

Revolutionizing Agriculture with AgriEdge Or-Mange Ltd: A Salesforce-Driven Order Management Solution

ABSTRACT

AgriEdge Or-Mange Ltd is a leading agriculture and food production company aiming to streamline its order management processes. The Salesforce-driven Order Management System (OMS) automates order processing, provides real-time inventory tracking, improves customer service, and ensures accurate reporting. This system addresses challenges such as manual errors, stockouts, and delayed order fulfillment.

OBJECTIVES

- Automate order creation and task assignment.
- Track orders and inventory in real time.
- Integrate with customer service channels for a unified experience.
- Ensure data security and compliance.
- Provide robust reporting and analytics.

TECHNOLOGY DESCRIPTION

Salesforce

The Salesforce Lightning platform serves as the foundation for the Order Management System (OMS). It provides a flexible and secure environment to manage orders, inventory, shipments, and customer interactions efficiently. Its cloud-based architecture allows real-time data access and automation across the organization.

Custom Objects

Several custom objects were created to manage different aspects of the OMS:

- **AgriEdge_Order_c** – Stores information about customer orders.
- **AgriEdge_OrderItem_c** – Records the items included in each order.
- **AgriEdge_Shipment_c** – Tracks shipments related to orders.
- **AgriEdge_Inventory_c** – Maintains stock levels and inventory data.

These objects allow structured data storage, relationships between orders, items, and shipments, and facilitate automation and reporting.

Tabs

Custom tabs were created for easy access to Orders, Order Items, Shipments, and Inventory. This improves navigation for users and ensures that all related information is readily available.

Custom App

A Lightning App was developed to organize all OMS components in one place. This app provides users a central interface to view orders, tasks, shipments, and inventory.

Profiles, Roles, Permission Sets

User access is controlled through profiles, roles, and permission sets:

- **Profiles** define what users can see and do in Salesforce (e.g., Platform 1 profile for OMS users).
- **Roles** establish hierarchy and record visibility across the organization.
- **Permission Sets** grant additional access to specific features or objects when needed.

Validation Rules

- **Validation Rules** ensure data integrity by enforcing correct input in key fields (e.g., Order Status cannot be blank).

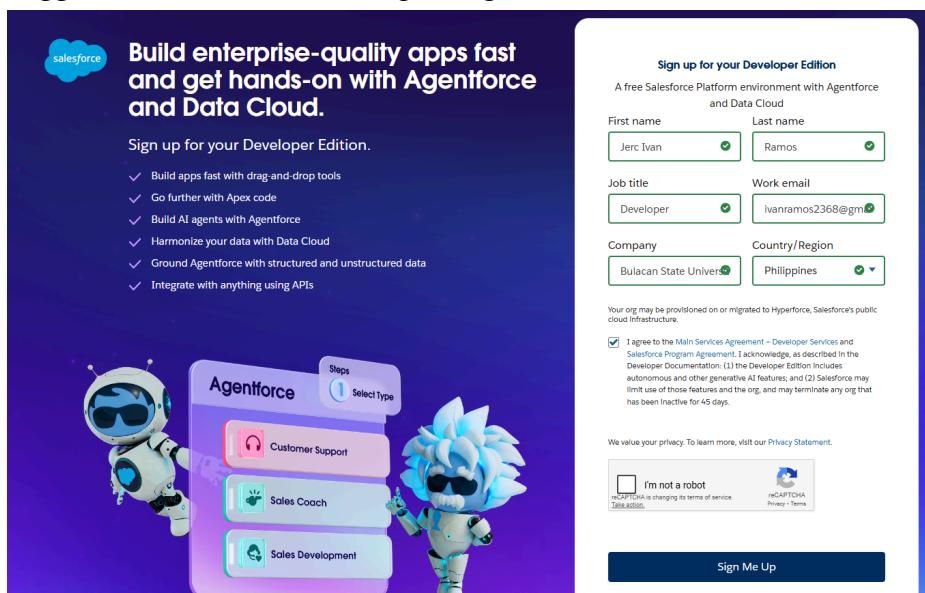
Flow & Apex

- **Process Builder/Flows** automate repetitive tasks, such as creating tasks for new orders or updating statuses.
- **Apex Classes** handle custom logic that cannot be done with standard automation. Main classes include:
 - **OrderTaskCreator** – Automatically creates tasks when a new order is made.
 - **OrderStatusUpdater** – Updates order statuses based on certain conditions.
 - **OrderTotalUpdater** – Calculates total amounts for orders and updates payment status.
 - **OrderEmailSender** – Sends email notifications to customers or internal users.

DETAILED EXECUTION OF PROJECT PHASES

1. Salesforce Credentials Setup

- Logged into Salesforce Developer Org with admin credentials.



2. Data Management – Objects

- Created custom objects: Orders, Order Items, Shipments, Inventories

LABEL	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED
AgriEdge Inventory	AgriEdge_Inventory__c	Custom Object		11/8/2025	✓
AgriEdge Order	AgriEdge_Order__c	Custom Object		11/9/2025	✓
AgriEdge Orderitem	AgriEdge_Orderitem__c	Custom Object		11/8/2025	✓
AgriEdge Shipment	AgriEdge_Shipment__c	Custom Object		11/8/2025	✓

3. Creating the Lightning App

- A custom Lightning App named **AgriEdge** was created.
- Included tabs: **Orders, Order Items, Shipments, Inventory, Reports**.
- Assigned access to **System Administrator** and relevant profiles for proper permissions.

4. Validation Rules

To ensure accurate data entry and enforce business logic, the following validation rules were applied:

- AgriEdge Shipment Object:** Prevents saving if **Order Status** is *Delivered* and **Tracking Number** is blank.
Error: "Tracking Number is required before marking order as Delivered."
- AgriEdge Inventory Object:** Prevents saving if **Stock Quantity** \leq **Reorder Level**.
Error: "Stock is below reorder level. Please restock."

Information

* AgriEdge Shipment	<input type="text" value="Test"/>	Owner Jerc Ivan Ramos
Order	<input type="text" value="ORD-0001"/>	
Tracking Number	<input type="text" value=""/>	Tracking Number is required before marking order as Delivered.
Carrier	<input type="text" value="FedEx"/>	
Status	<input type="text" value="Pending"/>	∅ We hit a snag. Review the following fields • Tracking Number

5. User Role & Profile Setup

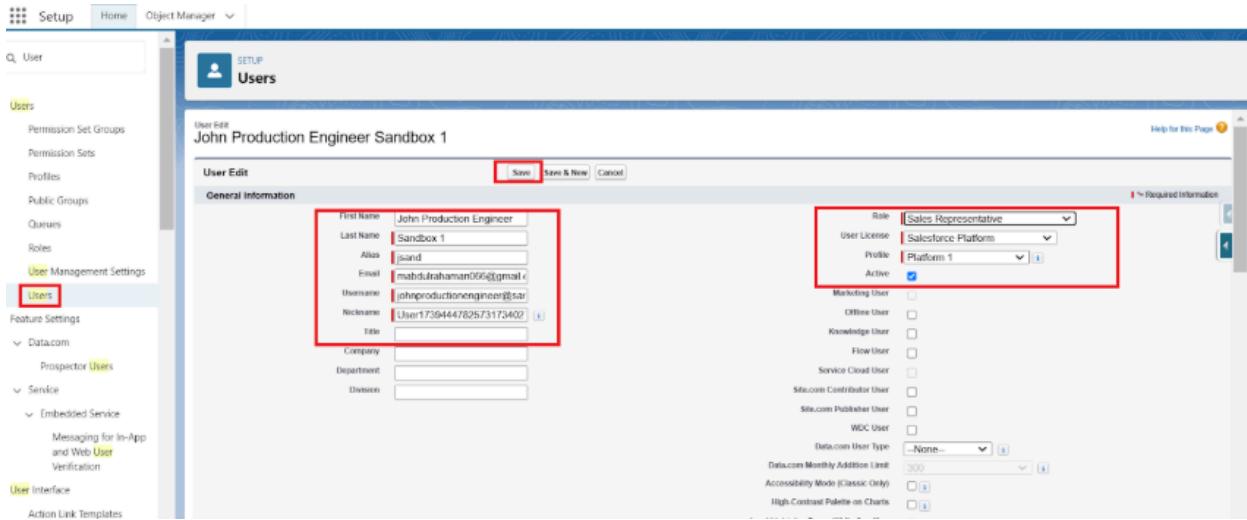
- Profile Setup: Cloned the Standard User profile to a new profile named Platform 1 and added access to necessary custom objects.
- Roles: Created roles for different departments:
 - Sales Representative
 - WareHouse Manager
 - Finance Team

6. User Creation

Users were created in Salesforce and assigned appropriate roles and profiles to reflect their responsibilities:

- John Production Engineer Sandbox 1 – Assigned the Sales Representative role and Platform 1 profile.

These role-based assignments help enforce proper data access and process control within the system.



7. Field-Level Access

Field-level security was configured to control which fields are visible or editable for specific user profiles:

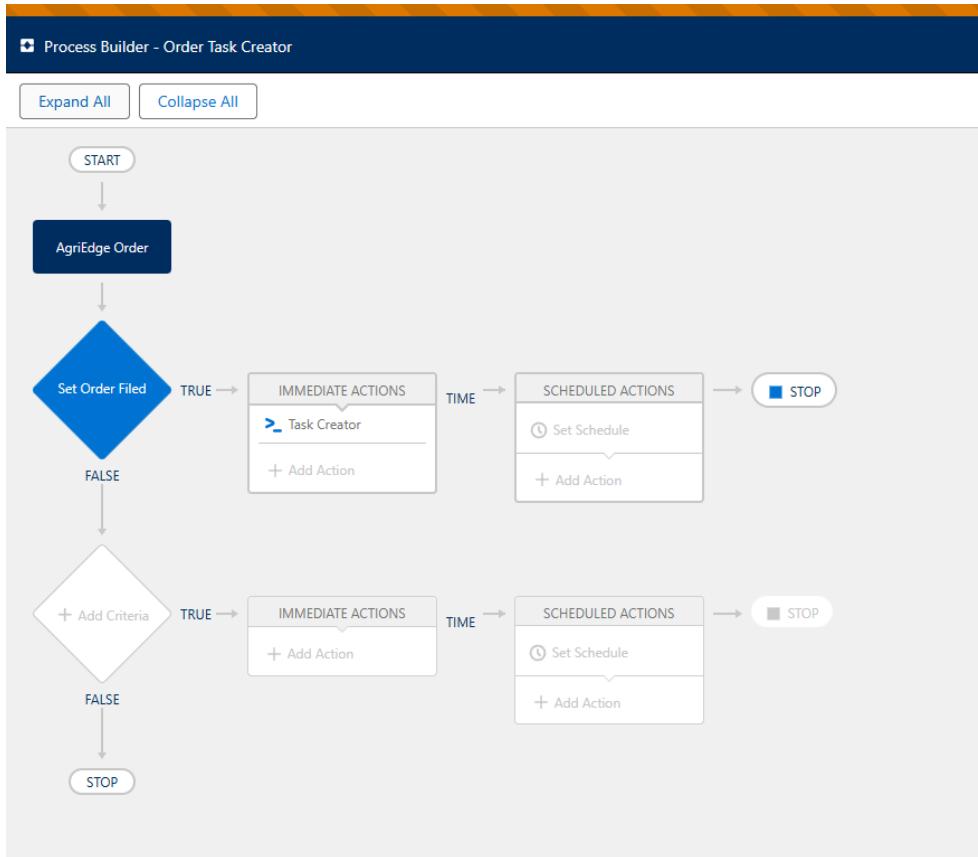
- AgriEdge Order Object: Restricted access to the following fields for Platform 1 and Platform 2 profiles:
 - Payment_Status__c
 - Discount_Total__c
 - Total_Amount__c
- Verification: Logged in as a user with the Sales Representative role to confirm that the restricted fields were disabled for editing and visibility.

This ensures sensitive fields are protected and users only see information relevant to their responsibilities.

8. Automation – Process Builder & Apex Classes

A **Process Builder** was set up to automatically create tasks for new orders:

- **Process Name:** Order Task Creator
- **Trigger:** When a new AgriEdge Order record is created
- **Criteria:** Order Status is New
- **Action:** Call the Apex class **OrderTaskCreator** to create tasks for the responsible users
- **Activation:** Process is active and running



PROJECT EXPLANATION WITH REAL-WORLD EXAMPLE

1. Customer Order Creation

- A farmer, John Production Engineer, places an order for seeds and fertilizers.
- In Salesforce: A new record is created in the **AgriEdge Order** object containing the customer name, selected products, quantity, and other required order details. This allows the business team to easily track and manage customer orders within the system.

2. Inventory Check

- The system verifies available stock in AgriEdge Inventory object.
- Validation Rule: If stock is below reorder level, an alert “Stock is below reorder level. Please restock” is triggered.

3. Order Processing

- An Apex Trigger calculates total amount automatically for the order.
- Process Builder: Calls OrderTaskCreator to create tasks for responsible users to prepare the order.

4. Shipment Preparation

- A shipment record is created in AgriEdge Shipment object.
- Validation Rule: Requires Tracking Number before order can be marked as Delivered.

SCREENSHOTS

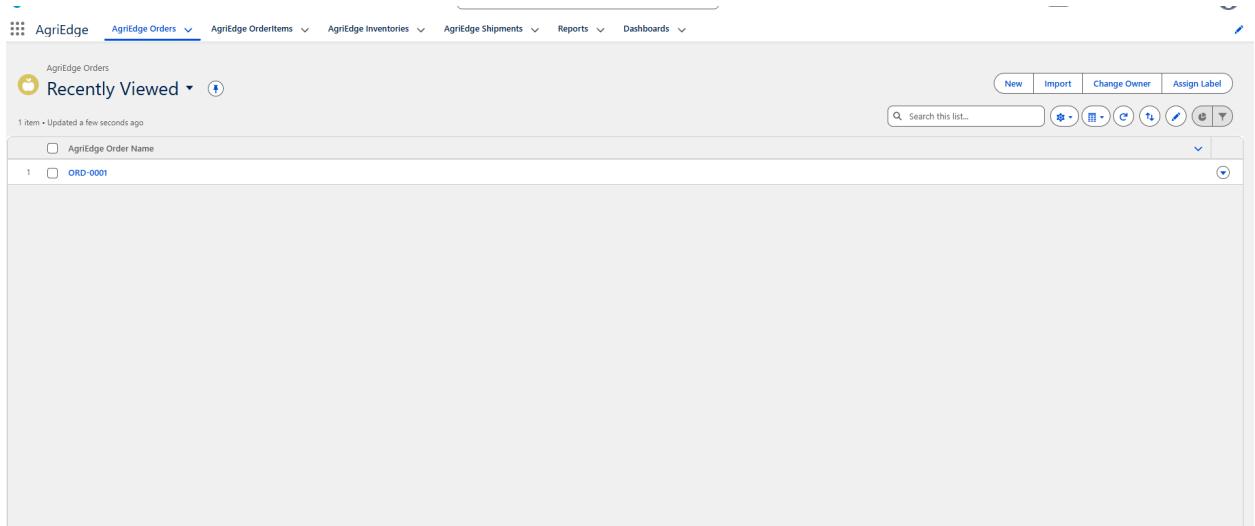


FIG: Custom App for Agriculture with AgriEdge Or-Mange Ltd

A screenshot of the "AgriEdge Order" creation form for "ORD-0001". The top navigation bar is identical to the previous screenshot. The main title is "AgriEdge Order" with the ID "ORD-0001". Below the title, there are two tabs: "Related" and "Details", with "Details" being the active tab. The "Details" tab contains various input fields with their current values:

- AgriEdge Order Name: ORD-0001
- Customer: Test
- Order Status: Delivered
- Order Date: 11/9/2025, 12:00 PM
- Total Amount: \$12
- Payment Status: Pending
- Shipping Address: Manila Philippines
- Discounted Total: \$10.80
- Created By: Jerc Ivan Ramos, 11/8/2025, 11:28 PM

On the right side of the form, there is an "Owner" section showing "Jerc Ivan Ramos" with a profile icon and a "Edit" link. At the bottom right, there is a "Last Modified By" section showing the same information. There are also "New", "Import", "Change Owner", and "Assign Label" buttons at the bottom right of the form area.

Fig: Order Creation in Agriculture with AgriEdge Or-Mange Ltd

AgriEdge Orderitem

Order Item for cord seeds

Related **Details**

AgriEdge Orderitem Order Item for cord seeds	Owner  Jerc Ivan Ramos
Order ORD-0001	
Product Corn Seeds	
Quantity 5	
Unit Price \$100	
Total Price \$500.00	
Created By  Jerc Ivan Ramos , 11/9/2025, 3:09 AM	Last Modified By  Jerc Ivan Ramos , 11/9/2025, 3:15 AM

FIG: Order Item Creation for Agriculture with AgriEdge Or-Mange Ltd

AgriEdge Inventory

Corn Seeds Stock

Related **Details**

AgriEdge Inventory Corn Seeds Stock	Owner  Jerc Ivan Ramos
Product Corn Seeds	
Stock Quantity 200	
Reorder Level 50	
Warehouse Location Central Warehouse	
Stock Status Sufficient	
Created By  Jerc Ivan Ramos , 11/9/2025, 3:16 AM	Last Modified By  Jerc Ivan Ramos , 11/9/2025, 3:16 AM

FIG: Inventory Creation for Agriculture with AgriEdge Or-Mange Ltd

AgriEdge Shipment
Shipment for Order-0001

Related	Details
AgriEdge Shipment Shipment for Order-0001	Owner  Jerc Ivan Ramos
Order ORD-0001	
Tracking Number TRK-ORD-0001	
Carrier FedEx	
Status Pending	
Created By  Jerc Ivan Ramos, 11/9/2025, 3:17 AM	Last Modified By  Jerc Ivan Ramos, 11/9/2025, 3:17 AM

FIG: Shipment Creation for Agriculture with AgriEdge Or-Mange Ltd

Information

* AgriEdge Shipment Test	Owner  Jerc Ivan Ramos
Order  ORD-0001	
Tracking Number 	Tracking Number is required before marking order as Delivered.
Carrier FedEx	
Status Pending	<p>We hit a snag.</p> <p>Review the following fields</p> <ul style="list-style-type: none"> • Tracking Number

 Cancel Save & New Save

FIG: Error Alert on following fields

New AgriEdge Inventory

* = Required Information

Information

Inventory Name <input type="text" value="New AgriEdge Inventory"/>	Owner MileStone John
Product <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Search Products... 🔍 </div> <div style="border: 2px solid red; padding: 10px; background-color: #fff; margin-bottom: 10px;"> Stock Quantity <input type="text" value="60"/> Reorder Level <input type="text" value="80"/> <div style="background-color: red; color: white; padding: 5px; border-radius: 5px; margin-top: 10px;"> We hit a snag. Review the errors on this page. • "Stock is below reorder level. Please restock." </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> Cancel Save & New Save </div>	

FIG: Error Alert on following fields

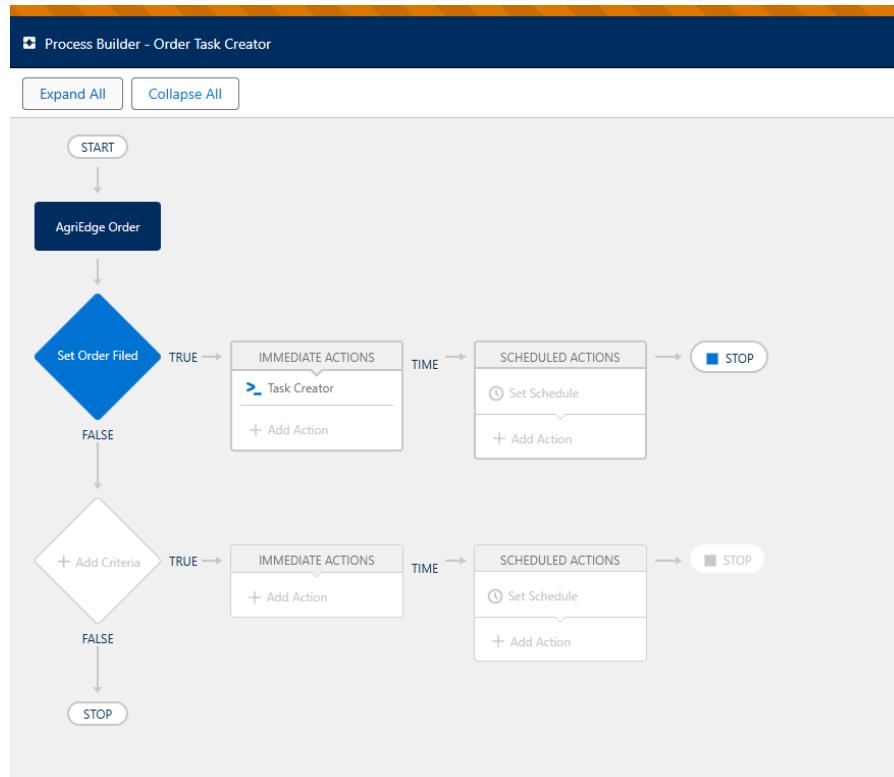


FIG: Automation – Process Builder & Apex Classes

CONCLUSION

The AgriEdge Order Management System developed on Salesforce successfully improves how agricultural product orders are recorded, tracked, and processed. By using Salesforce Custom Objects such as AgriEdge Orders, Products, Inventory, and Shipments, the system ensures organized data management and reduces manual work. Automations like validation rules help maintain accurate records while ensuring that orders and stock updates are properly followed. This system supports faster order processing, better visibility of inventory, and improved coordination between the order and shipment process.

FUTURE SCOPE

1. Supplier Portal Integration

Allow suppliers to log in and view purchase orders, confirm deliveries, and update shipment details.

2. Inventory Forecasting

Use Salesforce AI tools to predict low-stock items and automatically alert the operations team.

3. Mobile App for Field Staff

Provide real-time access for workers in farms or warehouses to update product stock and delivery status.

4. Advanced Reports & Dashboards

Create visual sales reports and inventory dashboards for better decision-making and performance insights.