

# Garage Management system

## 1. Project Overview

This project focuses on developing a **Garage Management System (GMS)**, designed to address the challenges of managing automotive repair facilities effectively.

The goal is to deliver a comprehensive solution by leveraging **modern software technologies** to streamline operations, improve service delivery, and enhance customer satisfaction.

Through this project, we aim to boost **operational efficiency, improve resource management, and ensure seamless interactions between customers and staff**, supporting the long-term growth and success of automotive repair businesses.

## 2. Objectives

### Business Goals

1. **Streamline Operations:** Automate tasks like scheduling, billing, and inventory tracking.
2. **Enhance Customer Satisfaction:** Offer online booking, real-time updates, and digital invoicing.
3. **Optimize Resource Management:** Efficiently manage staff, tools, and spare parts.
4. **Boost Growth:** Improve analytics for data-driven decisions and business expansion.
5. **Ensure Data Security:** Safeguard customer and business data.

### Specific Outcomes

1. User-friendly customer and staff interface.
2. Automated appointment scheduling and notifications.
3. Real-time inventory and repair workflow tracking.
4. Role-based access and secure payment integration.
5. Comprehensive reports and customer feedback system.

## 3. Salesforce Key Features and Concepts Utilized

### 1. Custom Objects and Fields

- Created custom objects such as "Customer Details," "Appointments," "Service Records," and "Billing Details and Feedback" to capture specific data relevant to the Garage Management System.
- Implemented custom fields to store detailed information and facilitate unique data collection.

### 2. Validation Rules

- Established validation rules to ensure data integrity and accuracy. Examples include verifying vehicle license plate formats and rating inputs.

### 3. Workflow Automation

- Utilized Salesforce Flows to automate business processes such as updating records and sending automated emails.
- Record-triggered flows were designed to respond to changes in data, streamlining operations and reducing manual tasks.

### 4. Apex Programming

- Developed Apex classes and triggers to handle complex business logic. For instance, the "AmountDistributionHandler" class was created to automate service amount distribution based on selected services.
- Implemented triggers to execute specific actions before or after record operations.

### 5. Profiles and Roles

- Configured various user profiles (e.g., Manager, Salesperson) to manage access controls and ensure role-based data visibility.
- Created roles to establish hierarchical data access and reporting structures.

### 6. Duplicate and Matching Rules

- Applied duplicate and matching rules to prevent data redundancy and maintain clean customer records.
- Matching criteria were set for fields such as email and phone numbers to identify potential duplicates.

### 7. Lightning App Builder

- Designed a custom Lightning App for the Garage Management System to provide a user-friendly interface.
- Added navigation items and utility bars to enhance user experience and accessibility.

### 8. Reports and Dashboards

- Created actionable reports and dashboards to provide insights into key metrics such as appointment trends, payment statuses, and customer feedback.
- Enabled data-driven decision-making through real-time analytics.

### 9. Email Alerts and Notifications

- Configured automated email alerts to keep customers informed about their service

status and payment confirmations.

- Utilized text templates for personalized communication.

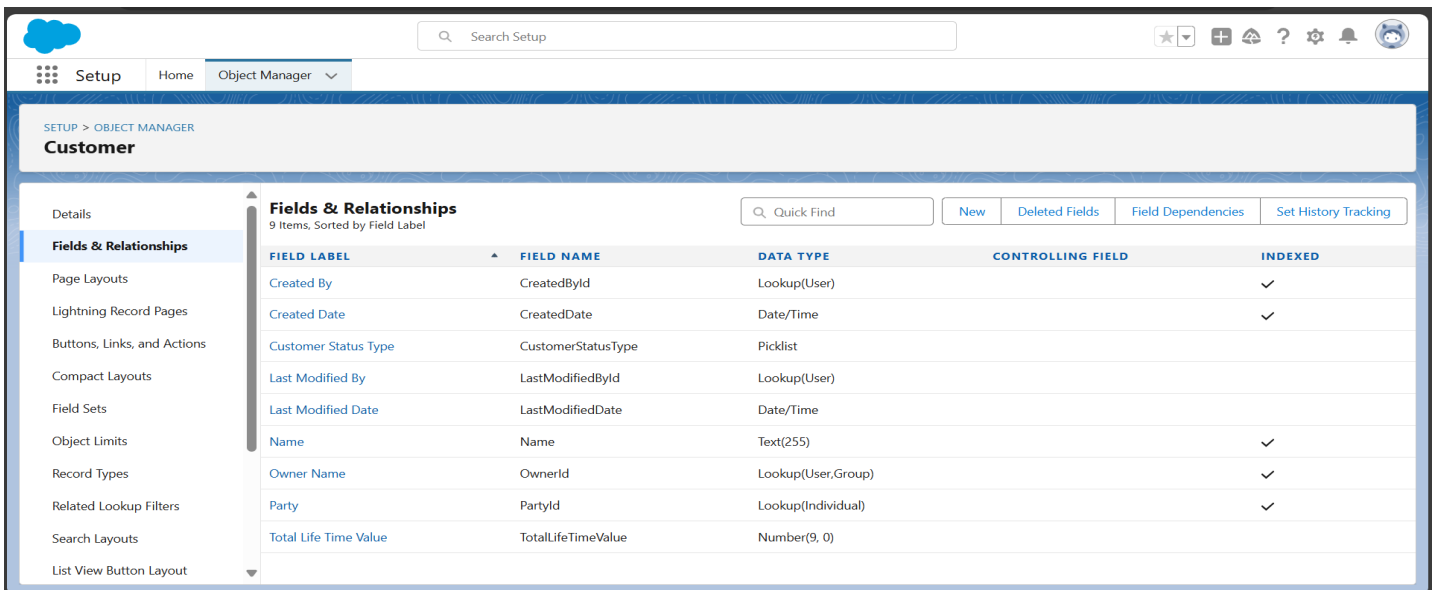
## 10. Testing and Validation

- Conducted comprehensive unit testing for Apex classes and triggers to ensure robust functionality.
- Performed user interface testing to validate the seamless interaction and correct operation of all customizations.

# 4.Detailed Steps to Solution Design

## 1. Data Models

- **Customer Details Object:** Designed to capture customer-specific information such as name, phone number, and email.



SETUP > OBJECT MANAGER

### Customer

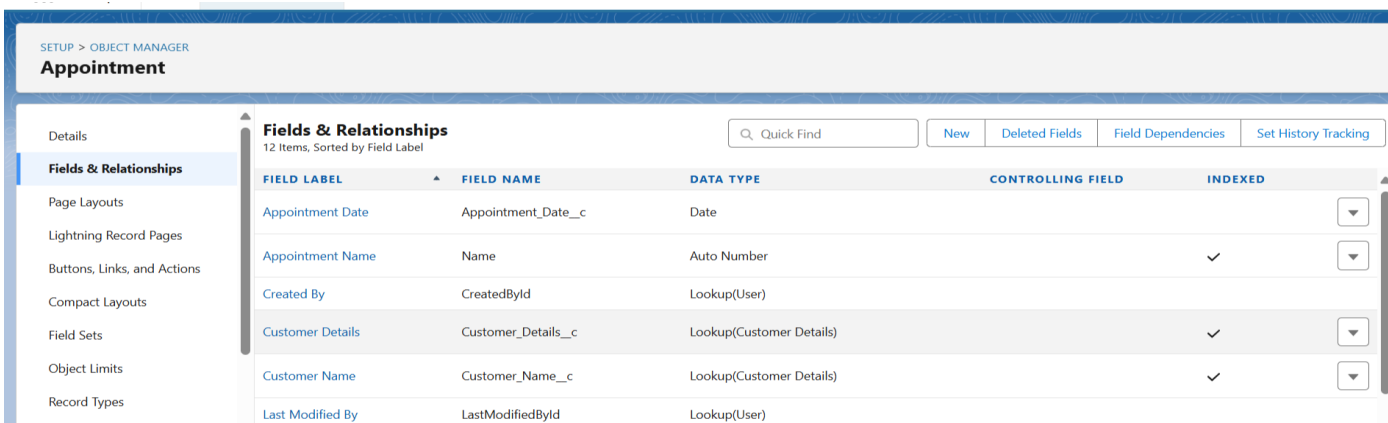
Details

**Fields & Relationships**  
9 Items, Sorted by Field Label

Q Quick Find New Deleted Fields Field Dependencies Set History Tracking

| FIELD LABEL           | FIELD NAME         | DATA TYPE          | CONTROLLING FIELD | INDEXED |
|-----------------------|--------------------|--------------------|-------------------|---------|
| Created By            | CreatedById        | Lookup(User)       |                   | ✓       |
| Created Date          | CreatedDate        | Date/Time          |                   | ✓       |
| Customer Status Type  | CustomerStatusType | Picklist           |                   |         |
| Last Modified By      | LastModifiedById   | Lookup(User)       |                   |         |
| Last Modified Date    | LastModifiedDate   | Date/Time          |                   |         |
| Name                  | Name               | Text(255)          |                   | ✓       |
| Owner Name            | OwnerId            | Lookup(User,Group) |                   | ✓       |
| Party                 | PartyId            | Lookup(Individual) |                   | ✓       |
| Total Life Time Value | TotalLifeTimeValue | Number(9, 0)       |                   |         |

- **Appointments Object:** Structured to record appointment schedules, associated customers, vehicle details, and service types



SETUP > OBJECT MANAGER

### Appointment

Details

**Fields & Relationships**  
12 Items, Sorted by Field Label

Q Quick Find New Deleted Fields Field Dependencies Set History Tracking

| 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_Name__c    | Lookup(Customer Details) |                   | ✓       |
| Last Modified By | LastModifiedById    | Lookup(User)             |                   |         |

- **Service Records Object:** Tracks the details of services provided, including parts replaced and maintenance performed.

Setup > Object Manager

### Service records

Details

**Fields & Relationships**  
8 Items, Sorted by Field Label

Quick Find:

[New](#) [Deleted Fields](#) [Field Dependencies](#) [Set History Tracking](#)

| 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 Object:** Manages billing information, payment statuses, and customer feedback.

Setup > Object Manager

### Billing details and feedback

Details

**Fields & Relationships**  
8 Items, Sorted by Field Label

Quick Find:

[New](#) [Deleted Fields](#) [Field Dependencies](#) [Set History Tracking](#)

| 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(18, 0)         |                   |         |
| Payment Status                    | Payment_Status__c     | Picklist                |                   |         |
| Rating for service                | Rating_for_service__c | Text(1)                 |                   |         |
| Service records                   | Service_records__c    | Lookup(Service records) |                   | ✓       |

## 2. User Interface Designs

### Garage Management App:

- Custom app configured as default for Manager and Salesperson profiles.
- Includes tabs for: **Appointments, Service Records, Billing Details and Feedback and Dashboard for analytics.**

Custom Tabs

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

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

**Custom Object Tabs** [New](#) [What Is This?](#)

| Action                                     | Label                        | Tab Style | Description |
|--|------------------------------|-----------|-------------|
| <a href="#">Edit</a>   <a href="#">Del</a> | Appointments                 | Bridge    |             |
| <a href="#">Edit</a>   <a href="#">Del</a> | Billing details and feedback | Box       |             |
| <a href="#">Edit</a>   <a href="#">Del</a> | Customer Details             | Big top   |             |
| <a href="#">Edit</a>   <a href="#">Del</a> | Service records              | Boat      |             |

### 3. Business Logic

- **Validation Rules:** Ensured data integrity with rules like validating vehicle number formats and service ratings.

SETUP > OBJECT MANAGER

#### Appointment

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

### Appointment Validation Rule

[Back to Appointment](#) [Help for this Page](#)

**Validation Rule Detail** [Edit](#) [Clone](#)

|                         |   |                |                                      |
|-------------------------|---|----------------|--------------------------------------|
| Rule Name               | Vehicle   | Active         | <input checked="" type="checkbox"/>  |
| Error Condition Formula | NOT( REGEX( Vehicle_number_plate__c , "[A-Z]{2}[0-9]{2}[A-Z]{2}[0-9]{4}") ) |                |                                      |
| Error Message           | Please enter valid number   | Error Location | Vehicle number plate                 |
| Description             | Vehicle   |                |                                      |
| Created By              | murali.krishnay, 23/12/2024, 7:37 pm  | Modified By    | murali.krishnay, 23/12/2024, 7:37 pm |

[Edit](#) [Clone](#)

- **Validation rule to an Billing details and feedback Object:** This rule ensures that the **Rating for Service** field only accepts values between 1 and 5

SETUP > OBJECT MANAGER

#### Billing details and feedback

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

### Billing details and feedback Validation Rule

[Back to Billing details and feedback](#) [Help for this Page](#)

**Validation Rule Detail** [Edit](#) [Clone](#)

|                         |   |                |                                      |
|-------------------------|---|----------------|--------------------------------------|
| Rule Name               | rating_should_be_less_than_5                      | Active         | <input checked="" type="checkbox"/>  |
| Error Condition Formula | NOT( REGEX( Rating_for_service__c , "[1-5]{1}") ) |                |                                      |
| Error Message           | rating should be from 1 to 5                      | Error Location | Rating for service                   |
| Description             |   |                |                                      |
| Created By              | murali.krishnay, 23/12/2024, 7:40 pm              | Modified By    | murali.krishnay, 23/12/2024, 7:40 pm |

[Edit](#) [Clone](#)

- **Matching rule to an Customer details Object:** The matching rule ensures accurate identification of duplicate records in the **Customer Details** object

Setup | Home | Object Manager

Q matc

Data

Duplicate Management

Matching Rules

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

### Matching Rules

Matching Rule

#### Matching customer details

[Help for this Page](#)

**Matching Rule Detail** [Delete](#) [Clone](#) [Deactivate](#)

|                   |  |
|-------------------|--|
| Object            | Customer Details   |
| Rule Name         | Matching customer details  |
| Unique Name       | Matching_customer_details  |
| Description       |  |
| Matching Criteria | (Customer Details: Gmail EXACT MatchBlank = FALSE) AND (Customer Details: Phone_number EXACT MatchBlank = FALSE) |
| Status            | Active   |
| Created By        | murali.krishnay, 23/12/2024, 7:45 pm   |
| Modified By       | murali.krishnay, 23/12/2024, 7:45 pm   |

- **Duplicate Rule for Customer Details** is created and active, helping to maintain data integrity by identifying and handling duplicate records.

du

Data

Duplicate Management

Duplicate Error Logs

Duplicate Rules

Matching Rules

Feature Settings

Sales

Individual Settings

Products

Asset Settings

Product Schedules Settings

Product Settings

Salesforce Scheduler

SETUP

Duplicate Rules

Customer Details Duplicate Rule

Customer Detail duplicate

Help for this Page

Duplicate Rule Detail

Rule Name

Customer Detail duplicate

Order

1 of 1 [Reorder]

Description

Customer Details

Record-Level Security

Enforce sharing rules

Action On Create

Allow

Operations On Create

Alert

Report

Action On Edit

Allow

Operations On Edit

Alert

Report

Alert Text

Use one of these records?

Active

☒

Matching Rule

Matching customer details

Mapped

Matching Criteria

(Customer Details: Gmail EXACT MatchBlank = FALSE) AND (Customer Details: Phone\_number EXACT MatchBlank = FALSE)

Conditions

Created By

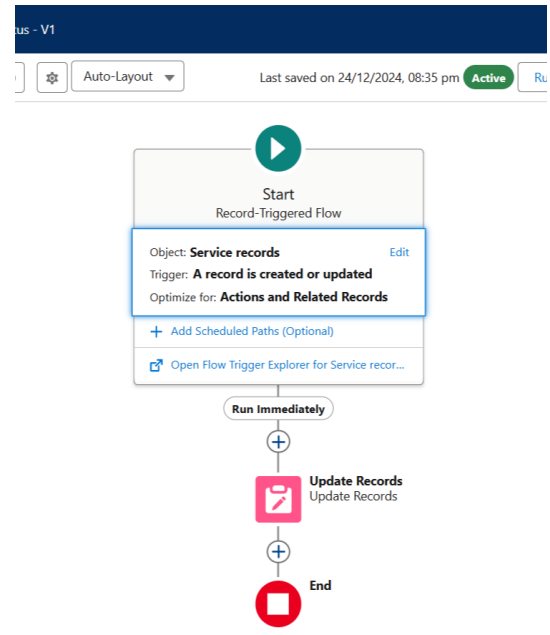
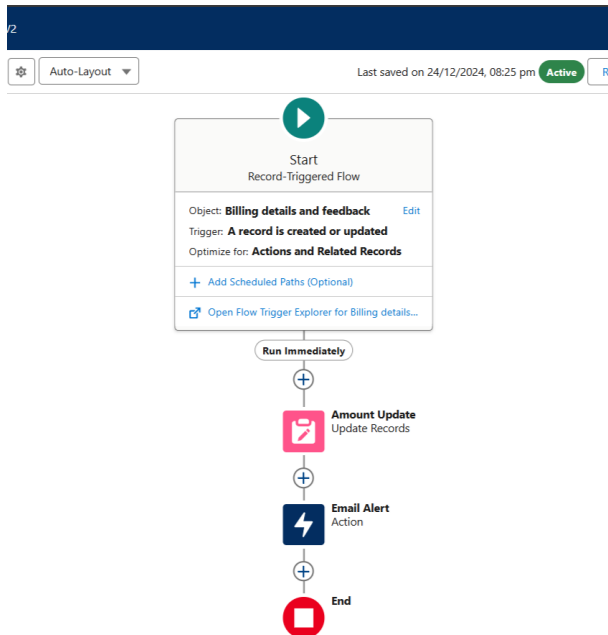
murali.krishnay, 23/12/2024, 7:48 pm

Modified By

murali.krishnay, 23/12/2024, 7:48 pm

## Workflow Automations:

- Record-Triggered Flows: Automated updates and email notifications based on changes in records.



- Apex Triggers: Custom logic for calculating service amounts and updating payment statuses.

```

Developer Console - Personal - Microsoft Edge
https://mvgrcollegeofengineerin-17e-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

AmountDistributionHandler.apex
Code Coverage: None | API Version: 62
Go To

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
11        for(Appointment__c app : listApp){
12
13            if(app.Maintenance_service__c == true && app.Repairs__c == true && app.Replacement_Parts__c == true){
14
15                app.Service_Amount__c = 10000;
16
17            }
18
19            else if(app.Maintenance_service__c == true && app.Repairs__c == true){
20
21                app.Service_Amount__c = 5000;
22
23            }
24        }
25    }
26 }
    
```

#### 4. Security and Access Control

- **Profiles and Roles:** Configured to ensure appropriate access levels for Managers and Salespersons.
- **Field-Level Security:** Protected sensitive information with customized permissions.

The screenshot shows the Salesforce Setup interface for the 'Profiles' section. The left sidebar contains navigation links: Users, Profiles (selected), Data, Mass Transfer Approval Requests, Feature Settings, Data.com, Prospector Preferences, Prospector Users, Decision Explorer, Business Process Type Definition, and Functions. The main content area is titled 'sales person' and includes a description: 'Users with this profile have the permissions and page layouts listed below. Administrators can change a user's profile by editing that user's personal information.' Below this, there are links to 'Edit', 'Clone', 'Delete', and 'View Users'. The 'Profile Detail' section shows the profile name 'sales person', user license 'Salesforce Platform', and a 'Custom Profile' checkbox checked. The 'Page Layouts' section shows the 'Global' layout assigned to the profile.

The screenshot shows the Salesforce Setup interface for the 'Roles' section. The left sidebar contains navigation links: Users, Roles (selected), Feature Settings, Sales, Contact Roles on Contracts, Contact Roles on Opportunities, Service, Case Teams, Case Team Roles, and Contact Roles on Cases. The main content area is titled 'Creating the Role Hierarchy' and includes a description: 'You can build on the existing role hierarchy shown on this page. To insert a new role, click Add Role.' Below this, there is a tree view of the role hierarchy. The hierarchy starts with 'MVGR COLLEGE OF ENGINEERING' at the top, followed by 'CEO', 'COO', 'Manager', 'sales person', 'SVP Customer Service & Support', 'SVP Human Resources', and 'SVP Sales & Marketing'. Each role has an 'Add Role' button next to it.

## 5. Reports and Dashboards

Report: Service Information

New Service Information Report

Enable Field Editing

Q

g

▼

C

Edit

▼

2

₹5,000

Sum of Payment Paid

0 100 200 300 400 500 600 700 800 900 1k 1.1k 1.2k 1.3k 1.4k 1.5k 1.6k 1.7k 1.8k 1.9k 2k 2.1k 2.2k 2.3k 2.4k 2.5k 2.6k 2.7k 2.8k 2.9k 3k

Rating for service

4

5

Rating for service 5

Sum of Payment Paid 3,000 (60% of 5k)

Rating for service

Payment Status

Customer Name

Appointment Date

Payment Paid

Service Status

4 (1)

Completed (1)

customer

05/01/2025

₹2,000

Completed

Subtotal

₹2,000

5 (1)

Completed (1)

customer1

05/01/2025

₹3,000

Completed

Subtotal

₹3,000

Total (2)

₹5,000

Row Counts

Detail Rows

Subtotals

Grand Total

Setup

Home

Object Manager

Report Type

Feature Settings

Analytics

Reports & Dashboards

Report Types

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

Report Types

Changes you make to this report type will affect existing reports created from it. We recommend that you clone any report type you wish to edit, rather than change a working report type.

Object Relationships

Save

Cancel

This report type will generate reports about Customer Details. You may define which related records from other objects are returned in report results by choosing a relationship to another object.

A Customer Details

Primary Object

B Appointments

A to B Relationship:

Each "A" record must have at least one related "B" record.

"A" records may or may not have related "B" records.

C Service records

B to C Relationship:

Each "B" record must have at least one related "C" record.

"B" records may or may not have related "C" records.

D Billing details and feedback

C to D Relationship:

Each "C" record must have at least one related "D" record.

"C" records may or may not have related "D" records.

Object Limit Reached

You can associate up to four objects to a custom report type.

Save

Cancel

Dashboard

Customer Review

Refresh

Edit

Subscribe

▼

Last refreshed 1 day ago. Refresh this dashboard to see the latest data.

As of 06-Jan-2025, 3:00 pm-Viewing as murali krishnay

New Service information Report

Sum of Payment Paid

₹3k

₹2k

₹1k

₹0

4

5

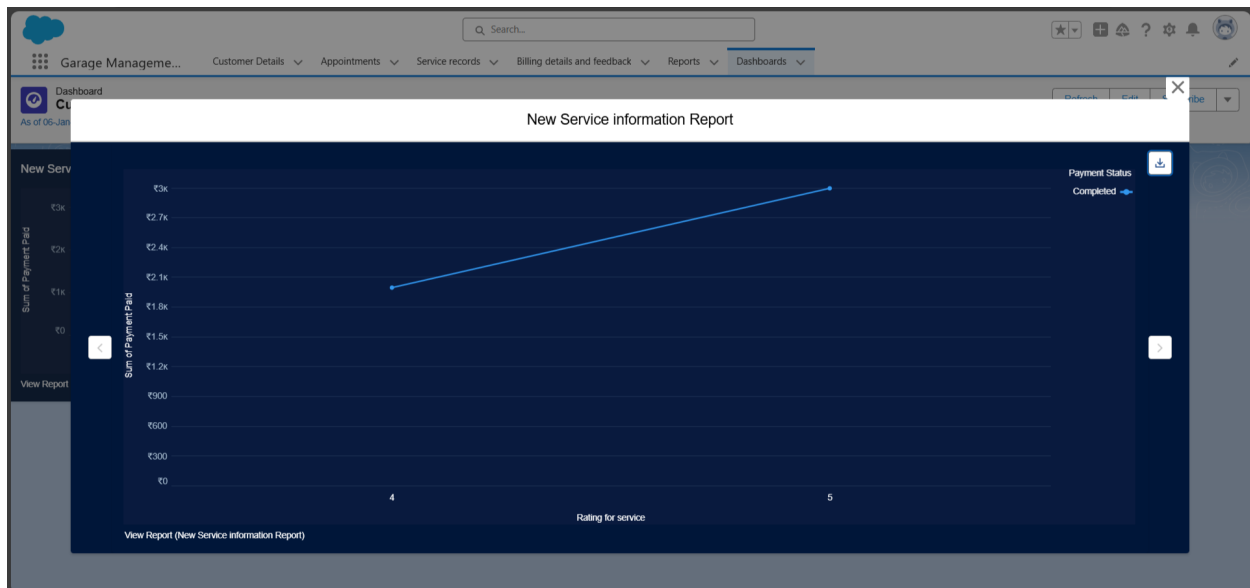
Rating for service

Payment Status

Completed

View Report (New Service Information Report)





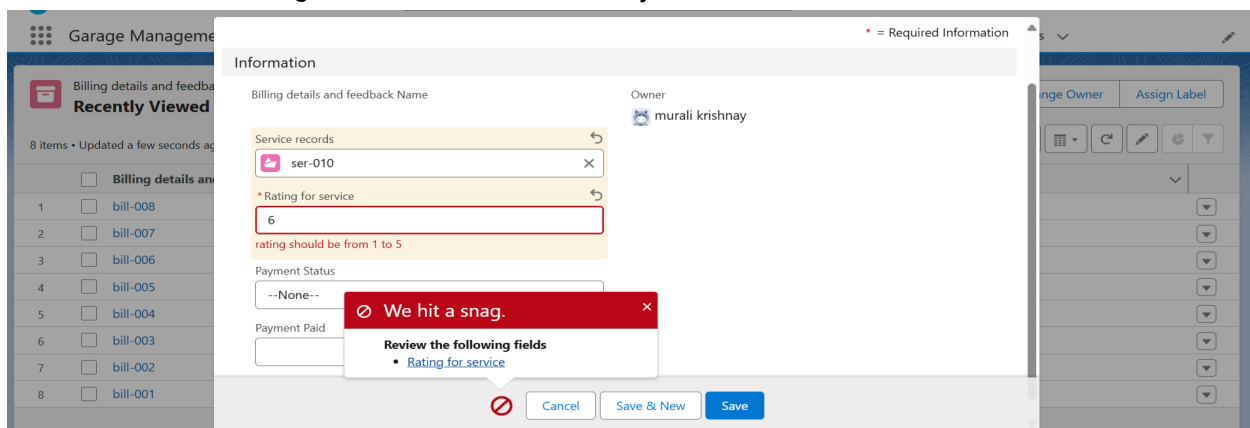
All Those steps ensure a comprehensive solution design, aligning all components to deliver a robust Garage Management System.

## 5. Testing and Validation

### Unit Testing:

#### 1. Validation Rules

- **Purpose:** Ensure validation rules enforce data integrity and display proper error messages.
- **Steps:**
  - a. Test scenarios where data violates the validation rule (e.g., invalid ratings in the **Billing Details and Feedback** object).
  - b. Verify that the expected error message is displayed and prevents record saving.
  - c. Test edge cases, such as boundary values.



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

Billing details and feedback bill-008

New Contact Edit New Opportunity

Related Details

Billing details and feedback Name bill-008

Service records ser-010

Rating for service 4

Payment Status Completed

Payment Paid ₹2,000

Created By murali.krishnay, 06/01/2025, 9:19 am

Last Modified By murali.krishnay, 06/01/2025, 9:19 am

Owner murali.krishnay

## 2. Validating Duplicate Rule for Customer:

The Duplicate Rule ensures data integrity by identifying and blocking duplicate records based on the defined criteria.

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

Customer Details Recently Viewed 11 items • Updated a few seconds ago

New Customer Details

Information

\* Customer Name customer

Phone number 7995971479

Gmail muralikrishna

Owner murali.krishnay

Similar Records Exist

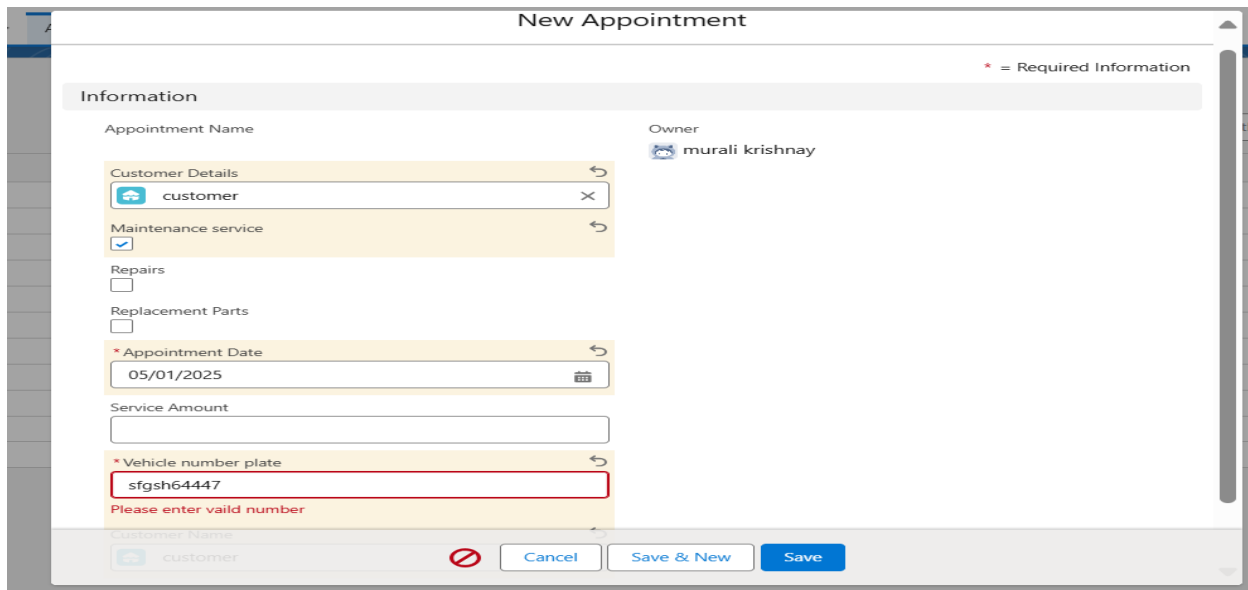
This record looks like an existing record. Make sure to check any potential duplicate records before saving.

View Duplicates

Cancel Save & New Save

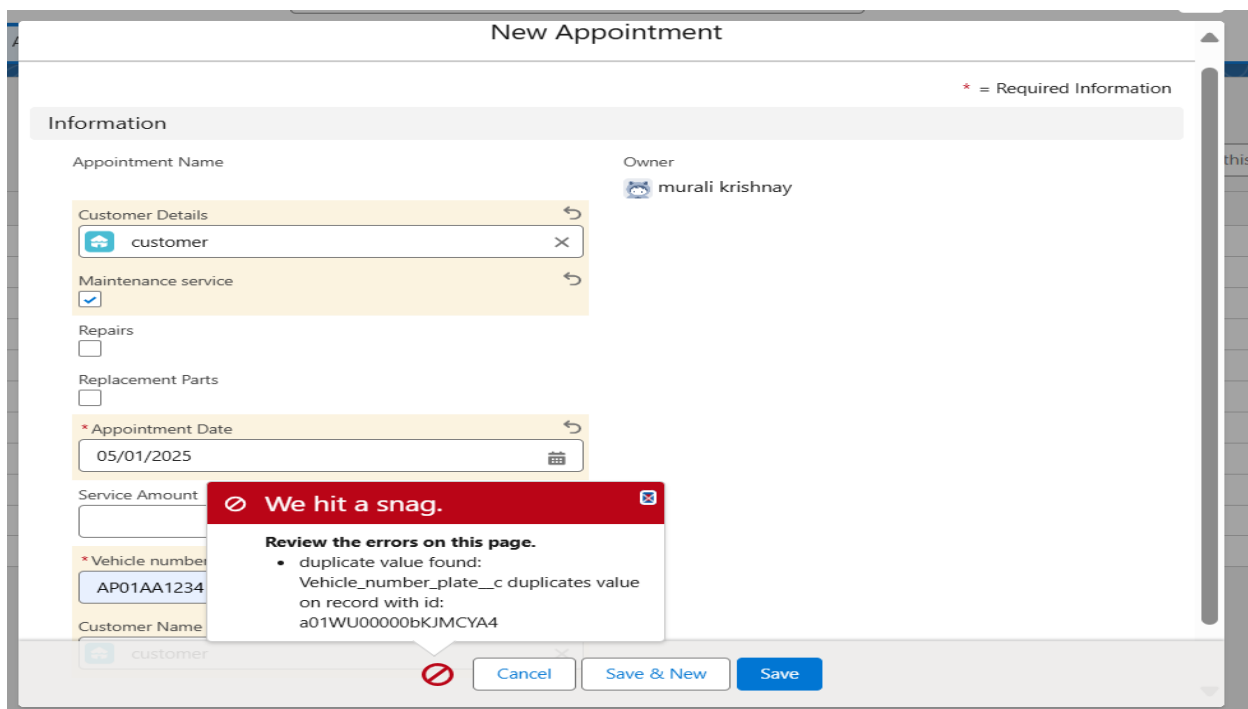
## 3. Validating Number Plate Number

The validation of a **License plate Number** ensures data integrity by enforcing specific formats or patterns during data entry. Here's how you can create and validate a validation rule for the **License plate Number** field.



## Validating Duplicate Number Plate

To prevent duplicate **License plate Numbers**, you can use a **Duplicate Rule** in Salesforce. This ensures that no two records can have the same value for the **License plate Number** field.



## Validating Proper Creation of a Record

Validation ensures that records are created accurately and adhere to the business rules defined in your system. Here's how to validate the proper creation of records in

## Salesforce

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

Customer Details **customer1** ✓ Customer Details "customer1" was created. ✕

Related **Details**

Customer Name  
customer1

Phone number  
7995971479

Gmail  
customer@gmail.com

Owner  
murali krishnay

Created By  
murali krishnay, 06/01/2025, 8:59 am

Last Modified By  
murali krishnay, 06/01/2025, 8:59 am

---

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

Appointment **app-015** ✓ Appointment "app-015" was created. ✕ New Contact Edit New Opportunity

Related **Details**

Appointment Name  
app-015

Customer Details  
customer1

Maintenance service  
☐

Repairs  
☒

Replacement Parts  
☐

Appointment Date  
05/01/2025

Service Amount  
₹3,000

Vehicle number plate  
AP01AA1211

Customer Name  
customer1

Owner  
murali krishnay

Created By  
murali krishnay, 06/01/2025, 9:00 am

Last Modified By  
murali krishnay, 06/01/2025, 9:00 am

---

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

Service records **Recently Viewed** 7 items • Updated a few seconds ago

1 ☐ ser-008

2 ☐ ser-007

3 ☐ ser-006

4 ☐ ser-005

5 ☐ ser-004

6 ☐ ser-002

7 ☐ ser-003

**New Service records**

Information

Service records Name


Quality Check Status  
☒

Service Status  
Completed

\* Appointment  
app-015

Owner  
murali krishnay

Cancel Save & New Save




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

Service records
**ser-009**

Service records "ser-009" was created.

Related
Details

Service records Name  
**ser-009**


Owner  
 murali krishnay


Quality Check Status  
☒


Service Status  
Completed

service date  
06/01/2025

Appointment  
app-015

Created By  
 murali krishnay, 06/01/2025, 9:01 am

Last Modified By  
 murali krishnay, 06/01/2025, 9:01 am




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


Billing details and feedback
Recently Viewed
6 items • Updated a few seconds ago

1
2
3
4
5
6

☐ bill-006
☐ bill-005
☐ bill-004
☐ bill-003
☐ bill-002
☐ bill-001

☐ Billing details and feedback Name

Billing details and feedback Name
Owner  
 murali krishnay

Service records  
 ser-009

\* Rating for service  
5

Payment Status  
Completed

Payment Paid

Cancel
Save & New
Save

13

Garage Managemen...

Customer Details

Appointments

Service records

Billing details and feedback

Reports

Dashboards

Billing details and feedback

bill-007

Billing details and feedback "bill-007" was created.

Related

Details

Billing details and feedback Name

bill-007

Owner

murali.krishnay

Service records

ser-009

Rating for service

5

Payment Status

Completed

Payment Paid

₹3,000

Created By

murali.krishnay, 06/01/2025, 9:02 am

Last Modified By

murali.krishnay, 06/01/2025, 9:02 am

Report: Service Information

New Service Information Report

Enable Field Editing

Edit

2

₹5,000

Sum of Payment Paid

Rating for service

4

Rating for service

5

Sum of Payment Paid

3,000

100% of 50

Rating for service

Payment Status

Customer Name

Appointment Date

Payment Paid

Service Status

4 (1)

Completed (1)

customer

05/01/2025

₹2,000

Completed

Subtotal

₹2,000

Subtotal

₹2,000

5 (1)

Completed (1)

customer1

05/01/2025

₹3,000

Completed

Subtotal

₹3,000

Subtotal

₹3,000

Total (2)

₹5,000

Row Counts

Detail Rows

Subtotals

Grand Total

Garage Managemen...

Customer Details

Appointments

Service records

Billing details and feedback

Reports

Dashboards

Dashboard

Customer Review

Refresh

Edit

Subscribe

Last refreshed 1 day ago. Refresh this dashboard to see the latest data.

As of 06-Jan-2025, 3:00 pm-Viewing as murali.krishnay

New Service information Report

Sum of Payment Paid

Payment Status

Completed

₹3k

₹2k

₹1k

₹0

4

5

Rating for service

View Report (New Service Information Report)

## 6. Conclusion

### 1. Summary of Achievements

#### 1. Streamlined Record Management:

Successfully implemented a system for managing customer details, billing information, and feedback. The robust use of validation and duplicate rules ensures data integrity and consistency.

#### 2. Enhanced Business Logic:

Developed and deployed Apex classes, triggers, and flows to automate critical business processes, such as:

- Automatic service amount distribution based on selected customer services.
- Real-time email alerts to customers upon payment completion.

#### 3. Improved Data Accuracy:

- Validation rules ensure fields like ratings and number plates adhere to specific formats and constraints.
- Matching and duplicate rules prevent redundant entries for critical identifiers like email and phone numbers.

#### 4. User-Friendly Interface:

Designed an intuitive user interface for seamless interaction with Salesforce objects.

This includes:

- Proper layouts for billing details, feedback, and customer records.
- Easy-to-navigate forms with built-in validation for error-free data entry.

#### 5. Testing and Validation:

Comprehensive testing conducted for:

- Apex classes and triggers to ensure smooth execution of business logic.
- UI components to confirm compliance with functional requirements.
- Validation rules to maintain data quality across the system.

#### 6. Scalable Solution:

- Leveraged Salesforce features like matching rules, validation rules, flows, and Apex to build a scalable and efficient solution.
- Ensured that the design accommodates future growth and additional requirements.

### 2. Key Benefits Delivered

- **Operational Efficiency:** Automated workflows reduce manual intervention and improve process accuracy.
- **Data Integrity:** Validation and duplicate rules ensured high-quality, reliable data.
- **Customer Satisfaction:** Real-time communication and accurate service tracking improved the overall customer experience.
- **Seamless Collaboration:** Role-based access and permissions allowed efficient collaboration among team members.

#### Future Scope

- Explore the integration of additional Salesforce features like Lightning Web Components for enhanced UI.
- Implement advanced analytics and dashboards for deeper business insights.
- Incorporate AI-based automation for predictive analytics and customer support.