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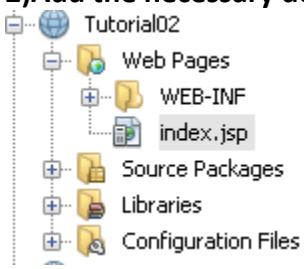
Tutorial 02

Answer all questions.

1)Create a new Java web project in NetBeans.
2)Add the necessary dependencies for servlets and JSP to your project.



3)Create a new JSP file named Index.jsp. Design a minimal login form with input fields for username and password, and a submit button.

Index.jsp

```
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <form action="LoginServlet" method="GET">
            <table border="1">
                <tbody>
                    <tr>
                        <td>Username</td>
                        <td><input type="text" name="uname" value=""/></td>
                    </tr>
                    <tr>
                        <td>Password</td>
                        <td><input type="text" name="pass" value=""/></td>
                    </tr>
                    <tr>
                       <td><input type="submit" value="Submit"/></td>
                        <td><input type="reset" value="cancel"/></td>
            </tr>
                </tbody>
            </table>
        </form>
    </body>
</html>
```

4)Create a servlet named LoginServlet that extends HttpServlet.

5)Implement the doGet method in LoginServlet to handle GET requests. Retrieve parameters from the request and display a welcome message on the Index.jsp page.

LoginServlet.java

```
@Override
protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
    // Retrieve parameters from the request
    String username = request.getParameter("username");
    String password = request.getParameter("password");

    // Display a welcome message on the Index.jsp page
    request.setAttribute("message", "Welcome, " + username + "!");
    request.getRequestDispatcher("index.jsp").forward(request, response);

   // processRequest(request, response);
}
```

6)Explain any security concerns associated with using the GET method for handling sensitive information

Parameters are visible in the URL, which can be intercepted and read.

Parameters are stored in browser history and server logs.

Limited data size due to URL length restrictions.

Increased risk of CSRF (Cross-Site Request Forgery) attacks.

7)Modify the form in Index.jsp to use the POST method for submitting data

```html
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <form action="LoginServlet" method="POST">
            <table border="1">
                <tbody>
                    <tr>
                        <td>Username</td>
                        <td><input type="text" name="uname" value=""/></td>
                    </tr>
                    <tr>
                        <td>Password</td>
                        <td><input type="text" name="pass" value=""/></td>
                    </tr>
                    <tr>
                       <td><input type="submit" value="Submit"/></td>
                        <td><input type="reset" value="cancel"/></td>
            </tr>
                </tbody>
            </table>
        </form>
    </body>
</html>
```

8) Implement the doPost method in LoginServlet to handle POST requests. Validate the username and password, and display a success or error message on the Index.jsp page

LoginServlet.java

```java
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        // Validate username and password
    String username = request.getParameter("username");
    String password = request.getParameter("password");

    // Dummy validation (replace with actual validation logic)
    boolean isValid = "admin".equals(username) && "password".equals(password);

    // Display success or error message on the Index.jsp page
    if (isValid) {
        request.setAttribute("message", "Login successful!");
    } else {
        request.setAttribute("message", "Invalid username or password!");
    }
    request.getRequestDispatcher("index.jsp").forward(request, response);
//processRequest(request, response);
    }
```