

Garage Management System

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1. Project Overview

The Garage Management System is a valuable tool for automotive repair facilities, helping them deliver top-notch service, increase operational efficiency, and build lasting customer relationships. With its user-friendly interface and powerful features, GMS empowers garages to thrive in a competitive market while ensuring a seamless and satisfying experience for both customers and staff.

2. Objectives

Business Goals:

- a. Enhance customer satisfaction by providing a seamless experience.
- b. Improve operational efficiency by automating scheduling, service tracking, and payment processes.
- c. Centralize data for better decision-making and reporting.

Specific Outcomes:

- a. Implement a digital solution for managing customer details, appointments, service records, and billing.
- b. Provide real-time insights through reports and dashboards.
- c. Automate workflows to reduce manual effort and errors.

3. Salesforce Key Features and Concepts Utilized

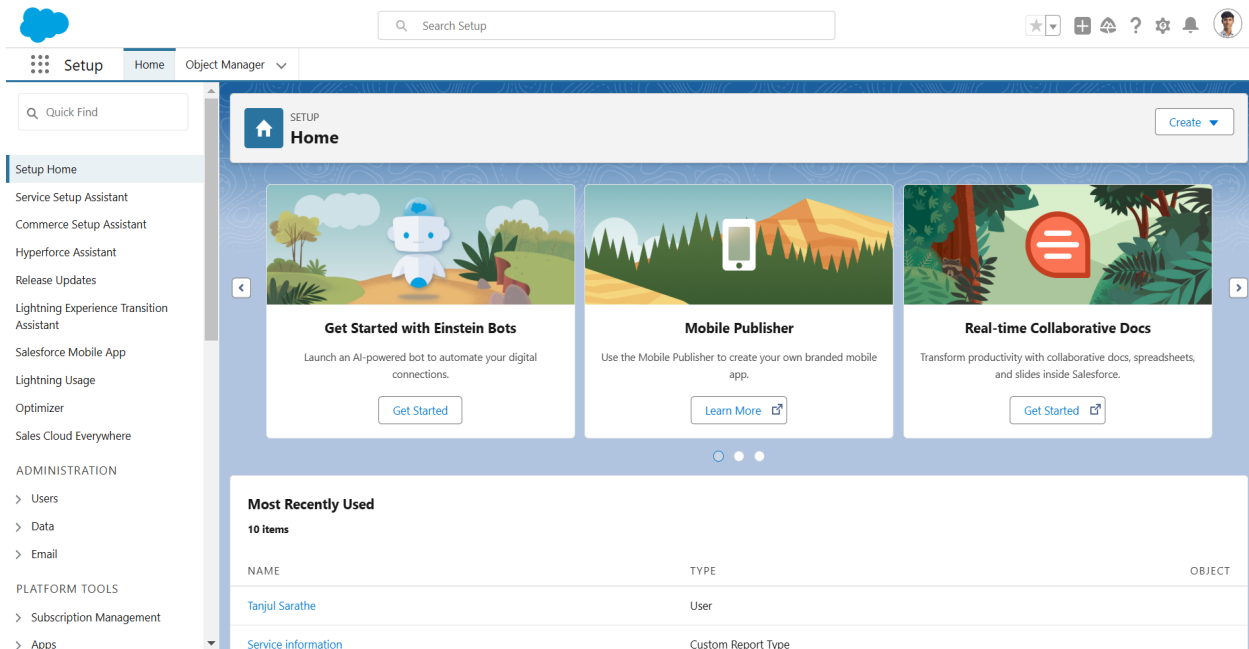
- a. **Custom Objects:** Customer Details, Appointments, Service Records, Billing Details & Feedback.
- b. **Custom Tabs:** User-friendly navigation for accessing key objects.
- c. **Lightning App:** Centralized access to essential tools for the garage management process.
- d. **Custom Fields:** Multiple field types like lookup, picklist, checkbox, and formula fields to ensure robust data capture.
- e. **Validation Rules:** Enforced data integrity and error prevention.
- f. **Profiles & Roles:** Role-based access control for managers and salespersons.
- g. **Public Groups:** Simplified team-based access to records.
- h. **Flows:** Automation of record updates and email alerts.
- i. **Apex Triggers:** Automated calculation of service amounts.
- j. **Reports & Dashboards:** Data visualization and performance tracking.

4. Detailed Steps to Solution Design

Step 1: Creating the Developer Account

1. **Sign Up** at Salesforce Developer Signup.
2. **Fill in details:** Name, email, role as 'Developer', and company as 'College Name'.
3. **Username** format: username@organization.com. (eg.- tanjul@vitbhopal.com)
4. **Activate the account** through the email link.

---> Your Setup page would look like this:



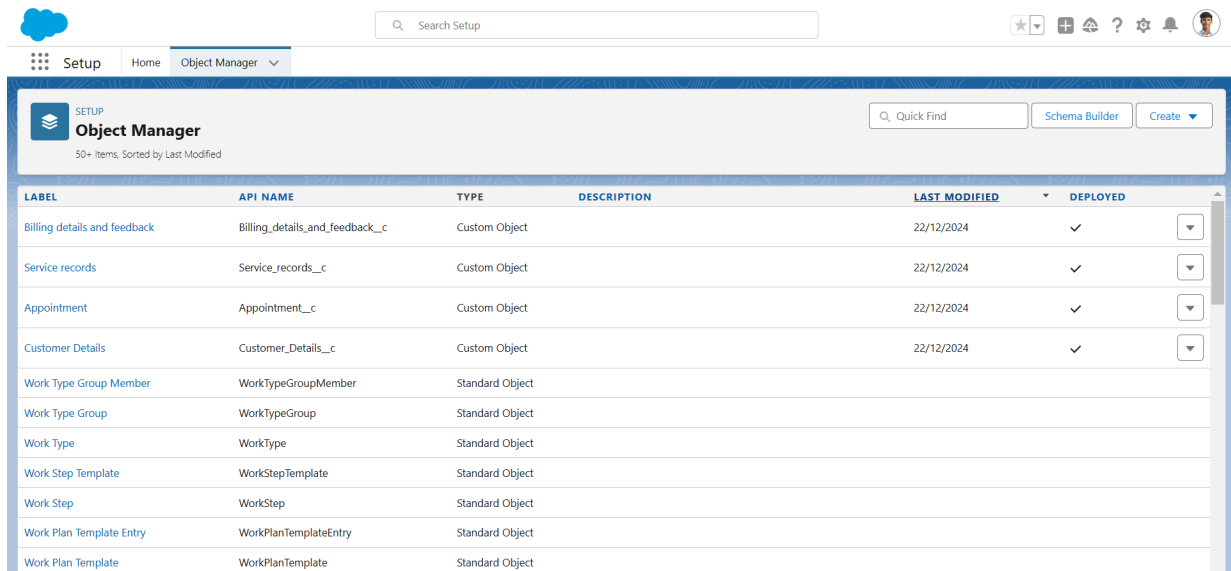
Step 2: Creating Custom Objects

1. To Navigate to Setup page: Click on gear icon ? click setup.
2. To create an object: From the setup page > Click on Object Manager > Click on Create > Click on Custom Object.
3. On Custom object defining page: Enter the label name, plural label name, click on Allow reports, Allow search.
4. Click on Save.

For our project we need to create four objects

- **CustomerDetails:** Text-based customer names with search and report options.
- **Appointment:** Auto-numbering system with fields like appointment name and display format.

- **Service Records:** Auto-numbered service records with fields for tracking service status.
- **BillingDetails & Feedback:** Auto-numbered billing records with fields for payment tracking and feedback.



The screenshot shows the Salesforce Object Manager interface. At the top, there's a navigation bar with 'Setup', 'Home', and 'Object Manager' tabs. Below this, a search bar and a 'Quick Find' button are visible. The main area displays a table of objects, sorted by 'Last Modified'.

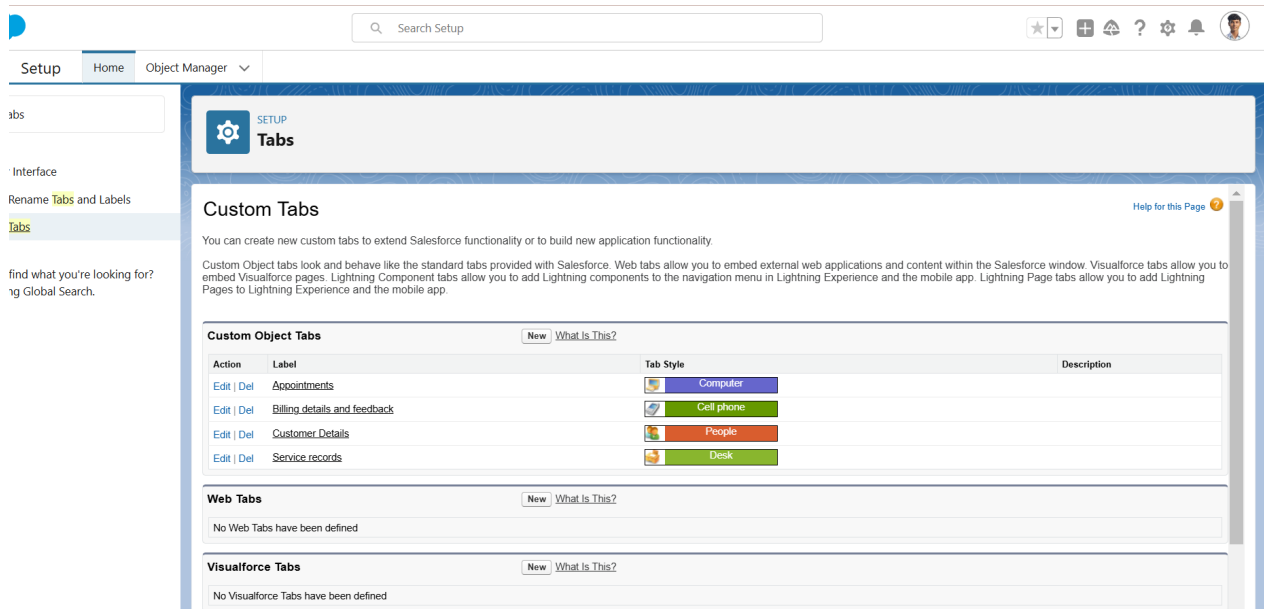
LABEL	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED
Billing details and feedback	Billing_details_and_feedback__c	Custom Object		22/12/2024	✓
Service records	Service_records__c	Custom Object		22/12/2024	✓
Appointment	Appointment__c	Custom Object		22/12/2024	✓
Customer Details	Customer_Details__c	Custom Object		22/12/2024	✓
Work Type Group Member	WorkTypeGroupMember	Standard Object			
Work Type Group	WorkTypeGroup	Standard Object			
Work Type	WorkType	Standard Object			
Work Step Template	WorkStepTemplate	Standard Object			
Work Step	WorkStep	Standard Object			
Work Plan Template Entry	WorkPlanTemplateEntry	Standard Object			
Work Plan Template	WorkPlanTemplate	Standard Object			

Step 3: Custom Tabs

- Custom tabs for **Customer Details, Appointments, Service Records, and BillingDetails & Feedback.**
- Tabs are displayed for easy navigation and user access.

I followed these 4 steps to create all required custom tab

- Go to setup page >> type Tabs in Quick Find bar >> click on tabs >> New (under custom object tab).
- Select Object (Customer Details) >> Select the tab style >> Next (Add to profiles page) keep it as default >> Next (Add to CustomApp) uncheck the include tab.
- Make sure that the Append tab to users' existing personal customizations is checked.
- Click save.



Step 4: Building the Lightning App

1. **Name:** Garage Management Application.
2. **Navigation Items:** Customer Details, Appointments, Service Records, Billing, Reports, and Dashboards.
3. **User Profiles:** Assign access to the System Administrator role.

To create a lightning app page:

1. Go to setup page >> search "app manager" in quick find >> select "app manager" >> click on New lightning App.
2. Fill the app name in app details as Garage Management Application >> Next >> (App option page) keep it as default >> Next >> (Utility Items) keep it as default >> Next.
3. To Add Navigation Items
4. Select the items (Customer Details, Appointments, Service records, Billing details and feedback, Reports and Dashboards) from the searchbar and move it using the arrow button >> Next.
5. To Add User Profiles: Search profiles (System administrator) in the searchbar >> click on the arrow button >> save & finish.

Search Setup

Setup Home Object Manager

app manager

Apps

App Manager

External Client Apps

External Client App Manager

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

SETUP Lightning Experience App Manager

New Lightning App New Connected App

24 items • Sorted by App Name • Filtered by All appmenuitems - TabSet Type, App Type

	App Name ↑	Developer Name	Description	Last Modified ...	Ap...	Vi...
6	Business Rules Engine	ExpressionSetConsole	Create and maintain business rules that perform complex lookups and cal...	21/12/2024, 9:15 pm	Lightning	✓
7	Community	Community	Salesforce CRM Communities	21/12/2024, 9:15 pm	Classic	✓
8	Content	Content	Salesforce CRM Content	21/12/2024, 9:15 pm	Classic	✓
9	Data Manager	DataManager	Use Data Manager to view limits, monitor usage, and manage recipes.	21/12/2024, 9:15 pm	Lightning	✓
10	Digital Experiences	SalesforceCMS	Manage content and media for all of your sites.	21/12/2024, 9:15 pm	Lightning	✓
11	Garage Management Syste...	Garage_Management_Syste...		22/12/2024, 1:12 am	Lightning	✓
12	Lightning Usage App	LightningInstrumentation	View Adoption and Usage Metrics for Lightning Experience	21/12/2024, 9:15 pm	Lightning	✓
13	Marketing CRM Classic	Marketing	Track sales and marketing efforts with CRM objects.	21/12/2024, 9:15 pm	Classic	✓
14	Platform	Platform	The fundamental Lightning Platform	21/12/2024, 9:15 pm	Classic	✓
15	Queue Management	QueueManagement	Create and manage queues for your business.	21/12/2024, 9:15 pm	Lightning	✓
16	Sales	Sales	The world's most popular sales force automation (SFA) solution	21/12/2024, 9:15 pm	Classic	✓
17	Sales	LightningSales	Manage your sales process with accounts, leads, opportunities, and more	21/12/2024, 9:15 pm	Lightning	✓
18	Sales Console	LightningSalesConsole	(Lightning Experience) Lets sales reps work with multiple records on one s...	21/12/2024, 9:15 pm	Lightning	✓
19	Salesforce Chatter	Chatter	The Salesforce Chatter social network, including profiles and feeds	21/12/2024, 9:15 pm	Classic	✓

Step 5: Creating Custom Fields

a. Customer Details: Phone and email fields.

1. To create fields in an object:

- Go to setup >> click on Object Manager >> type object name(Customer Details) in search bar >> click on the object.
- Now click on "Fields & Relationships" >> New
- Select Data Type as a "Phone"
- Click on next.
- Fill the Above as following:
 - Field Label: Phone number
 - Field Name: gets auto generated
- Click on Next >> Next >> Save and new.

2. To create another fields in an object:

- Go to setup >> click on Object Manager >> type object name (Customer Details) in search bar >> click on the object.
- Now click on "Fields & Relationships" >> New
- Select Data type as a "Email" and Click on Next
- Fill the Above as following:
 - Field Label: Gmail
 - Field Name: gets auto generated
- Click on Next >> Next >> Save and new.

SETUP > OBJECT MANAGER

Customer Details

Details

Fields & Relationships
6 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)		
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		

Left sidebar menu: 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.

- b. **Lookup Fields:** Link Appointments to Customers, ServiceRecords to Appointments, and Billing Details to Service Records.
- c. **PicklistFields:** Service status(Started, Completed) and payment status(Pending, Completed).
- d. **Formula Fields:** Calculate service date from createddate.
- e. **Text Fields:** Vehiclenumber plate (10 characters, unique)and customer feedbackrating (1 character).

Appointments - all fields & relationship:

SETUP > OBJECT MANAGER

Appointment

Details

Fields & Relationships
11 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)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Maintenance service	Maintenance_service__c	Checkbox		
Owner	OwnerId	Lookup(User,Group)		✓
Repairs	Repairs__c	Checkbox		
Replacement Parts	Replacement_Parts__c	Checkbox		
Service Amount	Service_Amount__c	Currency(18, 0)		
Vehicle number plate	Vehicle_number_plate__c	Text(10) (Unique Case Insensitive)		✓

Left sidebar menu: 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.

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		

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)		✓

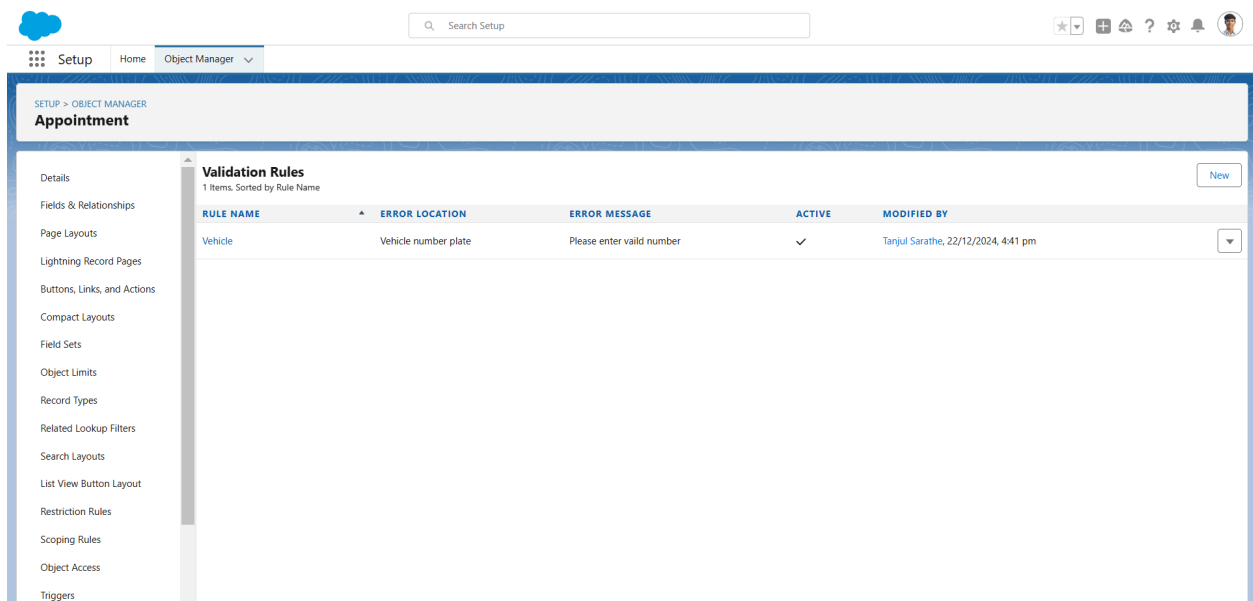
Step 6: Validation Rules

Validation rules are applied when a user tries to save a record and are used to check if the data meets specified criteria. If the criteria are not met, the validation rule triggers an error message and prevents the user from saving the record until the issues are resolved.

- Vehicle NumberPlate:** Must follow a format (e.g., MH12AB1234).

To create a validation rule to an Appointment Object

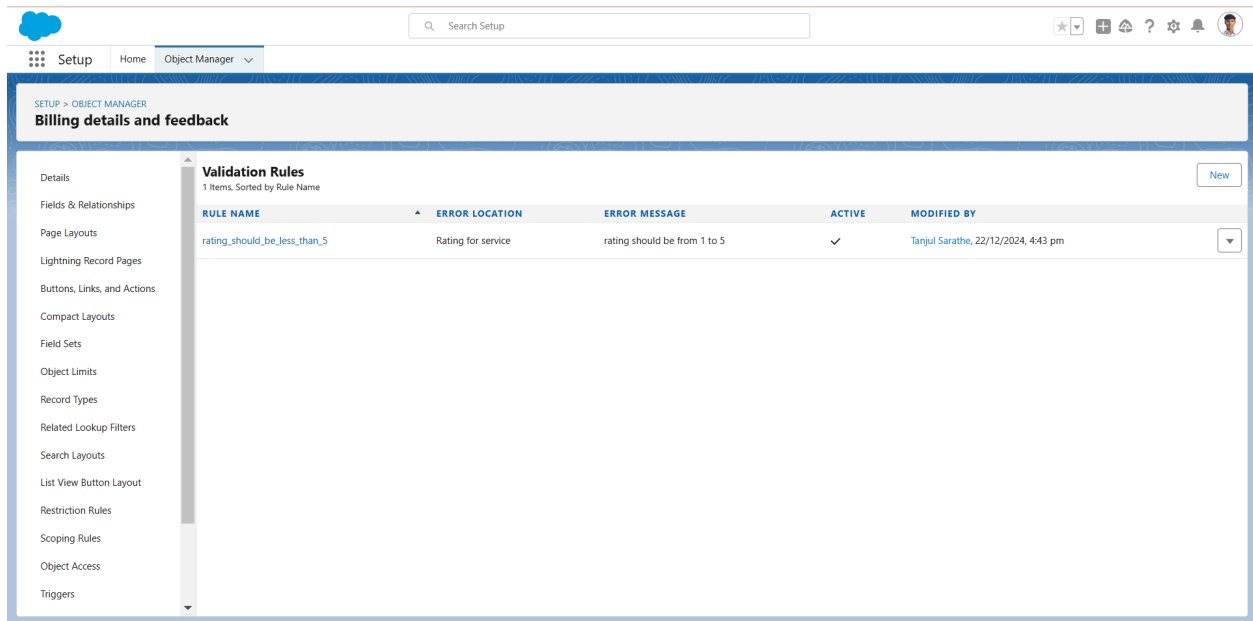
1. Go to the setup page >> click on objectmanager >> From drop down click edit for Appointment object.
2. Click on the validation rule >> click New.
3. Enter the Rule name as “ Vehicle ”.
4. Insert the Error Condition Formula as : -
`NOT(REGEX(Vehicle_number_plate__c , "[A-Z]{2}[0-9]{2}[A-Z]{2}[0-9]{4}"))`.
5. Enter the Error Message as “Please enter valid number ”, select the Error location as Field and select the field as “Vehicle numberplate”, and click Save.



- **Service Status:** Must be set to "Completed" before record can be saved.
- **Rating:** Customer service rating must be between 1 and 5.

To create a validation rule to an Billing details and feedback Object

1. Go to the setup page >> click on object manager >> From drop down click edit for Billing details and feedback object.
2. Click on the validation rule >> click New.
3. Enter the Rule name as “ rating_should_be_less_than_5 ”.
4. Insert the Error Condition Formula as : -
`NOT(REGEX(Rating_for_service__c , "[1-5]{1}"))`
5. Enter the Error Message as “rating should be from 1 to 5”, select the Error location as Field and select the field as “Rating for Service”, and click Save.



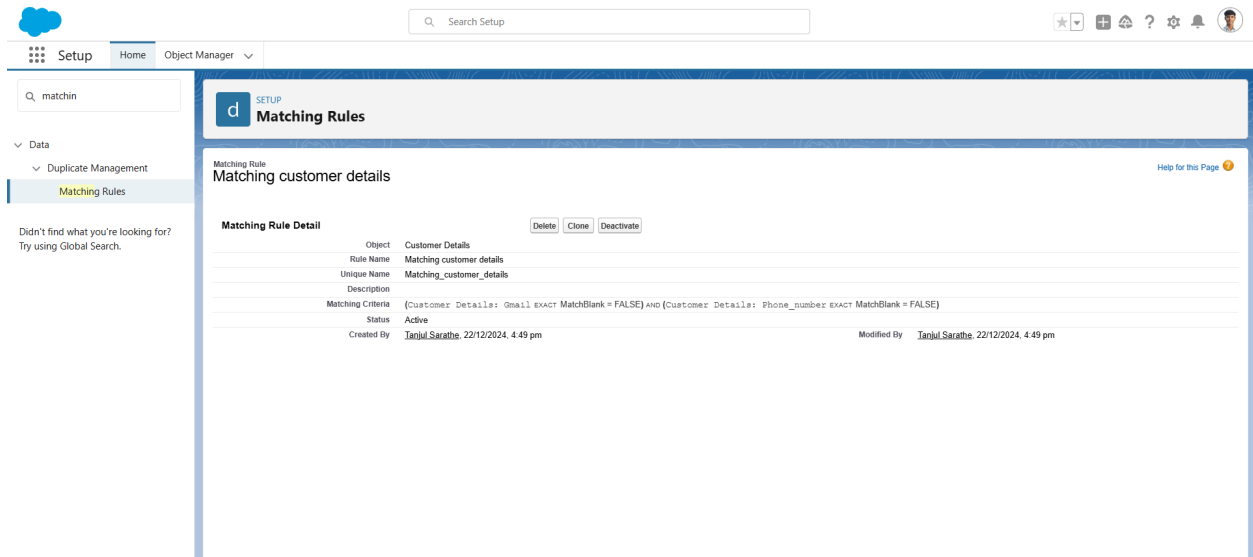
Step 7: Duplicate Rules

- **MatchingRule:** Checks Gmail and phone number to identify duplicate customer details.

To create a matching rule to an Customer details Object

1. Go to quickfind box in setup and search for matching Rule.
2. Click on matching rule >> click on New Rule.
3. Select the object as Customer details and click Next.
4. Give the Rule name : Matching customer details
5. Unique name : is auto populated
6. Define the matching criteria as
7.

Field	Matching Method
a. Gmail	Exact
b. Phone Number	Exact
8. Click save.
9. After Saving Click on Activate.



- **DuplicateRule:** Prevents duplicate customer records.

To create a Duplicate rule to an Customer details Object

1. Go to quick find box in setup and search for Duplicate rules.
2. Click on Duplicate rule >> click on New Rule >> select customer details object.
3. Give the Rule name as: CustomerDetailduplicate
4. Scroll a little in Matching rule section
5. Select the matching rule : Matching customer details
6. And Click on save.
7. After saving the Duplicate Rule, Click on Activate.

Setup

Home

Object Manager

Star

Share

Help

Settings

Notifications

User Avatar

Data

Duplicate Management

Duplicate Error Logs

Duplicate Rules

Matching Rules

Didn't find what you're looking for?

Try using Global Search.

SETUP

Duplicate Rules

Customer Details Duplicate Rule

Customer Detail duplicate

Help for this Page

Duplicate Rule Detail

Edit

Delete

Clone

Deactivate

Order

1 of 1

Reorder

Rule Name	Customer Detail duplicate	
Description	Customer Details	
Object	Enforce sharing rules	
Record-Level Security	Allow	
Action On Create	Allow	Operations On Create <input checked="" type="checkbox"/> Alert <input checked="" type="checkbox"/> Report
Action On Edit	Allow	Operations On Edit <input type="checkbox"/> Alert <input type="checkbox"/> Report
Alert Text	Use one of these records?	
Active	<input checked="" type="checkbox"/>	
Matching Rule	<input checked="" type="checkbox"/> Matching customer details <input checked="" type="checkbox"/> Mapped	
Matching Criteria	(Customer Details: Gmail EXACT MatchBlank = FALSE) AND (Customer Details: Phone_number EXACT MatchBlank = FALSE)	
Conditions		
Created By	Tanjul Sarath, 22/12/2024, 4:52 pm	Modified By Tanjul Sarath, 22/12/2024, 4:52 pm

Edit

Delete

Clone

Deactivate

Step 8: Profiles

- ManagerProfile:** Access to all customobjects with extendedsession time and password settings.

Setup

Home

Object Manager

Star

Share

Help

Settings

Notifications

User Avatar

Users

Profiles

Didn't find what you're looking for?

Try using Global Search.

SETUP

Profiles

Profile

Manager

Help for this Page

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.

If your organization uses Record Types, use the Edit links in the Record Type Settings section below to make one or more record types available to users with this profile.

Login IP Ranges

Enabled Apex Class Access

Enabled Visualforce Page Access

Enabled External Data Source Access

Enabled Named Credential Access

Enabled External Credential Principal Access

Enabled Custom Metadata Type Access

Enabled Custom Setting Definitions Access

Enabled Flow Access

Enabled Service Presence Status Access

Enabled Custom Permissions

Profile Detail

Edit

Clone

Delete

View Users

Name	Manager	
User License	Salesforce	Custom Profile <input checked="" type="checkbox"/>
Description		
Created By	Tanjul Sarath, 22/12/2024, 5:18 pm	Modified By Tanjul Sarath, 22/12/2024, 6:13 pm

Page Layouts

Standard Object Layouts	Global	Global Layout [View Assignment]	Invoice	Invoice Layout [View Assignment]
	Email Application	Not Assigned [View Assignment]	Invoice Line	Invoice Line Layout [View Assignment]
	Home Page Layout	DE Default [View Assignment]	Lead	Lead Layout [View Assignment]
	Account	Account Layout [View Assignment]	Legal Entity	Legal Entity Layout [View Assignment]
	Alternative Payment Method	Alternative Payment Method Layout [View Assignment]	Location	Location Layout [View Assignment]
	Appointment Invitation	Appointment Invitation Layout [View Assignment]	Location Group	Location Group Layout [View Assignment]
	Asset	Asset Layout [View Assignment]	Location Group Assignment	Location Group Assignment Layout [View Assignment]

13

- **Sales Person Profile:** Limited accessto objects with tailored permissions.

The screenshot shows the Salesforce Setup interface for the 'sales person' profile. The left sidebar includes 'Setup', 'Home', and 'Object Manager'. The main content area is titled 'Profiles' and shows the 'sales person' profile details. It includes a search bar for profiles, a list of users, and a table of page layouts. The 'Profile Detail' section shows the profile name, user license, description, and creation/modification dates. The 'Page Layouts' section shows a table of layouts for various objects, including Global, Email Application, Home Page Layout, Account, Alternative Payment Method, Appointment Invitation, Asset, and Asset Relationship.

Step 9: Roles and Role Hierarchy

A role in Salesforce defines a user's visibility access at the record level. Roles may be used to specify the types of access that people in your Salesforce organization can have to data. Simply put, it describes what a user could see within the Salesforce organization.

- a. **Manager Role:** Directly under the CEO.

Creating ManagerRole:

1. Go to quick find >> Search for Roles >> click on set up roles.
2. Click on ExpandAll and click on add role under whom this role works.
3. Give Label as "Manager" and Role name gets auto populated. Then click on Save.

- a. **Sales PersonRole:** Reports to the Managerrole.

Creating anothertwo roles under manager

1. Go to quick find >> Search for Roles >> click on set up roles.
2. Click plus on CEO role, and click add role under manager.
3. Give Label as "sales person" and Role name gets auto populated. Then click on Save.

The screenshot shows the Salesforce Setup interface for Roles. The left sidebar contains a search bar and a navigation menu with categories like Users, Roles, Feature Settings, Sales, Service, and Case Teams. The main content area is titled 'Roles' and 'Creating the Role Hierarchy'. It displays a hierarchical tree structure for 'Your Organization's Role Hierarchy' under the 'VIT Bhopal' organization. The hierarchy starts with 'VIT Bhopal' 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 and links for 'Edit', 'Del', and 'Assign'. A 'Show in tree view' button is also present.

Step 10: Users

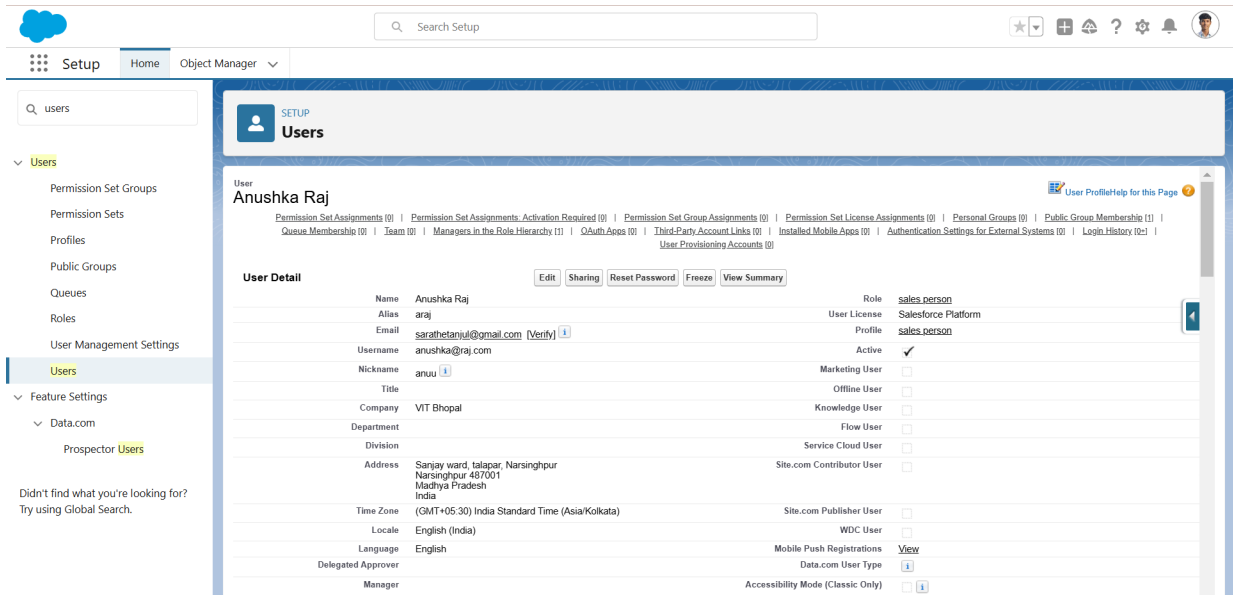
A user is anyone who logs in to Salesforce. Users are employees at your company, such as sales reps, managers, and IT specialists, who need access to the company's records. Every user in

Salesforce has a user account. The user account identifies the user, and the user account settings determine what features and records the user can access.

a. Manager User: Role as Manager, Profile as Manager, Salesforce license.

The screenshot shows the Salesforce Setup interface for Users. The left sidebar contains a search bar and a navigation menu with categories like Users, Permission Set Groups, Permission Sets, Profiles, Public Groups, Queues, Roles, and User Management Settings. The main content area is titled 'Users' and shows the 'User Detail' for 'Niklaus Mikaelson'. The user's details are displayed in a table format, including Name, Alias, Email, Username, Nickname, Title, Company, Department, Division, Address, Time Zone, Locale, Language, Delegated Approver, Role, User License, Profile, Active, Marketing User, Offline User, Knowledge User, Flow User, Service Cloud User, Site.com Contributor User, Site.com Publisher User, WDC User, Mobile Push Registrations, Data.com User Type, and Accessibility Mode (Classic Only). The user is currently assigned the 'Manager' role and 'Manager' profile.

- **Sales Person Users:** Role as SalesPerson, Profile as Sales Person,Salesforce Platform license.



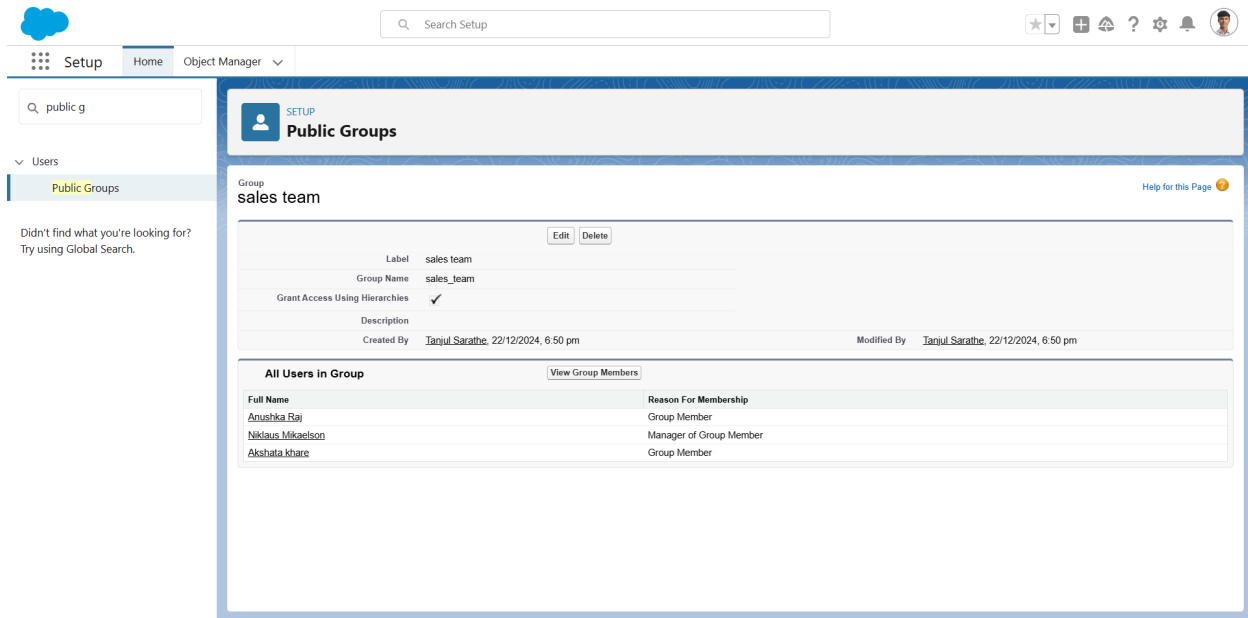
Step 11: Public Groups

Public groups are a valuable tool for Salesforce administrators and developers to streamline user management, data access, and security settings. By creating and using public groups effectively, you can maintain a secure and organized Salesforce environment while ensuring that users have appropriate access to the resources they need.

- Sales Team Group:** Contains all Sales Person roles for sharing access.

Creating New Public Group

1. Go to setup >> type users in quick find box >> select public groups >> click New.
2. Give the Label as "sales team".
3. Group name is autopopulated.
4. Search for Roles.
5. In Available Members select Sales person and click on add it will be moved to selected member.
6. Click on save.

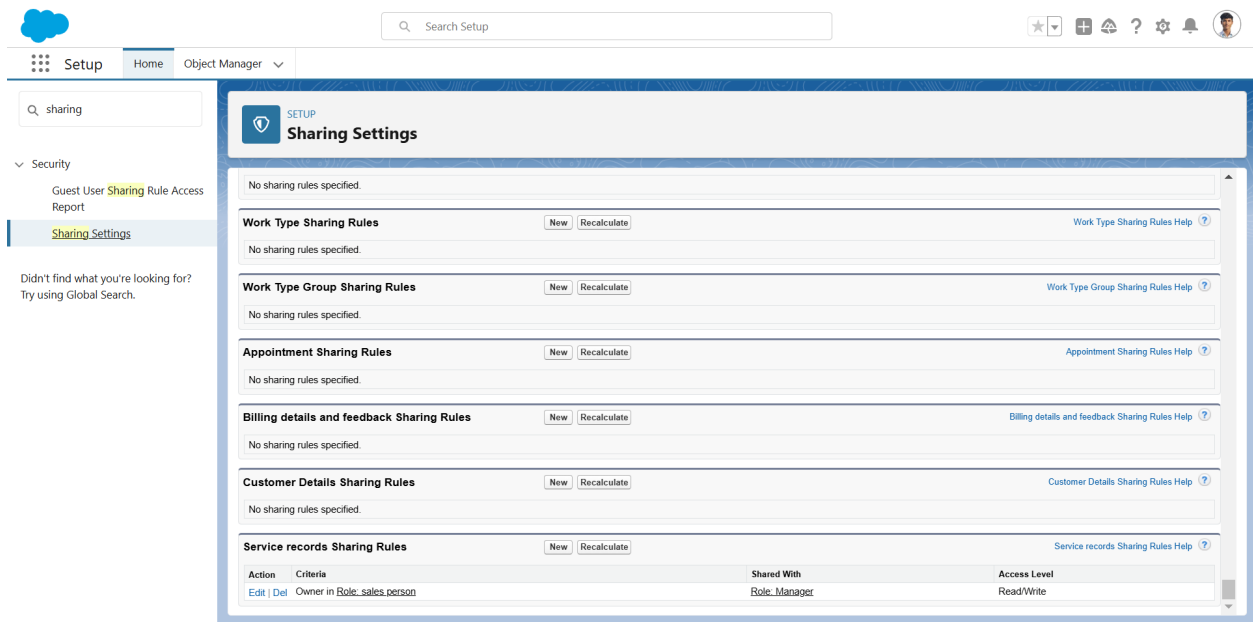


Step 12: Sharing Settings

- **Service RecordsOWD:** Set to Private.
- **Sharing Rule:** Grants read/write access to Manager for Sales Person's service records.

Creating Sharing settings

1. Go to setup >> type users in quick find box >> select Sharing Settings >> click Edit.
2. Change the OWD setting of the Servicerecords Object to private as shown in fig.
3. Click on save and refresh.
4. Scroll down a bit, Clicknew on Service records sharingRules.
 1. Give the Label name as " Sharing setting"
 2. Rule name is auto populated.
 3. In step 3 : Select which recordsto be shared, members of " Roles" >> " Sales person"
 4. In step4: sharewith, select" Roles" >> " Manager "
 5. In step 5 : Change the access level to " Read / write ".
 6. Click on save.



Step 13: Flows

In Salesforce, a flow is a powerful tool that allows you to automate business processes, collect and update data, and guide users through a series of screens or steps. Flows are built using a visual interface and can be created without any coding knowledge.

- Record-Triggered Flow:** Automates updates and email alerts for billing completion.
- Under the Record-triggered Flow Click on “+” Symbol and In the Drop down List select the “Update records Element”

Flow Builder: Billing Amount Flow - V1

Last saved on 22/12/2024, 07:32 pm

Active Run Debug View Tests Save As New Version Save Deactivate

Select Elements

Auto-Layout

Record-Triggered Flow Start

Run Immediately

Amount Update Update Records

Email Alert Action

End

Update Records

* Label: Amount Update

* API Name: Amount_Update

Description:

* How to Find Records to Update and Set Their Values

- ☒ Use the billing details and feedback record that triggered the flow
- ☐ Update records related to the billing details and feedback record that triggered the flow
- ☐ Use the IDs and all field values from a record or record collection
- ☐ Specify conditions to identify records, and set fields individually

Set Filter Conditions

Condition Requirements to Update Record: All Conditions Are Met (AND)

Field: Payment_Status__c Operator: Equals Value: Completed

+ Add Condition

Set Field Values for the Billing details and feedback Record

Field: Payment_Paid__c Value: \$Record > Service records > Appointment > S...

Email Alert: Sends a "Thank you" message when payments are completed.

Flow Builder: Billing Amount Flow - V1

Last saved on 22/12/2024, 07:32 pm

Active Run Debug View Tests Save As New Version Save Deactivate

Select Elements

Auto-Layout

Record-Triggered Flow Start

Run Immediately

Amount Update Update Records

Email Alert Action

End

Send Email

* Label: Email Alert

* API Name: Email_Alert

Description:

Send Email emailSimple-emailSimple

Use values from earlier in the flow to set the inputs for the "Send Email" core action. To use its outputs later in the flow, store them in variables.

Set Input Values for the Selected Action

☐ Add Threading Token to Body Not Included

☐ Add Threading Token to Subject Not Included

☐ BCC Recipient Address List Not Included

☒ Body Included

Body: alert

- **Another Flow - Update Service Status**

Step 14: Apex Triggers

Apex can be invoked by using triggers. Apex triggers enable you to perform custom actions before or after changes to Salesforce records, such as insertions, updates, or deletions.

- **HandlerClass (AmountDistributionHandler):** Calculates service amounts based on selected services.

Code:

"AccountDistributionHandler.apxc"

```
1 public class AmountDistributionHandler {
2     public static void amountDist(list<Appointment c> listApp){
3         list<Service_records c> serList= new
4         list<Service_records c>();
5         for(Appointment c app : listApp){
6             if(app.Maintenance_service c == true
7             &&app.Repairs c == true && app.Replacement_Parts c == true){
8                 app.Service_Amount c = 10000;
9             }
10            else if(app.Maintenance_service c == true
11            &&app.Repairs c == true){
12                app.Service_Amount c = 5000;
13            }
14            else if(app.Maintenance_service c ==
15            true &&app.Replacement_Parts c == true){
16                app.Service_Amount c = 8000;
17            }
18            else if(app.Repairs c == true
19            &&app.Replacement_Parts c == true){
20                app.Service_Amount c = 7000;
21            }
22            else if(app.Maintenance_service c
```

```

== true){
17             app.Service_Amount c = 2000;
18         }
19         else if(app.Repairs c == true){
20             app.Service_Amount c = 3000;
21         }
22         else if(app.Replacement_Parts c ==
true){
23             app.Service_Amount c = 5000;
24         }
25 }
26     }
27 }

```

- **Trigger(AmountDistribution):** Runs on appointment insert or update to update service amounts.

Code:

"AmountDistribution.apxt"

```

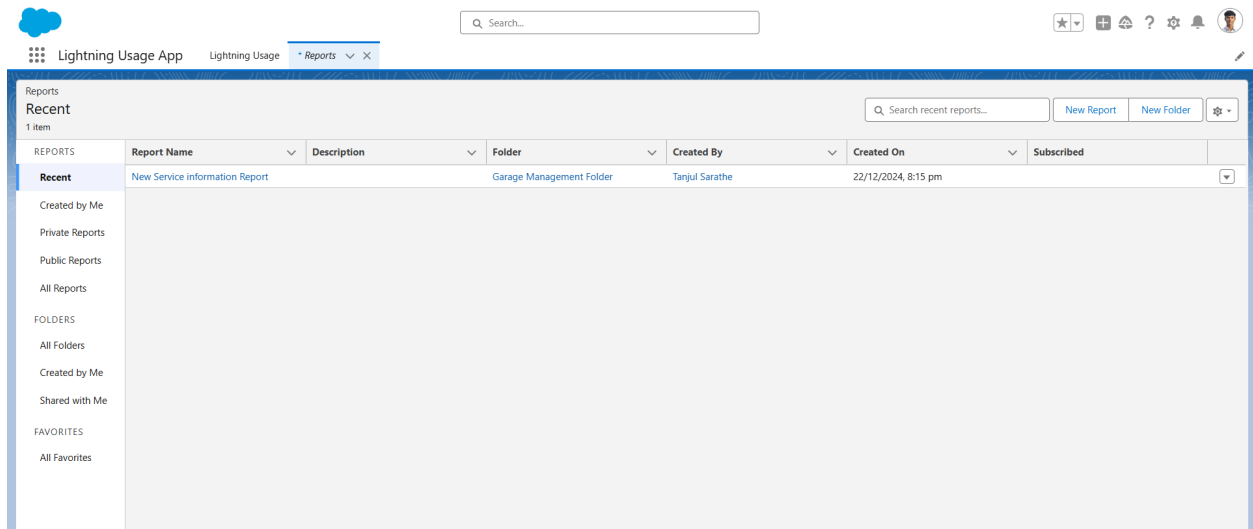
1  trigger AmountDistribution on Appointment__c (before
   insert,beforeupdate) {
2      if(trigger.isbefore && trigger.isinsert ||
   trigger.isupdate){
3          AmountDistributionHandler.amountDist(trigger.new);
4      }
5  }

```

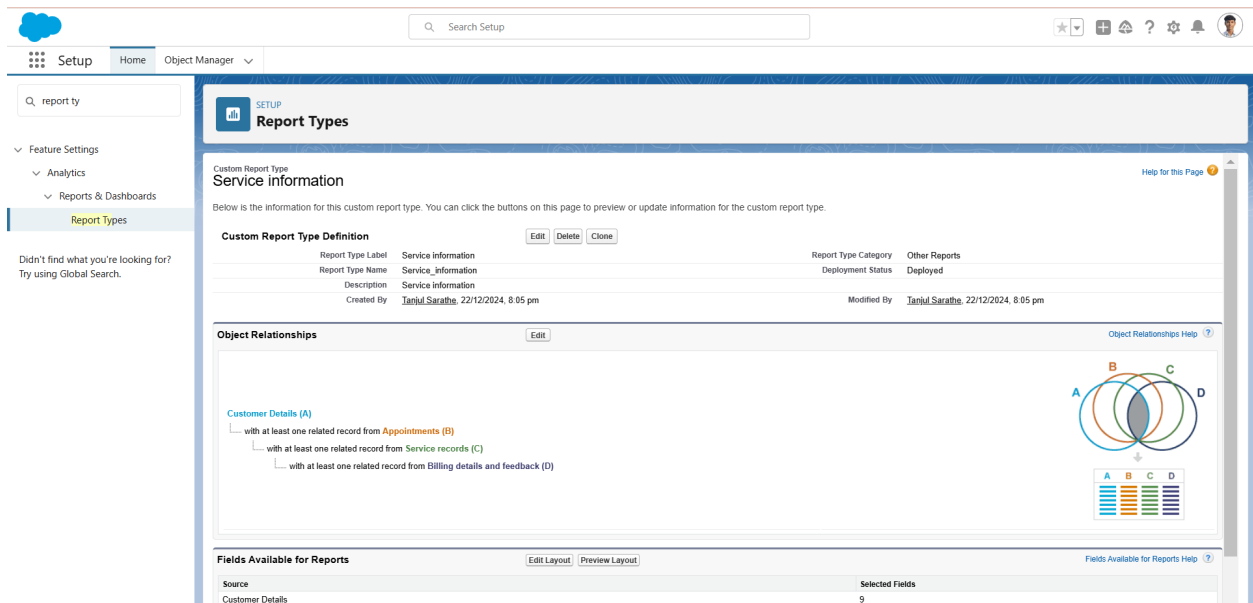
Step 15: Reports

Reports give you access to your Salesforce data. You can examine your Salesforce data in almost infinite combinations, display it in easy-to-understand formats, and share the resulting insights with others. Before building, reading, and sharing reports, review these reporting basics.

- **Report Folder:** Organize all reports under "Garage Management Folder".



- **Custom Report Type:** Combines Customer Details, Appointments, Service Records, and Billing.



- **Reports:** Custom report "Service Information Report" with fields for customer, appointment date, service status, and payments.

Create Report

1. Go to the app >> click on the reports tab
2. Click New Report.

3. Select the Category as other reports, search for Service Information, select that report, click on it. And click on start report.
4. Their outline pane is opened already, select the fields that mentioned below in column section.
 - a. Customer name
 - b. Appointment Date
 - c. Service Status
 - d. Payment paid
5. Remove the unnecessary fields.
6. Select the fieldsthat mentioned belowin GROUP ROWS section.
 - i. Rating for Service
7. Select the fieldsthat mentioned belowin GROUP ROWS section.
 - i. Payment Status
8. Click on Add Chart , Select the Line Chart.
9. Click on save, Give the report Name : New Service information Report
10. Report unique Name is auto populated.
11. Select the folder the created and Click on save.

Report: Service information
New Service information Report

Total Records: 4
Total Payment Paid: ₹40,000

Rating for service	Payment Status	Completed	Total
1	Sum of Payment Paid Record Count	₹10,000 1	₹10,000 1
3	Sum of Payment Paid Record Count	₹10,000 1	₹10,000 1
4	Sum of Payment Paid Record Count	₹10,000 1	₹10,000 1
5	Sum of Payment Paid Record Count	₹10,000 1	₹10,000 1
Total	Sum of Payment Paid Record Count	₹40,000 4	₹40,000 4

Details (4 Rows) Click an intersection in the table above to filter details.

	Customer Name	Appointment Date	Service Status	Payment Paid
1	Anushka	23/12/2024	Completed	₹10,000
2	Jay	18/12/2024	Completed	₹10,000
3	Akshata	21/12/2024	Completed	₹10,000
4	Raj	10/12/2024	Completed	₹10,000
5				₹40,000

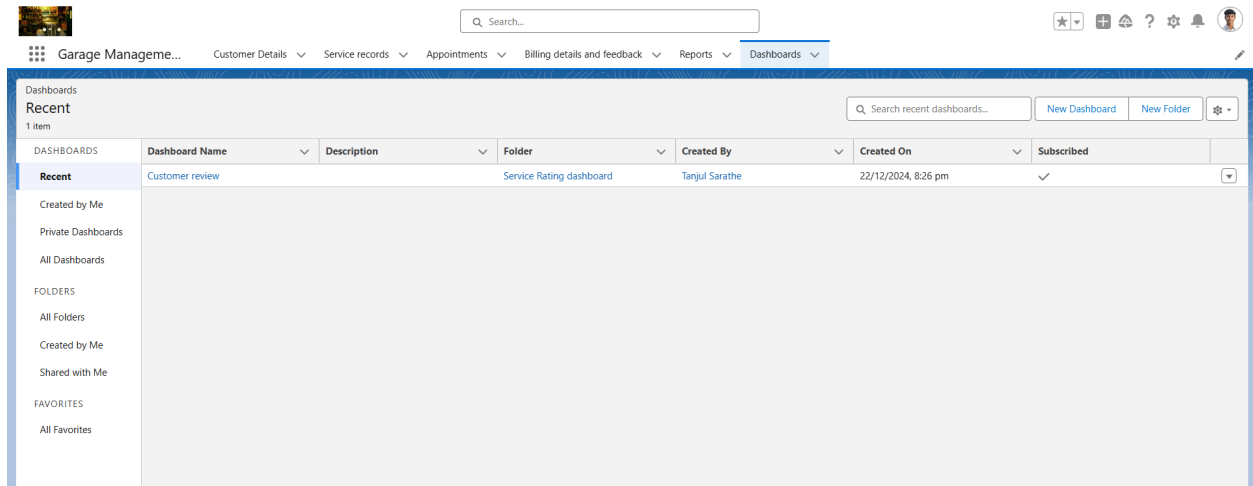
Row Counts: ☒ Detail Rows: ☒ Grand Total: ☒ Stacked Summaries: ☒

Step 16: Dashboards

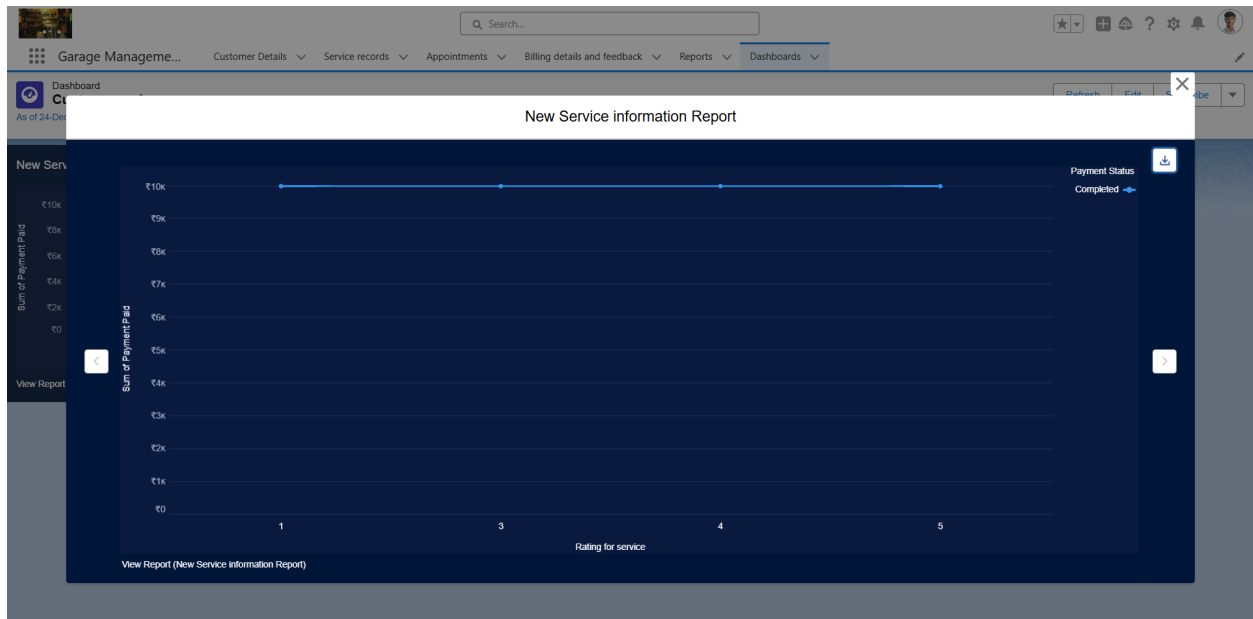
Dashboards help you visually understand changing business conditions so you can make decisions based on the real-time data you've gathered with reports. Use dashboards to help users identify trends, sort out quantities, and measure the impact of their activities. Before building,

reading, and sharing dashboards, review these dashboard basics.

- **DashboardFolder:** "Service Rating Dashboard" for organizing dashboards.



- **Dashboard Components:** Visualizes service ratings, payment statuses, and operational KPIs.



- a. Also Subscribe added:-Set the Frequency as "weekly". >>Set a day as monday and then we saved it.

User Adoption

In our GarageManagement System we created recordsfor all objects.

Customer Details

The screenshot shows the 'Customer Details' section of the Garage Management System. The top navigation bar includes 'Garage Managemen...', 'Customer Details', 'Service records', 'Appointments', 'Billing details and feedback', 'Reports', and 'Dashboards'. The 'Customer Details' section is active, showing a 'Recently Viewed' list of 4 items. The list includes a search bar, a table with columns for 'Customer Name' and a dropdown menu, and a table with 4 rows of customer names: Anushka, Raj, Akshata, and jay. The table has a search bar and a table view icon. The table has a search bar and a table view icon.

	Customer Name	
1	Anushka	
2	Raj	
3	Akshata	
4	jay	

Appointments

The screenshot shows the 'Appointments' section of the Garage Management System. The top navigation bar includes 'Garage Managemen...', 'Customer Details', 'Service records', 'Appointments', 'Billing details and feedback', 'Reports', and 'Dashboards'. The 'Appointments' section is active, showing a 'Recently Viewed' list of 4 items. The list includes a search bar, a table with columns for 'Appointment Name' and a dropdown menu, and a table with 4 rows of appointment names: app-004, app-003, app-002, and app-001. The table has a search bar and a table view icon. The table has a search bar and a table view icon.

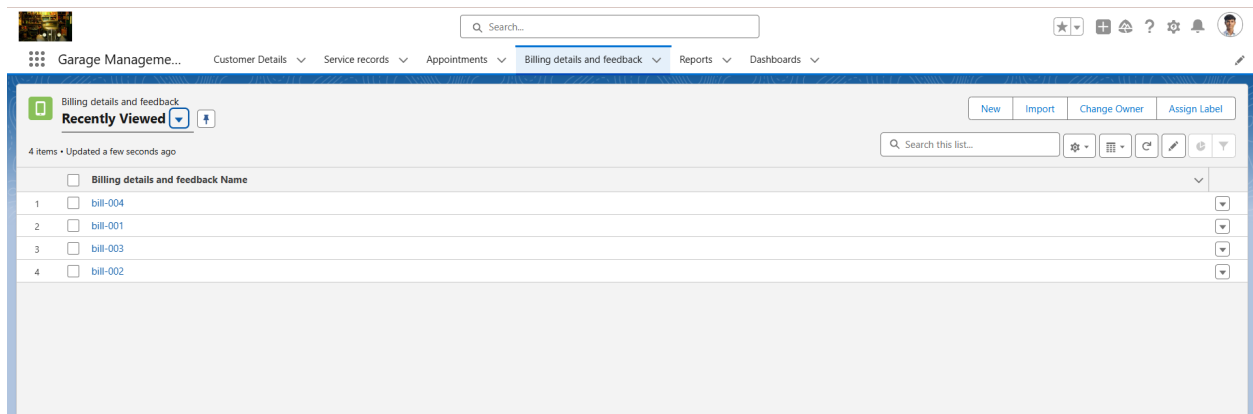
	Appointment Name	
1	app-004	
2	app-003	
3	app-002	
4	app-001	

Service Records

The screenshot shows the 'Service Records' section of the Garage Management System. The top navigation bar includes 'Garage Managemen...', 'Customer Details', 'Service records', 'Appointments', 'Billing details and feedback', 'Reports', and 'Dashboards'. The 'Service records' section is active, showing a 'Recently Viewed' list of 4 items. The list includes a search bar, a table with columns for 'Service records Name' and a dropdown menu, and a table with 4 rows of service record names: ser-004, ser-003, ser-002, and ser-001. The table has a search bar and a table view icon. The table has a search bar and a table view icon.

	Service records Name	
1	ser-004	
2	ser-003	
3	ser-002	
4	ser-001	

Billing Details and feedback



1. Testing and Validation

Unit Testing

- i. Comprehensive testing of individual components, including Apex classes and triggers, to ensure code accuracy and functionality.
- ii. Each module will be tested in isolation to detect and fix issues at an early stage.

User Interface Testing

- i. Ensure the user interface is user-friendly, responsive, and works on different devices (desktop, tablet, mobile).
- ii. Validate the functionality of buttons, links, forms, and navigation.

2. Key Scenarios Addressed by Salesforce in the Implementation Project

This section outlines the key scenarios that Salesforce addresses in the implementation of the Garage Management System:

1. **Service Appointment Booking:** Customers can book appointments via a self-service portal.
2. **Customer Communication:** Automated notifications and reminders are sent to customers.
3. **Inventory Management:** Salesforce tracks spare parts and sends reordering alerts.

4. **Job Tracking:** Service advisors and technicians can track the status of jobs and update customers in real time.
5. **Billing and Payments:** Generate invoices and process payments through an integrated payment gateway.
6. **Customer Feedback Collection:** Customers provide feedback after service completion, which is used to improve service quality.

Conclusion

The Garage Management System built on Salesforce provides a comprehensive platform for managing appointments, services, and billing. Through the use of custom objects, tabs, profiles, flows, validation rules, and Apex triggers, the system ensures smooth operations, efficient record management, and enhanced customer satisfaction. This project enables better tracking of garage operations, fosters data-driven decision-making, and supports the long-term growth of garage businesses.

Thank You 🙏