WhatNext Vision Motors: Shaping the Future of Mobility with Innovation and Excellence

A Salesforce CRM Project Documentation

Project Overview
WhatNext Vision Motors is a Salesforce-based dealership management system designed to help automotive businesses organize their operations. It allows users to manage vehicle inventory, customer information, and vehicle orders in one centralized platform. By using Salesforce's automation and CRM tools, the system makes order processing faster, reduces manual work, and improves customer service. The goal is to provide a more efficient, accurate, and user-friendly way for dealerships to handle their daily tasks.

Abstract
This project focuses on improving how WhatsNext Vision Motors manages customers, vehicle inventory, and orders using Salesforce. The system organizes critical data—including vehicles, dealers, and customer information—into a clear and connected structure. Salesforce automation tools, such as record-triggered flows, batch Apex, and Apex triggers, ensure that processes are faster, accurate, and reliable.

Key features include:

- Preventing customers from ordering vehicles that are out of stock.
- Automatically assigning orders to the nearest dealer based on customer location.
- Updating order statuses to "Pending" or "Confirmed" through scheduled batch processes.
- Sending automated email notifications for test drives, low inventory, and order updates.

By minimizing manual work, reducing errors, and improving response times, the system enhances customer satisfaction and streamlines dealership operations. Overall, this Salesforce-powered CRM provides a modern, organized, and efficient workflow for WhatsNext Vision Motors.

General Objective
To develop a Salesforce-based dealership management system that helps WhatNext Vision Motors organize vehicle records, customer information, and vehicle orders in a faster and more efficient way.

Specific Objectives

- To create a structured Salesforce database for vehicles, customers, and dealers.
- To automate key dealership tasks such as generating order numbers, checking stock, and updating order status.
- To suggest the nearest dealer to customers based on their location for a faster and more convenient ordering experience.
- To allow customers to order only vehicles that are in stock, ensuring clarity and satisfaction.
- To automatically update order status and notify customers and staff via email, keeping everyone informed
- To provide an intuitive interface for staff to easily manage records and reduce manual errors.
- To improve overall efficiency and customer service by streamlining workflows and access to information.

Methodology / Technique Used

Salesforce

Salesforce is a cloud-based CRM platform that helps businesses manage customer information, interactions, and processes efficiently. For this project, it stores and organizes vehicle details, dealer locations, and customer orders. Using automation tools like Flows, Apex triggers, and batch jobs, the system ensures accurate stock tracking and assigns orders to the nearest dealer. This allows WhatsNext Vision Motors to streamline operations and deliver a faster, more convenient experience for customers.

Custom Data Modelling: Created custom objects (Vehicles, Customers, Dealers, Orders, etc) to efficiently track orders, inventory, and dealer assignments for WhatsNext Vision Motors.

- Vehicle
- Vehicle Dealer
- Vehicle Customer
- Vehicle Order
- Vehicle Test Drive
- Vehicle Service Request

Validation Rules: Implemented in the Salesforce interface to ensure accurate and consistent data entry. These rules prevent incorrect or incomplete information, such as ordering vehicles that are out of stock or entering invalid customer details.

Flow Builder / Process Automation: Automated key dealership workflows, including order confirmation, stock availability checks, and dealer assignment based on customer location. These flows reduce manual work and ensure smooth, error-free operations.

Email Alerts: Configured to send email notifications to customers one day before their scheduled test drive, ensuring timely reminders. Staff are also alerted about pending orders or low stock as needed. Emails are triggered using record-triggered flows and scheduled flows.

Scheduled Apex Jobs / Scheduled Flows: Set up to perform daily automated tasks such as updating bulk order statuses and checking inventory levels.

Reports & Dashboards: Visual tools created to monitor orders, vehicle availability, and customer activity. These dashboards help staff track performance, manage inventory, and make informed business decisions quickly.

Detailed Execution of Project Plan

1. **Developer Account Creation/ Setup**
   Salesforce org was created by the link provided,
   https://developer.salesforce.com/signup

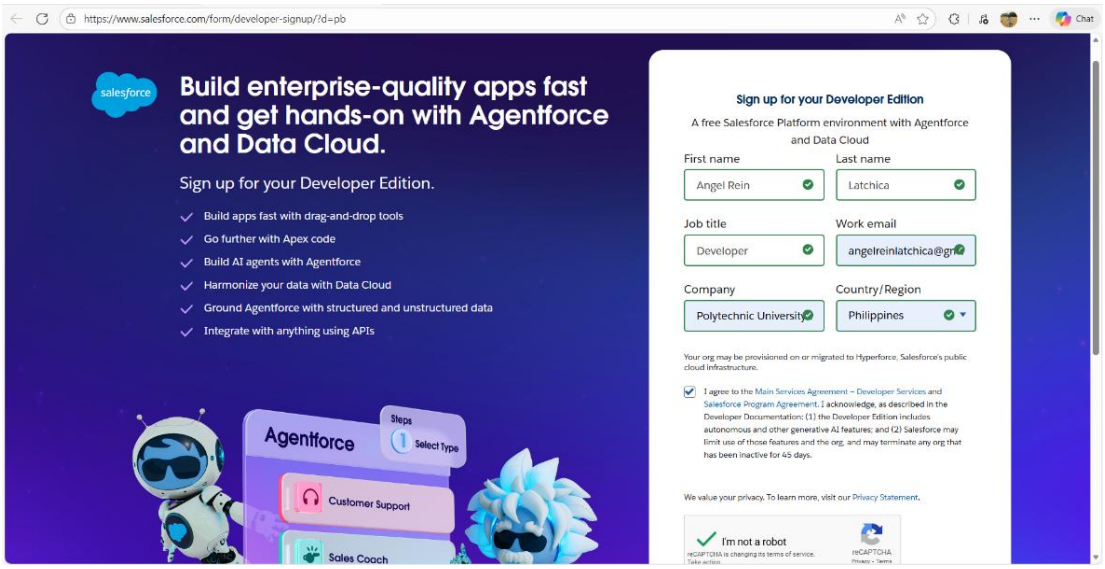

Figure 1: The Sign-up page for Creating Developer Edition Account

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The account was verified by resetting the password, and our Developer Edition Org was successfully created.

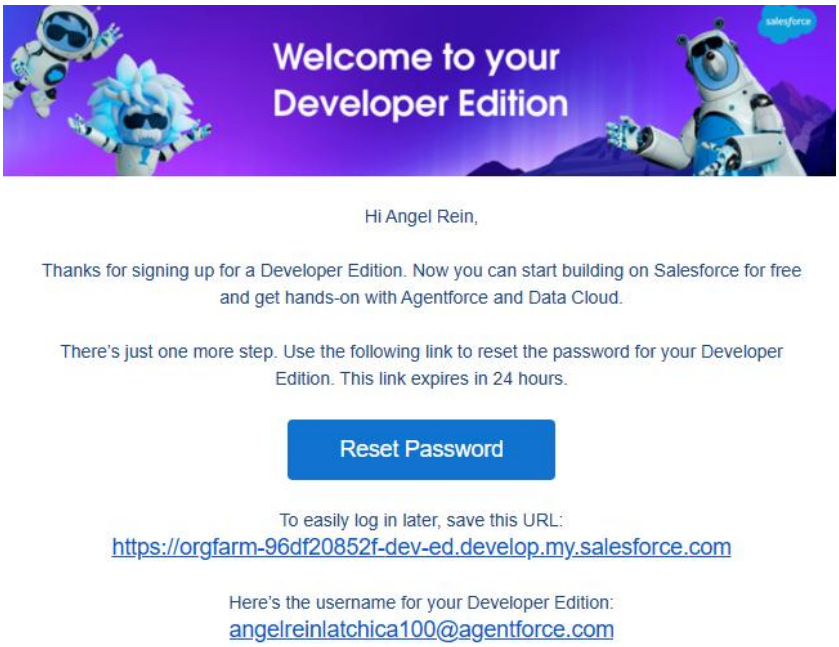

Figure 2: Developer Edition account email message

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2. Data Management Object

We were required to create some custom objects were:

- Vehicle
- Vehicle Dealer
- Vehicle Customer
- Vehicle Order
- Vehicle Test Drive
- Vehicle Service Request

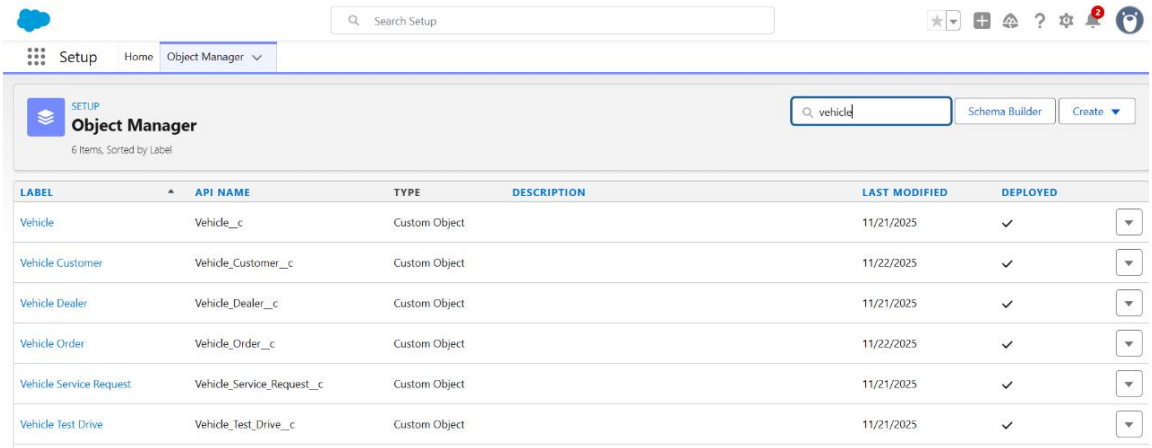

Figure 3: Custom Objects for WhatNext Vision Application

This is created to store all the cars available in the dealership, including the model, price, and stock status.

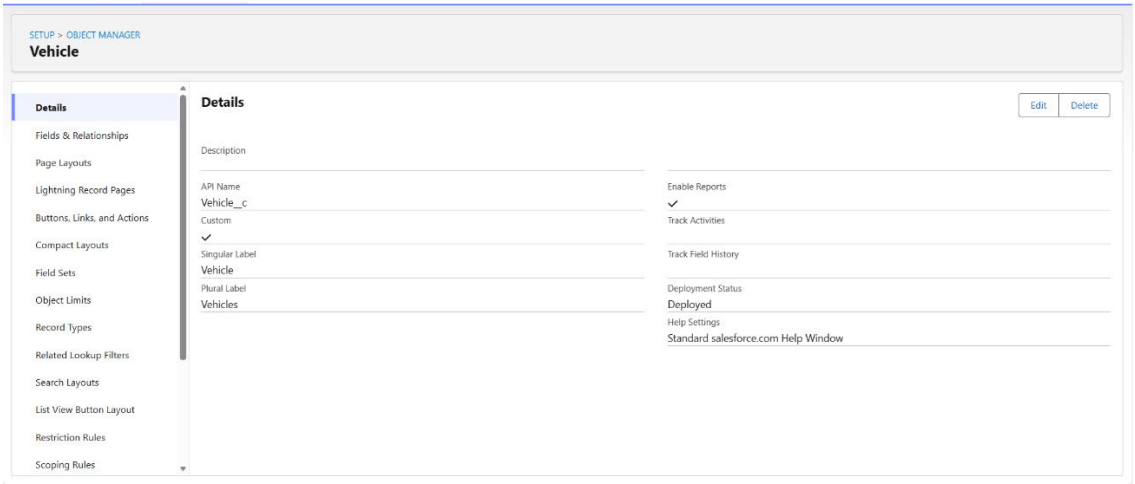

Figure 4: Vehicle Custom Object

This is created to store information about each dealer branch, such as their name and location, so the system can find the nearest dealer for customers.

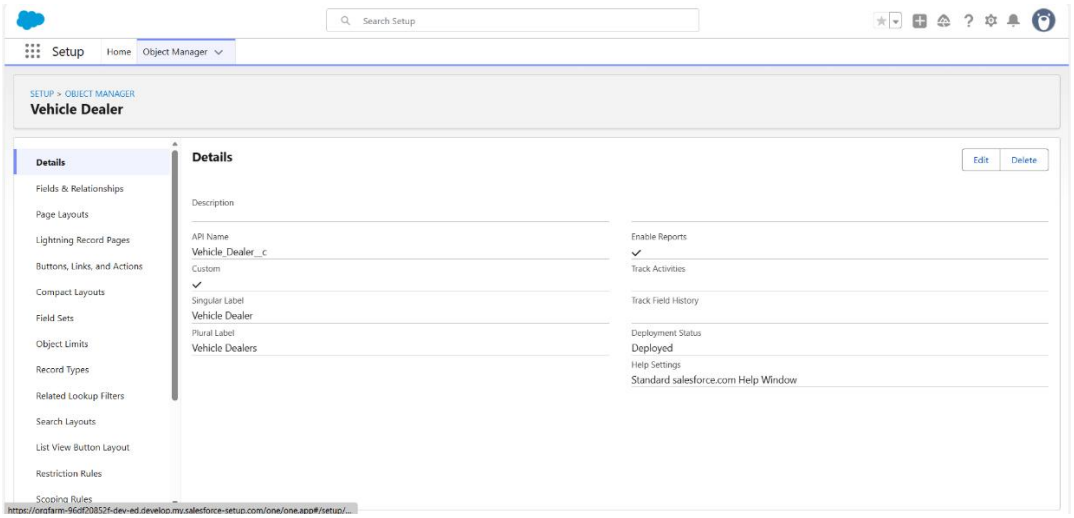

Figure 5: Vehicle Dealer Custom Object

This is created to store customer details, including their name, address, and contact info, which are needed for orders and test drives.

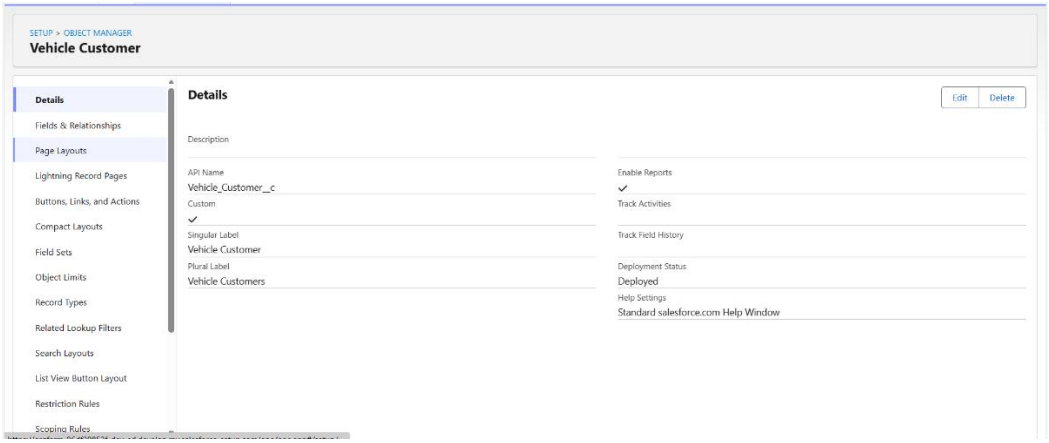

Figure 6: Vehicle Customer Custom Object

This is created to record every vehicle order placed by customers. It keeps track of the car they chose, the order status, and the assigned dealer.

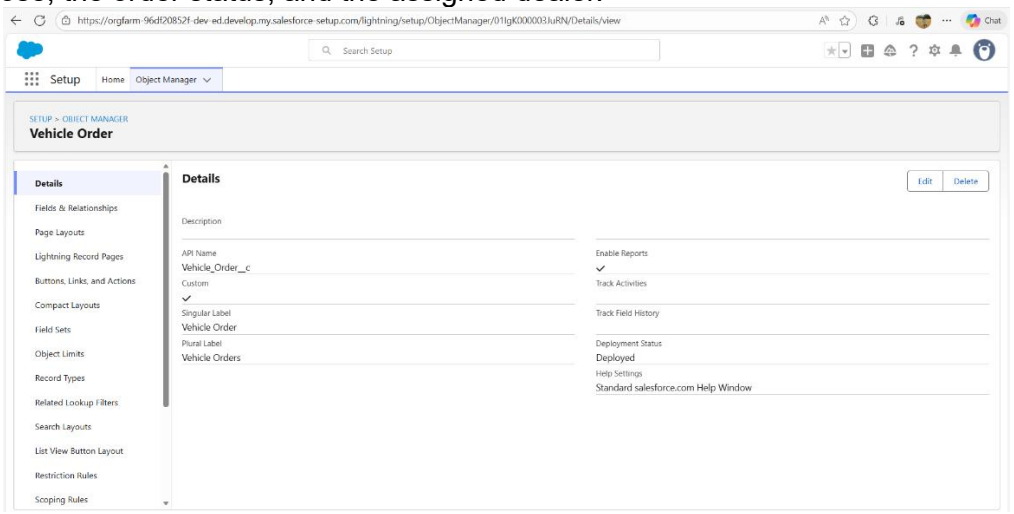

Figure 7: Vehicle Order Custom Object

This is created to manage and schedule customer test drives, including the selected vehicle and the preferred test drive date.

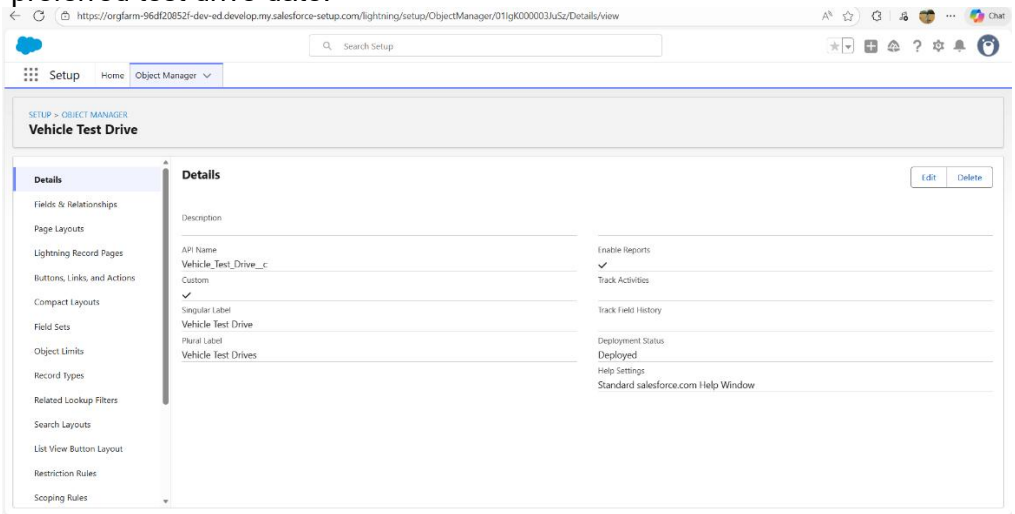

Figure 8: Vehicle Test Drive Custom Object

This is created to record customer service or maintenance requests, helping the dealership track what kind of service is needed and when.

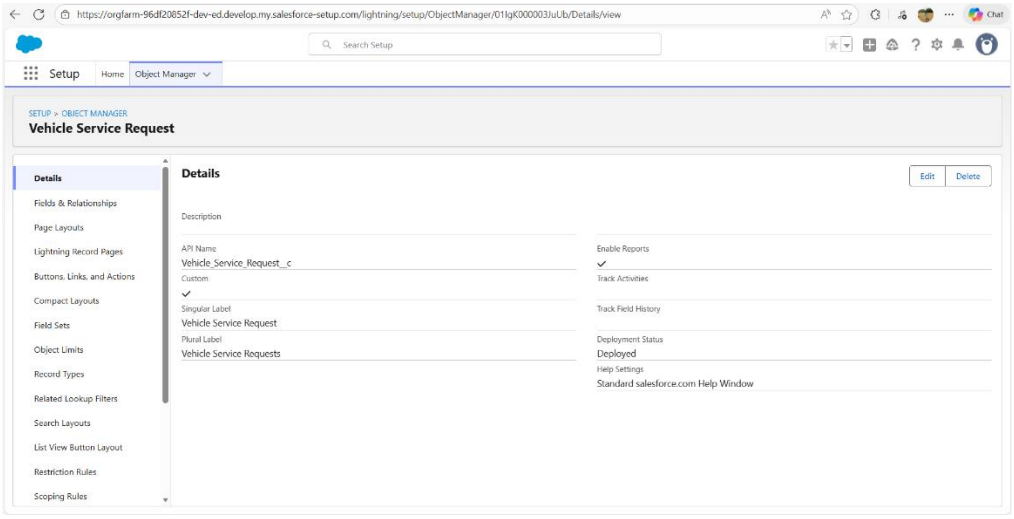

Figure 9: Vehicle Service Request Custom Object

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3. Data Management – Tabs

In the WhatNext Vision Motors Salesforce CRM, custom tabs were created to make navigation easier and give users quick access to all important records. These tabs serve as entry points to the custom objects built for the project, such as vehicle details, dealers, customers, orders, test drives, and service requests. By organizing data into easy-to-use tabs, the system allows staff to view, create, and manage dealership records more efficiently, improving both workflow and customer service.

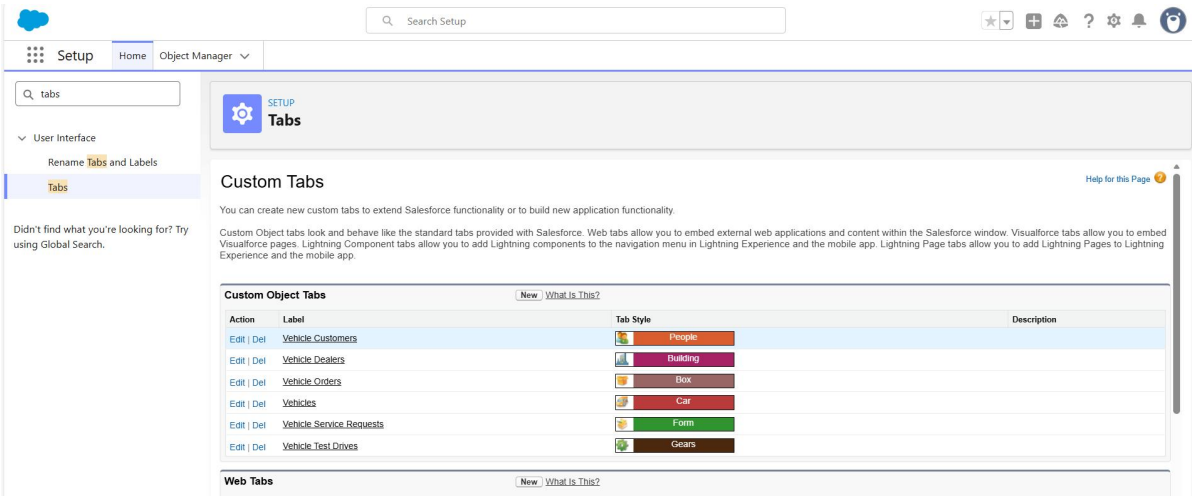

Figure 10: Custom Object Tabs

Tabs Created for these custom objects:

- Vehicle Customers (People)
- Vehicle Dealers (Building)
- Vehicle Orders (Box)
- Vehicles (Car)
- Vehicle Service Requests (Form)
- Vehicle Test Drives (Gears)

4. Data Management – App Manager

To keep all system features organized in one place, a custom Lightning App called “WhatNext Vision Motors” was created using Salesforce App Manager. This app serves as the main workspace for users and brings together all important tools needed by the dealership team — such as managing vehicles, checking orders, viewing customer details, and handling test drives or service requests.

By grouping all related tabs and objects into one clean interface, the app makes navigation easier and helps staff work faster and more efficiently.

Included Tabs:
The app includes a mix of custom objects built for the project and standard Salesforce objects that support reporting and monitoring.

Custom Objects:

- Vehicle
- Vehicle Dealer
- Vehicle Customer
- Vehicle Order
- Vehicle Test Drive
- Vehicle Service Request

Standard Objects:

- Reports
- Dashboards

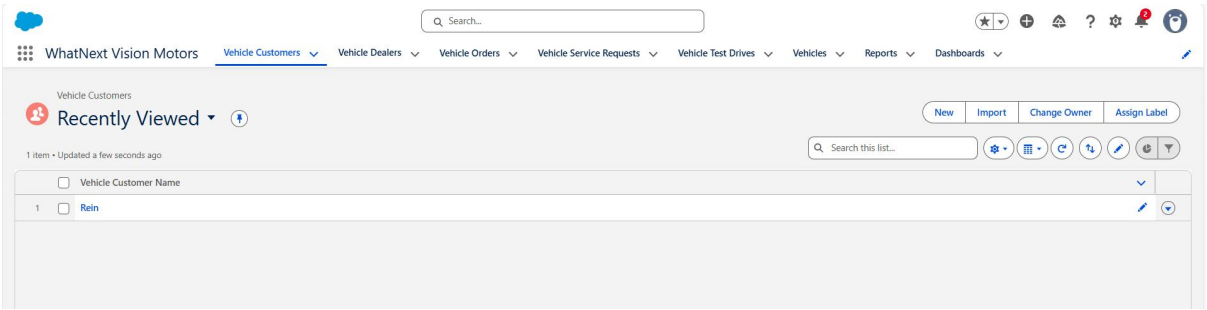

Figure 11: WhatNext Vission Motors Application View

5. Data Management – Fields

For the WhatNext Vision Motors CRM, I created several custom objects, and each one needed its own set of fields. These fields were added so the system can store the exact information the dealership needs — like car details, customer information, dealer locations, order status, test drive schedules, and service requests.

By adding the right fields to every object, the system becomes easier to use, more organized, and able to support all the automations needed for the project.

Custom Fields:

Object Name	Key Fields
Vehicle__c	Vehicle Name (Record Name) Vehicle Model (Text) Stock Quantity (Number) Price (Currency) Vehicle Dealer (Look-up) Status (Picklist: Available, Out of Stock)
Vehicle_Dealer__c	Dealer Name (Record Name) Dealer Location (Tetx) Dealer Code (Text) Phone (Phone) Email (Email)
Vehicle_Customer__c	Customer Name (Record Name) Email (Email) Phone (Phone) Address (Text) Preferred Vehicle Type (Picklist)
Vehicle_Order__c	Order Number (Auto-number) Customer (Lookup) Order Date (Date) Status (Pickilst: Pending, Confirmed, Delivered, Cancelled) Assigned Dealer (Lookup)
Vehicle_Test_Drive__c	Test Drive Name (Record Name) Customer (Lookup) Vehicle (Lookup) Test Drive Date (Date) Status (Picklist: Scheduled, Completed, Cancelled)
Vehicle_Service_Request__c	Service Request Name (Record Name) Customer (Lookup) Vehicle (Lookup) Service Date (Date) Issue Description (Text) Status (Picklist: Requested, In Progress, Completed)

Similar to this we have all the fields written inside every custom object as said.

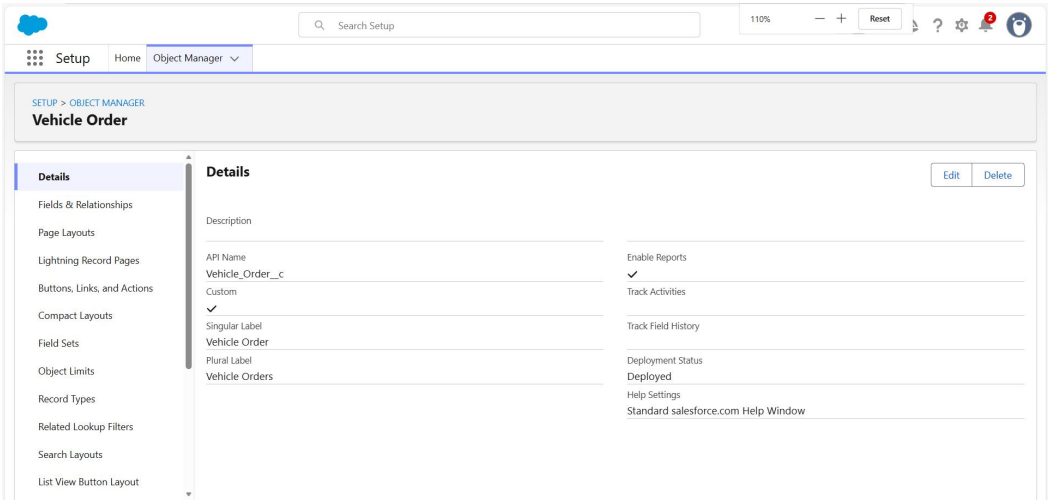

Figure 12: Vehicle Order Custom Object

This diagram shows all the custom objects in the system—Vehicle, Dealer, Customer, Order, Test Drive, and Service Request—and how they are connected. It provides a clear view of the data structure, making it easier to manage orders, stock, and customer interactions efficiently.

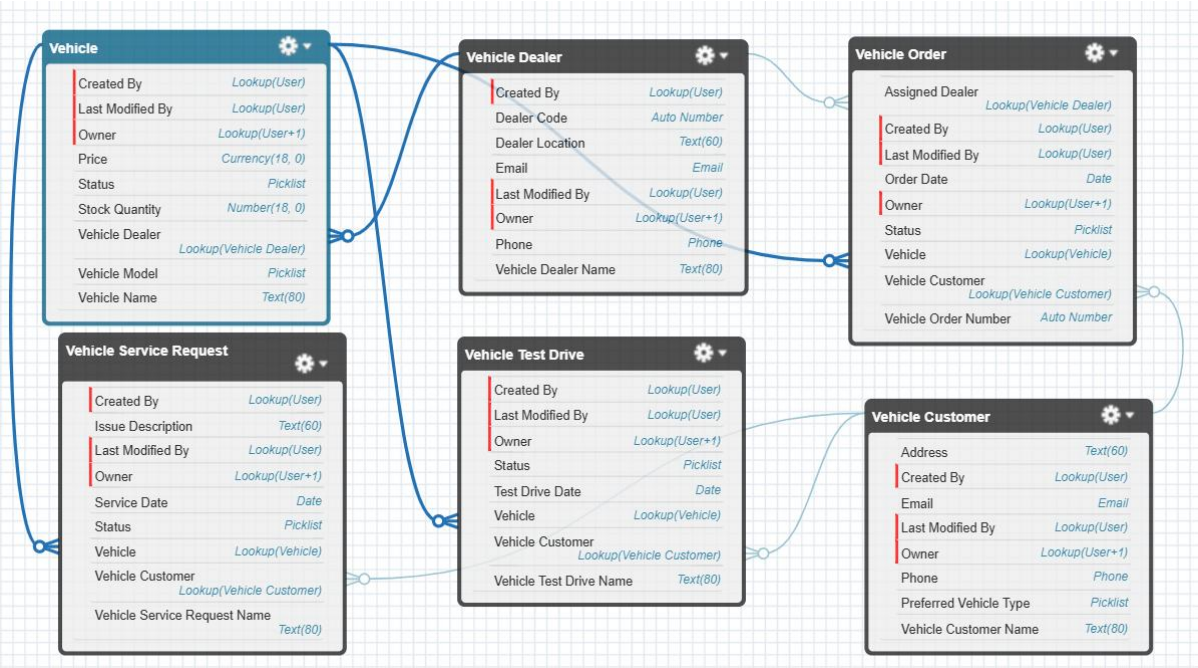

Figure 13: Salesforce Schema Builder for WhatNext Vision Motors

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Creation of Lookup Relationship

Lookup relationships were created between custom objects to establish connections and dependencies, allowing the system to link records and automatically reference related data. The lookup relationships in the project are as follows:

1. **Creating a lookup relationship between Vehicle Order and Vehicle Customer**
   - This connects each order to the customer who placed it, making it easy to track customer orders and history.
2. **Creating a lookup relationship between Vehicle Order and Vehicle**
   - This links each order to the specific vehicle being purchased, ensuring that stock and order details are accurately managed.
3. **Creating a lookup relationship between Vehicle and Vehicle Dealer**
   - This associates each vehicle with a dealer, allowing the system to automatically assign the nearest dealer to a customer's order and track vehicle availability per location.

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6. Creation of Master – Detail Relationship

A master-detail relationship was established between custom objects to ensure that changes in one object automatically reflect in the related object.

In this project, a master-detail relationship was created between Vehicle and Vehicle Order. This allows the system to track stock levels automatically: when a customer confirms an order, the vehicle's stock quantity is updated accordingly. It also ensures that all data related to the vehicle, such as dealer assignment and availability, is properly linked and maintained.

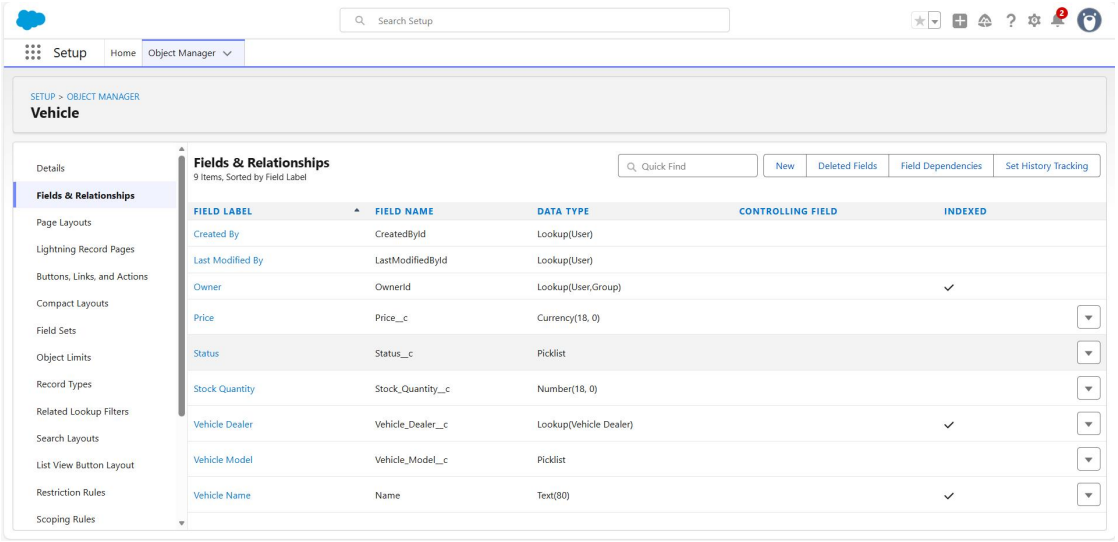

Figure 14: Vehicle Custom Object Fields and Relationship

7. Creation of Formulas Fields

Formula fields were created in the WhatNext Vision Motors Salesforce system to automatically calculate or display values based on other fields. These fields help reduce manual work, prevent errors, and provide quick insights. Some examples of formula fields in the project include:

1. **Order Status Indicator (Vehicle_Order__c) –** Displays a text message like "Pending" or "Confirmed" based on stock availability or approval.
   Formula**:** IF(Stock_Quantity__c > 0, "Confirmed", "Pending")

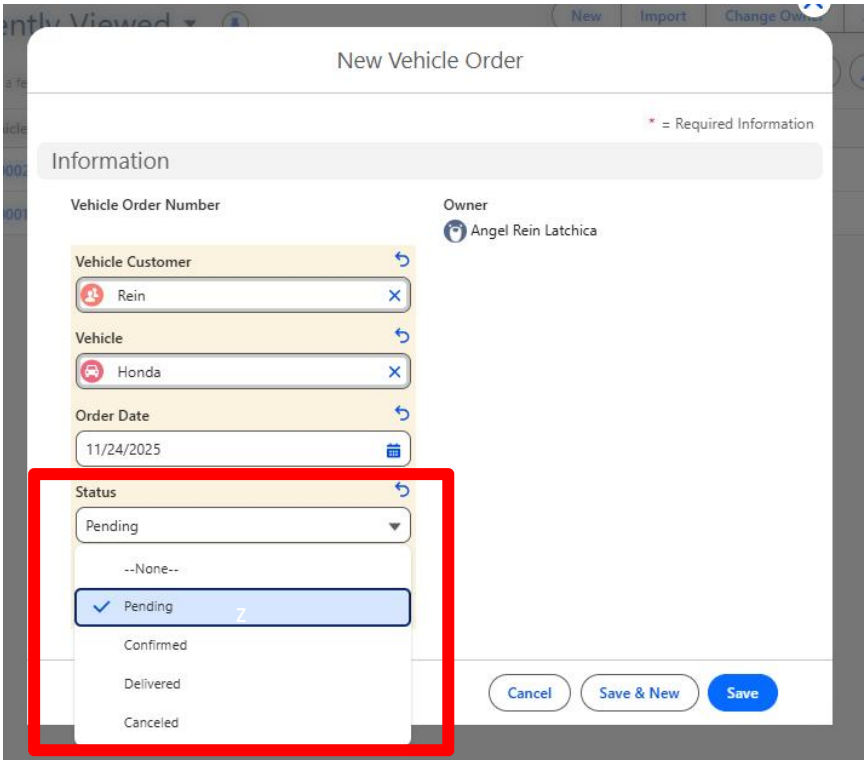

Figure 15: Vehicle Order Form

2. **Stock Alert (Vehicle__c) –** Shows a warning if the vehicle stock is low.
   Formula**:** IF(Stock_Quantity__c <= 5, "Low Stock", "In Stock")

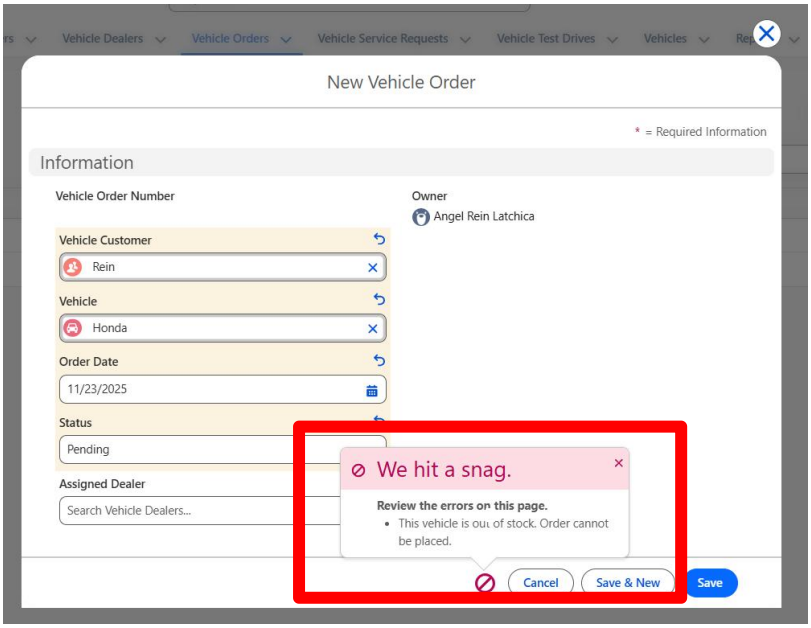

Figure 16: Vehicle Order Form showing warning

3. **Dealer Assignment Check (Vehicle_Order__c) –** Confirms if an order has been assigned to a dealer or not.
   Formula**:** IF(ISBLANK(Assigned_Dealer__c), "Dealer Not Assigned", "Dealer Assigned"

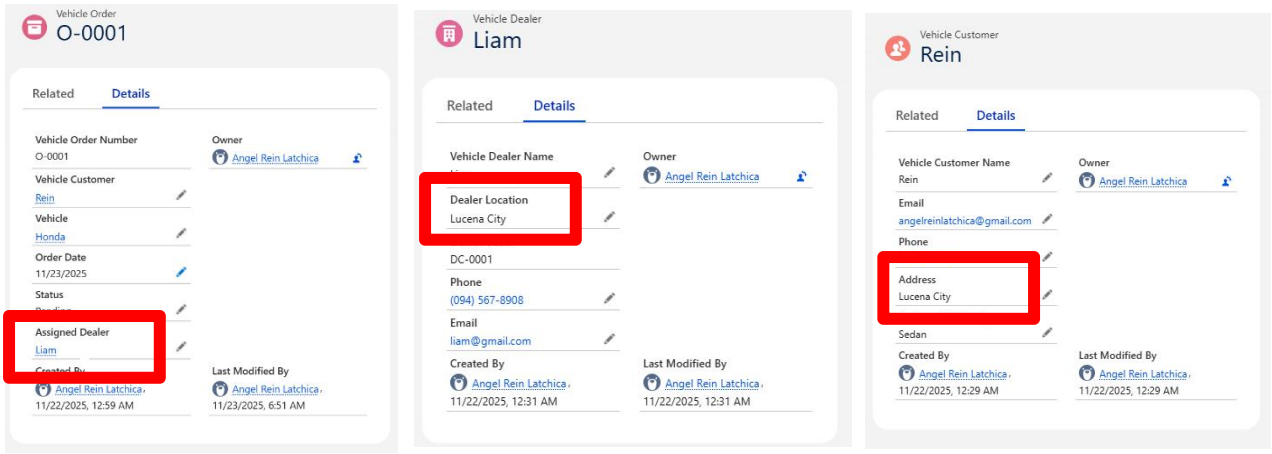

Figure 17: Assigned Dealer Based on Customer Location

As shown, the system automatically assigns the order to the vehicle dealer located closest to the customer, ensuring efficient service and faster processing.

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8. Data Configuration – Validation Rules

To ensure data accuracy, enforce business logic, and prevent errors, several Validation Rules were implemented across the custom objects in the WhatNext Vision Motors CRM system. These rules help maintain clean, reliable data and prevent incorrect or illogical records from being saved.

1. **Vehicle_Order__c → Status**
   - **Validation Rule Name**: “Valid Order Status”
   - **Rule**: ISBLANK(Status__c)
   - **Purpose**: Ensures that every order has a status assigned before it can be saved
2. **Vehicle__c → Stock_Quantity__c**
   - **Validation Rule Name:** “Stock Quantity”
   - **Rule**: Stock_Quantity__c < 0
   - **Purpose**: Prevents vehicles from having negative stock values.
3. **Vehicle_Customer__c → Email**
   - **Validation Rule Name**: “Valid Email”
   - **Rule**: NOT(CONTAINS(Email, "@"))
   - **Purpose**: Ensures that every customer record has a valid email address format.
4. **Vehicle_Order__c → Vehicle**
   - **Validation Rule Name:** “Vehicle Required”
   - **Rule**: ISBLANK(Vehicle__c)
   - **Purpose**: Prevents saving an order if no vehicle is selected.

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9. Automated Email Reminders for Test Drives

To improve customer service and ensure smooth scheduling, the system sends automated email reminders to customers one day before their scheduled test drive.

- **Object Involved:** Vehicle_Test_Drive__c
- **Automation**: Record-Triggered Flow
- **Action Name**: Send Test Drive Reminder
- **Purpose**:
  1. Reminds customers of their upcoming test drive
  2. Reduces missed appointments and improves dealership efficiency.
  3. Provides a professional, customer-friendly experience.

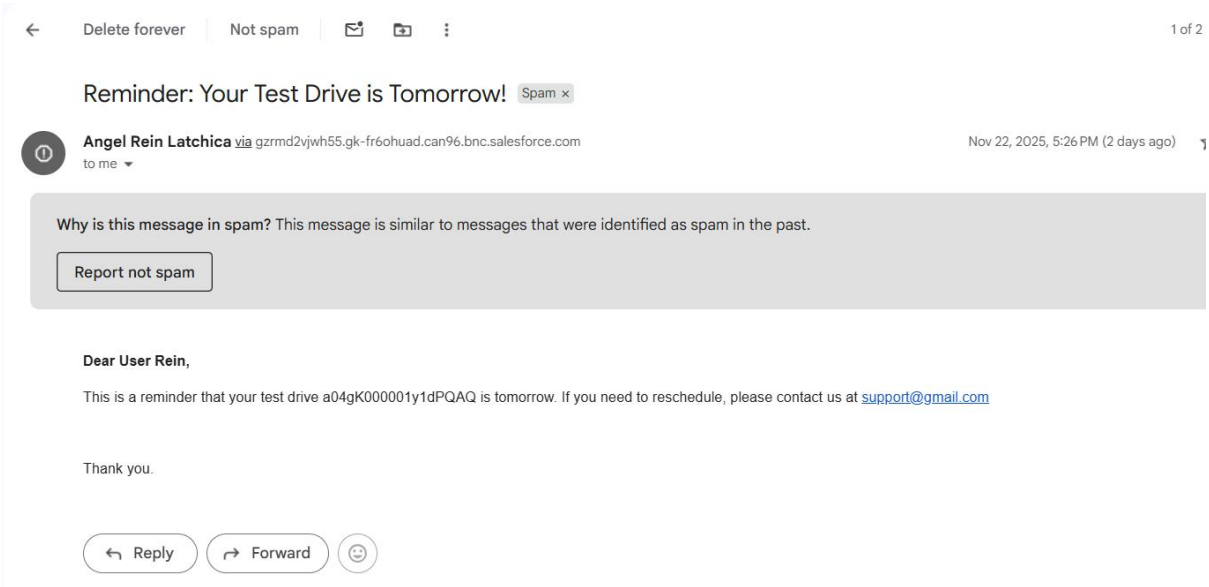

Figure 18: Email Reminder for Test Drive

How it works:

- The Record-Triggered Flow runs when a test drive record is created or updated.
- Inside the flow, the Send Test Drive Reminder action automatically sends an email to the customer's email stored in Vehicle_Customer__c.
- The email includes details such as the test drive date and code.

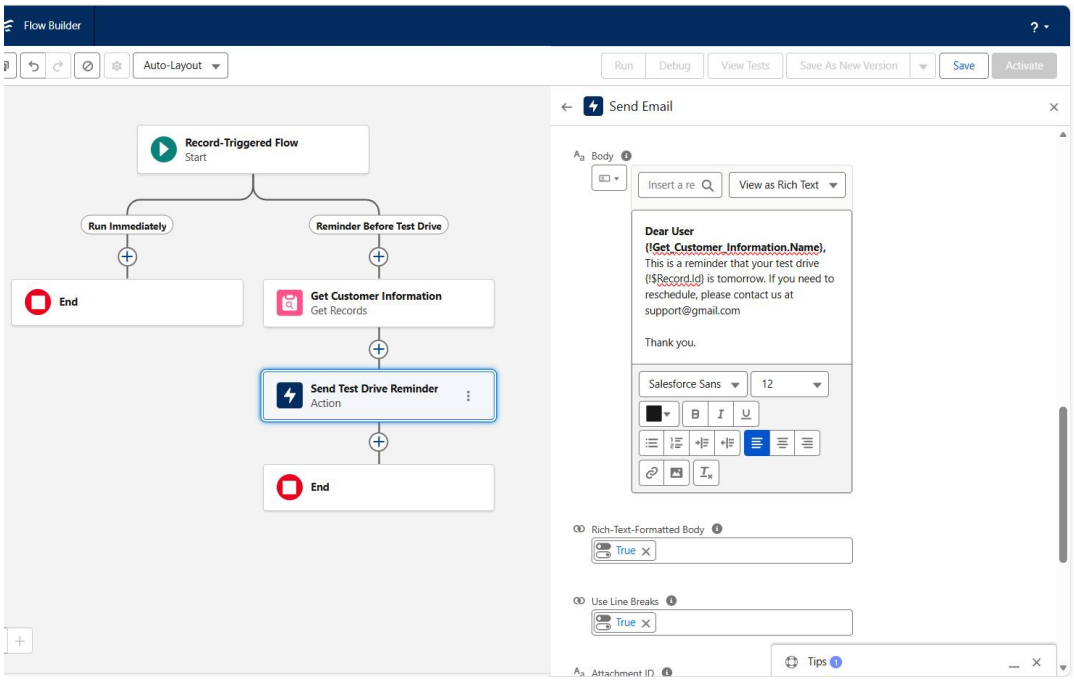

Figure 19: Record-Triggered Flow Displaying the Send Test Drive Reminder Email Action

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10. Flows

To automate key dealership processes and reduce manual work, Record-Triggered Flows were implemented in Salesforce for WhatNext Vision Motors. These flows automatically execute actions based on specific conditions, keeping data accurate and providing timely notifications to both staff and customers.

For this project, two Record-Triggered Flows were created:

1. **Auto Assigned Dealer Flow**
   - **Type**: Record-Triggered Flow
   - **Purpose**: Automatically assigns a customer's vehicle order to the nearest dealer based on the customer's location.
   - **Business Impact**: Improves operational efficiency and ensures faster order processing by connecting customers to the most convenient dealer.

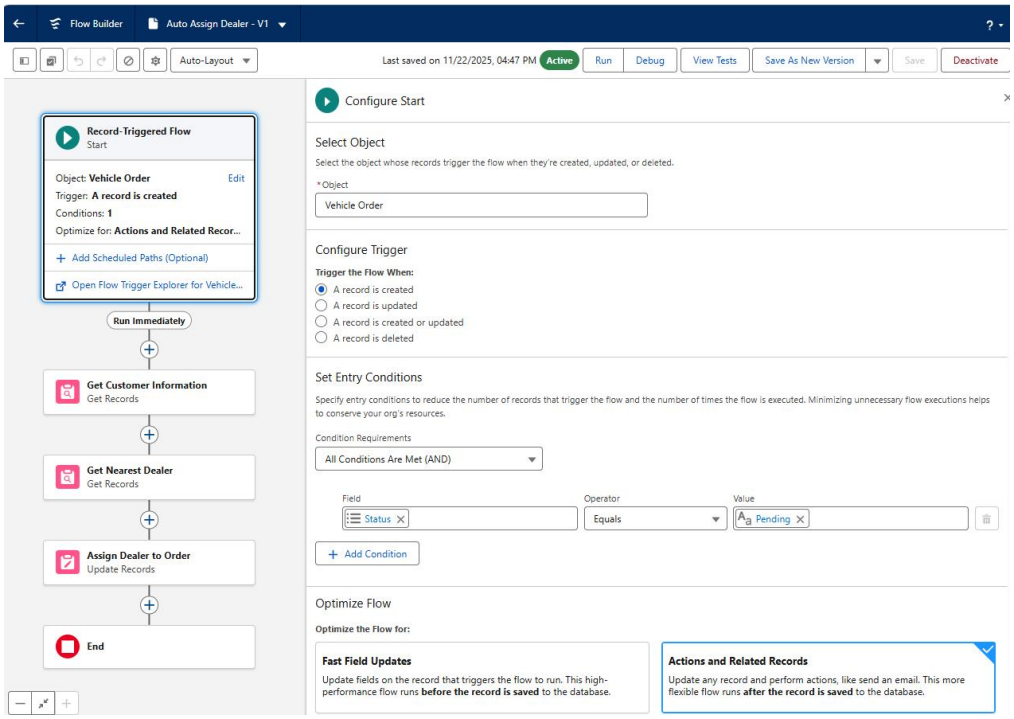

Figure 20: Auto Assign Dealers Record-Triggered Flow

2. **Send Test Drive Reminder**
   - **Type**: Record-Triggered Flow
   - **Purpose**: Sends an automated email reminder to customers one day before their scheduled test drive.
   - **Business Impact**: Reduces missed appointments and enhances the customer experience by keeping them informed in advance.

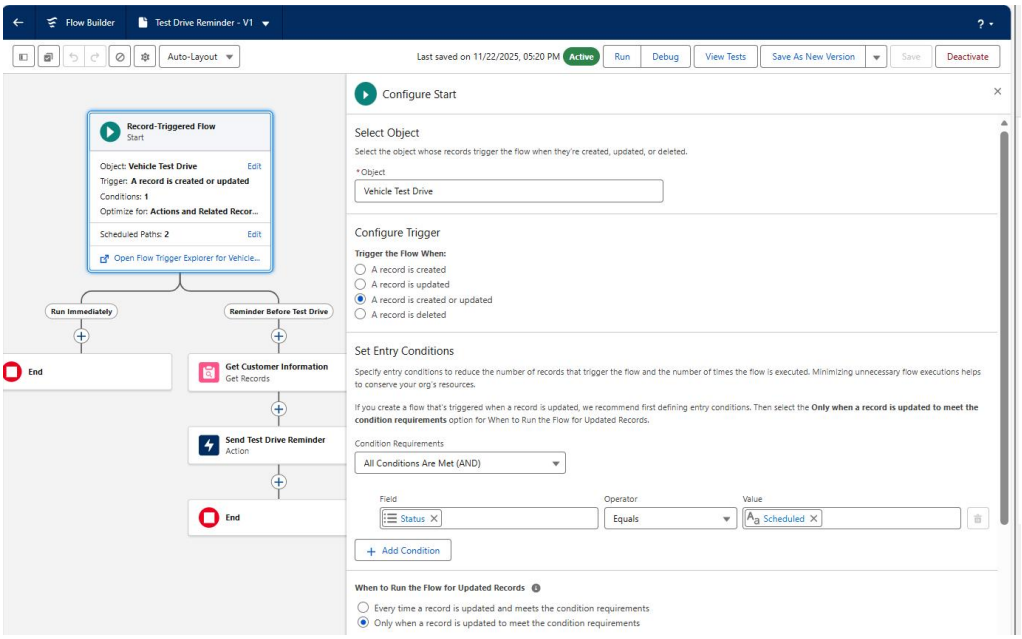

Figure 21: Test Drive Reminder Record-Triggered Flow

These Flows streamline dealership processes, keep data accurate, and provide timely notifications to both employees and customers.

11. Automation using Apex

To ensure smooth backend processing and maintain data consistency, Apex Triggers and Batch Apex were implemented in the WhatNext Vision Motors system. These automations enforce important business rules, perform key actions, and handle repetitive tasks without requiring manual intervention, allowing staff to focus on more critical responsibilities.

Apex Triggers

Two Apex components were developed to automate and secure the vehicle ordering process:

1. **VehicleOrderTriggerHandler (Apex Class)**
    - **Purpose**: Serves as the main logic container for validating stock and updating inventory during order operations.
    - **How it works:**
        - Checks if vehicles are in stock before allowing an order to be placed.
        - Automatically decreases the stock quantity of vehicles when an order is confirmed.

2. **VehicleOrderTrigger (Apex Trigger)**
    - **Purpose**: Calls the VehicleOrderTriggerHandler to execute the trigger logic.
    - **How it works**:
        - Fires before and after an order is inserted or updated to ensure stock validation and automatic updates are applied.

Batch Apex

Two Batch Apex classes were implemented for bulk processing:

1. **VehicleOrderBatch**
    - **Purpose**: Automatically processes pending vehicle orders in bulk.
    - **How it works**: Checks all pending orders, confirms those with available stock, and updates stock quantities accordingly.

2. **VehicleOrderBatchScheduler**
    - **Purpose**: Schedules the batch job to run automatically at set intervals.
    - **How it works**: Executes the VehicleOrderBatch in batches of 50 records to efficiently manage multiple orders.

These Apex automations ensure accurate order processing, consistent stock management, and streamlined dealership operations, improving both efficiency and customer satisfaction.

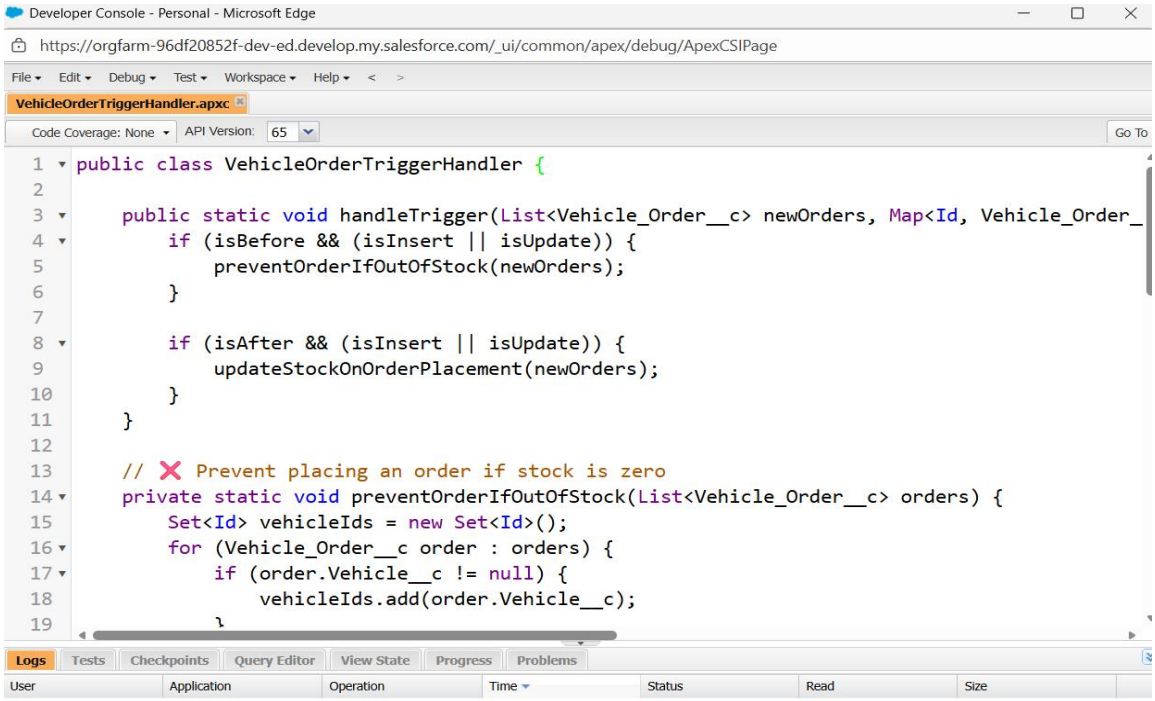

Figure 22: Vehicle Order Trigger Handler Code

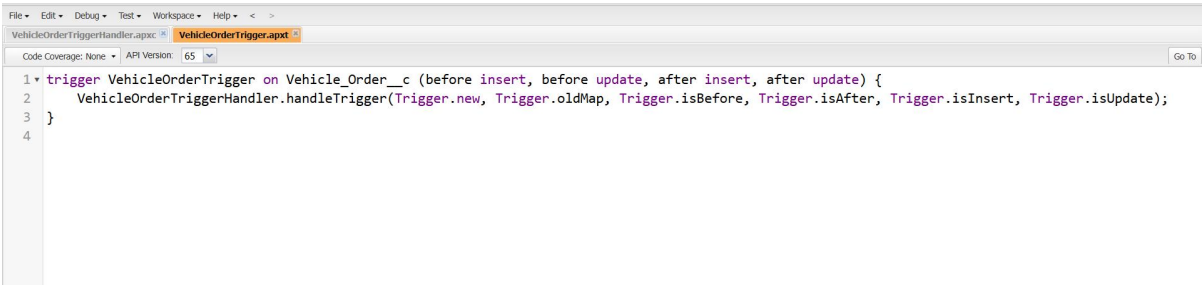

Figure 23: Vehicle Order Trigger Code

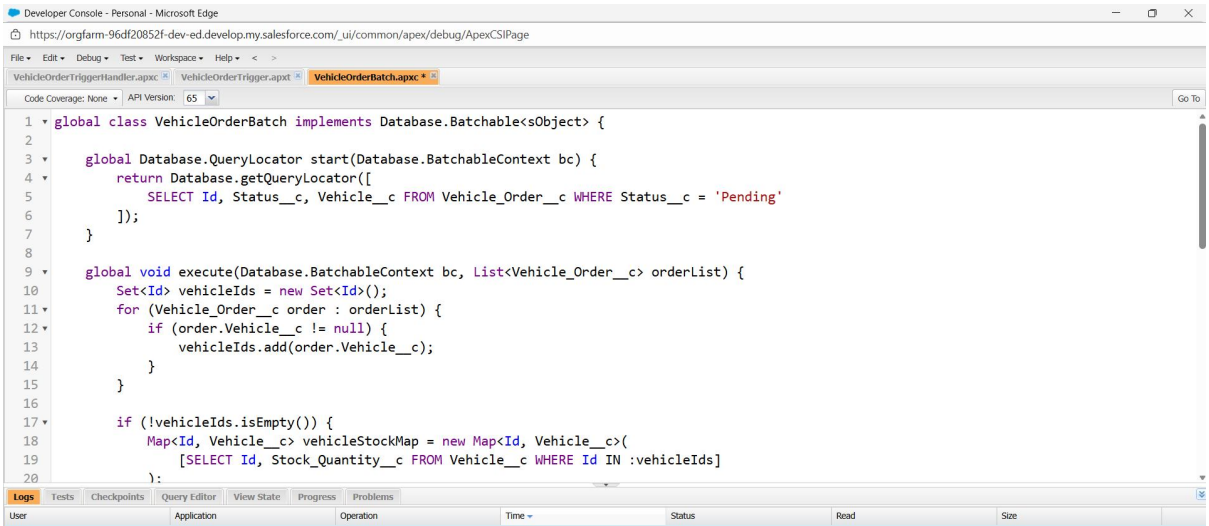

Figure 24: Vehicle Order Batch Code

Figure 25: Vehicle Order Batch Scheduler Code

Project Explanation with real world Example

Let's walk thorough it like a real-world customer interaction.

1. **Customer Registration**
    - A customer**,** Mark Lim, visits the dealership or website.
    - In Salesforce: A record is created in the Vehicle_Customer__**c** object with his name, phone, email, and address.
    - A Validation Rule ensures the email format is correct.
2. **Vehicle Setup**
    - The admin adds vehicles into the Vehicle__c object.
    - Each vehicle includes details such as model, price, stock quantity, and assigned dealer.
3. **Order Placement**
    - Mark places an order for a vehicle.
    - In Salesforce, a new record is created in the Vehicle_Order__c object.
    - The VehicleOrderTriggerHandler validates stock availability before confirming the order.
4. **Inventory Update**
    - As soon as the order is confirmed:
        - **Apex Trigger** automatically decreases the stock of the selected vehicle.
        - **Validation Rule** ensures stock never drops below zero.
5. **Dealer Assignment**
    - The Auto Assigned Dealer Flow automatically assigns Mark's order to the nearest dealer based on his location.
    - This ensures faster processing and convenient customer service.
6. **Test Drive Reminder**
    - Mark schedules a test drive.
    - One day before the test drive, the Send Test Drive Reminder Flow automatically sends him an email with the vehicle and dealer details.
7. **Order Status Updates**
    - Pending orders are periodically processed by the VehicleOrderBatch**.**
    - Orders with available stock are automatically confirmed, and inventory is updated in bulk.

- **VehicleOrderBatchScheduler** ensures this process runs regularly without manual intervention.

8. **Customer Notifications**
   - Mark receives email notifications when his order is confirmed or test drive reminders are sent.
   - This ensures clear communication and enhances his overall experience with the dealership.

Screenshots

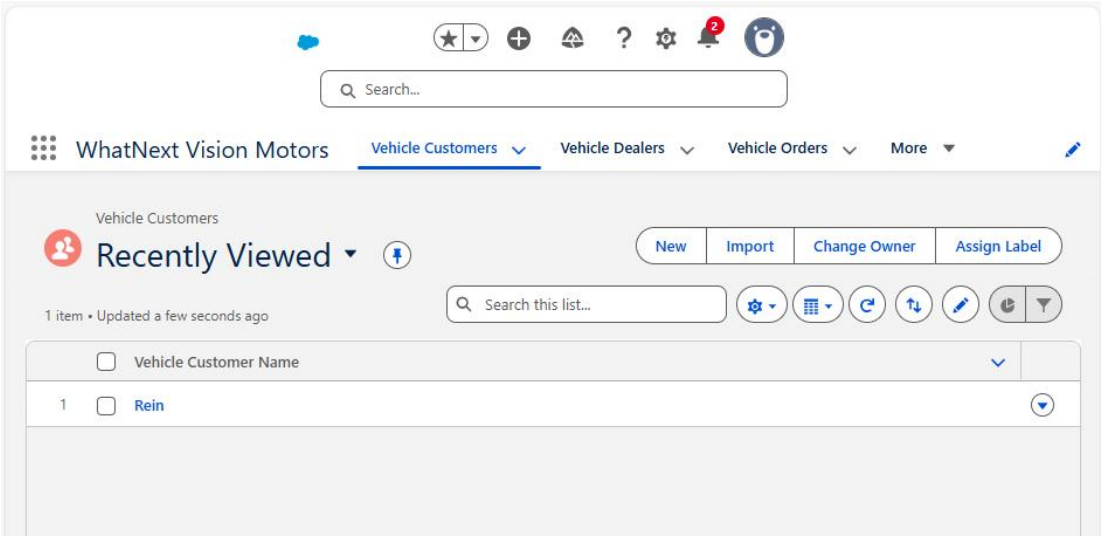

Figure 26: Custom App for WhatNext Vision Motors.

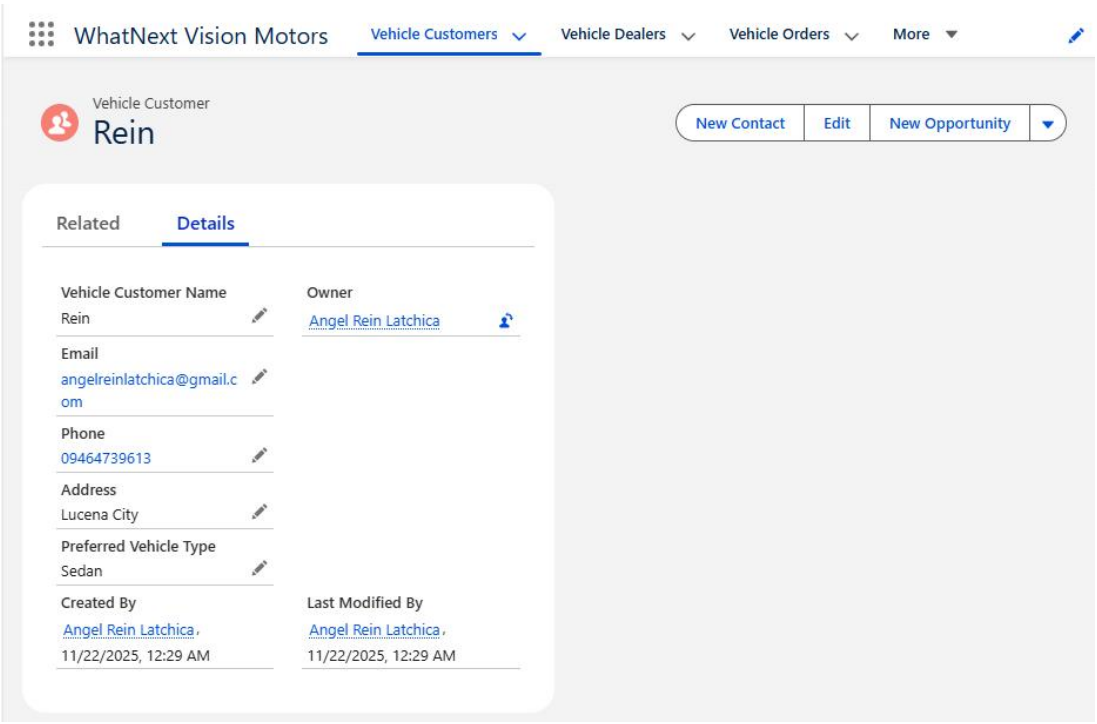

Figure 27: Customer Creation

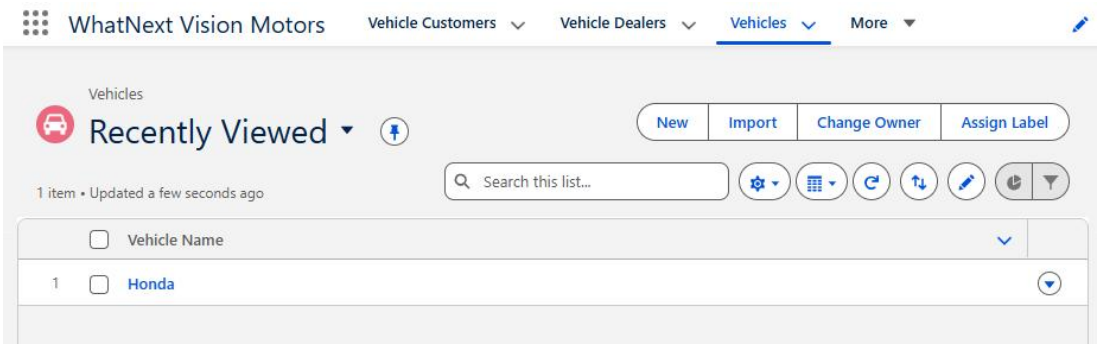

Figure 28: Available Vehicle

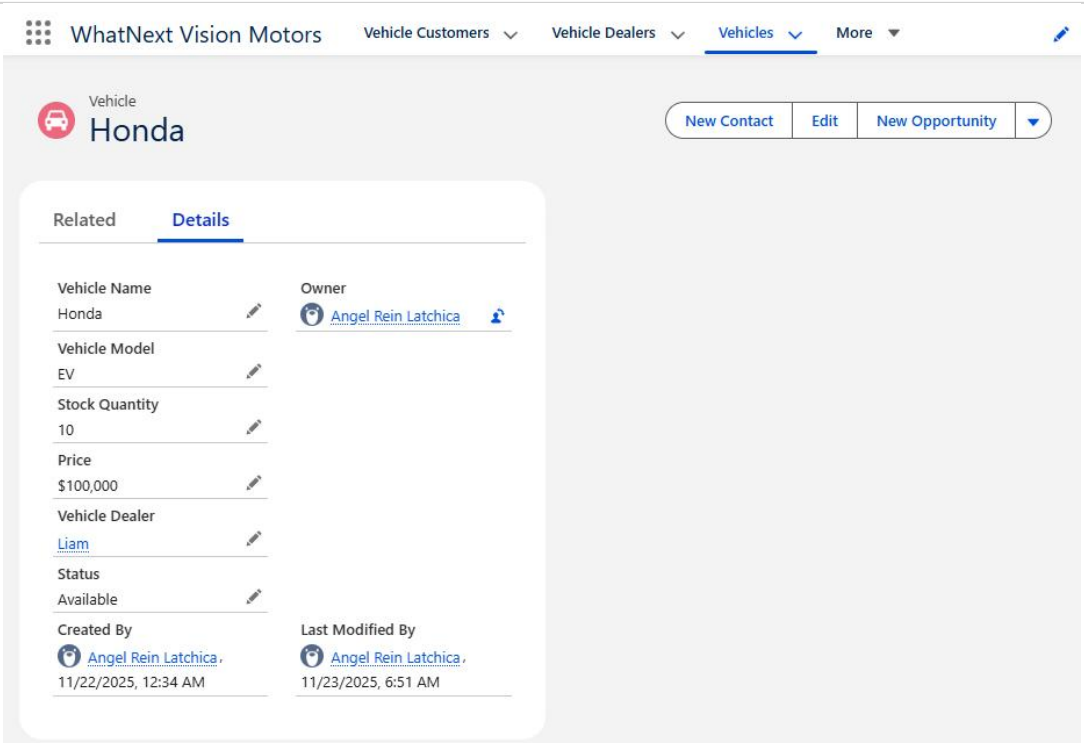

Figure 29: Vehicle Creation

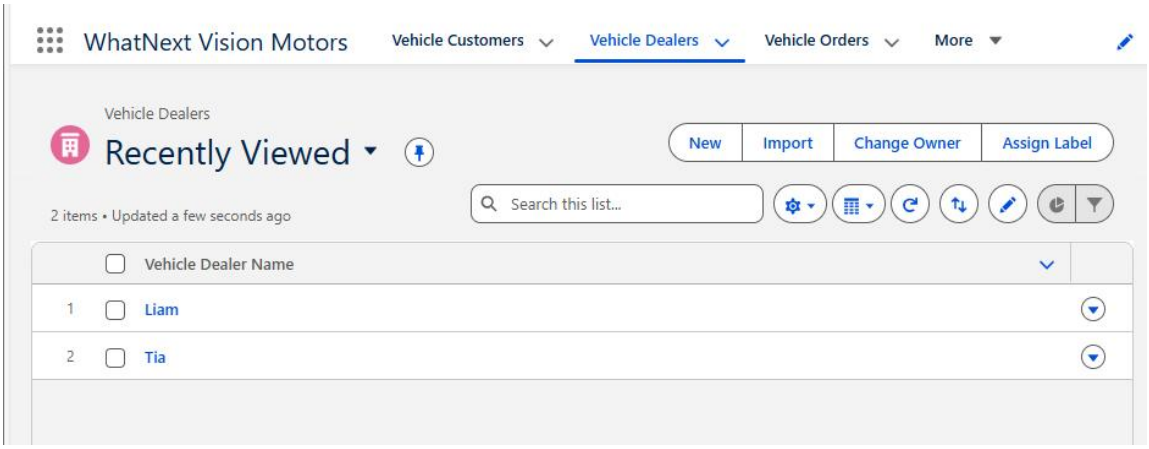

Figure 30: List of Vehicle Dealers

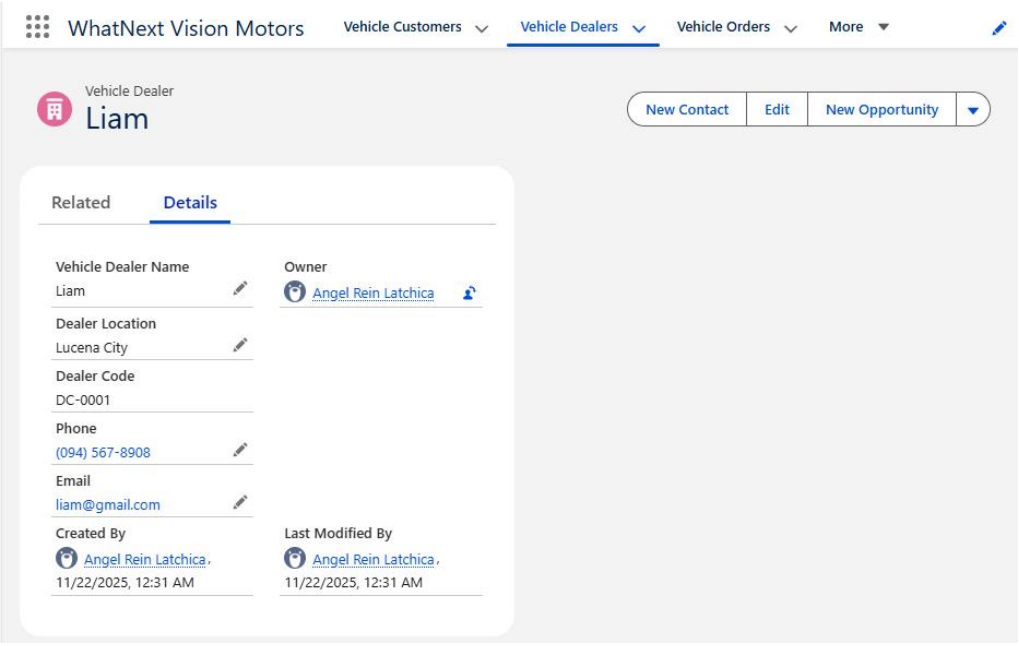

Figure 31: Vehicle Dealers Creation

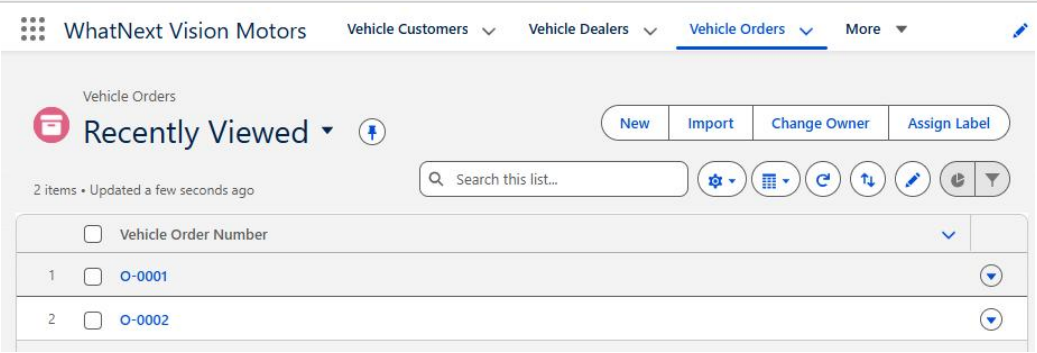

Figure 32: Vehicle Orders Overview

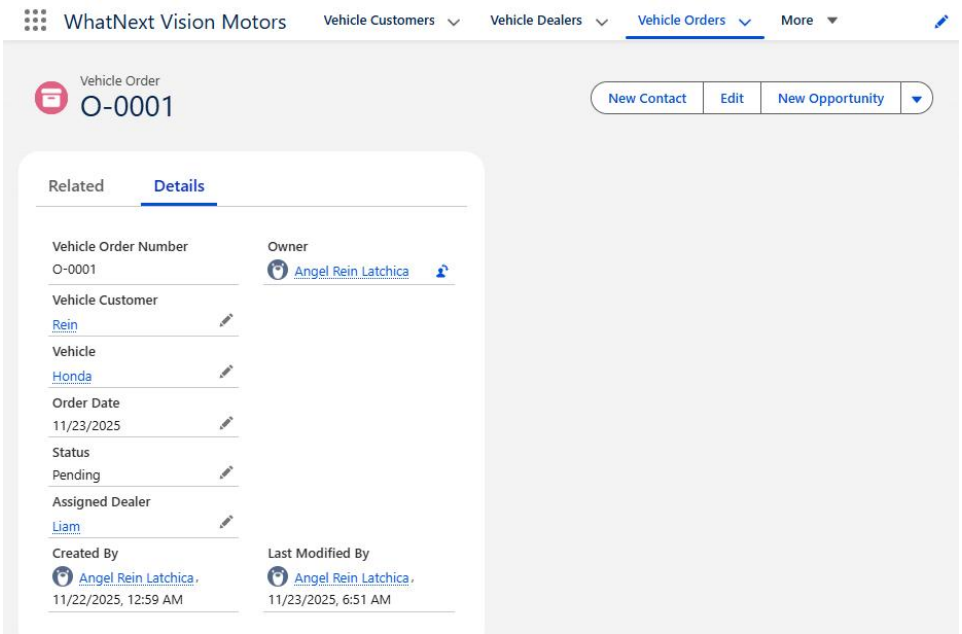

Figure 31: Vehicle Order Creation

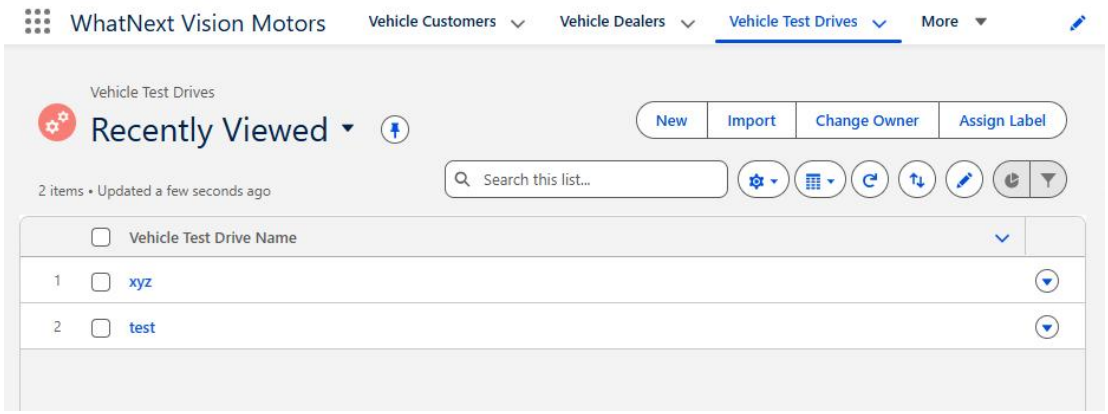

Figure 32: Vehicle Test Drives Overview

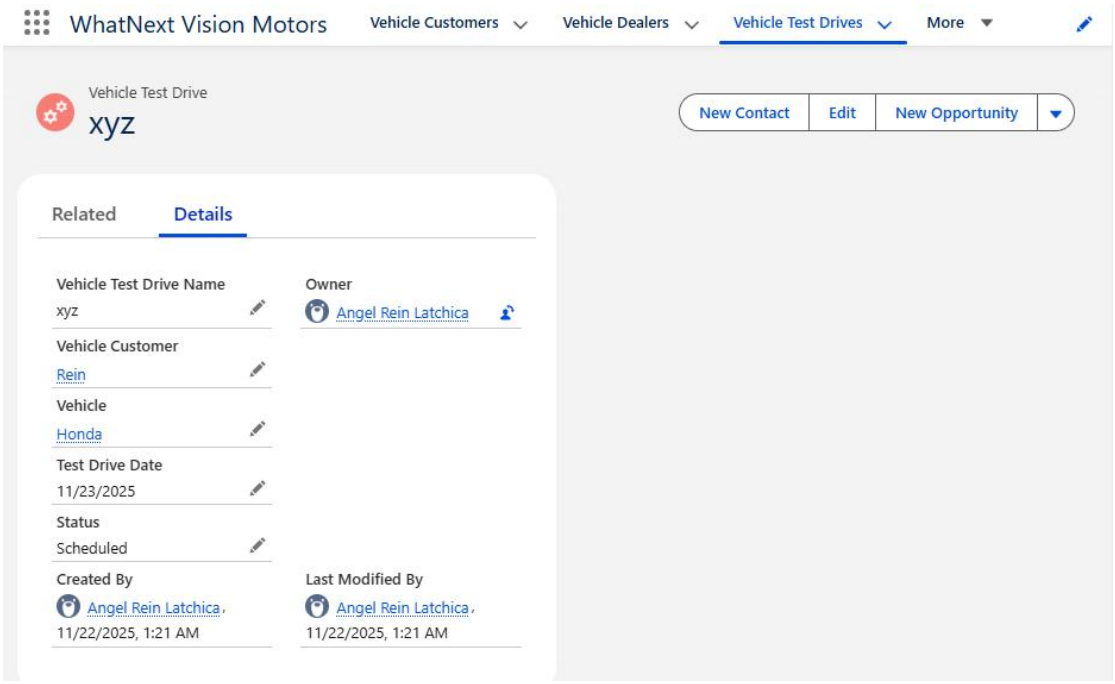

Figure 33: Vehicle Test Drives Creation

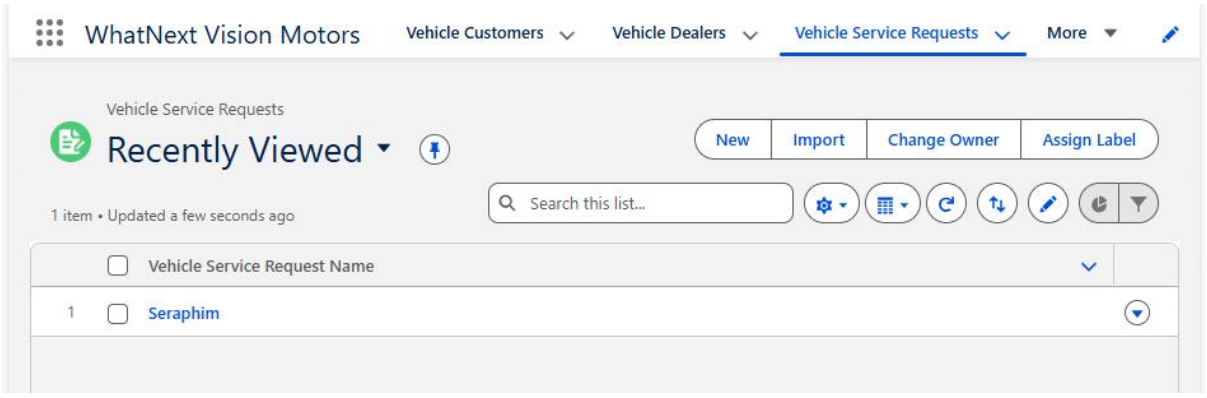

Figure 34: Vehicle Service Request Overview

Conclusion

The WhatNext Vision Motors Salesforce project successfully demonstrates how a dealership can leverage technology to streamline operations, improve customer service, and reduce manual tasks. By organizing vehicle, dealer, customer, and order data into structured objects, the system ensures accurate record-keeping and efficient workflows.

Automation through Apex Triggers, Batch Apex, and Flows allows stock validation, dealer assignment, order confirmation, and test drive reminders to happen seamlessly, reducing human error and improving operational efficiency. Customers receive timely notifications, making the overall experience smoother and more reliable.

Overall, the project highlights the power of Salesforce in transforming dealership operations. It not only enhances efficiency and accuracy for staff but also provides a more convenient, transparent, and satisfying experience for customers, positioning WhatNext Vision Motors as a modern, customer-focused automotive business.

Future Scope and Enhancement

The WhatNext Vision Motors system provides a strong foundation for dealership management, with opportunities for further improvement. Future enhancements may include:

- **Mobile Integration**: Allowing customers to place orders, schedule test drives, and track orders via a mobile app.
- **Advanced Reporting**: Using analytics to monitor sales trends, vehicle popularity, and customer behavior for informed decision-making.
- **Online Payment**: Integrating secure payment gateways for easier and faster transactions.
- **Improved Notifications**: Adding SMS or push notifications for order updates, test drives, and promotions.
- **AI Recommendations**: Suggesting vehicles to customers based on preferences and purchase history.
- **Service Tracking**: Recording vehicle maintenance and service history to provide a complete customer experience.

Implementing these enhancements will make WhatNext Vision Motors more efficient, customer-friendly, and competitive in the automotive industry.

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