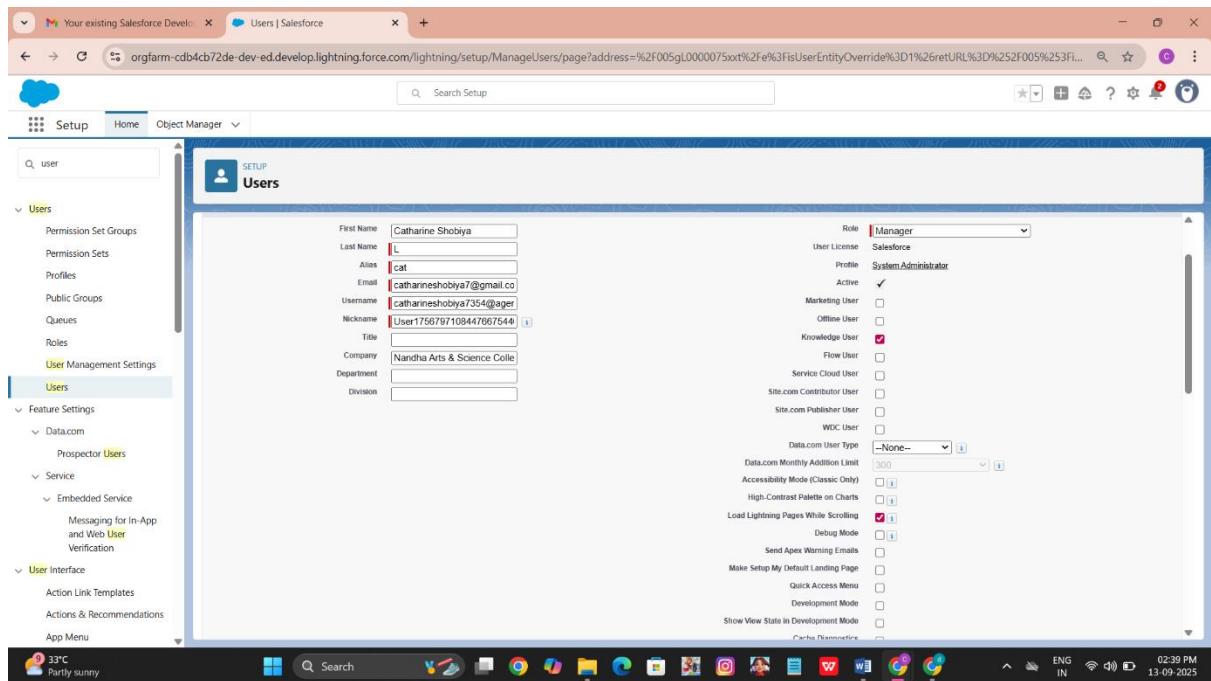


- Creating Sales person Role,

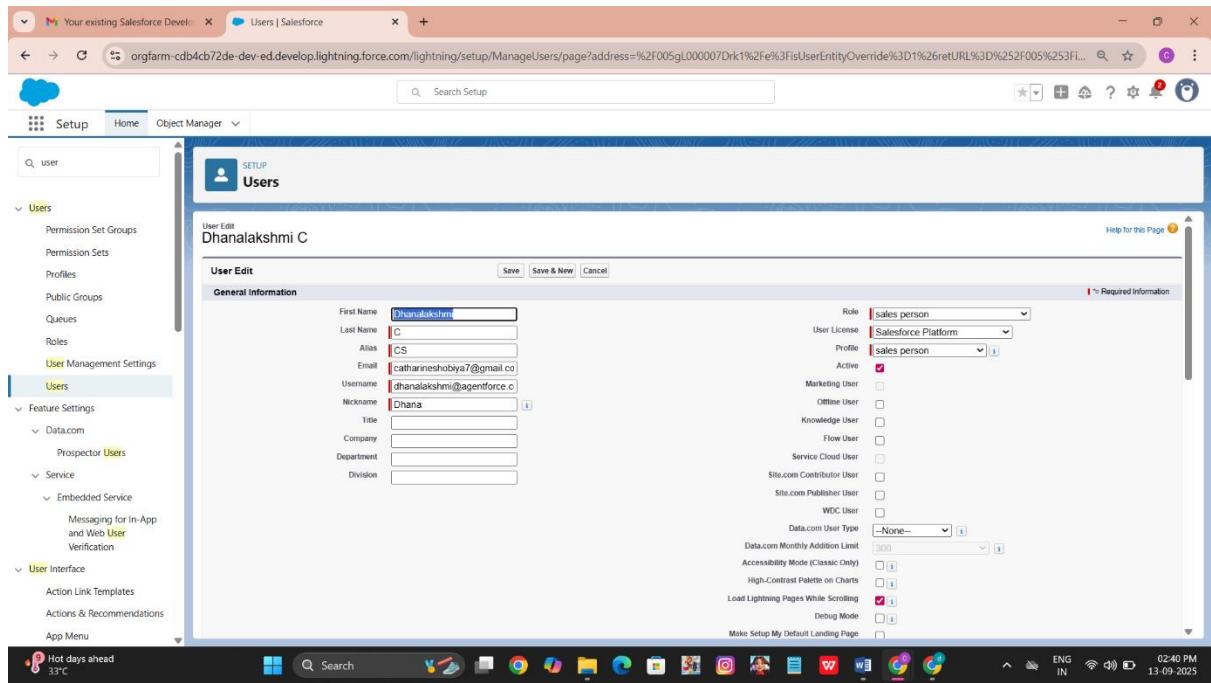
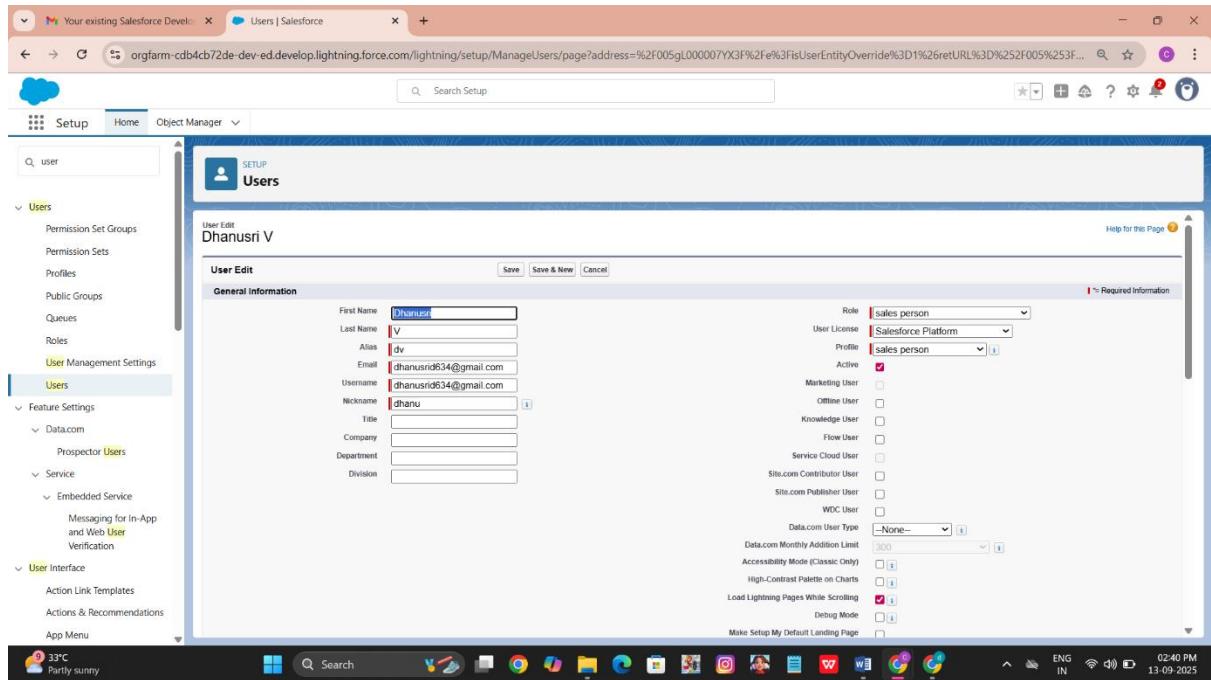


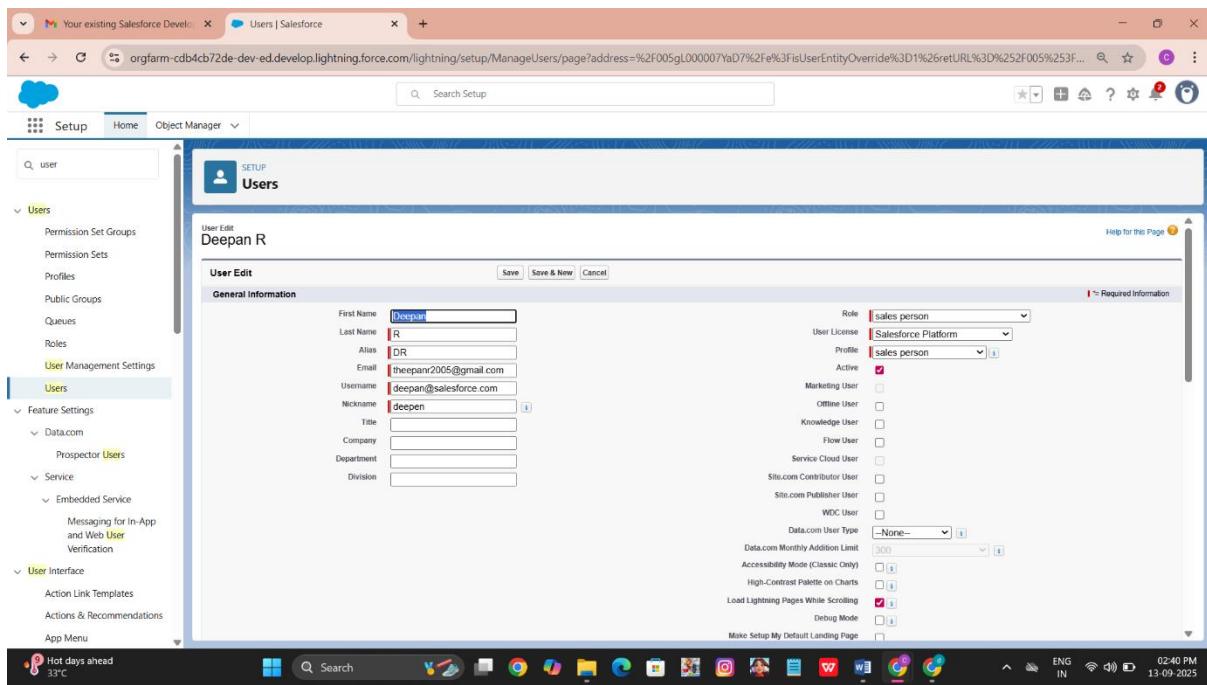
## Users

- Create User assign the role as Manager



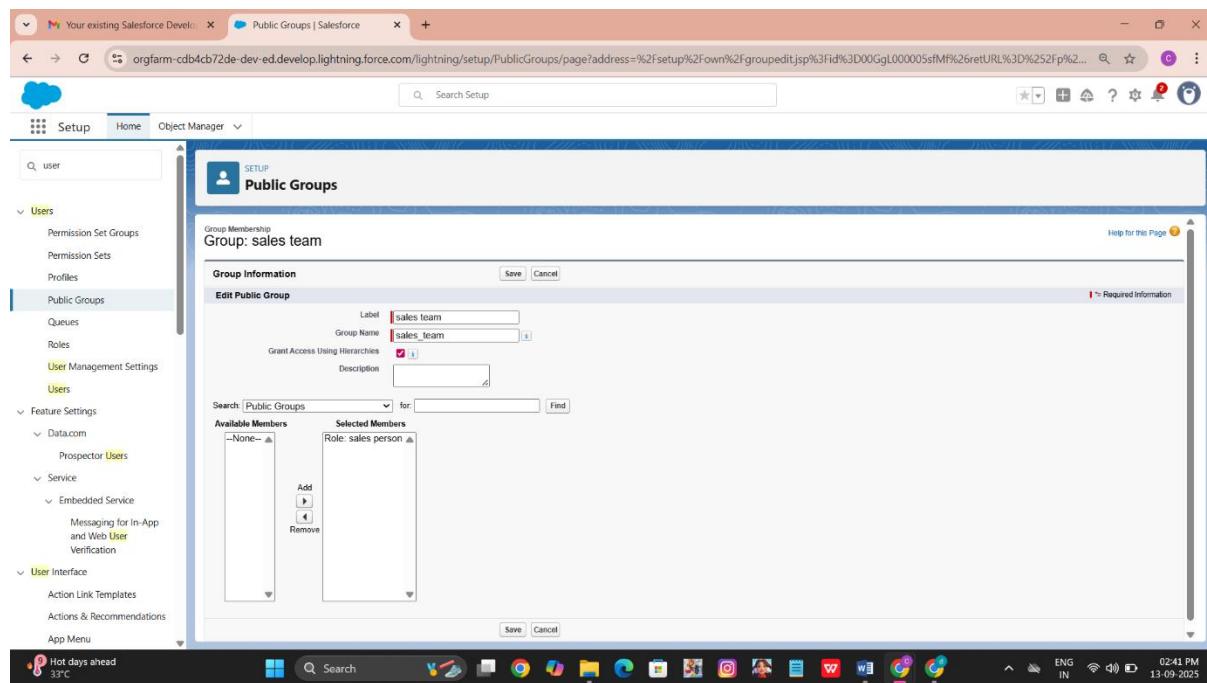
- Create User assign the role as sales person





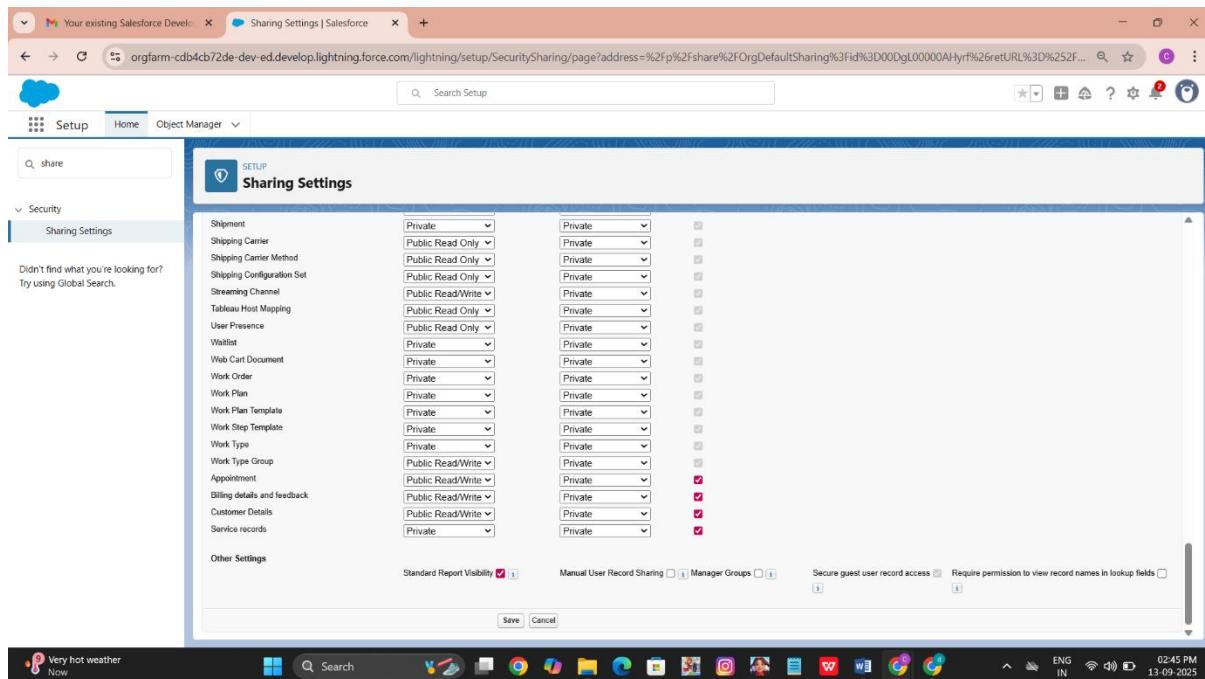
## Public groups

- Creating New Public Group name with Sales Team,



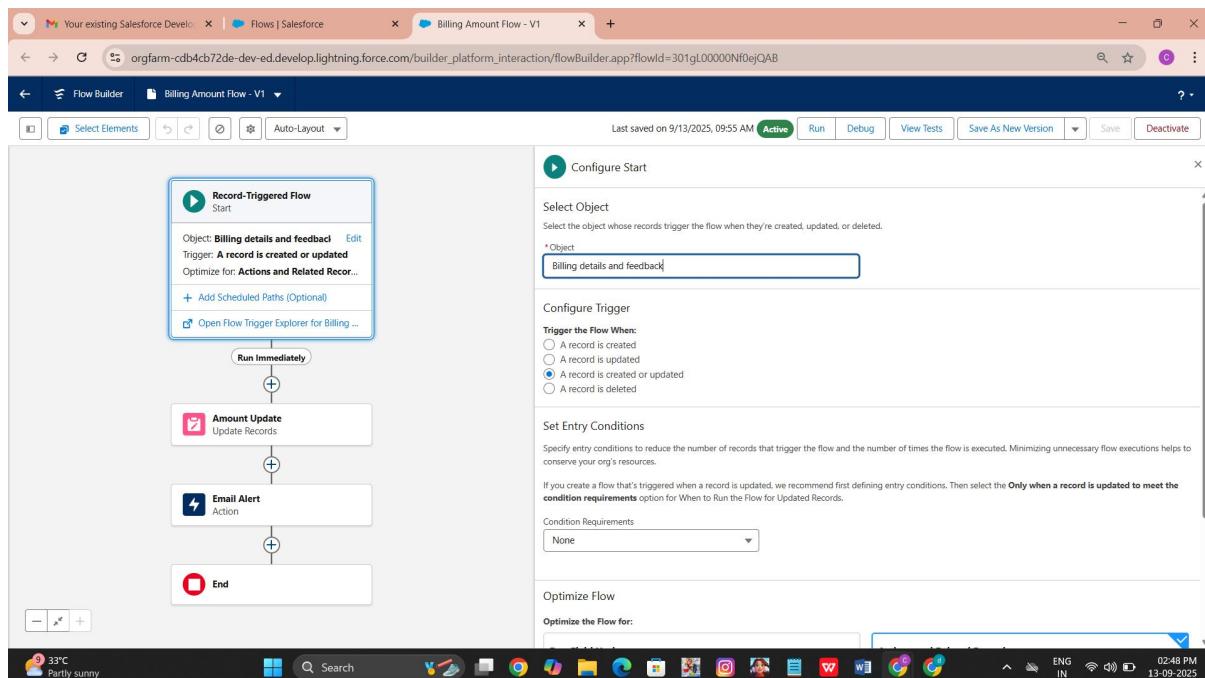
## Sharing Setting

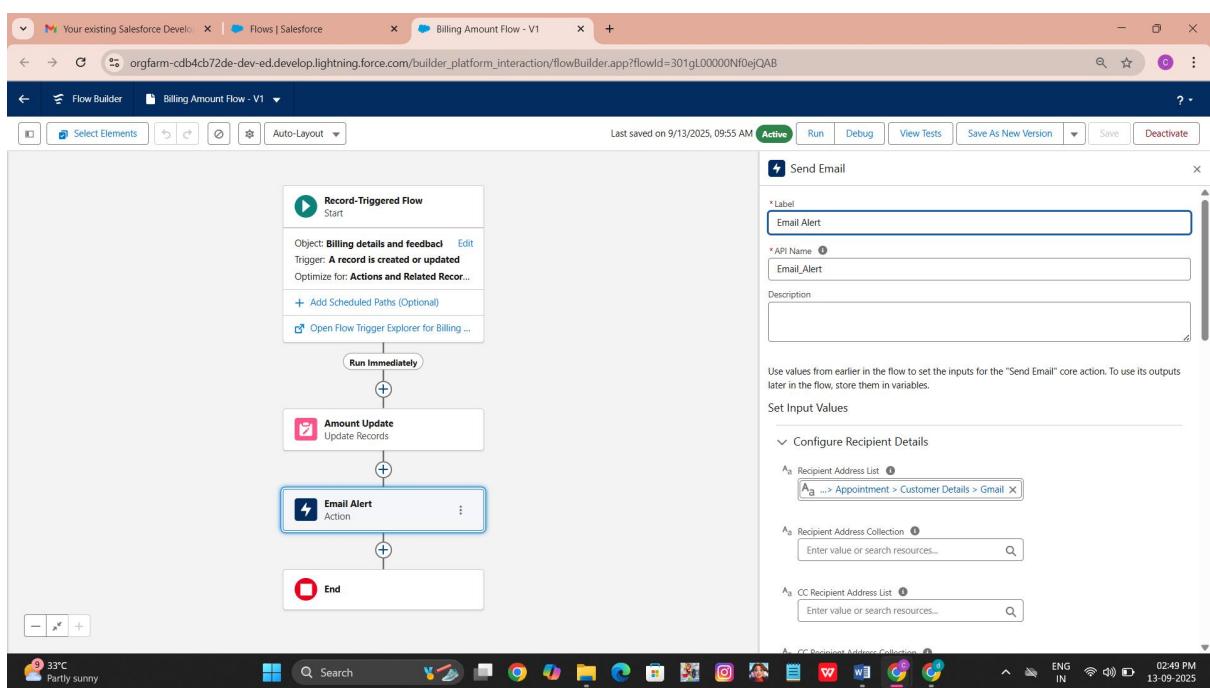
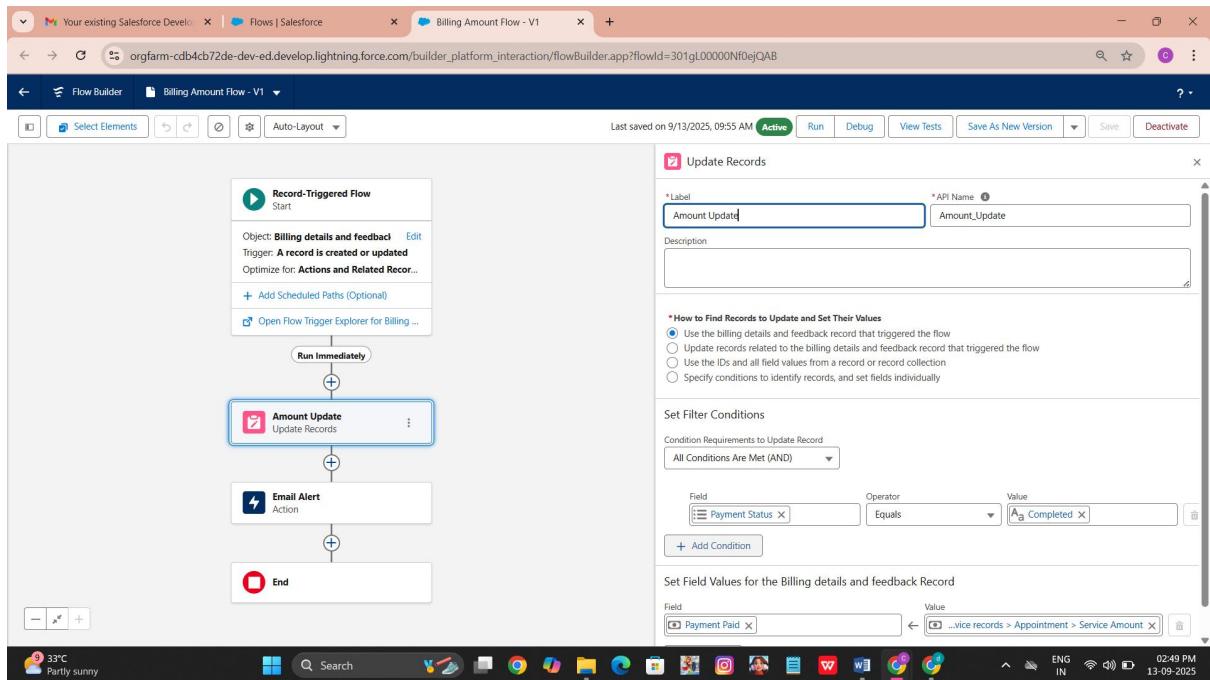
- Creating Sharing settings,

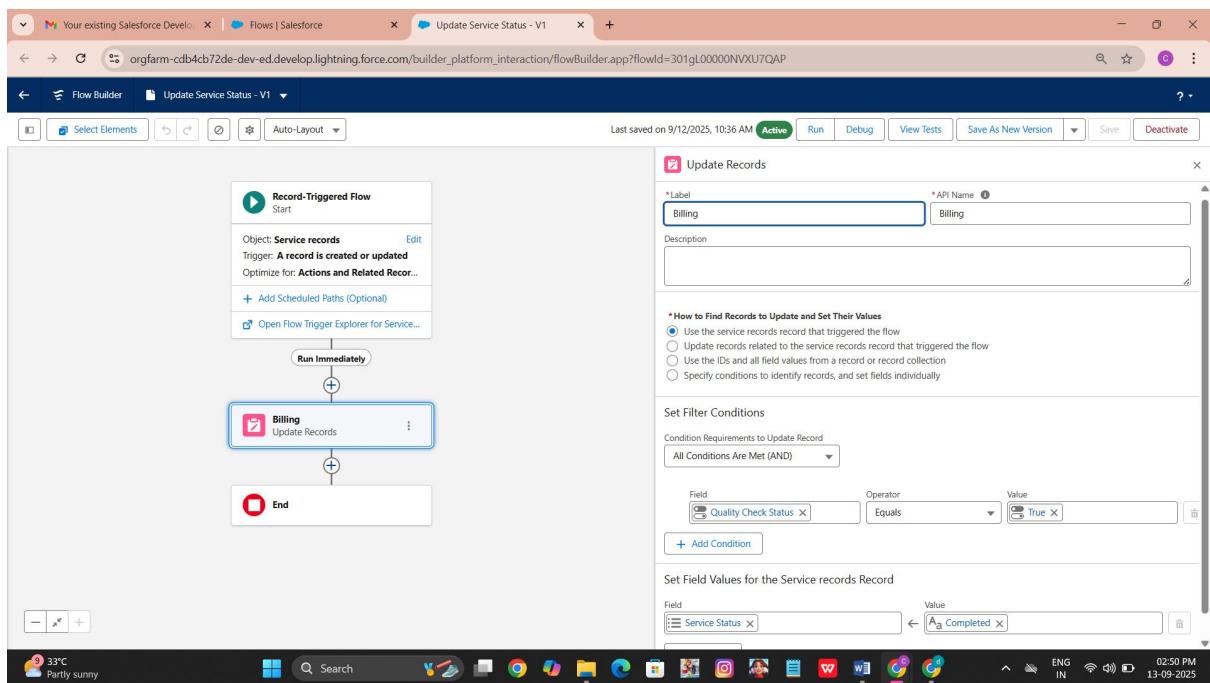
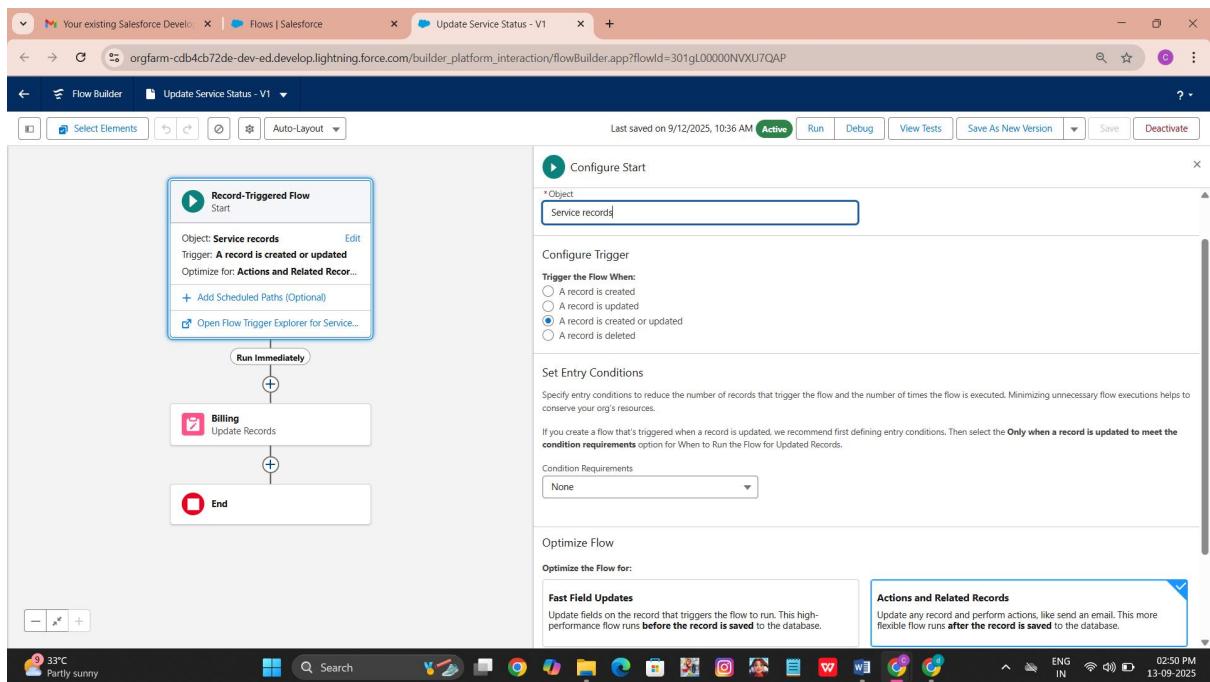


## Flows

- Create a flow for a Billing details and feedback,







## Apex Trigger

- Create an Apex Handler class

```
1 public class AmountDistributionHandler {  
2  
3  
4  
5 public static void amountDist(list<Appointment__c> listApp){  
6  
7     list<Service_records__c> serList = new list <Service_records__c>();  
8  
9  
10    for(Appointment__c app : listApp){  
11  
12        if(app.Maintenance_service__c == true && app.Repairs__c == true && app.Replacement_Parts__c == true){  
13            app.Service_Amount__c = 1000;  
14  
15        }  
16  
17        else if(app.Maintenance_service__c == true && app.Repairs__c == true){  
18            app.Service_Amount__c = 5000;  
19  
20        }  
21  
22        else if(app.Maintenance_service__c == true && app.Replacement_Parts__c == true){  
23  
24  
25        else if(app.Maintenance_service__c == true && app.Replacement_Parts__c == true){  
26            app.Service_Amount__c = 8000;  
27  
28        }  
29  
30        else if(app.Repairs__c == true && app.Replacement_Parts__c == true){  
31            app.Service_Amount__c = 7000;  
32  
33        }  
34  
35        else if(app.Maintenance_service__c == true){  
36            app.Service_Amount__c = 2000;  
37  
38        }  
39  
40        else if(app.Repairs__c == true){  
41            app.Service_Amount__c = 3000;  
42  
43        }  
44  
45        else if(app.Replacement_Parts__c == true){  
46  
47  
48  
49
```

The screenshot displays two identical windows of the Salesforce Developer Console. Both windows show the same Apex code for the `AmountDistributionHandler` class. The code is designed to calculate service amounts based on maintenance, repair, and replacement part requirements. In the first window (top), there is a bug where all cases are set to \$1000. In the second window (bottom), the logic has been corrected to assign \$8000 for maintenance cases, \$7000 for repair cases, and \$3000 for replacement part cases. The code uses nested if statements to handle these different scenarios. The developer console interface includes tabs for Logs, Tests, Checkpoints, Query Editor, View State, Progress, and Problems, along with various system status indicators at the bottom.

- Create an Apex Trigger

```

trigger test on Tenant__c (before insert)
{
    if(trigger.isInsert && trigger.isBefore){
        testHandler.preventInsert(trigger.new);
    }
}

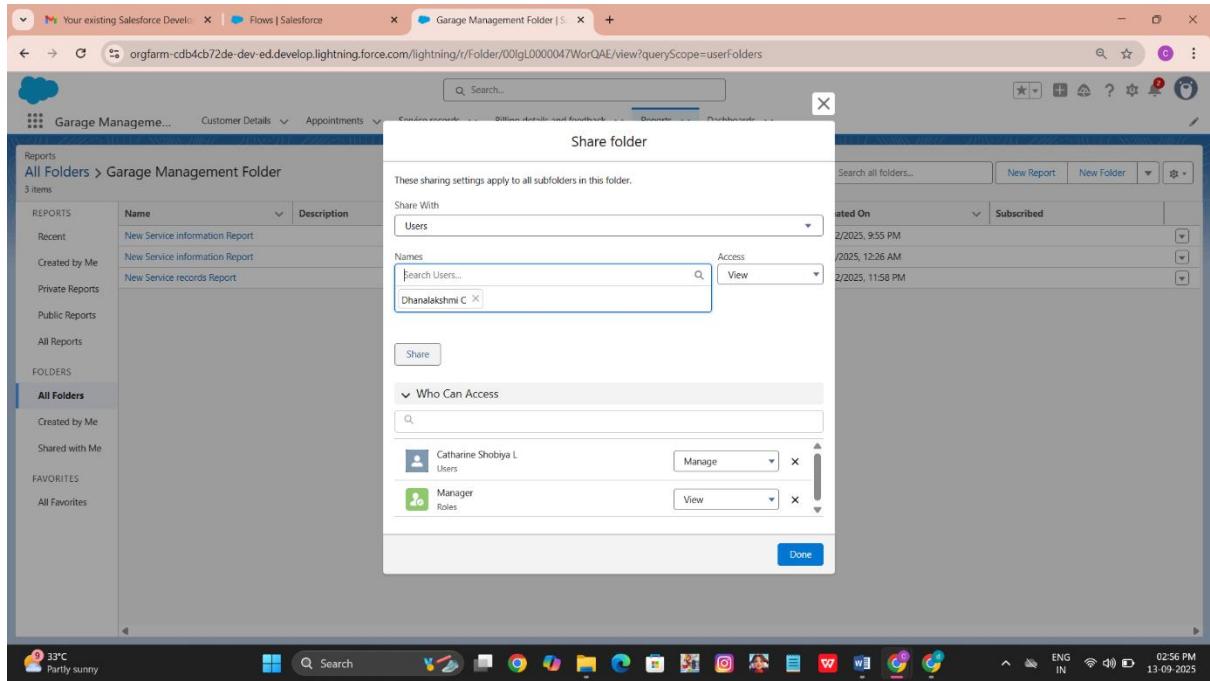
```

## Reports

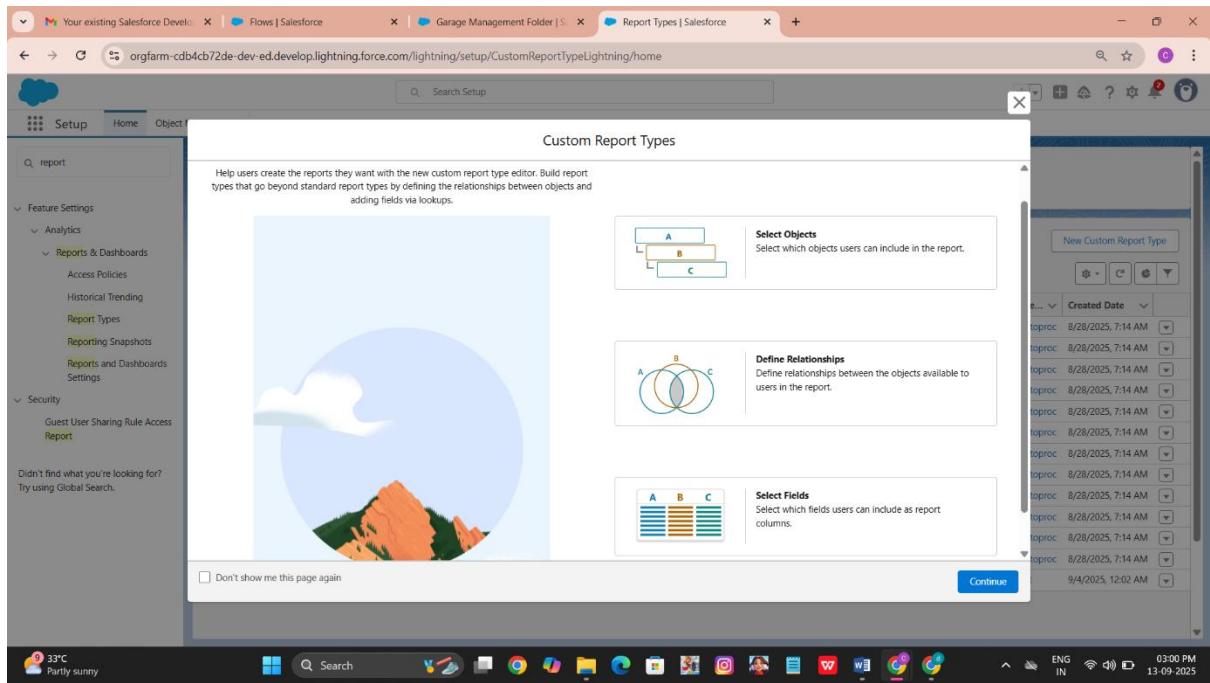
- create a report folder

The screenshot shows the Salesforce Lightning interface for creating a new report folder. The left sidebar lists categories like Reports, Recent, Created by Me, Private Reports, Public Reports, All Reports, Folders, and Favorites. The main area displays a table of recent reports, and a modal dialog is open in the center. The modal has fields for 'Folder Label' (set to 'Garage Management Folder') and 'Folder Unique Name' (set to 'GarageManagementFolder'). At the bottom of the modal are 'Cancel' and 'Save' buttons.

- Sharing a report folder



- Create Report Type



Setup | Home | Object Manager | Search Setup | Sections | + New Section | + Lookup Fields | Close | Save

Service information

Total Fields in Layout: 45

Fields

Customer Details

- A Customer Details ID
- A Owner
- A Customer Name
- A Created By
- A Created Date
- A Customer Details ID
- A Customer Name
- A Gmail
- A Last Modified By
- A Phone number
- A Last Modified Date
- A Owner
- A Phone number

Appointments

- A Appointment ID
- A Owner
- A Appointment Name
- A Created Date
- A Created By
- A Last Modified Date
- A Last Modified By
- A Appointment Date
- A Last Modified Date
- A Maintenance service
- A Repairs
- A Replacement Parts
- A Service Amount
- A Payment Paid
- A Vehicle number plate
- A Customer Name

Service records

- A Service records ID
- A Owner
- A Service records Name
- A Created Date
- A Created By
- A Last Modified Date
- A Last Modified By
- A Last Modified Date
- A Quality Check Status
- A Service Status
- A Service date

Billing details and fees

- A Billing details and fees
- A Owner
- A Billing details and fees
- A Created Date
- A Created By
- A Last Modified Date
- A Last Modified By
- A Rating for service
- A Payment Status
- # Payment Paid
- # Service Amount

Details

Display Label: Service information  
 API Name: Service\_information  
 Description: same  
 Created By: Catharine Shobya L, 04/09/2025, 12:32 pm  
 Store in Category: other  
 Deployment Status: Deployed  
 Modified By: Catharine Shobya L, 13/09/2025, 03:01 pm

Object Relationships

Customer Details (A)

... with at least one related record from Appointments (B)

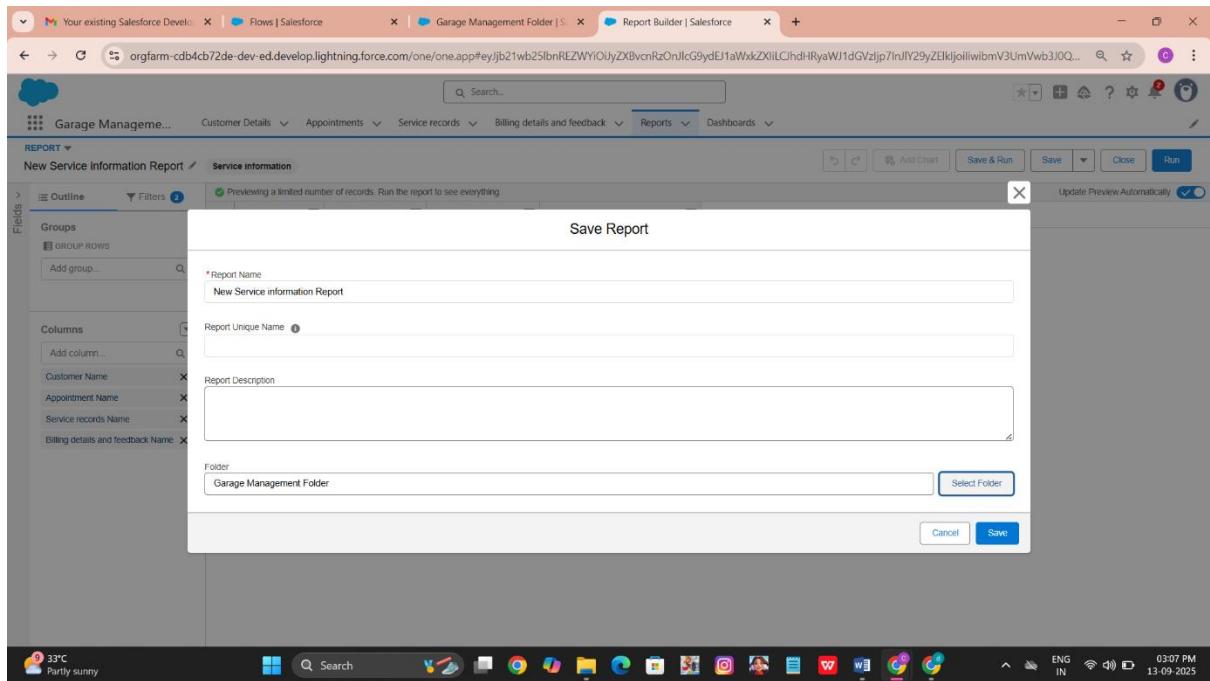
... with at least one related record from Service records (C)

... with at least one related record from Billing details and feedback (D)

Fields

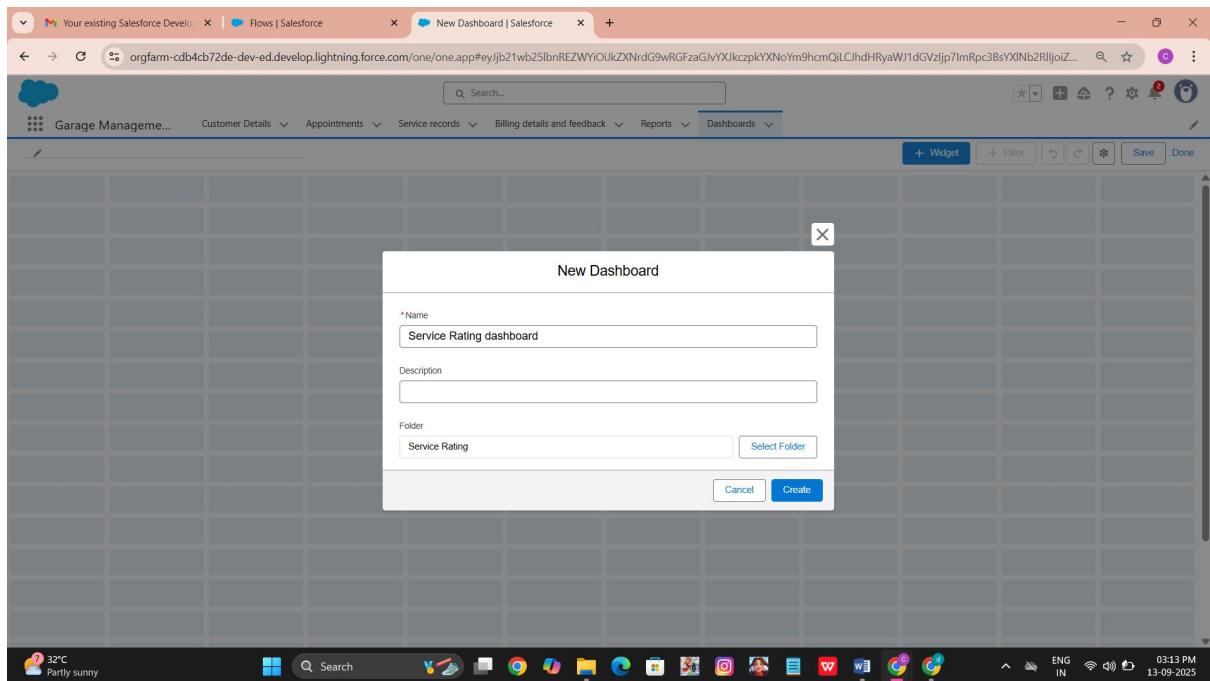
Source Object	Included Fields
Customer Details	9
Appointments	15
Service records	10
Billing details and feedback	11

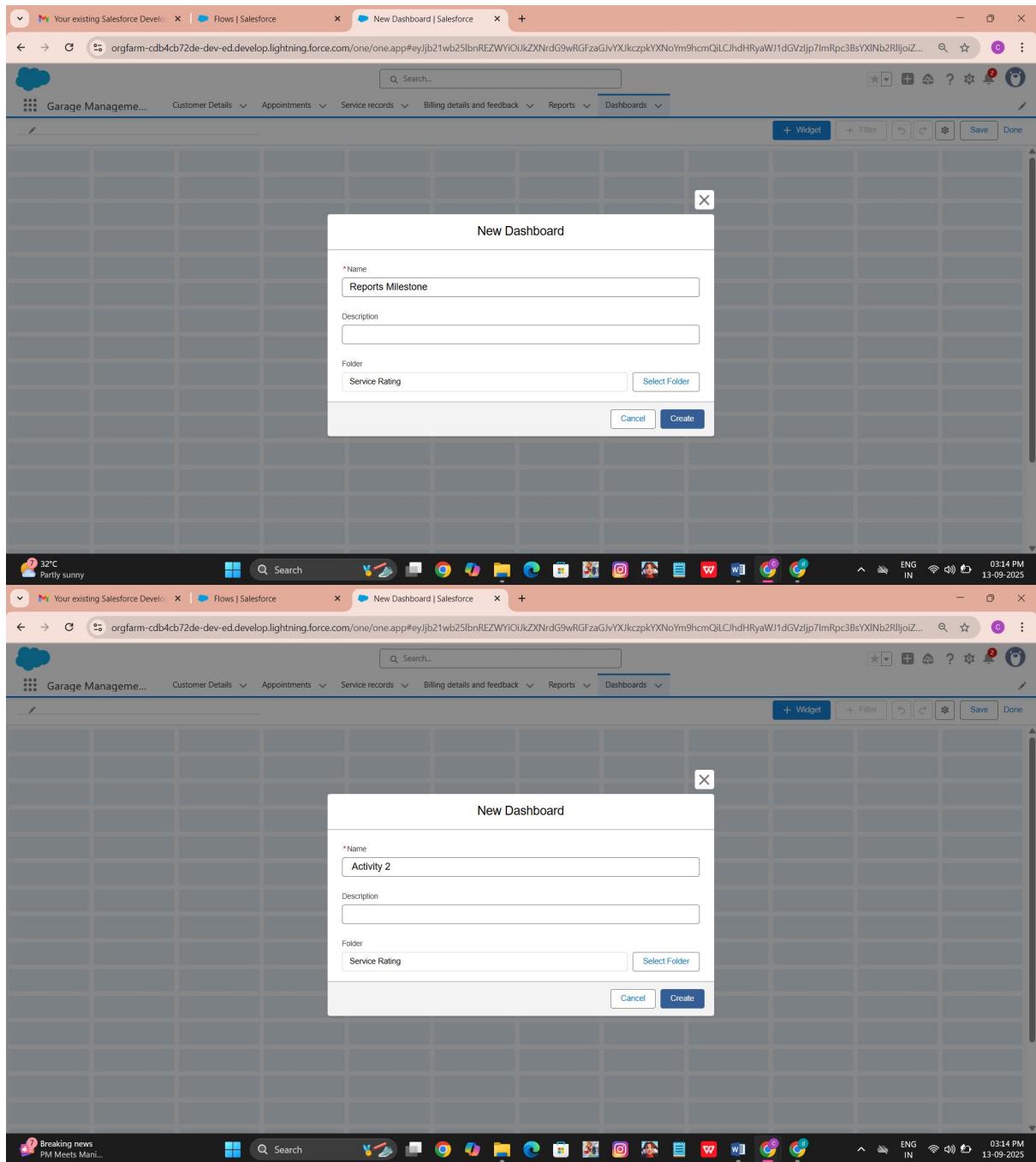
- Create Report



## Dashboards

- Create Dashboard Folder





## User Adoption

- creating records

Your existing Salesforce Dev... | Flows | Salesforce | Edit Ben tennison | Salesforce | +

orgfarm-cdb4cb72de-dev-ed.lightning.force.com/lightning/r/Customer\_Details\_\_c/a00gL00000J1IKEQAZ/edit?navigationLocation=LIST\_VIEW\_ROW&count=1&backgroundContext=%2Flight...

Garage Management... Customer Details Appointments Service records Billing details and feedback Reports Dashboards

Customer Details Recently Viewed

13 items • Updated a few seconds ago

- 1 Customer Name Mac
- 2 John Doe
- 3 Kevin
- 4 Gwen tennison
- 5 Ben tennison
- 6 Doremom
- 7 Nobita
- 8 Nanaco
- 9 Hiroshi
- 10 Minsea
- 11 shiro
- 12 Shinchan
- 13 Himawari

Edit Ben tennison

\*Customer Name Ben tennison Owner Catharine Shobiya L.

Phone number 657432558

Gmail ben@gmail.com

Created By Catharine Shobiya L 9/12/2025, 10:11 PM Last Modified By Catharine Shobiya L 9/12/2025, 10:11 PM

Cancel Save & New Save

Heat warning In effect 02:16 PM 13-09-2025 ENG IN

This screenshot shows the Salesforce Lightning interface. A modal window titled 'Edit Ben tennison' is open, displaying a form with fields for Customer Name (set to 'Ben tennison'), Phone number (657432558), and Gmail (ben@gmail.com). The form also shows the owner as 'Catharine Shobiya L'. Below the form, it indicates the record was created by Catharine Shobiya L on 9/12/2025 at 10:11 PM and last modified by her at the same time. At the bottom of the modal are 'Cancel', 'Save & New', and a blue 'Save' button. The background shows a list of recently viewed customer names. The system status bar at the bottom shows 'Heat warning In effect' and the date and time '02:16 PM 13-09-2025'.

Your existing Salesforce Dev... | Flows | Salesforce | Edit app-009 | Salesforce | +

orgfarm-cdb4cb72de-dev-ed.lightning.force.com/lightning/r/Appointment\_\_c/a01gL00000NfUzPQAV/edit?navigationLocation=LIST\_VIEW\_ROW&count=2&backgroundContext=%2Flight...

Garage Management... Customer Details Appointments

Appointments Recently Viewed

8 items • Updated a few seconds ago

- 1 Appointment Name app-009
- 2 app-001
- 3 app-008
- 4 app-003
- 5 app-007
- 6 app-004
- 7 app-005
- 8 app-010

Appointment Name app-009 Owner Catharine Shobiya L.

Customer Details Ben tennison

\*Appointment Date 9/11/2025

Maintenance service

Repairs

Replacement Parts

\*Service Amount \$2,000

Payment Paid \$1,000

\*Vehicle number plate DL01ZZ0001

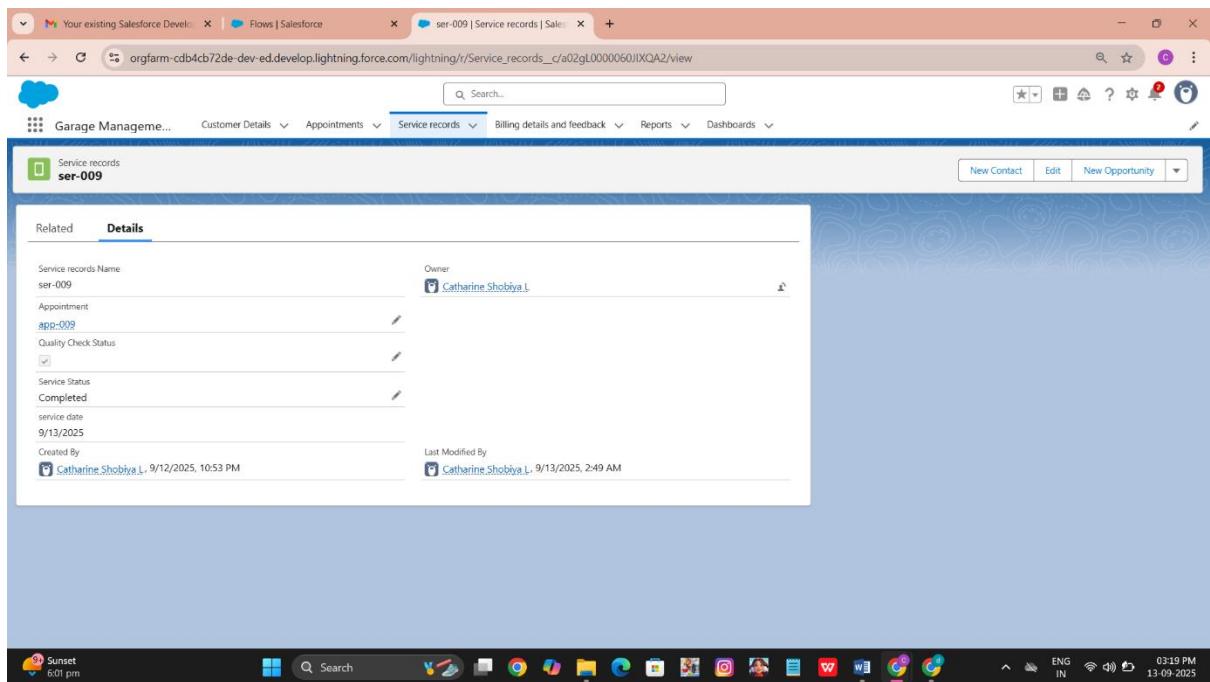
\*Customer Name Ben

Created By Catharine Shobiya L 9/12/2025, 10:53 PM Last Modified By Catharine Shobiya L 9/12/2025, 10:53 PM

Cancel Save & New Save

Air: Moderate Tomorrow 03:18 PM 13-09-2025 ENG IN

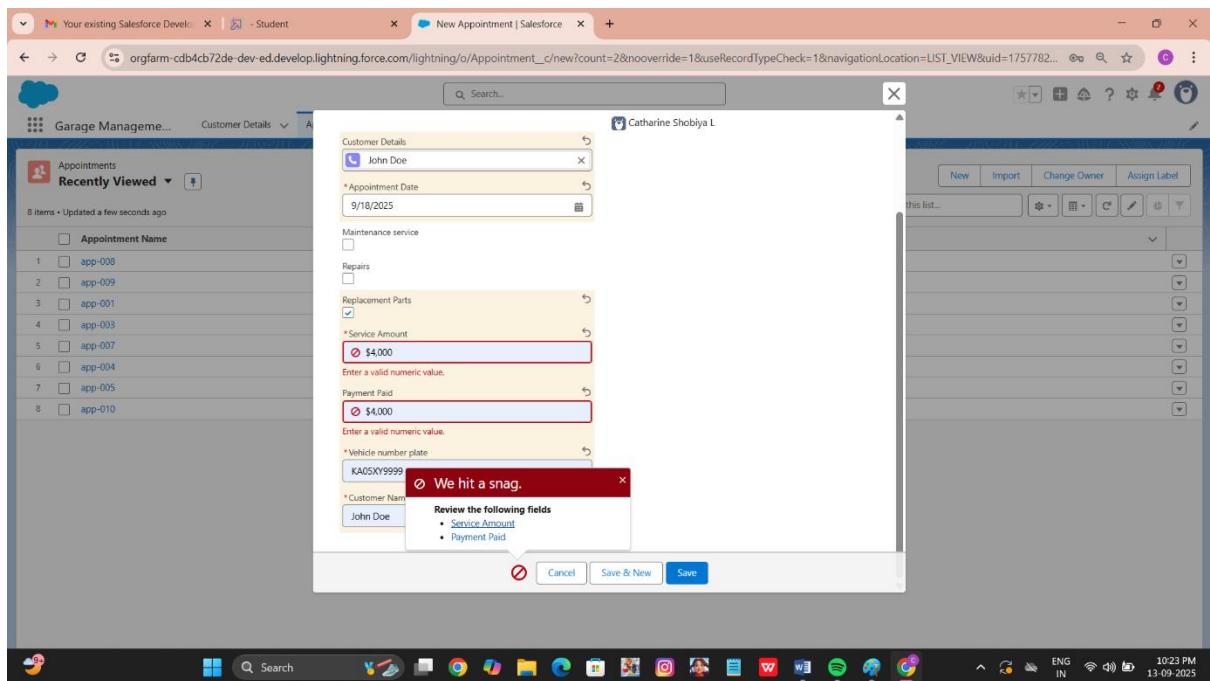
This screenshot shows the Salesforce Lightning interface. A modal window titled 'Edit app-009' is open, displaying a form with fields for Appointment Name (set to 'app-009'), Customer Details (set to 'Ben tennison'), Appointment Date (9/11/2025), and Service Amount (\$2,000). The form also shows the owner as 'Catharine Shobiya L'. Below the form, it indicates the record was created by Catharine Shobiya L on 9/12/2025 at 10:53 PM and last modified by her at the same time. At the bottom of the modal are 'Cancel', 'Save & New', and a blue 'Save' button. The background shows a list of recently viewed appointment names. The system status bar at the bottom shows 'Air: Moderate Tomorrow' and the date and time '03:18 PM 13-09-2025'.



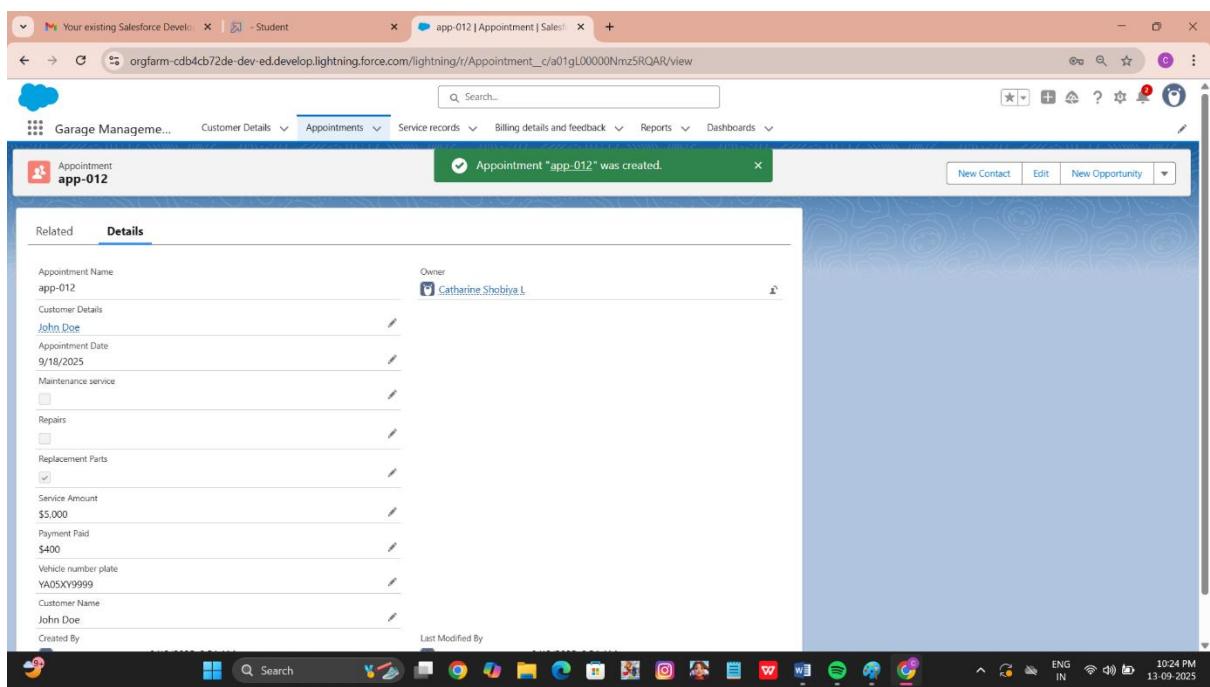
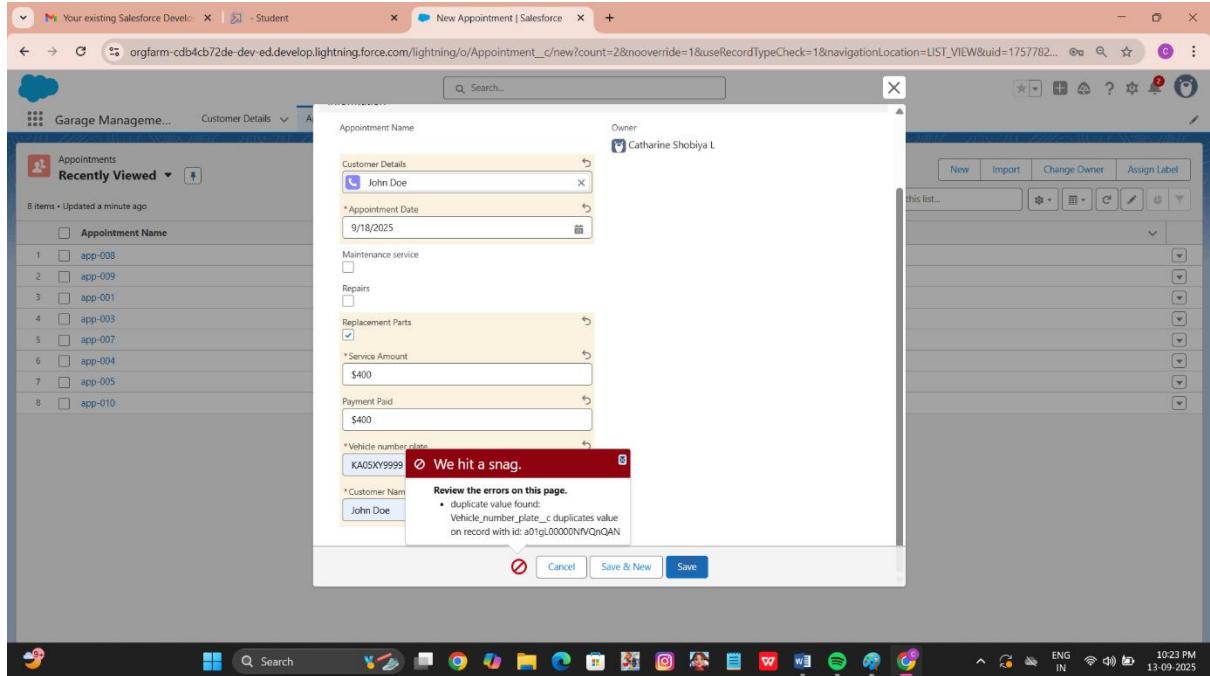
# FUNCTIONAL AND PERFORMANCE TESTING

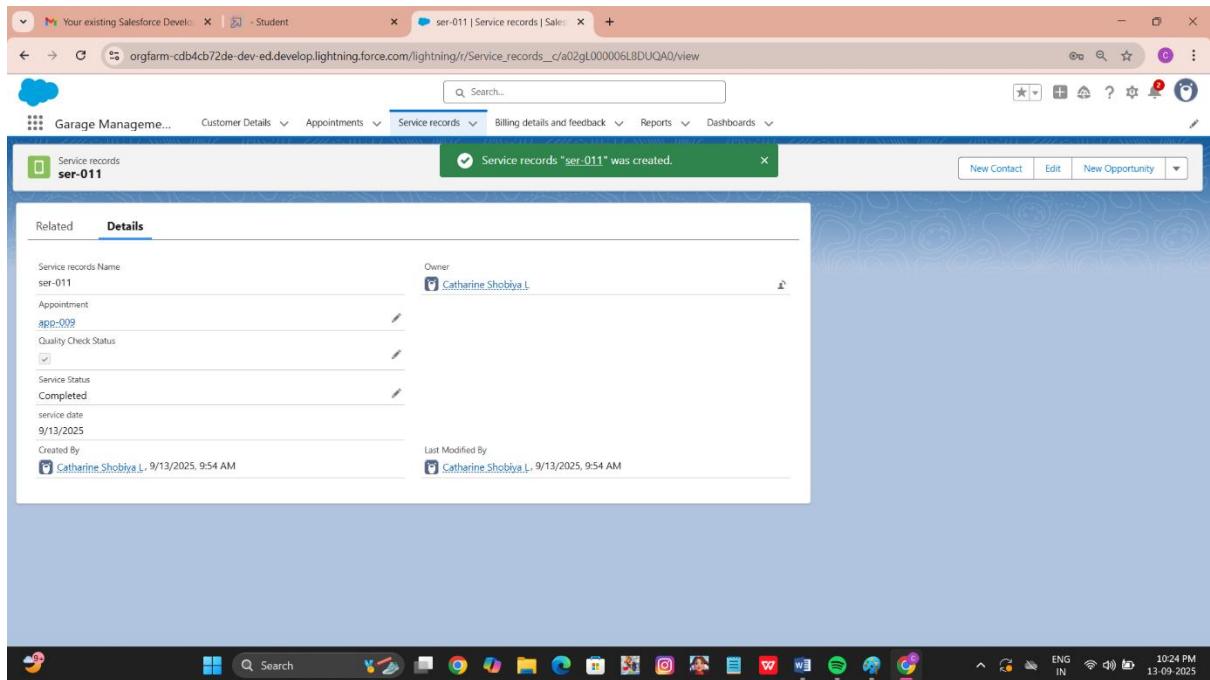
## Performance Testing

- Trigger validation by entering duplicate service amount records

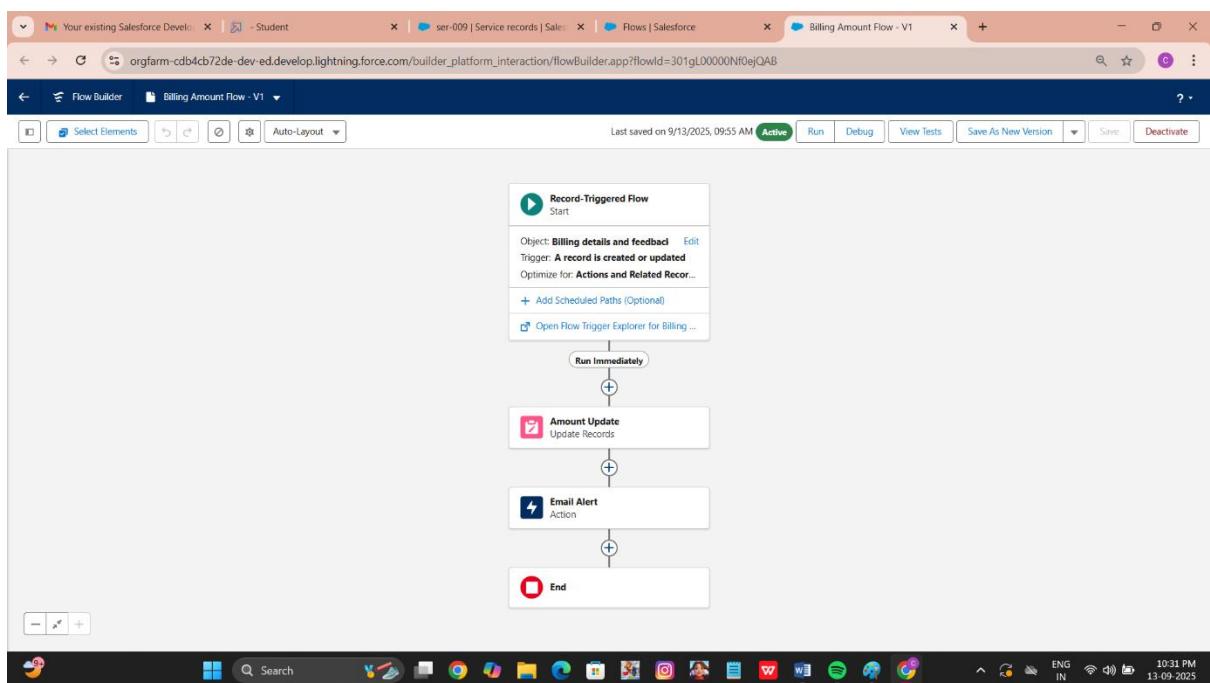


- Validation Rule checking





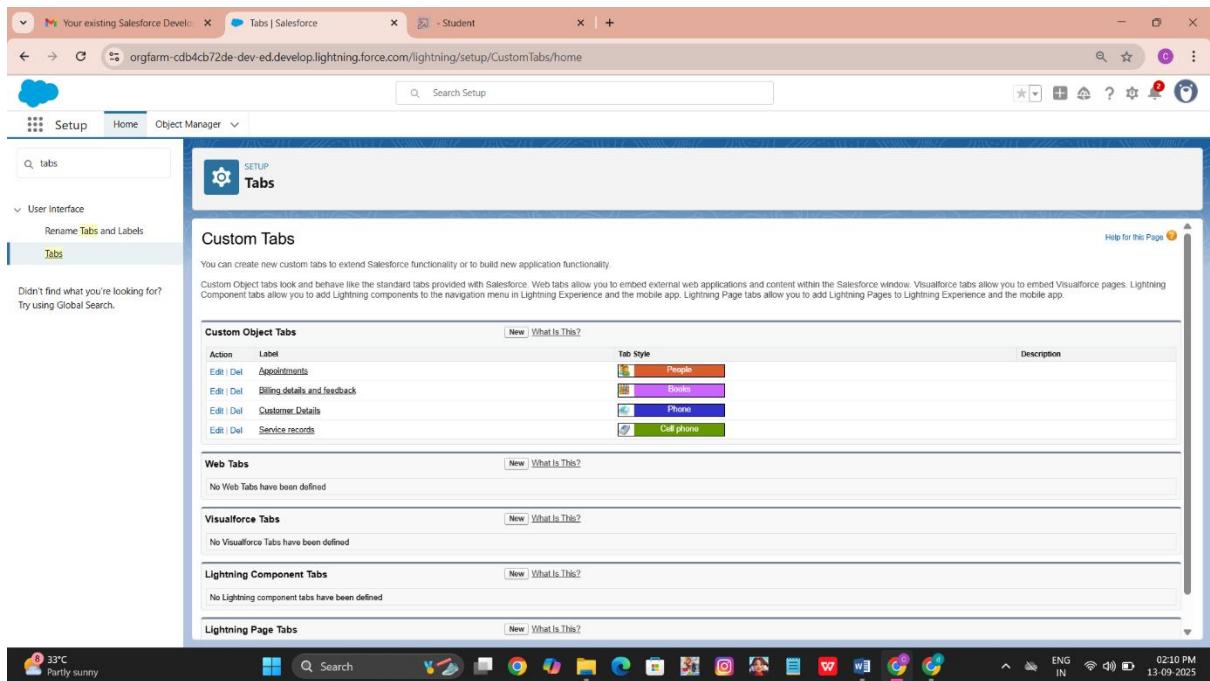
- Test flows on payment update



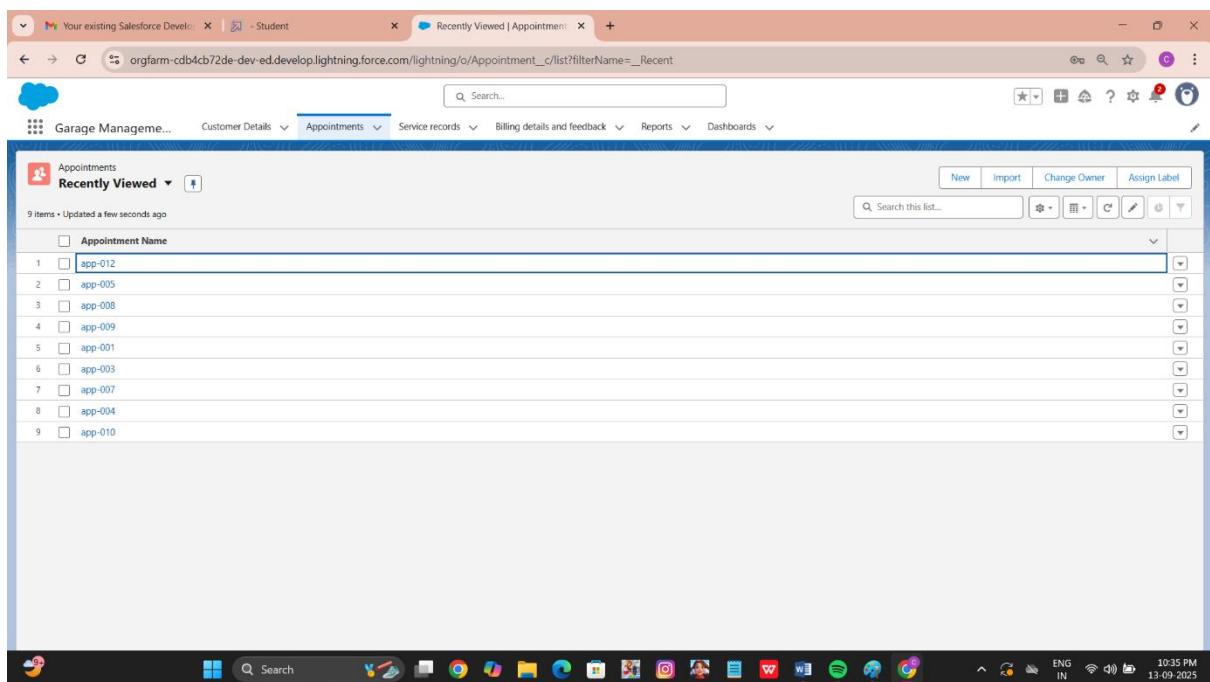
# RESULTS

## Output Screenshots

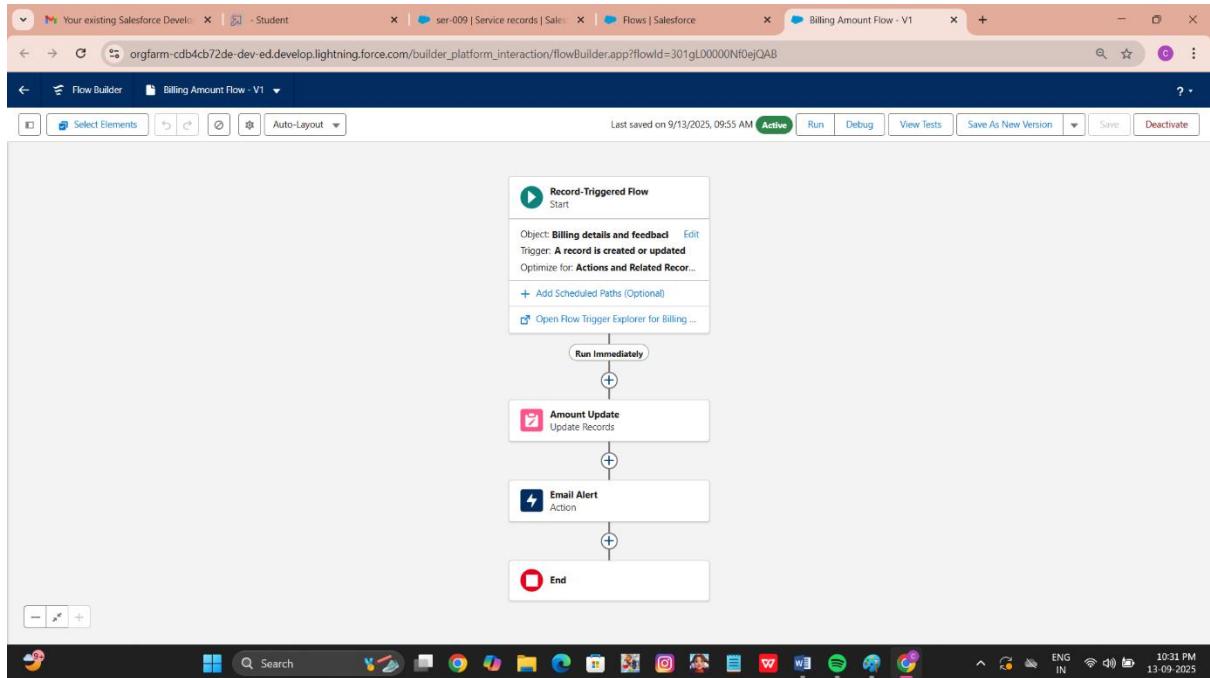
- Tabs for Customer Details, Appointment, Service records, Billing details and feedback



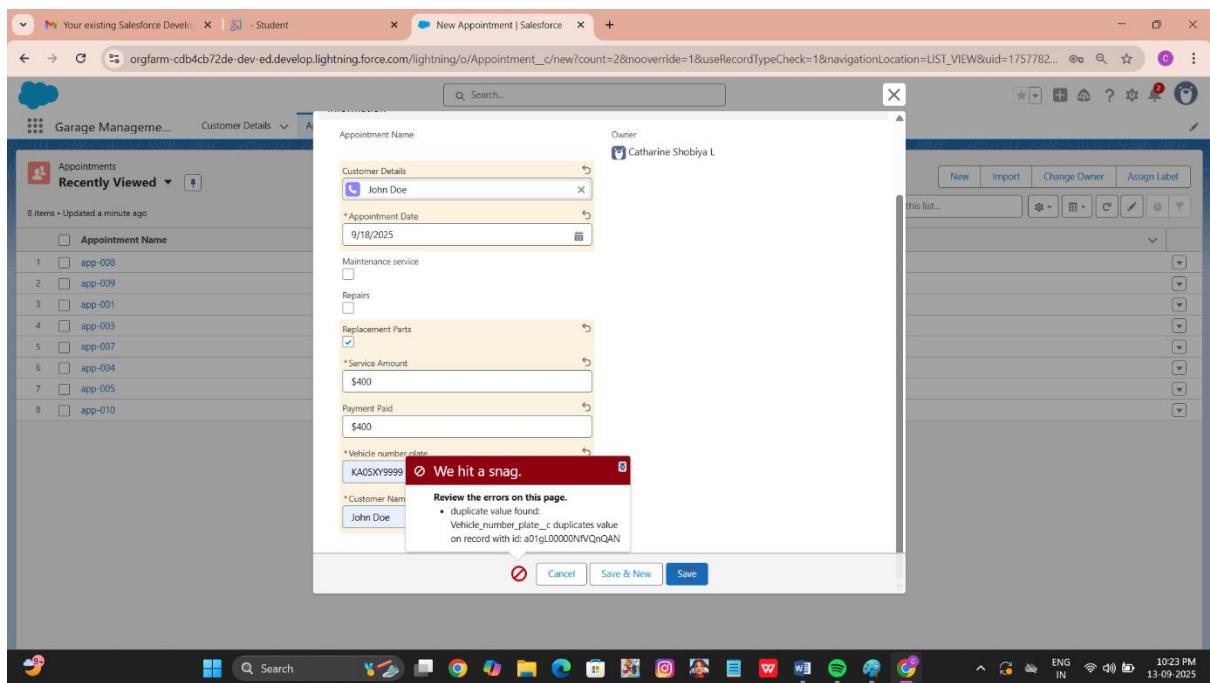
- Appointments of the Customers



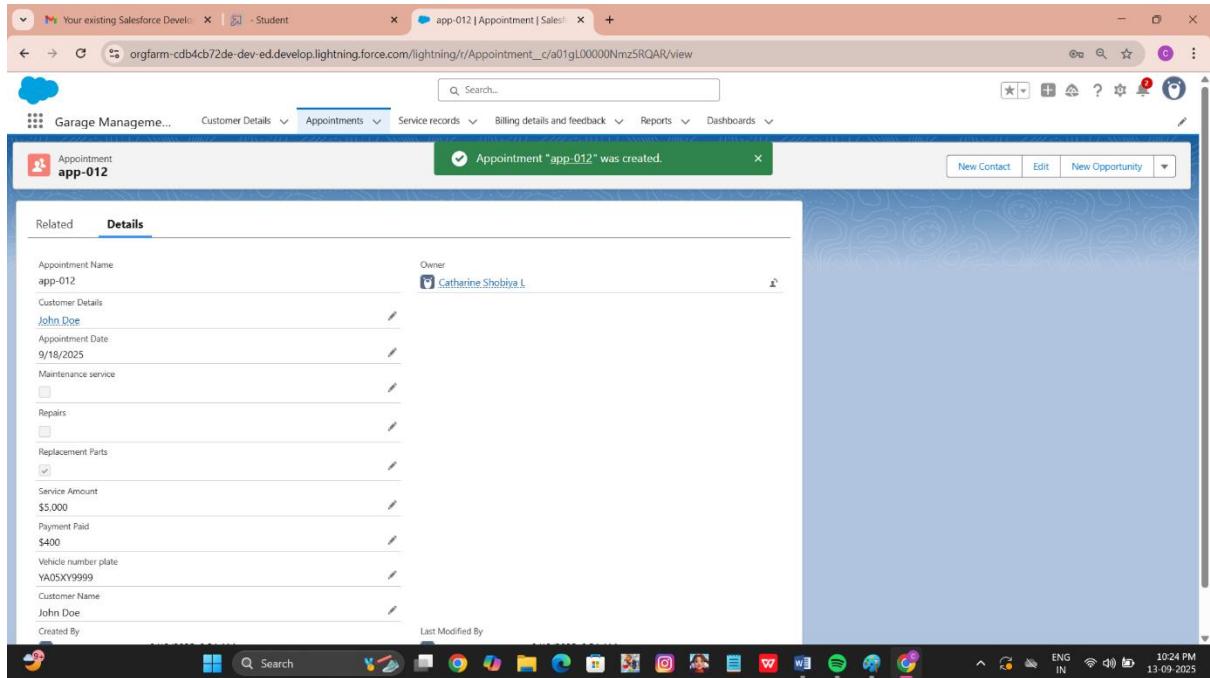
- Flow runs



- Trigger error messages



- Approval process



## ADVANTAGES & DISADVANTAGES

### ADVANTAGES:

- Automation of tasks → Reduces manual paperwork and human errors.
- Centralized data → Easy access to customer, vehicle, and job records in one place.
- Time efficiency → Faster job assignment, billing, and report generation.
- Inventory control → Real-time tracking of spare parts stock and usage.
- Improved customer service → Quicker updates and accurate invoices increase customer satisfaction.
- Decision-making support → Generates reports that help management plan resources and future growth.

## **DISADVANTAGES:**

- Initial setup cost → Requires investment in software, hardware, and training.
- Technical dependency → Staff must learn to use the system effectively.
- Maintenance required → Regular updates and backups are necessary to keep the system reliable.
- Limited offline use → System performance may depend on computer or internet availability.

## **CONCLUSION**

The Garage Management System successfully fulfills its objectives of automating and simplifying the day-to-day operations of automobile service centers. By digitizing processes such as customer registration, vehicle management, job assignment, inventory tracking, and billing, the system reduces manual workload, minimizes errors, and enhances efficiency. It not only improves internal workflow for garage staff but also ensures better service quality for customers through faster processing and accurate record-keeping. The modular design of the system allows for scalability and future enhancements, making it adaptable for garages of various sizes. Overall, the GMS provides a reliable, efficient, and user-friendly solution that bridges the gap between traditional manual processes and modern digital management practices.

## **APPENDIX**

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

AmountDistribution.apxt:

```
trigger AmountDistribution on Appointment__c (before insert, before update) {
```

```
    if(trigger.isbefore && trigger.isinsert || trigger.isupdate){
```

```
        AmountDistributionHandler.amountDist(trigger.new);
```

```
}
```

```
}
```

AmountDistributionHandler.apxc:

```
public class AmountDistributionHandler {
```

```
    public static void amountDist(list<Appointment __c> listApp){
```

```
        list<Service_records __c> serList = new list <Service_records __c>();
```

```
        for(Appointment __c app : listApp){
```

```
            if(app.Maintenance_service __c == true && app.Repairs __c == true &&  
app.Replacement_Parts __c == true){
```

```
                app.Service_Amount __c = 10000;
```

```
}
```

```
            else if(app.Maintenance_service __c == true && app.Repairs __c == true){
```

```
    app.Service_Amount__c = 5000;

}

else if(app.Maintenance_service__c == true && app.Replacement_Parts__c == true){

    app.Service_Amount__c = 8000;

}

else if(app.Repairs__c == true && app.Replacement_Parts__c == true){

    app.Service_Amount__c = 7000;

}

else if(app.Maintenance_service__c == true){

    app.Service_Amount__c = 2000;

}

else if(app.Repairs__c == true){

    app.Service_Amount__c = 3000;

}

else if(app.Replacement_Parts__c == true){
```

```
    app.Service_Amount__c = 5000;
```

```
}
```

```
}
```

```
}
```

```
}
```

