

Revolutionizing Agriculture with AgriEdge Or-Mange Ltd

A Salesforce-Driven Order Management Solution

Project Overview

The **AgriEdge Order Management CRM** is a tailored Salesforce application built for **Or-Mange Ltd** to simplify and automate agricultural order processing. Developed entirely within a Salesforce Developer Edition, the CRM system manages customer orders, tasks, and shipments through custom objects and backend logic. Key features include Apex classes and triggers for calculating order totals, updating order statuses, creating related tasks, and generating shipment records. The system also integrates email alerts to notify customers about order status changes. By eliminating manual workflows and improving process visibility, this CRM helps Or-Mange Ltd manage orders more efficiently and enhance the overall customer experience.

Objectives

The main goal of building the AgriEdge Order Management CRM was to make the process of handling orders easier and faster for Or-Mange Ltd. Instead of doing everything manually, the system now does important tasks automatically - like creating follow-up tasks, updating order status, and generating shipments. It also sends emails to customers without needing someone to do it by hand. This helps the company save time, avoid mistakes, and give better service to customers. Overall, the CRM helps the business run more smoothly and keeps customers happy.

Phase 1: Requirement Analysis & Planning

❖ Understanding Business Requirements:

Or-Mange Ltd needed a system to track customer orders more efficiently. The main problems were manual handling of order updates, delays in follow-ups, and lack of visibility into the status of each order. Users wanted a CRM where tasks could be automated - such as sending emails, assigning follow-ups, and updating order details - to reduce manual effort and improve customer service.

❖ **Defining Project Scope and Objectives:**

- Build a custom CRM on Salesforce to manage AgriEdge orders.
- Automate task creation after an order is placed.
- Update order status when tasks are completed.
- Automatically calculate the total amount of an order based on quantity and unit price.
- Generate shipment records once an order is made (Order Status is processing).
- Send confirmation emails to customers when payment is made (Payment status is “Paid”)
- Track customer and product data for future reference.

❖ **Design Data Model and Security Model:**

- Custom objects created: AgriEdge_Order__c, AgriEdge_Shipment__c, AgriEdge_OrderItem__c, AgriEdge_Inventory__c.
- Relationships established using Master-Detail and Lookup fields (e.g., each order linked to a customer and product).
- Record-level access was managed using Organization-Wide Defaults and Profiles
- Only authorized users can view or edit sensitive data like order totals (Total_Amount__c, Discounted_Total, etc).

Phase 2: Salesforce Development – Backend & Configurations

❖ **Setup Environment & DevOps Workflow:**

All development was done in a Salesforce Developer Edition environment.

Changes were made directly in the org with version control and deployments managed manually.

❖ **Customization of Objects, Fields, Validation Rules, Automation:**

- Custom Objects: Created] AgriEdge_Order__c, AgriEdge_Shipment__c, AgriEdge_OrderItem__c, AgriEdge_Inventory__c.
- Custom Fields: Added fields like Quantity, Unit Price, Total Amount, Status, Discounted Total, Tracking Number, Payment Status, and related lookup fields.

- Validation Rules: Added rules to ensure required fields like Tracking Number is filled before setting the Status (AgriEdge_Shipment__c) to “Delivered”.
- Automation Tools Used:
 - Created to automate task creation after an order is submitted.
 - Email Alerts: Sent automatically when a new order is created.
 - Process Builder: Used to trigger flows and email alerts.
 - Workflow Rules: Not used, all automation was done using Process Builder.

❖ Apex Classes, Triggers, Asynchronous Apex:

Apex Trigger:

- Trigger on AgriEdge Order to calculate Total Amount (Quantity × Unit Price).
- The OrderItemTrigger runs after new order items are added or updated. It collects the related order IDs and calls helper classes to update the order’s status and recalculate the total amount.
- The OrderPaymentStatusTriggers trigger runs after an order is updated. If the payment status changes to "Paid" and the order is linked to a customer, it collects the order ID and calls a helper class to send a confirmation email.
- AgriEdgeOrderTrigger trigger runs after insert or update on AgriEdge_Order__c and performs 3 main tasks:
 1. Updates Order Status:
 - If Payment is Pending, sets Order Status to Processing.
 - If Payment Failed, sets Order Status to Canceled.
 2. Deletes Related Records:
 - If order is canceled due to failed payment, it deletes related Order Items and Shipments.
 3. Processes Shipments:
 - Calls a helper class to handle changes related to order status and shipment.

It also prevents recursion using a helper flag.

Apex Class:

- Custom logic for sending confirmation emails, calculating values, and updating records.
- OrderStatusUpdater: Updates the status of an order (e.g., to "Delivered" or "Processing" or "Cancelled") based on specific changes in the Payment Status of order record.
- OrderTotalUpdater: Calculates the total amount of an order by summing up the quantity and unit price of related order items and updates it on the order record.

Test Class:

- Written to cover all Apex code and ensure successful deployment.

Phase 3: UI/UX Development & Customization

❖ Lightning App Setup

Created a custom Lightning app named **AgriEdge** using App Manager. It provides easy navigation and groups related objects like AgriEdge Orders, AgriEdge Order Items, AgriEdge Shipments, AgriEdge Inventories, Accounts, Contacts, and Products into a unified workspace for efficient order management.

❖ Reports and Dashboards

Created a report **Total Revenue from AgriEdge Orders** to show Total Revenue Generated where Payment Status = 'Paid'. This helps monitor overall income from successfully completed orders.

Phase 4: Data Migration, Testing & Security

❖ Data Loading Process

Data Loader

- Used for uploading AgriEdge Orders, AgriEdge Order Items, and AgriEdge Shipments.

❖ Profiles

Platform 1

- Based on: Standard Platform User
- Access: Read/Create – AgriEdge Orders & OrderItems

Platform 2

- Read/Create/Edit – Inventory, Account, Shipment
- Read-only – Orders & OrderItems

Platform 3

- Read/Create/Edit – Orders & OrderItems

❖ Roles & Role Hierarchy

- CEO (Top role)
 - Sales Representative (Reports to CEO)
 - Finance Team (Reports to Sales Rep)
 - Warehouse Manager (Reports to CEO)

Phase 5: Deployment, Documentation & Maintenance

❖ Deployment Strategy

Development was carried out in the **Salesforce Developer Edition**, so no external deployment tools (e.g., Change Sets, Ant Migration Tool) were required. All configurations and customizations were created and tested within the same environment.

❖ System Maintenance & Monitoring

- The system will be maintained by:
- Regularly reviewing functionality to ensure expected behavior.
- Monitoring changes using tools like Debug Logs

❖ Troubleshooting Approach

If issues arise:

- Use Debug Logs to trace errors and unexpected behaviors.
- Review Validation Rules, and Object Access for misconfigurations.

Conclusion

The AgriEdge Order Management solution successfully automated the agricultural order lifecycle for Or-Mange Ltd. with the use of Salesforce CRM features like Apex triggers, automated emails, validation rules, and role-based access. The project improved operational efficiency, ensured accurate and timely communications, and laid the foundation for scalable enhancements.

Screenshots

AgriEdge Order where Order Status is Processing and Payment Status is Pending.

The screenshot displays the Salesforce CRM interface for the AgriEdge Order Management solution. The top navigation bar includes the AgriEdge logo, a search bar, and various utility icons. The main navigation menu shows options like AgriEdge Inventories, AgriEdge Orders (selected), AgriEdge Shipments, AgriEdge OrderItems, Reports, and More. The header section for the selected order (ORD-0019) includes buttons for 'New Contact', 'Edit', and 'New Opportunity'. The 'Details' tab is active, showing a table of order information.

Details	
AgriEdge Order ORD-0019	Owner Pavithra Pamula
Customer Pavithra Pamula	Shipping Address
Order Status Processing	Total Amount
Order Date 7/25/2025, 12:00 PM	Payment Status Pending
Confirm Order <input type="checkbox"/>	Discounted Total \$0.00
Created By Pavithra Pamula , 7/25/2025, 1:35 AM	Last Modified By Pavithra Pamula , 7/25/2025, 1:39 AM

AgriEdge Order where Order Status is Delivered and Payment Status is Paid

AgriEdge

AgriEdge Inventories

AgriEdge Orders

AgriEdge Shipments

AgriEdge OrderItems

Reports

More

AgriEdge Order

ORD-0018

New Contact

Edit

New Opportunity

Related

Details

AgriEdge Order

ORD-0018

Customer

Sita

Order Status

Delivered

Order Date

7/24/2025, 12:00 PM

Confirm Order

Created By

Pavithra Pamula, 7/24/2025, 8:24 AM

Owner

Pavithra Pamula

Shipping Address

ABCDE Street, Vijayawada

Total Amount

\$2,400.00

Payment Status

Paid

Discounted Total

\$2,160.00

Last Modified By

Pavithra Pamula, 7/24/2025, 8:28 AM

Shipment record related to the AgriEdge Order with Order name **ORD-0018**

AgriEdge

AgriEdge Inventories

AgriEdge Orders

AgriEdge Shipments

AgriEdge OrderItems

Reports

More

AgriEdge Shipment

AES-0016

New Contact

Edit

New Opportunity

Related

Details

AgriEdge Shipment Number

AES-0016

Tracking Number

TEST_a00gL00000Bw5H7QA

Carrier

DHL

Status

Delivered

AgriEdge Order

ORD-0018

Created By

Pavithra Pamula, 7/24/2025, 8:25 AM


Owner

Pavithra Pamula

Last Modified By

Pavithra Pamula, 7/24/2025, 8:28 AM

AgriEdge Order Items that are part of the AgriEdge Order record with the Order name **ORD-0018**



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AgriEdge

AgriEdge Inventories

AgriEdge Orders

AgriEdge Shipments

AgriEdge OrderItems

Reports

More

 AgriEdge OrderItem
ORD - 18 Item1

New Contact

Edit

New Opportunity

Related

Details

AgriEdge OrderItem Name

ORD - 18 Item1

Quantity

2

Unit Price

\$200.00

Total Price

\$400.00

Product

Hybrid Seeds

AgriEdge Order

ORD-0018

Created By


 Pavithra Pamula, 7/24/2025, 8:25 AM

Owner

 Pavithra Pamula

Last Modified By

 Pavithra Pamula, 7/24/2025, 8:25 AM



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AgriEdge

AgriEdge Inventories

AgriEdge Orders

AgriEdge Shipments

AgriEdge OrderItems

Reports

More

 AgriEdge OrderItem
ORD - 18 Item 2

New Contact

Edit

New Opportunity

Related

Details

AgriEdge OrderItem Name

ORD - 18 Item 2

Quantity

10

Unit Price

\$200.00

Total Price

\$2,000.00

Product

Organic Fertilizer

AgriEdge Order

ORD-0018

Created By

 Pavithra Pamula, 7/24/2025, 8:27 AM

Owner

 Pavithra Pamula

Last Modified By

 Pavithra Pamula, 7/24/2025, 8:27 AM

AgriEdge Inventories

The screenshot shows the AgriEdge web application interface. At the top, there is a search bar and a navigation menu with options: AgriEdge, AgriEdge Inventories (selected), AgriEdge Orders, AgriEdge Shipments, AgriEdge OrderItems, Reports, and More. Below the navigation bar, the page title is 'AgriEdge Inventory Hybrid Seeds'. On the right, there are buttons for 'New Contact', 'Edit', and 'New Opportunity'. The main content area is divided into 'Related' and 'Details' tabs. The 'Details' tab is active, showing a table of inventory details:

AgriEdge Inventory Name	Owner
Hybrid Seeds	Pavithra Pamula
Stock Quantity	Reorder Level
198	50
Product	Stock Status
Hybrid Seeds	Sufficient
Created By	Last Modified By
Pavithra Pamula, 7/24/2025, 8:04 AM	Pavithra Pamula, 7/24/2025, 8:25 AM

Validation Rule on AgriEdge Inventories

The screenshot shows the AgriEdge web application interface for the 'Drip Kit' inventory. The page title is 'AgriEdge Inventory Drip Kit'. The 'Details' tab is active, showing a form with the following fields:

- * AgriEdge Inventory Name: Drip Kit
- Owner: Pavithra Pamula
- Stock Quantity: 5
- Reorder Level: 10
- Product: (empty)
- Stock Status: (empty)

A validation error message is displayed in a red box:

We hit a snag.

Review the errors on this page.

- * Stock is below reorder level. Please restock.

The message also includes a 'Cancel' button and a 'Save' button. The error message is triggered because the stock quantity (5) is below the reorder level (10).

Validation Rule on AgriEdge Shipments

New AgriEdge Shipment

*

 = Required Information

Information

AgriEdge Shipment Number

Owner

Pavithra Pamula

Tracking Number

Tracking Number is required before marking order as Delivered.

Carrier

UPS

Status

Delivered

AgriEdge

We hit a snag.

Review the following fields

•

[Tracking Number](#)

Cancel

Save & New

Save

Task created when a new Order is made

AgriEdge

AgriEdge Inventories

AgriEdge Orders

AgriEdge Shipments

AgriEdge OrderItems

Tasks

More

Recently Viewed

6 items • Updated a few seconds ago

New Order Created

New Order Created

New Order Created

New Order Created

New Order Created

New Order Created

Task

New Order...

✓ Mark Complete

Edit Comments

Change Date

Name

Related To

Details

Related

Assigned To

John Production Engineer Sandbox 1

Subject

New Order Created

Due Date

Priority

High

Created By

Pavithra Pamula, 7/24/2025, 8:24 AM

Status

Not Started

Name

Related To

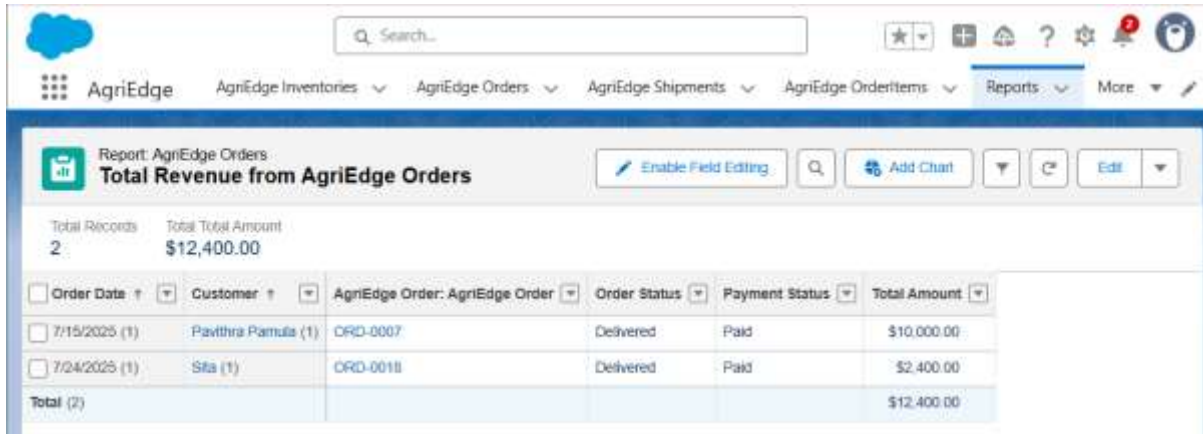
Last Modified By

Pavithra Pamula, 7/24/2025, 8:24 AM

Comments

A new order has been created. Please create an Order Item record.

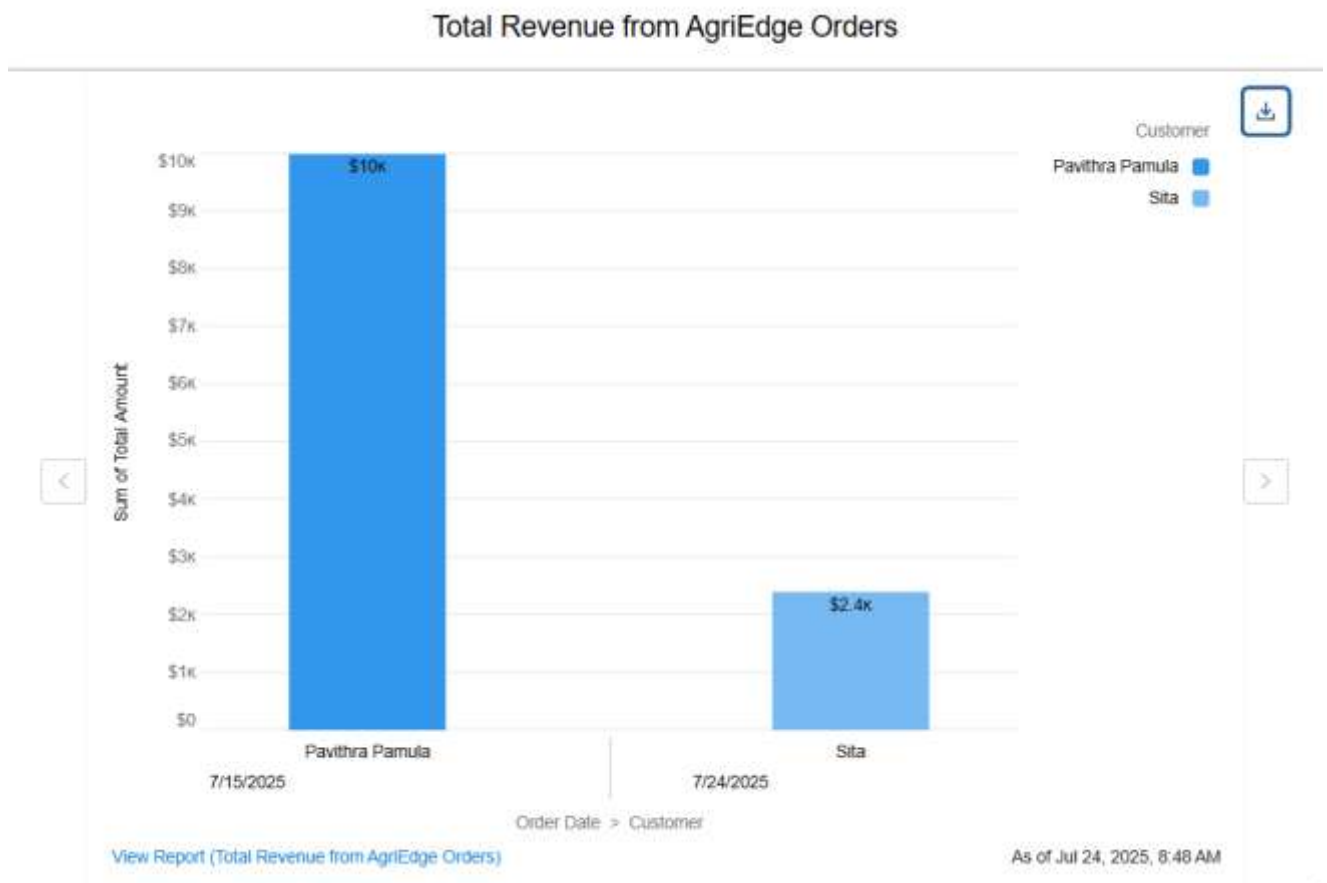
Reoprts



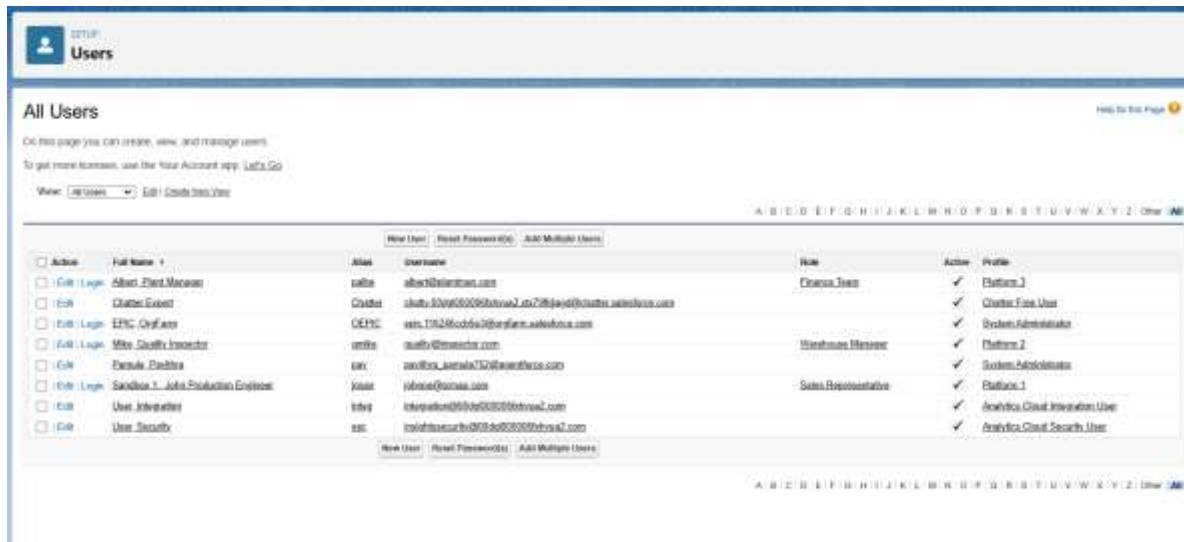
The screenshot shows the AgriEdge Reports interface. At the top, there's a search bar and navigation tabs for AgriEdge Inventories, AgriEdge Orders, AgriEdge Shipments, AgriEdge OrderItems, Reports, and More. The 'Reports' tab is active, displaying the 'Total Revenue from AgriEdge Orders' report. The report summary shows 2 total records and a total total amount of \$12,400.00. Below the summary is a table with columns for Order Date, Customer, AgriEdge Order, Order Status, Payment Status, and Total Amount. The table lists two orders: one from Pavithra Pamula on 7/15/2025 for \$10,000.00, and another from Sita on 7/24/2025 for \$2,400.00. A total row shows the sum of \$12,400.00.

Order Date	Customer	AgriEdge Order	Order Status	Payment Status	Total Amount
7/15/2025 (1)	Pavithra Pamula (1)	ORD-0007	Delivered	Paid	\$10,000.00
7/24/2025 (1)	Sita (1)	ORD-0011	Delivered	Paid	\$2,400.00
Total (2)					\$12,400.00

Dashboards



Users



Role-based access

