Republic of the Philippines
POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
LOPEZ, QUEZON BRANCH
Bachelor of Science in Information Technology

HandsMen Threads: Elevating the Art of Sophistication in Men's Fashion

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Project Overview

This CRM project for HandsMen Threads was developed to bring together customer data and business operations into one centralized system. It manages everything from sales and product catalogs to orders, inventory tracking, and marketing campaigns. Having all this information in one place helps ensure that data stays accurate and consistent, which is really important for making good business decisions. The system uses automation features like flows, triggers, and Apex classes to cut down on manual work and speed things up. The end result is a solid framework that helps the company grow while keeping operations running smoothly.

Some of the main features include sending order confirmations automatically, running a loyalty program that updates based on customer activity, alerting staff when stock gets low, and scheduling bulk updates for large batches of orders. These features make it easier to stay in touch with customers and give them a better experience overall. The CRM also helps solve practical problems like keeping track of inventory and making sure workflows don't get bogged down. By putting this system in place, HandsMen Threads can work more efficiently, keep customers happier, and scale up as the business grows.

Project Objectives

This document details the development of a tailored Salesforce Customer Relationship Management (CRM) system for **HandsMen Threads**, a premier men's fashion enterprise. The core mandate was to establish a unified digital infrastructure that **optimizes operational fluidity, reinforces client relationships, and ensures absolute data fidelity**. The solution is built upon a five-object data foundation: **Customer, Order, Product, Inventory, and Marketing Campaign**. Key automated capabilities, including real-time stock management, dynamic customer loyalty tiering, and instantaneous order confirmations, directly address the business imperatives for efficient, data-driven commerce.

This project has several main goals focused on improving how we manage customers, making operations more efficient, and keeping business data accurate. The system automates repetitive tasks, keeps data clean, and helps with making informed decisions.

Here are the key objectives:

- Bring all customer and business information together in one place.
- Automate tasks like sending order confirmations, updating loyalty status, and alerting teams about low stock.
- Keep data accurate and up-to-date through the user interface.
- Send automatic emails to the warehouse team when inventory drops below certain levels to avoid running out of stock.
- Help sales, inventory, and marketing teams work together more effectively.

I. Phase 1: Rquirement Analysis & Planning

❖ Understanding Business Requirements

To better handle client information, product details, orders, inventories, and marketing initiatives, HandsMen Threads requires a CRM system. Currently, there are problems with order confirmations taking too long, inventory being manually tracked, customer information being dispersed among many locations, and poor visibility into consumer involvement and loyalty. The CRM will unify everything, automate processes, and offer insights that enhance customer satisfaction and company decision-making.

❖ Defining Project Scope and Objectives

Building a CRM that enhances customer management, order processing, inventory control, marketing initiatives, and analytics is the goal of this project. The system must achieve a number of crucial goals:

Managements of Customers: Establish a single database that keeps track of clients' personal data, past purchases, and loyalty status.

Order management: Automate tracking, order confirmations, and email notifications when stock levels drop or loyalty status shifts.

Monitoring Inventories: To ensure timely restocking, send out automated alerts when stock drops below a predetermined level.

Advertising Campaigns: Monitor campaigns and assess their impact on consumer interaction.

Analytics and Reporting: Create dashboards and reports to facilitate more effective decision-making.

❖ Design Data Model and Security Model

The CRM's data organization and access control mechanisms are described in this section. The Security Model ensures that users only view and modify the data necessary for their job, while the Data Model displays the objects and relationships needed to hold business information.

Data Model:

- HandsMen Customer**:** Stores customer details like Name, Email, Phone, Loyalty Status, and Total Purchases.
- HandsMen Product: Holds the product catalog with SKU, Price, and Stock Quantity.
- HandsMen Order: Keeps track of customer orders including Order Number, Status, Quantity, and Total Amount.
- Inventory: Monitors inventory levels for each product.
- Marketing Campaign: Stores information about campaigns and links them to customers.

Relationships and the Relationship Model:

- Lookup relationships are used to link orders to customers.
- Customers and marketing campaigns are linked by lookup relationships.
- Products and inventory have a master-detail connection.
- The many objects can cooperate for reporting and automation thanks to these linkages, which also guarantee data integrity.

Security Model:

- Profiles**:** Set the basic permissions for users (like the Platform 1 profile for general users).
- Roles**:** Create a hierarchy for Sales, Inventory, Marketing, and Management teams.

- Permission Sets: Give specific users additional permissions for certain actions like creating or editing records.
- Sharing Rules: Make sure records are shared appropriately based on department and who's responsible for what.

❖ **Stakeholders Mapping**

- CEO/Management**:** Makes sure the project aligns with the overall business strategy.
- Sales Team: Uses the CRM to manage orders and keep track of customer interactions.
- Inventory Team**:** Watches stock levels and responds to alerts.
- Marketing Team: Tracks campaigns and promotions to boost customer engagement.
- IT/Admin Team: Keeps the system running, sets up automation, and makes sure data stays accurate.
- End Users: Sales and operations staff who use the CRM every day.

❖ **Execution RoadMap (Step-by-Step)**

❖ **Phase 1: Requirements gathering and analysis**

Collect information about business requirements, what users need, and current challenges.

❖ **Phase 2: Design of data model, security model, and stakeholder mapping**

Define objects, relationships, roles, profiles, and permissions.

❖ **Phase 3: Salesforce development**

Build custom objects, fields, validation rules, automation flows, triggers, and email alerts.

❖ **Phase 4: Testing and quality assurance**

Do unit testing, system testing, and performance testing to make sure everything works correctly and reliably.

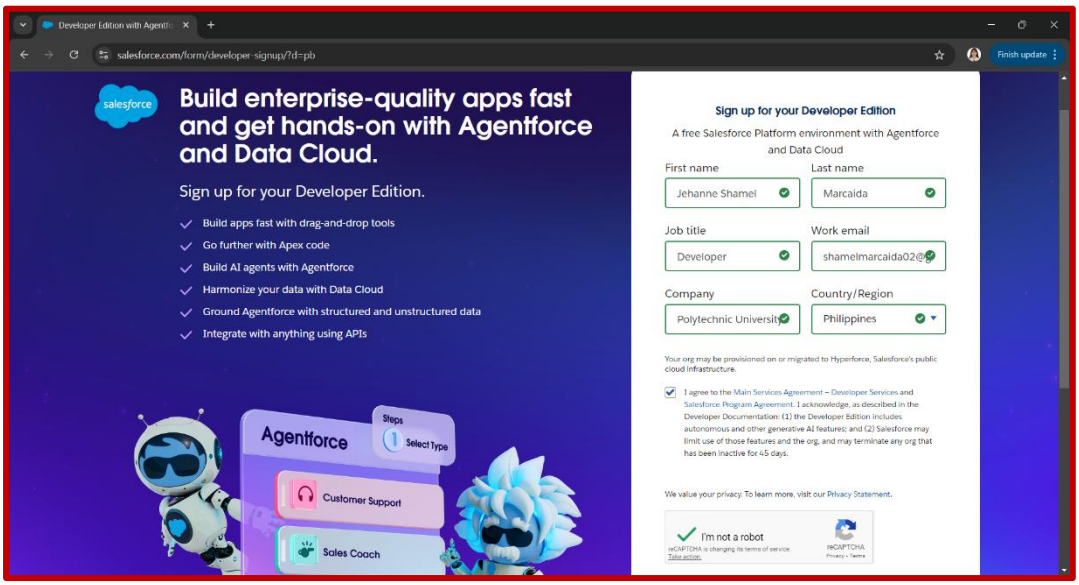
❖ **Phase 5: Deployment to production**

Launch the system, train users, and provide support after going live to ensure smooth adoption.

II. Phase 2: Salesforce Development – Backend & Configuration

❖ Setup environment & DevOps workflow

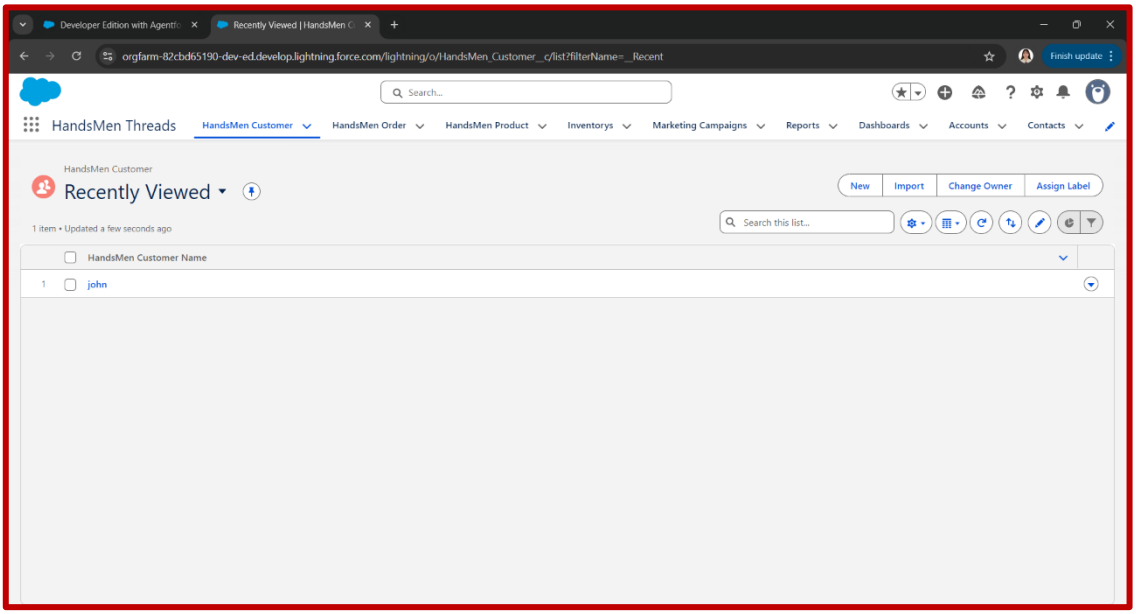
We created a Salesforce Developer Org through https://developer.salesforce.com/signup, which serves as the main development environment. This web-based workspace lets us do all the backend configuration, testing, and automation safely before deploying to production, which supports a good DevOps workflow.



❖ Custom Objects and Fields

Custom objects were designed to manage important business data efficiently. Each object has the fields needed to capture critical information.

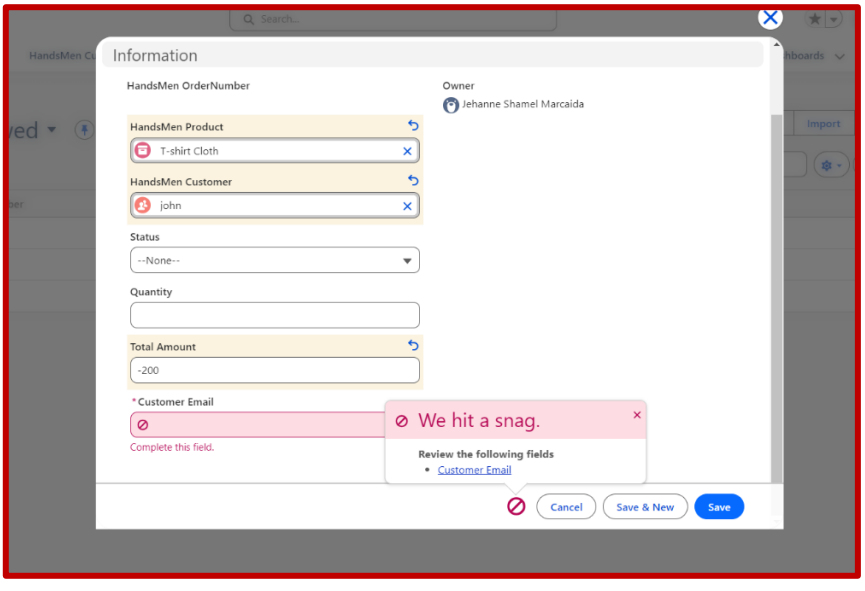
- **HandsMen Customer** – retains client data, including name, phone number, email address, and loyalty status.
- **HandsMen Order** – Records order details such as order number, status, quantity, and total amount.
- **HandsMen Product** – keeps track of the SKU, price, and stock amount in the product catalog.
- **Inventory** – Allows for proactive refilling by keeping track of stock levels.
- **Marketing Campaign** – Stores campaign information, promotions, and links to customers.



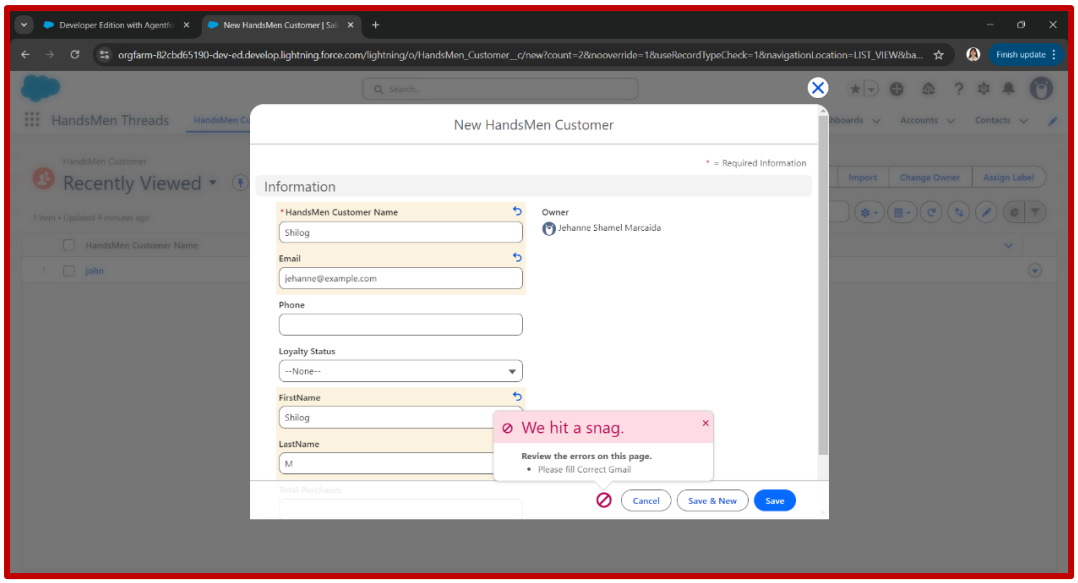
❖ Validation Rules

The HandsMen Threads project used validation rules to guarantee data integrity and stop inaccurate entries. The following guidelines were used:

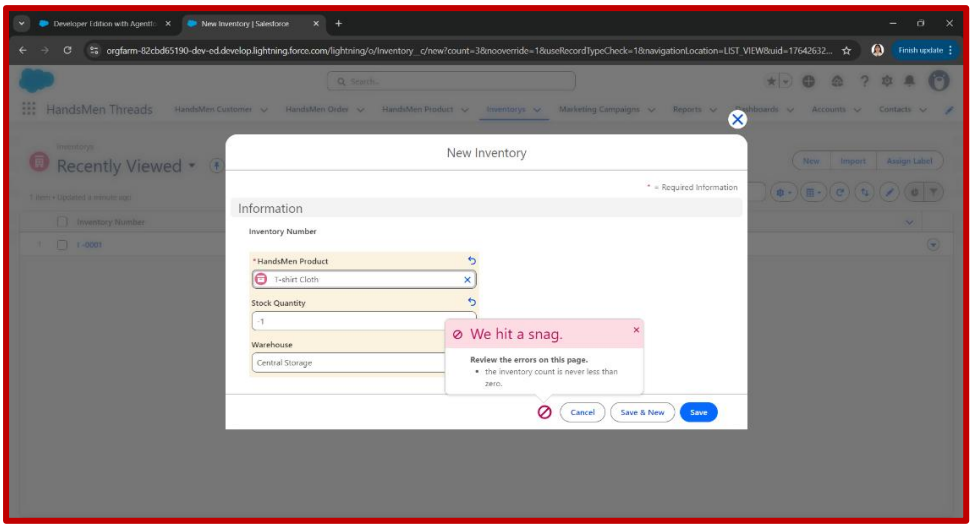
1. **HandsMen Order – Total Amount Validation**
   - Rule Name: Total_Amount
   - Error Condition Formula: Total_Amount__c <= 0
   - Error Message: Please Enter Correct Amount
   - Purpose: Makes sure the total amount of an order can't be zero or negative.



2. **HandsMen Customer – Email Validation**
   - Rule Name: Email
   - Error Condition Formula: NOT(CONTAINS(Email__c,"@gmail.com"))
   - Error Message: Please fill Correct Gmail
   - Purpose: Ensures customer email addresses contain "@gmail.com".



3. Inventory – Stock Quantity Validation
   - Rule Name: Stock_Quantity
   - Error Condition Formula: Stock_Quantity__c <= 0
   - Error Message: The inventory count is never less than zero.
   - Purpose: Prevents negative or zero stock quantities in the inventory system.



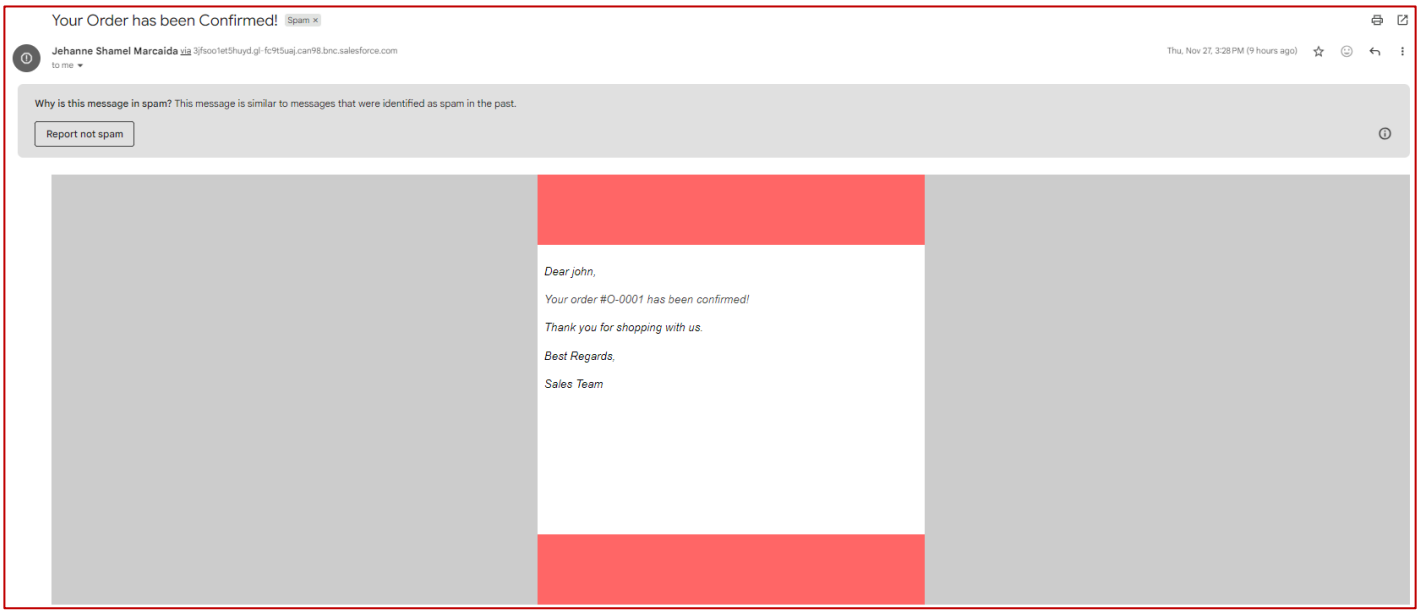
❖ Automation

The HandsMen Threads project used the following automation elements to increase productivity, decrease manual labor, and streamline corporate processes:

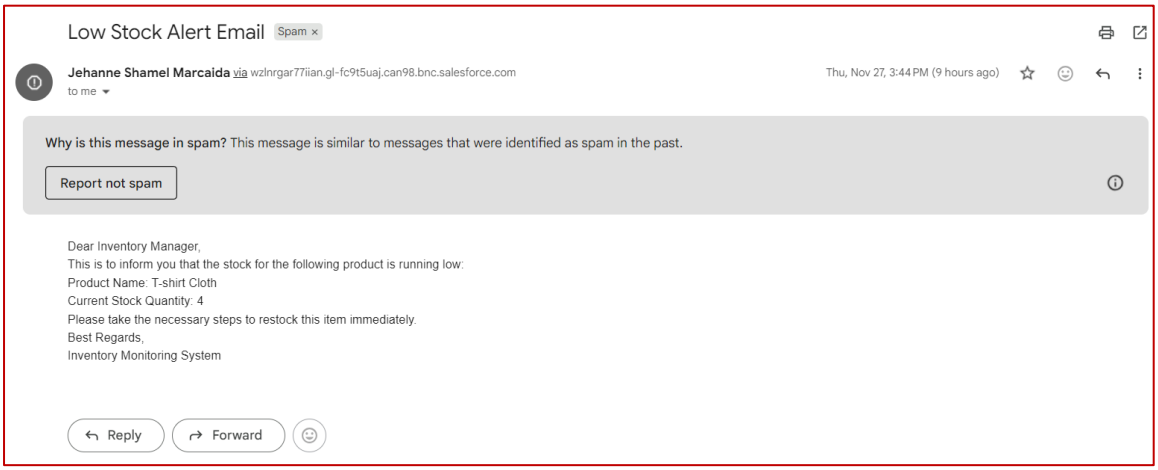
- **Order Confirmation Email** – automatically notifies clients via email with the creation of a new order.
- **Low-Stock Alerts** – Triggers an email notification to the warehouse when inventory falls below a defined threshold.
- **Loyalty Status Update** – Automatically modifies a customer's loyalty status and points according to their past purchases and the overall amount they have made.
- **Scheduled Bulk Updates** – Runs daily to update financial records, inventory levels, and customer loyalty points.

❖ Automation

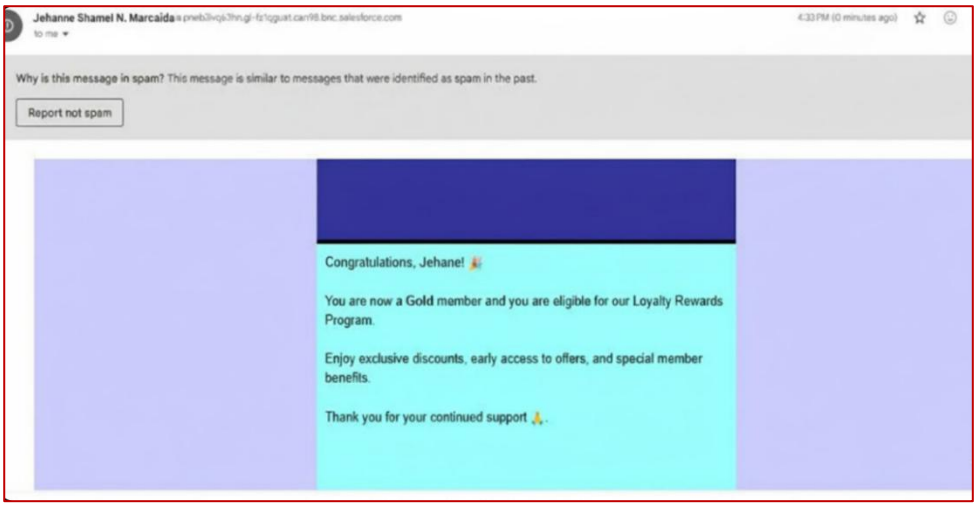
1. Order Confirmation Email



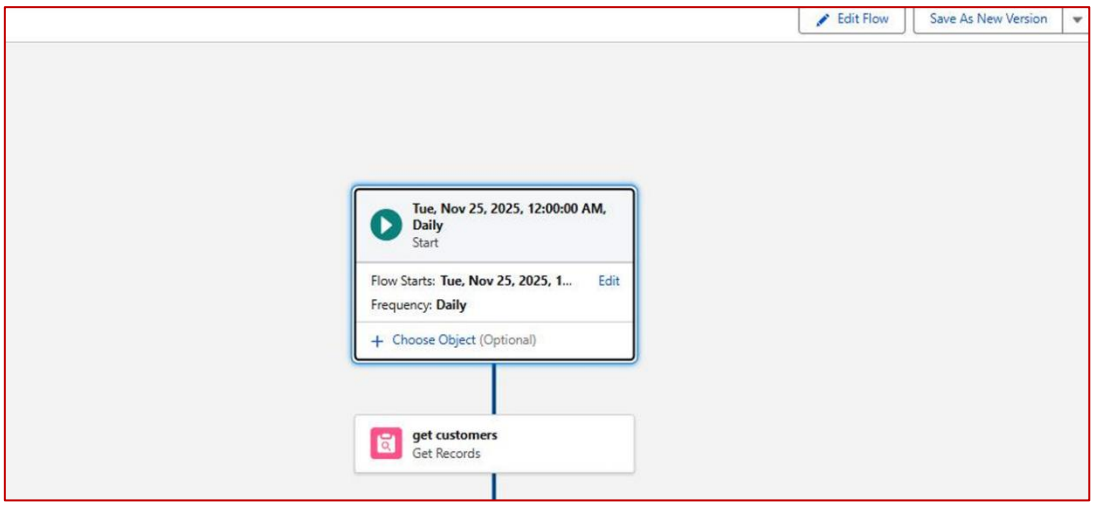
2. Low Stock Alert



3. Loyalty Status Update

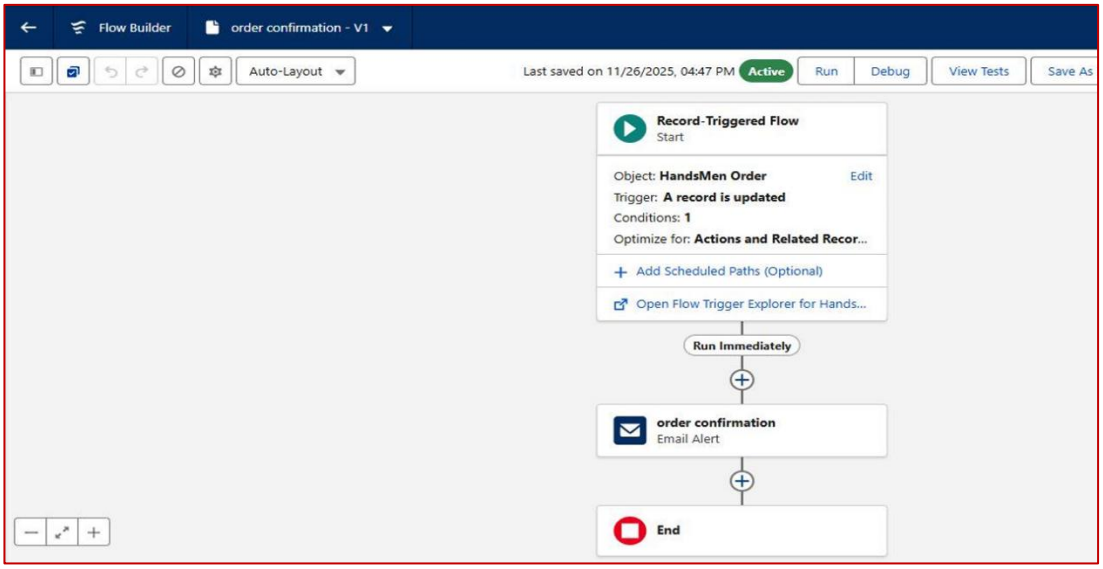


4. Scheduled Bulk Updates

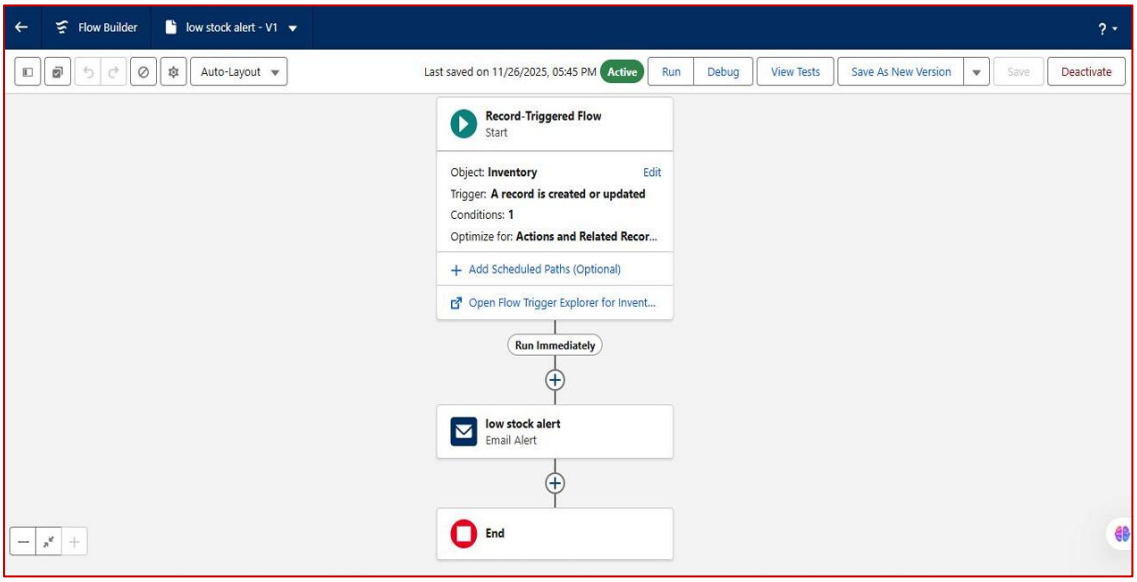


❖ Screenshots of Automation Implementation in Flow

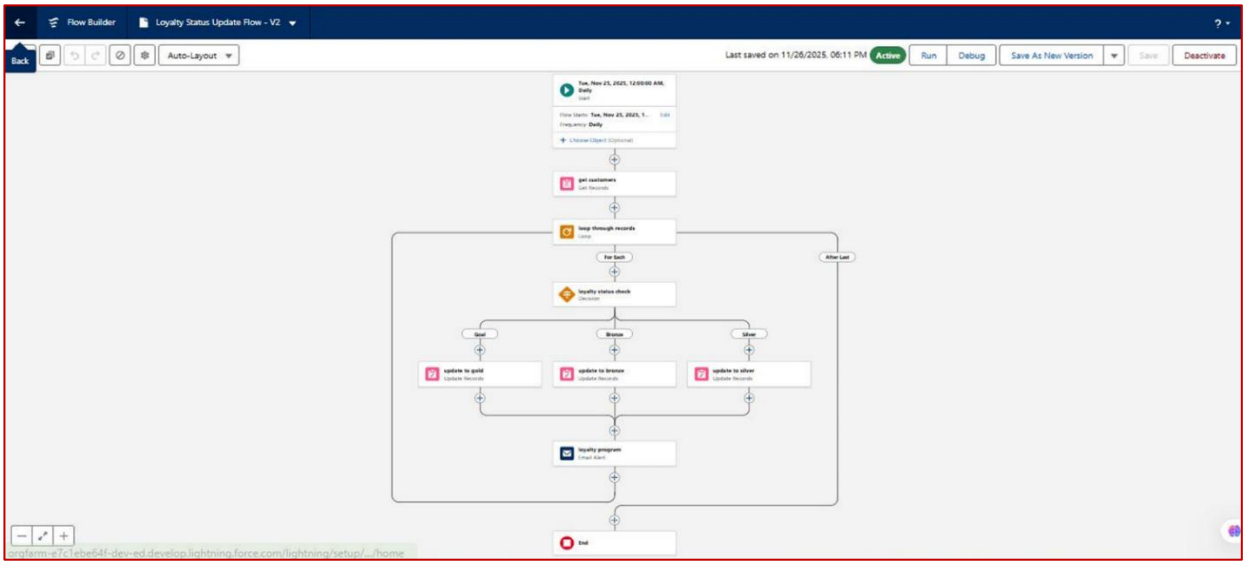
1. Order Confirmation



2. Low Stock Alert



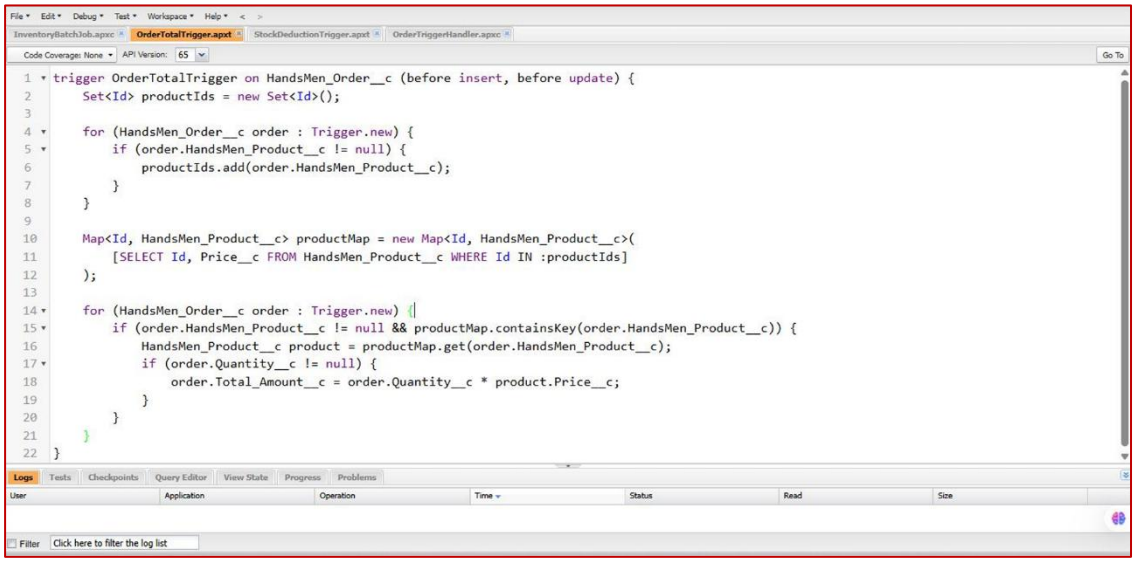
3. & 4. Loyalty Status Update and Scheduled Bulk Update



❖ ApexClasses, Triggers,AsynchronousApex Classes Apex Triggers

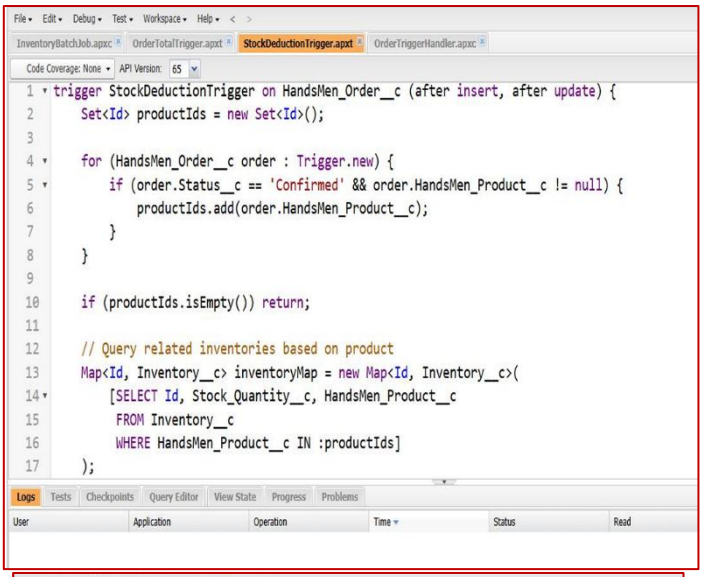
OrderTotalTrigger

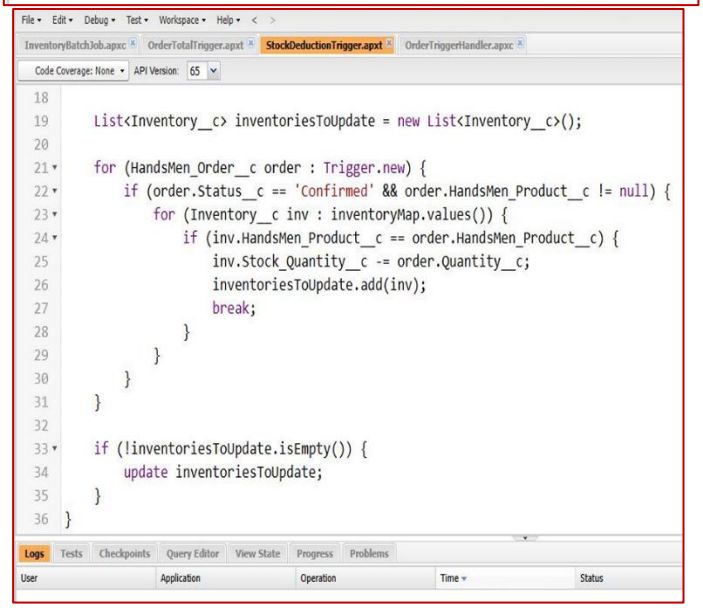
- Object: HandsMen_Order__c
- Event: Before insert, before update
- Purpose: Calculates Total_Amount__c for an order automatically.
- Logic:
    - Multiplies order Quantity__c by HandsMen_Product__c.Price__c
    - Ensures accurate order totals before saving the record.Type: Synchronous trigger (runs right away before the record is saved.)



StockDeductionTrigger

- Object: HandsMen_Order__c
- Event: After insert, after update
- Purpose: Deducts the ordered quantity from inventory after order confirmation.
- Logic:
    - Checks if order Status__c = Confirmed
    - Reduces Stock_Quantity__c of the related product in Inventory__c
- Type: Synchronous trigger (runs immediately after record is saved, but could affect related records)





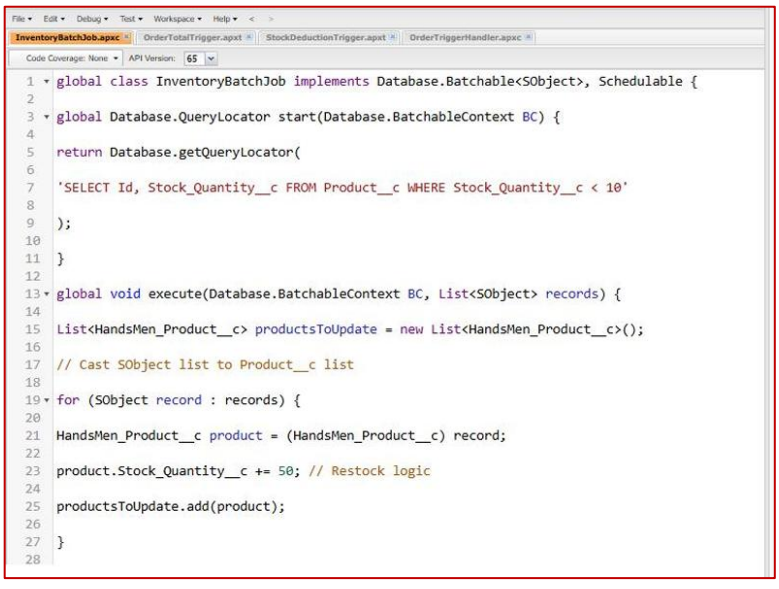
❖ Apex Classes

OrderTriggerHandler

- Purpose: Validates order quantities based on the order status before insert or update.
- Rules enforced:
  - Confirmed → Quantity must be greater than 500
  - Pending → Quantity must be greater than 200
  - Rejection → Quantity must be equal to 0
- Called by: OrderTrigger
- Type: Synchronous Apex (runs immediately during record save)

InventoryBatchJob

- Purpose: Automatically restocks products with low inventory and can be scheduled to run daily
- Properties:
  - Implements Database.Batchable<SObject> → handles large volumes of records efficiently.
  - Implements Schedulable → can run on a schedule automatically.
  - start() → Selects products with stock < 10.
  - execute() → Adds 50 units to low-stock products.
  - finish() → Logs completion.
  - execute(SchedulableContext SC) → Schedules the batch job.
- Type: Asynchronous Apex (runs in background, scheduled or batch)



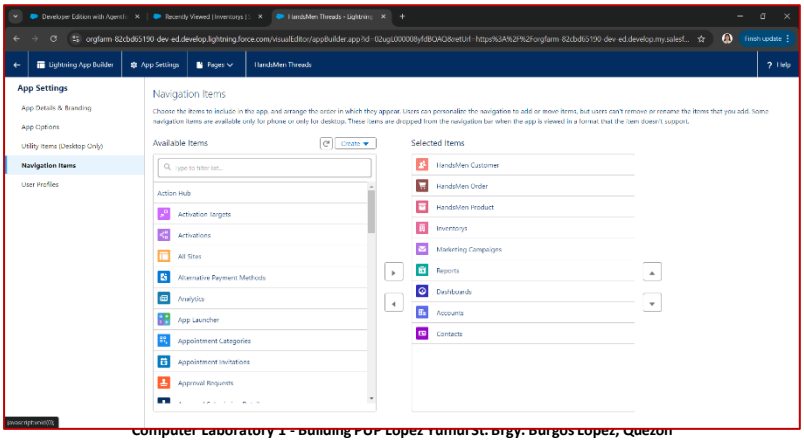
```
global class InventoryBatchJob implements Database.Batchable<SObject>, Schedulable {

global Database.QueryLocator start(Database.BatchableContext BC) {

return Database.getQueryLocator(

'SELECT Id, Stock_Quantity__c FROM Product__c WHERE Stock_Quantity__c < 10'

);

}

global void execute(Database.BatchableContext BC, List<SObject> records) {

List<HandsMen_Product__c> productsToUpdate = new List<HandsMen_Product__c>();

// Cast SObject list to Product__c list

for (SObject record : records) {

HandsMen_Product__c product = (HandsMen_Product__c) record;

product.Stock_Quantity__c += 50; // Restock logic

productsToUpdate.add(product);

}
```

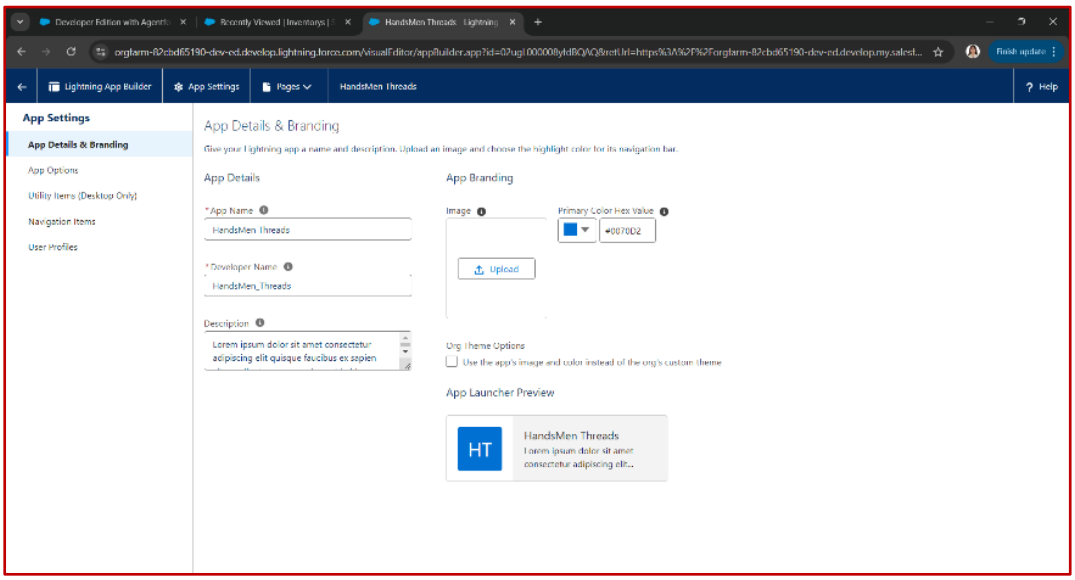
```
28
29  if (!productsToUpdate.isEmpty()) {
30
31  try {
32
33  update productsToUpdate;
34
35  } catch (DmlException e) {
36
37  System.debug('Error updating inventory: ' + e.getMessage());
38
39  }
40
41  }
42
43  }
44
45  global void finish(Database.BatchableContext BC) {
46
47  System.debug('Inventory Sync Completed');
48
49  }
50
51  // Scheduler Method
52
53  global void execute(SchedulableContext SC) {
54
55  InventoryBatchJob batchJob = new InventoryBatchJob();
56
57  Database.executeBatch(batchJob, 200);
58
59  }
```

III. Phase 3: UI/UX Development & Customization

❖ Lightning App setup through App Manager.

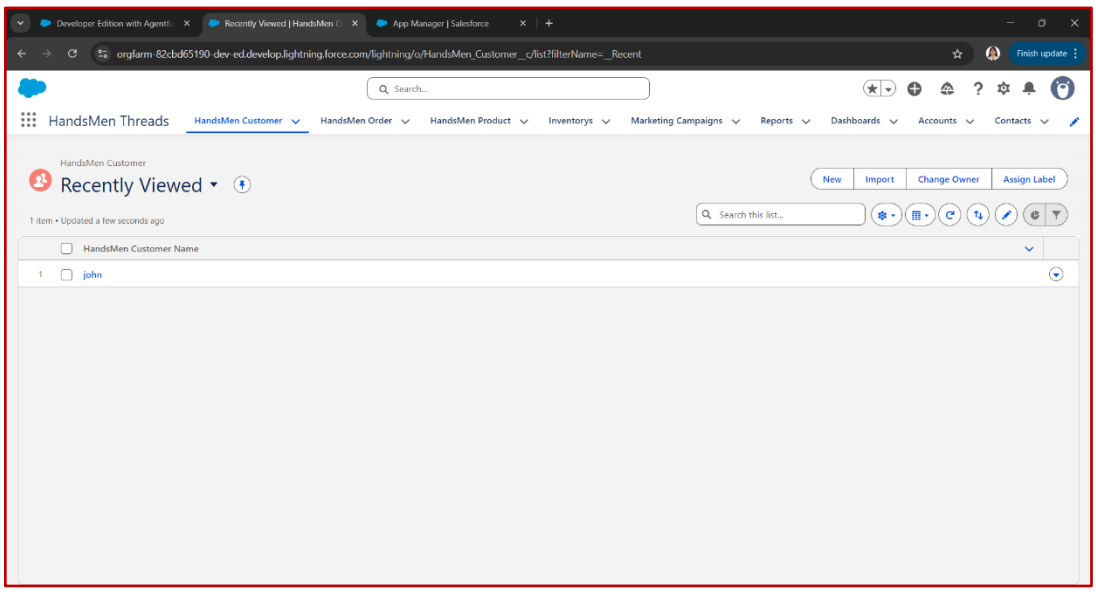
A specific Lightning application called "HandsMen" is part of the HandsMen Threads project. The Salesforce App Manager was used to build and implement "Threads." This application offers consolidated access to all essential CRM elements, such as HandsMen Customer, Inventory, Marketing Campaigns, Reports, HandsMen Order, HandsMen Product, Dashboards, Accounts, and Contacts, guaranteeing smooth operation and navigation effectiveness. Additionally, the application was linked to the System Administrator profile in order to offer complete management and access, enabling administrators to effectively control automation, objects, and other app elements

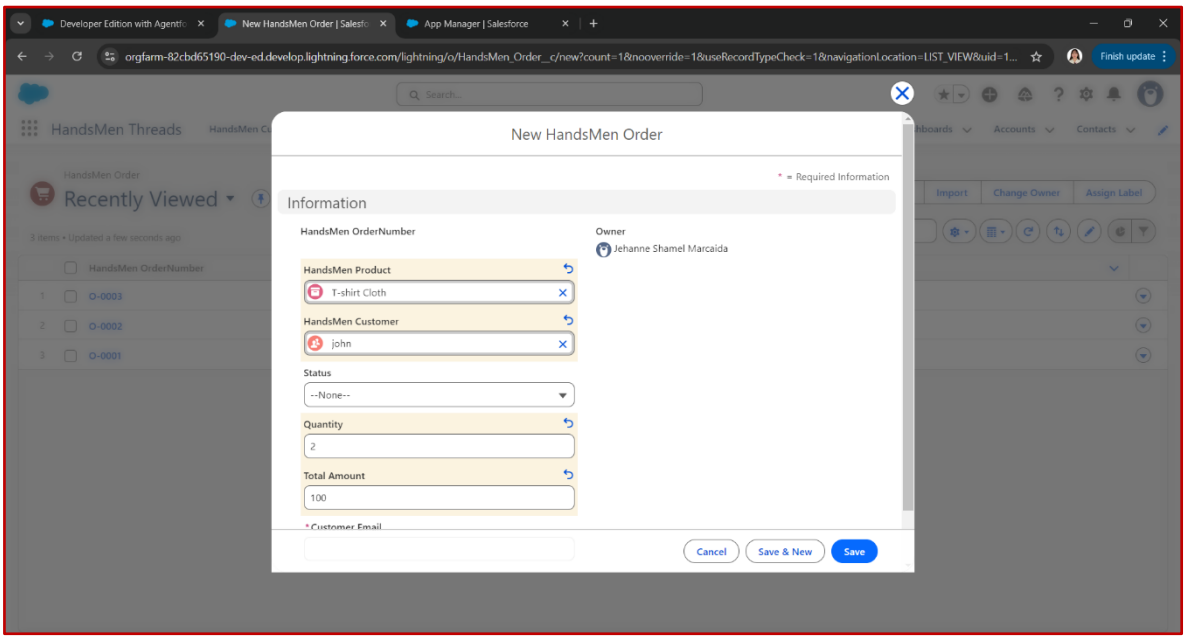




❖ PageLayouts, Dynamic Forms

Page layouts in the HandsMen Threads App control how data is presented on the pages of records. For instance, fields are arranged in the New HandsMen Order page style. such as product, quantity, and total for simple input. This is improved by dynamic forms by enhancing usability by displaying or concealing sections or features according on order specifics and effectiveness.



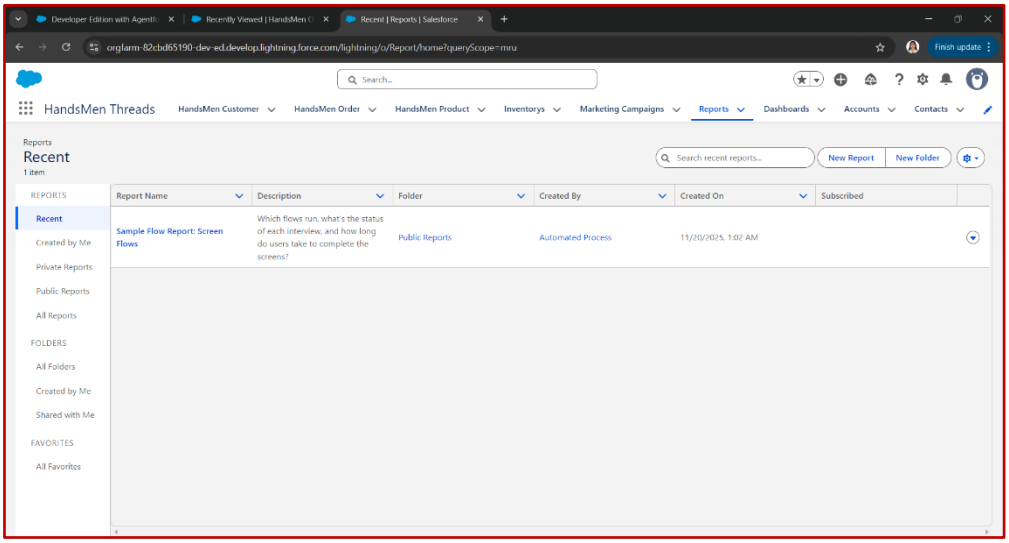


❖ User Management

Salesforce roles, authorization sets, and profiles are used by the HandsMen Threads CRM to regulate user access and specify the actions that each user is permitted to take. Users are allocated positions according to their duties: Sales handles client orders, pursues leads, and keeps track of interactions; inventory updates quantities, keeps an eye on stock levels, and manages replenishments; marketing organizes and monitors campaigns, evaluates consumer interaction, and manages promotions; Management monitors overall operations, generates reports, and guarantees the performance of the team. Baseline permissions are determined by profiles, but permission sets provide additional access as needed. This organized configuration guarantees that users can only pertinent data, upholds system security, and facilitates effective processes between departments.

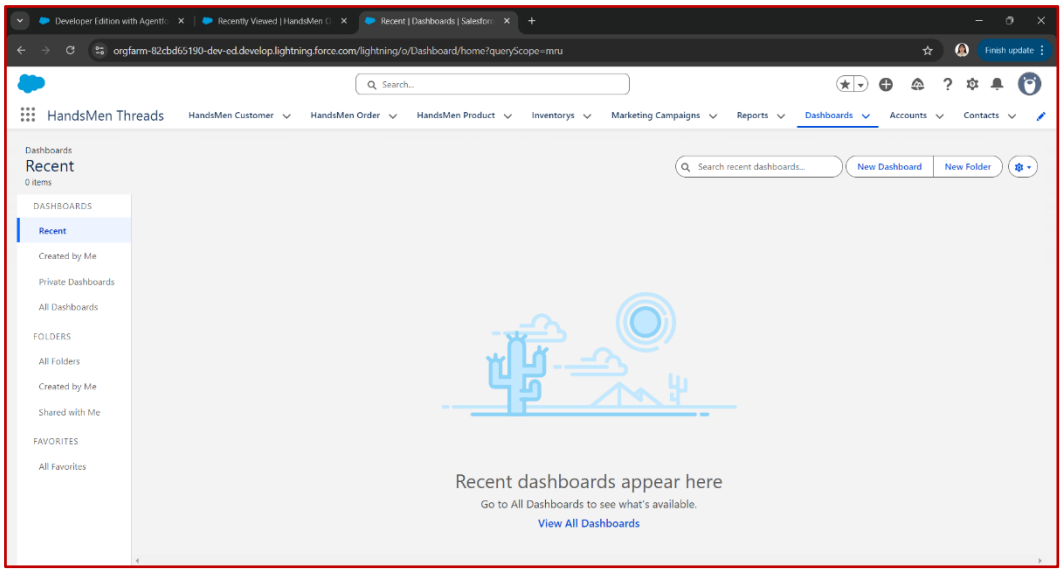
❖ Reports and Dashboard

Reports in the HandsMen Threads CRM include comprehensive information about orders, clients, inventory, and advertising campaigns. They enable users to organize, filter, and condense data for analysis, performance and make wise choices. The structured report view is displayed in the screenshot with arranged summary and tables



❖ Dashboard

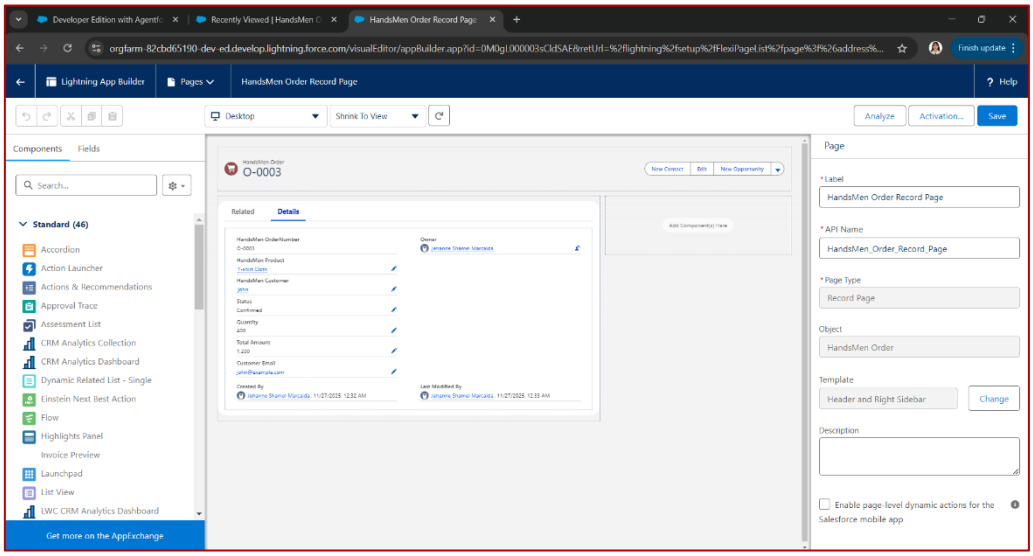
Dashboards offer a graphic depiction of important business indicators, such as overall sales, low-stock items, and interaction with customers. Using graphs, charts, and KPIs, they provide management with a brief summary. The dashboard structure is seen in the screenshot, which instantly highlights key performance metrics.



❖ LWC Development

Lightning Pages

The Lightning App Builder was used to customize the HandsMen Threads Lightning Page. Utilizing tab sections, fields, and components to enhance the user experience. The arrangement contains important tabs such as Related for related data and Details for core record information. orders, goods, or activities, for example. The page makes use of the Components and Fields panels was set up to guarantee easy navigation and rapid access to crucial CRM data.



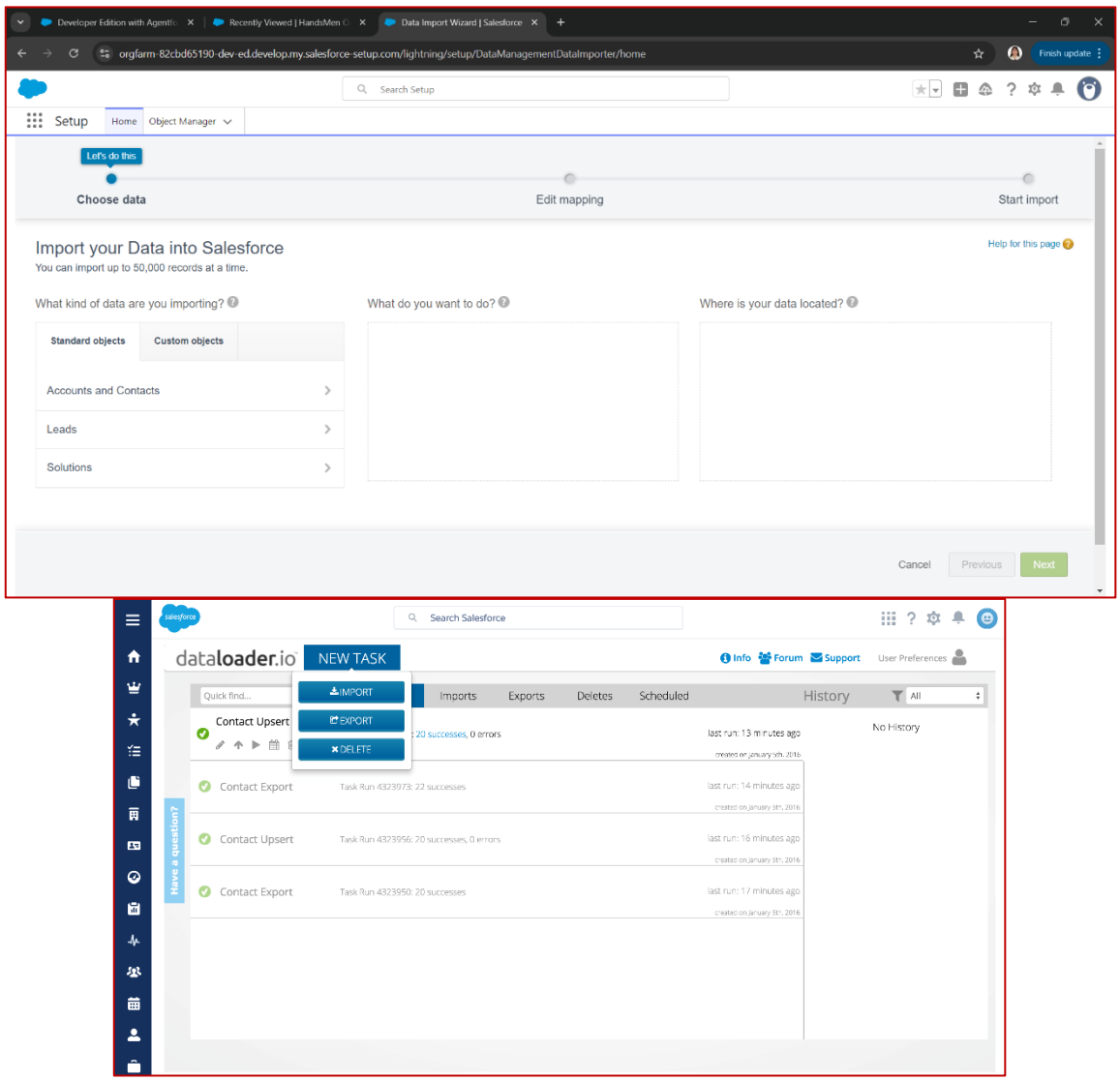
IV. Phase IV: Data Migration, Testing & Security

❖ DataLoading Process

The HandsMen Threads CRM used Salesforce Data Import Wizard and Data Loader to upload initial datasets such as customer records, product lists, and inventory levels.

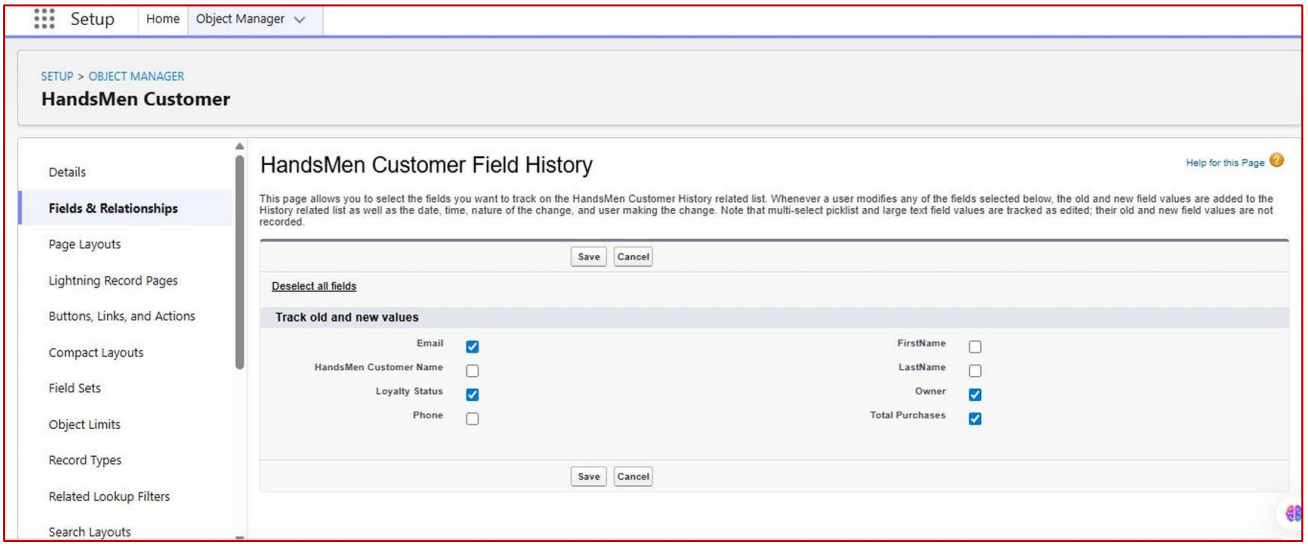
i. **Data Import Wizard** was used for small to medium data uploads directly from the Salesforce UI.

ii. **Data Loader** was used for larger datasets, allowing bulk insert, update, and upsert operations.



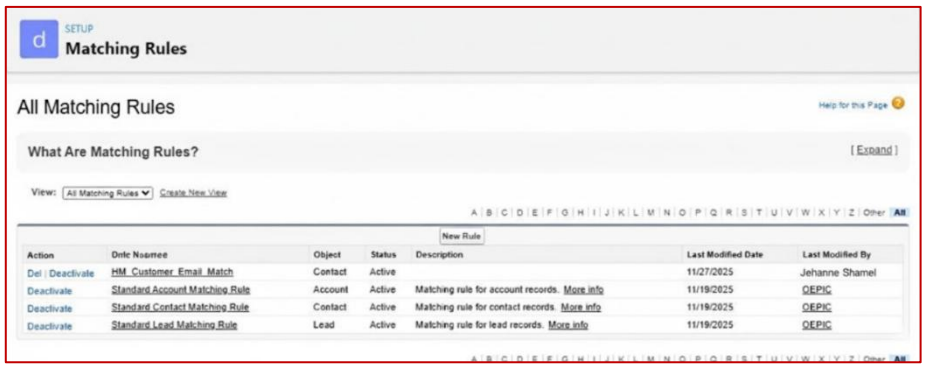
❖ Field History Tracking

Field History Tracking was turned on to keep an eye on significant data changes in the system. Important information like Owner, Total Purchase, Loyalty Status, and Email were chosen in order for the project to document who updated and when it happened. This promotes data audits, guarantees openness, and aids in maintaining precise documentation.



❖ Matching Rules

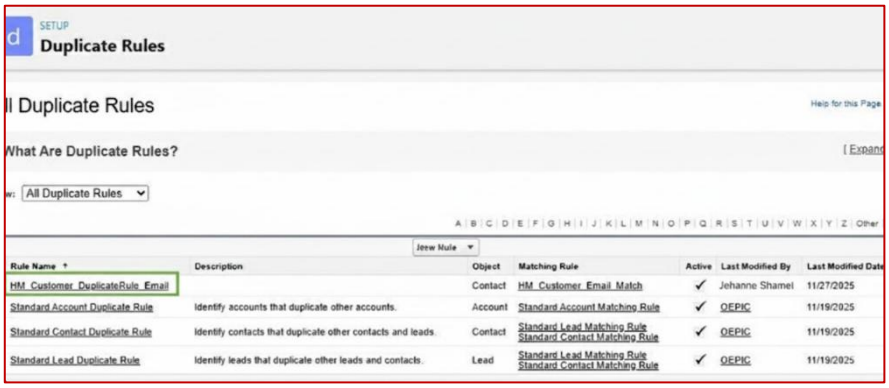
The purpose of the HM Customer Email Matching Rule is to determine the HandsMen Threads CRM compares potential duplicate customer records using the Exact Match method based on the email field. Salesforce determines whether a customer record has already been created or updated and shares the same email address. This enhances data accuracy, avoids redundancy, and guarantees accurate client information for sales, marketing, and support.



❖ Duplicate Rule

The HandsMen Threads CRM employs a Duplicate Rule (HM_Customer_DuplicateRule_Email) to stop users from adding duplicate contacts based on email addresses. This rule is linked to a Matching Rule (HM_Customer_Email_Match), which verifies exact email matches. If someone tries to create or update a contact with an email already in the system, they receive a prompt saying: “Use one of these records?” This mechanism

safeguards data integrity, eliminates duplicate entries, and keeps customer records organized and accurate within the CRM.



❖ Profiles, Roles and Role Hierarchy, Permission sets, Sharing Rules

Profiles

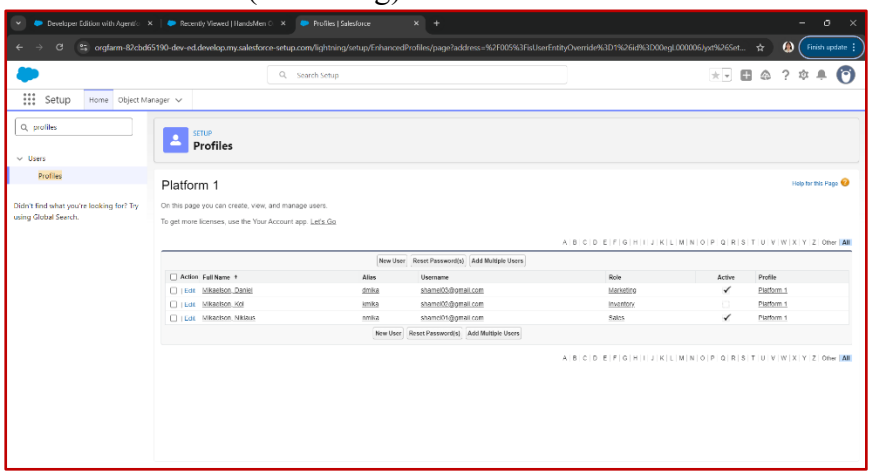
Profiles in Salesforce define the permissions a user has, including access to objects, fields, and system features. Each user is assigned a profile that determines what actions they can perform.

In this project:

- **Profile Used**: Platform 1 (cloned from Standard User)
- **Permissions Granted**: Full access (Read, Create, Edit, Delete) for HandsMen Customer, HandsMen Product, HandsMen Order, Inventory, and Marketing Campaign objects.

Assigned Users:

- Niklaus Mikaelson (Sales)
- Kol Mikaelson (Inventory)
- Daniel Mikaelson (Marketing)



Roles and Hierarchy

Roles govern data visibility according to hierarchy and specify a user's place in the organizational structure. Records owned by users below them are accessible to people higher in the hierarchy.

In this project:

Sales Role:

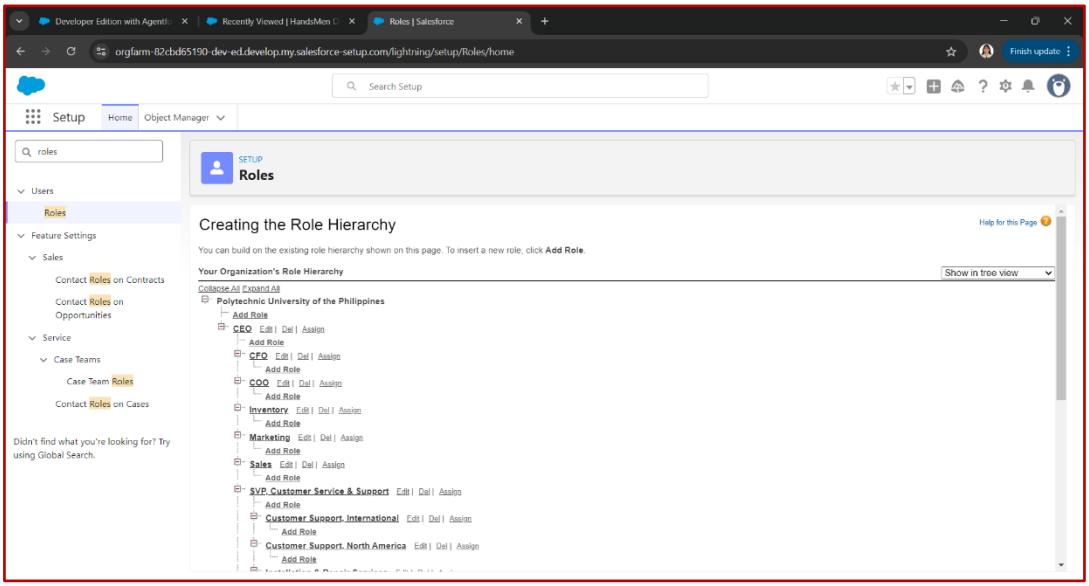
a. User: Niklaus Mikaelson
b. Reports To:CEO
c. Purpose: Manages sales operations and monitors subordinate records.

Inventory Role:

a. User: Kol Mikaelson
b. Reports To:CEO
c. Purpose: Oversees inventory and stock management.

Marketing Role:

a. User: Daniel Mikaelson
b. Reports To:CEO
c. Purpose: Handles marketing campaigns and customer engagement



Permission Sets

Permission sets extend the access provided by a user's profile, enabling certain individuals to perform additional tasks without altering their main profile settings.

Project Details:

- Set Name: Permission_Platform_1

- Access Granted: Complete permissions for the *HandsMen Customer* and *HandsMen Order* objects
- Assigned Users: Niklaus Mikaelson, Kol Mikaelson, Daniel Mikaelson

Sharing Rules

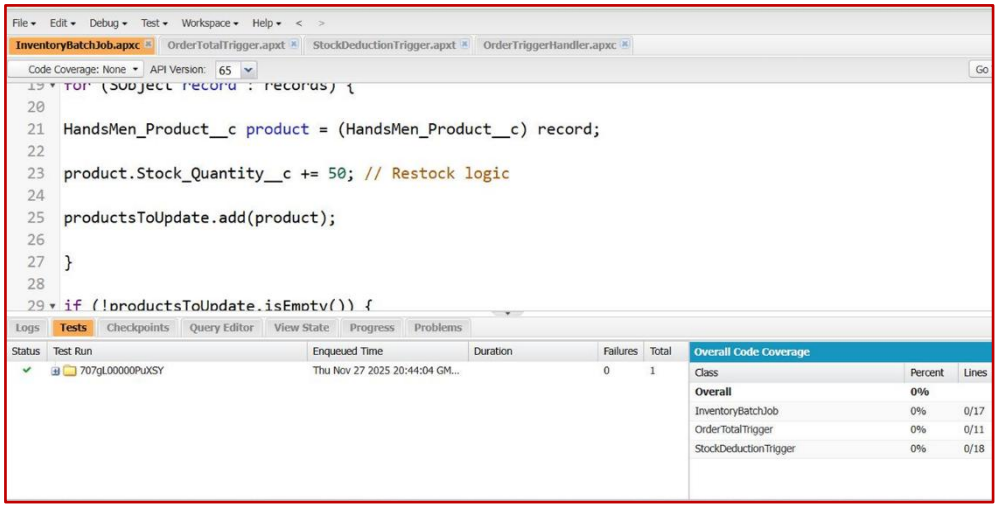
Sharing rules define how records are distributed among users, roles, or groups. They make sure the right people can view the necessary information without being given unrestricted system access.

Project Details:

- Rule: Orders created by Sales users are shared with Marketing to support joint campaign efforts
- Purpose: Guarantees appropriate record visibility to improve operational efficiency

Creation of Test Classes

In HandsMen Threads CRM, test classes are used to verify the functionality of all Apex code, triggers, and batch processes. They replicate real-world scenarios—such as placing orders, updating inventory, and sending automated emails—to ensure the business logic behaves correctly. Assertions are applied to confirm that actual results align with expected outcomes, helping identify issues before release. Executing these test classes also guarantees that Salesforce code coverage meets the required 75% threshold for deployment to production.



V. Phase 5: Deployment, Documentation & Maintenance

- **Deployment Strategy (Change Sets and Alternatives)**

  The HandsMen Threads CRM is deployed from the Salesforce Developer Org to the Production environment primarily through Change Sets. This method enables developers and administrators to package and transfer selected components—such as custom objects, fields, validation rules, Apex classes, triggers, flows, and Lightning Pages—in a controlled way. By including all dependencies, Change Sets help prevent errors during deployment.

  For larger or more complex deployments, tools like the Salesforce CLI or the Metadata API may be used, offering greater flexibility and precision in managing components. Before any deployment, all elements are rigorously tested in a sandbox or developer environment to confirm proper functionality and to ensure that existing processes remain unaffected

- **System Maintenance and Monitoring**

  Once the system is live, it must be actively managed to keep operations running smoothly and data reliable. The IT/Admin team takes charge of monitoring overall performance, keeping an eye on automated processes such as order confirmations, inventory alerts, and scheduled batch jobs, while also ensuring that dashboards and reports reflect accurate information. Regular checks of user activity and system logs help spot unusual patterns, errors, or possible security concerns early. Maintenance tasks include adjusting user roles and profiles, reviewing sharing rules, and validating records for customers, orders, and inventory. To safeguard against data loss, backups are scheduled routinely, providing a safety net for quick recovery if unexpected issues arise.

- **Troubleshooting Documentation**

  Clear documentation plays a vital role in ongoing system maintenance. A dedicated troubleshooting guide is kept to outline step-by-step solutions for frequent issues, including trigger errors, failed flows, validation problems, and incorrect data entries. To investigate and diagnose these problems, administrators rely on tools such as the Developer Console, Debug Logs, and System Audit Trails. Each incident is carefully reviewed to determine its root cause, and corrective measures are recorded for future use. This structured approach allows errors to be resolved quickly while ensuring that lessons learned contribute to greater system stability. In addition, the documentation serves as a shared knowledge base, enabling administrators and developers especially new team members to gain a clear understanding of the system's configuration, processes, and automation logic.

- **Conclusion**

The HandsMen Threads CRM initiative delivers a centralized platform that unifies business and customer information, streamlining the management of sales, products, orders, inventory, and marketing activities. By incorporating automation, Apex triggers, validation rules, and batch processes, the system minimizes manual errors, safeguards data accuracy, and boosts overall efficiency. Key features such as automated order confirmations, loyalty program updates, and proactive inventory alerts not only improve customer engagement but also provide valuable support for informed business decisions.

With Salesforce capabilities—including Lightning Apps, Page Layouts, Dynamic Forms, Reports, Dashboards, and role-based access through profiles and permission sets—the CRM ensures secure workflows and smooth collaboration across teams. Rigorous testing, structured deployment practices, and ongoing monitoring further reinforce system reliability and scalability.

In essence, HandsMen Threads CRM equips the organization with a robust, secure, and scalable solution that enhances productivity, strengthens customer relationships, and lays the foundation for sustainable growth.

Future Enhancements

1) **AI-Driven Product Suggestions** – Leverage customer purchase history and preferences to deliver tailored product recommendations, increasing upsell and cross-sell opportunities.
2) **Chatbot Integration with Salesforce** – Offer round-the-clock automated support for order tracking, FAQs, and customer inquiries, reducing response times and improving service quality.
3) **Predictive Insights & Advanced Reporting** – Apply artificial intelligence to anticipate sales trends, optimize inventory levels, and guide smarter business decisions.
4) **Next-Level Marketing Automation** – Launch personalized email campaigns and targeted promotions automatically, enhancing customer engagement and loyalty.
5) **Mobile CRM Access** – Provide a mobile-friendly interface so users can manage orders, inventory, and customer data anytime, anywhere.
6) **Advanced Analytics -** Integration of AI-powered forecasting dashboards.