Garage Management System

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College code: bruaj.

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INTRODUCTION

Project Overview

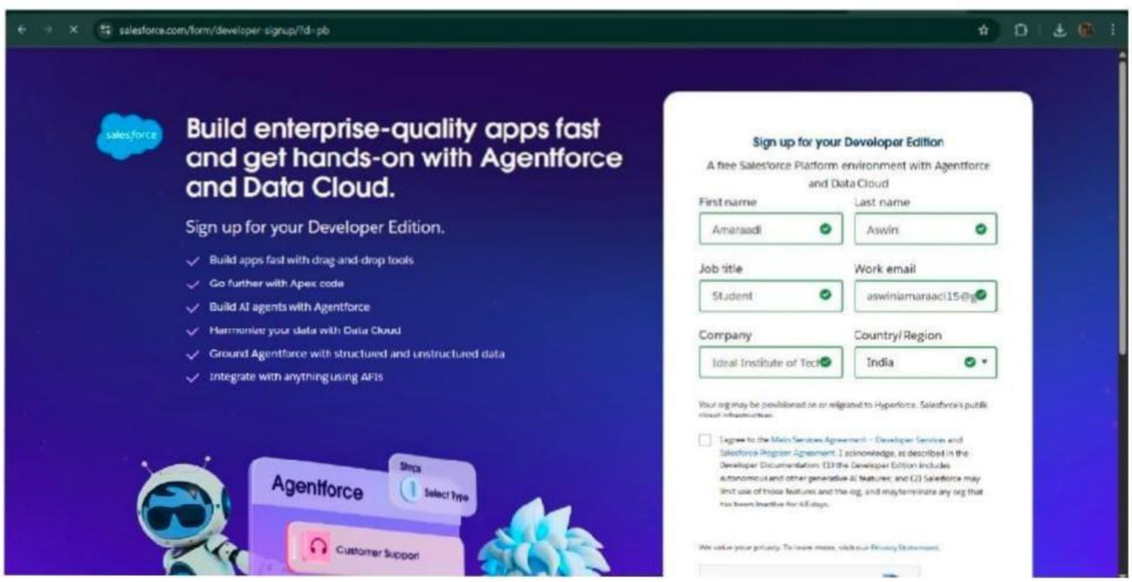
The Garage Management System is built on the Salesforce platform to simplify vehicle and inventory management. It helps track vehicles, maintain records, manage inventory, and automate workflows. The system ensures efficient transportation, better vehicle utilization, and smooth business operations through scalable and flexible architecture.

DEVELOPMENT PHASE

Creating Development Account:

https://developer.salesforce.com/signup

1.First name & Last name



2.Email

3.Role : Developer

4.Company : College Name

5.County : India

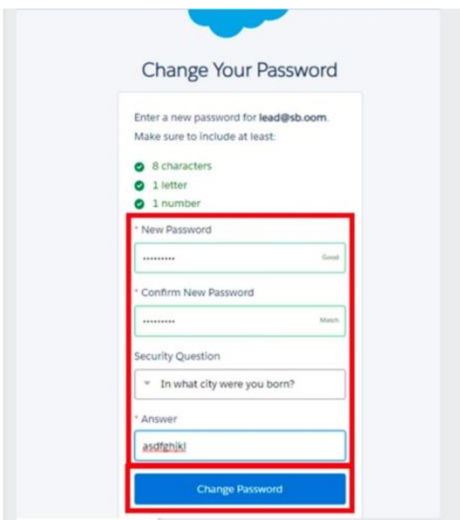
6.Postal Code : pin code

7.Username : should be a combination of your name and company

8.This need not be an actual email id, you can give anything in the format : username@organization.com

9.Click on sign me up after filling these.

Account Activation

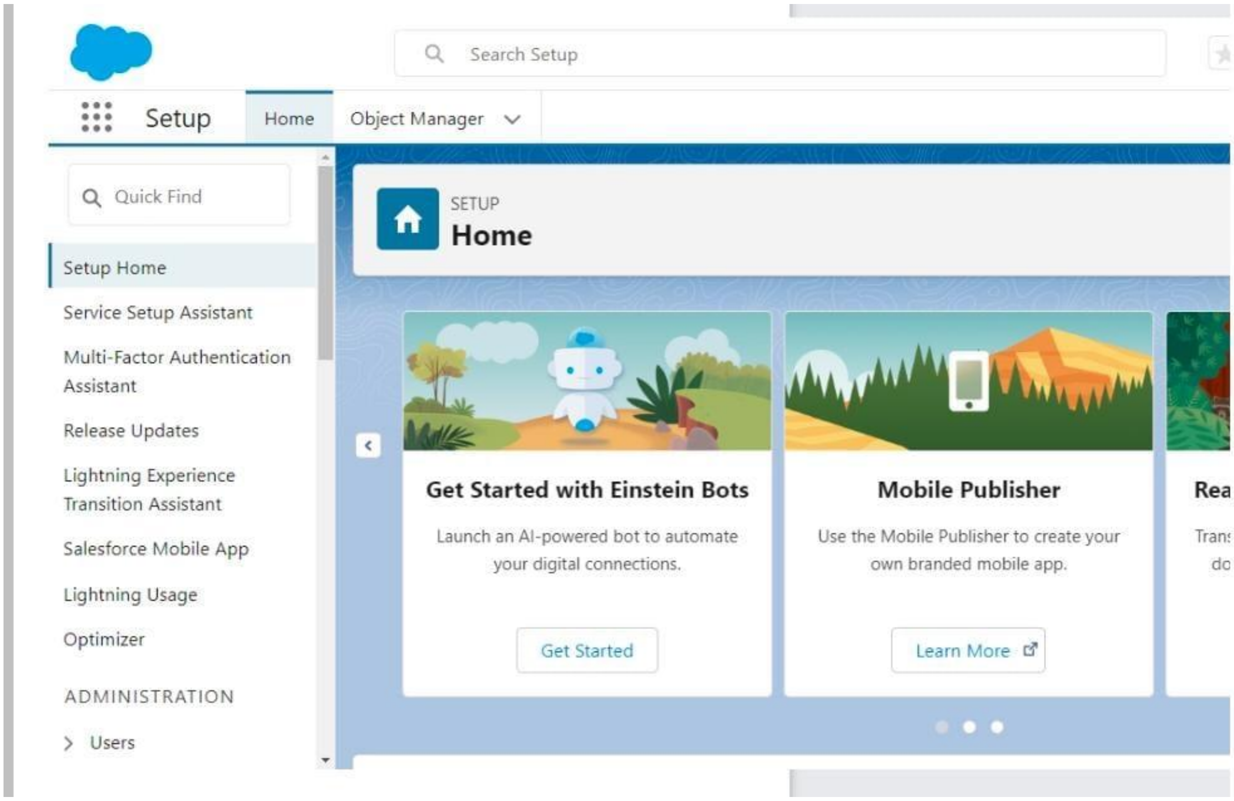


1.Go to the inbox of the email that you used while signing up. Click on the verify account to activate your account. The email may take 5-10mins.

2.Click on Verify Account

3.Give a password and answer a security question and click on change password.

4.Then you will redirect to your salesforce setup page.



Create Customer Detail Object

To create an object:

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

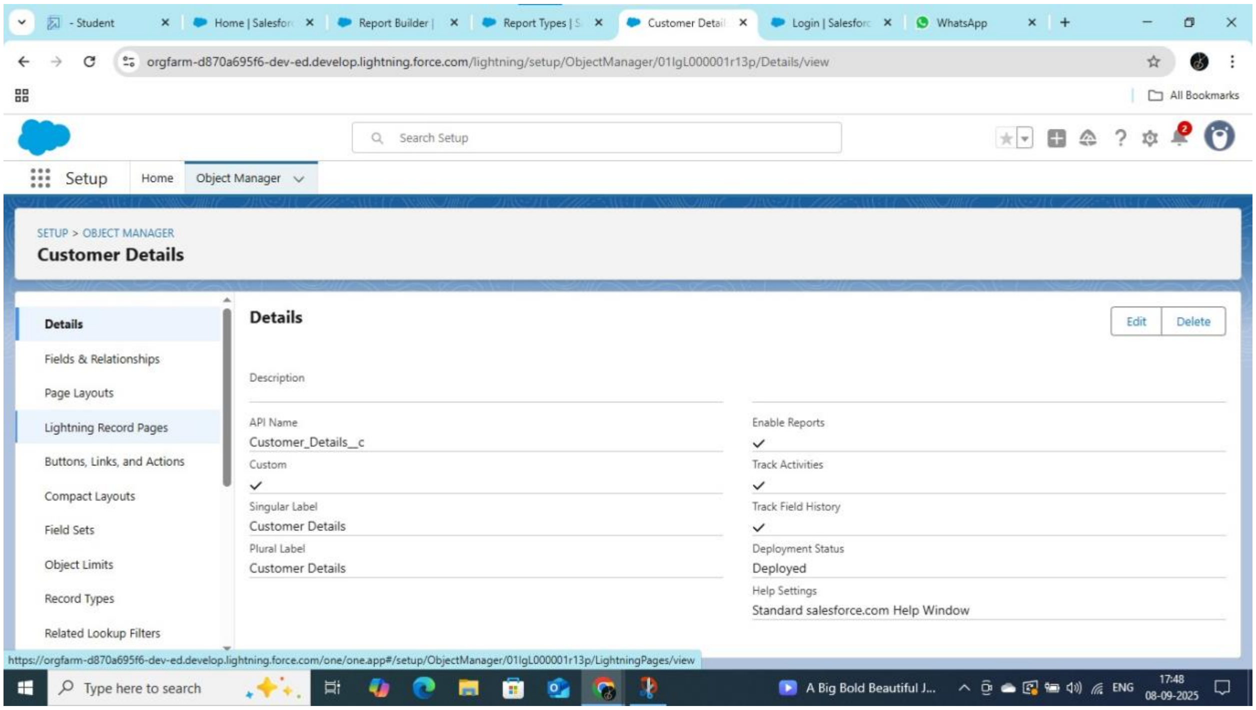
1.Enter the label name >> Customer Details.

2.Plural label name >> Customer Details.

3.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.

1.Enter the label name >> Appointment.

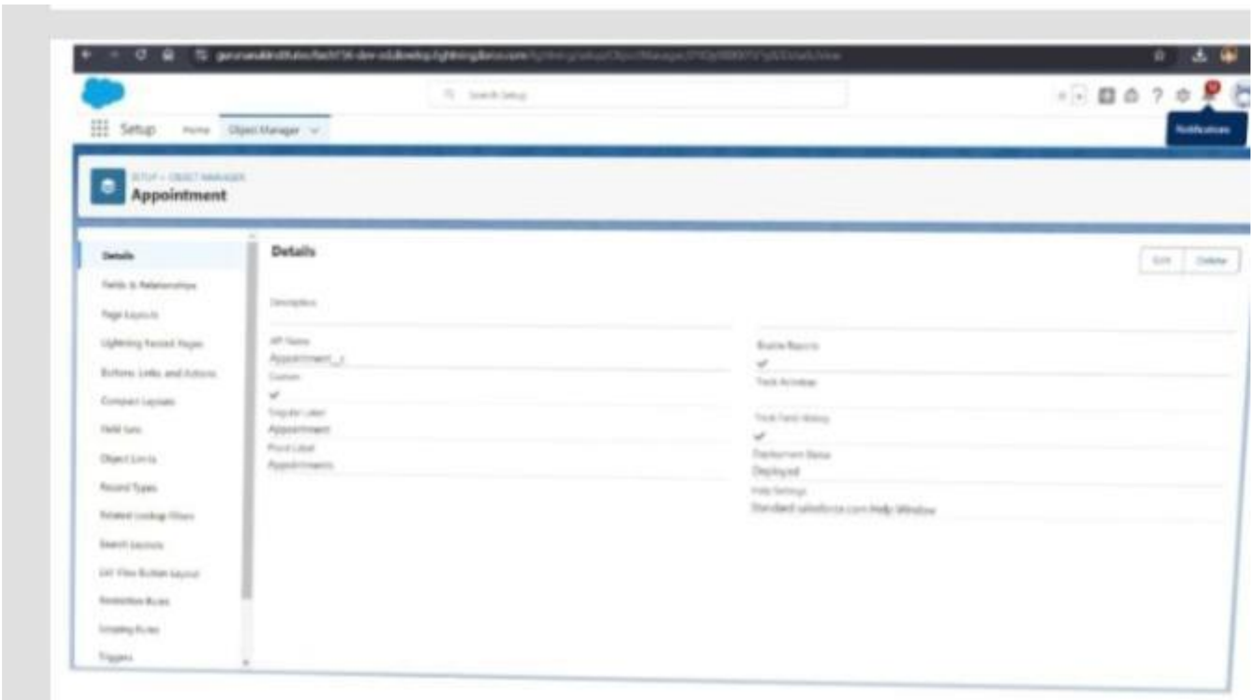
2.Plural label name >> Appointments

3.Enter Record Name Label and Format.

- Record Name >> Appointment Name
- Data Type >> Auto Number
- Display Format >> app-{000}
- 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.

1.Enter the label name >> Service records

2.Plural label name >> Service records

3.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.

1.Enter the label name >> Billing details and feedback

2.Plural label name >> Billing details and feedback

3.Enter Record Name Label and Format

• Record Name >> Billing details and feedback Name

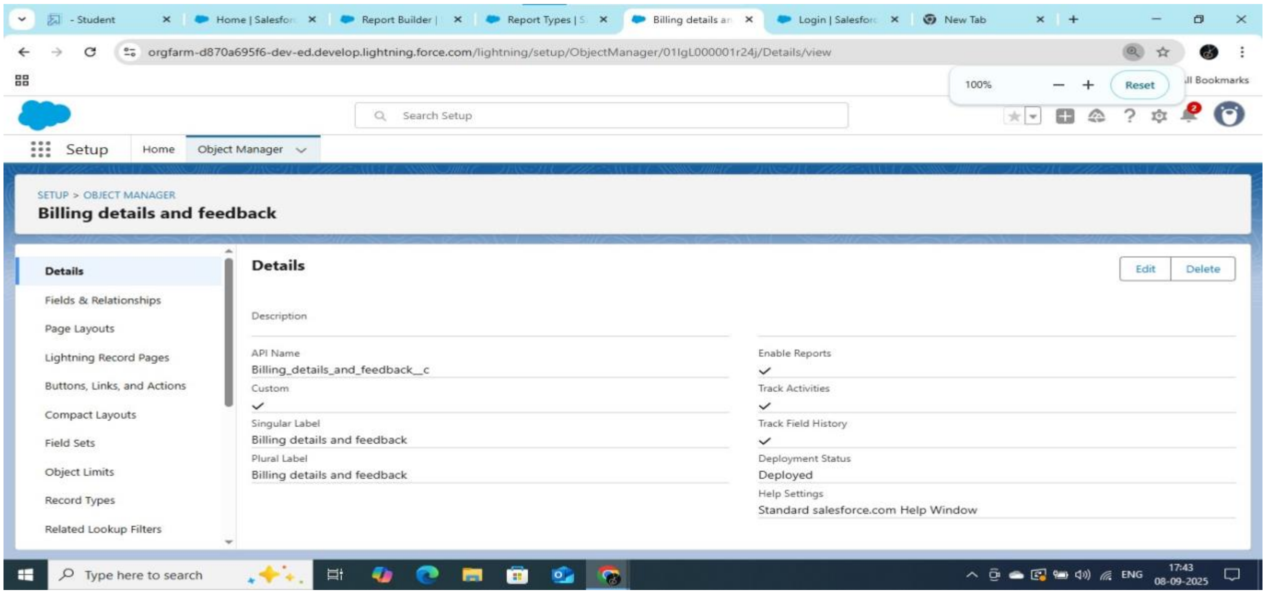
• Data Type >> Auto Number

• Display Format >> bill-{000}

• Starting number >> 1

2.Click on Allow reports and Track Field History,

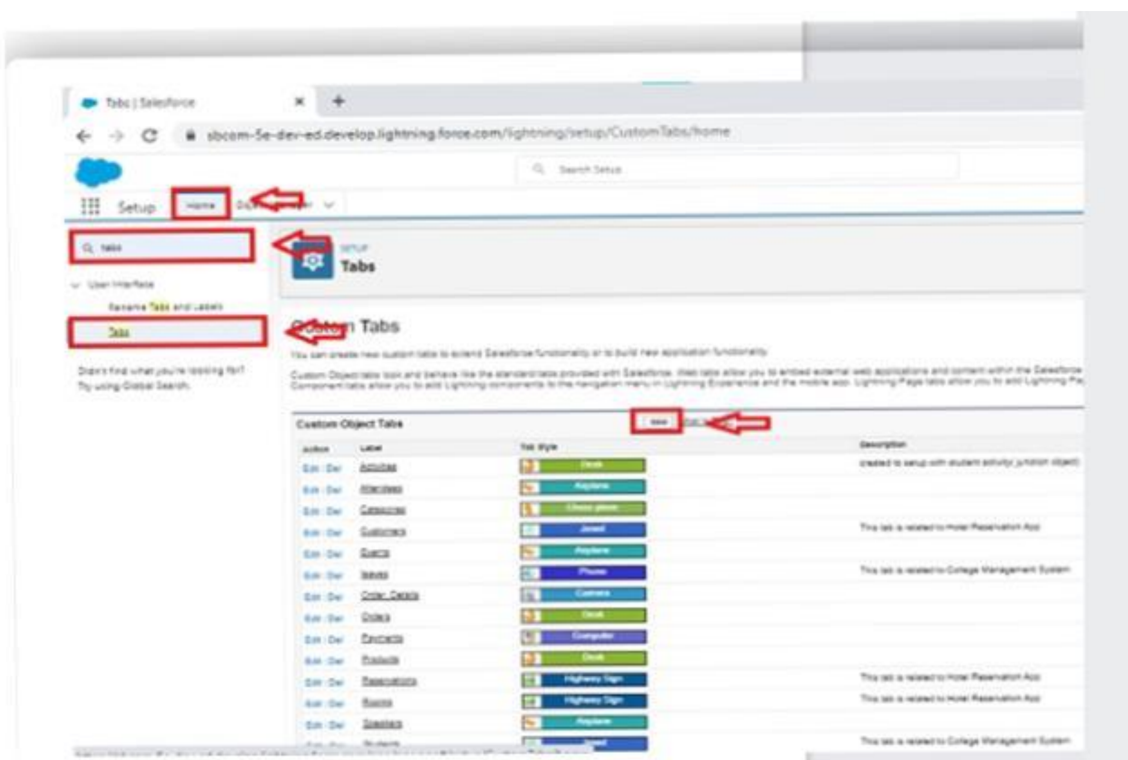
3.Allow search >> Save.

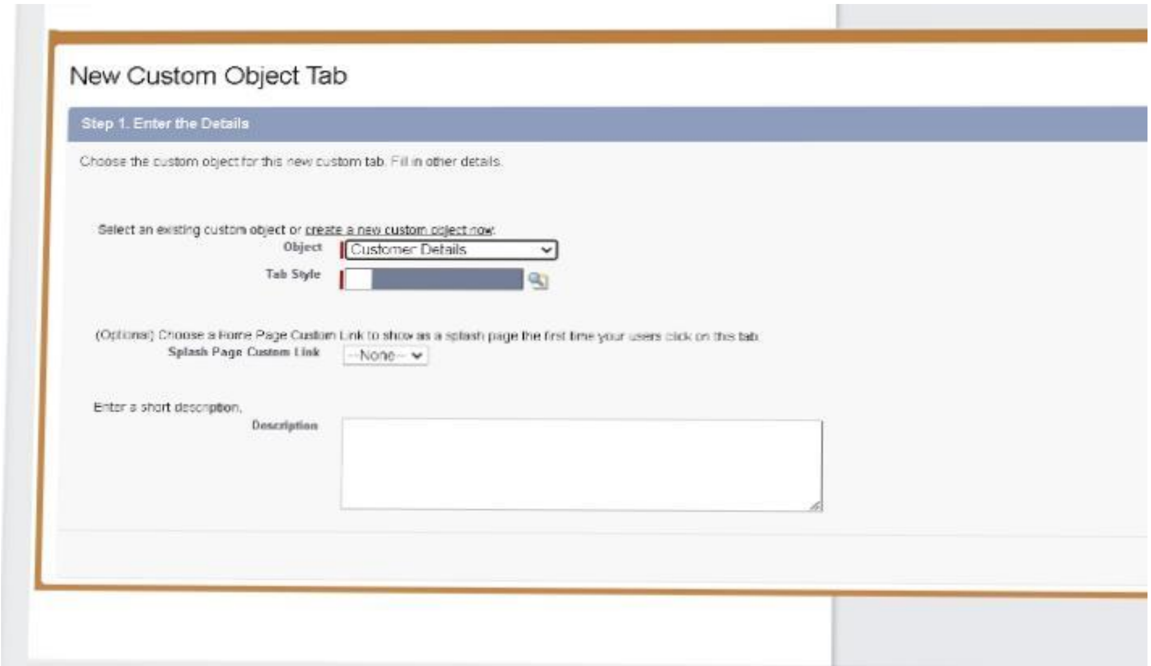


Creating A Custom Tab

To create a Tab Customer Details)

1.Go to setup page >> type Tabs in Quick Find bar >> click on tabs >> New (under custom object tab)





2.Select Object(Customer Details) >> Select the tab style >> Next (Add to profiles page) keep it as default >> Next (Add to Custom App) uncheck the include tab .

3.Make sure that the Append tab to users' existing personal customizations is checked.

4.Click save.

To create a Tab: (Appointment)

1. Go to setup page >> type Tabs in Quick Find bar >> click on tabs >> New (under custom object tab)

2. Select Object (Appointment) >> Select the tab style >> Next (Add to profiles page) keep it as default >> Next (Add to Custom App) uncheck the include tab.

3. Make sure that the Append tab to users' existing personal customizations is checked.

4. Click save

To create a Tab: (Service Records)

1. Go to setup page >> type Tabs in Quick Find bar >> click on tabs >> New (under custom object tab)

2. Select Object (Service Records) >> Select the tab style >> Next (Add to profiles page) keep it as default >> Next (Add to Custom App) uncheck the include tab.

3. Make sure that the Append tab to users' existing personal customizations is checked.

4. Click save

To create a Tab: (Billing details and feedback)

1. Go to setup page >> type Tabs in Quick Find bar >> click on tabs >> New (under custom object tab)

2. Select Object (Billing details and feedback) >> Select the tab style >> Next (Add to profiles page) keep it as default >> Next (Add to Custom App) uncheck the include tab.

3. Make sure that the Append tab to users' existing personal customizations is checked.

4. Click save

Create A Lightning App

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 search bar and move it using the arrow button >> Next.

5.To Add User Profiles:

Search profiles (System administrator) in the search bar >> click on the arrow button >> save & finish.

Creation Of Fields For The Customer Details Object

1. **To create fields in an object:**

1.Go to setup >> click on Object Manager >> type object name(Customer Details) in search bar >> click on the object.

2.Now click on “Fields & Relationships” >> New

3.Select Data Type as a “Phone”

4.Click on next.

5. Fill the Above as following:

• Field Label: Phone number

• Field Name : gets auto generated

•Click on Next >> Next >> Save and new.

Note: Follow the above steps for the remaining field for the same object.

2. To create another fields in an object:

1.Go to setup >> click on Object Manager >> type object name(Customer Details) in search bar >> click on the object.

2.Now click on “Fields & Relationships” >> New

3.Select Data type as a “Email” and Click on Next

4.Fill the Above as following:

• Field Label : Gmail

• Field Name : gets auto generated

• Click on Next >> Next >> Save and new.

Creation of Lookup Fields

Creation of Lookup Field on Appointment Object:

1. Go to setup >> click on Object Manager >> type object name (Appointment) in the search bar >> click on the object.

2. Now click on "Fields & Relationships" >> New.

3. Select "Look-up relationship" as data type and click Next.

4. Select the related object "Customer Details" and click Next.

5. Next >> Next >> Save.

Note: Make sure you complete Activity 4 Before continuing.

Creation of Lookup Field on Service records Object:

1. Go to setup >> click on Object Manager >> type object name (Service records) in search bar >> click on the object.

2. Now click on "Fields & Relationships" >> New.

3. Select "Look-up relationship" as data type and click Next.

4. Select the related object "Appointment" and click Next.

5. Make it a required field so click on Required.

6. Scroll down for Lookup Filter and click on Show filter settings.

7. Now add the filter criteria.

8.Field: Appointment: Appointment Date >> Operator: less than >> select field >> Appointment: Created Date

9.Filter type should be Required.

10.Error Message: Value does not match the criteria.

11. Enable the filter by click on Active.

12. Next >> Next >> Save.

Creation of Lookup Field on Billing details and feedback Object:

1. Go to setup >> click on Object Manager >> type object name (Billing details and feedback) in search bar >> click on the object.
2. Now click on “Fields & Relationships” >> New.
3. Select “Look-up relationship” as data type and click Next.
4. Select the related object “Service records” and click Next.
5. Next >> Next >> Save & new.

Creation of Checkbox Fields

Creation of Checkbox Field on Appointment Object:

1. Go to setup >> click on Object Manager >> type object name (Appointment) in search bar >> click on the object.
2. Now click on “Fields & Relationships” >> New.
3. Select “Check box” as data type and click Next.
4. Give the Field Label: Maintenance service
5. Field Name: is auto populated
6. Default value: unchecked
7. Click on next >> next >> save.

Creation of Another Checkbox Field on Appointment Object:

1. Repeat the steps from 1 to 3.
2. Give the Field Label: Repairs
3. Field Name: is auto populated
4. Default value: unchecked

5. Click on next >> next >> save.

6. Follow the same and create another checkbox with given names.

7. Give the Field Label: Replacement Parts

8. Field Name: is auto populated

9. Default value: unchecked

10. Click on next >> next >> save.

Creation of Checkbox Field on Service records Object:

1. Go to setup >> click on Object Manager >> type object name (Service records) in search bar >> click on the object.

2. Now click on "Fields & Relationships" >> New.

3. Select "Check box" as data type and click Next.

4. Give the Field Label: Quality Check Status

5. Field Name: is auto populated

6. Default value: unchecked

7. Click on next >> next >> save.

Creation Of Date Fields

Creation of Date Field on Appointment Object :

1. Go to setup >> click on Object Manager >> type object name(Appointment) in the search bar >> click on the object.

2. Now click on "Fields & Relationships" >> New.

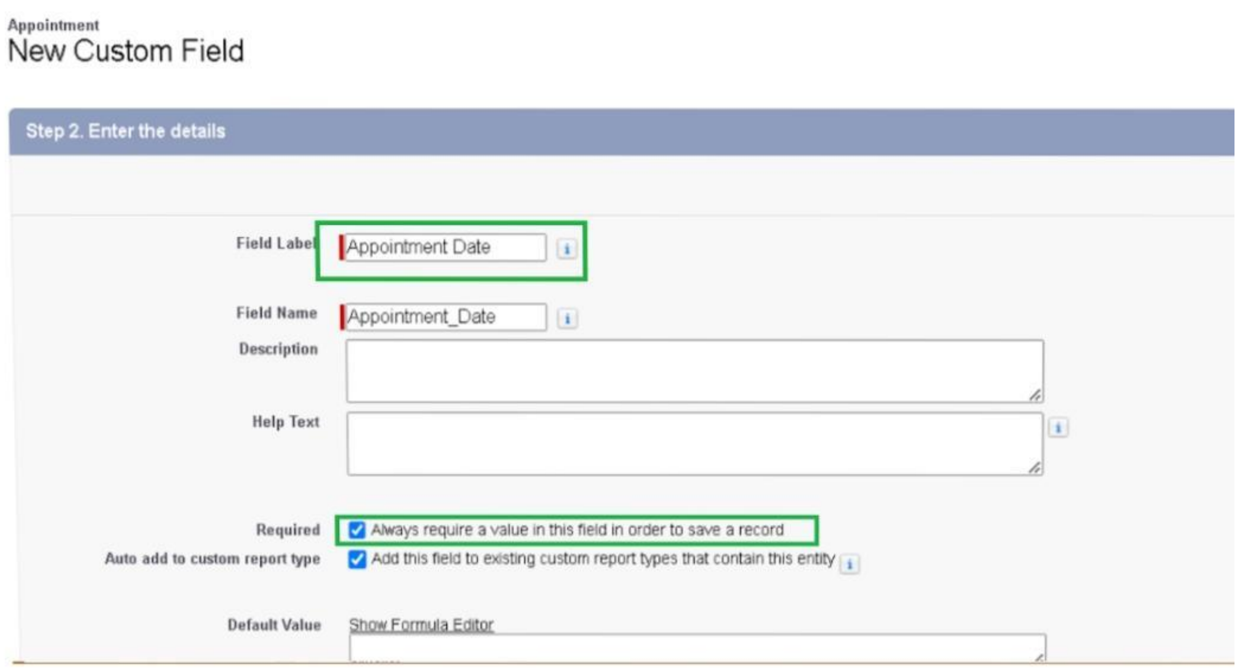
3. Select "Date" as data type and click Next.

4. Give the Field Label : Appointment Date

5. Field Name : is auto populated

6. Make it as a Required field by click on the Required option.

7. Click on next >> next >> save.



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.

To Create A Validation Rule To An Appointment Object

1. Go to the setup page >> click on object manager >> From drop down click edit for Appointment object.

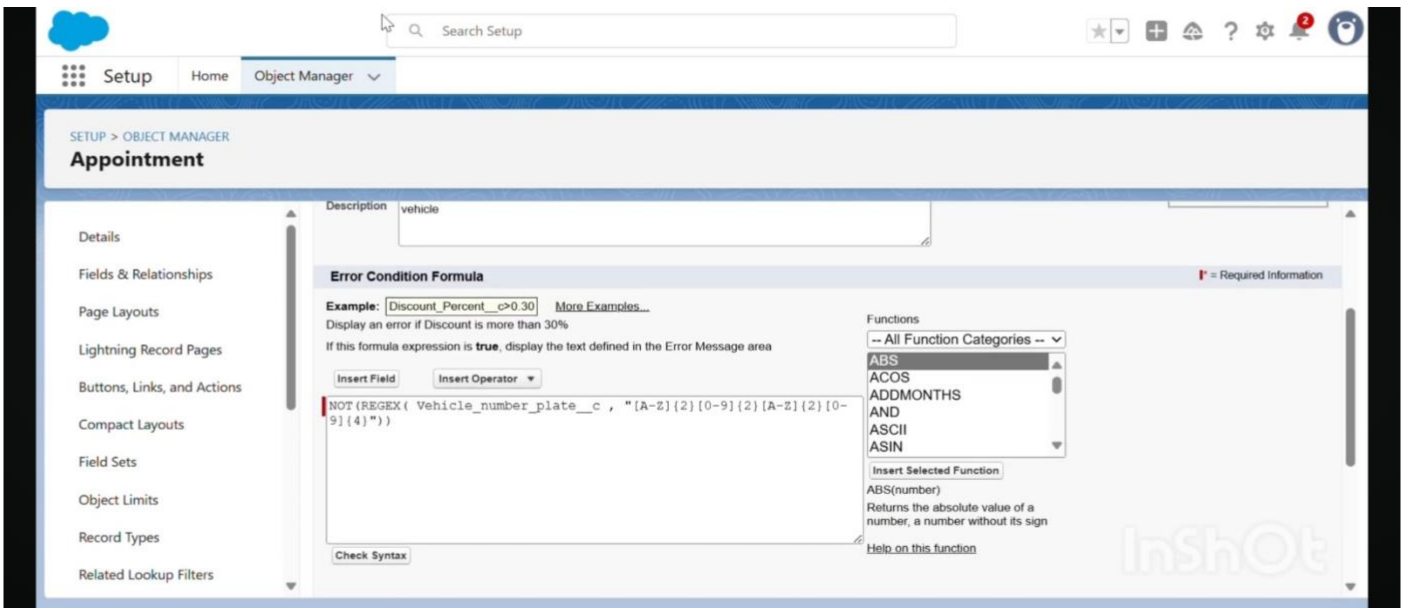
2. Click on the validation rule >> click New.

3. Enter the Rule name as “ Vehicle ”.

4. Insert the Error Condition Formula as : -

5. NOT(REGEX(Vehicle_number_plate__C , “[A-Z]{2}[0-9]{2}[A-Z]{2}[0-9]{4}”))

6. Enter the Error Message as “Please enter valid number ”, select the Error location as Field and select the field as “Vehicle number plate”, and click Save.



Duplicate Rule

To Create A Matching Rule To An Customer Details Object :

1.Go to quick find 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

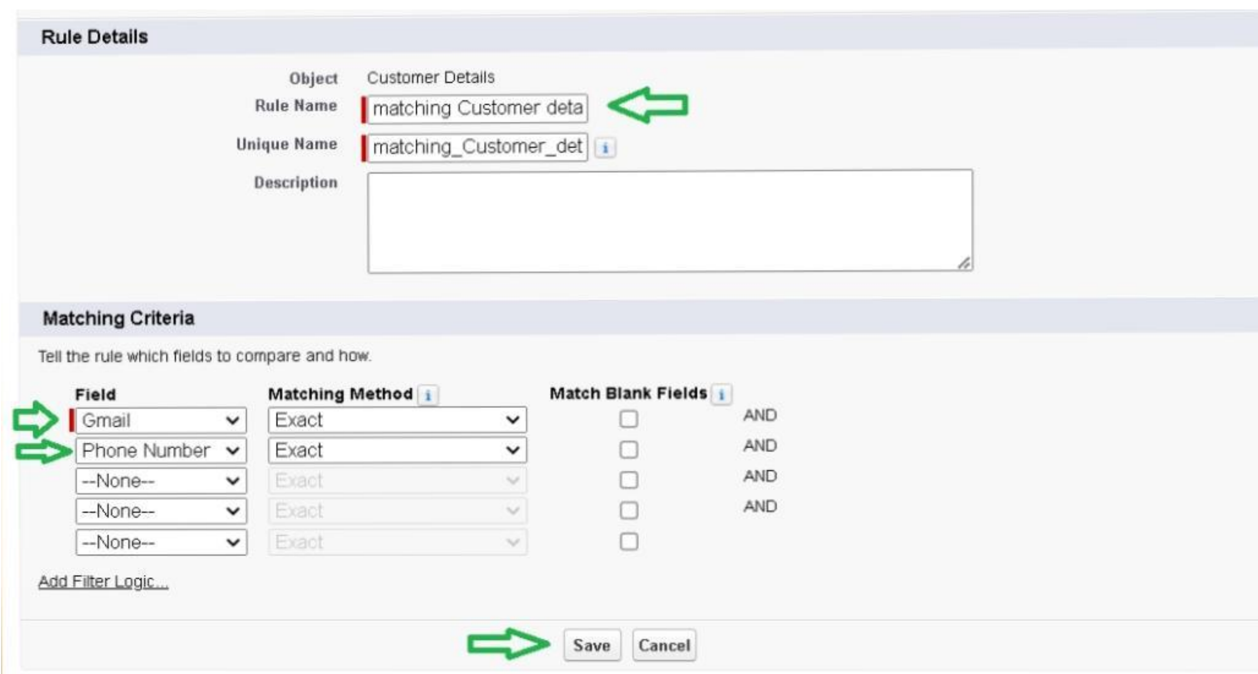
Matching Method

1.Gmail

Exact

2.Phone Number

Exact



8. Click save.

9. After Saving Click on Activate.

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.

Manager Profile

To create a new profile:

1. Go to setup >> type profiles in quick find box >> click on profiles >> clone the desired profile (Standard User) >> enter profile name (Manager) >> Save.

2. While still on the profile page, then click Edit.

3. Select the Custom App settings as default for the Garage management.

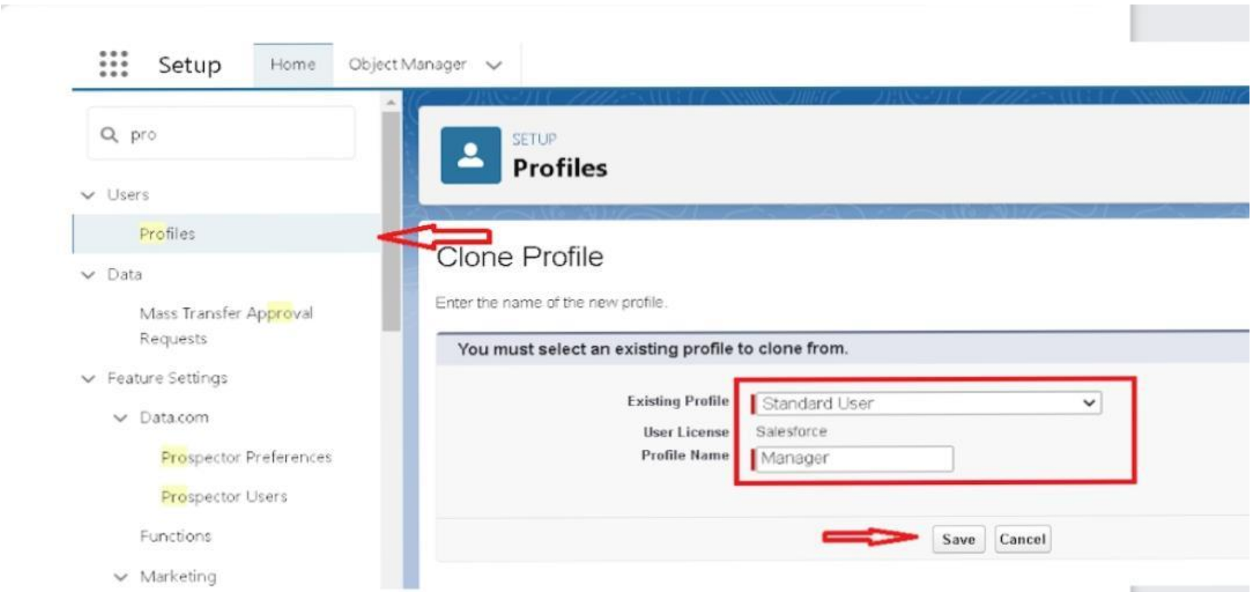
4. Scroll down to Custom Object Permissions and Give access permissions for Appointments, Billing details and feedback , service records and customer details objects as mentioned in the below diagram.

5. Changing the session times out after should be “ 8 hours of inactivity”.

6. Change the password policies as mentioned :

7. User passwords expire in should be “ never expires ”.

8. Minimum password length should be “ 8 ”, and click save.



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.

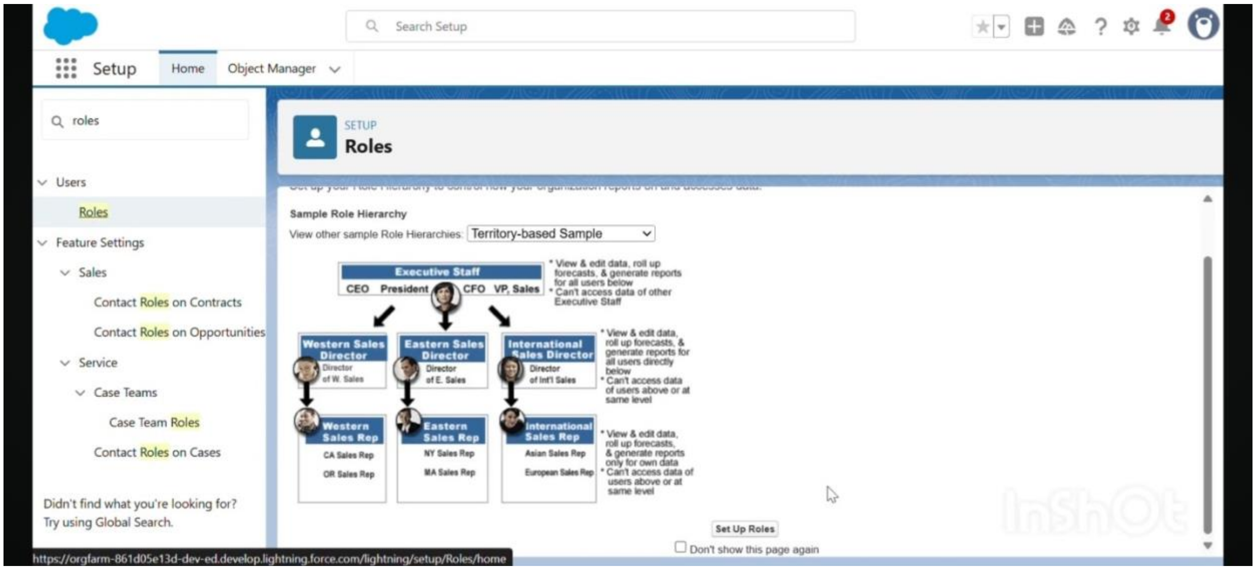
Creating Manager Role

Creating Manager Role:

1. Go to quick find >> Search for Roles >> click on set up roles.

2. Click on Expand All 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.



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.

Create User

1. Go to setup >> type users in quick find box >> select users >> click New user.

2. Fill in the fields

   1.First Name : Nicklaus

   2.Last Name :

   3.Alias : Give a Alias Name

4.Email id : Give your Personal Email id

5.Username : Username should be in this form: text@text.text

6.Nick Name : Give a Nickname

7.Role : Manager

8.User license : Salesforce

9.Profiles : Manager

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.

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 auto populated.

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.

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:

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 Service records Object to private as shown in fig.

3.Click on save and refresh.

4.Scroll down a bit, Click new on Service records sharing Rules.

5.Give the Label name as " Sharing setting"

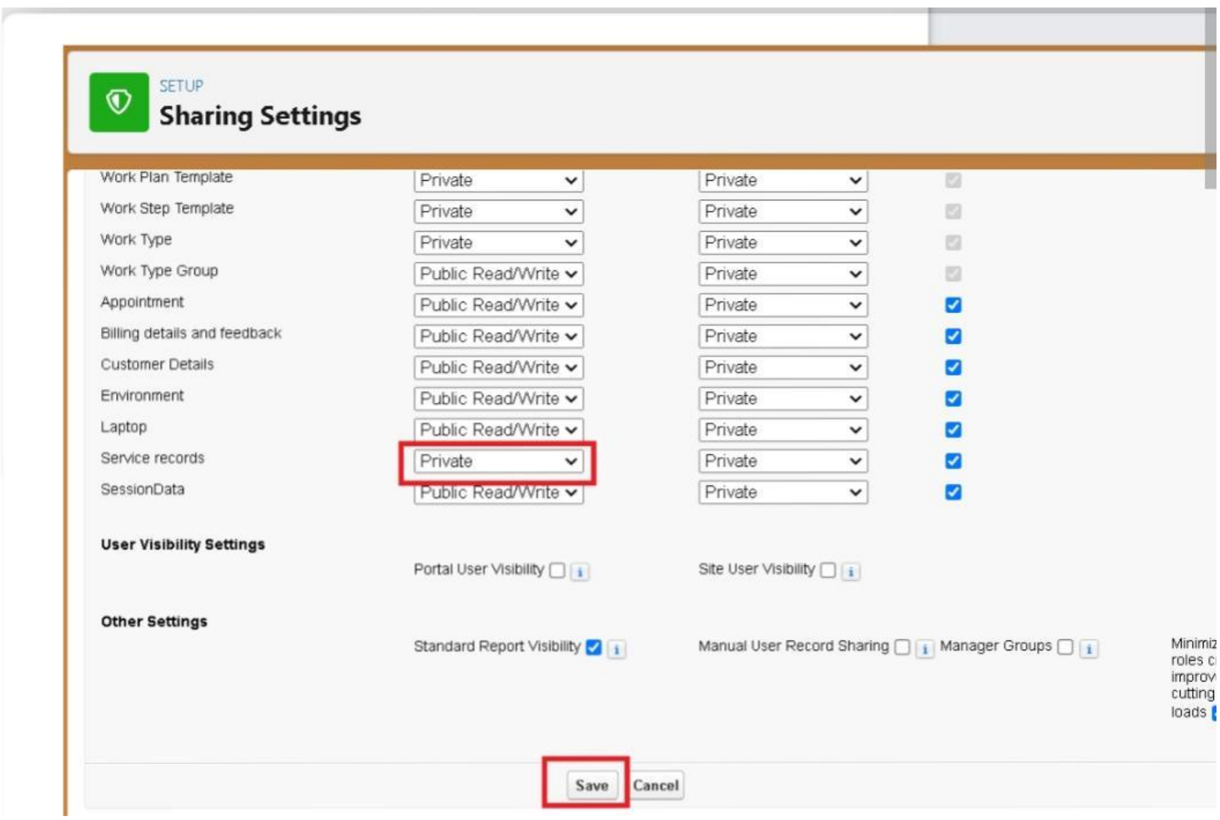
6.Rule name is auto populated.

7.In step 3 : Select which records to be shared, members of " Roles " >> " Sales person"

8.In step 4: share with, select " Roles " >> " Manager "

9.In step 5 : Change the access level to " Read / write ".

10.Click on save.



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.

Create A Flow

1.Go to setup >> type Flow in quick find box >> Click on the Flow and Select the New Flow.

2.Select the Record-triggered flow and Click on Create.

3.Select the Object as “Billing details and feedback” in the Drop down list.

4.Select the Trigger Flow when: “A record is Created or Updated”.

5.Select the Optimize the flow for: “Actions and Related Records” and Click on Done.

6.Under the Record-triggered Flow Click on “+” Symbol and In the Drop down List select the “Update records Element”.

7.Give the Label Name : Amount Update

8.Api name : is auto populated

9.Set a filter condition : All Conditions are met(AND)

10.Field : Payment_Status__c

11.Operator : Equals

12.Value : Completed

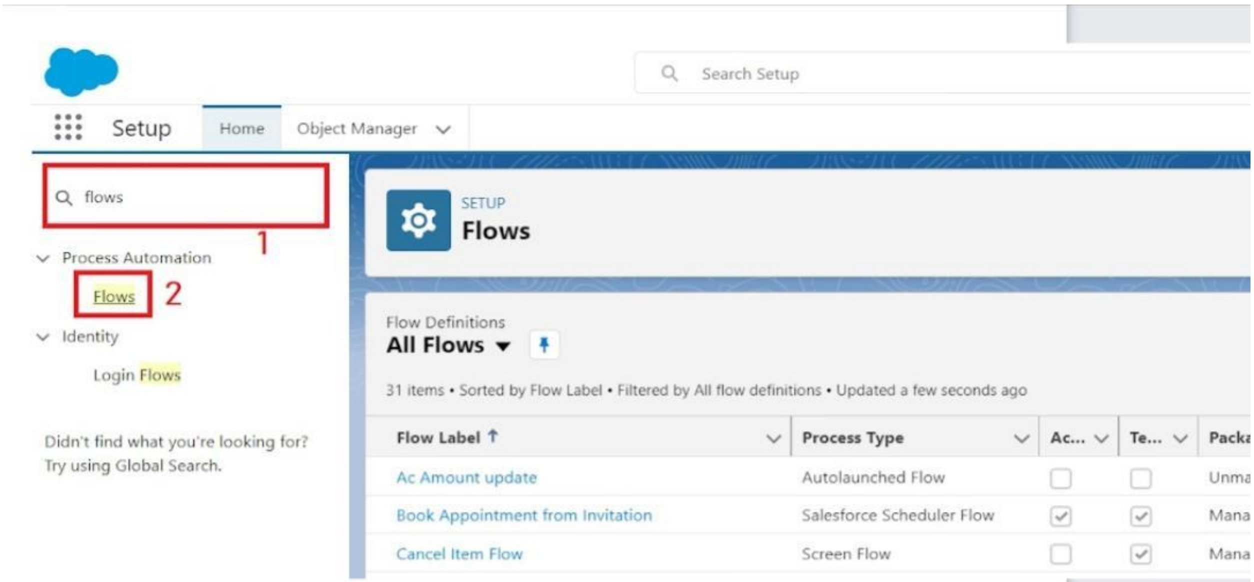
13.And Set Field Values for the Billing details and feedback Record

14.Field : Payment_Paid__c

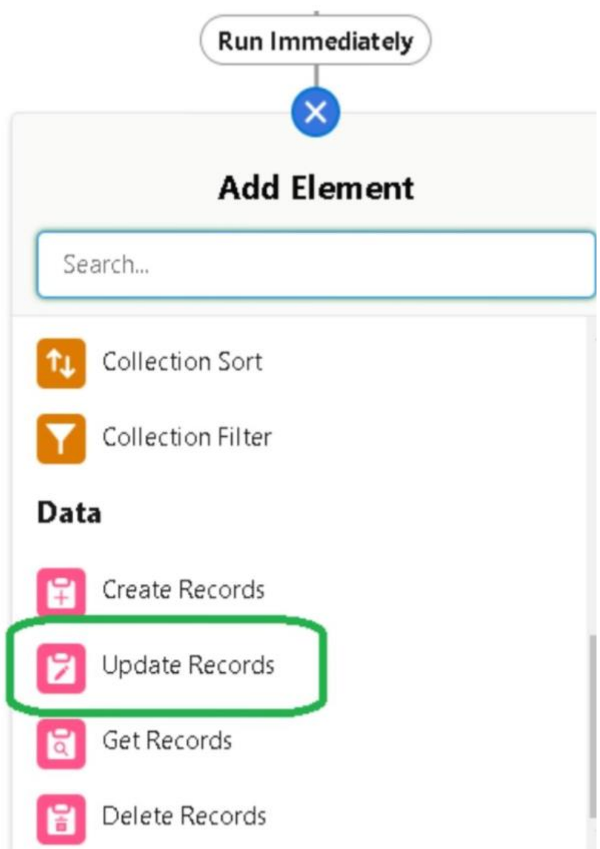
15.Value : {!$Record.Service_records__r.Appointment__r.Service_Amount__c}

16.Click On Done.

17.Before creating another Element. Create a New Resource form Toolbox form top left.



18.Click on the New Resource, And select Variable.



19.Select the resource type as text template.

20.Enter the API name as “ alert”.

21.Change the view as Rich Text ? View to Plain Text.

22.In body field paste the syntax that given below.

{!$Record.Service_records__r.Appointment__r.Customer_Name__r.Name},

I hope this message finds you well. I wanted to take a moment to express my sincere gratitude for your recent payment for the services provided by our garage management team. Your prompt payment is greatly appreciated, and it helps us continue to provide top-notch services to you and all our valued customers.

Amount paid : {!$Record. Payment_Paid__c}

Thank you for Coming .

23.Click done.

24.Now Click on Add Element , select Action.

25.Their action bar will be opened in that search for “ send email ” and click on it.

26.Give the label name as “ Email Alert”

27.API name will be auto populated.

28.Enable the body in set input values for the selected action.

29.Select the text template that created , Body : {!alert}

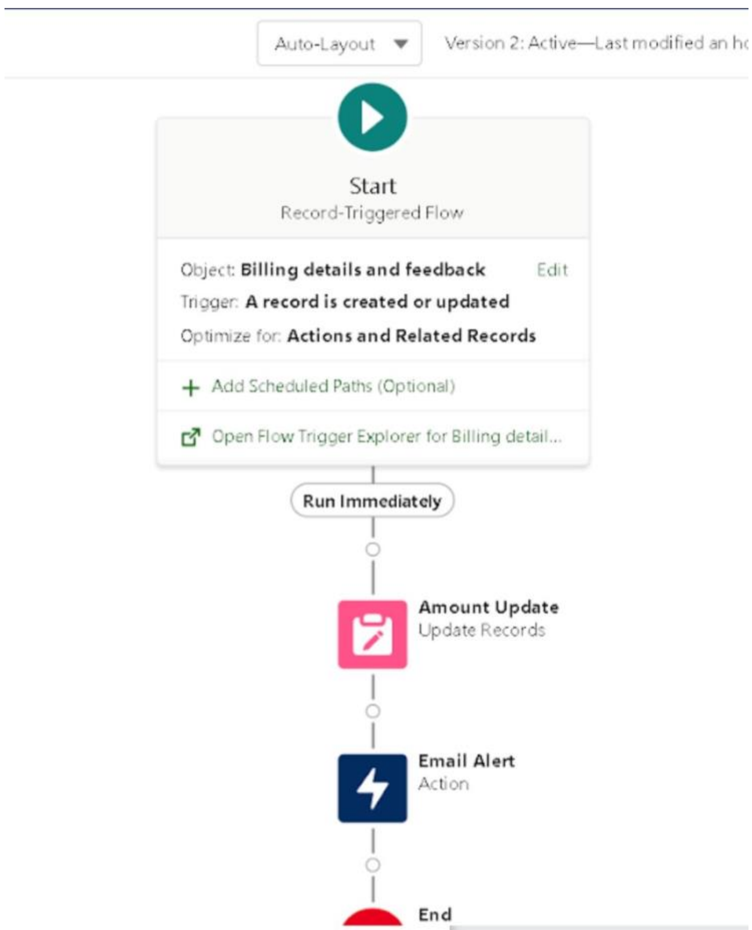
30.Include recipient address list select the email form the record.

31.RecipientAddressList: {!$Record.Service_records__r.Appointment__r.Customer_Name__r.Gmail__c}

32.Include subject as " Thank You for Your Payment – Garage Management".

33.Click done.

34.Click on save. Give the Flow label , Flow Api name will be auto



populated.

35.And click save, and click on activate.

Apex Trigger

Apex Handler

1. Login to the respective trailhead account and navigate to the gear icon in the top right corner.

2. Click on the Developer console. Now you will see a new console window.

3. In the toolbar, you can see FILE. Click on it and navigate to new and create New apex class.

4. Name the class as “AmountDistributionHandler ”.

Code:

```
Public class AmountDistributionHandler {

   Public static void amountDist(list<Appointment__c> listApp){

    List<Service_records__c> serList = new list
<Service_records__c>();

  For(Appointment__c app : listApp){

  If(app.Maintenance_service__c == true && app.Repairs__c == true
&& app.Replacement_Parts__c == true){

     App.Service_Amount__c = 10000;

   Else if(app.Maintenance_service__c == true && app.Repairs__c ==
true){

App.Service_Amount__c = 5000;

}
```

```
   Else if(app.Maintenance_service__c == true &&
app.Replacement_Parts__c == true)
  App.Service_Amount__c = 8000;
   }
   Else if(app.Repairs__c == true && app.Replacement_Parts__c ==
true){
   App.Service_Amount__c = 7000;
    }
    Else if(app.Maintenance_service__c == true){
     App.Service_Amount__c = 2000
      }
     Else if(app.Repairs__c == true){
      App.Service_Amount__c = 3000;
      }
       Else if(app.Replacement_Parts__c == true){
      App.Service_Amount__c = 5000;
      }
    }
  }
}
```

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.

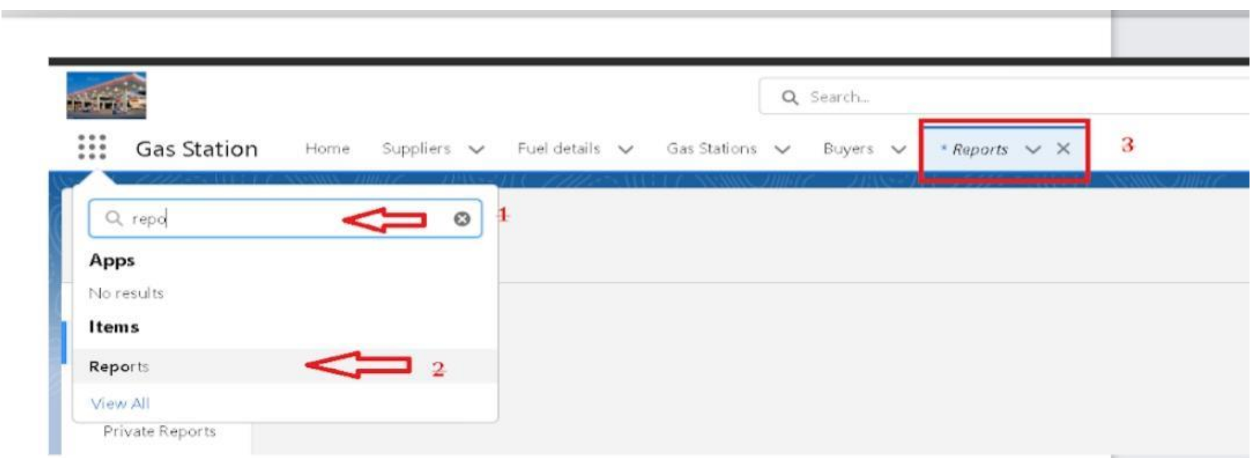
Create A Report Folder

1. Click on the app launcher and search for reports.

2. Click on the report tab, click on new folder.

3. Give the Folder label as "Garage Management Folder", Folder unique name will be auto populated.

4. Click save.



Dashboards

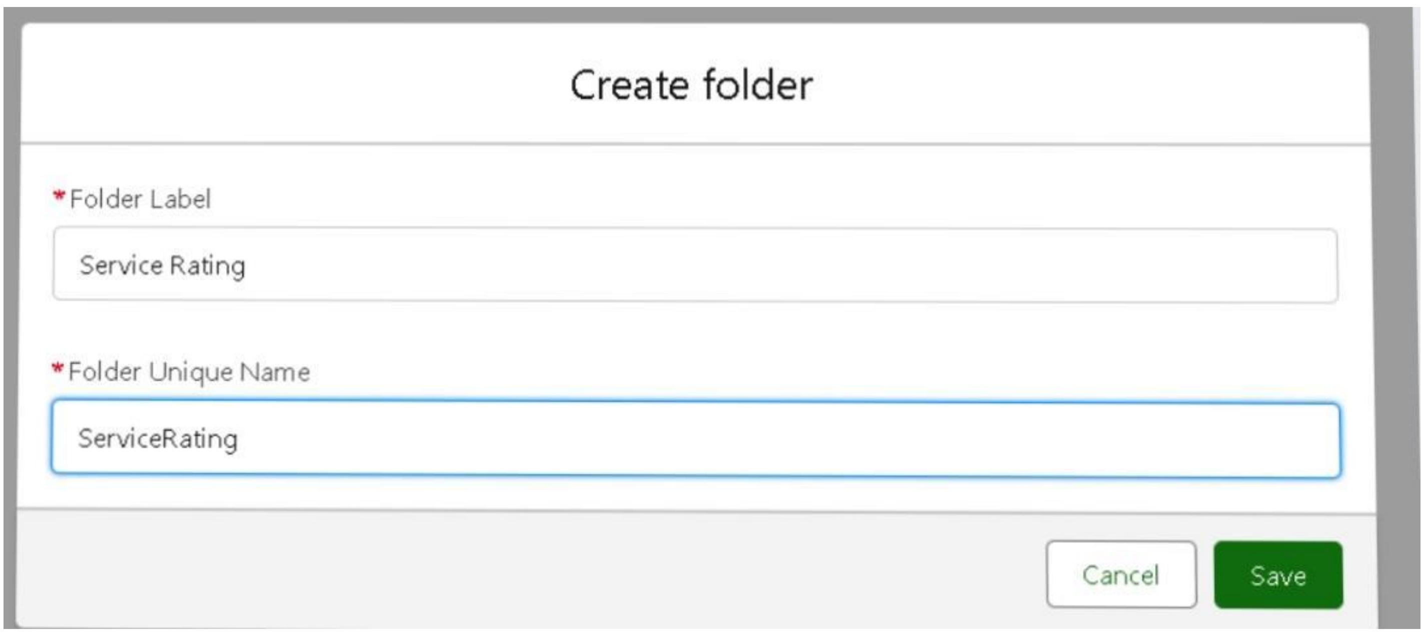
Dashboards help you visually understand changing business conditions so you can make decisions based on the real-time data you've gathered with reports. Use dashboards to help users identify trends, sort out quantities, and measure the impact of their activities. Before building, reading, and sharing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

Create Dashboard Folder

1. Click on the app launcher and search for dashboard.

2. Click on dashboard tab.

3. Click new folder, give the folder label as " Service Rating dashboard".



4. Folder unique name will be auto populated.

5. Click save.

6. Follow the same steps, from Reports Milestone and Activity 2, and provide the sharing settings for the folder that was just created.

User Adoption

Creating Records

1. To create a record in the follow objects follow these steps

2. Click on the app launcher located at the left side of the screen.

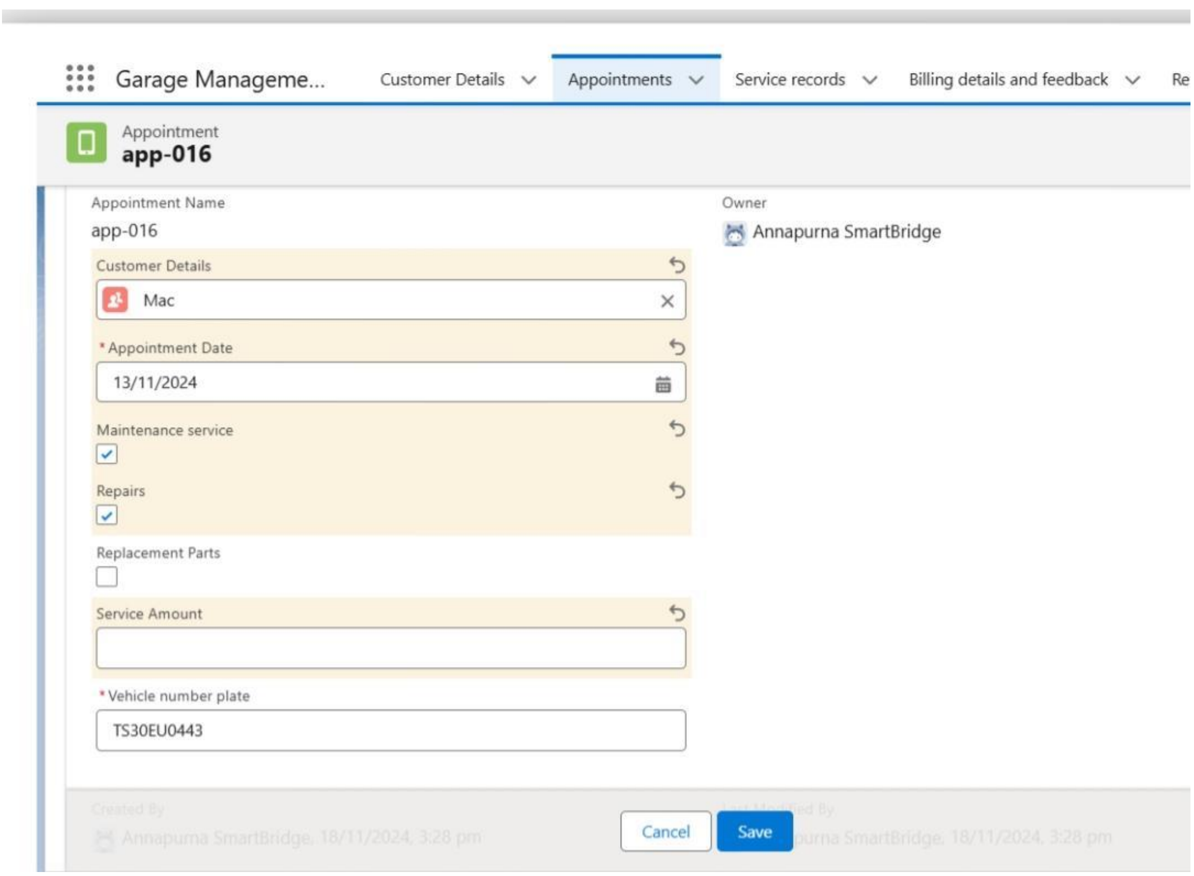
3. Search for " Garage Management" and click on it.

4. Click on the " Consumer details tab".

5. Click on new and fill the details as shown below figs, and click save.

Now, Create the Appointment Record

1. Click on the "Appointment tab".



2. Enter the customer details as created, while entering Appointment Date enter the date less than the created date.

3. Match the validation while entering the vehicle number plate.

4. Select the services you need.

5. Click on save to see the Service Amount.

Now, Create a service Record

G1. Click on the “Service record tab”.

2. Enter the Appointment, and started is selected as default.

3. Click on save.

4. Open the record and click on Quality check status as true.

5. Click on save.

6. Now automatically Service status will be moved to completed.