GARAGE MANAGEMENT SYSTEM

PROJECT CREATED BY

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GARAGE MANAGEMENT SYSTEM

➢ PROJECT OVERVIEW

Introduction:

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.

Are you new to Salesforce? Not sure exactly what it is, or how to use it? Don't know where you should start on your learning journey? If you've answered yes to any of these questions, then you're in the right place. This module is for you.

Welcome to Salesforce! Salesforce is game-changing technology, with a host of productivity-boosting features, that will help you sell smarter and faster. As you work toward your badge for this module, we'll take you through these features and answer the question, "What is Salesforce, anyway?".

What Is Salesforce?

Salesforce is your customer success platform, designed to help you sell, service, market, analyze, and connect with your customers.

Salesforce has everything you need to run your business from anywhere. Using standard products and features, you can manage relationships with prospects and customers, collaborate and engage with employees and partners, and store your data securely in the cloud.

So what does that really mean? Well, before Salesforce, your contacts, emails, follow-up tasks, and prospective deals might have been organized something like this:

https://youtu.be/r9EX3lGde5k

➢ OBJECTIVES

What Is an Object?

Salesforce objects are database tables that permit you to store data that is specific to an organization. What are the types of Salesforce objects

Salesforce objects are of two types:

1. **Standard Objects**: Standard objects are the kind of objects that are provided by salesforce.com such as users, contracts, reports, dashboards, etc.

2. **Custom Objects**: Custom objects are those objects that are created by users. They supply information that is unique and essential to their organization. They are the heart of any application and provide a structure for sharing data.

To Navigate to Setup page:

Click on gear icon ? click setup.

FIGURE 1
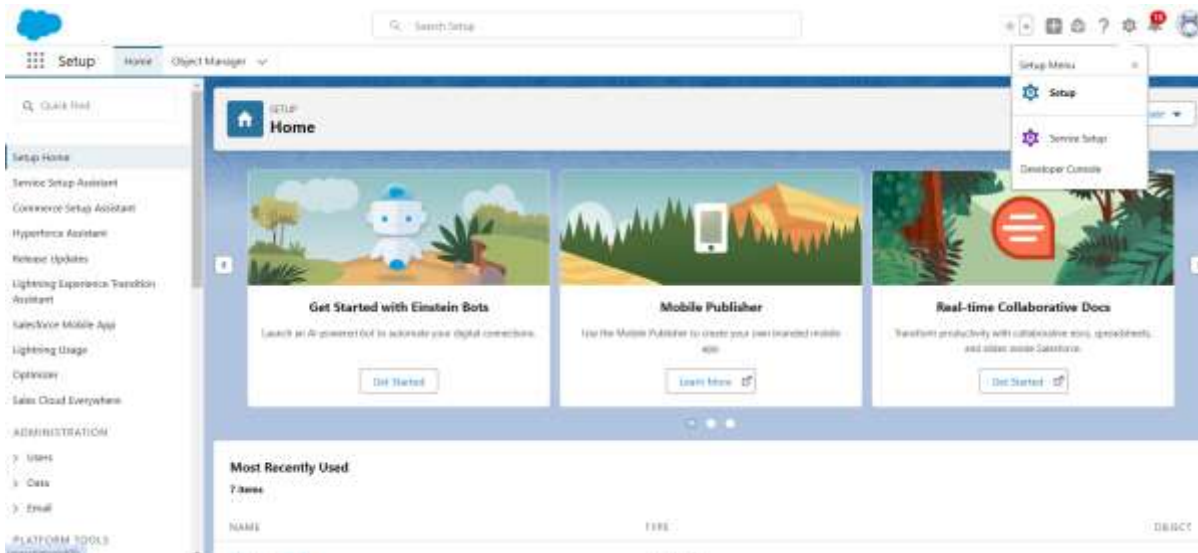
To create an object:

1. From the setup page ? Click on Object Manager ? Click on Create ? Click on Custom Object.

FIGURE 2

Setup   Home   Object Manager ∨

SETUP
Object Manager
51+ Items, Sorted by Label

LABEL	▲	API NAME	TYPE	DESCRIPTION	LAST MODIFIED
Account		Account	Standard Object		

Custom Object
Custom Object from Spreadsheet

2.   On Custom object defining page:

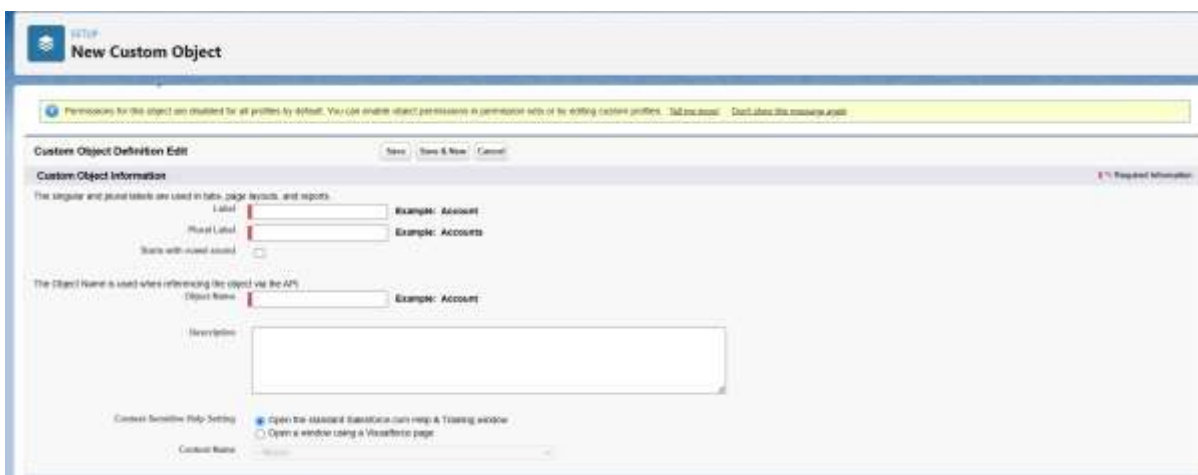3.   Enter the label name, plural label name, click on Allow reports, Allow search.

FIGURE 3

FIGURE 4

FIGURE 5

4.   Click on Save.

➢ KEY FEATURES AND CONCEPTS

Create Customer Details Object

To create an object:

1.   From the setup page >> Click on Object Manager >> Click on Create >> Click on Custom Object.

- Enter the label name >> Customer Details
- Plural label name >> Customer Details
- Enter Record Name Label and Format

- Record Name >> Customer Name

- Data Type >> Text

2.   Click on Allow reports and Track Field History,

3.   Allow search >> Save.

Create Appointment Object

To create an object:

1.From the setup page >> Click on Object Manager >> Click on Create >> Click on Custom Object.

- Enter the label name >> Appointment

- Plural label name >> Appointments

- Enter Record Name Label and Format

- Record Name >> Appointment Name

- Data Type >> Auto Number

- Display Format >> app-{001}

- Starting number >> 1

2.Click on Allow reports and Track Field History,

3.Allow search >> Save.

Create Service records Object

To create an object:

1. From the setup page >> Click on Object Manager >> Click on Create >> Click on Custom Object.

- Enter the label name >> Service records
- Plural label name >> Service records
- Enter Record Name Label and Format
- Record Name >>Service records Name
- Data Type >> Auto Number
- Display Format >> ser-{000}
- Starting number >> 1

2. Click on Allow reports and Track Field History,

3. Allow search >> Save.

Create Billing details and feedback Object

To create an object:

1. From the setup page >> Click on Object Manager >> Click on Create >> Click on Custom Object.

- Enter the label name >> Billing details and feedback
- Plural label name >> Billing details and feedback
- Enter Record Name Label and Format
- Record Name >> Billing details and feedback Name
- Data Type >> Auto Number
- Display Format >> bill-{000}
- Starting number >> 1

2. Click on Allow reports and Track Field History,

3. Allow search >> Save.

➢ DETAILED STEPS TO SOLUTION DESIGN

Tabs

What is Tab : A tab is like a user interface that is used to build records for objects and to view the records in the objects.

Types of Tabs:

1.Custom Tabs

Custom object tabs are the user interface for custom applications that you build in salesforce.com. They look and behave like standard salesforce.com tabs such as accounts, contacts, and opportunities.

2.Web Tabs

Web Tabs are custom tabs that display web content or applications embedded in the salesforce.com window. Web tabs make it easier for your users to quickly access content and applications they frequently use without leaving the salesforce.com application.

3.Visualforce Tabs

Visualforce Tabs are custom tabs that display a Visualforce page. Visualforce tabs look and behave like standard salesforce.com tabs such as accounts, contacts, and opportunities.

4.Lightning Component Tabs

Lightning Component tabs allow you to add Lightning components to the navigation menu in Lightning Experience and the mobile app.

5.Lightning Page Tabs

Lightning Page Tabs let you add Lightning Pages to the mobile app navigation menu.

Lightning Page tabs don't work like other custom tabs. Once created, they don't show up on the All Tabs page when you click the Plus icon that appears to the right of your current tabs. Lightning Page tabs also don't show up in the Available Tabs list when you customise the tabs for your apps.

Creating a Custom Tab

FIGURE 6

FIGURE 7

FIGURE 8

Create new custom tab.

FIGURE 9

FIGURE 10

The Lightning App

An app is a collection of items that work together to serve a particular function. In Lightning Experience, Lightning apps give your users access to sets of objects, tabs, and other items all in one convenient bundle in the navigation bar.

Lightning apps let you brand your apps with a custom colour and logo. You can even include a utility bar and Lightning page tabs in your Lightning app. Members of your org can work more efficiently by easily switching between apps.

Fields

When we talk about Salesforce, Fields represent the data stored in the columns of a relational database. It can also hold any valuable information that you require for a specific object. Hence, the overall searching, deletion, and editing of the records become simpler and quicker.

Types of Fields

1. Standard Fields

2. Custom Fields

Standard Fields:

As the name suggests, the Standard Fields are the predefined fields in Salesforce that perform a standard task. The main point is that you can't simply delete a Standard Field until it is a non-required standard field. Otherwise, users have the option to delete them at any point from the application freely. Moreover, we have some fields that you will find common in every Salesforce application. They are,

- Created By

- Owner

- Last Modified

- Field Made During object Creation

Custom Fields:

On the other side of the coin, Custom Fields are highly flexible, and users can change them according to requirements. Moreover, each organiser or company can use them if necessary. It means you need not always include them in the records, unlike Standard fields. Hence, the final decision depends on the user, and he can add/remove Custom Fields of any given form.

➢ TESTING AND VALIDATION

Validation Rule

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.
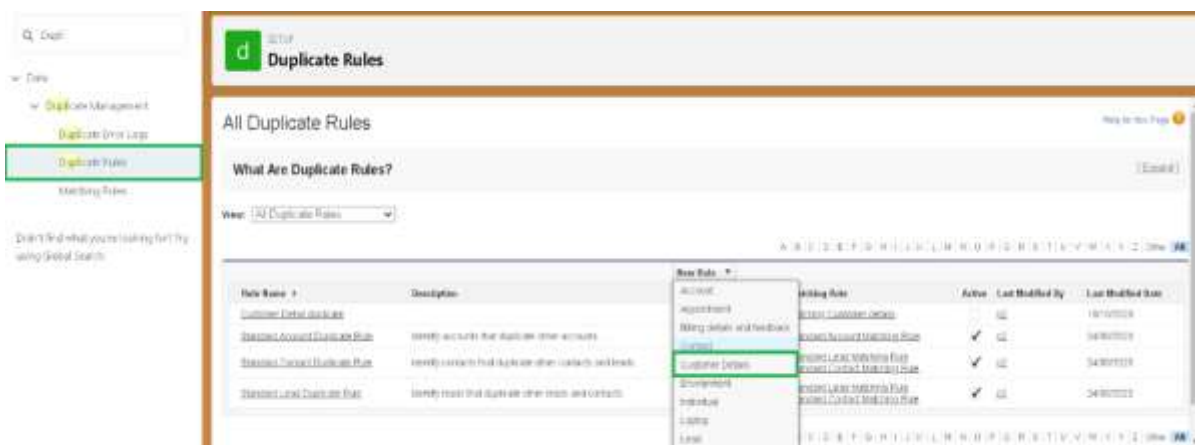
FIGURE 11

Validation of rules in appointments.

Duplicate rules

FIGURE 12

Creation of the duplicate rules.

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➤ KEY SCENARIOS ADDRESSED BY SALESFORCE IN THIS IMPLEMENTATION PROCESS

Profiles

A profile is a group/collection of settings and permissions that define what a user can do in salesforce. Profile controls "Object permissions, Field permissions, User permissions, Tab settings, App settings, Apex class access, Visualforce page access, Page layouts, Record Types, Login hours & Login IP ranges. You can define profiles by the user's job function. For example System Administrator, Developer, Sales Representative.

Types of profiles in salesforce

1.Standard profiles:

By default salesforce provides below standard profiles.

- Contract Manager

- Read Only

- Marketing User

- Solutions Manager

- Standard User

- System Administrator.

We cannot deleted standard ones

Each of these standard ones includes a default set of permissions for all of the standard objects available on the platform.

2.Custom Profiles:

Custom ones defined by us.

They can be deleted if there are no users assigned with that particular one.

Role & 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.
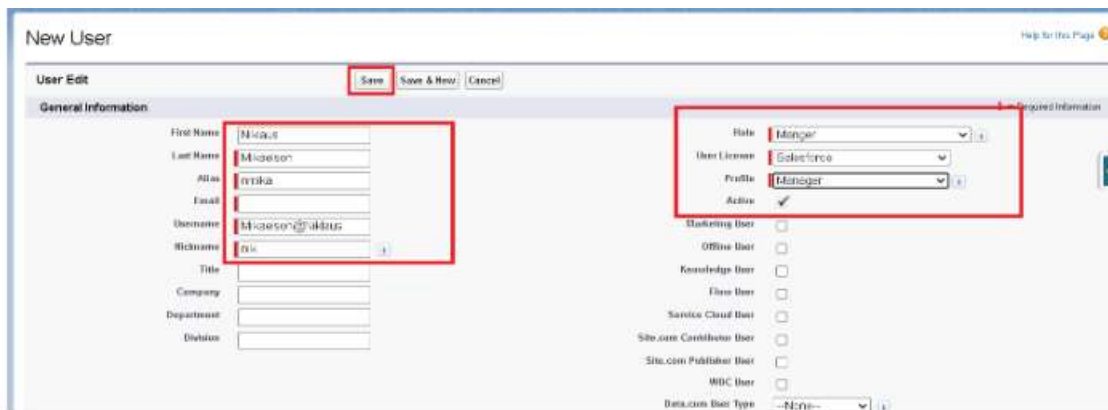
FIGURE 13

Creating Manager role.
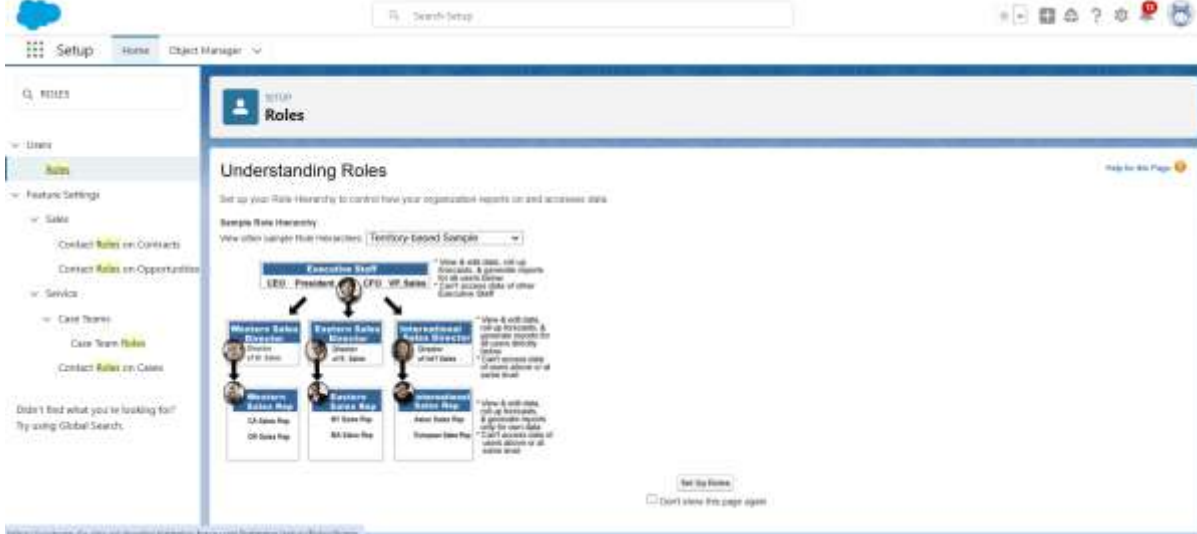
Users

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.

FIGURE 14

Create a new user and fill the columns one after the another.

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.

Sharing Setting

Salesforce allows you to configure sharing settings to control how records are accessed and shared within your organization. These settings are crucial for maintaining data security and privacy. Salesforce provides a variety of tools and mechanisms to define and enforce sharing rules, such as:

Organization-Wide Default (OWD) Settings:

These settings define the default level of access for all objects within your Salesforce org.

OWD settings include Private, Public Read-Only, Public Read/Write, and Controlled by Parent.

OWD settings can be configured for each standard and custom object.

Role Hierarchy:

Salesforce uses a role hierarchy to determine record access.

Users at higher levels in the hierarchy have greater access to records owned by or shared with users lower in the hierarchy.

The role hierarchy is often used in combination with OWD settings to grant different levels of access.

Profiles and Permission Sets:

Profiles and permission sets allow administrators to specify object-level and field-level permissions for users.

Profiles are typically used to grant general object and field access, while permission sets can be used to extend those permissions to specific users.

Sharing Rules:

Sharing rules are used to extend access to records for users who meet specific criteria.

They can be used to grant read-only or read-write access to records owned by other users.

Manual Sharing:

Administrators and record owners can manually share specific records with other users or groups.

➢ STEP BY STEP PROCESS EXPLANATION

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.
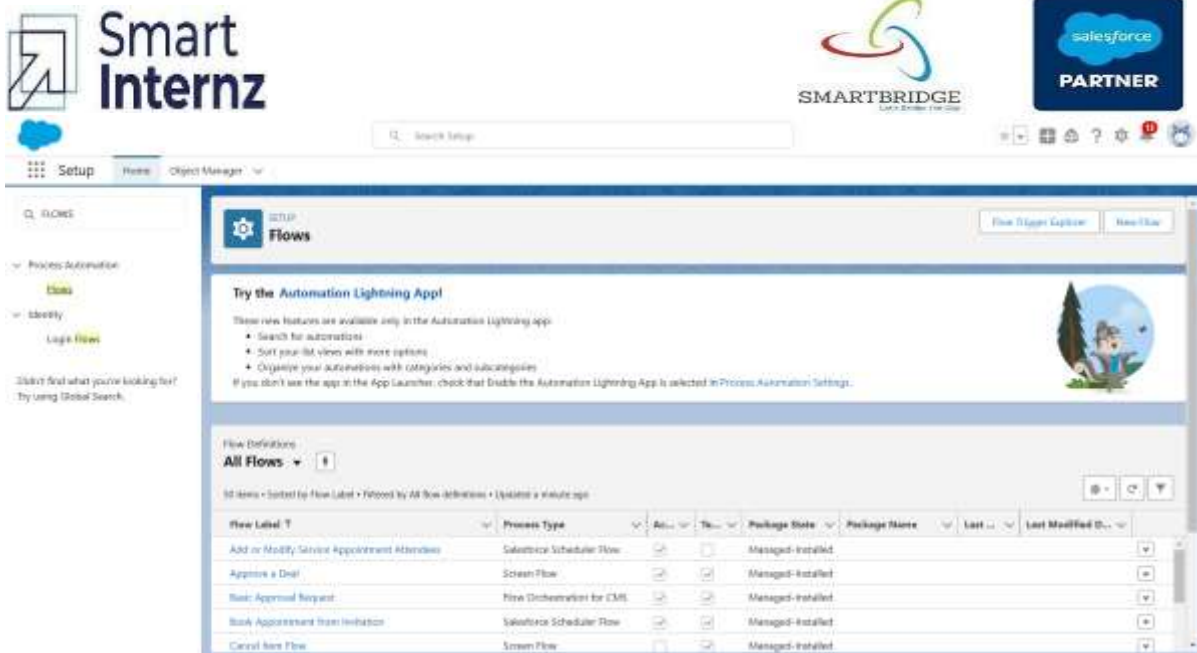
FIGURE 15

Create a flow.

FIGURE 16

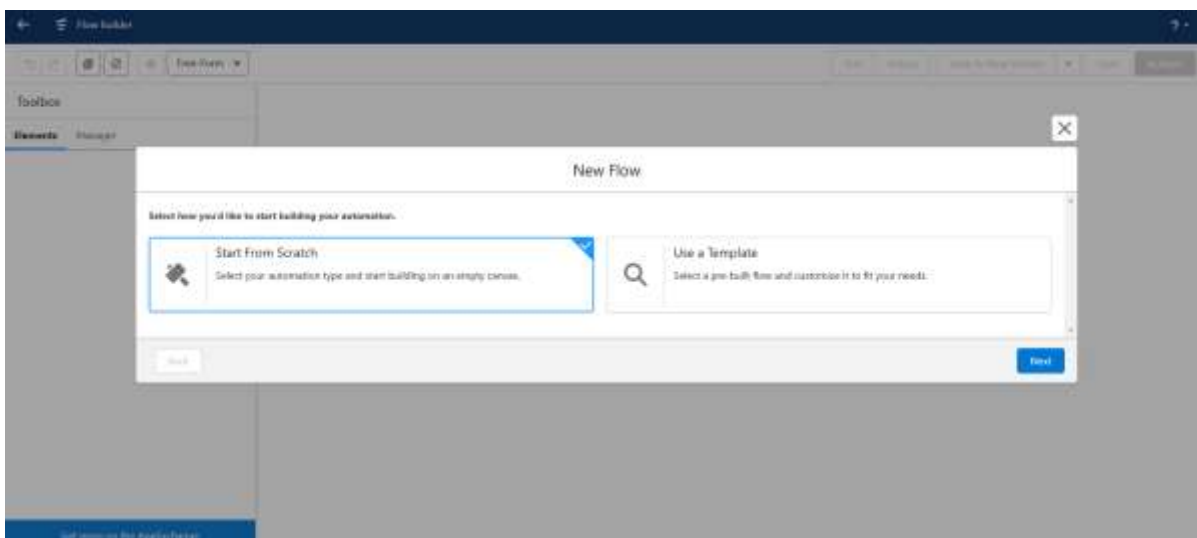Select the start from scratch and click on done.

FIGURE 17

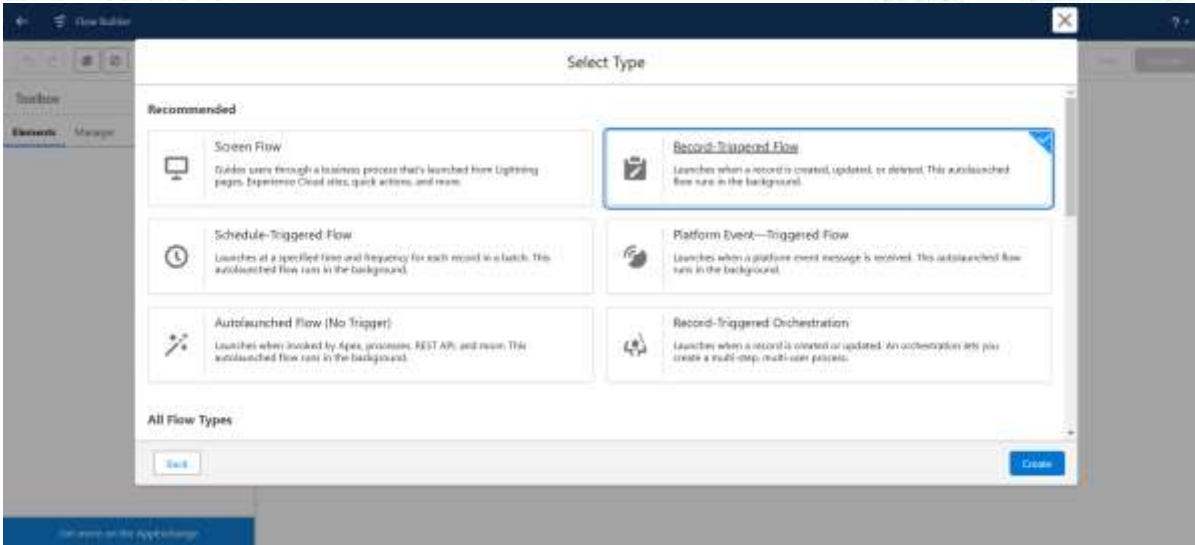Select the Record-Triggered flow and click on done.

FIGURE 18

Input the object as billing details and feedback.

FIGURE 19

Configure the following trigger.

FIGURE 20

Choose add element and select update record.
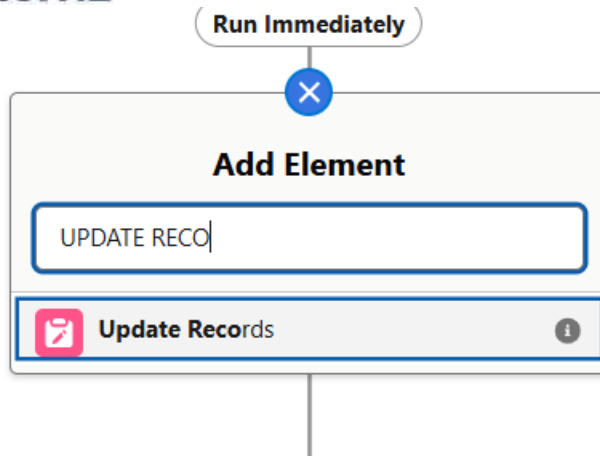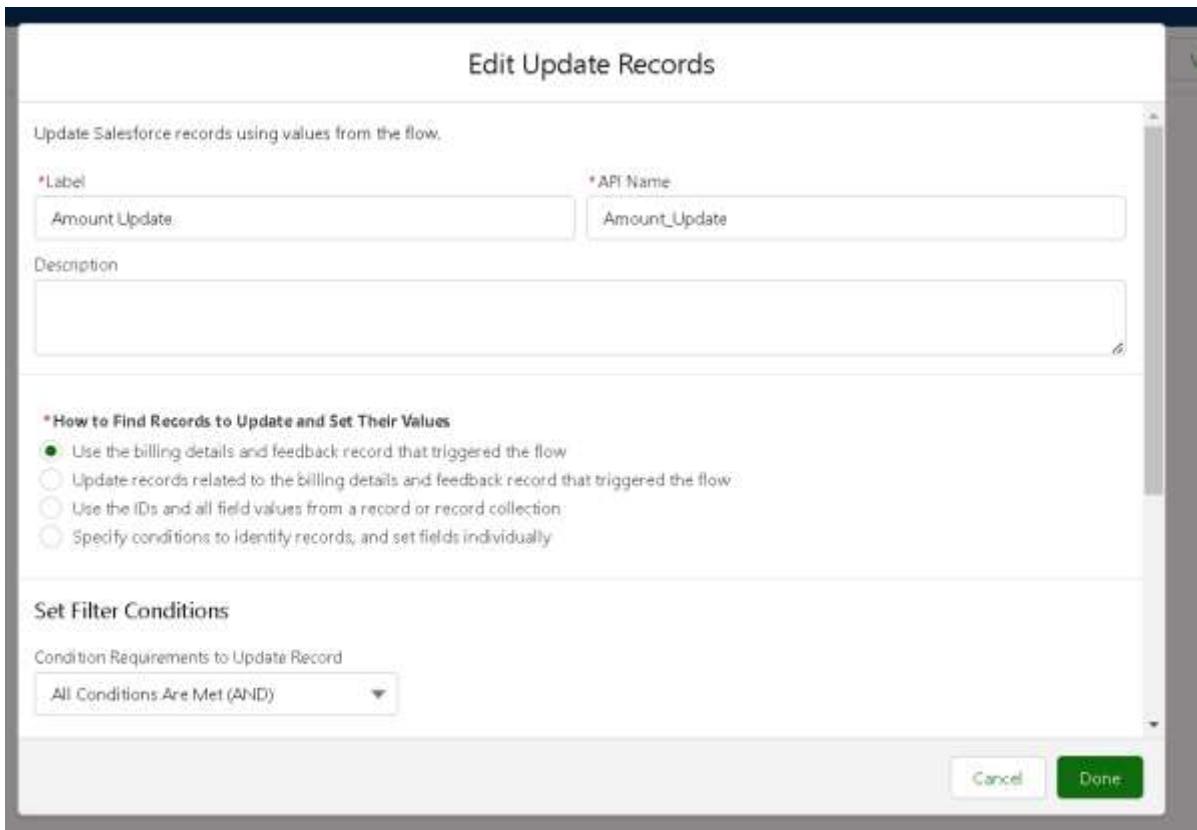
FIGURE 21

Updating the records which are created.

FIGURE 22

Set fields to the billing details.

Set Filter Conditions

Condition Requirements to Update Record

| All Conditions Are Met (AND) ▼ |

Field	Operator	Value	
Payment_Status__c	Equals ▼	Completed	🗑

+ Add Condition

Set Field Values for the Billing details and feedback Record

Field	Value	
Payment_Paid__c	← 💲 $Record > Service records > Appointment > Service A... ✕	🗑

+ Add Field

Cancel   Done

FIGURE 23

Save the flow with label name as Billing Amount Flow.

Record-Triggered Flow
Start ✕

Save as

| A New Version | A New Flow |

*Flow Label
Billing Amount Flow

*Flow API Name
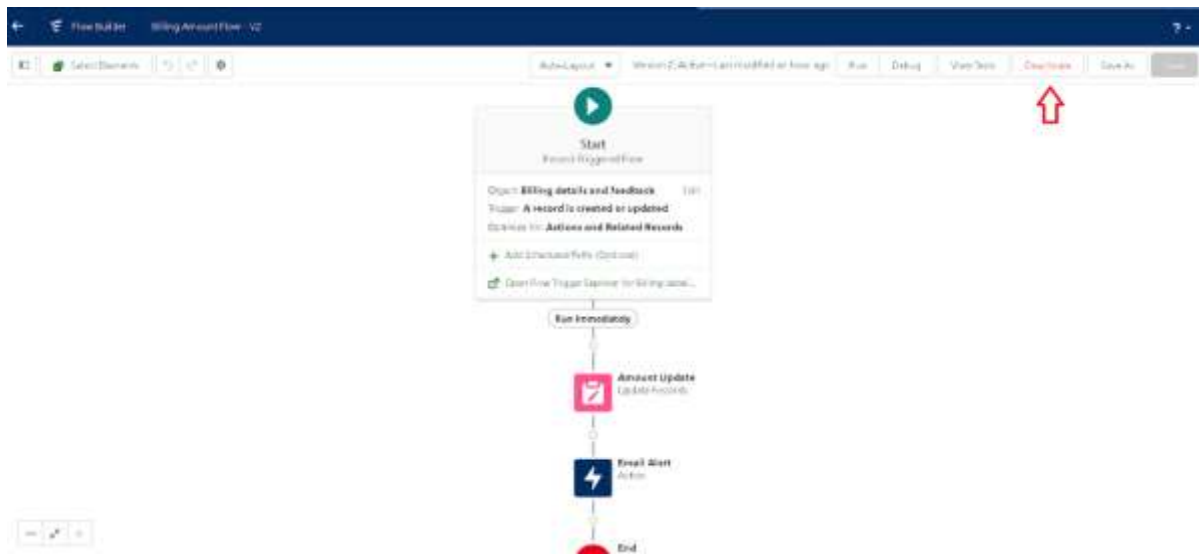Billing_Amount_Flow

Description

Show Advanced

Cancel   Save

FIGURE 24

Final outcome of the flow.

Apex Trigger

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.

A trigger is Apex code that executes before or after the following types of operations:

- insert
- update
- delete
- merge
- upsert
- undelete

For example, you can have a trigger run before an object's records are inserted into the database, after records have been deleted, or even after a record is restored from the Recycle Bin.

You can define triggers for top-level standard objects that support triggers, such as a Contact or an Account, some standard child objects, such as a CaseComment, and custom objects. To define a trigger, from the object management settings for the object whose triggers you want to access, go to Triggers.

There are primarily two types of Apex Triggers:

Before Trigger: This type of trigger in Salesforce is used either to update or validate the values of a record before they can be saved into the database. So, basically, the before trigger validates the record first and then saves it. Some criteria or code can be set to check data before it gets ready to be inserted into the database.

After Trigger: This type of trigger in Salesforce is used to access the field values set by the system and affect any change in the record. In other words, the after trigger makes changes to the value from the data inserted in some other record.

Apex Handle :

Code:

FIGURE 25

```
1  public class AmountDistributionHandler {
2
3      public static void amountDist(list<Appointment__c> listApp){
4          list<Service_records__c> serList = new list <Service_records__c>();
5
6          for(Appointment__c app : listApp){
7              if(app.Maintenance_service__c == true && app.Repairs__c == true && app.Replacement_Parts__c == true){
8                  app.Service_Amount__c = 10000;
9              }
10             else if(app.Maintenance_service__c == true && app.Repairs__c == true){
11                 app.Service_Amount__c = 5000;
12             }
13             else if(app.Maintenance_service__c == true && app.Replacement_Parts__c == true){
14                 app.Service_Amount__c = 8000;
15             }
16             else if(app.Repairs__c == true && app.Replacement_Parts__c == true){
17                 app.Service_Amount__c = 7000;
18             }
19             else if(app.Maintenance_service__c == true){
20                 app.Service_Amount__c = 2000;
```

FIGURE 26

```
12             }
13             else if(app.Maintenance_service__c == true && app.Replacement_Parts__c == true){
14                 app.Service_Amount__c = 8000;
15             }
16             else if(app.Repairs__c == true && app.Replacement_Parts__c == true){
17                 app.Service_Amount__c = 7000;
18             }
19             else if(app.Maintenance_service__c == true){
20                 app.Service_Amount__c = 2000;
21             }
22             else if(app.Repairs__c == true){
23                 app.Service_Amount__c = 3000;
24             }
25             else if(app.Replacement_Parts__c == true){
26                 app.Service_Amount__c = 5000;
27             }
28
29         }
30     }
31 }
```

Trigger Handler :

Code:

FIGURE 27

```
File ▾  Edit ▾  Debug ▾  Test ▾  Workspace ▾  Help ▾  <  >
AmountDistribution.apxt      AmountDistributionHandler.apxc * *
Code Coverage: None ▾   API Version  58  ▾
1 ▾ trigger AmountDistribution on Appointment__c (before insert, before update) {
2
3 ▾     if(trigger.isbefore && trigger.isinsert || trigger.isupdate){
4             AmountDistributionHandler.amountDist(trigger.new);
5
6         }
7
8  }
```

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.

Types of Reports in Salesforce

1. Tabular

2. Summary

3. Matrix

4. Joined Reports
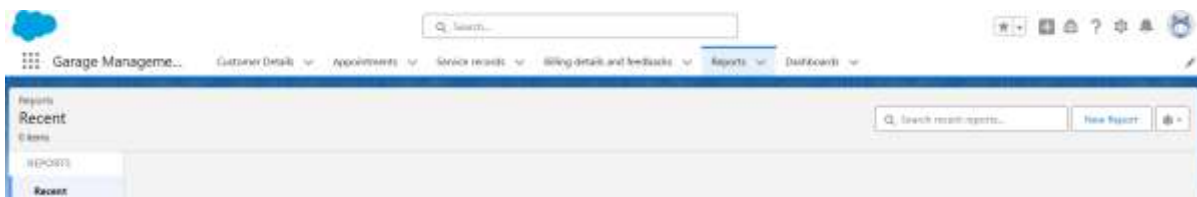
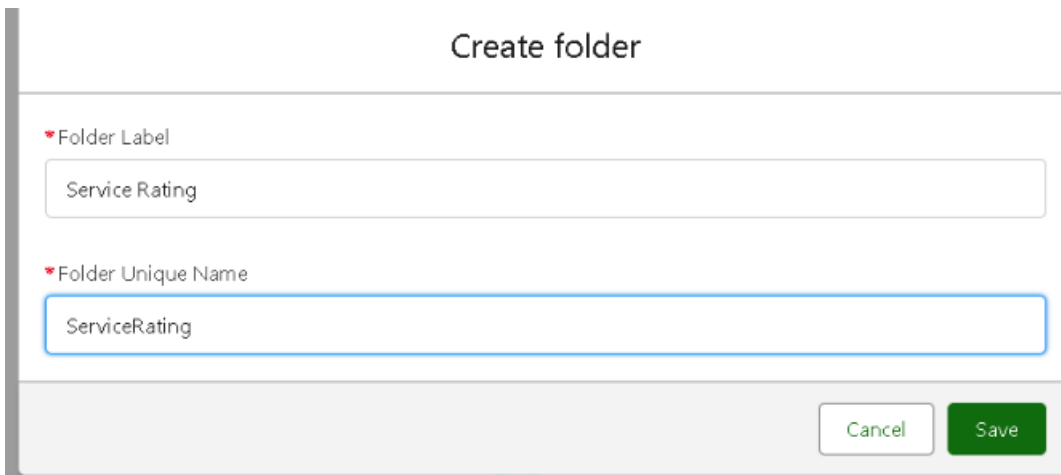**FIGURE 28**

Reports page.

FIGURE 29

Various types of reports are listed below.

FIGURE 30

Line chart with x and y axis.

New Service information Report

16-Nov-2024, 11:08 am - Viewing as mageshwaran G

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.

FIGURE 31

Creation of Dashboard

FIGURE 32

Adding component to the dashboard.
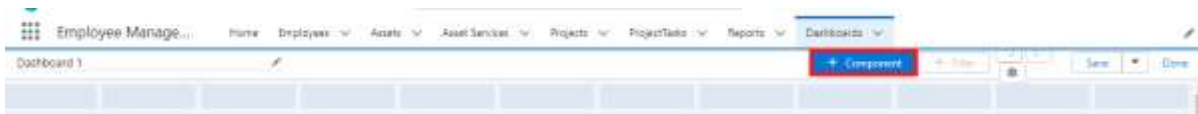
FIGURE 33

FIGURE 34

Final output of the report
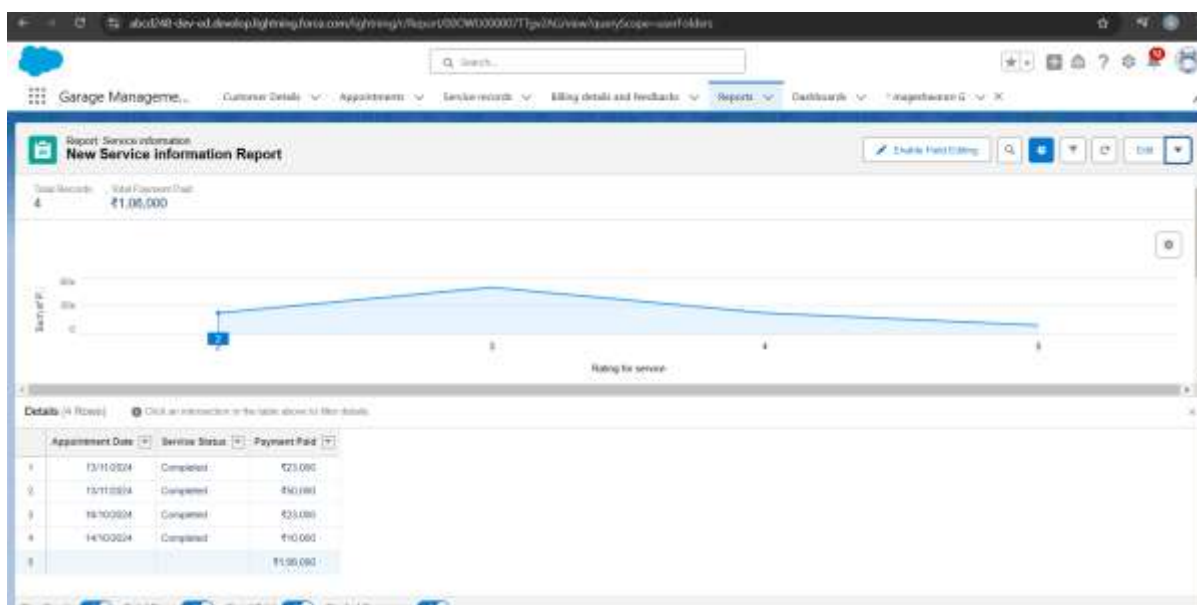
➢ Conclusion

The Garage Management System (GMS) represents a significant advancement in automotive service management technology, offering a comprehensive solution that transforms how repair facilities operate in today's digital landscape. By leveraging Salesforce's robust platform, GMS delivers multiple strategic advantages:

Operational Excellence

- Streamlines workflow management and appointment scheduling
- Automates routine tasks, reducing administrative burden
- Enhances inventory control and resource allocation
- Provides real-time insights for data-driven decision making

Customer-Centric Approach

- Facilitates transparent communication throughout the repair process
- Maintains detailed service histories for personalized experiences
- Enables prompt response to customer inquiries and feedback
- Strengthens customer loyalty through consistent, quality service

Business Growth
- Increases workshop efficiency and productivity
- Maximizes revenue through improved resource utilization
- Creates opportunities for targeted marketing and customer retention
- Provides scalability to support business expansion

Competitive Edge

The implementation of GMS positions automotive repair facilities at the forefront of industry innovation, enabling them to meet evolving customer expectations while maintaining operational excellence. The system's integration capabilities, user-friendly interface, and comprehensive feature set make it an invaluable tool for modern garage operations.

Future Outlook

As the automotive industry continues to evolve, GMS stands ready to adapt and grow, incorporating new technologies and features to meet emerging challenges and opportunities. This flexibility ensures that repair facilities can continue to deliver exceptional service while staying competitive in an increasingly digital marketplace.

The Garage Management System isn't just a software solution—it's a strategic investment in the future of automotive service management, providing the foundation for sustainable growth, operational efficiency, and customer satisfaction.