

Salesforce Virtual Internship Program

SmartInternz

A CRM APPLICATION FOR WHOLESALE RICE MILL

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COURSE : B.Tech

BRANCH : COMPUTER SCIENCE ENGINEERING

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TRACK: DEVELOPER

Project Title : A CRM APPLICATION FOR WHOLESALE RICE MILL

1. Project Overview

This project focuses on the development of a **CRM Application for Wholesale Rice Mills** using Salesforce to streamline and optimize daily operations, improve data accuracy, and provide actionable insights. Designed to meet the specific needs of rice mill owners, this application automates key processes such as tracking daily rice production, sales data, inventory management, and generating real-time reports.

The primary challenge addressed by this project is the manual handling of critical business operations, which often leads to inefficiencies and data inaccuracies. By leveraging Salesforce's robust CRM platform, the project delivers a comprehensive, user-friendly solution that ensures efficient resource management, enhanced customer relationships, and seamless reporting.

Through this project, the rice mill business aims to achieve:

- **Operational Excellence:** Automating routine processes to save time and reduce errors.
- **Data-Driven Decision Making:** Providing owners with detailed, real-time insights into production, sales, and customer trends.
- **Scalability and Efficiency:** Supporting long-term growth with a flexible, secure, and scalable solution.

2. Objectives

Business Goals:

1. **Streamlining Operations:** Automating daily processes such as rice production tracking, inventory updates, and sales recording.
2. **Improved Decision-Making:** Delivering detailed reports and dashboards for real-time analytics, enabling better resource allocation and strategic planning.
3. **Enhancing Customer Relationships:** Providing personalized insights into customer preferences and purchasing behavior.
4. **Ensuring Data Security:** Implementing role-based access controls to restrict sensitive information to authorized users.

Specific Outcomes:

- A centralized platform to monitor and manage rice mill operations effectively.

- Real-time automated reports on daily production, sales, and revenue trends.
- Reduction of manual errors in data entry and calculations.
- User-friendly dashboards to visualize performance metrics and insights.

3. Salesforce Key Features and Concepts Utilized

1. Reports and Dashboards:

- Automated generation of daily, weekly, and monthly reports on rice production, sales, inventory levels, and revenue.
- Dashboards display critical metrics such as most purchased rice types, top customers, and revenue trends.

2. Rollup Summary Fields:

- Used to summarize data from child records to parent records in master-detail relationships.
- Examples:
 - Total rice supplied by each supplier.
 - Total sales revenue generated from specific rice types.

3. Cross-Object Formula Fields:

- Enables calculations across related objects.
- Example: Total payment owed to suppliers calculated using **Quantity of Rice x Price per Kilogram**.

4. Validation Rules:

- Implements logic to ensure data accuracy and completeness.
- Example: The **ISBLANK** formula prevents saving records with missing mandatory fields, such as rice quantity or customer details, and displays error messages to guide users.

5. Permission Sets and Organization Wide Defaults (OWD):

- Configures access levels based on roles:
 - **Owner**: Complete access to all records, including employees and workers.
 - **Employer**: Access restricted to worker-related records.
 - **Worker**: Limited access based on job-specific requirements.
- Ensures sensitive data is protected while enabling collaboration.

4. Detailed Steps to Solution Design

● Requirement Gathering:

- Conducted extensive discussions with stakeholders, including owners, employers, and workers, to understand operational pain points, reporting

needs, and goals.

- **Data Model Design:**
 - Created custom objects for "Rice Inventory," "Supplier," "Sales," and "Customer."
 - Defined relationships:
 - Master-detail relationship between "Rice Inventory" and "Supplier."
 - Lookup relationship between "Sales" and "Customer."
- **User Interface (UI) Design:**
 - Developed intuitive **Lightning Pages** tailored to different user roles (e.g., Owner Dashboard, Sales Entry Form).
 - Included custom components to facilitate data entry and quick access to reports.
- **Business Logic Implementation:**
 - Automated workflows for low inventory alerts and sales notifications.
 - Developed Apex classes and triggers for advanced calculations and inventory updates.
- **Reports and Dashboards:**
 - Configured reports to highlight:
 - Daily rice production and sales trends.
 - Inventory levels and popular rice types.
 - Revenue generated by different customer segments.
 - Dashboards provide real-time visualizations for quick decision-making.
- **Documentation and Screenshots:**
 - Detailed all components, configurations, and workflows with accompanying screenshots for clarity and reference.

Introduction to 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.

Creating Developer Account

Creating a developer org in salesforce.

1. Go to <https://developer.salesforce.com/signup>

2. On the sign up form, enter the following details :

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

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

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

Then you will redirect to your salesforce setup page.

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

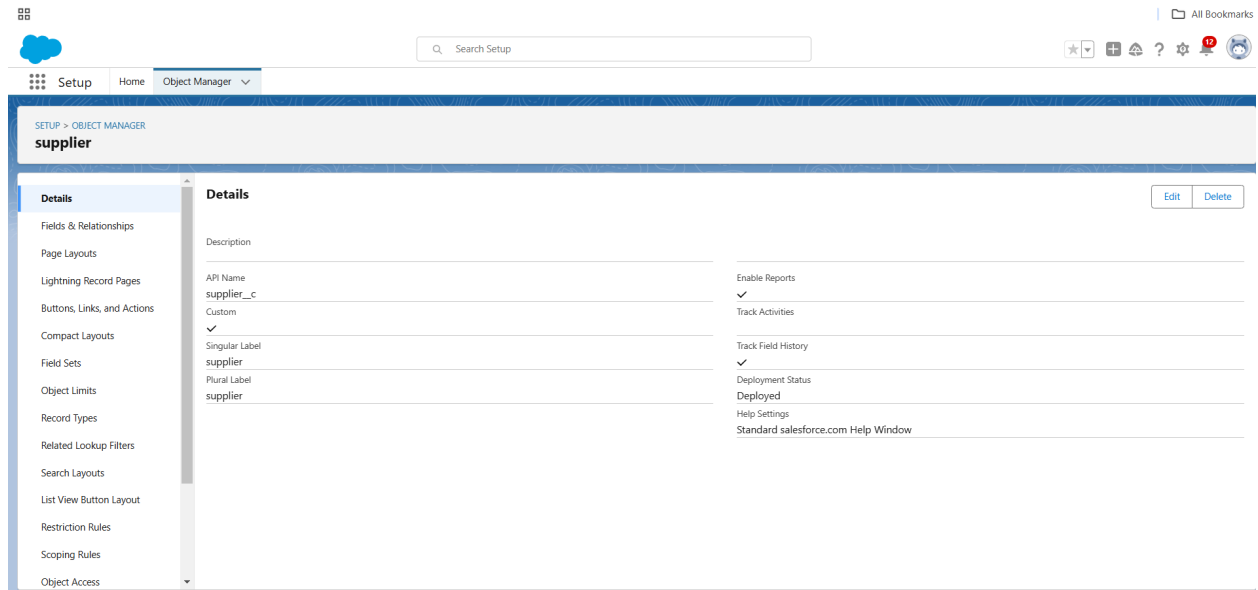
Creating required objects :

To create an object:

1. From the setup page - Click on Object Manager -Click on Create - Click on Custom Object
2. On Custom object defining page:
3. Enter the label name, plural label name, click on Allow reports, Allow
4. Click on Save.

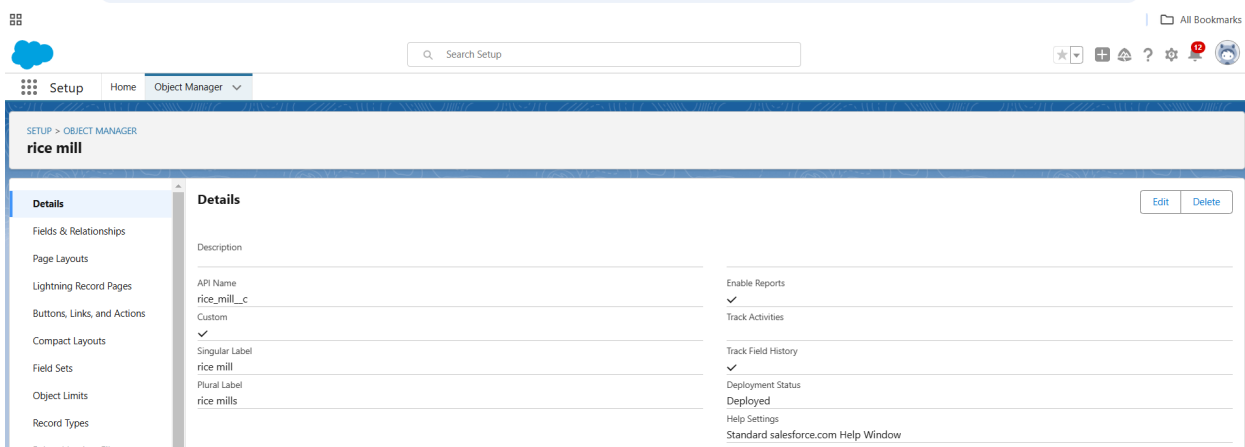
To create an object:

1. From the setup page >> Click on Object Manager>> Click on Create>>Click on Custom Object.
1. Enter the label name>>supplier
2. Plural label name>>supplier
3. Enter Record Name Label and Format
 - Record Name >> supplier Name
 - Data Type>>Text
2. Click on Allow reports and Track Field History and allow search
3. Allow search >> Save.



To create an object:

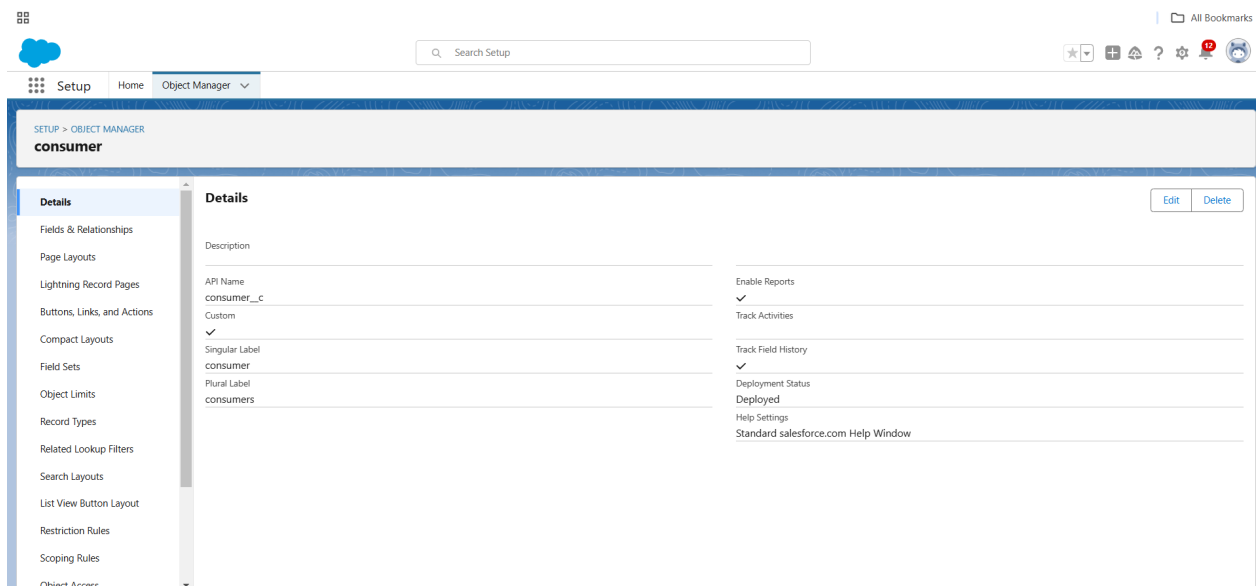
1. From the setup page >> Click on Object Manager>>Click on Create >> Click on Custom Object.
1. Enter the label name>>rice mill
2. Plural label name>> rice mills
3. Enter Record Name Label and Format
 - Record Name >>
 - Data Type >> Auto Number
 - Display Format >> rice-{000}
 - Starting number >> 1
2. Click on Allow reports and Track Field History, Allow Search and Save.



Follow the same steps as mentioned above for the and Receipt objects.

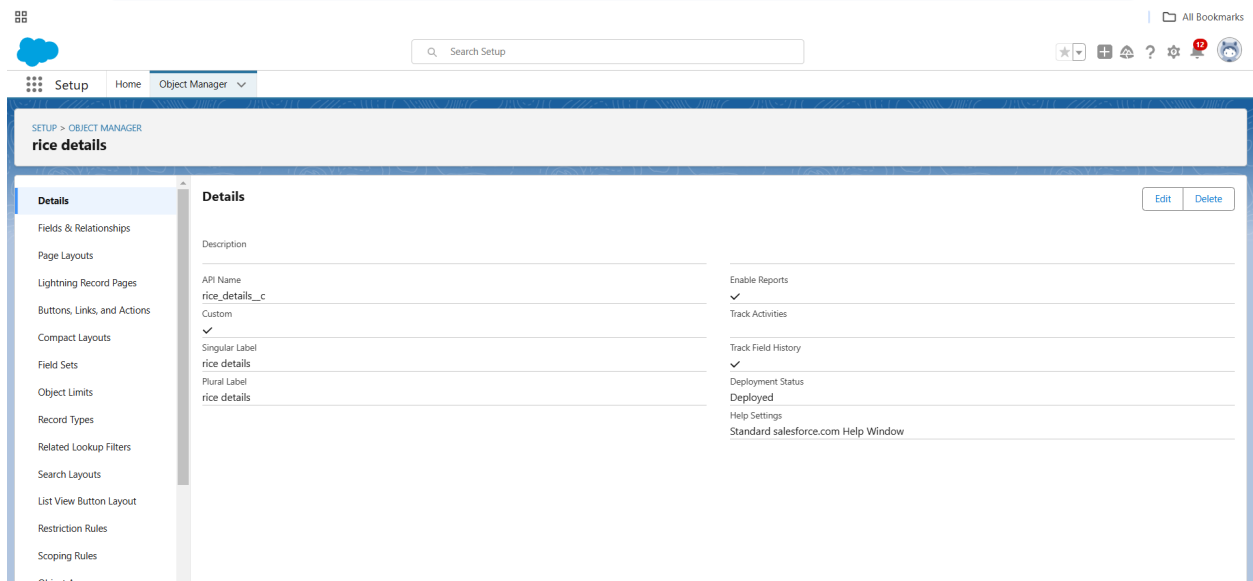
1. Use these display format for the consumer

- label name >> consumer



1. Use these display format for the rice details

- label name >> rice details
- Plural label name >> rice details
- Display Format >> rice-{000}
- Starting Number >>1



Tabs

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:

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.

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.

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.

Lightning Component Tabs

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

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 customize the tabs for your apps.

To create a Tab:(supplier)

1. Go to setup page >> type Tabs in Quick Find bar >> click on tabs >> New (under custom object tab)
2. 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 .
3. Make sure that the Append tab to users' existing personal customizations is checked.
4. Click save

The screenshot shows the Salesforce Setup interface. The left sidebar has a search bar with 'tabs' entered, and the 'User Interface' section is expanded, showing 'Rename Tabs and Labels' and 'Tabs'. The main content area is titled 'Custom Tabs' and includes a 'New' button and a 'What Is This?' link. Below this, there are three sections: 'Custom Object Tabs', 'Web Tabs', and 'Visualforce Tabs'. The 'Custom Object Tabs' section contains a table with columns 'Action', 'Label', 'Tab Style', and 'Description'. The table lists four tabs: 'consumers' (Jurnal), 'rice details' (Ticket), 'rice mills' (Chosen place), and 'supplier' (Halls). The 'Web Tabs' and 'Visualforce Tabs' sections both show 'No Web Tabs have been defined' and 'No Visualforce Tabs have been defined' respectively. The 'Lightning Component Tabs' section shows 'No Lightning component tabs have been defined'.

Action	Label	Tab Style	Description
Edit Del	consumers	Jurnal	
Edit Del	rice details	Ticket	
Edit Del	rice mills	Chosen place	
Edit Del	supplier	Halls	

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 color 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.

1. To create a lightning app page: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:
 - Select the items (supplier, rice mill, consumer, Rice details) from the search bar and move it using the arrow button >> Next.
 - To Add User Profiles:
 - Search profiles (System administrator) in the search bar >> click on the arrow button >> save & finish.

The screenshot displays the 'Lightning App Builder' interface. The top navigation bar includes a back arrow, 'Lightning App Builder', 'App Settings', 'Pages', and 'MY RICE'. A 'Help' button is in the top right. The left sidebar shows 'App Settings' with 'App Details & Branding' selected. The main content area is titled 'App Details & Branding' and includes the instruction: 'Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.' The 'App Details' section contains fields for 'App Name' (MY RICE), 'Developer Name' (MY_RICE), and 'Description' (Enter a description...). The 'App Branding' section features an 'Image' upload area, a 'Primary Color Hex Value' dropdown set to '#0070D2', and 'Org Theme Options' with a checkbox 'Use the app's image and color instead of the org's custom theme'. An 'App Launcher Preview' at the bottom shows a thumbnail of the app icon and the text 'MY RICE'.

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 an 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,

1. Created By
2. Owner
3. Last Modified
4. 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 organizer 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.

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.

A Junction object is a custom object that serves as a bridge between two related objects in a many-to-many relationship. It allows you to create a relationship between records of two different objects by creating a many-to-many relationship model.

Creating junction object as rice details with supplier& rice mill

To create junction 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 "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.

Master-detail relationship is a type of relationship between two objects where the master object controls certain behaviors and settings of the detail object. Here are a few use cases that demonstrate the use of master-detail relationships

Creating Master-Detail Relationship between consumer& rice mill Object

To Create 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.

A rollup summary field is a field that summarizes data from a child object to a parent object that shares a master-detail relationship. Rollup summary fields can use the COUNT, SUM, MIN, and

MAX functions. For example, you could use a rollup summary field to display the total value (amount of rice supplied) from rice details on a related supplier.

Creating the Roll-up summary field on supplier & rice mill Objects.

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

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 "master detail" and click Next.
4. Given the Field Label as " supplier name " and length as " 5 "
5. Field Name will be auto populated, and click on Next>> Next >>Save.

Creating Fields in rice mill Objects

1. Select Data type as "Number" and click Next.
2. Given the Field Label as " rice price/kg " and length as " 5 "

Creating Fields in consumer Objects

S.no	Object name	Fields	data type
1.	consumer		
		First name	Text
		Last name	Text
		Phone number	phone

		email	email
		Rice taken by shops	Number (length=5)
		Rice type	(Picklist values) 1.basmati 2.normal rice
		Mode of payment	Picklist values <ul style="list-style-type: none"> • Credit card • Debit card • Net banking • UPI • Cash

Creating Cross Object Formula Field in consumer Object

A cross-object formula field is a formula field that references fields from another object in Salesforce. This type of formula allows users to calculate and display data from multiple objects on a single record.

1. Go to setup >> click on Object Manager >> type object name(consumer) in search bar >> click on the object.
2. Click on fields & relationship >> click on New.
3. Select Data type as "Formula" and click Next.
4. Give Field Label and Field Name as "Amount Paid " and select formula return type as "Number" and click next.
5. Insert fields formula should be :

$$\text{rice_taken_by_shops_c} * \text{rice_mill_name_r.rice_price_kg_c}$$
6. Under Advanced Formula write down the formula and click "Check Syntax" and Save.

1. Creating the Formula field in consumer Object
2. Go to setup >> click on Object Manager >> type object name(consumer)in search bar >>

click on the object.

3. Click on fields & relationship >> click on New.
4. Select Data type as "Formula" and click Next.
5. Give Field Label and Field Name as "Consumer Name" and select formula return type as "TEXT" and click next.
6. Insert field formula should be : `First_Name__c + ' ' + Last_Name__c`
7. click "Check Syntax" and Save.

Creating the validation rule

Improve the quality of your data using validation rules. Validation rules verify that the data a user enters in a record meets the standards you specify before the user can save the record. A validation rule can contain a formula or expression that evaluates the data in one or more fields and returns a value of "True" or "False". Validation rules also include an error message to display to the user when the rule returns a value of "True" due to an invalid value.

Creating the validation rule for phone number field in consumer object

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.

The screenshot shows the Salesforce Setup interface. The top navigation bar includes 'Setup', 'Home', and 'Object Manager'. The main content area is titled 'consumer' and shows the 'Fields & Relationships' section. A table lists various fields with their labels, names, data types, and controlling fields. The 'Phone number' field is highlighted in blue.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount Paid	Amount_Paid__c	Formula (Number)		
Consumer Name	Consumer_Name__c	Formula (Text)		
consumer Name	Name	Auto Number		✓
Created By	CreatedBy	Lookup(User)		
email	email__c	Email		
First name	First_name__c	Text(255)		
Last Modified By	LastModifiedBy	Lookup(User)		
Last name	Last_name__c	Text(255)		
Mode of payment	Mode_of_payment__c	Picklist		
Phone number	Phone_number__c	Phone		
rice mill name	rice_mill_name__c	Master-Detail(Rice mill)		✓
rice price per kg	rice_price_per_kg__c	Number(18, 0)		
Rice taken by shops	Rice_taken_by_shops__c	Number(5, 0)		
rice taken by shops in kgs	rice_taken_by_shops_in_kgs__c	Number(18, 0)		
Rice type	Rice_type__c	Picklist		

Setup

Home

Object Manager

rice details

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout

Restriction Rules

Scoping Rules

Object Access

Fields & Relationships

7 Items. Sorted by Field Label

Quick Find

New

Deleted Fields

Field Dependencies

Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
rice details Name	Name	Auto Number		✓
rice distributed	rice_distributed__c	Number(5, 0)		
rice mill 1(one)	rice_mill_1_one__c	Master-Detail(rice mill)		✓
supplier name	supplier_names__c	Number(5, 0)		
supplier Name	supplier_Name__c	Master-Detail(supplier)		✓

Setup

Home

Object Manager

rice mill

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

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List View Button Layout

Restriction Rules

Scoping Rules

Object Access

Fields & Relationships

6 Items. Sorted by Field Label

Quick Find

New

Deleted Fields

Field Dependencies

Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
rice mill Name	Name	Auto Number		✓
rice price/kg	rice_price_kg__c	Number(5, 0)		
rice taken	rice_taken__c	Roll-Up Summary (SUM consumer)		

Setup

Home

Object Manager

supplier

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout

Restriction Rules

Fields & Relationships

5 Items. Sorted by Field Label

Quick Find

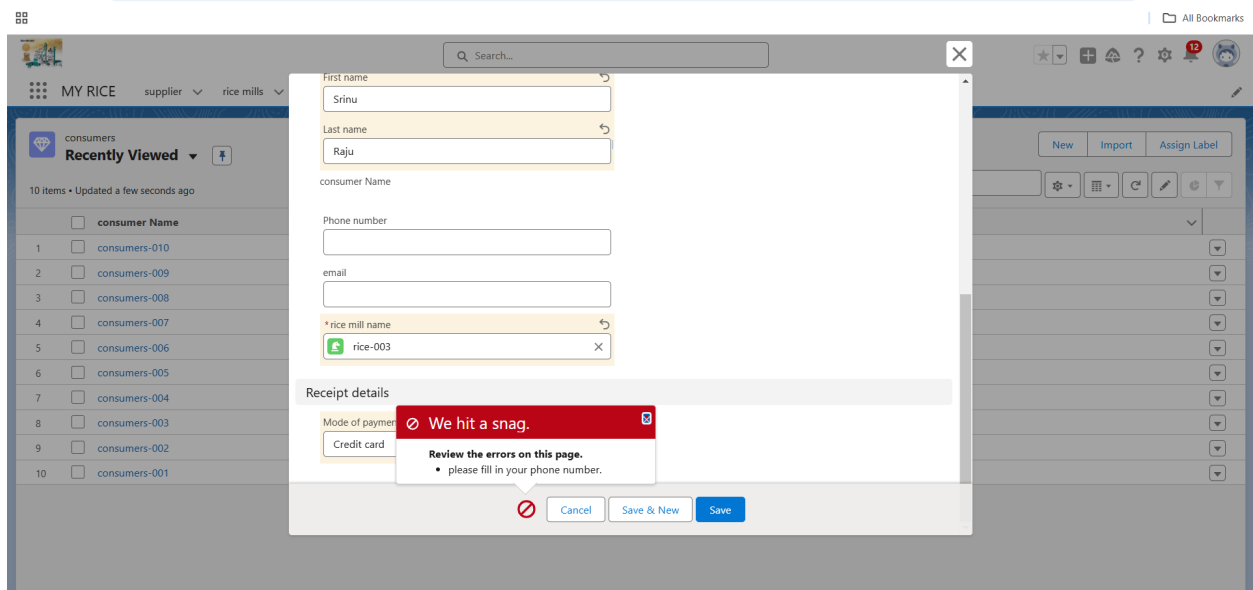
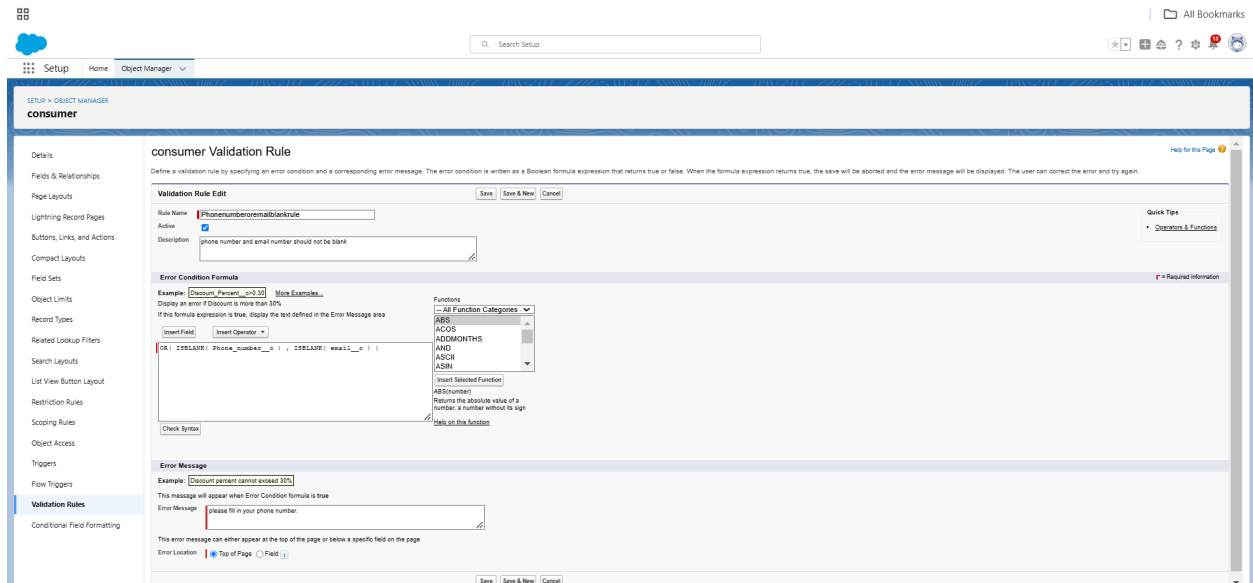
New

Deleted Fields

Field Dependencies

Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
sum of rice distributed	sum_of_rice_distributed__c	Roll-Up Summary (SUM rice details)		
supplier Name	Name	Text(80)		✓



Page layouts

Page Layout in Salesforce allows us to customize the design and organize detail and edit pages of records in Salesforce. Page layouts can be used to control the appearance of fields, related lists, and custom links on standard and custom objects' detail and edit pages.

Creating page Layout

To Create a Page layout:

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.
7. Now drag the fields to this section that mentioned , they are
 - 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
 - Rice taken by shop, rice type.
10. Another section is “Receipt details ” , and drag the fields that are
 - Mode of payment , Amount paid.
11. Then , Click save.

The screenshot displays the Salesforce Setup interface for editing the 'consumer' object layout. The left sidebar contains navigation links: Details, Fields & Relationships, Page Layouts (selected), Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, and Restriction Rules. The main content area shows the 'Layout Properties' window for the 'consumer' object. The 'Fields' list includes: Section, Blank Space, Consumer Name, Last Modified By, Last name, email, Mode of payment, Amount Paid, First name, Phone number, rice mill name, rice price per kg, Rice taken by shops, and rice type. The preview shows three sections: 'rice details' (Rice taken by shops: 483, Rice type: Sample Text), 'Personal details' (First name: Sample Text, Last name: Sample Text, consumer Name: GEN-2004-001234, Phone number: 1-415-555-1212, email: sarah.sample@company.com, rice mill name: Sample Text), and 'Receipt details' (Mode of payment: Sample Text, Amount Paid: 333.49).

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, Visual force 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 delete 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.

Owner 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 (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.

The screenshot shows the Salesforce Setup interface with the 'Profiles' section selected. The 'owner' profile is being edited. The 'Name' field is set to 'owner', 'User License' is 'Salesforce', and 'Custom Profile' is checked. Below the 'Custom App Settings' section, there is a table with columns 'Visible' and 'Default' for various standard apps.

App	Visible	Default
All Tabs (standard__AllTabSet)	<input checked="" type="checkbox"/>	<input type="radio"/>
Analytics Studio (standard__Insights)	<input checked="" type="checkbox"/>	<input type="radio"/>
App Launcher (standard__AppLauncher)	<input checked="" type="checkbox"/>	<input type="radio"/>
Automation (standard__FlowsApp)	<input checked="" type="checkbox"/>	<input type="radio"/>
Bolt Solutions (standard__LightningBolt)	<input checked="" type="checkbox"/>	<input type="radio"/>
Queue Management (standard__QueueManagement)	<input checked="" type="checkbox"/>	<input type="radio"/>
Sales (standard__LightningSales)	<input checked="" type="checkbox"/>	<input type="radio"/>
Sales (standard__Sales)	<input type="checkbox"/>	<input checked="" type="radio"/>
Sales Console (standard__LightningSalesConsole)	<input checked="" type="checkbox"/>	<input type="radio"/>
Salesforce Chatter (standard__Chatter)	<input checked="" type="checkbox"/>	<input type="radio"/>

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.
4. 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.
5. And click save.

The screenshot shows the Salesforce Setup interface with the 'Profiles' section selected. The 'employer' profile is being edited. The 'Name' field is set to 'employer', 'User License' is 'Salesforce Platform', and 'Custom Profile' is checked. Below the 'Custom App Settings' section, there is a table with columns 'Visible' and 'Default' for various standard apps.

App	Visible	Default
Analytics Studio (standard__Insights)	<input type="checkbox"/>	<input type="radio"/>
App Launcher (standard__AppLauncher)	<input type="checkbox"/>	<input type="radio"/>
MY RICE (MY_RICE)	<input checked="" type="checkbox"/>	<input checked="" type="radio"/>
Platform (standard__Platform)	<input checked="" type="checkbox"/>	<input type="radio"/>
WDC (standard__Work)	<input type="checkbox"/>	<input type="radio"/>

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.
4. 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
5. And click save.

The screenshot shows the Salesforce Setup interface. The left sidebar has a search bar with 'prof' and a list of items including 'Users' and 'Profiles'. The main content area is titled 'Profiles' and shows the 'worker' profile being edited. The 'Profile Edit' section includes fields for Name (worker), User License (Salesforce Platform), and Description. Below this is the 'Custom App Settings' section with a table of applications and their visibility/default status. The 'Service Provider Access' section is also visible.

Application	Visible	Default
Analytics Studio (standard__Insights)	<input type="checkbox"/>	<input type="radio"/>
App Launcher (standard__AppLauncher)	<input type="checkbox"/>	<input type="radio"/>
MY RICE (MY_RICE)	<input checked="" type="checkbox"/>	<input checked="" type="radio"/>

Application	Visible	Default
Platform (standard__Platform)	<input checked="" type="checkbox"/>	<input type="radio"/>
WDC (standard__Work)	<input type="checkbox"/>	<input type="radio"/>

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 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.
5. Click and save it.

Creating another two roles under manager

1. Go to quick find >>Search for Roles >>click on set up roles.
2. Click plus on CEO role, and click add role under owner.
4. Give Label as “employer” and Role name gets auto populated. Then click on Save.
5. Repeat the same steps, for another role.
6. Click plus on CEO role, and click plus on owner, and click add role under employer.
7. give Label as “worker” and Role name gets auto populated. Then click on Save.

The screenshot shows the Salesforce Setup interface. On the left is a navigation menu with 'Setup' selected, and 'Roles' highlighted under 'Feature Settings'. The main content area is titled 'Creating the Role Hierarchy'. It displays a tree view of the role hierarchy for 'Gayatri Vidya Parishad College of Engineering'. The hierarchy starts with 'CEO' at the top, followed by 'CFO', 'COO', 'owner', 'employer', and 'SVP' roles. Each role has an 'Add Role' link next to it. The 'Show in tree view' dropdown is set to 'tree view'.

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

3. First Name: vicky
4. Last Name: y
5. Alias: Give a Alias Name
6. Email id: Give your Personal Email id
7. Username: Username should be in this form: text@text.text
8. Nick Name: Give a Nickname
9. Role: owner
10. User license: Salesforce
11. Profiles: owner
12. Save it.

Creating another users

1. Go to setup ? type users in quick find box ? select users ? click New user.
2. Fill in the fields
3. First Name: ram
4. Last Name: ram
5. Alias: Give a Alias Name
6. Email id: Give your Personal Email id
7. Username: Username should be in this form: text@text.text
8. Nick Name: Give a Nickname
9. Role: employer
10. User license: Salesforce platform
11. Profiles: standard platform user.

Create Another User

1. Go to setup ? type users in quick find box ? select users ? click New user.
2. Fill in the fields
3. First Name: ragu
4. Last Name: raj
5. Alias : Give a Alias Name
6. Email id : Give your Personal Email id
7. Username : Username should be in this form: text@text.text
8. Nick Name: Give a Nickname
9. Role : worker
10. User license : Salesforce platform
11. Profiles : standard platform user.

Setup Home Object Manager

Search Setup

Users

On this page you can create, view, and manage users.
To get more licenses, use the Your Account app. [Let's Go](#)

View: **All Users** Edit Create New View

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z Other **All**

New User Reset Password(s) Add Multiple Users

Action	Full Name	Alias	Username	Role	Active	Profile
<input type="checkbox"/> Edit	Chatter Expert	Chatter	chatter.00dgy0000hxahyma5.5eq2v8wksii@chatter.salesforce.com		✓	Chatter Free User
<input type="checkbox"/> Edit	KOTIPATRUNI, SAI PRASANNA	SKOTI	sai.prasanna@gvpce.com		✓	System Administrator
<input type="checkbox"/> Edit	rai, raghu	rai	ragurajr@ragu.rai	worker	✓	Standard Platform User
<input type="checkbox"/> Edit	ram, ram	ram	ramu@ram.ramu	employer	✓	Standard Platform User
<input type="checkbox"/> Edit	User Integration	integ	integration@00dgy0000hxahyma5.com		✓	Analytics Cloud Integration User
<input type="checkbox"/> Edit	User Security	sec	insightssecurity@00dgy0000hxahyma5.com		✓	Analytics Cloud Security User
<input type="checkbox"/> Edit	y, vicky	yy	y123@y123.v132	owner	✓	owner

New User Reset Password(s) Add Multiple Users

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z Other **All**

Permission sets

A permission set is a collection of settings and permissions that give users access to various tools and functions. Permission sets extend users' functional access without changing their profiles and are the recommended way to manage your users' permissions.

Creating OWD setting.

1. Go to setup >> type "sharing settings " in quick search >> Click edit.
2. Scroll down, change the default internal access to " public read-only" for rice mill 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 roles and given the roles in such a way that the owner can see employer and worker records , and the employer can see the worker records.

Setting	Permissions	Status
Service Territory	Public Read/Write	✓
Shift	Private	✓
Shipment	Private	✓
Shipping Carrier	Public Read Only	✓
Shipping Carrier Method	Public Read Only	✓
Shipping Configuration Set	Public Read Only	✓
Streaming Channel	Public Read/Write	✓
Tableau Host Mapping	Public Read Only	✓
User Provisioning Request	Private	✓
Waitlist	Private	✓
Web Cart Document	Private	✓
Work Order	Private	✓
Work Plan	Private	✓
Work Plan Template	Private	✓
Work Step Template	Private	✓
Work Type	Private	✓
Work Type Group	Public Read/Write	✓
consumer	Controlled by Parent	
rice details	Controlled by Parent	
rice mill	Public Read Only	✓

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.

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

1.consumer name

2.rice type

3.rice price/kg

4.mode of payments

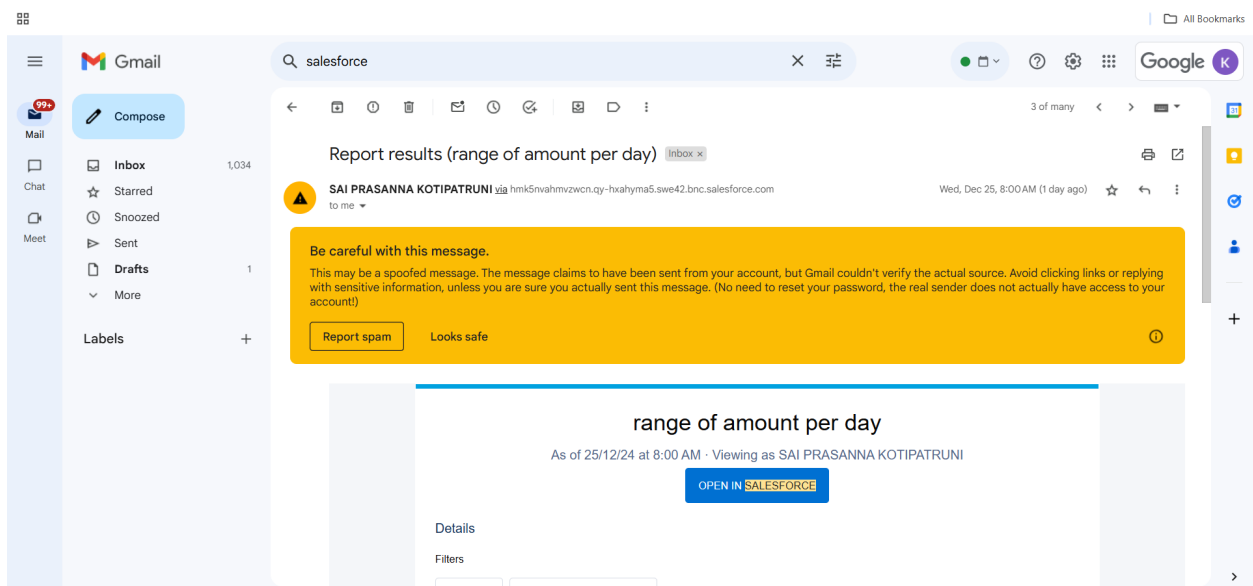
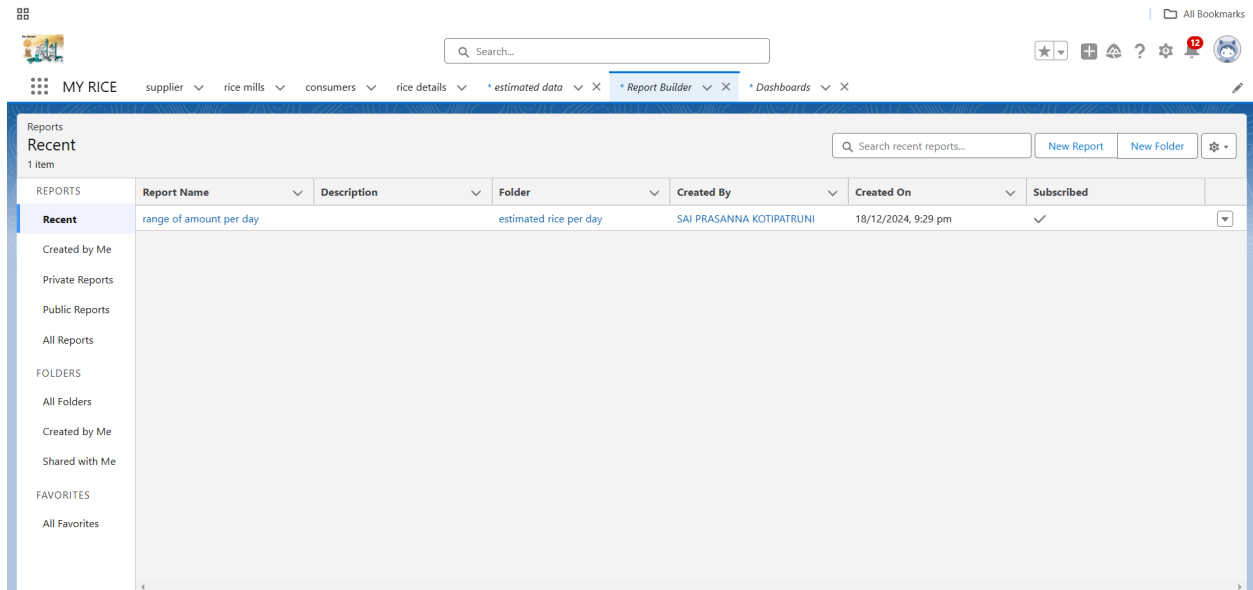
5.amount paid

2. Remove the unnecessary fields.

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

1. Rice taken by shops

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



Create a report folder

1. Click on the app launcher and 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 the new folder.
4. Give the Folder label as "estimated rice per day ", Folder unique name will be auto populated.

5. Click save.

1. navigate to app launcher and click reports on that.

2. click all reports.

3. Select the range of amount per day drop down in that click move.

5. Select estimated rice per day folder and select folder.

The screenshot displays the 'Reports' application interface. At the top, there is a navigation bar with a search bar and various icons. Below the navigation bar, the 'Reports' section is active, showing a list of folders and reports. The 'All Folders' section is expanded, revealing a table of reports and folders.

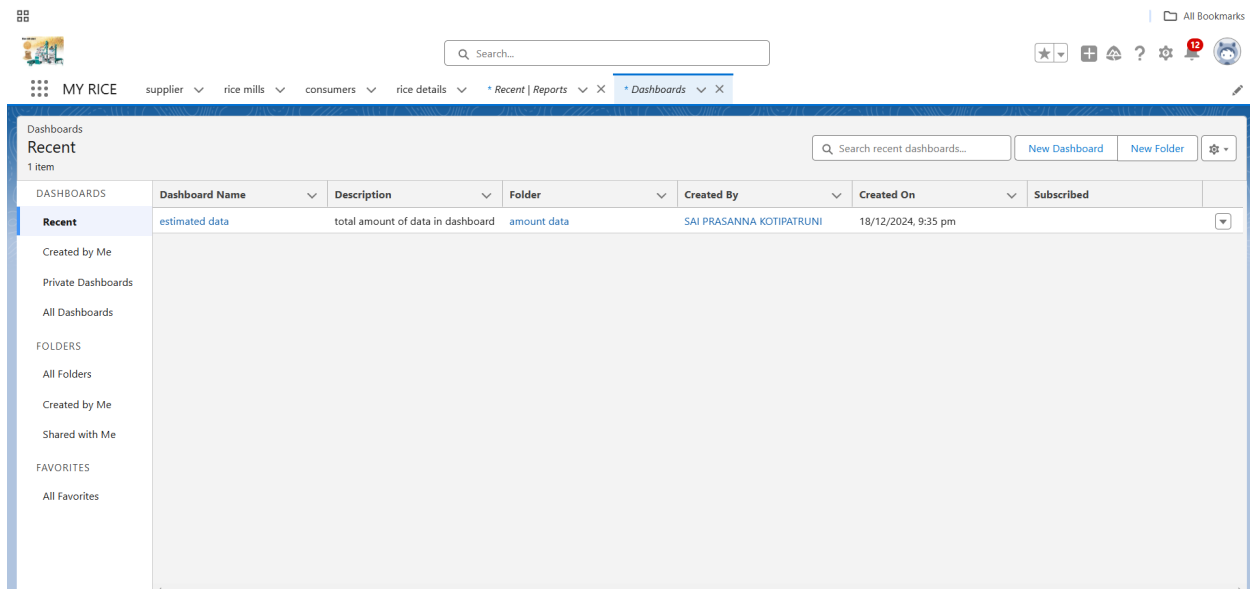
REPORTS	Name	Created By	Created On	Last Modified By	Last Modified Date
Recent	Einstein Bot Reports	Automated Process	18/12/2024, 5:06 pm	Automated Process	18/12/2024, 5:06 pm
Created by Me	Einstein Bot Reports Spring '23	Automated Process	18/12/2024, 5:06 pm	Automated Process	18/12/2024, 5:06 pm
Private Reports	Einstein Bot Reports Summer '23	Automated Process	18/12/2024, 5:06 pm	Automated Process	18/12/2024, 5:06 pm
Public Reports	Einstein Bot Reports Summer '22	Automated Process	18/12/2024, 5:06 pm	Automated Process	18/12/2024, 5:06 pm
	Einstein Bot Reports Winter '23	Automated Process	18/12/2024, 5:06 pm	Automated Process	18/12/2024, 5:06 pm
All Reports	Enablement Dashboard Reports Spring '24	Automated Process	18/12/2024, 5:06 pm	Automated Process	18/12/2024, 5:06 pm
FOLDERS	Enablement Dashboard Reports Summer '24	Automated Process	18/12/2024, 5:06 pm	Automated Process	18/12/2024, 5:06 pm
All Folders	estimated rice per day	SAI PRASANNA KOTIPATRUNI	18/12/2024, 9:31 pm	SAI PRASANNA KOTIPATRUNI	18/12/2024, 9:31 pm

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 the dashboard.
2. Click on the dashboard tab.
3. Click the new folder, give the folder label as " amount data dashboard".
4. Folder unique names will be auto populated.
5. Click save.

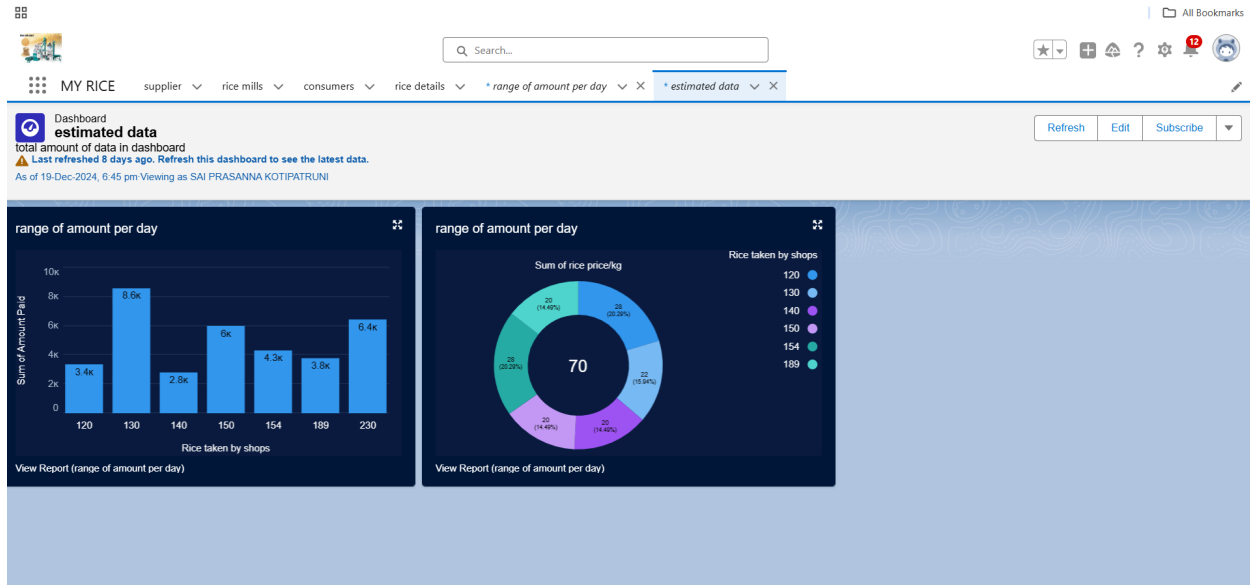


Create Dashboard

1. Go to the app >> click on the Dashboards tabs.
2. Give a Name and select the folder that was created, and click on create.
3. Select add component.
4. Select a Report and click on select.
 - Display as>> vertical bar chart
 - X-axis >> rice taken by shops
 - Y-axis >> sum of amount
 - Y-axis range >> automatic
 - Sort by >> rice taken by shops
 - Component theme >> dark.
- 5..Add the component

Again select add component with above same steps

- 1.display as donut chart
- 2.sort by >> sum of amount
- 3.title>>range of amount per day
- 4.component theme dark
- 5.Click add.
- 6.Click save and done.



APEX

Apex is a strongly typed, object-oriented programming language that allows developers to execute flow and transaction control statements on the Lightning platform server in conjunction with calls to the Lightning Platform? API. Using syntax that looks like Java and acts like database stored procedures, Apex enables developers to add business logic to most system events, including button clicks, related record updates, and Visual force pages. Apex code can be initiated by Web service requests and from triggers on objects.

It is as similar as java i.e, it also supports OOP(Object oriented programming) like Classes, objects, methods.

Creating Classes :

Apex classes are modeled on their counterparts in Java. You'll define, instantiate, and extend classes, and you'll work with interfaces, Apex class versions, properties, and other related class concepts.

- **Class:**

As in Java, you can create classes in Apex. A class is a template or blueprint from which objects are created. An object is an instance of a class.

- **Object**

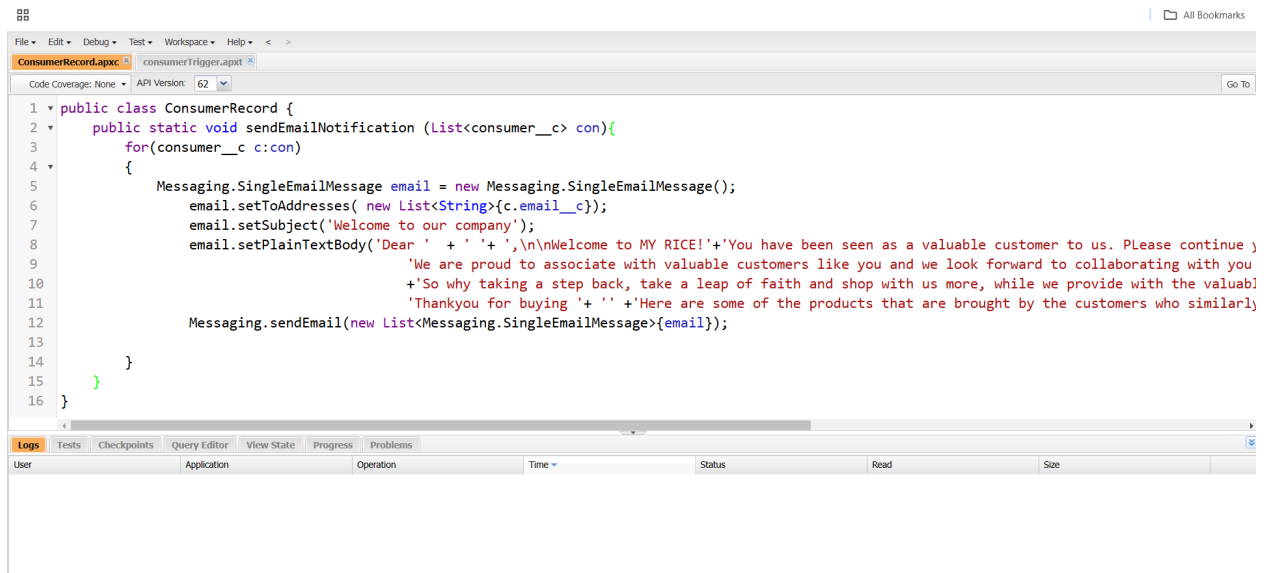
Object is an instance of a class, where it can access all the properties that are present in a class i.e, variables and methods.

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 :

```
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\n');  
            Messaging.sendEmail(new List<Messaging.SingleEmailMessage>{email});  
        }  
    }  
}
```



Creating an Apex Trigger

How to create a new 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 :

The syntax for creating trigger is :

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

Trigger code:

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



5. Testing and Validation

- **Unit Testing:**
 - Apex classes and triggers tested to ensure they handle edge cases and return accurate results.

- Achieved >90% code coverage to meet Salesforce standards.
- **User Interface Testing:**
 - Validated all forms and pages across different browsers and devices.
 - Ensured consistent user experience and accurate data presentation.
- **End-to-End Testing:**
 - Simulated real-world scenarios, such as entering daily production data, generating reports, and managing inventory, to confirm seamless functionality.

Code Snippet :

```
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});

        }
    }
}
```

Trigger code:

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

All Bookmarks

File Edit Debug Test Workspace Help < >

ConsumerRecord.apxc consumerTrigger.apxt

Code Coverage: None API Version: 62 Go To

```
1 trigger consumerTrigger on consumer__c (before insert) {
2     if(trigger.isAfter && trigger.isInsert) {
3         ConsumerRecord.sendEmailNotification(trigger.new);
4     }
5 }
```

Logs Tests Checkpoints Query Editor View State Progress Problems

User	Application	Operation	Time	Status	Read	Size
------	-------------	-----------	------	--------	------	------

Filter Click here to filter the log list

All Bookmarks

File Edit Debug Test Workspace Help < >

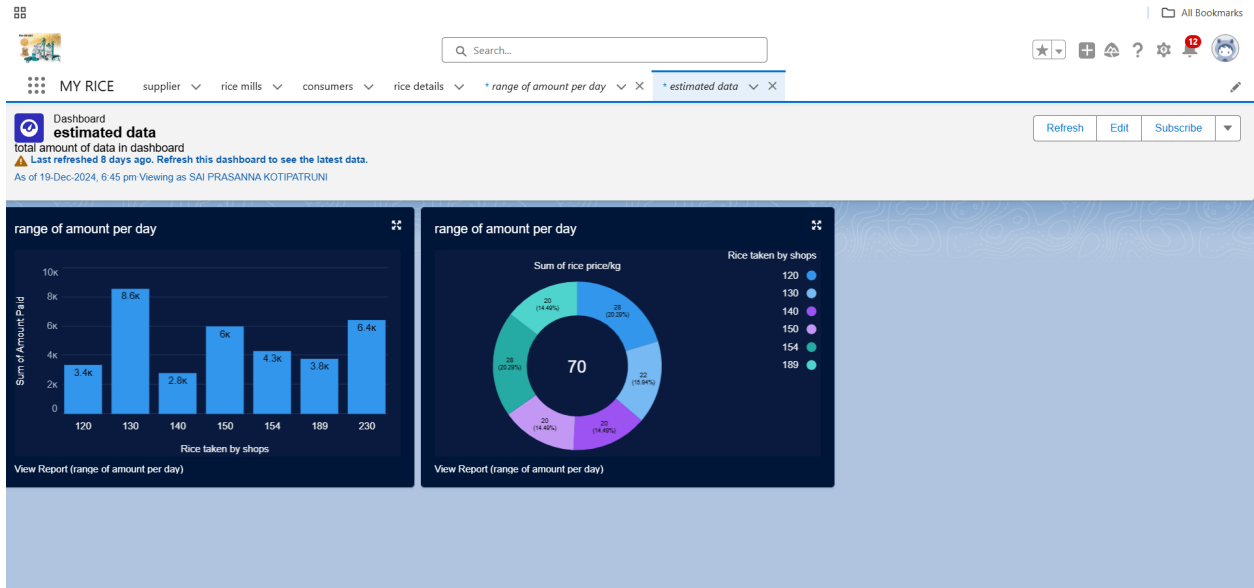
ConsumerRecord.apxc consumerTrigger.apxt

Code Coverage: None API Version: 62 Go To

```
1 public class ConsumerRecord {
2     public static void sendEmailNotification (List<consumer__c> con){
3         for(consumer__c c:con)
4         {
5             Messaging.SingleEmailMessage email = new Messaging.SingleEmailMessage();
6             email.setToAddresses( new List<String>{c.email__c});
7             email.setSubject('Welcome to our company');
8             email.setPlainTextBody('Dear ' + ' ' + ',\n\nWelcome to MY RICE!'+'You have been seen as a valuable customer to us. Please continue )
9                                     'We are proud to associate with valuable customers like you and we look forward to collaborating with you
10                                     '+So why taking a step back, take a leap of faith and shop with us more, while we provide with the valuabl
11                                     'Thankyou for buying ' + ' ' + 'Here are some of the products that are brought by the customers who similarly
12             Messaging.sendEmail(new List<Messaging.SingleEmailMessage>{email});
13         }
14     }
15 }
16 }
```

Logs Tests Checkpoints Query Editor View State Progress Problems

User	Application	Operation	Time	Status	Read	Size
------	-------------	-----------	------	--------	------	------



Report: rice mills with consumers
range of amount per day

Total Records: 10, Total rice price/kg: 70, Total Amount Paid: 35,272.00

<input type="checkbox"/> Rice taken by shops	consumer: consumer Name	Rice type	rice price/kg	Mode of payment	Amount Paid
<input type="checkbox"/> 120 (1)	consumers-003	basmati	28	UPI	3,360.00
Subtotal			28		3,360.00
<input type="checkbox"/> 130 (3)	consumers-007	basmati	22	UPI	2,860.00
	consumers-004	normal rice	22	Credit card	2,860.00
	consumers-002	normal rice	22	Cash	2,860.00
Subtotal			22		8,580.00
<input type="checkbox"/> 140 (1)	consumers-010	basmati	20	Net banking	2,800.00
Subtotal			20		2,800.00
<input type="checkbox"/> 150 (2)	consumers-008	basmati	20	Cash	3,000.00
	consumers-001	normal rice	20	UPI	3,000.00
Subtotal			20		6,000.00
<input type="checkbox"/> 154 (1)	consumers-005	normal rice	28	Debit card	4,312.00
Subtotal			28		4,312.00
<input type="checkbox"/> 189 (1)	consumers-006	basmati	20	Net banking	3,780.00
Grand Total					35,272.00

Row Counts: ☒ Detail Rows: ☒ Subtotals: ☒ Grand Total: ☒

Report results (range of amount per day)

SAI PRASANNA KOTIPATRUNI via hmk5nvahrmvzwcw.ay-hxahyma5.swe42.bnc.salesforce.com
to me

Wed, Dec 25, 8:00 AM (1 day ago)

Be careful with this message.
This may be a spoofed message. The message claims to have been sent from your account, but Gmail couldn't verify the actual source. Avoid clicking links or replying with sensitive information, unless you are sure you actually sent this message. (No need to reset your password, the real sender does not actually have access to your account!)

[Report spam](#) [Looks safe](#)

range of amount per day
As of 25/12/24 at 8:00 AM · Viewing as SAI PRASANNA KOTIPATRUNI

[OPEN IN SALESFORCE](#)

Details
Filters

Summary					
Total Records	Total rice price/kg	Total Amount Paid			
10	70	35,272.00			
Rice taken by shops	consumer: consumer Name	Rice type	rice price/kg Sum	Mode of payment	Amount Paid Sum
120 (1 record)	consumers-003	basmati	28	UPI	3,360.00
130 (3 records)	consumers-002	normal rice	22	Cash	2,860.00
	consumers-004	normal rice	22	Credit card	2,860.00
	consumers-007	basmati	22	UPI	2,860.00
140 (1 record)	consumers-010	basmati	22		8,580.00
150 (2 records)	consumers-001	normal rice	20	Net banking	2,800.00
	consumers-008	basmati	20	UPI	3,000.00
154 (1 record)	consumers-005	normal rice	20	Cash	3,000.00
189 (1 record)	consumers-006	basmati	20	Debit card	4,312.00
230 (1 record)	consumers-009	normal rice	28	Net banking	3,780.00
			28		3,780.00
			28	Net banking	6,440.00
			28		6,440.00

6. Key Scenarios Addressed by Salesforce in the Implementation Project

- **Scenario 1:** Daily automated reports sent to owners, summarizing rice production, sales, and revenue trends.
- **Scenario 2:** Suppliers' payment details, calculated automatically based on rice supplied and price per kilogram.
- **Scenario 3:** Role-based dashboards enabling owners, employers, and workers to view relevant data while maintaining security.
- **Scenario 4:** Alerts for low inventory levels to ensure timely restocking and prevent production delays.
- **Scenario 5:** Insights into customer preferences and purchasing behavior for targeted sales strategies.

7. Conclusion

Summary of Achievements:

The **CRM Application for Wholesale Rice Mill** successfully addresses key challenges by providing an integrated, automated, and user-friendly solution. Key accomplishments include:

- Automated workflows and reports, saving time and reducing manual errors
- Enhanced decision-making through real-time dashboards and analytics.
- Streamlined data management with rollup summary and cross-object formula fields.
- Role-based access controls ensuring secure and efficient data handling.

This project demonstrates how Salesforce CRM can be customized to meet specific industry needs, setting the stage for scalable growth and operational excellence in the rice mill industry. It exemplifies the power of technology in transforming traditional business practices into efficient, data-driven processes.