# Project Report

# CRM Application for a Wholesale Rice Mill

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## 1. Introduction

**Title**: **A CRM Application for Wholesale Rice Mill**
**Platform**: Salesforce Lightning
**Objective**: The primary aim of this project was to develop a robust and scalable Customer Relationship Management (CRM) system tailored specifically for the operations of a wholesale rice mill. The CRM system streamlines the management of customer relationships, order processing, inventory control, and reporting, all while maintaining high levels of user access security and data integrity.

The solution improves operational efficiency, enhances customer satisfaction, and provides business insights through real-time analytics.

# 2. Project Requirements and Planning

## 2.1 Functional Requirements

- **Customer Management**: Track customer details, past interactions, and preferences.
- **Order Management**: Record and monitor the status of customer orders, from initial inquiry to fulfillment.
- **Inventory Control**: Manage stock levels of various rice types, alert users when quantities fall below the reorder threshold.
- **User Roles**: Define different access levels for sales personnel, warehouse managers, and administrators.
- **Reports & Analytics**: Provide real-time sales insights, performance dashboards, and inventory summaries.

## 2.2 Non-functional Requirements

- **Scalability**: The system should be able to accommodate the growth of the business and the increase in customer and order volumes.
- **Security**: Ensure data confidentiality with access controls, role hierarchies, and encryption.
- **Usability**: The application should have an intuitive user interface and be accessible from any device.

# 3. System Design and Architecture

## 3.1 Objects and Data Model

The CRM system consists of the following custom objects:
- **Customers**: Contains detailed information about wholesale buyers, including contact information, purchasing history, and feedback.
- **Rice Inventory**: Tracks different types of rice in stock, including price points, available quantities, and quality.
- **Orders**: Records order information including customer, rice type, quantity, price, and status (pending, fulfilled, shipped).
- **Suppliers**: Maintains data on rice suppliers to assist in efficient stock replenishment.
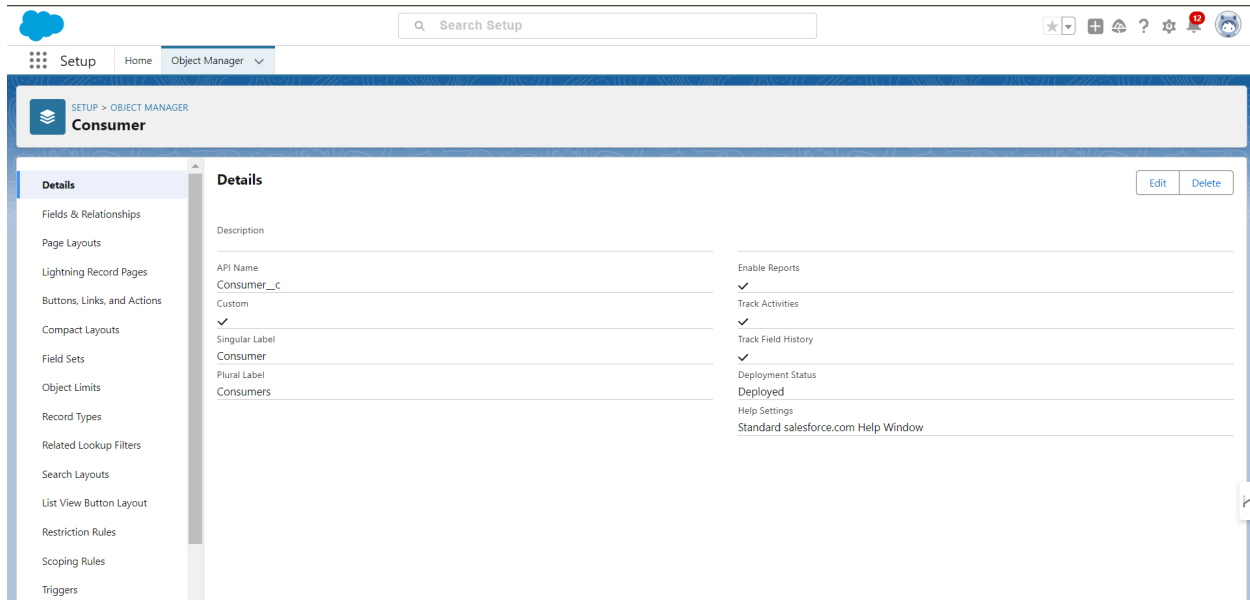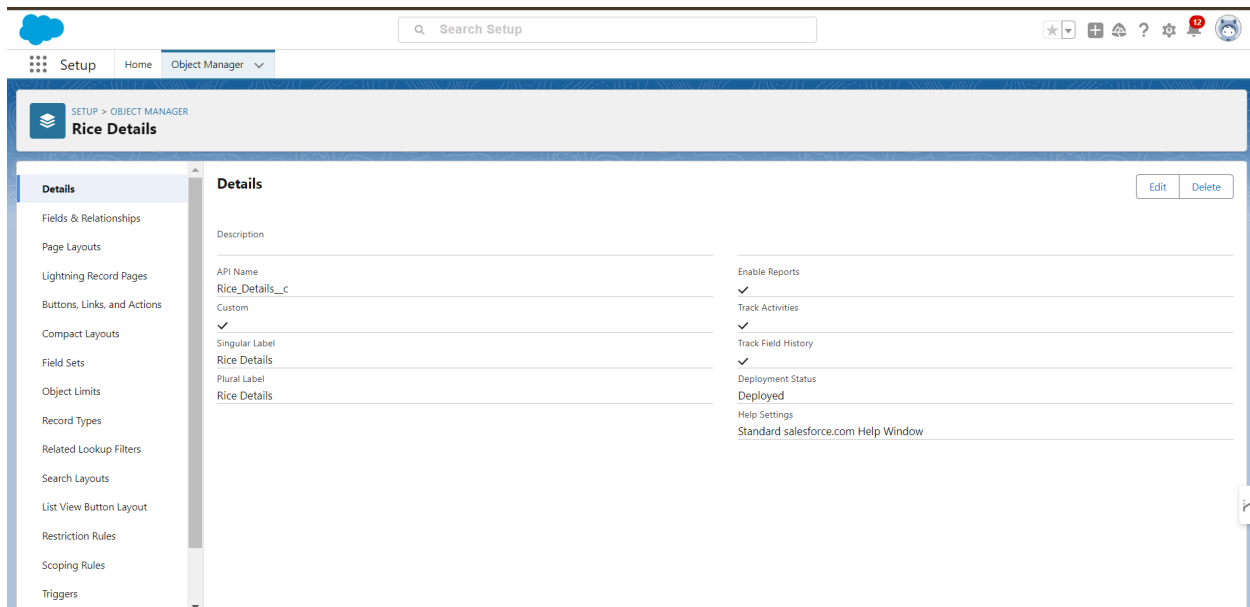
## 3.2 Salesforce Lightning App

A custom Lightning App was built to allow seamless interaction with all the CRM features. Users can easily navigate between tabs representing objects such as Customers, Orders, and Inventory. The app also provides quick actions like "Create New Order" and "Update Inventory."
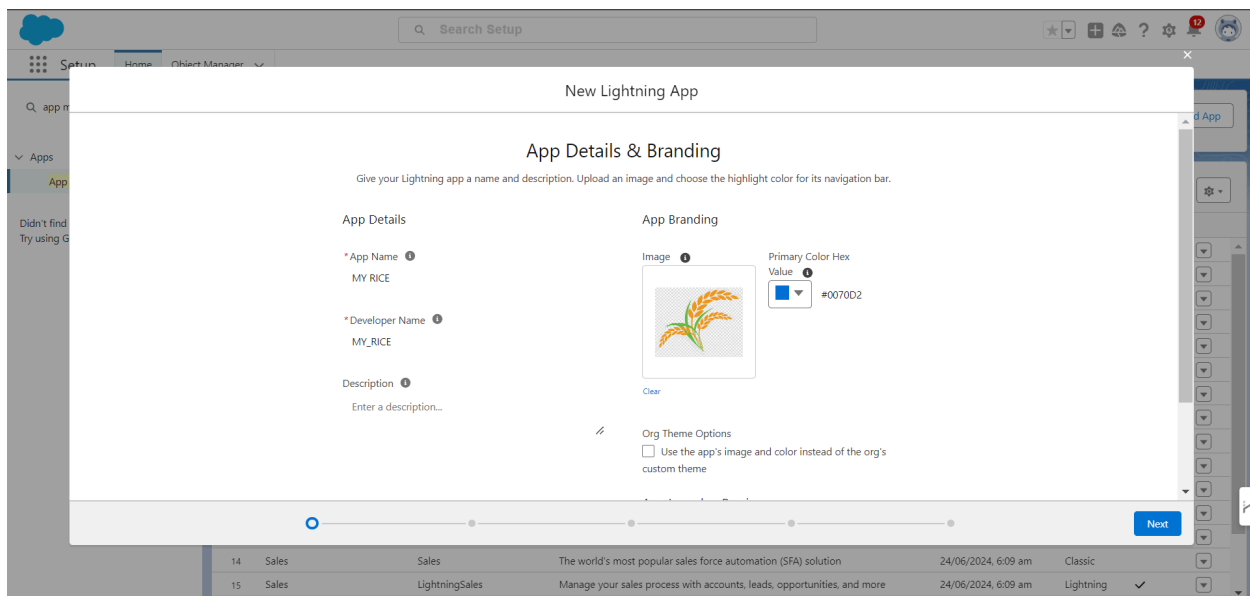
New Lightning App

App Options

Navigation and Form Factor ⓘ

Setup and Personalization ⓘ

**\* Navigation Style**
◉ Standard navigation
○ Console navigation

**Setup Experience**
◉ Setup (full set of Setup options)
○ Service Setup

**\* Supported Form Factors**
◉ Desktop and phone
○ Desktop
○ Phone

**App Personalization Settings**
☐ Disable end user personalization of nav items in this app
☐ Disable temporary tabs for items outside of this app
☐ Use Omni-Channel sidebar

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| 14 | Sales | Sales | The world's most popular sales force automation (SFA) solution | 24/06/2024, 6:09 am | Classic | |
| 15 | Sales | LightningSales | Manage your sales process with accounts, leads, opportunities, and more | 24/06/2024, 6:09 am | Lightning | ✓ |

# 4. Development and Configuration

## 4.1 Fields and Page Layouts

- **Custom Fields**: Created fields specific to wholesale operations, such as "Rice Type," "Order Fulfillment Time," "Shipping Method," and "Discount Offered."
- **Page Layouts**: Tailored to ensure that users could quickly access relevant information, with minimal navigation. For example, the "Order" page layout displays customer details, ordered items, and current stock availability.

## 4.2 Profiles, Role Hierarchies, and Permission Sets

- **Profiles**: Defined various user profiles such as Sales Representative, Warehouse Manager, and System Admin to control access.
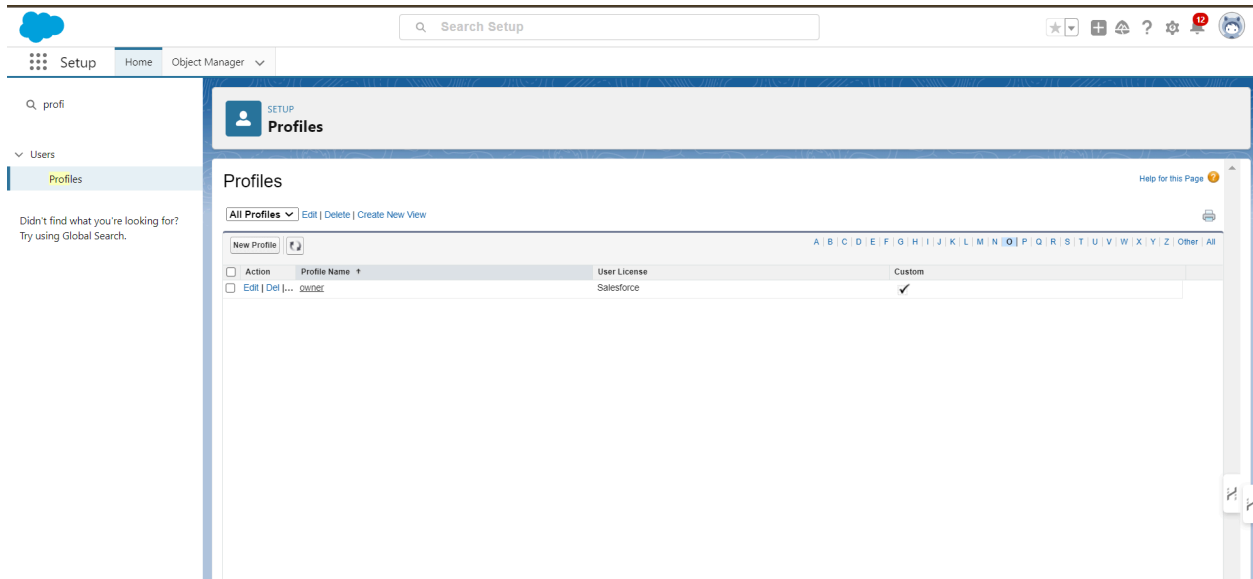


- **Role Hierarchy**: Configured to align with the organizational structure of the rice mill, ensuring that senior management could view all data, while sales reps could only access their own customers and orders.
- **Permission Sets**: Applied to grant special permissions, such as allowing specific users to modify inventory levels or generate reports.
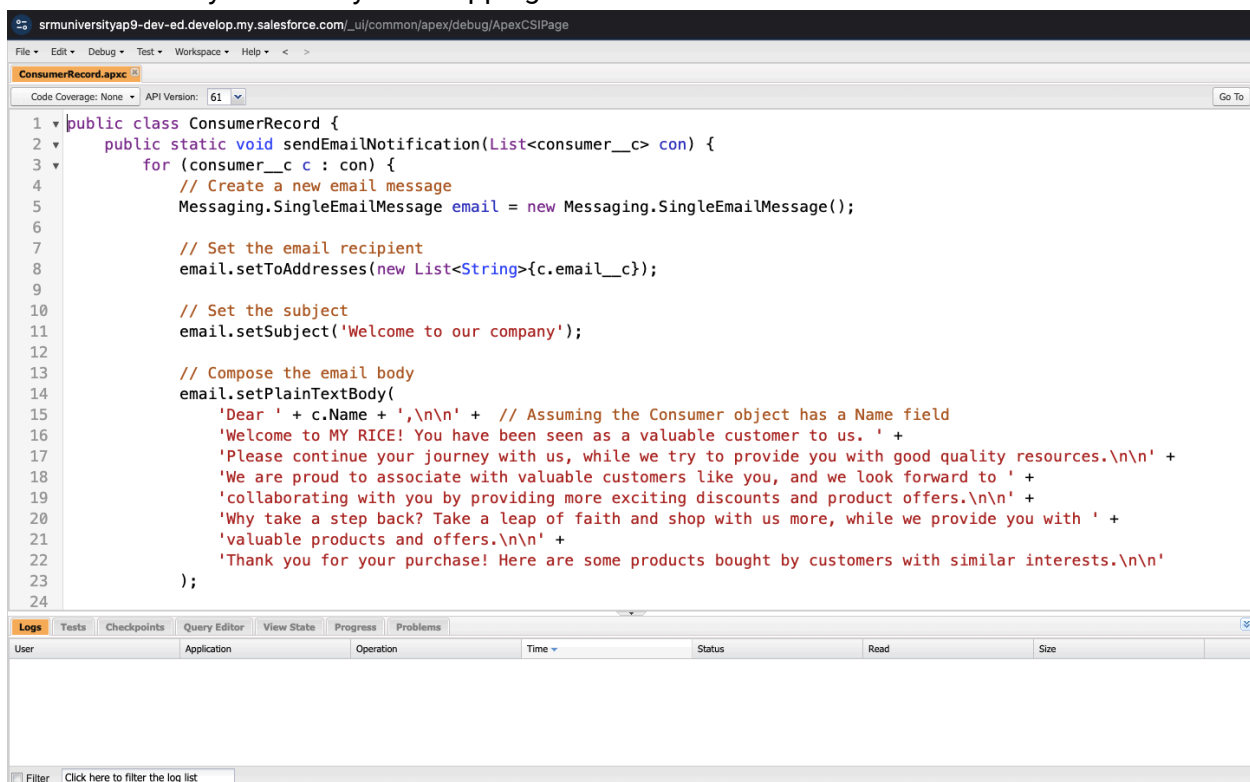


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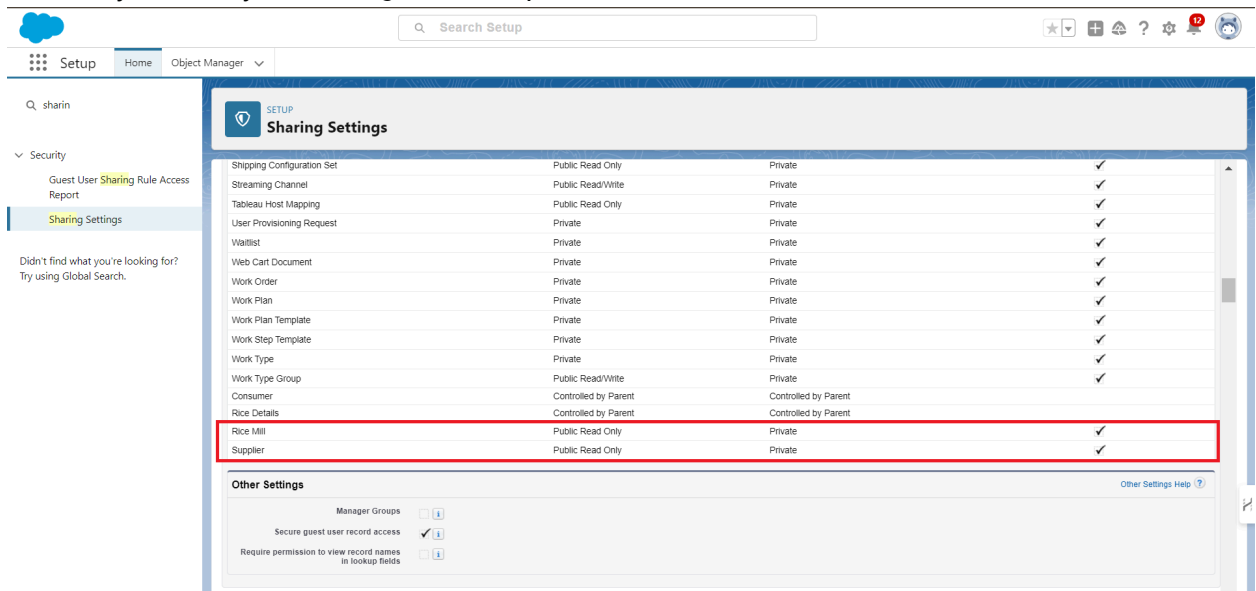
# 5. Automation and Custom Logic

## 5.1 Apex for Custom Workflows

Apex was used to implement custom workflows and triggers for automating key business processes:

- **Order Confirmation Notifications**: Automated notifications are sent to both the customer and sales team when an order is confirmed.
- **Inventory Replenishment Alerts**: Triggered when rice stock levels fall below a specified threshold, alerting the purchasing department.
- **Order Processing Logic**: Custom logic determines the order fulfillment time based on inventory availability and shipping method selected.



## 5.2 Reports and Dashboards

- **Sales Report**: Provides insights into daily, weekly, and monthly sales performance, enabling management to track key metrics like revenue, total orders, and average order size.
- **Inventory Dashboard**: Displays a real-time overview of current stock levels for each type of rice and generates alerts when reordering is required.

- **Customer Engagement Reports**: Tracks customer interactions, including repeat purchases and satisfaction levels, which assist in identifying key customers for retention efforts.



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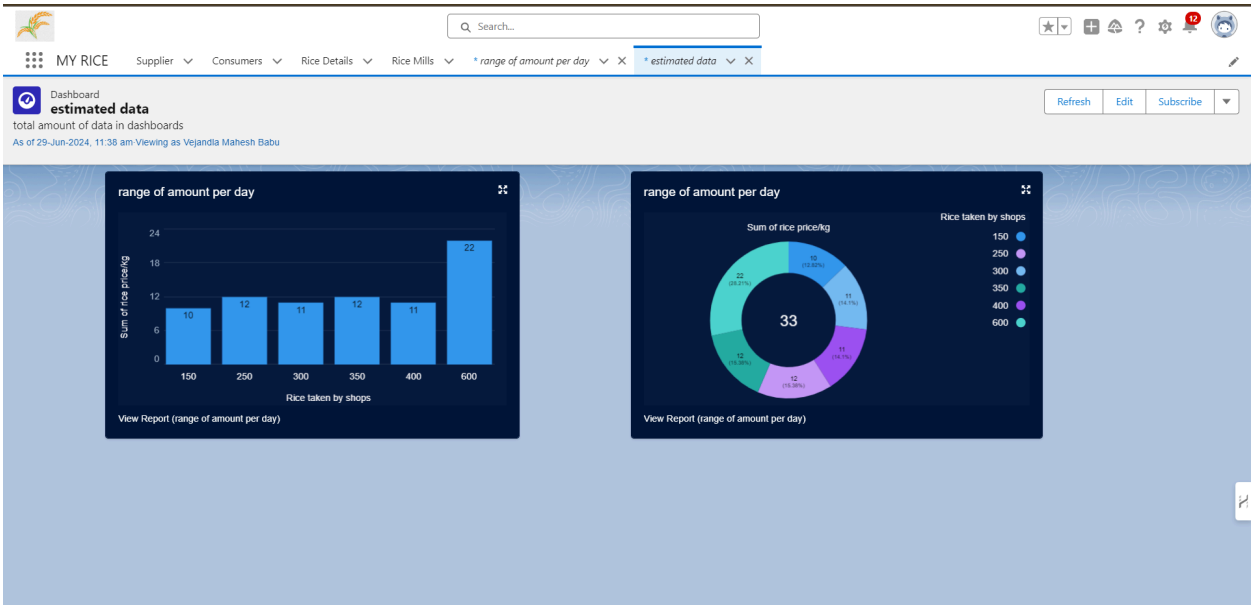
# 6. Testing and Validation

## 6.1 Unit Testing

Apex classes and triggers were thoroughly tested using Salesforce's built-in testing framework to ensure all workflows, especially order processing and notifications, functioned as expected.

## 6.2 User Acceptance Testing (UAT)

End-users from the rice mill were involved in UAT to verify the usability of the CRM. Feedback was gathered on the user interface and overall functionality. Adjustments were made to ensure the solution met real-world business requirements.

## 6.3 Performance Testing

The application was stress-tested to handle a high volume of orders and customers, ensuring the system could scale without performance degradation.

# 7. Challenges and Solutions

## 7.1 Challenge 1: Complex Data Structure

Managing relationships between customers, orders, and inventory presented data structure challenges. To solve this, we used Salesforce's schema builder to visualize and define complex relationships, ensuring data integrity across objects.

## 7.2 Challenge 2: Role-Based Data Access

Ensuring that sensitive business data was accessible only to authorized users required careful design of profiles and role hierarchies. By implementing both, alongside permission sets, we achieved a secure and scalable solution.

# 8. Business Impact and Benefits

The CRM system has had a profound impact on the wholesale rice mill's operations:

- **Enhanced Efficiency**: By automating order processing and inventory management, the mill reduced manual errors and streamlined day-to-day activities.
- **Improved Customer Relations**: With a centralized system for managing customer interactions, sales reps could provide better, faster service.
- **Data-Driven Decisions**: Real-time reporting enabled the management team to make informed decisions about sales strategy and stock management, reducing waste and improving profitability.

# 9. Future Enhancements

## 9.1 Integration with External Systems

- **Supply Chain Integration**: The CRM could be integrated with suppliers' inventory systems for real-time updates on stock availability.
- **E-commerce Platform**: Develop an integrated e-commerce portal that connects directly to the CRM for customer self-service, allowing them to place orders, view stock availability, and track deliveries.

## 9.2 AI and Automation

- **Predictive Analytics**: Implement AI-driven analytics to forecast sales trends and suggest inventory restocking based on historical data.
- **Chatbots**: Deploy AI-powered chatbots to assist customers with inquiries, helping the sales team focus on high-priority tasks.

# 10. Conclusion

The CRM application for the wholesale rice mill has successfully transformed business operations, improving efficiency, and providing actionable business insights. The project not only solved immediate pain points in customer and inventory management but also laid the foundation for future growth and scalability. By leveraging Salesforce's powerful tools and customized workflows, the rice mill is now better positioned to handle increased business demands and enhance customer satisfaction.