

EXPERIMENT – 06 -WEEK - 7 AND WEEK – 8

AIM : Create the necessary servlets for the application chosen.

Scenario 1 : Check the authenticity of the login details with the information available in database. If he is a valid user it must redirect to site resources otherwise it should stay in same page with invalid username/password message.

Scenario 2 : Insert the details of the registration page into the database. If registration is successful it must display “Registration is successful”.

Scenario 3 : Update the password field in the database.

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:
 - OPEN EDITORS: Login.java
 - SERVLETS: Login.java
 - .vscode: settings.json
 - WEB-INF: classes (containing Login.class), web.xml, index.html
 - Java Projects: Servlets (containing Login)
 - Referenced Libraries: mysql-connector-java-8.0.27.jar, servlet-api.jar
- Code Editor:** The file `Login.java` is open, displaying Java code for a HttpServlet. The code connects to a MySQL database using JDBC and prints a welcome message or error based on the login attempt.
- Bottom Status Bar:** Shows file statistics (In 33, Col 2), space usage (Spaces: 4), encoding (UTF-8), and other developer tools.
- System Tray:** Shows weather (32°C Haze), system icons, and a taskbar with various application icons.

- 2) Store the Servlets folder in the path
C:>Program Files>Apache Software Foundation>Tomcat 9.0>webapps.
- 3) In the MySql Workbench, click the 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 VS Code 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
- 8) Servlets>WEB-INF>classes and then save the file.
- 9) 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 :

Login.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 Login 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);}}}

```

Index.html

```

<!DOCTYPE html>
<html>
<head>
    <title>Login Page</title>
</head>
<body>

```

```

<center>
    <b><p style="font-size:x-large;">Student Login Page</p></b>
    <form action="Login" 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

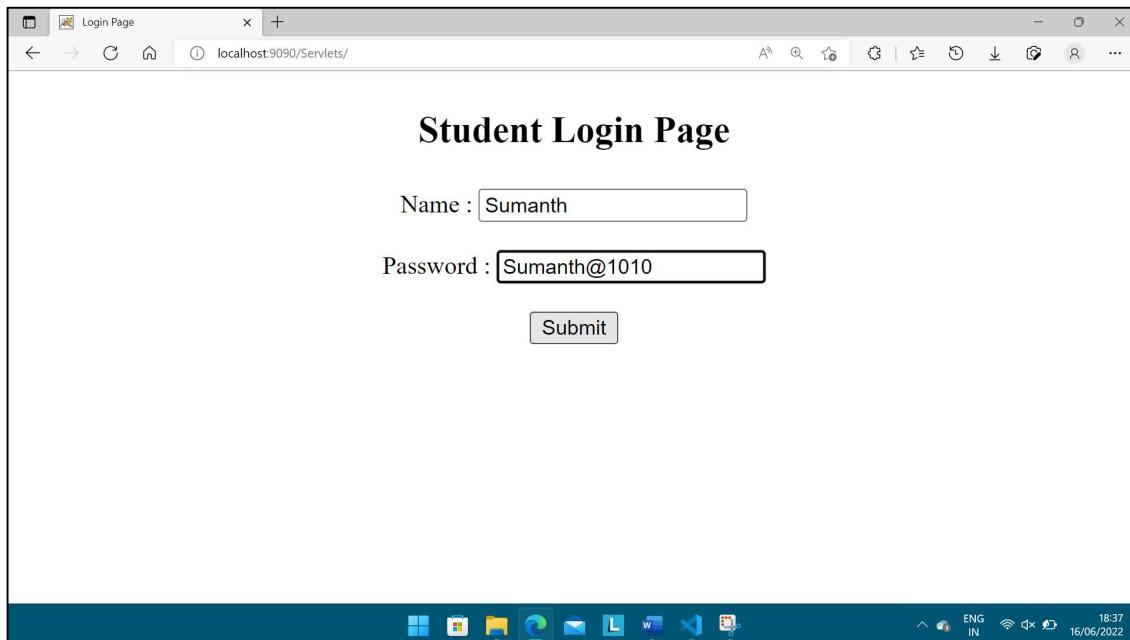
```

<?xml version="1.0" encoding="UTF-8"?>
<web-app >
    <servlet>
        <servlet-name> servlet1</servlet-name>
        <servlet-class> Login </servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name> servlet1</servlet-name>
        <url-pattern> /Login </url-pattern>
    </servlet-mapping>
</web-app>

```

Output :

Valid User Details



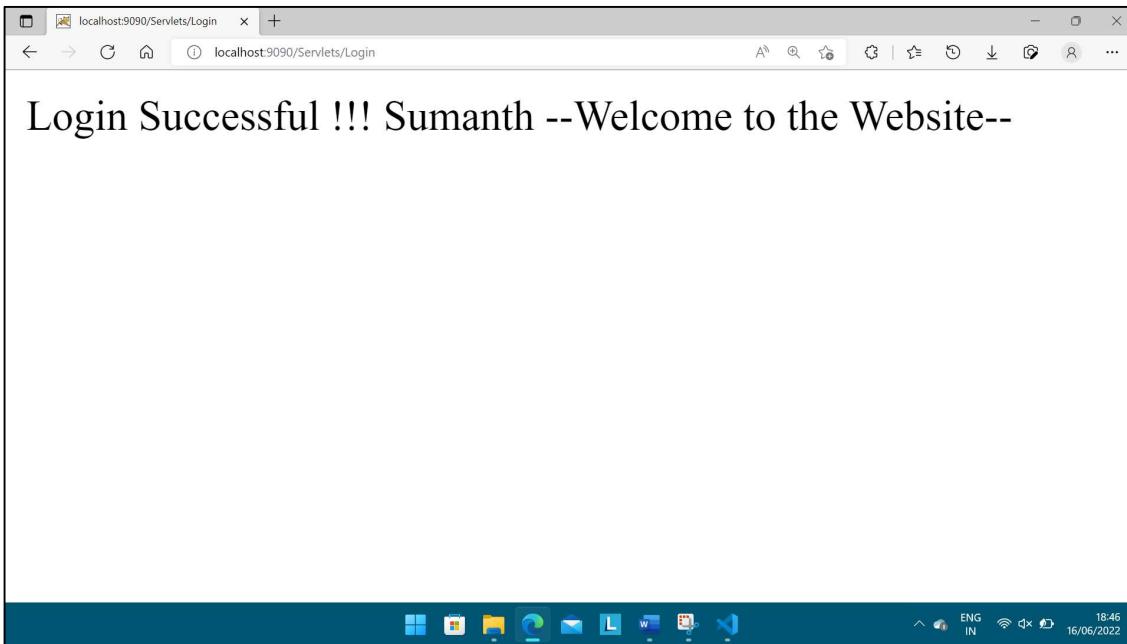
```

Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

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

```



Invalid User Details

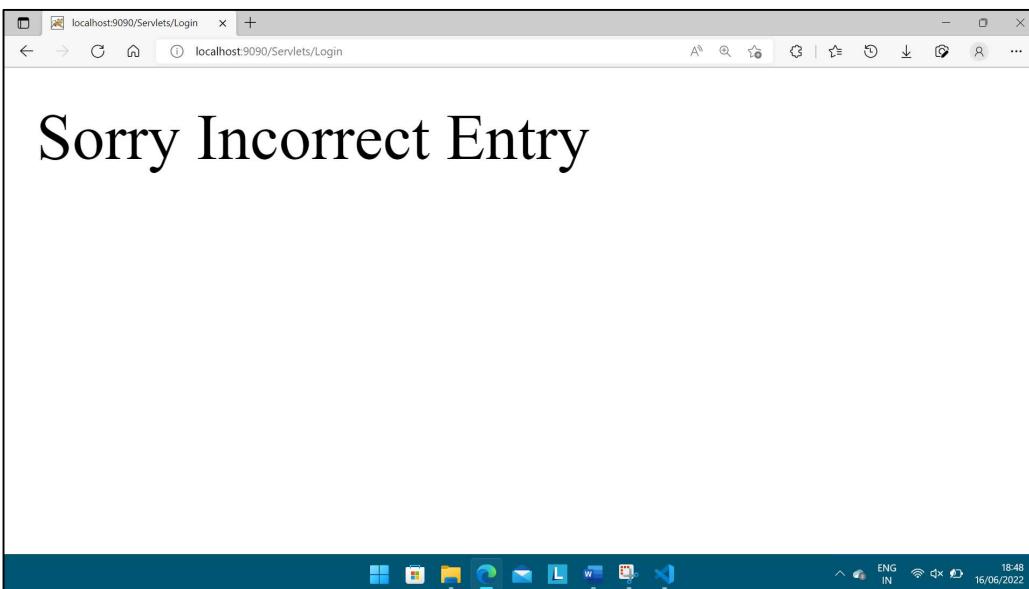
A screenshot of a Microsoft Edge browser window titled "Login Page". The address bar shows "localhost:9090/Servlets/". The main content area displays the text "Student Login Page" followed by two input fields: "Name : xyz" and "Password : xyz@123". Below the password field is a "Submit" button. The system tray at the bottom right shows the date as 16/06/2022 and the time as 18:48.

Student Login Page

Name :

Password :

Submit



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.