



GARAGE MANAGEMENT SYSTEM USING SALESFORCE

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Project Overview

Garage Management system

The Garage Management System is a valuable tool for automotive repair facilities, helping them deliver top-notch service, increase operational efficiency, and build lasting customer relationships. With its user-friendly interface and powerful features, GMS empowers garages to thrive in a competitive market while ensuring a seamless and satisfying experience for both customers and staff.

Objectives

The main goal of the Garage Management System is to enhance the efficiency and productivity of automobile workshops through Salesforce automation and customization.

It focuses on delivering a better customer experience, reducing manual workload, and providing real-time insights into service operations.

Business Goals:

A. Improve Service Efficiency:

Automate appointment scheduling, vehicle tracking, and technician assignment to reduce delays and improve service quality.

B. Enhance Customer Experience:

Offer a transparent system for customers to track service status, view history, and receive timely updates.

C. Optimize Inventory Management:

Monitor spare part usage, stock levels, and reorder requirements to ensure availability during service operations.

D. Streamline Billing and Payments:

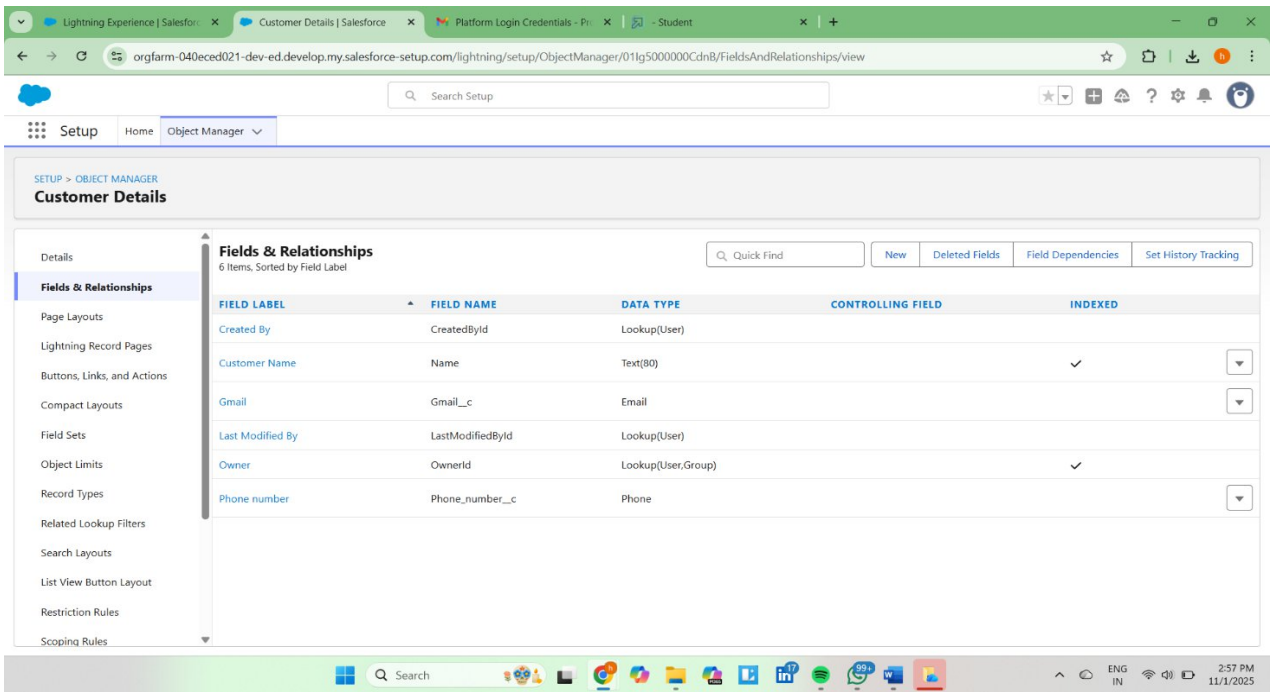
Generate digital invoices linked to completed services for faster and more accurate billing.

Salesforce Key Features and Concepts Utilized

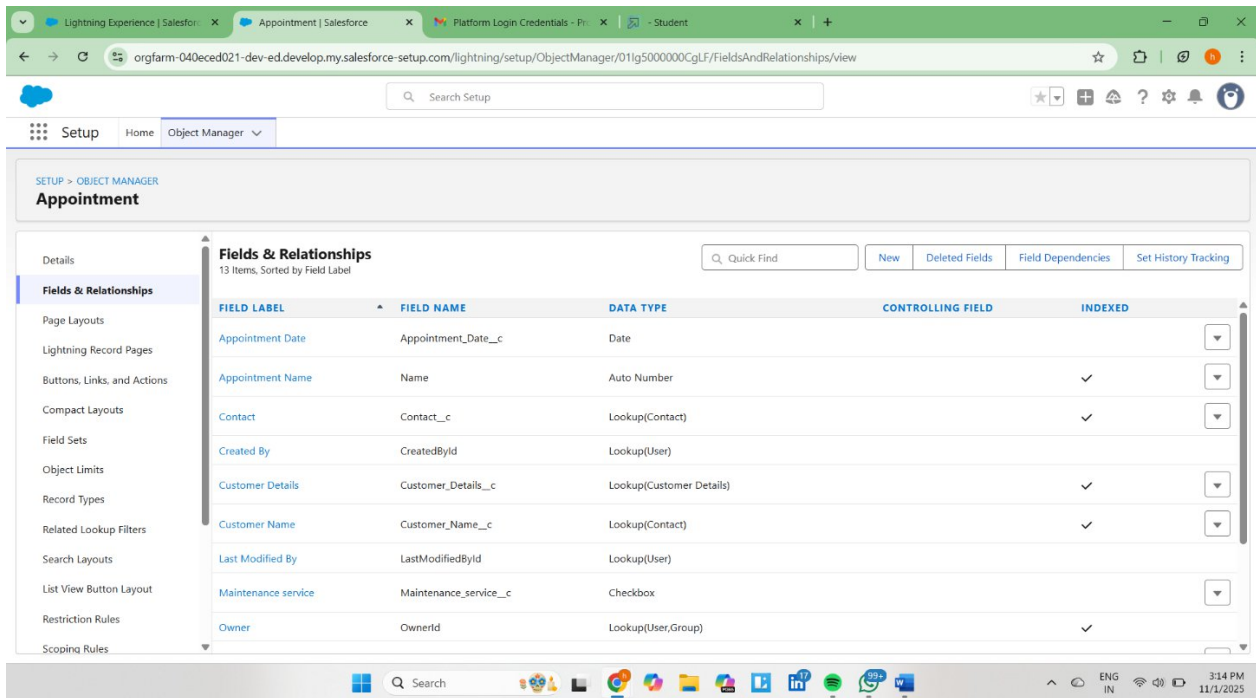
The Garage Management System leverages Salesforce’s features to create a powerful, user-friendly environment for managing garage operations.

1.Custom Objects

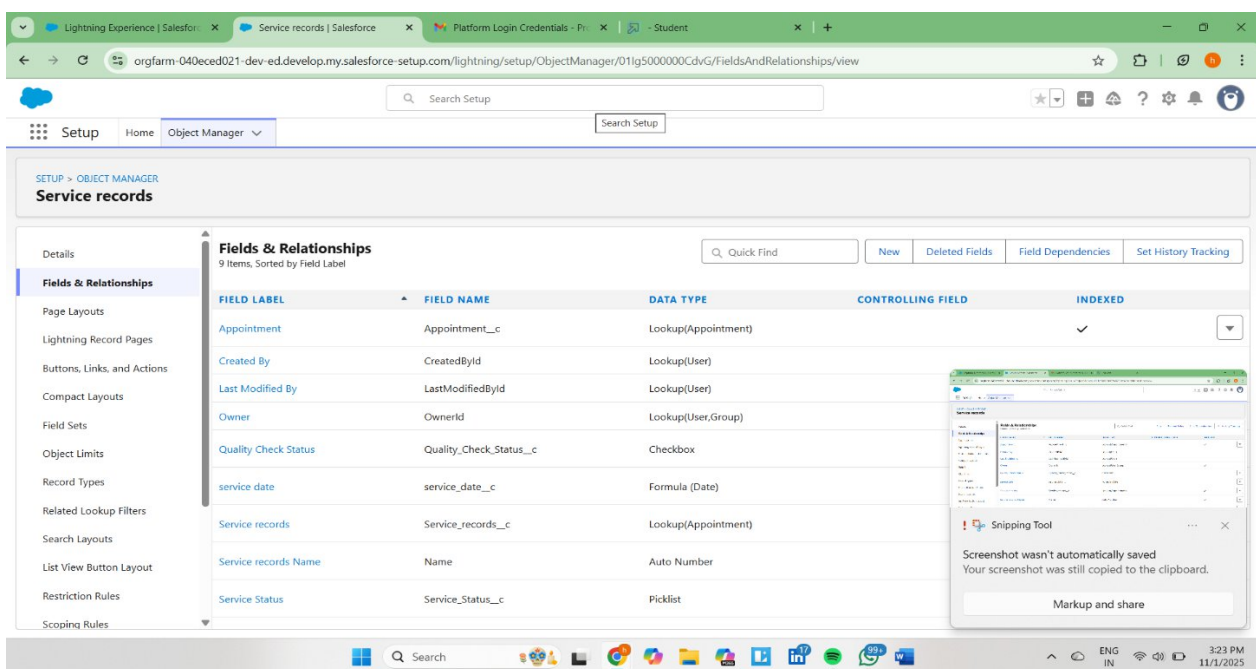
Customer Details: Stores key customer information such as name, contact number, email, and vehicle details. It helps garages maintain a complete customer database for quick access and personalized service.



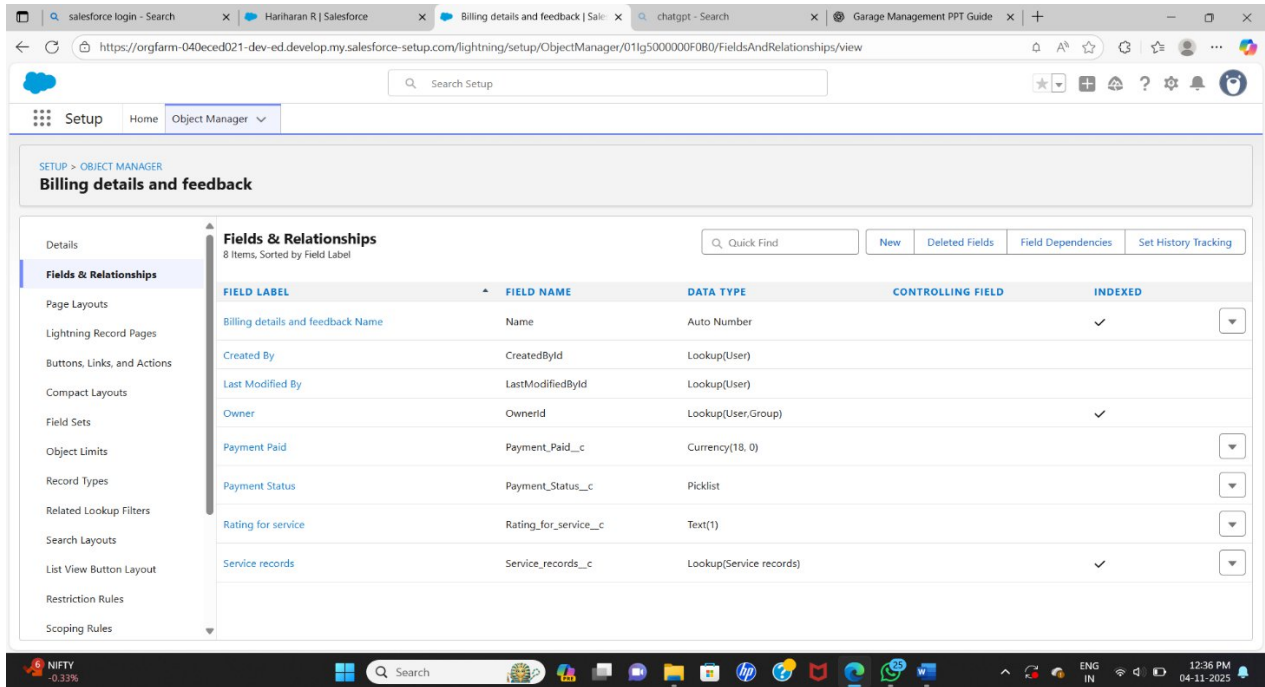
Appointments : Manages service bookings with details such as date, time, vehicle number, assigned technician, and service type. It helps avoid scheduling conflicts and ensures timely service delivery.



Service records: Keeps a detailed log of all services performed on each vehicle, including service status , service date , appointments and technician involved. This ensures transparency and makes it easy to view service history.



Billing details & Feedback : Handles billing operations by automatically generating invoices after service completion. It also collects customer feedback to evaluate service quality and improve future operations.



The screenshot shows the Salesforce Setup interface for the 'Billing details and feedback' 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, Search Layouts, List View Button Layout, Restriction Rules, and Scoping Rules. The main content area is titled 'Billing details and feedback' and shows a table of fields and relationships. The table has columns for FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields listed are: Billing details and feedback Name (Name, Auto Number, Indexed), Created By (CreatedBy, Lookup(User)), Last Modified By (LastModifiedBy, Lookup(User)), Owner (OwnerId, Lookup(User, Group), Indexed), Payment Paid (Payment_Paid__c, Currency(18, 0)), Payment Status (Payment_Status__c, Picklist), Rating for service (Rating_for_service__c, Text(1)), and Service records (Service_records__c, Lookup(Service records), Indexed). The table is sorted by Field Label.

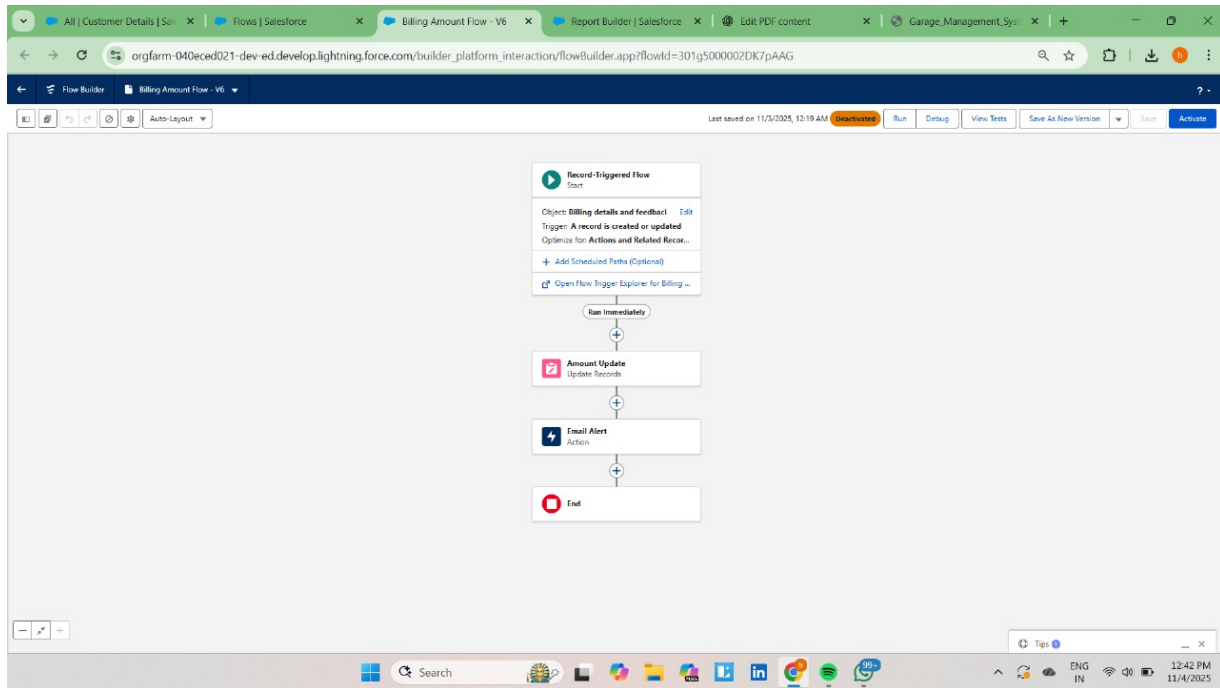
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Billing details and feedback Name	Name	Auto Number		✓
Created By	CreatedBy	Lookup(User)		
Last Modified By	LastModifiedBy	Lookup(User)		
Owner	OwnerId	Lookup(User, Group)		✓
Payment Paid	Payment_Paid__c	Currency(18, 0)		
Payment Status	Payment_Status__c	Picklist		
Rating for service	Rating_for_service__c	Text(1)		
Service records	Service_records__c	Lookup(Service records)		✓

2. Relationships

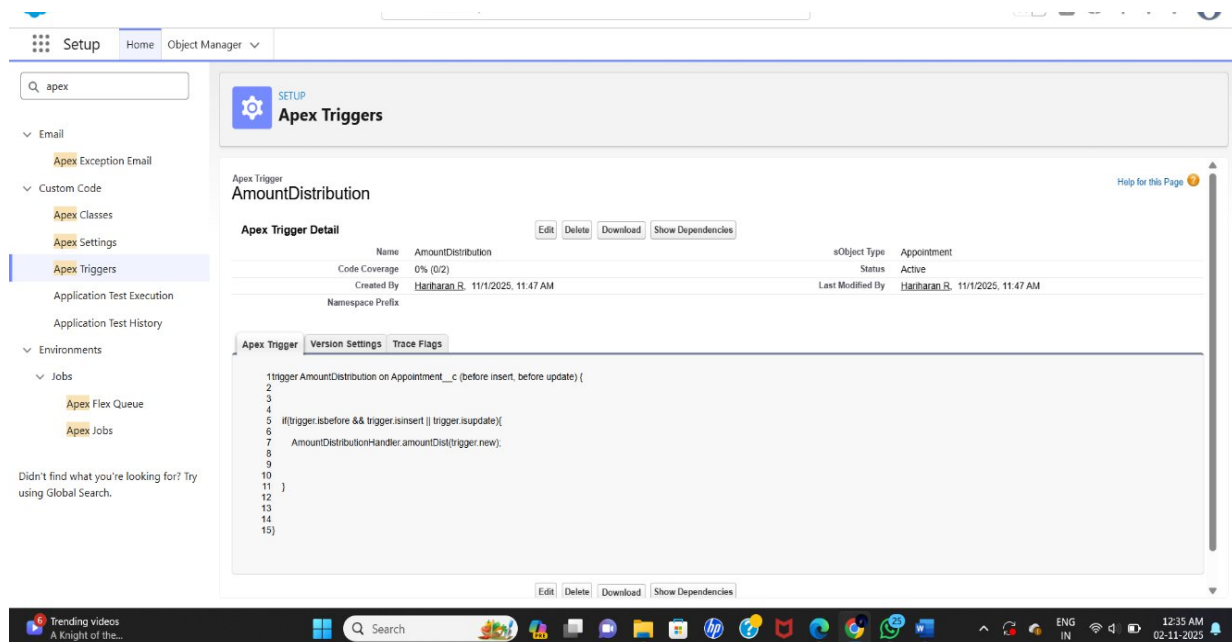
- **Master-Detail Relationships:**
Establish structured data connections, such as linking **Service Records** to **Billing Details**, ensuring accurate billing and consistent tracking of completed services.
- **Lookup Relationships:**
Provide flexible associations, such as linking **Appointments** to **Customer Details** and **Mechanics**, allowing dynamic scheduling based on availability and service type.

3. Automations and Workflows

Flows: Automate key processes like generating billing records once a service is marked as completed, guiding users through a step-by-step workflow that reduces manual entry errors.

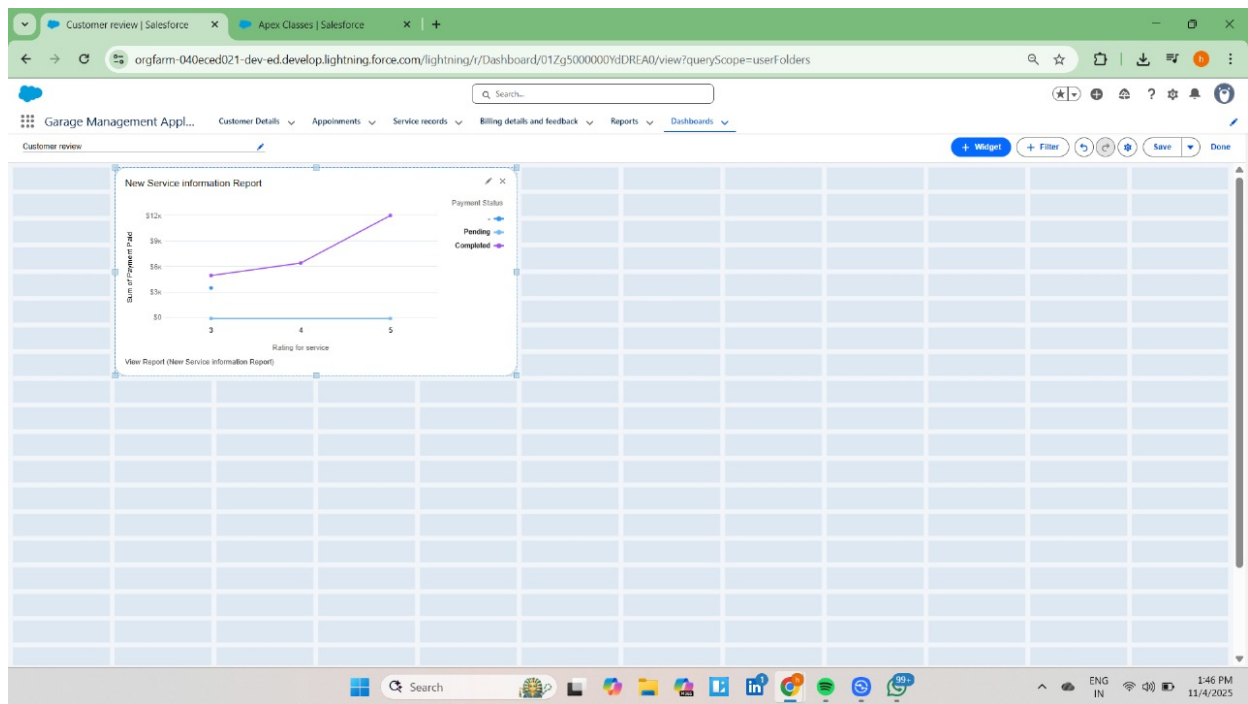


Apex Triggers: Implement custom logic to automatically update spare part inventory quantities after a service or to notify managers when a job is completed, improving operational accuracy and response times.

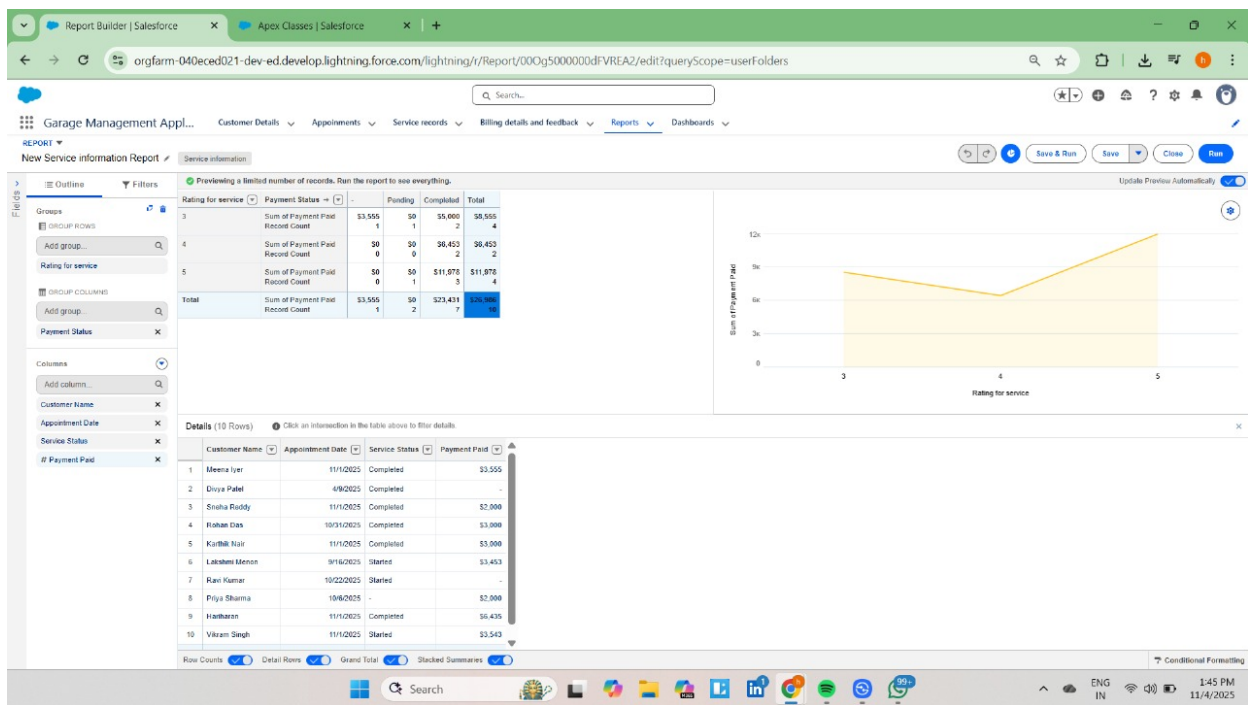


4.Dashboards and Reports

Dashboards: Provide visual representations of crucial garage data, including total services completed, mechanic workload, customer satisfaction, and revenue trends. These dashboards empower administrators to make informed decisions and improve overall performance.



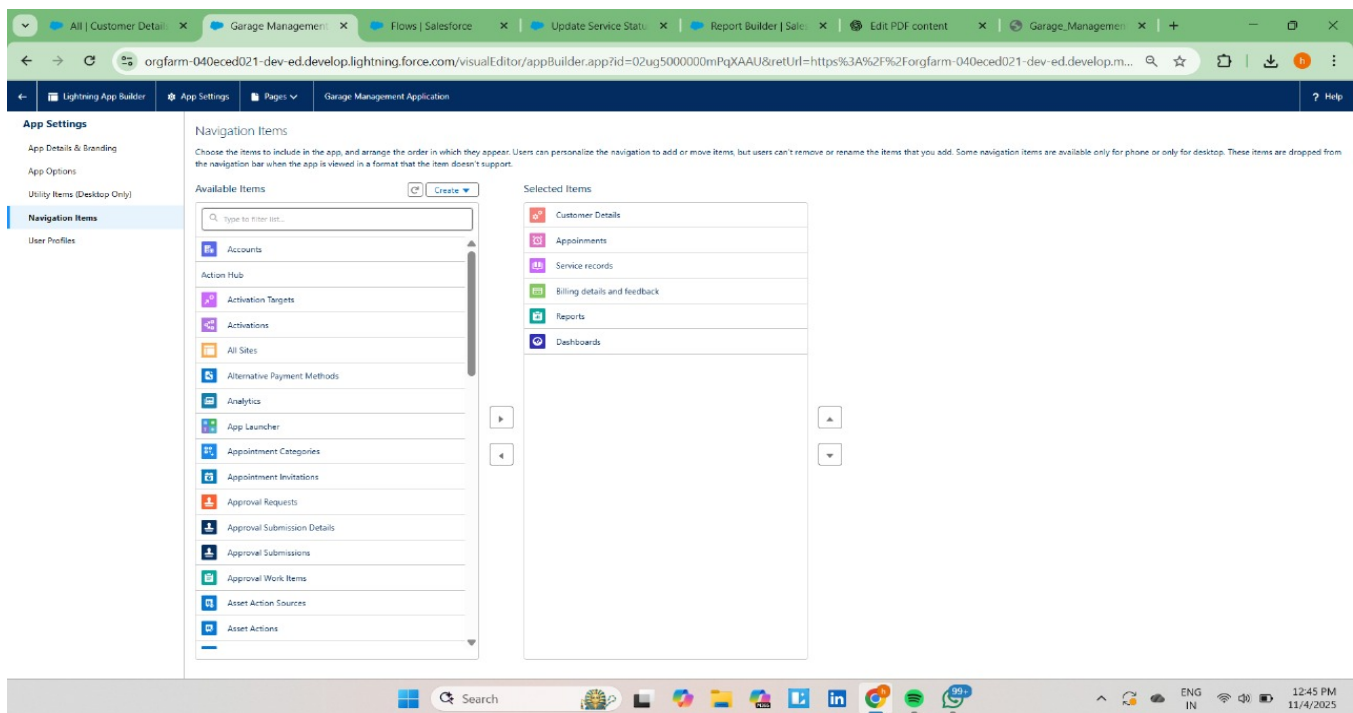
Reports: Generate detailed analytics on customer activity, service volume, and income, helping identify areas for efficiency and business growth.



5. User Experience Enhancements

Lightning App

A custom app was developed to deliver an intuitive, user-friendly interface. The app consolidates navigation for all major components Customers, Appointments, Service Records, Billing, Reports, and Dashboards ensuring quick access and smooth interaction across the platform.



Detailed Steps to Solution Design

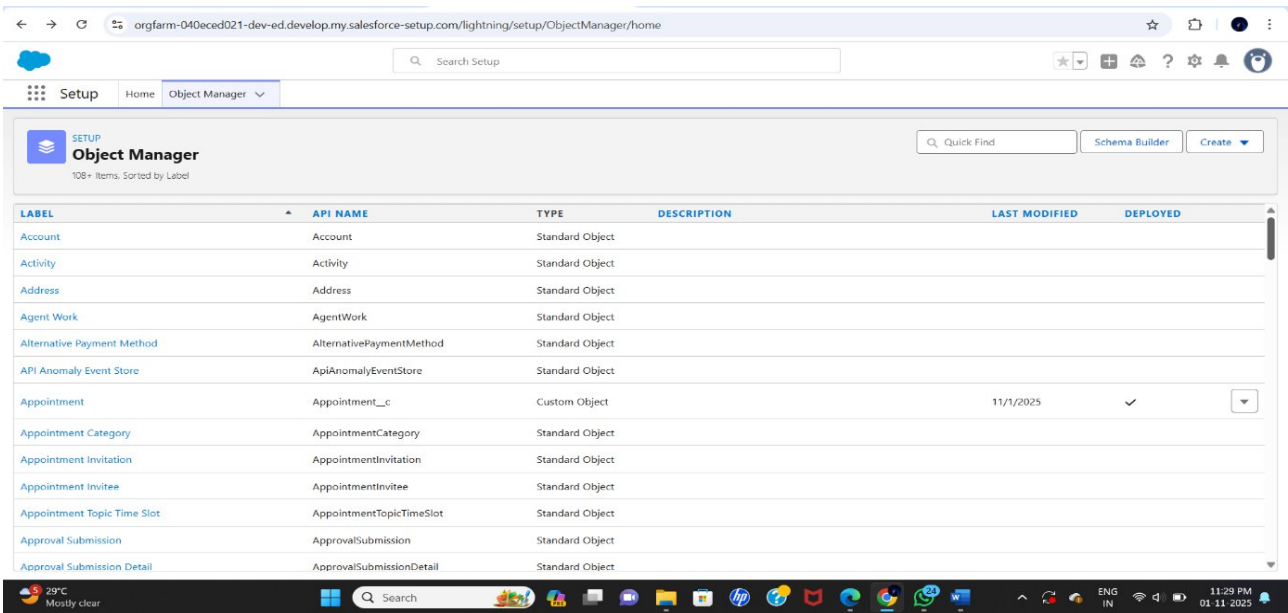
Building the **Garage Management System (GMS)** involved a structured and thoughtful approach to ensure the platform meets the needs of customers, mechanics, and administrators while leveraging the robust capabilities of Salesforce. Below is a step-by-step breakdown of the design and implementation process:

Step 1: Developer Account Setup

- Registered for a Salesforce Developer account to create a dedicated environment for development and testing.
- Verified the account to unlock full access to Salesforce features, ensuring a smooth setup process.

Step 2: Custom Object Creation

- Used Salesforce Object Manager to design custom objects for **Customer Details, Appointment, Service Records, and Billing Details & Feedback**.
- Configured fields such as text, numbers, currency, and lookup relationships to capture all relevant data, ensuring each object accurately reflects the real-world requirements of a garage management system.

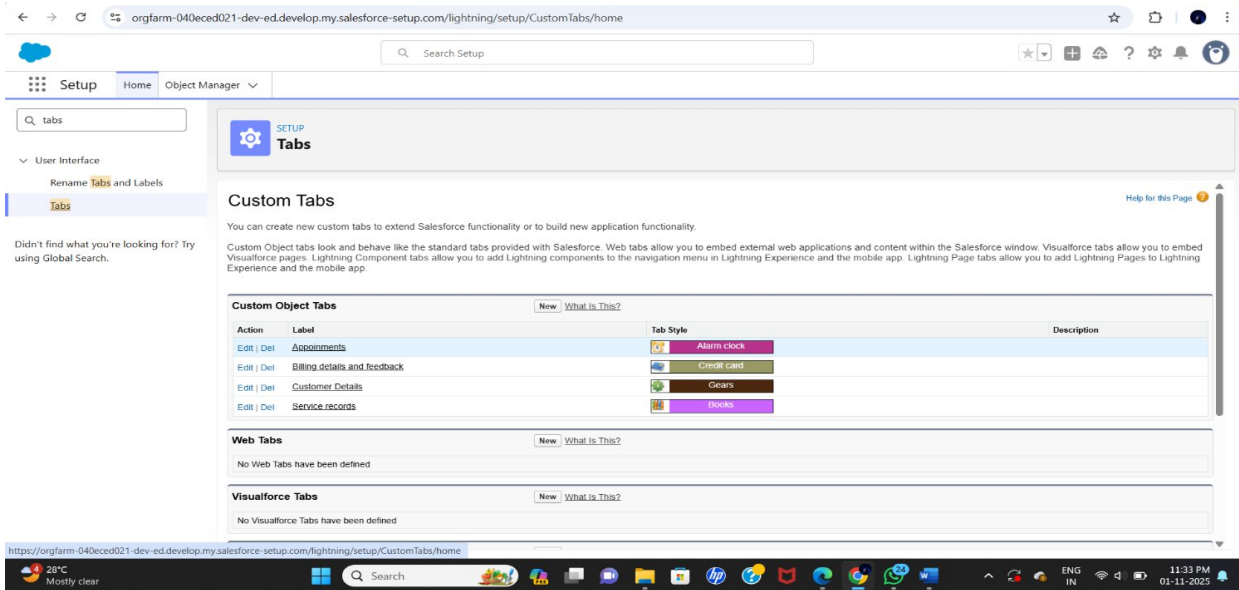


The screenshot displays the Salesforce Object Manager interface. At the top, there's a navigation bar with 'Setup', 'Home', and 'Object Manager' tabs. Below this, the 'Object Manager' header includes a 'Quick Find' search bar, 'Schema Builder', and a 'Create' button. The main area contains a table with columns: LABEL, API NAME, TYPE, DESCRIPTION, LAST MODIFIED, and DEPLOYED. The table lists various standard objects like Account, Activity, Address, and custom objects like Appointment and Approval Submission. The 'Appointment' object is highlighted, showing it was last modified on 11/1/2025 and is deployed.

LABEL	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED
Account	Account	Standard Object			
Activity	Activity	Standard Object			
Address	Address	Standard Object			
Agent Work	AgentWork	Standard Object			
Alternative Payment Method	AlternativePaymentMethod	Standard Object			
API Anomaly Event Store	ApiAnomalyEventStore	Standard Object			
Appointment	Appointment_c	Custom Object		11/1/2025	✓
Appointment Category	AppointmentCategory	Standard Object			
Appointment Invitation	AppointmentInvitation	Standard Object			
Appointment Invitee	AppointmentInvitee	Standard Object			
Appointment Topic Time Slot	AppointmentTopicTimeSlot	Standard Object			
Approval Submission	ApprovalSubmission	Standard Object			
Approval Submission Detail	ApprovalSubmissionDetail	Standard Object			

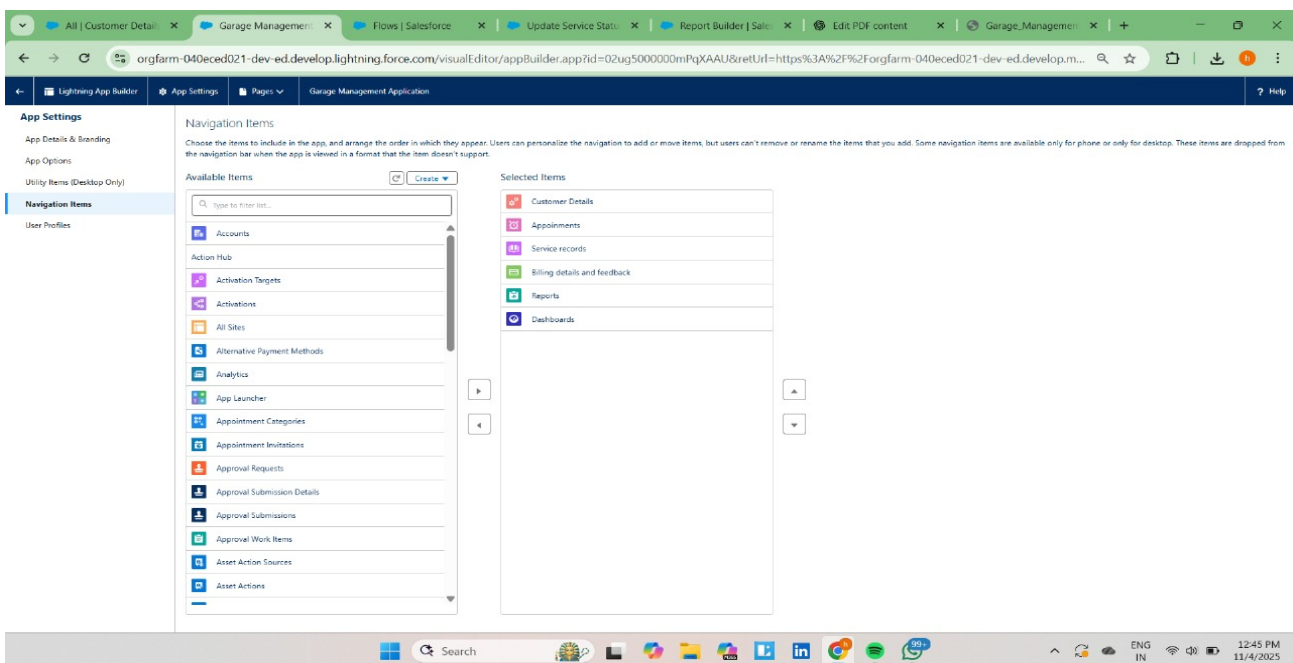
Step 3: Custom Tabs for Navigation

Created custom tabs for each object, improving navigation and making it easier for users to access



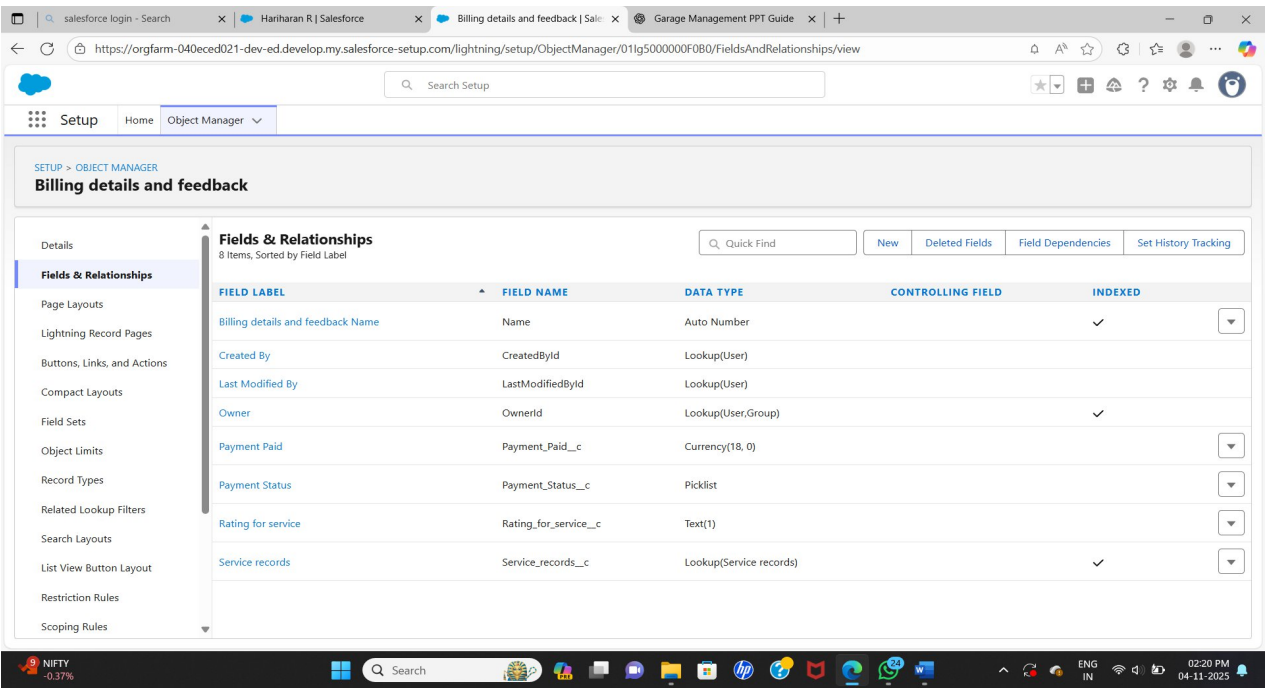
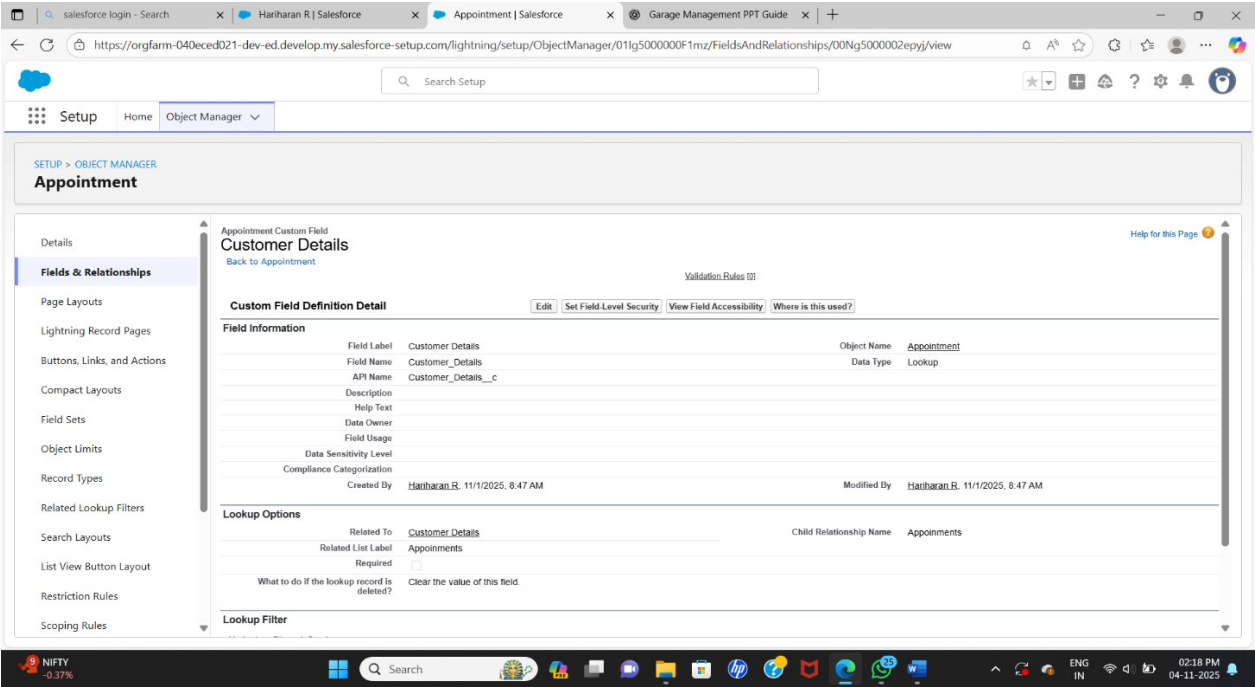
Step 4: Lightning App Development

- Developed a Lightning App and included essential navigation items like custom objects, reports, and dashboards to provide a user-friendly interface.
- Assigned user profiles to ensure role based access and operational security.



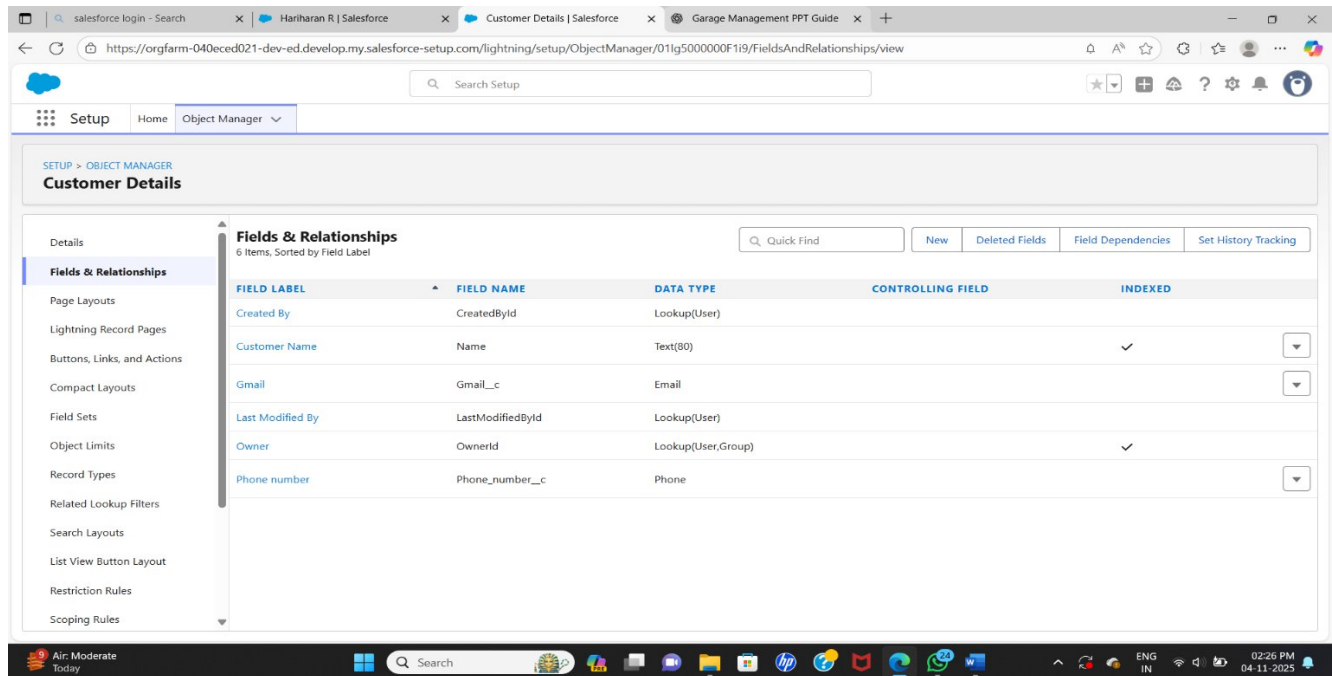
Step 5: Establishing Data Relationships

- Defined relationships between objects using **Lookup** and **Master-Detail** fields.
- Examples include: Lookup between **Appointment** and **Customer Details** to link customers with service appointments. Master-Detail between **Service Records** and **Billing Details** to maintain connected service and payment data.



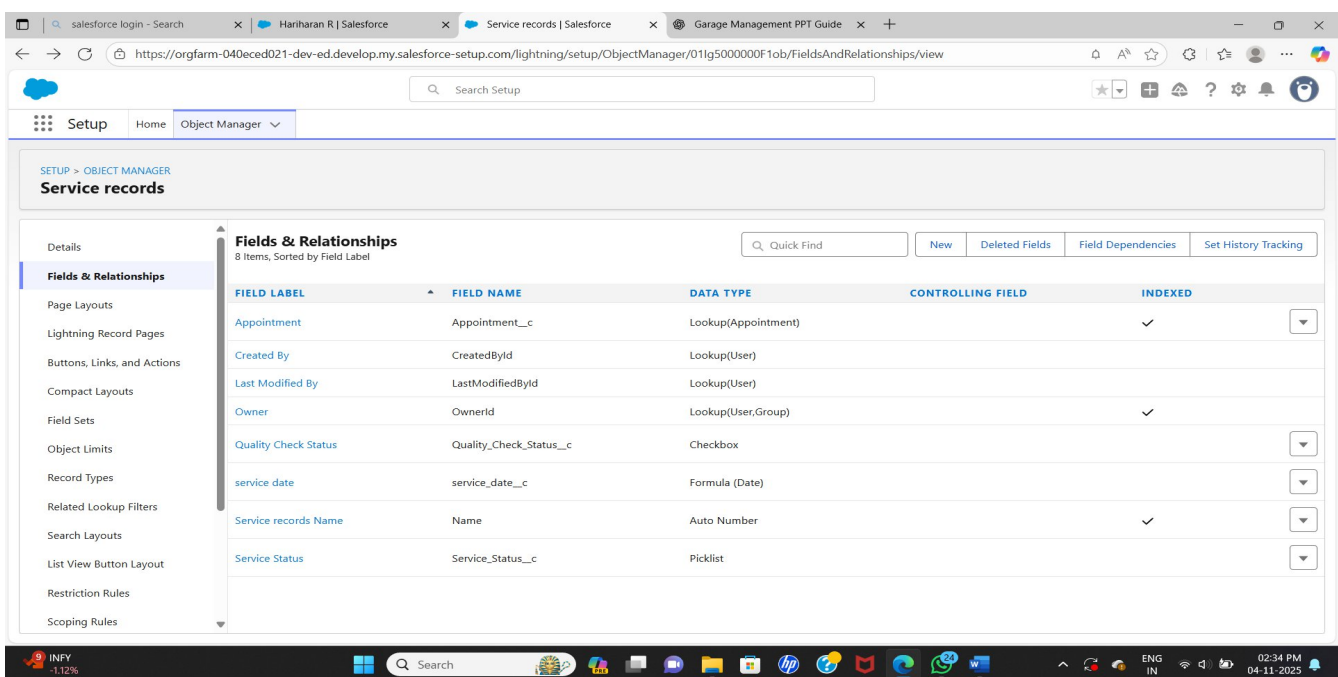
Step 6: Field Configuration

- Configured fields for each custom object to capture critical details, such as:
 - Customer Details:** Name, Contact Number, Email, Vehicle Model.
 - Appointment:** Date, Time, Vehicle, Assigned Mechanic.
 - Service Records:** Service Type, Cost, Status, Completion Date.
 - Billing & Feedback:** Amount, Payment Status, Customer Comments.



The screenshot shows the Salesforce Setup interface for the 'Customer Details' object. The left sidebar lists various setup options, with 'Fields & Relationships' selected. The main area displays a table of 6 fields, sorted by Field Label. The table includes columns for Field Label, Field Name, Data Type, Controlling Field, and Indexed status. The fields listed are: Created By, Customer Name, Gmail, Last Modified By, Owner, and Phone number.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Customer Name	Name	Text(80)		✓
Gmail	Gmail__c	Email		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Phone number	Phone_number__c	Phone		

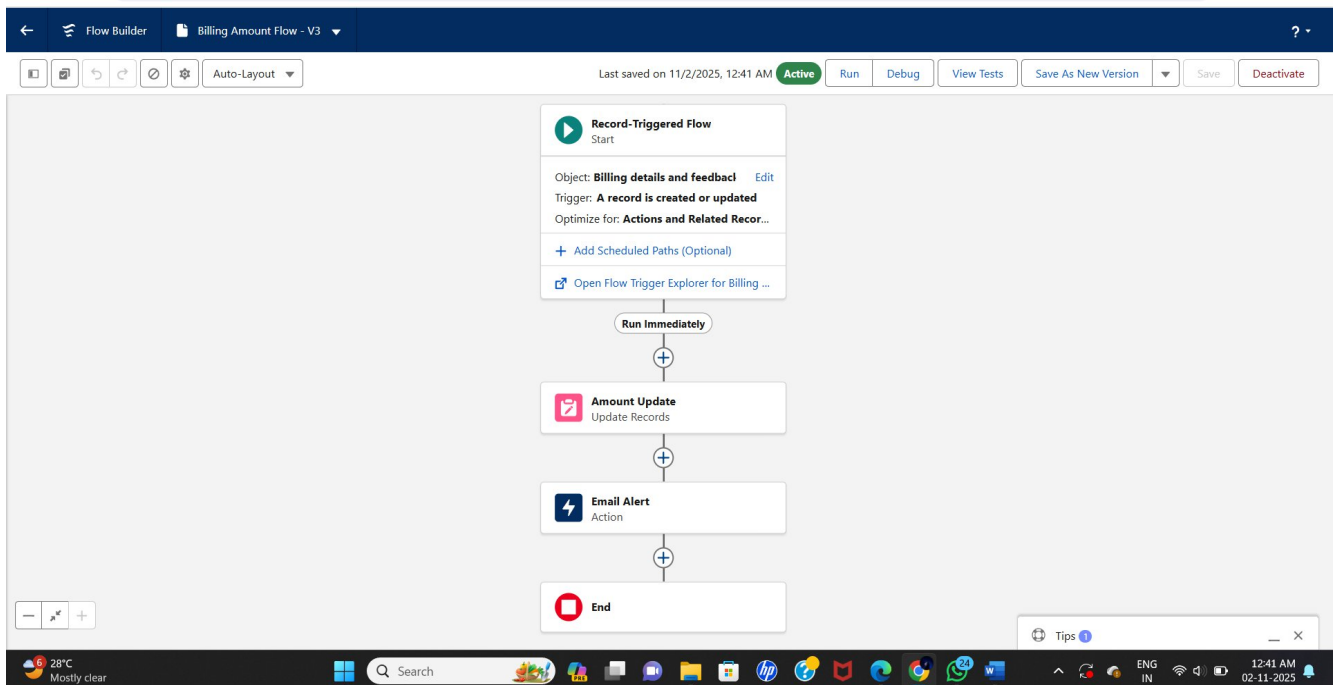
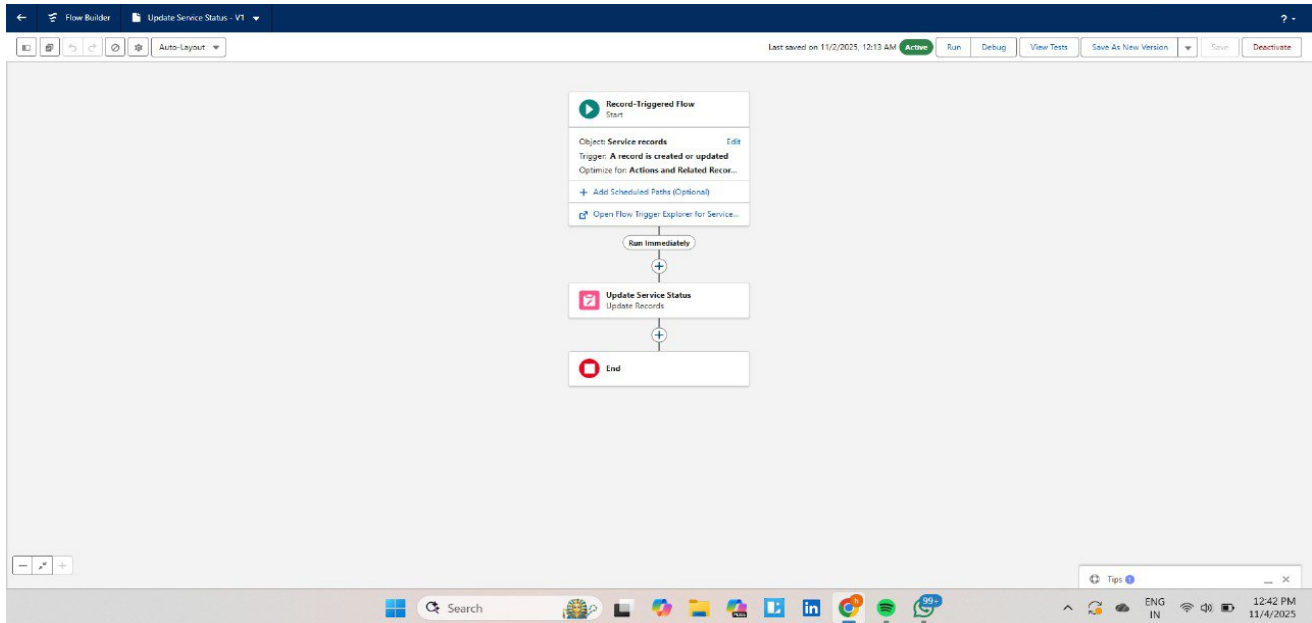


The screenshot shows the Salesforce Setup interface for the 'Service records' object. The left sidebar lists various setup options, with 'Fields & Relationships' selected. The main area displays a table of 8 fields, sorted by Field Label. The table includes columns for Field Label, Field Name, Data Type, Controlling Field, and Indexed status. The fields listed are: Appointment, Created By, Last Modified By, Owner, Quality Check Status, service date, Service records Name, and Service Status.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Appointment	Appointment__c	Lookup(Appointment)		✓
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Quality Check Status	Quality_Check_Status__c	Checkbox		
service date	service_date__c	Formula (Date)		
Service records Name	Name	Auto Number		✓
Service Status	Service_Status__c	Picklist		

Step 7: Flow Design

- Designed a guided **screen flow** to simplify service booking and automate the creation of appointment records.
- Implemented an automatic process to generate a billing record once a service is marked as



Step 8: Trigger Implementation

- Developed **Apex Triggers** to enhance automation, such as updating spare part stock quantities after each completed service.
- The triggers reduce manual effort and maintain accuracy in inventory tracking and billing..

The screenshot shows the Salesforce Setup interface for managing users. The left sidebar contains navigation links for Setup Home, Salesforce Go, Service Setup Assistant, Commerce Setup Assistant, Hyperforce Assistant, Release Updates, Salesforce Mobile App, Lightning Usage, Optimizer, Sales Cloud Everywhere, and ADMINISTRATION. Under ADMINISTRATION, there are links for Users, Permission Set Groups, Permission Sets, Profiles, Public Groups, and Queues. The main content area is titled 'All Users' and includes a search bar, a 'View' dropdown set to 'All Users', and buttons for 'New User', 'Reset Password(s)', and 'Add Multiple Users'. A table lists the following users:

Action	Full Name	Alias	Username	Role	Active	Profile
<input type="checkbox"/> Edit	Chatter Expert	Chatter	chatty.00950000000803eal b8nbtbxz95tyr@chatter.salesforce.com		✓	Chatter Free User
<input type="checkbox"/> Edit	EPIC_OrgFarm	OEPIG	epic.a768e18061f2@orgfarm.salesforce.com		✓	System Administrator
<input type="checkbox"/> Edit	hartharan_Hartharan	hhar	hartharan@yellow.com	sales person	✓	sales person
<input type="checkbox"/> Edit	krushika_Hartharan	krku	mrdoubleh123@gmail.com	sales person	✓	sales person
<input type="checkbox"/> Edit	Mikaelson_Niklaus	nmika	hani@haran.yellow	Manager	✓	Manager
<input type="checkbox"/> Edit	naveen	nave	naveennik@yahoo.com	sales person	✓	sales person
<input type="checkbox"/> Edit	B_Hartharan	md	mrdoubleh123292@agentforce.com		✓	System Administrator
<input type="checkbox"/> Edit	B_Hartharan	hr	nlarkin@wbouppkhh.com	sales person	✓	sales person
<input type="checkbox"/> Edit	User_Integration	integ	integration@00d95000000803eal.com		✓	Analytics Cloud Integration User
<input type="checkbox"/> Edit	User_Security	sec	insightssecurity@00d95000000803eal.com		✓	Analytics Cloud Security User

At the bottom of the table are buttons for 'New User', 'Reset Password(s)', and 'Add Multiple Users'. The browser's address bar shows the URL: https://orgfarm-040eced021-dev-ed.develop.my.salesforce-setup.com/lightning/setup/ManageUsers/home. The Windows taskbar at the bottom shows the date and time as 12:10 AM on 02-11-2025.

Step 9: User Management and Permissions

- Set up user profiles for **Managers, Mechanics, and Sales Personnel.**
- Configured permissions to ensure each role accesses only the relevant objects and records needed for their tasks.

1. User List Page – shows all created users with their assigned roles and profiles.

The screenshot shows the Salesforce Setup interface for User Management. The left sidebar contains navigation options like Setup Home, Salesforce Go, Service Setup Assistant, Commerce Setup Assistant, Hyperforce Assistant, Release Updates, Salesforce Mobile App, Lightning Usage, Optimizer, Sales Cloud Everywhere, and ADMINISTRATION. The main content area is titled 'All Users' and includes a table of users. The table has columns for Action, Full Name, Alias, Username, Role, Active, and Profile. The table lists several users, including Chatter Expert, EPIC OrgFarm, harharan_Harharan, kirushika_Harharan, Mikaelson_Niklaus, naveen, R_Harharan, R_Harharan, User_Integration, and User_Security. The bottom of the screen shows a Windows taskbar with various application icons and a system clock indicating 12:10 AM on 02-11-2025.

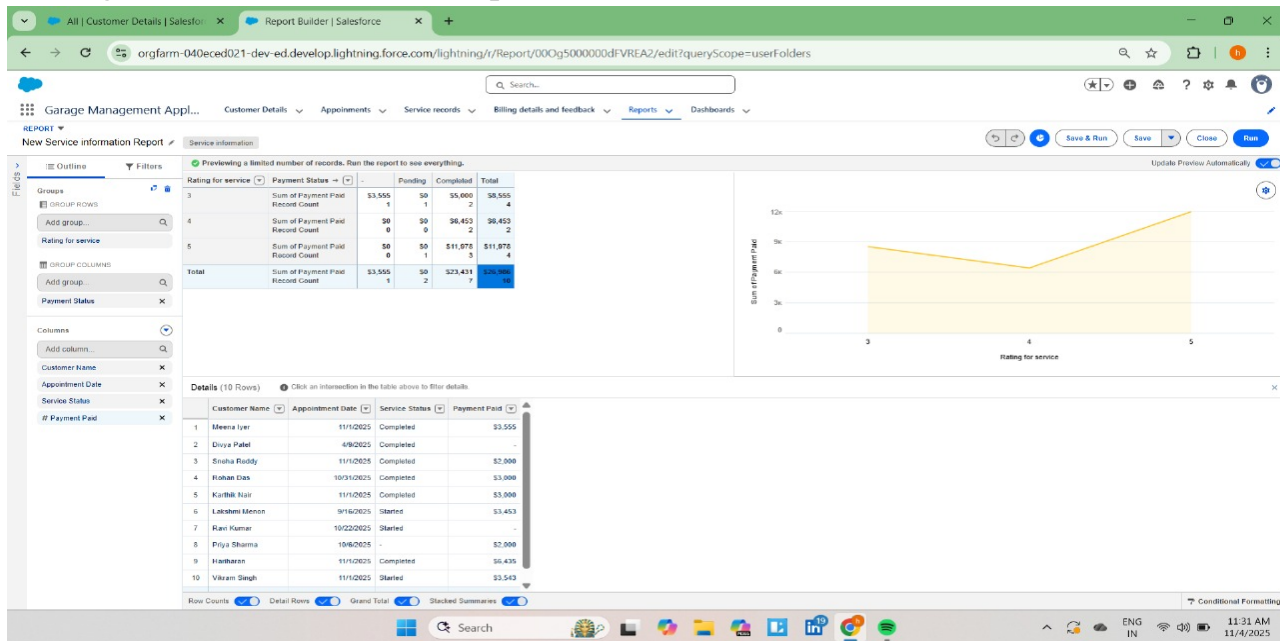
Action	Full Name	Alias	Username	Role	Active	Profile
<input type="checkbox"/> Edit	Chatter Expert	Chatter	chatter.0095000000@03eai.b6nbbz9dtyr@chatter.salesforce.com		✓	Chatter Free User
<input type="checkbox"/> Edit	EPIC OrgFarm	OEPIIC	epic.a786b1d4812@orgfarm.salesforce.com		✓	System Administrator
<input type="checkbox"/> Edit	harharan_Harharan	hhar	harharan@yellow.com	sales person	✓	sales person
<input type="checkbox"/> Edit	kirushika_Harharan	kitu	mrdoubtch123@gmail.com	sales person	✓	sales person
<input type="checkbox"/> Edit	Mikaelson_Niklaus	nmika	harr@haran.yellow	Manager	✓	Manager
<input type="checkbox"/> Edit	naveen	nave	naveennik@yeko.com	sales person	✓	sales person
<input type="checkbox"/> Edit	R_Harharan	mrd	mrdoubtch123292@agentforce.com		✓	System Administrator
<input type="checkbox"/> Edit	R_Harharan	hr	nlarkin@wfourakthb.com	sales person	✓	sales person
<input type="checkbox"/> Edit	User_Integration	intea	integration@00da5000000@03eai.com		✓	Analytics Cloud Integration User
<input type="checkbox"/> Edit	User_Security	sec	insightssecurity@00d95000000@03eai.com		✓	Analytics Cloud Security User

2. Public Groups List Page – shows the created group used for sharing rules.

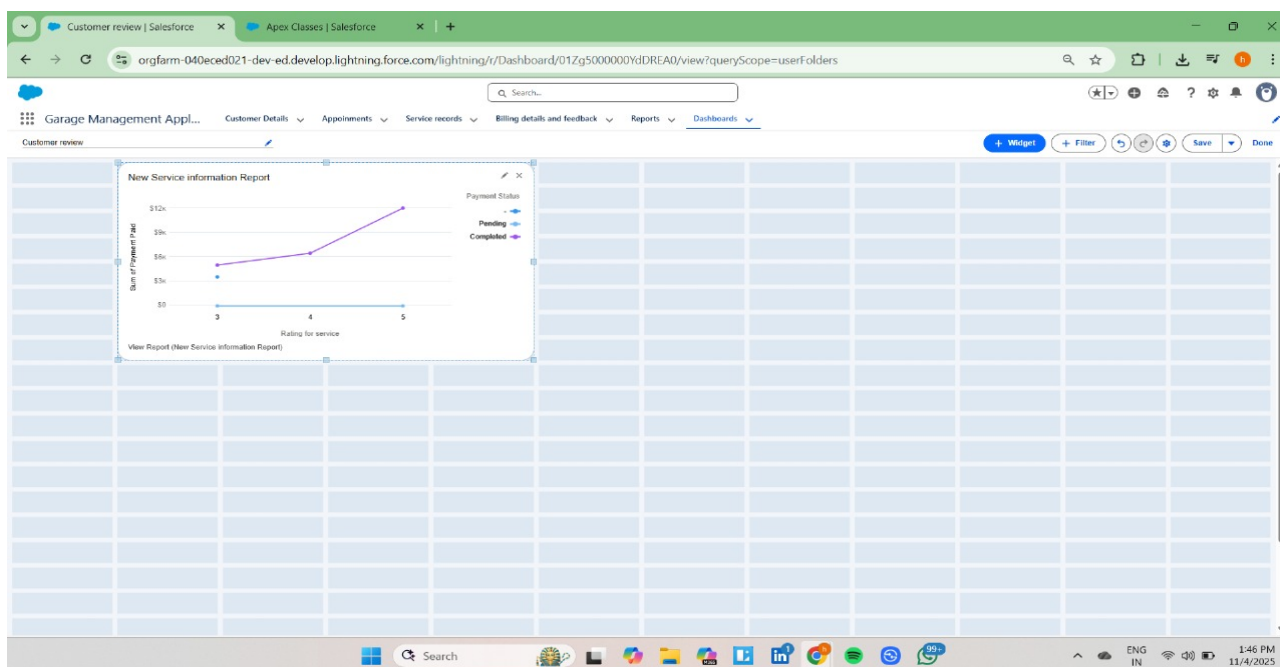
The screenshot shows the Salesforce Setup interface for Public Groups. The left sidebar contains navigation options like Setup Home, Public Groups, Feature Settings, Salesforce Files, Content Deliveries and Public Links, User Interface, Global Actions, Publisher Layouts, Company Settings, Calendar Settings, and Public Calendars and Resources. The main content area is titled 'Public Groups' and includes a 'New Group' form. The form has fields for Label, Group Name, Grant Access Using Hierarchies, and Description. Below these fields are two lists: 'Available Members' and 'Selected Members'. The 'Available Members' list includes roles like Customer Support, Channel Sales, Director, Direct Sales, Eastern Sales Team, Installation & Repair Services, Manager, Marketing Team, SVP, Customer Service & Support, SVP, Human Resources, SVP, Sales & Marketing, VP, International Sales, VP, Marketing, VP, North American Sales, and Western Sales Team. The 'Selected Members' list includes the role 'sales person'. The bottom of the screen shows a Windows taskbar with various application icons and a system clock indicating 10:30 PM on 11/1/2025.

Step 10: Reporting and Dashboards

Report : Created custom **report** types to analyze key garage metrics, such as total services, revenue generation, and mechanic performance.



Dashboard : Built interactive **dashboards** to visualize trends and provide actionable insights, enabling managers to make informed business decisions.



Key Scenarios Addressed by Salesforce in the Implementation Project

The **Garage Management System** leverages Salesforce's robust features to handle real-world garage operations efficiently. Below are the key scenarios addressed during implementation:

Efficient Management of Customer and Vehicle Details

- **Scenario:** Each customer's vehicle details must be recorded accurately for service tracking.
- **Salesforce Solution:** Custom objects for Customer Details and Vehicle Information ensure accurate data management with lookup relationships between customers and appointments.

Automated Appointment Scheduling

- **Scenario:** Service appointments need to be scheduled efficiently based on mechanic availability.
- **Salesforce Solution:** Appointment records are created through guided Flows, assigning mechanics dynamically using lookup fields and triggers.

Service Record Tracking

- **Scenario:** Garage staff must record service details, cost, and completion status
- **Salesforce Solution:** The Service Records object captures service type, job cost, and completion data, while relationships link each service to the relevant customer and appointment.

Automated Billing and Feedback Collection

- **Scenario:** After a service is completed, invoices and customer feedback must be recorded.
- **Salesforce Solution:** Automated Flows create billing records and trigger notifications, while the Billing & Feedback object stores payment details and customer comments.

Duplicate Customer Prevention

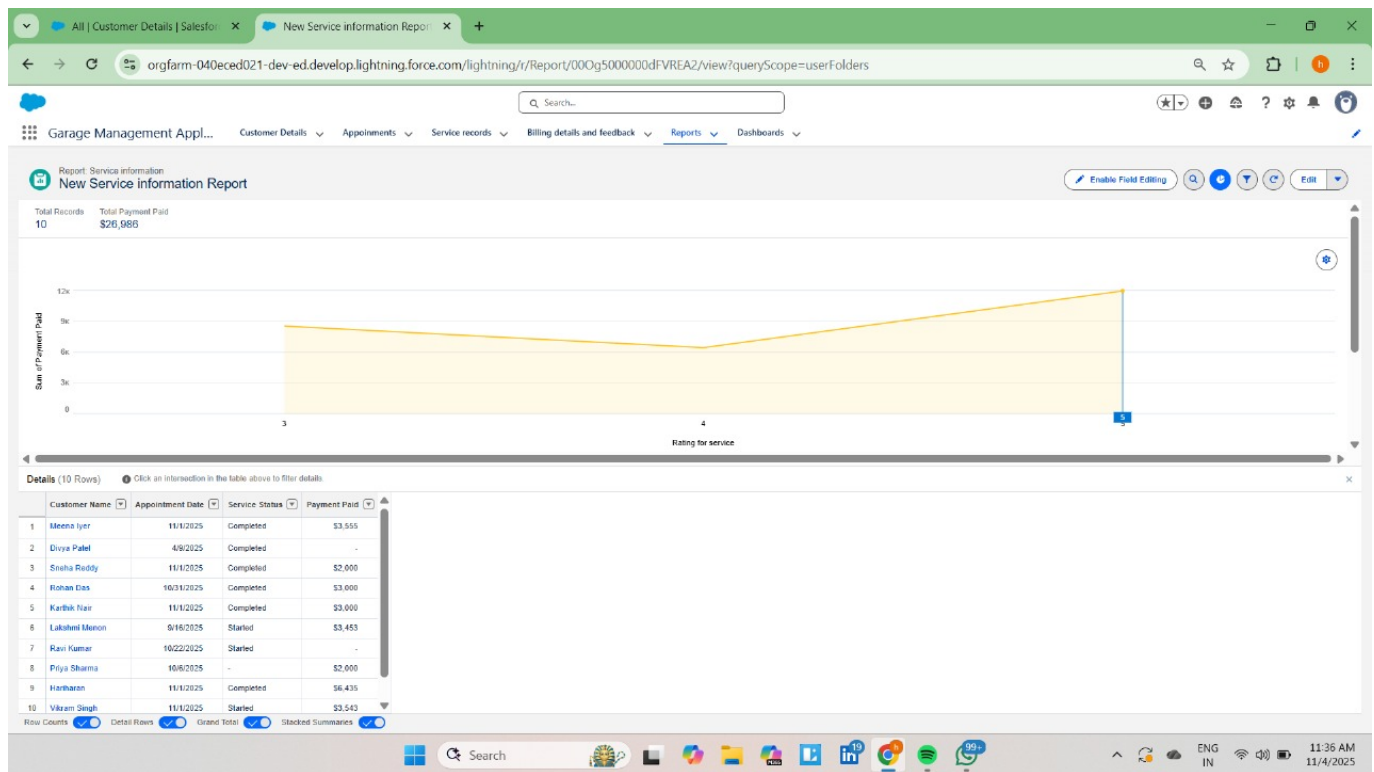
- **Scenario:** Duplicate customer entries can cause confusion and inaccurate service tracking.
- **Salesforce Solution:** Matching Rules and Duplicate Rules prevent repeated entries based on customer name or contact details.

Secure and Role-Based Access Control

- **Scenario:** Different users (managers, mechanics, and staff) require specific data access levels.
- **Salesforce Solution:** Profiles, roles, and sharing settings ensure restricted, role-appropriate access, maintaining data security and confidentiality.

Real-Time Reporting and Analysis

- **Scenario:** Garage owners need clear insights into operations, revenue, and workload.
- **Salesforce Solution:** Custom reports and dashboards present visual summaries of service volume, total revenue, and mechanic performance, driving data-based decision-making.



Conclusion

Summary of Achievements:

The **Garage Management System** successfully delivers an integrated, automated solution for garage operations using Salesforce technology.

Key accomplishments include:

- **Streamlined Service Management:** Built a structured system to manage customers, vehicles, appointments, and billing seamlessly.
- **Automation and Efficiency:** Implemented flows and triggers to reduce manual effort and ensure timely task execution.
- **Improved Data Integrity:** Enforced validation and duplicate rules to maintain accurate and consistent records.
- **Role-Based Security:** Established controlled data access through profiles, roles, and sharing rules.
- **Data-Driven Insights:** Designed comprehensive reports and dashboards for analyzing performance and profitability.
- **User-Friendly Interface:** Created an intuitive Lightning App that ensures smooth navigation for all users.

