

**Title:** Customer Management System with Comprehensive Privilege Operations**Abstract:**

The Customer Management System with Comprehensive Privilege Operations is a robust and secure database-driven application designed to facilitate efficient handling of customer information. This system aims to provide users with specific privileges for managing customer data effectively. The core functionalities include creating, reading, updating, and deleting customer records, with a focus on data integrity and security.

**Key Features:**

## 1. User Privileges:

- Every user is assigned specific privilege operations, ensuring controlled access to customer data.

- Privileges include:

- Create a customer record
- Read detailed customer information
- Update customer details
- Delete a customer record with associated data cleanup

## 2. Customer Record Creation:

- Users with appropriate privileges can create new customer records.
- Input fields include essential details such as name, contact information, and any relevant identifiers.

## 3. Customer Record Retrieval:

- Users are able to view comprehensive customer information, ensuring transparency and accessibility.
- Details include personal information, contact details, and any other pertinent data.

## 4. Customer Record Modification:

- Authorized users can update existing customer records to reflect any changes in information.
- The system provides a user-friendly interface to edit and save customer details.

## 5. Customer Record Deletion with Associated Data Cleanup:

- Users with deletion privileges can permanently remove a customer record from the database.

- This operation ensures that all associated information, such as orders, transactions, and related data, is also expunged, maintaining data consistency.

### 6. Data Integrity and Security:

- The system employs robust data validation techniques to ensure the accuracy and reliability of customer information.

- Security measures such as authentication, authorization, and encryption are implemented to safeguard sensitive data.

### 7. Audit Trail:

- The system maintains a log of all privileged operations, providing an audit trail for accountability and tracking of user activities.

### 8. User Management:

- Administrators have the capability to manage user accounts, including assigning and revoking privilege operations.

### 9. Scalability and Performance:

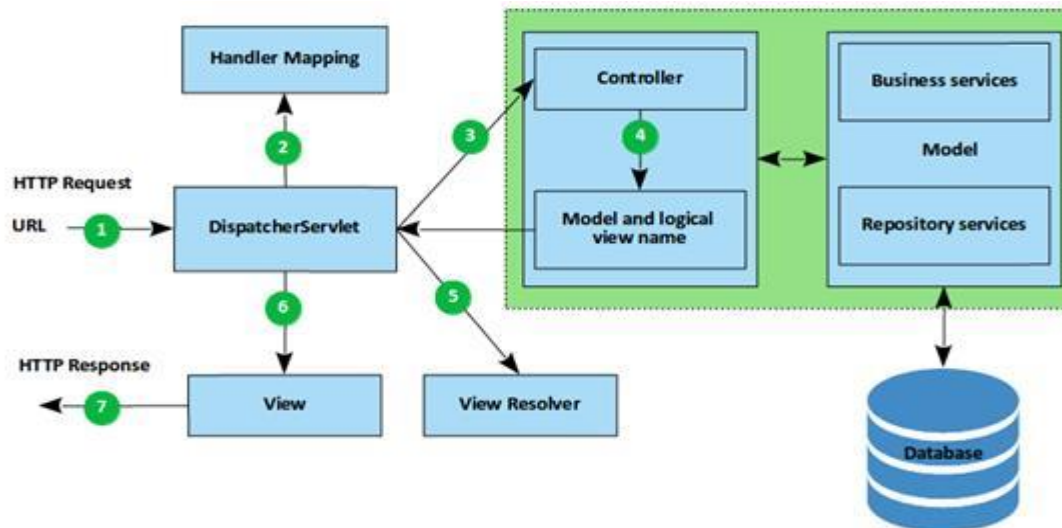
- The system is designed to handle a large volume of customer data while maintaining optimal performance.

### 10. User-Friendly Interface:

- The application features an intuitive and user-friendly interface for seamless navigation and operation.

The Customer Management System with Comprehensive Privilege Operations is a powerful tool for businesses that rely on accurate and up-to-date customer information. By implementing strict privilege controls, the system ensures that user access is tailored to their specific responsibilities, minimizing the risk of unauthorized access or data mishandling. The inclusion of data cleanup during customer deletion further enhances data integrity and compliance with privacy regulations.

Flow chart:



Source code:

<https://github.com/204g1a0591/customer-management/tree/main>

outputs:

http://localhost:8080/web-customer-tracker/customer/list List Customers

## CRM - Customer Relationship Manager

Add Customer

First Name	Last Name	Email	Action
John	Adams	john@gmail.com	<a href="#">Update</a>   <a href="#">Delete</a>
Chitvan	Dixit	chitvan.dixit@gmail.com	<a href="#">Update</a>   <a href="#">Delete</a>
Donald	Duck	donald@gmail.com	<a href="#">Update</a>   <a href="#">Delete</a>
Ajay	Rao	ajay@gmail.com	<a href="#">Update</a>   <a href="#">Delete</a>
Shourya	Roy	Shourya.Roy@gmail.com	<a href="#">Update</a>   <a href="#">Delete</a>

Add customer

http://localhost:8080/web-customer-tracker/customer/showFormForAdd Save Customer

## CRM - Customer Relationship Manager

### Save Customer

First name:

Last name:

Email:

[Back to List](#)

After Adding:

Browser address bar: <http://localhost:8080/web-customer-tracker/customer/list> List Customers

## CRM - Customer Relationship Manager

[Add Customer](#)

First Name	Last Name	Email	Action
John	Adams	john@gmail.com	<a href="#">Update</a>   <a href="#">Delete</a>
Chitvan	Dixit	chitvan.dixit@gmail.com	<a href="#">Update</a>   <a href="#">Delete</a>
Donald	Duck	donald@gmail.com	<a href="#">Update</a>   <a href="#">Delete</a>
Ajay	Rao	ajay@gmail.com	<a href="#">Update</a>   <a href="#">Delete</a>
Shourya	Roy	Shourya.Roy@gmail.com	<a href="#">Update</a>   <a href="#">Delete</a>
New	User	new@gmail.com	<a href="#">Update</a>   <a href="#">Delete</a>