Design Phase – Garage Management System

1. Introduction

- The **Design Phase** defines the overall structure of the **Garage Management System (GMS)** using Salesforce components.

- It focuses on the **data model**, entity relationships, and flow of information within the system.

- The aim is to ensure that the system's design supports automation, scalability, and easy maintenance.

2. Objectives

- To design a clear **data structure** representing customers, appointments, services, and billing.

- To define **entity relationships** among Salesforce objects.

- To ensure smooth **data flow** across modules like booking, servicing, and billing.

3. System Architecture

- **Presentation Layer:** Salesforce Lightning App (user interface).

- **Application Layer:** Automation tools like **Flows**, **Validation Rules**, and **Apex Triggers**.

- **Data Layer:** Custom Salesforce objects designed to represent garage operations.

4. Main Components

1. **Entities (Custom Objects)**

   - **Customer_Details__c** → Customer Name, Phone, Email

   - **Appointment__c** → Appointment ID, Date, Vehicle No., Service Amount

   - **Service_Records__c** → Service ID, Status, Quality Check

   - **Billing_Details_and_Feedback__c** → Billing ID, Payment Status, Rating

   - **User__c** (Standard) → Manager, Sales Person

2. **Relationships**

   - One **Customer** can have many **Appointments**.

   - One **Appointment** can have one **Service Record**.

   - One **Service Record** can have one **Billing and Feedback** record.

   - One **Manager** oversees multiple **Sales Persons**.

5. ER Diagram Description

Entities & Relationships Overview:

- Each **Customer** can book multiple **Appointments**.

- Each **Appointment** results in a **Service Record**.

- Each **Service Record** leads to a **Billing and Feedback** entry.

- Relationships are maintained in Salesforce using **Lookup** or **Master–Detail** fields.

6. Design Features

- Centralized data model with logical relationships between all garage modules.

- Data validation and automation handled via Salesforce **Flows**, **Triggers**, and **Rules**.

- Secure access using **Profiles**, **Roles**, and **Sharing Settings**.

- Data visualization using **Reports and Dashboards**.

7. Conclusion

- The **ER Diagram** forms the core structure of the Garage Management System.

- It defines how data entities interact, ensuring smooth information flow between customers, services, and billing.

- This design guarantees that the system is **efficient, consistent, and ready for implementation** on Salesforce.