

EXPERIMENT – 07 -WEEK - 9 AND WEEK – 10

AIM : Create the necessary JSP's for the application chosen.

Scenario 1 : Use Scriptlets, JSP Action tags and Expressions.

Scenario 2 : Perform the same scenarios as done in Week 7&8 using JSP Elements.

Set Up and Installation of Apache Tomcat, MySQL Workbench and Apache Maven :

- 1) Install the Tomcat server from the apachetomcat.org website and go to Downloads Section and select “Tomcat 9.0”.
- 2) Click on the .exe windows installer file and the file will be downloaded to the downloads folder.
- 3) Now run the .exe file and then set the class path in the environment variables and click ok.
- 4) Go to apachemaven.org and go to the Downloads section and select OS and then click on the respective .exe file and then download.
- 5) In the downloads folder, execute the .exe maven file and then set the class path in the same way as above.
- 6) Go to MySql community website and click on the downloads and select the OS and then download the required MySQL Workbench.
- 7) Set Up the Workbench as the above in the same way.
- 8) Now download the mysql connector 8.0.0.29.jar file and then paste it in to the following path
C:>Program Files>Apache Software Foundation>Tomcat 9.0>lib.

Set Up in Visual Studio Code :

- 1) Now follow the Directory structure in the below image and create the .java, .html and .xml files and WEB-INF, classes folders in the Folder Servlets.

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows the project structure with files like Welcome.java, Welcome.jsp, index.html, and various configuration files.
- Code Editor:** Displays the Java code for the `Welcome` servlet. The code imports necessary packages, defines the `Welcome` class extending `HttpServlet`, and implements the `doPost` method to handle user login. It uses JDBC to connect to a MySQL database named `javab1` and retrieves user details based on the provided username and password.
- Terminal:** Shows the command-line output of running the Java code. It includes the command `javac .\Welcome.java` and the resulting error message: "Error: Could not find or load main class .\Welcome.java".
- Taskbar:** At the bottom, it shows the Windows taskbar with various pinned icons and the system tray indicating the date and time.

- 2) Store the Servlets folder in the path
C:>Program Files>Apache Software Foundation>Tomcat 9.0>webapps.
- 3) In the MySql Workbench, click th password and open the database and create the schema and table names “details” and insert name and password values of different users in to the table and execute the statement.
- 4) In the next step, Open the Servlets folder in VS Code and then open the .java file.

- 5) In the Bottom Left of Vscode we have Java Projects>Referenced Libraries, click on the + icon and then add the servlet-api.jar and mysql-connector-8.0.0.29.jar file.
- 6) Go to C:>Program Files>Apache Software Foundation>Tomcat 9.0>bin>Tomcat9w and click on Tomcat9w and then select Start to run the Tomcat Server.
- 7) Now compile and run the .java file and put the .class file in the path Servlets>WEB-INF>classes and then save the file.
- 8) Go to Google Chrome Browser and then paste “localhost:portnumber/foldername” command to run the required servlet page and check the output for the input given.

Program :

Welcome.java

```

import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import java.sql.*;
public class Welcome extends HttpServlet {
    public void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException{
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        String name = request.getParameter("username");
        String password = request.getParameter("password");
        try {
            Class.forName("com.mysql.jdbc.Driver");
            Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/javablab","root","Password@123");
            Statement stmt = con.createStatement();
            String query = "Select * from details where name = '" + name + "' and password =
'" + password + "'";
            ResultSet rs = stmt.executeQuery(query);
            if(rs.next()){
                out.print("Welcome to you "+name);
            }else{
                out.print("Sorry Incorrect Entry");
            }
        } catch (Exception e) {
            out.write("Error in JDBC connectivity : "+e);
        }
    }
    public static void main(String[] args) {
        System.out.println("Continue to Browser");
    }
}

```

Index.html

```

<!DOCTYPE html>
<html lang="en">
<head>
    <title>Document</title>
</head>
<body>

```

```

<center>
    <b><p style="font-size:x-large">Student Login Page</p></b>
    <form action="Welcome.jsp" method="post">
        <label> Name : </label>
        <input type="text" name="username" id="username"><br><br>
        <label> Password : </label>
        <input type="text" name="password" id="password"><br><br>
        <input type="submit"></input>
    </form>
</center>
</body>
</html>

```

Web.xml

```

<web-app>
    <servlet>
        <servlet-name> servlet1</servlet-name>
        <servlet-class>Hello</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name> servlet1</servlet-name>
        <url-pattern>/Hello</url-pattern>
    </servlet-mapping>
</web-app>

```

Welcome.jsp

```

<html>
    <body>
        <%@ page import = "java.sql.*" %>
        <%
            String name = request.getParameter("username");
            String password = request.getParameter("password");
            try {
                Class.forName("com.mysql.jdbc.Driver");
                Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/javablab","root","Password@123");
                Statement stmt = con.createStatement();
                String query = "Select * from details where name = '"+ name+"' and
password = '"+ password +"'";
                ResultSet rs = stmt.executeQuery(query);
                if(rs.next()) {
                    out.print("Login Successful !!! Welcome to you - "+name);
                } else {
                    out.print("!!!Enter Valid User Details!!!");
                }
            } catch (Exception e) {
                out.write("Error in JDBC connectivity"+e);
            }
        %>
    </body>
</html>

```

Output :

Valid User Details

Document x

localhost:9090/JspTags/

Student Login Page

Name :

Password :

Submit

18:12
ENG IN 16/06/2022

localhost:9090/JspTags/Welcome.jsp

Login Successful !!! Welcome to you - Sumanth

18:12
ENG IN 16/06/2022

```
Windows PowerShell
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PS C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\JspTags> cd "c:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\JspTags\" ; if ($?) { javac Welcome.java } ; if ($?) { java Welcome }
Error: Could not find or load main class Welcome
Caused by: java.lang.ClassNotFoundException: Welcome
PS C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\JspTags>
```

Invalid User Details

Document x +

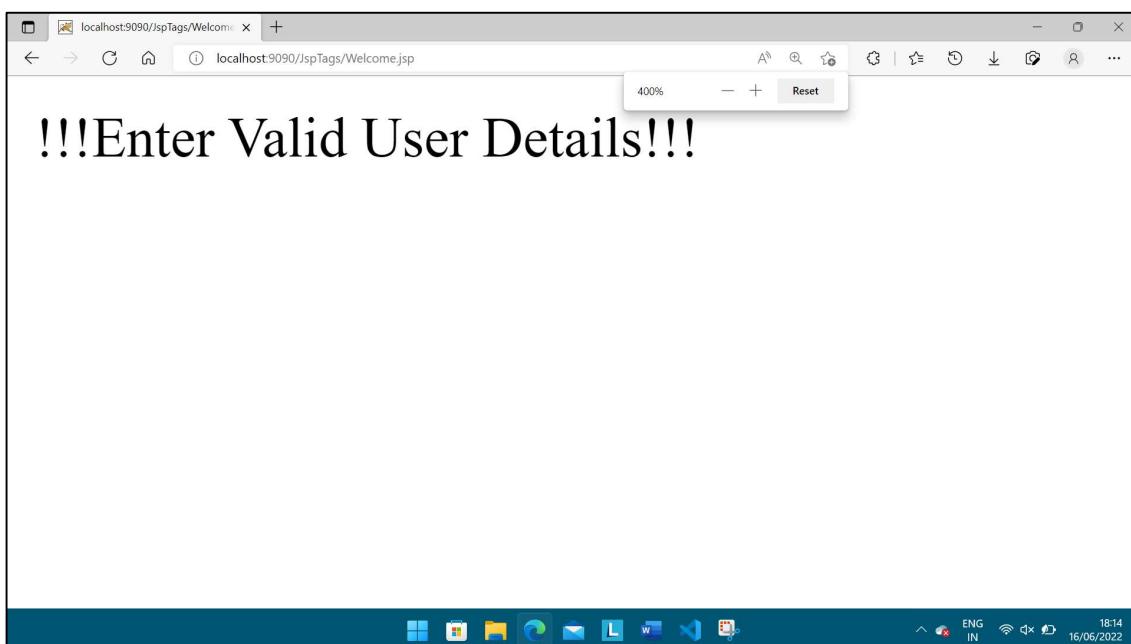
localhost:9090/JspTags/

Name : xyz

Password : xyz@123

Submit

18:14
16/06/2022



```
Windows PowerShell
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PS C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\JspTags> cd "c:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\JspTags\" ; if ($?) { javac Welcome.java } ; if ($?) { java Welcome }
Error: Could not find or load main class Welcome
Caused by: java.lang.ClassNotFoundException: Welcome
PS C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\JspTags>
```

In MySQL Workbench :

The screenshot shows the MySQL Workbench interface. In the left sidebar, under 'SCHEMAS', the 'javab' schema is selected, showing its tables ('Tables', 'Views', 'Stored Procedures'), functions, and other objects. Below the schema list are 'sakila', 'sys', and 'world'. The main area has a 'Query 1' tab open with the following SQL code:

```
1 • create schema javab;
2 • create table details(name varchar(30), password varchar(30));
3 • insert into details values("Sumanth", "Sumanth@1010");
4 • insert into details values("abc", "abc@123");
5 • insert into details values("def", "def@123");
```

The 'Result Grid' shows the data inserted into the 'details' table:

| name | password |
|---------|--------------|
| Sumanth | Sumanth@1010 |
| abc | abc@123 |
| def | def@123 |
| ghi | ghi@123 |
| jkl | jkl@123 |

The 'Output' pane at the bottom displays the execution log:

| # | Time | Action | Message | Duration / Fetch |
|---|----------|--|-------------------|-----------------------|
| 1 | 17:49:52 | create schema javab | 1 row(s) affected | 0.046 sec |
| 2 | 17:50:01 | create table details(name varchar(30), password varchar(30)) | 0 row(s) affected | 0.062 sec |
| 3 | 17:50:06 | insert into details values("Sumanth", "Sumanth@1010") | 1 row(s) affected | 0.031 sec |
| 4 | 17:50:06 | insert into details values("abc", "abc@123") | 1 row(s) affected | 0.016 sec |
| 5 | 17:50:06 | insert into details values("def", "def@123") | 1 row(s) affected | 0.000 sec |
| 6 | 17:50:06 | insert into details values("ghi", "ghi@123") | 1 row(s) affected | 0.000 sec |
| 7 | 17:50:06 | insert into details values("jkl", "jkl@123") | 1 row(s) affected | 0.015 sec |
| 8 | 17:50:38 | select * from details LIMIT 0, 1000 | 5 row(s) returned | 0.000 sec / 0.000 sec |

Steps Done :

- 1) Created a table details with name and password as columns
- 2) Insert the names of 5 users and along with their password and the able containing all the fields is displayed as above.
- 3) Then executed the query to display all the table details
- 4) Now the MySql connector jar files added to the Vs Code Referenced Libraries Workspace and then execute the .java file in Vs Code.