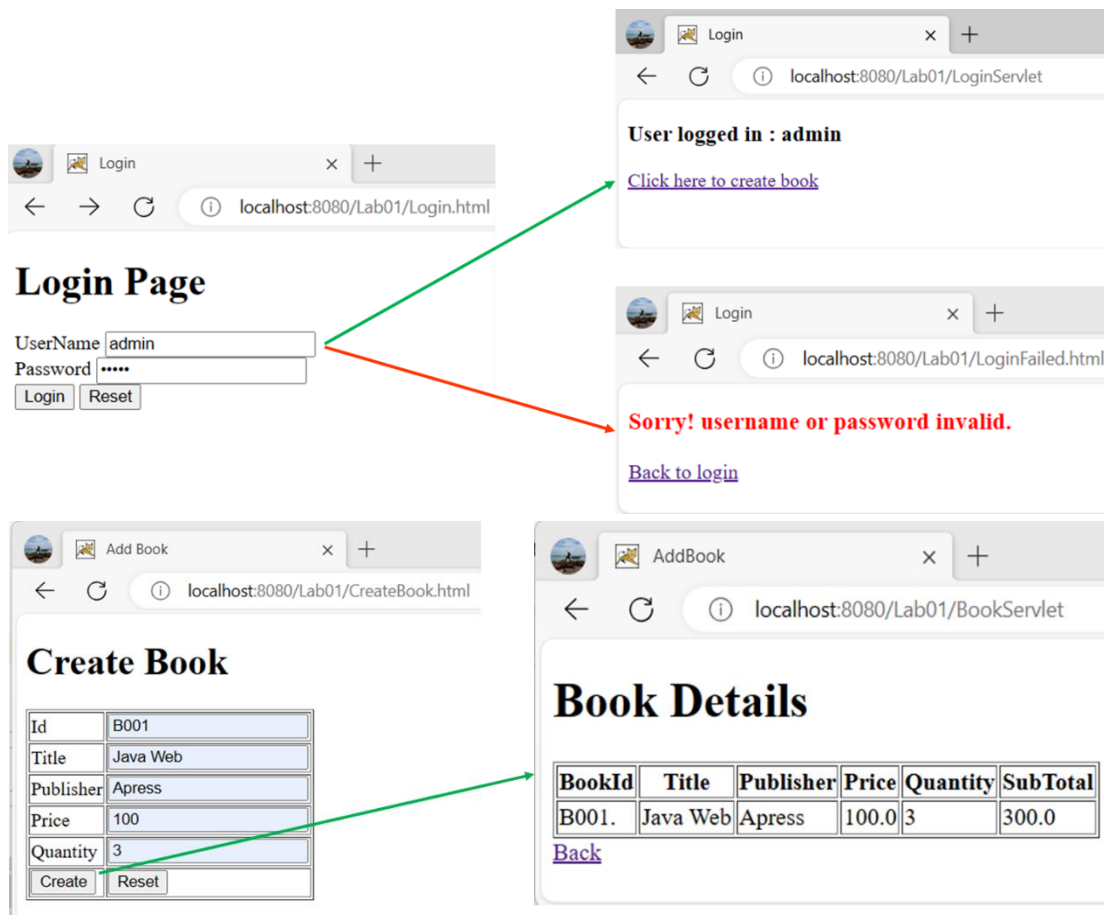


# Building an Java Web Application with HTML & Servlet

## Requirements

Create a java web application (using HTML and Servlets) to perform functions as login and create new books. If user name and password are "admin" then redirect to book create book page otherwise redirect to login failed page.



The image displays four screenshots of a web application with flow arrows indicating the user journey:

- Login Page:** A form with fields for "UserName" (containing "admin") and "Password" (masked with dots). Buttons for "Login" and "Reset" are present.
- LoginServlet:** A page showing "User logged in : admin" and a link "Click here to create book".
- LoginFailed.html:** A page showing "Sorry! username or password invalid." and a link "Back to login".
- Create Book:** A form with fields for "Id" (B001), "Title" (Java Web), "Publisher" (Apress), "Price" (100), and "Quantity" (3). Buttons for "Create" and "Reset" are present.
- BookServlet:** A page titled "Book Details" showing a table of book information.

Flow arrows indicate the following paths:

- From the "Login" button on the Login Page to the LoginServlet page.
- From the "Reset" button on the Login Page to the LoginFailed.html page.
- From the "Click here to create book" link on the LoginServlet page to the Create Book page.
- From the "Create" button on the Create Book page to the BookServlet page.

BookId	Title	Publisher	Price	Quantity	SubTotal
B001.	Java Web	Apress	100.0	3	300.0

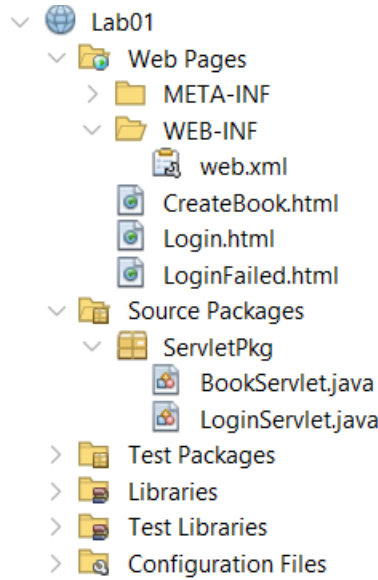
## Lab Objectives

In this lab, you will be:

- Create Java web project using the NetBean IDE
- Create the web pages by HTML

- Apply passing data from HTML to Servlet by POST method
- Package War file with command prompt using jar command
- Run the project and test the functions of the applicaiton

**Step 01.** Create a Java Web application named Lab01 is structured as follows



**Step 02.** Write HTML codes for the web pages as the follows:

- **Login.html page**

```

1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>Login</title>
5      <meta charset="UTF-8">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7  </head>
8  <body>
9      <h1>Login Page</h1>
10     <form name="LoginServlet" action="LoginServlet" method="post">
11         UserName <input type="text" name="txtUserName" value="" /><br/>
12         Password <input type="password" name="txtPassword" value="" /><br/>
13         <input type="submit" value="Login" name="btnLogin" />
14         <input type="reset" value="Reset" />
15     </form>
16 </body>
17 </html>
  
```

- **LoginFailed.html page**

```

LoginFailed.html x
Source History
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>Login</title>
5 <meta charset="UTF-8">
6 <meta name="viewport" content="width=device-width, initial-scale=1.0">
7 </head>
8 <body>
9 <h3 style="color: red">Sorry! username or password invalid.</h3>
10 <a href="Login.html">Back to login</a>
11 </body>
12 </html>

```

## • CreateBook.html page

```

CreateBook.html x
Source History
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>Add Book</title>
5 <meta charset="UTF-8">
6 <meta name="viewport" content="width=device-width, initial-scale=1.0">
7 </head>
8 <body>
9 <form action="BookServlet" method="post">
10 <h1>Create Book</h1>
11 <table border="1" cellpadding="1">
12 <tbody>
13 <tr>
14 <td>Id</td>
15 <td><input type="text" name="txtId" /></td>
16 </tr>
17 <tr>
18 <td>Title</td>
19 <td><input type="text" name="txtTitle" /></td>
20 </tr>
21 <tr>
22 <td>Publisher</td>
23 <td><input type="text" name="txtPublisher" /></td>
24 </tr>
25 <tr>
26 <td>Price</td>
27 <td><input type="text" name="txtPrice" /></td>
28 </tr>
29 <tr>
30 <td>Quantity</td>
31 <td><input type="text" name="txtQuantity" /></td>
32 </tr>
33 <tr>
34 <td><input type="submit" value="Create" name="btnCreate" /></td>
35 <td><input type="reset" value="Reset" name="Reset" /></td>
36 </tr>
37 </tbody>
38 </table>
39 </form>
40 </body>
41 </html>

```

### Step 03. Write codes for the servlets as follows:

- **LoginServlet.java** as follows:

```

LoginServlet.java x
Source History
11 @WebServlet(name = "LoginServlet", urlPatterns = {"/LoginServlet"})
12 public class LoginServlet extends HttpServlet {
13     protected void processRequest(HttpServletRequest request,
14         HttpServletResponse response)
15         throws ServletException, IOException {
16         response.setContentType("text/html;charset=UTF-8");
17         String userName = request.getParameter("txtUserName");
18         String password = request.getParameter("txtPassword");
19         PrintWriter out = response.getWriter();
20         try {
21             out.println("<!DOCTYPE html>");
22             out.println("<html>");
23             out.println("<head>");
24             out.println("<title>Login</title>");
25             out.println("</head>");
26             out.println("<body>");
27             if(userName.equals("admin") && password.equals("admin")) {
28                 out.println("<h3>User logged in : "+userName+"</h3>");
29                 out.println("<a href='CreateBook.html'>Click here to create book</a>");
30             }
31             else{
32                 response.sendRedirect("LoginFailed.html");
33             }
34             out.println("</body>");
35             out.println("</html>");
36         }
37         finally{
38             out.close();
39         }
40     }
41     HttpServlet methods. Click on the + sign on the left to edit the code.
80 }
  
```

- **BookServlet.java** as follows:

```

BookServlet.java x
Source History
1  package ServletPkg;
2
3  [+ import ...7 lines
10 @WebServlet(name = "BookServlet", urlPatterns = {"/BookServlet"})
11 public class BookServlet extends HttpServlet {
12     protected void processRequest(HttpServletRequest request,
13         HttpServletResponse response)
14         throws ServletException, IOException {
15         response.setContentType("text/html;charset=UTF-8");
16         String id = request.getParameter("txtId");
17         String title = request.getParameter("txtTitle");
18         String author = request.getParameter("txtPublisher");
19         double price = Double.parseDouble(request.getParameter("txtPrice"));
20         int quantity = Integer.parseInt(request.getParameter("txtQuantity"));
21         double subTotal = price * quantity;
22         PrintWriter out = response.getWriter();
23         try {
24             out.println("<!DOCTYPE html>");
25             out.println("<html>");
26             out.println("<head>");
27             out.println("<title>AddBook</title>");
28             out.println("</head>");
29             out.println("<body>");
30             out.println("<h1>Book Details</h1>");
31             //create table
32             StringBuilder strBookDetail = new StringBuilder();
33             strBookDetail.append("<table border='1'>");
34             strBookDetail.append("<thead>");
35             strBookDetail.append("<tr>");
36             strBookDetail.append("<th>BookId</th>");
37             strBookDetail.append("<th>Title</th>");
38             strBookDetail.append("<th>Publisher</th>");
39             strBookDetail.append("<th>Price</th>");

```

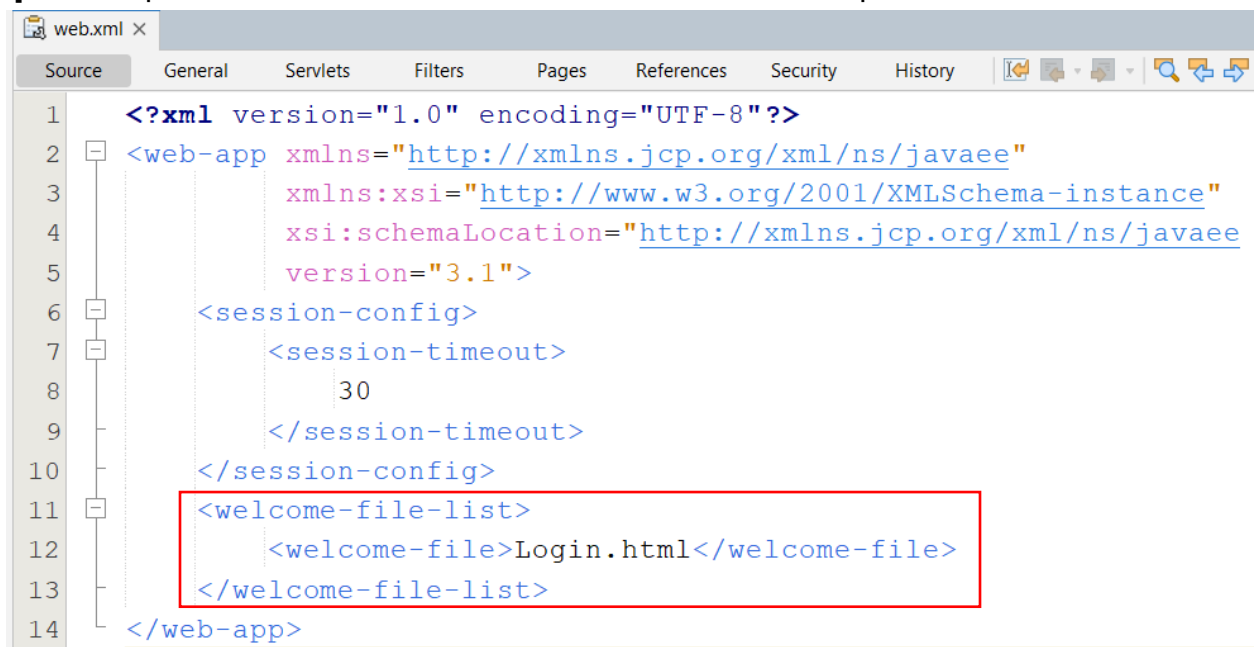
```

41         strBookDetail.append("<th>Quantity</th>");
42         strBookDetail.append("<th>SubTotal</th>");
43         strBookDetail.append("</tr>");
44         strBookDetail.append("</thead>");
45         strBookDetail.append("<tbody>");
46         strBookDetail.append("<tr>");
47         strBookDetail.append("<td>" + id + "</td>");
48         strBookDetail.append("<td>" + title + "</td>");
49         strBookDetail.append("<td>" + author + "</td>");
50         strBookDetail.append("<td>" + price + "</td>");
51         strBookDetail.append("<td>" + quantity + "</td>");
52         strBookDetail.append("<td>" + subTotal + "</td>");
53         strBookDetail.append("</tr>");
54         strBookDetail.append("</tbody>");
55         strBookDetail.append("</table>");
56         out.println(strBookDetail.toString());
57         out.println("<a href='CreateBook.html'>Back</a><br>");
58         out.println("</body>");
59         out.println("</html>");
60     } finally {
61         out.close();
62     }
63 }
64
102 }

```

HttpServlet methods. Click on the + sign on the left to edit the code.

**Step 04.** Open the **web.xml** in the WEB-INF folder then update as the follows:



```

1  <?xml version="1.0" encoding="UTF-8"?>
2  <web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"
3         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
4         xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
5         version="3.1">
6      <session-config>
7          <session-timeout>
8              30
9          </session-timeout>
10     </session-config>
11     <welcome-file-list>
12         <welcome-file>Login.html</welcome-file>
13     </welcome-file-list>
14 </web-app>

```

**Step 05.** Right-click on Lab01 project, select Run to run the web app then test all functions.

## **Step 06.** Package War for Lab01 project

Open the Command Prompt then run commands as the follows:

```

Command Prompt

C:\Users\SwordLake>d:

D:\>cd D:\Training\JavaWeb\Demo\Lab01\build\web

D:\Training\JavaWeb\Demo\Lab01\build\web>jar -cvf lab01.war *.* WEB-INF/*
added manifest
adding: CreateBook.html(in = 1586) (out= 391)(deflated 75%)
adding: Login.html(in = 619) (out= 282)(deflated 54%)
adding: LoginFailed.html(in = 336) (out= 214)(deflated 36%)
adding: WEB-INF/classes/(in = 0) (out= 0)(stored 0%)
adding: WEB-INF/classes/.netbeans_automatic_build(in = 0) (out= 0)(stored 0%)
adding: WEB-INF/classes/.netbeans_update_resources(in = 0) (out= 0)(stored 0%)
adding: WEB-INF/classes/ServletPkg/(in = 0) (out= 0)(stored 0%)
adding: WEB-INF/classes/ServletPkg/BookServlet.class(in = 3877) (out= 1942)(deflated 49%)
adding: WEB-INF/classes/ServletPkg/LoginServlet.class(in = 2984) (out= 1505)(deflated 49%)
adding: WEB-INF/web.xml(in = 498) (out= 238)(deflated 52%)

D:\Training\JavaWeb\Demo\Lab01\build\web>
  
```