Dharmsinh Desai University, Nadiad
Department of Information Technology
Advanced Java Technology, IT619
B.Tech. IT, Sem: VI

Experiment – 01

Submitted By
Roll No. : IT082
Name : Nakrani Dhrumil

Aim: Create a GUI based application which can be used as a telephone directory application. The telephone directory is stored as a database and has one table named telephoneDir. The telephoneDir database table stores three different information: telephone no., owner name, and owner address. The owner name is made of three parts: First name, middle name, and last name. The owner address is made of five parts: house no., address 1, address 2, area name, and city name. The application allows search facility. The search is possible using three different ways:

4. Search by telephone no.
5. Search by name (one of first name, middle name, and last name) with exactly match and part of name.
6. Search by address (one of address 1, address 2, area name, and city) with exactly match and part of address.

Code:

```
// Source code
package lab1;

import java.awt.*;
import java.awt.event.*;
import java.sql.*;
```

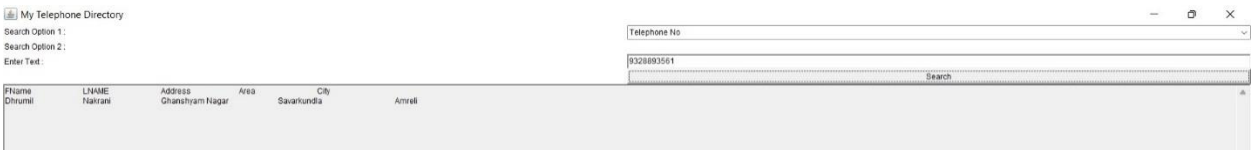
```
public class Lab1 extends Frame implements ItemListener, ActionListener {

    Panel pTop = new Panel();
    TextField tf1 = new TextField(20);
    TextArea ta1 = new TextArea(10, 200);
    Choice c1 = new Choice();
    Choice c2 = new Choice();
    Button srchbutton = new Button("Search");
    Label status = new Label("Records Found = 0 ");

    String query = "";
    Connection con = null;
    PreparedStatement pstmt = null;
    ResultSet rs = null;

    public Lab1() {
        super("My Telephone Directory");
        setVisible(true);
        setSize(400, 800);

        c1.add("Telephone No");
        c1.add("Name");
        c1.add("Address");
        c1.addItemListener(this);
        srchbutton.addActionListener(this);

        addWindowListener(new WindowAdapter() {
            public void windowClosing(WindowEvent e) {
                dispose();
            }
        });

        setLayout(new BorderLayout());

        pTop.setLayout(new GridLayout(4, 2));
        pTop.add(new Label("Search Option 1 : "));
        pTop.add(c1);
        pTop.add(new Label("Search Option 2 : "));
        pTop.add(c2);
```

```
        c2.setVisible(false);
        pTop.add(new Label("Enter Text : "));
        pTop.add(tf1);
        pTop.add(new Label(""));
        pTop.add(srchbutton);

        add("North", pTop);
        add("Center", ta1);
        add("South", status);
        ta1.setEditable(false);

        try {
            Class.forName("org.postgresql.Driver");
            con = DriverManager.getConnection("jdbc:postgresql://localhost:5432/postgres",
"postgres", "Nakrani@2019");
        } catch (ClassNotFoundException e) {
            System.out.println("" + e.toString());
        } catch (SQLException se) {
            while (se != null) {
                System.out.println("" + se.toString());
                se = se.getNextException();
            }
        }
    }

    public void itemStateChanged(ItemEvent e) {
        String arg = e.getItem().toString();
        if (arg.equals("Telephone No")) {
            c2.setVisible(false);
        } else if (arg.equals("Name")) {
            c2.removeAll();
            c2.add("First Name");
            c2.add("Last Name");
            c2.setVisible(true);
        } else if (arg.equals("Address")) {
            c2.removeAll();
            c2.add("Area");
            c2.add("City");
            c2.setVisible(true);
        }
```

```
}

public void actionPerformed(ActionEvent e) {
   ta1.setText("Refreshed");
   query = new String("select * from directory");
   int len = 0;
   len = tf1.getText().toString().trim().length();

   try {
      if (c1.getSelectedItem().equals("Telephone No") && len > 0) {
         query += " where number=?";
         pstmt = con.prepareStatement(query);
         pstmt.setString(1, tf1.getText().toString().trim());
      } else if (c1.getSelectedItem().equals("Name") && len > 0) {
         if (c2.getSelectedItem().equals(("First Name"))) {
            query += " where fname=?";
         } else if (c2.getSelectedItem().equals(("Last Name"))) {
            query += " where lname=?";
         }
         pstmt = con.prepareStatement(query);
         pstmt.setString(1, tf1.getText().toString().trim());
      } else if (c1.getSelectedItem().equals("Address") && len > 0) {
         if (c2.getSelectedItem().equals("Area")) {
            query += " where area=?";
         } else if (c2.getSelectedItem().equals("City")) {
            query += " where city=?";
         }

         pstmt = con.prepareStatement(query);
         pstmt.setString(1, tf1.getText().toString().trim());
      } else {
         pstmt = con.prepareStatement(query);
      }

      try {
         System.out.println(query);
         rs = pstmt.executeQuery();
      } catch (NullPointerException ne) {
         System.out.println("Text Null3");
         ta1.setText("No Records Found");
```

```
            status.setText("Records Found = 0");
        }

        if (rs != null) {
            ta1.setText("FName\t\tLNAME\t\tAddress\t\tArea\t\tCity\n");
        }

        int count = 0;
        while (rs.next()) {
            ta1.append("" + rs.getString(1) + "\t\t");
            ta1.append("" + rs.getString(2) + "\t\t");
            ta1.append("" + rs.getString(3) + "\t\t");

            ta1.append("" + rs.getString(5) + "\t\t");
            ta1.append("" + rs.getString(6) + "\t\n");
            count++;
        }
        status.setText("Records Found = " + count);
      } catch (Exception ee) {
        System.out.println("Exception " + ee);
      }
   }

   public static void main(String[] args) {
      Frame dir = new Lab1();
   }
}
```

Input/Output:



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Experiment – 02

Submitted By:
Roll No.: IT082
Name: Nakrani Dhrumil

Aim: Create a GUI based application which can be used for telephone directory modification (administrator part for the above problem statement). The application allows two modification operations: create new telephone connection, and delete a telephone connection. The insert operation takes telephone no., name, and address as input parameters. The delete operation has verification step in which the user must perform the verification of the telephone connection which is about to be deleted. Once the verification is done, the application allows deleting the telephone connection. Design appropriate GUI to accommodate all stated features.

Code:
// Source code

```
package lab2;
import java.awt.*;
import java.awt.event.*;
import java.sql.*;

public class Lab2 extends Frame implements ItemListener, ActionListener {

   Panel pTop = new Panel();
   TextField tf1 = new TextField(20);
```

```
TextField insertNumber = new TextField(20);
TextField insertFname = new TextField(20);
TextField insertLname = new TextField(20);
TextField insertAddress = new TextField(20);
TextField insertArea = new TextField(20);
TextField insertCity = new TextField(20);
TextField deleteData = new TextField(20);
TextArea ta1 = new TextArea(10, 200);
Choice c1 = new Choice();
Choice c2 = new Choice();
Button srchbutton = new Button("Search");
Button insertbutton = new Button("Insert");
Button deletebutton = new Button("Delete");
Label status = new Label("Records Found = 0 ");

String query = "";
Connection con = null;
PreparedStatement pstmt = null;
ResultSet rs = null;

public Lab2() {
   super("My Telephone Directory");
   setVisible(true);
   setSize(400, 800);

   c1.add("Telephone No");
   c1.add("Name");
   c1.add("Address");
   c1.addItemListener(this);
   srchbutton.addActionListener(this);
   insertbutton.addActionListener(this);
   deletebutton.addActionListener(this);

   addWindowListener(new WindowAdapter() {
      public void windowClosing(WindowEvent e) {
         dispose();
      }
   });

   setLayout(new BorderLayout());
```

```
        pTop.setLayout(new GridLayout(13, 2));
        pTop.add(new Label("Search Option 1 : "));
        pTop.add(c1);
        pTop.add(new Label("Search Option 2 : "));
        pTop.add(c2);
        pTop.add(new Label("Enter Text : "));
        pTop.add(tf1);
        pTop.add(new Label(""));
        pTop.add(srchbutton);
        pTop.add(new Label("Enter Number : "));
        pTop.add(insertNumber);
        pTop.add(new Label("Enter FirstName : "));
        pTop.add(insertFname);
        pTop.add(new Label("Enter LastName : "));
        pTop.add(insertLname);
        pTop.add(new Label("Enter Address : "));
        pTop.add(insertAddress);
        pTop.add(new Label("Enter Area : "));
        pTop.add(insertArea);
        pTop.add(new Label("Enter City : "));
        pTop.add(insertCity);
        pTop.add(new Label(""));
        pTop.add(insertbutton);
        pTop.add(new Label("Enter Number to delete data : "));
        pTop.add(deleteData);
        pTop.add(new Label(""));
        pTop.add(deletebutton);


        add("North", pTop);
        add("Center", ta1);
        add("South", status);
        ta1.setEditable(false);

        try {
            Class.forName("org.postgresql.Driver");
            con = DriverManager.getConnection("jdbc:postgresql://localhost:5432/postgres",
"postgres", "Nakrani@2019");
        } catch (ClassNotFoundException e) {
```

```
            System.out.println("" + e.toString());
        } catch (SQLException se) {
            while (se != null) {
                System.out.println("" + se.toString());
                se = se.getNextException();
            }
        }
    }

    public void itemStateChanged(ItemEvent e) {
        String arg = e.getItem().toString();
        if(arg.equals("Telephone No")){
            c2.setVisible(false);
        }
        else if(arg.equals("Name")){
            c2.removeAll();
            c2.add("First Name");
            c2.add("Last Name");
            c2.setVisible(true);
        }
        else if(arg.equals("Address")){
            c2.removeAll();
            c2.add("Area");
            c2.add("City");
            c2.setVisible(true);
        }
    }

    public void actionPerformed(ActionEvent e) {

        String str = e.getActionCommand();

        if(str.equals("Search")){
        ta1.setText("Refreshed");
        query= new String("select * from Directory");
        int len = 0;
        len = tf1.getText().toString().trim().length();

        try{
            if(c1.getSelectedItem().equals("Telephone No") && len>0){
```

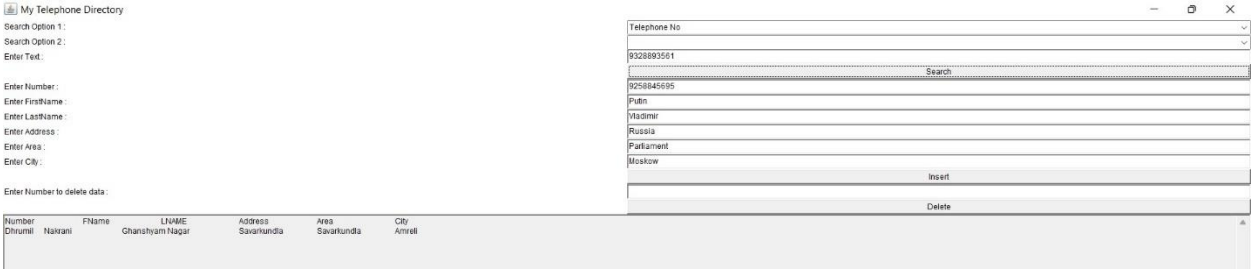
```
    query += " where Number=?";
    pstmt=con.prepareStatement(query);
    pstmt.setString(1, tf1.getText().toString().trim());
}
else if(c1.getSelectedItem().equals("Name") && len>0){
   if(c2.getSelectedItem().equals(("First Name")))
   query += " where FirstName=?";
   else if(c2.getSelectedItem().equals(("Last Name")))
   query += " where LastName=?";
   pstmt = con.prepareStatement(query);
   pstmt.setString(1,tf1.getText().toString().trim());
}
else if(c1.getSelectedItem().equals("Address") && len>0){
    if(c2.getSelectedItem().equals("Area"))
    query+=" where Area=?";
    else if(c2.getSelectedItem().equals("City"))
    query+=" where City=?";

    pstmt=con.prepareStatement(query);
    pstmt.setString(1,tf1.getText().toString().trim());
}
else{
    pstmt=con.prepareStatement(query);
}


try{
    System.out.println(query);
    rs=pstmt.executeQuery();
}
catch(NullPointerException ne){
    System.out.println("Text Null3");
    ta1.setText("No Records Found");
    status.setText("Records Found = 0");
}

if(rs!=null)
    ta1.setText("Number\t\tFName\t\tLNAME\t\tAddress\t\tArea\t\tCity\n");

int count=0;
```

```
    while(rs.next()){
    ta1.append("" + rs.getString(1) + "\t");
    ta1.append("" + rs.getString(2) + "\t\t");
    ta1.append("" + rs.getString(3) + "\t\t");
    ta1.append("" + rs.getString(4) + " \t");
    ta1.append("" + rs.getString(5) + " \t");
    ta1.append("" + rs.getString(6) + "\n");
    count++;
    }
    status.setText("Records Found = " + count);
    }
    catch(Exception ee){
       System.out.println("Exception " + ee);
    }
}

if(str.equals("Insert")){
    try{
       String sql = "insert into Directory values(?,?,?,?,?,?)";
       pstmt=con.prepareStatement(sql);

       String number = insertNumber.getText().trim();
       String fname = insertFname.getText().trim();
       String lname = insertLname.getText().trim();
       String address = insertAddress.getText().trim();
       String area = insertArea.getText().trim();
       String city = insertCity.getText().trim();

       pstmt.setString(1, number);
       pstmt.setString(2, fname);
       pstmt.setString(3, lname);
       pstmt.setString(4, address);
       pstmt.setString(5, area);
       pstmt.setString(6, city);

       int count=pstmt.executeUpdate();

       System.out.println(count + " record inserted");

    }
```

```
            catch(Exception exp){
               System.out.println("Exception " + exp);
            }
         }

            if(str.equals("Delete")){

               try{
                  String sql = "delete from Directory where number = ?";
                  pstmt=con.prepareStatement(sql);

                  String num = deleteData.getText().trim();

                  pstmt.setString(1, num);

                  int count = pstmt.executeUpdate();
                  System.out.println(count + " record deleted");

               }
               catch(Exception exp){
                  System.out.println("Exception " + exp);
               }
            }

         }

      public static void main(String[] args) {
         Frame dir = new Lab2();
      }
   }
```

Input/Output:

Input:



Output:

11	9258845695	Putin	Vladimir	Russia	Parliament	Moskow

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Experiment – 03

Submitted By:
Roll No.: IT082
Name: Nakrani Dhrumil

Aim: Create user registration functionality for student to get registered with exam- result section. The registration page takes following information from user: user ID, password, confirm password, full name, semester, roll no, email-id, and contact number. The registration servlet checks uniqueness of user ID among all users and if found unique then only stores registration information in database.

Code:
// Source code

//**index.jsp**

User ID :

Password :

Confirm Password :

Full Name :

Semester :

Roll No. :

Email ID :

Contact No. :

submit

//**NewServlet.java**

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


public class NewServlet 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 {
//            processRequest(request, response);

    }

    // <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 {

        try {
//            System.out.println("reheryheeh");
            String dbDriver = "org.postgresql.Driver";
            String dbURL = "jdbc:postgresql://localhost:5432/postgres";
            // Database name to access

            String dbUsername = "postgres";
            String dbPassword = "Nakrani@2019";

            Class.forName(dbDriver);
            Connection con = DriverManager.getConnection(dbURL, dbUsername, dbPassword);

            PreparedStatement ps = con.prepareStatement("select * from studentdetails where id=?");
            ps.setInt(1, Integer.parseInt(request.getParameter("userid")));
            ResultSet rs = ps.executeQuery();
            System.out.println("Result set");
            PrintWriter out = response.getWriter();

            if (rs.next()) {
//                System.out.println("NewServlet.processRequest()");
                out.println("<html><body><b>ID already exists!"
                        + "</b></body></html>");
            } else {

                PreparedStatement st = con.prepareStatement("insert into student_details
values(?,?,?,?,?,?,?) ");
```

```
            st.setInt(1, Integer.parseInt(request.getParameter("userid")));
            st.setString(2, request.getParameter("password"));
            st.setString(3, request.getParameter("fullname"));
            st.setInt(4, Integer.parseInt(request.getParameter("semester")));
            st.setInt(5, Integer.parseInt(request.getParameter("rollno")));
            st.setString(6, request.getParameter("emailid"));
            st.setString(7, (request.getParameter("contactnumber")));

            st.executeUpdate();
            st.close();
            con.close();

            out.println("<html><body><b>Successfully Inserted"
                  + "</b></body></html>");
         }
      } catch (Exception e) {
         e.printStackTrace();
      }

   }

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

}
```

Input/Output:

Input:

Output:

#	userid	password	fullname	semester	rollno	emailid	contactnumber
1	1	1	1	1	1	1@gmail.com	9328893561

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Experiment – 04

Submitted By:
Roll No.: IT082
Name: Nakrani Dhrumil

Aim: Aim: Create login and view result functionality with the session management. The login servlet logons the user with the student details section and allows access of viewing his/her details.

Tools /Apparatus: JDK 1.6 or above , Netbeans IDE 6.1, Web Browser

Code:

//Index.html

```
<html>
   <head>
      <title>Main</title>
      <meta charset="UTF-8">
      <meta name="viewport" content="width=device-width, initial-scale=1.0">
   </head>
   <body>
      <h3><a href='login.html'>Click here to Login</a></h3>
      <h3><a href='Logout'>Logout</a></h3>
      <h3><a href='InformationServlet'>Click here to get your Information</a></h3>
   </body>
</html>
```

//Login.html

```
<html>
   <head>
      <title>Student Information</title>
```

```
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
    </head>
    <body>
        <form action="LoginServlet" method="post">
            Enter your Id : <input type="number" name="studentid" /><br><br>
            Enter password : <input type="password" name="password"><br><br>
            <input type="submit" value="submit" />
        </form>
    </body>
</html>
```

//LoginServlet.java

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

public class LoginServlet extends HttpServlet {
    Connection con;
    @Override
    public void init(ServletConfig config) {
        try {
            Class.forName("org.postgresql.Driver");
            con = DriverManager.getConnection(config.getInitParameter("dbUrl"),
config.getInitParameter("dbName"), config.getInitParameter("dbPassword")
         );
        }
        catch (ClassNotFoundException | SQLException e) {
```

```
    }
  }

  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. */
    }
  }

  @Override
  protected void doPost(HttpServletRequest request, HttpServletResponse response)
      throws ServletException, IOException {
    PrintWriter out = response.getWriter();
    int id = Integer.parseInt(request.getParameter("studentid"));
    String password = request.getParameter("password");
    try {

      PreparedStatement ps = con.prepareStatement("select * from student_details where id=?
and password=?");

      ps.setInt(1, id);
      ps.setString(2, password);

      ResultSet rs = ps.executeQuery();

      if(rs.next()){

        out.println("<h1>Login Successfully</h1>");
        HttpSession session = request.getSession();
        session.setAttribute("id", rs.getString(1));
        session.setAttribute("password", rs.getString(2));
        session.setAttribute("fullname", rs.getString(3));
        session.setAttribute("semester", rs.getString(4));
        session.setAttribute("rollno", rs.getString(5));
        session.setAttribute("email", rs.getString(6));
        session.setAttribute("contact_number", rs.getString(7));
        out.println("<h2><a href='InformationServlet'>Click here to get your
Information</a></h2>");
```

```
            }
            else{
                out.println("<h1>Invalid Credentials</h1>");
            }

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

    }

    @Override
    public String getServletInfo() {
        return "Short description";
    }// </editor-fold>

}
```

//InformationServlet.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;

public class InformationServlet 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. */
        }
    }

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

```
    PrintWriter out = response.getWriter();
    response.setContentType("text/html;charset=UTF-8");
    HttpSession session = request.getSession(false);

    if(session!=null){
        out.println("<table>");

        out.println("<tr>");
        out.println("<th>Id</th>");
        out.println("<th>Password</th>");
        out.println("<th>Name</th>");
        out.println("<th>Semester</th>");
        out.println("<th>RollNo</th>");
        out.println("<th>Email</th>");
        out.println("<th>ContactNumber</th>");
        out.println("</tr>");

        out.println("<tr>");
        out.println("<td>" +  session.getAttribute("id") + "</td>");
        out.println("<td>" +  session.getAttribute("password") + "</td>");
        out.println("<td>" +  session.getAttribute("fullname") + "</td>");
        out.println("<td>" +  session.getAttribute("semester") + "</td>");
        out.println("<td>" +  session.getAttribute("rollno") + "</td>");
        out.println("<td>" +  session.getAttribute("email") + "</td>");
        out.println("<td>" +  session.getAttribute("contact_number") + "</td>");
        out.println("</tr>");
        out.println("</table>");
        out.println("<h2><a href='Logout'>Logout</a></h4>");
    }
    else{
        out.println("<h1>Something went wrong</h1>");
    }
}

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

```
    @Override
    public String getServletInfo() {
        return "Short description";
    }// </editor-fold>

}
```

//Logout.java

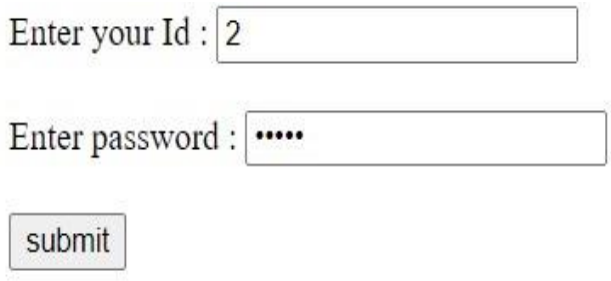
```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

public class Logout 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. */
            HttpSession session = request.getSession(false);
            if(session==null){
                out.println("<h1>Please Login</h1>");
            }
            else{
            session.invalidate();
            out.println("<h1>Logout successfully</h1>");
            }
            out.println("<h2><a href='index.html'>Index</a><h2>");
        }
    }

    @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 "Short description";
    }// </editor-fold>

}
```

Input/Output:

1.) Index Page

2.) Enter credentials



3.) Login Successfully

Login Successfully

Click here to get your Information

4.) Displaying student information

Id	Password	Name	Semester	RollNo	Email	ContactNumber
1	1	1	1	1	1@gmail.com	9328893561

5.) Logout

Logout successfully

Index

6.) Entering invalid Credentials

Enter your Id : 2

Enter password : ••••

submit

7.) Output

Invalid Credentials

Dharmsinh Desai University, Nadiad
Department of Information Technology
Advanced Java Technology, IT619
B.Tech. IT, Sem: VI

Experiment – 05

Submitted By:
Roll No.: IT082
Name: Nakrani Dhrumil

Aim: Write code for implementation of the two filters, Log Filter and Authentication Filter, in filter chain. Client calls the Log Filter. The Log filter logs the time of arrival of request and IP address of the client. The Log filter forwards the request to Authentication Filter. The authentication filter authenticates the client and allow to access the targeted servlet.

Code:
// Source code

//**index. jsp**

Enter your Id :
submit

//**LoginServlet.java**

```
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
```

```
import javax.servlet.ServletConfig;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

public class LoginServlet extends HttpServlet {
   Connection con;
   @Override
   public void init(ServletConfig config) {
      try {
         Class.forName("org.postgresql.Driver");
         con = DriverManager.getConnection(config.getInitParameter("dbUrl"),
config.getInitParameter("dbName"), config.getInitParameter("dbPassword")
       );
      }
      catch (ClassNotFoundException | SQLException e) {
      }
   }

   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. */
      }
   }

   @Override
   protected void doPost(HttpServletRequest request, HttpServletResponse response)
         throws ServletException, IOException {
      PrintWriter out = response.getWriter();
      String id =(request.getParameter("studentid"));

      try {

         PreparedStatement ps = con.prepareStatement("select * from studentdetails where
userid=?");
```

```
            ps.setString(1, id);
            ResultSet rs = ps.executeQuery();

            if(rs.next()){

                out.println("<h1>Login Successfully</h1>");
                HttpSession session = request.getSession();
                session.setAttribute("id", rs.getString(1));
                session.setAttribute("password", rs.getString(2));
                session.setAttribute("fullname", rs.getString(3));
                session.setAttribute("semester", rs.getString(4));
                session.setAttribute("rollno", rs.getString(5));
                session.setAttribute("email", rs.getString(6));
                session.setAttribute("contact_number", rs.getString(7));
                out.println("<h4><a href='InformationServlet'>Click here to get your
Information</a></h4>");
            }
            else{
                out.println("<h1>Student Id is Invalid</h1>");
            }

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

    }

    @Override
    public String getServletInfo() {
        return "Short description";
    }// </editor-fold>

}
```

//**InformationServlet.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;

public class InformationServlet 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. */
        }
    }

    // <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 {
        PrintWriter out = response.getWriter();
        response.setContentType("text/html;charset=UTF-8");
        HttpSession session = request.getSession(false);
```

```
        out.println("<table>");

        out.println("<tr>");
        out.println("<th>Id</th>");
        out.println("<th>Password</th>");
        out.println("<th>Name</th>");
        out.println("<th>Semester</th>");
        out.println("<th>RollNo</th>");
        out.println("<th>Email</th>");
        out.println("<th>ContactNumber</th>");
        out.println("</tr>");

        out.println("<tr>");
        out.println("<td>" +  session.getAttribute("id") + "</td>");
        out.println("<td>" +  session.getAttribute("password") + "</td>");
        out.println("<td>" +  session.getAttribute("fullname") + "</td>");
        out.println("<td>" +  session.getAttribute("semester") + "</td>");
        out.println("<td>" +  session.getAttribute("rollno") + "</td>");
        out.println("<td>" +  session.getAttribute("email") + "</td>");
        out.println("<td>" +  session.getAttribute("contact_number") + "</td>");
        out.println("</tr>");

        out.println("</table>");
    }

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


    @Override
    public String getServletInfo() {
        return "Short description";
    }// </editor-fold>

}
```

Input/Output:

Input:

Output:

Login Successfully

Click here to get your Information

Id	Password	Name	Semester	RollNo	Email	ContactNumber
1	1	1	1	1	1@gmail.com	9328893561

Dharmsinh Desai University, Nadiad
Department of Information Technology
Advanced Java Technology, IT619
B.Tech. IT, Sem: VI

Experiment – 06

Submitted By:
Roll No.: IT082
Name: Nakrani Dhrumil

Aim: Create a JavaBean to store information about person. The details of person (person name, person age, person height, etc.) are stored in person database table. After the person is authenticated, his/her personal details are transferred from the database table (person) to JavaBean (Person) and the details are displayed in proper format using this Person JavaBean. The JavaBean is stored in session scope.

Code:
// Source code

//**Display.jsp**

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page import="com.Student" %>
<!DOCTYPE html>
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>Verification</title>
   </head>
   <body>
      <jsp:useBean id="st" class="com.Student" scope="session"></jsp:useBean>

      Name    : <jsp:getProperty property="name" name="st"/><br>
      Semester:<jsp:getProperty property="sem" name="st"/><br>
      Roll No :<jsp:getProperty property="rollno" name="st"/><br>
```

```
      Email ID:<jsp:getProperty property="email" name="st"/><br>
      MobileNo:<jsp:getProperty property="mobileno" name="st"/><br>
   </body>
</html>
```

//**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>Enter Your Details For Login</title>
   </head>
   <body>
      <h1 align="center">Login</h1>
      <form action="Verification" method="post">
         <table align="center">
            <tr>
               <td>ID: </td>
               <td><input type="text" name="sid" id="sid"></td>
            </tr>
            <tr>
               <td>Password: </td>
               <td><input type="password" name="password" id="spswd"></td>
            </tr>
            <tr>
               <td></td>
               <td><input type="submit" value="Login" id="submit"></td>
            </tr>
         </table>
      </form>
   </body>
</html>
```

//DatabaseConnection.java

```
package com;
```

```
import java.sql.*;

public class DataBaseConnection {
   static Connection con=null;
   public static Connection getConnection()
   {
     try
     {
         if(con != null)
         {
            return con;
         }
         else
         {
           Class.forName("org.postgresql.Driver");
           con =
DriverManager.getConnection("jdbc:postgresql://localhost:5432/postgres","postgres","Nakrani
@2019");
           return con;
         }
     }
     catch(Exception e)
     {
        e.printStackTrace();
     }
     return con;
   }
}
```

//**Student.java**

```
package com;

public class Student
{
   String name;
   String sem;
```

```
String rollno;
String email;
String mobileno;

public Student() {
}

public String getName() {
   return name;
}

public void setName(String name) {
   this.name = name;
}

public String getSem() {
   return sem;
}

public void setSem(String sem) {
   this.sem = sem;
}

public String getRollno() {
   return rollno;
}

public void setRollno(String rollno) {
   this.rollno = rollno;
}

public String getEmail() {
   return email;
}

public void setEmail(String email) {
   this.email = email;
}

public String getMobileno() {
```

```
        return mobileno;
    }

    public void setMobileno(String mobileno) {
        this.mobileno = mobileno;
    }


}
```

//**Verification.java**

```
package com;

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 java.sql.*;
import javax.servlet.RequestDispatcher;
import javax.servlet.http.HttpSession;

public class Verification extends HttpServlet
{

    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
    {
        response.setContentType("text/html;charset=UTF-8");
        try(PrintWriter out = response.getWriter())
        {
            String id = request.getParameter("sid");
            String pswd = request.getParameter("password");
            String password = "";
```

```
    try
    {
        Connection con = DataBaseConnection.getConnection();
        Statement stm = con.createStatement();
        ResultSet rs = stm.executeQuery("Select * from studentdetails where id = '"+id+"'");

        if(rs.next())
        {
            password = rs.getString(2);
            if(pswd.equals(password))
            {
                Student st = new Student();
                st.setName(rs.getString(3));
                st.setRollno(rs.getString(5));
                st.setSem(rs.getString(4));
                st.setEmail(rs.getString(6));
                st.setMobileno(rs.getString(7));

                HttpSession hs=request.getSession();
                hs.setAttribute("st",st);


                RequestDispatcher rd = request.getRequestDispatcher("Display.jsp");
                rd.forward(request,response);
            }
            else
            {
                out.println("<h1 align='center' style='color:red;'>Incorrect Password!</h1>");
            }
        }
        else
        {
            out.println("<h1 align='center' style='color:red;'>User not Found! Try again.</h1>");
        }
    }
    catch(SQLException e)
    {
        e.printStackTrace();
    }
}
```

```
    }

    @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 "Short description";
    }
}
```

Dharmsinh Desai University, Nadiad
Department of Information Technology
Advanced Java Technology, IT619
B.Tech. IT, Sem: VI

Experiment – 07

Submitted By:
Roll No. : IT082
Name : Nakrani Dhrumil

Aim: Create a JSP based Web application which allows the user to edit his registration information (Refer EXPERIMENT-4). If login is successful, the user authentication servlet creates the welcome message for the user in session scope and then forwards the request to JSP page which handles the edit operation. Use the JSTL core library for variable creations, use and iterations, and JSTL SQL library for interaction with the database.

Code:
// Source code

//Display.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>

<!DOCTYPE html>
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>Display Page</title>
   </head>
   <body>
      <h1>Enter details to be updated.</h1>
      <h3>Enter details in all fields.</h3>
      <form action="update.jsp" method="post">
         Full Name: <input type="text" name="fname" id="fname"><br><br>
```

```
        Semester: <input type="text" name="sem" id="sem"><br><br>
        Roll No: <input type="text" name="rollno" id="rollno"><br><br>
        Email id: <input type="email" name="email" id="email"><br><br>
        Contact number: <input type="text" name="contact" id="contact"><br><br>
        <input type="submit" value="Update" id="submit">
      </form>
   </body>
</html>
```

//index.html

Enter Your Details For Login

ID:

Password:

Login

//**Update.jsp**

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>Update Details</title>
      <%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c"%>
      <%@ taglib uri="http://java.sun.com/jsp/jstl/sql" prefix="sql"%>
   </head>

   <body>
      <sql:setDataSource var="ds" driver="org.postgresql.Driver"
                  url="jdbc:postgresql://localhost:5432/postgres"
                  user="postgres"  password="@bcde"/>
```

```
        <c:set var="id" value="${sessionScope.id}"></c:set>
        <c:set var="password" value="${sessionScope.password}"></c:set>
        <c:set var="name" value="${param.fname}"></c:set>
        <c:set var="sem" value="${param.sem}"></c:set>
        <c:set var="rollno" value="${param.rollno}"></c:set>
        <c:set var="email" value="${param.email}"></c:set>
        <c:set var="mno" value="${param.contact}"></c:set>

        <sql:update dataSource="${ds}" var="updateCount">
            insert into student_details values
('${id}','${password}','${name}',${sem},${rollno},'${email}',${mno})
        </sql:update>
        <h1>Details Updated successfully!</h1>
    </body>
</html>
```

//**Authentication.java**

```
package com;

import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import javax.servlet.RequestDispatcher;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;


public class Authentication 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. */
        int id = Integer.parseInt(request.getParameter("studentid"));
        String password = request.getParameter("password");
        String pswd = "";

        try {
            Connection con = DataBaseConnection.getConnection();
            Statement stm = con.createStatement();
            ResultSet rs = stm.executeQuery("select * from student_details where id ='" + id + "'");

            if (rs.next()) {
                pswd = rs.getString(2);
                if (password.equals(pswd)) {
                    HttpSession hs = request.getSession();
                    hs.setAttribute("id", id);
                    hs.setAttribute("password", password);

                    stm.executeUpdate("delete from student_details where id='" + id + "'");

                    RequestDispatcher rd = request.getRequestDispatcher("display.jsp");
                    rd.forward(request, response);
                } else {
                    out.println("<h1>Incorrect Password!</h1>");
                }
            } else {
                out.println("<h1>User not Found! Try again.</h1>");
            }
        } catch (SQLException e) {
            e.printStackTrace();
        }

    }
}

// <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>

}
```

//**DatabaseConnection.java**

```
package com;


import java.sql.Connection;
import java.sql.DriverManager;


public class DataBaseConnection {

   static Connection con = null;

   public static Connection getConnection() {
      try {
         if (con != null) {
            return con;
         } else {
            Class.forName("org.postgresql.Driver");
            con = DriverManager.getConnection("jdbc:postgresql://localhost:5432/postgres",
"postgres", "@bcde");
            return con;
         }
      } catch (Exception e) {
         e.printStackTrace();
      }
      return con;
   }
}
```

Input: