

Vehicle Management System Using Salesforce

INDRODUCTION

Overview :

A vehicle management system is a software application that helps organizations manage their vehicles, drivers, and related activities such as fuel consumption, maintenance, and repairs. The system is designed to improve efficiency, reduce costs, and increase safety by providing real-time visibility into the location and status of vehicles and drivers.

The vehicle management system can be used by a variety of organizations such as transportation companies, government agencies, logistics providers, and field service organizations. The system typically consists of several modules that address different aspects of vehicle management such as fleet tracking, driver management, fuel management, maintenance management, and compliance management.

Purpose

The purpose of a vehicle management system is to help organizations manage their vehicles, drivers, and related activities more effectively and efficiently.

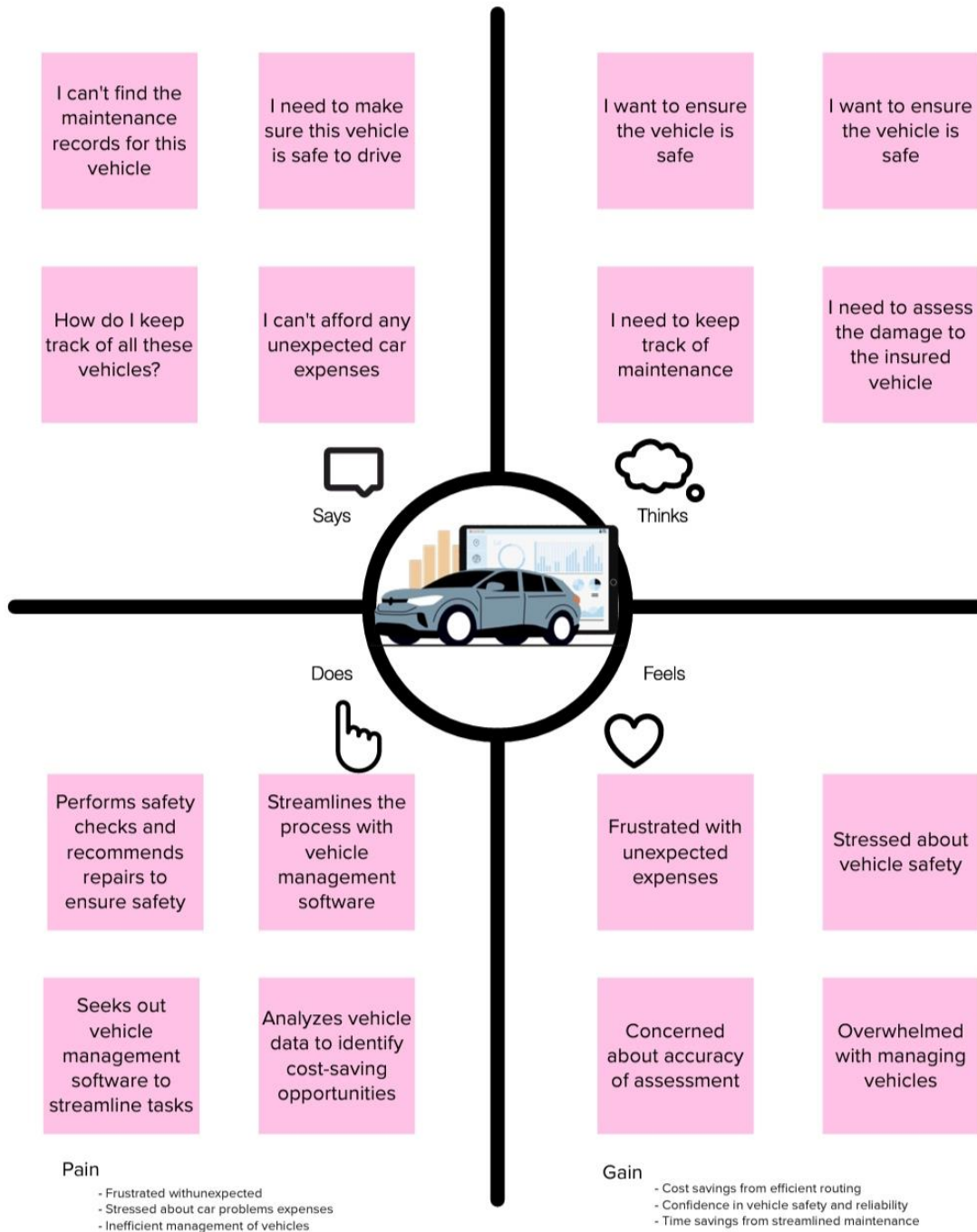
By using a vehicle management system, organizations can achieve several benefits such as:

- ❖ Improved fleet visibility and control: A vehicle management system provides real-time information on the location and status of vehicles, enabling organizations to track their fleets and optimize their operations.
- ❖ Better driver performance and safety: A vehicle management system can monitor driver behavior, such as speeding, harsh braking, or idling, and provide feedback to drivers to improve their performance and safety.
- ❖ Reduced fuel consumption and costs: A vehicle management system can monitor fuel consumption and identify opportunities for reducing fuel usage and costs, such as by optimizing routes or reducing idling time.
- ❖ Enhanced maintenance and repair management: A vehicle management system can schedule and track maintenance and repairs, reducing downtime and extending the lifespan of vehicles.

Problem Definition & Design Thinking

Empathy Map

Empathy Map 2



Transport

Brainstorm & idea prioritization

Use this template in your own brainstorming sessions as your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

- 16 minutes to prepare
- 1 team solution
- 8 people recommended

16 minutes to prepare

Before you collaborate

A bit of preparation goes a long way with the session. Here's what you need to do to get going.

- 1. Invite

- 1. Team gathering
Define who should participate in the session and send an invite. Share session information or prework ahead.

- 1. Set the goal
What about the problem you'll be focusing on sitting in the brainstorming session?

- 1. Learn how to use the facilitation tools
Use the Facilitation Superpowers to run a happy and productive session.

Open article

Define your problem statement

What problem are you trying to solve? Frame your problem as a how-often the statement. This will be the focus of your session.

- 1. Focus

PROBLEM

The current fleet management process is complex and lacks visibility into vehicle status and location, leading to inefficiency, safety concerns, and compliance risks.

Key values of brainstorming

To run an smooth and productive session

- 1. Stay on track
- 1. Define judgment
- 1. Go to volume
- 1. Encourage wild ideas
- 1. Listen to others
- 1. Possible, be useful

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

- 1. 10 minutes

Tip

You can select a sticky note and use the arrow button to identify how to start drawing.

Person 1

Real-time tracking of vehicle location and status to enable better decision-making for fleet management.	Automated scheduling and routing to optimize vehicle usage and reduce costs.	Tracking fuel usage and costs to identify areas of waste and opportunities for savings.

Person 2

Implementing a centralized system for managing and scheduling all fleet vehicles.	Implementing a system for managing and scheduling all fleet vehicles.	Implementing a system for managing and scheduling all fleet vehicles.

Person 3

Using machine learning and artificial intelligence to predict vehicle usage and optimize fleet size.	Enabling vehicle sharing among different departments to provide a more efficient use of resources.	Optimizing routes and scheduling to reduce fuel consumption and improve on-time delivery.

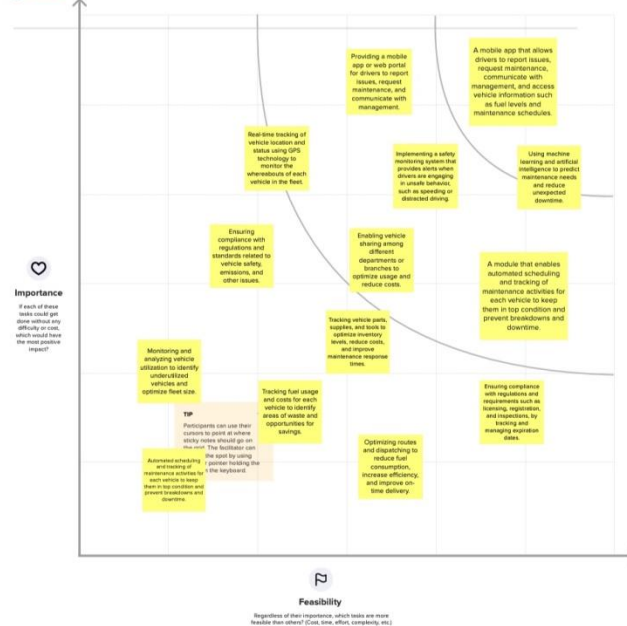
Person 4

Monitoring and analyzing vehicle performance data to identify areas for improvement.	Ensuring compliance with regulations and standards related to fleet management.	Implementing a system for managing and scheduling all fleet vehicles.

20 minutes

A module that enables automated scheduling and tracking of maintenance activities for each vehicle to keep them in top condition and prevent breakdowns and downtime.

⌚ 20 minutes



RESULT

Data Model :

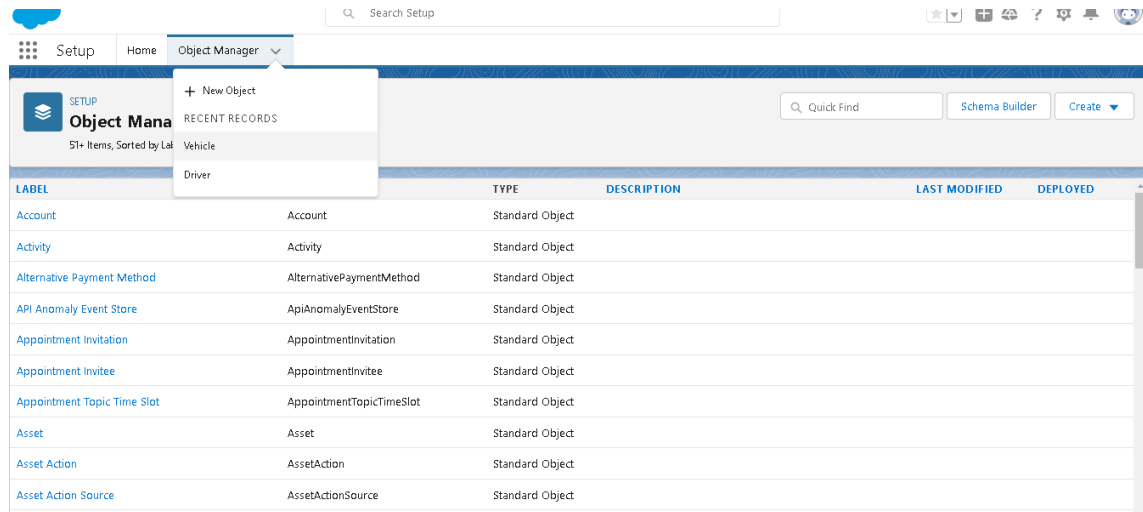
Object Name	Fields in the Object	
Vehicles		
	Field Lable	Data Type
	Customer Name	Text
	Customer Mobile No	Number
	Vehicle Type i)2 wheeler ii)4 wheeler	Picklist
	2WHEELERS i)HERO ii)HONDA iii)BAJAJ iv)ROYAL ENFIELD v)TVS vi)KINETIC vii)OLA viii)JAWA ix)SD x)BATTERY	Picklist
	4WHEELERS i)RENAULT ii)SKODA iii) HONDA iv) iv)HYUNDAI v)SUZUKI vi)MAHINDRA vii)VOLKSWAGEN viii)BENZ ix)AUDI x)VOLVO	Picklist

		Vehicle Name	Text
		Vehicle No	Text
		Chassic No	Text
		Colour	Text
		Body Type	Text
		Vehicle Includes i)Fire Extenuation ii)First Aid Kit iii)Multi Charger kit iv)Stepney v)Stereo vi)Tool Kit vii)Tracking Device viii)Tyre Jack	Multi Picklist
		Condition i)Good ii)Medium iii)Least	Picklist
		Mileage	Text
		Seats	Number
		Start Date	Date/Time
		End Date	Date/Time
		Opportunity	Lookup(opportunities)

Milestone-2:Object

Activity 1: To Create an object:

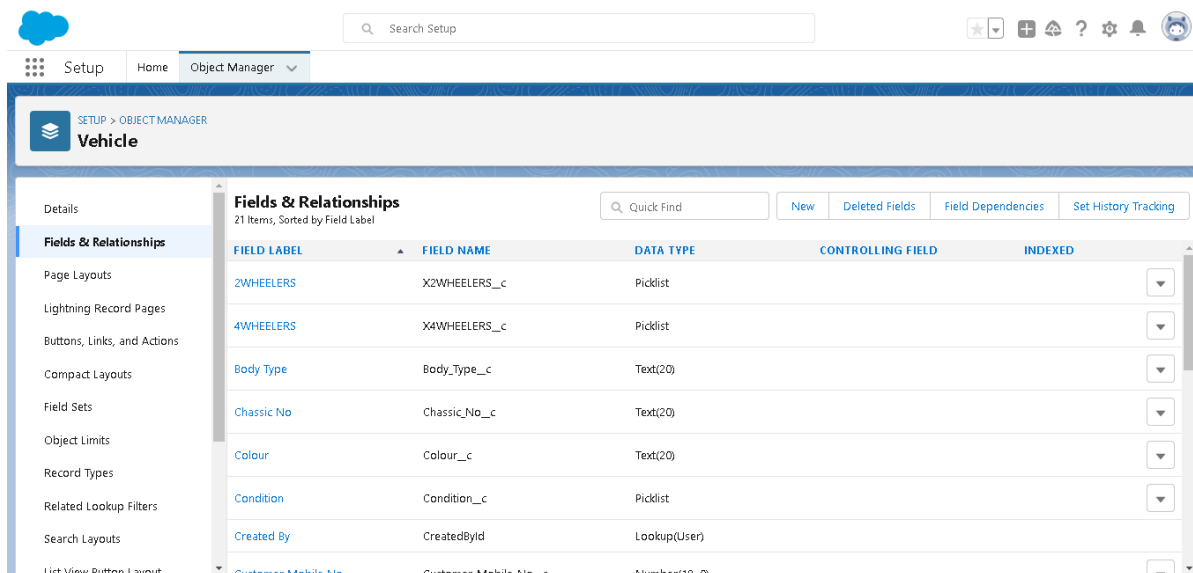
Creation of Objects for Vehicle Management, For this Vehicle Management to creating two objects i.e *Vehicles* , *Driver*.



Milestone -3:Fields and Relationship

Activity-1: Creation of fields:

Creating a Fields in Vehicles objects



Activity-2:

Creating a Fields in Driver objects

The screenshot shows the Salesforce Setup interface for the 'Driver' object. The 'Fields & Relationships' section is active, displaying a list of 9 fields. The fields are sorted by Field Label. The table below shows the details of these fields:

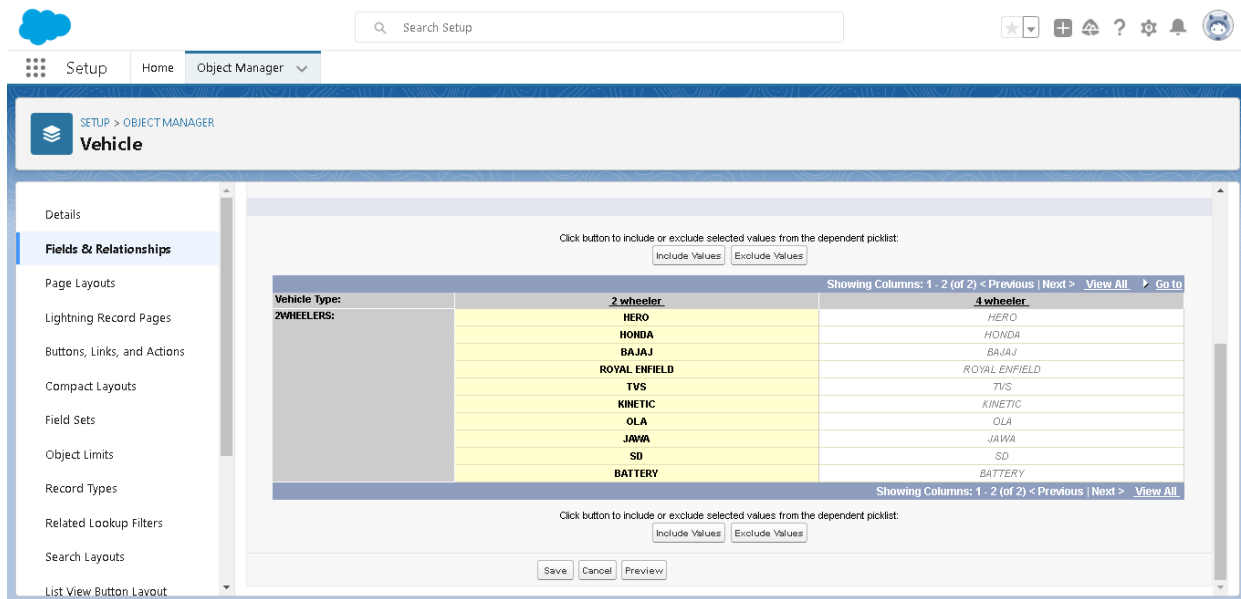
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Driver Name	Driver_Name__c	Text(20)		
Driver Name	Name	Text(80)		✓
Fair Per Hour	Fair_Per_Hour__c	Text(20)		
Last Modified By	LastModifiedById	Lookup(User)		
Licence No	Licence_No__c	Text(20)		
Mobile No	Mobile_No__c	Number(18, 0)		
Owner	OwnerId	Lookup(User,Group)		✓

Activity-3: Fields dependency In Driver Object:

Creating a dependency between these two picklists, so that when a Vehicle type is selected, only respective 2Wheeler Brands are available in the 2Wheeler field, Similarly for 4 wheelers.

The screenshot shows the Salesforce Setup interface for the 'Vehicle' object. The 'Field Dependencies' section is active, displaying a table of dependencies between fields. The table below shows the details of these dependencies:

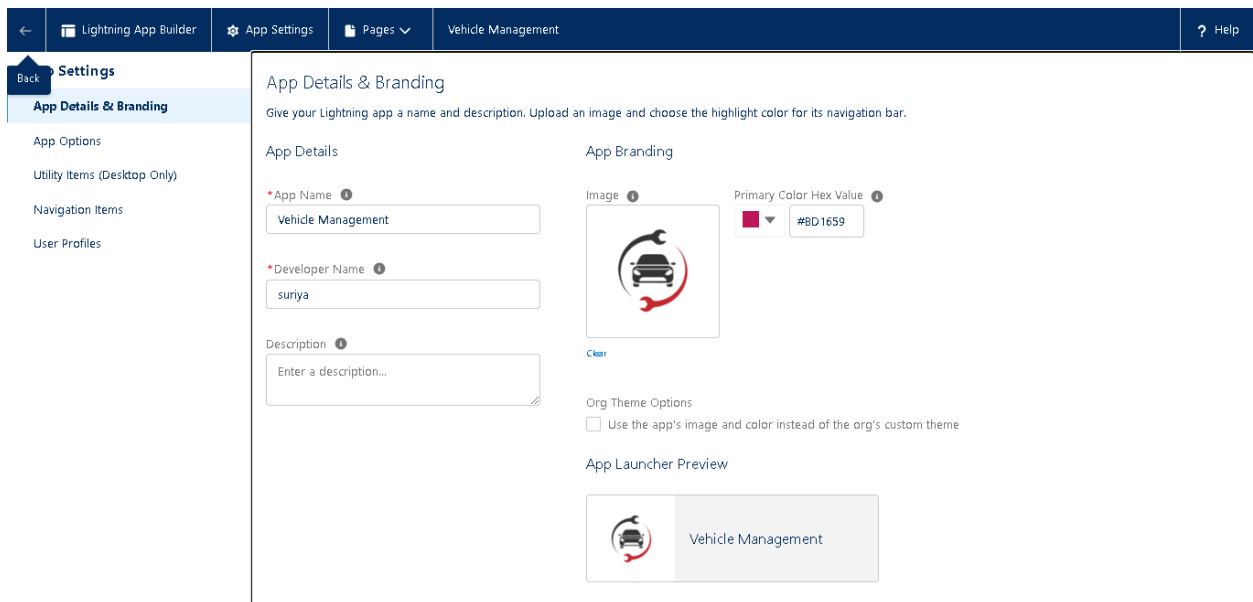
Action	Controlling Field	Dependent Field	Modified By
Edit Del	Vehicle Type	2WHEELERS	Suriya Kumar, 16/04/2023, 5:25 pm
Edit Del	Vehicle Type	4WHEELERS	Suriya Kumar, 16/04/2023, 5:26 pm



Milestone-4:Lightning App

Activity-1:

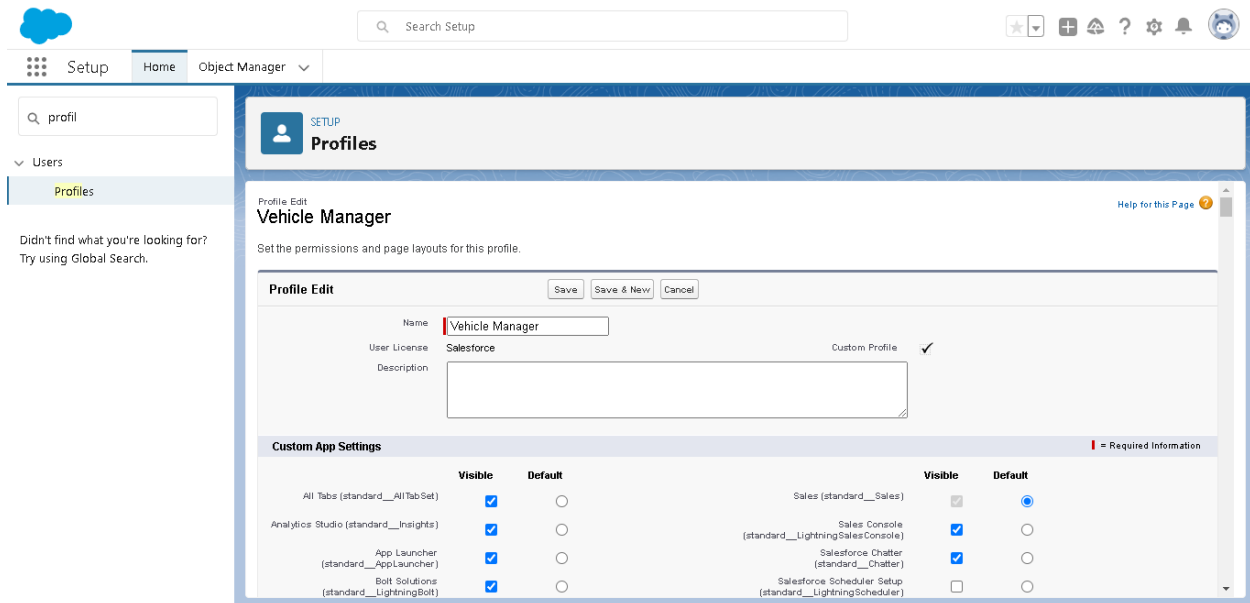
Creating the Vehicle Management Construction app



Milestone-5: Profile

Activity 1:

Creating a Profiles: Now create a Vehicle Manager profile and set its object permissions.



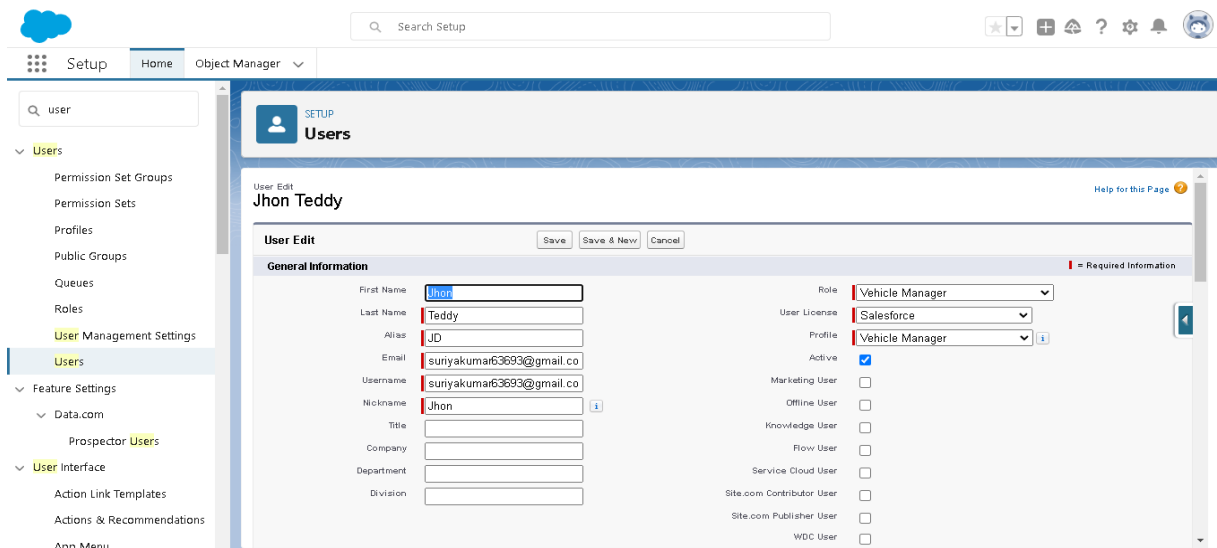
The screenshot shows the Salesforce Setup interface for the 'Profiles' section. The left sidebar contains a search bar with 'profil' and a list of items including 'Users' and 'Profiles'. The main content area is titled 'Vehicle Manager' and includes a 'Profile Edit' section with fields for Name, User License, and Description. Below this is a 'Custom App Settings' table with columns for Visible and Default for various standard and custom apps.

App	Visible	Default
All Tabs (standard__AllTabSet)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analytics Studio (standard__Insights)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
App Launcher (standard__AppLauncher)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Bolt Solutions (standard__LightningBolt)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sales (standard__Sales)	<input checked="" type="checkbox"/>	<input checked="" type="radio"/>
Sales Console (standard__LightningSalesConsole)	<input checked="" type="checkbox"/>	<input type="radio"/>
Salesforce Chatter (standard__Chatter)	<input checked="" type="checkbox"/>	<input type="radio"/>
Salesforce Scheduler Setup (standard__LightningScheduler)	<input type="checkbox"/>	<input type="radio"/>

Milestone-6: Users

Activity 1:

Creating a Users:



The screenshot shows the Salesforce Setup interface for the 'Users' section. The left sidebar contains a search bar with 'user' and a list of items including 'Permission Set Groups', 'Permission Sets', 'Profiles', 'Public Groups', 'Queues', 'Roles', 'User Management Settings', and 'Users'. The main content area is titled 'Jhon Teddy' and includes a 'User Edit' section with fields for First Name, Last Name, Alias, Email, Username, Nickname, Title, Company, Department, Division, Role, User License, Profile, and Active status. There are also checkboxes for various user roles like Marketing User, Offline User, Knowledge User, Flow User, Service Cloud User, Site.com Contributor User, Site.com Publisher User, and WDC User.

Milestone-7:Reports

Activity 1:

Reports And Dashboards.

Creating a Reports in Vehicle and Customer Details

The left screenshot shows the 'Create Report' dialog box in Salesforce. The 'Category' is set to 'Accounts'. The 'Report Type' is 'Accounts' and the 'Category' is 'Standard'. The 'Details' section shows 'Accounts' as the report type and 'Standard' as the category. The 'Created By' field is 'Suriya Kumar' and the 'Created On' date is '12/4/2023'. The 'Last Used' date is '4/16/2023'.

The right screenshot shows the 'Reports' page in Salesforce. The 'Created by Me' section shows a list of reports. The first report is 'Vehicle and Customer Account Details' with a description of 'Vehicle and Customer Account Details'. It is a 'Private Report' created by 'Suriya Kumar' on '12/4/2023' at '10:08 pm'. The second report is 'Vehicle and Customer Contact Details' with a description of 'Vehicle and Customer Contact Details'. It is a 'Private Report' created by 'Suriya Kumar' on '12/4/2023' at '5:57 pm'. The third report is 'Vehicle and Customer Vehicle Details' with a description of 'Vehicle and Customer Vehicle Details'. It is a 'Private Report' created by 'Suriya Kumar' on '12/4/2023' at '6:10 pm'.

Activity 2:

Dashboard:

Creating dashboard in Vehicle and Customer Details

The screenshot shows a Salesforce dashboard titled 'Vehicle and Customer Account Details'. The dashboard is viewed as of 16-Apr-2023, 5:23 pm, viewing as Suriya Kumar. The dashboard contains two charts. The first chart, 'Vehicle and Customer Account Details', is a bar chart showing the record count for various billing states/provinces. The y-axis is labeled 'Record Count' and ranges from 0 to 2. The x-axis is labeled 'Billing State/Province' and includes CA, KS, NC, NY, OR, Singapore, TX, and UK. The record counts are: CA (2), KS (1), NC (1), NY (1), OR (1), Singapore (1), TX (1), and UK (1). Below the chart is a link to 'View Report (Vehicle and Customer Account Details)'. The second chart, 'Vehicle and Customer Contact Details', is partially visible below the first chart. It shows a bar chart with two bars: one for 'TX' with a record count of 9, and one for 'UK' with a record count of 10. At the bottom left of the dashboard is a 'To Do List' icon.

Trailhead Profile Public URL

Team Leader - <https://trailblazer.me/id/surya143s>

Team Member 1 - <https://trailblazer.me/id/kannan2003>

Team Member 2 - <https://trailblazer.me/id/parveen143j>

Team Member 3 - <https://trailblazer.me/id/eswar2003>

Advantages & Dis advantages

Advantages:

- ❖ **Improved Efficiency:** A VMS can help optimize vehicle usage by providing real-time visibility into the location, status, and availability of each vehicle. This can help organizations make better use of their resources and reduce costs.
- ❖ **Increased Safety:** VMS can help improve safety by monitoring driver behavior and providing alerts for any violations of safety rules. This can help reduce accidents and protect both drivers and other road users.
- ❖ **Enhanced Productivity:** With the ability to monitor vehicle performance and maintenance requirements, a VMS can help reduce downtime and improve the productivity of the fleet.
- ❖ **Better Customer Service:** With a VMS, organizations can track and manage their vehicles in real-time, allowing them to provide better customer service by providing accurate information on vehicle arrival times and delivery status.
- ❖ **Cost Savings:** A VMS can help organizations save money by reducing fuel consumption, minimizing vehicle wear and tear, and optimizing maintenance schedules.

Disadvantages:

- ❖ **Implementation Costs:** The initial cost of implementing a VMS can be high, including hardware, software, and training costs.
 - ❖ **Technical Issues:** Like any technology, VMS can have technical issues such as software bugs, connectivity problems, and data accuracy issues.
 - ❖ **Employee Resistance:** Some employees may be resistant to using a VMS, either due to a lack of familiarity with technology or concerns about privacy.
 - ❖ **Maintenance Requirements:** VMS requires ongoing maintenance to keep the system up-to-date and functioning correctly.
 - ❖ **Data Security Risks:** VMS systems contain sensitive data such as vehicle locations and driver information, which can be vulnerable to hacking or cyber attacks if not properly secured.
-

APPLICATIONS

- ❖ **Logistics and transportation companies:** Vehicle management system can help logistics and transportation companies track and manage their vehicles, optimize routes, and improve delivery times.
- ❖ **Public transportation:** Vehicle management system can be used by public transportation companies to track buses, trains, and other vehicles, and provide real-time information to passengers about arrival times and delays.
- ❖ **Emergency services:** Vehicle management system can help emergency services such as police, fire, and ambulance services to quickly locate and dispatch vehicles to emergencies, and monitor the status of vehicles in real-time.
- ❖ **Construction and maintenance companies:** Vehicle management system can be used by construction and maintenance companies to track the location and status of their vehicles and equipment, and optimize maintenance schedules to minimize downtime.

- ❖ **Field service companies:** Vehicle management system can be used by field service companies such as utilities, telecommunications, and HVAC companies to manage their fleets of service vehicles, optimize routes, and monitor the status of vehicles and equipment in real-time.
 - ❖ **Car rental companies:** VMS can help car rental companies manage their fleets of vehicles, track their location and status, and optimize rental schedules to increase utilization.
-

CONCLUSION

A vehicle management system is a software-based solution that allows organizations to track, manage, and optimize their fleets of vehicles. The use of a vehicle management system can provide numerous benefits such as improved efficiency, increased safety, enhanced productivity, better customer service, and cost savings. However, there are also potential disadvantages such as high implementation costs, technical issues, employee resistance, maintenance requirements, and data security risks.

The applications of a vehicle management system are widespread and can be useful in various areas such as logistics and transportation, public transportation, emergency services, construction and maintenance, car rental, and field service companies. Overall, the benefits of a vehicle management system typically outweigh the disadvantages, making it a worthwhile investment for organizations that manage a fleet of vehicles. However, it is important to carefully consider the costs, potential risks, and specific needs of the organization before implementing a vehicle management system.

A vehicle management system can be applied in various areas, including logistics and transportation, public transportation, emergency services, construction and maintenance, car rental, and field service companies. For organizations with a fleet of vehicles, implementing a vehicle management system can be a worthwhile investment. However, it is essential to carefully consider the organization's specific needs and challenges to ensure that the selected vehicle management system meets their requirements.

FUTURE SCOPE

- ❖ **Integration with other technologies:** vehicle management system could be integrated with other technologies such as artificial intelligence, machine learning, and the Internet of Things (IoT) to provide more advanced features such as predictive maintenance and real-time route optimization.
 - ❖ **Improved data analytics:** The data collected by vehicle management system could be analyzed more comprehensively to provide insights into vehicle usage patterns, maintenance requirements, and fuel consumption. This could help organizations make more informed decisions about fleet management.
 - ❖ **Enhanced driver monitoring:** vehicle management system could be further developed to monitor driver behavior more comprehensively, including monitoring for distracted driving and identifying driver fatigue. This could help further improve safety and reduce accidents.
 - ❖ **Expanded communication capabilities:** vehicle management system could be developed to provide more advanced communication capabilities between drivers, dispatchers, and customers. This could include the ability to send alerts and notifications in real-time, as well as support for two-way communication.
 - ❖ **Greater scalability:** vehicle management system could be developed to support larger fleets of vehicles and be more scalable to accommodate the needs of growing organizations.
-