AN CRM APPLICATION FOR WHOLESALE RICE MILL

Project Overview :

The Rice Mill CRM Application is a streamlined solution designed to optimize rice production and sales. By automating daily reporting on rice quantity, type, and sales, it empowers owners with real-time insights. This CRM leverages customer relationship management to strengthen customer connections, streamline operations, and boost efficiency within the rice mill factory. The project aims to provide a user-friendly application tailored to the unique operational needs of rice mills.

Objectives:

- **Business Goals:**
    - Automate daily production and revenue reporting for real-time insights into operational performance.
    - Implement customer analytics to identify buying trends and popular rice varieties, enabling targeted marketing strategies.
    - Streamline resource allocation by forecasting demand and analyzing sales patterns to optimize inventory and resource management.
- **Specific Outcomes:**
    - Automate daily reporting on production and revenue.
    - Track customer buying trends and identify popular rice varieties.
    - Optimize resource allocation based on demand forecasts and sales patterns.

Key Salesforce Features and Concepts Utilized

Reporting and Dashboards:

- **Daily Sales and Production Reports:** Provides detailed breakdowns of daily rice production and sales quantities.

- **Revenue Reports:** Offers insights into daily revenue generated.
- **Customer Analytics:** Tracks popular rice types and identifies frequent buyers.
- **Resource Allocation:** Leverages data to optimize resource allocation and future planning.

Rollup Summary Fields:

- **Purpose:** Aggregates data from related records to a parent record.
- **Functions:** Utilizes functions like COUNT, SUM, MIN, and MAX to summarize data.

Cross-Object Formula Fields:

- **Purpose:** Calculates values based on data from multiple objects.
- **Function:** Calculates total payable amounts by multiplying rice units and price per kilogram.

Validation Rules:

- **Purpose:** Ensures data accuracy and consistency.
- **Is Blank Formula:** Validates that fields are not left empty and displays error messages for incomplete records.

Permission Sets:

- **Wide Defaults (OWD):** Sets a baseline level of access for the least privileged users.
- **Roles and Access:**
    - **Organization Owner:** Can view records related to employers and workers.
    - **Employer:** Can view records related to workers.

By leveraging these Salesforce features, the Rice Mill CRM application streamlines operations, enhances decision-making, and improves overall business performance.

Detailed Steps to Solution Design :

Activity 1: Creating Developer Account and Account activation.

Steps:

1.On the sign up form, enter the following details

2.Click on sign me up after filling these.

3.First name & Last name

4.Email

5.Role : Developer

6.Company : College Name

7.Country : India

8.Postal Code : pin code

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

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

ACTIVATION :
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.

Activity 2: Objects

Salesforce objects are of two types:

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

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

Steps:

Create Supplier Object

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

2. Enter the label name>>supplier

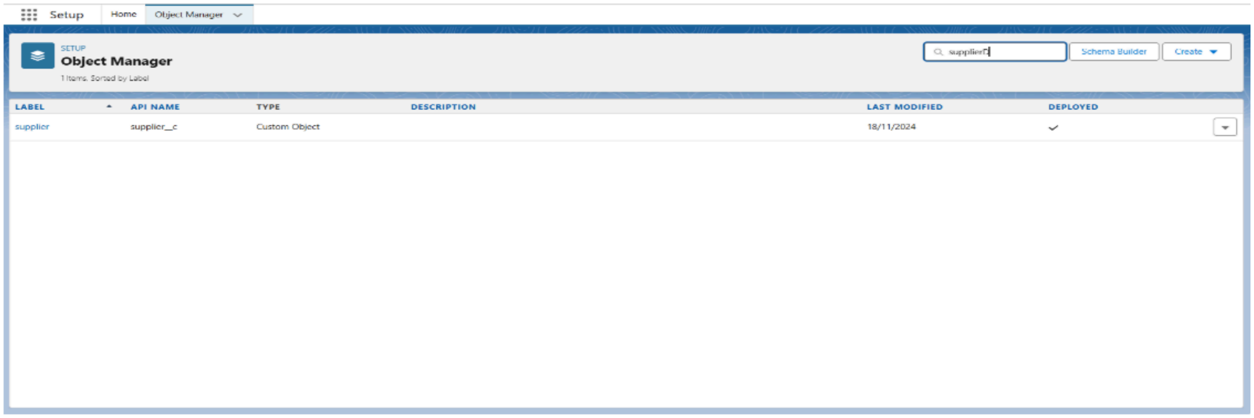
3. Plural label name>>supplier

4. Enter Record Name Label and Format

5. Record Name >> supplier Name

6. Data Type>>Text
7. Click on Allow reports and Track Field History and allow search

8. Allow search >> Save.



Create Rice mill Object

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

2.Enter the label name>>rice mill

3.Plural label name>> rice mills

4.Enter Record Name Label and Format

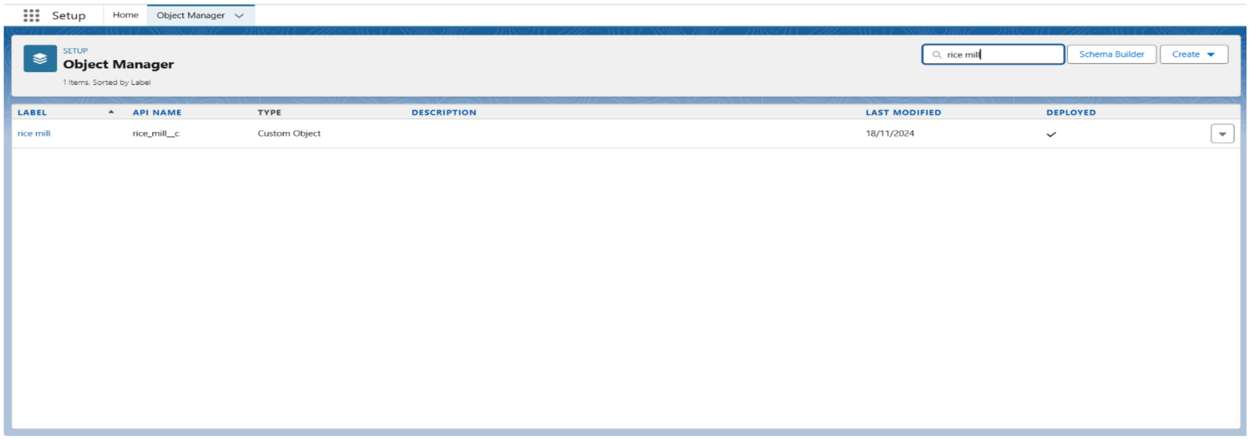
5.Record Name >>

6.Data Type >> Auto Number

7.Display Format >> rice-{000}

8.Starting number >> 1

9.Click on Allow reports and Track Field History, Allow Search and Save



Create consumer Objects

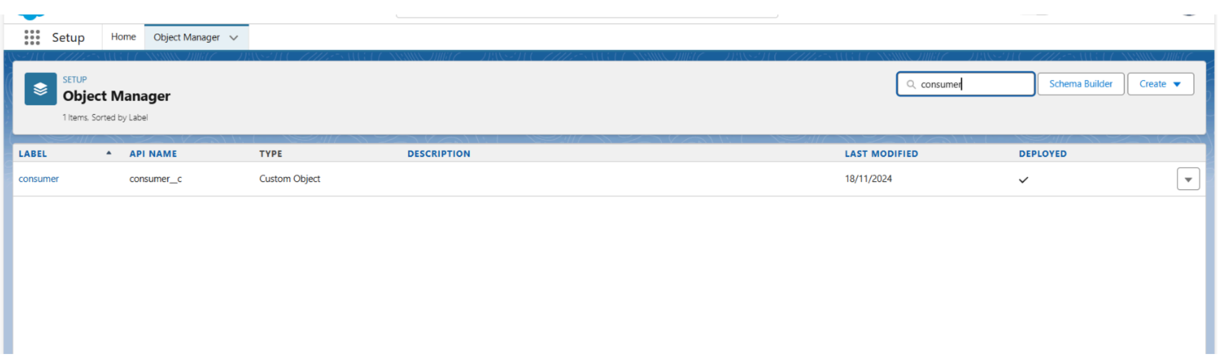
1.Use these display format for the consumer

2.label name >> consumer

3.Plural label name >> consumers

4.Display Format >> consumers-{000}

5.Starting number >> 1



Create rice details Objects

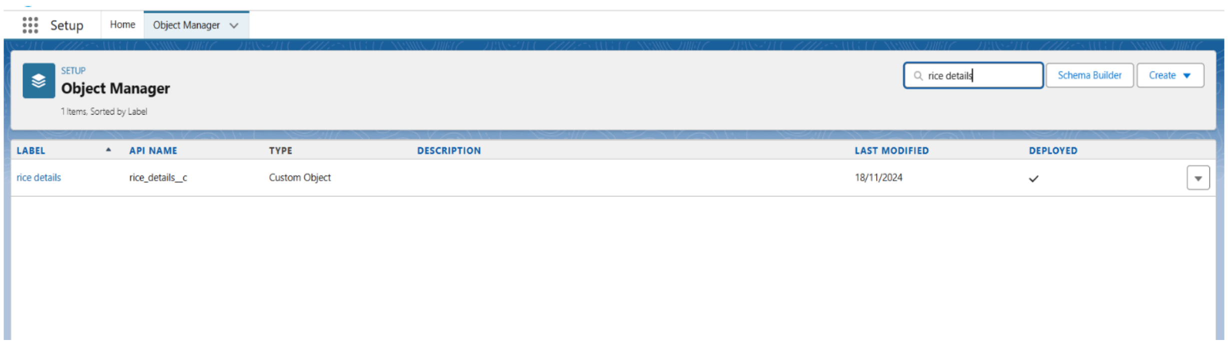
1.Use these display format for the rice details

2.label name >> rice details

3.Plural label name >> rice details

4.Display Format >> rice-{000}

5.Starting Number >>1



Activity 3: Tabs

1. Creating a Custom Tab

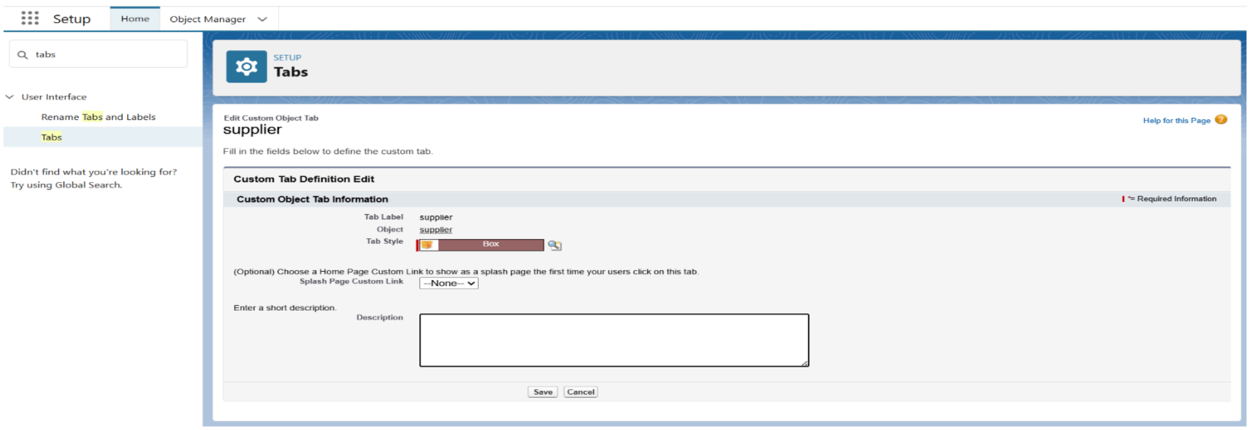
2. To create a Tab:(supplier)

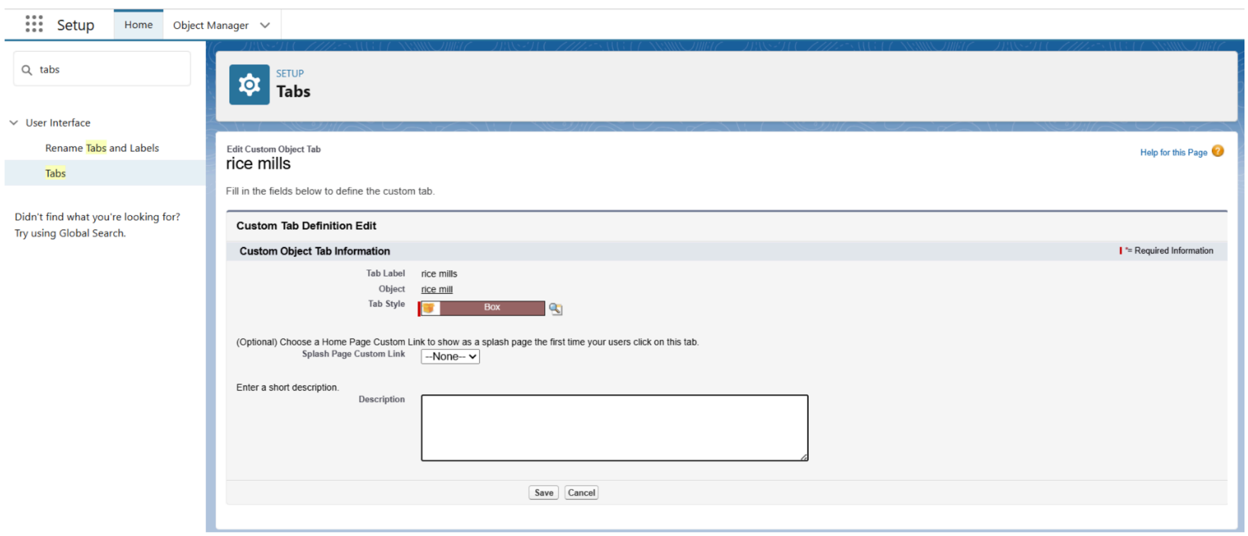
3. Go to setup page >> type Tabs in Quick Find bar >> click on tabs >> New (under custom object tab)

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

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

6. Click save.


Setup
Home
Object Manager
tabs
User Interface
Rename Tabs and Labels
Tabs
Didn't find what you're looking for?
Try using Global Search.
SETUP
Tabs
Edit Custom Object Tab
supplier
Help for this Page
Fill in the fields below to define the custom tab.
Custom Tab Definition Edit
Custom Object Tab Information
= Required Information
Tab Label
supplier
Object
supplier
Tab Style
Box
(Optional) Choose a Home Page Custom Link to show as a splash page the first time your users click on this tab.
Splash Page Custom Link
--None--
Enter a short description.
Description
Save
Cancel


Setup
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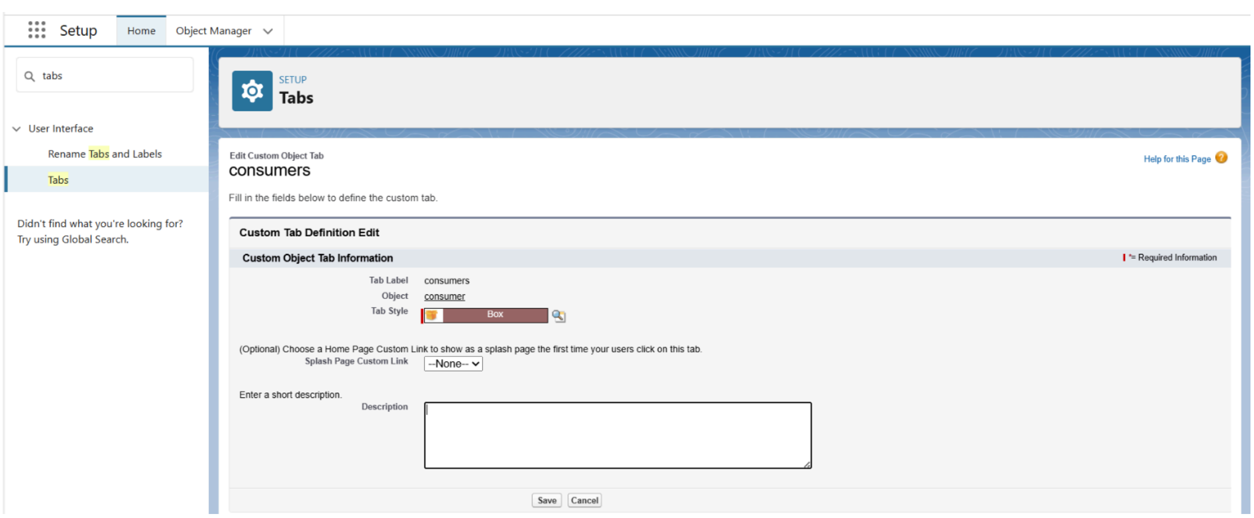
Try using Global Search.
SETUP
Tabs
Edit Custom Object Tab
rice mills
Help for this Page
Fill in the fields below to define the custom tab.
Custom Tab Definition Edit
Custom Object Tab Information
= Required Information
Tab Label
rice mills
Object
rice mill
Tab Style
Box
(Optional) Choose a Home Page Custom Link to show as a splash page the first time your users click on this tab.
Splash Page Custom Link
--None--
Enter a short description.
Description
Save
Cancel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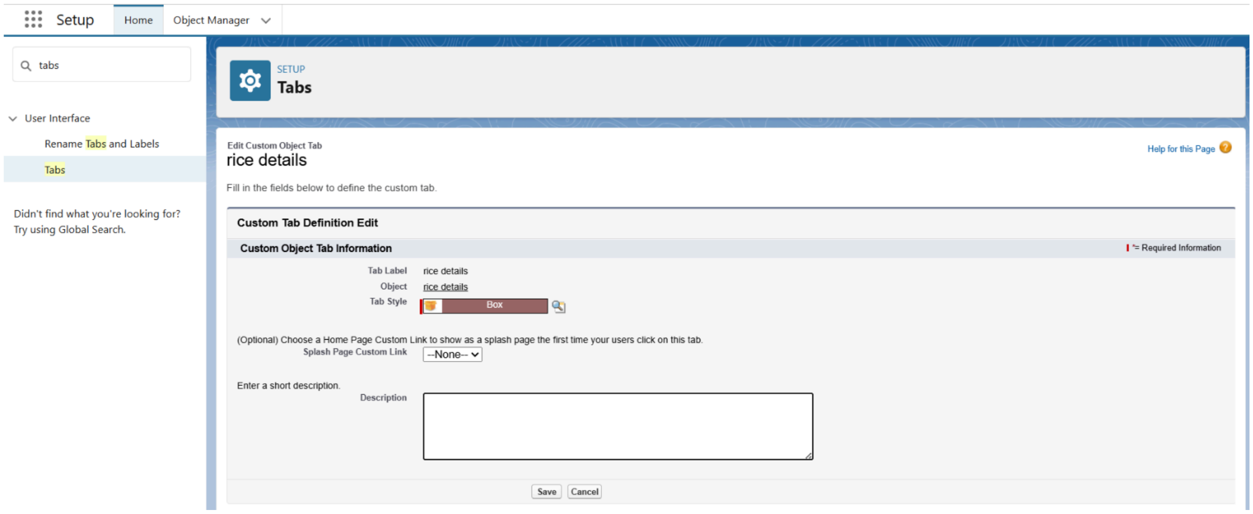
Object
consumer
Tab Style
Box
(Optional) Choose a Home Page Custom Link to show as a splash page the first time your users click on this tab.
Splash Page Custom Link
--None--
Enter a short description.
Description
Save
Cancel



Activity 4: The Lightning App

Create a Lightning App

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 MY RICE >> Next >> (App option page) keep it as default >> Next >> (Utility Items) keep it as default >> Next.

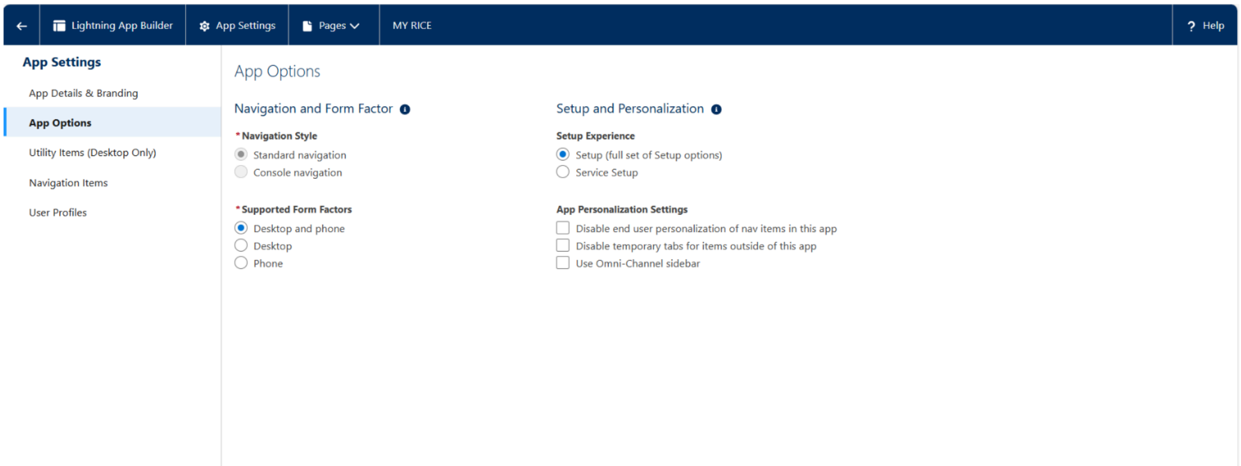
3.Upload a photo that is related to your app.

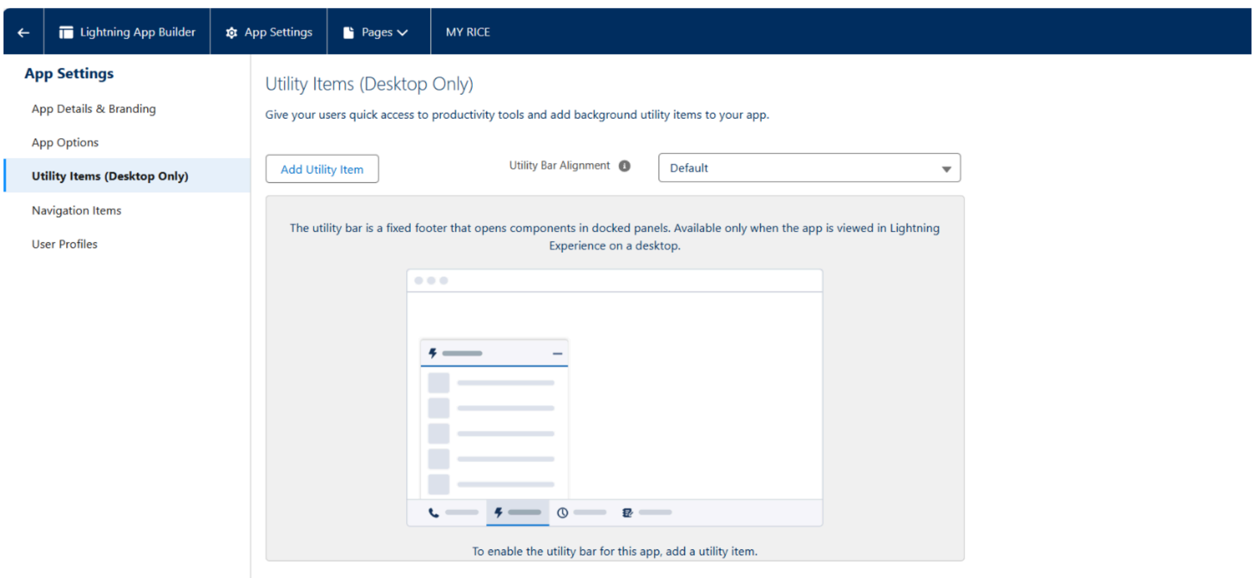
4.To add Navigation Item:

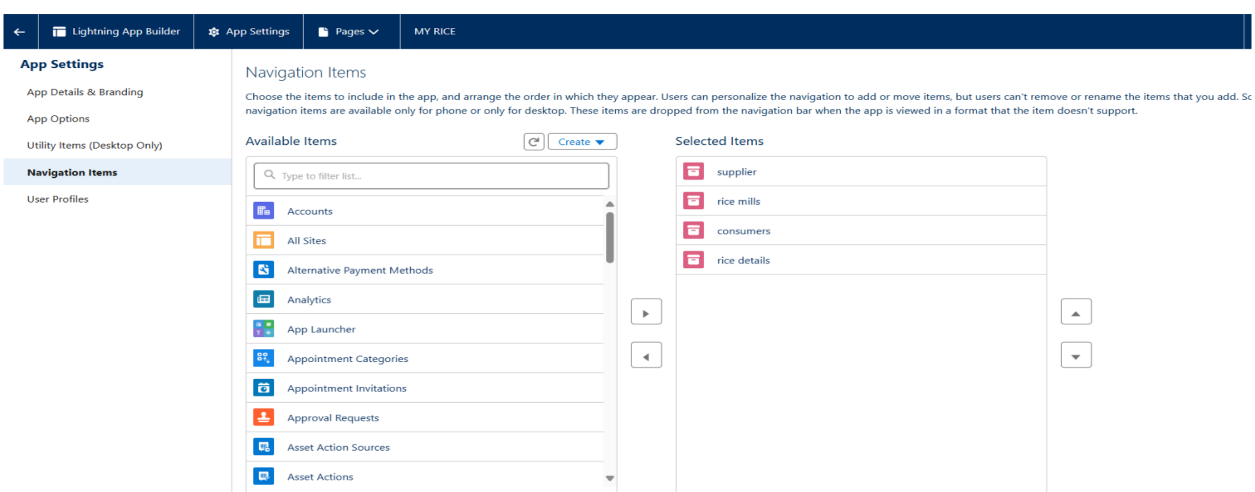
5.Select the items (supplier, rice mill, consumer , Rice details) from the search bar and move it using the arrow button >> Next.

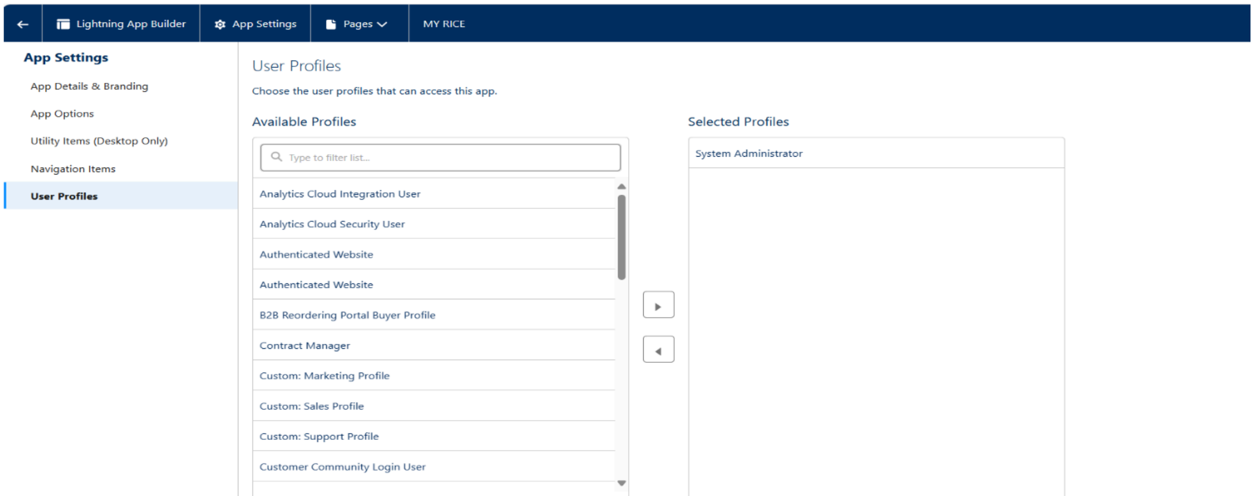
6.To Add User Profiles:

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


Lightning App Builder
App Settings
Pages
MY RICE
Help
App Settings
App Details & Branding
App Options
Utility Items (Desktop Only)
Navigation Items
User Profiles
App Options
Navigation and Form Factor
* Navigation Style
Standard navigation
Console navigation
* Supported Form Factors
Desktop and phone
Desktop
Phone
Setup and Personalization
Setup Experience
Setup (full set of Setup options)
Service Setup
App Personalization Settings
Disable end user personalization of nav items in this app
Disable temporary tabs for items outside of this app
Use Omni-Channel sidebar


Lightning App Builder
App Settings
Pages
MY RICE
App Settings
App Details & Branding
App Options
Utility Items (Desktop Only)
Navigation Items
User Profiles
Utility Items (Desktop Only)
Give your users quick access to productivity tools and add background utility items to your app.
Add Utility Item
Utility Bar Alignment
Default
The utility bar is a fixed footer that opens components in docked panels. Available only when the app is viewed in Lightning Experience on a desktop.
To enable the utility bar for this app, add a utility item.


Lightning App Builder
App Settings
Pages
MY RICE
App Settings
App Details & Branding
App Options
Utility Items (Desktop Only)
Navigation Items
User Profiles
Navigation Items
Choose the items to include in the app, and arrange the order in which they appear. Users can personalize the navigation to add or move items, but users can't remove or rename the items that you add. Sc
navigation items are available only for phone or only for desktop. These items are dropped from the navigation bar when the app is viewed in a format that the item doesn't support.
Available Items
Create
Type to filter list...
Accounts
All Sites
Alternative Payment Methods
Analytics
App Launcher
Appointment Categories
Appointment Invitations
Approval Requests
Asset Action Sources
Asset Actions
Selected Items
supplier
rice mills
consumers
rice details



Activity 5: Fields

Creating the number field in rice details object

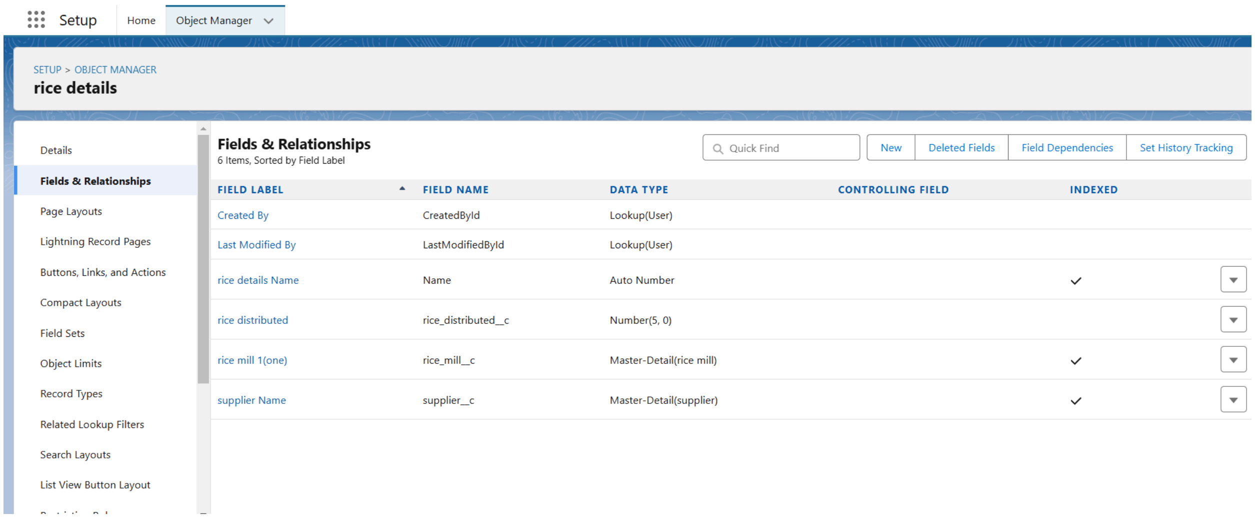
1.Go to the setup page >> click on object manager >> From drop down click edit for rice details object

2.Click on fields & relationship >> click on New.

3.Select Data type as “Number” and click Next.

4.Given the Field Label as “rice distributed ” and length as “ 5 ”.

5.Field Name will be auto populated, and click on Next- Next >> Save.



Creating Junction Object

Creating junction object as rice details with supplier & rice mill :

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

2.Click on fields & relationship - click on New.

3.Select “Master-Detail relationship” as data type and click Next.

4.Select the related object “supplier” and click next.

5.Give Field Label as “supplier Name” and click Next

6.Next >> Next >> Save & New.

7.Follow the same steps from 1 to 3.

8.Select the related object “rice mill” and click Next.

9.Give Field Label as “rice mill 1(one)” and click Next.

10.Next >> Next >> Save.

Creating a Master-Detail Relationship

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

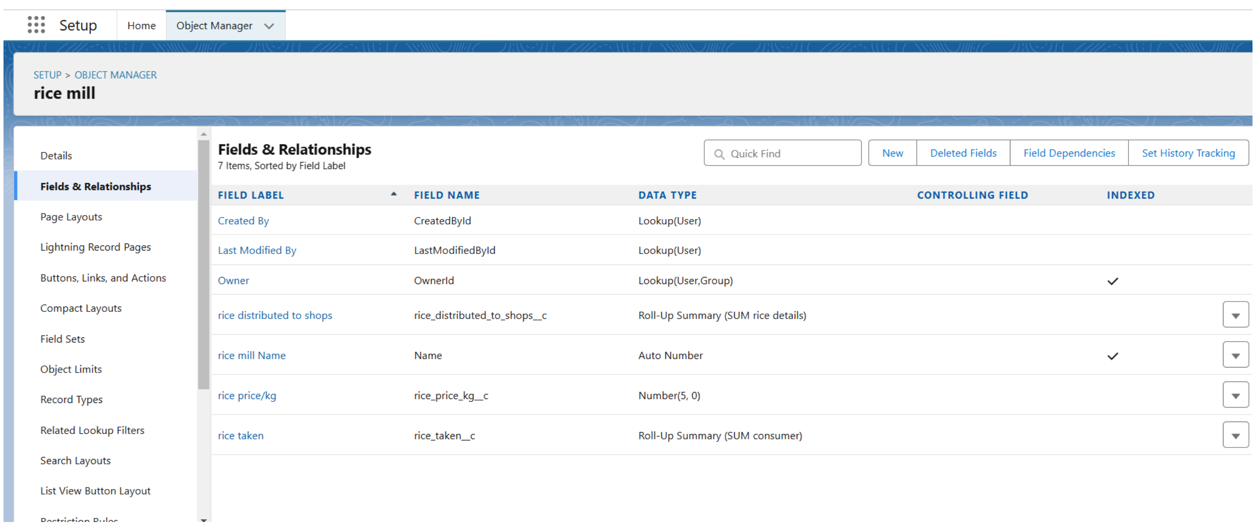
2.Click on fields & relationship >> click on New.

3.Select "Master-Detail relationship" as data type and click Next.

4.Select the related object "rice mill".

5.Give Field Label as "rice mill name" and click Next.

6.Next >> Next >> Save.



Creating the Roll-up Summary

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

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

3.Select the data type as "Rollup summary", and click Next.

4.Give the Field label as “sum of rice distributed”, Field Name will be Auto generated, and click Next.

5.Select the summarized object as “rice details”.

6.Select the Rollup type as “sum”.

7.Select the field to aggregate as “rice distributed”, and click Next >>Next >>Save

8.Follow the same steps for the rice mill Object from 1 to 3

9.Give the Field label as “rice distributed to shops”, Field Name will be Auto generated, and click Next.

10.Select the summarized object as “rice details”. 11.Select the Rollup type as “sum”.

12.Select the field to aggregate as “rice distributed”, and click Next >> Next >> Save.

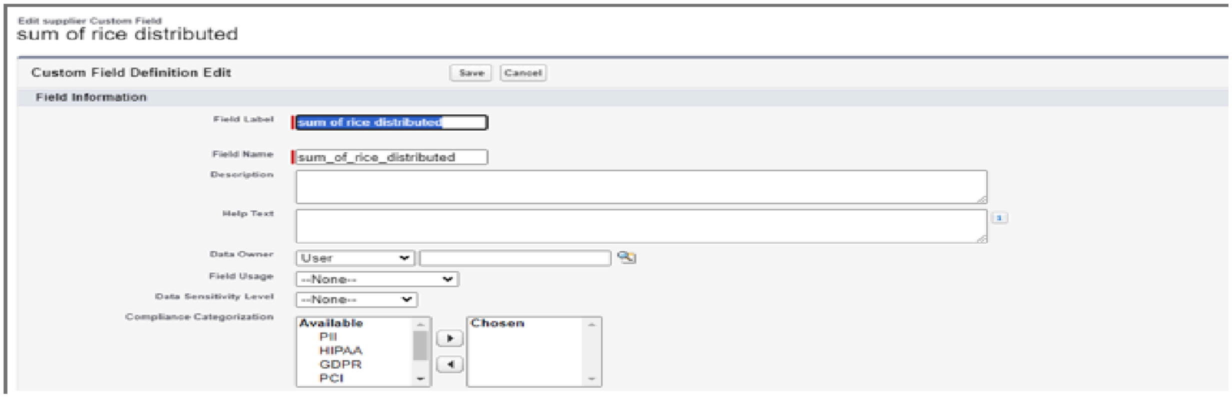
13.Note: create the field as “ rice taken by shops in kgs” using number datatype in consumer object

14.Follow the same steps for the rice mill Object from 1 to 3

15.Give the Field label as “rice taken”, Field Name will be Auto generated, and click Next.

16.Select the summarized object as “consumer”. 17.Select the Rollup type as “sum”.

18.Select the field to aggregate as “rice taken in shops”, and click Next >> Next >> Save.



Creating the validation rule

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

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

3.Enter the Rule name as “Phonenumberoremailblankrule ”.

4.Enter the description as “phone number and email number should not be blank”.

5.Enter the formula as “OR(ISBLANK(phone_number__c) , ISBLANK(email__c))” and check the syntax.

6.Under the error message write as “please fill in your phone number.”

7.Select error location “top of page”.

8.Save the validation rule.

Activity-6:PAGE LAYOUTS

1. Go to Setup >> Click on Object Manager >>Search for the object (consumer) >> From drop down select the object and click on it.

2. Click on Page layout >> Click on New.
3. Select the existing page layout, and give the page layout name as “consumer layout”, and click save.

4. Drag and drop the section field to consumer details and create the section.

5. Enter the section name as “Personal details”, - click Ok.

6. Now drag the fields to this section that mentioned , they are

7. First name, last name , consumer name , phone number, email, rice mill name.

8. Follow the same process for another two sections as shown above , they are

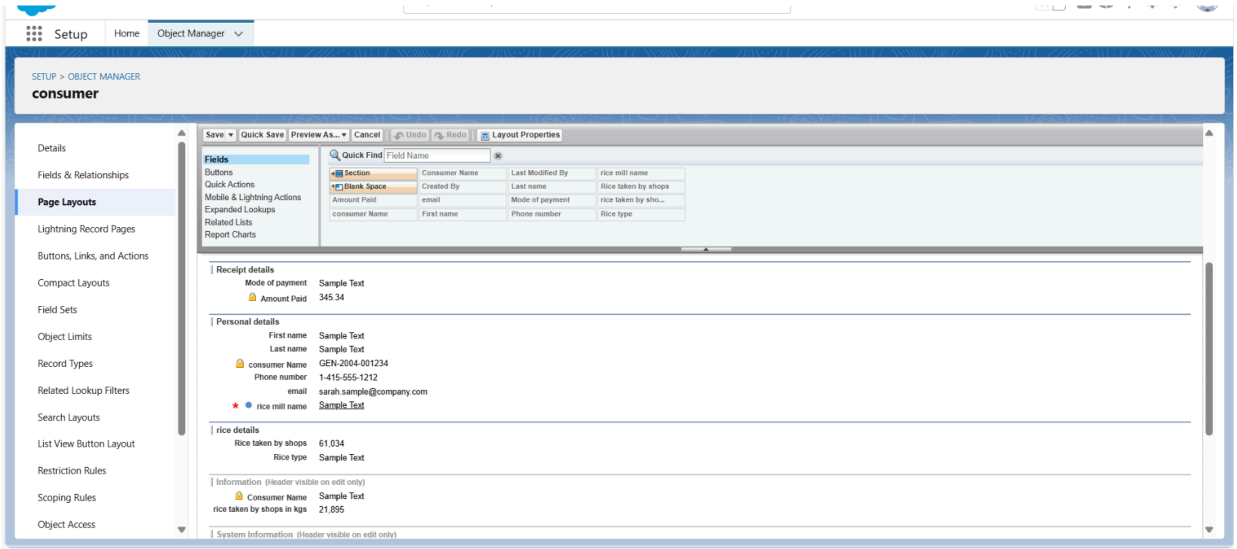
9. One section is “ rice details ” , drag the fields that are

10.Rice taken by shop, rice type.

11.Another section is “Receipt details ”, and drag the fields that are

12.Mode of payment, Amount paid.

13.Then, Click save.



Activity-7:PROFILES

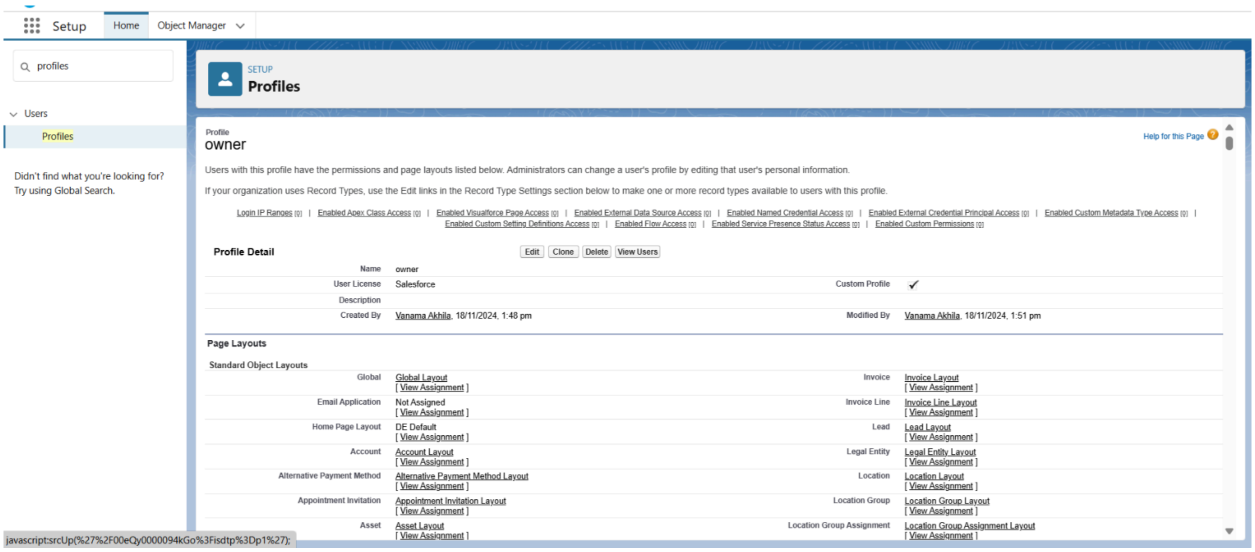
A profile is a group/collection of settings and permissions that define what a user can do in salesforce. Profile controls "Object permissions, Field permissions, User permissions, Tab settings, App settings, Apex class access, Visualforce page access, Page layouts, Record Types, Login hours & Login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

Owner Profile:

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

2. Scroll down to Custom Object Permissions and Give access permissions for consumers, rice details , rice mill and suppliers objects as mentioned in the below diagram.

3. Give access and save it.



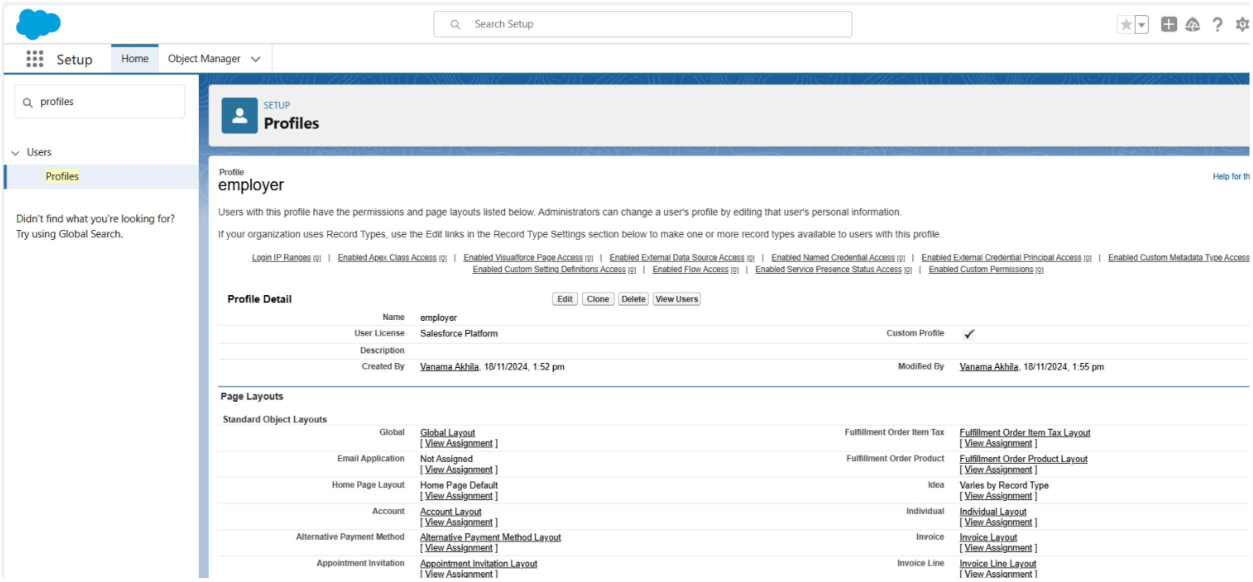
Employer Profile

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

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

3. Select the Custom App settings as default for the rice mill.

Scroll down to Custom Object Permissions and Give access permissions for consumer, rice details , rice mill and suppliers objects as mentioned in the below diagram.



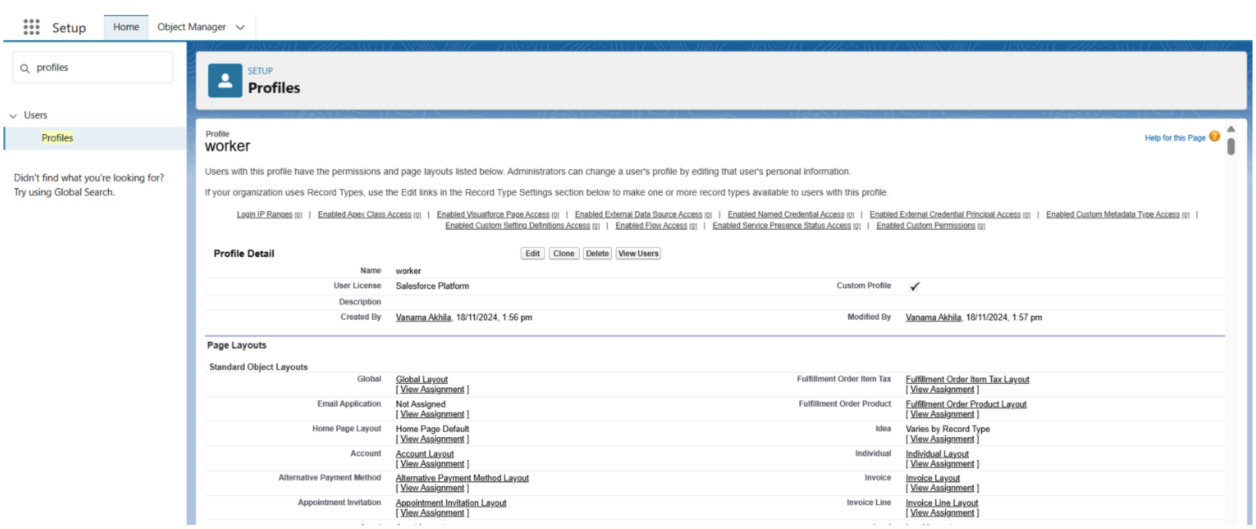
Worker Profile

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

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

3. Select the Custom App settings as default for the rice mill.

Scroll down to Custom Object Permissions and Give access permissions for consumer, rice details , rice mill and suppliers objects as mentioned in the below.



Activity-8:Role & Role Hierarchy

Creating owner Role:

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

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

3. Click on Expand All and click on add role under whom this role works.

4. Give Label as “owner” and Role name gets auto populated. Then click on Save.

Creating employer roles:

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

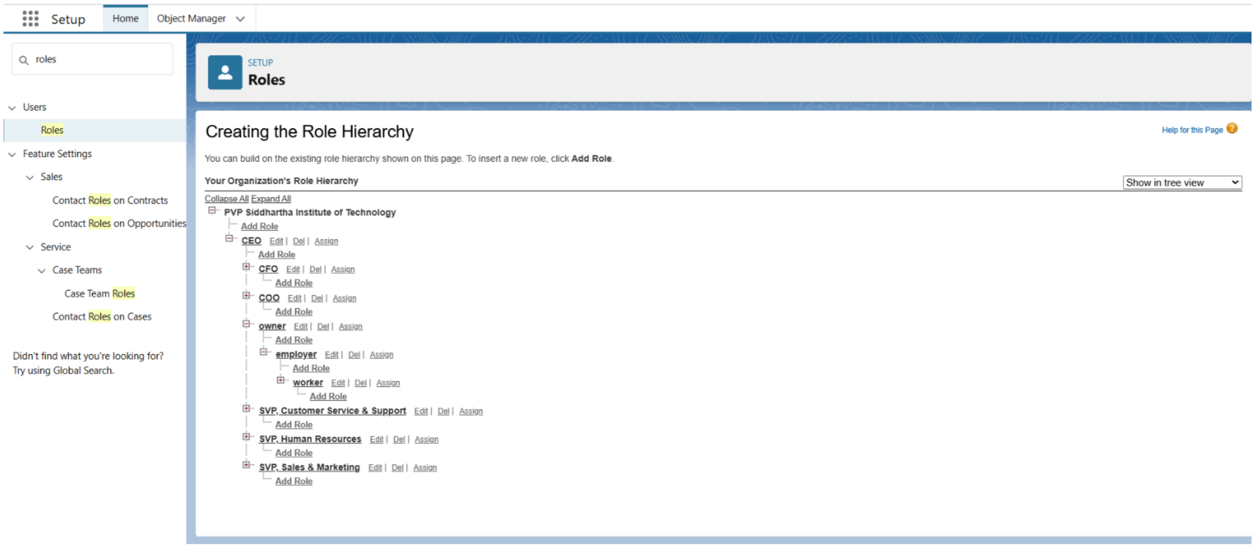
2. Click plus on CEO role, and click add role under owner.

3. Give Label as “employer” and Role name gets auto populated. Then click on Save.

4. Repeat the same steps, for another role.

5. Click plus on CEO role, and click plus on owner, and click add role under employer.

6. Give Label as “worker” and Role name gets auto populated. Then click on Save.



Activity-9:

Report Create Report:

1. Go to the app >>click on the reports tab

2. Click New Report.

3. select for report type, search for “rice mill with consumers” click on it. And click on start report.

4. Their outline pane is opened already, select the fields that are mentioned below in the column section.

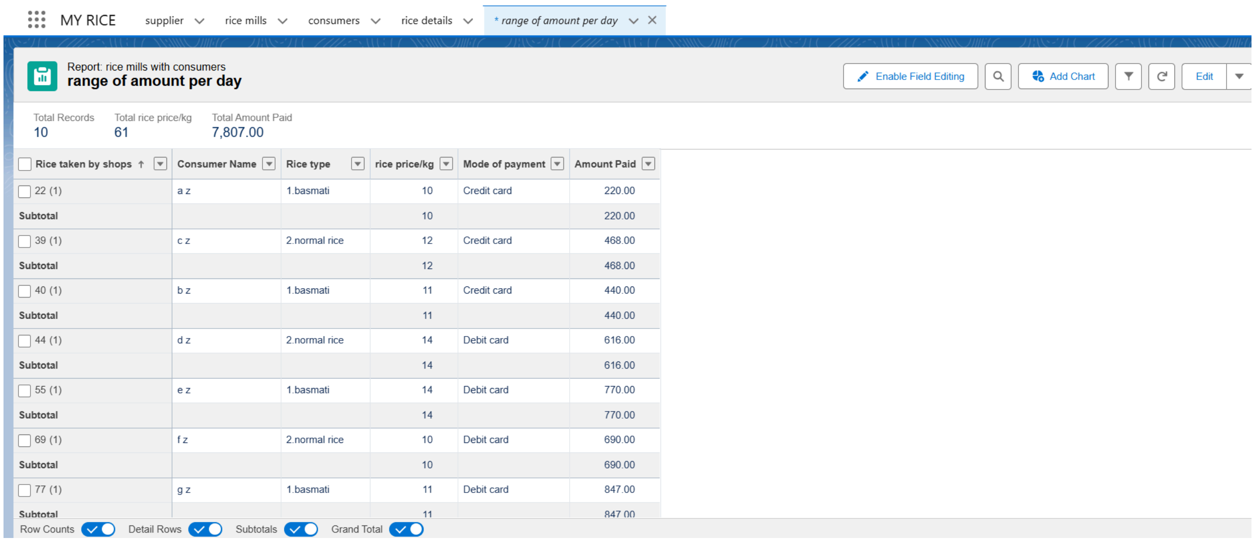
5. 1.consumer name .
   2.rice type
   3.rice price/kg
   4.mode of payments
   5.amount paid

6.Remove the unnecessary fields.

7.Select the fields that are mentioned below in the GROUP ROWS section.

8.Rice taken by shops

9.Click save and run and save the report as “range of amount per day”.and save it.



Rice taken by shops ↑	Consumer Name	Rice type	rice price/kg	Mode of payment	Amount Paid
22 (1)	a z	1.basmati	10	Credit card	220.00
Subtotal			10		220.00
39 (1)	c z	2.normal rice	12	Credit card	468.00
Subtotal			12		468.00
40 (1)	b z	1.basmati	11	Credit card	440.00
Subtotal			11		440.00
44 (1)	d z	2.normal rice	14	Debit card	616.00
Subtotal			14		616.00
55 (1)	e z	1.basmati	14	Debit card	770.00
Subtotal			14		770.00
69 (1)	f z	2.normal rice	10	Debit card	690.00
Subtotal			10		690.00
77 (1)	g z	1.basmati	11	Debit card	847.00
Subtotal			11		847.00

Activity-10:Testing and Validation:

Creating an Apex Class(ConsumerRecord):

1. Login to the Salesforce account and navigate to the gear account in the top right corner.

2. Then we can see the Developer console. Click on the developer console and you will navigate to a new console window.

3. Then you can see many tools in the Toolbar of the new console window. Click on File, New and Apex Class.
4. Enter the name of the class(ConsumerRecord) to create a new class file.

Code Snippet :

```
public class ConsumerRecord {
  public static void sendEmailNotification(List < consumer__c > con) {
```

```
  for (consumer__c c: con) {
   Messaging.SingleEmailMessage email = new
Messaging.SingleEmailMessage();
   email.setToAddresses(new List < String > {
    c.email__c
   });
   email.setSubject('Welcome to our company');
   email.setPlainTextBody('Dear ' + ' ' + ',\n\nWelcome to MY RICE!' + 'You have
been seen as a valuable customer to us. PLease continue your journey with us,
while we try to provide you with good quality resources.' + '\n' + 'We are proud to
associate with valuable customers like you and we look forward to collaborating
with you by providing more and more exciting discounts or even product offers
too.' + '\n' +
    'So why taking a step back, take a leap of faith and shop with us
    more,
    while we provide with the valuable products and offers '+'\
    n '+'\
    n '+'\
    n '+ '
    Thankyou
    for buying '+ '
    ' +'
    Here are some of the products that are brought by the customers who
similarly bought products like this '+'\
    n\ n '); Messaging.sendEmail(new
List<Messaging.SingleEmailMessage>{email});
   }
  }
 }
```

Creating an Apex Trigger

While still in the trailhead account, navigate to the gear icon in the top right corner. Click on developer console and you will be navigated to a new console window. Click on the File menu in the toolbar, and click on new? Trigger. Enter the trigger name and the object to be triggered.

Syntax For creating trigger :

Trigger [trigger name] on [object name](Before/After event) {
//Trigger Logic
}

Code Snippet :

```
trigger consumerTrigger on consumer__c(After insert) {
  if (trigger.isAfter && trigger.isInsert) {
    ConsumerRecord.sendEmailNotification(trigger.new);
  }
}
```

DASHBOARDS:

Conclusion:

Salesforce revolutionized operations by automating calculations, providing real-time insights, and securing data access. Custom widgets visualized key metrics, while validation rules ensured data integrity. Role-based access protected sensitive information, and automated calculations streamlined processes. This comprehensive solution boosted productivity and informed strategic decision-making.