GARAGE MANAGEMENT SYSTEM

College Name : KPR College of Arts Science and Research

College Code : bruaz

TEAM ID : NM2025TMID21608

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INTRODUCTION

Project Overview

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.

By integrating essential functions—such as **Customer details,Appointment scheduling, Service records, and Billing details and feedback**—GMS enables garages to run more smoothly and effectively. Its user-friendly interface allows both staff and customers to interact with the system effortlessly, reducing errors and saving valuable time. Beyond dayto-day operations, GMS also helps garages foster stronger customer loyalty through timely updates, accurate service records, and personalized communication.

Purpose

The primary purpose of the Garage Management System is to provide an all-in-one platform that simplifies and optimizes the operations of automotive repair facilities. Specifically, it aims to:

1. **Enhance Operational Efficiency** – Automating routine tasks such as job assignment, invoicing, and inventory management to save time and reduce human errors.
2. **Improve Customer Experience** – Offering customers a seamless experience through features like online booking, service reminders, and transparent updates on repair progress.
3. **Strengthen Business Growth** – Equipping garage owners with data-driven insights to make informed decisions, improve profitability, and maintain a competitive edge.
4. **Foster Stronger Relationships** – Building long-term customer trust and loyalty by ensuring reliable service, clear communication, and accessible service history.

Core Features

Customer Details:

Stores comprehensive customer information, including contact details, vehicle history, and preferences, creating a central customer database.

Appointment Scheduling:

Facilitates appointment management by allowing staff to schedule services, manage technician availability, and send notifications to customers.

Service Records:

Maintains detailed records of all vehicle services performed, including parts used, labor costs, and service dates, providing a complete history for each vehicle.

Billing Details:

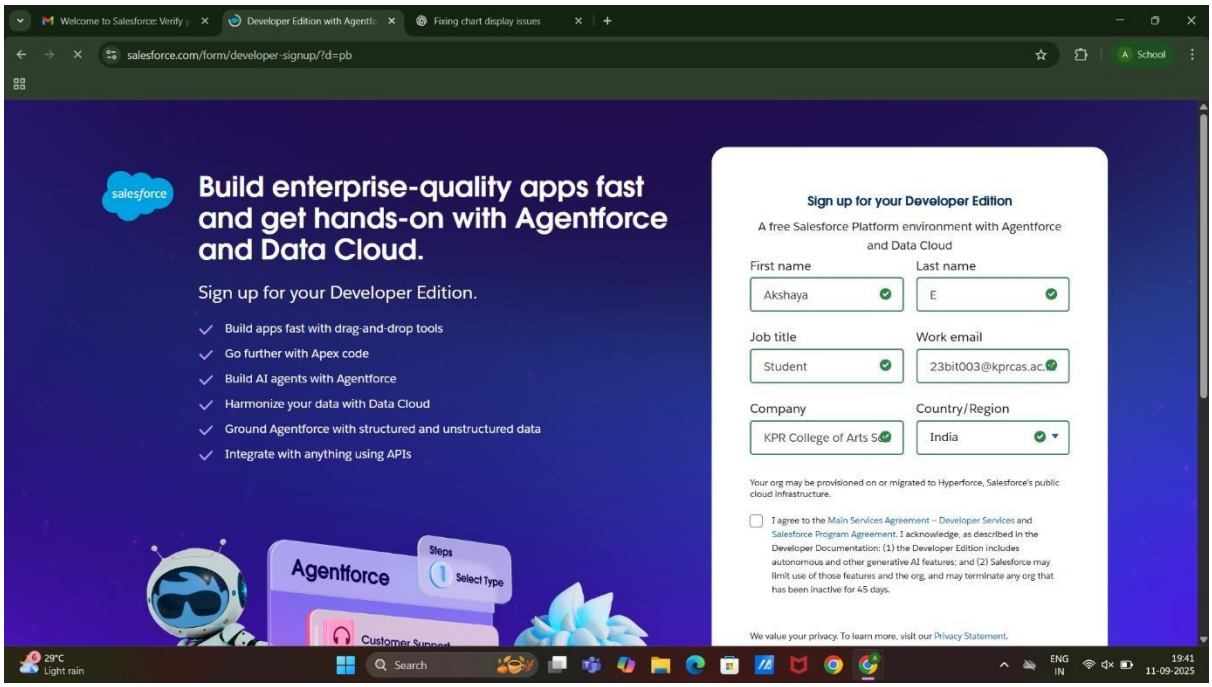
Manages the financial aspects of services, generating invoices, processing payments, and tracking financial transactions within the shop.

Feedback Capture:

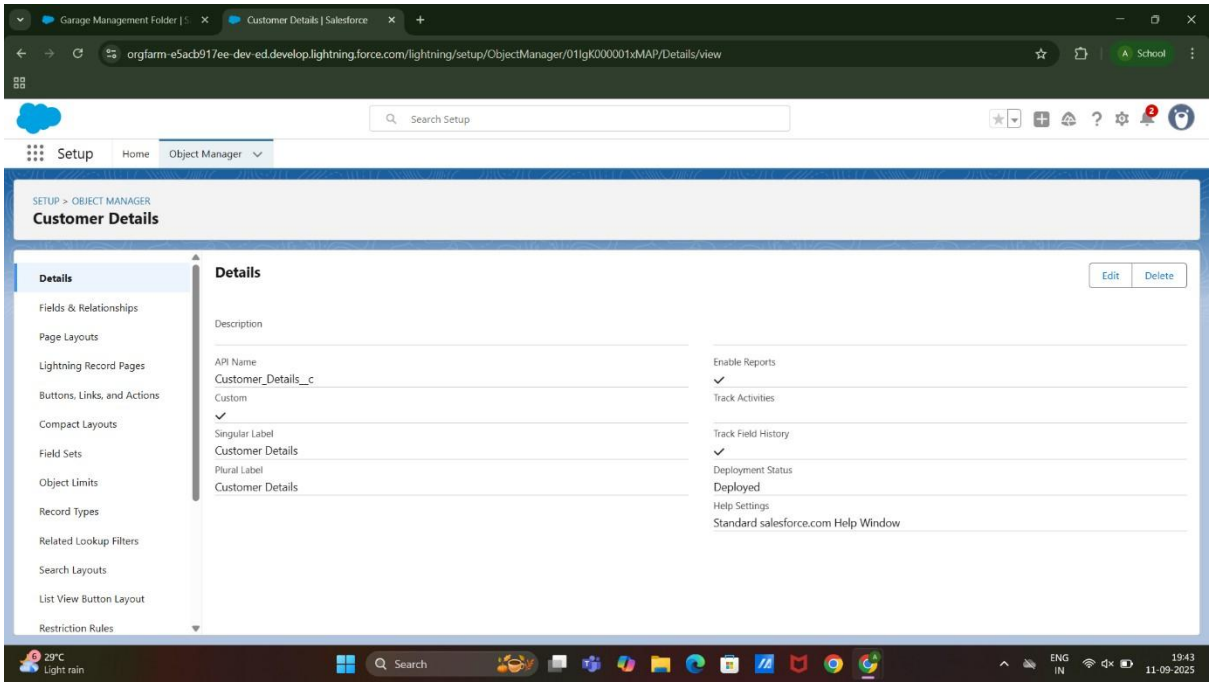
Provides mechanisms for collecting customer feedback online or through integrated tools, which helps in monitoring service quality and making improvements.

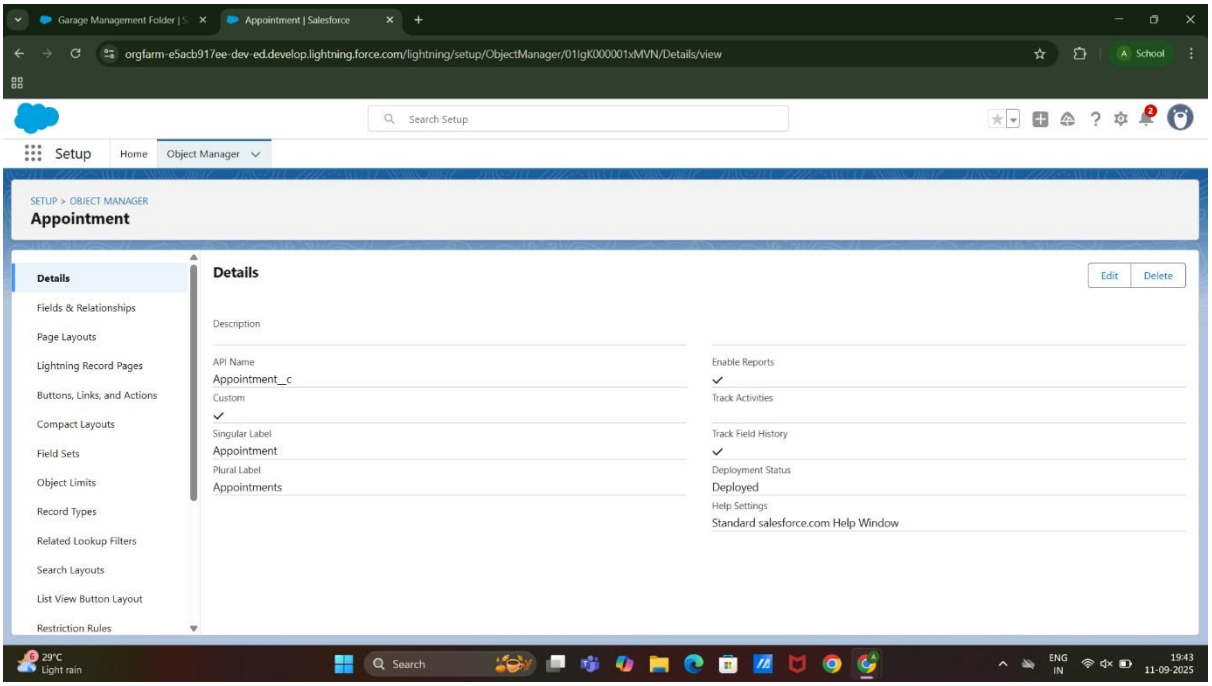
DEVELOPMENT PHASE

Creating Developer Account:



- Created objects : Customer Details, Appointment, Service Records, Billing Details and Feedback

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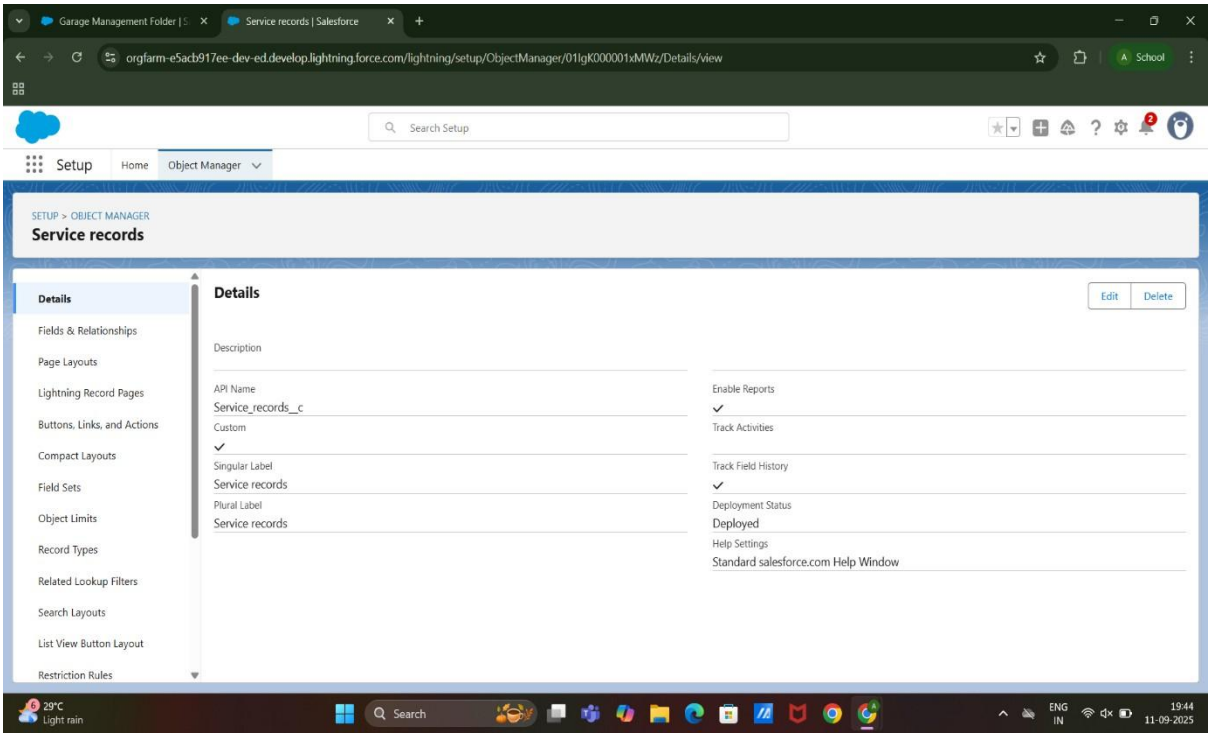
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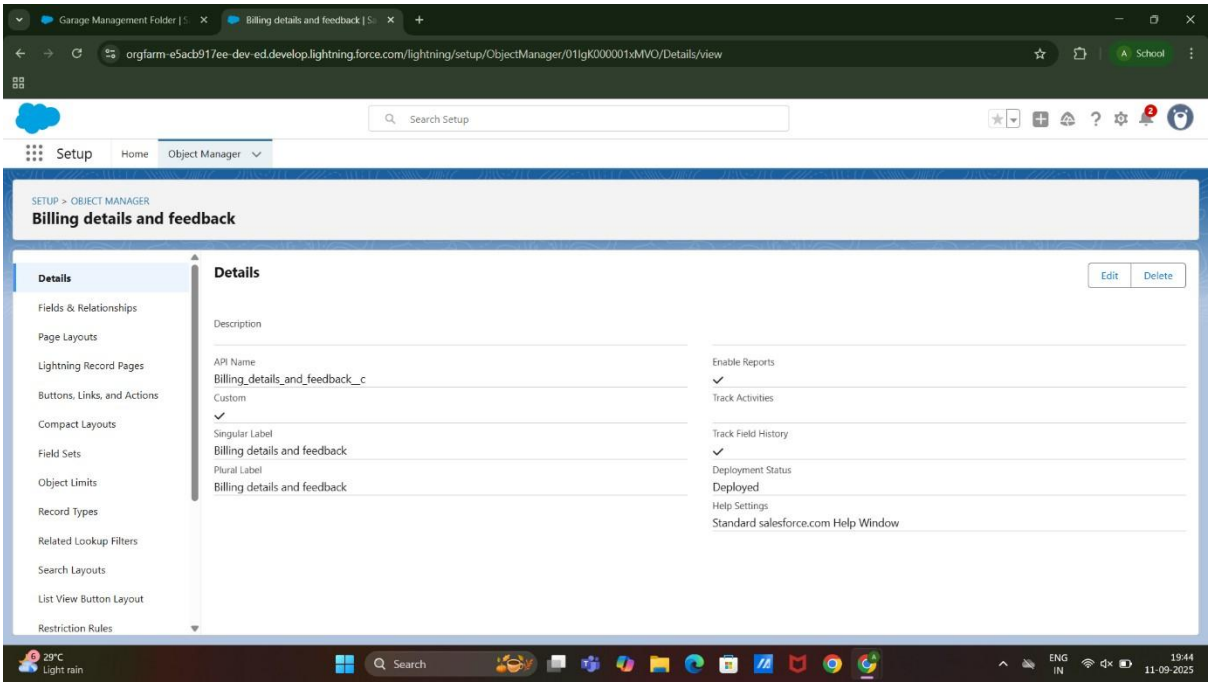
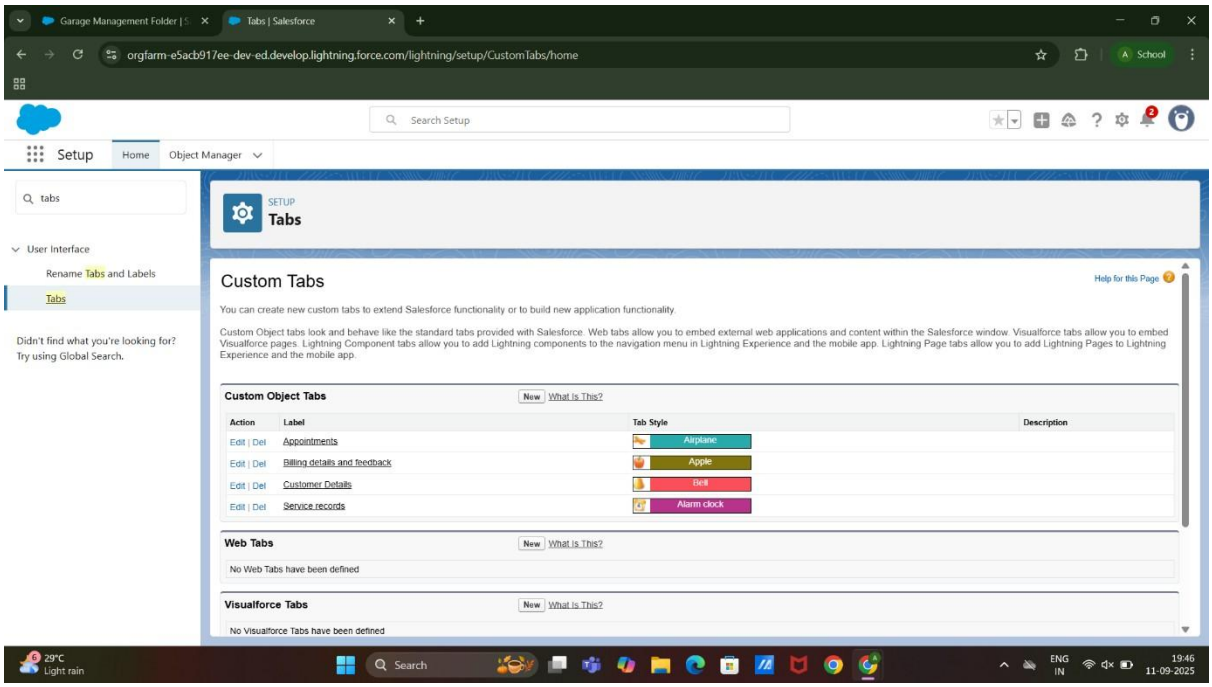
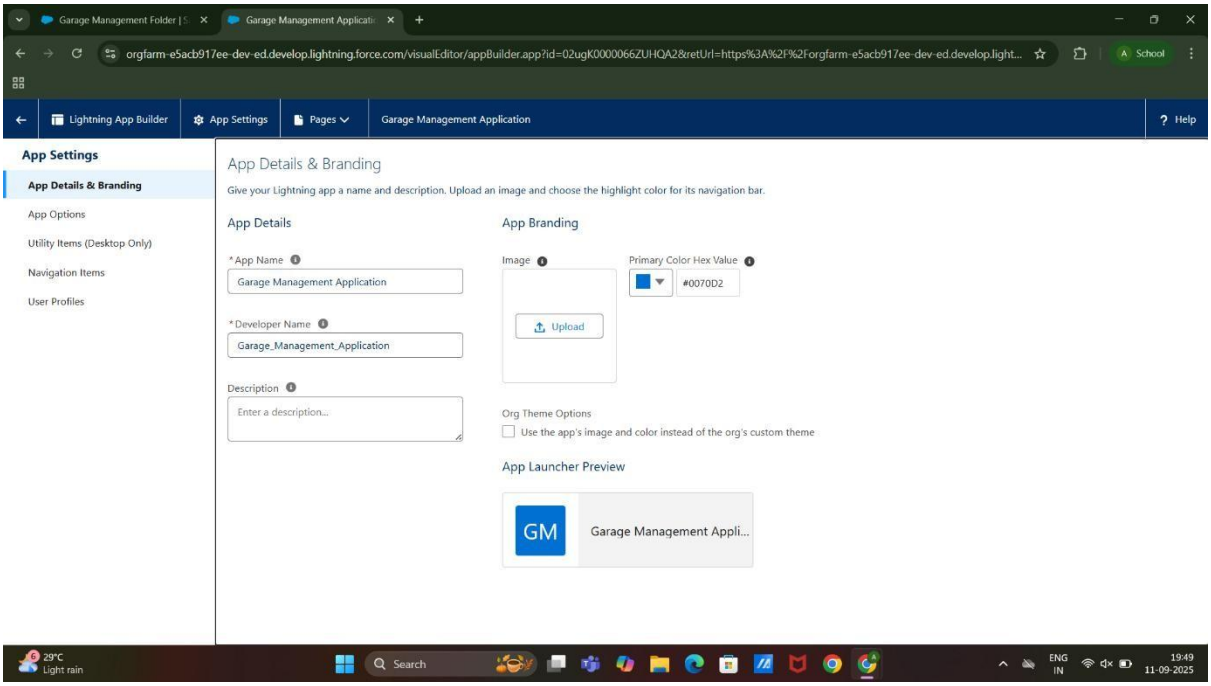
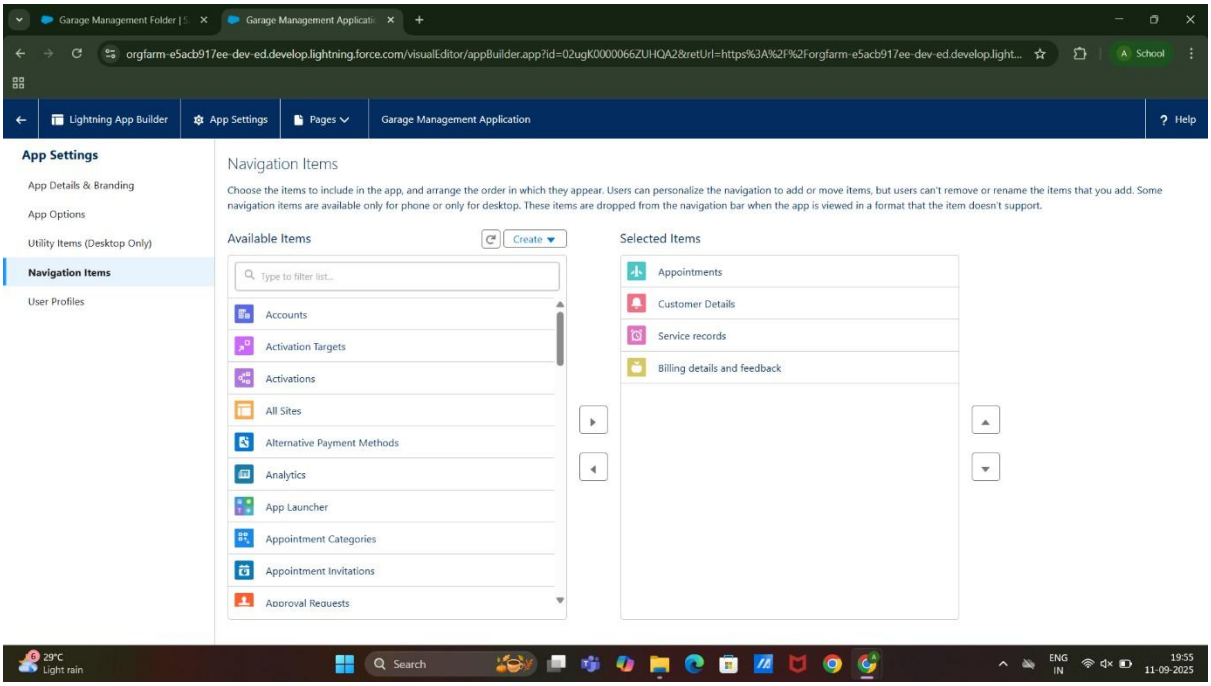


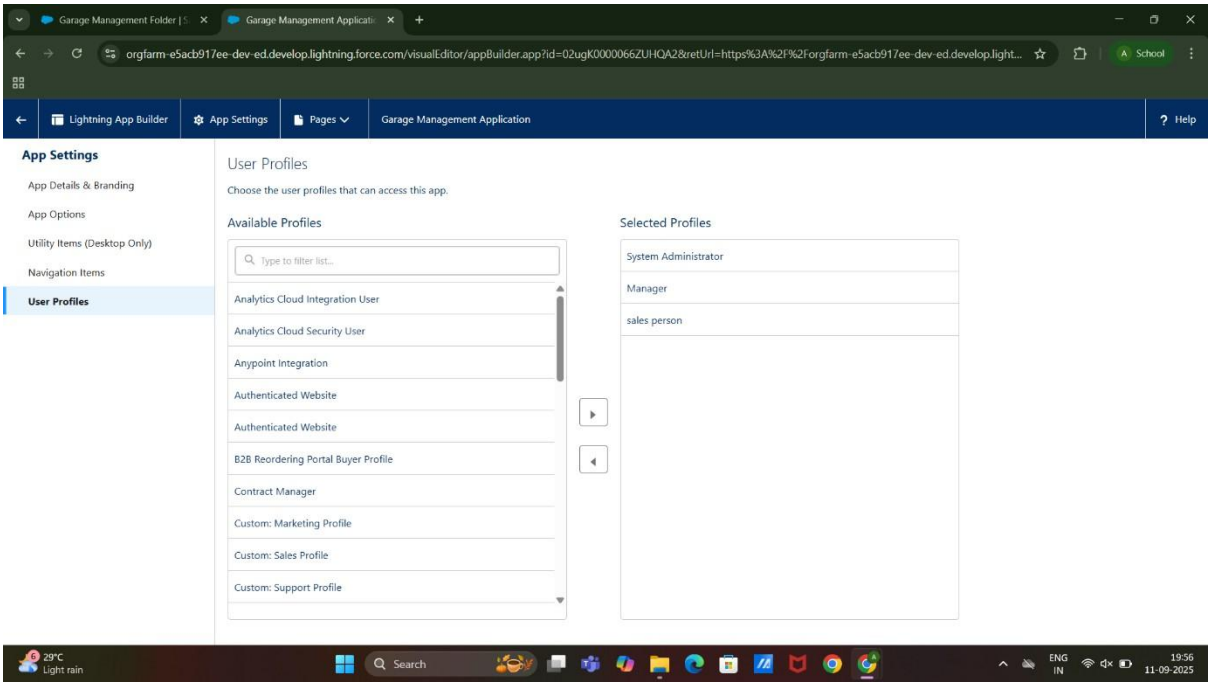
- Created Tabs : Custom Tab and Remaining Tabs(Appointments, Service records,Billing details and feedback)



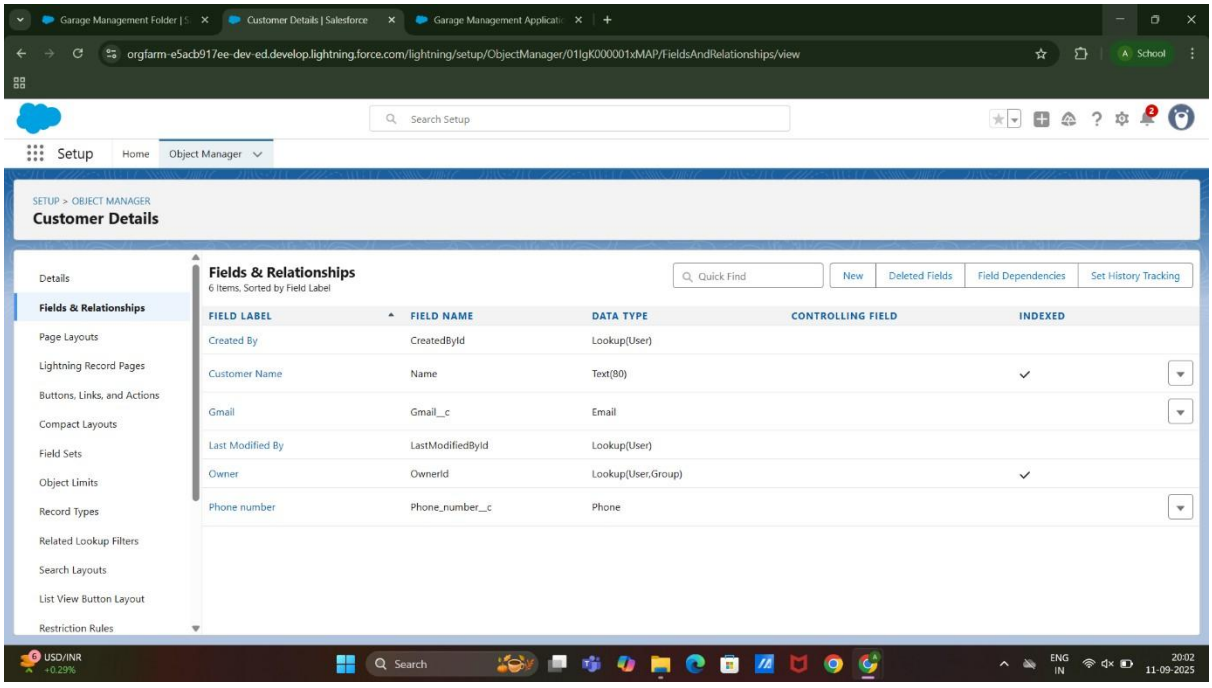
- Created a Lightning App:

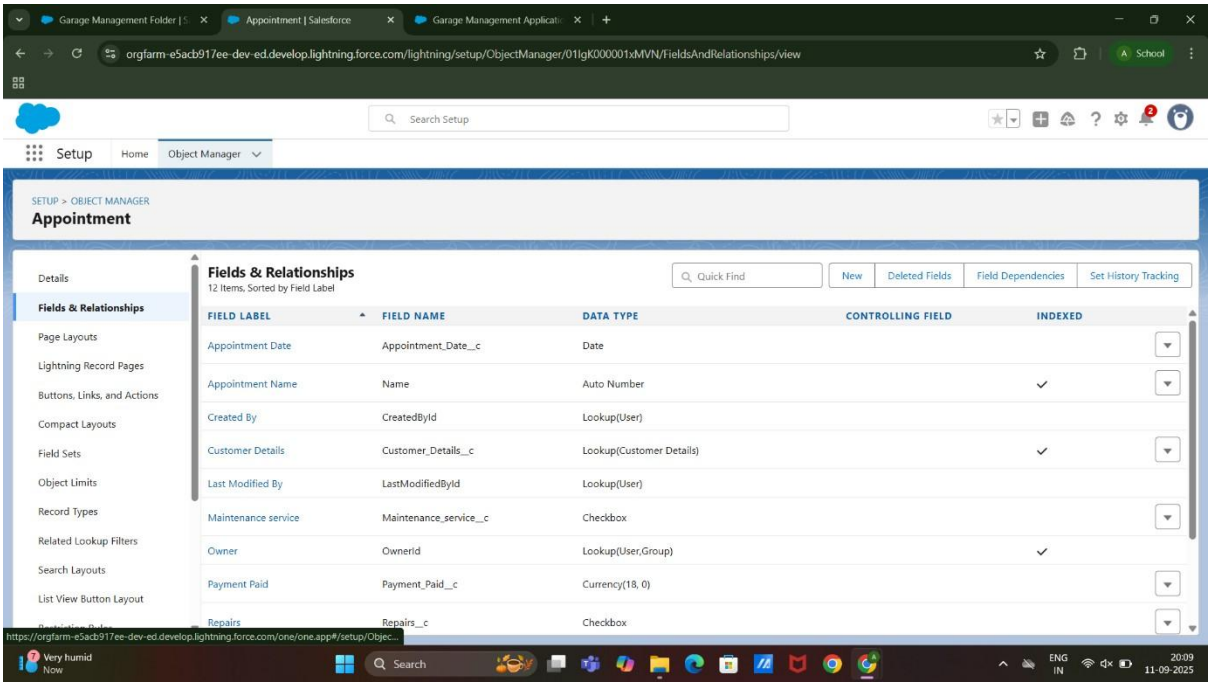






- Created a Fileds : For Customer Details Object, Lookup, Checkbox, Date, Currency, Text, Picklist and Formula Field in Service records Object

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FIELD NAME
DATA TYPE
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CreatedById
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Customer Details
Customer_Details__c
Lookup(Customer Details)
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Lookup(User)
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Lookup(User,Group)
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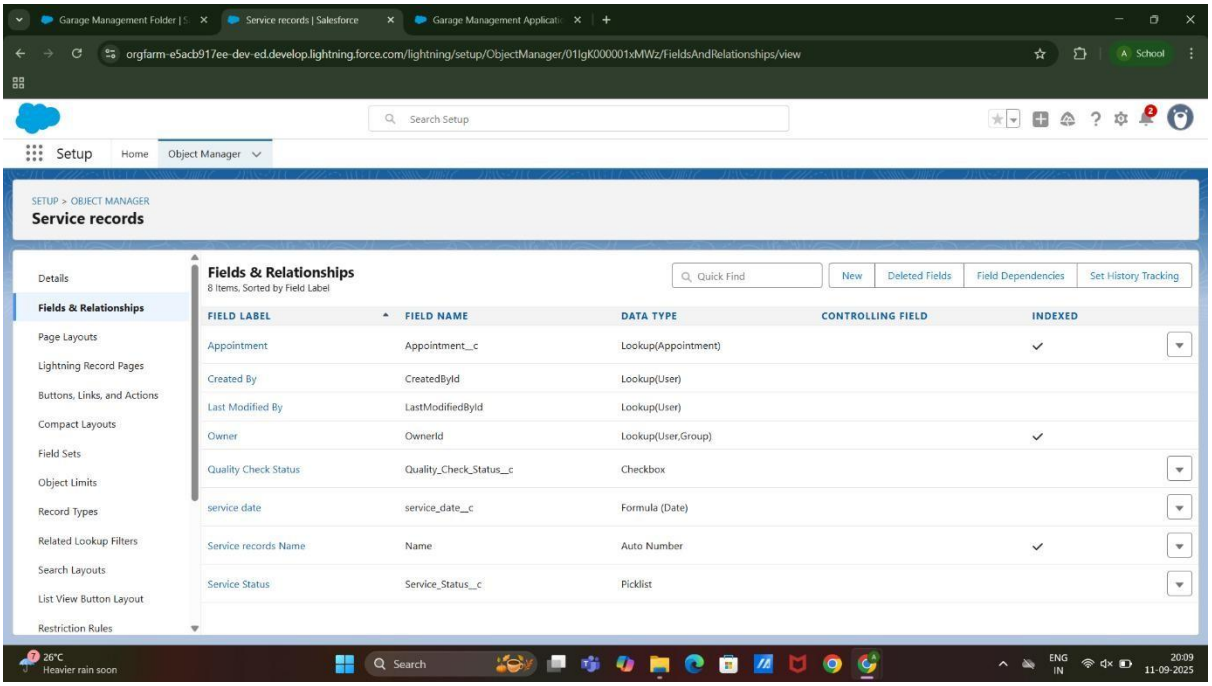
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Set History Tracking
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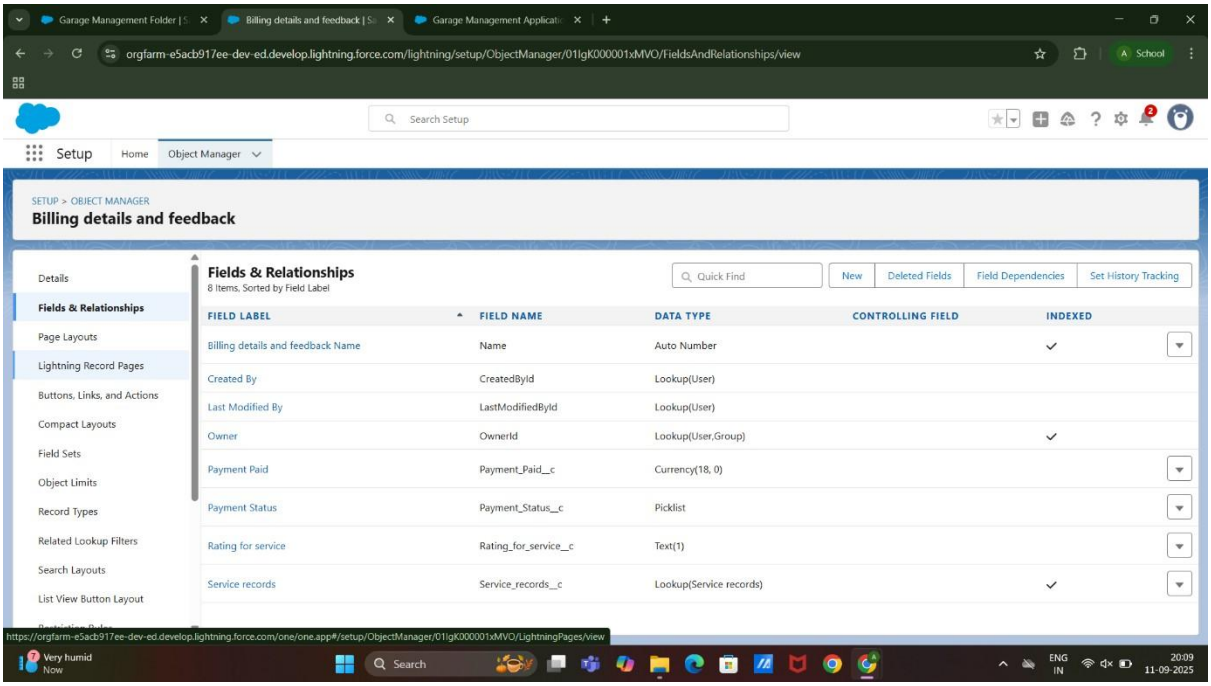
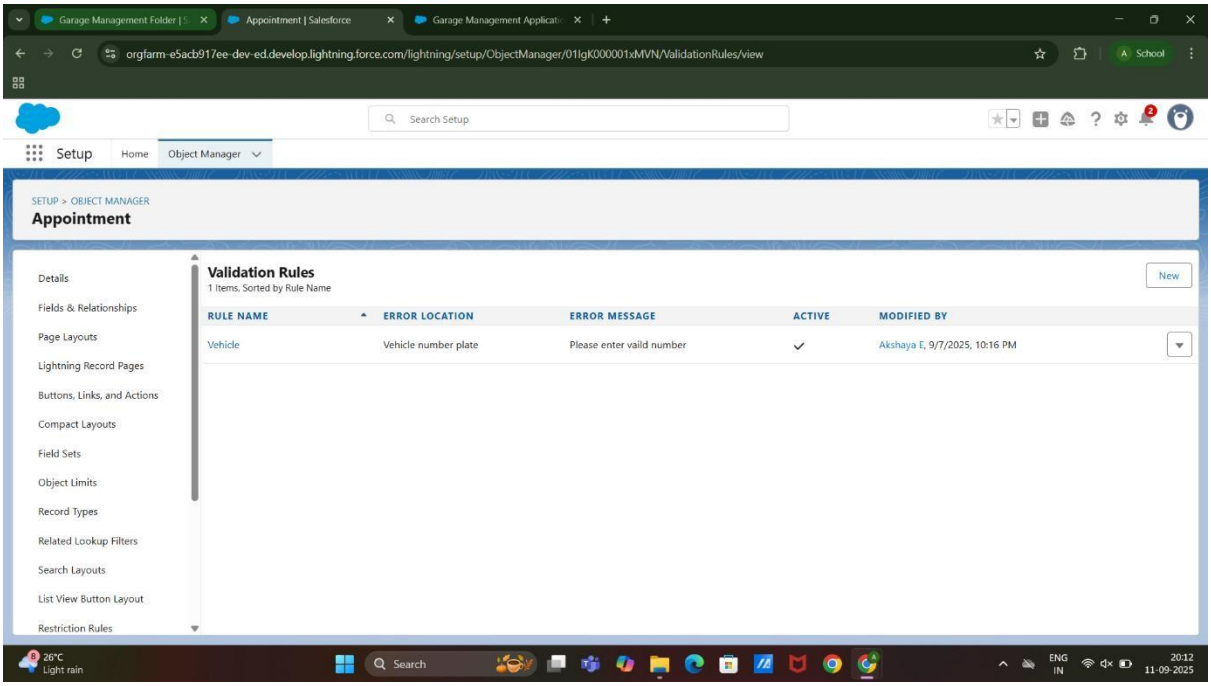
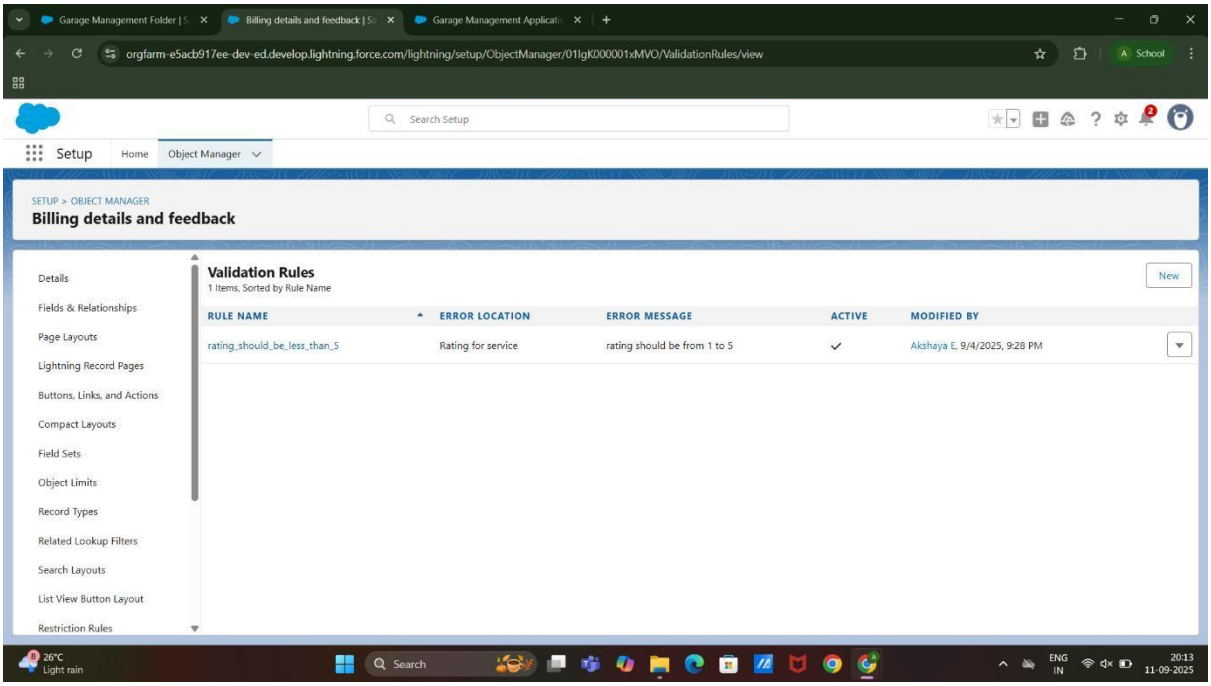
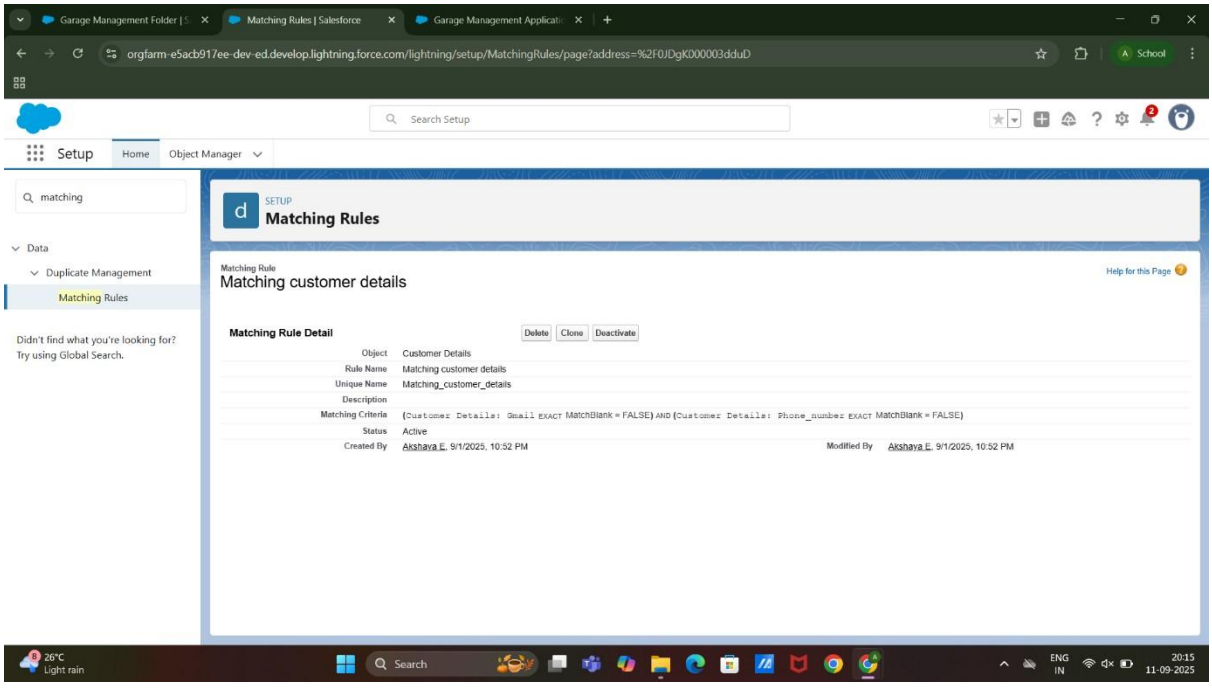


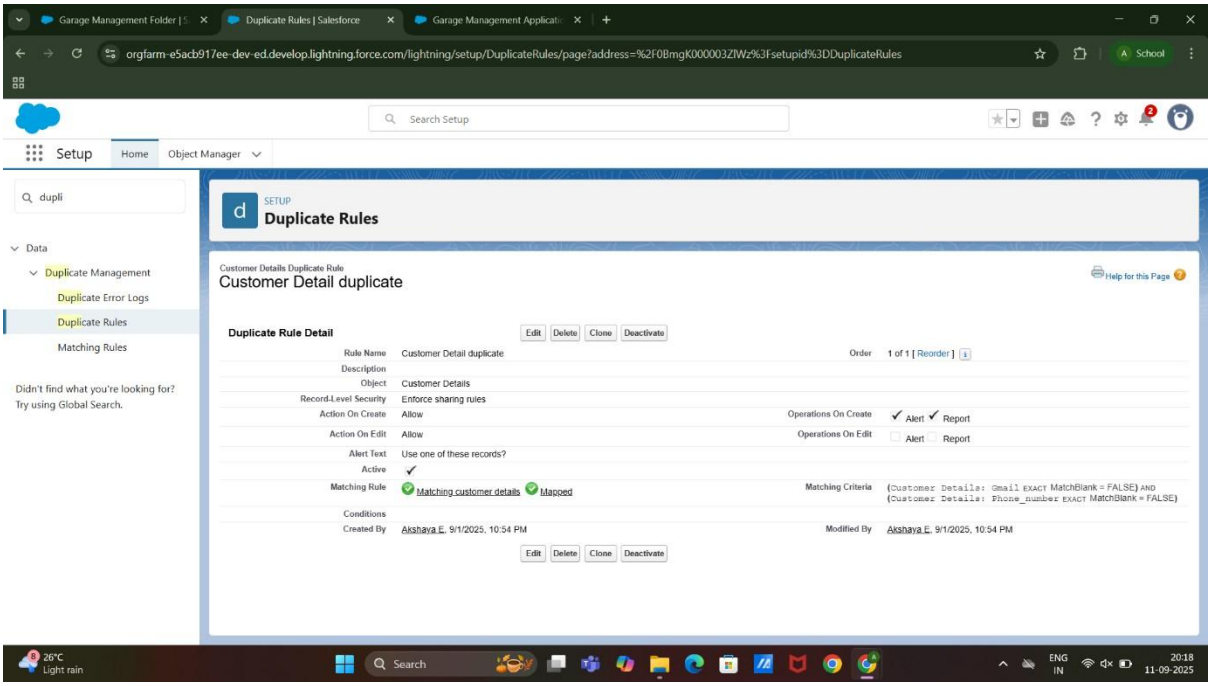
- Created Validation Rule : Appointment Object and Billing Details and Feedback Object



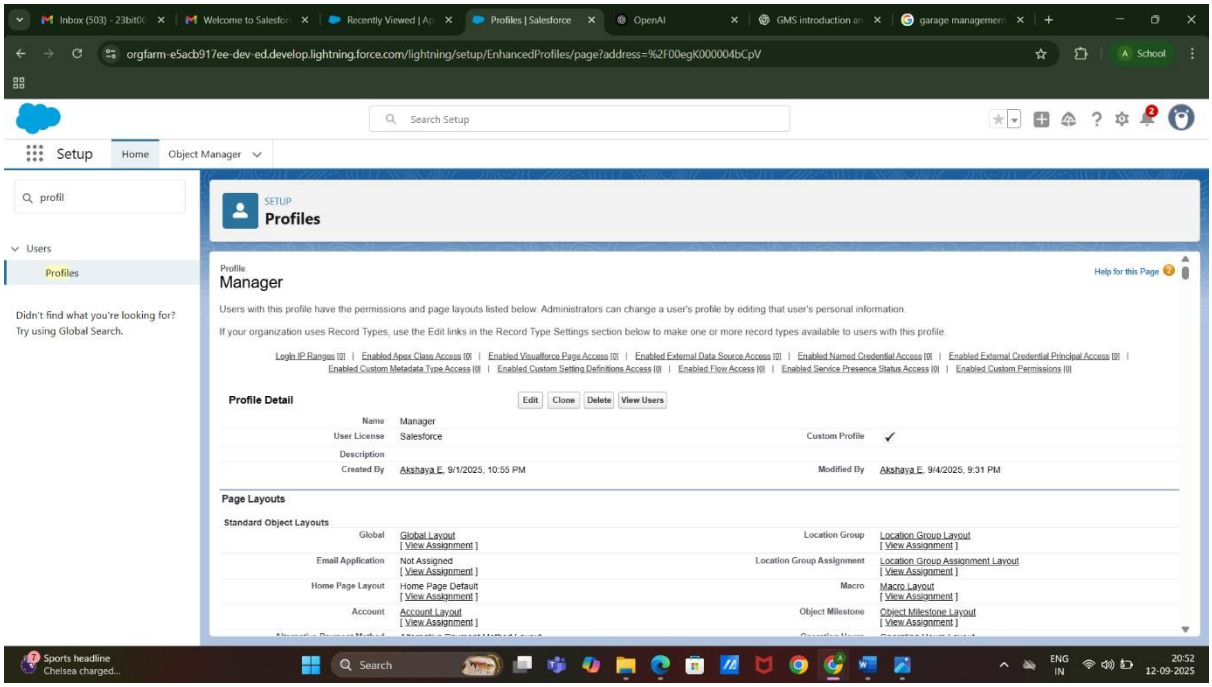


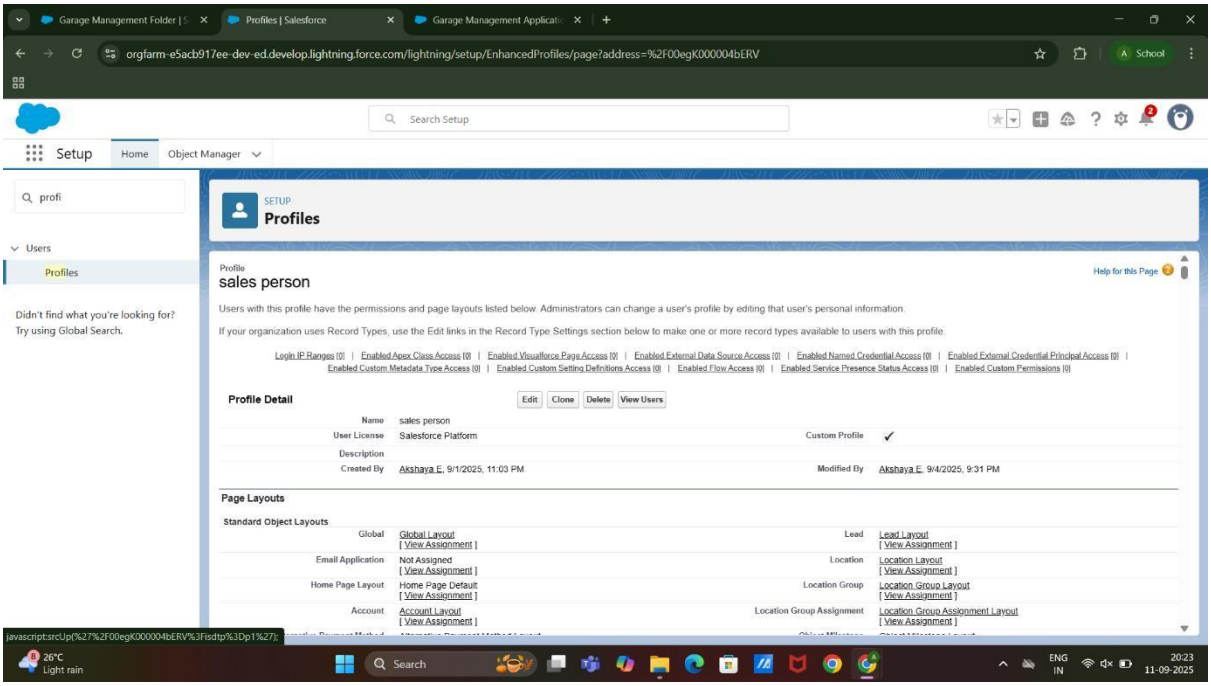
- Created Duplicate Rule : Matching rule to an Customer details Object And Duplicate rule to an Customer details Object



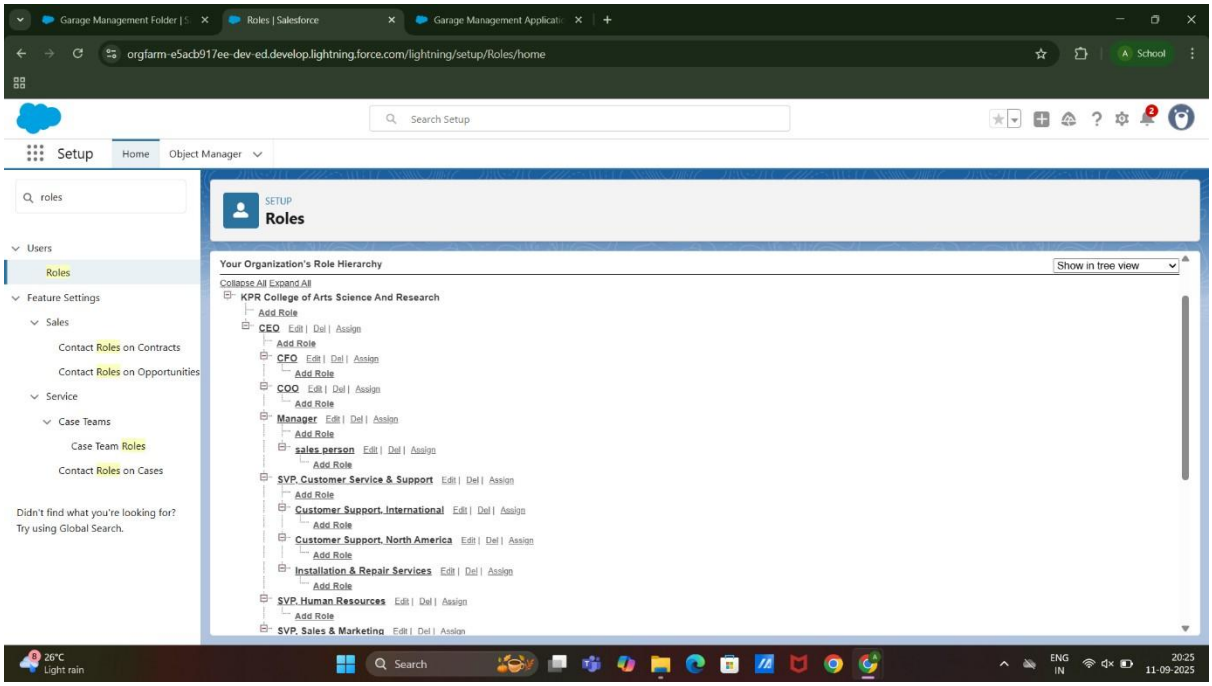


- Profiles : Manager Profile and Sales Person Profile

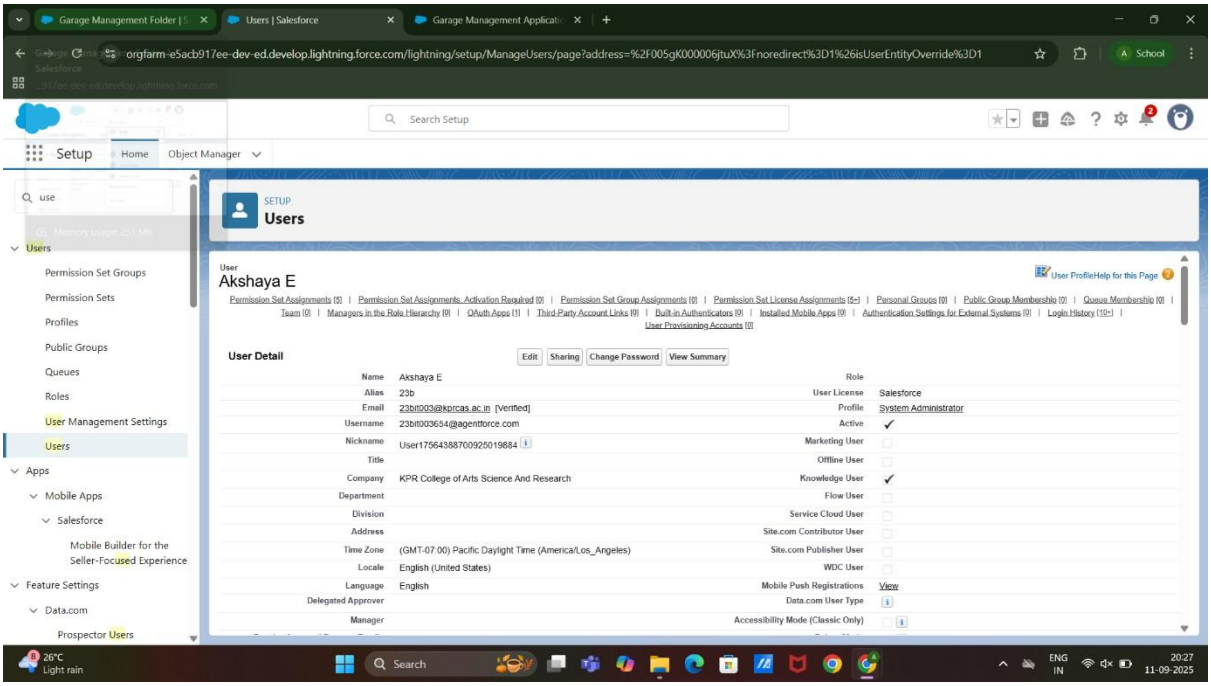


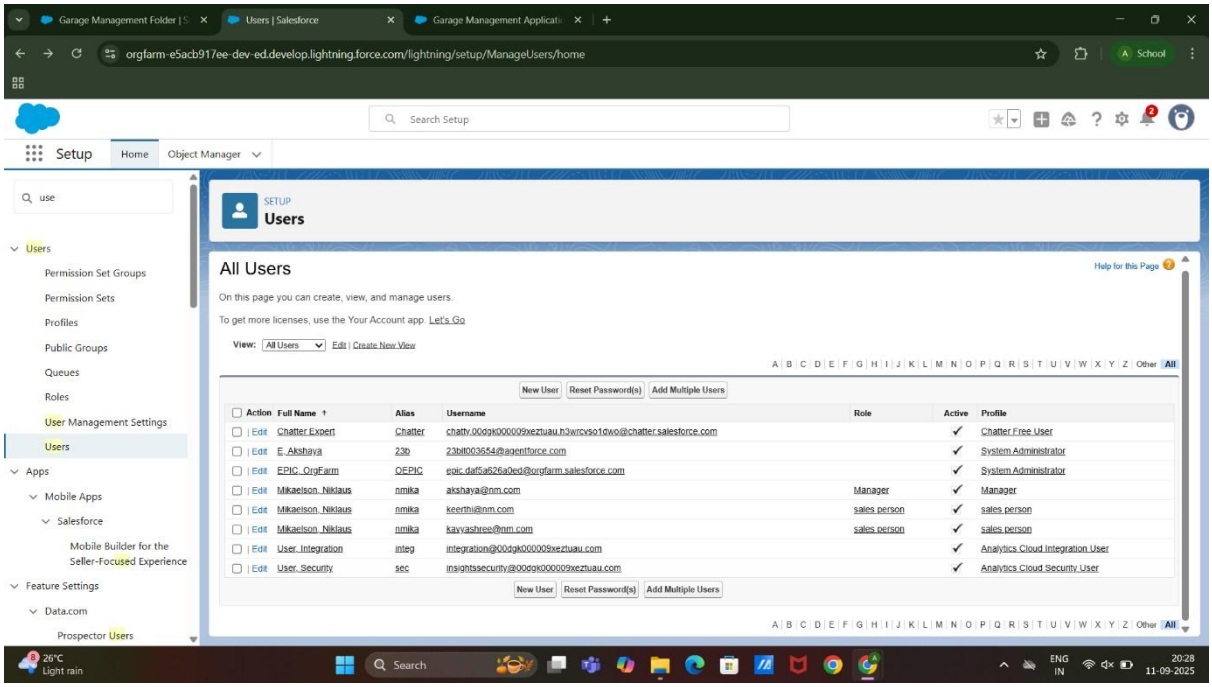


- Created Roles and Role Hierarchy: Manager and Another Role

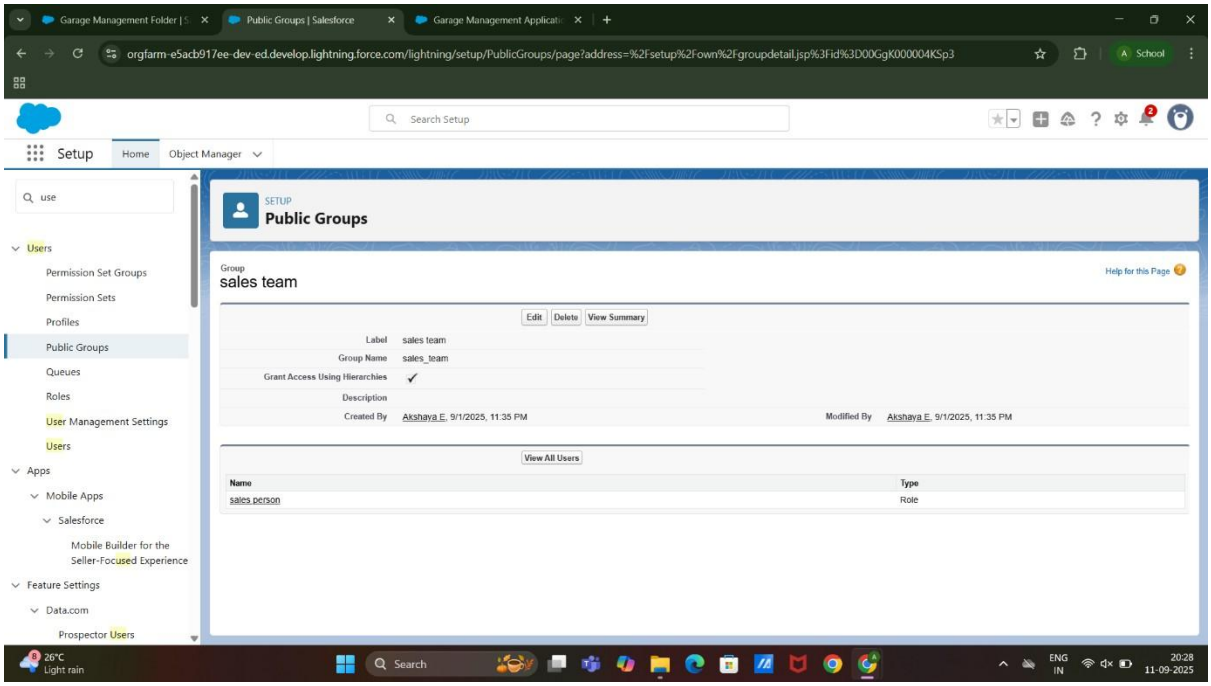


- Created User and Another User

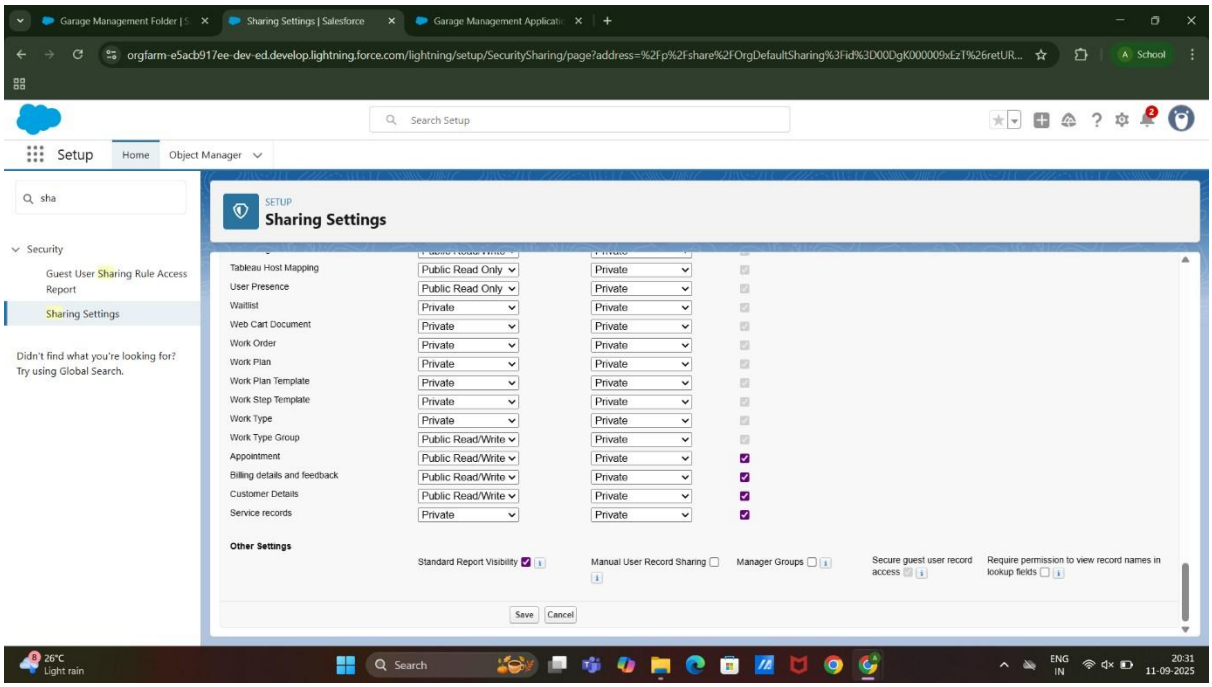


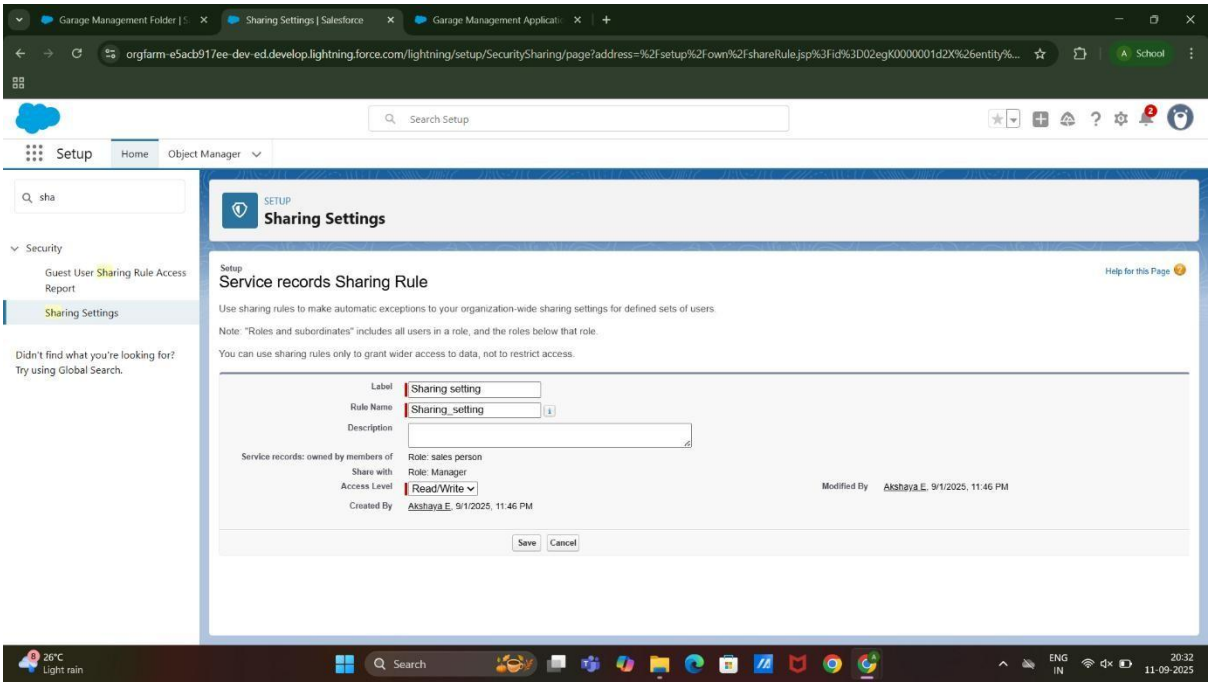


- Created New Publiuc Group

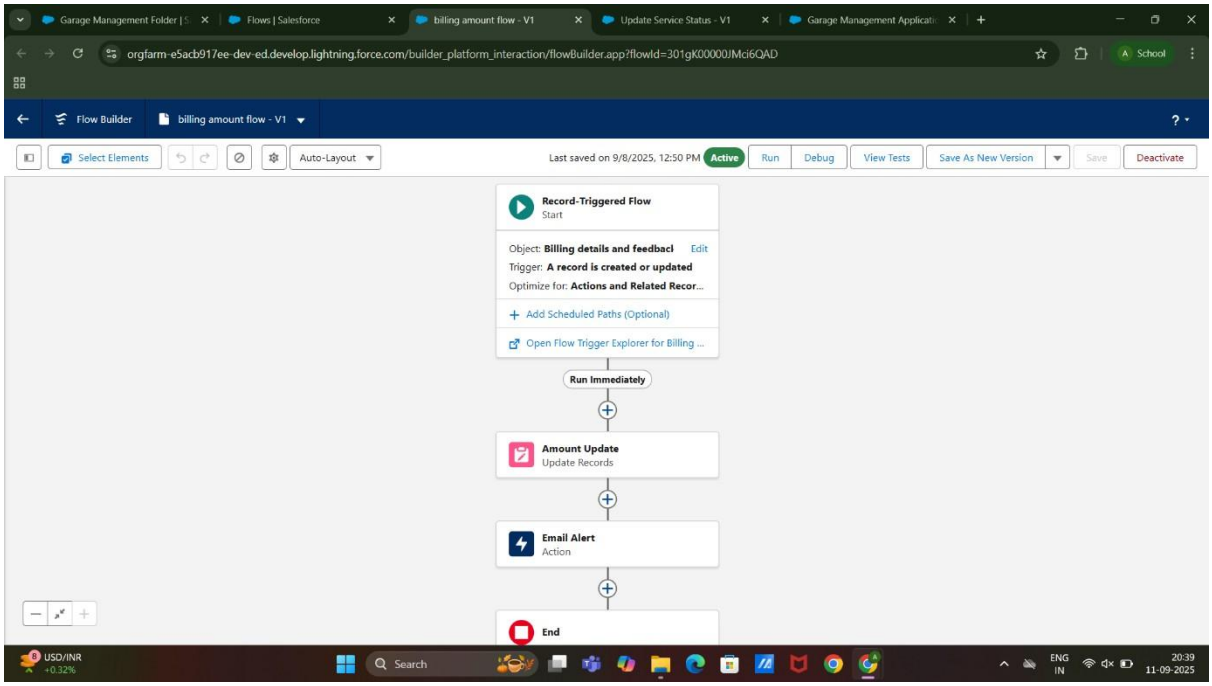


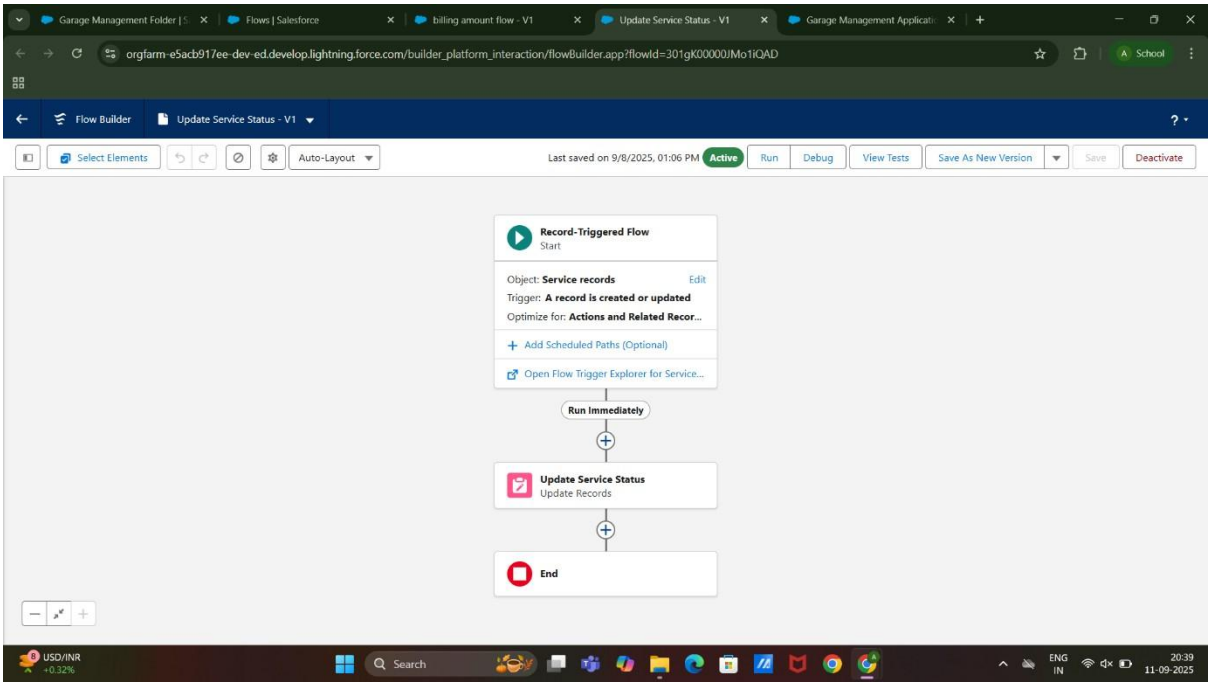
- Created Sharing Seetings



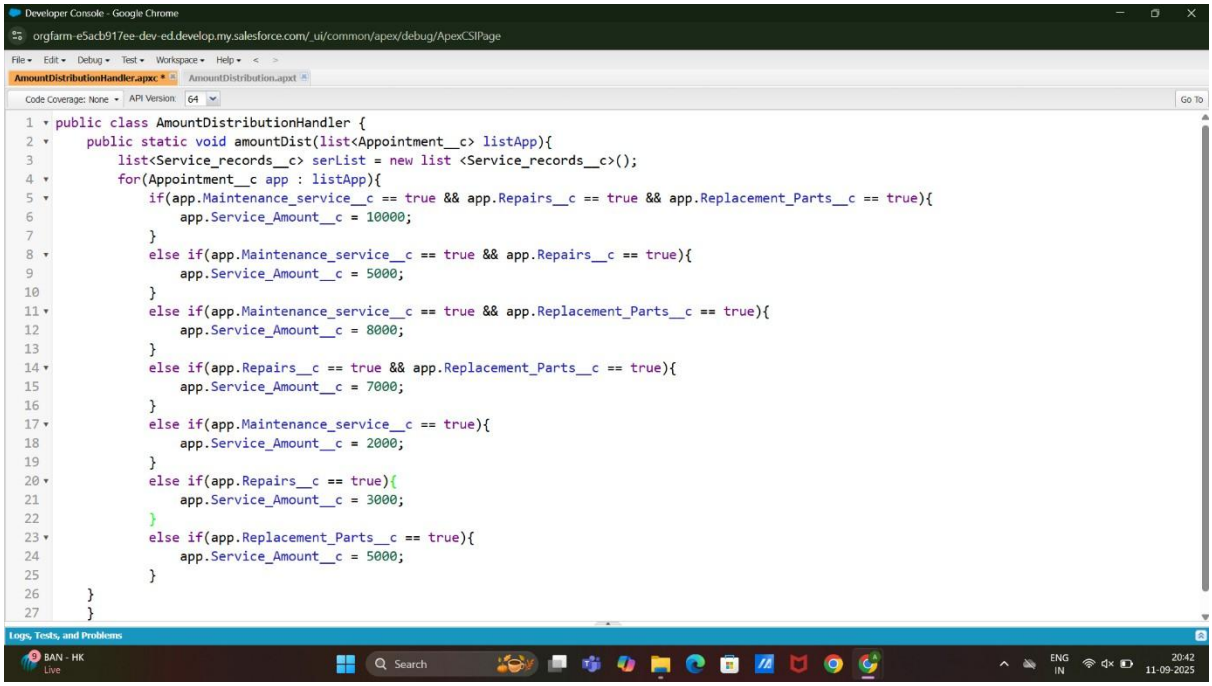


- Created A Flow and Another Flow

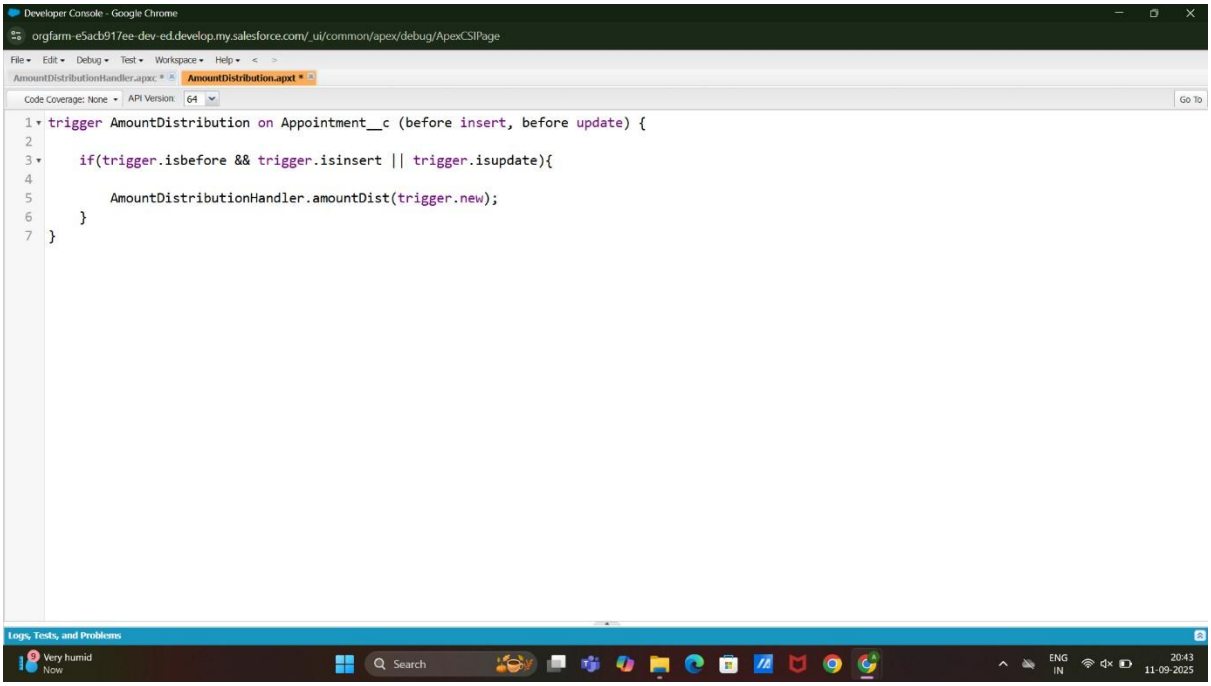




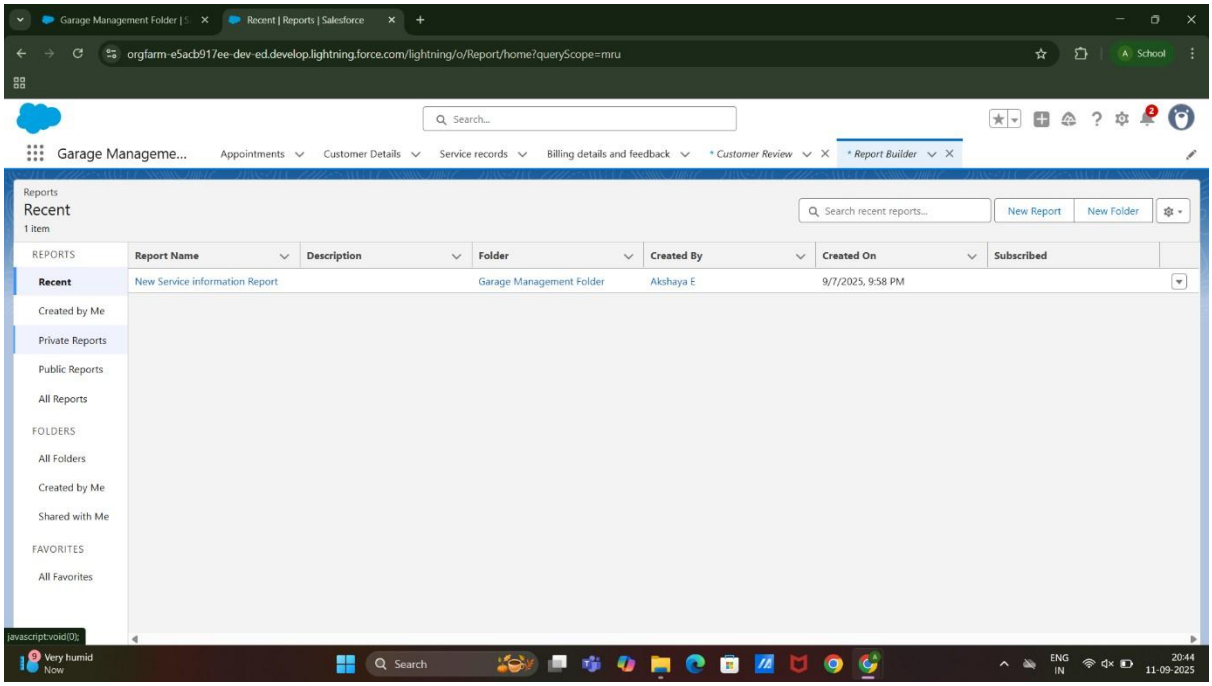
- Appex Trigger : Appex Handler

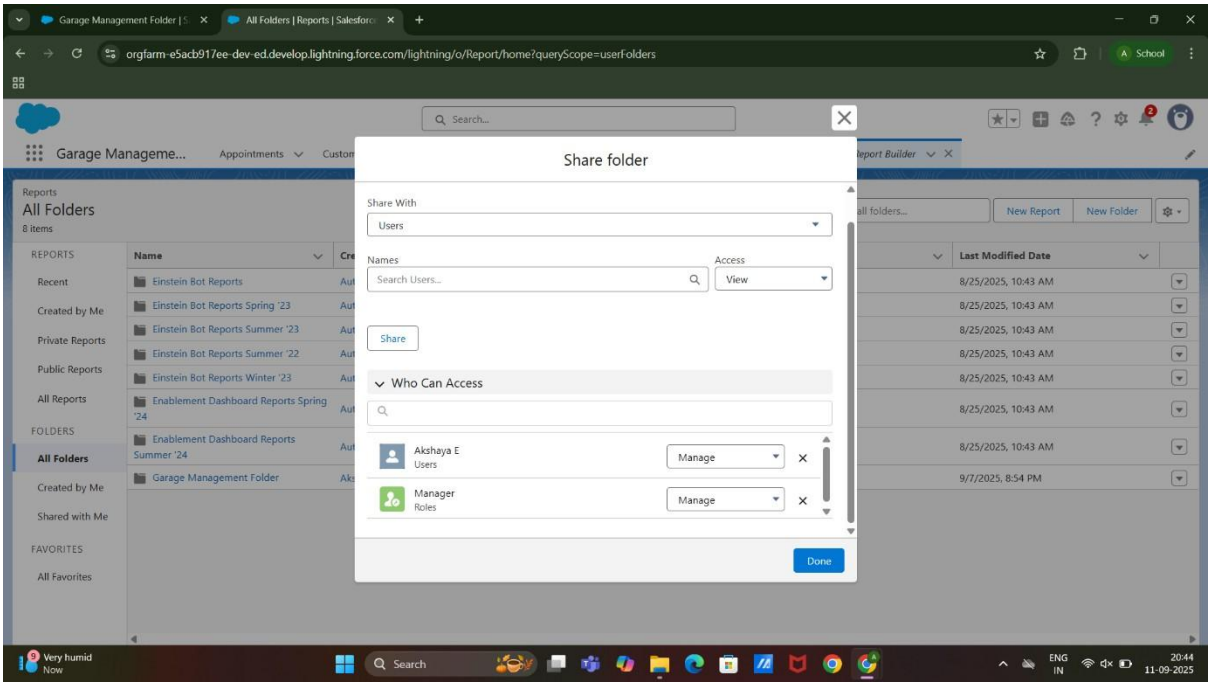



```apex
public class AmountDistributionHandler {
    public static void amountDist(list<Appointment__c> listApp){
        list<Service_records__c> serList = new list <Service_records__c>();
        for(Appointment__c app : listApp){
            if(app.Maintenance_service__c == true && app.Repairs__c == true && app.Replacement_Parts__c == true){
                app.Service_Amount__c = 10000;
            }
            else if(app.Maintenance_service__c == true && app.Repairs__c == true){
                app.Service_Amount__c = 5000;
            }
            else if(app.Maintenance_service__c == true && app.Replacement_Parts__c == true){
                app.Service_Amount__c = 8000;
            }
            else if(app.Repairs__c == true && app.Replacement_Parts__c == true){
                app.Service_Amount__c = 7000;
            }
            else if(app.Maintenance_service__c == true){
                app.Service_Amount__c = 2000;
            }
            else if(app.Repairs__c == true){
                app.Service_Amount__c = 3000;
            }
            else if(app.Replacement_Parts__c == true){
                app.Service_Amount__c = 5000;
            }
    }
    }
```



- Created Reports : Create a report, Share a report and Create report type

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All Folders | Reports | Salesforce
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Who Can Access
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Roles
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Done
Reports
All Folders
8 items
New Report
New Folder
REPORTS
Recent
Created by Me
Private Reports
Public Reports
All Reports
FOLDERS
All Folders
Created by Me
Shared with Me
FAVORITES
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Name
Last Modified Date
Einstein Bot Reports
Einstein Bot Reports Spring '23
Einstein Bot Reports Summer '23
Einstein Bot Reports Summer '22
Einstein Bot Reports Winter '23
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Enablement Dashboard Reports Summer '24
Garage Management Folder
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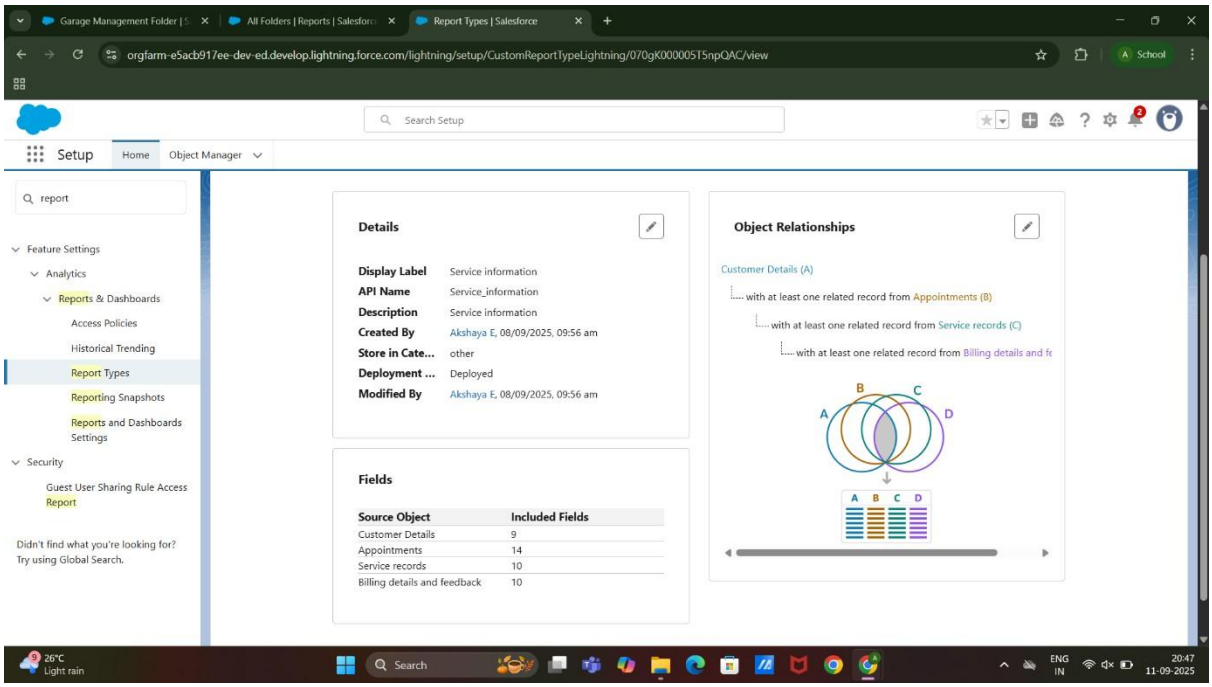
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Object Manager
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Feature Settings
Analytics
Reports & Dashboards
Access Policies
Historical Trending
Report Types
Reporting Snapshots
Reports and Dashboards Settings
Security
Guest User Sharing Rule Access Report
Didn't find what you're looking for?
Try using Global Search.
Details
Display Label Service information
API Name Service_information
Description Service information
Created By Akshaya E, 08/09/2025, 09:56 am
Store in Cate... other
Deployment ... Deployed
Modified By Akshaya E, 08/09/2025, 09:56 am
Fields
Source Object
Included Fields
Customer Details 9
Appointments 14
Service records 10
Billing details and feedback 10
Object Relationships
Customer Details (A)
with at least one related record from Appointments (B)
with at least one related record from Service records (C)
with at least one related record from Billing details and fe
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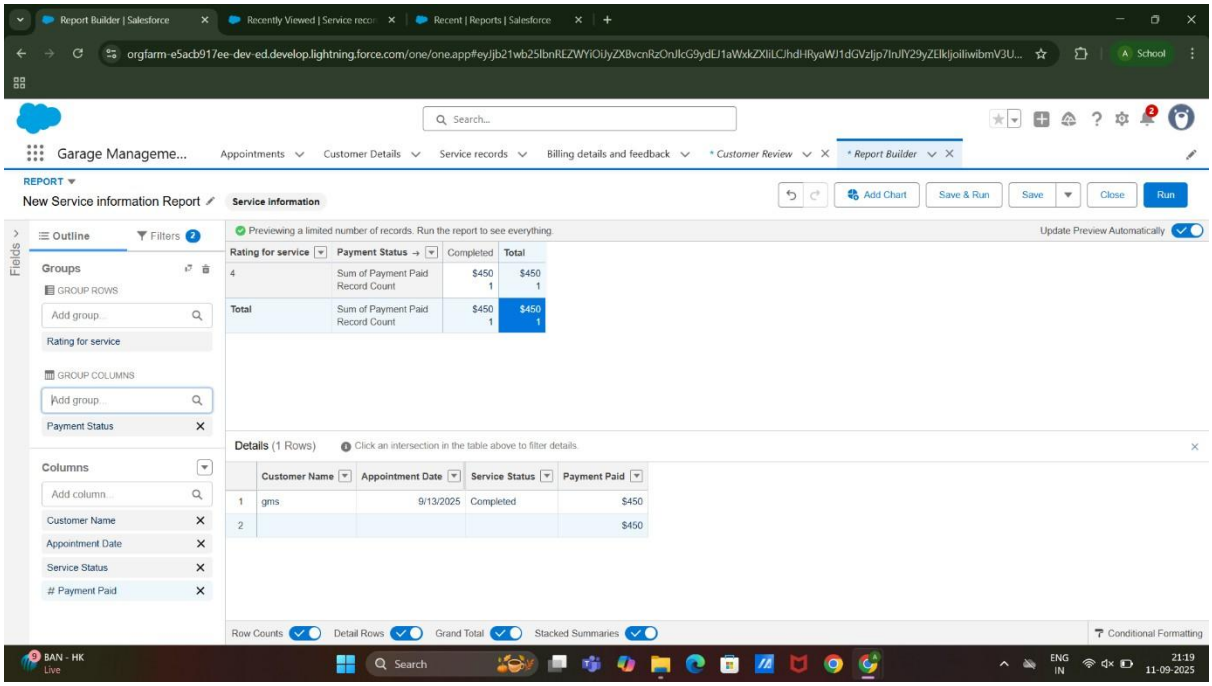
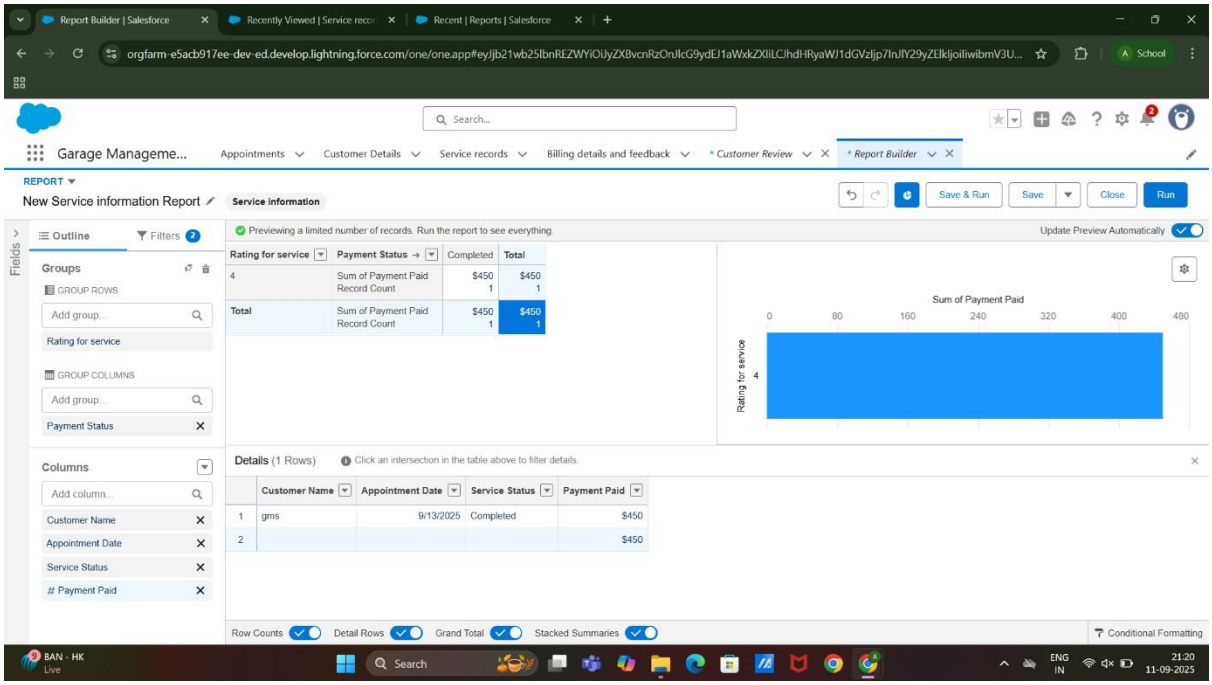
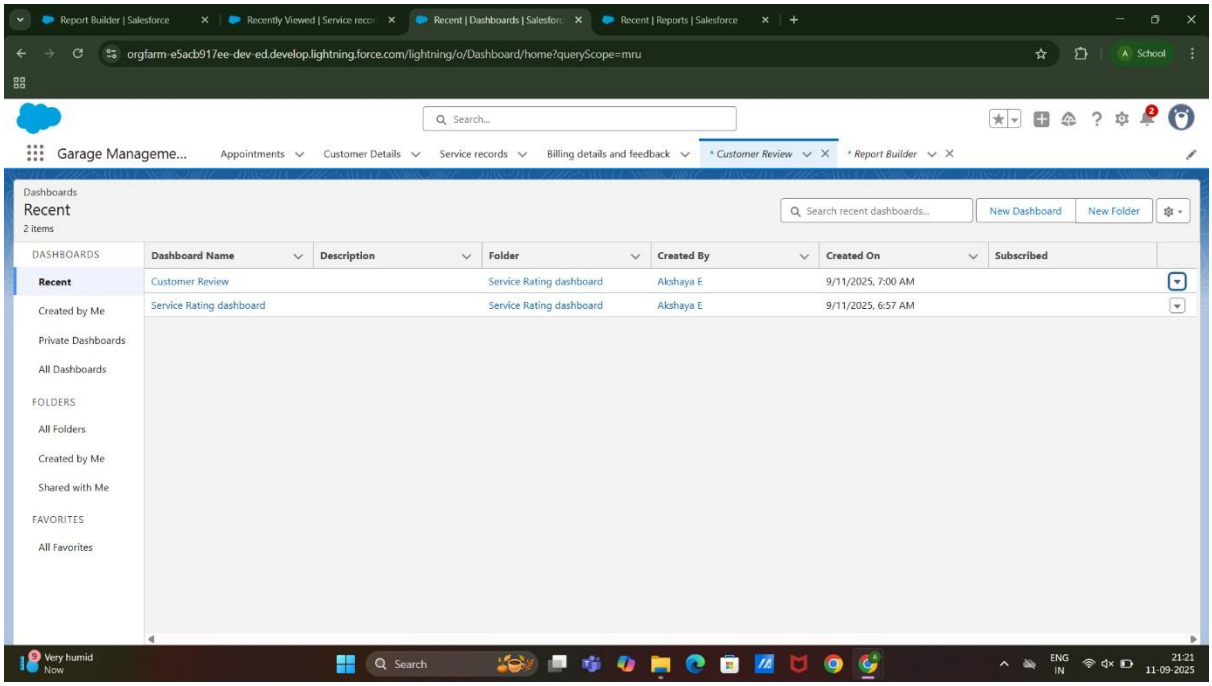
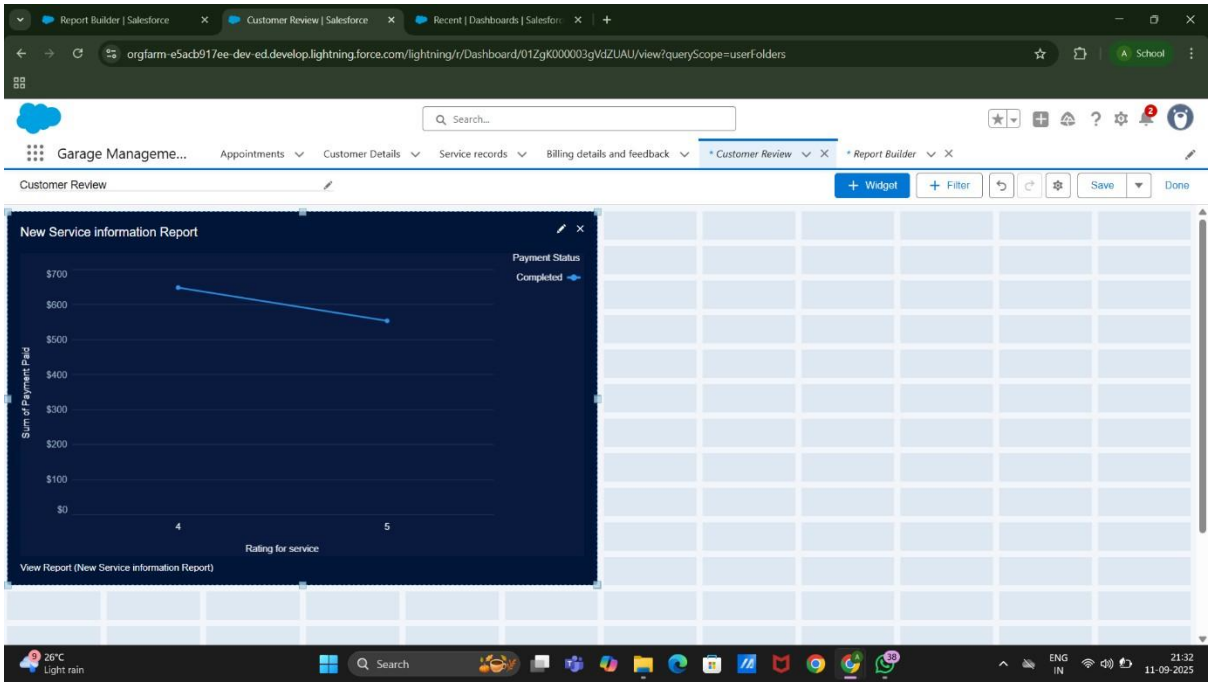
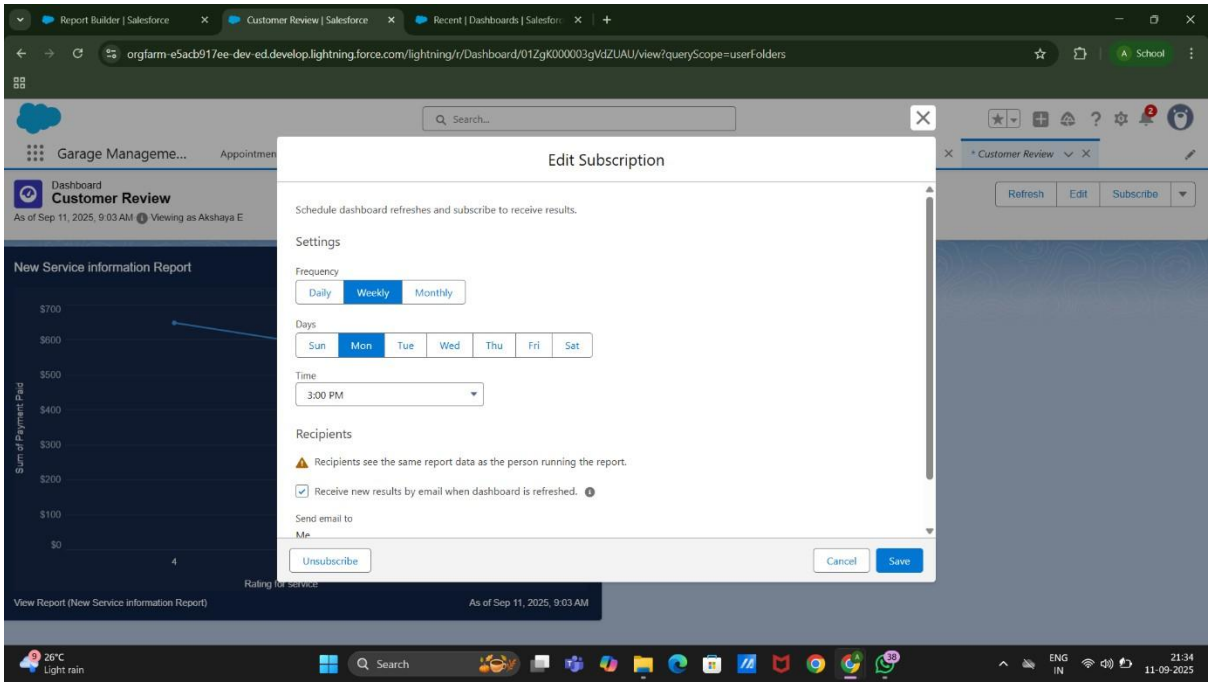




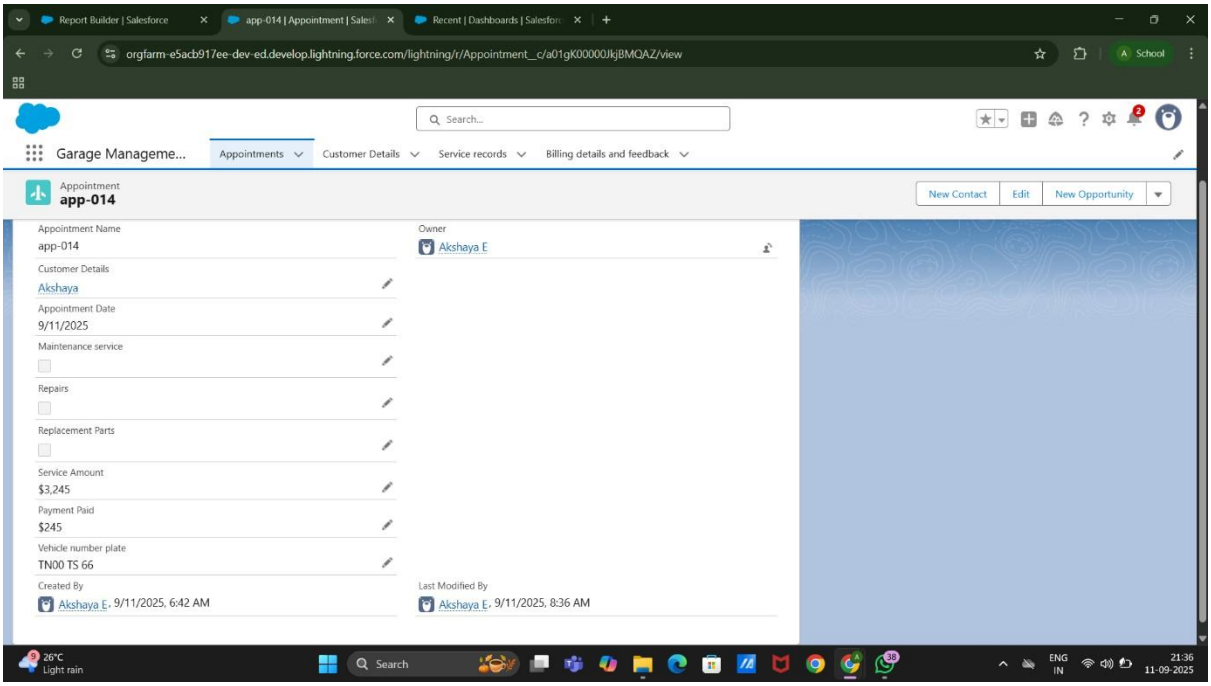
- Created Dashboard Folder and Dashboard

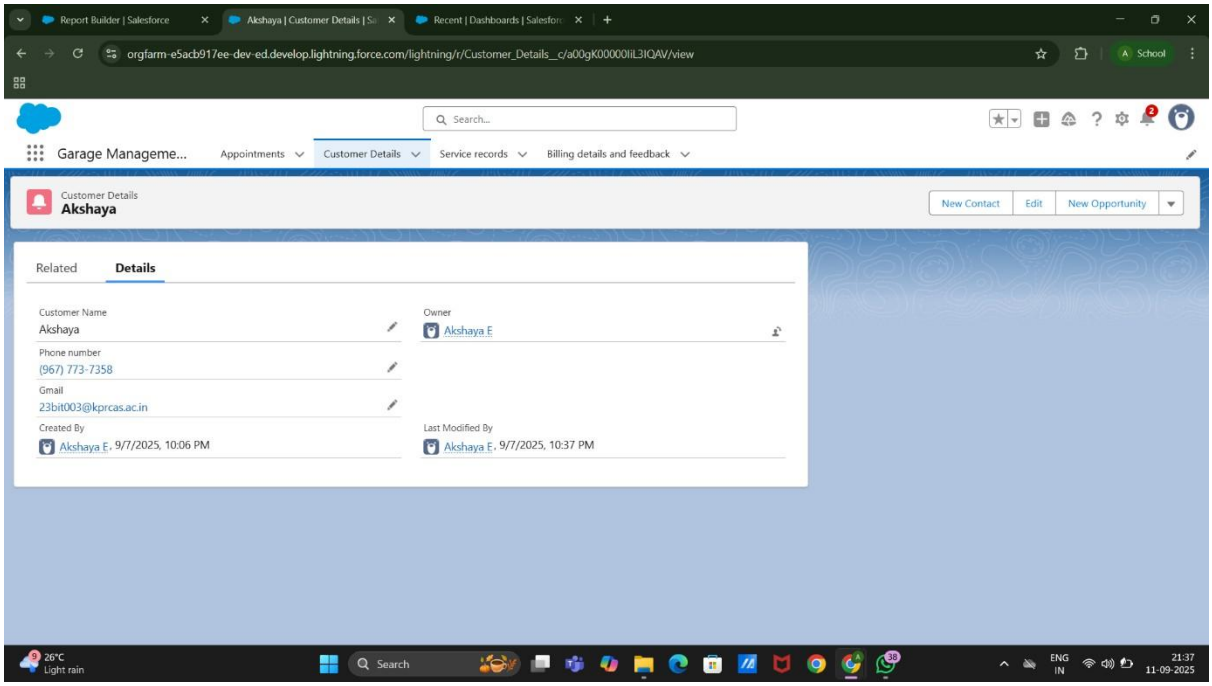

Report Builder | Salesforce
Recently Viewed | Service reco
Recent | Dashboards | Salesforc
Recent | Reports | Salesforce
orgfarm-e5acb917ee-dev-ed.develop.lightning.force.com/lightning/o/Dashboard/home?queryScope=mru
Search...
Garage Manageme...
Appointments
Customer Details
Service records
Billing details and feedback
* Customer Review
* Report Builder
Dashboards
Recent
2 items
Search recent dashboards...
New Dashboard
New Folder
DASHBOARDS
Recent
Created by Me
Private Dashboards
All Dashboards
FOLDERS
All Folders
Created by Me
Shared with Me
FAVORITES
All Favorites
Dashboard Name
Description
Folder
Created By
Created On
Subscribed
Customer Review
Service Rating dashboard
Akshaya E
9/11/2025, 7:00 AM
Service Rating dashboard
Service Rating dashboard
Akshaya E
9/11/2025, 6:57 AM
Very humid
Now
Search
ENG
IN
21:21
11-09-2025

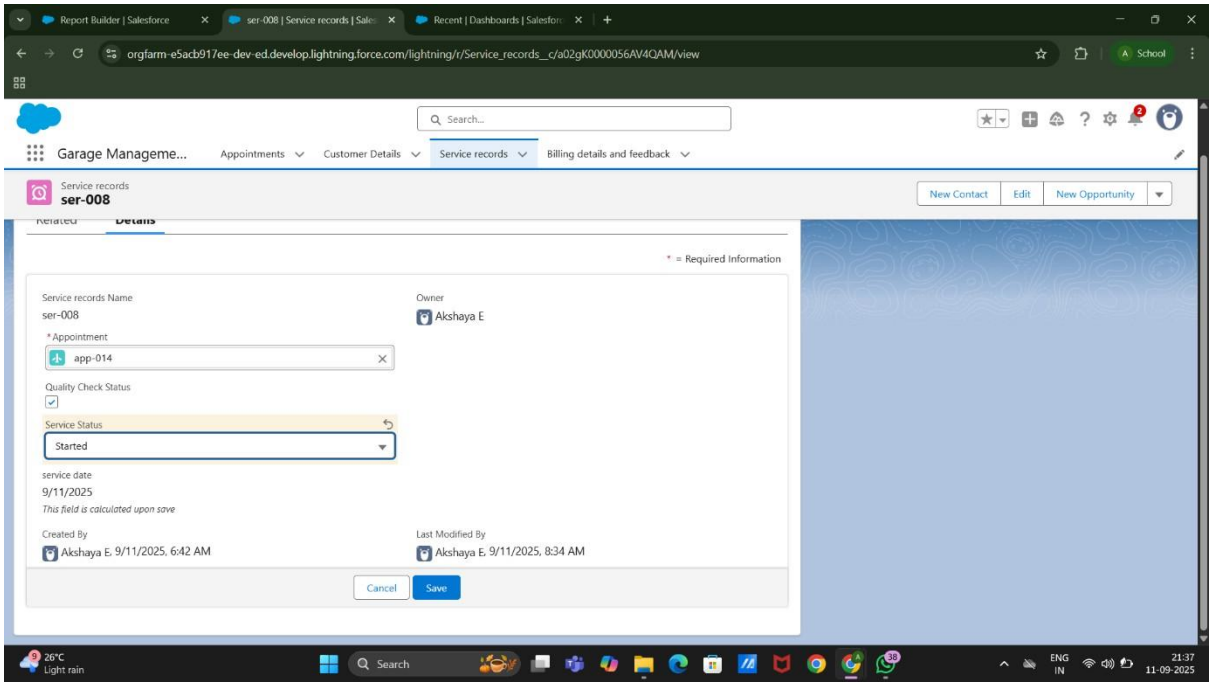

Report Builder | Salesforce
Customer Review | Salesforce
Recent | Dashboards | Salesforc
orgfarm-e5acb917ee-dev-ed.develop.lightning.force.com/lightning/r/Dashboard/01ZgK000003gVdZUAU/view?queryScope=userFolders
Search...
Garage Manageme...
Appointments
Customer Details
Service records
Billing details and feedback
* Customer Review
* Report Builder
Customer Review
+ Widget
+ Filter
Save
Done
New Service information Report
Payment Status
Completed
$700
$600
$500
$400
$300
$200
$100
$0
Sum of Payment Paid
4
5
Rating for service
View Report (New Service information Report)
26°C
Light rain
Search
ENG
IN
21:32
11-09-2025



- Created User Adoption Records

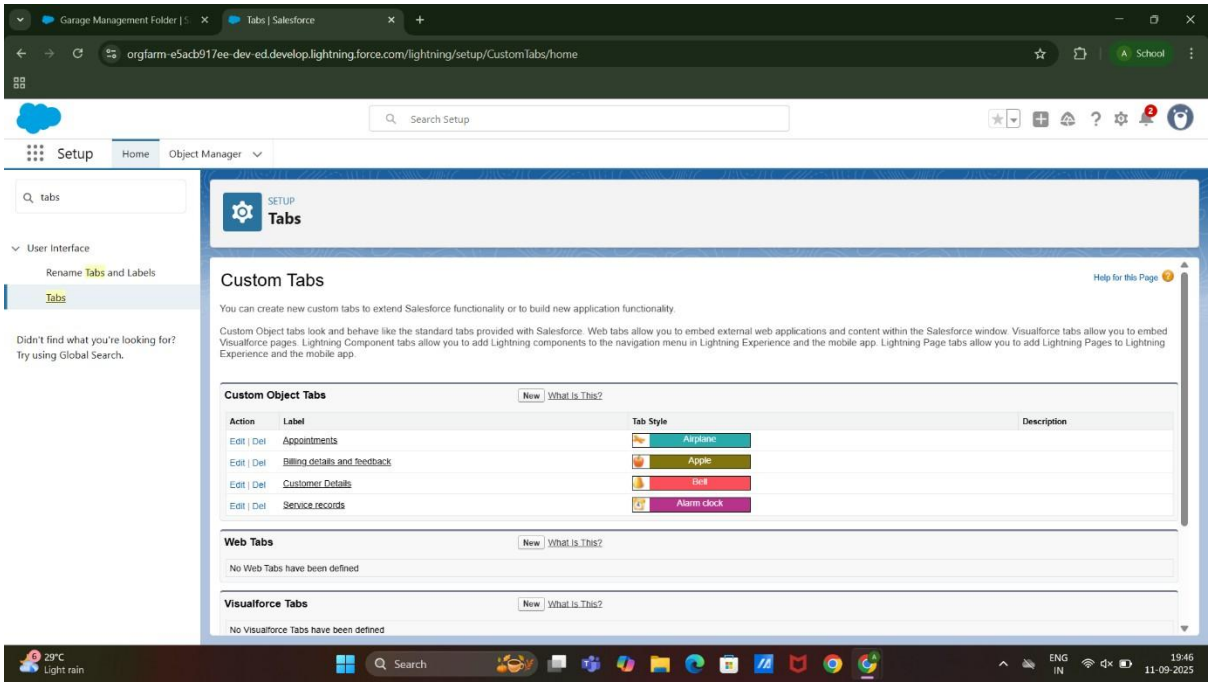




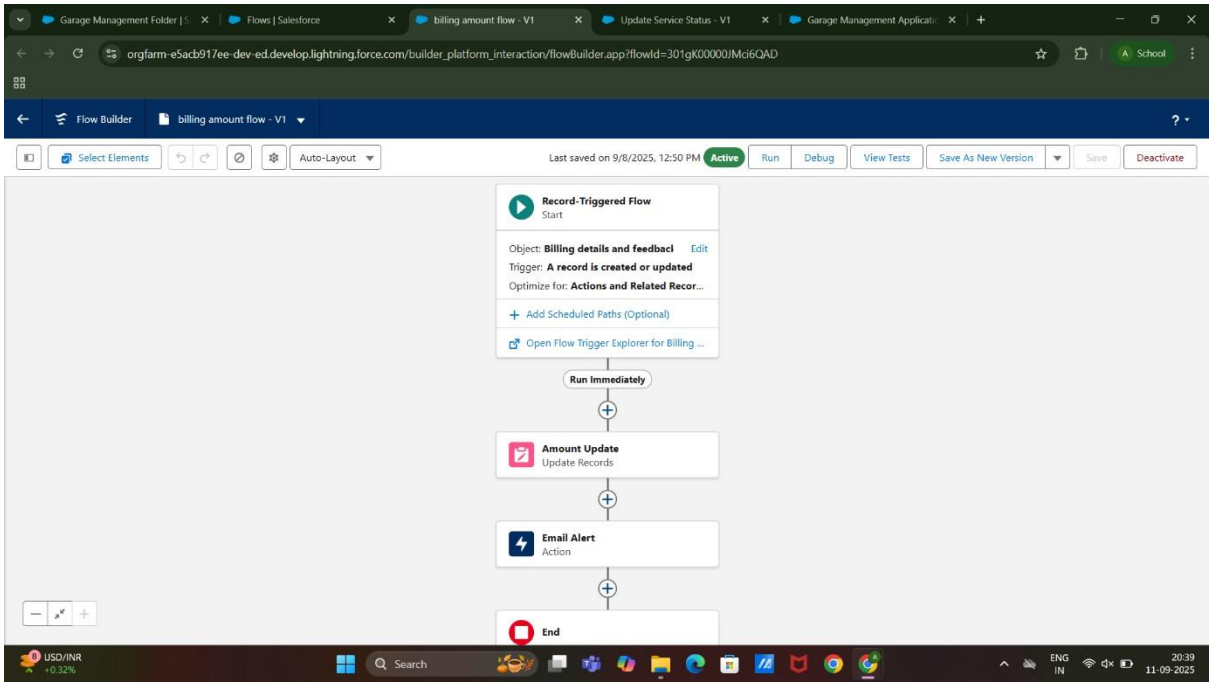


OUTPUT:

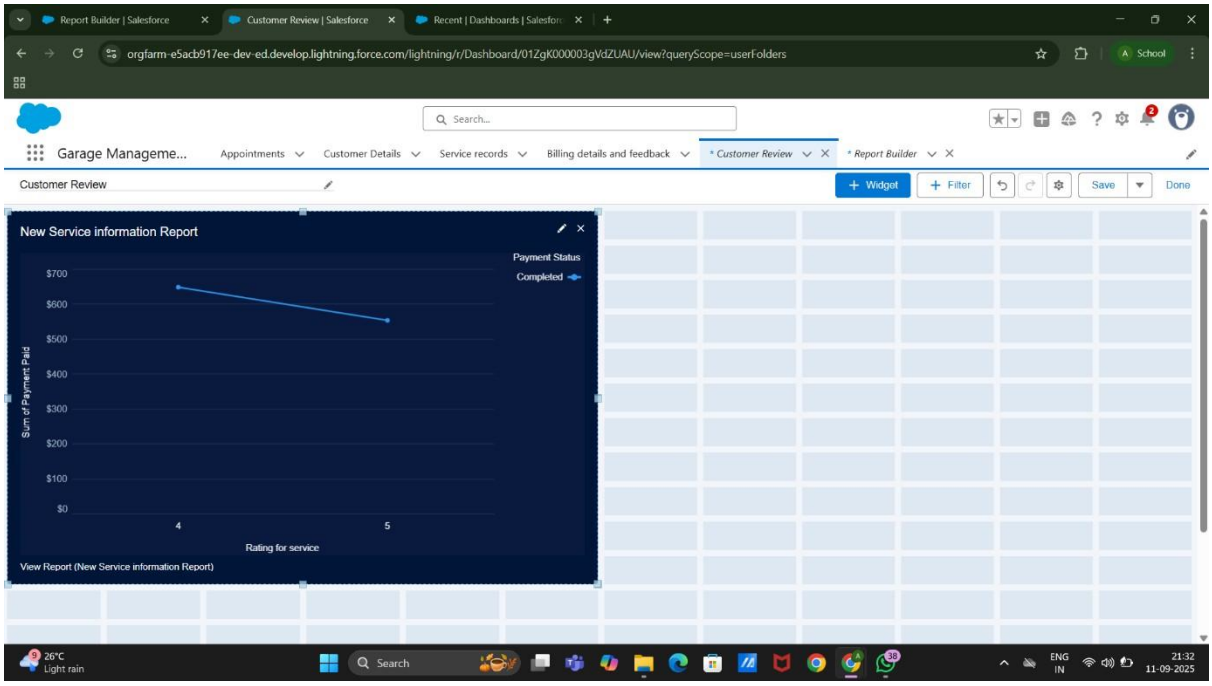
- Tabs for Customer Details, Appointment, Service Records and Billing Details and Feedback

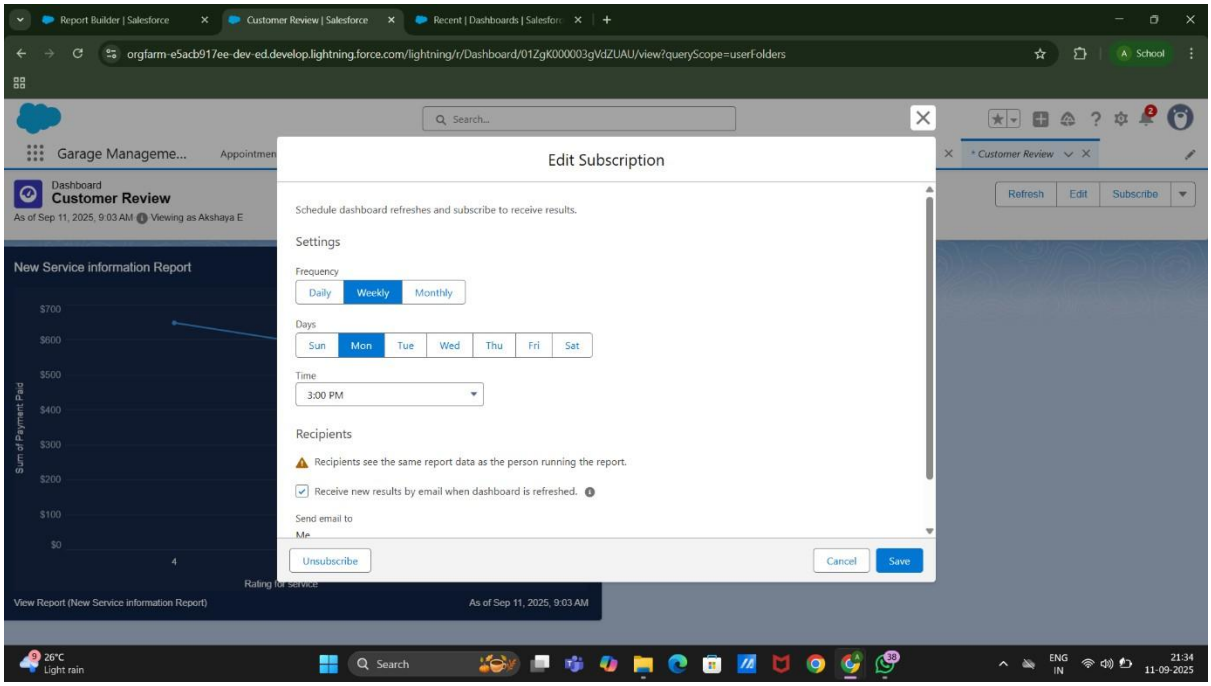


- Flows



- New Service Information Reports





Advantage and Disadvantage

Advantages of Garage Management System

1. **Improved Efficiency** – Automates daily operations such as job scheduling, invoicing, and inventory tracking, reducing manual workload.
2. **Better Customer Experience** – Provides online booking, service reminders, and realtime updates on vehicle status.
3. **Accurate Record Keeping** – Maintains complete service history, bills, and reports, helping with both customer reference and compliance.
4. **Time & Cost Savings** – Minimizes delays, reduces paperwork, and optimizes resource allocation.
5. **Inventory Management** – Tracks spare parts, stock levels, and orders to prevent shortages or overstock.
6. **Data-Driven Insights** – Generates reports on revenue, expenses, and performance, enabling better decision-making.
7. **Transparency & Trust** – Customers can see service progress, cost estimates, and final bills clearly, reducing disputes.
8. **Scalability** – Can be adapted for small garages or larger service centers as the business grows.
9. **Reduced Errors** – Automated calculations in billing and inventory help minimize human mistakes.
10. **Enhanced Communication** – Improves coordination between staff, technicians, and customers.

Disadvantages of Garage Management System

1. **Initial Cost** – Purchasing and implementing GMS software can be expensive for small garages.
2. **Training Requirement** – Staff may need time and training to get used to the system.
3. **Dependence on Technology** – If the system crashes or faces downtime, it can disrupt operations.
4. **Data Security Risks** – Customer and financial data may be vulnerable to cyber threats if security is weak.
5. **Internet Dependency** – Cloud-based GMS requires stable internet; poor connectivity can cause delays.
6. **Customization Limits** – Some off-the-shelf GMS solutions may not meet the unique needs of every garage.

7. **Maintenance Costs** – Regular updates, technical support, or subscription fees may add to expenses.
8. **Resistance to Change** – Older staff or traditional garages may hesitate to shift from manual processes.
9. **Integration Challenges** – May not easily integrate with existing accounting, CRM, or ERP systems.
10. **Over-Reliance on System** – If staff become too dependent, basic manual processes may be forgotten.

Conclusion

The Garage Management System is a powerful tool that bridges the gap between operational efficiency and customer satisfaction in the automotive repair industry. By streamlining processes such as scheduling, billing, inventory control, and customer communication, it enables garages to operate more productively and deliver a superior service experience.

While GMS offers numerous advantages—including efficiency, transparency, and data-driven decision-making—it also comes with challenges like cost, training, and dependence on technology. However, when implemented effectively, the benefits far outweigh the drawbacks, making it a valuable investment for garages of all sizes.

In today's competitive market, adopting a Garage Management System is not just a technological upgrade—it is a strategic step toward long-term growth, customer loyalty, and business success.

Apex Handler

AmountDistributionHandler:

Source Code:

```
public class AmountDistributionHandler
{
public static void amountDist(list<Appointment__c> listApp){
list<Service_records__c> serList = new list <Service_records__c>();
for(Appointment__c app : listApp){
```

```
        if(app.Maintenance_service__c == true && app.Repairs__c == true &&
app.Replacement_Parts__c == true){              app.Service_Amount__c =
10000;
        }
        else if(app.Maintenance_service__c == true && app.Repairs__c == true){
app.Service_Amount__c = 5000;
        }
        else if(app.Maintenance_service__c == true && app.Replacement_Parts__c == true){
app.Service_Amount__c = 8000;
        }
        else if(app.Repairs__c == true && app.Replacement_Parts__c == true){
app.Service_Amount__c = 7000;
        }
        else if(app.Maintenance_service__c == true){
app.Service_Amount__c = 2000;
        }
        else if(app.Repairs__c == true){
app.Service_Amount__c = 3000;
        }
        else if(app.Replacement_Parts__c == true){
app.Service_Amount__c = 5000;
        }
   }
   }
}
```

Trigger: Source

Code:

```
trigger AmountDistribution on Appointment__c (before insert, before update)
{
    if(trigger.isbefore && trigger.isinsert || trigger.isupdate)
  {
        AmountDistributionHandler.amountDist(trigger.new);
    }
}
```