

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

Salesforce Project (Admin + Developer Phases)

Prepared By: Kotipalli Harsha Veera Surya Sai Teja

Phase 1: Problem Understanding & Industry Analysis

Requirement Gathering

- Identify challenges: manual order entry, inventory mismatch, slow communication with farmers/distributors.
- Understand seasonal demand and bulk ordering during crop cycles.
- Define compliance needs (GST invoices, secure customer data).

Stakeholder Analysis

- CEO/Management: Needs real-time sales & supply chain analytics.
- Sales Team: Requires quick mobile order capture and easy approvals.
- Warehouse Manager: Needs accurate stock visibility and dispatch tracking.
- Farmers/Distributors: Expect instant confirmations, transparent delivery updates.
- IT/Admin: Must ensure platform stability, integrations, and security.

Business Process Mapping (Before Salesforce)

- Phone/email order → Manual Excel entry → Stock checked manually → Warehouse dispatch → Delayed updates across channels.

Industry-Specific Use Cases

- Seasonal demand forecasting based on crop cycles.
- Large-scale bulk fertilizer/seed orders.
- Perishable goods tracking (expiry-sensitive inventory).

AppExchange Exploration

- Inventory management apps.
- WhatsApp/SMS notification plugins.
- Agriculture supply chain accelerators.

Phase 2: Org Setup & Configuration (Admin)

- Salesforce Edition: Developer Edition (sandbox for testing).
- Company Profile: AgriEdge configured with fiscal year aligned to crop season.
- Business Hours & Holidays: Set as per regional farming calendars.

Users & Security

- Profiles: Sales Agent, Warehouse Manager, Distributor.
- Roles & Permission Sets to manage access.
- OWD (Org-Wide Defaults):
 - Products → Public Read Only
 - Orders → Private

- Sharing Rules: Sales Team → Warehouse Manager (Read/Write access).
- Login Access Policies enabled for support.

Sandbox & Deployment

- Sandbox created for development/testing.
 - Change Sets planned for deployment.
-

Phase 3: Data Modeling & Relationships

Objects

- Product: Name, Category, Price, Stock, Expiry Date.
- Customer: Name, Contact, Location, Type (Farmer/Distributor).
- Order: Order No, Customer, Date, Status, Payment Mode.
- Order Item (Junction): Order ↔ Product (Quantity, Price).
- Delivery: Date, Vehicle, Status.

Relationships

- Customer ↔ Order (Lookup).
- Order ↔ Order Item (Master-Detail).
- Order Item ↔ Product (Lookup).

Record Types & Layouts

- Retail Orders (Farmer) vs. Bulk Orders (Distributor).
-

Phase 4: Process Automation (Admin)

- **Validation Rules:**
 - Quantity ≤ Available Stock.
 - Delivery Date ≥ Today.
 - **Flows / Process Builder:**
 - Auto-update stock after order confirmation.
 - Send SMS/email order confirmation.
 - **Approval Process:** High-value bulk orders route to Manager.
 - **Scheduled Flow:** Daily low-stock alerts to Warehouse Manager.
-

Phase 5: Apex Programming (Developer)

Apex Classes

- InventoryService: Adjust stock when orders are placed or cancelled.
- DemandForecastService: Predict demand based on seasonal cycles.

Triggers

- Before Insert on Order Item: Validate stock availability.
- After Update on Delivery: Notify customer when status = "Delivered".

Asynchronous Apex

- Batch Apex: Nightly stock reconciliation.
- Queueable Apex: Large-order processing.
- Future Methods: Send external notifications.

Testing

- Custom Exceptions implemented.
 - Test Classes created with >75% coverage.
-

Phase 6: User Interface Development

- Lightning App Builder: Created "AgriEdge Order Management" app.
 - Record Pages & Utility Bar: Quick Create Order + Related Products/Deliveries.
 - LWC Components:
 - Farmer Self-Service Order Form.
 - Inventory Dashboard (low-stock indicators).
-

Phase 7: Integration & External Access

- Payment Gateway (UPI/Credit) integration.
 - REST API integration with logistics partner for delivery tracking.
 - WhatsApp/SMS notifications via external services.
 - Platform Events for real-time updates across departments.
 - OAuth-based Distributor Portal for secure external login.
-

Phase 8: Data Management & Deployment

- Data Import Wizard: Imported existing farmer and distributor records.
 - Data Loader: Loaded product catalog.
 - Duplicate Rules: Prevent duplicate customer entries.
 - Backup: Weekly Data Export.
 - Deployment: From sandbox → production using Change Sets & SFDX.
-

Phase 9: Reporting, Dashboards & Security Review

Reports

- Orders by Region.
- Inventory Movement.
- Seasonal Demand Trends.

Dashboards

- Sales Performance: Daily & Monthly.
- Inventory Health: Low-stock vs Overstock indicators.

Security Review

- Field-level security for sensitive data (pricing, GST).
 - Login IP restrictions for internal staff.
 - Audit Trail enabled for admin actions.
-

Phase 10: Final Presentation & Demo Day

- **Demo Flow:**
Customer places order → Inventory auto-updates → Warehouse notified → Delivery tracked → Management dashboard updated.
- **Documentation & Handoff:**
 - ERD (Entity Relationship Diagram).
 - Flow diagrams.
 - Apex class/triggers documentation.
 - Deployment guide.
- **Portfolio & Feedback:**
 - Publish GitHub repo & demo video.
 - Share project summary on LinkedIn.
 - Collect stakeholder feedback.