Application to make the Gas filling Station easy using CRM (admin)

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Project Abstract

In the modern era, efficient management of gas filling stations is crucial to ensure operational effectiveness and customer satisfaction. The implementation of a Customer Relationship Management (CRM) system tailored specifically for gas filling stations offers a comprehensive solution to streamline administrative tasks and enhance service delivery. This application integrates various functionalities to assist administrators in managing customer data, scheduling services, monitoring inventory, and generating reports.

The CRM system provides a centralised platform where administrators can track customer interactions, manage loyalty programs, and handle complaints or feedback seamlessly. It enables the automation of routine tasks such as billing, invoicing, and maintenance scheduling, thereby reducing manual effort and minimising errors. Additionally, the system offers robust analytics and reporting tools to help administrators make data-driven decisions, optimize resource allocation, and improve overall operational efficiency.

Key features of the CRM application include:

1. **Customer Management**: Storing and managing detailed customer profiles, purchase history, and preferences.
2. **Service Scheduling**: Automating service appointments and reminders for regular maintenance.
3. **Inventory Control**: Monitoring fuel levels, tracking supplies, and managing orders to ensure uninterrupted service.
4. **Billing and Invoicing**: Streamlining the billing process with automated invoice generation and payment tracking.
5. **Reporting and Analytics**: Generating insightful reports on sales, customer behaviour, and operational metrics to aid in strategic planning.

By leveraging this CRM application, gas filling station administrators can enhance customer satisfaction, improve operational efficiency, and drive business growth through better resource management and informed decision-making.

INTRODUCTION

A CRM-based application for managing a gas filling station can streamline the overall operations and improve customer experience. The CRM can help automate key tasks, improve communication, track customer interactions, and manage inventory efficiently.

Below is a brief overview of how a CRM could be utilised by an admin:

1. Customer Management:

- Customer Profiles: Store customer details (name, contact info, purchase history).
- Loyalty Programs: Track regular customers and offer discounts or rewards.
- Communication: Automated SMS or email notifications for reminders (next refill, promotions, etc.).

2. Order & Refill Management:

- Order Tracking: Log orders with status updates (pending, in-progress, completed).
- Refill Scheduling: Schedule gas refills and assign them to available technicians.
- Inventory Alerts: Notify when gas levels are low and need restocking.

3. Inventory & Asset Management:

- Inventory Tracking: Monitor gas stock in real time, including cylinder levels and tank capacity.
- Asset Maintenance: Log maintenance schedules for gas equipment (cylinders, pumps, etc.) and notify when service is due.

4. Billing & Invoicing:

- Automated Invoicing: Generate and send invoices for gas purchases automatically.
- Payment Tracking: Record payments and notify customers of outstanding bills.

5. Reports & Analytics:

- Sales Analysis: Generate reports on daily, weekly, or monthly gas sales.
- Customer Insights: Analyse customer data to understand preferences and improve services.
- Inventory Reports: Get reports on inventory levels to avoid stock outs.

6. Safety & Compliance:

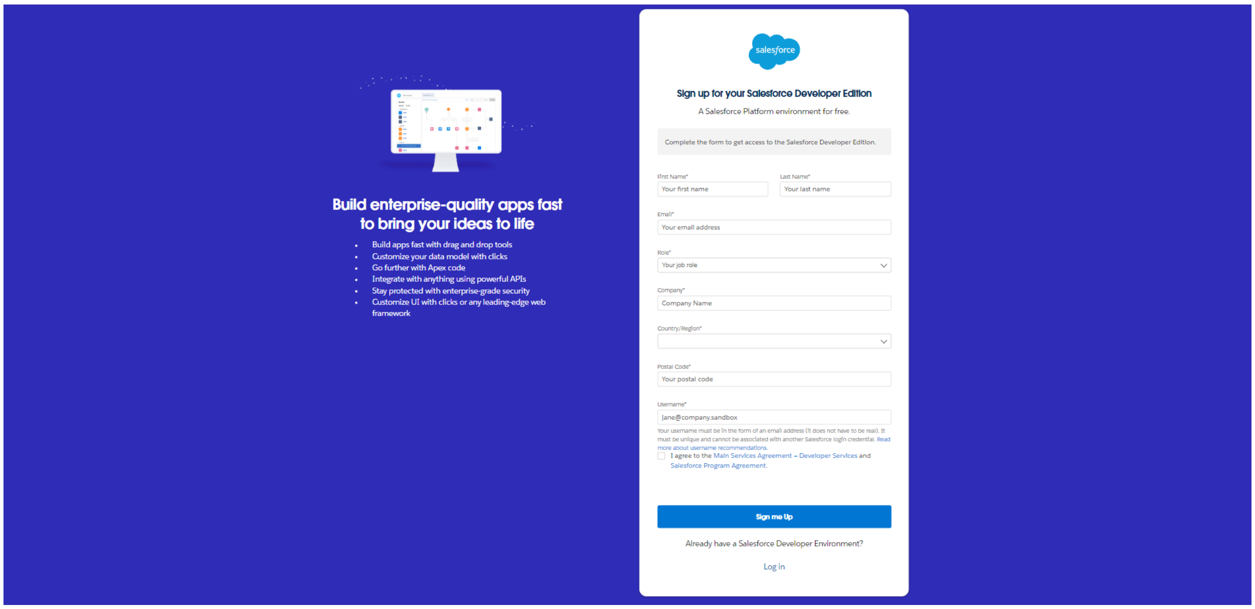
- Compliance Tracking: Ensure compliance with government regulations and maintain necessary documentation.
- Safety Alerts: Notify staff and customers of safety measures and maintenance checks.

By using a CRM system, the gas filling station can streamline operations, improve customer satisfaction, and ensure compliance with safety standards.

Setup Guide

1. Creating a Salesforce Developer Account:

1. Visit Salesforce Developer Signup.



2. Fill out the signup form:
   - First Name & Last Name
   - Email
   - Role: Developer
   - Company: College Name
   - Country: India
   - Postal Code: Your Pin Code
   - Username: (e.g., username@organization.com)

2. Account Activation

1. Check your email inbox for a verification email from Salesforce.
2. Click Verify Account.
3. Set up your password and security question, then click Change Password.

3. Creating Salesforce Objects

3.1 Supplier Object

1. Go to Object Manager > Create > Custom Object.
2. Configure the following:
    - Label Name: Supplier
    - Plural Label Name: Suppliers
    - Record Name: Supplier Name (Text)
3. Enable Allow Reports, Track Field History, and Allow Search.
4. Click Save.

3.2 Gas Station Object

1. Go to Object Manager > Create > Custom Object.
2. Configure the following:
    - Label Name: Gas Station
    - Plural Label Name: Gas Stations
    - Record Name: Gas Station (Auto Number)
    - Display Format: Gas-{000}, Starting Number: 1
3. Enable Allow Reports, Track Field History, and Allow Search.
4. Click Save.

3.3 Buyer and Fuel Details Objects

3.3.1 Buyer Object

1. Go to Object Manager > Create > Custom Object.
2. Configure the following:
    - Label Name: Buyer
    - Plural Label Name: Buyers
    - Display Format: Buyer-{000}, Starting Number: 1

3.3.2 Fuel Details Object

1. Go to Object Manager > Create > Custom Object.

2. Configure the following:
    - Label Name: Fuel details
    - Plural Label Name:Fuel details
    - Display Format: fuel-{000}, Starting Number: 1

4. Creating Custom Tabs

1. Go to Setup > Tabs > New (under Custom Object Tabs).
2. Select the object (e.g., Supplier), choose a tab style, and click Next.
3. Configure profile visibility as needed and click Next.
4. uncheck the include tab.
5. Make sure that the Append tab to users' existing personal customizations is checked.
6. Click Save.

Repeat for remaining objects (Gas station, Buyer, Fuel details).

5. Creating a Lightning App

1. Go to Setup > App Manager > New Lightning App.
2. Configure the app:
    - App Name: GAS STATION
    - Leave other settings as default and click Next.
3. Add navigation items (Supplier, Gas Station, Buyer, Receipt) and click Next.
4. Assign the System Administrator profile to the app and click Save & Finish.

6. Creating Fields for Objects

6.1 Junction Object

Fuel details with Supplier

1. Go to Setup > Object Manager > Fuel details > Fields & Relationships > New.
2. Select Master-Detail Relationship > Next
    - Object: Supplier

- Field label: Supplier Name
- Leave other settings as default and click Next.
- Click Save & New.

Fuel details with Gas Station

1. Go to Setup > Object Manager > Fuel details > Fields & Relationships > New.
2. Select Master-Detail Relationship > Next
   - Object: Gas station
   - Field label: Gas Station
   - Leave other settings as default and click Next.
   - Click Save.

6.2 Master-Detail Relationship

Relationship between Buyer & Gas Station Object

1. Go to Setup > Object Manager > Buyer > Fields & Relationships > New.
2. Select Master-Detail Relationship > Next
   - Object: Gas station
   - Field label: Gas Station Name
   - Leave other settings as default and click Next.
   - Click Save

6.3 Number field in Fuel Details & Buyer Objects

Number field in Fuel Details Object

1. Go to Setup > Object Manager > Fuel details > Fields & Relationships > New.
2. Select Number > Next
   - Field label: Fuel Supplied
   - Length: 5
   - Field Name will be auto populated.
   - Leave other settings as default and click Next.
   - Click Save.

Number field in Buyer Object

1. Go to Setup > Object Manager > Buyer > Fields & Relationships > New.
2. Select Number > Next
   - Field label: Fuel filled in vehicle
   - Length: 5
   - Field Name will be auto populated.
   - Leave other settings as default and click Next.
   - Click Save.

6.4 Creating Roll-Up Summary

Roll-up summary field on Supplier Object

1. Go to Setup > Object Manager > Supplier > Fields & Relationships > New.
2. Select Roll Up Summary > Next
   - Field label: Fuel Supplied
   - Field Name will be auto populated > Next
   - Summarized Object: Fuel Details
   - Roll type: Sum
   - Field to aggregate: Fuel Supplied
   - Leave other settings as default and click Next
   - Click Save.

Roll-up summary field on Gas Station Object

1. Go to Setup > Object Manager > Gas station > Fields & Relationships > New.
2. Select Roll Up Summary > Next
   - Field label: Fuel supplied to bunk
   - Field Name will be auto populated > Next
   - Summarized Object: Fuel Details
   - Roll type: Sum
   - Field to aggregate: Fuel Supplied
   - Leave other settings as default and click Next

- Click Save.

Roll-up summary field on Gas Station Object

1. Go to Setup > Object Manager > Gas station > Fields & Relationships > New.
2. Select Roll Up Summary > Next
   - Field label: Fuel used
   - Field Name will be auto populated > Next
   - Summarized Object: Buyer
   - Roll type: Sum
   - Field to aggregate: Fuel filled in vehicle
   - Leave other settings as default and click Next.
   - Click Save.

6.5 Creating Formula field in Gas Station Object

Field for Gas Station Object

1. Go to Setup > Object Manager > Gas station > Fields & Relationships > New.
2. Select Formula > Next
   - Field label: Fuel Available in Bunk
   - Field Name: Fuel Available in Bunk
   - Formula return type: Number > Next
   - Under Advanced Formula
   - Insert field formula : Fuel_supplied_to_bunk__c - Fuel_Used__c
   - Click "Check Syntax"
   - Click Save.

Field for Buyer Object

1. Go to Setup > Object Manager > Buyer > Fields & Relationships > New.
2. Select Formula > Next
   - Field label: Customer Name
   - Field Name: Customer Name
   - Formula return type: Text > Next
   - Under Advanced Formula

- Insert field formula : First_Name__c   + ' ' + Last_Name__c
- Click "Check Syntax"
- Click Save.

6.6 Creating Cross Object Formula Field in Buyer Object

1. Go to Setup > Object Manager > Buyer > Fields & Relationships > New.
2. Select Formula > Next
    - Field label: Amount Paid
    - Field Name: Amount Paid
    - Formula return type: Number > Next
    - Under Advanced Formula
    - Insert field formula :
      Fuel_filled_in_vehicle__c * Gas_Station_name__r.Fuel_price_liter__c
    - Click "Check Syntax"
    - Click Save.

6.7 Creating Picklist field in Buyer Object

1. Go to Setup > Object Manager > Buyer > Fields & Relationships > New.
2. Select Picklist > Next
    - Field label: Vehicle type
    - Under Values > “Enter values, with each value separated by a new line"
    - The values are: two wheeler,
      three wheeler,
      four wheeler,
      six wheeler,
      eight wheeler and Others.
    - click Next.
    - Leave other settings as default and click Next.
    - Click Save & New.

1. Go to Setup > Object Manager > Buyer > Fields & Relationships > New.
2. Select Picklist > Next
    - Field label: Mode of Payment
    - Under Values > “Enter values, with each value separated by a new line"
    - The values are: credit card,
      debit card,
      net banking,
      upi,
      cash.
    - click Next.
    - Leave other settings as default and click Next.
    - Click Save & New.

6.8 Creating The Validation Rule

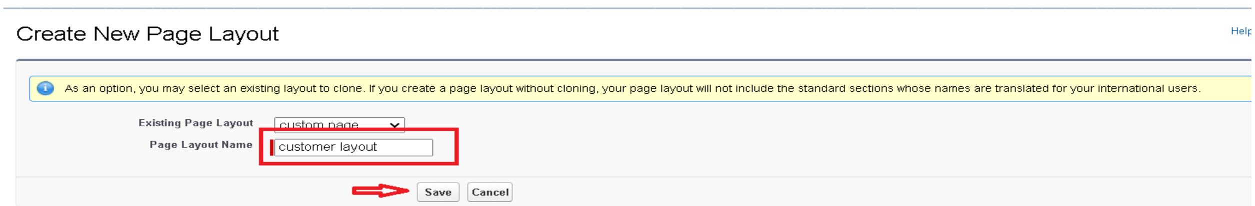
1. Go to Setup > Object Manager > Buyer
2. Select Validation Rule > New
    - Rule Name: Phone
    - Insert the Error Condition Formula as : -
      NOT(REGEX(Phone_Number__c , "[6-9]{1}[0-9]{9}"))
    - Error Message: incorrect data
    - Error Location: Field > Select "Phone Number"
    - Click Save.

6.9 Creating Remaining Fields in Buyer Object

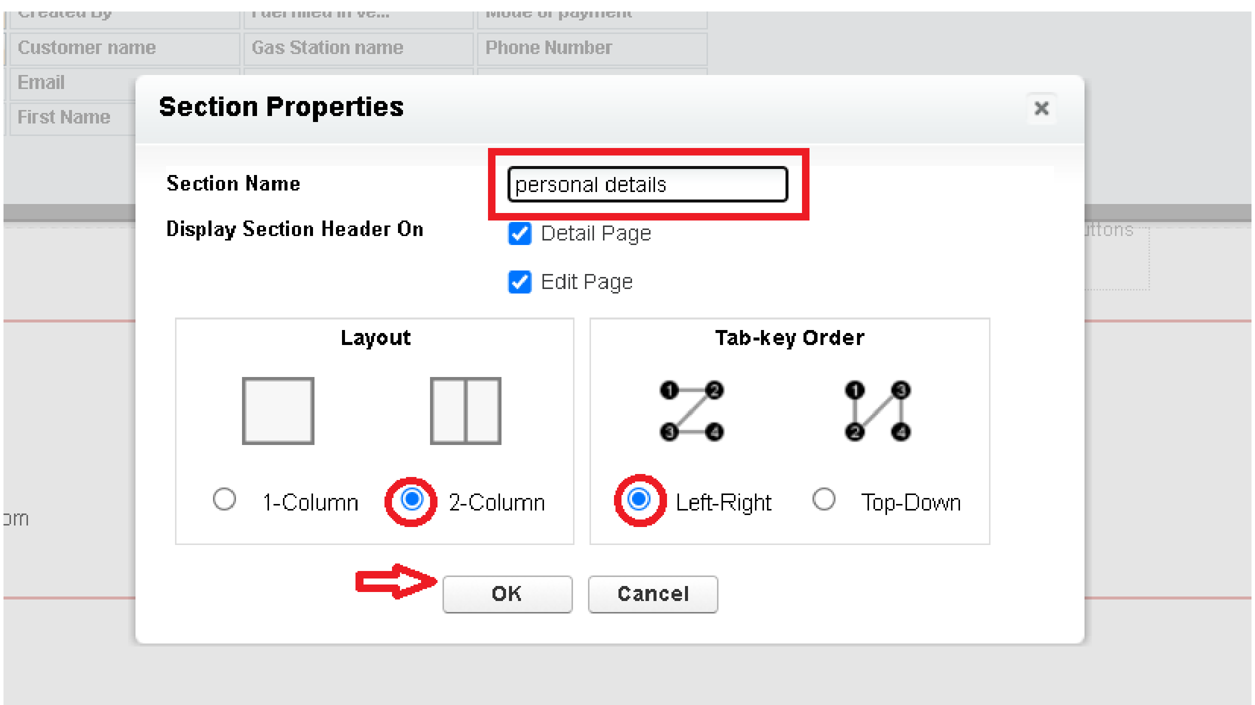
Field Name	Data Type
First Name	Text
Last Name	Text
Customer Name	Formula
Phone Number	phone
email	email

7. Creating The Page Layouts

1. Go to Setup > Object Manager > Buyer > Page Layouts > New.
2. Select the existing page layout
3. page layout name: “Customer layout” > click save.



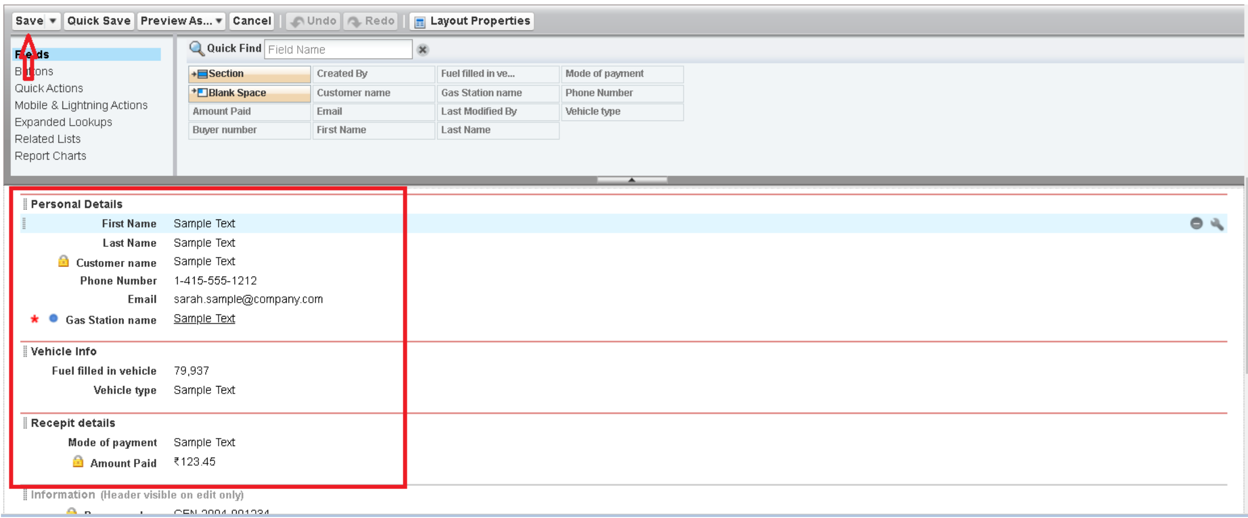
4. section field: Buyer details > create the section.
5. section name: “Personal details” > click Ok.



6. Drag the fields to this section that is mentioned; they are

   First name, last name, customer name, phone number, email, Gas station name.

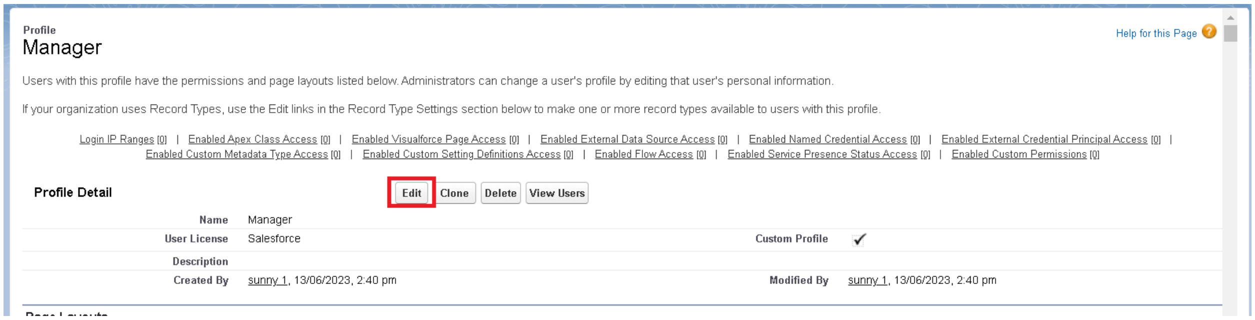
7. Follow the same process for another two sections as shown above; they are
8. One section is " vehicle info "; drag the fields that are
   Fuel filled in the vehicle, vehicle type.
9. Another section is "Receipt details ", and drag the fields that are
   Mode of payment, Amount paid.
10. Click save.



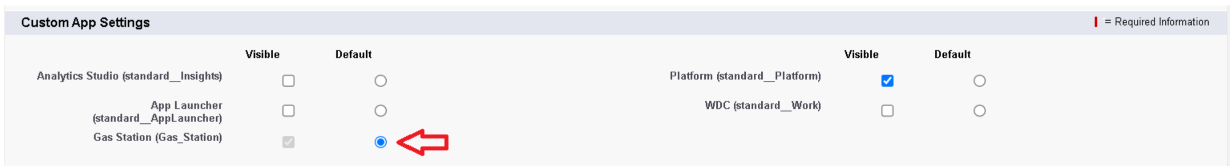
8. Profiles

8.1 Manager Profile

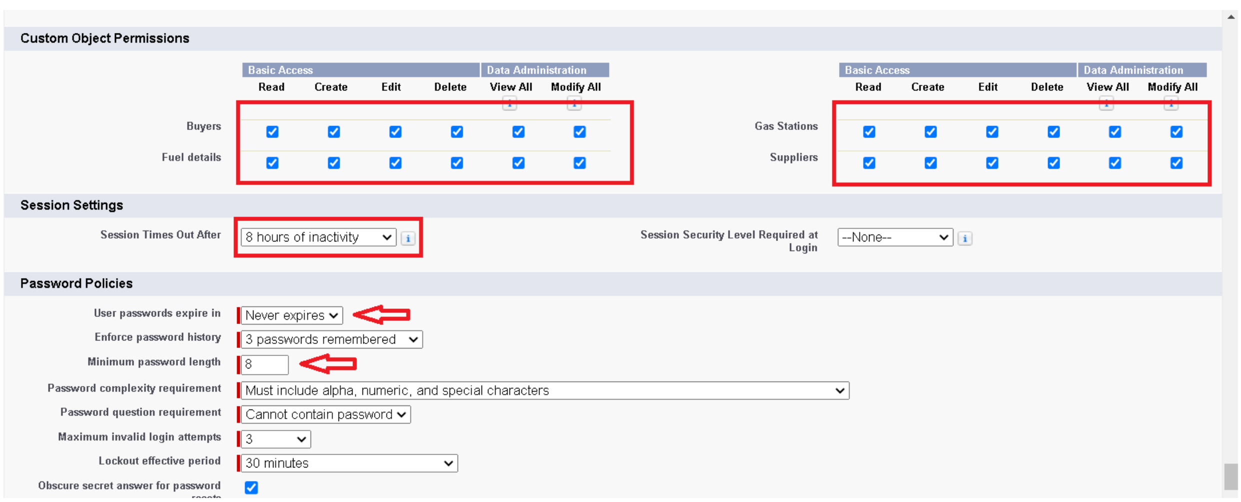
1. Go to Setup > in the search bar, type profiles > click on profile > clone the desired profile (Standard User)
   - Profile name: Manager > Save.
2. In profile page > Edit



3. Select the Custom App settings as default for the "Gas station".



4. Scroll down to Custom Object Permissions
5. Give access permissions for Buyers, Fuel details, gas station and supplier objects
5. Change 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 ” > Click Save.

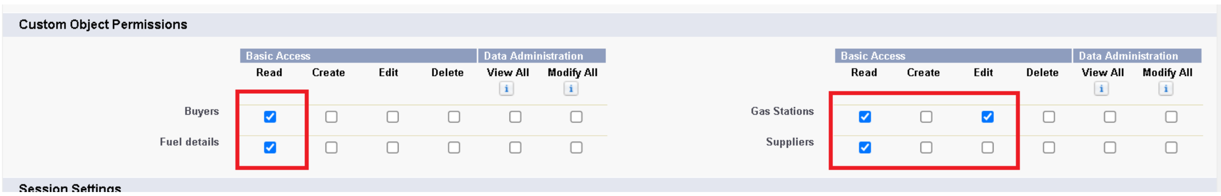


8.2 Sales Executive Profile

1. Go to setup > in the search bar, type profiles > click on profile > clone the desired profile (Salesforce Platform User)

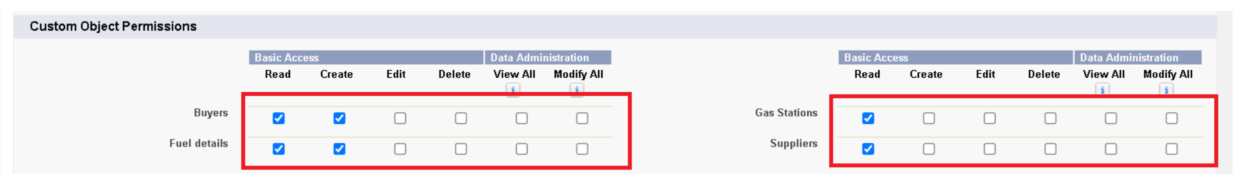
- Profile name: sales executive > Save.

2. In the profile page > click Edit.
3. Select the Custom App settings as default for the Gas station.
4. Scroll down to Custom Object Permissions
5. Give access permissions for Buyers, Fuel details, gas station and supplier objects
6. Click Save.



8.3 Sales Person Profile

1. Go to setup > in the search bar, type profiles > click on profile > clone the desired profile (Salesforce Platform User)
   - Profile name: sales person> Save.
2. In the profile page > click Edit.
3. Select the Custom App settings as default for the Gas station.
4. Scroll down to Custom Object Permissions
5. Give access permissions for Buyers, Fuel details, gas station and supplier objects
6. Click Save.



9. Creating Role & Role Hierarchy

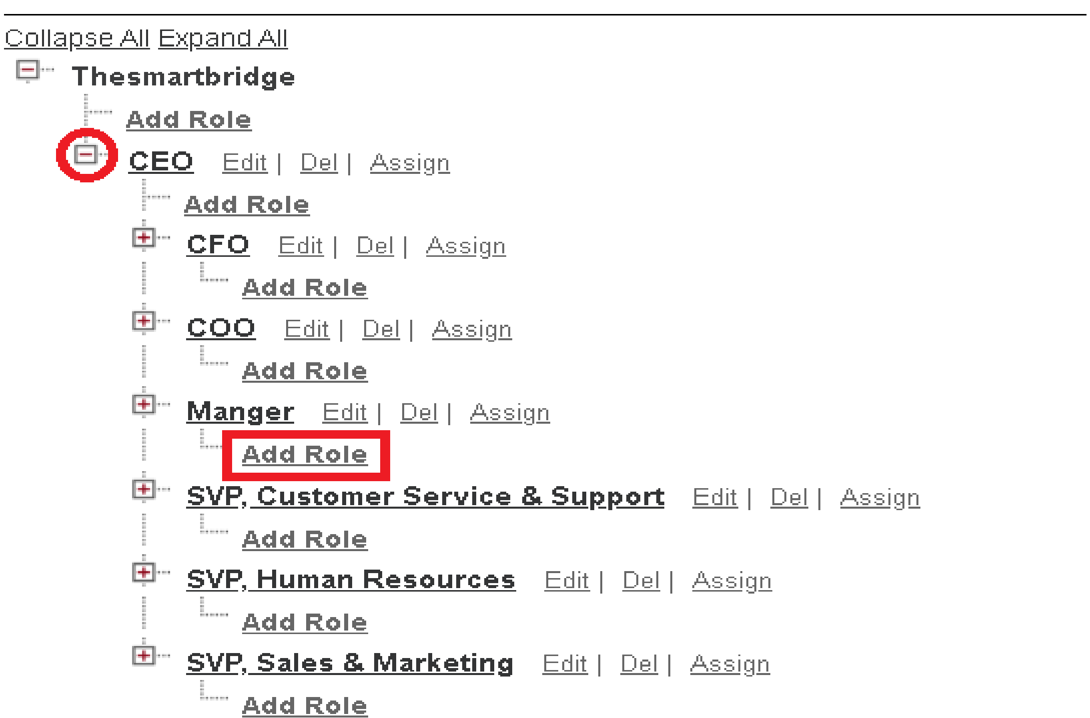
9.1 Creating Manager Role

1. Go to setup > search for Roles > click on set up Roles
2. Click on Expand All > click on add role under whom this role works.

- Label: Manager
- Role name generates itself.
- Click Save.

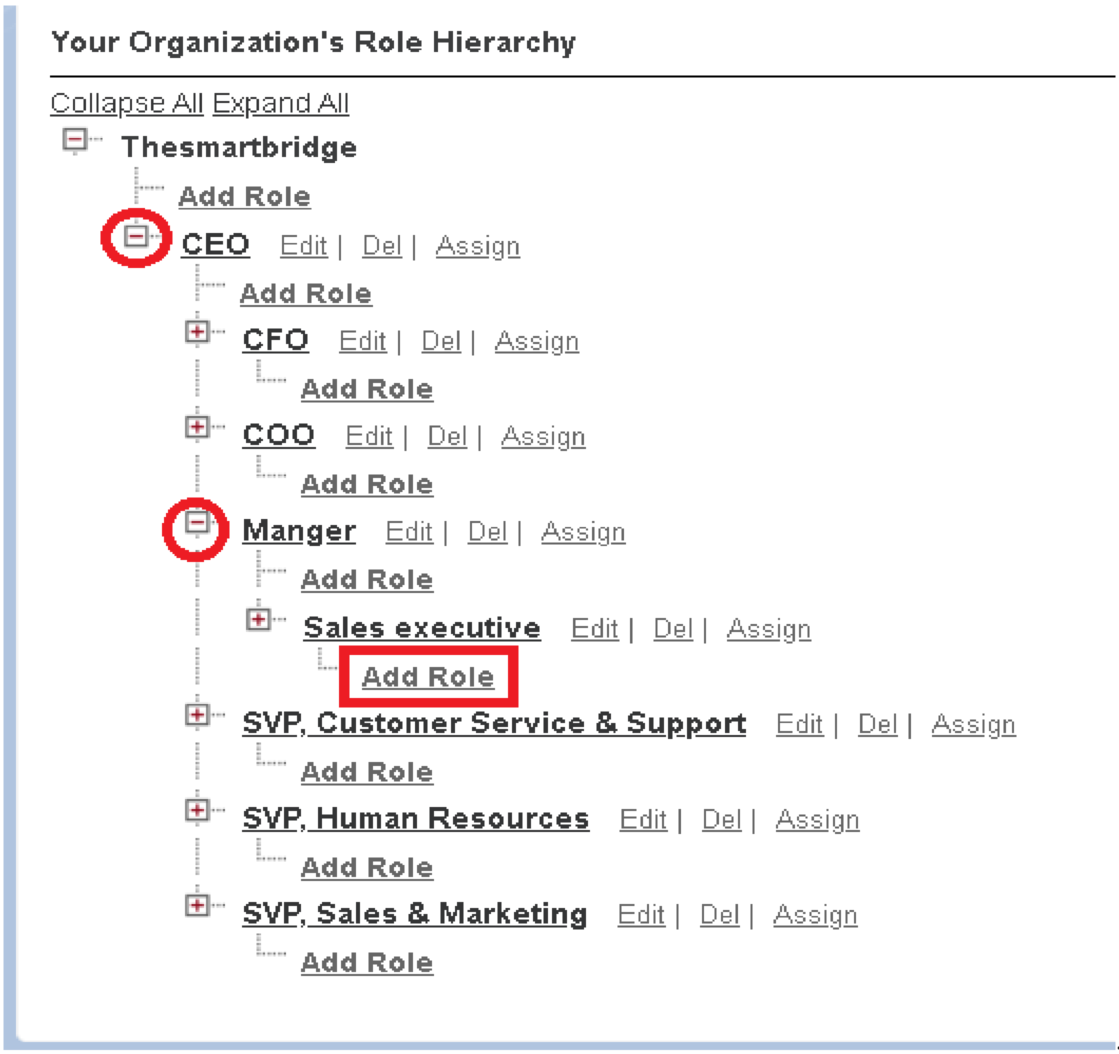
9.2 Creating Another Roles Under Manager Role

1. Go to setup > search for Roles > click on set up Roles
2. Click plus on the CEO role.Click add role under manager.



- Label: sales executive
- Role name generates itself > Click Save.

3. Repeat the same steps for another role
4. Click plus on CEO Role > Click plus on manager
5. Click add role under sales executive

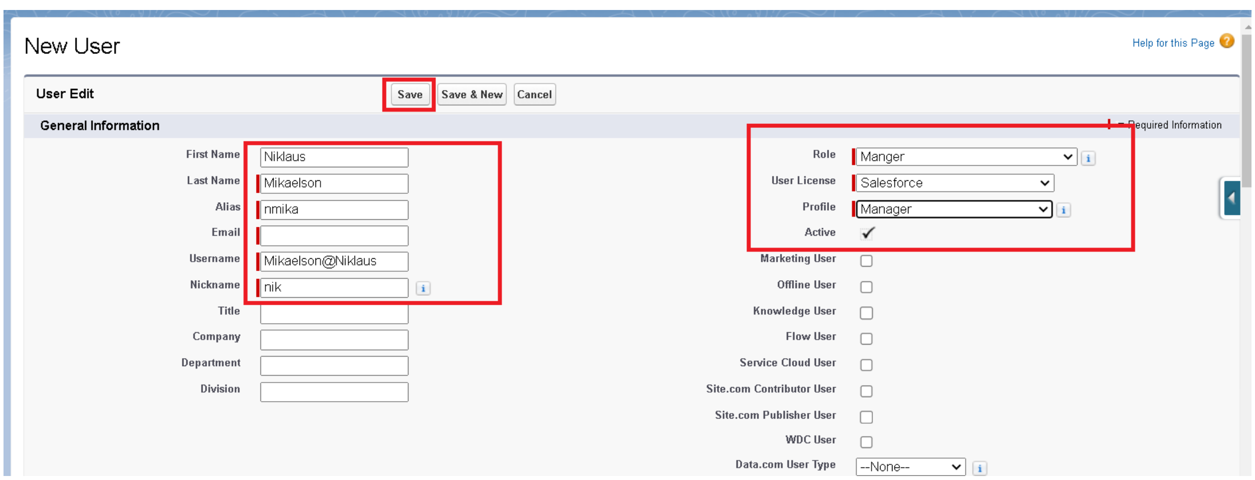


- Label: sales person
- Role name generates itself > Click Save.

10. Creation Of Users

10.1 Creating a user

1. Go to setup > in the search bar type users > select users > New user
    - First Name : Niklaus
    - Last Name : Mikaelson
    - Alias : Give an Alias Name
    - Email id : Give your Personal Email id
    - Username : Username should be in this form: text@text.text
    - Nick Name : Give a Nickname
    - Role : Manager
    - User licence : Salesforce
    - Profiles : Manager
2. Click Save.



10.2 Creating Another users

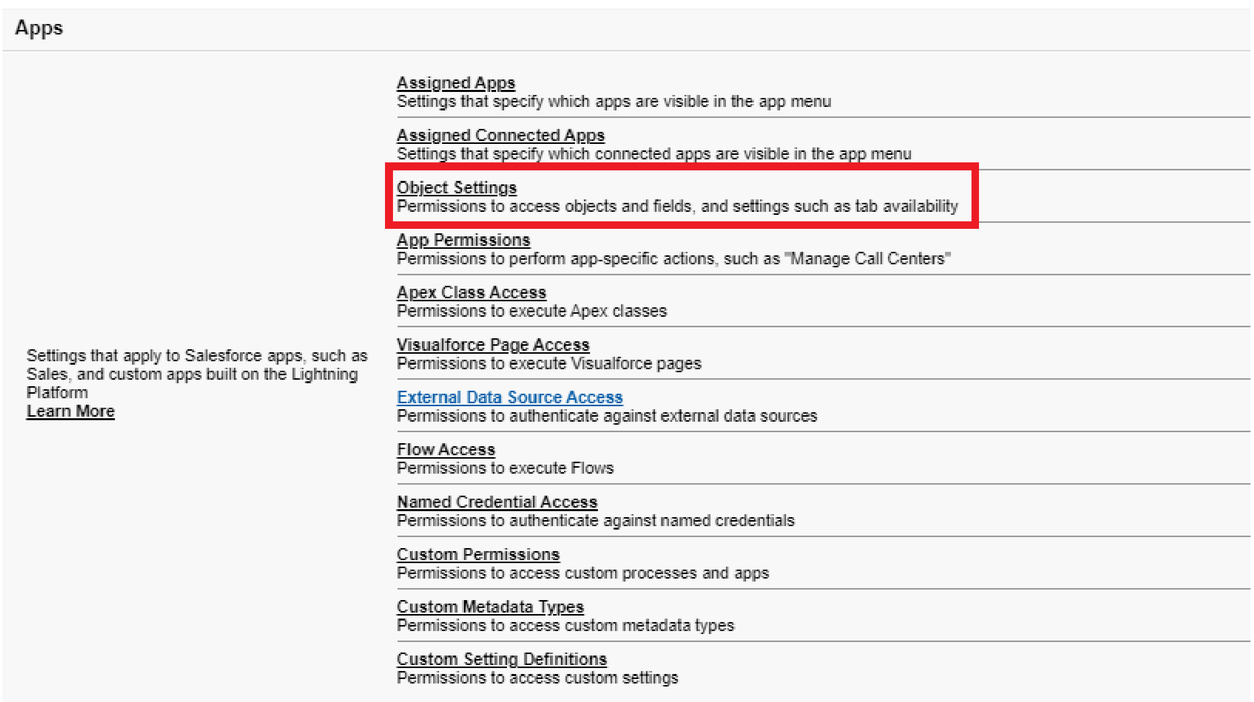
1. Follow the same steps from the above activity and create another user using
    1. Role : sales executive
    2. User licence : Salesforce Platform
    3. Profile : sales executive

2. Repeat the steps and create another user using
    1. Role : sales person
    2. User licence : Salesforce Platform
    3. Profile : sales person

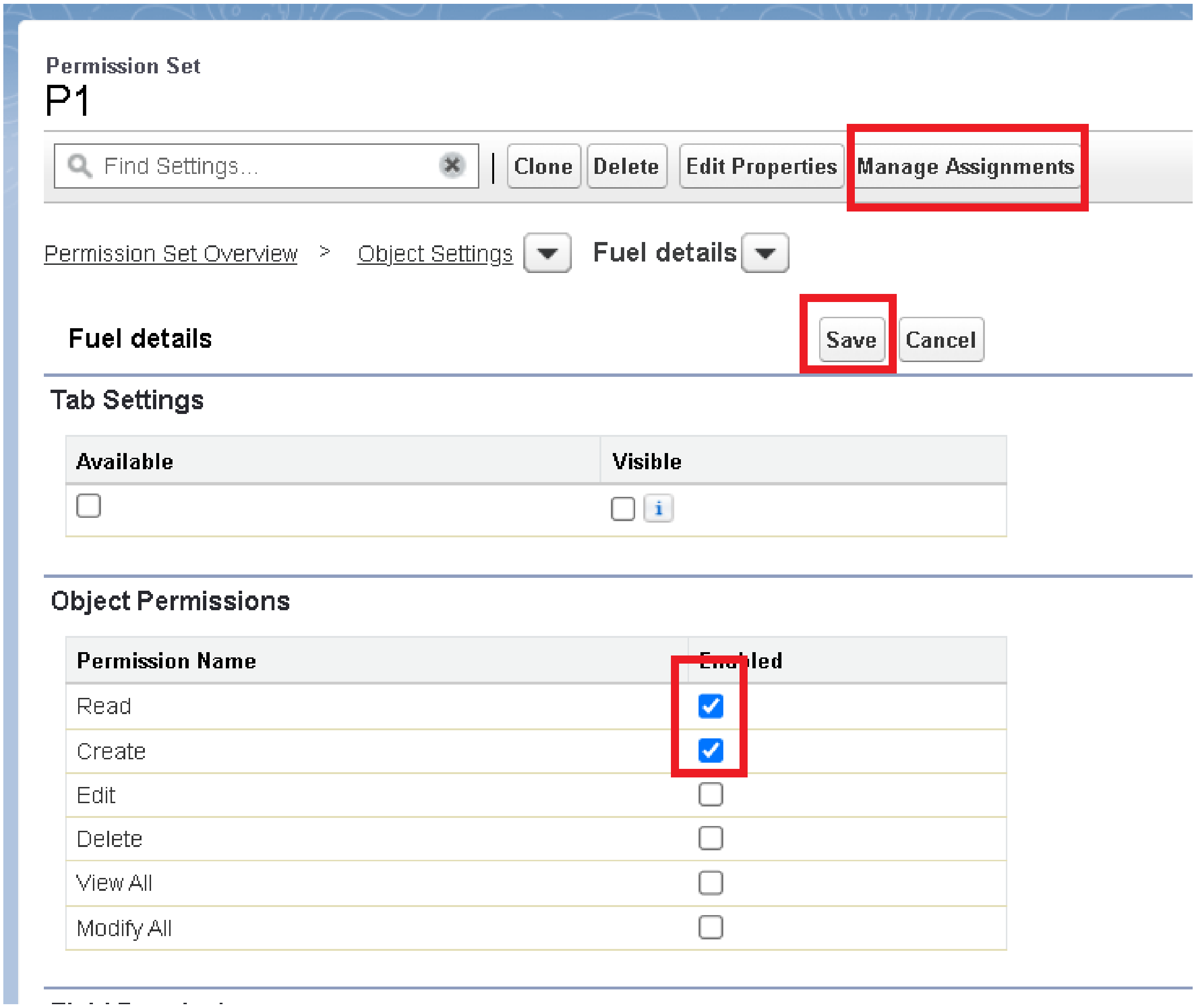
11. Creating Permission Sets

1. Go to setup > type permission sets > select permission sets > New
    - Label Name: P1
    - API will be auto populated > Save.

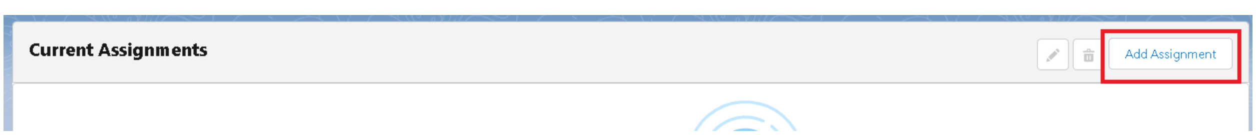
2. In the profile page > click Edit.
3. Under Apps > Select "Object Settings".



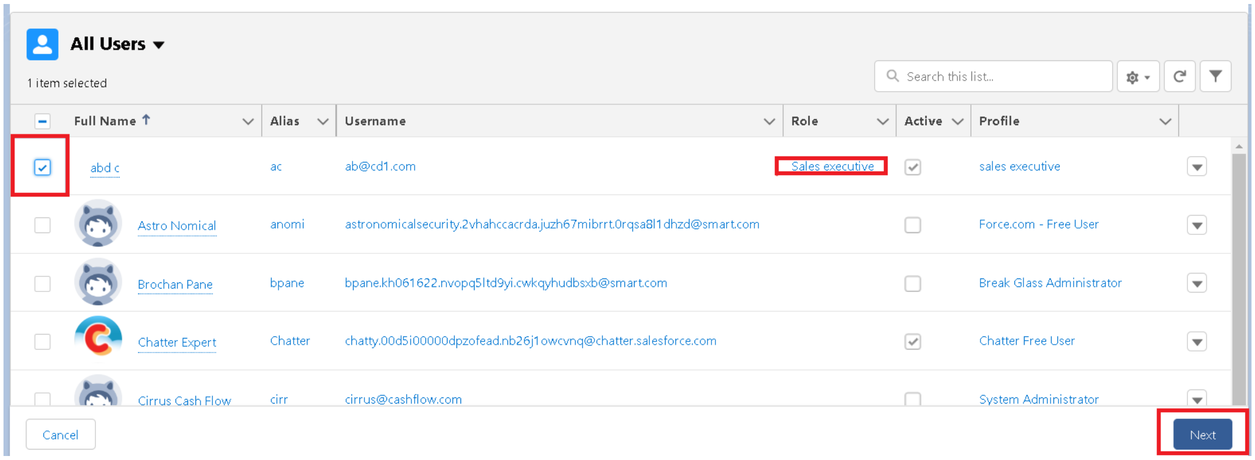
4. Click on Fuel details object > click on Edit > under object permission > check for read and create.
5. Click Save.

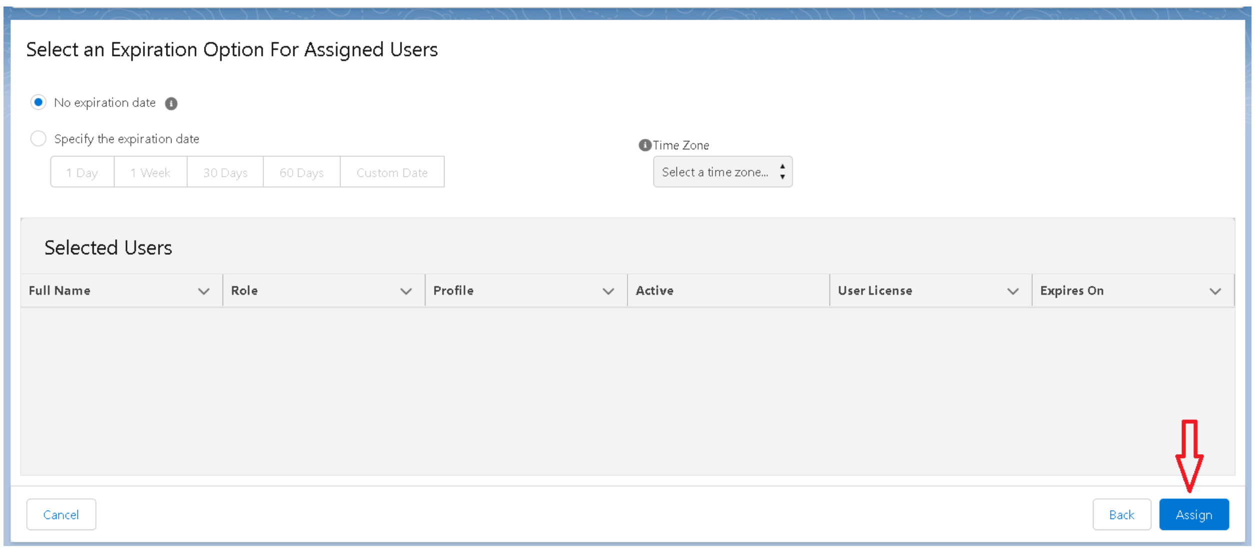


6. After saving the permission, click on the Manage assignment
7. Now click on the Add Assignment.



8. Now select the users which you have created in user milestone, using sales executive profile > click on Next > Assign > Done.

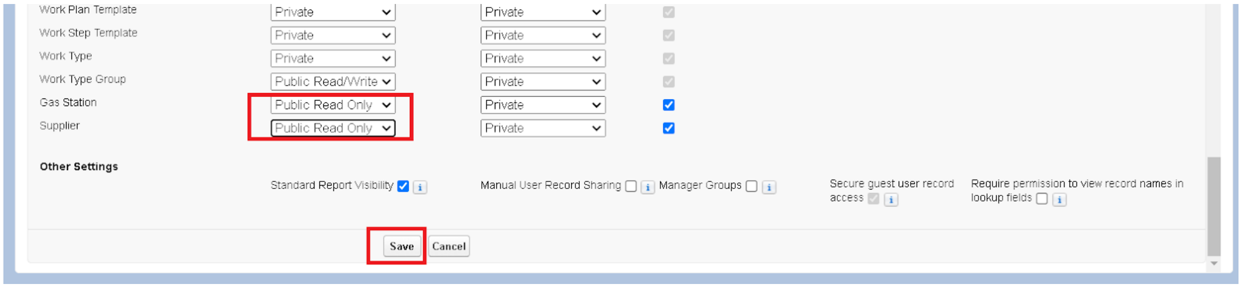




12. Setup for OWD

Create OWD settings

1. Go to setup > type sharing settings > click edit.
2. Scroll down, change the default internal access to “public read-only” for Gas station and Supplier object.
3. Click Save.



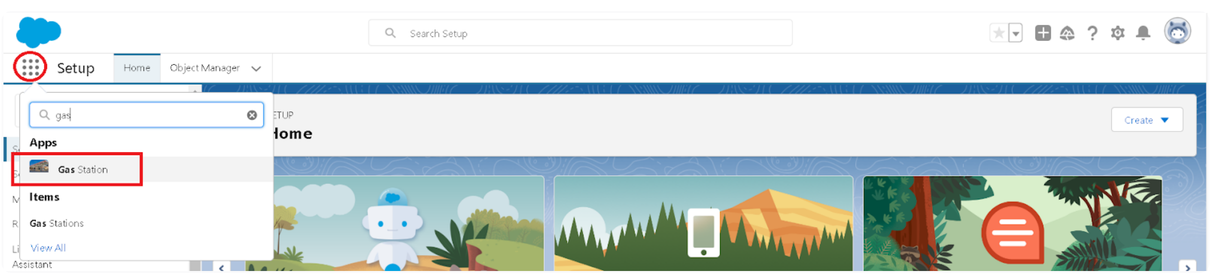
4. Extra information: By these, every profile has their own access, according to their profile.

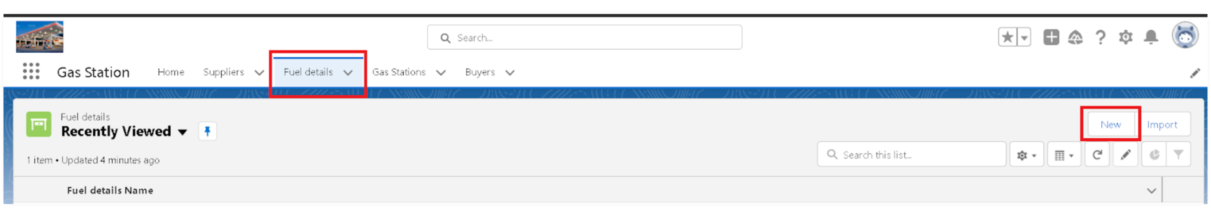
5. But in our case, we created a roles and given the roles in such a way that the manager can see sales executive and sales person records; the sales executive can see the sales person records.

13. User Adoption

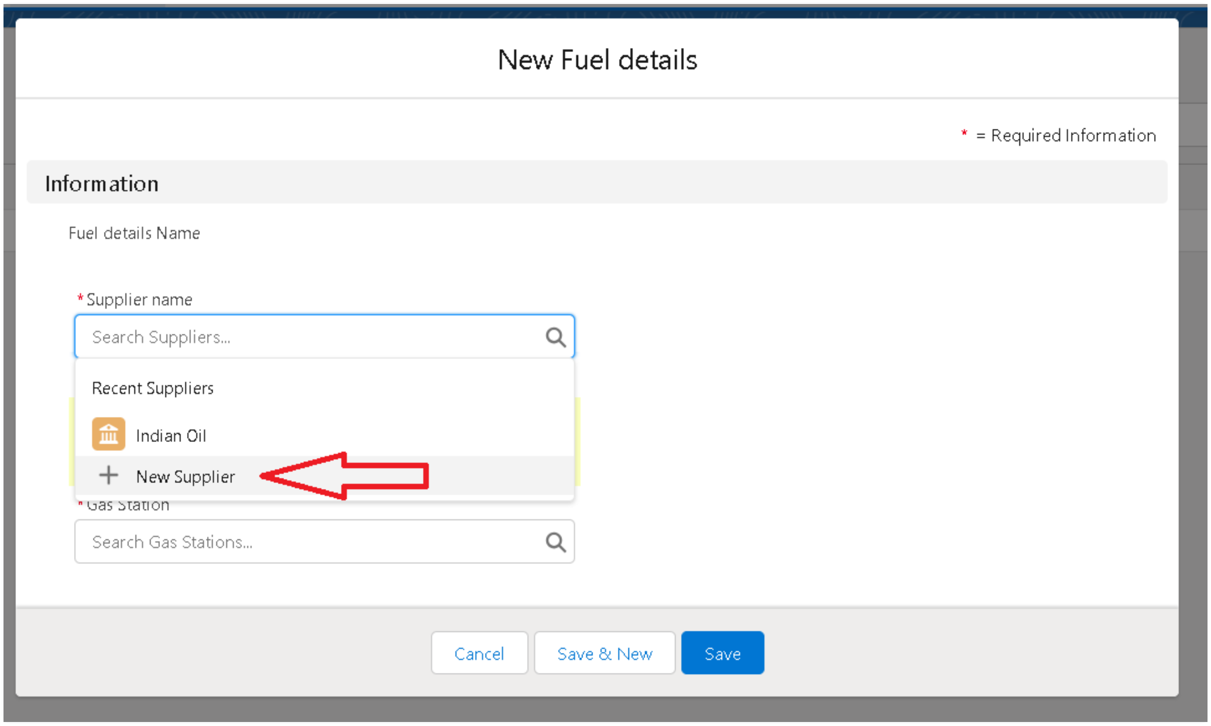
13.1 Create a Record

1. Click on the app launcher located at the left side of the screen.
2. Search for " Gas station" > click on it.
3. Click on the " fuel details tab".
4. Click on new and fill out the details as shown below figs > click save.

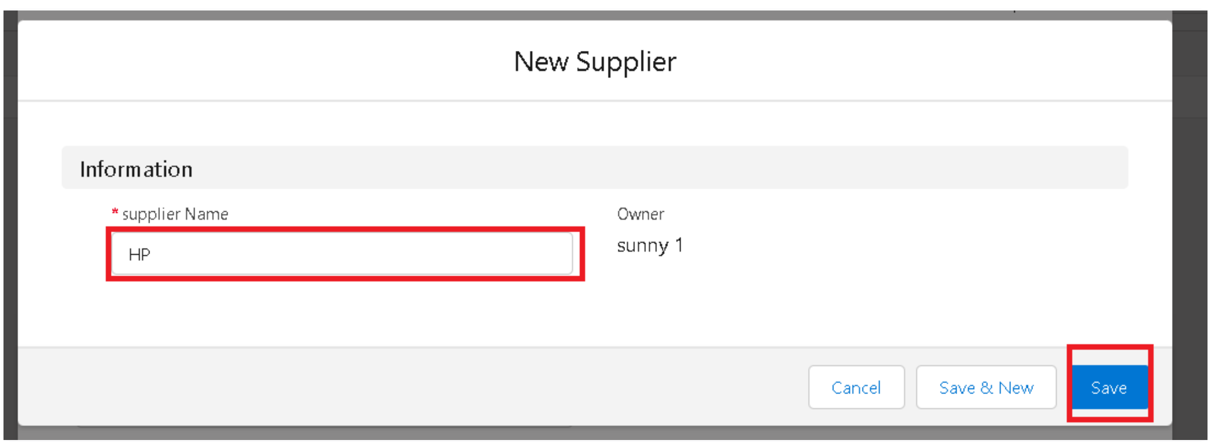




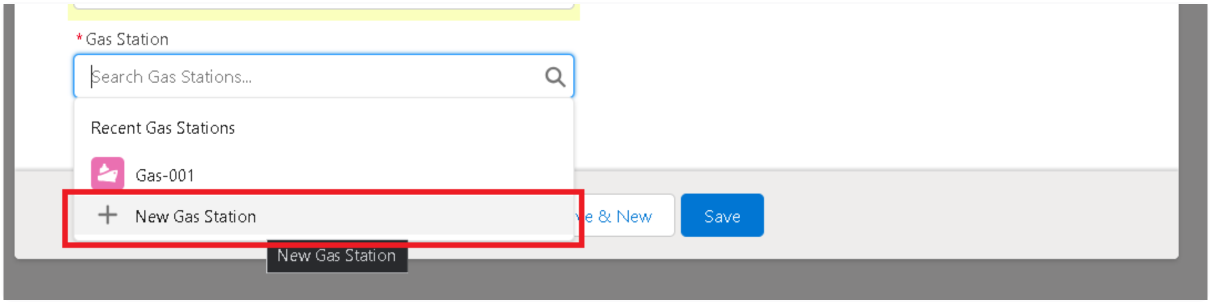
5. Creating the supplier record in the fuel detail record by clicking the “ new supplier ”.



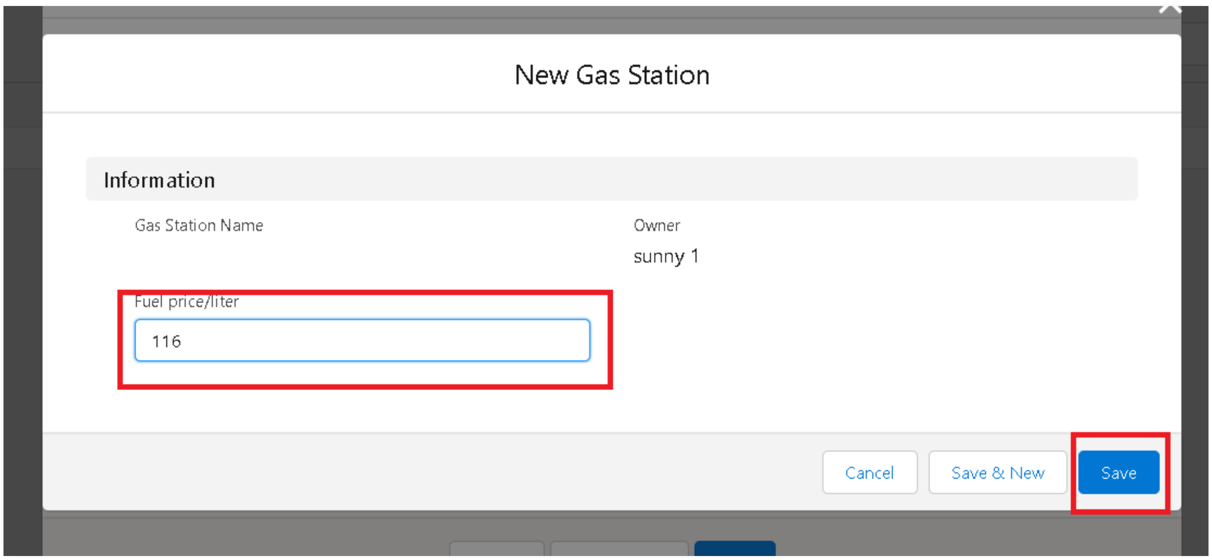
6. Fill out the details in the supplier record > Click Save.



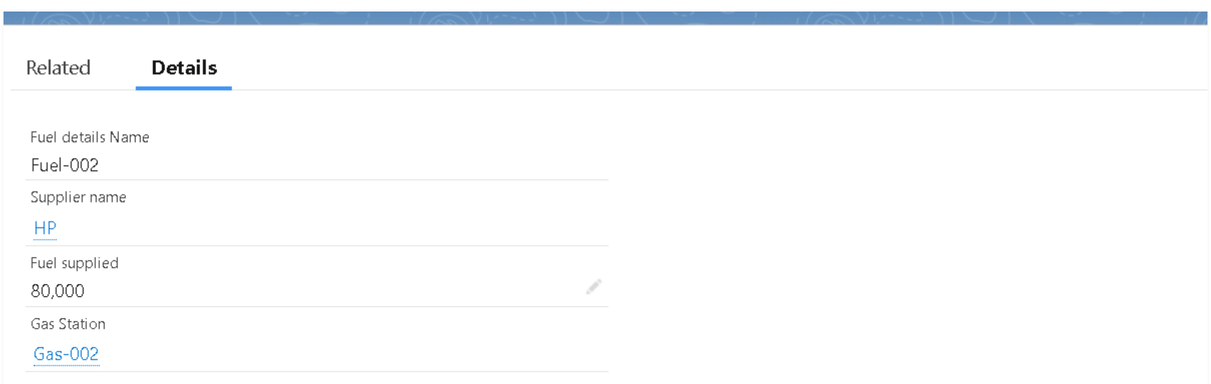
7. Creating the Gas station record in the fuel details record by clicking on a new gas station.



8. Fill out the details in the gas station record > Click Save.



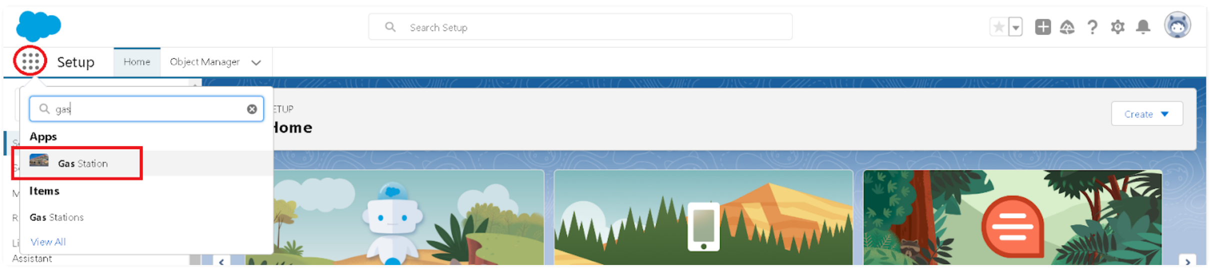
9. Fill out the remaining details in the fuel detail record > Click Save.

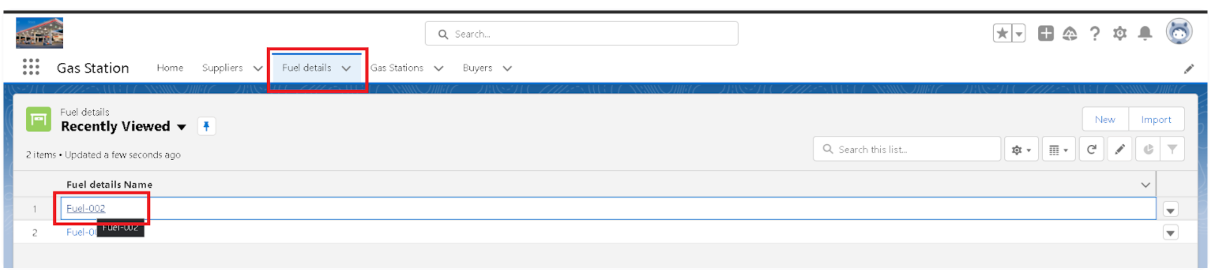


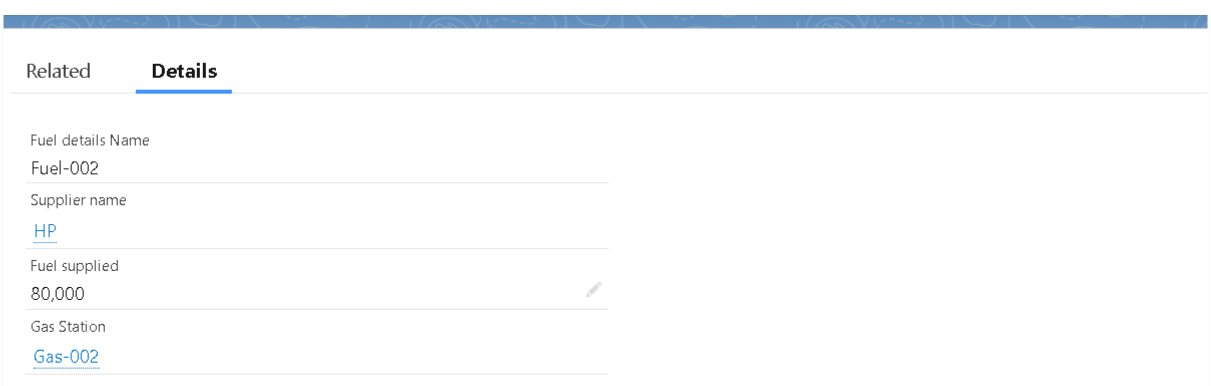
10. Followed by these, create 10 more records in Buyer object.

13.2 View a Record

1. Click on the app launcher located at the left side of the screen.
2. Search for “ Gas station” > click on it.
3. Click on the “ fuel details tab”.
4. Click on the records that are already created.

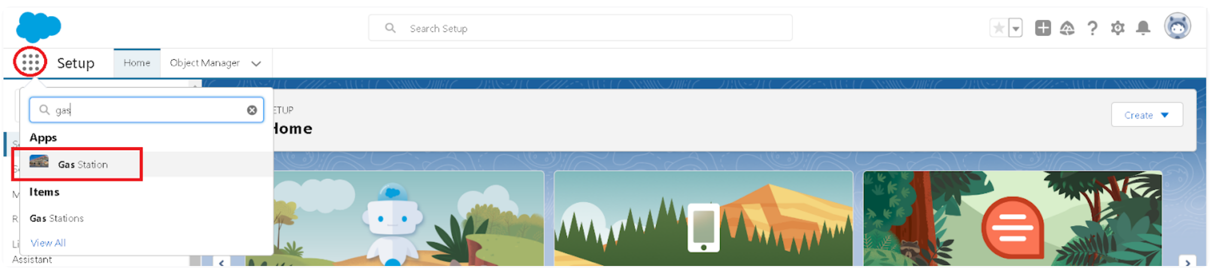


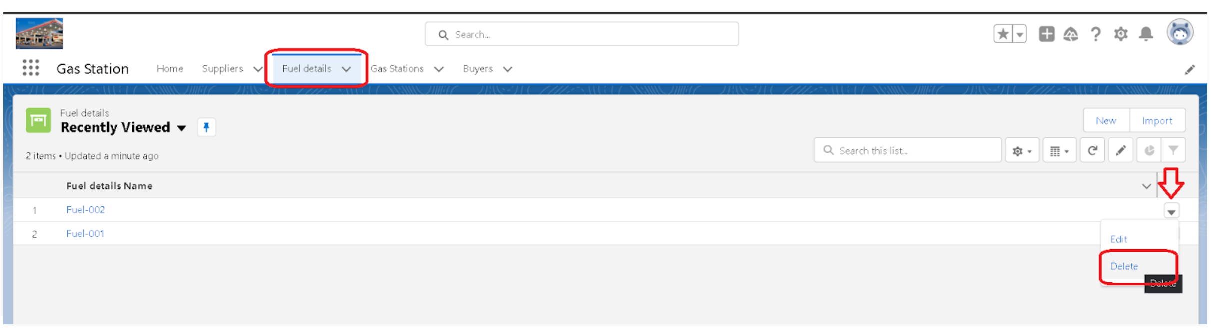




13.3 Delete a Record

1. Click on the app launcher located at the left side of the screen.
2. Search for “ Gas station” > click on it.
3. Click on the “ fuel details tab”.
4. Click on the Arrow at the right hand side on that Particular record.
5. Click delete and delete again.

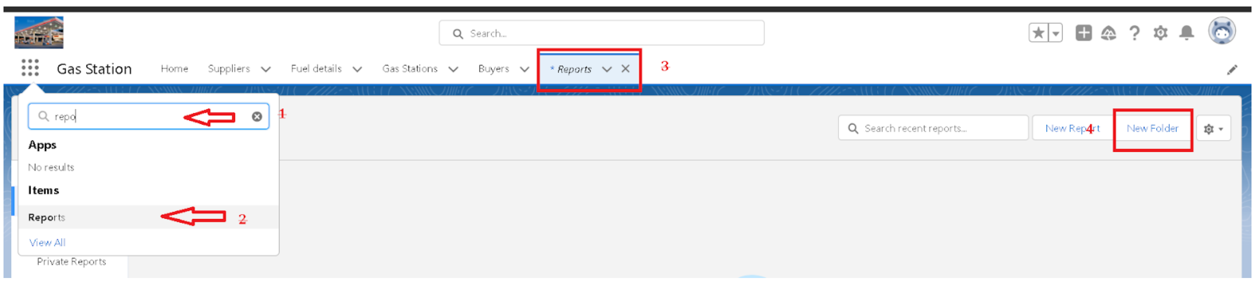




14. Reports

14.1 Create a Report Folder

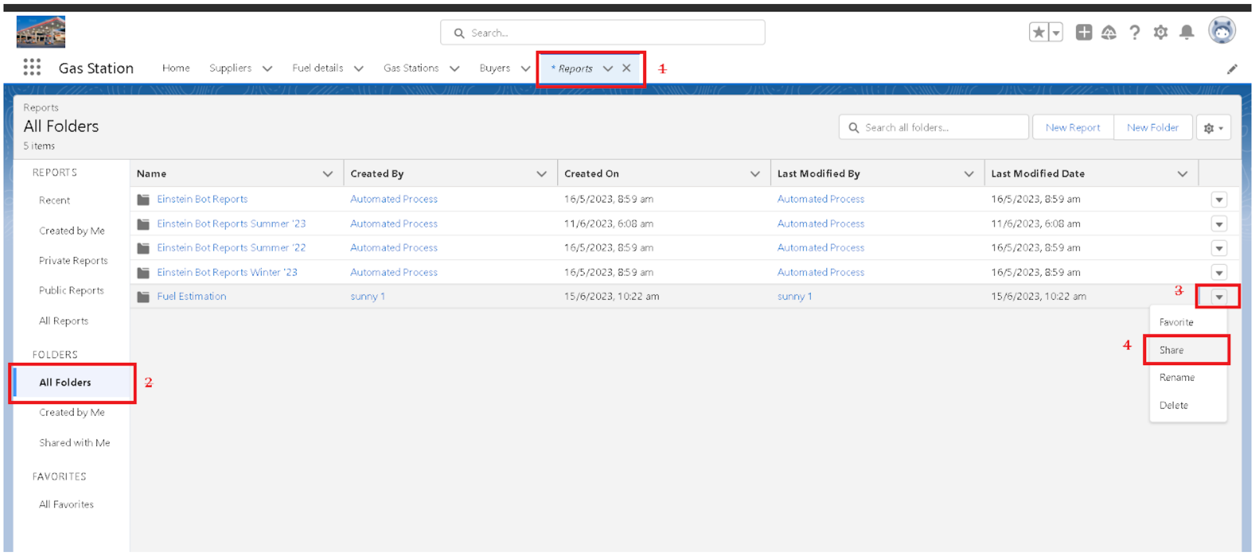
1. Click on the app launcher > search for reports.
2. Double click on the report > “ reports tab” will be auto populated in the navigation bar.
3. Click on the report tab > click on a new folder.

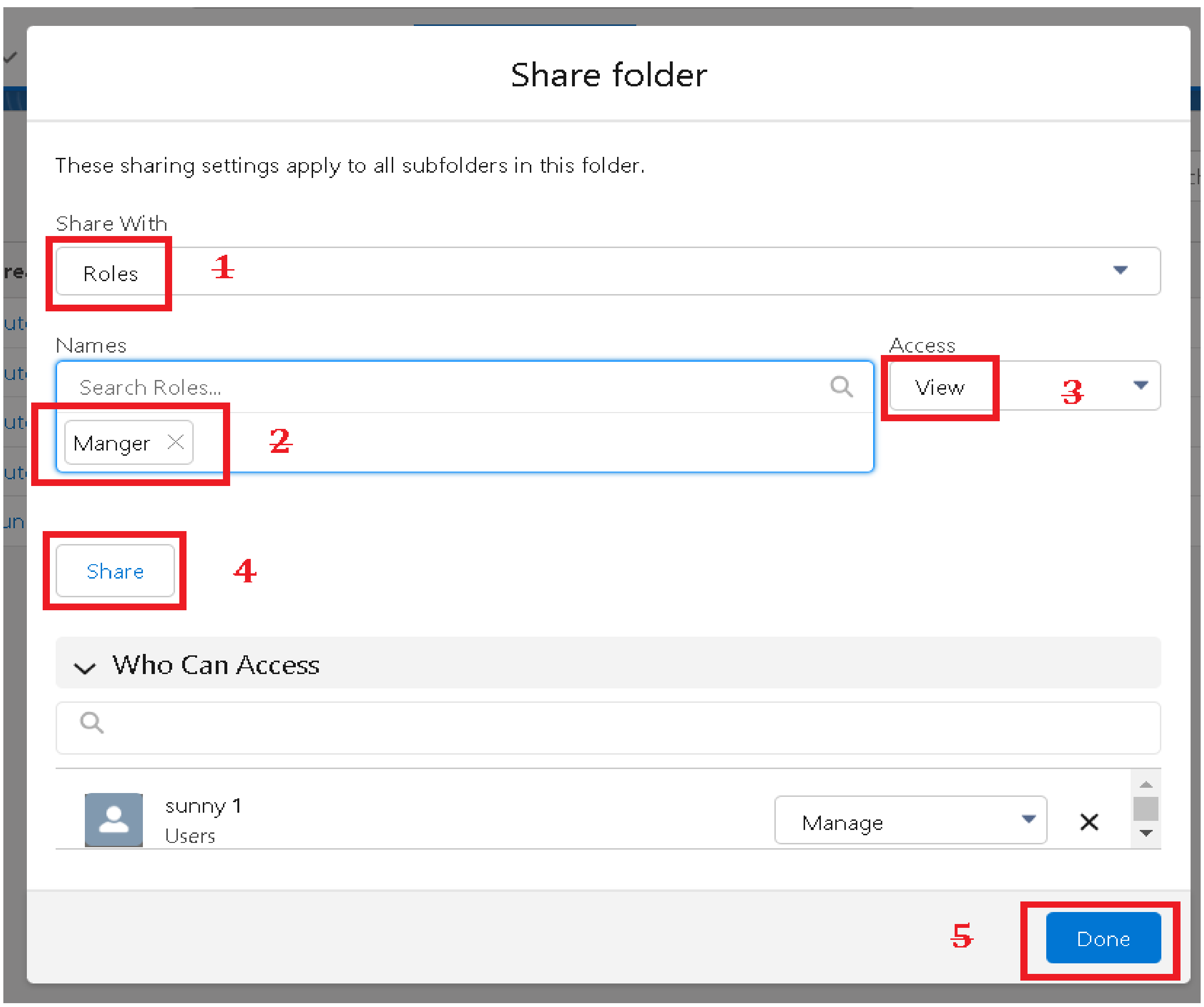


   - Folder label: Fuel Estimation
   - Folder unique name will be auto populated.
   - Click Save.

14.2 Sharing a Report Folder

1. Go to the app > click on the reports tab.
2. Click on the All folder > click on the arrow for the Fuel estimation folder.
3. Click on share.
   - Share with: roles
   - name: manager (search for field)
   - Access: view
4. Click share > Click Done.

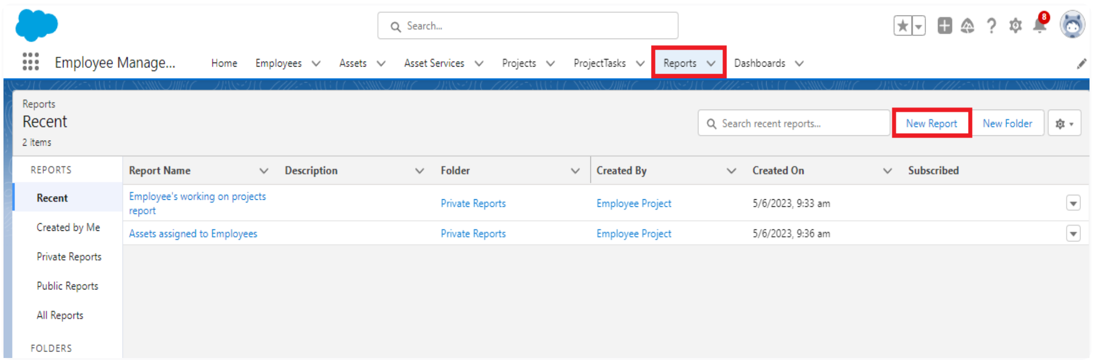

Search...
Gas Station
Home
Suppliers
Fuel details
Gas Stations
Buyers
* Reports
1
Reports
All Folders
5 items
Search all folders...
New Report
New Folder
REPORTS
Recent
Created by Me
Private Reports
Public Reports
All Reports
FOLDERS
All Folders
2
Created by Me
Shared with Me
FAVORITES
All Favorites
Name
Created By
Created On
Last Modified By
Last Modified Date
Einstein Bot Reports
Automated Process
16/5/2023, 8:59 am
Einstein Bot Reports Summer '23
11/6/2023, 6:08 am
Einstein Bot Reports Summer '22
Einstein Bot Reports Winter '23
Fuel Estimation
sunny 1
15/6/2023, 10:22 am
3
Favorite
4
Share
Rename
Delete


Share folder
These sharing settings apply to all subfolders in this folder.
Share With
Roles
1
Names
Access
Search Roles...
View
3
Manger
2
Share
4
Who Can Access
sunny 1
Users
Manage
5
Done

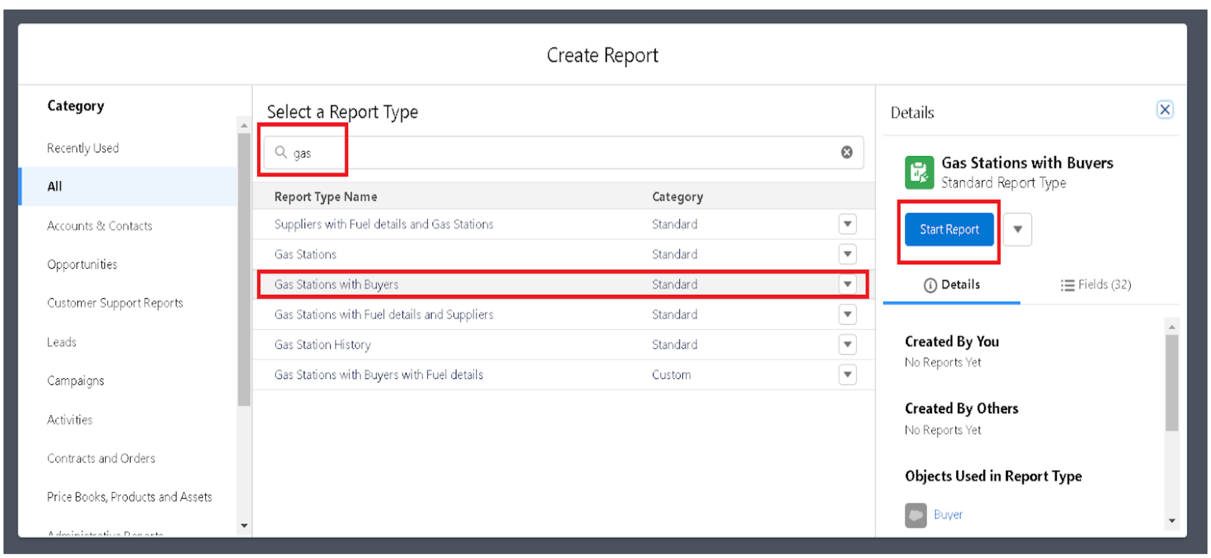
14.3 Create Report

Note : Before creating report, create latest “10” records in buyer object.

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

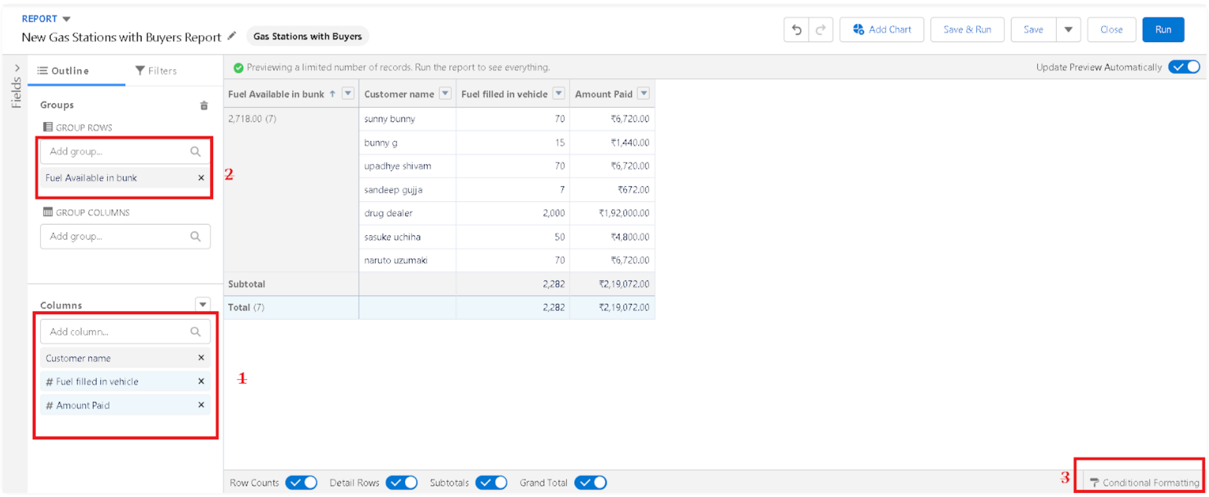


3. select for report type > search for “Gas station with buyers”, click on it > click on start report

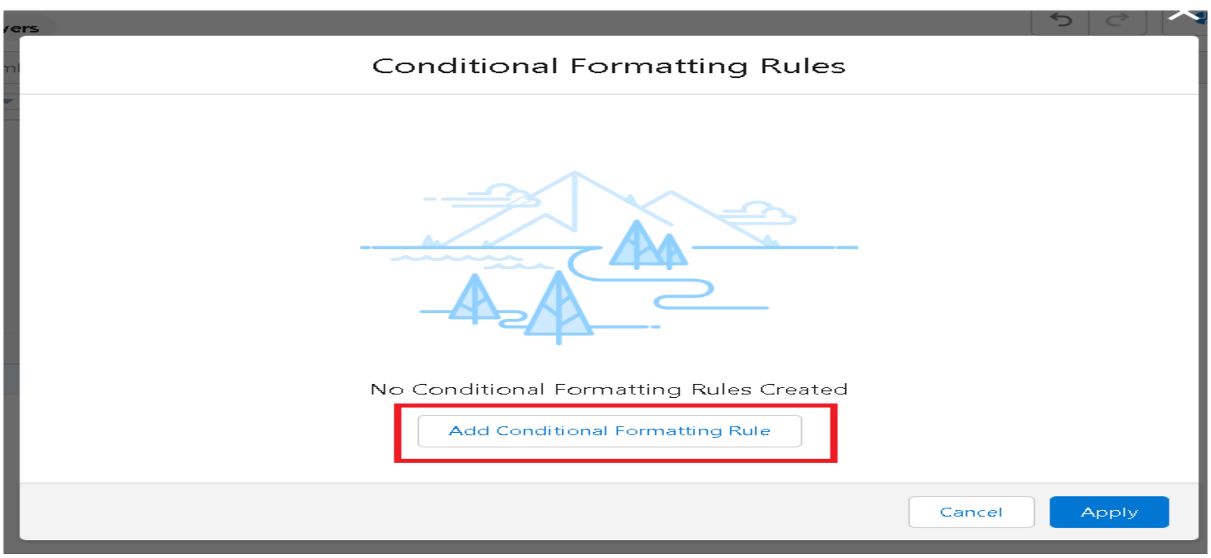


4. Their outline pane is opened already; select the fields that are mentioned below in the column section.
   1. Fuel filled in vehicle
   2. Amount paid
5. Remove the unnecessary fields.

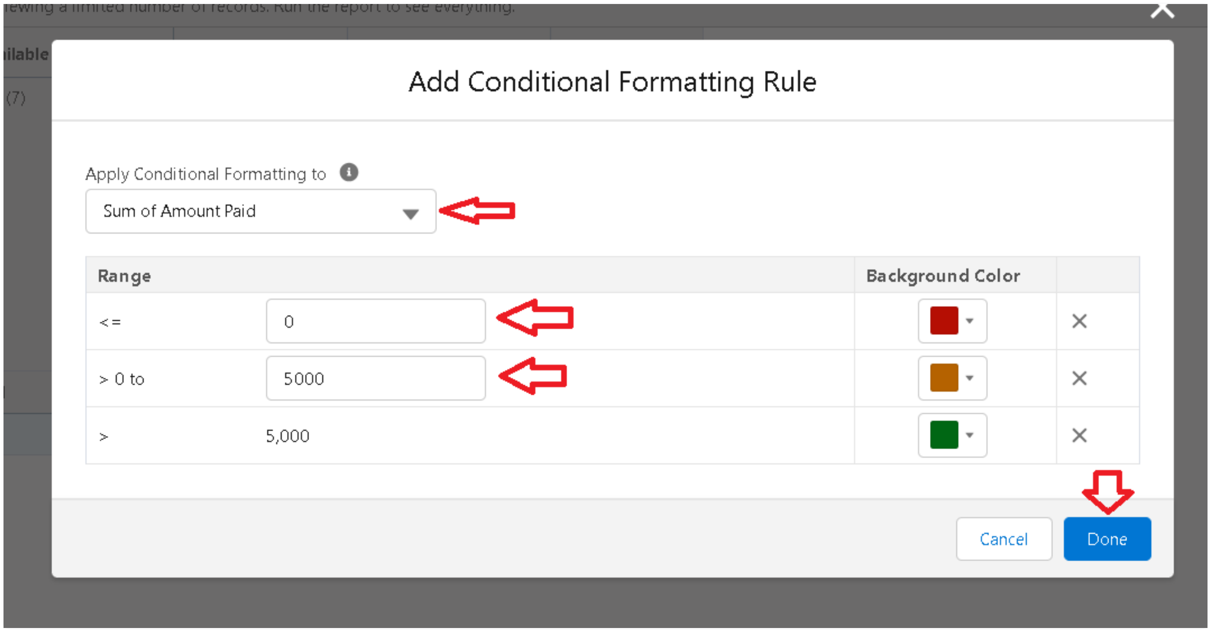
6. Select the fields that are mentioned below in the GROUP ROWS section.
    1. Fuel Available in bunk
    2. Customer name



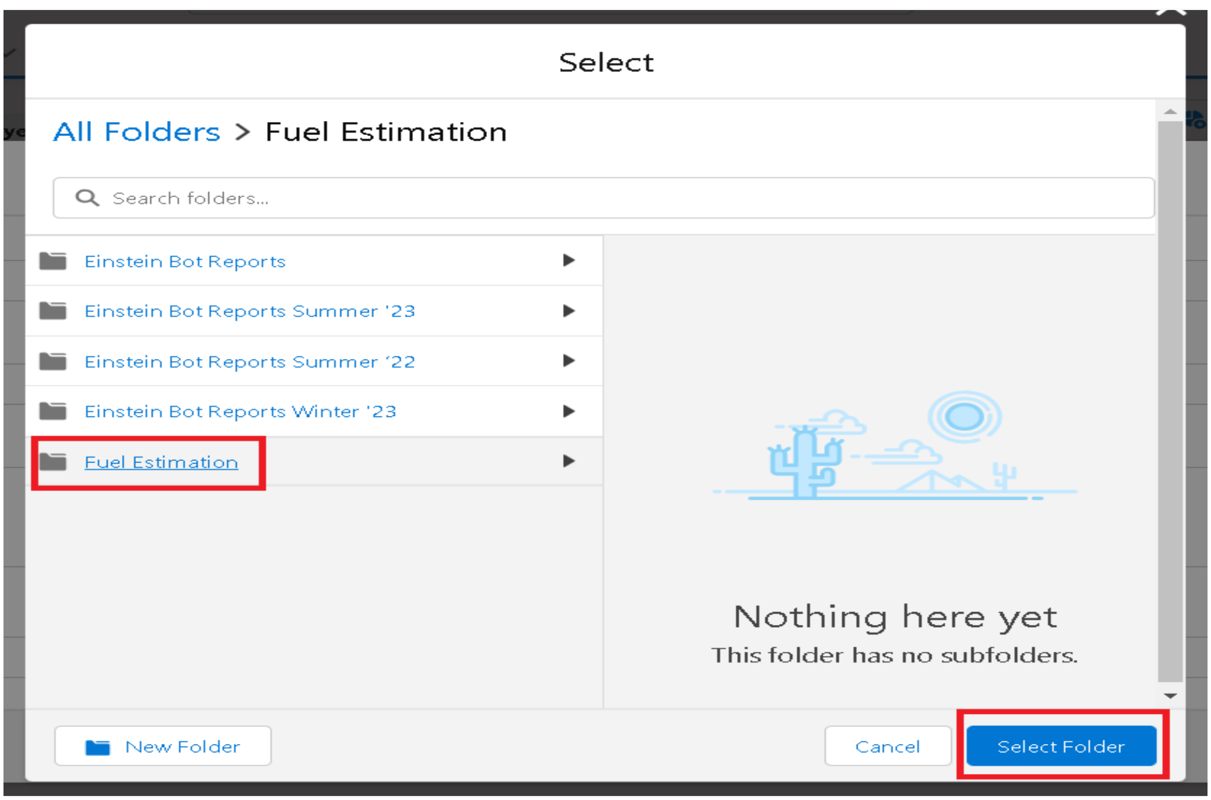
7. Click on conditional formatting located at the bottom of the preview pane.
8. Click on add conditional formatting rule.



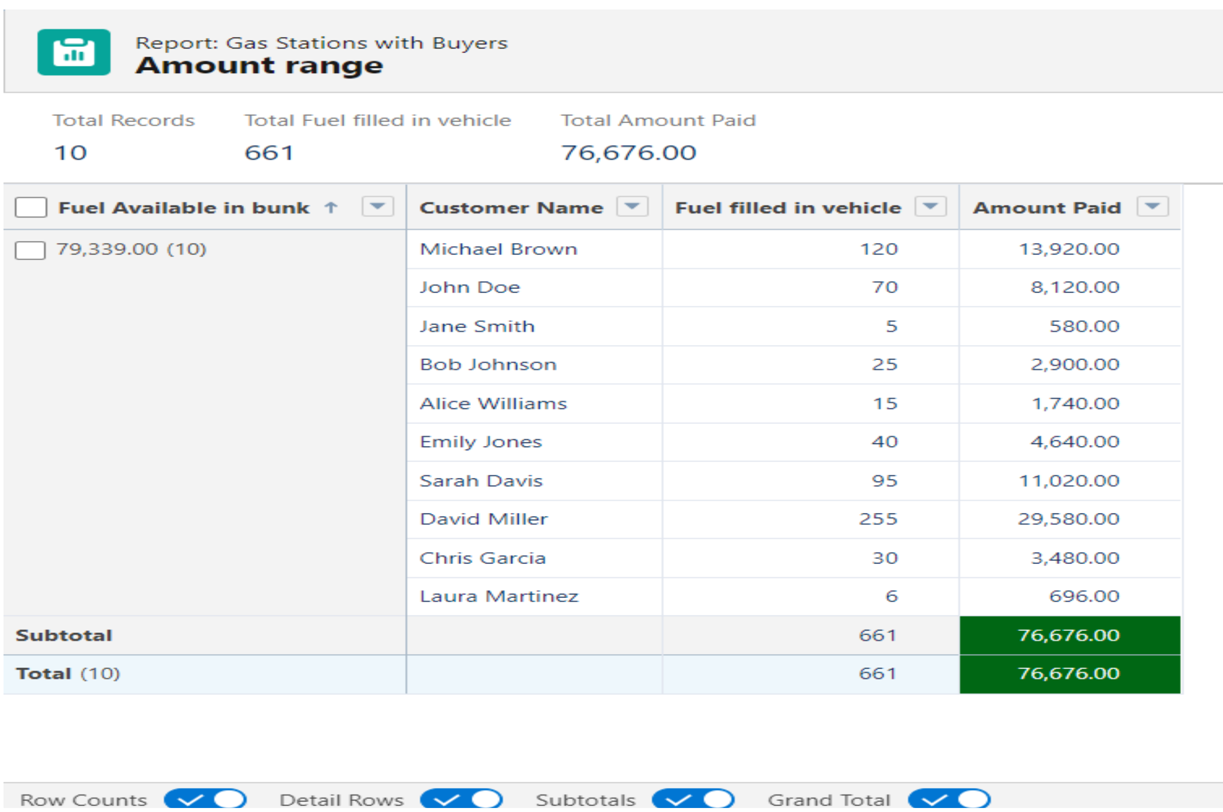
9. Change the apply conditional formatting to " sum of Amount paid ".
10. Mention the range form " 1000 to 5000 ".
11. Don't change the colours > click on Done.
12. Click apply.



13. Click save > give the report name as “Amount range”,
14. Report unique name will be auto populated.
15. Click on the Select Folder > select “ Fuel estimation” > click on the Select Folder
16. Click save.



16. Click save & run, then the preview will be shown below.


Report: Gas Stations with Buyers

Amount range

Total Records	Total Fuel filled in vehicle	Total Amount Paid
10	661	76,676.00

Fuel Available in bunk	Customer Name	Fuel filled in vehicle	Amount Paid
79,339.00 (10)	Michael Brown	120	13,920.00
	John Doe	70	8,120.00
	Jane Smith	5	580.00
	Bob Johnson	25	2,900.00
	Alice Williams	15	1,740.00
	Emily Jones	40	4,640.00
	Sarah Davis	95	11,020.00
	David Miller	255	29,580.00
	Chris Garcia	30	3,480.00
	Laura Martinez	6	696.00
Subtotal		661	76,676.00
Total (10)		661	76,676.00

Row Counts Detail Rows Subtotals Grand Total

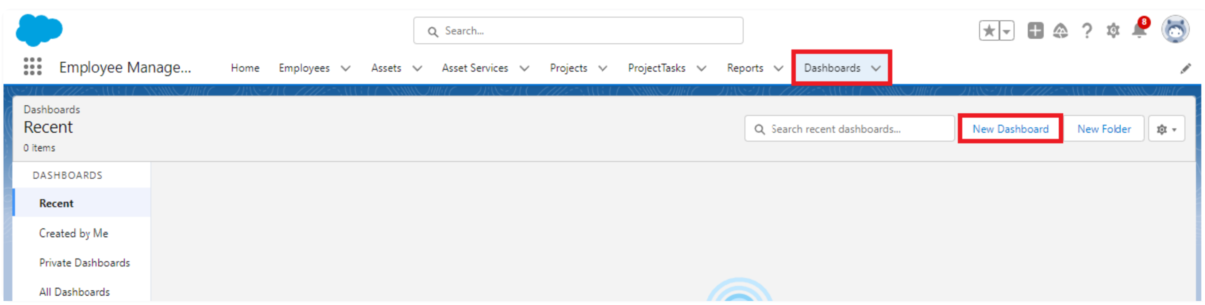
15. Dashboards

15.1 Create Dashboard Folder

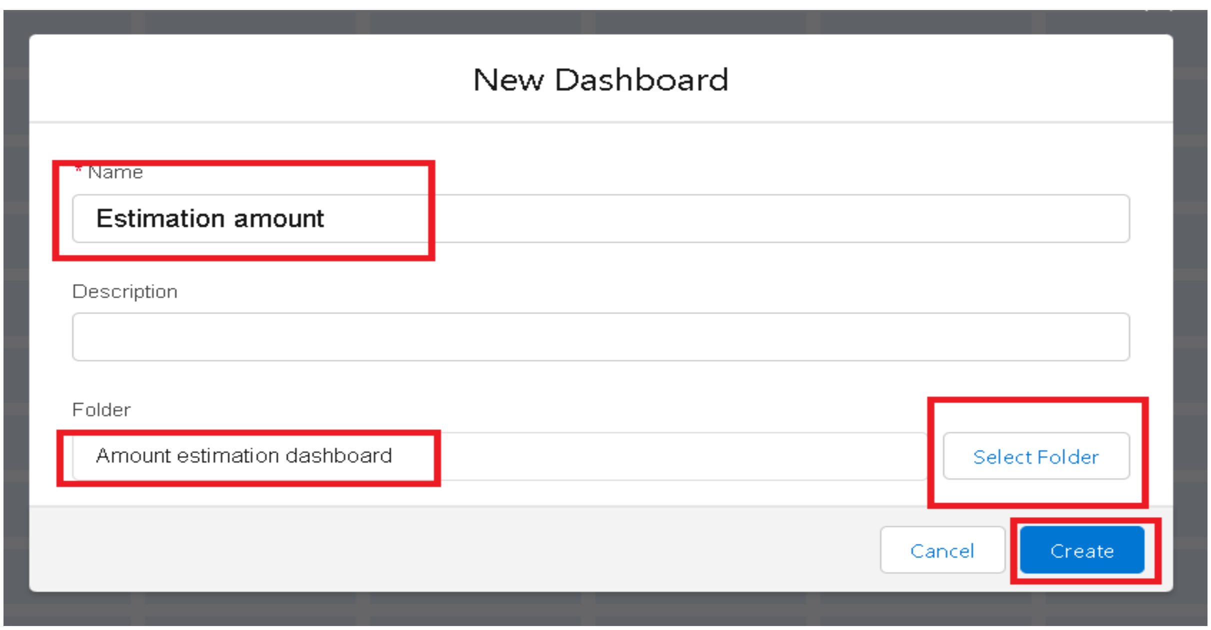
1. Click on the app launcher > search for dashboard > click on it.
2. Click new folder
3. Give the folder label: “ Amount estimation dashboard”.
4. Folder unique name will be auto populated.
5. Click save.

15.2 Create Dashboard

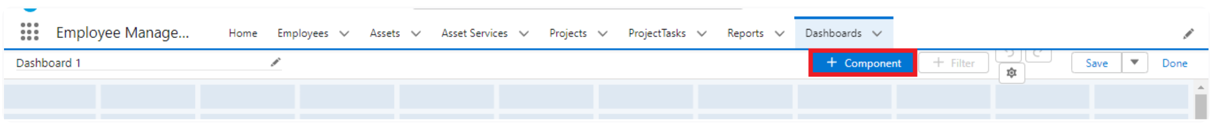
1. Go to the app > click on the Dashboards tabs.



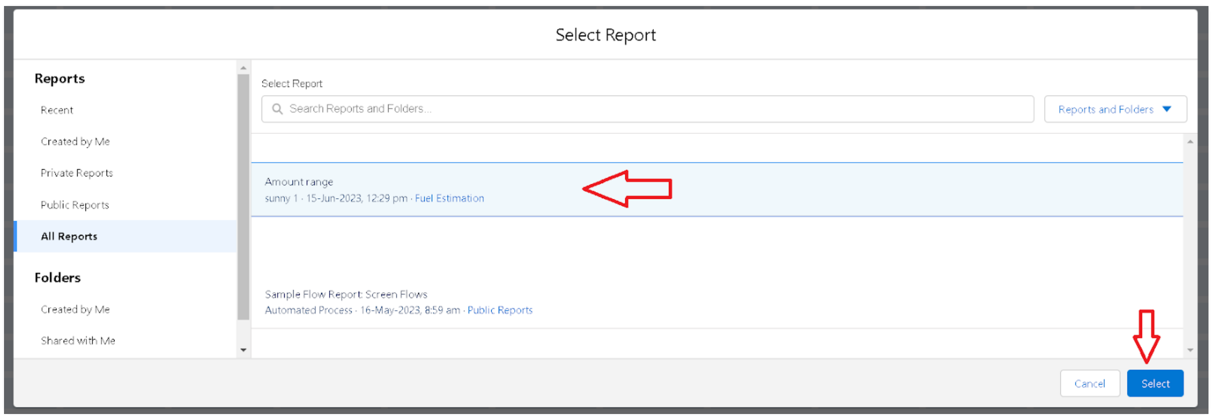
2. Give a Name "Estimation Amount" > select the folder that created > click on create.



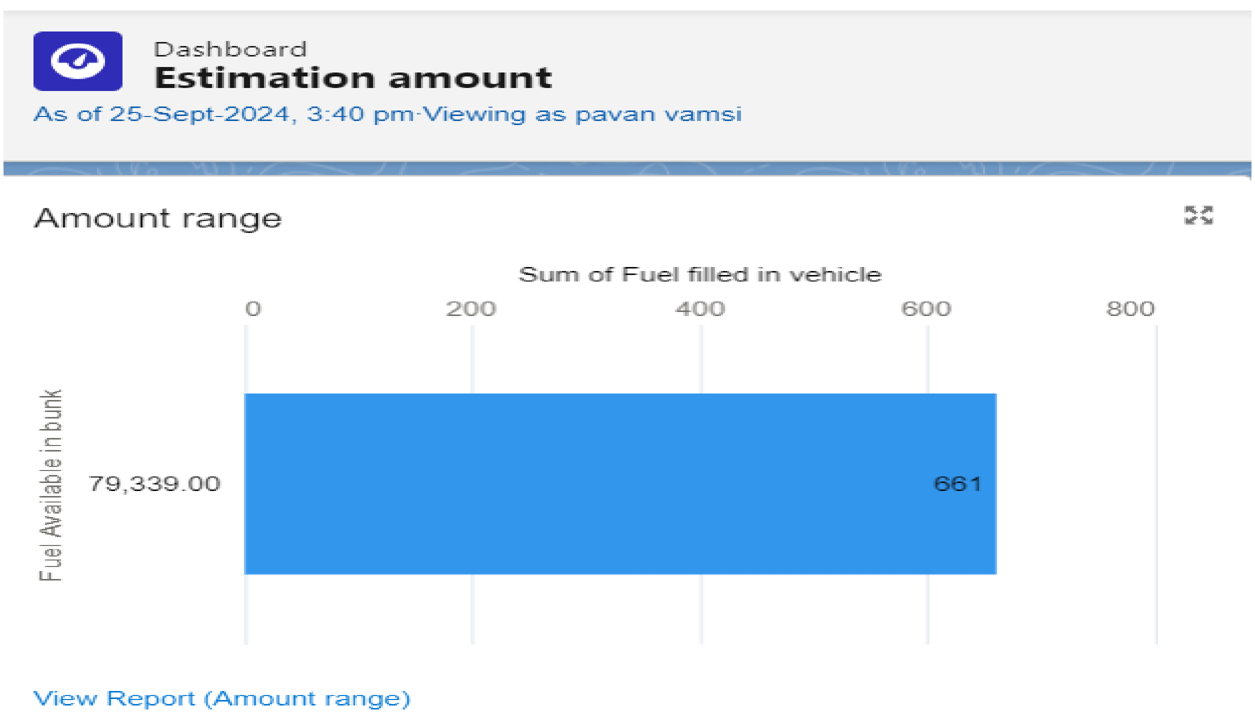
3. Select add component.



4. Select a Report and click on select.



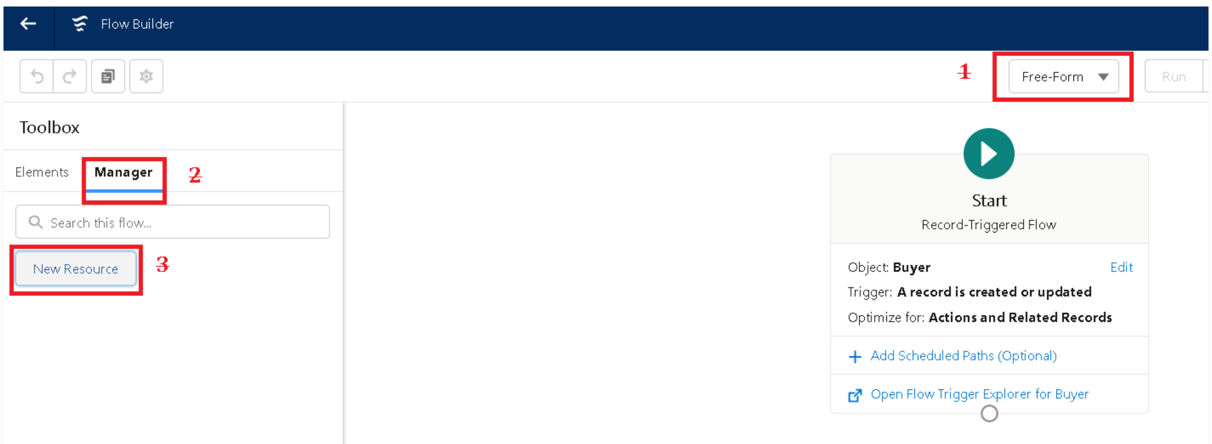
5. Click Add > click Save > click Done.
6. Preview is shown below.



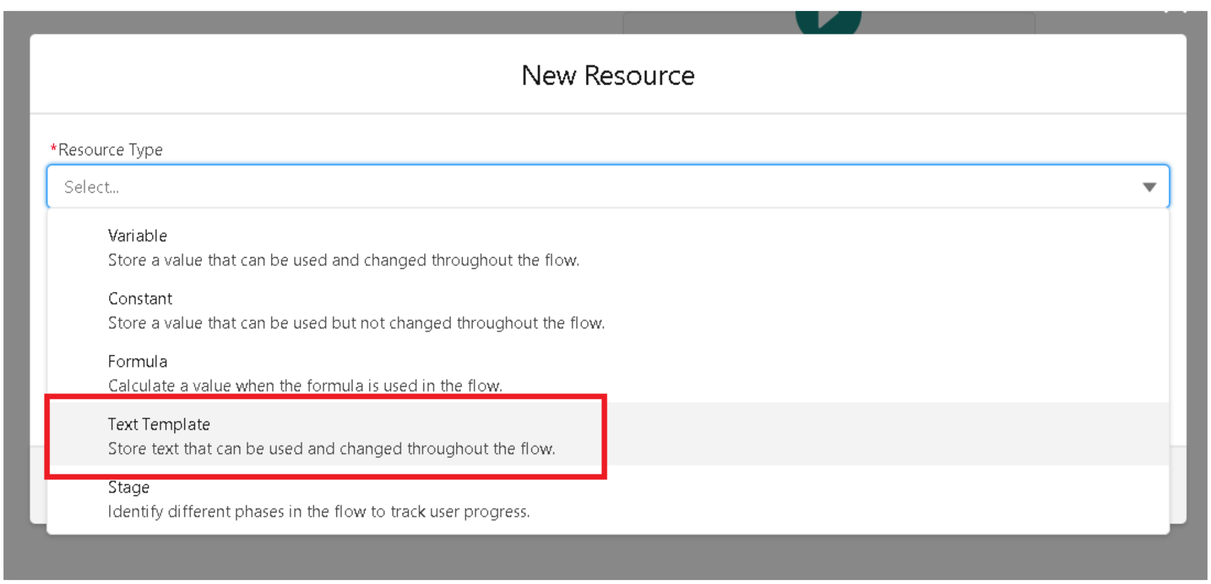
16. Flows

Create a Flow

1. Go to setup > type Flow in the quick find box > Click on the Flow > Select the New Flow.
2. Select the Record-triggered flow > Click on Create.
3. Object: “buyer” 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” > Click Done.
6. change the mode from "Auto-layout" to "free-form".
7. select the manager option in the toolbox > click New resource.



8. Select the resource type as text template.



9. API name: emailbody.
10. In the body field, paste the syntax that is given below.

    Hello {!$Record.Customer_name__c},

    Thank you for coming , we are glad and considering that we provided the best survise.

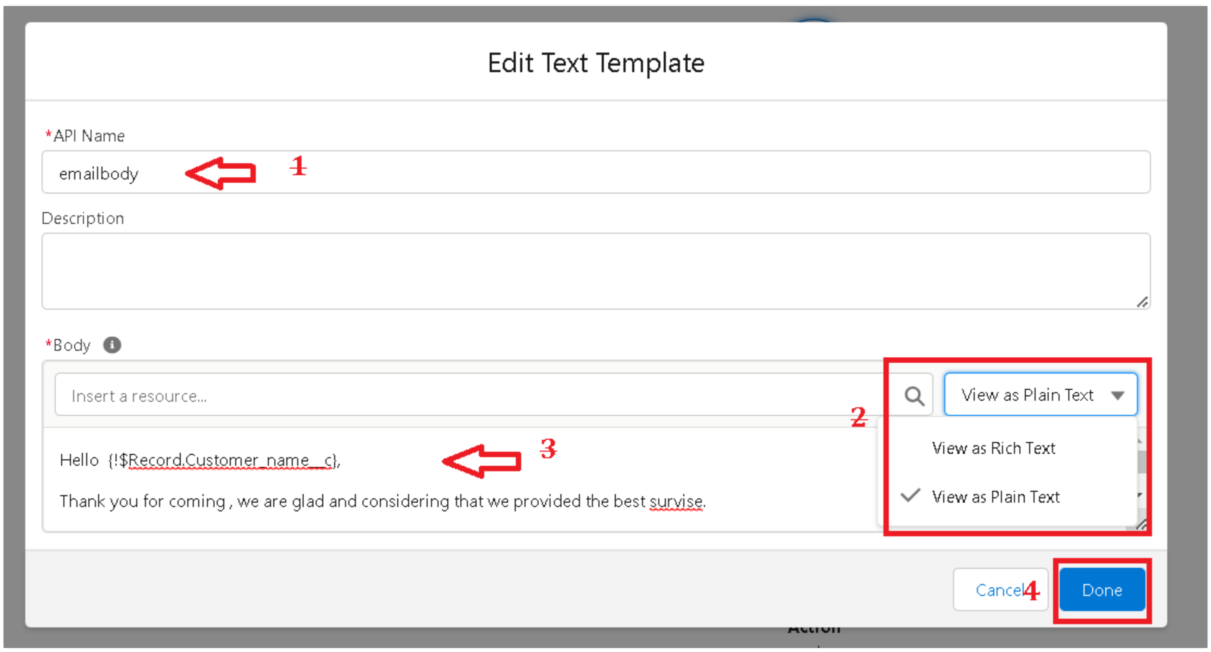
    RECEPIT DETAILS :

    Customer name : {!$Record.Customer_name__c}

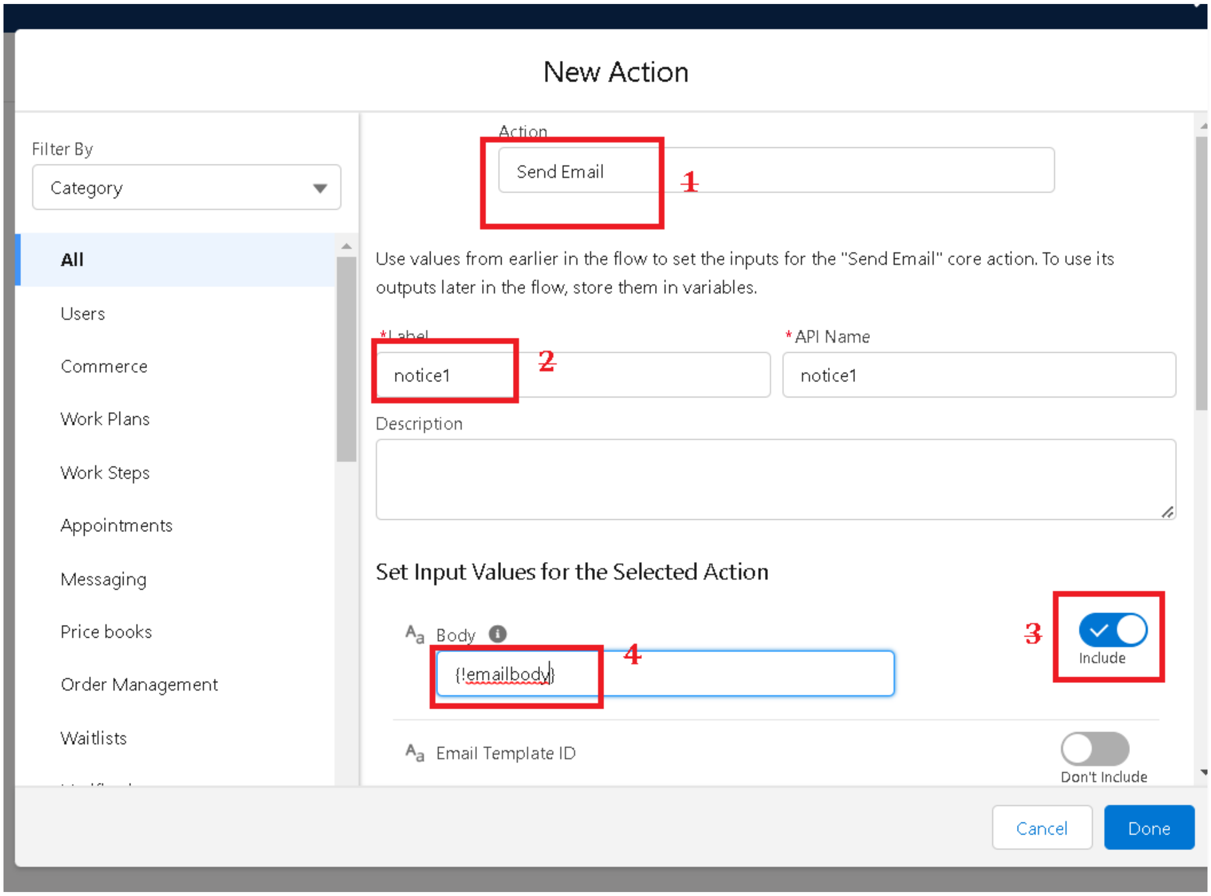
    Amount paid by Customer : {!$Record.Amount_Paid__c}

    Vehicle type : {!$Record.Vehicle_type__c}

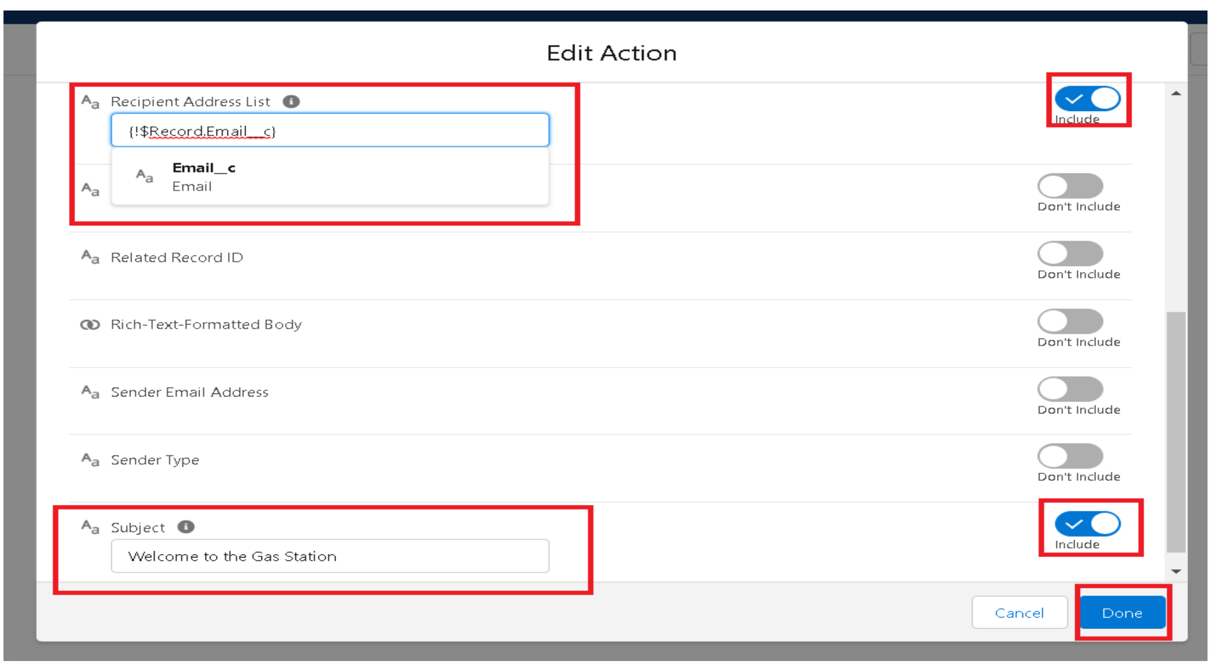
    Fuel intake in vehicle : {!$Record.Fuel_filled_in_vehicle__c}
11. Change the view as Rich Text -" View to Plain Text".
12. Click done.



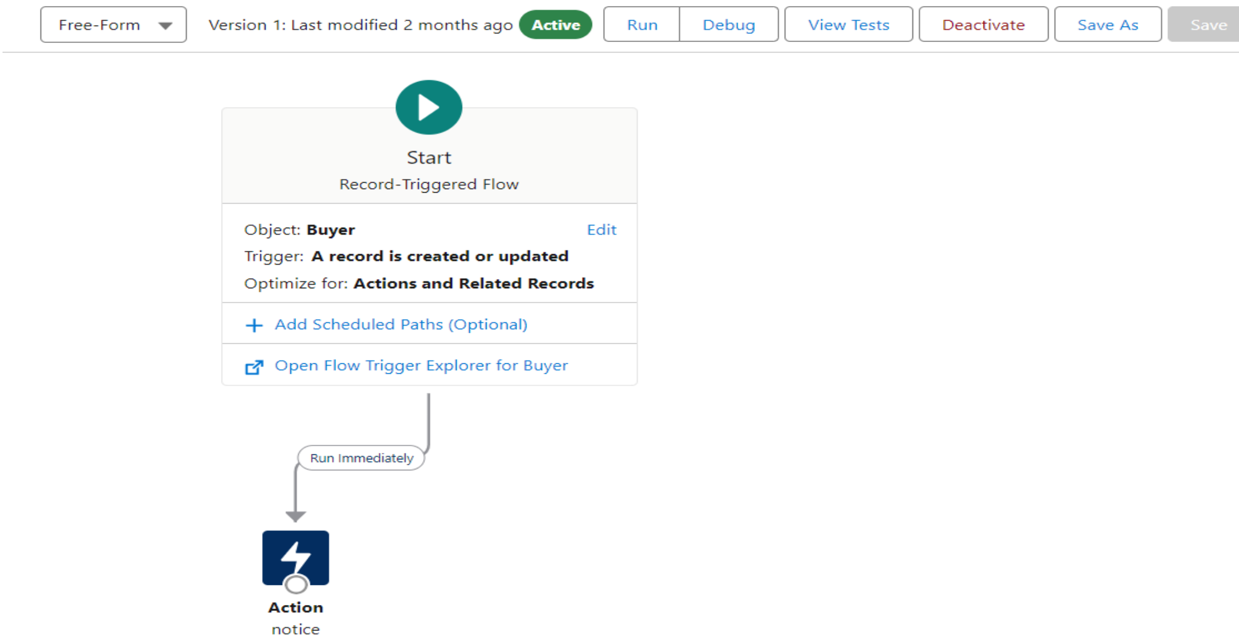
13. click on elements, and drag the action element into the preview pane.
14. Their action bar will be opened in that search for “ send email ” > click on it.
15. label name: notice
16. API name will be auto populated.
17. Enable the body to set input values for the selected action.
18. Select the text template that created.

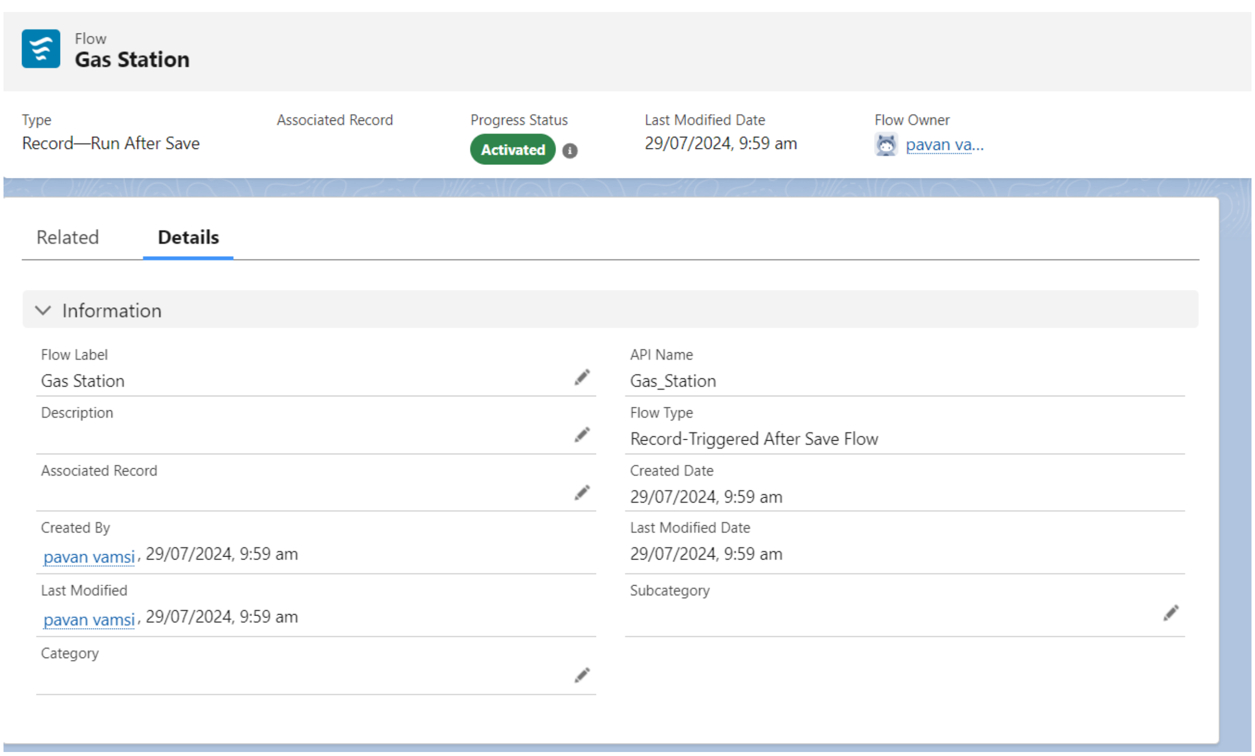


19. Include recipient address list select the email form the record.
20. Include subject as “ welcome to gas station”.
21. Click done.



22. Drag the path from the start to the action element.
23. Click on save > Give the Flow label; the Flow Api name will be auto-populated.
24. And click save, and click on activate.





Thank You