**1. Cookies:**

**index.html:**

<!DOCTYPE html>

<html>

<head>

<meta charset="ISO-8859-1">

<title>Cookie</title>

</head>

<body>

<form action="servlet1" method="post">

<h1>Name: <input type="text" name="name"/></h1><br>

<input type="submit" value="Submit"/>

</form>

</body>

</html>

**web.xml:**

<?xml version="1.0" encoding="UTF-8"?>

<web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://xmlns.jcp.org/xml/ns/javaee" xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app\_4\_0.xsd" id="WebApp\_ID" version="4.0">

<servlet>

<servlet-name>s1 </servlet-name>

<servlet-class>CookiePack.First</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>s1</servlet-name>

<url-pattern>/servlet1 </url-pattern>

</servlet-mapping>

<servlet>

<servlet-name>s2 </servlet-name>

<servlet-class>CookiePack.Second</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>s2 </servlet-name>

<url-pattern>/servlet2 </url-pattern>

</servlet-mapping>

</web-app>

**First.java:**

package CookiePack;

import java.io.PrintWriter;

import java.io.IOException;

import javax.servlet.http.Cookie;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import javax.servlet.annotation.WebServlet;

//@WebServlet("servlet1")

public class First extends HttpServlet {

@Override

protected void service(HttpServletRequest request, HttpServletResponse response) {

try {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String n = request.getParameter("name");

out.print("<h1>Welcome to 1st servlet " +n+ ".</h1>");

Cookie ck = new Cookie("uname",n);

response.addCookie(ck);

out.print("<form action = 'servlet2'>");

out.print("<br><input type='submit' value='Next'>");

out.print("</form>");

out.close();

}

catch(Exception e) {

System.out.println(e);

}

}

}

**Second.java:**

package CookiePack;

import java.io.PrintWriter;

import javax.servlet.http.Cookie;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

//@WebServlet("servlet2")

public class Second extends HttpServlet {

@Override

public void service(HttpServletRequest request, HttpServletResponse response) {

try {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

Cookie ck[] = request.getCookies();

for(int i=0; i<=ck.length; i++) {

out.print("<h1>Hello "+ck[i].getValue()+"!!!</h1>");

}

out.close();

}

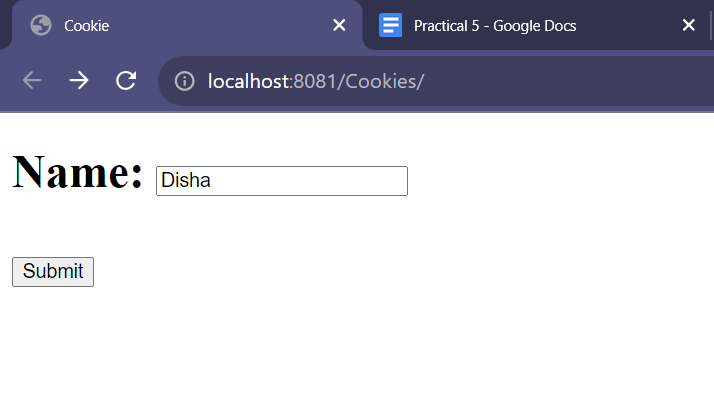
catch(Exception e) {

System.out.println(e);

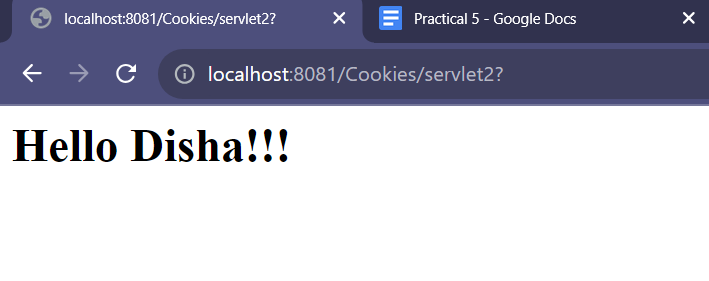
}

}

}

**OUTPUT:**

****

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**2. HTTP Session (User Authentication):**

**index.html:**

<!DOCTYPE html>

<html>

<head>

<meta charset="ISO-8859-1">

<title>Index</title>

</head>

<body>

<h1>Login using HttpSession</h1>

<a href="login.html">Login</a>|

<a href="LogoutServlet">Logout</a>|

<a href="ProfileServlet">Profile</a>

</body>

</html>

**link.html:**

<!DOCTYPE html>

<html>

<head>

<meta charset="ISO-8859-1">

<title>Link</title>

</head>

<body>

<a href="login.html">Login</a> |

<a href="LogoutServlet">Logout</a> |

<a href="ProfileServlet">Profile</a>

<hr>

</body>

</html>

**login.html:**

<!DOCTYPE html>

<html>

<head>

<meta charset="ISO-8859-1">

<title>Login</title>

</head>

<body>

<form action="LoginServlet" method="post">

Name:<input type="text" name="name"><br>

Password:<input type="password" name="password"><br>

<input type="submit" value="login">

</form>

</body>

</html>

**LoginServlet.java:**

package Login;

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 javax.servlet.http.HttpSession;

public class LoginServlet extends HttpServlet {

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {

response.setContentType("text/html");

PrintWriter out=response.getWriter();

request.getRequestDispatcher("link.html").include(request, response);

String name=request.getParameter("name");

String password=request.getParameter("password");

if(password.equals("433")){

out.print("Welcome, "+name);

HttpSession session=request.getSession();

session.setAttribute("name",name);

}

else{

out.print("Sorry, username or password error!");

request.getRequestDispatcher("login.html").include(request, response);

}

out.close();

}

}

**ProfileServlet.java:**

package Login;

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 javax.servlet.http.HttpSession;

public class ProfileServlet extends HttpServlet {

protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {

response.setContentType("text/html");

PrintWriter out=response.getWriter();

request.getRequestDispatcher("link.html").include(request, response);

HttpSession session=request.getSession(false);

if(session!=null) {

String name=(String)session.getAttribute("name");

out.print("Hello, "+name+" Welcome to Profile");

}

else {

out.print("Please login first");

request.getRequestDispatcher("login.html").include(request, response);

}

out.close();

}

}

**LogoutServlet.java:**

package Login;

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 javax.servlet.http.HttpSession;

public class LogoutServlet extends HttpServlet {

protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {

response.setContentType("text/html");

PrintWriter out=response.getWriter();

request.getRequestDispatcher("link.html").include(request, response);

HttpSession session=request.getSession();

session.invalidate();

out.print("You are successfully logged out!");

out.close();

}

}

**web.xml:**

<?xml version="1.0" encoding="UTF-8"?>

<web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://xmlns.jcp.org/xml/ns/javaee" xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app\_4\_0.xsd" id="WebApp\_ID" version="4.0">

<display-name>Login</display-name>

<welcome-file-list>

<welcome-file>index.html</welcome-file>

<welcome-file>index.jsp</welcome-file>

<welcome-file>index.htm</welcome-file>

<welcome-file>default.html</welcome-file>

<welcome-file>default.jsp</welcome-file>

<welcome-file>default.htm</welcome-file>

</welcome-file-list>

<servlet>

<description></description>

<display-name>LoginServlet</display-name>

<servlet-name>LoginServlet</servlet-name>

<servlet-class>Login.LoginServlet</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>LoginServlet</servlet-name>

<url-pattern>/LoginServlet</url-pattern>

</servlet-mapping>

<servlet>

<description></description>

<display-name>ProfileServlet</display-name>

<servlet-name>ProfileServlet</servlet-name>

<servlet-class>Login.ProfileServlet</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>ProfileServlet</servlet-name>

<url-pattern>/ProfileServlet</url-pattern>

</servlet-mapping>

<servlet>

<description></description>

<display-name>LogoutServlet</display-name>

<servlet-name>LogoutServlet</servlet-name>

<servlet-class>Login.LogoutServlet</servlet-class>

</servlet>

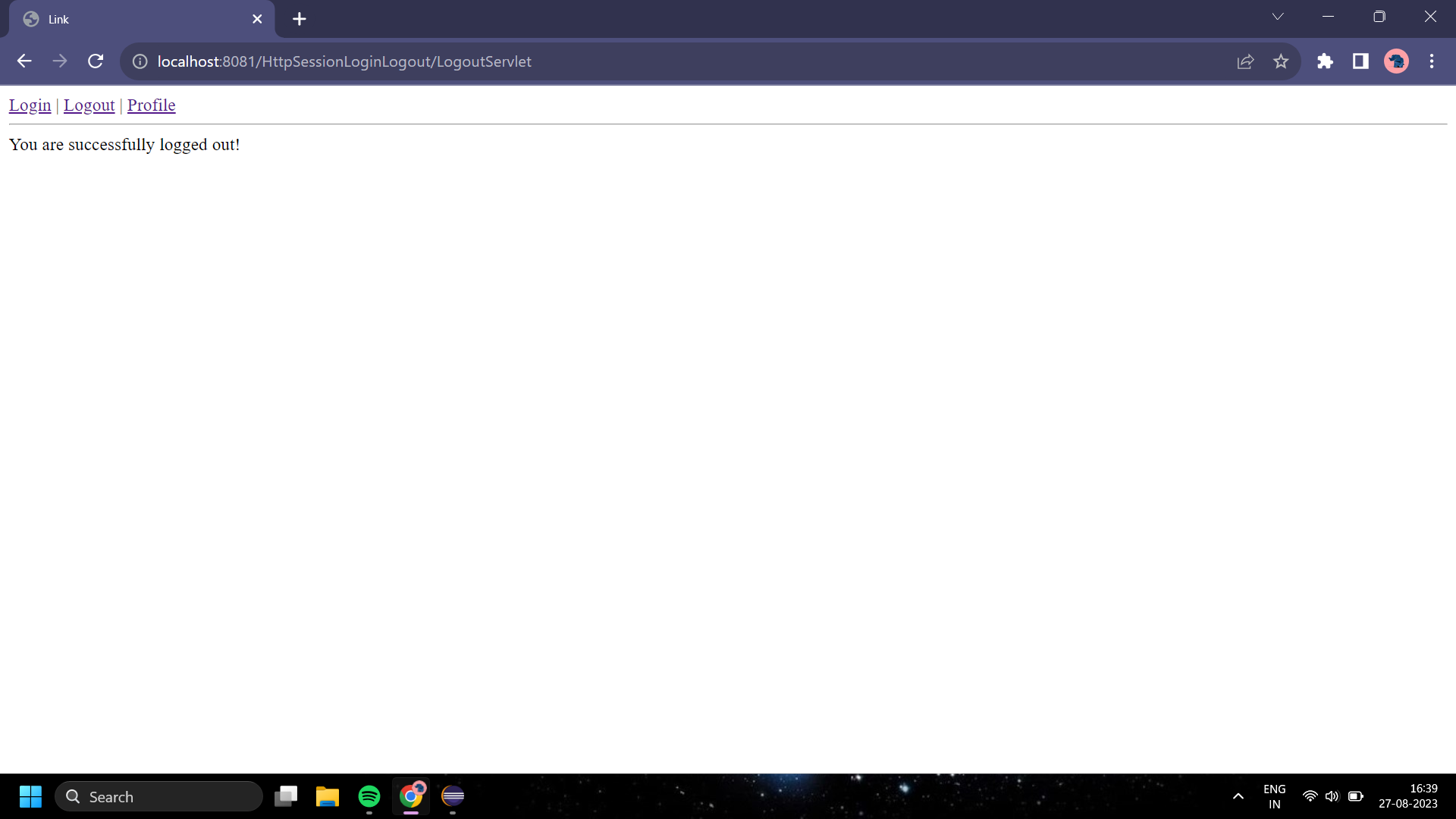
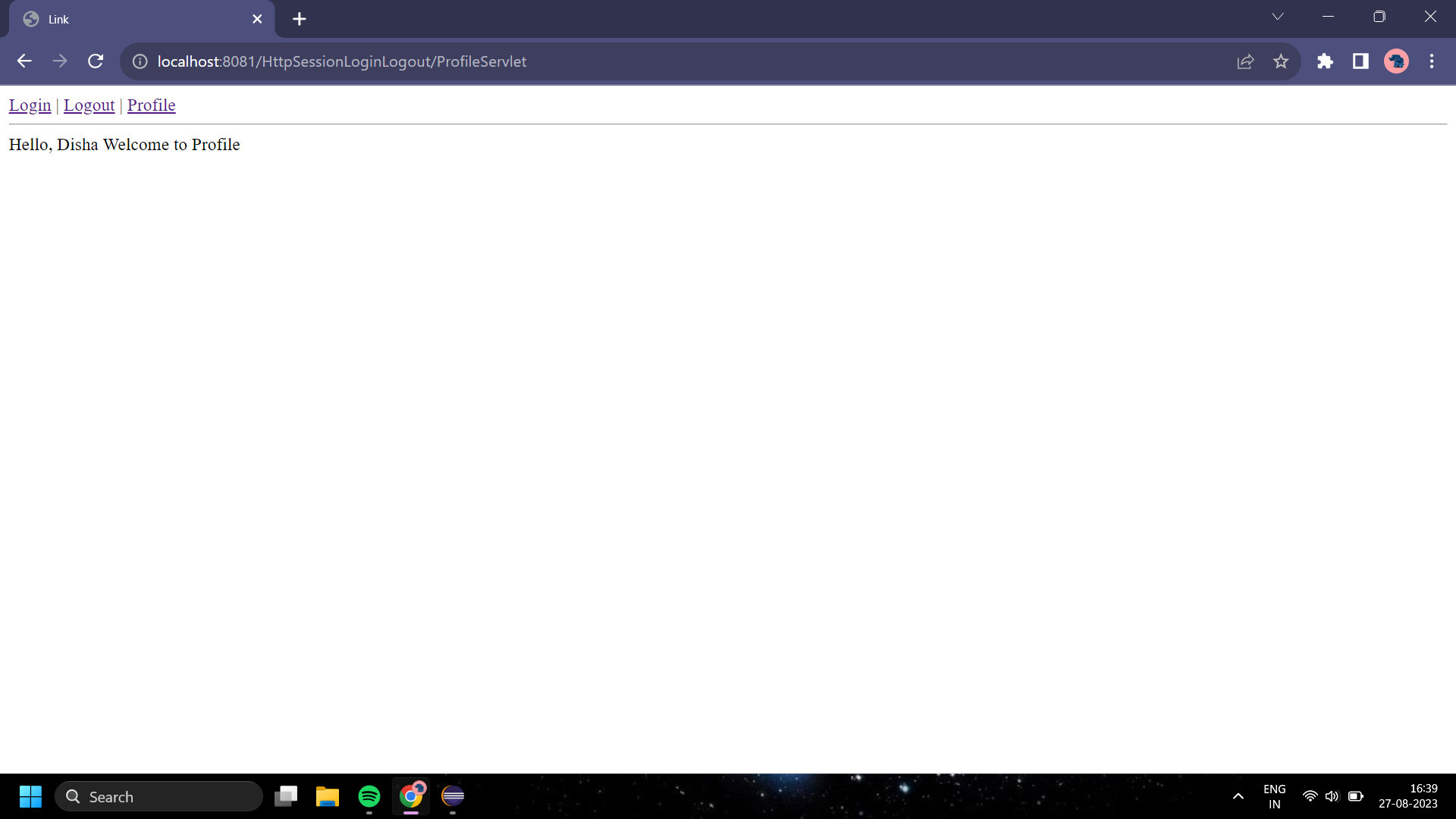
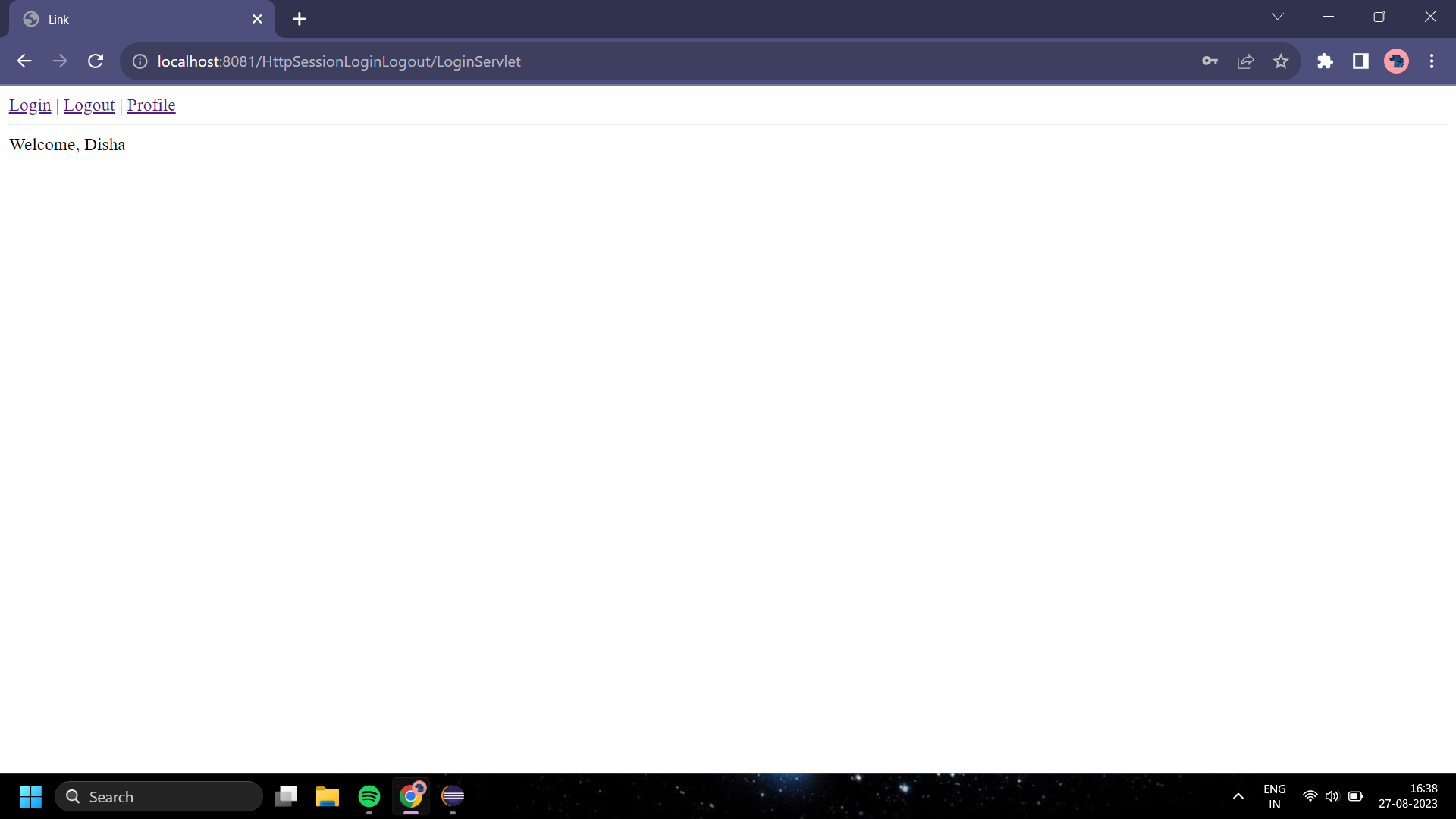
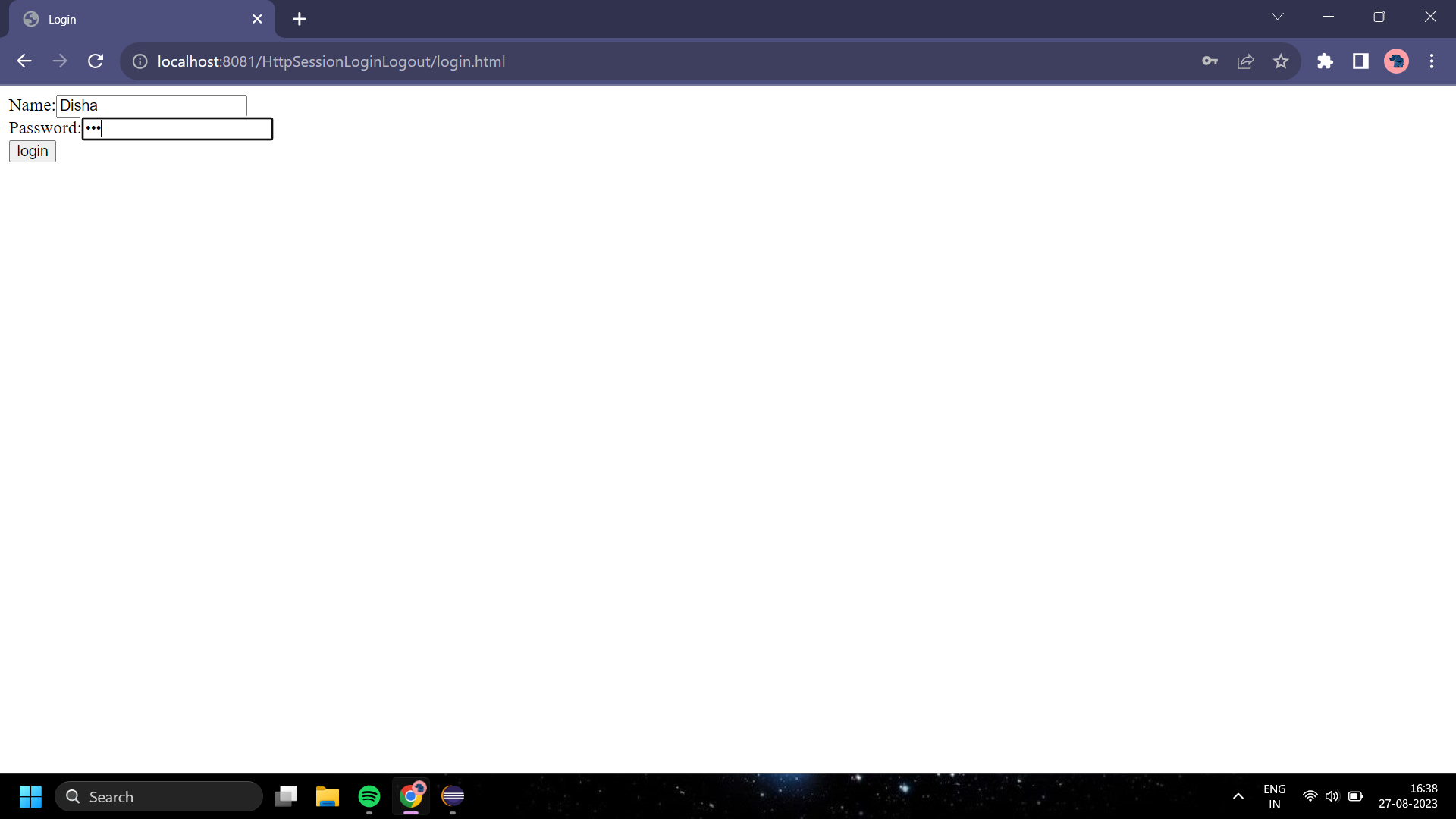
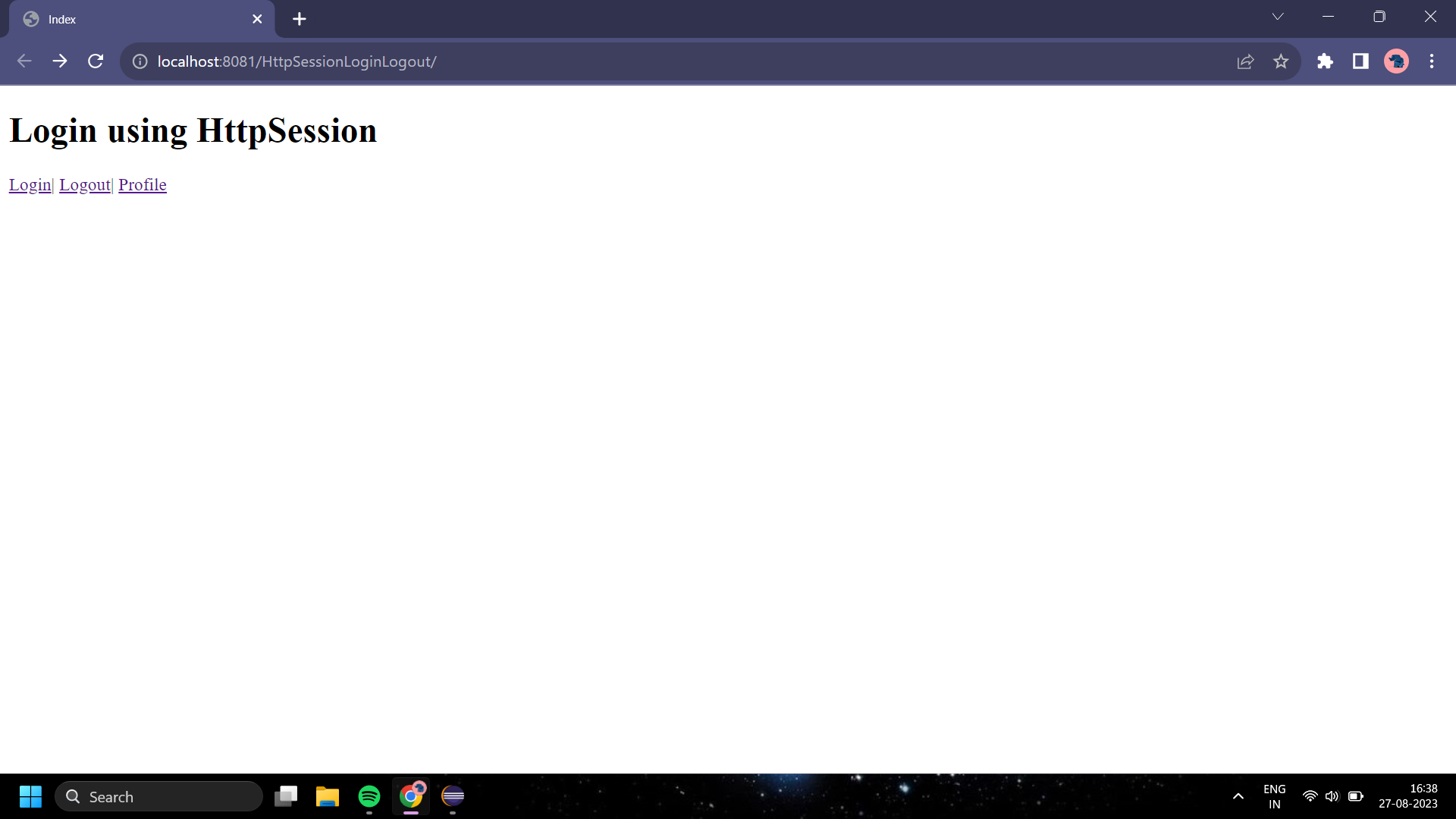
<servlet-mapping>

<servlet-name>LogoutServlet</servlet-name>

<url-pattern>/LogoutServlet</url-pattern>

</servlet-mapping>

</web-app>

**OUTPUT:**

**3. URL Rewriting:**

**index.html:**

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>URL Rewriting</title>

</head>

<body>

<form action="FirstServlet" method="get">

Name:<input type="text" name="userName"/><br/>

<input type="submit" value="submit"/>

</form>

</body>

</html>

**FirstServlet.java:**

package url;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.\*;

@WebServlet("/FirstServlet")

public class FirstServlet extends HttpServlet {

public void doGet(HttpServletRequest request, HttpServletResponse response)

{

try {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String n = request.getParameter("userName");

out.print("Welcome " + n);

out.print("<a href='SecondServlet?uname=" + n + "'>visit</a>");

out.close();

}

catch (Exception e) {

System.out.println(e);

}

}

}

**SecondServlet.java:**

package url;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.\*;

@WebServlet("/SecondServlet")

public class SecondServlet extends HttpServlet {

public void doGet(HttpServletRequest request, HttpServletResponse response)

{

try {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String n = request.getParameter("uname");

out.print("Hello " + n);

out.close();

}

catch (Exception e) {

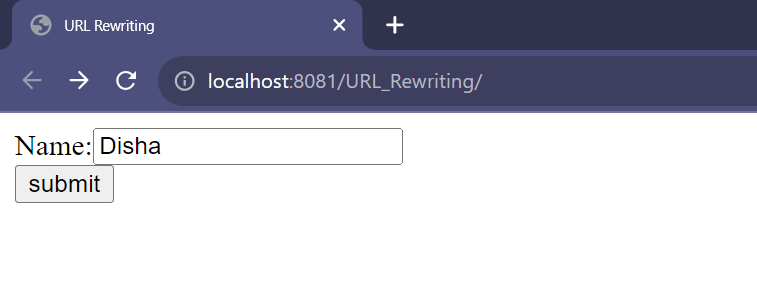
System.out.println(e);

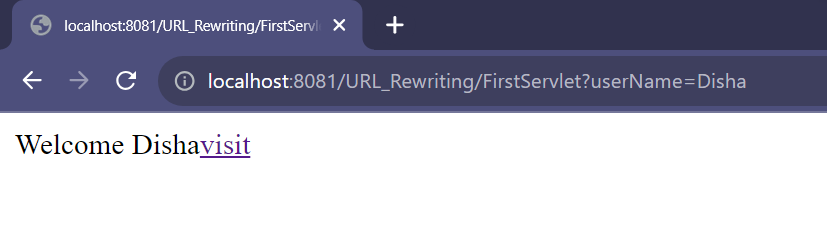
}

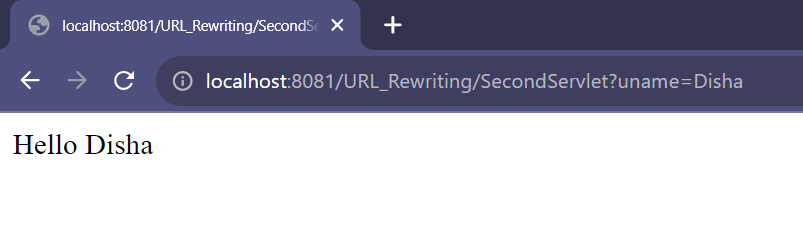
}

}

**OUTPUT:**

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****

****

**4. HTML Hidden Field:**

**index.html:**

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>HTML Hidden Field</title>

</head>

<body>

<form action="FirstServlet" method="Post">

Name:<input type="text" name="userName" /><br />

<input type="submit" value="submit" />

</form>

</body>

</html>

**FirstServlet.java:**

package HTMLHiddenField;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.\*;

@WebServlet("/FirstServlet")

public class FirstServlet extends HttpServlet {

public void doPost(HttpServletRequest request, HttpServletResponse response)

{

try {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String username = request.getParameter("userName");

out.print("Welcome " + username);

out.print("<form action='SecondServlet'>");

out.print("<input type='hidden' name='username' value='" + username + "'>");

out.print("<input type='submit' value='submit'>");

out.print("</form>");

out.close();

}

catch (Exception e) {

System.out.println(e);

}

}

}

**SecondServlet.java:**

package HTMLHiddenField;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.annotation.WebServlet; // Importing annotation

import javax.servlet.http.\*;

@WebServlet("/SecondServlet")

public class SecondServlet extends HttpServlet {

public void doGet(HttpServletRequest request, HttpServletResponse response)

{

try {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String username = request.getParameter("username");

out.print("WELCOME " + username);

out.close();

}

catch (Exception e) {

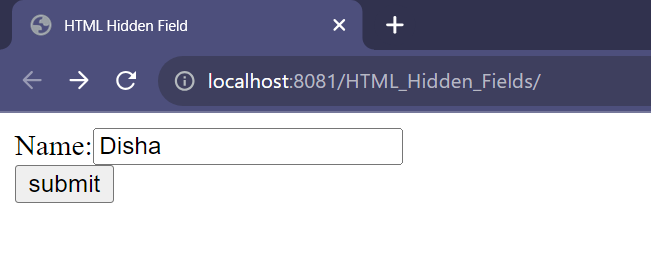
System.out.println(e);

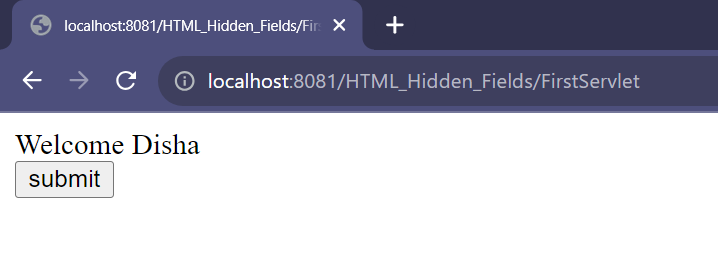
}

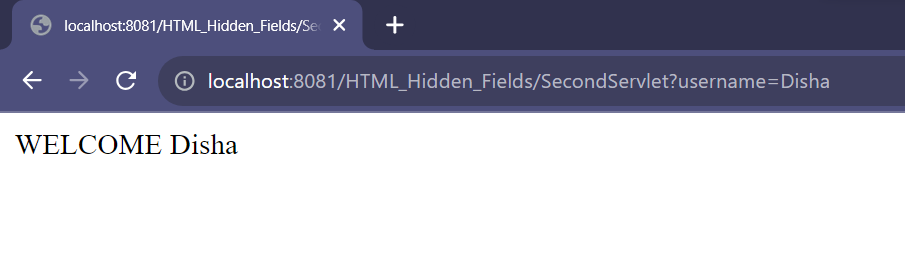
}

}

**OUTPUT:**

****

****

****