

Chapter

12

## **SECTION IV: FRONTEND [CUSTOMER FACING] PROCESS FLOW**

### **The Application's Home Page [home.jsp]**

Just after the loading completes, the application's homepage is served as shown in diagram 12.1.

## User Interface [showHomePage.action → home.jsp]



Diagram 12.1

The `struts.xml` → `frontend.xml` file holds a mapping to help the redirection.

```

8 <action name="home" method="startup" class="frontend.struts.Home.homeAction">
9   <result name="success">/jsp/ocrs/frontend/home.jsp</result>
10 </action>

```

Using this mapping the control shifts to the `home.jsp` page and the homepage is served as shown in diagram 12.1.

## Process Flow

As soon as the application loading completes `home.jsp` is served based on the `struts.xml` → `frontend.xml` configuration.

Prior serving `home.jsp`, `startup()` of the action class named `homeAction.java` is invoked.

```
8 <action name="home" method="startup" class="frontend.struts.Home.homeAction">
9   <result name="success">/jsp/ocrs/frontend/home.jsp</result>
10 </action>
```

### `homeAction.java` [`startup()`]

*Code Spec* [`homeAction.java`]

```
101     public String startup() {
102         retrieveVehicleTypes();
103         retrieveVehicleMakes();
104         return SUCCESS;
105     }
```

`startup()` is invoked every time `home.jsp` is served. It populates the List objects with appropriate data. These List objects are made available to `home.jsp`.

The data that is populated is retrieved using the EJB object's [`vehicleTypesService`, `vehicleMakesService`] methods.

The EJB object's methods use **JPA → Hibernate** to retrieve such data from the underlying **tables** and **return** the same as **List objects**.

Diagram 12.2 depicts the use of these List objects to populate several sections of `home.jsp`.

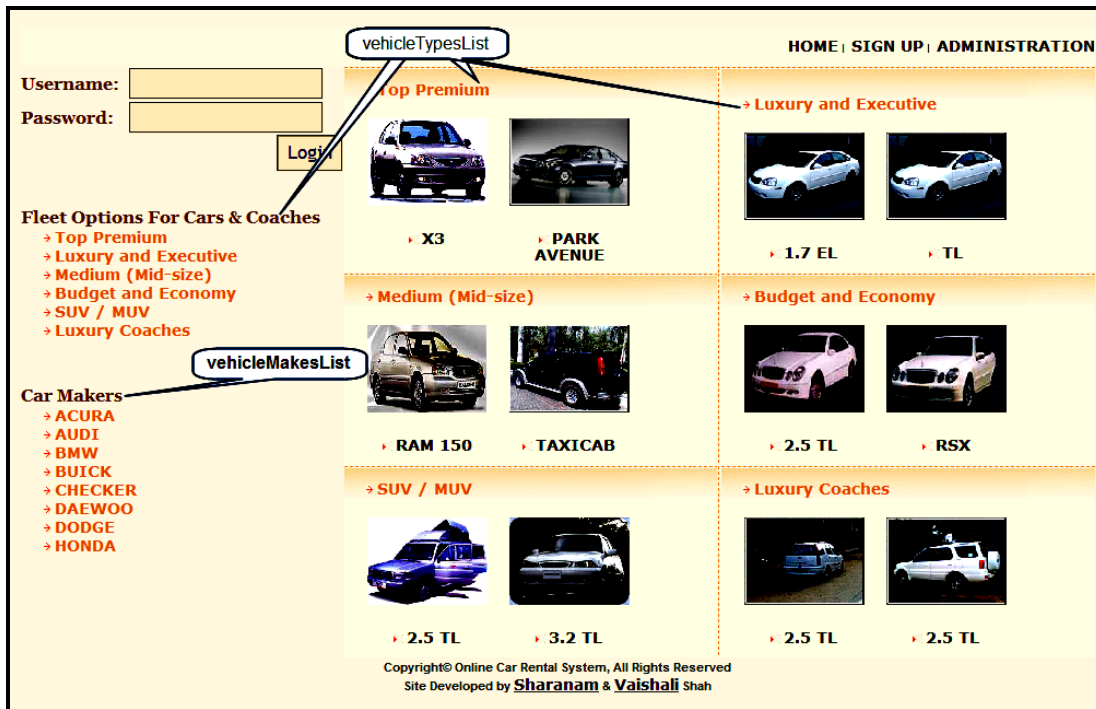


Diagram 12.2

### homeAction.java [retrieveVehiclesByType()]

Whilst home.jsp is being rendered, a method called `retrieveVehiclesByType()` of the same action class, `homeAction.java`, is invoked for every vehicle type.

*Code Spec [homeAction.java]*

```

74     public String retrieveVehiclesByType() {
75         getEJBs();
76         vehiclesList = vehiclesService.retrieveByType(type);
77         return SUCCESS;
78     }

```

`retrieveVehiclesByType()` is invoked for every vehicle types listed in `home.jsp`.

```

34 <s:action name="retrieveVehiclesByType" executeResult="false" id="vehicles">
35     <s:param name="type"><s:property value="type"/></s:param>
36 </s:action>

```

The struts configuration file [frontend.xml] holds the following code spec to help locate the actual action [retrieveVehiclesByType.action].

```
11 <action name="retrieveVehiclesByType" method="retrieveVehiclesByType"  
12     class="frontend.struts.Home.homeAction">  
13     <result name="success">/jsp/ocrs/frontend/home.jsp</result>  
14 </action>
```

**retrieveVehiclesByType()** populates the **vehiclesList** List object with a set of vehicles belonging to that vehicle type. This List objects are made available to home.jsp using the Getter/Setter methods.

The data that is populated is retrieved using the EJB object's [**vehiclesService**] methods.

The EJB object's methods use **JPA → Hibernate** to retrieve such data from the underlying **tables** and **return** the same as a **List object**.

Diagram 12.3 depicts the use of these List objects to populate **vehicle type → vehicles** sections of home.jsp.

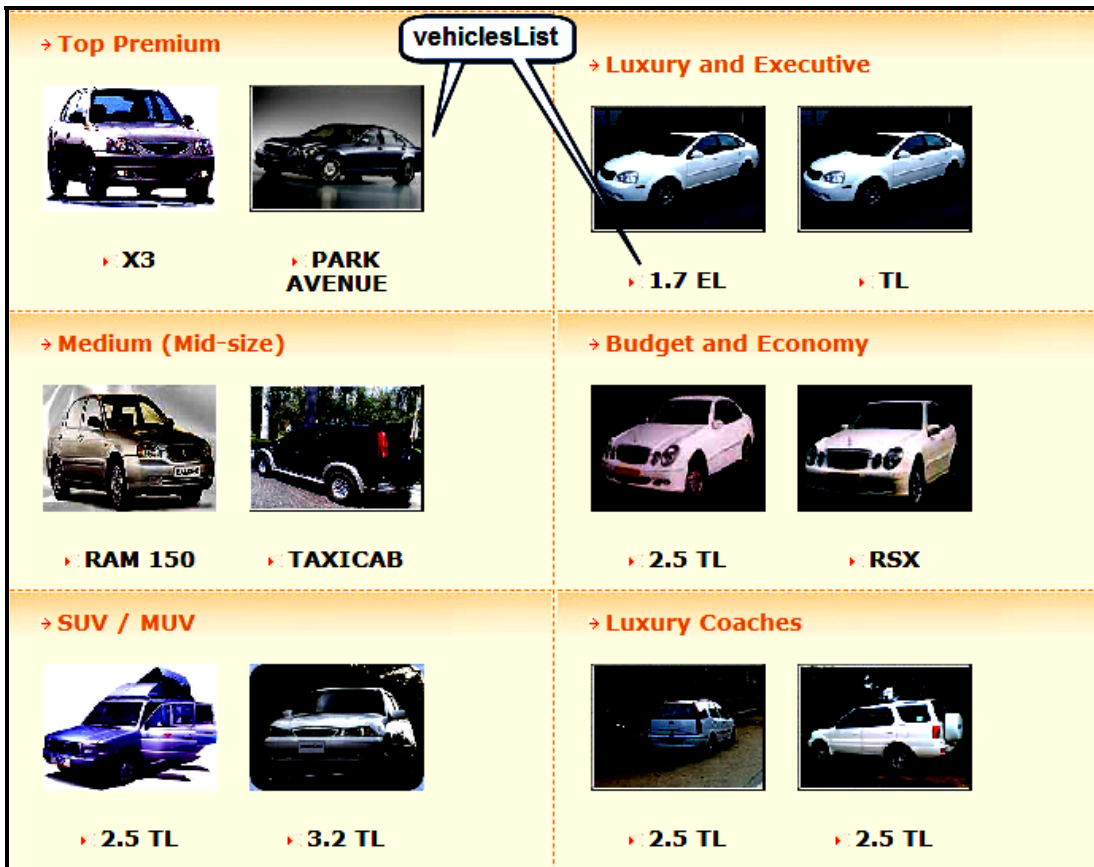


Diagram 12.3

## Process Flow Diagram

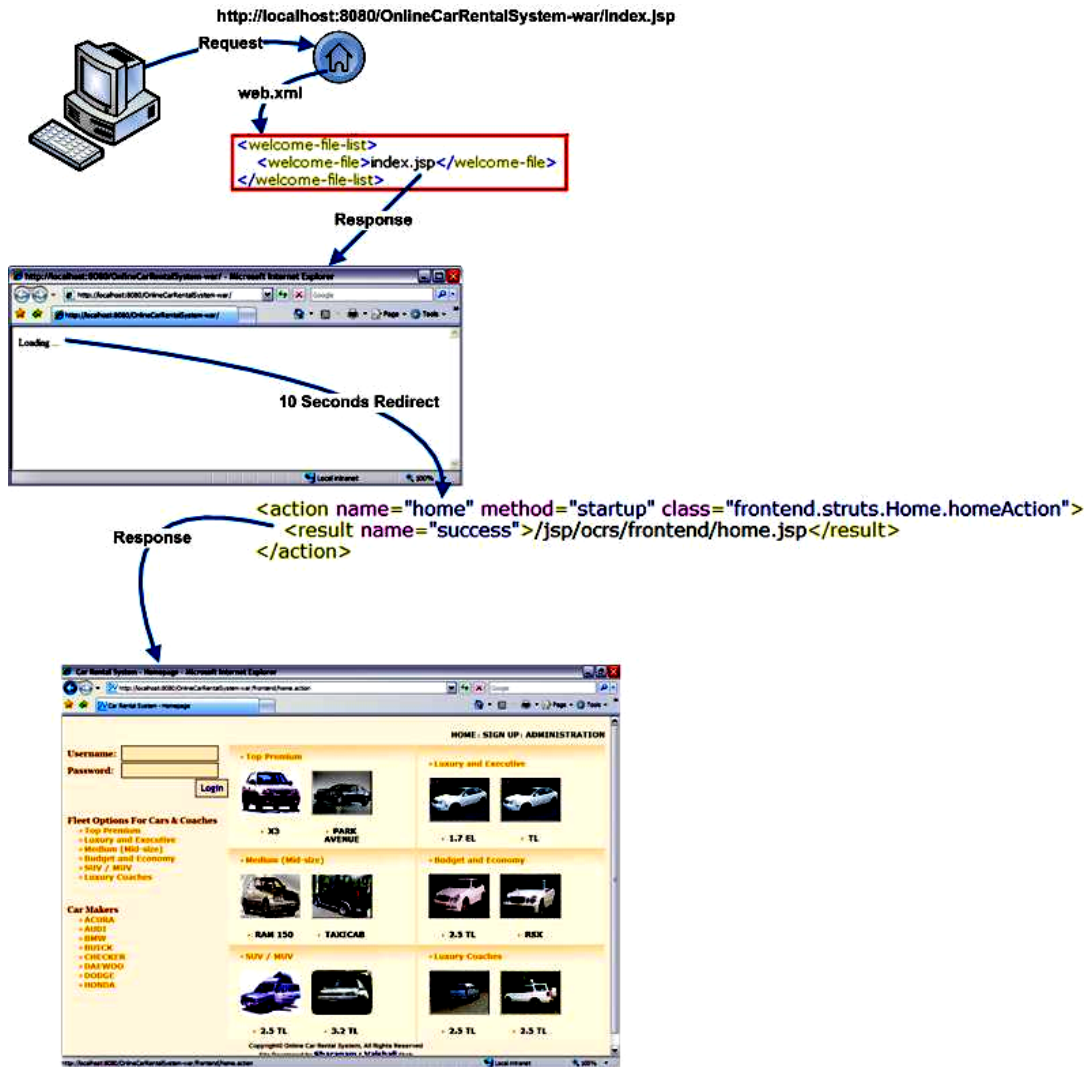


Diagram 12.4: Index and Home Page Process Flow

## Home Page Navigation [home.jsp]

After the home page loads completely, the user can navigate to other pages of the application using the hyper links.

The home page allows:

- ❑ Viewing Vehicle Details
- ❑ Viewing Reservation & Cancellation Details
- ❑ Browsing Vehicles - Fleet Option wise / Car Makers wise
- ❑ Editing Profile
- ❑ Signup
- ❑ Login
- ❑ Booking Car & Google Checkout
- ❑ Logout
- ❑ Administration [BackOffice]
  - Countries
  - Cities
  - States
  - Vehicle Makes
  - Vehicle Models
  - Vehicles
  - Employees
  - Customers
  - Owners
  - Drivers
  - Reservation
  - Reservations For Today
  - Reservations For Tomorrow
  - Reservations For Next 7 Days
  - Reservations For This Month
  - Reservations For Next Month
  - Logout