

## Exercise 1: Refactoring the List Library JSP Page using the JSTL Custom Tags

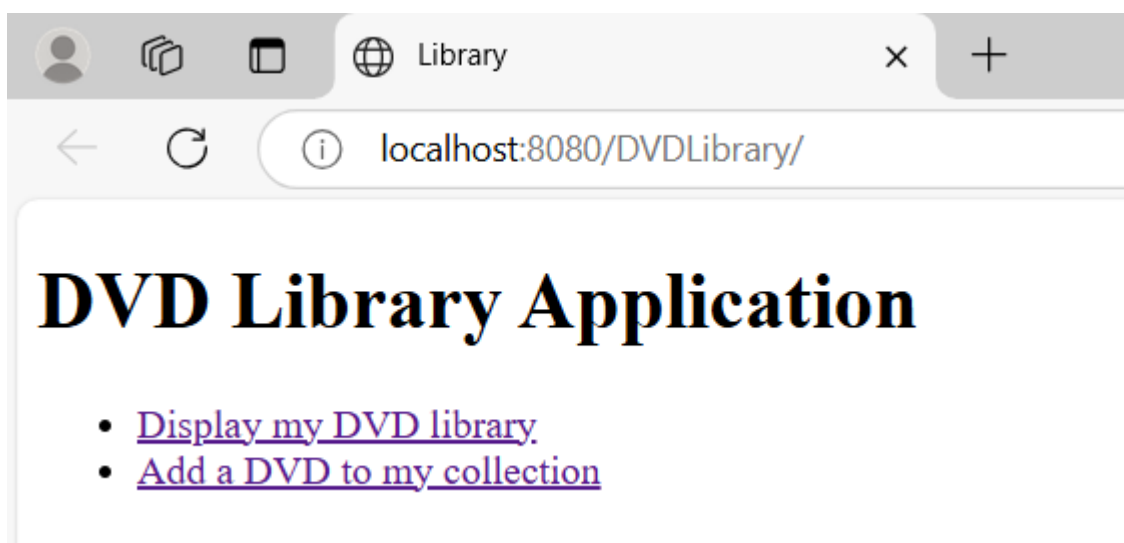
### Task 1: Refactor the List Library JSP page

```
list_library/JSTL.jsp x
Source History
<%@ page language="java" contentType="text/html; charset=UTF-8" pageEncoding="UTF-8"%>
2 <%@ page import="java.util.*" %>
3 <%@ page import="com.dvd.model.DVDItem" %>
4 <%@taglib uri="http://java.sun.com/jstl/core rt" prefix="c"%>
5 <%@taglib prefix="fn" uri="http://java.sun.com/jsp/jstl/functions"%>
6
7 // Create a hardcoded list of DVDs
8 List<DVDItem> dvds = new ArrayList();
9 dvds.add(new DVDItem("Aquaman", "2019", "Sci-Fi"));
10 dvds.add(new DVDItem("Robin Hood", "2018", "Action"));
11 dvds.add(new DVDItem("The Grinch", "2018", "Comedy"));
12 request.setAttribute("itemdata", dvds);
13
14 <!DOCTYPE html>
15 <html>
16 <head>
17 <title>List Library (JSTL)</title>
18 </head>
19 <body>
20 <h1>Library List</h1>
21 <p>You currently have <b>${fn:length(itemdata)}</b> DVDs in your collection:</p>
22 <hr>
23 <table border='0' cellspacing='0' cellpadding='5'>
24 <tr>
25 <th>Title</th>
```

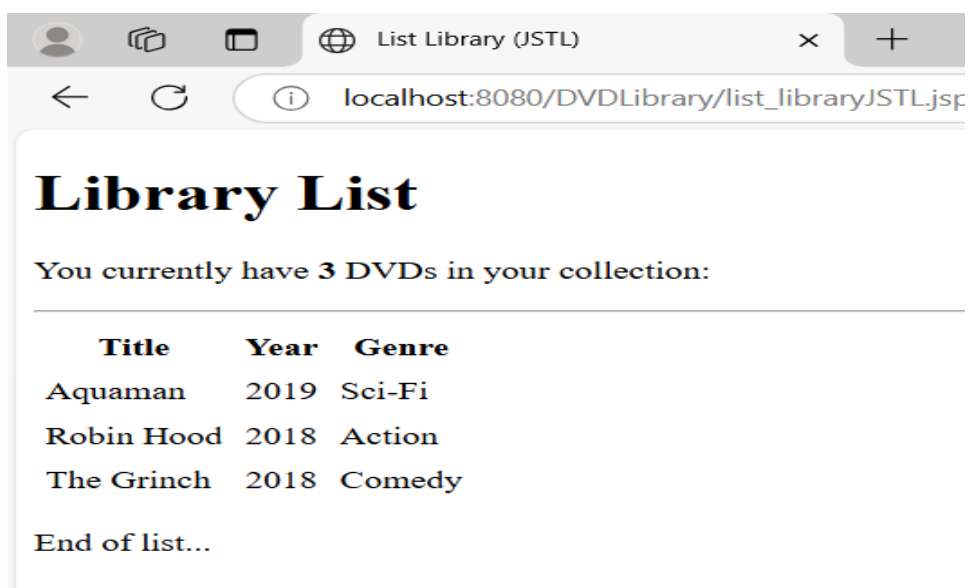
```
list_library/JSTL.jsp x
Source History
13 %>
14 <!DOCTYPE html>
15 <html>
16 <head>
17 <title>List Library (JSTL)</title>
18 </head>
19 <body>
20 <h1>Library List</h1>
21 <p>You currently have <b>${fn:length(itemdata)}</b> DVDs in your collection:</p>
22 <hr>
23 <table border='0' cellspacing='0' cellpadding='5'>
24 <tr>
25 <th>Title</th>
26 <th>Year</th>
27 <th>Genre</th>
28 </tr>
29 <c:forEach items="${itemdata}" var="item">
30 <tr>
31 <td>${item.title}</td>
32 <td>${item.year}</td>
33 <td>${item.genre}</td>
34 </tr>
35 </c:forEach>
36 </table>
37 <p>End of list...</p>
38 </body>
39 </html>
```

## Task 2: Deploy the web

```
Output x
Java DB Database Process x GlassFish Server x DVDLibrary (run-deploy) x
deps-ear-jar:
deps-jar:
library-inclusion-in-archive:
library-inclusion-in-manifest:
compile:
compile-jsp:
Undeploying ...
In-place deployment at C:\Users\User\Documents\NetBeansProjects\DVDLibrary\build\web
run-deploy:
BUILD SUCCESSFUL (total time: 0 seconds)
```

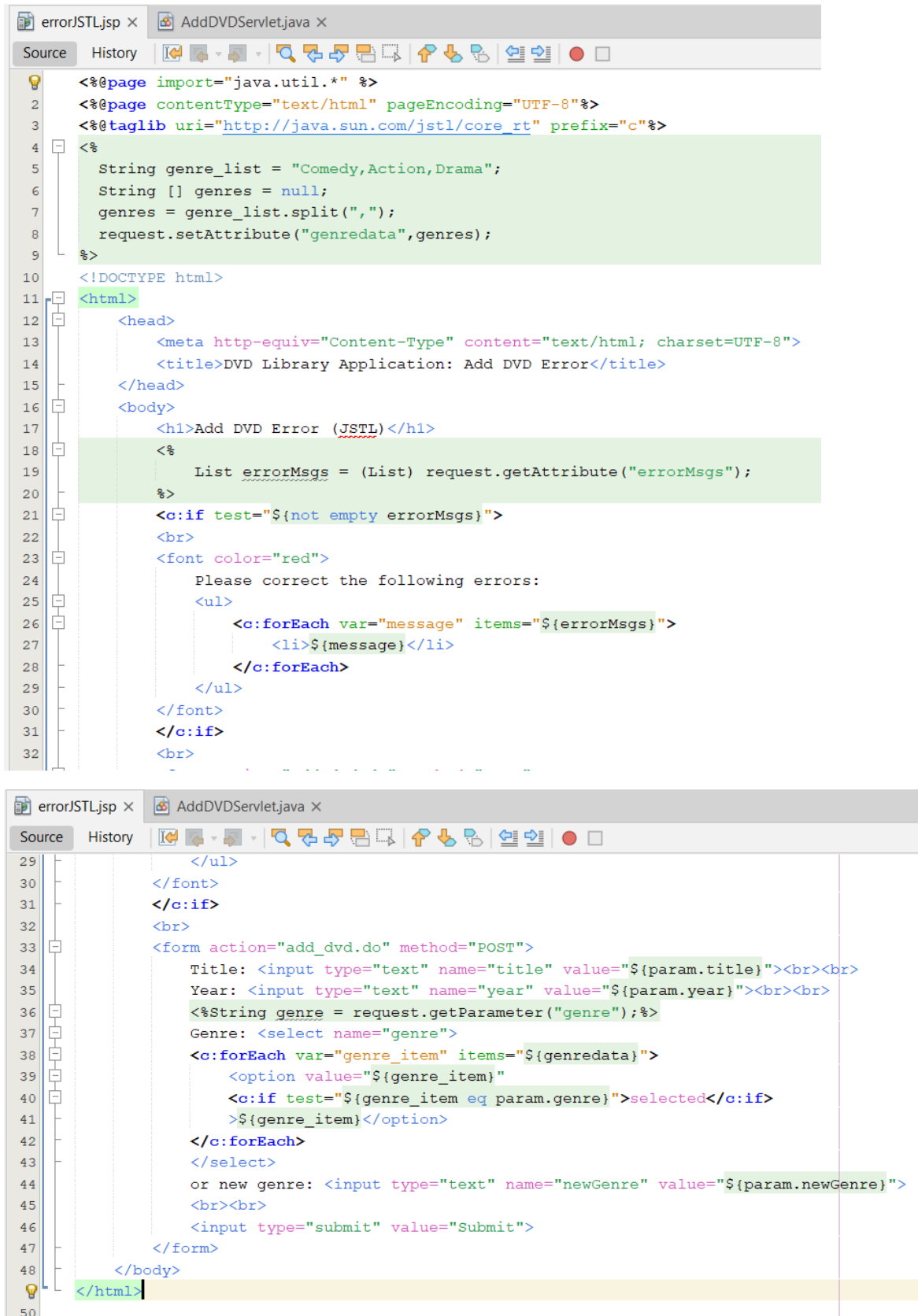


## Task 3: Test the Web Application

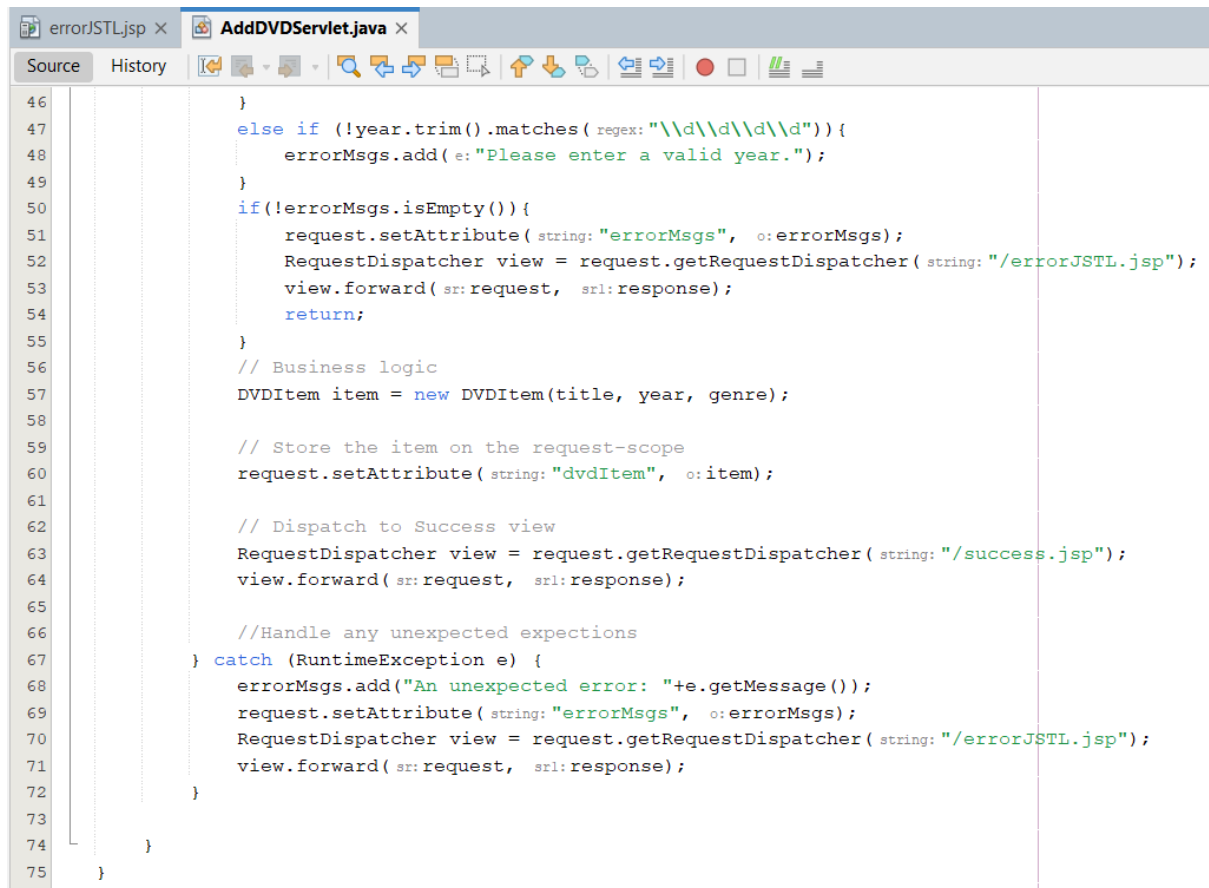


## Exercise 2: Refactoring the Error JSP Page using the JSTL Customs

### Task 1: Refactor the error.jsp Page




```
errorJSTL.jsp x AddDVDServlet.java x
Source History
1 <%@page import="java.util.*" %>
2 <%@page contentType="text/html" pageEncoding="UTF-8"%>
3 <%@taglib uri="http://java.sun.com/jstl/core_rt" prefix="c"%>
4 <%
5     String genre_list = "Comedy,Action,Drama";
6     String [] genres = null;
7     genres = genre_list.split(",");
8     request.setAttribute("genredata",genres);
9 %>
10 <!DOCTYPE html>
11 <html>
12 <head>
13     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
14     <title>DVD Library Application: Add DVD Error</title>
15 </head>
16 <body>
17     <h1>Add DVD Error (JSTL)</h1>
18     <%
19         List errorMsgs = (List) request.getAttribute("errorMsgs");
20     %>
21     <c:if test="${not empty errorMsgs}">
22         <br>
23         <font color="red">
24             Please correct the following errors:
25             <ul>
26                 <c:forEach var="message" items="${errorMsgs}">
27                     <li>${message}</li>
28                 </c:forEach>
29             </ul>
30         </font>
31     </c:if>
32     <br>
33     <form action="add_dvd.do" method="POST">
34         Title: <input type="text" name="title" value="${param.title}"><br><br>
35         Year: <input type="text" name="year" value="${param.year}"><br><br>
36         <%String genre = request.getParameter("genre");%>
37         Genre: <select name="genre">
38             <c:forEach var="genre_item" items="${genredata}">
39                 <option value="${genre_item}"
40                 <c:if test="${genre_item eq param.genre}">selected</c:if>
41                 >${genre_item}</option>
42             </c:forEach>
43         </select>
44         or new genre: <input type="text" name="newGenre" value="${param.newGenre}">
45         <br><br>
46         <input type="submit" value="Submit">
47     </form>
48 </body>
49 </html>
```



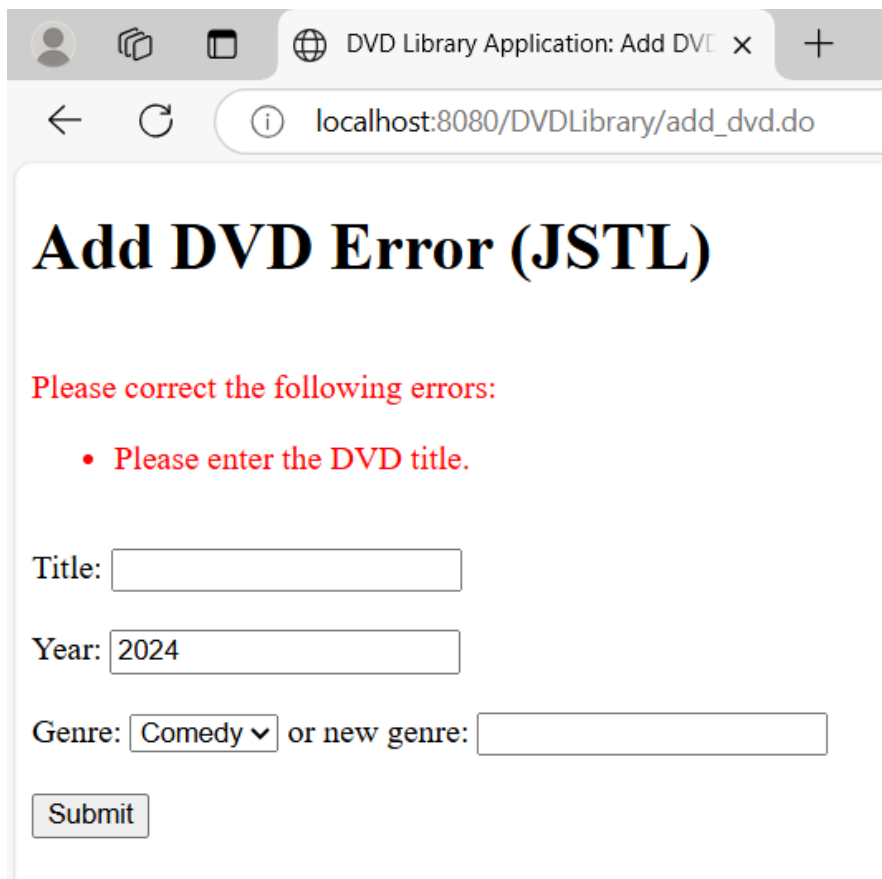
```
46     }
47     else if (!year.trim().matches( regex: "\\d\\d\\d\\d")){
48         errorMsgs.add( e:"Please enter a valid year.");
49     }
50     if(!errorMsgs.isEmpty()){
51         request.setAttribute( string: "errorMsgs", o:errorMsgs);
52         RequestDispatcher view = request.getRequestDispatcher( string: "/errorJSTL.jsp");
53         view.forward( sr:request, srl:response);
54         return;
55     }
56     // Business logic
57     DVDItem item = new DVDItem(title, year, genre);
58
59     // Store the item on the request-scope
60     request.setAttribute( string: "dvdItem", o:item);
61
62     // Dispatch to Success view
63     RequestDispatcher view = request.getRequestDispatcher( string: "/success.jsp");
64     view.forward( sr:request, srl:response);
65
66     //Handle any unexpected expections
67 } catch (RuntimeException e) {
68     errorMsgs.add("An unexpected error: "+e.getMessage());
69     request.setAttribute( string: "errorMsgs", o:errorMsgs);
70     RequestDispatcher view = request.getRequestDispatcher( string: "/errorJSTL.jsp");
71     view.forward( sr:request, srl:response);
72 }
73
74 }
75 }
```

## Task 2: Deploy the Web Application



```
Output x
Java DB Database Process x GlassFish Server x DVDLibrary (run-deploy) x
deps-jar:
library-inclusion-in-archive:
library-inclusion-in-manifest:
compile:
compile-jsp:
Undeploying ...
In-place deployment at C:\Users\User\Documents\NetBeansProjects\DVDLibrary\build\web
run-deploy:
BUILD SUCCESSFUL (total time: 0 seconds)
```

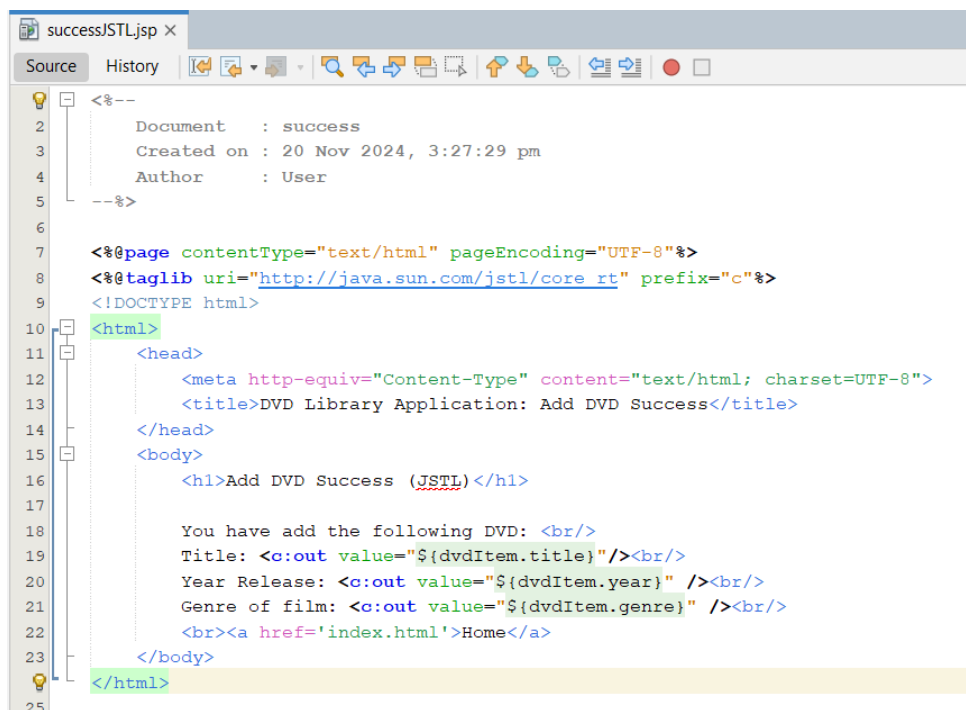
### Task 3: Test the Web Application



The screenshot shows a web browser window with the address bar displaying 'localhost:8080/DVDLibrary/add\_dvd.do'. The page title is 'DVD Library Application: Add DVD'. The main heading is 'Add DVD Error (JSTL)'. Below the heading, a red message says 'Please correct the following errors:'. A bulleted list contains one item: 'Please enter the DVD title.' Below this, there are three input fields: 'Title:' (empty), 'Year:' (containing '2024'), and 'Genre:' (a dropdown menu showing 'Comedy') followed by 'or new genre:' (empty). At the bottom is a 'Submit' button.

### PostLab

#### Task 1: Refactor the Success JSP page



```
1  <!--
2      Document      : success
3      Created on    : 20 Nov 2024, 3:27:29 pm
4      Author       : User
5  -->
6
7  <%@page contentType="text/html" pageEncoding="UTF-8"%>
8  <%@taglib uri="http://java.sun.com/jstl/core rt" prefix="c"%>
9  <!DOCTYPE html>
10 <html>
11 <head>
12 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
13 <title>DVD Library Application: Add DVD Success</title>
14 </head>
15 <body>
16 <h1>Add DVD Success (JSTL)</h1>
17
18 You have add the following DVD: <br/>
19 Title: <c:out value="${dvdItem.title}" /><br/>
20 Year Release: <c:out value="${dvdItem.year}" /><br/>
21 Genre of film: <c:out value="${dvdItem.genre}" /><br/>
22 <br/><a href='index.html'>Home</a>
23 </body>
24 </html>
```

## Task 2: Deploy the Web Application

```
Output x
Java DB Database Process x GlassFish Server x DVDLibrary (run-deploy) x
deps-ear-jar:
deps-ear-jar:
deps-jar:
library-inclusion-in-archive:
library-inclusion-in-manifest:
compile:
compile-jsp:
In-place deployment at C:\Users\User\Documents\NetBeansProjects\DVDLibrary\build\web
run-deploy:
BUILD SUCCESSFUL (total time: 1 second)
```

## Task 3: Test the Web Application

DVD Library Application: Add DVD x +

localhost:8080/DVDLibrary/add\_dvd.jsp

# Add DVD

Title:

Year:

Genre:  or new genre:

DVD Library Application: Add DVD x +

localhost:8080/DVDLibrary/add\_dvd.do

# Add DVD Success (JSTL)

You have add the following DVD:  
Title: The Wild Robot  
Year Release: 2024  
Genre of film: Animation

[Home](#)