

練習

使用標籤函式庫開發JSP

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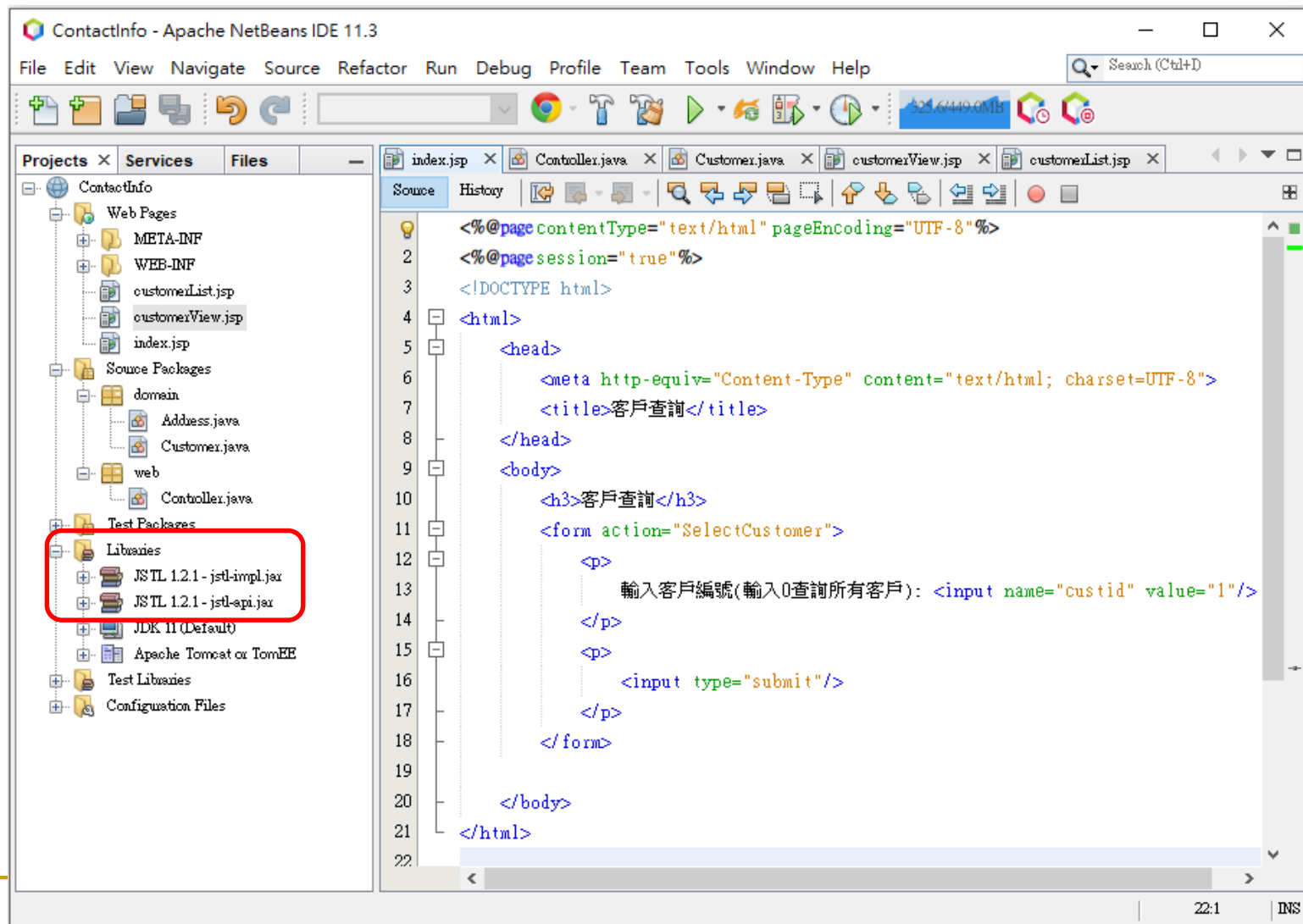
Lab 1

- 修改 **ContactInfo** 網路應用專案
 - 加入JSTL 函式庫
- 修改 **index.jsp**
 - 請求參數 **custid** 輸入0 可查詢所有客戶
- 修改 **domain.Customer.java**
 - 新增取得所有客戶的靜態方法
 - **Collection<Customer> getCustomers()** 類別方法
 - 修改客戶測試資料
 - 客戶三種地址資訊都是 **optional**
 - 將對應索引地址值設為**null**
- 修改 **web.Controller.java** 控制器元件
 - 請求參數 **custid** 為 0 時
 - **getCustomers()** 取得客戶集合
 - 轉送至 **customerList.jsp**

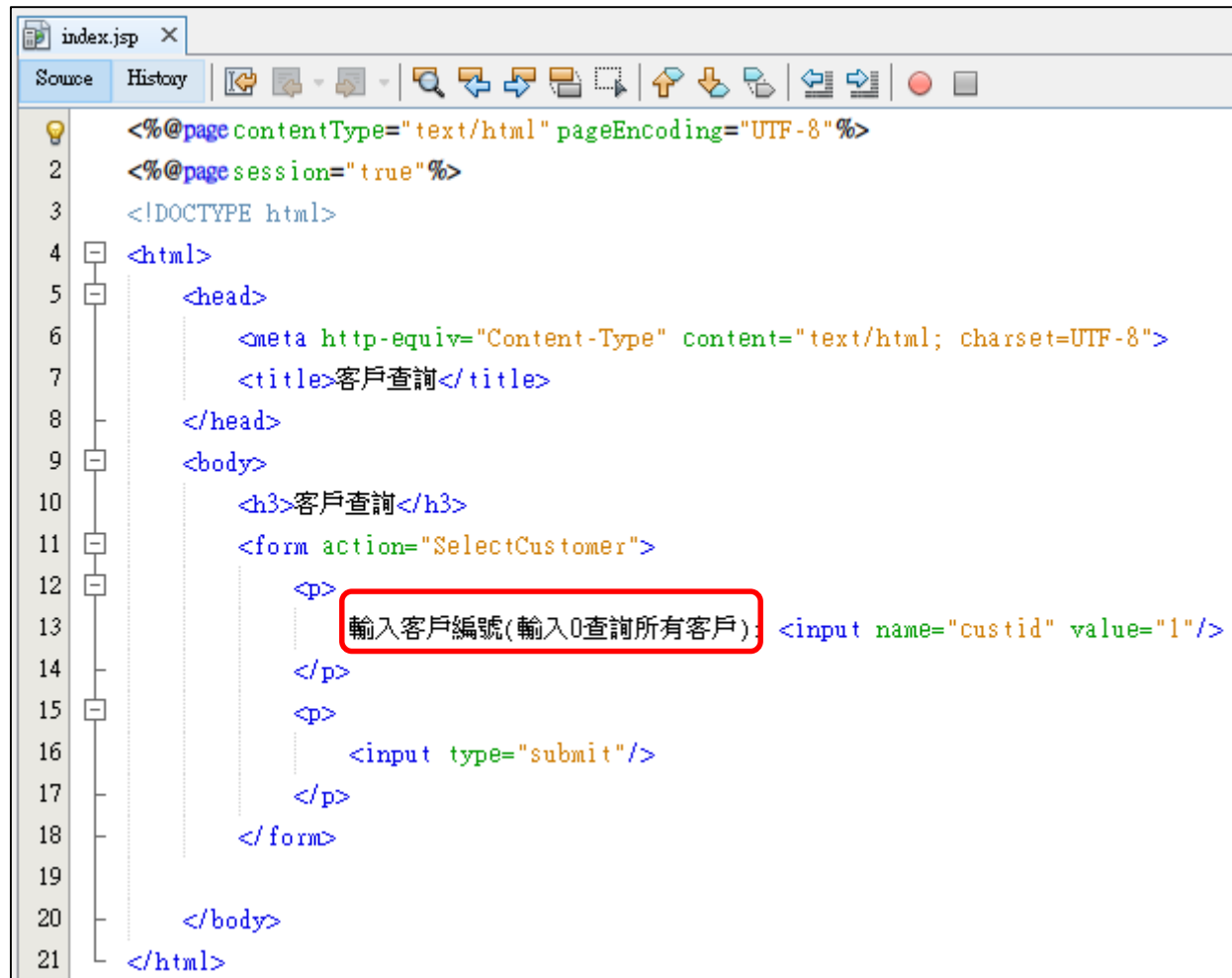
Lab 1

- 修改 `customerView.jsp`
 - 使用JSTL
 - 請求中`customer`屬性為空時，顯示查詢的客戶不存在
 - 客戶無 `OfficeAddress`, `BillingAddress`, `DeliveryAddress` 屬性時，不顯示該項地址資料
- 新增 `customerList.jsp`
 - 使用JSTL
 - 請求中`customers`屬性為空時，顯示無客戶存在
 - 逐一顯示所有客戶資訊
 - 無資料的地址屬性不顯示
- 測試、執行

ContactInfo 專案



index.jsp



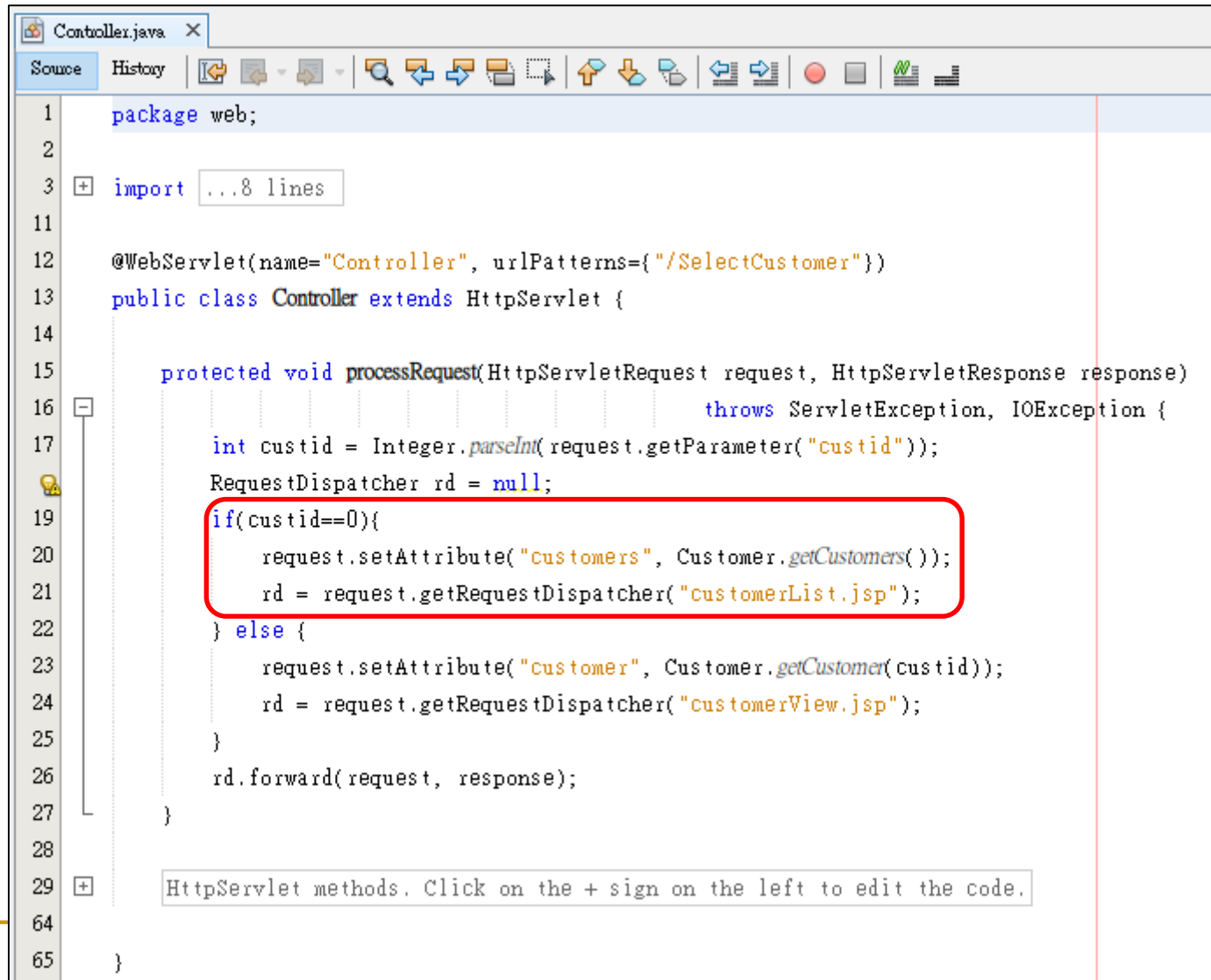
```
1  <%@page contentType="text/html" pageEncoding="UTF-8"%>
2  <%@page session="true"%>
3  <!DOCTYPE html>
4  <html>
5  <head>
6      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
7      <title>客戶查詢</title>
8  </head>
9  <body>
10     <h3>客戶查詢</h3>
11     <form action="SelectCustomer">
12     <p>
13         輸入客戶編號(輸入0查詢所有客戶): <input name="custid" value="1"/>
14     </p>
15     <p>
16         <input type="submit"/>
17     </p>
18     </form>
19
20 </body>
21 </html>
```

domain.Customer.java

```
1 package domain;
2
3 import java.util.Collection;
4 import java.util.HashMap;
5
6 public class Customer {
7     private String name;
8     public static final int HEAD_OFFICE = 0;
9     public static final int BILLING = 1;
10    public static final int DELIVERY = 2;
11    private final Address [] addresses = new Address[3];
12
13    public Customer(String name, Address office, Address billing, Address delivery ){
14        this.name = name;
15        addresses[HEAD_OFFICE] = office;
16        addresses[BILLING] = billing;
17        addresses[DELIVERY] = delivery;
18    }
19
20    //測試資料
21    private static final HashMap<Integer, Customer> customers = new HashMap<Integer, Customer>();
22    static {
23        customers.put(1, new Customer("蔡英文",
24            new Address("凱達格蘭大道1號", "總統府廣場", "台北", "台灣", "100"),
25            new Address("重慶南路一段122號", "總統府", "台北", "台灣", "100"),
26            new Address("重慶南路二段100號", "總統官邸", "台北", "台灣", "100")));
27        customers.put(2, new Customer("柯文哲",
28            new Address("市府路1號", "台北市政府", "台北", "台灣", "110"),
29            null,
30            new Address("徐州路46號", "台北市長官邸", "台北", "台灣", "100")));
31    }
32
33    public static Customer getCustomer(int id) {
34        return customers.get(id);
35    }
36
37    public static Collection<Customer> getCustomers() {
38        return customers.values();
39    }
40}
```

```
41 public String getName() {
42     return name;
43 }
44
45 public void setName(String name){
46     this.name = name;
47 }
48
49 public Address getOfficeAddress() {
50     return addresses[HEAD_OFFICE];
51 }
52
53 public Address getBillingAddress() {
54     return addresses[BILLING];
55 }
56
57 public Address getDeliveryAddress() {
58     return addresses[DELIVERY];
59 }
60
61 public Address[] getAddresses() {
62     return addresses;
63 }
64
65 }
```

web.Controller.java



```
1 package web;
2
3 import ...8 lines
4
5
6
7
8
9
10
11
12 @WebServlet(name="Controller", urlPatterns={"/SelectCustomer"})
13 public class Controller extends HttpServlet {
14
15     protected void processRequest(HttpServletRequest request, HttpServletResponse response)
16         throws ServletException, IOException {
17         int custid = Integer.parseInt(request.getParameter("custid"));
18         RequestDispatcher rd = null;
19         if(custid==0){
20             request.setAttribute("customers", Customer.getCustomers());
21             rd = request.getRequestDispatcher("customerList.jsp");
22         } else {
23             request.setAttribute("customer", Customer.getCustomer(custid));
24             rd = request.getRequestDispatcher("customerView.jsp");
25         }
26         rd.forward(request, response);
27     }
28
29     HttpServlet methods. Click on the + sign on the left to edit the code.
30
31
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60
61
62
63
64
65 }
```

CustomerView.jsp

```
customerView.jsp x
Source History
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>

<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Customer Info</title>
  </head>
  <body>
    <h1>客戶資訊</h1>
    <c:choose>
      <c:when test = "${not empty Customer}">
        <p>姓名: ${Customer.name}</p>
        <cif test = "${not empty Customer.officeAddress}">
          <p>辦公室地址:<br>
            ${Customer.officeAddress.address1},<br>
            ${Customer.officeAddress.address2},<br>
            ${Customer.officeAddress.city},<br>
            ${Customer.officeAddress.country},<br>
            ${Customer.officeAddress.postcode}<br>
          </p>
        </cif>
        <cif test = "${Customer.billingAddress ne null}">
          <p>發票地址:<br>
            ${Customer["billingAddress"].address1},<br>
            ${Customer["billingAddress"].address2},<br>
            ${Customer["billingAddress"].city},<br>
            ${Customer["billingAddress"].country},<br>
            ${Customer["billingAddress"].postcode}<br>
          </p>
        </cif>
      </c:when>
    </c:choose>
  </body>
</html>
```

```
32 </cif>
33 <cif test = "${not empty Customer.addresses[2]}">
34 <p>送貨地址:<br>
35   ${Customer.addresses[2].address1},<br>
36   ${Customer.addresses[2].address2},<br>
37   ${Customer.addresses[2].city},<br>
38   ${Customer["addresses"][2].country},<br>
39   ${Customer["addresses"][2].postcode}<br>
40 </p>
41 </cif>
42 </c:when>
43 <c:otherwise>
44   <h3>查詢的客戶不存在</h3>
45 </c:otherwise>
46 </c:choose>
47 </body>
48 </html>
```


CustomerList.jsp

```
customerList.jsp
Source History
<%@page contentType="text/html" pageEncoding="UTF-8"%>
2 <%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
3 <!DOCTYPE html>
4 <html>
5 <head>
6 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
7 <title>Customer List</title>
8 </head>
9 <body>
10 <h1>客戶列表</h1>
11 <c:choose>
12 <c:when test = "${not empty Customers}">
13 <c:forEach var="customer" items="${Customers}">
14 <p>姓名: ${customer.name}</p>
15 <cif test = "${not empty customer.officeAddress}">
16 <p>辦公室地址:
17     ${customer.officeAddress.address1},
18     ${customer.officeAddress.address2},
19     ${customer.officeAddress.city},
20     ${customer.officeAddress.country},
21     ${customer.officeAddress.postCode}
22 </p>
23 </cif>
24 <cif test = "${customer.billingAddress ne null}">
25 <p>發票地址:
26     ${customer["billingAddress"].address1},
27     ${customer["billingAddress"].address2},
28     ${customer["billingAddress"].city},
29     ${customer["billingAddress"].country},
30     ${customer["billingAddress"].postCode}
31 </p>
32 </cif>
```

```
33 <cif test = "${not empty customer.addresses[2]}">
34 <p>送貨地址:
35     ${customer.addresses[2].address1},
36     ${customer.addresses[2].address2},
37     ${customer.addresses[2].city},
38     ${customer["addresses"][2].country},
39     ${customer["addresses"][2].postCode}
40 </p>
41 </cif>
42 <br>
43 </c:forEach>
44 </c:when>
45 <c:otherwise>
46 <h3>無客戶存在</h3>
47 </c:otherwise>
48 </c:choose>
49 </body>
50 </html>
```

測試、執行



A screenshot of a web browser window titled "客戶查詢" (Customer Search). The address bar shows "localhost:8080/Contactl...". The page content includes the title "客戶查詢", a label "輸入客戶編號(輸入0查詢所有客戶):" followed by a text input field containing "0", and a "提交" (Submit) button.

客戶查詢

輸入客戶編號(輸入0查詢所有客戶):

提交



A screenshot of a web browser window titled "Customer List". The address bar shows "localhost:8080/Cont...". The page content includes the title "客戶列表" and two customer entries. Each entry displays the name, office address, invoice address, and delivery address.

客戶列表

姓名: 蔡英文

辦公室地址: 凱達格蘭大道1號, 總統府廣場, 台北, 台灣, 100

發票地址: 重慶南路一段122號, 總統府, 台北, 台灣, 100

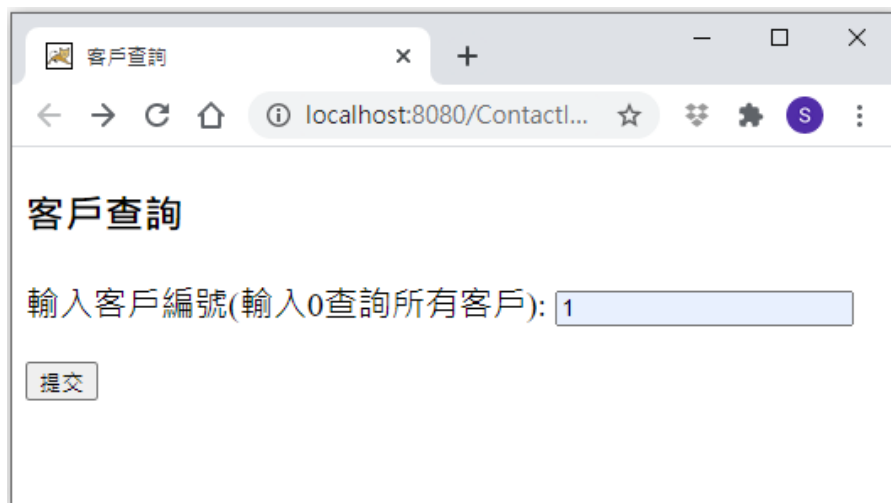
送貨地址: 重慶南路二段100號, 總統官邸, 台北, 台灣, 100

姓名: 柯文哲

辦公室地址: 市府路1號, 台北市政府, 台北, 台灣, 110

送貨地址: 徐州路46號, 台北市長官邸, 台北, 台灣, 100

測試、執行

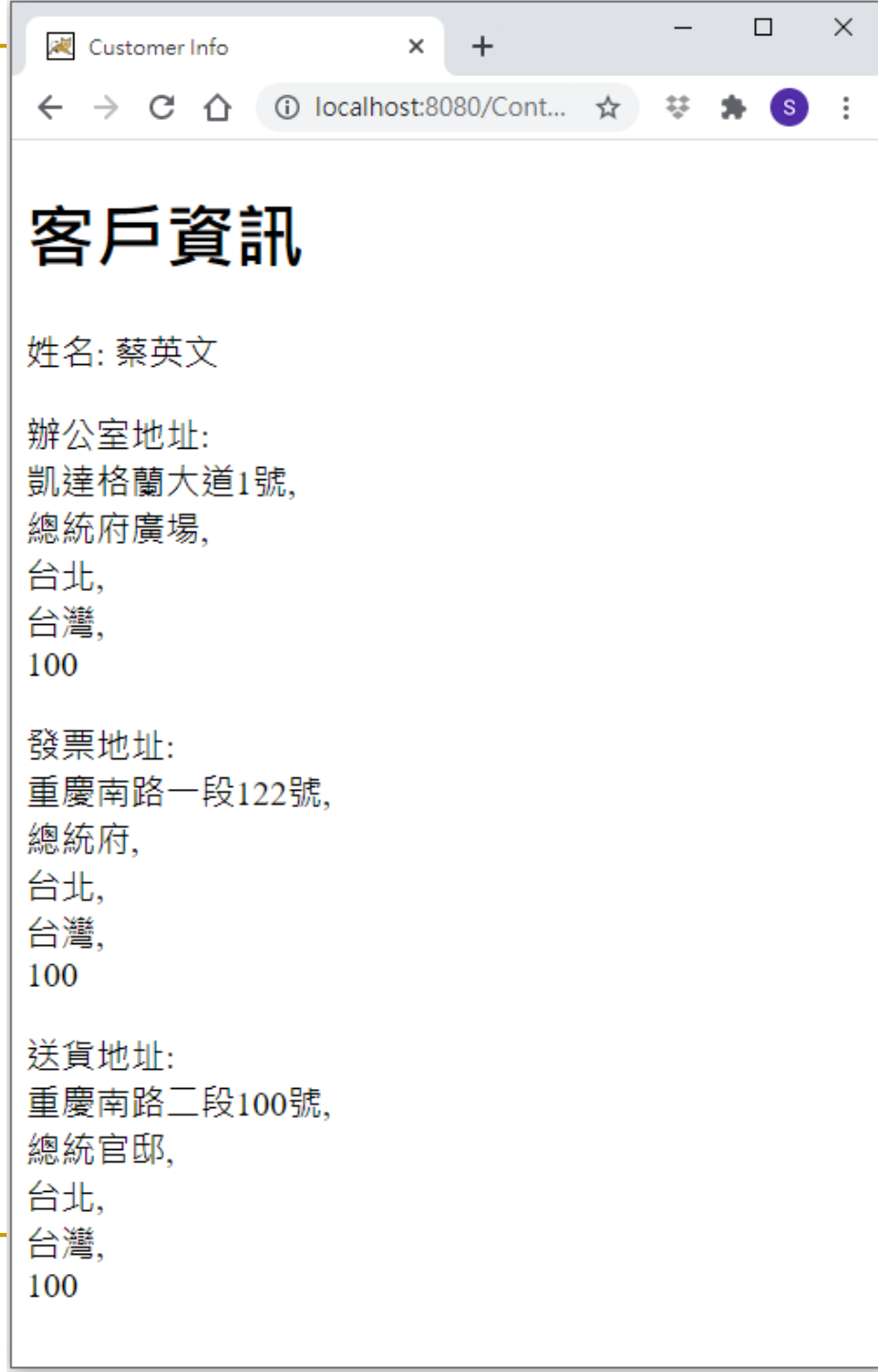


A screenshot of a web browser window. The title bar shows a single tab labeled '客戶查詢'. The address bar displays 'localhost:8080/Contactl...'. The main content area has the heading '客戶查詢'. Below it is a text input field with the placeholder text '輸入客戶編號(輸入0查詢所有客戶):' and the value '1'. At the bottom left is a button labeled '提交'.

客戶查詢

輸入客戶編號(輸入0查詢所有客戶): 1

提交



A screenshot of a web browser window. The title bar shows a single tab labeled 'Customer Info'. The address bar displays 'localhost:8080/Cont...'. The main content area has the heading '客戶資訊'. Below it are three sections: '姓名: 蔡英文', '辦公室地址: 凱達格蘭大道1號, 總統府廣場, 台北, 台灣, 100', and '發票地址: 重慶南路一段122號, 總統府, 台北, 台灣, 100'. At the bottom is a section for '送貨地址: 重慶南路二段100號, 總統官邸, 台北, 台灣, 100'.

客戶資訊

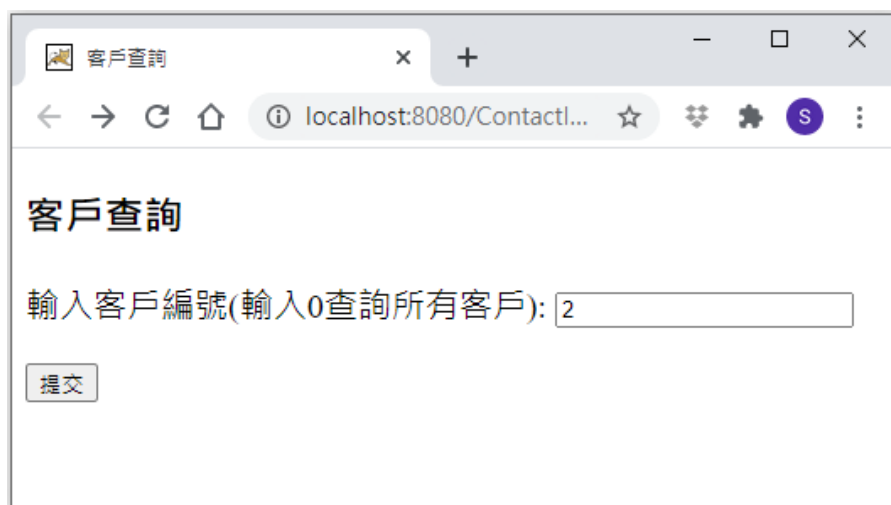
姓名: 蔡英文

辦公室地址:
凱達格蘭大道1號,
總統府廣場,
台北,
台灣,
100

發票地址:
重慶南路一段122號,
總統府,
台北,
台灣,
100

送貨地址:
重慶南路二段100號,
總統官邸,
台北,
台灣,
100

測試、執行

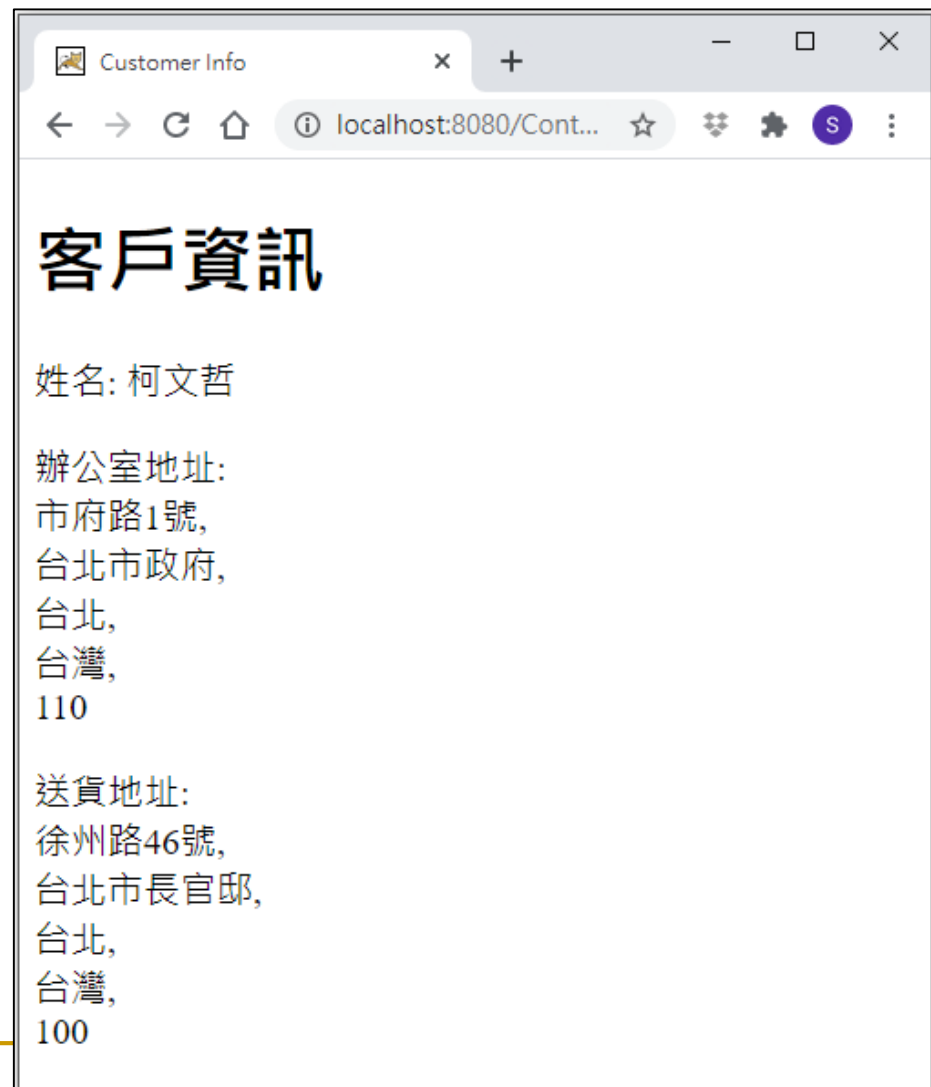


A screenshot of a web browser window with the title '客戶查詢'. The address bar shows 'localhost:8080/Contactl...'. The page content includes the title '客戶查詢' and a form with the label '輸入客戶編號(輸入0查詢所有客戶):' followed by a text input field containing the number '2'. Below the input field is a button labeled '提交'.

客戶查詢

輸入客戶編號(輸入0查詢所有客戶):

提交



A screenshot of a web browser window with the title 'Customer Info'. The address bar shows 'localhost:8080/Cont...'. The page content displays customer information in Chinese.

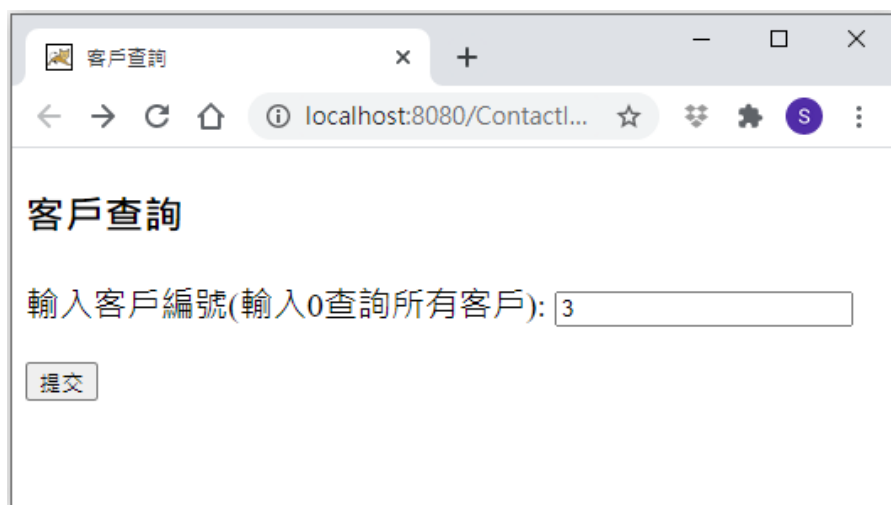
客戶資訊

姓名: 柯文哲

辦公室地址:
市府路1號,
台北市政府,
台北,
台灣,
110

送貨地址:
徐州路46號,
台北市長官邸,
台北,
台灣,
100

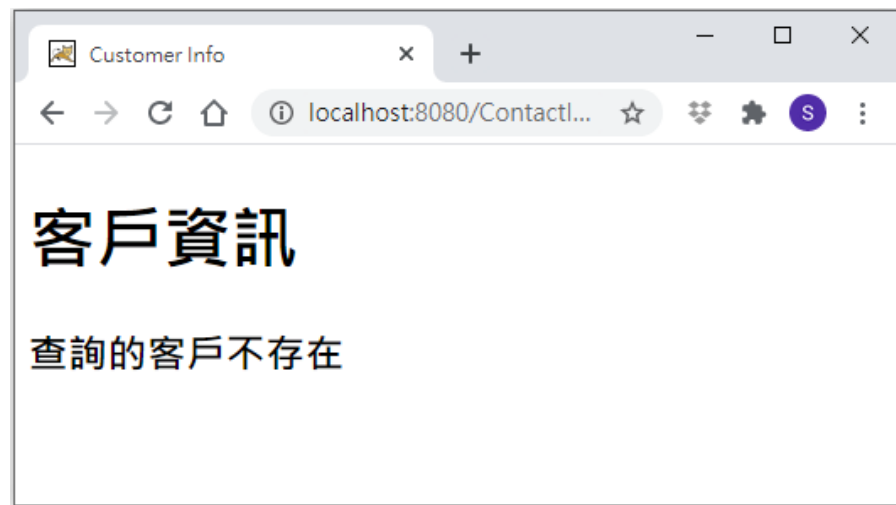
測試、執行



A screenshot of a web browser window with the title '客戶查詢'. The address bar shows 'localhost:8080/Contactl...'. The page content includes the title '客戶查詢', a label '輸入客戶編號(輸入0查詢所有客戶):', a text input field containing the number '3', and a '提交' (Submit) button.

客戶查詢

輸入客戶編號(輸入0查詢所有客戶):



A screenshot of a web browser window with the title 'Customer Info'. The address bar shows 'localhost:8080/Contactl...'. The page content includes the title '客戶資訊' and the message '查詢的客戶不存在'.

客戶資訊

查詢的客戶不存在

Lab 2

- 修改 DVDLibrary網路應用專案
 - 匯入JSTL1.2.1函式庫
- 編輯 index.jsp
 - `<c:url>` JSTL 標籤取代URL-Rewriting 連結
 - 修改新增DVD連結為 `add_dvd.jsp`
- 編輯 list_library.jsp
 - `<c:if>` `<c:set>` JSTL 標籤取代JSP Scriptlet session無屬性時的設定
 - EL 取代JSP Expression 標籤顯示DVD 數量
 - `<c:if>` JSTL 標籤取代JSP Scriptlet 顯示偏好欄位
 - `<c:forEach>` JSTL 標籤取代JSP Scriptlet 列出所有DVD

Lab 2

- 修改 web.xml
 - 新增 ServletContext 屬性 genre-list，值為 Animation, Action, Sci-Fi
- 修改 InitializeLibrary.java
 - 修改contextInitialized(ServletContextEvent sce)
 - 取得Servlet初始參數 genres-list, 切割為String[] genres
 - 將 genres 屬性, 加入ServletContext屬性 genreList
- 刪除 AddDVDFormServlet
- 編輯 add_dvd.jsp
 - <c:forEach> JSTL 標籤取代JSP Scriptlet 影片類型選項

Lab 2

- 編輯 set_pref.jsp

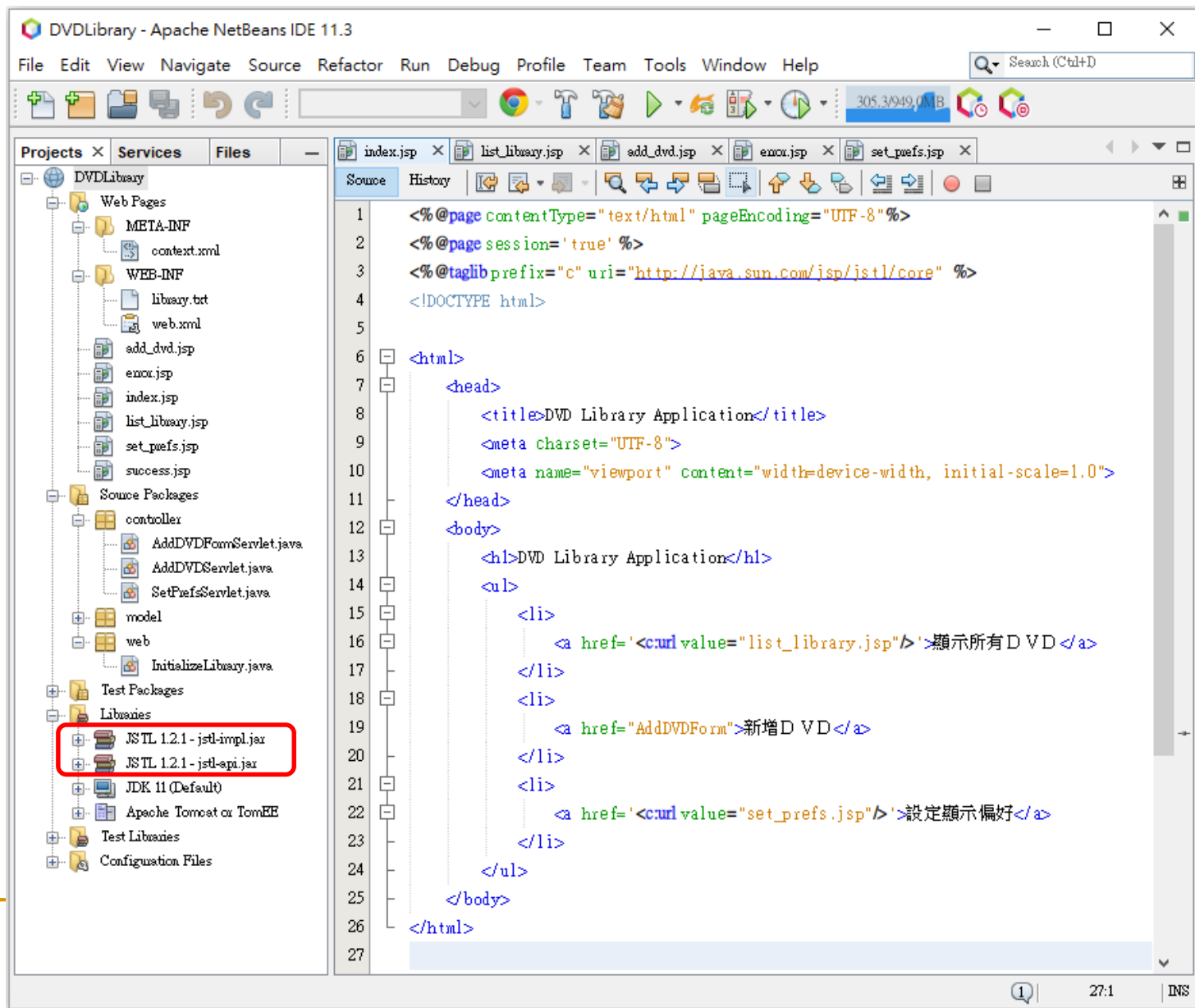
- `<c:url>` JSTL 標籤取代URL-Rewriting 連結
- `<c:if>` JSTL 標籤取代JSP Scriptlet 顯示當前偏好欄位

- 編輯 error.jsp

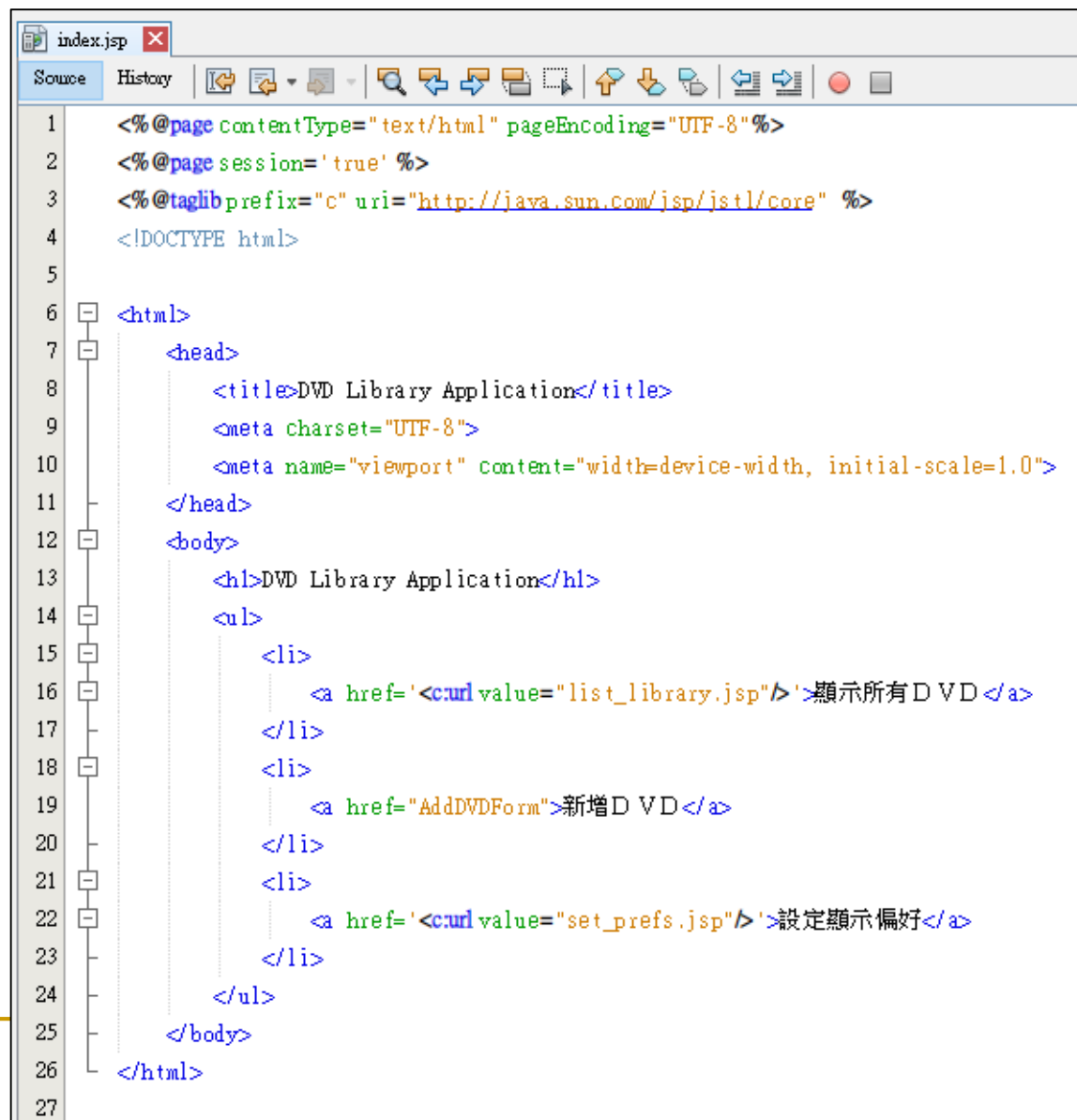
- `<c:forEach>` JSTL 標籤取代JSP Scriptlet 顯示錯誤訊息

- 測試、執行

DVDLibrary 網路應用專案



index.jsp



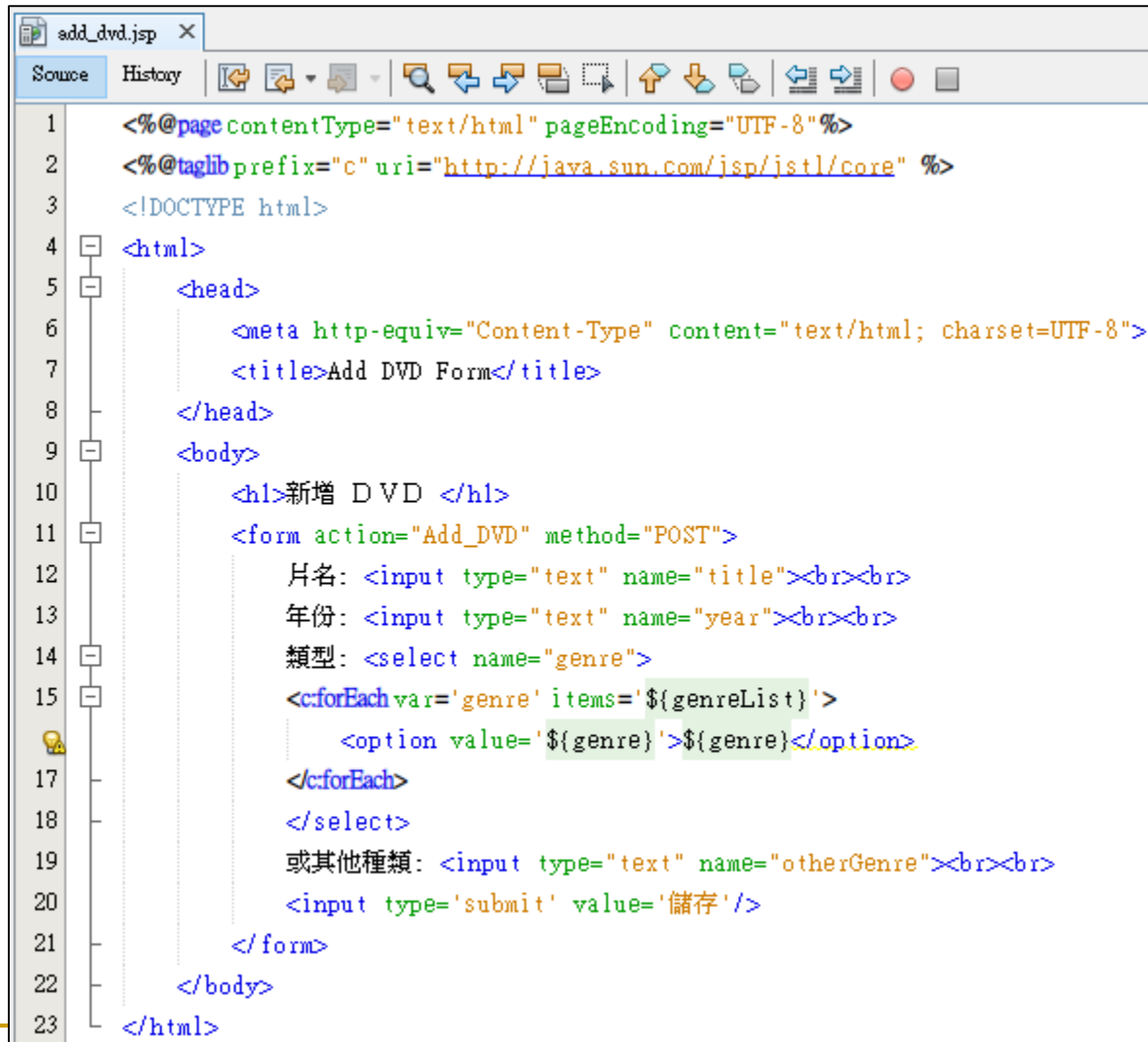
```
1 <%@page contentType="text/html" pageEncoding="UTF-8"%>
2 <%@page session='true' %>
3 <%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
4 <!DOCTYPE html>
5
6 <html>
7   <head>
8     <title>DVD Library Application</title>
9     <meta charset="UTF-8">
10    <meta name="viewport" content="width=device-width, initial-scale=1.0">
11  </head>
12  <body>
13    <h1>DVD Library Application</h1>
14    <ul>
15      <li>
16        <a href='<curl value="list_library.jsp"/>'>顯示所有 DVD</a>
17      </li>
18      <li>
19        <a href="AddDVDForm">新增 DVD</a>
20      </li>
21      <li>
22        <a href='<curl value="set_prefs.jsp"/>'>設定顯示偏好</a>
23      </li>
24    </ul>
25  </body>
26 </html>
27
```

list_library.jsp

```
list_library.jsp x
Source History
1 <%@page contentType="text/html" pageEncoding="UTF-8"%>
2 <%@page session="true"%>
3 <%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
4 <!DOCTYPE html>
5 <html>
6 <head>
7 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
8 <title>DVD List</title>
9 </head>
10 <body>
11 <cfif test='${empty sessionScope}'>
12 <csetvar="showTitle" value="true" scope="session">
13 <csetvar="showYear" value="true" scope="session">
14 <csetvar="showGenre" value="true" scope="session">
15 </cfif>
```

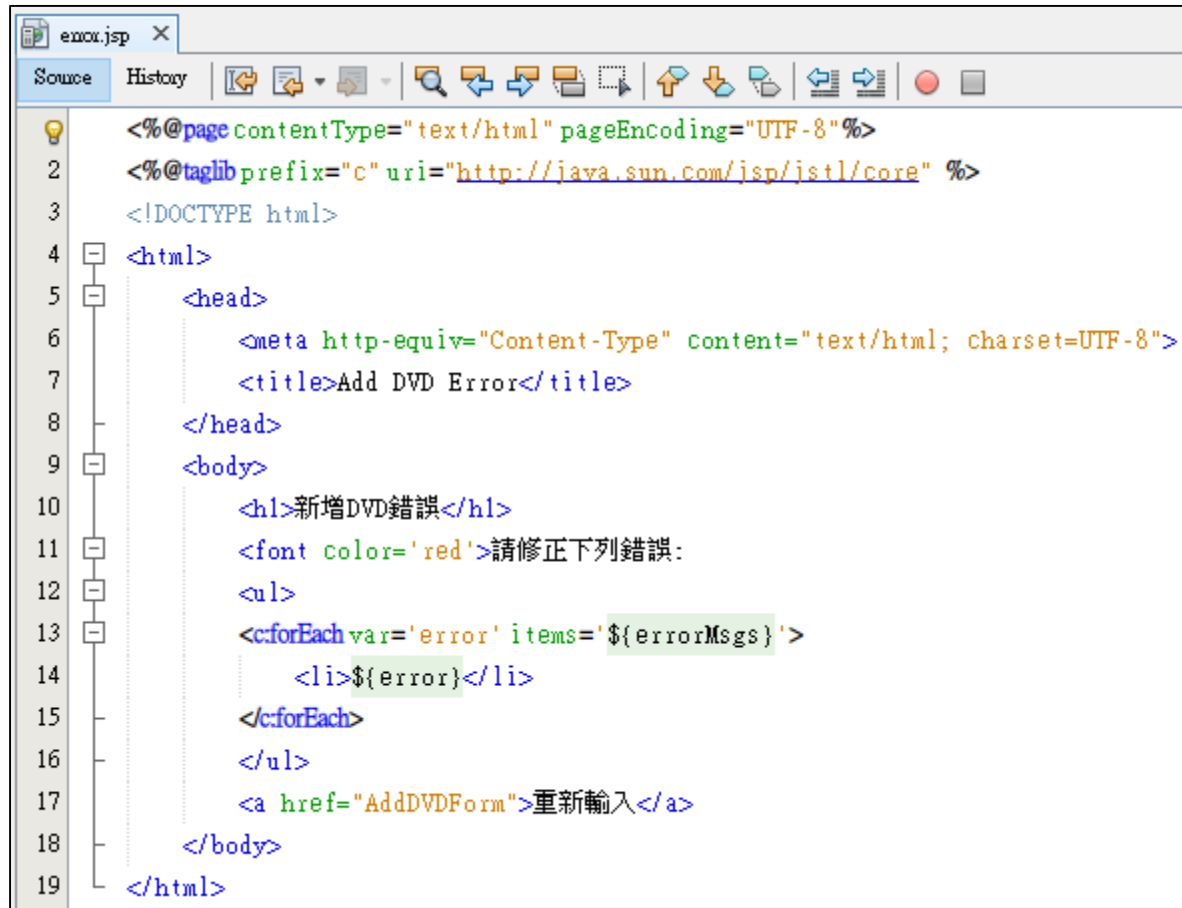
```
16 <h3>DVD Library 中有 ${DVDList.size()} 片DVD</h3>
17 <table>
18 <tr>
19 <cfif test='${not empty sessionScope.showTitle}'>
20 <th>片名</th>
21 </cfif>
22 <cfif test='${not empty sessionScope.showYear}'>
23 <th>年份</th>
24 </cfif>
25 <cfif test='${not empty sessionScope.showGenre}'>
26 <th>類型</th>
27 </cfif>
28 </tr>
29 <cfforEach var='dvd' items='${DVDList}'>
30 <tr>
31 <cfif test='${not empty sessionScope.showTitle}'>
32 <td>${dvd.title}</td>
33 </cfif>
34 <cfif test='${not empty sessionScope.showYear}'>
35 <td>${dvd.year}</td>
36 </cfif>
37 <cfif test='${not empty sessionScope.showGenre}'>
38 <td>${dvd.genre}</td>
39 </cfif>
40 </tr>
41 </cfforEach>
42 </table>
43 </body>
44 </html>
```

add_dvd.jsp



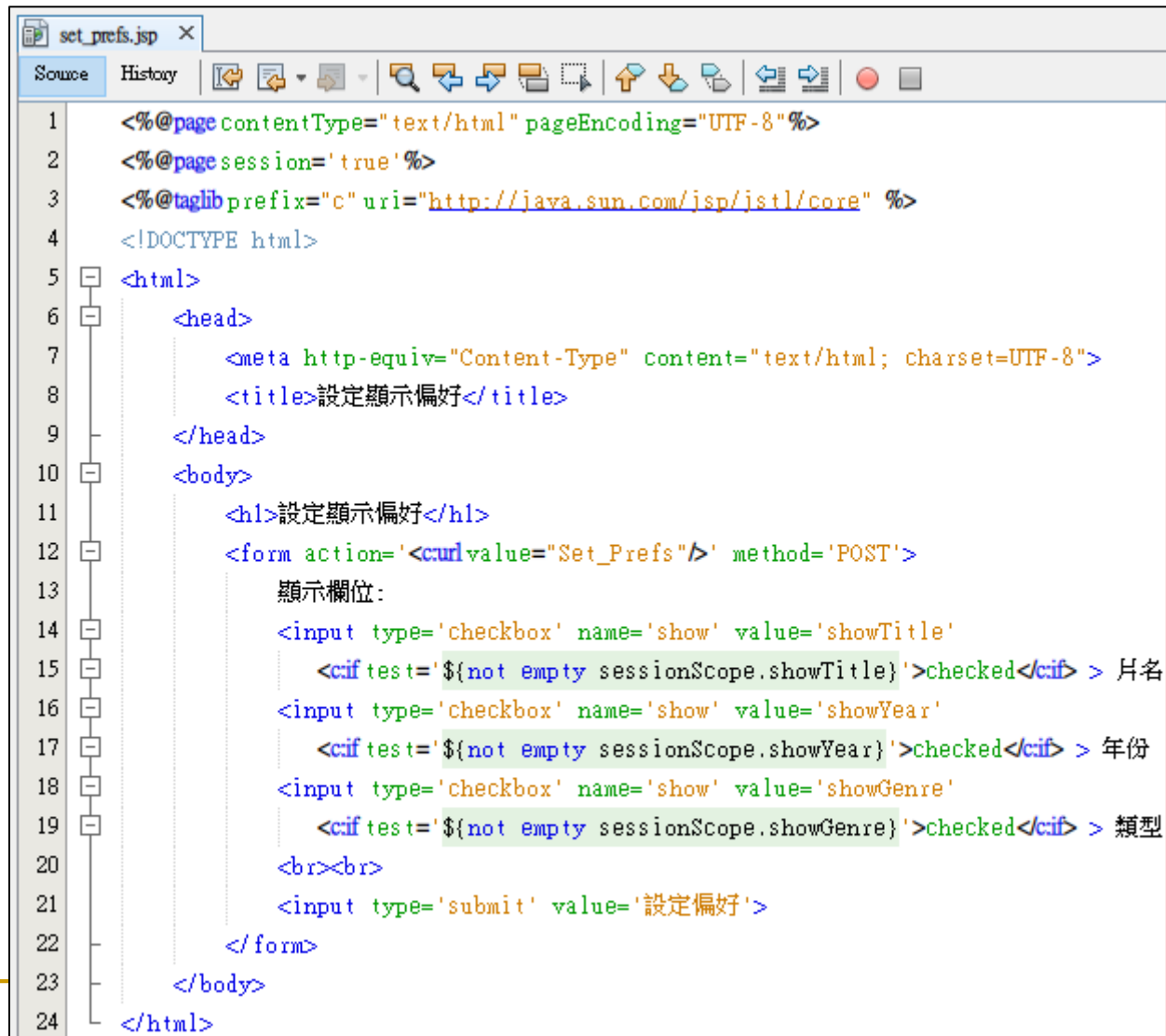
```
1 <%@page contentType="text/html" pageEncoding="UTF-8"%>
2 <%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
3 <!DOCTYPE html>
4 <html>
5 <head>
6 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
7 <title>Add DVD Form</title>
8 </head>
9 <body>
10 <h1>新增 DVD </h1>
11 <form action="Add_DVD" method="POST">
12 片名: <input type="text" name="title"><br><br>
13 年份: <input type="text" name="year"><br><br>
14 類型: <select name="genre">
15 <cforEach var='genre' items='${genreList}'>
16 <option value='${genre}'>${genre}</option>
17 </cforEach>
18 </select>
19 或其他種類: <input type="text" name="otherGenre"><br><br>
20 <input type='submit' value='儲存' />
21 </form>
22 </body>
23 </html>
```

error.jsp



```
1 <%@page contentType="text/html" pageEncoding="UTF-8"%>
2 <%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
3 <!DOCTYPE html>
4 <html>
5 <head>
6     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
7     <title>Add DVD Error</title>
8 </head>
9 <body>
10     <h1>新增DVD錯誤</h1>
11     <font color='red'>請修正下列錯誤:
12     <ul>
13         <c:forEach var='error' items='${errorMsgs}'>
14             <li>${error}</li>
15         </c:forEach>
16     </ul>
17     <a href="AddDVDForm">重新輸入</a>
18 </body>
19 </html>
```

set_prefs.jsp



```
1 <%@page contentType="text/html" pageEncoding="UTF-8"%>
2 <%@page session='true'%>
3 <%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
4 <!DOCTYPE html>
5 <html>
6 <head>
7     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
8     <title>設定顯示偏好</title>
9 </head>
10 <body>
11     <h1>設定顯示偏好</h1>
12     <form action='<c:url value="Set_Prefs"/>' method='POST'>
13         顯示欄位:
14         <input type='checkbox' name='show' value='showTitle'
15             <cif test='${not empty sessionScope.showTitle}'>checked</cif> > 片名
16         <input type='checkbox' name='show' value='showYear'
17             <cif test='${not empty sessionScope.showYear}'>checked</cif> > 年份
18         <input type='checkbox' name='show' value='showGenre'
19             <cif test='${not empty sessionScope.showGenre}'>checked</cif> > 類型
20         <br><br>
21         <input type='submit' value='設定偏好'>
22     </form>
23 </body>
24 </html>
```

測試、執行



測試、執行

Add DVD Form

localhost:8080/DVD...

新增 DVD

片名:

年份:

類型: 或其他種類:

Add DVD Error

localhost:8080/DVD...

新增DVD錯誤

請修正下列錯誤:

- 請輸入DVD發行年度

[重新輸入](#)

Add DVD Success

localhost:8080/DVD...

新增DVD成功

您新增了一部DVD:

片名: Tenet
發行年份: 2020
類型: Action

[回首頁](#)

Add DVD Form

localhost:8080/DVD...

新增 DVD

片名:

年份:

類型: 或其他種類:

DVD List

localhost:8080/DVD...

DVD Library 中有 4 片DVD

片名	年份	類型
Close Encounters of the Third Kind	1976	Sci-Fi
Star Wars	1977	Sci-Fi
Mission to Mars	2000	Sci-Fi
Tenet	2020	Action