

PRJ301 - MVC Architecture

N.B:

- CSS frameworks are optional (nice-to-have features).
- Nevertheless, the elements' id or class attributes should be strictly respected (must-have features).
- Form validation with vanilla HTML5 is a must-have feature. But any form validation by JavaScript is very welcomed.

Requirements:

Your project must be named <StudentCode>_ws2. E.g. CE123456_ws2

We are building a Java web application that provides some basic features for an online movie rental store. The application has the following features:

1. Create a database named “fa24_prj301_popcorn”.
2. In “fa24_prj301_popcorn” database, create a table named “users” that has a structure as below:

id	int, PK
username	varchar(100), unique key
password	varchar(100)

3. Insert into the “users” table a row with these values:

id	username	password
1	admin	e10adc3949ba59abbe56e057f20f883e

4. Create another table named “movies” that has a structure as below:

id	int, PK
title	nvarchar(255)
director	nvarchar(255)
release_year	int
rating	decimal(3,1)
Is_rented	bit

5. Insert into the “movies” table 04 rows with these values:

id	title	director	release_year	rating	is_rented
1	Inception	Christopher Nolan	2010	8.8	0
2	The Godfather	Francis Ford Coppola	1972	9.2	0
3	Pulp Fiction	Quentin Tarantino	1994	8.9	1
4	The Shawshank Redemption	Frank Darabont	1994	9.3	0

6. Create a JSP page with URL “/Login” that contains a login form:

MovieRental

Movies Login

Login

<h1> tag

Username

Enter username

Password

Enter your password

Login

Element	Html tag	Attribute	Note
Page title	h1		value="Login"
Username input	input	#u_id	name="username"
Password input	input	#u_pwd	name="password"
Login button	input/button	#submit	

7. When the user enters “**admin**” as username and “**123456**” as password and clicks on the “**Login**” button, they will be redirected to “**/List**”.

MovieRental

Movies Hi, admin, logout

Movies list

<h1> tag

ID	Title	Director	Release Year	Rating	Rent?	Actions
1	Inception	Christopher Nolan	2010	8.8	<input type="checkbox"/>	Edit Delete
2	The Godfather	Francis Ford Coppola	1972	9.2	<input type="checkbox"/>	Edit Delete
3	Pulp Fiction	Quentin Tarantino	1994	8.9	<input checked="" type="checkbox"/>	Edit Delete
4	The Shawshank Redemption	Frank Darabont	1994	9.3	<input type="checkbox"/>	Edit Delete

Create

Element	Html tag	Attribute	Note
Page title	h1		value = Movies list
Create button	a	.btn .btn-success	
Edit buttons	a	.btn .btn-primary	
Delete buttons	a	.btn .btn-danger	

8. When the user clicks on the “**Create**” button, they will be redirected to “**/Create**”.

MovieRental

Movies Hi, admin, logout

Create new movie

Title

Director

Release Year

Rating

Is Rented? ☐

Element	Html tag	Attribute	Note
Page title	h1		value = "Create new movie"
Title input	input	#title	
Director input	input	#director	
Release year input	input	#release_year	
Rating input	input	#rating	
Is rented checkbox	input	#is_rented	
Back button	a/button	#back	Go back to "/List"
Create button	input/button	#submit	

- a. The user must type in all the information in order to create a new movie. Your form should be able to validate the user's input:
 - i. The textboxes should not be left **empty**.
 - ii. The **rating** and **release year** textboxes should accept only **number** values.
 - iii. The **rating** textboxes should accept only values from 0.0 to 10.
 - iv. The **release year** textboxes should accept only values from 1900 to 2024.
 - b. When the movie is successfully created, redirect the user to **"/List"**.
9. In the movies list page, when the user clicks on the **"Edit"** button, they will be routed to **"/Edit"**. This feature must check for a valid id parameter.

MovieRental

Movies Hi, admin, logout

Edit movie

Title

Pulp Fiction

Director

Quentin Tarantino

Release Year

1994

Rating

8.9

Is Rented? ☒

Back

Edit

Element	Html tag	Attribute	Note
Page title	h1		value = "Edit movie"
Title input	input	#title	
Director input	input	#director	
Release year input	input	#release_year	
Rating input	input	#rating	
Is rented checkbox	input	#is_rented	
Back button	a/button	#back	Go back to "/List"
Edit button	input/button	#submit	

- The user must type in all the information in order to edit a movie. Your form should be able to validate the user's input:
 - The textboxes should not be left **empty**.
 - The **rating** and **release year** textboxes should accept only **number** values.
 - The **rating** textboxes should accept only values from 0.0 to 10.
 - The **release year** textboxes should accept only values from 1900 to 2024.
 - When the movie is successfully updated, redirect the user to "/List".
10. In the movies list page, when the user clicks on the "**Delete**" button, they will be routed to "**/Delete**" for delete confirmation. After clicking on the Delete button, the user is redirected to "**/List**" page and the movie which the corresponding id is deleted from the DB. This feature must check for a valid id parameter.

MovieRental

Movies Hi, admin, logout

Delete movie

Are you sure to delete movie **The Shawshank Redemption** with id 4?

[Back](#) [Delete](#)

Element	Html tag	Attribute	Note
Page title	h1		value = “Delete movie”
Movie name text	b	.m_title	
Movie id text	b	.m_id	
Back button	a/button	#back	Go back to “/List”
Delete button	input/button	#submit	

11. URL patterns:

Feature	URL
Login	<a href="http://localhost:8080/<MSSV> ws2/Login">http://localhost:8080/<MSSV> ws2/Login
Logout	<a href="http://localhost:8080/<MSSV> ws2/Logout">http://localhost:8080/<MSSV> ws2/Logout
List of movies	<a href="http://localhost:8080/<MSSV> ws2/List">http://localhost:8080/<MSSV> ws2/List
Add new movie	<a href="http://localhost:8080/<MSSV> ws2/Create">http://localhost:8080/<MSSV> ws2/Create
Edit a movie	<a href="http://localhost:8080/<MSSV> ws2/Edit?id={id}">http://localhost:8080/<MSSV> ws2/Edit?id={id}
Delete a movie	<a href="http://localhost:8080/<MSSV> ws2/Delete?id={id}">http://localhost:8080/<MSSV> ws2/Delete?id={id}

In which:

- id is a parameter containing the movie ID passed to other pages.
- {id} is value of parameter **id**.

12. Authentication

- When the user opens the logout page, our application must invalidate the session then redirect the user back to the login page.
- When the user hasn't logged in, if they access to the
 - /Create or
 - /Edit or
 - /Delete or
 - /List, redirect them back to the /Login page in order to limit the access.

--- THE END ---