Ex. No: 2_1	Aim-Write down the Program for testing the Servlet and study deployment descriptor.
Date:	

Code

index.jsp:

```
<%@ page contentType="text/html" pageEncoding="UTF-8" %>
<!DOCTYPE html>
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>JSP Page</title>
   </head>
   <body>
      <form action="MyServlet" method="get">
         Enter name: <input type="text" name="txtnm" /><br>
         <input type="submit" name="btngreet" value="Greet User" />
      </form>
   </body>
</html>
```

Myservlet.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;


public class MyServlet extends HttpServlet {

   // Handles both GET and POST requests
   protected void processRequest(HttpServletRequest request, HttpServletResponse response)
         throws ServletException, IOException {
      response.setContentType("text/html;charset=UTF-8");
      PrintWriter out = response.getWriter();
      try {
         // Retrieve the user's name from the request
         String name = request.getParameter("txtnm");

         // Generate the HTML response
         out.println("<!DOCTYPE html>");
         out.println("<html>");
         out.println("<head>");
         out.println("<title>Servlet MyServlet</title>");
```

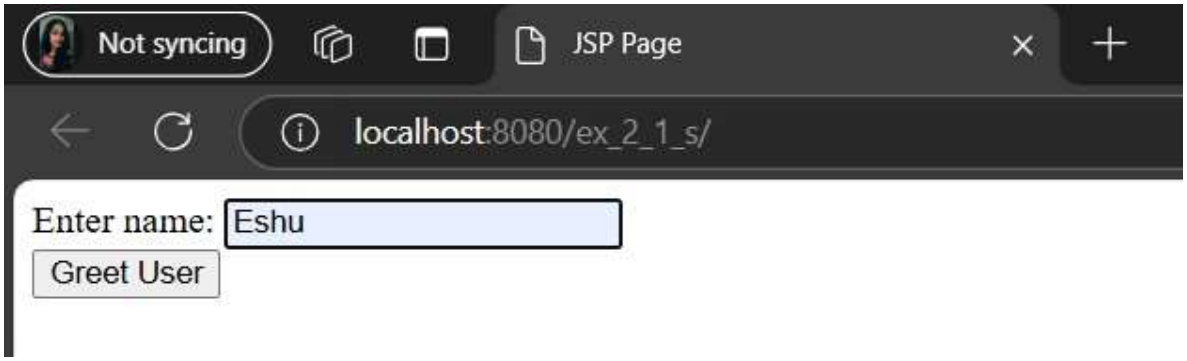
```
            out.println("</head>");
            out.println("<body>");
            out.println("<h1>Hello, " + name + "</h1>"); // Greet the user
            out.println("</body>");
            out.println("</html>");
        } finally {
            out.close();
        }
    }

    // Override the doGet method to handle GET requests
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        processRequest(request, response);
    }

    // Override the doPost method to handle POST requests
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        processRequest(request, response);
    }

    // Override the getServletInfo method to return servlet information
    @Override
    public String getServletInfo() {
        return "MyServlet handles user greeting";
    }
}
```

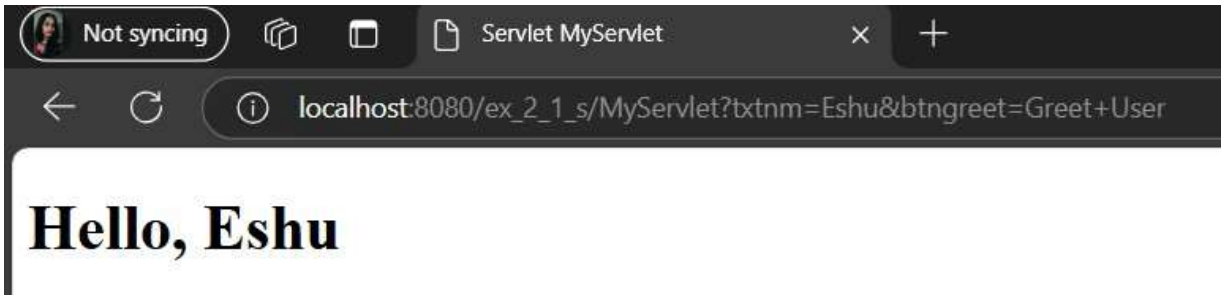
Web.xml:

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="4.0" xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-
app_4_0.xsd">
    <servlet>
        <servlet-name>MyServlet</servlet-name>
        <servlet-class>MyServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>MyServlet</servlet-name>
        <url-pattern>/MyServlet</url-pattern>
    </servlet-mapping>
    <session-config>
        <session-timeout>
            30
```

```
        </session-timeout>
    </session-config>
</web-app>
```

Output:





Ex. No: 2_2_3	Prac-2:Write down the program for testing the include action for servlet collaboration.
Date:	Prac-3: Write down the program for testing the forward action for servlet collaboration.

Code:

index.html:

```
<!DOCTYPE html>
<html>
   <head>
      <title>Login Page</title>
      <meta charset="UTF-8">
      <meta name="viewport" content="width=device-width, initial-scale=1.0">
   </head>
   <body>
      <form action="logincheck" method="post">
         Enter Name: <input type="text" name="txtunm" />
         <br>
         Enter Password: <input type="password" name="txtpwd" />
         <br>
         <input type="submit" value="Login" />
      </form>
   </body>
</html>
```

logincheckservlet.java:

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.RequestDispatcher;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

public class logincheckservlet extends HttpServlet {

   // Process both GET and POST requests (for flexibility)
   protected void processRequest(HttpServletRequest request, HttpServletResponse response)
         throws ServletException, IOException {
      response.setContentType("text/html;charset=UTF-8");

      // Get parameters from the request
      String uname = request.getParameter("txtunm");
```

```
        String pwd = request.getParameter("txtpwd");

        try (PrintWriter out = response.getWriter()) {
            // Check if username and password are valid
            if ("Eshu".equals(uname) && "123".equals(pwd)) {
                // Valid user - forward to welcome page
                request.setAttribute("uname", uname); // Set username attribute to pass it to the welcome page
                RequestDispatcher rd = request.getRequestDispatcher("welcomeservlet");
                rd.forward(request, response);
            } else {
                // Invalid user - include back to login page
                out.println("You are not a valid user");
                RequestDispatcher rd = request.getRequestDispatcher("index.html");
                rd.include(request, response); // include the login form again
            }
        }
    }

    // Override doPost to handle POST method
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        processRequest(request, response);
    }

    // Override doGet to handle GET method as well, if needed
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        processRequest(request, response);
    }
}
```

Welcomeservlet.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;

public class welcomeservlet extends HttpServlet {

    // Process both GET and POST requests (for flexibility)
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");

        // Retrieve the username attribute set in the logincheck servlet
```

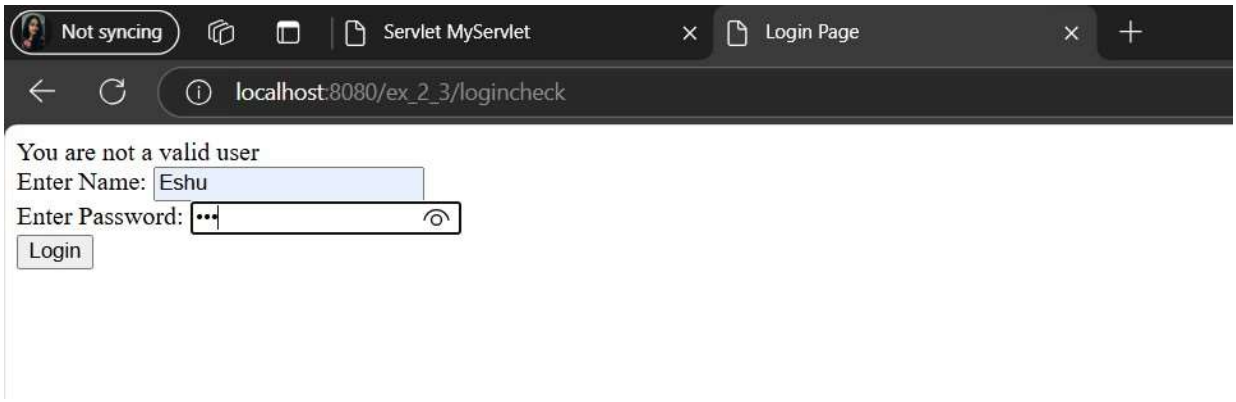
```
        String uname = (String) request.getAttribute("uname");

        try (PrintWriter out = response.getWriter()) {
            out.println("<html>");
            out.println("<head>");
            out.println("<title>Welcome Page</title>");
            out.println("</head>");
            out.println("<body>");
            out.println("<h1>Welcome, " + uname + "</h1>");
            out.println("</body>");
            out.println("</html>");
        }
    }

    // Override doPost to handle POST method
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        processRequest(request, response);
    }

    // Override doGet to handle GET method as well, if needed
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        processRequest(request, response);
    }
}
```

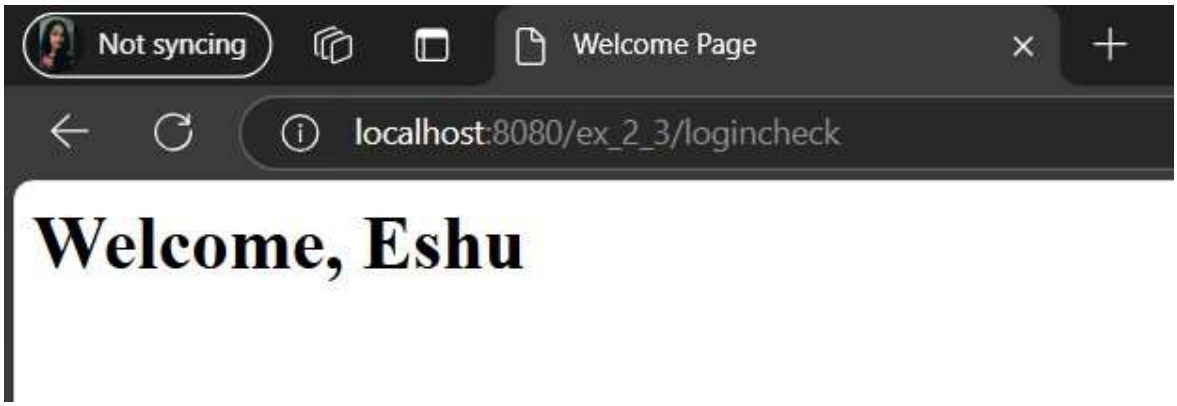
Web.xml:

```
 <?xml version="1.0" encoding="UTF-8"?>
<web-app version="4.0" xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-
app_4_0.xsd">
    <servlet>
        <servlet-name>welcomeservlet</servlet-name>
        <servlet-class>welcomeservlet</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>logincheck</servlet-name>
        <servlet-class>logincheck</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>welcomeservlet</servlet-name>
        <url-pattern>/welcomeservlet</url-pattern>
    </servlet-mapping>
```

```
    <servlet-mapping>
        <servlet-name>logincheck</servlet-name>
        <url-pattern>/logincheck</url-pattern>
    </servlet-mapping>
    <session-config>
        <session-timeout>
            30
        </session-timeout>
    </session-config>
</web-app>
```

Output:





Ex. No: 2_4	Aim-Create login form and perform state management using Cookies, HttpSession and URL Rewriting.
Date:	

Code using cookies:

Login.jsp:

```
<!DOCTYPE html>
<html>
<head>
   <title>Login Page</title>
</head>
<body>
   <h2>Login</h2>
   <form action="LoginServlet" method="POST">
      <label  for="username">Username:</label>
      <input type="text" name="username" required><br><br>
      <label  for="password">Password:</label>
      <input  type="password"  name="password"  required><br><br>
      <input type="submit" value="Login">
   </form>
   <% if (request.getParameter("error") != null) { %>
      <p style="color:red;">Invalid credentials, please try again.</p>
   <% } %>
</body>
</html>
```

LoginServlet.java:

```
import java.io.IOException;
import javax.servlet.ServletException;
import javax.servlet.http.Cookie;
import  javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import  javax.servlet.http.HttpServletResponse;

public class LoginServlet extends HttpServlet {

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

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

      // Dummy authentication (replace with real validation)
      if ("eshu".equals(username) &&  "yennapusala".equals(password)) {
```

```
            // Create a cookie to store the username
            Cookie loginCookie = new Cookie("username", username);
            // Set cookie expiry to 30 minutes
            loginCookie.setMaxAge(30 * 60);
            response.addCookie(loginCookie);

            // Redirect to welcome page
            response.sendRedirect("WelcomeServlet");
        } else {
            // Invalid login, redirect back to login page with an error message
            response.sendRedirect("login.jsp?error=true");
        }
    }
}
```

Welcome.java:

```
import java.io.IOException;
import javax.servlet.ServletException;
import javax.servlet.http.Cookie;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import java.io.PrintWriter;

public class WelcomeServlet extends HttpServlet {

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

        // Get all cookies
        Cookie[] cookies = request.getCookies();
        String username = null;

        // Find the "username" cookie
        if (cookies != null) {
            for (Cookie cookie : cookies) {
                if ("username".equals(cookie.getName())) {
                    username = cookie.getValue();
                    break;
                }
            }
        }

        // If no username cookie is found, redirect to login page
        if (username == null) {
            response.sendRedirect("login.jsp");
        } else {
            // Display the welcome message
            response.setContentType("text/html");
            PrintWriter out = response.getWriter();
```

```
            out.println("<!DOCTYPE html>");
            out.println("<html>");
            out.println("<head><title>Welcome</title></head>");
            out.println("<body>");
            out.println("<h2>Welcome, " + username + "!</h2>");
            out.println("<form action='LogoutServlet' method='POST'>");
            out.println("<input type='submit' value='Logout'>");
            out.println("</form>");
            out.println("</body>");
            out.println("</html>");
        }
    }
}
```

LogoutServlet.java:

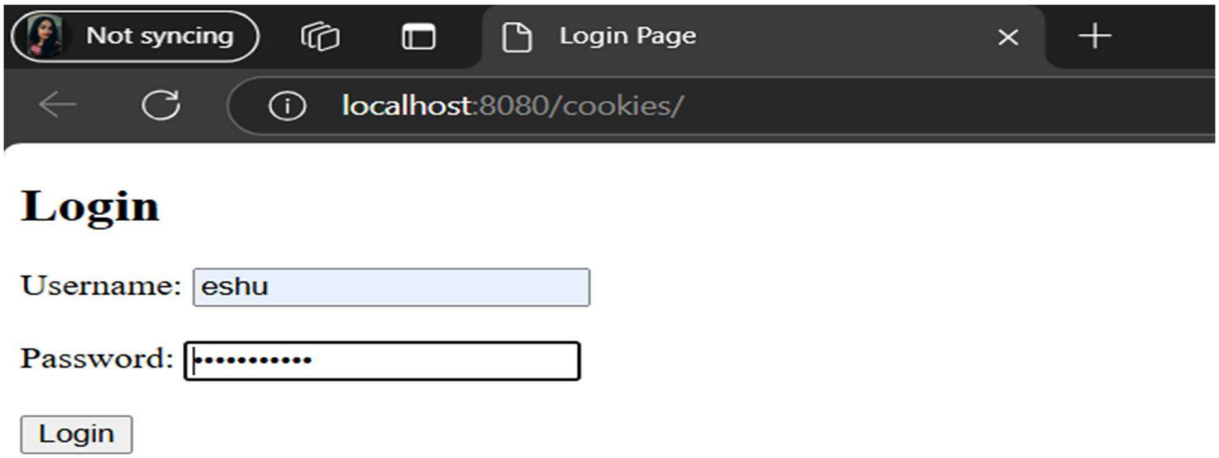
```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.Cookie;
import  javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

/**
 *
 * @author yenna
 */
public class LogoutServlet extends HttpServlet {

    /**
     * Processes requests for both HTTP <code>GET</code> and <code>POST</code>
     * methods.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {
            /* HTML structure */
            out.println("<!DOCTYPE html>");
            out.println("<html>");
            out.println("<head>");
            out.println("<title>Logout Successful</title>");
            out.println("</head>");
            out.println("<body>");
```

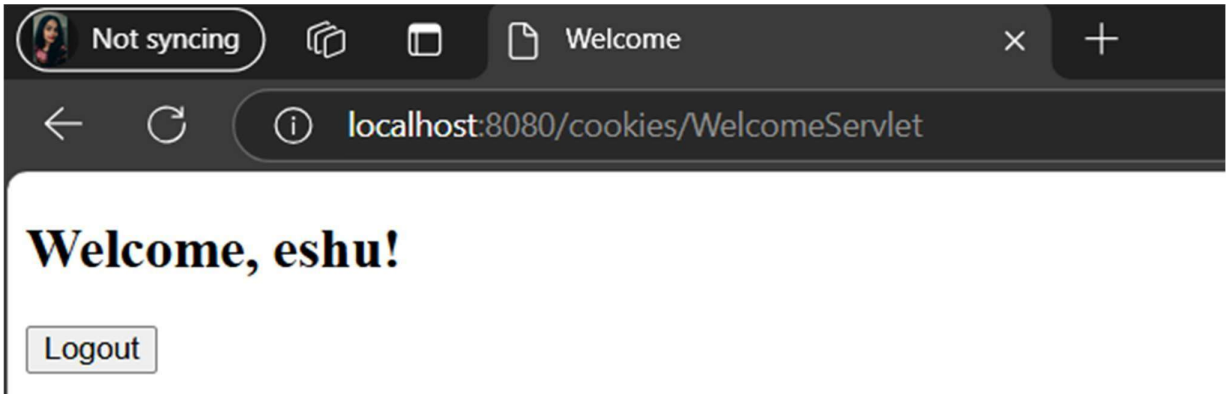
```
        // Read the cookie to get the username and say "Bye Bye"
        Cookie[] cookies = request.getCookies();
        String username = null;

        if (cookies != null) {
            for (Cookie cookie : cookies) {
                if ("username".equals(cookie.getName())) { // Change from "uname" to "username"
                    username = cookie.getValue();
                    break;
                }
            }
        }

        if (username != null) {
            out.println("<h2>Bye Bye " + username + "!</h2><br>");
        } else {
            out.println("<h2>Bye  Bye!</h2><br>");
        }

        // Invalidate the "username" cookie to log out the user
        Cookie ck = new Cookie("username", ""); // Change from "uname" to "username"
        ck.setMaxAge(0); // Set the cookie expiration to 0 to delete it
        response.addCookie(ck);

        out.println("<p>You have logged out successfully!</p><br>");
        out.println("<a href='index.html'>Click here to re-login</a>");

        out.println("</body>");
        out.println("</html>");
    }
}

@Override
protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
    processRequest(request, response);
}

@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
    processRequest(request, response);
}

@Override
public String getServletInfo() {
    return "Logout Servlet";
}
}
```

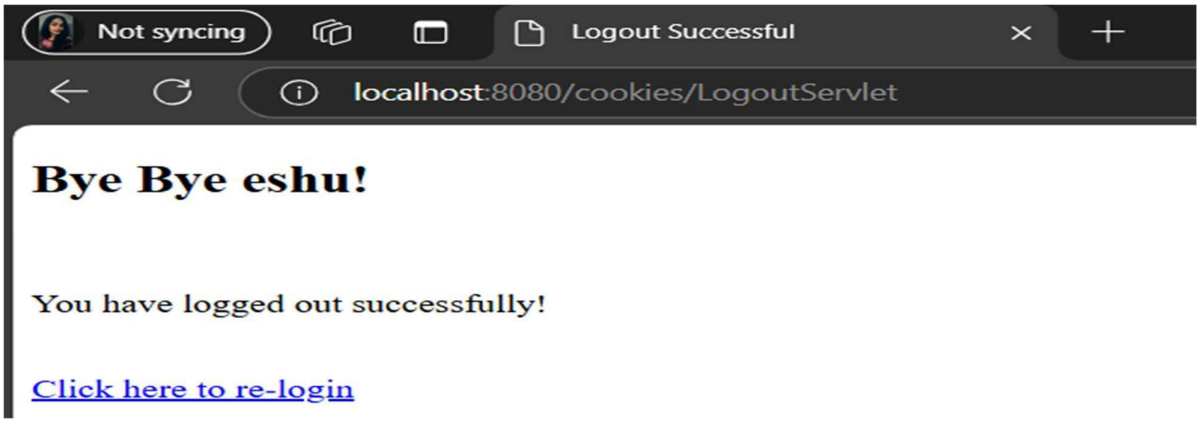
Web.xml:

```
<web-app>
   <servlet>
      <servlet-name>LoginServlet</servlet-name>
      <servlet-class>LoginServlet</servlet-class>
   </servlet>
   <servlet-mapping>
      <servlet-name>LoginServlet</servlet-name>
      <url-pattern>/LoginServlet</url-pattern>
   </servlet-mapping>

   <servlet>
      <servlet-name>WelcomeServlet</servlet-name>
      <servlet-class>WelcomeServlet</servlet-class>
   </servlet>
   <servlet-mapping>
      <servlet-name>WelcomeServlet</servlet-name>
      <url-pattern>/WelcomeServlet</url-pattern>
   </servlet-mapping>

   <servlet>
      <servlet-name>LogoutServlet</servlet-name>
      <servlet-class>LogoutServlet</servlet-class>
   </servlet>
   <servlet-mapping>
      <servlet-name>LogoutServlet</servlet-name>
      <url-pattern>/LogoutServlet</url-pattern>
   </servlet-mapping>
</web-app>
```

Output:


Not syncing
Login Page
localhost:8080/cookies/
Login
Username: eshu
Password:
Login


Not syncing
Welcome
localhost:8080/cookies/WelcomeServlet
Welcome, eshu!
Logout


Not syncing
Logout Successful
localhost:8080/cookies/LogoutServlet
Bye Bye eshu!
You have logged out successfully!
Click here to re-login

Code using HttpSession:

Index.html:

```
<html >
  <head>
    <title>Bhuna</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body style="background-color: white;">
    <form action="login_check_servlet" method="post">
      Enter Name: <input type="text" name="txtnm"/><br>
      Enter Password: <input type="password" name="txtpwd"/><br>
      <input type="submit" value="Login"/>
    </form>
  </body>
</html>
```

login_check_servlet.java:

```
import javax.servlet.RequestDispatcher;
import javax.servlet.http.HttpSession;
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;
```

```
public class login_check_servlet extends HttpServlet {
   protected void processRequest(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
      response.setContentType("text/html;charset=UTF-8");
      try (PrintWriter out = response.getWriter()) {
         /* TODO output your page here. You may use following sample code. */
         out.println("<!DOCTYPE html>");
         out.println("<html>");
         out.println("<head>");
         out.println("<title>Servlet login_check_servlet</title>");
         out.println("</head>");
         out.println("<body>");

         // Get the username and password from the request
         String name = request.getParameter("txtnm");
         String pass = request.getParameter("txtpwd");

         // Check for correct username and password
         if(name.equals("eshu") && pass.equals("123")) {
            // Create a session and set an attribute
            HttpSession session = request.getSession();
            session.setAttribute("uname", name);

            // Forward to the welcomeServlet
            RequestDispatcher rd = request.getRequestDispatcher("Welcome_servlet");
            rd.forward(request, response);
         } else {
            // Invalid credentials, display error and include the index page
```

```
            out.println("Invalid username or password");
            RequestDispatcher rd = request.getRequestDispatcher("index.html");
            rd.include(request, response);
        }

        out.println("</body>");
        out.println("</html>");
    }
}

    // <editor-fold defaultstate="collapsed" desc="HttpServlet methods. Click on the + sign on
the left to edit the code.">
    /**
     * Handles the HTTP <code>GET</code> method.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        processRequest(request, response);
    }

    /**
     * Handles the HTTP <code>POST</code> method.
     *
```

```
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        processRequest(request, response);
    }

    /**
     * Returns a short description of the servlet.
     *
     * @return a String containing servlet description
     */
    @Override
    public String getServletInfo() {
        return "Short description";
    }
    // </editor-fold>
}
```

Welcome_servlet.java:

```
import javax.servlet.http.HttpSession;
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;

/**
 * Welcome Servlet to greet users and provide a logout option.
 * Author: eshu
 */
public class Welcome_servlet extends HttpServlet {

    /**
     * Processes requests for both HTTP <code>GET</code> and <code>POST</code> methods.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");

        // Retrieve the current session, but don't create a new one if it doesn't exist.
        HttpSession session = request.getSession(false);

        try (PrintWriter out = response.getWriter()) {
            // Output the HTML structure
            out.println("<!DOCTYPE html>");
```

```
            out.println("<html>");
            out.println("<head>");
            out.println("<title>Welcome</title>");
            out.println("</head>");
            out.println("<body>");

            if (session == null || session.getAttribute("uname") == null) {
               // If no session exists or "uname" attribute is not set, redirect to login page or show a
message
               out.println("<h2>No active session. Please log in first.</h2>");
               out.println("<br><a href='login.html'>Login</a>");
            } else {
               // Greet the user using the session attribute "uname"
               String userName = (String) session.getAttribute("uname");
               out.println("<h2>Hello, " + userName + "!</h2>");
               out.println("<br><a href='Logout_Servlet'>Click to Logout</a>");
            }

            out.println("</body>");
            out.println("</html>");
         }
      }

      // Handles the HTTP GET method.
      @Override
      protected void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
         processRequest(request, response);
      }
```

```
    // Handles the HTTP POST method.
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        processRequest(request, response);
    }

    // Returns a short description of the servlet.
    @Override
    public String getServletInfo() {
        return "Welcome Servlet";
    }
}
```

Logout_Servlet.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 javax.servlet.http.HttpSession;

/**
 * Logout Servlet to invalidate the session and log out the user.
 * Author: eshu
 */
```

```
public class Logout_Servlet extends HttpServlet {

    /**
     * Processes requests for both HTTP <code>GET</code> and <code>POST</code> methods.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");

        // Obtain the current session without creating a new one (false flag)
        HttpSession session = request.getSession(false);

        try (PrintWriter out = response.getWriter()) {
            out.println("<!DOCTYPE html>");
            out.println("<html>");
            out.println("<head>");
            out.println("<title>Servlet Logout_Servlet</title>");
            out.println("</head>");
            out.println("<body>");

            if (session != null && session.getAttribute("uname") != null) {
                // Say goodbye to the user by accessing the "uname" session attribute
                String username = (String) session.getAttribute("uname");
```

```
            out.println("Bye Bye, " + username + "!");

            // Invalidate the session
            session.invalidate();

            out.println("<p>You have logged out successfully!</p>");
        } else {
            out.println("<p>No active session found. Please log in first.</p>");
        }

        // Provide a link to return to the login page
        out.println("<br><a href='index.html'>Click to re-login</a>");
        out.println("</body>");
        out.println("</html>");
    }
}

// Handles the HTTP GET method.
@Override
protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
    processRequest(request, response);
}

// Handles the HTTP POST method.
@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
```

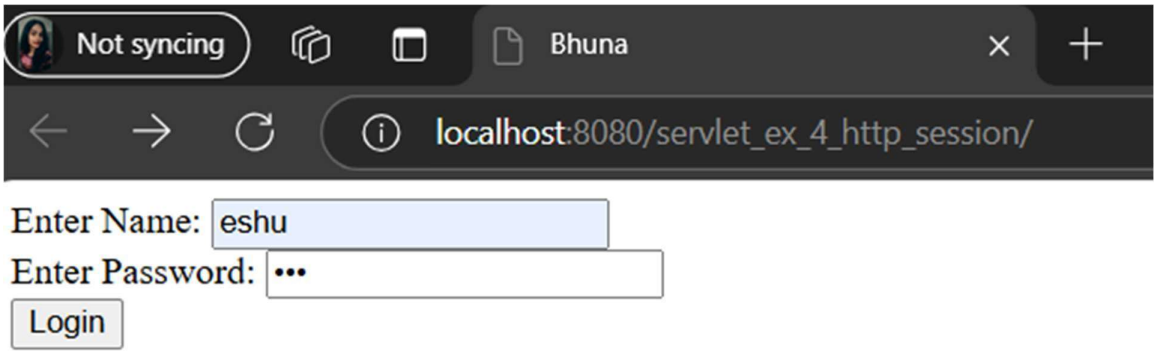
```
        processRequest(request, response);
    }

    // Returns a short description of the servlet.
    @Override
    public String getServletInfo() {
        return "Logout Servlet";
    }
}
```

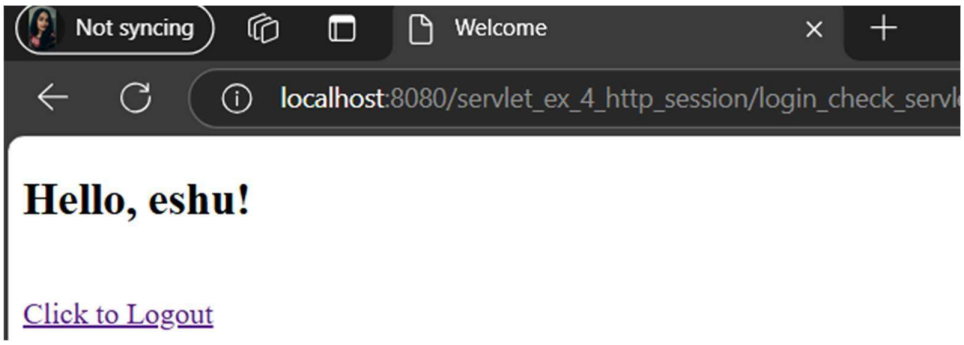
Web.xml:

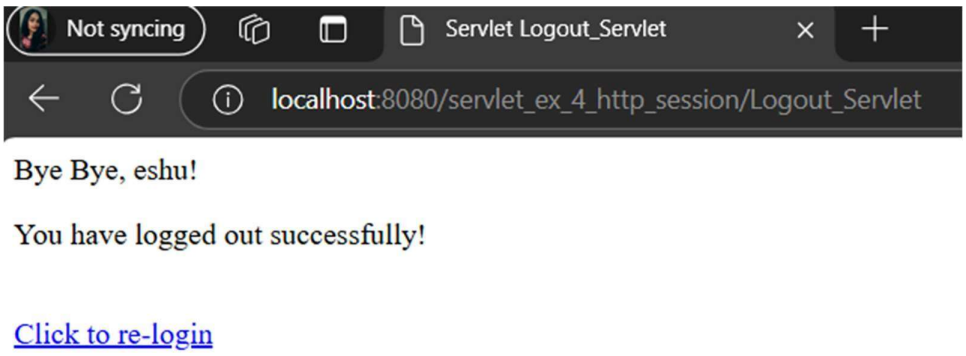
```
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="4.0" xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
http://xmlns.jcp.org/xml/ns/javaee/web-app_4_0.xsd">
    <servlet>
        <servlet-name>Logout_Servlet</servlet-name>
        <servlet-class>Logout_Servlet</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>Welcome_servlet</servlet-name>
        <servlet-class>Welcome_servlet</servlet-class>
    </servlet>
    <servlet>
        <servlet-name>login_check_servlet</servlet-name>
        <servlet-class>login_check_servlet</servlet-class>
    </servlet>
```

```
    <servlet-mapping>
        <servlet-name>Logout_Servlet</servlet-name>
        <url-pattern>/Logout_Servlet</url-pattern>
    </servlet-mapping>
    <servlet-mapping>
        <servlet-name>Welcome_servlet</servlet-name>
        <url-pattern>/Welcome_servlet</url-pattern>
    </servlet-mapping>
    <servlet-mapping>
        <servlet-name>login_check_servlet</servlet-name>
        <url-pattern>/login_check_servlet</url-pattern>
    </servlet-mapping>
    <session-config>
        <session-timeout>
            30
        </session-timeout>
    </session-config>
</web-app>
```

OUTPUT:


Not syncing
Bhuna
localhost:8080/servlet_ex_4_http_session/
Enter Name: eshu
Enter Password: •••
Login


Not syncing
Welcome
localhost:8080/servlet_ex_4_http_session/login_check_servl
Hello, eshu!
Click to Logout


Not syncing
Servlet Logout_Servlet
localhost:8080/servlet_ex_4_http_session/Logout_Servlet
Bye Bye, eshu!
You have logged out successfully!
Click to re-login

Code using URL Rewriting:

Index.html:

```
<html>
   <head>
      <title>TODO supply a title</title>
      <meta charset="UTF-8">
      <meta name="viewport" content="width=device-width, initial-scale=1.0">
   </head>
   <body>
      <form action="servlet1">
Name:<input type="text" name="userName"/><br/>
<input type="submit" value="go"/>
</form>
   </body>
</html>
```

FirstServlet.java:

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/JSP_Servlet/Servlet.java to edit this template
 */

import java.io.IOException;
```

```
import java.io.PrintWriter;
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import  javax.servlet.http.HttpServletResponse;

/**
 *
 * @author Eshu
 */
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);

        //appending the username in the query string
```

```
        out.print("<a href='servlet2?uname="+n+"'>visit</a>");

        out.close();

            }catch(Exception e){System.out.println(e);}
    }

}
```

SecondServlet.java:

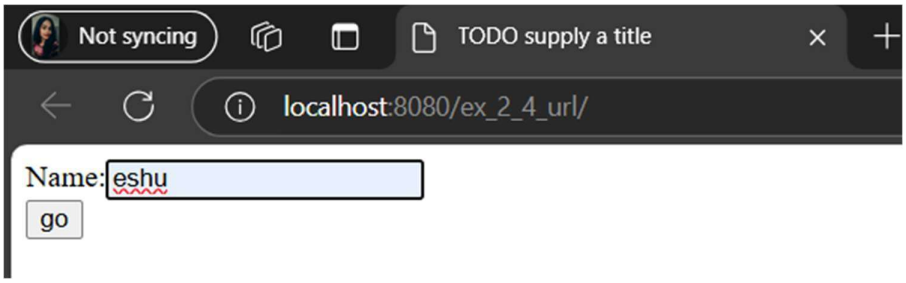
```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

/**
 * A simple servlet to demonstrate handling query string parameters.
 */
public class SecondServlet extends HttpServlet {

    /**
     * Handles the HTTP GET request.
     *
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
```

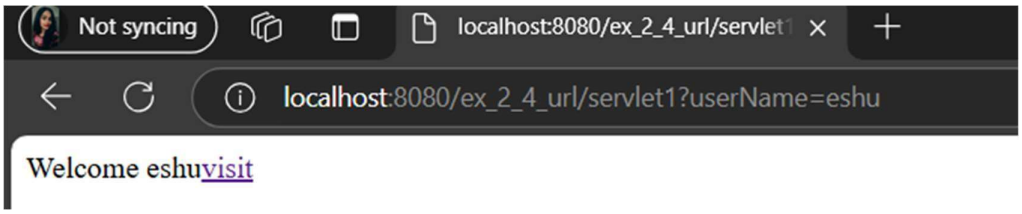
```
     * @throws IOException if an I/O error occurs
     */
    @Override
    public void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {

        // Set response content type
        response.setContentType("text/html");

        try (PrintWriter out = response.getWriter()) {
            // Get the 'uname' parameter from the query string
            String n = request.getParameter("uname");

            // Output response
            out.println("<html><body>");
            out.println("<h1>Hello, " + n + "</h1>");
            out.println("</body></html>");
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
}
```

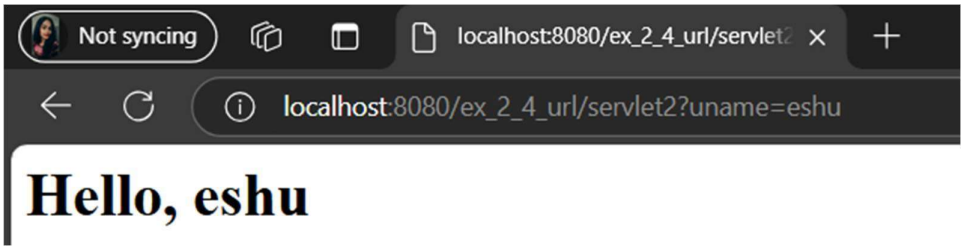
Web.xml:

```
<web-app>

<servlet>
<servlet-name>s1</servlet-name>
<servlet-class>FirstServlet</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>SecondServlet</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>s2</servlet-name>
<url-pattern>/servlet2</url-pattern>
</servlet-mapping>

</web-app>
```

Output:


Not syncing
TODO supply a title
localhost:8080/ex_2_4_url/
Name:eshu
go


Not syncing
localhost:8080/ex_2_4_url/servlet1
localhost:8080/ex_2_4_url/servlet1?userName=eshu
Welcome eshuvisit


Not syncing
localhost:8080/ex_2_4_url/servlet2
localhost:8080/ex_2_4_url/servlet2?uname=eshu
Hello, eshu

Ex. No: 2_5	Create Servlet file which contains following functions: 1. Connect 2. Create Database 3. Create Table 4. Insert Records into respective table
Date:	

Code:

index.jsp:

```
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>User Registration</title>
   </head>
   <body>
      <h1>Register User</h1>
      <form action="DatabaseServlet" method="POST">
         Enter Name: <input type="text" name="name" required /><br><br>
         Enter City: <input type="text" name="city" required /><br><br>
         Enter Age: <input type="number" name="age" required /><br><br>
         <input type="submit" value="Register User"/>
      </form>
   </body>
</html>
```

ConnectionManager.java:

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;

public class ConnectionManager {

   private static final String URL = "jdbc:mysql://localhost:3306/";
   private static final String DB_URL = "jdbc:mysql://localhost:3306/Eshu";
   private static final String USER = "root";
   private static final String PASSWORD = "";

   // Method to connect to MySQL server without specifying a database
   public static Connection getConnection() throws SQLException {
      return DriverManager.getConnection(URL, USER, PASSWORD);
   }

   // Method to connect to a specific database
   public static Connection getDatabaseConnection() throws SQLException {
      return DriverManager.getConnection(DB_URL, USER, PASSWORD);
```

```
    }
}
```

DatabaseServlet.java:

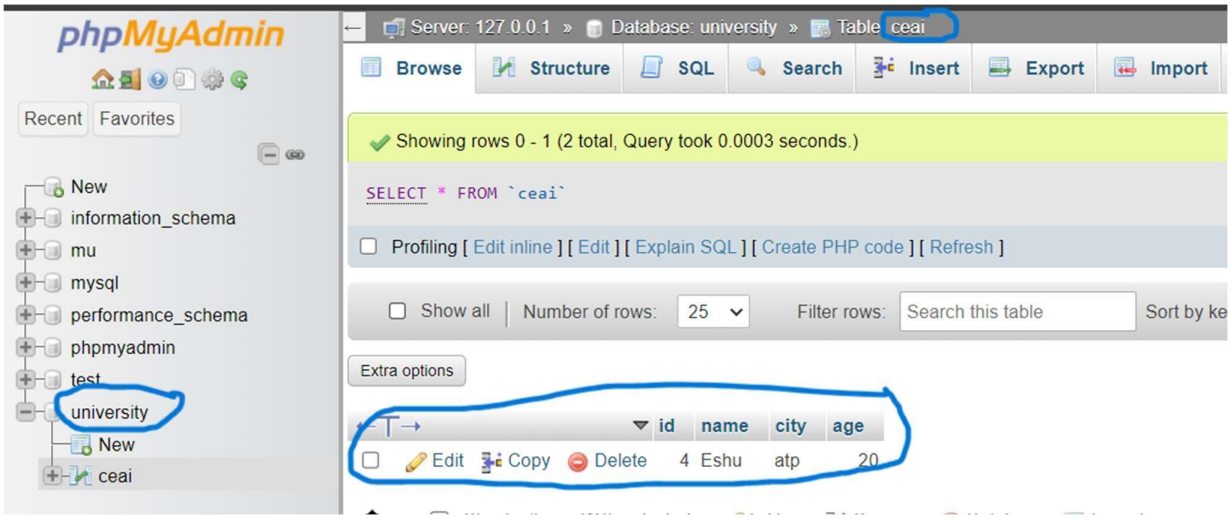
```
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import  java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.SQLException;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import  javax.servlet.http.HttpServletResponse;

public class DatabaseServlet extends HttpServlet {
    private static final String JDBC_URL = "jdbc:mysql://localhost:3306/university";
    private static final String JDBC_USER = "root";
    private static final String JDBC_PASSWORD = "";

    // JDBC Driver
    private static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";

    // SQL query for inserting user details
    private static final String INSERT_SQL = "INSERT INTO CeAI (name, city, age) VALUES (?,
?, ?)";

    // Handles the HTTP POST request
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");

        // Get user input from the request
        String name = request.getParameter("name");
        String city = request.getParameter("city");
        int age = Integer.parseInt(request.getParameter("age"));

        try (PrintWriter out = response.getWriter()) {
            // Call method to insert the record into the database
            boolean isSuccess = insertUser(name, city, age);

            // Output a "Thank you" message with the user's name in the browser
            out.println("<html><body>");
            if (isSuccess) {
                out.println("<h2>Thank you, " + name + "! Your details have been successfully
registered.</h2>");
            } else {
```

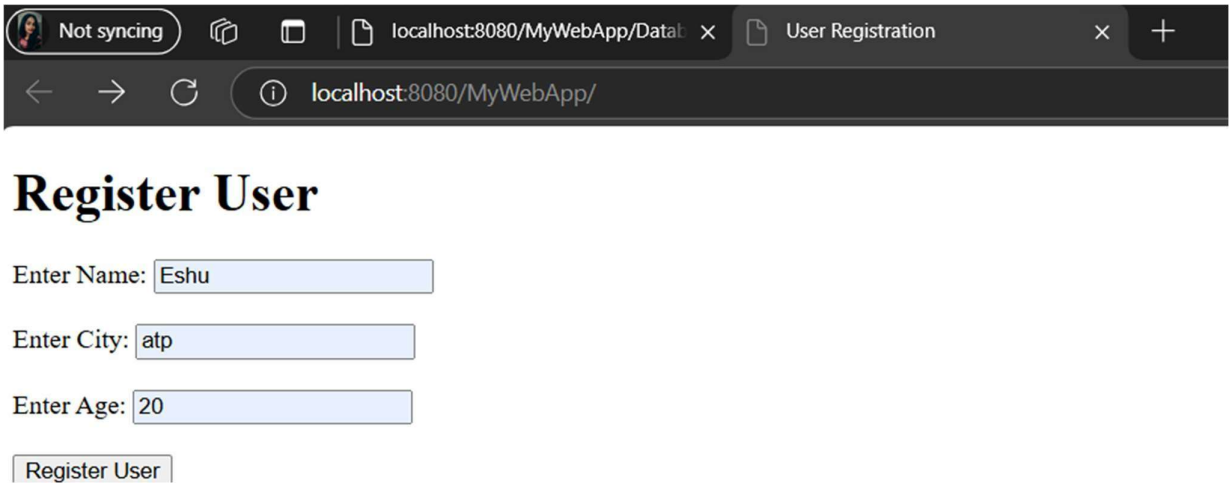
```
            out.println("<h2>Sorry, there was an issue registering your details.</h2>");
        }
        out.println("</body></html>");
    }
}

// Method to insert a user into the database
private boolean insertUser(String name, String city, int age) {
    boolean result = false;
    Connection conn = null;
    PreparedStatement ps = null;

    try {
        // Load JDBC driver
        Class.forName(JDBC_DRIVER);

        // Create a connection to the database
        conn = DriverManager.getConnection(JDBC_URL, JDBC_USER, JDBC_PASSWORD);

        // Prepare the SQL statement
        ps = conn.prepareStatement(INSERT_SQL);
        ps.setString(1, name);
        ps.setString(2, city);
        ps.setInt(3, age);

        // Execute the SQL statement
        int rowsInserted = ps.executeUpdate();
        result = rowsInserted > 0;

    } catch (ClassNotFoundException | SQLException e) {
        e.printStackTrace();
    } finally {
        // Close resources
        try {
            if (ps != null) ps.close();
            if (conn != null) conn.close();
        } catch (SQLException e) {
            e.printStackTrace();
        }
    }

    return result;
}
}
```

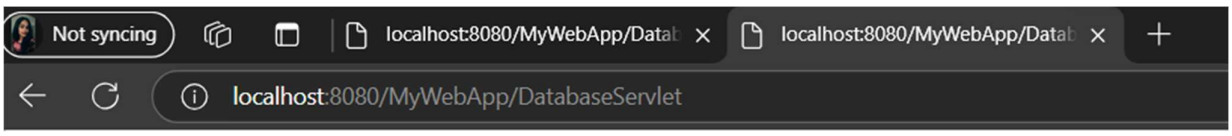
Web.xml:

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="4.0" xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
http://xmlns.jcp.org/xml/ns/javaee/web-app_4_0.xsd">
  <servlet>
    <servlet-name>DatabaseServlet</servlet-name>
    <servlet-class>DatabaseServlet</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>DatabaseServlet</servlet-name>
    <url-pattern>/DatabaseServlet</url-pattern>
  </servlet-mapping>
  <session-config>
    <session-timeout>
      30
    </session-timeout>
  </session-config>
</web-app>
```

Output:


phpMyAdmin
Recent
Favorites
New
information_schema
mu
mysql
performance_schema
phpmyadmin
test
university
New
ceai
Server: 127.0.0.1 » Database: university » Table ceai
Browse
Structure
SQL
Search
Insert
Export
Import
Showing rows 0 - 1 (2 total, Query took 0.0003 seconds.)
SELECT * FROM `ceai`
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all
Number of rows: 25
Filter rows: Search this table
Sort by ke
Extra options
id
name
city
age
Edit
Copy
Delete
4
Eshu
atp
20


Not syncing
localhost:8080/MyWebApp/Datab
User Registration
localhost:8080/MyWebApp/
Register User
Enter Name: Eshu
Enter City: atp
Enter Age: 20
Register User


Not syncing
localhost:8080/MyWebApp/Datab
localhost:8080/MyWebApp/Datab
localhost:8080/MyWebApp/DatabaseServlet
Thank you, Eshu! Your details have been successfully registered.

Ex. No: 2_6	Create servlet file which contains following functions (Use table created in previous tutorial) : 1. Update records of particular table of database 2. Delete Records from table 3. Delete table 4. Delete database.
Date:	

Code:

index.jsp:

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Database Operations</title>
  </head>
  <body>
    <h1>Perform Database Operations</h1>

    <h2>Update Record</h2>
    <form action="DatabaseServlet" method="POST">
      <input type="hidden" name="operation" value="update">
      Enter ID to update: <input type="number" name="id" required><br>
      Enter New Name: <input type="text" name="name" required><br>
      Enter New City: <input type="text" name="city" required><br>
      Enter New Age: <input type="number" name="age" required><br>
      <input type="submit" value="Update Record">
    </form>

    <h2>Delete Record</h2>
    <form action="DatabaseServlet" method="POST">
      <input type="hidden" name="operation" value="deleteRecord">
      Enter ID to delete: <input type="number" name="id" required><br>
      <input type="submit" value="Delete Record">
    </form>

    <h2>Delete Table</h2>
    <form action="DatabaseServlet" method="POST">
      <input type="hidden" name="operation" value="deleteTable">
      <input type="submit" value="Delete Table">
    </form>

    <h2>Delete Database</h2>
    <form action="DatabaseServlet" method="POST">
```

```
        <input type="hidden" name="operation" value="deleteDatabase">
        <input type="submit" value="Delete Database">
      </form>
    </body>
</html>
```

DatabaseServlet.java:

```
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import  java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.Statement;
import javax.servlet.ServletException;
import  javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import  javax.servlet.http.HttpServletResponse;

public class DatabaseServlet extends HttpServlet {
   private static final String JDBC_URL = "jdbc:mysql://localhost:3306/university";
   private static final String JDBC_USER = "root";
   private static final String JDBC_PASSWORD = "";

   // JDBC Driver
   private static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";

   // Handles HTTP POST requests
   @Override
   protected void doPost(HttpServletRequest request, HttpServletResponse response)
         throws ServletException, IOException {
      response.setContentType("text/html;charset=UTF-8");

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

      try (PrintWriter out = response.getWriter()) {
         Class.forName(JDBC_DRIVER);
         Connection conn = DriverManager.getConnection(JDBC_URL, JDBC_USER,
JDBC_PASSWORD);

         switch (operation) {
            case "update":
               updateRecord(request, conn, out);
               break;
            case "deleteRecord":
```

```
                deleteRecord(request, conn, out);
                break;
            case "deleteTable":
                deleteTable(conn, out);
                break;
            case  "deleteDatabase":
                deleteDatabase(out);
                break;
            default:
                out.println("<h2>Invalid Operation</h2>");
        }

        conn.close();
    } catch (Exception e) {
        e.printStackTrace();
    }
}

// Update record in the table
private void updateRecord(HttpServletRequest request, Connection conn, PrintWriter out)
throws Exception {
    int id = Integer.parseInt(request.getParameter("id"));
    String name = request.getParameter("name");
    String city = request.getParameter("city");
    int age = Integer.parseInt(request.getParameter("age"));

    String updateSQL = "UPDATE CeAI SET name=?, city=?, age=? WHERE id=?";
    PreparedStatement ps = conn.prepareStatement(updateSQL);
    ps.setString(1, name);
    ps.setString(2, city);
    ps.setInt(3, age);
    ps.setInt(4, id);

    int rowsUpdated = ps.executeUpdate();
    if (rowsUpdated > 0) {
        out.println("<h2>Record updated successfully</h2>");
    } else {
        out.println("<h2>Record not found</h2>");
    }
    ps.close();
}

// Delete record from the table
private void deleteRecord(HttpServletRequest request, Connection conn, PrintWriter out)
throws Exception {
    int id = Integer.parseInt(request.getParameter("id"));
```

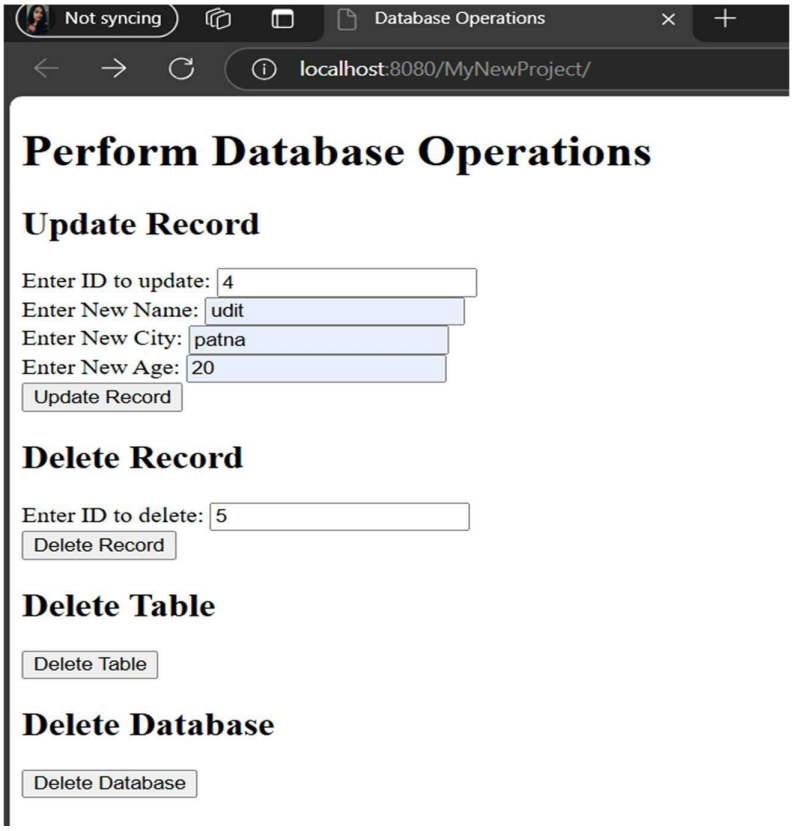
```
        String deleteSQL = "DELETE FROM CeAI WHERE id=?";
        PreparedStatement ps = conn.prepareStatement(deleteSQL);
        ps.setInt(1, id);

        int rowsDeleted = ps.executeUpdate();
        if (rowsDeleted > 0) {
            out.println("<h2>Record deleted successfully</h2>");
        } else {
            out.println("<h2>Record not found</h2>");
        }
        ps.close();
    }

    // Delete the entire table
    private void deleteTable(Connection conn, PrintWriter out) throws Exception {
        String dropTableSQL = "DROP TABLE IF EXISTS CeAI";
        Statement stmt = conn.createStatement();
        stmt.executeUpdate(dropTableSQL);
        out.println("<h2>Table deleted successfully</h2>");
        stmt.close();
    }

    // Delete the entire database
    private void deleteDatabase(PrintWriter out) throws Exception {
        Connection conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/",
JDBC_USER, JDBC_PASSWORD);
        String dropDBSQL = "DROP DATABASE IF EXISTS university";
        Statement stmt = conn.createStatement();
        stmt.executeUpdate(dropDBSQL);
        out.println("<h2>Database deleted successfully</h2>");
        stmt.close();
        conn.close();
    }
}
```

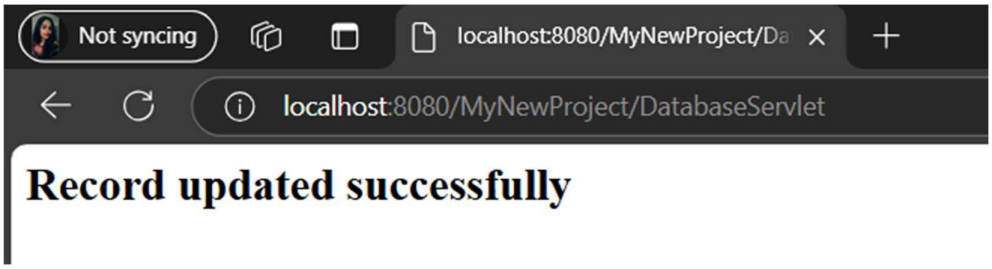
Web.xml:

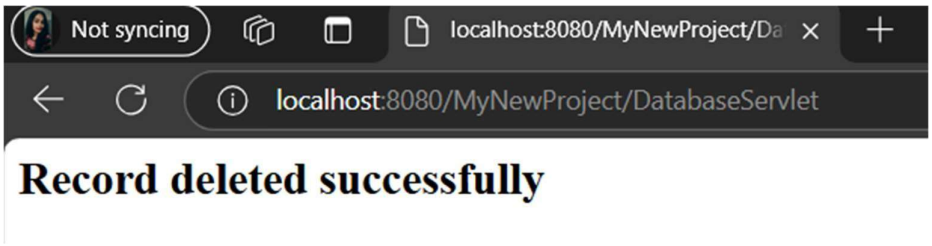
```
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="4.0" xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
http://xmlns.jcp.org/xml/ns/javaee/web-app_4_0.xsd">
  <servlet>
    <servlet-name>DatabaseServlet</servlet-name>
```

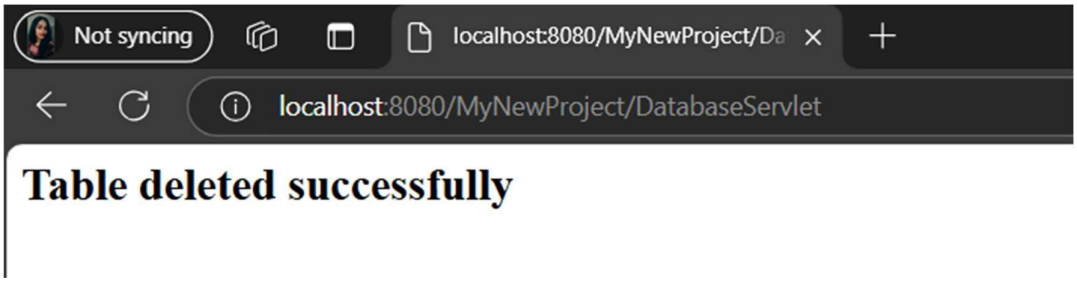
```
        <servlet-class>DatabaseServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>DatabaseServlet</servlet-name>
        <url-pattern>/DatabaseServlet</url-pattern>
    </servlet-mapping>
    <session-config>
        <session-timeout>
            30
        </session-timeout>
    </session-config>
</web-app>
```

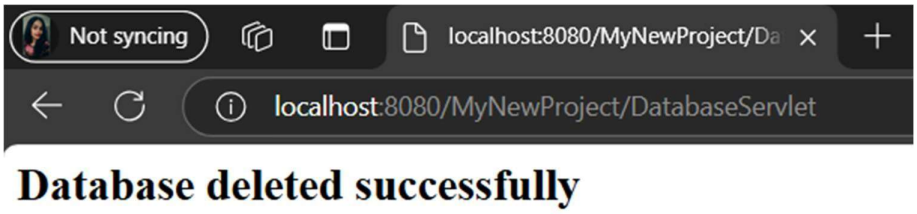
Output:




Not syncing
localhost:8080/MyNewProject/Da
localhost:8080/MyNewProject/DatabaseServlet
Record updated successfully


Not syncing
localhost:8080/MyNewProject/Da
localhost:8080/MyNewProject/DatabaseServlet
Record deleted successfully


Not syncing
localhost:8080/MyNewProject/Da
localhost:8080/MyNewProject/DatabaseServlet
Table deleted successfully


Not syncing
localhost:8080/MyNewProject/Da
localhost:8080/MyNewProject/DatabaseServlet
Database deleted successfully

Ex. No: 2_7	Develop a Java web application which ask user a string to search and search the string in Google search engine. Use send redirect method.
Date:	

Code:

index.html:

```
<!DOCTYPE html>
<html>
   <head>
      <title>TODO supply a title</title>
      <meta charset="UTF-8">
      <meta name="viewport" content="width=device-width, initial-scale=1.0">
   </head>
   <body>
      <form action="SearchServlet" method="get" >
         Enter Text to Search <input type="Text" name="txtsearch"><br>
         <input type="submit" name="btnop" value="Google Search">
         <input  type="submit"  name="btnop"  value="YouTube  Search">

      </form>
   </body>
</html>
```

SearchServlet.java:

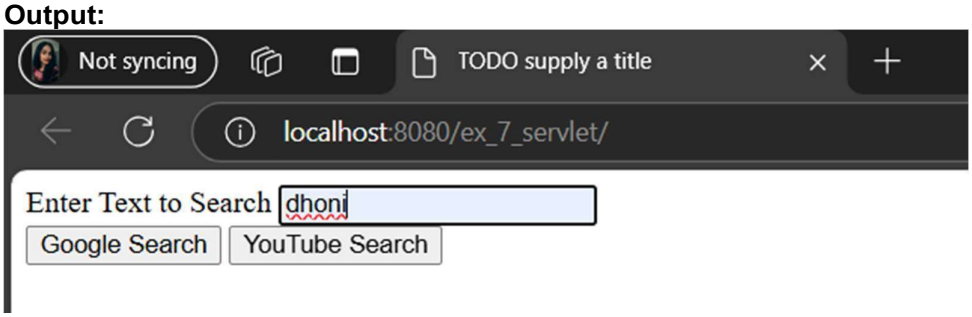
```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import  javax.servlet.http.HttpServletResponse;

/**
 *
 * @author eshu
 */
public class SearchServlet extends HttpServlet {

   /**
    * Processes requests for both HTTP <code>GET</code> and <code>POST</code>
    * methods.
    *
    * @param request servlet request
    * @param response servlet response
    * @throws ServletException if a servlet-specific error occurs
    * @throws IOException if an I/O error occurs
    */
```

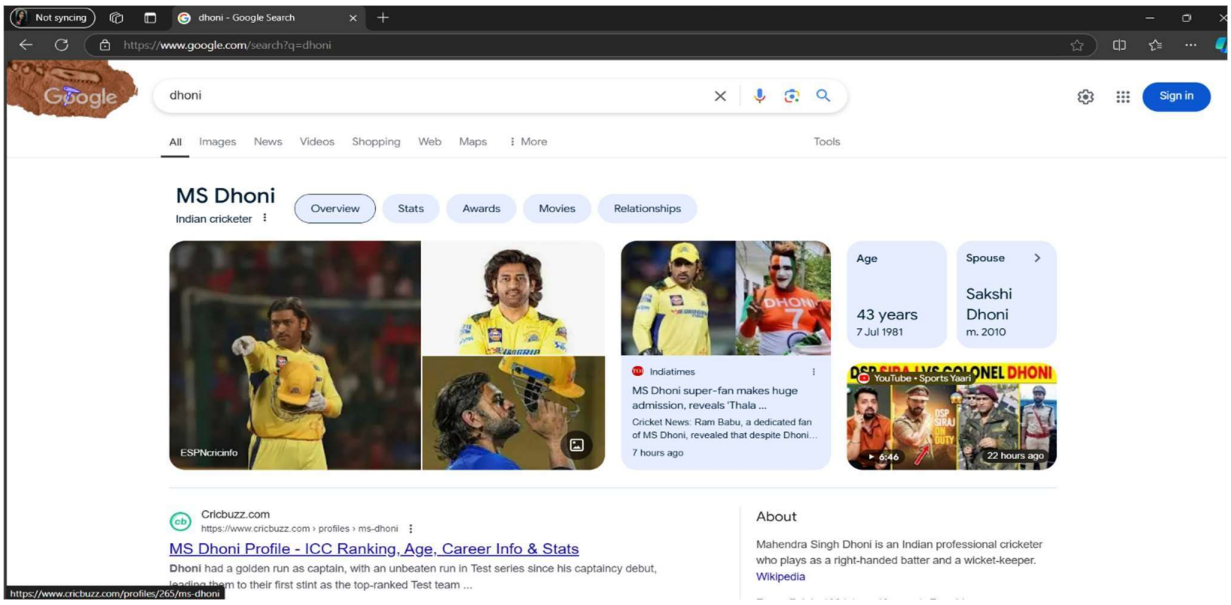
```
protected void processRequest(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
    response.setContentType("text/html;charset=UTF-8");
    try (PrintWriter out = response.getWriter()) {
        /* TODO output your page here. You may use following sample code. */
        out.println("<!DOCTYPE html>");
        out.println("<html>");
        out.println("<head>");
        out.println("<title>Servlet SearchServlet</title>");
        out.println("</head>");
        out.println("<body>");

        String search = request.getParameter("txtsearch");
        String btnclick = request.getParameter("btnop");

        if(btnclick.equals("Google Search"))

            response.sendRedirect("https://www.google.com/search?q=" + search);
        else
            response.sendRedirect("https://www.youtube.com/results?search_query=" + search);
        out.println("</body>");
        out.println("</html>");
    }
}
```

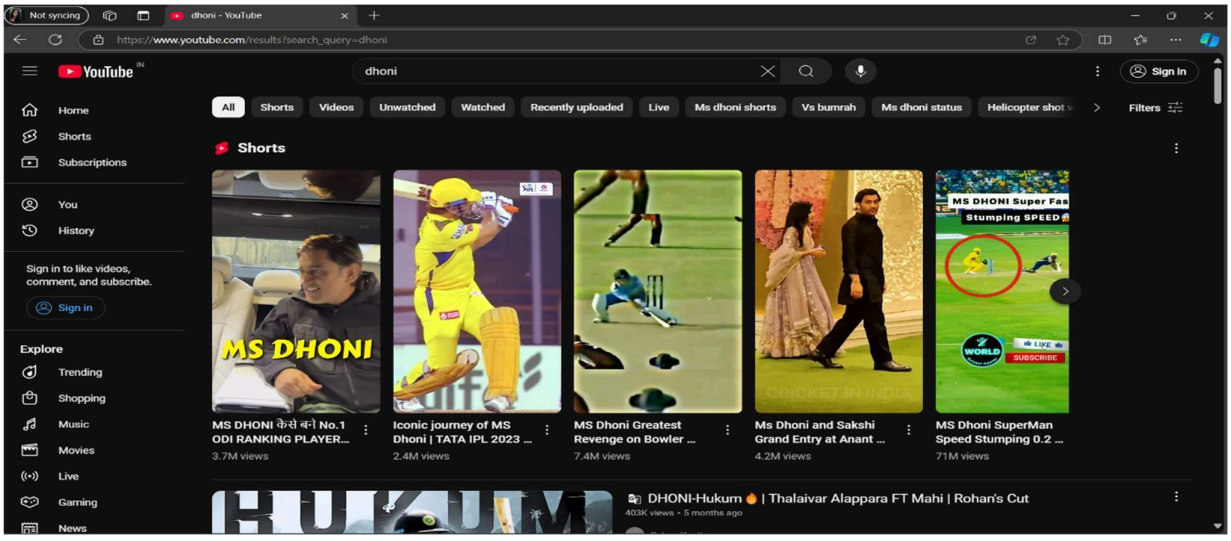
web.xml:

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="4.0" xmlns=http://xmlns.jcp.org/xml/ns/javaee
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-
app_4_0.xsd">
<servlet>
<servlet-name>SearchServlet</servlet-name>
<servlet-class>SearchServlet</servlet-class>
</servlet>
<servlet-mapping>
<servlet-name>SearchServlet</servlet-name>
<url-pattern>/SearchServlet</url-pattern>
</servlet-mapping>
<session-config>
<session-timeout>
30
</session-timeout>
</session-config>
</web-app>
```

Output:


Not syncing
TODO supply a title
localhost:8080/ex_7_servlet/
Enter Text to Search
dhoni
Google Search
YouTube Search


dhoni - Google Search
https://www.google.com/search?q=dhoni
dhoni
Sign in
All Images News Videos Shopping Web Maps More Tools
MS Dhoni
Indian cricketer
Overview Stats Awards Movies Relationships
Age
43 years
7 Jul 1981
Spouse
Sakshi Dhoni
m. 2010
Indiatimes
MS Dhoni super-fan makes huge admission, reveals 'Thala ...
Cricket News: Ram Babu, a dedicated fan of MS Dhoni, revealed that despite Dhoni...
7 hours ago
22 hours ago
ESPNcricinfo
Cricbuzz.com
https://www.cricbuzz.com › profiles › ms-dhoni
MS Dhoni Profile - ICC Ranking, Age, Career Info & Stats
Dhoni had a golden run as captain, with an unbeaten run in Test series since his captaincy debut,
About
Mahendra Singh Dhoni is an Indian professional cricketer who plays as a right-handed batter and a wicket-keeper.
Wikipedia
https://www.cricbuzz.com/profiles/265/ms-dhoni


dhoni - YouTube
https://www.youtube.com/results?search_query=dhoni
YouTube
dhoni
Sign In
Home
Shorts
Subscriptions
You
History
Sign in to like videos, comment, and subscribe.
Sign in
Explore
Trending
Shopping
Music
Movies
Live
Gaming
News
All Shorts Videos Unwatched Watched Recently uploaded Live Ms dhoni shorts Vs bumrah Ms dhoni status Helicopter shot
Filters
Shorts
MS DHONI
MS DHONI केसे बने No.1 ODI RANKING PLAYER...
3.7M views
Iconic journey of MS Dhoni | TATA IPL 2023 ...
2.4M views
MS Dhoni Greatest Revenge on Bowler ...
7.4M views
Ms Dhoni and Sakshi Grand Entry at Anant ...
4.2M views
MS DHONI Super Fas
Stumping SPEED
MS Dhoni SuperMan Speed Stumping 0.2 ...
71M views
DHONI-Hukum | Thalaivar Alappara FT Mahi | Rohan's Cut
403K views • 5 months ago

Ex. No: 2_9_10	Prac-9:Develop a Java application which demonstrates use of servlet context object.
Date:	Prac-10: Develop a Java application which demonstrates use of servlet context config.

Code

index.html:

```
<!DOCTYPE html>
<!--
Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
Click nbfs://nbhost/SystemFileSystem/Templates/JSP_Servlet/Html.html to edit this template
-->
<html>
    <head>
        <title>TODO supply a title</title>
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
    </head>
    <body>
        <a href="Servlet1">click for servlet1</a><br>
        <a href="Servlet2">click for servlet2</a><br>
        <a href="Servlet3">click for servlet3</a>
    </body>
</html>
```

Servlet1.java:

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletConfig;
import javax.servlet.ServletContext;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import  javax.servlet.http.HttpServletResponse;

/**
 *
 * @author eshu
 */
public class Servlet1 extends HttpServlet {

    /**
     * Processes requests for both HTTP <code>GET</code> and <code>POST</code>
```

```
 * methods.
 *
 * @param request servlet request
 * @param response servlet response
 * @throws ServletException if a servlet-specific error occurs
 * @throws IOException if an I/O error occurs
 */
protected void processRequest(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
    response.setContentType("text/html;charset=UTF-8");
    try (PrintWriter out = response.getWriter()) {
        /* TODO output your page here. You may use following sample code. */
        out.println("<!DOCTYPE html>");
        out.println("<html>");
        out.println("<head>");
        out.println("<title>Servlet Servlet1</title>");
        out.println("</head>");
        out.println("<body>");

        ServletConfig c1 = getServletConfig();
        String programmer = c1.getInitParameter("name");


        ServletContext c2 = getServletContext();
        String company = c2.getInitParameter("organisation");

        out.println("Servlet1 is developed by " + programmer + " at " + company);
        out.println("</body>");
        out.println("</html>");
    }
}
```

Servlet 2.java:

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletConfig;
import javax.servlet.ServletContext;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import  javax.servlet.http.HttpServletResponse;

/**
 *
 * @author eshu
 */
public class Servlet2 extends HttpServlet {

    /**
     * Processes requests for both HTTP <code>GET</code> and <code>POST</code>
```

```
 * methods.
 *
 * @param request servlet request
 * @param response servlet response
 * @throws ServletException if a servlet-specific error occurs
 * @throws IOException if an I/O error occurs
 */
protected void processRequest(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
    response.setContentType("text/html;charset=UTF-8");
    try (PrintWriter out = response.getWriter()) {
        /* TODO output your page here. You may use following sample code. */
        out.println("<!DOCTYPE html>");
        out.println("<html>");
        out.println("<head>");
        out.println("<title>Servlet Servlet2</title>");
        out.println("</head>");
        out.println("<body>");

        ServletConfig c1 = getServletConfig();
        String programmer = c1.getInitParameter("name");


        ServletContext c2 = getServletContext();
        String company = c2.getInitParameter("organisation");

        out.println("Servlet2 is developed by " + programmer + " at " + company);

        out.println("</body>");
        out.println("</html>");
    }
}
```

Servlet 3.java:

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletConfig;
import javax.servlet.ServletException;
import javax.servlet.ServletContext;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import  javax.servlet.http.HttpServletResponse;

/**
 *
 * @author eshu
 */
public class Servlet3 extends HttpServlet {
```

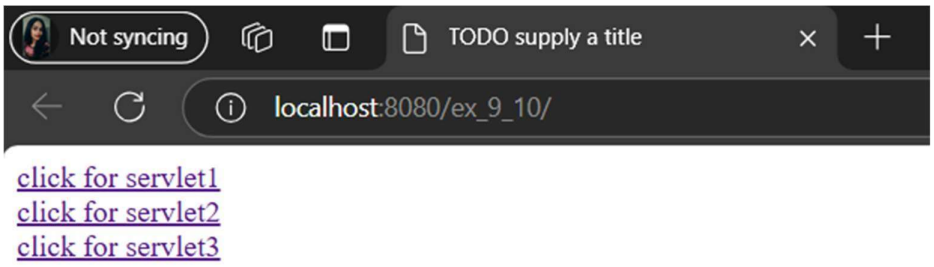
```
/**
 * Processes requests for both HTTP <code>GET</code> and <code>POST</code>
 * methods.
 *
 * @param request servlet request
 * @param response servlet response
 * @throws ServletException if a servlet-specific error occurs
 * @throws IOException if an I/O error occurs
 */
protected void processRequest(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
    response.setContentType("text/html;charset=UTF-8");
    try (PrintWriter out = response.getWriter()) {
        /* TODO output your page here. You may use following sample code. */
        out.println("<!DOCTYPE html>");
        out.println("<html>");
        out.println("<head>");
        out.println("<title>Servlet Servlet3</title>");
        out.println("</head>");
        out.println("<body>");

        ServletConfig c1 = getServletConfig();
        String programmer = c1.getInitParameter("name");


        ServletContext c2 = getServletContext();
        String company = c2.getInitParameter("organisation");

        out.println("Servlet3 is developed by " + programmer + " at " + company);
        out.println("</body>");
        out.println("</html>");
    }
}
```

Web.xml:

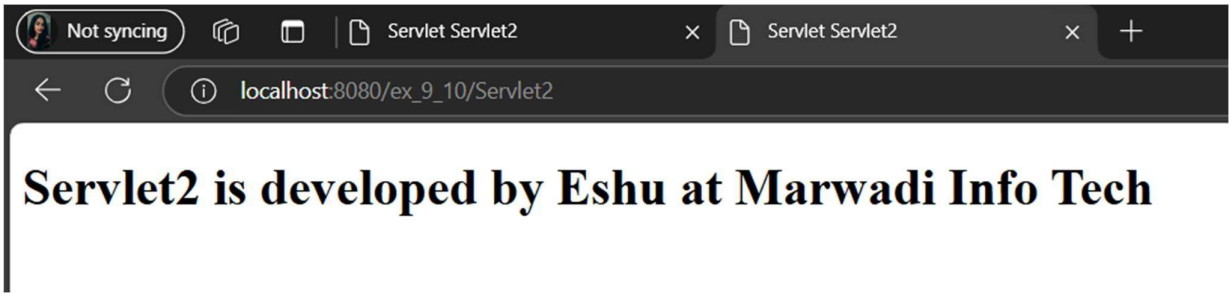
```
<?xml version="1.0" encoding="UTF-8"?>
<web-app version="3.1" xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-
app_3_1.xsd">
    <servlet>
        <servlet-name>Servlet1</servlet-name>
        <servlet-class>Servlet1</servlet-class>
        <init-param>
            <param-name>name</param-name>
            <param-value>Tarannum  Bloch</param-value>
        </init-param>
```

```
    </servlet>
    <servlet>
      <servlet-name>Servlet2</servlet-name>
      <servlet-class>Servlet2</servlet-class>
      <init-param>
        <param-name>name</param-name>
        <param-value>Bhuvana</param-value>
      </init-param>

    </servlet>
    <servlet>
      <servlet-name>Servlet3</servlet-name>
      <servlet-class>Servlet3</servlet-class>
    </servlet>
    <servlet-mapping>
      <servlet-name>Servlet1</servlet-name>
      <url-pattern>/Servlet1</url-pattern>
    </servlet-mapping>
    <servlet-mapping>
      <servlet-name>Servlet2</servlet-name>
      <url-pattern>/Servlet2</url-pattern>
    </servlet-mapping>
    <servlet-mapping>
      <servlet-name>Servlet3</servlet-name>
      <url-pattern>/Servlet3</url-pattern>
    </servlet-mapping>
    <session-config>
      <session-timeout>
        30
      </session-timeout>
    </session-config>
    <context-param>
      <param-name>organisation</param-name>
      <param-value>Marwadi Info Tech</param-value>
    </context-param>
  </web-app>
```

Output:


Not syncing
TODO supply a title
localhost:8080/ex_9_10/
click for servlet1
click for servlet2
click for servlet3


Not syncing
Servlet Servlet1
localhost:8080/ex_9_10/Servlet1
Servlet1 is developed by Tarannum Bloch at Marwadi Info Tech


Not syncing
Servlet Servlet2
Servlet Servlet2
localhost:8080/ex_9_10/Servlet2
Servlet2 is developed by Eshu at Marwadi Info Tech


Not syncing
Servlet Servlet2
Servlet Servlet3
localhost:8080/ex_9_10/Servlet3
Servlet3 is developed by null at Marwadi Info Tech