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# UCS 1611 - Internet Programming Lab

## Exercise 5: Profile Servlet using Session and MySQL

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### **Learning objective:**

To implement Profile Servlet using Http Sessions. The specifications are given below:

1. The login page should contain username, password, login button and logout button. On clicking login button, invoke the LoginServlet.
2. The LoginServlet should authenticate the user and store the username in session for viewing his profile and display a message "Welcome username".
3. The LoginServlet should also display a link "View Profile in Detail". The link when clicked, should invoke ProfileServlet.
4. ProfileServlet should display the username retrieved from the session with the message "Welcome username to the profile page". Also retrieve and display the detail information of the user from the database in that page. It also displays a link to the Login page to logout.
5. When Logout button is pressed, invoke the LogoutServlet.
6. LogoutServlet should invalidate the user session and display "Successfully Logged out"

## Code-

### index.html

```
<head>
  <link rel="stylesheet" href="style.css">
</head>
<body>
<div class="page">
  <div class="container">
    <div class="left">
      <div class="login">Login</div>
      <div class="eula">To view your profile.</div>
    </div>
    <div class="right">
      <form action="login" method="POST">
        <label for="email">Username</label>
        <input type="text" id="username" name="username" class="getip">
        <label for="password">Password</label>
        <input type="password" id="password" name="password" class="getip">
        <input type="submit" id="submit" value="Submit" style="margin-
left: 95px;">
      </form>
    </div>
  </div>
</div>
<script src="script.js"></script>
</body>
```

### style.css

```
body {
  font-family: 'Inter UI', sans-serif;
  margin: 0;
  padding: 20px;
}

.page {
  background: #e2e2e5;
  display: flex;
  flex-direction: column;
  height: calc(100% - 40px);
  position: absolute;
  place-content: center;
  width: calc(100% - 40px);
}

.container {
```

```
display: flex;
height: 320px;
margin: 0 auto;
width: 640px;
}

.left {
background: white;
height: calc(100% - 40px);
top: 20px;
position: relative;
width: 50%;
}

.login {
font-size: 50px;
font-weight: 900;
margin: 50px 40px 40px;
}

.eula {
color: #999;
font-size: 14px;
line-height: 1.5;
margin: 40px;
}

.right {
background: #474A59;
box-shadow: 0px 0px 40px 16px rgba(0,0,0,0.22);
color: #F1F1F2;
position: relative;
width: 50%;
}

.form {
margin: 40px;
position: absolute;
}

label {
margin-left: 20px;
color: #c2c2c5;
display: block;
font-size: 14px;
height: 16px;
margin-top: 20px;
margin-bottom: 5px;
}
```

```
input {
  background: transparent;
  border: 0;
  color: #837d7d;
  font-size: 15px;
  height: 30px;
  line-height: 30px;
  outline: none !important;
}

.getip{
  padding: 16px 10px;
  margin-left: 20px;
  border: none;
  border-radius: 4px;
  background-color: #fffffe;
}

#submit {
  color: #f3f3f5;
  margin-top: 40px;
  transition: color 300ms;
  width: 100px;
  border-radius: 5px;
}

#submit:focus {
  color: #f2f2f2;
  background-color: #2d2f36;
}

#submit:active {
  color: #d0d0d2;
}

.cont {
  background-color: white;
  width: 35vw;
  margin-top: 90px;
  display: flex;
  flex-direction: column;
  box-shadow: 0 6px 16px 0 rgba(0, 0, 0, 0.4);
  justify-content: space-around;
  padding: 35px;
}

.top-container {
  display: flex;
```

```

justify-content: space-between;
align-items: center;
}

a {
  text-decoration: none;
  background-color: #6d6767;
  color: white;
  padding: 10px;
  border-radius: 20px;
  cursor: pointer;
}

.bottom-container {
  text-align: left;
  font-size: 18px;
  font-weight: 600;
  line-height: 2.5rem;
  margin-top: 20px;
}

```

## login.java

```

import java.io.*;
import jakarta.servlet.*;
import jakarta.servlet.http.*;
import java.sql.*;
import java.util.*;

//javac -d WEB-INF/classes login.java
public class login extends HttpServlet
{
  public void doPost(HttpServletRequest request, HttpServletResponse response)
  throws ServletException, IOException
  {
    response.setContentType("text/html");
    PrintWriter out = response.getWriter();
    String password = request.getParameter("password");
    String username = request.getParameter("username");

    //SQL Connection
    String JDBC_DRIVER = "com.mysql.jdbc.Driver";
    String DB_URL="jdbc:mysql://localhost:3306/users";
    String USER = "root";
    String PASS = "mysql";

    try

```

```

{
    Connection conn = DriverManager.getConnection(DB_URL,USER, PASS);
    Statement stmt = conn.createStatement();
    String query;
    query = "SELECT * FROM `Persons` WHERE `username`='"+username+"'";
    ResultSet rs = stmt.executeQuery(query);
    while(rs.next())
    {
        String pwd = rs.getString("password");
        String name = rs.getString("firstname")+rs.getString("lastname");
        if(password.equals(pwd))
        {
            HttpSession session = request.getSession();
            session.setAttribute("user", username);
            out.println("<html><head><title>Login-
Page</title><link rel='stylesheet' href='style.css'></head>"+
                "<body><div class='page'><center><div class='login-
button'><h1>Welcome "+name+
                "!</h1><a href='profile'> View Profile</a><div></center></div></body></html>");
        }
        else
        {
            out.println("<html><head><title>Login-
Page</title><link rel='stylesheet' href='style.css'></head>"+
                "<body><div class='page'><center><div class='login-
button'><h1 style='color:red;'>Invalid Credentials!</h1><a href='index.html'>Try Again</a><div></center></div></body></html>");
        }
    }
    out.close();
    conn.close();
}
catch(Exception e)
{
    //Handle errors for Class.forName
    e.printStackTrace();
}
}
}

```

## profile.java

```

import java.io.*;
import jakarta.servlet.*;
import jakarta.servlet.http.*;
import java.sql.*;
import java.util.*;

```

```

//javac -d WEB-INF/classes profile.java
public class profile extends HttpServlet
{
    public void doGet(HttpServletRequest request,HttpServletResponse response)
    throws ServletException, IOException
    {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        HttpSession session = request.getSession();
        String username = (String) session.getAttribute("user");

        //SQL Connection
        String JDBC_DRIVER = "com.mysql.jdbc.Driver";
        String DB_URL="jdbc:mysql://localhost:3306/users";
        String USER = "root";
        String PASS = "mysql";

        try
        {
            Connection conn = DriverManager.getConnection(DB_URL,USER, PASS);
            Statement stmt = conn.createStatement();
            String query;
            query = "SELECT * FROM `Persons` WHERE `username`='"+username+"'";
            ResultSet rs = stmt.executeQuery(query);

            while(rs.next())
            {
                String fname = rs.getString("firstname");
                String lname = rs.getString("lastname");
                String age = rs.getString("age");
                String prof = rs.getString("prof");

                out.println("<html><head><title>Login-
Page</title><link rel='stylesheet' href='style.css'></head>" +
                    "<body><div class='page'><center><div><h1>"+fname+
" "+lname+"'s Profile Page</h1>");
                out.println("<div class='cont'><div class='top-container'>" +
                    "<a href='logout'>Log Out</a></div><div class='bot
tom-container'>" +
                    "<p><em style='color:grey'>First Name:</em>\t\t"+f
name+"</td></tr>" +
                    "<p><em style='color:grey'>Last Name:</em>\t\t"+ln
ame+"</td></tr>" +
                    "<p><em style='color:grey'>Age:</em>\t\t"+age+"</t
d></tr>" +
                    "<p><em style='color:grey'>Profession:</em>\t\t"+p
rof+"</td></tr>" +
                    "</div></div>");
            }
        }
    }
}

```

```

        out.println("</center></div></body></html>");
    }
    out.close();
    conn.close();
}
catch(Exception e)
{
    //Handle errors for Class.forName
    e.printStackTrace();
}
}
}

```

## logout.java

```

import java.io.*;
import jakarta.servlet.*;
import jakarta.servlet.http.*;
import java.sql.*;
import java.util.*;

//javac -d WEB-INF/classes logout.java
public class logout extends HttpServlet
{
    public void doGet(HttpServletRequest request, HttpServletResponse response
)throws ServletException, IOException
    {

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        HttpSession session = request.getSession(false);
        String username = (String)session.getAttribute("user");
        session.invalidate();

        out.println("<html><head><title>LogOut-
Page</title><link rel='stylesheet' href='style.css'></head>"+
        "<body><div class='page'><center><div><h1 style='color:green;'><cent
er>Sucessfully Logged Out "+username+"<center></h1><a href='index.html'> Go Ba
ck to Home </a><div></center></div></body></html>");
        out.close();

    }

}

```



## web.xml

```
<web-app>

    <servlet>
        <servlet-name>Login</servlet-name>
        <servlet-class>login</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>Login</servlet-name>
        <url-pattern>/login</url-pattern>
    </servlet-mapping>

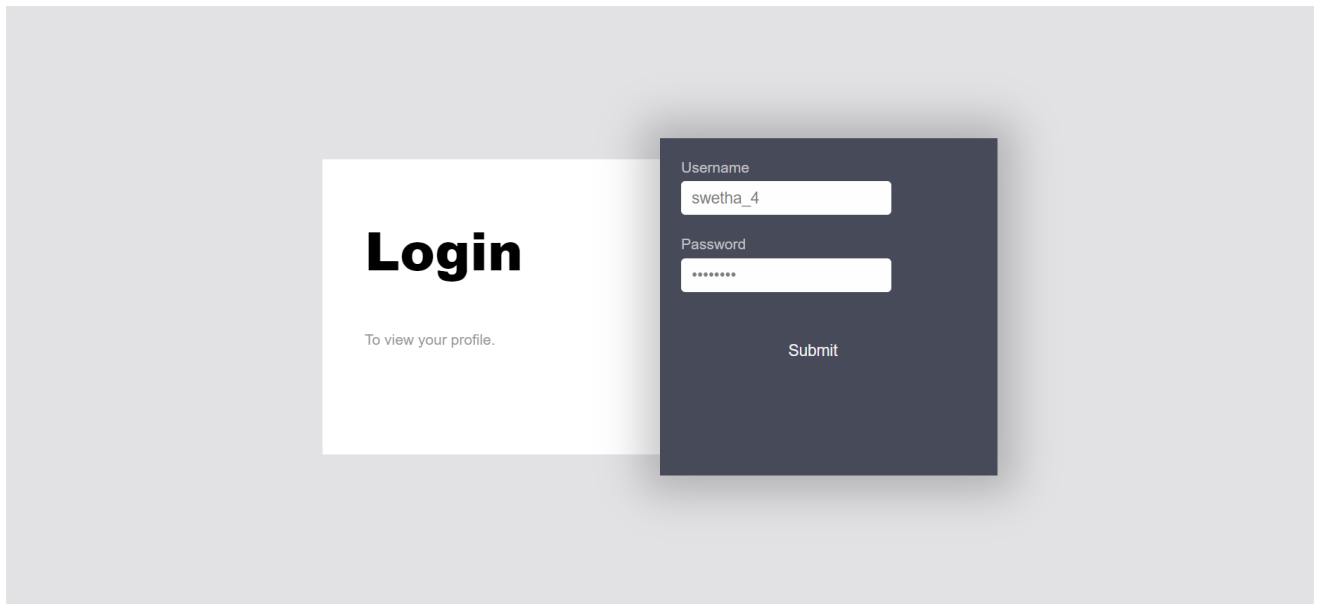
    <servlet>
        <servlet-name>Profile</servlet-name>
        <servlet-class>profile</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>Profile</servlet-name>
        <url-pattern>/profile</url-pattern>
    </servlet-mapping>

    <servlet>
        <servlet-name>LogOut</servlet-name>
        <servlet-class>logout</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>LogOut</servlet-name>
        <url-pattern>/logout</url-pattern>
    </servlet-mapping>

</web-app>
```

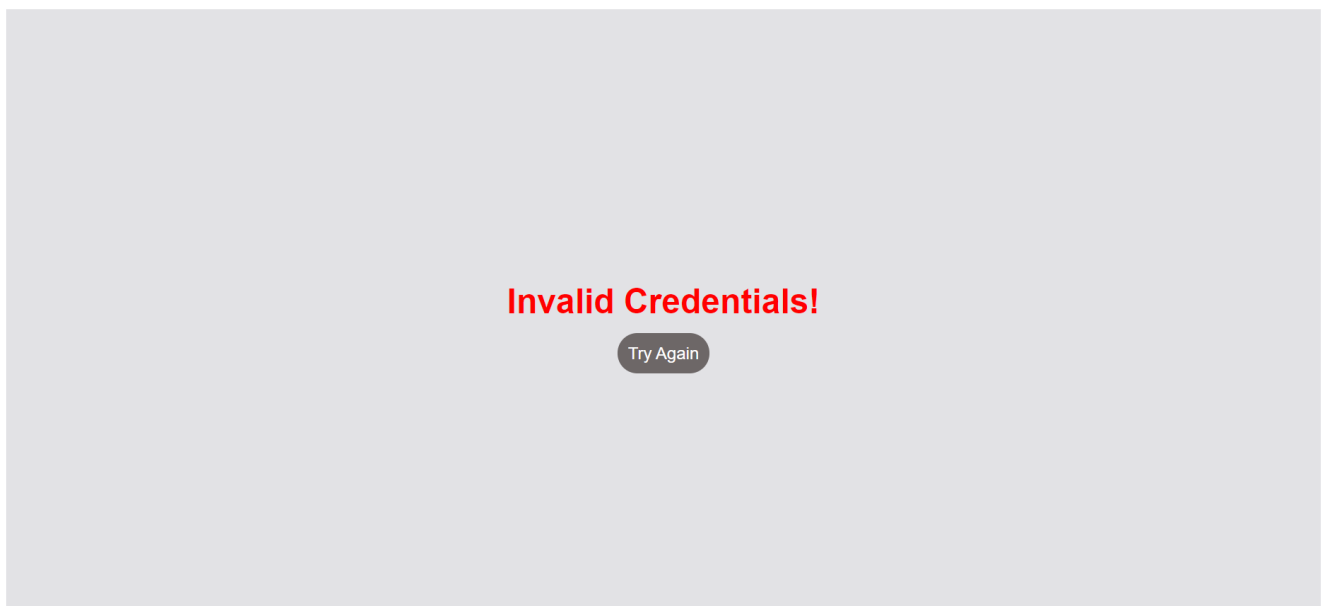
## OUTPUTS:

Login Page for first user:



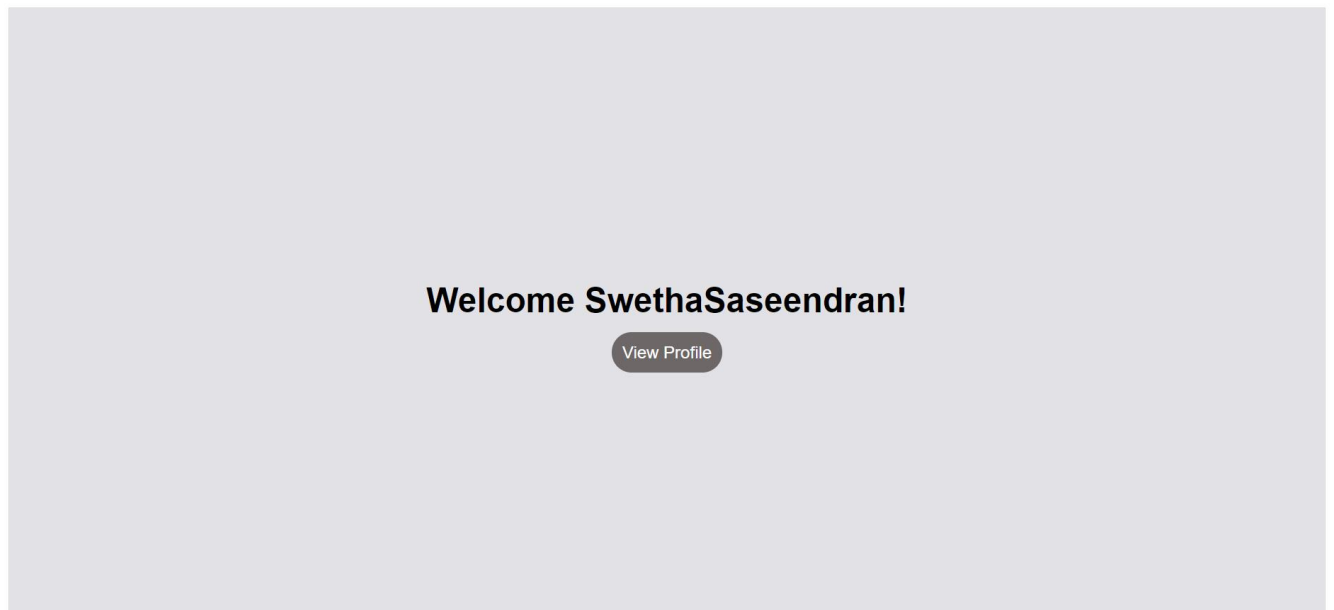
The image shows a login page with a light gray background. On the left, a white card contains the word "Login" in large, bold, black font, and below it, the text "To view your profile." in a smaller font. On the right, a dark gray card contains a login form. The form has two input fields: "Username" with the text "swetha\_4" and "Password" with masked characters "\*\*\*\*\*". Below the fields is a "Submit" button.

Incase invalid credentials are given as input:

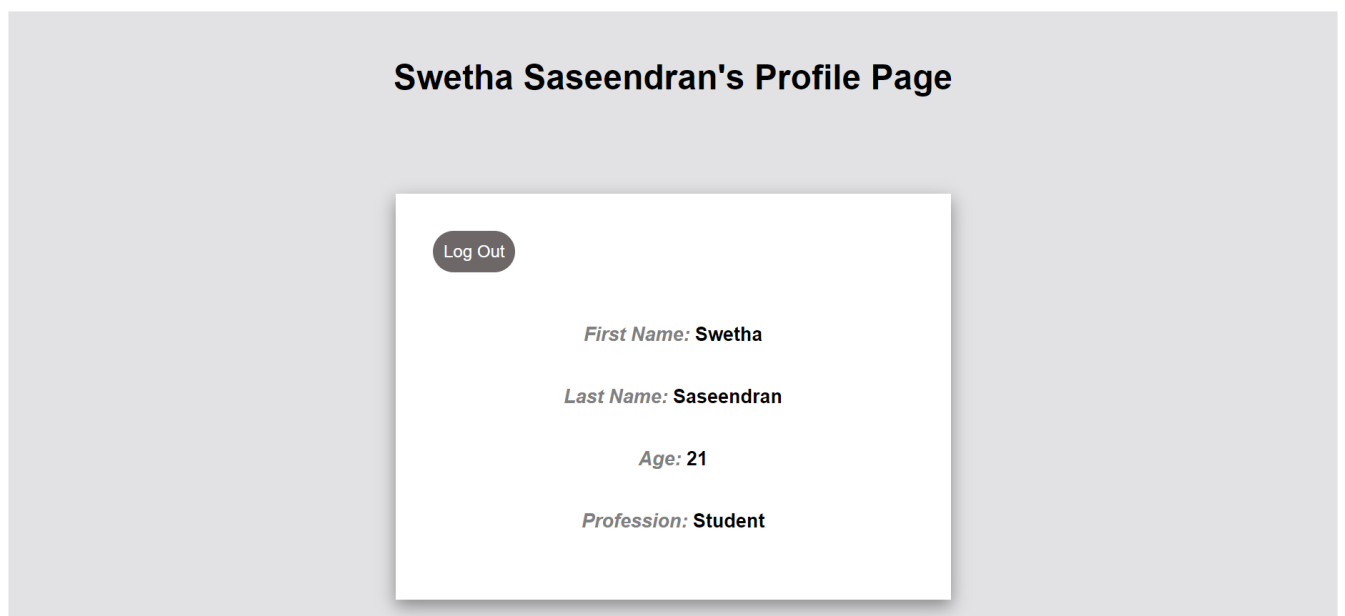


The image shows a message on a light gray background. In the center, the text "Invalid Credentials!" is displayed in a bold, red font. Below this text is a dark gray button with the text "Try Again" in white.

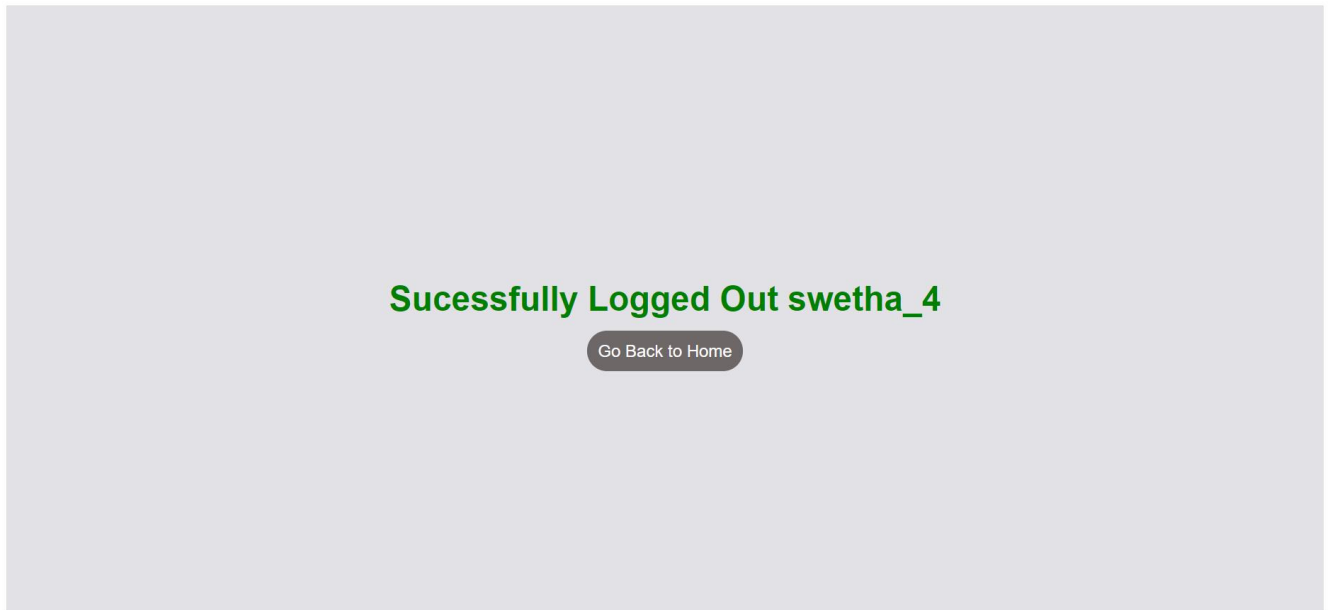
Login Sucessfully: (Welcome Page)



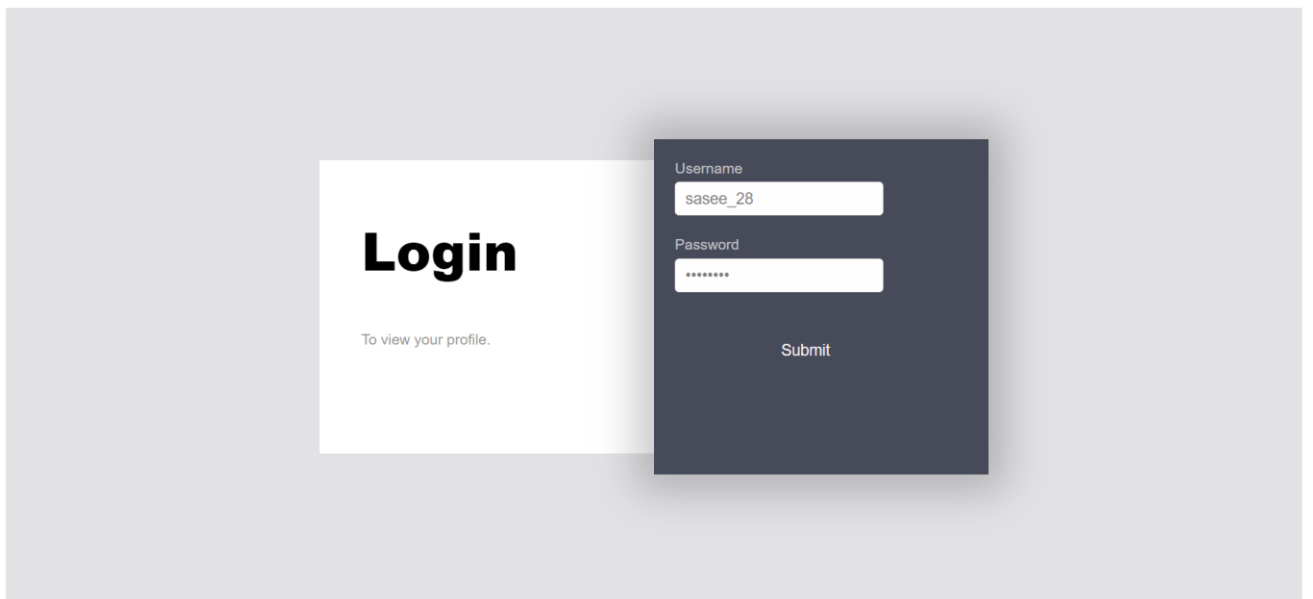
Profile Page:



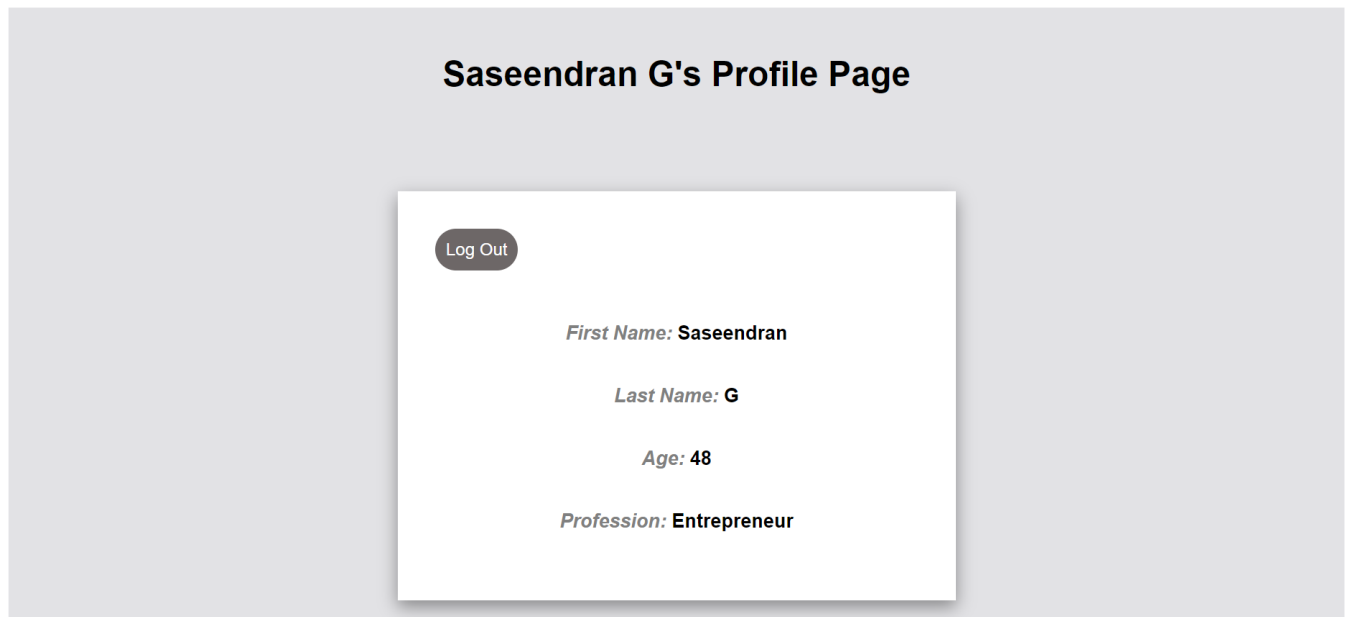
Log Out Page:



New Session for another User:



Profile Page of the new user:



## MySQL Database:

```
MySQL 8.0 Command Line Client
mysql> SELECT * FROM Persons;
+-----+-----+-----+-----+-----+-----+
| username | password | firstname | lastname | age | prof |
+-----+-----+-----+-----+-----+-----+
| swetha_4 | swetha_4 | Swetha | Saseendran | 21 | Student |
| sasee_28 | sasee_28 | Saseendran | G | 48 | Entrepreneur |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.37 sec)

mysql>
```

## **LEARNING OUTCOME:**

- Learnt how to connect to a JDBC-compliant database (MySQL), and retrieve data to display them in a readable format on HTTP page using the servlet response object.
- Learnt to write query for relational data, and parse result using SQL actions.
- Learnt to bind the objects on HttpSession instance and get the objects by using setAttribute and getAttribute methods.
- To use methods of the HttpServlet class such as doPost and doGet to create servlet applications and handle form data.
- Understood that each session is created for each user to identify the particular user. To set the attribute in the session scope in one servlet and getting that value from the session scope in another servlet. To set the attribute in the session scope, we have used the setAttribute() method of HttpSession interface and to get the attribute, we have used the getAttribute method.
- Understood the importance of making web pages accessible, well-formed and user friendly.