Experiment 8:

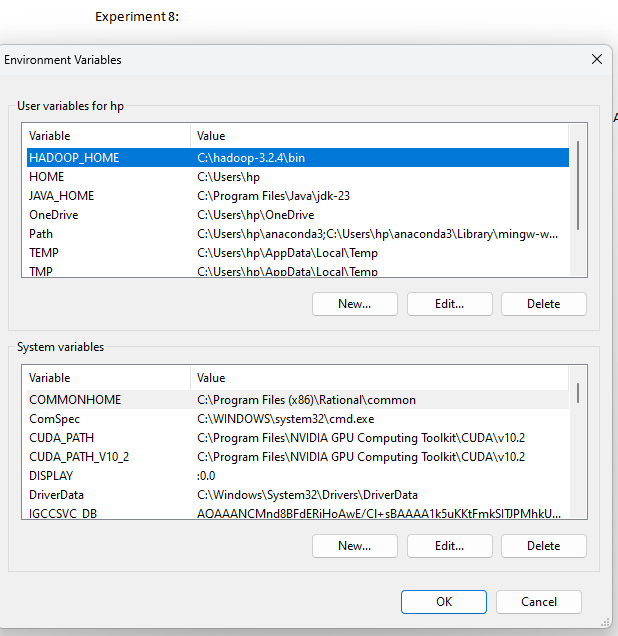
Steps:

1)install tomcat

2)Install java If not existing and go to edit system environment variables and then add JAVA\_HOME and path in system and user variables

JAVA\_HOME: java till bin without bin

path: java with bin



2)Go to bin folder of tomcat and give cmd in path and inside command prompt Enter “startup.bat”

Server of tomcat will open and then goto <http://localhost:8080> to see tomcat home page

Note: If home page is not visible but if a file directory is visible then go to server.xml of lib folder and edit connector-port to 8081 8082 and go to url with that port if still error then in logs check catalina logs and in that errors are logged.

3)Now go to webapps of tomcat and create new directory I call it ThirdApp

4)inside it keep index.html,UserServlet.java and CartServlet.java

**1)Index.html:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>User Login</title>

</head>

<body>

<h2>Enter User ID</h2>

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

<label for="userId">User ID:</label>

<input type="text" id="userId" name="userId" required>

<input type="submit" value="Get User Details">

</form>

</body>

</html>

**2)UserServlet.java:**

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.io.\*;

import org.json.JSONArray;

import org.json.JSONObject;

public class UserServlet extends HttpServlet {

    protected void doGet(HttpServletRequest request, HttpServletResponse response)

            throws ServletException, IOException {

        response.setContentType("text/html");

        PrintWriter out = response.getWriter();

        // Get user ID from the request

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

        if (userId != null) {

            // Retrieve user data from the web.xml context-param

            ServletContext context = getServletContext();

            String usersJson = context.getInitParameter("users");

            JSONArray users = new JSONArray(usersJson);

            // Search for the user in the data

            JSONObject user = null;

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

                JSONObject currentUser = users.getJSONObject(i);

                if (currentUser.getString("userId").equals(userId)) {

                    user = currentUser;

                    break;

                }

            }

            // Display the user details if found

            if (user != null) {

                out.println("<h3>User Details</h3>");

                out.println("<p>User ID: " + user.getString("userId") + "</p>");

                out.println("<p>Password: " + user.getString("password") + "</p>");

                out.println("<p>Credit Card: " + user.getString("ccNumber") + "</p>");

                // Create a cookie for the userId (for shopping cart)

                Cookie userCookie = new Cookie("userId", userId);

                userCookie.setMaxAge(60 \* 60);  // 1 hour expiration

                response.addCookie(userCookie);

                // Provide link to shopping cart

                out.println("<br><a href='cart'>Go to your Shopping Cart</a>");

            } else {

                out.println("<p>User not found!</p>");

            }

        } else {

            out.println("<p>Please provide a valid user ID.</p>");

        }

    }

}

**3)CartServlet.java:**

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.io.\*;

import java.util.\*;

public class CartServlet extends HttpServlet {

    protected void doGet(HttpServletRequest request, HttpServletResponse response)

            throws ServletException, IOException {

        response.setContentType("text/html");

        PrintWriter out = response.getWriter();

        // Get userId from cookies

        String userId = null;

        Cookie[] cookies = request.getCookies();

        if (cookies != null) {

            for (Cookie cookie : cookies) {

                if ("userId".equals(cookie.getName())) {

                    userId = cookie.getValue();

                    break;

                }

            }

        }

        if (userId != null) {

            // Use session to store user's cart

            HttpSession session = request.getSession();

            @SuppressWarnings("unchecked")

            List<String> cart = (List<String>) session.getAttribute(userId);

            // If the cart doesn't exist, initialize it

            if (cart == null) {

                cart = new ArrayList<>();

                session.setAttribute(userId, cart);

            }

            // Handle adding items and clearing cart

            String addItem = request.getParameter("add");

            if (addItem != null) {

                cart.add(addItem); // Add item to cart

            }

            String clearCart = request.getParameter("clear");

            if ("true".equals(clearCart)) {

                cart.clear(); // Clear cart

            }

            // Display shopping cart

            out.println("<h3>Shopping Cart for User: " + userId + "</h3>");

            if (cart.isEmpty()) {

                out.println("<p>Your cart is empty.</p>");

            } else {

                for (String item : cart) {

                    out.println("<p>" + item + "</p>");

                }

            }

            // Provide options to add items or clear cart

            out.println("<p><a href=\"?add=Apple\">Add Apple</a></p>");

            out.println("<p><a href=\"?add=Banana\">Add Banana</a></p>");

            out.println("<p><a href=\"?add=Cherry\">Add Cherry</a></p>");

            out.println("<p><a href=\"?clear=true\">Clear Cart</a></p>");

        } else {

            out.println("<p>No user found. Please log in first.</p>");

        }

    }

}

4)create WEB-INF inside it keep web.xml and lib (create new folder inside WEB-INF) then classes other folder create and keep in WEB-INF

**5)web.xml:**

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

<web-app xmlns="http://java.sun.com/xml/ns/javaee"

         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

         xsi:schemaLocation="http://java.sun.com/xml/ns/javaee

                             http://java.sun.com/xml/ns/javaee/web-app\_3\_0.xsd"

         version="3.0">

    <!-- Servlet Definition for UserServlet -->

    <servlet>

        <servlet-name>UserServlet</servlet-name>

        <servlet-class>UserServlet</servlet-class> <!-- Adjust if in package -->

    </servlet>

    <servlet-mapping>

        <servlet-name>UserServlet</servlet-name>

        <url-pattern>/userDetails</url-pattern>

    </servlet-mapping>

    <!-- Servlet Definition for CartServlet -->

    <servlet>

        <servlet-name>CartServlet</servlet-name>

        <servlet-class>CartServlet</servlet-class> <!-- Adjust if in package -->

    </servlet>

    <servlet-mapping>

        <servlet-name>CartServlet</servlet-name>

        <url-pattern>/cart</url-pattern>

    </servlet-mapping>

    <!-- Context Parameter for storing Users JSON -->

    <context-param>

        <param-name>users</param-name>

        <param-value>

            [

                {"userId": "user1", "password": "password1", "ccNumber": "1234-5678-9876"},

                {"userId": "user2", "password": "password2", "ccNumber": "2345-6789-1234"}

            ]

        </param-value>

    </context-param>

    <!-- Welcome File List -->

    <welcome-file-list>

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

    </welcome-file-list>

</web-app>

**6)Keep json file inside lib folder of WEB-INF:**

"C:\Users\hp\Downloads\apache-tomcat-9.0.97-windows-x64\apache-tomcat-9.0.97\webapps\ThirdApp\WEB-INF\lib\json-20240303.jar" download this if not existing

7) Compile Userservlet.java and CartServlet.java:

Go to cart location and give cmd

Then give javac – cp

Then give location of json from web-INF and then “;” then the path of lib servlet-api file then –d WEB-INF\classes by this we are saying to keep class files compiled in WEB-INF \classes

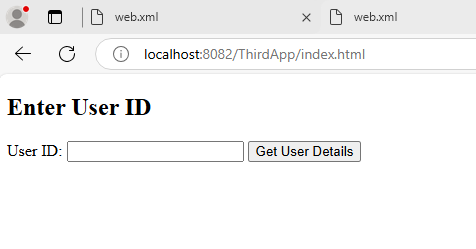
Then give both classes names

C:\Users\hp\Downloads\apache-tomcat-9.0.97-windows-x64\apache-tomcat-9.0.97\webapps\ThirdApp>javac -cp "WEB-INF\lib\json-20240303.jar;C:\users\hp\Downloads\apache-tomcat-9.0.97-windows-x64\apache-tomcat-9.0.97\lib\servlet-api.jar" -d WEB-INF\classes UserServlet.java CartServlet.java

C:\Users\hp\Downloads\apache-tomcat-9.0.97-windows-x64\apache-tomcat-9.0.97\webapps\ThirdApp>

8)on server and go to [User Login](http://localhost:8082/ThirdApp/index.html)

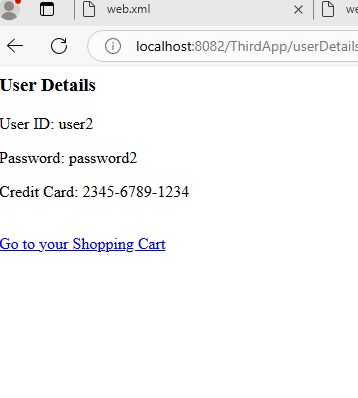
You will see



Now as per web.xml give any userid

I am giving user2

Output:



On clicking shopping cart

