

# **Internet Technology Lab Report – Assignment 4**

## **TITLE**

**Name – Sourav Dutta**

**Roll – 001610501076**

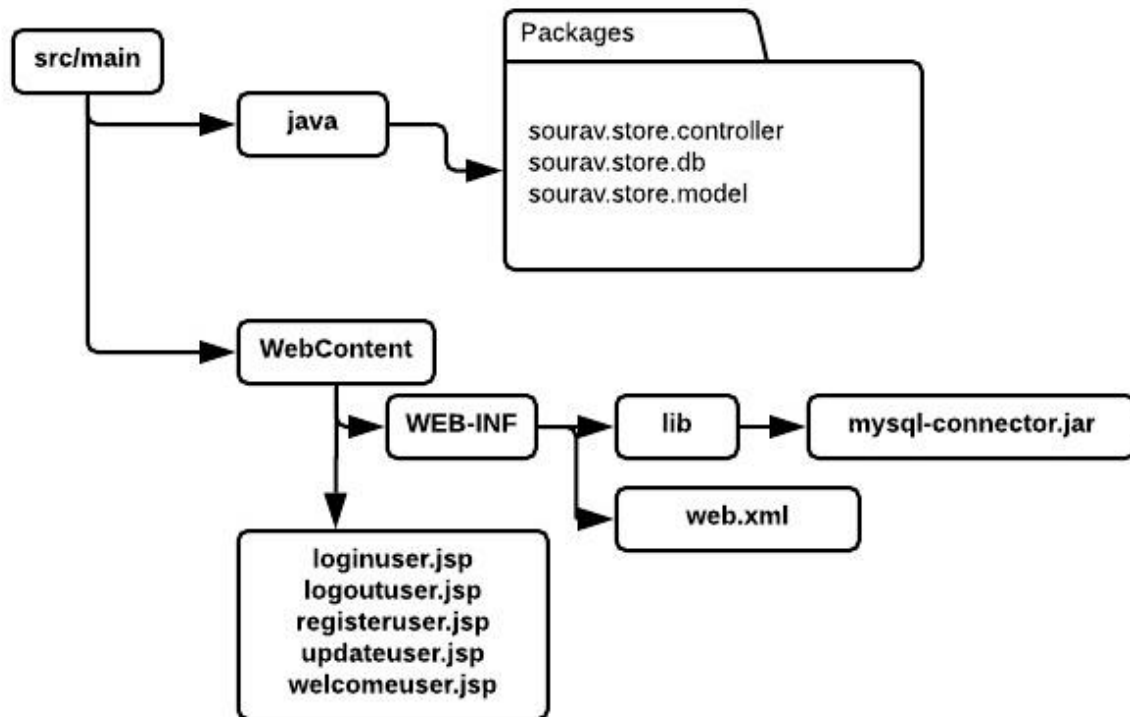
**Class – BCSE 4<sup>th</sup> year**

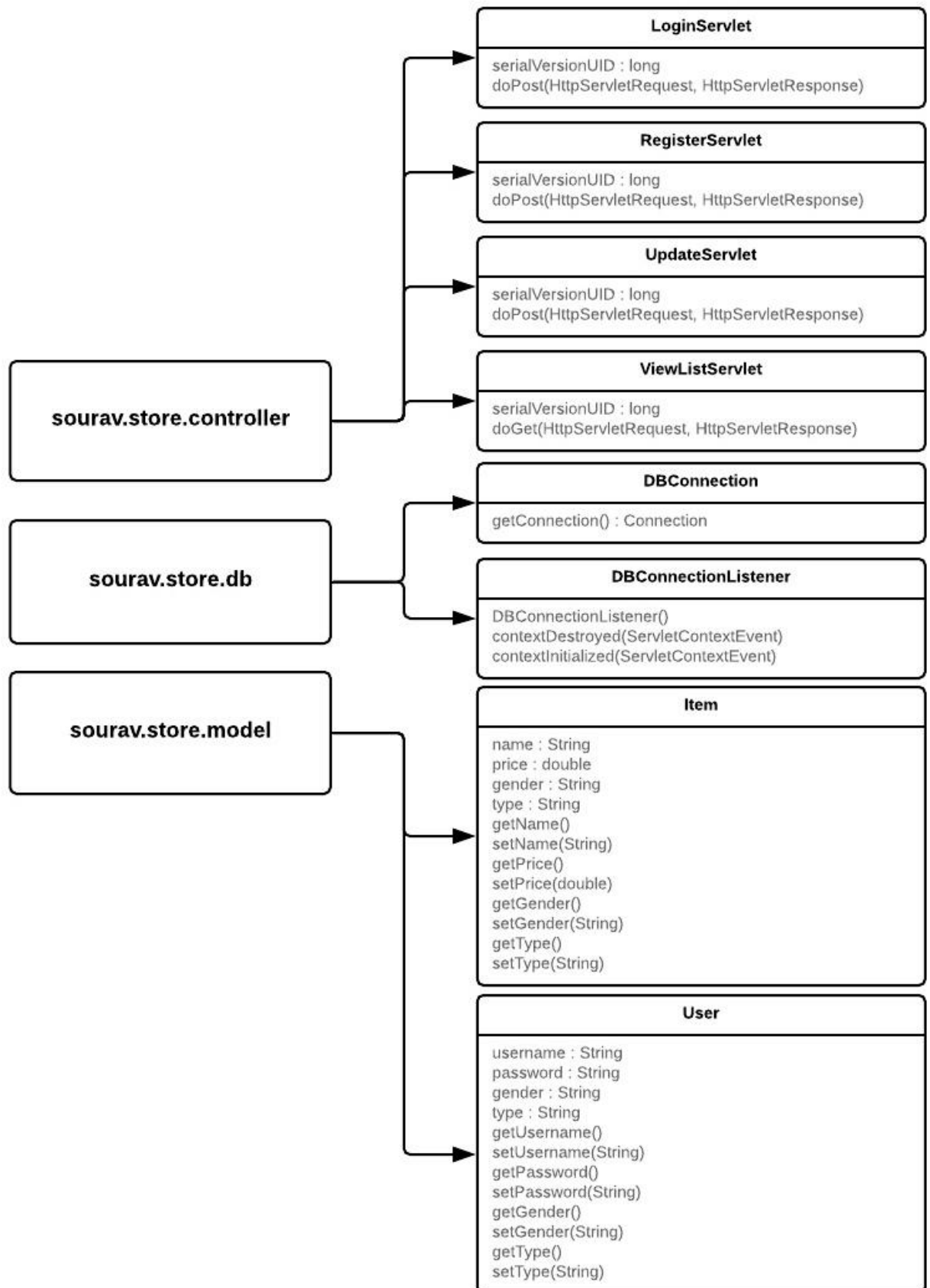
**Group – A3**

**Assignment Numbers – 4**

Design an online apparel store using servlets and jsp. The store keeps records for its items in a database where some items may be discounted and some other items should be displayed as “new arrivals”. A user may search for a specific item. By default, when a user signs in, based on his/her profile (male/female etc.), show him/her preferred set of clothing. Users will be divided into two groups: some users looking for discounted items mainly, some others looking for new arrivals. So, depending on their preference already set in the database, the order of the displayed list would vary. By default, discounted items will be displayed first.

## CLASS DIAGRAMS





## CODE SNIPPET

### Deployment Descriptor [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>ass4_online_apparel_store</display-name>
    <welcome-file-list>
        <welcome-file>registeruser.jsp</welcome-file>
    </welcome-file-list>
</web-app>
```

### loginuser.jsp :

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Login</title>
</head>
<body>
<%
String username = (String)session.getAttribute("username");
if(username != null) {
    response.sendRedirect("welcomeuser.jsp");
    return;
}
%>
<h1>Welcome to my apparel store!</h1>

Want to go back to registration page? <a
href="http://localhost:8080/ass4_online_apparel_store/registeruser.jsp">Register</a>
<br>
<h2>Login here!</h2>
<form action="loginuser" method="post">
<pre>
    Username: <input type="text" name="username" placeholder="Enter username here"
required/>

    Password: <input type="text" name="password" placeholder="Enter password here"
required/>

        <input type="submit" value="LOGIN"/>
</pre>
</form>
</body>
</html>
```

### logoutuser.jsp :

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
```

```

<meta charset="ISO-8859-1">
<title>Logout</title>
</head>
<body>
<%
session.removeAttribute("username");
session.removeAttribute("user");
session.invalidate();
response.sendRedirect("registeruser.jsp");
%>
</body>
</html>

```

### **registeruser.jsp :**

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Welcome</title>
</head>
<body>
<%
String username = (String)session.getAttribute("username");
if(username != null) {
    response.sendRedirect("welcomeuser.jsp");
    return;
}
%>
<h1>Welcome to my apparel store!</h1>

Already registered? <a
href="http://localhost:8080/ass4_online_apparel_store/loginuser.jsp">Login</a>
<br>
<h2>Register here!</h2>
<form action="registeruser" method="post">
<pre>
    Username: <input type="text" name="username" placeholder="Enter username here"
required/>

    Password: <input type="text" name="password" placeholder="Enter password here"
required/>

    Gender:
    <input type="radio" name="gender" value="m" required>Male
    <input type="radio" name="gender" value="f" required>Female

    Preference type (optional):
    <input type="radio" name="type" value="discounted" >Discounted
    <input type="radio" name="type" value="new-arrival" >New Arrival

    <input type="submit" value="REGISTER"/>
</pre>
</form>
</body>
</html>

```

### **updateuser.jsp :**

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"

```

```

        pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Update details</title>
</head>
<body>
<%
String username = (String)session.getAttribute("username");
if(username == null) {
    response.sendRedirect("registeruser.jsp");
    return;
}
out.println("<h2>Welcome "+username+"</h2>");
%>
Want to logout?
<a href="http://localhost:8080/ass4_online_apparel_store/logoutuser.jsp">Logout</a>
<br> <br>
Want to go back to the User page?
<a href="http://localhost:8080/ass4_online_apparel_store/welcomeuser.jsp">View user
page</a>

<h2>Enter the details you want to update</h2>
<form action="updateuser" method="post">
<pre>
    Username: <%=username %>

    Password: <input type="text" name="password" placeholder="Enter password here"
required/>

    Gender:
    <input type="radio" name="gender" value="m" required>Male</input>
    <input type="radio" name="gender" value="f" required>Female</input>

    Preference type:
    <input type="radio" name="type" value="discounted" >Discounted</input>
    <input type="radio" name="type" value="new-arrival" >New Arrival</input>

        <input type="submit" value="UPDATE"/>
</pre>
</form>

</body>
</html>

```

### **welcomeuser.jsp :**

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1" import="java.sql.*"
    import="sourav.store.model.Item" import="sourav.store.model.User" %>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Welcome User</title>
</head>
<body>
<%
String username = (String)session.getAttribute("username");
if(username == null) {
    response.sendRedirect("registeruser.jsp");

```

```

        return;
    }
    out.println("<h2>Welcome "+username+"</h2>");
    %>
    Want to logout?
    <a href="http://localhost:8080/ass4_online_apparel_store/Logoutuser.jsp">Logout</a>
    <br> <br>
    Want to update the user details?
    <a href="http://localhost:8080/ass4_online_apparel_store/updateuser.jsp">Update</a>
    <br> <br>
    Want to view the apparel list?
    <a href="http://localhost:8080/ass4_online_apparel_store/viewlist">View list</a>

</body>
</html>

```

### **LoginServlet.java :**

```

package sourav.store.controller;

import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;

import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

/**
 * Servlet implementation class LoginServlet
 */
@WebServlet("/loginuser")
public class LoginServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;

    /**
     * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse
    response)
     */
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {

        try {
            PrintWriter out = response.getWriter();
            String username = request.getParameter("username");
            String password = request.getParameter("password");

            String query = "select * from users where username='" + username +
            "'";

            Connection conn = (Connection)
            getServletContext().getAttribute("DBConnection");
            PreparedStatement statement = conn.prepareStatement(query);
            ResultSet resultset = statement.executeQuery();
            if (resultset.next()) {
                if (resultset.getString("password").equals(password)) {
                    HttpSession session = request.getSession();
                    session.setAttribute("username", username);

```

```

        response.sendRedirect("welcomeuser.jsp");
    } else {
        out.println("<h1>Invalid Password for the given
username!</h1>");
        out.println("Want to go to home page? \r\n" +
            "<a
href=\"http://localhost:8080/ass4_online_apparel_store/registeruser.jsp\">Home Page</a>
");
    }
    } else {
        out.println("<h1>User does not exist in the database!</h1>");
        out.println("Want to go to home page? \r\n" +
            "<a
href=\"http://localhost:8080/ass4_online_apparel_store/registeruser.jsp\">Home Page</a>
");
    }
    } catch (Exception e) {
        e.printStackTrace();
    }
}
}

```

### **RegisterServlet.java :**

```

package sourav.store.controller;

import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;

import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

/**
 * Servlet implementation class RegisterServlet
 */
@WebServlet("/registeruser")
public class RegisterServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;

    /**
     * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse
response)
     */
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
        try {
            PrintWriter out = response.getWriter();
            String username = request.getParameter("username");
            String password = request.getParameter("password");
            String gender = request.getParameter("gender");
            String type = request.getParameter("type");
            if(type == "" || type == null) {
                type = "discounted";
            }
        }
    }
}

```



```

        String query = "select * from users where username='" + username
+ "'";
        Connection conn = (Connection)
getServletContext().getAttribute("DBConnection");
        PreparedStatement statement = conn.prepareStatement(query);
        ResultSet resultset = statement.executeQuery();
        if (resultset.next()) {
            out.println("<h1>User already exists in the database. Please
login.</h1>");
            out.println("Want to go to login page? \r\n" +
                "<a
href=\"http://localhost:8080/ass4_online_apparel_store/loginuser.jsp\">Login Page</a> ")
;
        } else {
            query = "insert into users
values('" + username + "','"+password+"','"+gender+"','"+type+"')";
            statement = conn.prepareStatement(query);
            statement.execute();
            out.println("<h1>The user has been registered!</h1>");
            out.println("Want to go to home page? \r\n" +
                "<a
href=\"http://localhost:8080/ass4_online_apparel_store/registeruser.jsp\">Home Page</a>
") ;
        }
    } catch (Exception e) {
        e.printStackTrace();
    }
}
}

```

### **UpdateServlet.java :**

```

package sourav.store.controller;

import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;

import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

/**
 * Servlet implementation class UpdateServlet
 */
@WebServlet("/updateuser")
public class UpdateServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;

    /**
     * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse
response)
     */
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
        try {

```

```

        PrintWriter out = response.getWriter();
        HttpSession session = request.getSession();
        String username = (String)session.getAttribute("username");
        String password = request.getParameter("password");
        String gender = request.getParameter("gender");
        String type = request.getParameter("type");
        if(type == "" || type == null) {
            type = "discounted";
        }
        if(username == null) {
            response.sendRedirect("registeruser.jsp");
        }
        String query = "select * from users where username='" + username
+ "'";
        Connection conn = (Connection)
getServletContext().getAttribute("DBConnection");
        PreparedStatement statement = conn.prepareStatement(query);
        ResultSet resultset = statement.executeQuery();
        if (resultset.next()) {
            query = "update users set password='"+password+"',
gender='"+gender+"', type='"+type+"' where username='"+username+"'";
            statement = conn.prepareStatement(query);
            statement.execute();
            response.sendRedirect("welcomeuser.jsp");
        } else {
            out.println("<h1>User does not exist in the database!</h1>");
            out.println("Want to go to home page? \r\n" +
                "<a
href='\"http://localhost:8080/ass4_online_apparel_store/registeruser.jsp\">Home Page</a>
");
        }
    } catch (Exception e) {
        e.printStackTrace();
    }
}
}
}

```

### **ViewListServlet.java :**

```

package sourav.store.controller;

import java.io.IOException;
import java.io.PrintWriter;
import java.sql.*;

import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

import sourav.store.model.Item;
import sourav.store.model.User;

/**
 * Servlet implementation class ViewListServlet
 */
@WebServlet("/viewlist")
public class ViewListServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;

```

```

/**
 * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse
response)
 */
protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
    // TODO Auto-generated method stub

    try {
        PrintWriter out = response.getWriter();
        HttpSession session = request.getSession();
        String username = (String)session.getAttribute("username");
        if(username == null) {
            response.sendRedirect("registeruser.jsp");
            return;
        }
        out.println("<title>View Details</title>");
        out.println("<h2>Welcome "+username+"</h2>");
        out.println("Want to logout? \r\n" +
            "<a
href=\"http://localhost:8080/ass4_online_apparel_store/logoutuser.jsp\">Logout</a> " +
            "<br> <br> " +
            "Want to go back to the User page? " +
            "<a
href=\"http://localhost:8080/ass4_online_apparel_store/welcomeuser.jsp\">View user
page</a>");

        String query = "select * from users where username='" + username +
            "'";

        Connection conn = (Connection)
getServletContext().getAttribute("DBConnection");
        PreparedStatement statement = conn.prepareStatement(query);
        ResultSet resultset = statement.executeQuery();
        if (resultset.next()) {

            User user = new User();
            user.setUsername(username);
            user.setPassword(resultset.getString("password"));
            user.setGender(resultset.getString("gender"));
            user.setType(resultset.getString("type"));

            String query2 = "select * from items where gender='" +
user.getGender() + "' and type='" + user.getType() + "' order by price";
            PreparedStatement statement2 = conn.prepareStatement(query2);
            ResultSet resultset2 = statement2.executeQuery();

            if(resultset2.next()) {
                out.println("<br><br><h3>Apparel list for you</h3>");

                out.println("<table><tr><td><b>NAME</b></td><td><b>PRICE</b></td><td><b>GENDER</b></td><td><b>TYPE</b></td></tr>");
                do {
                    Item item = new Item();
                    item.setName(resultset2.getString("name"));

                    item.setPrice(Double.parseDouble(resultset2.getString("price")));
                    item.setGender(resultset2.getString("gender"));
                    item.setType(resultset2.getString("type"));

```

```

        out.println("<tr><td>" + item.getName() + "</td><td>" + item.getPrice() + "</td><td>" + item
        .getGender() + "</td><td>" + item.getType() + "</td></tr>");
        //break;
    } while(resultset2.next());
    out.println("</table>");
} else {
    out.println("<h1>No apparel found according to your
preferences!</h1>");
    out.println("Want to go to home page? \r\n" +
        "<a
href=\"http://localhost:8080/ass4_online_apparel_store/registeruser.jsp\">Home Page</a>
");
}

} else {
    out.println("<h1>No apparel found according to your
preferences!</h1>");
    out.println("Want to go to home page? \r\n" +
        "<a
href=\"http://localhost:8080/ass4_online_apparel_store/registeruser.jsp\">Home Page</a>
");
}

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

}
}

```

### **DBConnection.java :**

```

package sourav.store.db;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;

public class DBConnection {

    public static Connection getConnection() {
        Connection conn = null;
        try {
            Class.forName("com.mysql.jdbc.Driver");
            conn =
DriverManager.getConnection("jdbc:mysql://localhost:3306/mydb", "root", "root");
        } catch (ClassNotFoundException e) {
            // TODO Auto-generated catch block
            e.printStackTrace();
        } catch (SQLException e) {
            // TODO Auto-generated catch block
            e.printStackTrace();
        }
        return conn;
    }

}

```

### **DBConnectionListener.java :**

```

package sourav.store.db;

import java.sql.Connection;

```

```

import javax.servlet.ServletContext;
import javax.servlet.ServletContextEvent;
import javax.servlet.ServletContextListener;
import javax.servlet.annotation.WebListener;

/**
 * Application Lifecycle Listener implementation class DBConnectionListener
 *
 */
@WebListener
public class DBConnectionListener implements ServletContextListener {

    /**
     * Default constructor.
     */
    public DBConnectionListener() {
        // TODO Auto-generated constructor stub
    }

    /**
     * @see ServletContextListener#contextDestroyed(ServletContextEvent)
     */
    public void contextDestroyed(ServletContextEvent sce) {
        // TODO Auto-generated method stub
    }

    /**
     * @see ServletContextListener#contextInitialized(ServletContextEvent)
     */
    public void contextInitialized(ServletContextEvent sce) {
        // TODO Auto-generated method stub
        ServletContext context = sce.getServletContext();
        Connection conn = DBConnection.getConnection();
        context.setAttribute("DBConnection", conn);
    }
}

```

#### **Item.java :**

```

package sourav.store.model;

public class Item {
    private String name;
    private double price;
    private String gender;
    private String type;
    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
    public double getPrice() {
        return price;
    }
    public void setPrice(double price) {
        this.price = price;
    }
    public String getGender() {
        return gender;
    }
}

```

```

    }
    public void setGender(String gender) {
        this.gender = gender;
    }
    public String getType() {
        return type;
    }
    public void setType(String type) {
        this.type = type;
    }
}

```

#### **User.java :**

```

package sourav.store.model;

public class User {
    private String username;
    private String password;
    private String gender;
    private String type;
    public String getUsername() {
        return username;
    }
    public void setUsername(String username) {
        this.username = username;
    }
    public String getPassword() {
        return password;
    }
    public void setPassword(String password) {
        this.password = password;
    }
    public String getGender() {
        return gender;
    }
    public void setGender(String gender) {
        this.gender = gender;
    }
    public String getType() {
        return type;
    }
    public void setType(String type) {
        this.type = type;
    }
}

```

## OUTPUT

The image displays three sequential browser screenshots of a web application for an online apparel store.

**First Screenshot:** The browser address bar shows `http://localhost:8080/ass4_online_apparel_store/`. The page title is "Welcome". The main heading is "Welcome to my apparel store!". Below this, there is a link "Already registered? [Login](#)". The section "Register here!" contains a registration form with the following fields: "Username:" (containing "sourav1"), "Password:" (containing "1234"), "Gender:" (with radio buttons for "Male" and "Female", where "Male" is selected), and "Preference type (optional):" (with radio buttons for "Discounted" and "New Arrival", where "New Arrival" is selected). A "REGISTER" button is at the bottom of the form.

**Second Screenshot:** The browser address bar shows `http://localhost:8080/ass4_online_apparel_store/registeruser`. The main heading is "User already exists in the database. Please login.". Below this, there is a link "Want to go to login page? [Login Page](#)".

**Third Screenshot:** The browser address bar shows `http://localhost:8080/ass4_online_apparel_store/loginuser.jsp`. The page title is "Login". The main heading is "Welcome to my apparel store!". Below this, there is a link "Want to go back to registration page? [Register](#)". The section "Login here!" contains a login form with the following fields: "Username:" (containing "sourav") and "Password:" (containing "1234"). A "LOGIN" button is at the bottom of the form.

Welcome User

http://localhost:8080/ass4\_online\_apparel\_store/welcomeuser.jsp

Welcome sourav

Want to logout? [Logout](#)

Want to update the user details? [Update](#)

Want to view the apparel list? [View list](#)

View Details

http://localhost:8080/ass4\_online\_apparel\_store/viewlist

Welcome sourav

Want to logout? [Logout](#)

Want to go back to the User page? [View user page](#)

Apparel list for you

NAME	PRICE	GENDER	TYPE
mens shirt	1000.0	m	discounted
jeans	1200.0	m	discounted

Update details

http://localhost:8080/ass4\_online\_apparel\_store/updateuser.jsp

Welcome sourav

Want to logout? [Logout](#)

Want to go back to the User page? [View user page](#)

Enter the details you want to update

Username: sourav

Password:

Gender:  
☒ Male  
☐ Female

Preference type:  
☐ Discounted  
☒ New Arrival

UPDATE

ROLL – 76

SOURAV DUTTA

Page 16 of 17



