

Garage Management system

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College Code: bru4j

TEAM ID: NM2025TMID23202

TEAM SIZE: 4

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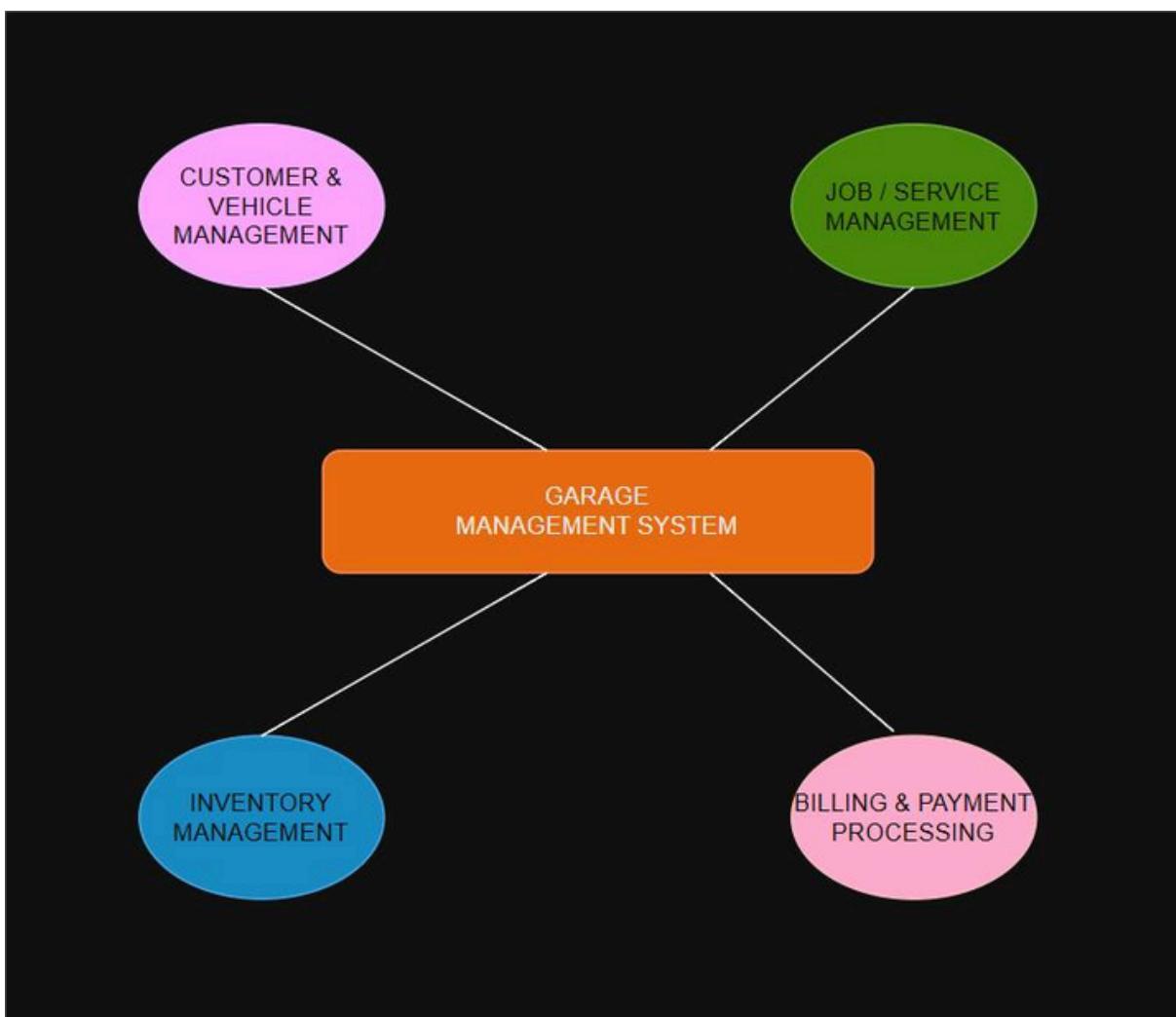
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1. INTRODUCTION

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.



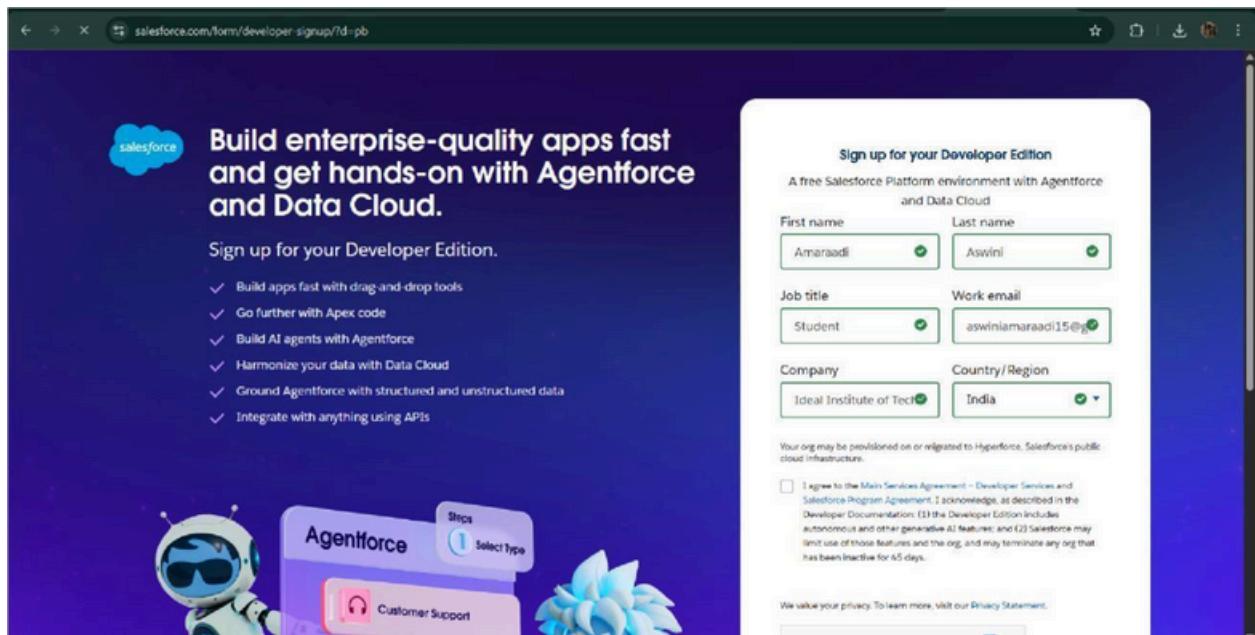
1.2 Purpose

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 Object Manager interface, one above the other, showing the configuration of the 'Customer Details' and 'Appointment' objects respectively.

Customer Details Configuration:

- API Name:** Customer_Details__c
- Singular Label:** Customer Details
- Plural Label:** Customer Details
- Fields & Relationships:** 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.
- Details:** Description, Enable Reports (checked), Track Activities (checked), Track Field History (checked), Deployment Status (Deployed), Help Settings, Standard salesforce.com Help Window.

Appointment Configuration:

- API Name:** Appointment__c
- Singular Label:** Appointment
- Plural Label:** Appointments
- Fields & Relationships:** 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.
- Details:** Description, Enable Reports (checked), Track Activities (checked), Track Field History (checked), Deployment Status (Deployed), Help Settings, Standard salesforce.com Help Window.

The interface includes a top navigation bar with tabs like Setup, Home, and Object Manager, and a search bar labeled 'Search Setup'. The bottom of the screen shows a Windows taskbar with various application icons and system status indicators.

The image displays two screenshots of the Salesforce Setup interface, both showing the 'Object Manager' section.

Screenshot 1: Service records

The top screenshot shows the 'Service records' object configuration. The left sidebar lists various setup options: 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, and Triggers. The main 'Details' tab is selected, showing the following configuration:

- Description: Service records
- 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

Screenshot 2: Billing details and feedback

The bottom screenshot shows the 'Billing details and feedback' object configuration. The left sidebar is identical to the first screenshot. The main 'Details' tab is selected, showing the following configuration:

- Description: Billing details and feedback
- 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

Both screenshots are taken from a Windows desktop environment, with the taskbar visible at the bottom showing various application icons and system status.

- Configured fields and relationships

Customer Details

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Customer Name	Name	Text(30)		
Gmail	Gmail__c	Email		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		
Phone number	Phone_number__c	Phone		

Appointment

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Appointment Date	Appointment_Date__c	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)		

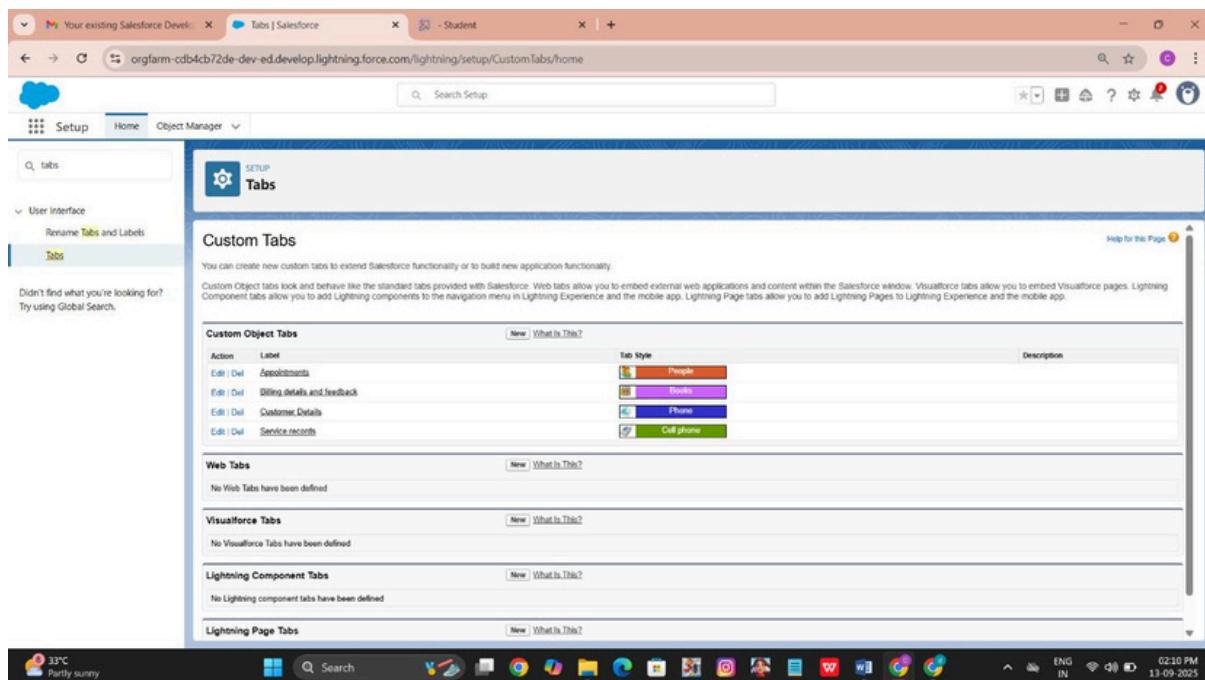
Service records

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		

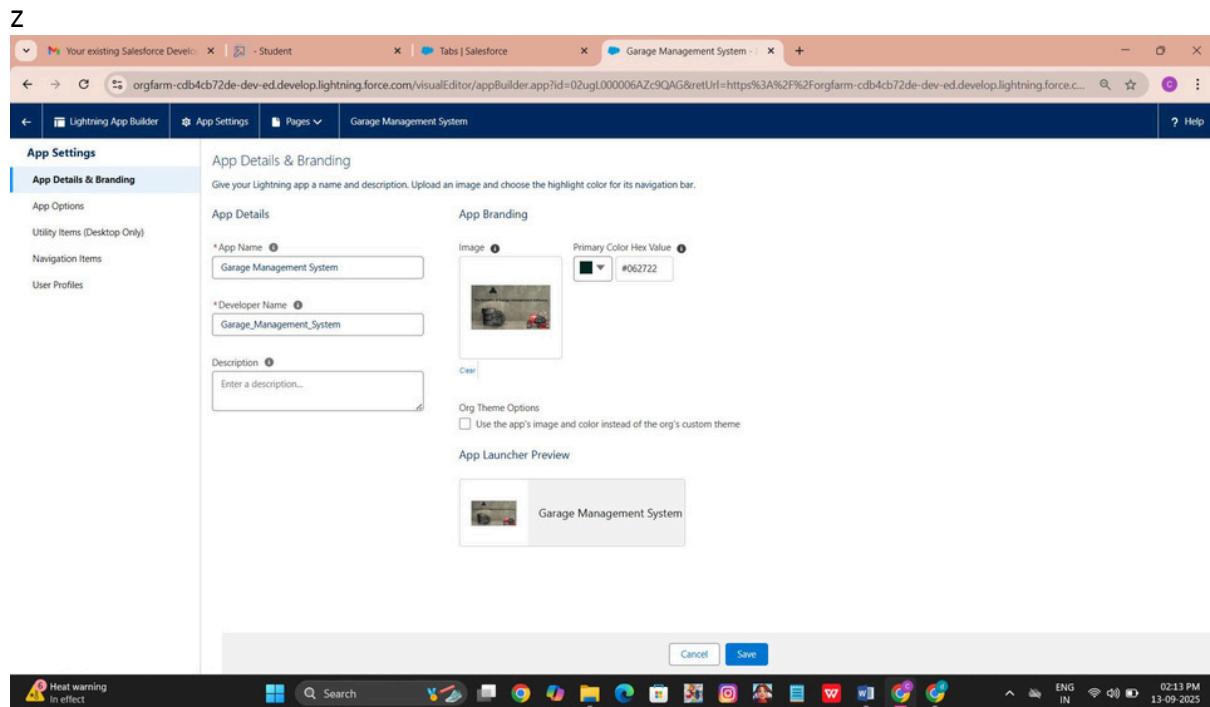
Billing details and feedback

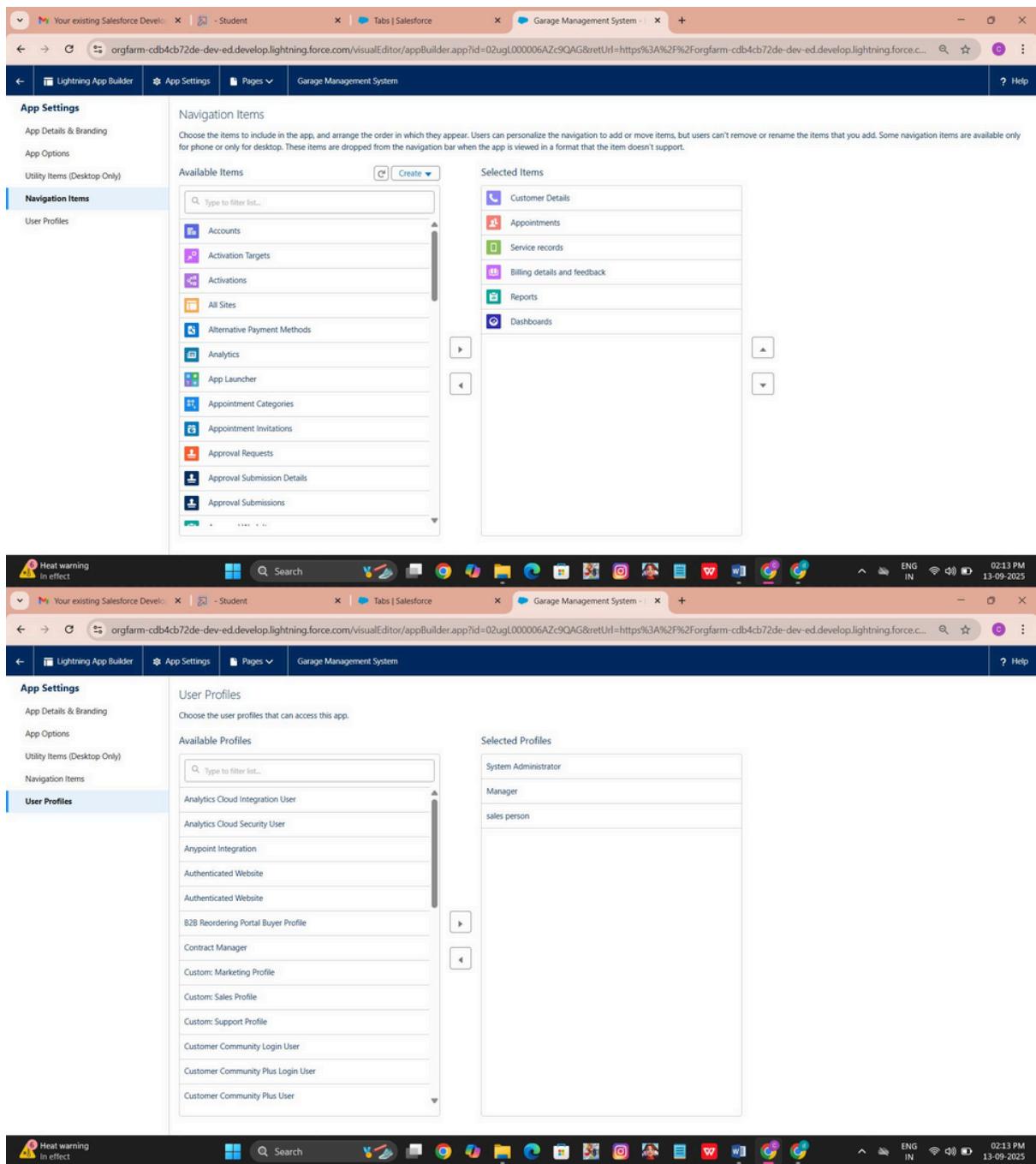
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Billing details and feedback Name	Name	Auto Number		✓
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Payment Paid	Payment_Paid__c	Currency(4, 2)		
Payment Status	Payment_Status__c	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





- Creation of fields for the Customer Details object

The screenshot shows the Salesforce Object Manager setup page. The top navigation bar includes tabs for 'Your existing Salesforce Development' (active), 'Student', 'Tabs | Salesforce', and 'Object Manager'. The main title is 'Object Manager' under 'SETUP'. A search bar at the top right contains the text 'Search Setup'. Below the title, it says 'Specify the type of information that the custom field will contain.' Under 'Data Type', the 'Phone' option is selected. A detailed description of the 'Phone' data type is provided, stating: 'Allows users to enter any phone number. Automatically formats it as a phone number.' Other data types listed include None Selected, Auto Number, Checkbox, Currency, Date, Date/Time, Email, Number, Percent, Picklist, Picklist (Multi-Select), Text, Text Area, Text Area (Long), Time, and URL.

The screenshot shows the 'Edit Customer Details Custom Field' page. The title is 'Phone number'. The top navigation bar is identical to the previous screenshot. The main content area is titled 'Step 2. Enter the details'. It includes fields for 'Field Label' (set to 'Phone number'), 'Field Name' (set to 'Phone_number'), 'Description' (empty), and 'Help Text' (empty). A checkbox labeled 'Required' is checked. Below these, there is a 'Default Value' section with a 'Show Formula Editor' button. A note in the formula editor area reads: 'Use formula editor. Enclose text and decimal value API names in double quotes ("Phone_number"). Include numbers without quotes (123). Show percentages as decimals (.0123) and express date calculations in the standard format ("Today() + 7"). To reference a field from a Custom Metadata type record use "[CustomMetadataType]__r.[RecordName].Phone_Number__c".'. At the bottom right of the form are buttons for 'Previous', 'Save', 'Next', and 'Cancel'.

- For lookup field,

Your existing Salesforce Dev... | Student | Tabs | Salesforce | Object Manager | Salesforce

orgfarm-cdb4cb72de-dev-ed.lightning.force.com/lightning/setup/ObjectManager/page?address=%2Fp%2Fsetup%2Ffield%2FCustomFieldStageManager%3Fid%3D00NgL00001U6Lx%26e... | Search | Help for this Page

SETUP Object Manager

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.

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 | C | G | O | W | S | I | R | D | E | F | P | M | A | L | Y | H | T | B | N | ENG IN 02:18 PM 13-09-2025

Your existing Salesforce Dev... | Student | Tabs | Salesforce | Object Manager | Salesforce

orgfarm-cdb4cb72de-dev-ed.lightning.force.com/lightning/setup/ObjectManager/page?address=%2Fp%2Fsetup%2Ffield%2FCustomFieldStageManager%3Fid%3D00NgL00001U6Lx%26e... | Search | Help for this Page

SETUP 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 | C | G | O | W | S | I | R | D | E | F | P | M | A | L | Y | H | T | B | N | 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, Lightning Record Pages, etc. 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 labeled 'Appointment_Date__c'. Other fields include 'Appointment Name' (Name), 'Created By' (Lookup(User)), 'Customer Details' (Lookup(Customer Details)), 'Customer Name' (Text(10)), 'Last Modified By' (Lookup(User)), 'Maintenance service' (Checkbox), 'Owner' (Lookup(User/Group)), 'Payment Paid' (Currency(18, 0)), 'Repairs' (Checkbox), 'Replacement Parts' (Checkbox), and 'Service Amount' (Currency(18, 0)).

□ create a validation rule to an Appointment Object

The screenshot shows the creation of a validation rule 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: `DISCOUNT > 0.30`. A tooltip for this formula is visible, showing the function `DISCOUNT` and its parameters: `(REVERSE(Vehicle_number_plate__c) + "A-1")2 [0-9]12[A-1]2[0-9]{4}*)`. The 'Functions' dropdown menu is open, showing categories like ABS, ACOS, ADDMONTHS, AND, ASCII, ASIN, etc.

The 'Error Message' section contains the message: `Discount percent cannot exceed 30%`. A tooltip for this message is visible, stating: "This message will appear when Error Condition formula is true".

The 'Error Message' input field contains the placeholder: `Please enter valid number`.

The screenshot shows the Salesforce Object Manager interface for the 'Appointment' object. The left sidebar lists various setup 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, Scoping Rules, Object Access, and Triggers.

The main content area is titled 'Error Condition Formula'. It contains an example formula: `Discount_Percent >= 30`. Below it, a note says: "If this formula expression is true, display the text defined in the Error Message area". A dropdown menu labeled "Functions" is open, showing options like ABS, ACOS, ADDMONTHS, AND, ASCII, ASIN, etc. A tooltip for the ABS function states: "Returns the absolute value of a number, a number without its sign".

The "Error Message" section contains an example message: "Discount percent cannot exceed 30%". It specifies: "This message will appear when Error Condition formula is true". The "Error Message" input field contains the text: "Please enter valid number". The "Error Location" dropdown is set to "Field: Vehicle number plate".

At the bottom of the page, there are "Save", "Save & New", and "Cancel" buttons. The status bar at the bottom right shows the date and time: 02:23 PM, 13-09-2025.

The screenshot shows the Salesforce Object Manager interface for the 'Billing details and feedback' object. The left sidebar is identical to the previous screenshot.

The main content area is titled 'Error Condition Formula'. It contains an example formula: `Discount_Percent >= 30`. Below it, a note says: "If this formula expression is true, display the text defined in the Error Message area". A dropdown menu labeled "Functions" is open, showing options like ABS, ACOS, ADDMONTHS, AND, ASCII, ASIN, etc. A tooltip for the ABS function states: "Returns the absolute value of a number, a number without its sign".

The "Error Message" section contains an example message: "Discount percent cannot exceed 30%". It specifies: "This message will appear when Error Condition formula is true". The "Error Message" input field contains the text: "rating should be from 1 to 5".

At the bottom of the page, there are "Save", "Save & New", and "Cancel" buttons. The status bar at the bottom right shows the date and time: 02:22 PM, 13-09-2025.

Billing details and feedback

Error Condition Formula

Example: `Discount_Percent >0.30` 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

ABS
ACOS
ADDMONTHS
AND
ASCII
ASIN
Insert Selected Function
ABS(number)
Returns the absolute value of a number, a number without its sign

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

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: Rating for service

Save Save & New Cancel

Duplicate rule

- To create a matching rule to an Customer details Object

Matching Rules

Matching customer details

Matching Rule Detail

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

- create a Duplicate rule to an Customer details Object,

The screenshot shows the 'Duplicate Rules' setup page in Salesforce. A new rule is being created with the following details:

- Rule Name:** Customer Detail duplicate
- Description:** (empty)
- Object:** Customer Details
- Record-Level Security:** Enforce sharing rules (selected)
- Actions:**
 - 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?
- Matching Rules:**
 - Compare Customer Details With: Customer Details
 - Matching Rule: Matching customer details
 - Matching Criteria: (Customer__Detail__Name\$ALL\$EXACT MatchBlank = FALSE) AND (Customer__Detail__Phone_Number\$ALL\$EXACT MatchBlank = FALSE)
 - Field Mapping: Mapping Selected

The rule is then displayed on the list view:

Customer Detail duplicate	Operations On Create	Operations On Edit	Matching Criteria
Customer Detail duplicate	✓ Alert ✓ Report	✓ Alert ✓ Report	(Customer__Detail__Name\$ALL\$EXACT MatchBlank = FALSE) AND (Customer__Detail__Phone_Number\$ALL\$EXACT MatchBlank = FALSE)

At the bottom, it shows the rule was created by Catherine Shobha L on 9/3/2025, 2:52 AM.

Profiles

Manager Profile,

The screenshot shows the Salesforce Setup interface for managing profiles. The top navigation bar includes 'Your existing Salesforce Dev...' and 'Profiles | Salesforce'. The main content area is titled 'Profiles' and shows a profile named 'Manager' with a 'Salesforce' user license. A note says 'Custom Profile' is checked. Below this is a 'Custom App Settings' section with two tables. The left table lists standard tabs like All Tabs, Analytics Studio, App Launcher, Approvals, Automation, and various Trailhead modules. The right table lists Service Journey, Queue Management, Sales, Sales Cloud Mobile, Sales Console, Salesforce Chatter, Salesforce Scheduler Setup, Sample Console, Service, Service Console, Site.com, and Subscription Management. At the bottom of the page, there is a 'Tab Settings' section with a note about overriding tab customizations. It lists numerous tabs with their visibility settings, such as Home (Default On), Accounts (Default On), Activation Targets (Default On), Activation Targets (All Sites, Tab Hidden), Alternative Payment Methods (Default Off), Analytics (Default On), Analytics (Default On), App Launcher (Default On), Appointment Categories (Default Off), Appointment Invitations (Default Off), Approval Requests (Default On), Approval Submission Details (Default On), Approval Submissions (Default On), Approval Work Items (Default On), Asset Actions (Default Off), Asset Action Sources (Default Off), Assets (Default Off), Asset State Periods (Default Off), Async Operation Logs (Default Off), Authorization Forms (Default On), Inventory Count Plan Items (Default On), Inventory Count Product Batch Items (Default On), Inventory Item Reservations (Default On), Inventory Operations (Default On), Inventory Reservations (Default On), Invoices (Default On), IT Services Configured Items (Default On), Journey Home (Default On), Journey Map (Default On), Labels (Default On), Leads (Default On), Legal Entities (Default Off), Libraries (Default On), Lightning Bolt Solutions (Default On), Lightning Usage (Default On), List Emails (Default On), Location Groups (Default Off), Locations (Default On), Location Shipping Carrier Methods (Default On), Macros (Default Off), and Merge Requests (Default On). The bottom of the screen shows a Windows taskbar with various icons and the date/time '02:31 PM 13-09-2025'.

The screenshot displays the Salesforce Setup interface for managing user profiles. It shows two main sections: "Standard Object Permissions" and "Custom Object Permissions".

Standard Object Permissions:

This section lists various standard objects with checkboxes for Basic Access (Read, Create, Edit, Delete) and Data Administration (View All Records, Modify All Records, View All Fields). Most objects have at least one permission checked.

Object	Basic Access	Data Administration
Accounts	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Attribute	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Contact Point	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Contact Point Field	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Contact Point Source	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Data Model Field	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Data Source	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Definition	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Platforms	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Platform Activation Attributes	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Platform Audience Identifiers	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Platform Data Connector for S3	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Platform Fields	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Platform Field Values	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Activation Platform Field Value Definitions	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields

Custom Object Permissions:

This section lists custom objects with checkboxes for Basic Access (Read, Create, Edit, Delete) and Data Administration (View All Records, Modify All Records, View All Fields). Many objects have multiple permissions checked.

Object	Basic Access	Data Administration
Appointments	Read, Edit, Delete	View All Records, Modify All Records, View All Fields
Billing details and feedback	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Customer Details	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields
Service records	Read, Create, Edit, Delete	View All Records, Modify All Records, View All Fields

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

Obfuscate secret answer for password resets:

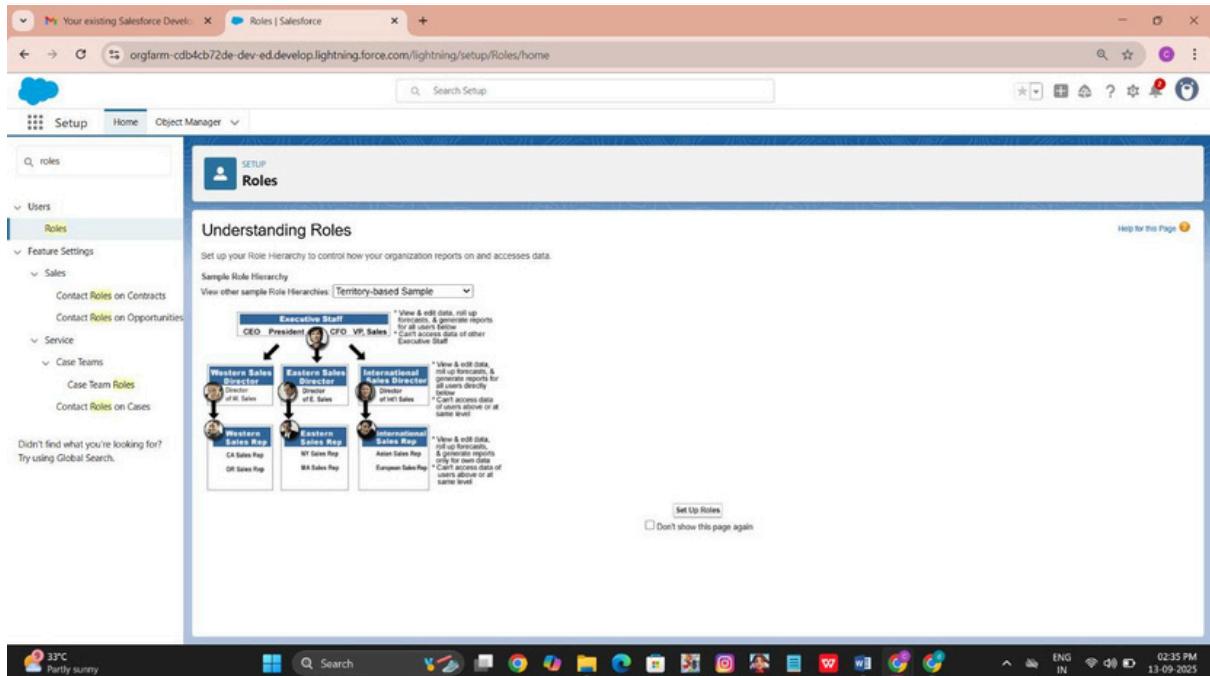
Require a minimum 1 day password lifetime:

Don't immediately expire links in forgot password emails:

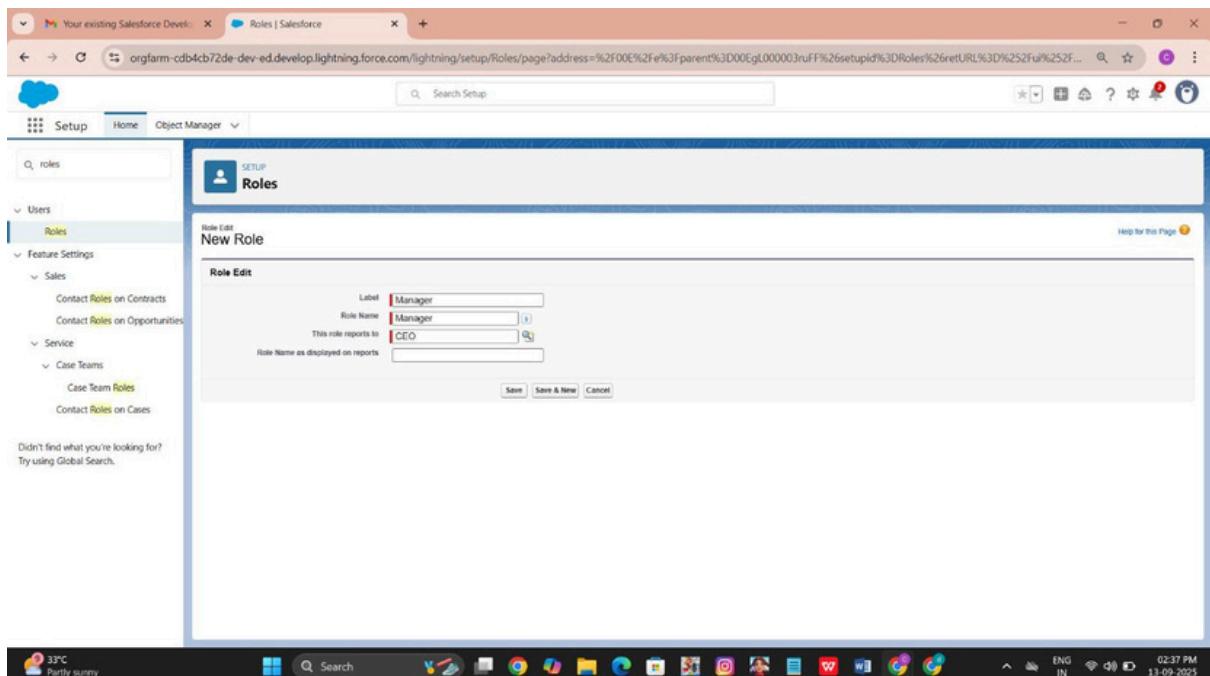
Buttons:

Save, Save & New, Cancel

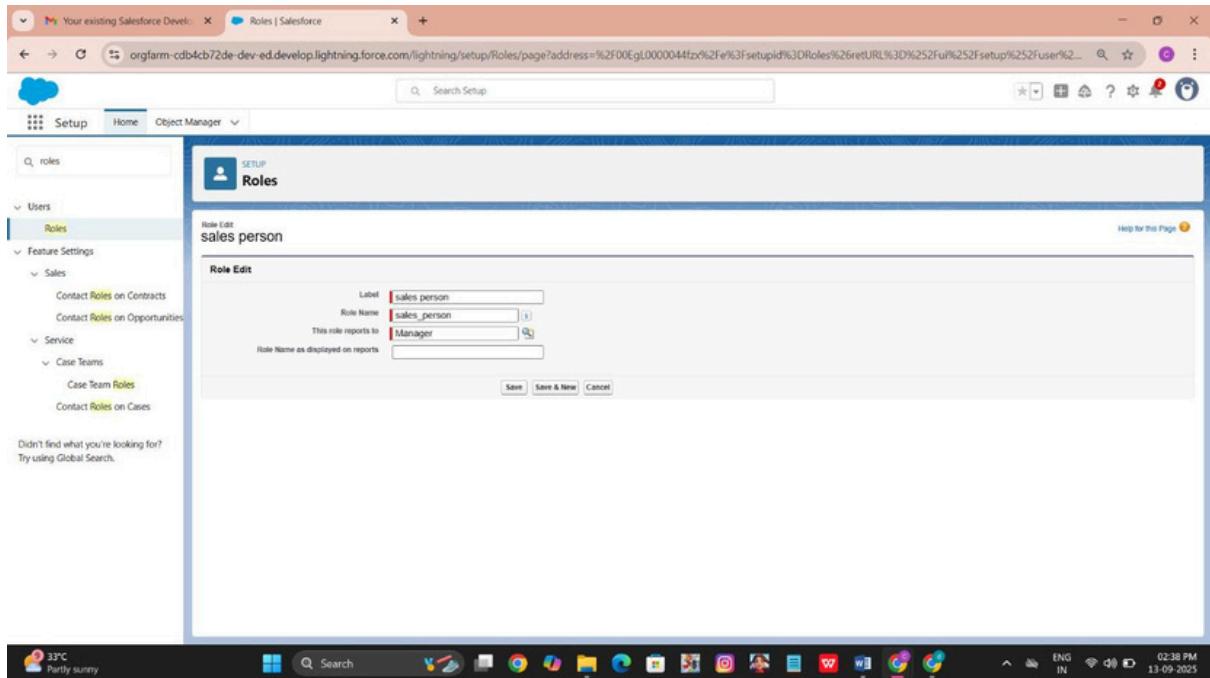
Role & Role Hierarchy



□ Creating Manager Role,

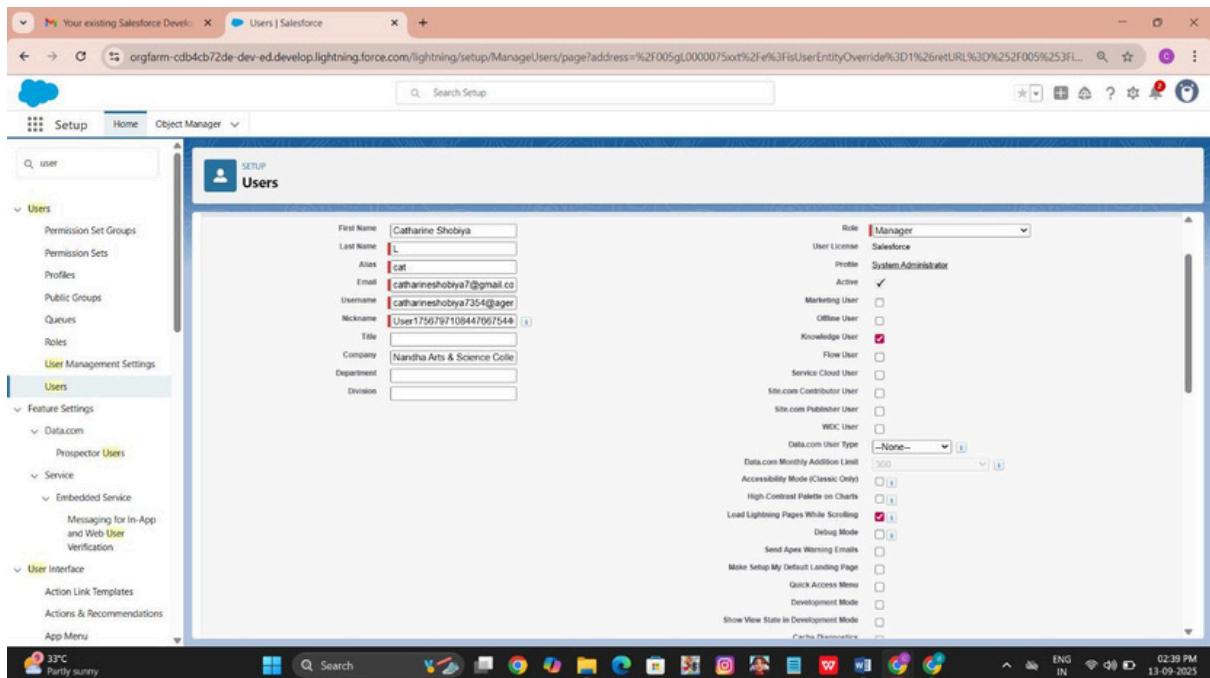


□ Creating Sales person Role,

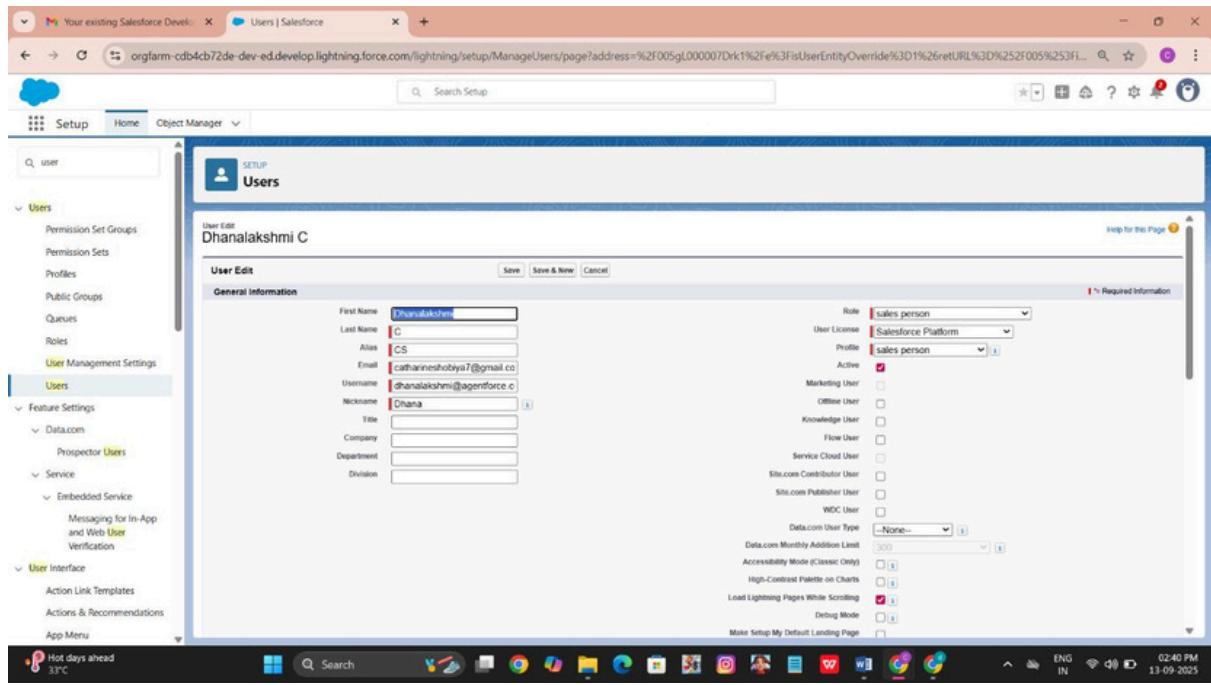
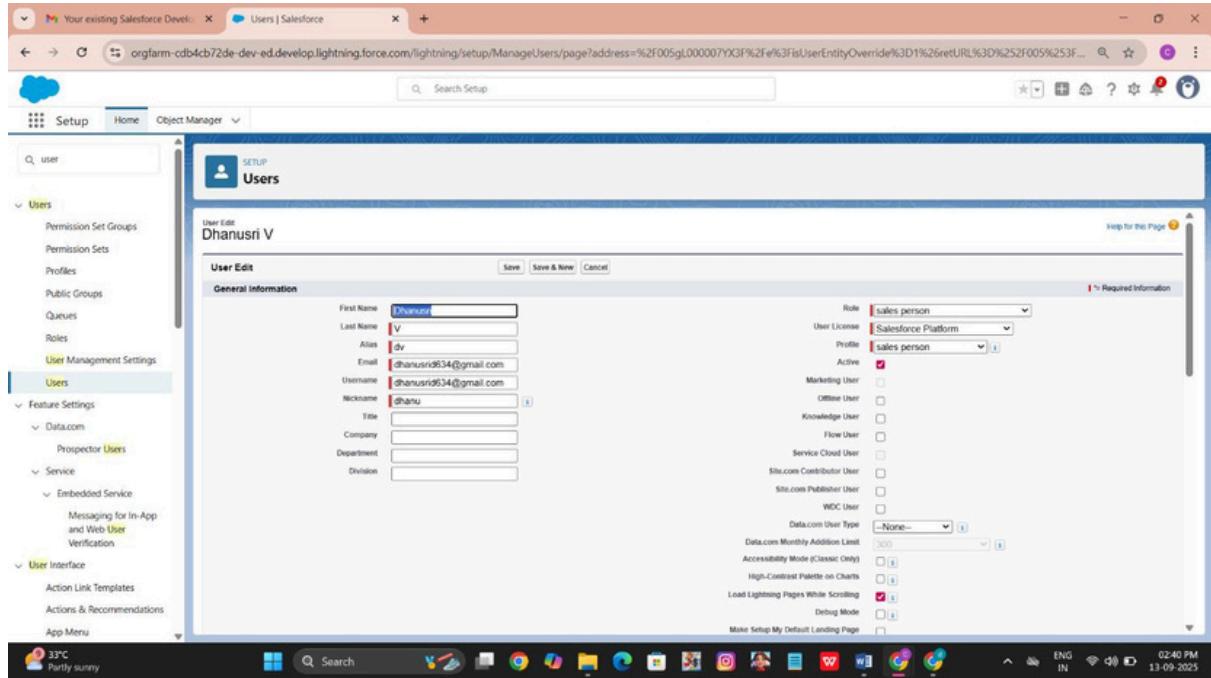


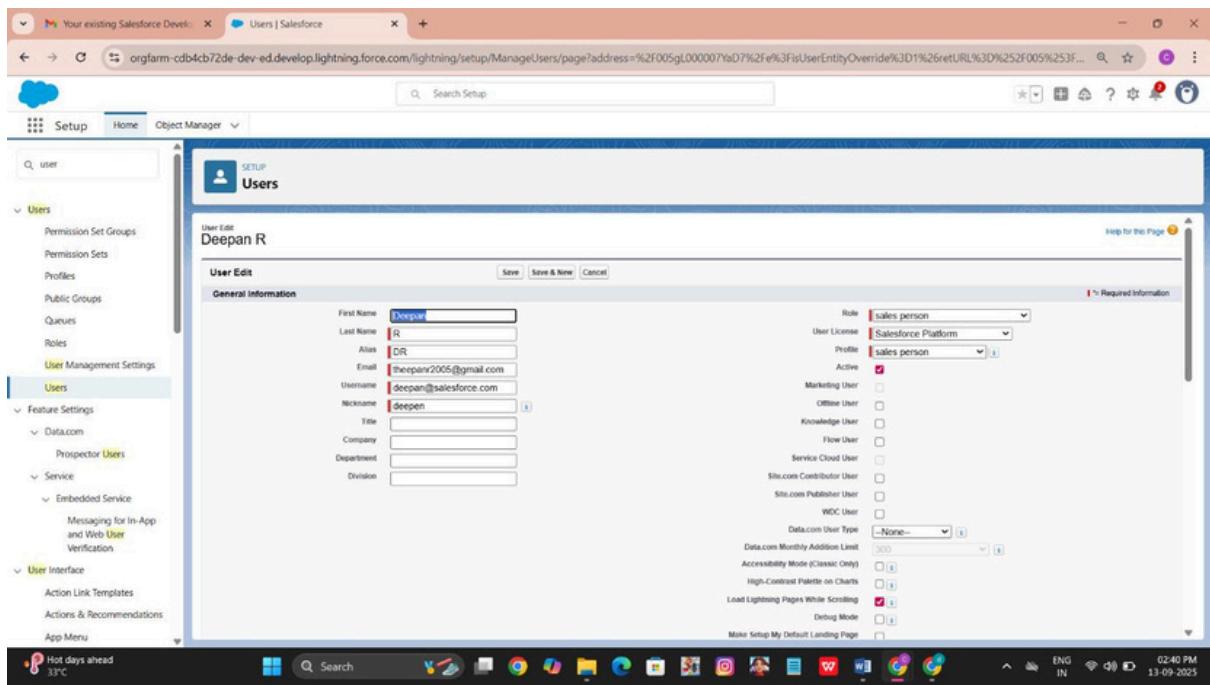
Users

□ Create User assign the role as Manager



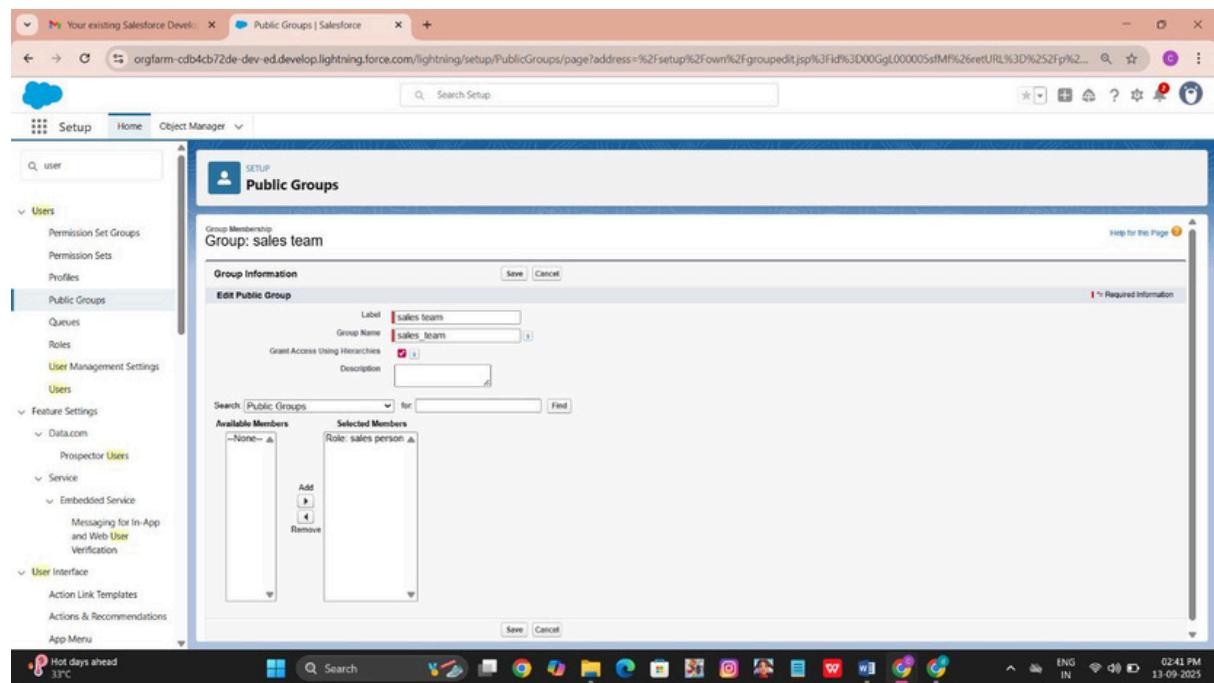
Create User assign the role as sales person





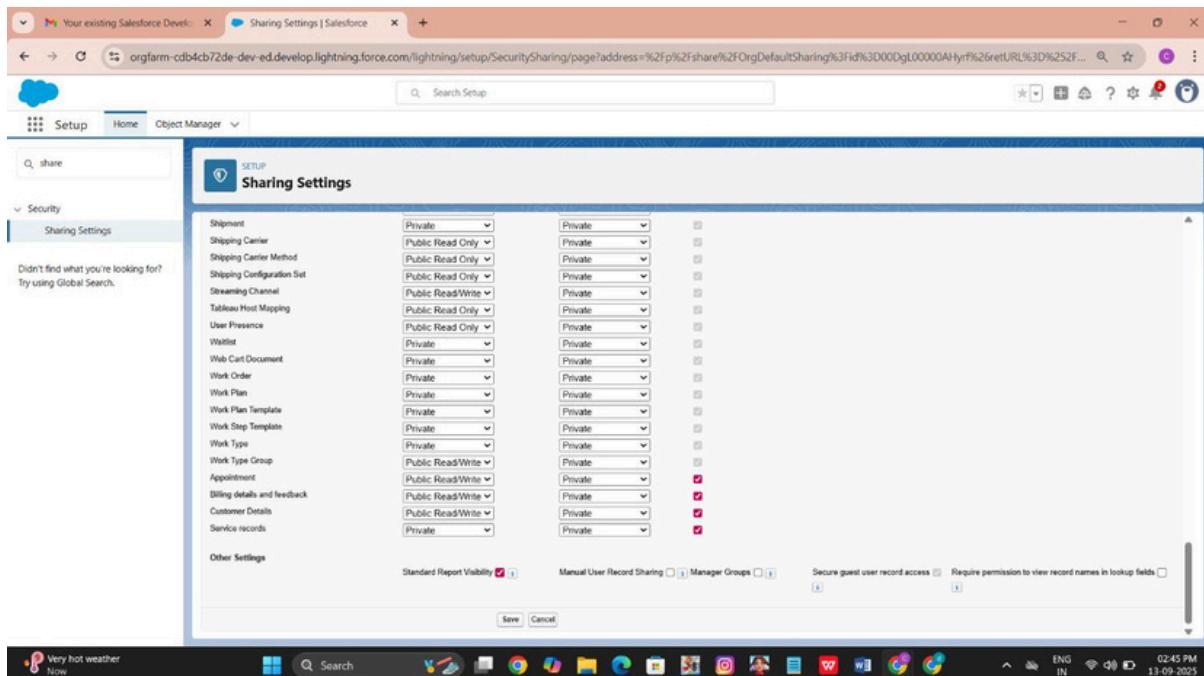
Public groups

- Creating New Public Group name with Sales Team,



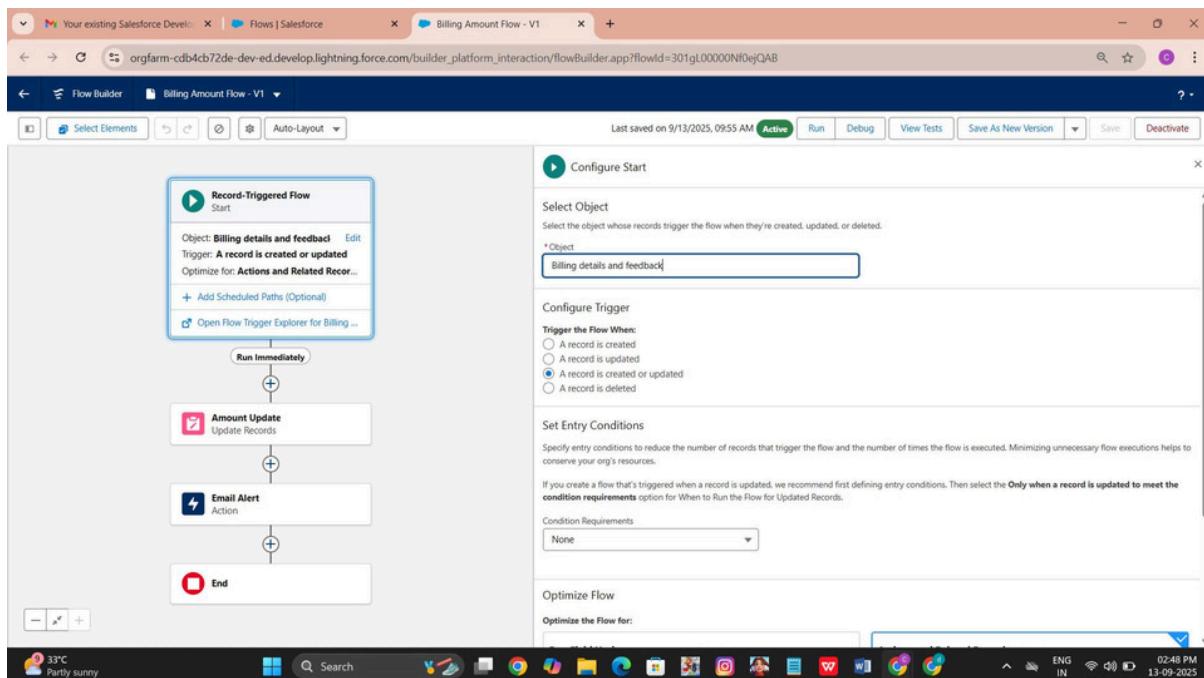
Sharing Setting

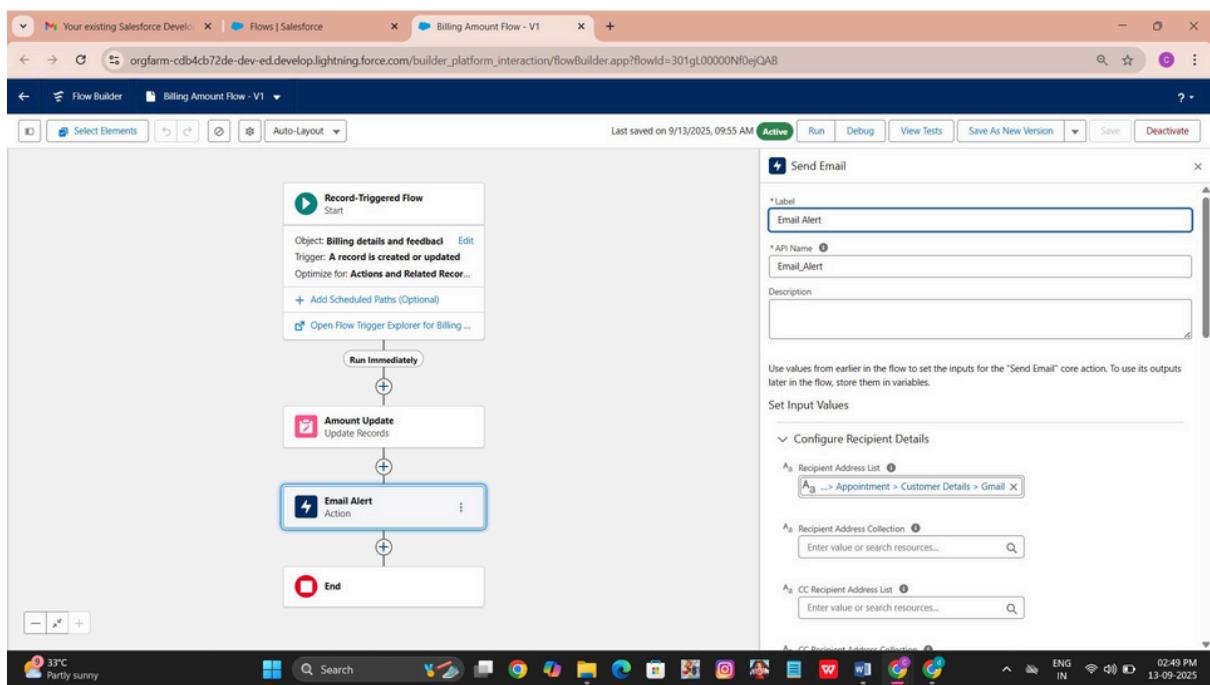
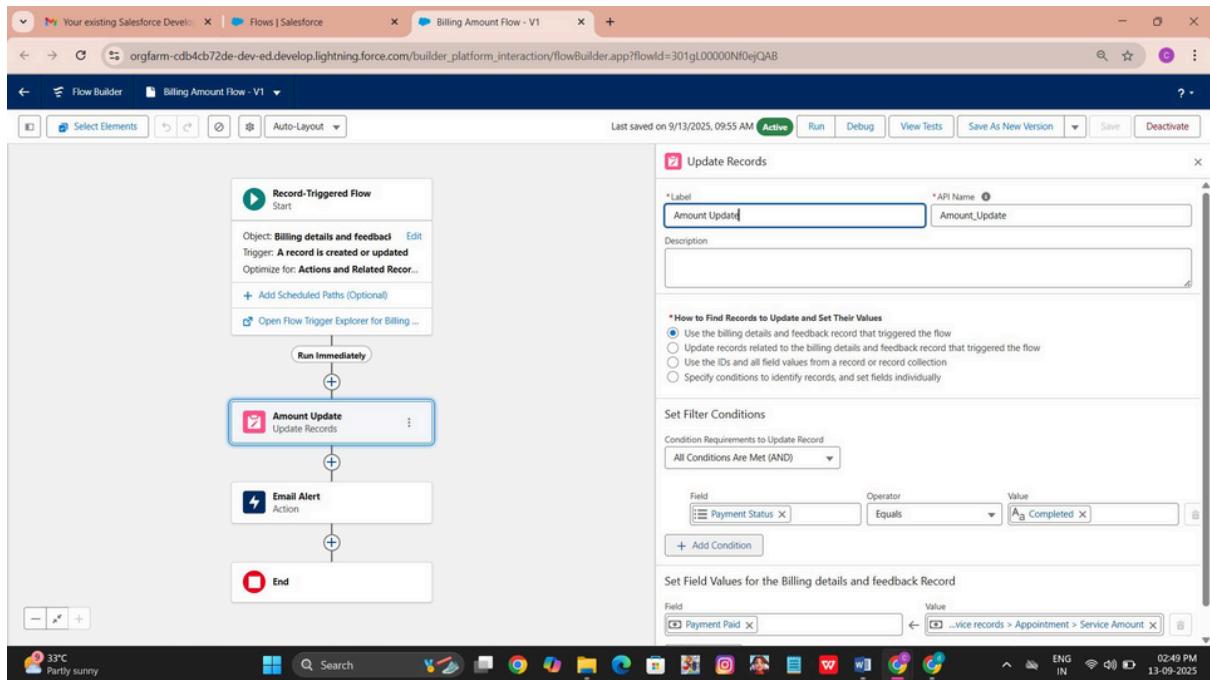
- Creating Sharing settings,

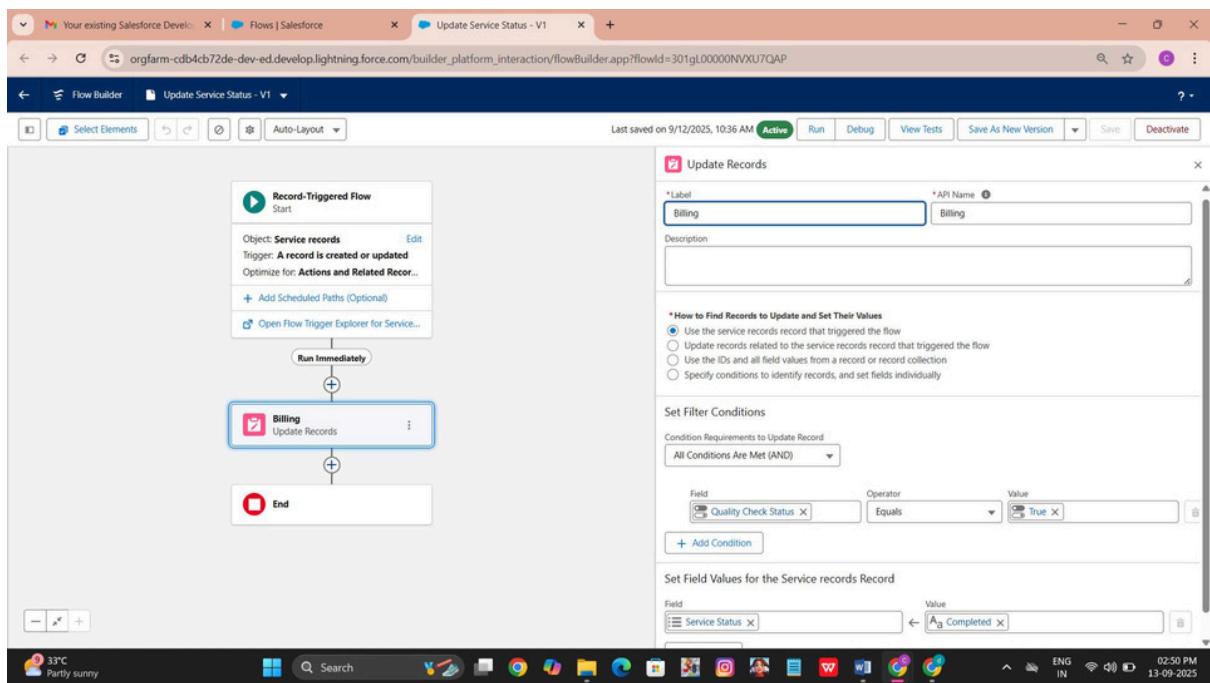
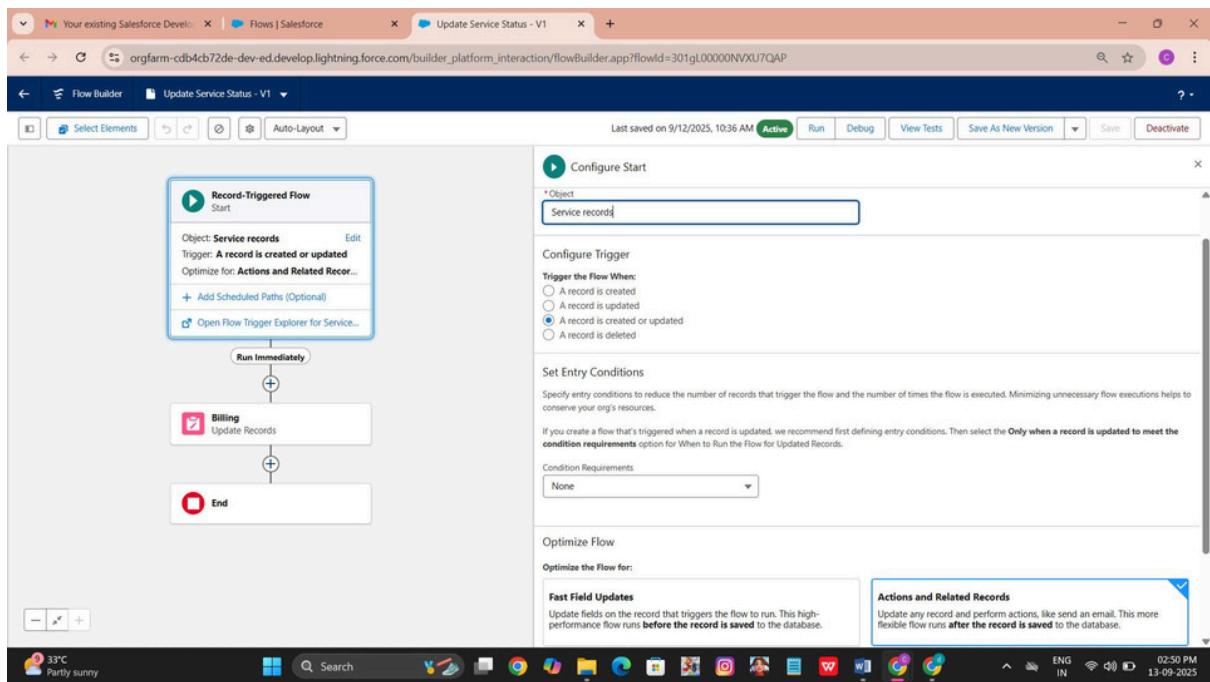


Flows

- Create a flow for a Billing details and feedback,

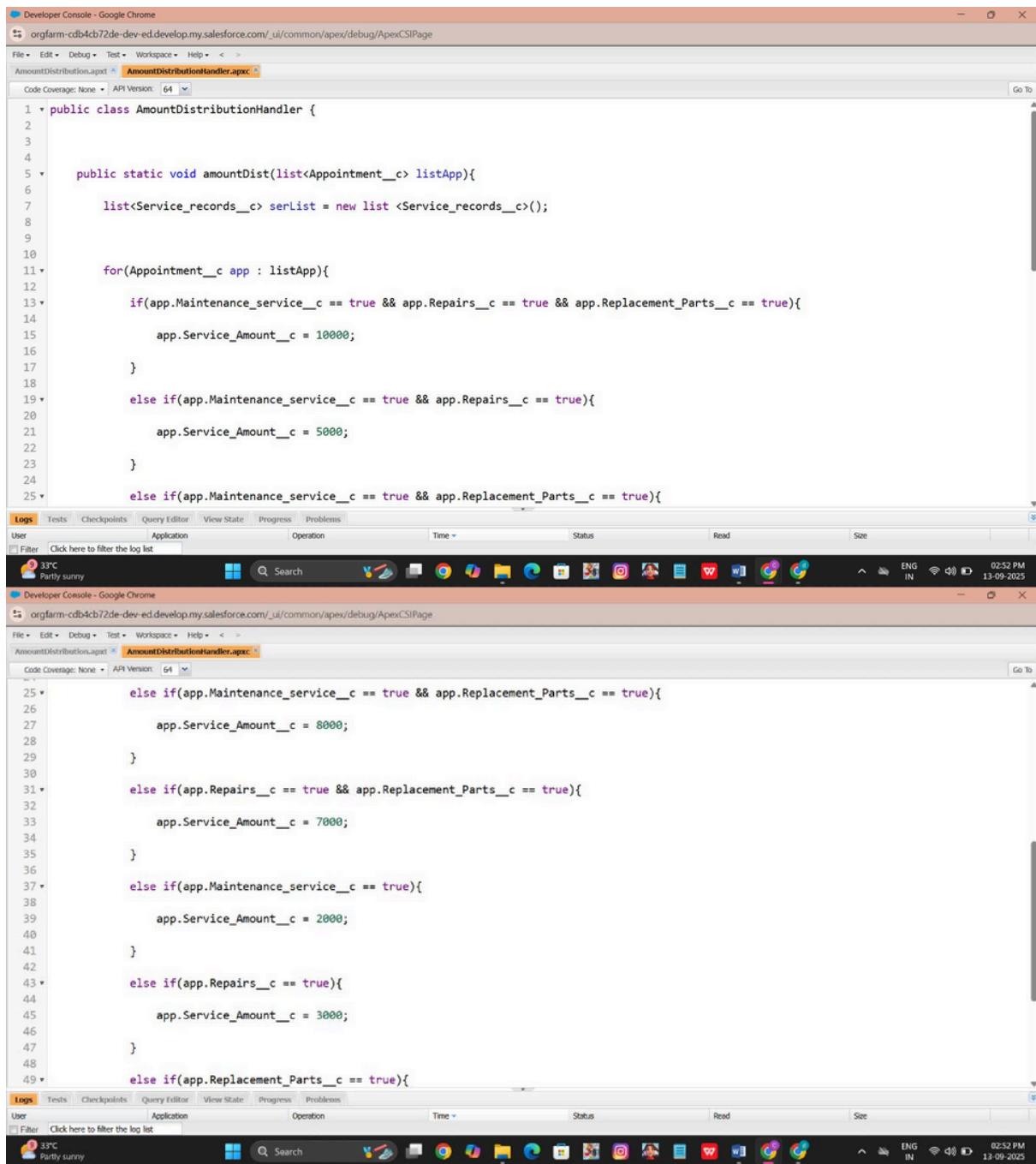






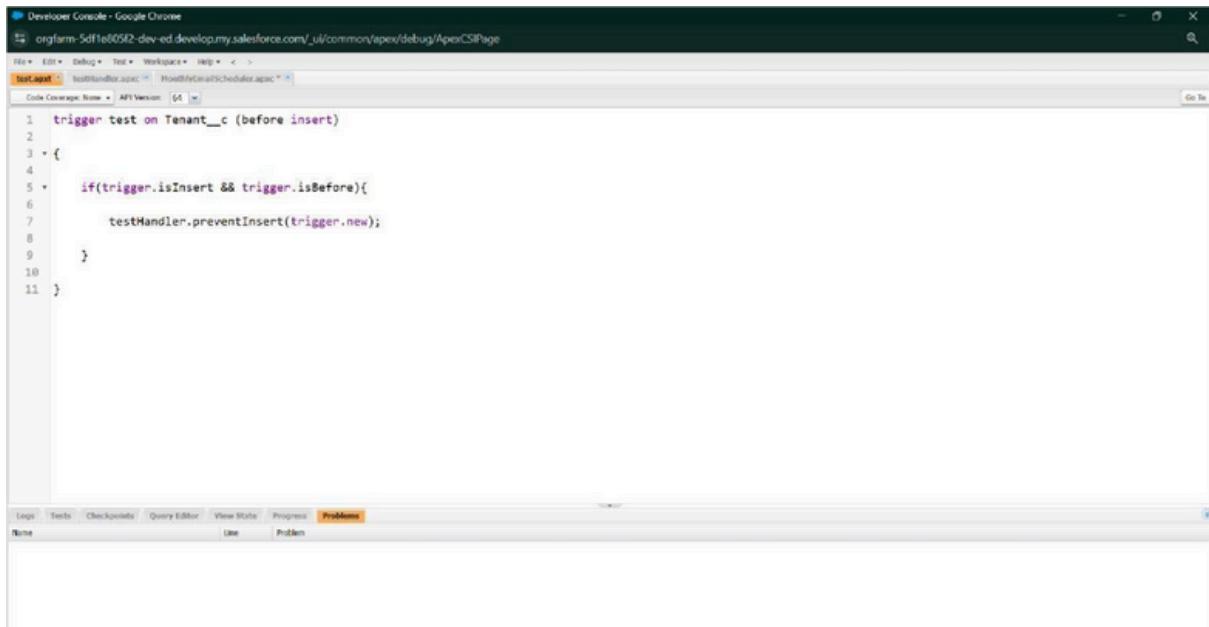
Apex Trigger

- 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            if(app.Maintenance_service__c == true && app.Repairs__c == true && app.Replacement_Parts__c == true){  
12                app.Service_Amount__c = 10000;  
13            }  
14            else if(app.Maintenance_service__c == true && app.Repairs__c == true){  
15                app.Service_Amount__c = 5000;  
16            }  
17            else if(app.Maintenance_service__c == true && app.Replacement_Parts__c == true){  
18                app.Service_Amount__c = 8000;  
19            }  
20            else if(app.Repairs__c == true && app.Replacement_Parts__c == true){  
21                app.Service_Amount__c = 7000;  
22            }  
23            else if(app.Maintenance_service__c == true){  
24                app.Service_Amount__c = 2000;  
25            }  
26            else if(app.Repairs__c == true){  
27                app.Service_Amount__c = 3000;  
28            }  
29            else if(app.Replacement_Parts__c == true){  
30                app.Service_Amount__c = 4000;  
31            }  
32        }  
33    }  
34  
35    public static void main(){  
36        list<Appointment__c> listApp = [SELECT id, Maintenance_service__c, Repairs__c, Replacement_Parts__c FROM Appointment__c];  
37        amountDist(listApp);  
38    }  
39  
40}
```

□ Create an Apex Trigger



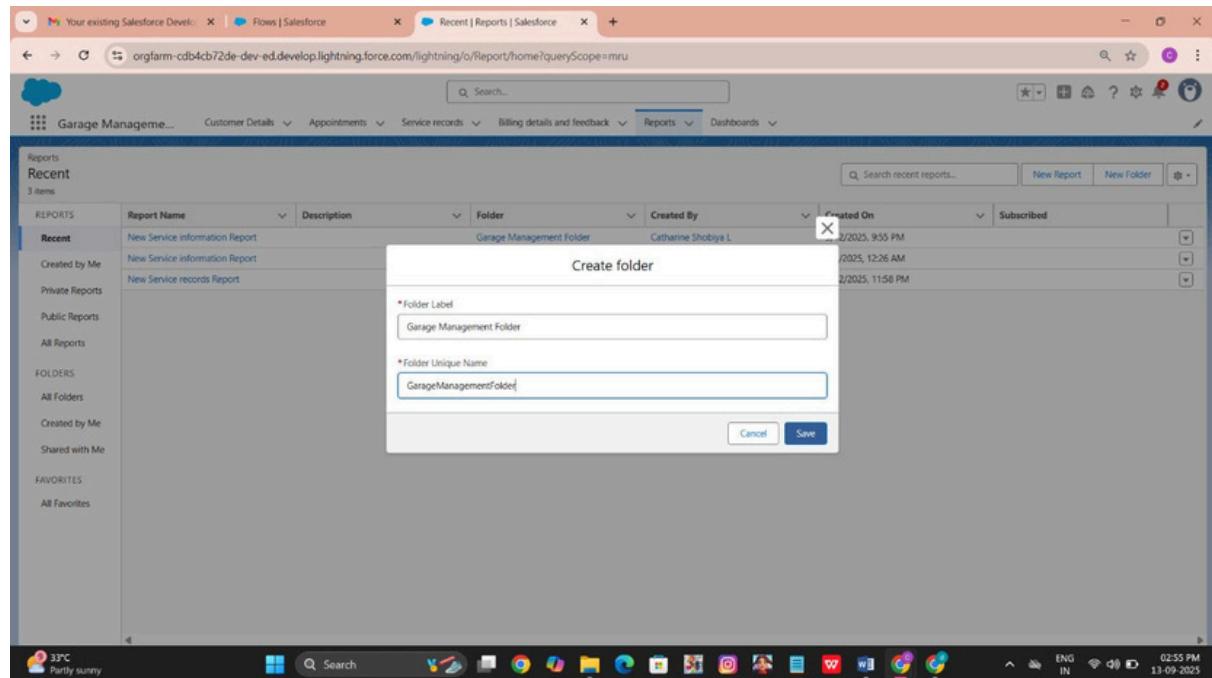
The screenshot shows the Salesforce Developer Console in Google Chrome. The URL is https://orgfarm-5df1e605f2-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSPage. The tab title is "testHandler.apc". The code editor contains the following Apex trigger:

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

The status bar at the bottom shows "Logs Tests Checkpoints Query Editor View State Progress Problems". The "Problems" tab is selected.

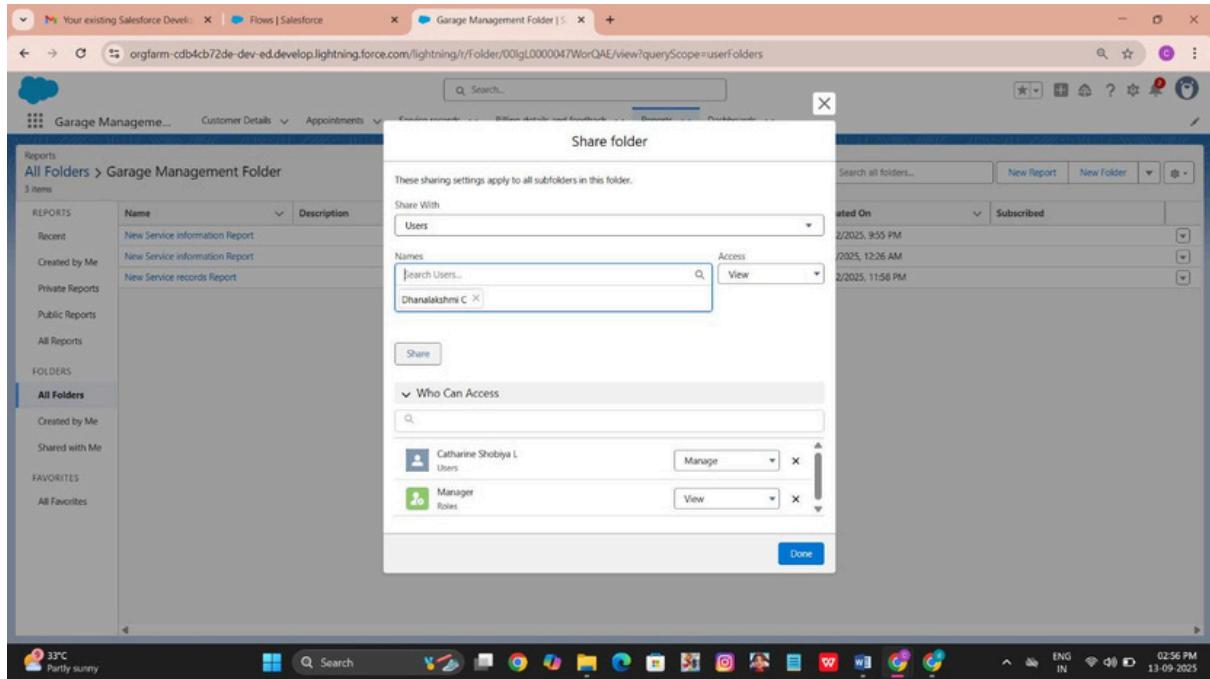
Reports

□ create a report folder

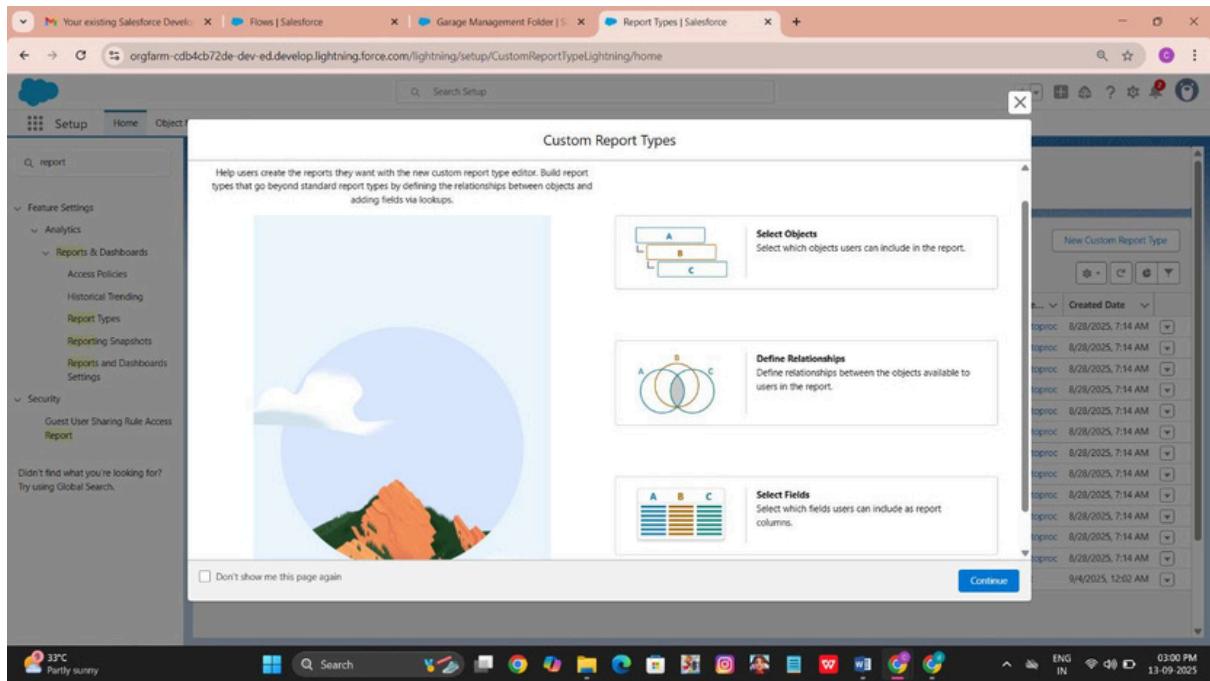


The screenshot shows the Salesforce Lightning interface in a browser window. The URL is <https://orgfarm-cdb4cb72de-dev-ed.lightning.force.com/lightning/o/Report/home?queryScope=mru>. The top navigation bar includes "Recent | Reports | Salesforce". The main area shows a "Create folder" dialog box. The "Folder Label" field contains "Garage Management Folder" and the "Folder Unique Name" field contains "GarageManagementFolder". The sidebar on the left lists "Recent", "Created by Me", "Private Reports", "Public Reports", "All Reports", "Folders", "All Folders", "Created by Me", "Shared with Me", and "Favorites". The system tray at the bottom shows the date and time as "13-09-2025 02:55 PM".

□ Sharing a report folder



□ Create Report Type



Your existing Salesforce Dev... | Flows | Salesforce | Garage Management Folder | Report Types | Salesforce

orgfarm-cdb4cb72de-dev-ed.lightning.force.com/lightning/setup/CustomReportTypeLightning/070gL000005NhivQAC/edit?setup_step=layout

Setup Home Object Manager

Search Setup

Service information

Total Fields in Layout: 45

Fields

Customer Details

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

Appointments

- A Appointment ID
- A Owner
- A Appointment Name
- B Created Date
- A Created By
- B Last Modified Date
- A Last Modified By
- A Appointment Date
- A Appointment ID
- A Appointment Name
- A Created By

Service records

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

Billing details and fe...

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

Sections + New Section + Lookup Fields Close Save

Your existing Salesforce Dev... | Flows | Salesforce | Garage Management Folder | Report Types | Salesforce

orgfarm-cdb4cb72de-dev-ed.lightning.force.com/lightning/setup/CustomReportTypeLightning/070gL000005NhivQAC/view

Setup Home Object Manager

Search Setup

Service information

Details

Display Label: Service information
API Name: Service_information
Description: same
Created By: Catherine Shobya L, 04/09/2025, 12:32 pm
Store in Category: other
Deployment Status: Deployed
Modified By: Catherine 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)

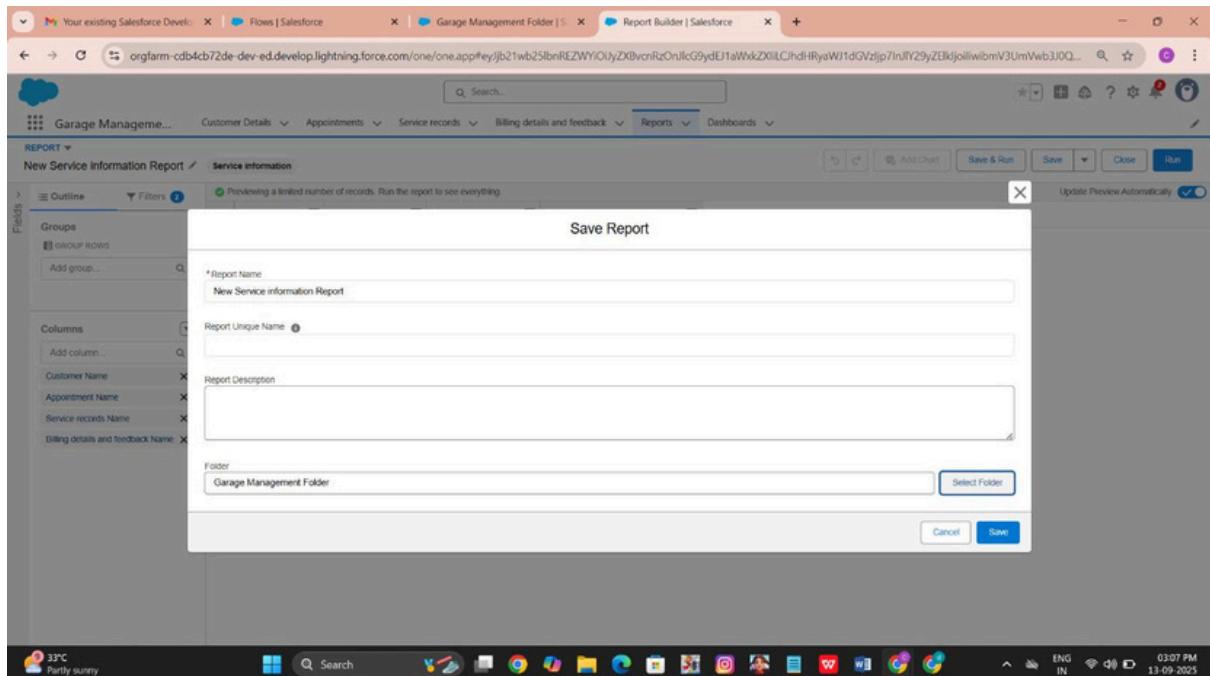
Fields

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

33°C Partly sunny

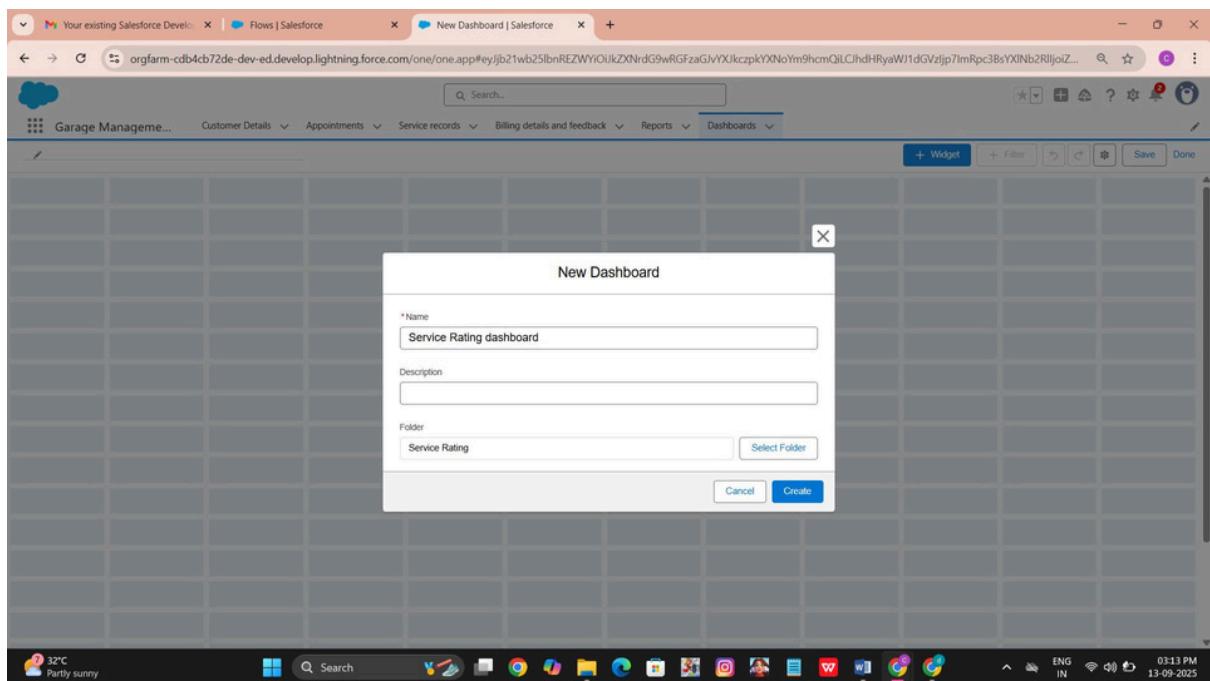
03:01 PM 13-09-2025

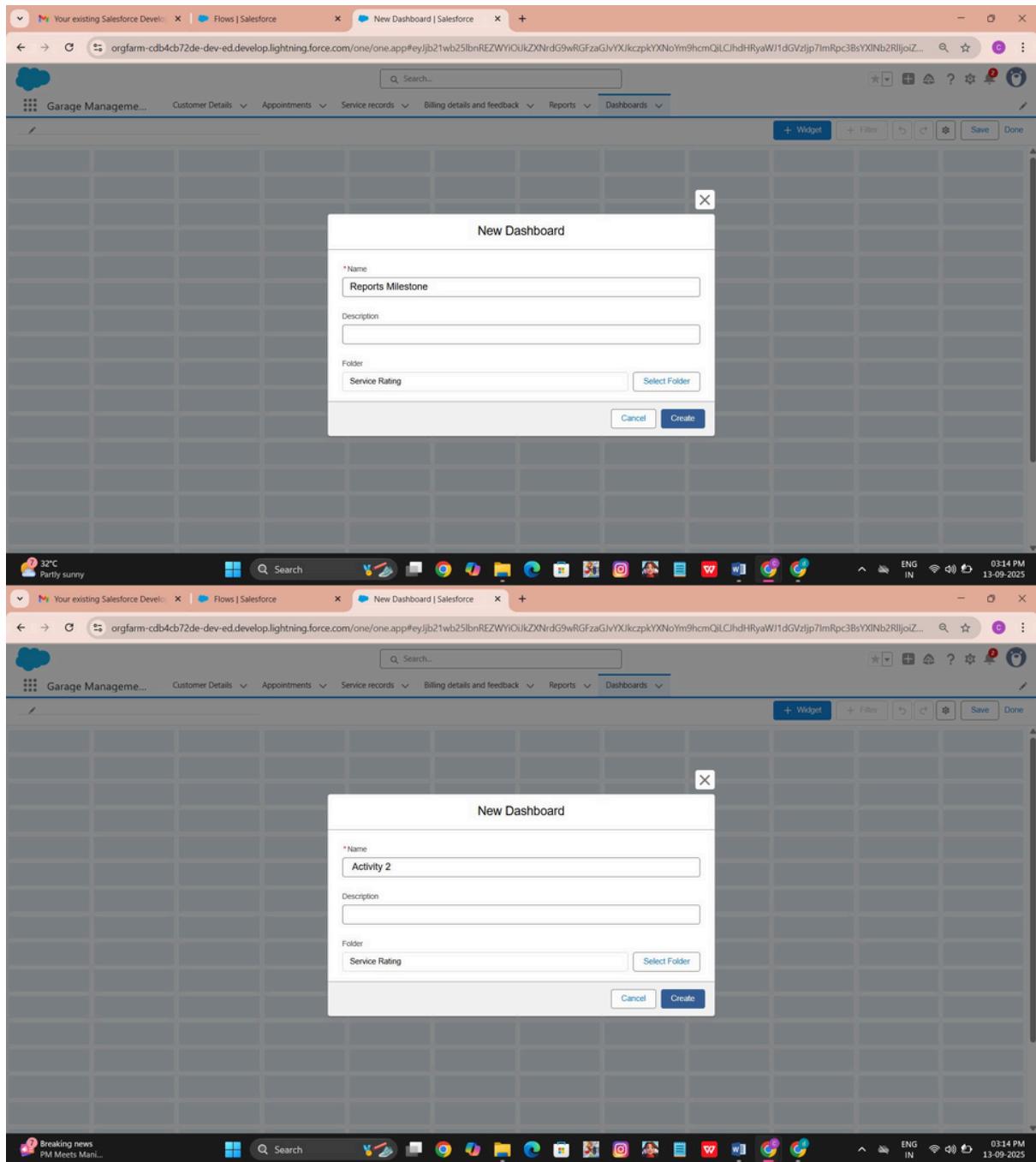
Create Report



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/a00gL00000U1IKEQAZ/edit?navigationLocation=LIST_VIEW_ROW&count=1&backgroundContext=%2Fli...

Garage Management...

Customer Details Appointments Service records Billing details and feedback Reports Dashboards

Customer Details Recently Viewed

13 items • Updated a few seconds ago

Customer Name

- Mac
- John Doe
- Kevin
- Gwen tennison
- Ben tennison
- Doremom
- Nobita
- Nanaco
- Hiroshi
- Mirsea
- shiro
- Shinchan
- Himawari

Edit Ben tennison

* Customer Name: Ben tennison Owner: Catharine Shobiya L

Phone number: 657412558

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

03:16 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=%2Fli...

Garage Management...

Customer Details Appointments

Recently Viewed

8 items • Updated a few seconds ago

Appointment Name

- app-009
- app-001
- app-008
- app-003
- app-007
- app-004
- app-005
- 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: DL01Z22001

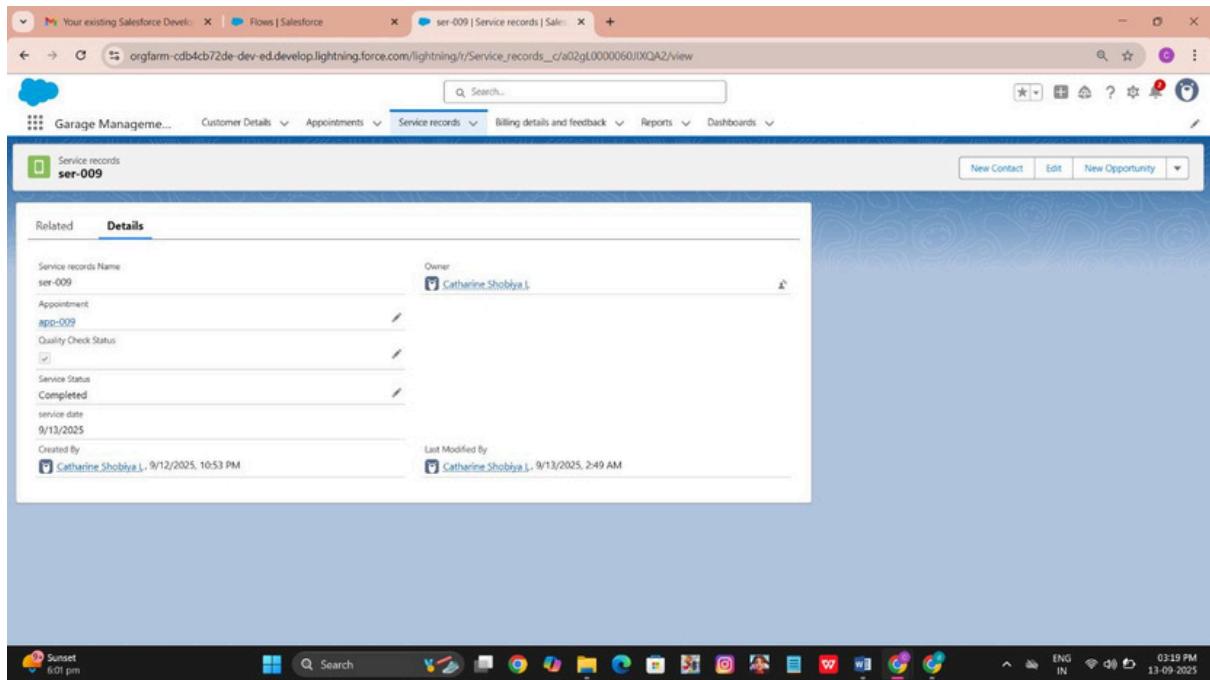
* Customer Name: Ben

Created By: Last Modified By:

Cancel Save & New Save

Air: Moderate Tomorrow

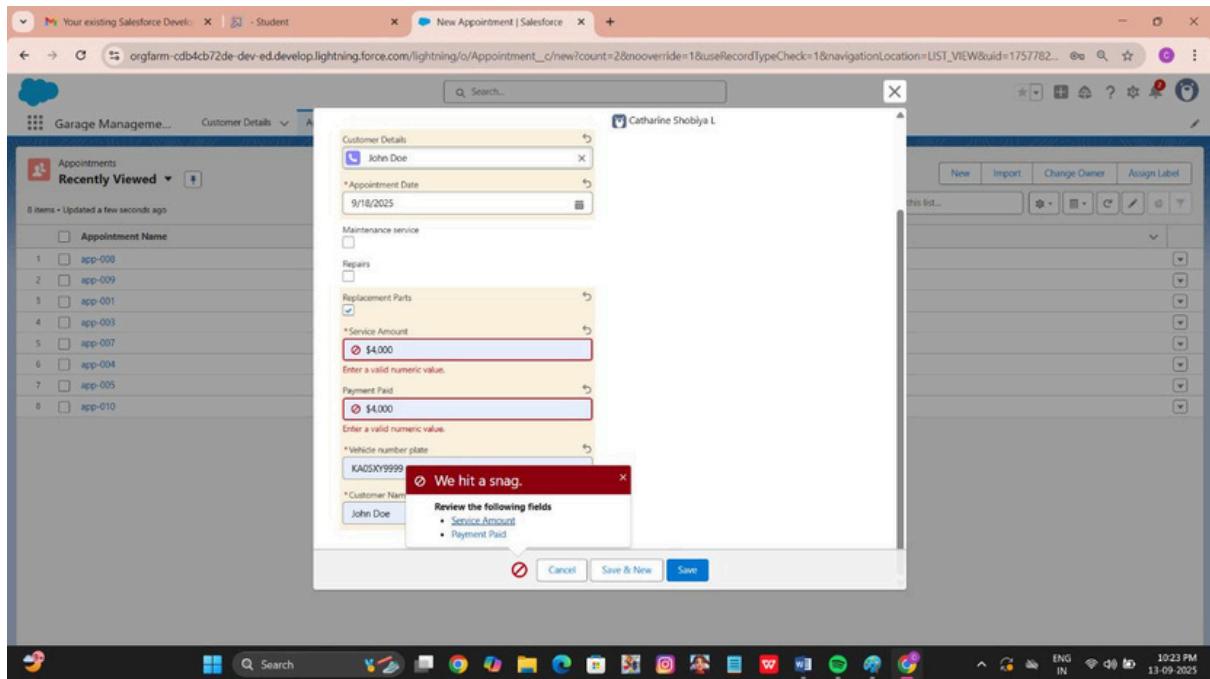
03:18 PM 13-09-2025



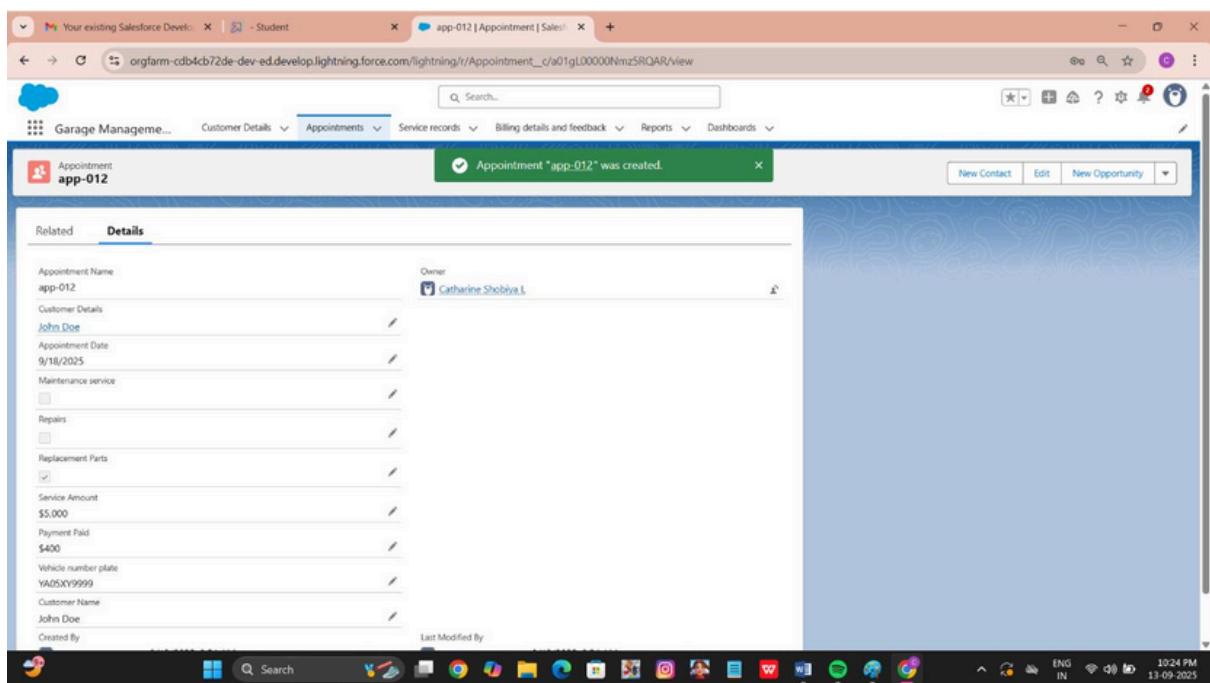
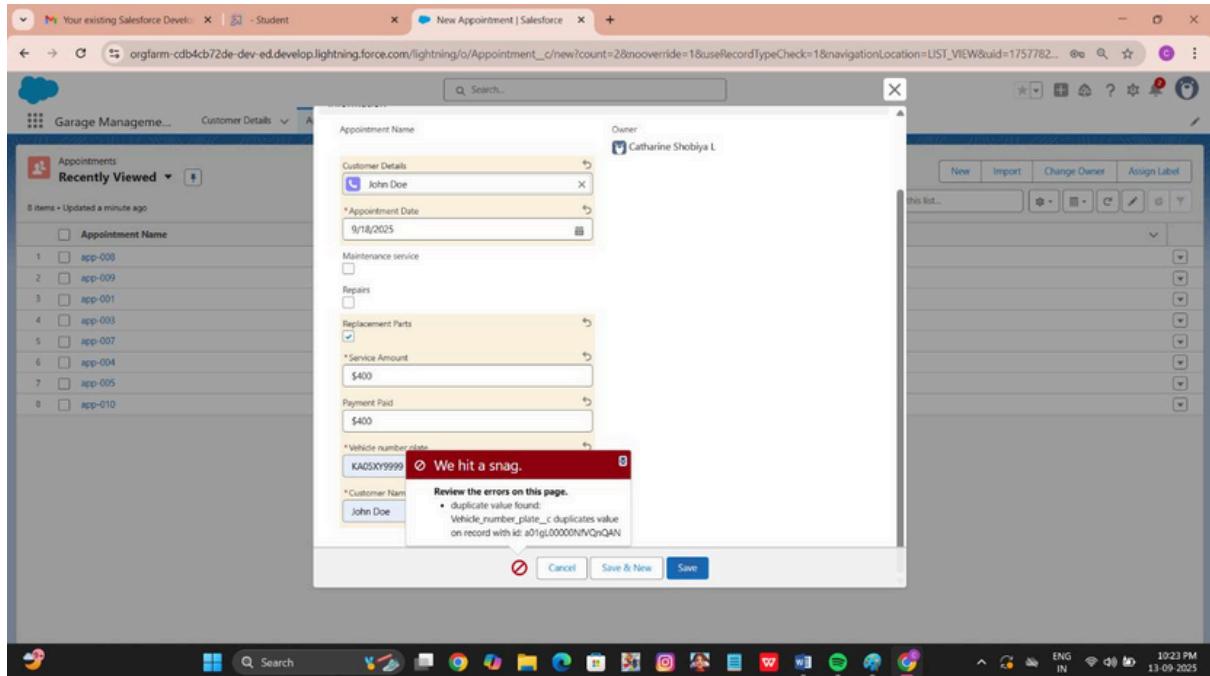
FUNCTIONAL AND PERFORMANCE TESTING

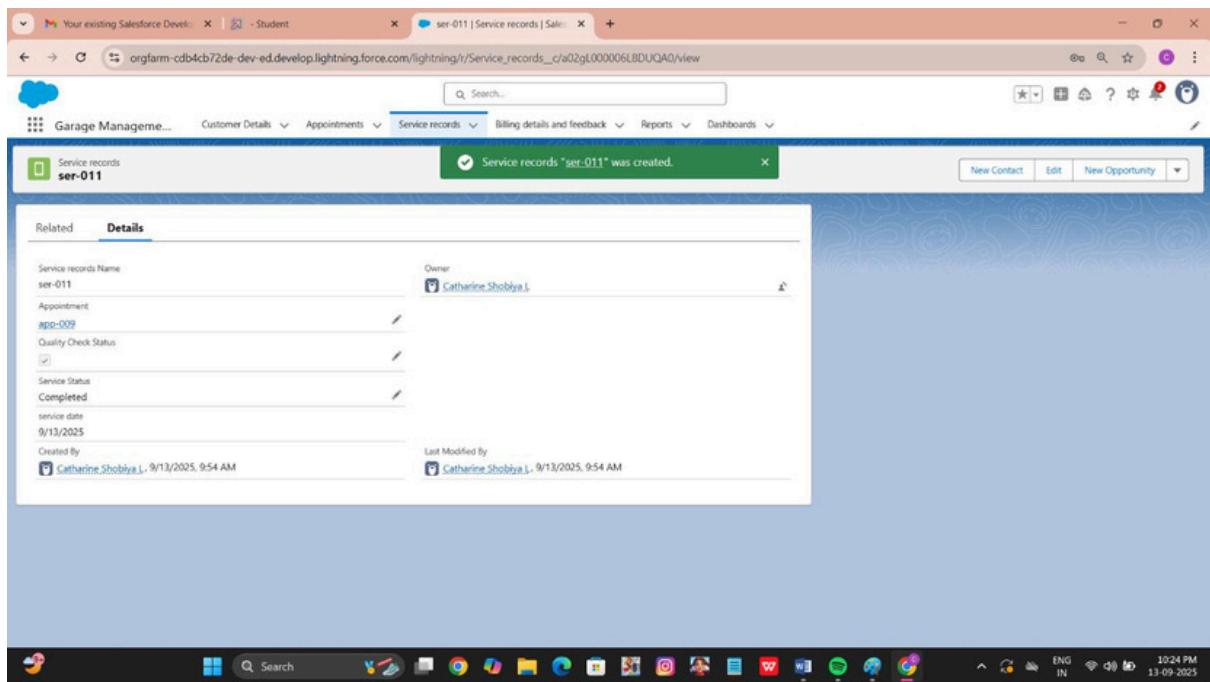
Performance Testing

- Trigger validation by entering duplicate service amount records

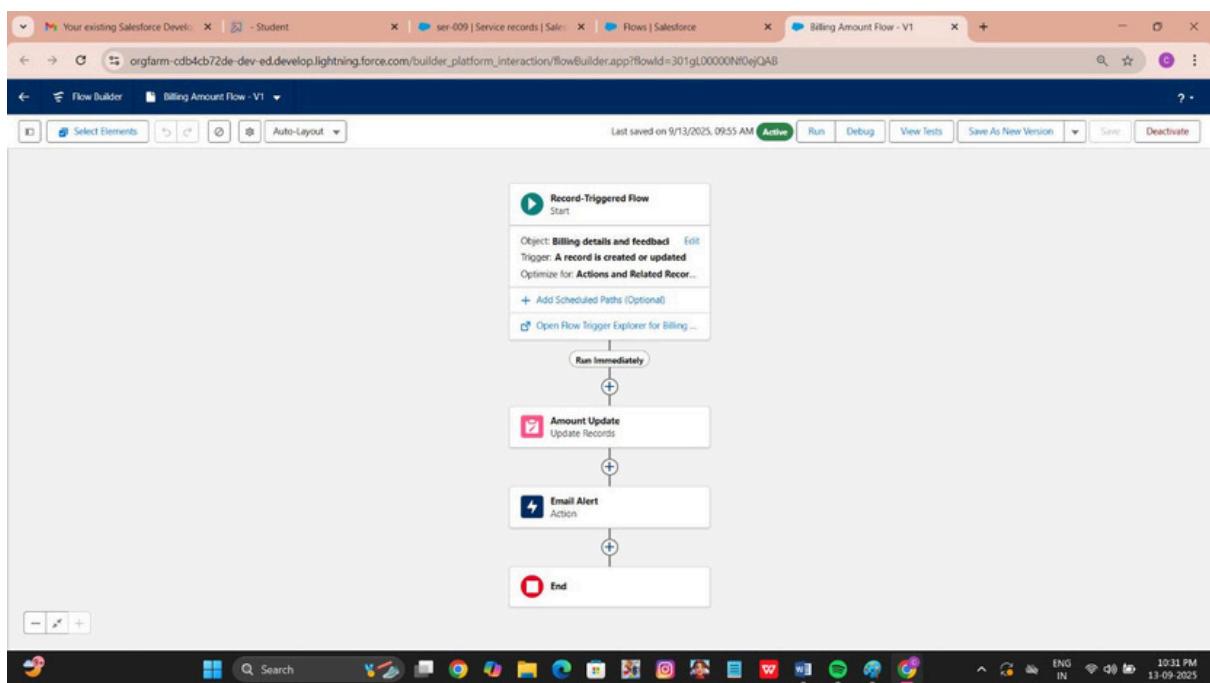


● Validation Rule checking





● Test flows on payment update



RESULTS

Output Screenshots

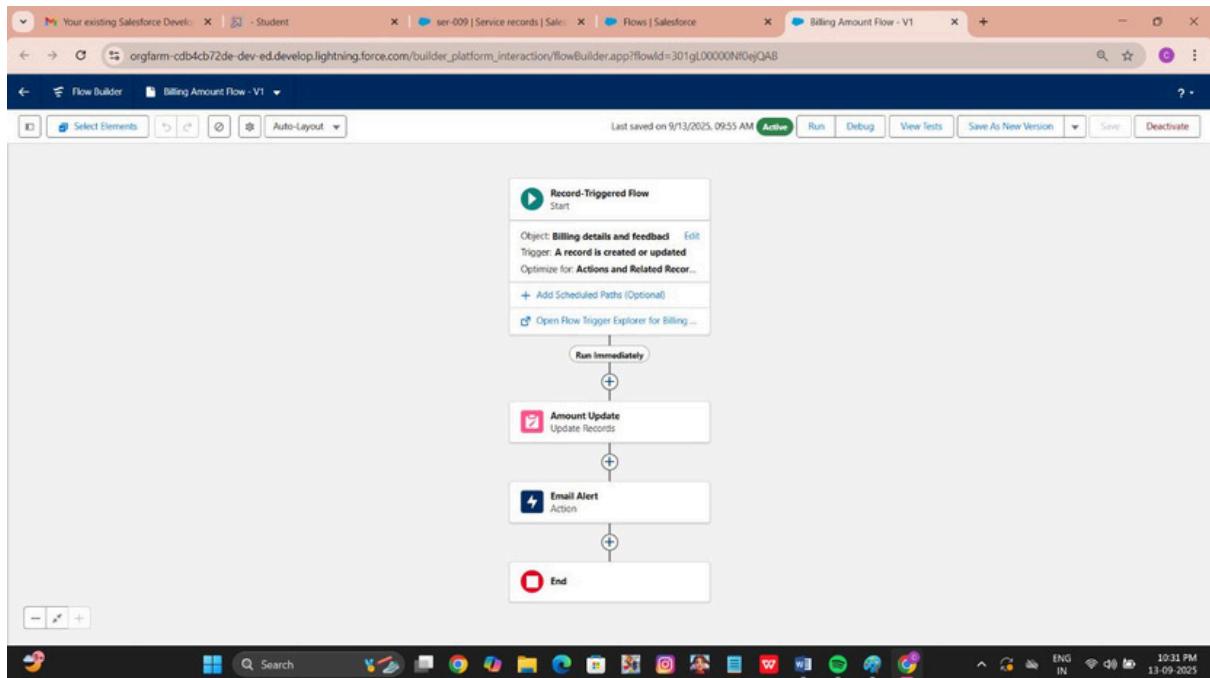
- Tabs for Customer Details, Appointment, Service records, Billing details and feedback

The screenshot shows the Salesforce Setup interface under the 'Custom Tabs' section. The page title is 'Custom Tabs'. It includes a sidebar with 'User Interface' and 'Tabs' selected. The main content area displays sections for 'Custom Object Tabs', 'Web Tabs', 'Visualforce Tabs', 'Lightning Component Tabs', and 'Lightning Page Tabs'. Under 'Custom Object Tabs', there are four tabs listed: 'Appointments' (selected), 'Billing details and feedback', 'Customer Details', and 'Service records'. Each tab has a 'Label' field and a 'Tab Style' section with color-coded boxes for 'People', 'Books', 'Phone', and 'Call phone'. A note at the top states: '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.' A 'Help for this Page' link is also present.

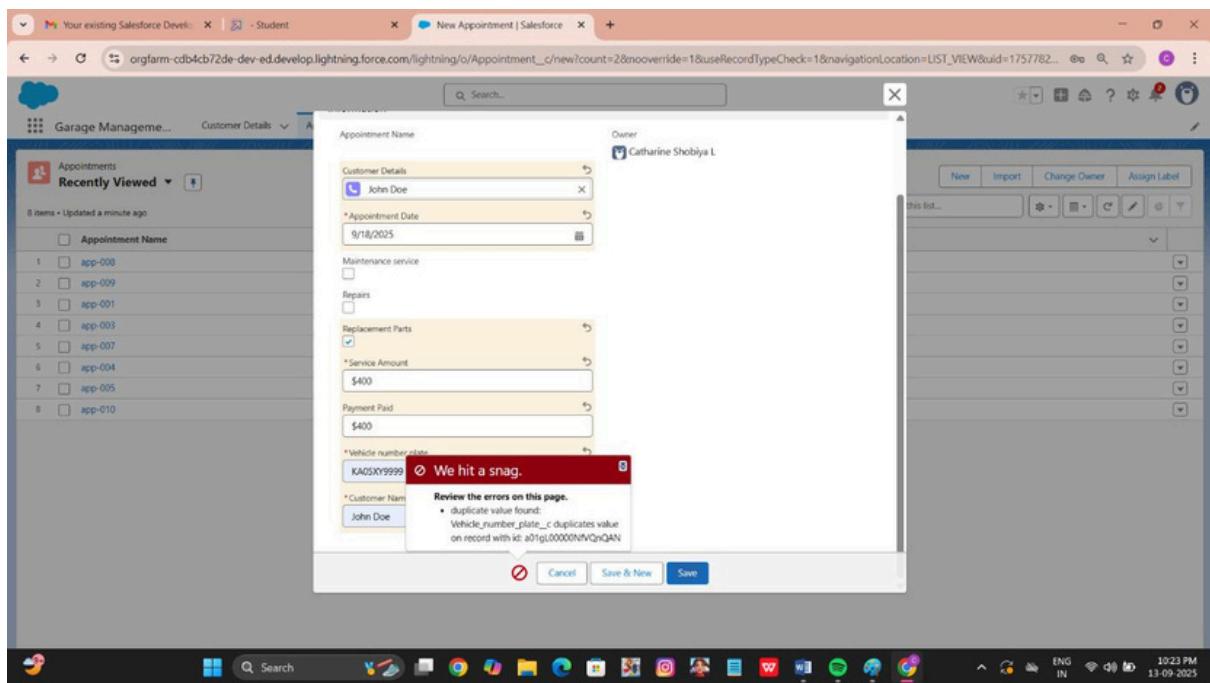
□ Appointments of the Customers

The screenshot shows the Salesforce Appointments list view. The page title is 'Recently Viewed | Appointment'. The top navigation bar includes 'Garage Management...', 'Customer Details', 'Appointments' (selected), 'Service records', 'Billing details and feedback', 'Reports', and 'Dashboards'. The main content area shows a table titled 'Appointments' with a 'Recently Viewed' dropdown. The table has columns for 'Appointment Name' and checkboxes. The first item, 'app-012', is selected. Other items listed are 'app-005', 'app-000', 'app-009', 'app-001', 'app-003', 'app-007', 'app-004', and 'app-010'. Action buttons at the top right include 'New', 'Import', 'Change Owner', and 'Assign Label'. A search bar and filter options are also present. The bottom of the screen shows the Windows taskbar with various icons and system status.

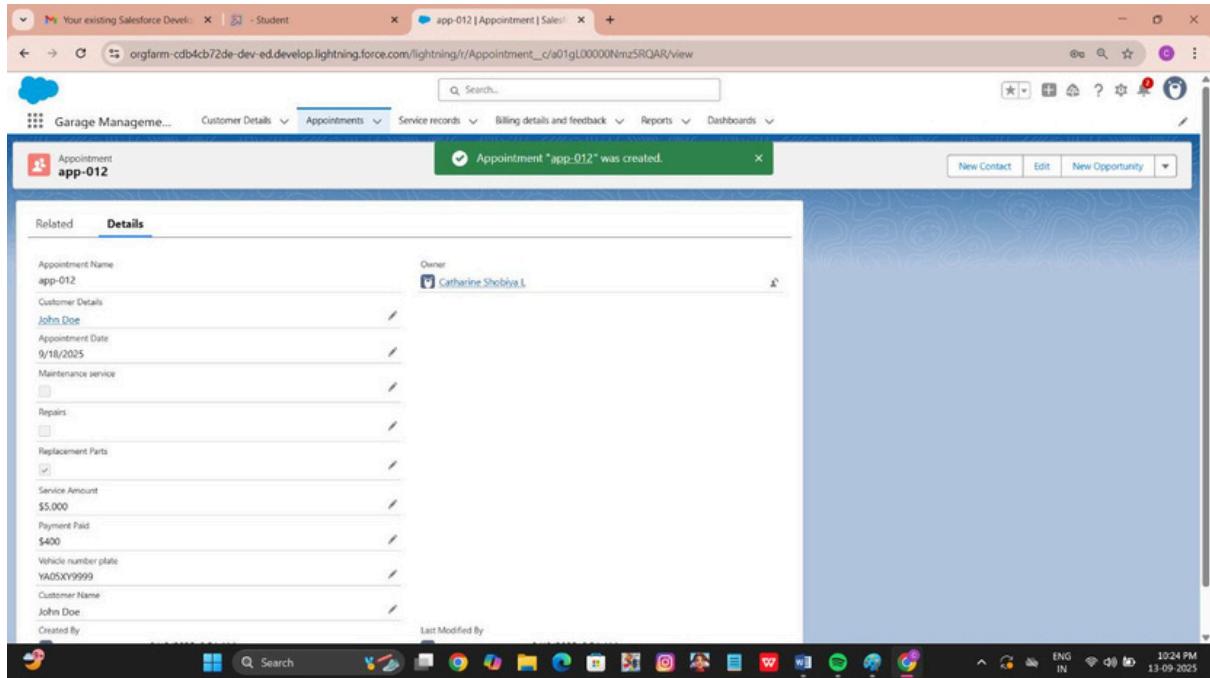
Flow runs



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;
```

```
}
```

```
}
```

```
}
```

```
}
```

