Practical-4

**Web.xml**

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| --- |
| <web-app>  <!-- Program 1 -->  <servlet>  <servlet-name>Prog1</servlet-name>  <servlet-class>Prog1</servlet-class>  </servlet>  <servlet-mapping>  <servlet-name>Prog1</servlet-name>  <url-pattern>/Prog1</url-pattern>  </servlet-mapping>  <!-- Program 2 -->  <servlet>  <servlet-name>Prog2x</servlet-name>  <servlet-class>Prog2x</servlet-class>  </servlet>  <servlet-mapping>  <servlet-name>Prog2x</servlet-name>  <url-pattern>/Prog2x</url-pattern>  </servlet-mapping>  <!-- Program 3 -->  <servlet>  <servlet-name>Login</servlet-name>  <servlet-class>Login</servlet-class>  </servlet>  <servlet-mapping>  <servlet-name>Login</servlet-name>  <url-pattern>/Login</url-pattern>  </servlet-mapping>  <servlet>  <servlet-name>Prog3</servlet-name>  <servlet-class>Prog3</servlet-class>  </servlet>  <servlet-mapping>  <servlet-name>Prog3</servlet-name>  <url-pattern>/Prog3</url-pattern>  </servlet-mapping>  <servlet>  <servlet-name>welcome</servlet-name>  <servlet-class>welcome</servlet-class>  </servlet>  <servlet-mapping>  <servlet-name>welcome</servlet-name>  <url-pattern>/welcome</url-pattern>  </servlet-mapping>  <servlet>  <servlet-name>Logout</servlet-name>  <servlet-class>Logout</servlet-class>  </servlet>  <servlet-mapping>  <servlet-name>Logout</servlet-name>  <url-pattern>/Logout</url-pattern>  </servlet-mapping>  <!-- Program 4 -->  <servlet>  <servlet-name>Prog4</servlet-name>  <servlet-class>Prog4</servlet-class>  </servlet>  <servlet-mapping>  <servlet-name>Prog4</servlet-name>  <url-pattern>/Prog4</url-pattern>  </servlet-mapping>  <servlet>  <servlet-name>Update</servlet-name>  <servlet-class>Update</servlet-class>  </servlet>  <servlet-mapping>  <servlet-name>Update</servlet-name>  <url-pattern>/Update</url-pattern>  </servlet-mapping>  <servlet>  <servlet-name>Delete</servlet-name>  <servlet-class>Delete</servlet-class>  </servlet>  <servlet-mapping>  <servlet-name>Delete</servlet-name>  <url-pattern>/Delete</url-pattern>  </servlet-mapping>  </web-app> |

**index.html**

|  |
| --- |
| <!DOCTYPE HTML><html lang="en"><head>  <meta charset="UTF-8">  <title>Apache Tomcat Examples</title>  </head>  <body>  <p>  <h3>Apache Tomcat Examples</H3>  </p>  <ul>  <li><a href="Prog1">Program-1</a></li>  <li><a href="Prog2.html">Program-2</a></li>  <li><a href="Login">Program-3</a></li>  <li><a href="DBInsert.html">Program-4</a></li>  </ul>  </body></html> |

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Program-1

1. Write a Generic Servlet and servlet mapping code which displays “Hello World” string in the browser window upon running.

Ans:

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| --- |
| import java.io.\*;  import javax.servlet.\*;  import javax.servlet.http.\*;  public class Prog1 extends HttpServlet {  public void doGet(HttpServletRequest request, HttpServletResponse response)  throws IOException, ServletException  {  response.setContentType("text/html");  PrintWriter out = response.getWriter();  out.println("<html><head><head><title>Hello World!</title></head><body><h1 >Hello World!</h1></body></html>");  }  } |

Output-1

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Program-2

1. Write a servlet and servlet mapping code for simple Servlet which displays “Hello {User}” string in the browser window where user value is passed through deployment descriptor file

Ans:

**Prog2.html**

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| --- |
| <html>  <head>  <title>User Details</title>  </head>  <body>  <form action="Prog2x" method="get">  Enter User Name : <input type="text" name="uname"/><br>  Enter Password : <input type="text" name="pass"/><br>  <input type = "submit" value="Log In"/>  </form>  </body>  </html> |

**Prog2x.java**

|  |
| --- |
| import java.io.\*;  import javax.servlet.\*;  import javax.servlet.http.\*;  public class Prog2x extends HttpServlet {  public void doGet(HttpServletRequest request, HttpServletResponse response)  throws IOException, ServletException  {  response.setContentType("text/html");    PrintWriter out = response.getWriter();    out.println("<html>");  out.println("<head>");  out.println("<title>Prog2x</title>");  out.println("</head>");  out.println("<body>");    out.print("<h1>Hello "+request.getParameter("uname")+"</h1>");  out.println("</body>");  out.println("</html>");  }  } |

Output-2

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Program-3

1. Write a servlet and servlet mapping code to for log in and welcome page of the user containing Log Out button. Make use of Session to load the home page. If the session is not created then the user should automatically redirected to Log In page. Username should be passed and a welcome message with the username should be displayed on welcome page if the session is set. Username is to be passed through cookie.

Ans:

**Login.java**

|  |
| --- |
| import java.io.\*;  import javax.servlet.\*;  import javax.servlet.http.\*;  public class Login extends HttpServlet{  public void doGet(HttpServletRequest request,HttpServletResponse response) throws IOException, ServletException{  response.setContentType("text/html");  PrintWriter out = response.getWriter();  out.print("<Form action='Prog3' method='get'>"+  "<input type='text' name='login' placeholder='Username'/>"+  "<br><br>"+  "<input type='text' name='Password' placeholder='Password'/>"+  "<br><br>"+  "<input type='submit' name='submit' value='Log In'/>"+  "</Form>");  out.close();  }    } |

**Prog3.java**

|  |
| --- |
| import java.io.\*;  import javax.servlet.\*;  import javax.servlet.http.\*;  public class Prog3 extends HttpServlet{  public void doGet(HttpServletRequest request, HttpServletResponse response) throws IOException,ServletException{  response.setContentType("text/html");  PrintWriter out = response.getWriter();  Cookie UserName = new Cookie("UserName", request.getParameter("login"));  response.addCookie(UserName);  Cookie Password = new Cookie("Password",request.getParameter("Password"));  response.addCookie(Password);  HttpSession s = request.getSession();  s.setAttribute("Name",null);  response.sendRedirect("welcome"); }} |

**welcome.java**

|  |
| --- |
| import java.io.\*;  import javax.servlet.\*;  import javax.servlet.http.\*;  public class welcome extends HttpServlet {  public void doGet(HttpServletRequest request,HttpServletResponse response)throws IOException, ServletException{  HttpSession s = request.getSession(false);  Cookie ck[] = request.getCookies();  String username = null,password=null;  for(Cookie c1:ck){  if(c1.getName().equals("UserName"))  username=c1.getValue();  if(c1.getName().equals("Password"))  password = c1.getValue();  }  if(username.equals("Harsh") && password.equals("Harsh")){  response.setContentType("text/html");  PrintWriter out = response.getWriter();  out.print("Welcome <h1>"+username+"</h1>");  out.print(  "<Form action='Logout' method='get'><br><br><input type='submit' name='submit' value='Log Out'/></Form>");  out.close();  }  }  } |

**Logout.java**

|  |
| --- |
| import java.io.\*;  import javax.servlet.\*;  import javax.servlet.http.\*;  public class Logout extends HttpServlet{  public void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException{  HttpSession s = request.getSession(false);  s.invalidate();  Cookie ck[] = request.getCookies();  for(Cookie c1 : ck){  if(c1.getName().equals("UserName")){  c1.setMaxAge(0);  response.addCookie(c1);  }  }  response.sendRedirect("Login");  }  } |

Output-3

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Program-4

1. Write an application using servlet to perform CRUD operations on MySQL database connected to the servlet with type-4 driver. Also apply a basic formatting in the page.

Ans:

**DBInsert.html**

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| --- |
| <form action="Prog4" method="get">  ID: <input type="text" name="pid" /> <br />  Name: <input type="text" name="pname" /> <br />  Price: <input type="text" name="pprice" /> <br />  <input type="submit" />  </form> |

**Prog4.java**

|  |
| --- |
| import java.io.\*;  import java.sql.\*;  import javax.servlet.\*;  import javax.servlet.http.\*;  public class Prog4 extends HttpServlet {  public void doGet(HttpServletRequest request,HttpServletResponse response) throws IOException,ServletException{  response.setContentType("text/html");  PrintWriter out=response.getWriter();  try{  Connection connection = DriverManager.getConnection("jdbc:mysql://localhost/test", "root","");  Statement statement = connection.createStatement();  if(request.getParameter("pid")!=null){  String sql = "insert into product values('"+request.getParameter("pid")+"','"+request.getParameter("pname")+"','"+request.getParameter("pprice")+"')";  int num=statement.executeUpdate(sql);  }  ResultSet rs = statement.executeQuery("SELECT \* FROM product");  out.print("<table border=1><tr><th>ID</th><th>Name</th><th>Price</th></tr>");  while(rs.next()){  out.print("<tr>"+  "<td>"+rs.getInt(1)+"</td>"+"<td>"+rs.getString(2)+"</td>"+  "<td>"+rs.getInt(3)+"</td>"+  "<td><a href=\"Delete\">Delete</a></td>"+  "<td><a href=\"Update\">Update</a></td>"+  "</tr>");  }  out.print("</table>");  connection.close();  } catch(Exception e){  out.print(e.getMessage()+"errorrrr");  }  out.close();  }  } |

**Delete.java**

|  |
| --- |
| import java.io.\*;  import java.sql.\*;  import javax.servlet.\*;  import javax.servlet.http.\*;  public class Delete extends HttpServlet{  public void doGet(HttpServletRequest request,HttpServletResponse response) throws IOException,ServletException{  response.setContentType("text/html");  PrintWriter out = response.getWriter();  out.print("<form action=\"Delete\" method=\"post\">"+  "ID:<input type=\"text\" name=\"pid\"/><br/>"+  "<input type=\"submit\"/>"+  "</form>");  }  public void doPost(HttpServletRequest request,HttpServletResponse response) throws IOException,ServletException{  response.setContentType("text/html");  PrintWriter out = response.getWriter();  try{  Connection connection = DriverManager.getConnection("jdbc:mysql://localhost/test", "root", "");  Statement statement = connection.createStatement();  out.print(request.getParameter("pid")+"errorrrx");  String sql = "delete from product where pid ='"+request.getParameter("pid")+"'";  int num=statement.executeUpdate(sql);  out.print(request.getParameter("pid"));  if(num>0){  response.sendRedirect("Prog4");  }  else{  out.print("deletion not performed");  }  connection.close();  }catch(Exception e){  out.print(e.getMessage());  }  out.close();  }} |

**Update.java**

|  |
| --- |
| import java.io.\*;  import java.sql.\*;  import javax.servlet.\*;  import javax.servlet.http.\*;  public class Update extends HttpServlet{  public void doGet(HttpServletRequest request,HttpServletResponse response)throws IOException,ServletException {  response.setContentType("text/html");  PrintWriter out = response.getWriter();  out.print("<form action=\"Update\" method=\"post\">"+  "ID:<input type=\"text\" name=\"pid\"/><br/>"+  "Name:<input type=\"text\" name=\"pname\"/><br/>"+  "Price:<input type=\"text\" name=\"pprice\"/><br/>"+  "<input type=\"submit\"/>"+  "</form>");  }  public void doPost(HttpServletRequest request,HttpServletResponse response) throws IOException, ServletException{  response.setContentType("text/html");  PrintWriter out = response.getWriter();  try{  Connection connection = DriverManager.getConnection("jdbc:mysql://localhost/test","root","");  Statement statement = connection.createStatement();  out.print(request.getParameter("pname"));  String sql = "update product set pname='"+request.getParameter("pname")+"',pprice="+request.getParameter("pprice")+" where pid="+request.getParameter("pid")+"";  int num = statement.executeUpdate(sql);  if(num>=0){  response.sendRedirect("Prog4");  }else{  out.print("update not performed");  }  connection.close();  }catch(Exception e){  out.print(e.getMessage());  }  out.close();  }  } |

Output-4

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| --- | --- |
|  |  |
| Delete page | Update Page |
| After Delete | After Update |