

Salesforce Virtual Internship Program

SmartInternz

A CRM APPLICATION FOR WHOLESALE RICE MILL

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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.

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 onSave.

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>>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.

SETUP > OBJECT MANAGER
rice mill

Details

Description	API Name rice_mill__c Custom ✓ Singular Label rice mill Plural Label rice mills	Enable Reports ✓ Track Activities Track Field History ✓ Deployment Status Deployed Help Settings Standard salesforce.com Help Window
-------------	--	--

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

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

1. Use these display format for the consumer

- label name >> consumer
- Plural label name >> consumers
- Display Format >> consumers-{000}

SETUP > OBJECT MANAGER
consumer

Details

Description	API Name consumer__c Custom ✓ Singular Label consumer Plural Label consumers	Enable Reports ✓ Track Activities Track Field History ✓ Deployment Status Deployed Help Settings Standard salesforce.com Help Window
-------------	---	--

Fields & Relationships
Page Layouts
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Scoping Rules
Object Access

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

The screenshot shows the Salesforce Setup interface with the 'Object Manager' tab selected. Under 'Object Manager', the 'rice details' object is selected. The left sidebar lists various configuration tabs: 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, and Chart Areas. The main content area displays the 'Details' tab for the 'rice details' object. It includes fields for Description, API Name (set to 'rice_details_c'), Singular Label ('rice details'), and Plural Label ('rice details'). On the right, there are sections for Enable Reports, Track Activities, Track Field History, Deployment Status (set to 'Deployed'), Help Settings, and a link to 'Standard salesforce.com Help Window'. At the bottom right of the main content area are 'Edit' and 'Delete' buttons.

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 top navigation bar includes links for Home, Object Manager, and a search bar. Below the navigation is a sidebar with sections for 'User Interface' (selected), 'Rename Tabs and Labels', and 'Tabs'. A message at the bottom of the sidebar says, "Didn't find what you're looking for? Try using Global Search." The main content area is titled "Custom Tabs" and contains a sub-section for "Custom Object Tabs". It displays a table with four rows, each representing a tab:

Action	Label	Tab Style	Description
Edit Del	consumers	Square	
Edit Del	rice details	Circle	
Edit Del	rice mills	Leaf	
Edit Del	supplier	Form	

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. To create a lightning app page:

1. Go to setup page >> search “app manager” in quick find >> select “app manager” >> click on New lightning App.
2. Fill the app name in app details as 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.

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 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 everySalesforce 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. Give 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	<table border="1"> <tr> <td>First Name</td><td>Text</td></tr> <tr> <td>Last Name</td><td>Text</td></tr> <tr> <td>Phone Number</td><td>Phone</td></tr> </table>	First Name	Text	Last Name	Text	Phone Number	Phone	
First Name	Text								
Last Name	Text								
Phone Number	Phone								
		<table border="1"> <tr> <td>email</td><td>email</td></tr> <tr> <td>Rice taken by shops</td><td>Number (length=5)</td></tr> <tr> <td>Rice Type</td><td>(Picklist values) 1.basmati 2.normal rice</td></tr> </table>	email	email	Rice taken by shops	Number (length=5)	Rice Type	(Picklist values) 1.basmati 2.normal rice	
email	email								
Rice taken by shops	Number (length=5)								
Rice Type	(Picklist values) 1.basmati 2.normal rice								

		<table border="1"> <tr> <td>Mode of payment</td> <td>Picklist values</td> </tr> <tr> <td></td> <td> <ul style="list-style-type: none"> • Credit card • Debit card • Net banking • UPI • Cash </td> </tr> </table>	Mode of payment	Picklist values		<ul style="list-style-type: none"> • Credit card • Debit card • Net banking • UPI • Cash
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 :
- rice_taken_by_shops__c * 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.

Fields & Relationships 7 Items, Sorted by Field Label					
	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)		✓

Fields & Relationships					
	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Page Layouts	Amount Paid	Amount_Psd__c	Formula (Number)		
Lightning Record Pages	Consumer Name	Consumer_Name__c	Formula (Text)		
Buttons, Links, and Actions	consumer Name	Name	Auto Number		
Compact Layouts	Created By	CreatedById	Lookup(User)		
Field Sets	email	email__c	Email		
Object Limits	First name	First_name__c	Text(255)		
Record Types	Last Modified By	LastModifiedById	Lookup(User)		
Related Lookup Filters	Last name	Last_name__c	Text(255)		
Search Layouts	Mode of payment	Mode_of_payment__c	Picklist		
List View Button Layout	Phone number	Phone_number__c	Phone		
Restriction Rules	rice mill name	rice_mill__name__c	Master-Detail(rice mill)		
Scoping Rules	rice price per kg	rice_price_per_kg__c	Number(18, 0)		
Object Access	Rice taken by shops	Rice_taken_by_shops__c	Number(5, 0)		
Triggers	rice taken by shops in kgs	Rice_taken_by_shops_in_kgs__c	Number(18, 0)		
Flow Triggers	Rice type	Rice_type__c	Picklist		
Validation Rules					
Conditional Field Formatting					

Fields & Relationships					
	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Page Layouts	Created By	CreatedBy	Lookup(User)		
Lightning Record Pages	Last Modified By	LastModifiedBy	Lookup(User)		
Buttons, Links, and Actions	Owner	OwnerId	Lookup(User,Group)		
Compact Layouts	rice mill Name	Name	Auto Number		
Field Sets	rice price/kg	rice_price_kg__c	Number(5, 0)		
Object Limits	rice taken	rice_taken__c	Roll-Up Summary (SUM consumer)		
Record Types					
Related Lookup Filters					
Search Layouts					
List View Button Layout					
Restriction Rules					
Scoping Rules					
Object Access					

supplier

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)		✓

consumer

Validation Rule Edit

Rule Name: **Phone number or email blankrule**

Active:

Description: phone number and email number should not be blank

Error Condition Formula

Example: **Discount_Percent >= 30** More Examples...
Display an error if Discount is more than 30%.

If this formula expression is true, display the text defined in the Error Message area.

Functions: ABS, ACOS, ADDMONTHS, AND, ASCII, ASIN, ATN, Insert Selected Function, ABS(Number). Returns the absolute value of a number. Number can be sign.

OR (ISBLANK(Phone_number__c) , ISBLANK(email__c))

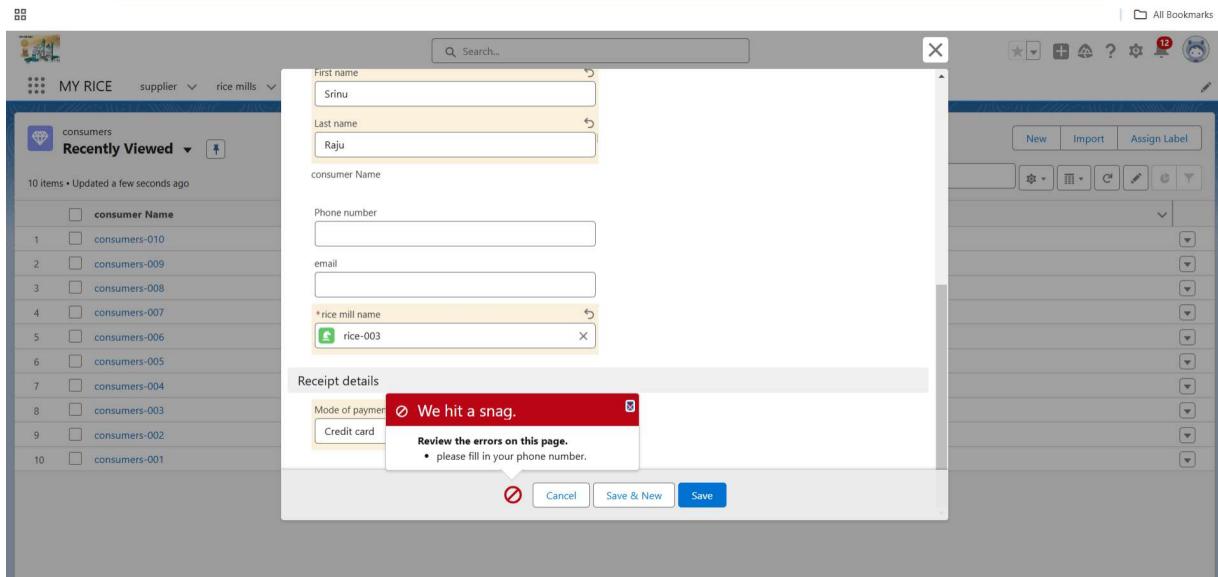
Error Message

Example: **Discount percent cannot exceed 30%**
This message will appear when Error Condition formula is true.

Error Message: **Please fill in your phone number**

This error message can either appear at the top of the page or below a specific field on the page.

Error Location: Top of Page Field



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 shows the Salesforce Setup interface with the 'Object Manager' for the 'consumer' object. The 'Page Layouts' tab is active. On the right, a detailed view of the 'Layout Properties' for a specific page layout is displayed. It includes sections for 'rice details', 'Personal details', and 'Receipt details'. Fields like 'Consumer Name', 'Last Modified By', and 'Rice type' are listed with their respective labels and types (e.g., 'Label rice mill name', 'Type: Lookup'). The 'Rice type' field is highlighted with a yellow background.

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 deleted standard ones

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

2. Custom Profiles:

Custom ones defined by us.

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

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' page open. The 'OWNER' profile is selected. In the 'Custom App Settings' section, several application tabs are listed with checkboxes for 'Visible' and 'Default'. The 'Sales' tab is checked as the 'Default' tab. Other tabs like 'Queue Management', 'Sales Console', and 'Sales Chatter' also have checkboxes for 'Visible' and 'Default'.

Tab	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__FlowApp)	<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__Sales)	<input type="checkbox"/>	<input checked="" type="radio"/>
Sales Console (standard__LightningSalesConsole)	<input checked="" type="checkbox"/>	<input type="radio"/>
Sales 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' page open. A profile named 'employer' is being edited. In the 'Custom App Settings' section, the 'MY RICE (MY_RICE)' app is set as the default. Other settings like Analytics Studio and App Launcher are visible but not selected.

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 with the 'Profiles' page open. A profile named 'worker' is being edited. In the 'Custom App Settings' section, the 'MY RICE (MY_RICE)' app is set as the default. Other settings like Analytics Studio and App Launcher are visible but not selected. A note in the top right corner says 'Profile Edit: worker ~ Salesforce - Developer Edition'.

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 with the 'Roles' page selected. The left sidebar has a search bar and navigation links for 'Setup', 'Home', and 'Object Manager'. Under 'Users', 'Roles' is selected. The main content area is titled 'Creating the Role Hierarchy' and shows a hierarchical tree of roles. The tree starts with 'Gayatri Vidya Parishad College of Engineering' and branches into 'CEO', 'CFO', 'COO', 'owner', 'employer', 'SVP_Customer Service & Support', 'SVP_Human Resources', and 'SVP_Sales & Marketing'. Each node has 'Edit | Del | Assign' buttons. A message at the top says 'You can build on the existing role hierarchy shown on this page. To insert a new role, click Add Role.' A 'Help for this Page' link is in the top right. A 'Show in tree view' button is also present.

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.

Action	Full Name	Alias	Username	Role	Active	Profile
<input type="checkbox"/>	Chatter Expert	Chatter	chatty.00dns000009gboh2au.0hf7hykezal@chatter.salesforce.com		<input checked="" type="checkbox"/>	Chatter Free User
<input type="checkbox"/>	rai_ragu	rai	ragu@rai.ragu	worker	<input checked="" type="checkbox"/>	Standard Platform User
<input type="checkbox"/>	ram_ram	ram	ram@sita.lakshman	employer	<input checked="" type="checkbox"/>	Standard Platform User
<input type="checkbox"/>	User_Integration	integ	integration@00dns000009gboh2au.com		<input checked="" type="checkbox"/>	Analytics Cloud Integration User
<input type="checkbox"/>	User_Security	sec	insightsecurity@00dns000009gboh2au.com		<input checked="" type="checkbox"/>	Analytics Cloud Security User
<input type="checkbox"/>	Vagu_Lakshmi_raj	LVagu	lakshmirajvagu@2004.com		<input checked="" type="checkbox"/>	System Administrator
<input type="checkbox"/>	y_vicky	lucky	lucky@micky.vicky	owner	<input checked="" type="checkbox"/>	owner

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.

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.

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

Sharing report to owner

1. Click edit drop down and select subscribe option
2. Follow as per below image.
3. After selecting the run report as a “another person” select your personal account or whom you want to send that mail to.
4. Click save.

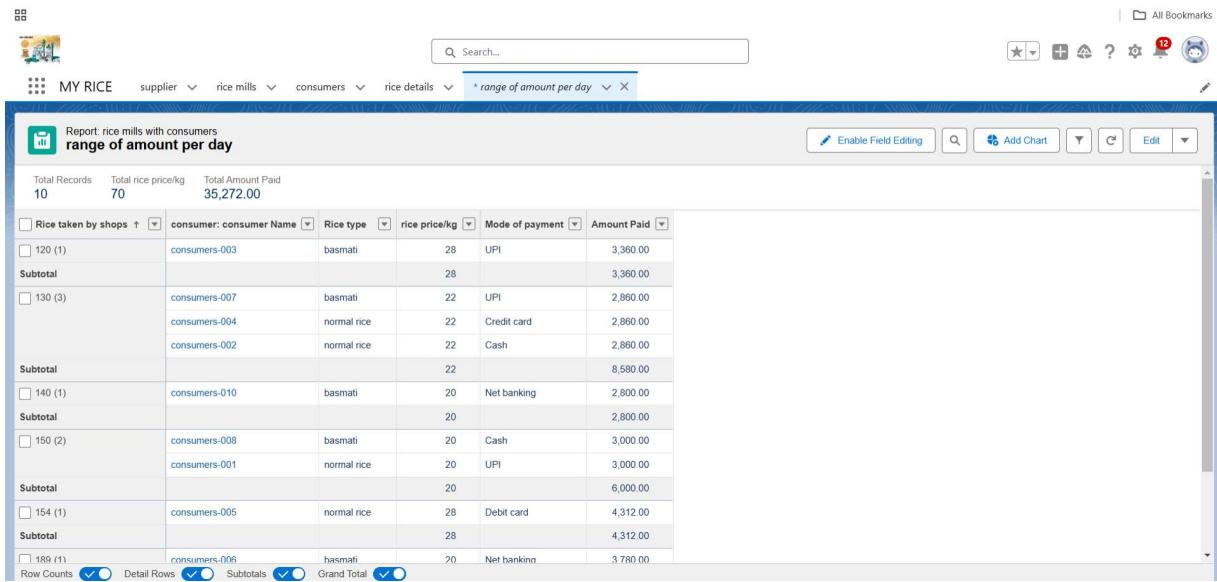
The screenshot shows two instances of the Zoho Inventory application interface.

Top Window (Consumer List):

- Header: MY RICE, supplier, rice mills, consumers, rice details.
- Section: Recently Viewed (dropdown), consumer Name.
- Table: A list of 10 consumers (1-10) with their names: consumers-010, consumers-009, consumers-008, consumers-007, consumers-006, consumers-005, consumers-004, consumers-003, consumers-002, consumers-001.
- Buttons: New, Import, Assign Label.

Bottom Window (Report: rice mills with consumers range of amount per day):

- Header: MY RICE, supplier, rice mills, consumers, rice details, range of amount per day.
- Section: Report: rice mills with consumers range of amount per day.
- Table: A detailed report table showing rice purchases across different consumers and payment methods. The table includes columns for consumer name, rice type, price/kg, mode of payment, and amount paid.
- Buttons: Enable Field Editing, Add Chart, Edit.



The screenshot shows a Zoho report interface. At the top, there's a navigation bar with links like 'MY RICE', 'supplier', 'rice mills', 'consumers', 'rice details', and a search bar. Below the navigation is a toolbar with icons for 'Enable Field Editing', 'Add Chart', 'Edit', and other report management tools. The main area displays a table titled 'Report: rice mills with consumers range of amount per day'. The table has columns for 'Rice taken by shops', 'consumer: consumer Name', 'Rice type', 'rice price/kg', 'Mode of payment', and 'Amount Paid'. The data is grouped by shop number and consumer ID, with subtotals for each group. The total record count is 10, total rice price/kg is 70, and total amount paid is 35,272.00.

Total Records	Total rice price/kg	Total Amount Paid
10	70	35,272.00
<input type="checkbox"/> Rice taken by shops ↑		
<input type="checkbox"/> 120 (1)		consumer: consumer Name
Subtotal		consumers-003 basmati 28 UPI 3,360.00
<input type="checkbox"/> 130 (3)		consumers-007 basmati 22 UPI 2,860.00
Subtotal		consumers-004 normal rice 22 Credit card 2,860.00
Subtotal		consumers-002 normal rice 22 Cash 2,860.00
<input type="checkbox"/> 140 (1)		consumers-010 basmati 20 Net banking 2,800.00
Subtotal		consumers-008 basmati 20 Cash 3,000.00
<input type="checkbox"/> 150 (2)		consumers-001 normal rice 20 UPI 3,000.00
Subtotal		consumers-005 normal rice 28 Debit card 4,312.00
<input type="checkbox"/> 154 (1)		consumers-006 basmati 20 Net banking 3,780.00
Subtotal		
<input type="checkbox"/> 189 (1)		
Row Counts <input checked="" type="radio"/> Detail Rows <input checked="" type="radio"/> Subtotals <input checked="" type="radio"/> Grand Total		

Sharing report to owner

1. Click edit drop down and select subscribe option
2. Follow as per below image.
3. After selecting the run report as a “another person” select your personal account or whom you want to send that mail to.
4. Click save.

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.

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.

DASHBOARDS	Dashboard Name	Description	Folder	Created By	Created On	Subscribed
Recent	estimated data	total amount of data in dashboards	amount data dashboard	Lakshmi raj Vagu	2/1/2025, 6:27 am	

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

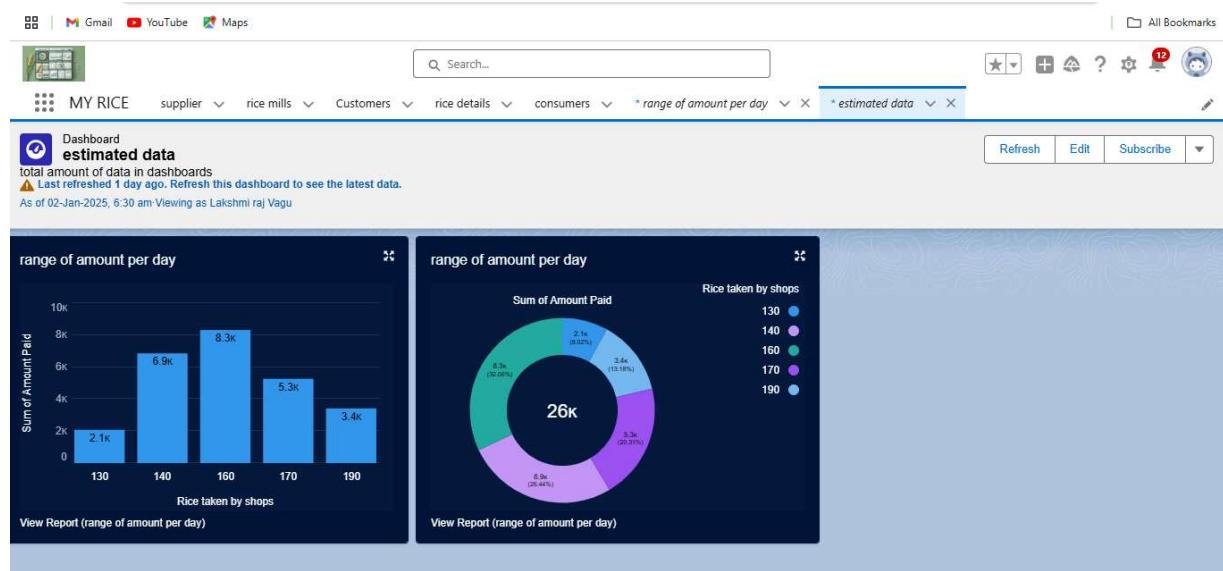
2.sort by >> sum of amount

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

```

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 )  
'We are proud to associate with valuable customers like you and we look forward to collaborating with you  
+'So why taking a step back, take a leap of faith and shop with us more, while we provide with the valuable products.  
'Thankyou for buying +' + 'Here are some of the products that are brought by the customers who similarly  
Messaging.sendEmail(new List<Messaging.SingleEmailMessage>{email});
13
14
15
16 }
}

```

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:

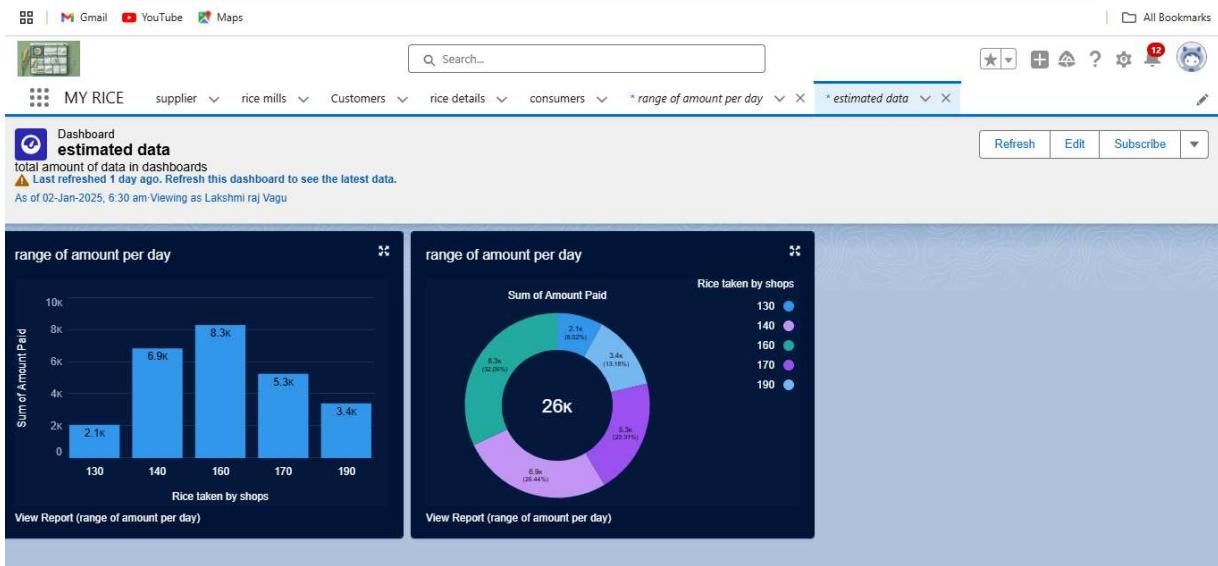
```
trigger consumerTrigger on consumer__c (After insert) {  
    if(trigger.isAfter && trigger.isInsert) {  
        ConsumerRecord.sendEmailNotification(trigger.new);  
    }  
}
```

A screenshot of a Salesforce IDE interface. At the top, there's a menu bar with File, Edit, Debug, Test, Workspace, Help, and a Go To button. Below the menu is a toolbar with tabs for ConsumerRecord.apxc, consumerTrigger.apxt, and consumerTrigger.apx. The consumerTrigger.apxt tab is active. The code editor shows the following Apex trigger:

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

Below the code editor is a logs panel with tabs for Logs, Tests, Checkpoints, Query Editor, View State, Progress, and Problems. The Logs tab is selected. The logs table has columns for User, Application, Operation, Time, Status, Read, and Size. There are no log entries listed.

A second screenshot of a Salesforce IDE interface, identical in layout to the first one. It shows the consumerTrigger.apxt trigger code and an empty logs panel.



Report: rice mills with consumers

range of amount per day

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

	Rice taken by shops	consumer: consumer Name	Rice type	rice price/kg	Mode of payment	Amount Paid
Subtotal	120 (1)	consumers-003	basmati	28	UPI	3,360.00
				28		3,360.00
Subtotal	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
				22		8,580.00
Subtotal	140 (1)	consumers-010	basmati	20	Net banking	2,800.00
				20		2,800.00
Subtotal	150 (2)	consumers-008	basmati	20	Cash	3,000.00
		consumers-001	normal rice	20	UPI	3,000.00
				20		6,000.00
Subtotal	154 (1)	consumers-005	normal rice	28	Debit card	4,312.00
				28		4,312.00
Subtotal	189 (1)	consumers-006	basmati	20	Net banking	3,780.00

Row Counts: Detail Rows: Subtotals: Grand Total:

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