**PROGRAM 1 : JDBC DRIVER**

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

public class JDBCSample {

static final String DB\_URL = "jdbc:mysql://localhost:3306/your\_database";

static final String USER = "your\_username";

static final String PASS = "your\_password";

public static void main(String[] args) {

Connection conn = null;

Statement stmt = null;

try {

Class.forName("com.mysql.cj.jdbc.Driver

System.out.println("Connecting to the database...");

conn = DriverManager.getConnection(DB\_URL, USER, PASS);

System.out.println("Creating statement...");

stmt = conn.createStatement();

String sql = "SELECT id, name, age FROM your\_table";

ResultSet rs = stmt.executeQuery(sql);

while (rs.next()) {

int id = rs.getInt("id");

String name = rs.getString("name");

int age = rs.getInt("age");

System.out.print("ID: " + id);

System.out.print(", Name: " + name);

System.out.println(", Age: " + age);

}

rs.close();

stmt.close();

conn.close();

} catch (Exception e) {

e.printStackTrace();

} finally {

try {

if (stmt != null) stmt.close();

if (conn != null) conn.close();

} catch (Exception e) {

e.printStackTrace();

}

}

}

}

**OUTPUT**:

Connecting to the database...

Creating statement...

ID: 1, Name: John, Age: 25

ID: 2, Name: Alice, Age: 30

ID: 3, Name: Michael, Age: 22

**PROGRAM 2: SERVLET APPLICATION USING COOKIES AND SESSIONS**

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

// Main servlet that handles login, welcome, and logout actions

public class AppServlet extends HttpServlet {

// Handle POST request for login (when form is submitted)

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

// Get the username and password from the form

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

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

// For demonstration, assume "password" is the correct password

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

// Create a session for the user

HttpSession session = request.getSession();

session.setAttribute("username", username);

// Create a cookie for the username

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

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

response.addCookie(userCookie);

// Redirect to welcome page

response.sendRedirect("AppServlet?action=welcome");

} else {

// Incorrect login

response.getWriter().println("Invalid login credentials! Try again.");

}

}

// Handle GET requests for welcome and logout

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

// Get the 'action' parameter to determine what to do (welcome or logout)

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

if ("welcome".equals(action)) {

// Display the welcome page

displayWelcomePage(request, response);

} else if ("logout".equals(action)) {

// Log the user out

handleLogout(request, response);

}

}

// Display the welcome page (using session and cookies)

private void displayWelcomePage(HttpServletRequest request, HttpServletResponse response)

throws IOException {

// Get session and cookie information

HttpSession session = request.getSession(false); // false: don't create a session if not exists

String username = (session != null) ? (String) session.getAttribute("username") : null;

// Get cookies

Cookie[] cookies = request.getCookies();

String cookieUsername = null;

if (cookies != null) {

for (Cookie cookie : cookies) {

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

cookieUsername = cookie.getValue();

}

}

}

// Display the response to the user

response.setContentType("text/html");

PrintWriter out = response.getWriter();

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

if (username != null) {

out.println("<h1>Welcome, " + username + " (from session)!</h1>");

} else if (cookieUsername != null) {

out.println("<h1>Welcome back, " + cookieUsername + " (from cookie)!</h1>");

} else {

out.println("<h1>Welcome, Guest!</h1>");

}

out.println("<a href='AppServlet?action=logout'>Logout</a>");

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

}

// Handle user logout, clear session and cookies

private void handleLogout(HttpServletRequest request, HttpServletResponse response)

throws IOException {

// Invalidate the session

HttpSession session = request.getSession(false);

if (session != null) {

session.invalidate(); // Ends the session

}

// Clear the cookie by setting max age to 0

Cookie cookie = new Cookie("username", "");

cookie.setMaxAge(0); // Removes the cookie

response.addCookie(cookie);

// Redirect to login page

response.sendRedirect("index.html");

}

}

**OUTPUT:**

**Expected Output:**

**1. Login Page:**

**Enter username: [Your input] HARINI**

**Enter password: [password]09876**

**2. Welcome Page:**

**Welcome, [HARINI]!**

**[Logout Link]**