

Smart Property Portal

Project Title : Title: Smart Property Portal – Real Estate Customer Engagement & Lead Conversion System

Project Overview:

The *Smart Property Portal* is a Salesforce-based CRM solution designed for the real estate industry. It addresses the challenge of managing customer inquiries, property inventories, and sales cycles in an efficient and automated manner. The CRM focuses on improving lead capture, faster response times, property visit scheduling, and automated deal tracking. By streamlining these processes, it enhances customer engagement and supports management with performance dashboards and reports. Key features include automated lead assignment, property inventory visibility, approval workflows for deal closures, and mobile-friendly dashboards.

Objectives:

The main objective of building this CRM is to simplify and accelerate the real estate sales cycle through automation and intelligent workflows. The system aims to ensure faster lead follow-ups, efficient property management, and transparent deal closures. From a business perspective, this delivers better customer management, increased conversion rates, reduced manual errors, and data-driven decision-making. Additionally, dashboards and reports empower management to track agent performance and align sales strategies with organizational goals.

Phase 1 : Problem Understanding & Industry Analysis :

Requirement Gathering

- Collect requirements from property managers, sales agents, and buyers.
- Key needs: automated lead capture, property inventory management, visit scheduling, dashboards.

Stakeholder Analysis

- **Sales Agents** → Need quick lead assignment & follow-up tracking.
- **Property Managers** → Need property inventory visibility & visit scheduling.

- **Management** → Need reports & dashboards for performance tracking.
- **Buyers** → Need timely responses, visit confirmations, and transparent process.

Business Process Mapping

- Current: Leads from multiple sources → Manual entry → Delays in assignment → Poor conversion.
- Future: Leads auto-captured → Auto-assigned → Visits scheduled → Deal closure recorded in Salesforce.

Industry-specific Use Case Analysis

- Real estate industry depends heavily on fast response and personalized follow-ups.
- CRM ensures better buyer engagement and higher conversion rates.

AppExchange Exploration

- Explore Property Management apps (PropertyBase, AscendixRE) for future scaling.
- For MVP, custom Salesforce objects are sufficient.

Phase 2: Org Setup & Configuration :

1. Salesforce Edition

For this project, we're using the **Developer Edition**. It's free but has almost all the features of the Enterprise Edition, so it's perfect for practice and building real-world CRM projects.

2. Company Profile Setup

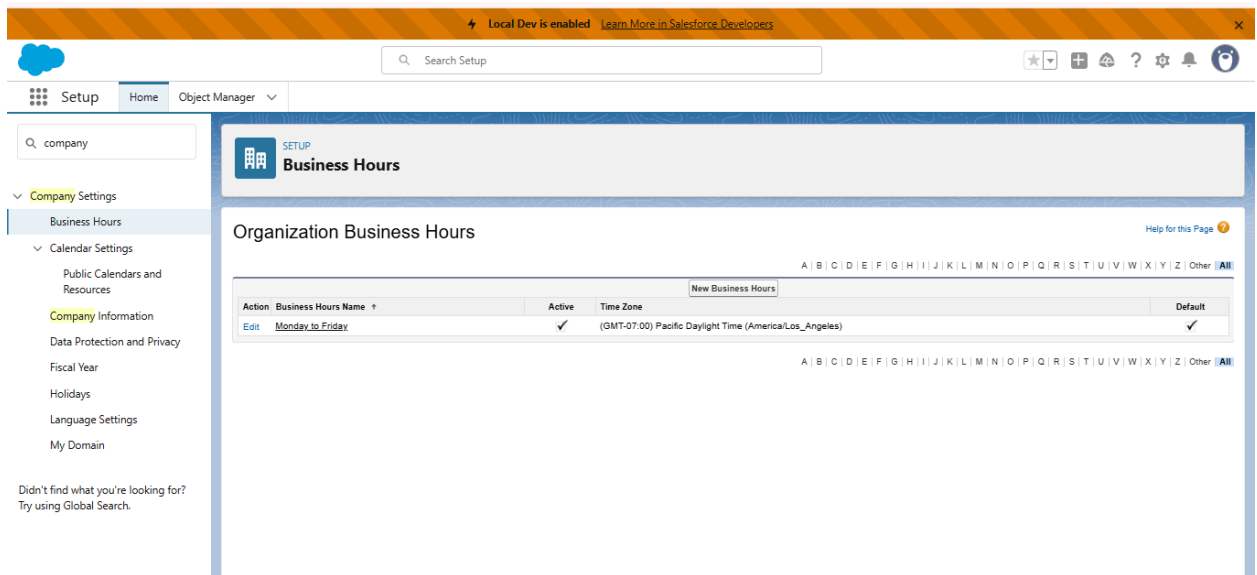
Here, we set up the company's details, like time zone, currency, and fiscal year. Since most Indian businesses follow **April to March** as their financial year, we set the same in Salesforce. This way, all reports and sales tracking will match the business cycle.

The screenshot shows the Salesforce Setup interface. The left sidebar contains a navigation menu with options like Setup, Home, Object Manager, and a search bar. The main content area is titled 'Company Information' and displays various configuration settings for the organization. The settings are organized into sections: Organization Detail, User Licenses, Permission Set Licenses, Feature Licenses, and Managed External Systems. The Organization Detail section includes fields for Organization Name, Primary Contact, Division, Address, Fiscal Year Starts In, Enable Data Translation, Newsletter, Admin Newsletter, Hide Notices About System Maintenance, Hide Notices About System Downtime, and Locale Formats. The User Licenses section shows the number of licenses and the number of users. The Permission Set Licenses section shows the number of licenses and the number of users. The Feature Licenses section shows the number of licenses and the number of users. The Managed External Systems section shows the number of licenses and the number of users.

Section	Field	Value
Organization Detail	Organization Name	Sri Venkatesa Perumal College of Engineering and Technology
	Primary Contact	OrgTeam EPIC
	Division	United States
	Address	January
	Fiscal Year Starts In	January
	Enable Data Translation	<input type="checkbox"/>
	Newsletter	<input checked="" type="checkbox"/>
	Admin Newsletter	<input checked="" type="checkbox"/>
	Hide Notices About System Maintenance	<input type="checkbox"/>
	Hide Notices About System Downtime	<input type="checkbox"/>
Locale Formats	ICU	
User Licenses	User Licenses	100
	Number of Users	100
Permission Set Licenses	Permission Set Licenses	100
	Number of Users	100
Feature Licenses	Feature Licenses	100
	Number of Users	100
Managed External Systems	Managed External Systems	100
	Number of Users	100

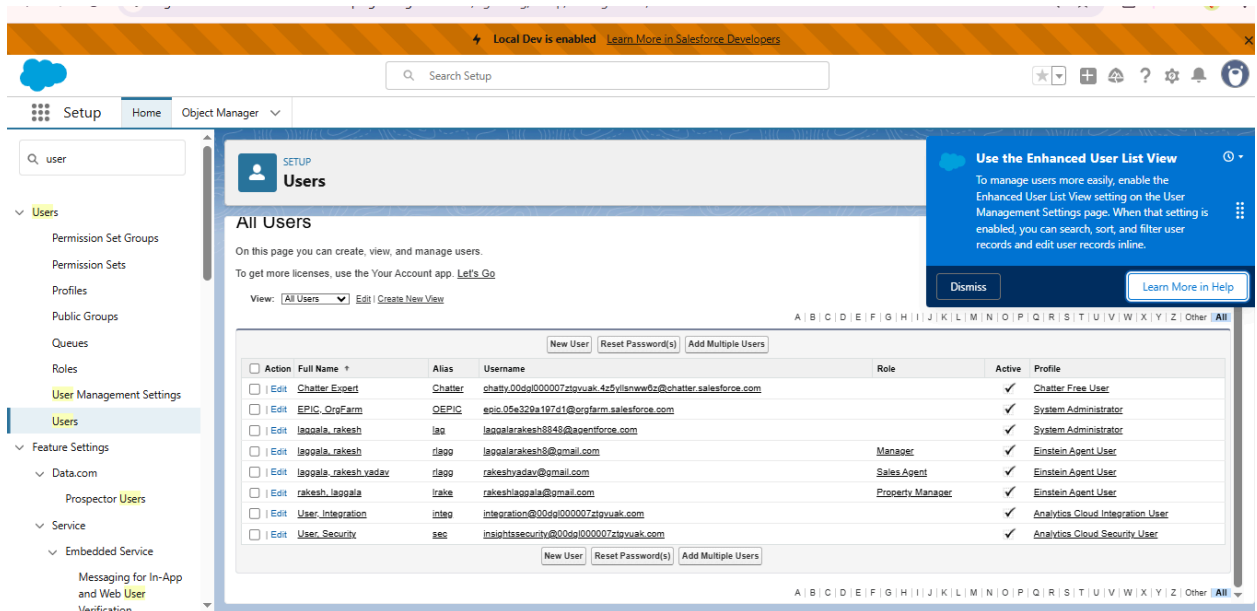
3. Business Hours & Holidays

We defined the official working hours as **10 AM to 7 PM, Monday to Friday**, with weekends as holidays. This helps Salesforce understand when the team is working, so automation like reminders or SLA tracking doesn't run on non-working days.



4. User Setup & Licenses

We created different user accounts for people in the system—like **Admin, Sales Agents, and Property Managers**. Each user is given a Salesforce license, which allows them to log in and use the CRM based on their role.



5. Roles & Profiles

- **Roles** set the hierarchy: Manager at the top, then Property Manager, and finally Sales Agents. This controls what data they can see.
- **Profiles** decide what actions they can perform, like creating records, editing, or deleting.
In short: Roles = *Who can see the data* and Profiles = *What actions they can do with it*.

6. Permission Sets

Sometimes, users need extra access for specific tasks. For example, a Sales Agent normally can't create dashboards, but with a **Permission Set**, we can give them that ability without changing their whole profile.

7. Org-Wide Defaults (OWD)

This is the baseline access level for everyone.

- Leads are set to **Private**, so only the owner and their manager can see them.
- Properties are **Public Read/Write**, meaning all agents can view and update them.
This balance keeps sensitive data secure but allows collaboration where needed.

8. Sharing Rules

Since Leads are private, we created **Sharing Rules** to allow agents in the same territory to share their leads with each other. This makes teamwork easier without exposing data to everyone.

Phase 3: Data Modeling & Relationships :

Objects and Fields

- **Lead (Standard)**: Stores customer details like name, email, phone, source, interest score, and status. Used to capture potential buyers.
- **Property (Custom)**: Keeps property details such as property name, location, price, status (available or sold), and features. Helps agents manage inventory.

SETUP > OBJECT MANAGER

Property

Details

Fields & Relationships
10 Items, Sorted by Field Label

Quick Find: New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Available Flag	Available_Flag__c	Formula (Number)		
City	City__c	Text(50)		
Created By	CreatedBy	Lookup(User)		
Features	Features__c	Picklist (Multi-Select)		
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Text(200)		
Owner	OwnerId	Lookup(User/Group)		✓
Price	Price__c	Currency(18, 0)		
Property Name	Name	Text(80)		✓
Status	Status__c	Picklist		

- **Visit (Custom):** Records property visits with fields like visit date, customer, agent, property, and status. Used for scheduling and tracking property tours.

SETUP > OBJECT MANAGER

Visit

Details

Fields & Relationships
12 Items, Sorted by Field Label

Quick Find: New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedBy	Lookup(User)		
Customer	Customer__c	Lookup(Lead)		✓
Email	Email__c	Email		
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Text(200)		
Name	Name__c	Auto Number		
Phone	Phone__c	Text(15)		
Property	Property__c	Master-Detail(Property)		✓
Status	Status__c	Picklist		
Visit Date	Visit_Date__c	Date		
Visit Name	Name	Auto Number		✓

- **Deal (Custom):** Contains information like offer price, negotiation notes, status, booking amount, and documents. Tracks final purchase process and negotiations.

SETUP > OBJECT MANAGER

Deal

Details

Fields & Relationships
10 Items, Sorted by Field Label

Quick Find: New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Booking Amount	Booking_Amount__c	Currency(18, 0)		
Created By	CreatedBy	Lookup(User)		
Deal Name	Name	Auto Number		✓
Documents	Documents__c	Long Text Area(32768)		
Last Modified By	LastModifiedById	Lookup(User)		
Lead	Lead__c	Lookup(Lead)		✓
Negotiation Notes	Negotiation_Notes__c	Long Text Area(32768)		
Offer Price	Offer_Price__c	Currency(18, 0)		
Owner	OwnerId	Lookup(User/Group)		✓
Status	Status__c	Picklist		

Relationships

- **Property and Visit (Master-Detail):** One property can have many visits. If a property is deleted, all its related visits are also deleted.
- **Lead and Deal (Lookup):** A lead can be linked to a deal if it converts. The deal references the original lead.
- **Agent and Visit (Lookup):** Each visit is linked to an agent. An agent can have multiple visits scheduled with different customers.

The screenshot shows the Salesforce Setup interface for the 'Visit' object. The left sidebar contains a navigation menu with options like Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Restriction Rules, Scoping Rules, Object Access, Triggers, and Flow Triggers. The main content area is titled 'Visit' and includes a 'Back to Visit' link. It features a 'Custom Field Definition Detail' section with buttons for 'Edit', 'Set Field-Level Security', 'View Field Accessibility', and 'Where is this used?'. Below this, the 'Field Information' table lists fields: Field Label (Agent), Field Name (Agent), API Name (Agent__c), Description, Help Text, Date Owner, Field Usage, Data Sensitivity Level, and Compliance Categorization. The 'Lookup Options' section shows the 'Visit' object is related to the 'User' object, with a 'Related List Label' of 'Visits' and a 'Child Relationship Name' of 'Visits'. The 'Validation Rules' section at the bottom indicates 'No validation rules defined'.

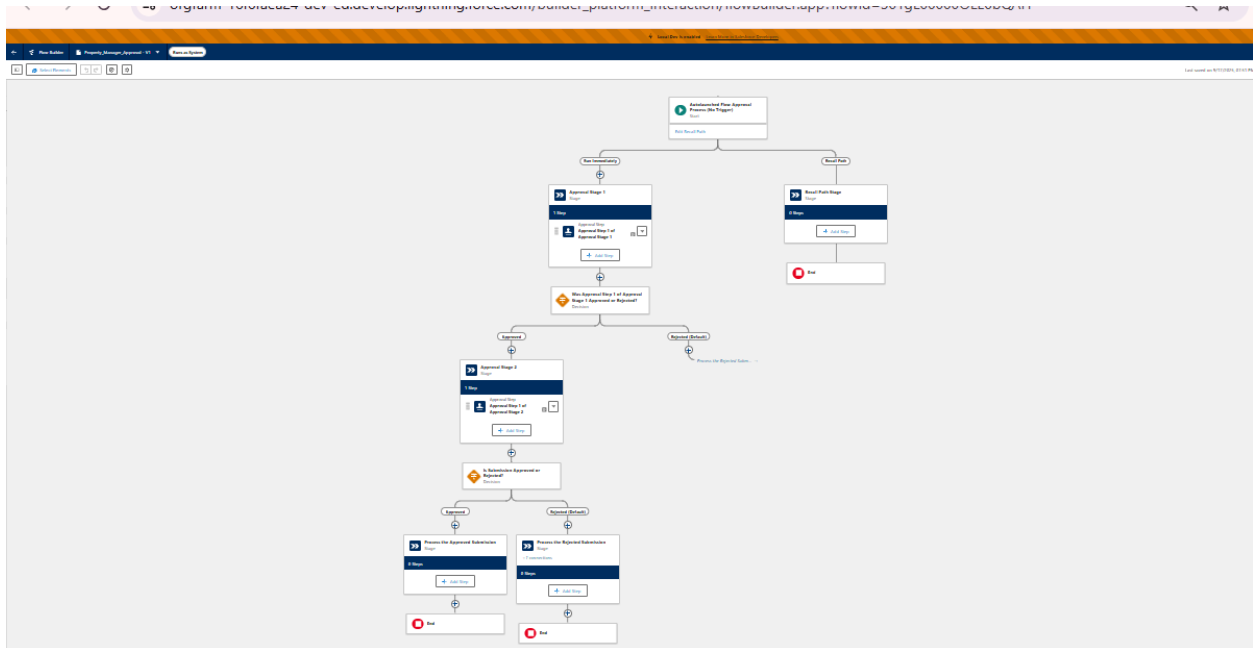
Schema Tools

- Schema Builder is used to create a visual diagram of all objects and their connections. It helps to clearly see how Leads, Properties, Visits, and Deals are related.

Phase 4: Process Automation (Admin) :

Validation Rules

We created validation rules to make sure important fields like email and phone are not left blank when adding a new lead. This prevents incomplete records from entering the system and ensures agents always have the basic contact details of a customer.



Custom Notifications

Custom notifications were built for sales agents. Whenever a new lead is assigned, the agent receives a notification inside Salesforce. This helps agents act quickly without missing new opportunities.

Custom Notifications

When you create and use custom notifications, the title and body of the custom push notification may be saved to and processed by Google, Microsoft and/or Apple. Salesforce is not responsible for the privacy and security practices of third-party systems or applications like Google Cloud Messaging or Apple Push Notification Service.

Custom Notification Types
New

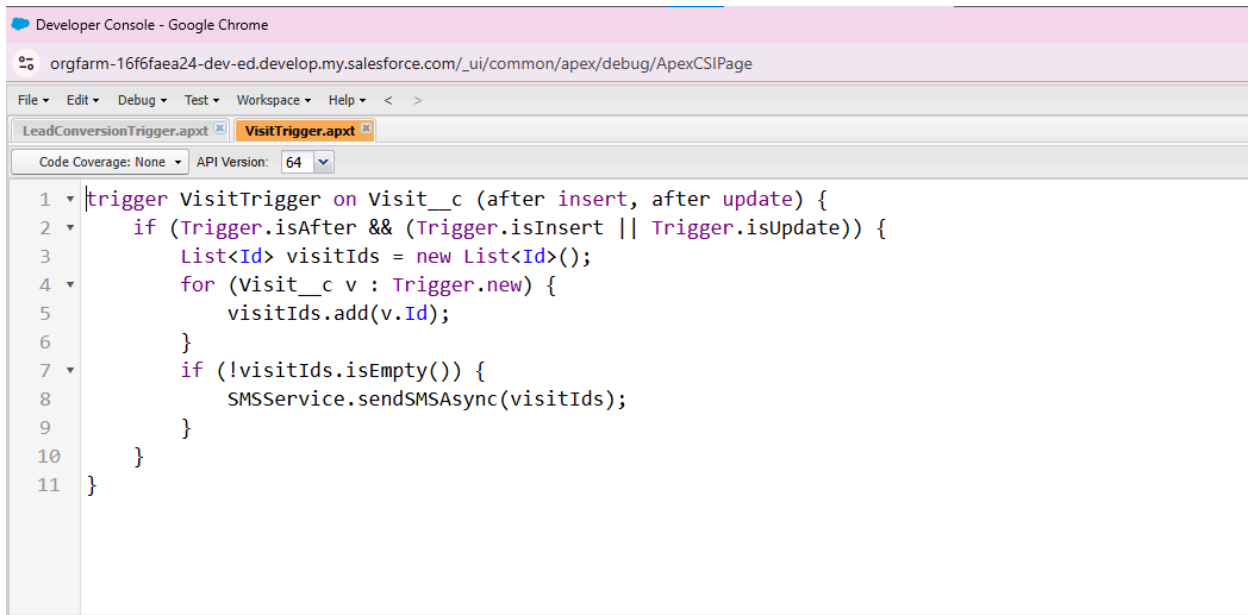
Send custom notifications using [Flows](#) or [Process Builder](#)

NOTIFICATION NAME	API NAME	NAMESPACE	DESKTOP	MOBILE
enablement_coaching_feedback_ready	enablement_coaching_feedback_ready		✓	
New Lead Assigned	New_Lead_Assigned		✓	✓

Phase 5: Apex Programming (Developer) :

Apex Trigger

We created a trigger that runs when a lead is converted. As soon as conversion happens, the system automatically creates a related Account and Opportunity. This saves time for sales agents because they don't need to manually create these records after every conversion.

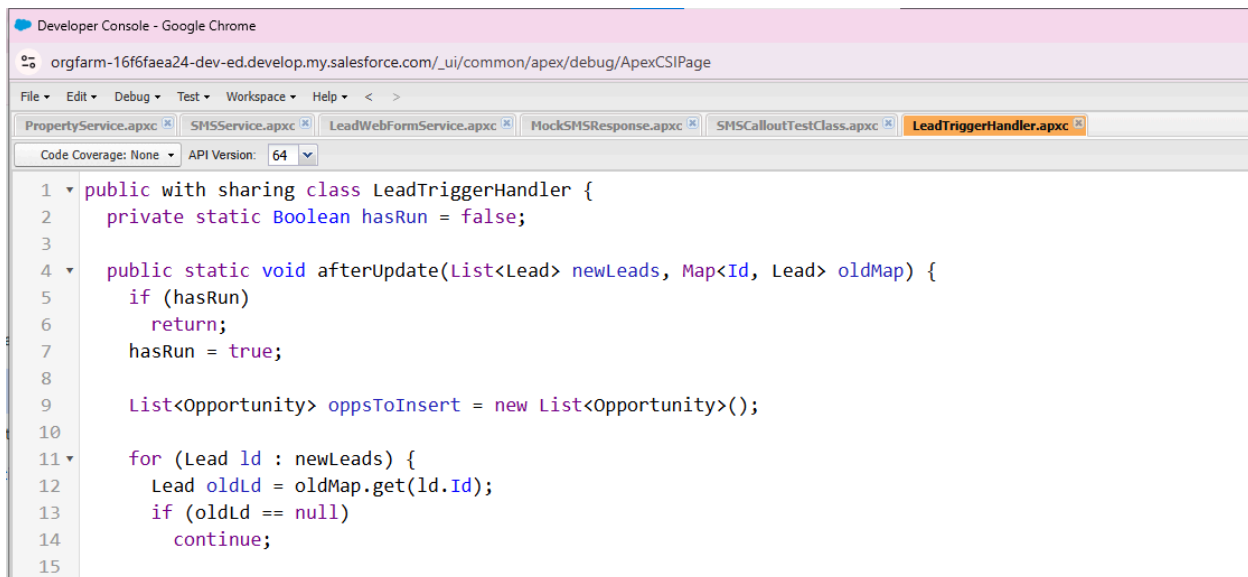


The screenshot shows the Salesforce Developer Console with the 'VisitTrigger.apex' file open. The code is an Apex trigger that fires after insert or update on the Visit__c object. It checks if the trigger is after insert or update, then iterates through the new records to collect their IDs into a list. If the list is not empty, it calls the SMSService.sendSMSAsync method to send SMS notifications.

```
1 trigger VisitTrigger on Visit__c (after insert, after update) {
2     if (Trigger.isAfter && (Trigger.isInsert || Trigger.isUpdate)) {
3         List<Id> visitIds = new List<Id>();
4         for (Visit__c v : Trigger.new) {
5             visitIds.add(v.Id);
6         }
7         if (!visitIds.isEmpty()) {
8             SMSService.sendSMSAsync(visitIds);
9         }
10    }
11 }
```

SOQL Queries

SOQL (Salesforce Object Query Language) was used to fetch property records based on filters like location and price. For example, if a customer asks for flats under 50 lakhs in Hyderabad, the query will quickly retrieve only those matching properties. This makes searching faster and more accurate.



The screenshot shows the Salesforce Developer Console with the 'LeadTriggerHandler.apex' file open. The code is an Apex class that implements the afterUpdate method for the Lead object. It uses a static Boolean variable 'hasRun' to ensure the logic only runs once per update. The logic involves checking if a new lead is a duplicate of an existing one (based on the old map) and then inserting a new Opportunity record if it's not a duplicate.

```
1 public with sharing class LeadTriggerHandler {
2     private static Boolean hasRun = false;
3
4     public static void afterUpdate(List<Lead> newLeads, Map<Id, Lead> oldMap) {
5         if (hasRun)
6             return;
7         hasRun = true;
8
9         List<Opportunity> oppsToInsert = new List<Opportunity>();
10
11         for (Lead ld : newLeads) {
12             Lead oldId = oldMap.get(ld.Id);
13             if (oldId == null)
14                 continue;
15         }
16     }
17 }
```

Future Method

We used a future method to send SMS confirmations to customers after their property visit is scheduled. Since sending SMS is an external callout, it is better to run it asynchronously in the background. This keeps the system smooth and avoids delays in saving the record.

```
Developer Console - Google Chrome
orgfarm-16f6faea24-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

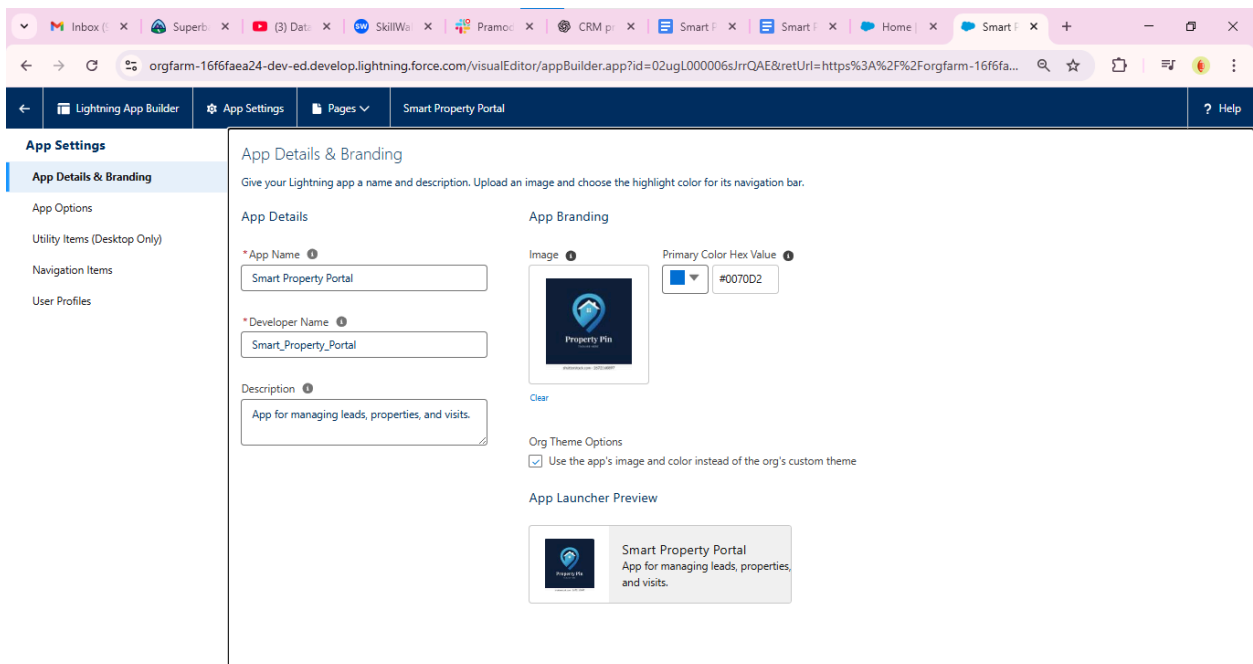
File Edit Debug Test Workspace Help < >
PropertyService.apxc SMSService.apxc LeadWebFormService.apxc MockSMSResponse.apxc SMSCalloutTestClass.apxc LeadTriggerHandler.apxc
Code Coverage: None API Version: 64

1 public class SMSService {
2     // Future method for asynchronous SMS sending (supports callouts)
3     @future(callout=true)
4     public static void sendSMSAsync(List<Id> visitIds) {
5         if (visitIds == null || visitIds.isEmpty()) {
6             return; // Nothing to send
7         }
8
9         // Query visits with Phone__c and required fields
10        List<Visit__c> visits = [
11            SELECT Id, Phone__c
12            FROM Visit__c
13            WHERE Id IN :visitIds
14        ];
15    }
```

Phase 6: User Interface Development :

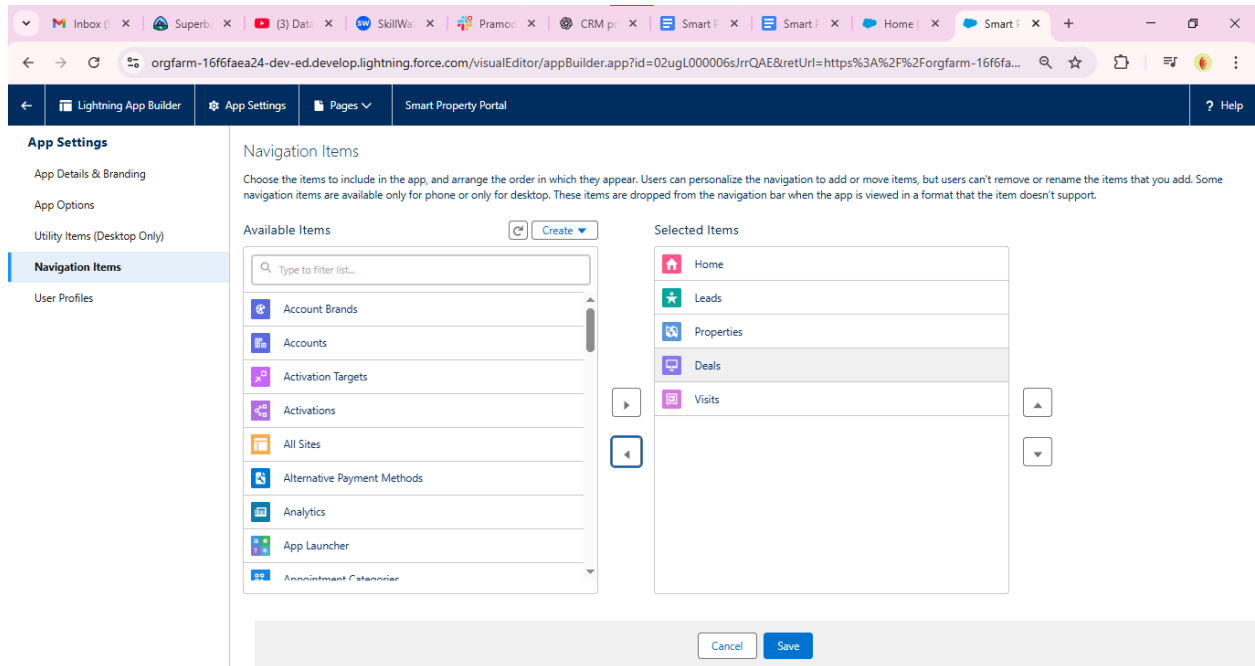
Lightning App Builder

We used Lightning App Builder to create a custom application called “Smart Property Portal.” This app brings together all the objects, pages, and components in one place so that sales agents and managers can easily access everything they need without jumping around.



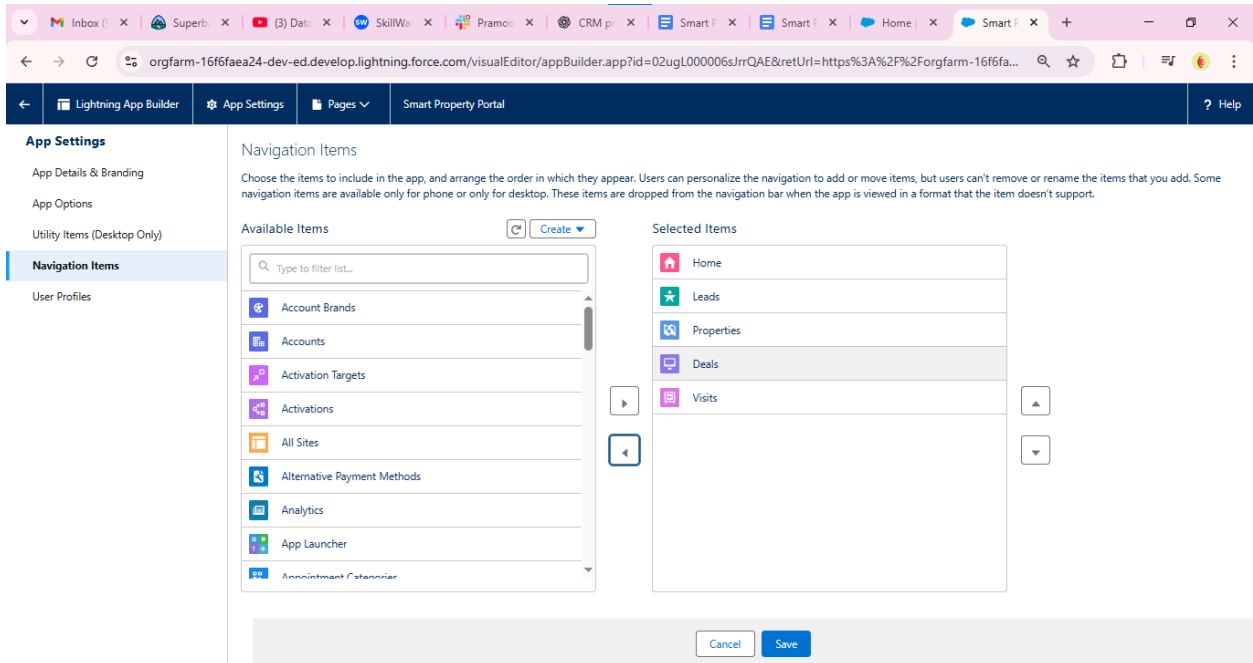
Record Pages

Custom record pages were designed for Leads, Properties, and Visits. Each page was arranged to show the most important details at the top and related information below. For example, the property page shows price, location, and availability clearly, making it easy for agents to check details quickly.



Tabs

We added tabs for Leads, Properties, Visits, and Deals in the navigation bar. This way, users can easily switch between different records. For instance, if an agent is working on a lead and wants to check available properties, they can move directly to the Property tab in just one click.

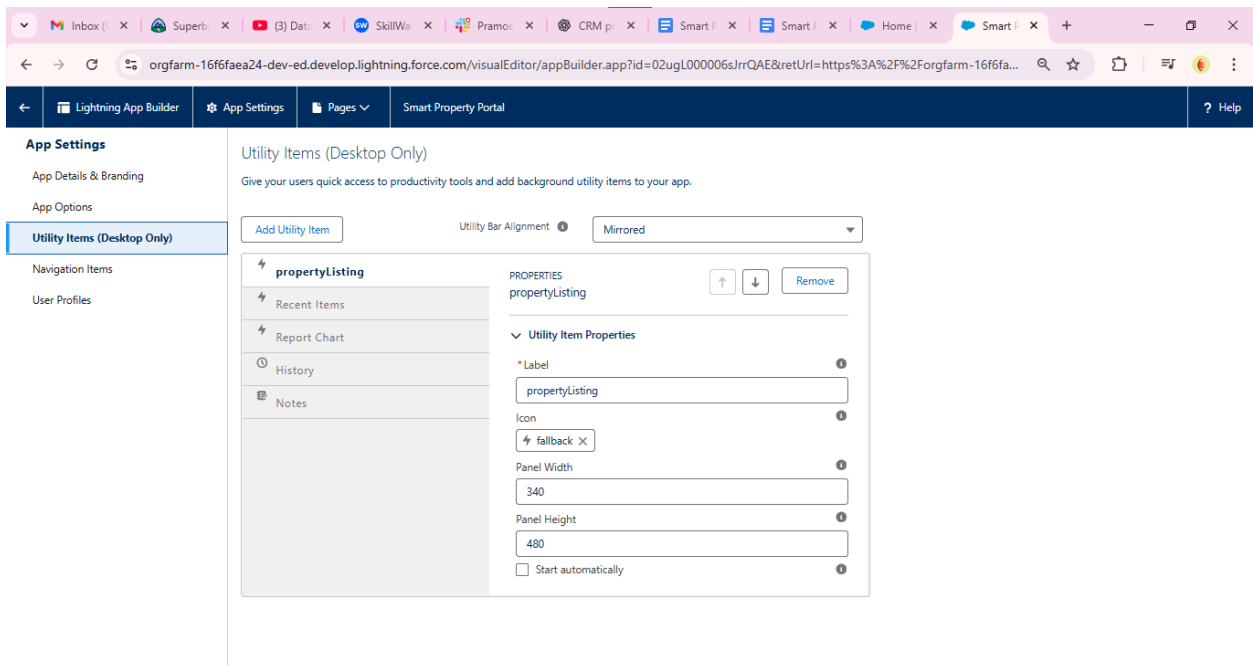


Home Page

A custom home page was built for sales agents. It includes a dashboard snapshot that shows their performance, upcoming visits, and new leads. This gives them a quick overview of their work as soon as they log in.

Utility Bar

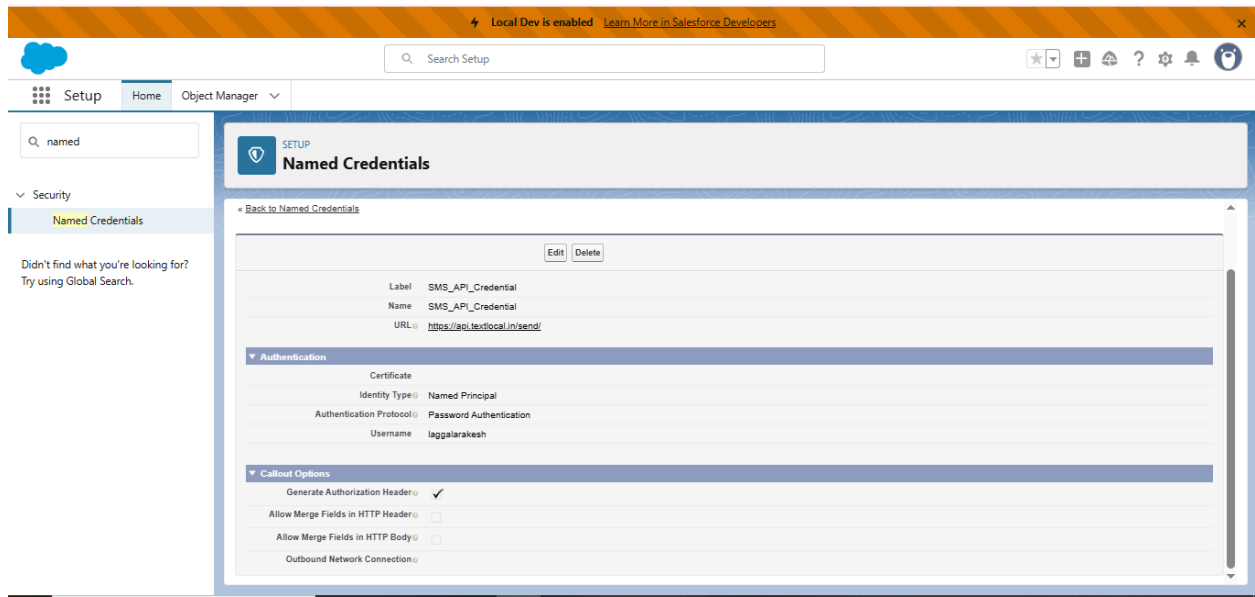
We added a utility bar at the bottom with a quick button to “Schedule Visit.” This makes it easy for agents to book a property visit directly from anywhere in the app without opening multiple pages.



Phase 7: Integration & External Access :

Named Credentials

We set up named credentials to securely store login details for external services like SMS and email APIs. This way, Salesforce doesn't need to hard-code usernames and passwords in the code. It makes integration more secure and easier to manage.

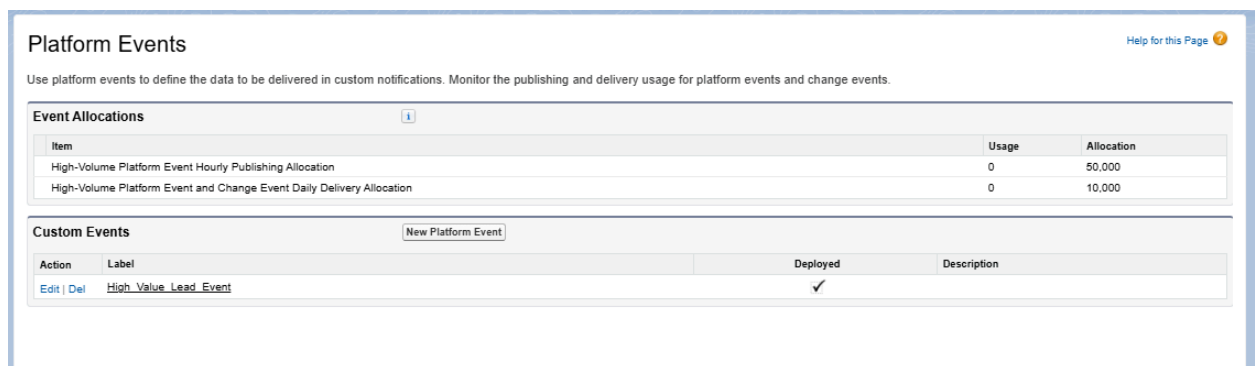


Web Services (REST)

We exposed a REST API endpoint so that leads can be created automatically from web forms. For example, if a customer fills out a property inquiry form on the company website, the data directly flows into Salesforce and creates a new lead. This reduces manual data entry and speeds up response time.

Platform Events

We used platform events to notify agents whenever a high-value lead comes in. For instance, if a customer shows interest in premium properties above a certain price, Salesforce generates an event that alerts the assigned agent immediately. This ensures priority leads are never missed.




We configured remote site settings to allow Salesforce to make callouts to external systems, such as an SMS gateway. This enables Salesforce to send SMS confirmations or reminders directly to customers. Without this setting, Salesforce would block such requests for security reasons.

Phase 8: Data Management & Deployment :

This is a simple, guided tool in Salesforce that allows you to bring in new records—like property listings or leads—directly from an Excel file. It’s ideal for small to medium-sized imports and walks you through each step, mapping your spreadsheet columns to Salesforce fields so you don’t make mistakes.

Data Loader is a more powerful tool for handling large volumes of data. If you have thousands of old leads from a previous system, you can use Data Loader to insert, update, or even delete records in bulk. It requires a CSV file and is especially useful when the import is too big for the standard Import Wizard.

Duplicate Rules help keep your database clean by stopping identical or very similar records from being created. For example, if a property has already been entered, these rules will alert the user or block the entry to avoid confusion and maintain data accuracy.

SETUP						
	Duplicate Rules					
<h2>All Duplicate Rules</h2>						
What Are Duplicate Rules?						
View: All Duplicate Rules ▾						
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z Other [All]						
Rule Name *	Description	Object	Matching Rule	Active	Last Modified By	Last Modified Date
Prevent Duplicate Properties		Property	Prevent Duplicate Properties matching rule	✓	Iaa	9/20/2025
Standard Account Duplicate Rule	Identify accounts that duplicate other accounts.	Account	Standard Account Matching Rule	✓	OEPIC	7/19/2025
Standard Contact Duplicate Rule	Identify contacts that duplicate other contacts and leads.	Contact	Standard Lead Matching Rule Standard Contact Matching Rule	✓	OEPIC	7/19/2025
Standard Lead Duplicate Rule	Identify leads that duplicate other leads and contacts.	Lead	Standard Lead Matching Rule Standard Contact Matching Rule	✓	OEPIC	7/19/2025
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z Other [All]						

Backup → Weekly data export for security

Regular backups involve exporting all your Salesforce data on a weekly schedule. This protects your business against accidental deletions, data corruption, or system failures, so you can always restore information if something goes wrong.

The screenshot shows the 'Schedule Data Export' configuration page in Salesforce. At the top, there's a 'SETUP' header and a 'Data Export' title. Below this, the 'Schedule Data Export' section contains several options: 'Export File Encoding' is set to 'ISO-8859-1 (General US & Western European, ISO-LATIN-1)'; 'Include images, documents, and attachments' is unchecked; 'Include Salesforce Files and Salesforce CRM Content document versions' is unchecked; 'Replace carriage returns with spaces' is checked. The 'Frequency' section shows 'On day 1 of every month' selected, with 'the 1st' and 'Sunday' as options. The 'Start' date is '9/24/2025' and the 'End' date is '10/24/2025'. The 'Preferred Start Time' is set to '--None--'. A note at the bottom states: 'Exact start time will depend on job queue activity.'

Phase 9: Reporting, Dashboards & Security Review :

Reports

Lead Funnel Report (New → Contacted → Converted)

This report shows the journey of leads through the sales process. You can see how many leads are new, how many have been contacted, and how many have converted into deals. It helps you spot where leads are getting stuck and which stages need more attention.

Property Availability Report

This report tracks which properties are currently available, booked, or sold. It gives a clear view of your inventory so your team knows what's ready to offer to clients and what's already taken.

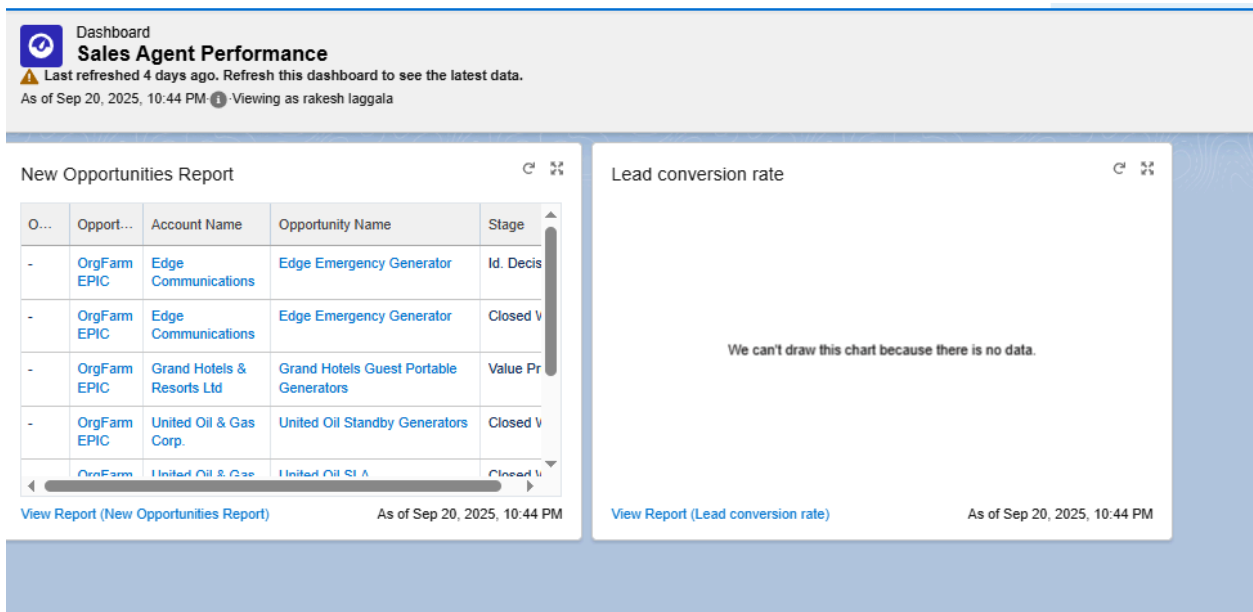
The screenshot shows the 'New Properties Report' in Salesforce. The table displays property details across various locations. The columns are: Location, Property Name, City, Status, Available Flag, f_x count records, and f_x sum the property's. The data is grouped by location, with subtotals for each. The total count is 5 properties, with a sum of 5.00.

Location	Property Name	City	Status	Available Flag	f_x count records	f_x sum the property's
Bangalore (1)	Lakeview Apartment	-	Available	1	-	-
Subtotal				1	1.00	1.00
Bangalore (1)	house	Bangalore	Available	1	-	-
Subtotal				1	1.00	1.00
Delhi (1)	Green Acres	-	Available	1	-	-
Subtotal				1	1.00	1.00
Goa (1)	Ocean Breeze	-	Available	1	-	-
Subtotal				1	1.00	1.00
Mumbai (1)	Sunset Villa	-	Available	1	-	-
Subtotal				1	1.00	1.00
Total (5)				5	5.00	5.00

Dashboards

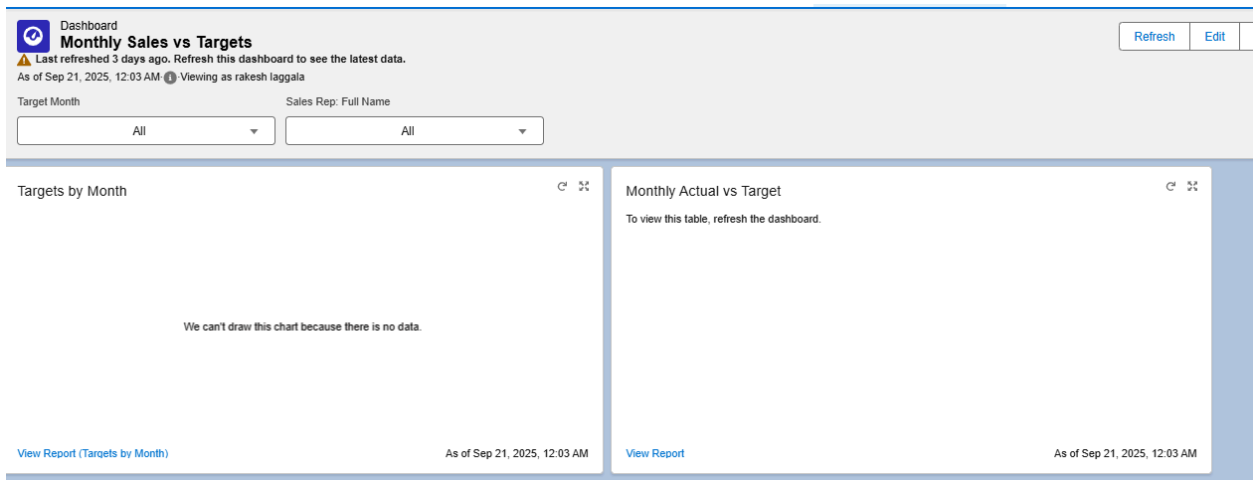
Sales Agent Performance Dashboard

This dashboard gives a quick visual summary of each agent’s performance. It shows metrics like leads handled, deals closed, and conversion rates, making it easy to identify top performers and agents who may need support.



Monthly Sales vs. Targets Dashboard

This dashboard compares actual sales with the set targets each month. It helps managers see at a glance whether the team is meeting goals and where adjustments are needed to improve performance.



Security Review

Field-level Security on Sensitive Fields (Booking Amount)

This ensures that sensitive information, like booking amounts, is only visible or editable by authorized users. It protects critical data from being accessed or changed by people who shouldn't see it.

Deal Custom Field

Booking Amount

Back to Deal

Validation Rules (0)

Custom Field Definition Detail

EditSet Field-Level SecurityView Field AccessibilityWhere is this used?

Field Information

Field Label	Booking Amount	Object Name	Deal
Field Name	Booking_Amount	Data Type	Currency
API Name	Booking_Amount__c		
Description			
Help Text			
Data Owner			
Field Usage			
Data Sensitivity Level			
Compliance Categorization			
Created By	rakesh.laggala, 9/16/2025, 7:11 AM	Modified By	rakesh.laggala, 9/16/2025, 7:11 AM

General Options

Required	<input type="checkbox"/>
Default Value	

Login IP Restrictions for Admin

This restricts admin logins to specific IP addresses, like your office network. It prevents unauthorized access from unknown locations, adding an extra layer of security for critical administrative accounts.

Login IP Ranges

Help for this Page

Enter the range of valid IP addresses from which users with this profile can log in.

SaveCancel

Please specify IP range

Start IP Address

192.168.1.10

End IP Address

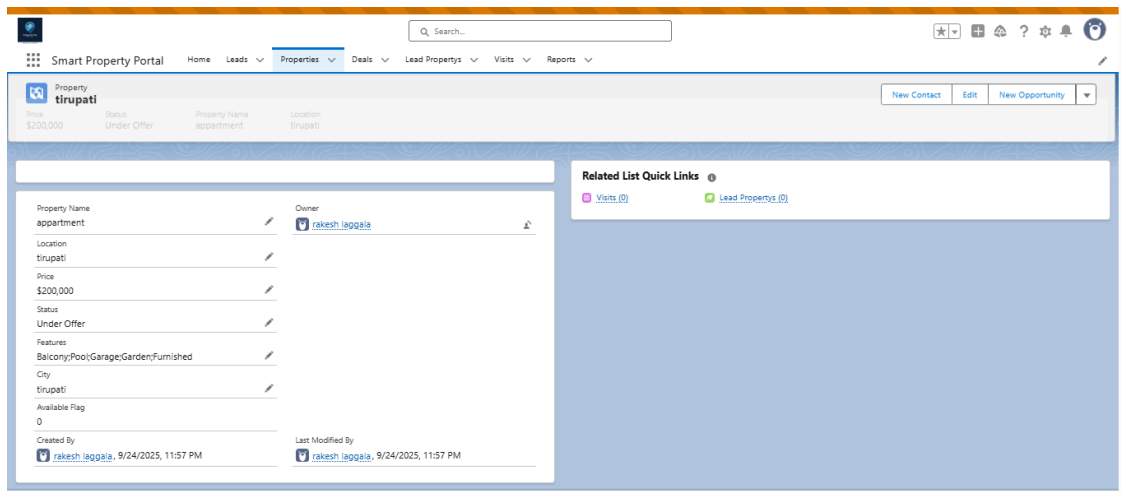
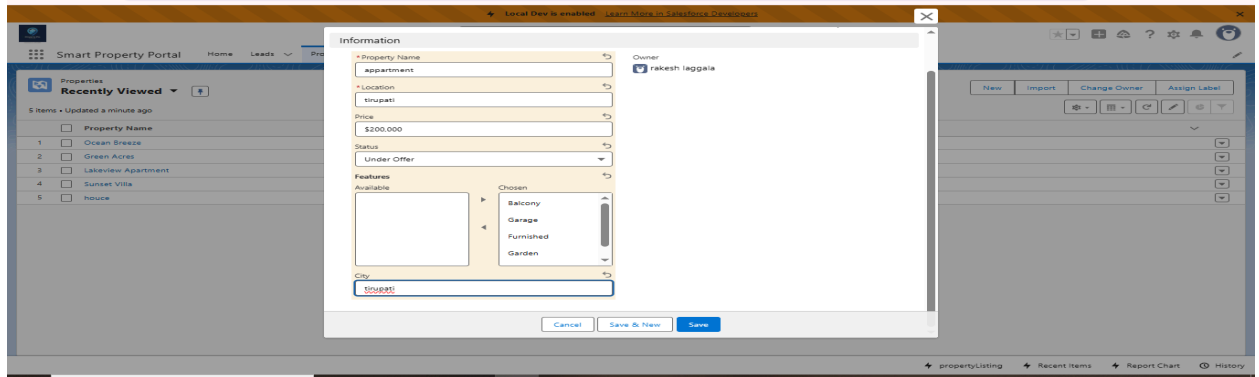
192.168.1.10

Description

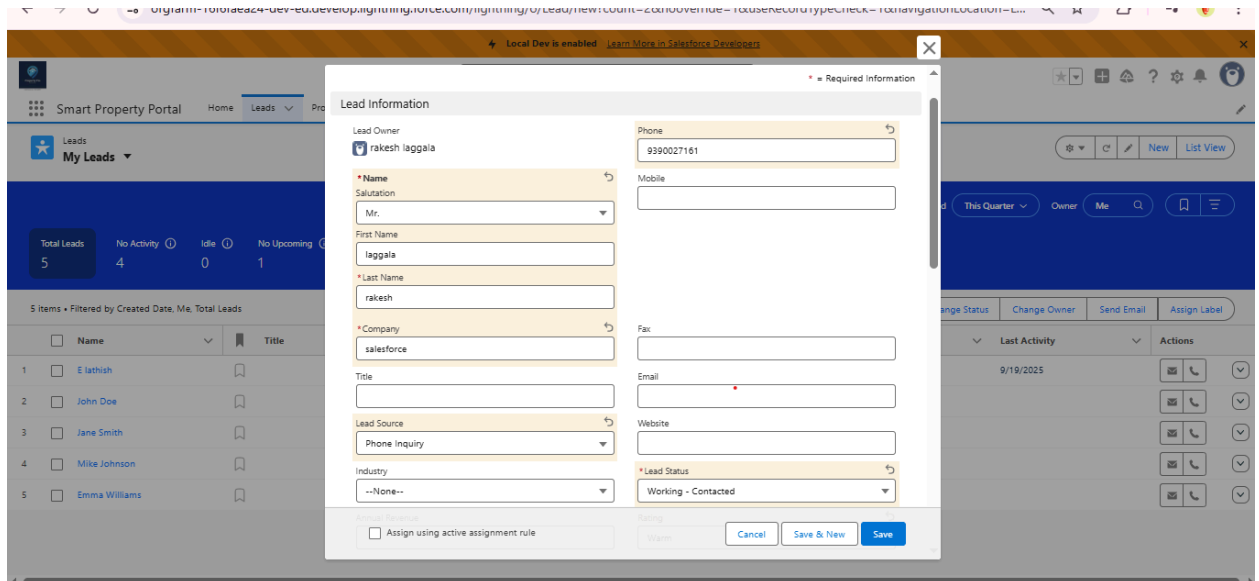
SaveCancel

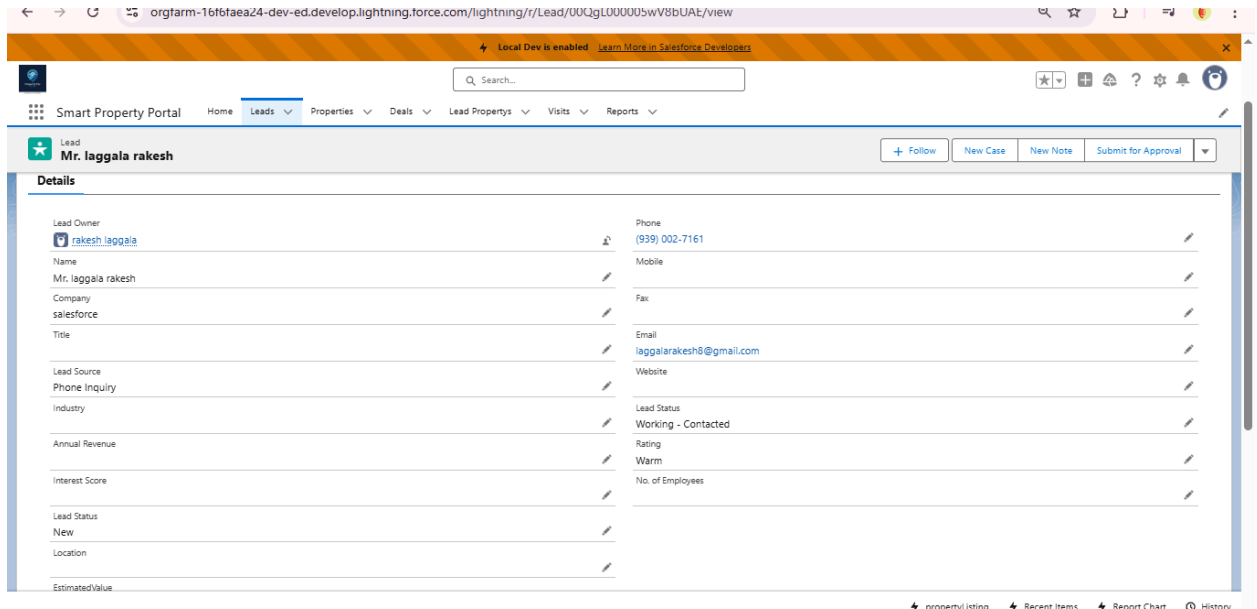
Phase 10: Quality Assurance Testing :

1. Creating a new Property record with all mandatory fields.



2. Creating a new Deal record with all mandatory fields





Conclusion:

The Smart Property Portal streamlines the entire property and lead management process, making it easier for agents and managers to work efficiently. By integrating features like lead tracking, property listings, automated task creation, approval processes, and detailed reporting, the portal ensures that no lead or opportunity is missed. Dashboards and reports provide real-time insights into agent performance, property availability, and sales targets, enabling informed decision-making.

The portal also emphasizes data integrity and security through features like duplicate rules, field-level security, login IP restrictions, and regular backups. Quality assurance testing confirms that all functionalities work as intended, minimizing errors and improving reliability.

Overall, the Smart Property Portal improves productivity, enhances data accuracy, and provides a centralized platform for managing properties and leads, making it an essential tool for modern real estate operations.

