Project Summary

I have created a customer management system for maintaining the details of customers who have worked in an organization along with their address. The application is implemented using Model View Control framework. This application involves creation of servlets which acts as controller in the application and the rendering of views for the application is done using jpsf, jsp and the data is stored and fetched in the Model class. The logic for the crud operation is done in the Service layer which is called from the controller.

Requirement Fulfillment

The MVC architecture is used for performing the CRUD operation for this application.

Design

Database : Customer and Address table of Sakila database is used for this project and CRUD operation is performed on the same.

Model : The Customer.java class includes all the getters and setters for the Customer and Address tables.

View : The Views for the application is rendered using JSP pages for each CRUD operation. The home page is set as index.jsp which includes the navigation to all the CRUD operation.

Controller : The application uses a single CustomerController which handles all the post and get http requests.

Functionalities Implemented

The CRUD operation is performed on two tables Customer and Address. For example, when an insertion is made, both the tables will get updated. The Max address_id is fetched and set to the address query while inserting.

Deletion Of customer involved deletion of row from both the Rental and Payment table prior to the deletion of record from customer table as it had foreign key reference.

All the errors in the application is handled. The code doesn’t break in any part of the execution as I have used try catch block wherever necessary in order to improve efficiency

Navigation

The index.jsp page has the navigation for all the CRUD operations. When the user click on “Create Customer” button, it redirects to the get method of the Customer Controller and the request is processed to CreateCustomer.jsp page. When the form is posted in the CreateCustomer.jsp, the post method of the Customer Controller is hit and the insertion is done through the Customer.Service java which has the functions for all the CRUD operations. The same flow is implemented for the SearchCustomer.jsp, UpdateCustomer.jsp and DeleteCustomer.jsp pages.

Extra Credit

CRUD operation is performed on multiple table Customer and Address. The values are fetched from both the table by using a join query and displayed to the user. The update operation updates both the table by setting the address id in the address table.

All the CRUD operation is performed by creating a new form which includes all the CRUD operation which is done using JSTL SQL Tags and JSTL core library.

Development Insights

I am working on JSP pages, JSTL tags, Servlets for the first time. Much of time went into understanding the flow of code in the Servlet. The use of JSTL tags made the CRUD operation easier than the traditional way. Unit testing on the CRUD operation took much of time as lot of exception had to be handled. Since I am new to using JSTL tag, much of time went into searching for methods for handling the exceptions.

Requirements

The project can be run successfully without facing any issues if the below steps are followed.

1) Include the Sakila database instance through the Netbeans IDE.

2) Run the following queries as I have modified the not null and index properties in sakila database

```
ALTER TABLE address MODIFY address varchar(50);

ALTER TABLE address MODIFY address2 varchar(50);

ALTER TABLE address MODIFY district varchar(20);

ALTER  TABLE address drop index idx_location;
```

3) Fork MP2 repository from Github.

4) Create A New Maven project

5) Setup Connection Pool and JDBC resource

6) Initialize Git Repository and commit the code changes and push the code to GIT repository

7) Run a SonarCubeAnalysis and review the code changes by creating a pull request in github.

TOOL USED

Netbeans IDE 8.1 MySQL Workbench 6.3

Expected/Known Issues

For the extra credit part insertion part using JSTL tags, the insert is done only for a single table as I was not sure of how to pass the address id to the address table.