

Garage Management system

Project Title : Garage Management system

College : Kg College of arts and science

Team ID : NM2025TMID23758

Team Size : 4

Team Member Details:

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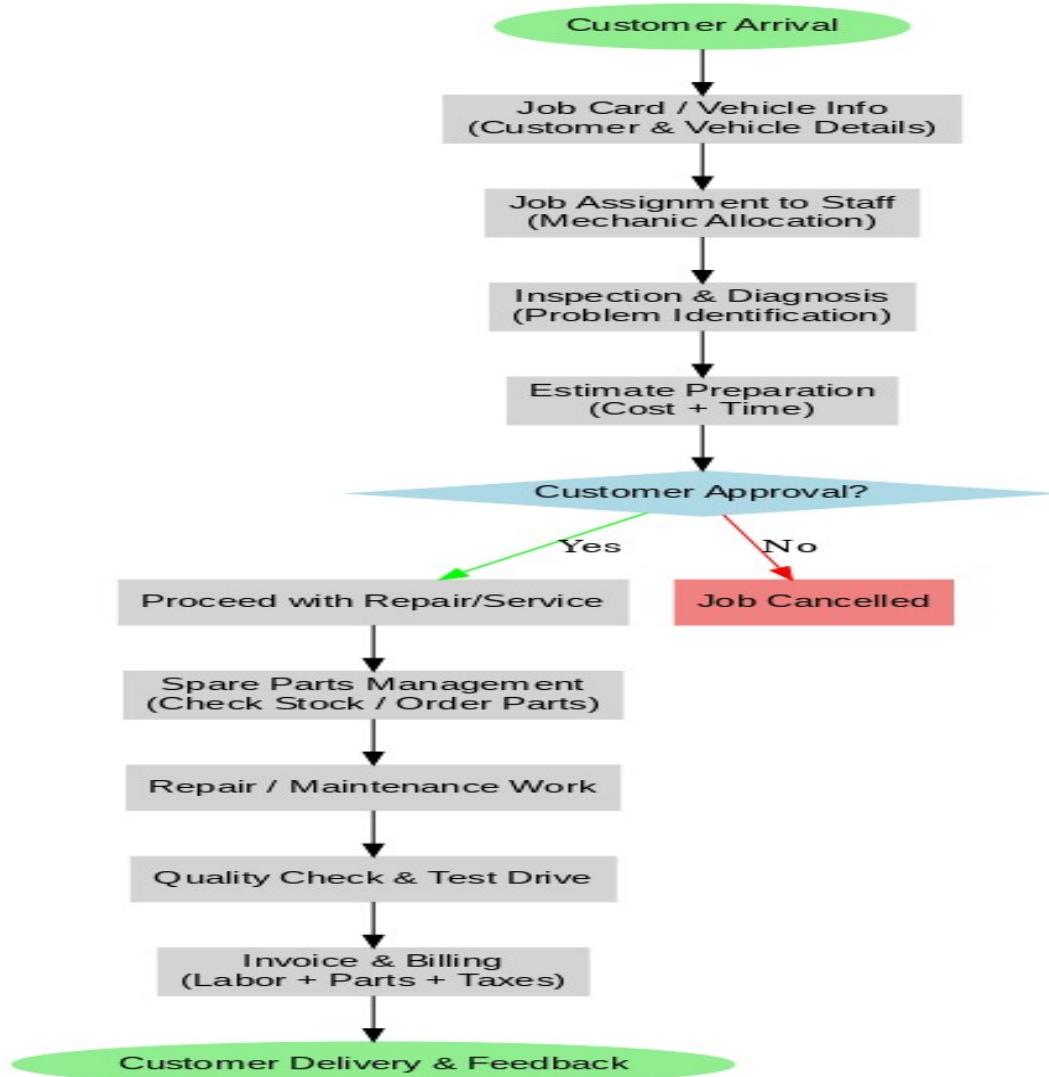
4. **Team Member** : Shahataj Z

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INTRODUCTION:

1.1 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.



1.2 Purpose

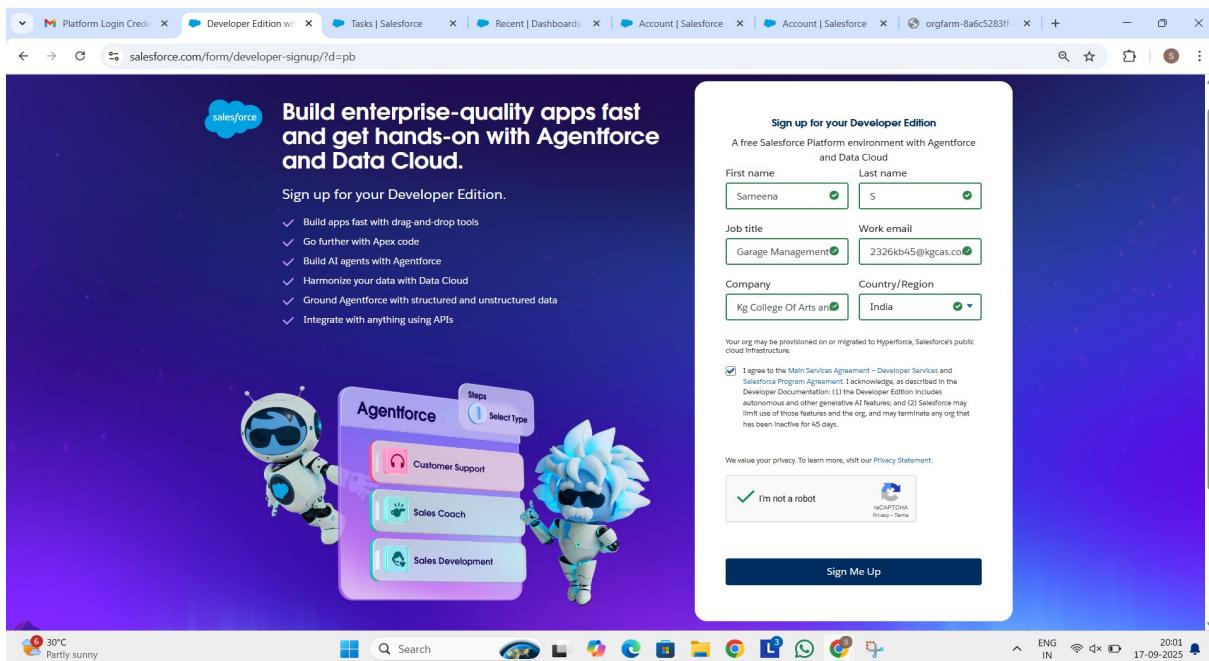
The purpose of the Garage Management System is to streamline and automate the daily operations of automotive repair facilities. It provides a centralized

platform for managing customer details, vehicle information, job assignments, repair workflows, spare parts inventory, billing, and customer feedback. By digitizing these processes, GMS enhances operational efficiency, reduces errors, ensures timely service delivery, and improves customer satisfaction. Ultimately, it empowers garages to deliver high-quality service, maintain better resource utilization, and thrive in a competitive automotive service industry.

DEVELOPMENT PHASE

Creating Developer Account:

By using this URL: <https://developer.salesforce.com/signup>



Created objects:

The screenshot shows the Salesforce Object Manager page. At the top, there's a navigation bar with tabs like Setup, Home, and Object Manager. A search bar is at the top right. Below the navigation is a sidebar with a tree view of objects under 'LABEL' and a main table area.

RECENT RECORDS

- Billing details and feedback
- Service records

Object Manager
53+ Items. Sorted by Label

LABEL	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		9/13/2025	
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			
Approval Work Item	ApprovalWorkItem	Standard Object			
Asset	Asset	Standard Object			

At the bottom, there's a status bar with weather information (30°C, Partly sunny), system icons, and a date/time stamp (17-09-2025).

Billing details and feedback:

The screenshot shows the 'Billing details and feedback' object setup page. The left sidebar lists various setup categories like Fields & Relationships, Page Layouts, and Buttons, Links, and Actions. The main panel displays the object's details.

Billing details and feedback

Details

Description	Enable Reports
API Name Billing_details_and_feedback_c	Track Activities
Custom	Track Field History
Singular Label Billing details and feedback	Deployment Status
Plural Label Billing details and feedback	Help Settings

At the bottom, there's a status bar with weather information (30°C, Partly sunny), system icons, and a date/time stamp (17-09-2025).

Service records:

The screenshot shows the Salesforce Setup interface with the 'Object Manager' tab selected. The main area displays the details for the 'Service records' object. The 'Details' section includes fields for API Name (Service_records_c), Singular Label (Service records), and Plural Label (Service records). On the right, there are checkboxes for 'Enable Reports' (checked), 'Track Activities' (unchecked), 'Track Field History' (checked), 'Deployment Status' (Deployed), and 'Help Settings'. A standard help window link is also present. The left sidebar lists various configuration options like Fields & Relationships, Page Layouts, and Record Types.

Appointment:

The screenshot shows the Salesforce Setup interface with the 'Object Manager' tab selected. The main area displays the details for the 'Appointment' object. The 'Details' section includes fields for API Name (Appointment_c), Singular Label (Appointment), and Plural Label (Appointments). On the right, there are checkboxes for 'Enable Reports' (checked), 'Track Activities' (unchecked), 'Track Field History' (checked), 'Deployment Status' (Deployed), and 'Help Settings'. A standard help window link is also present. The left sidebar lists various configuration options like Fields & Relationships, Page Layouts, and Record Types.

Customer Details:

The screenshot shows the Salesforce Setup interface with the following details:

- Page Header:** Platform Login Cred, Tasks | Salesforce, Home | Salesforce, Customer Details | S, Recent | Dashboards, Account | Salesforce, Home | Salesforce.
- Search Bar:** Search Setup.
- Top Navigation:** Setup, Home, Object Manager.
- Section:** SETUP > OBJECT MANAGER Customer Details
- Left Sidebar (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
 - Scoping Rules
 - Object Access
- Details Panel:**
 - Description:
API Name: Customer_Details__c
Custom: ✓
Singular Label: Customer Details
Plural Label: Customer Details
 - Enable Reports: ✓
Track Activities: ✓
 - Track Field History: ✓
Deployment Status: Deployed
Help Settings: Standard salesforce.com Help Window
- Bottom:** javascript:void();, 30°C Partly sunny, Windows taskbar with various icons, ENG IN, 21:23, 17-09-2025.

Configured fields and relationship:
Billing details and feedback:

The screenshot shows the Salesforce Setup interface with the following details:

- Page Header:** Platform Login Cred, Tasks | Salesforce, Home | Salesforce, Billing details and fe, Recent | Dashboards, Account | Salesforce, Home | Salesforce.
- Search Bar:** Search Setup.
- Top Navigation:** Setup, Home, Object Manager.
- Section:** SETUP > OBJECT MANAGER Billing details and feedback
- Left Sidebar (Fields & Relationships):**
 - 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
 - Scoping Rules
 - Object Access
 - Triggers
- Fields & Relationships Table:**

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)		✓
- Bottom:** javascript:void();, 30°C Partly sunny, Windows taskbar with various icons, ENG IN, 21:35, 17-09-2025.

Service records:

Service records

Fields & Relationships
8 items. Sorted by Field Label

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		

Appointment:

Appointment

Fields & Relationships
11 items. Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Appointment Date	Appointment_Date__c	Date		
Appointment Name	Name	Auto Number		
Created By	CreatedById	Lookup(User)		
Customer Details	Customer_Details__c	Lookup(Customer Details)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Maintenance Service	Maintenance_service_c__c	Checkbox		
Owner	OwnerId	Lookup(User,Group)		✓
Repairs	Repairs__c	Checkbox		
Replacement Parts	Replacement_Parts__c	Checkbox		
Service Amount	Service_Amount__c	Currency(18, 0)		
Vehicle number plate	Vehicle_number_plate__c	Text(10) (Unique Case Insensitive)		

Customer Details:

Customer Details

Fields & Relationships
6 items. Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedBy	Lookup(User)		
Customer Name	Name	Text(80)		✓
Gmail	Gmail_c	Email		
Last Modified By	LastModifiedBy	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Phone number	Phone_number_c	Phone		

Developed Lightning App:

Lightning Experience App Manager

App Name ↑	Developer Name	Description	Last Modified Date	App Type	Visible ...
11 Digital Experiences	SalesforceCMS	Manage content and media for all of your sites.	9/10/2025, 11:45 AM	Lightning	✓
12 Garage Management Application	Garage_Management_Application		9/13/2025, 11:08 PM	Lightning	✓
13 Lightning Usage App	LightningInstrumentation	View Adoption and Usage Metrics for Lightning Experience	9/10/2025, 11:45 AM	Lightning	✓
14 Marketing CRM Classic	Marketing	Track sales and marketing efforts with CRM objects.	9/10/2025, 11:45 AM	Classic	✓
15 My Service Journey	MSIApp	Discover new customer service capabilities.	9/10/2025, 11:45 AM	Lightning	✓
16 Platform	Platform	The fundamental Lightning Platform	9/10/2025, 11:45 AM	Classic	
17 Queue Management	QueueManagement	Create and manage queues for your business.	9/10/2025, 11:45 AM	Lightning	✓
18 Sales	Sales	The world's most popular sales force automation (SFA) solution	9/10/2025, 11:45 AM	Classic	
19 Sales	LightningSales	Manage your sales process with accounts, leads, opportunities, and more	9/10/2025, 11:45 AM	Lightning	✓
20 Sales Cloud Mobile	SalesCloudMobile	New seller focused mobile first experience	9/10/2025, 11:45 AM	Lightning	✓
21 Sales Console	LightningSalesConsole	(Lightning Experience) Lets sales reps work with multiple records on one screen.	9/10/2025, 11:45 AM	Lightning	✓
22 Salesforce Chatter	Chatter	The Salesforce Chatter social network, including profiles and feeds	9/10/2025, 11:45 AM	Classic	✓
23 Salesforce Scheduler Setup	LightningScheduler	Set up personalized appointment scheduling.	9/10/2025, 11:49 AM	Lightning	✓
24 Service	Service	Manage customer service with accounts, contacts, cases, and more	9/10/2025, 11:45 AM	Classic	✓
25 Service Console	LightningService	(Lightning Experience) Lets support agents work with multiple records at once.	9/10/2025, 11:45 AM	Lightning	✓
26 Site.com	Sites	Build pixel-perfect, data-rich websites using the drag-and-drop Site.com builder.	9/10/2025, 11:45 AM	Classic	
27 Subscription Management	RevenueCloudConsole	Get started automating your revenue processes.	9/10/2025, 11:45 AM	Lightning	✓

Platform Login | Tasks | Salesforce | Home | Salesforce | Lightning Usage | App Manager | Recent | Dashboard | Account | Salesforce | Home | Salesforce | +

orgfarm-8a6c5283ff-dev-ed.lightning.force.com/lightning/setup/NavigationMenus/home

Setup Home Object Manager

New Lightning App

App Details & Branding

Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.

App Details

* App Name

* Developer Name

Description

App Branding

Image

Primary Color Hex Value

Org Theme Options Use the app's image and color instead of the org's custom theme

App Launcher Preview

Next

Service Console LightningService (Lightning Experience) Lets support agents work with multiple records acr... 9/10/2025, 11:45 AM Lightning ✓

Site.com Sites Build pixel-perfect, data-rich websites using the drag-and-drop Site.com ... 9/10/2025, 11:45 AM Classic ✓

Subscription Management RevenueCloudConsole Get started automating your revenue processes 9/10/2025, 11:45 AM Lightning ✓

Platform Login | Tasks | Salesforce | Home | Salesforce | Lightning Usage | Garage Manager | Recent | Dashboard | Account | Salesforce | Home | Salesforce | +

orgfarm-8a6c5283ff-dev-ed.lightning.force.com/visualEditor/appBuilder.app?id=02ugK000006cW7eQAE&retUrl=https%3A%2Fforgfarm-8a6c5283ff-dev-ed.develo...

Lightning App Builder App Settings Pages Garage Management Application

App Settings

App Details & Branding

Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.

App Details

* App Name

* Developer Name

Description

App Branding

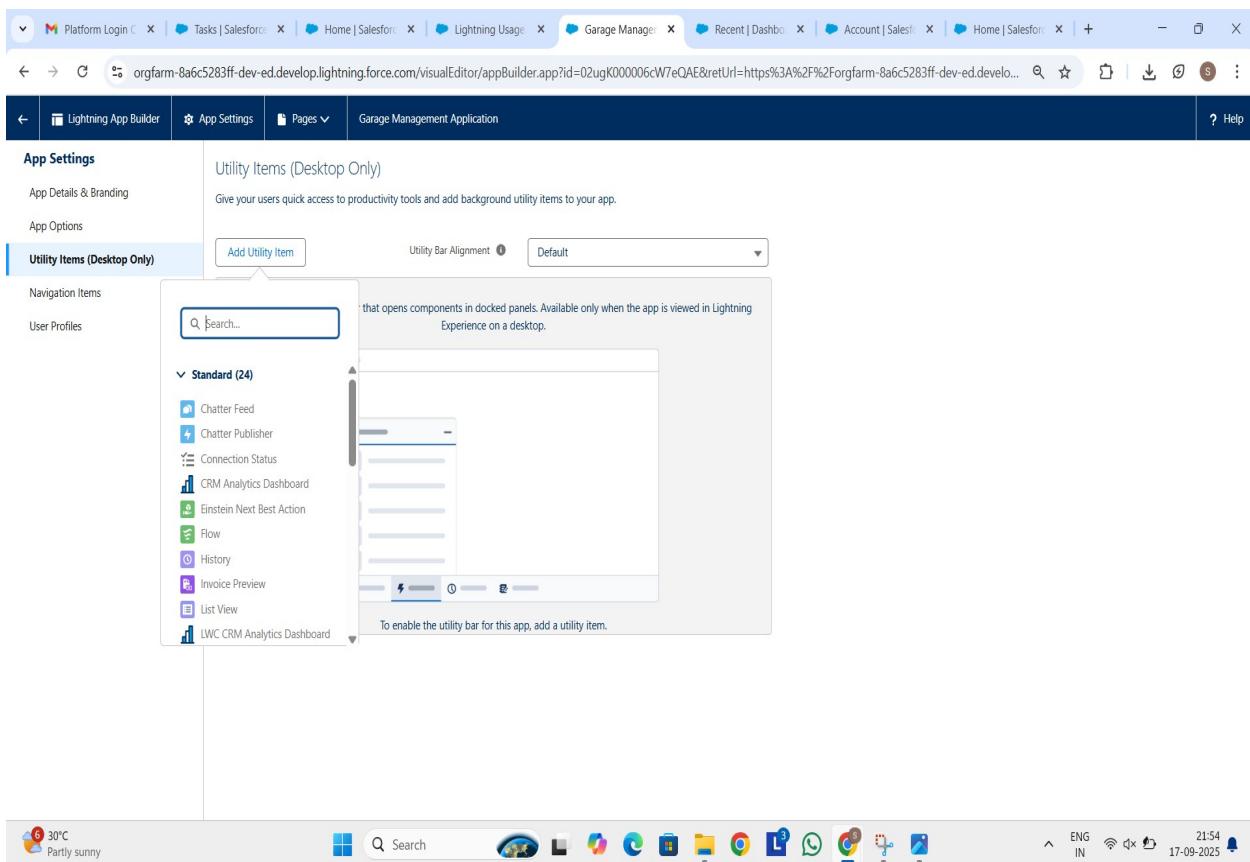
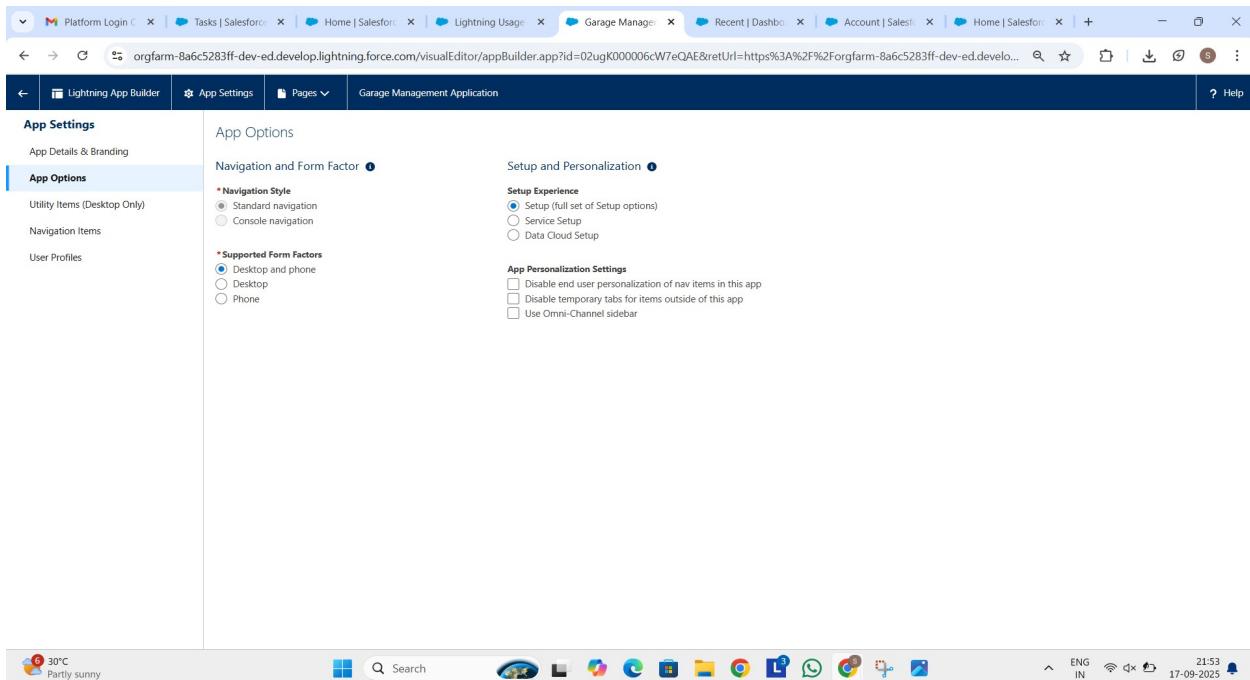
Image

Primary Color Hex Value

Org Theme Options Use the app's image and color instead of the org's custom theme

App Launcher Preview

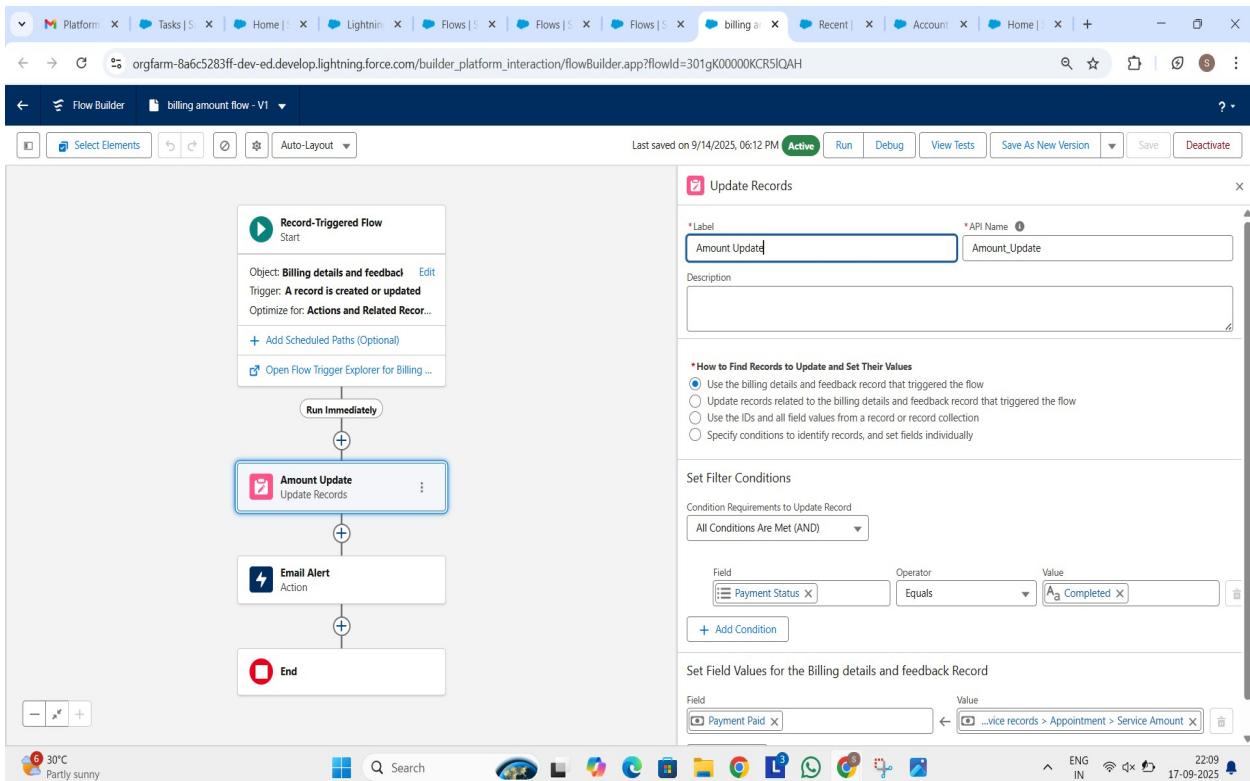
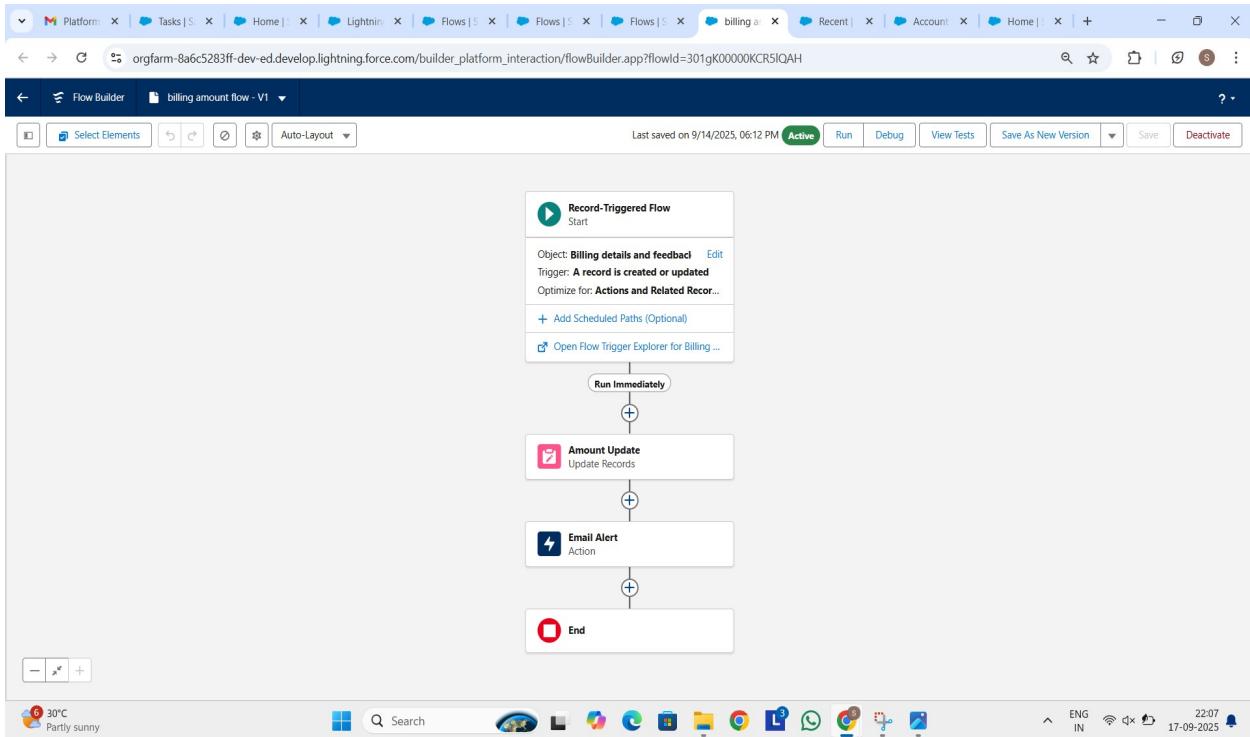
GM Garage Management Appl...

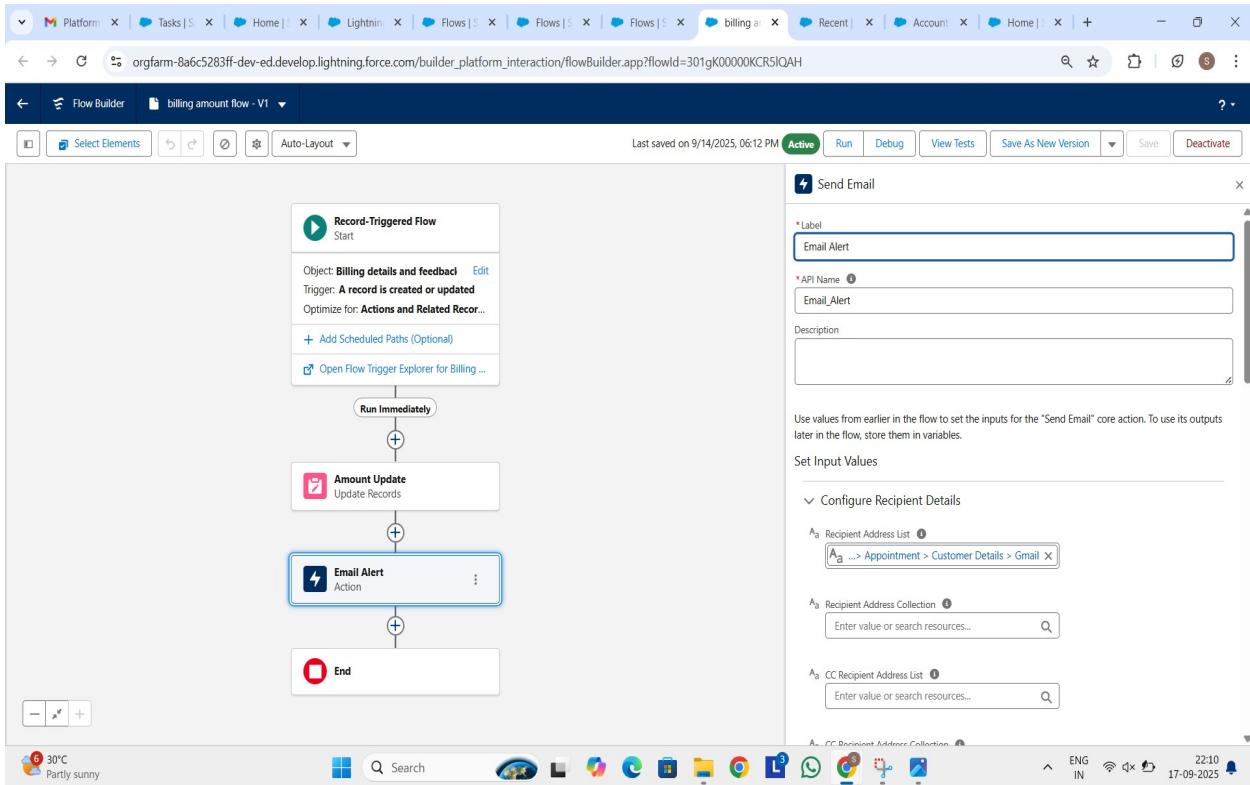


The screenshot shows the 'Navigation Items' section of the Lightning App Builder. On the left, under 'Available Items', there is a list of various navigation items such as Accounts, Activation Targets, Activations, All Sites, Alternative Payment Methods, Analytics, App Launcher, Appointment Categories, Appointment Invitations, Approval Requests, Approval Submission Details, and Approval Submissions. On the right, under 'Selected Items', five items are listed: Customer Details, Appointments, Service records, Billing details and feedback, and Dashboards. Navigation arrows between the two lists allow users to move items between them.

The screenshot shows the 'User Profiles' section of the Lightning App Builder. On the left, under 'Available Profiles', a long list of profiles is shown, including Analytics Cloud Integration User, Analytics Cloud Security User, Anypoint Integration, Authenticated Website, B2B Reordering Portal Buyer Profile, Contract Manager, Custom: Marketing Profile, Custom: Sales Profile, Custom: Support Profile, Customer Community Login User, Customer Community Plus Login User, and Customer Community Plus User. On the right, under 'Selected Profiles', three profiles are listed: System Administrator, Manager, and Sales Person. Navigation arrows between the two lists allow users to move profiles between them.

Implemented flow for billing details and feedback:





Created Apex Class:

Apex Classes

Apex Code is an object oriented programming language that allows developers to develop on-demand business applications on the Lightning Platform.

Percent of Apex Used: 0.02%
You are currently using 1,284 characters of Apex Code (excluding comments and @isTest annotated classes) in your organization, out of an allowed limit of 6,000,000 characters. Note that the amount in use includes both Apex Classes and Triggers defined in your organization.

Action	Name	Namespace Prefix	Api Version	Status	Size Without Comments	Last Modified By	Has Trace Flags
Edit Del Security	AmountDistributionHandler		64.0	Active	1,069	Sameena_S	9/14/2025, 6:19 AM

Dynamic Apex Classes
Dynamic Apex extends your programming reach by interacting with Lightning Platform components.

The screenshot shows the Salesforce Setup interface with the 'Apex Classes' section selected. The page title is 'Apex Classes'. The class 'AmountDistributionHandler' is displayed with its code:

```

1 public class AmountDistributionHandler {
2     public static void amountDistListAppointment__c(list<Appointment> listApp) {
3         for (Appointment__c app : listApp) {
4             if (app.Maintenance_Service__c == true && app.Repairs__c == true) {
5                 app.Service_Amount__c = 1000;
6             } else if (app.Maintenance_Service__c == true && app.Repairs__c == true) {
7                 app.Service_Amount__c = 500;
8             } else if (app.Maintenance_Service__c == true && app.Replacement_Parts__c == true) {
9                 app.Service_Amount__c = 300;
10            } else if (app.Maintenance_Service__c == true && app.Repairs__c == true) {
11                app.Service_Amount__c = 700;
12            } else if (app.Maintenance_Service__c == true) {
13                app.Service_Amount__c = 100;
14            } else if (app.Repairs__c == true) {
15                app.Service_Amount__c = 300;
16            } else if (app.Replacement_Parts__c == true) {
17                app.Service_Amount__c = 500;
18            }
19        }
20    }
21 }
22

```

Created Triggers:

The screenshot shows the Salesforce Setup interface with the 'Apex Triggers' section selected. The page title is 'Apex Triggers'. A message indicates that 0.02% of the Apex limit is used. The table lists the trigger:

Action	Name	Namespace Prefix	sObject Type	Api Version	Status	Size Without Comments	Last Modified By	Has Trace Flags
Edit Del	AmountDistribution		Appointment	64.0	Active	215	Sameena S_9/14/2025, 6:21 AM	

The screenshot shows the Salesforce Setup interface with the 'Apex Triggers' page open. The trigger 'AmountDistribution' is displayed. The trigger code is:

```
1trigger AmountDistribution on Appointment__c (before insert, before update) {
2    if (Trigger.isBefore && (Trigger.isInsert || Trigger.isUpdate)) {
3        AmountDistributionHandler.amountDist(Trigger.new);
4    }
5}
```

Created Public Groups:

The screenshot shows the Salesforce Setup interface with the 'Public Groups' page open. A single public group, 'sales_team', is listed in the table.

Action	Label	Group Name	Created By	Created Date
Edit Del	sales_team	sales_team	S_Sameena	9/14/2025, 1:15 AM

The screenshot shows the Salesforce Setup interface with the 'Roles' page open. The role assigned is 'Sales person'. The 'Role Detail' section shows the following details:

- Label:** sales person
- This role reports to:** Manager
- Modified By:** Sameena S, 9/14/2025, 12:40 AM
- Opportunity Access:** Users in this role can edit all opportunities associated with accounts that they own, regardless of who owns the opportunities
- Case Access:** Users in this role can edit all cases associated with accounts that they own, regardless of who owns the cases

The 'Sharing Groups' section indicates 'Role' and 'Role and Internal Subordinates'. Below this, the 'Users in sales person Role' table lists two users:

Action	Full Name	Alias	Username	Active
Edit	Rebekah Johnson	rjohn	sam37004@gmail.com	✓
Edit	Elijah Smith	ssmit	sanjusami@gmail.com	✓

At the bottom of the page, there is a note: 'Didnt find what you're looking for? Try using Global Search.'

Custom Report Types:

The screenshot shows the Salesforce Setup interface with the 'Custom Report Type Lightning' page open. The report type is named 'Service information'. The 'Service information' section contains the following details:

- Display Label:** Service information
- API Name:** ServiceInformation
- Description:** Service information
- Created By:** Sameena S, 9/14/2025, 7:05 PM
- Store in Category:** other
- Deployment Status:** Deployed
- Modified By:** Sameena S, 9/14/25, 7:05 PM

The 'Object Relationships' section shows relationships with other objects:

- Customer Details (A) - with at least one related record from Appointments (B)
- Appointments - with at least one related record from Service records (C)
- Service records - with at least one related record from Billing details and feedback (D)

Below these sections, the 'Fields' table lists the source object and included fields:

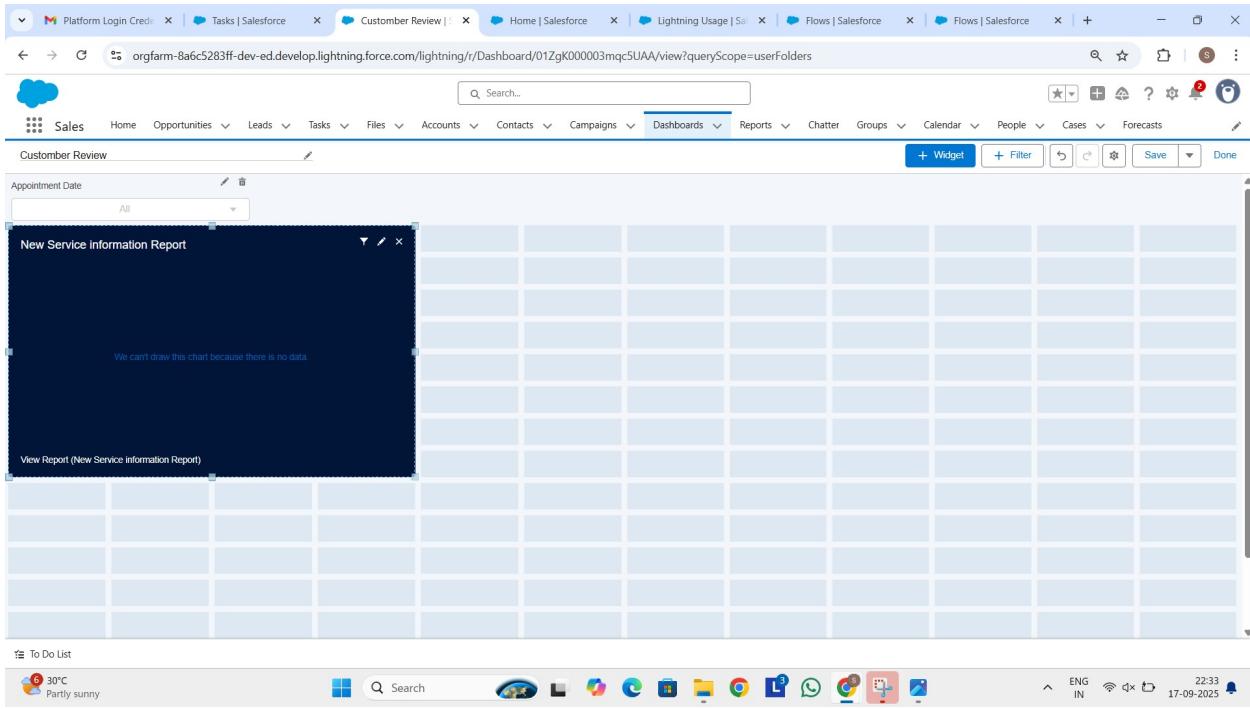
Source Object	Included Fields
Customer Details	9
Appointments	13
Service records	10
Billing details and feedback	10

At the bottom of the page, there is a note: 'Didnt find what you're looking for? Try using Global Search.'

Dashboard:

The screenshot shows the Salesforce Lightning Experience interface. The top navigation bar includes tabs for Platform Login Creds, Tasks | Salesforce, Recent | Dashboards, Home | Salesforce, Lightning Usage | Sa, Flows | Salesforce, and Flows | Salesforce. The main content area displays a list of recent dashboards under the 'Recent' tab. The table has columns for Dashboard Name, Description, Folder, Created By, Created On, and Subscribed. One item is listed: 'Customer Review' (Service Rating dashboard) created by Sameena S on 9/16/2025, 11:51 PM. The left sidebar shows categories like DASHBOARDS, FOLDERS, and FAVORITES. The bottom status bar shows weather (30°C, Partly sunny), system icons, and the date/time (17-09-2025, 22:29).

The screenshot shows the Salesforce Lightning Experience interface. The top navigation bar includes tabs for Platform Login Creds, Tasks | Salesforce, Customer Review, Home | Salesforce, Lightning Usage | Sa, Flows | Salesforce, and Flows | Salesforce. The main content area displays a report titled 'New Service information Report'. A modal dialog titled 'Add Filter' is open, prompting the user to select a field to filter by. The 'Appointment Date' field is selected. The filter configuration shows an 'equals' operator, a calendar date type, and a placeholder 'Pick a date'. The bottom status bar shows weather (30°C, Partly sunny), system icons, and the date/time (17-09-2025, 22:31).



Advantages:

Improved Efficiency:

Automates job cards, billing, and inventory, reducing manual workload.

Better Customer Service:

Stores service history, sends reminders, and ensures timely updates.

Accurate Billing:

Reduces errors in labor charges, parts costs, and taxes.

Inventory Control:

Tracks spare parts availability and prevents stockouts or overstocking.

Data Management & Reporting:

Provides detailed reports on jobs, revenue, and performance.

Disadvantages:

Initial Setup Cost:

Purchasing or developing the system can be expensive.

System Dependency:

Heavy reliance on the software may cause disruptions if technical issues occur.

Maintenance & Updates:

Requires regular software updates and possible IT support.

Data Security Risks:

Sensitive customer and financial data must be properly secured.

Internet/Power Dependency:

Cloud-based or online systems may face downtime without connectivity.

Conclusion:

The Garage Management System (GMS) plays a vital role in modernizing and streamlining the operations of automotive repair facilities. By automating job scheduling, inventory tracking, billing, and customer communication, it enhances efficiency, accuracy, and service quality. While the system may require initial investment, training, and ongoing maintenance, the long-term benefits—such as improved customer satisfaction, optimized resource management, and increased profitability—far outweigh the challenges. Overall, GMS provides a reliable and effective solution for garages to stay competitive in the rapidly evolving automotive service industry.

Appendix:

Source code: Apex class and triggers

Apex classes: AmountDistributionHandler

```

public class AmountDistributionHandler {

    public static void amountDist(List<Appointment__c> listApp) {
        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;
            }
        }
    }
}

```

Apex Triggers: AmountDistribution

```

trigger AmountDistribution on Appointment__c (before insert, before
update) {
    if (Trigger.isBefore && (Trigger.isInsert || Trigger.isUpdate)) {

```

```
    AmountDistributionHandler.amountDist(Trigger.new);  
}  
}
```