1. **Write a servlet application to print the current date and time.**  
     
   **Answer:**  
     
   The most important advantage of using Servlet is that we can use all the methods available in core java. The Date class is available in java.util package.  
     
   Below program shows how to print the current date and time. We can use simple Date object with toString() to print current date and time.

DateSrv.java

import java.io.\*;  
import javax.servlet.\*;  
  
public class DateSrv extends GenericServlet  
{  
     //implement service()  
     public void service(ServletRequest req, ServletResponse res) throws IOException, ServletException  
     {  
          //set response content type  
          res.setContentType("text/html");  
          //get stream obj  
          PrintWriter pw = res.getWriter();  
          //write req processing logic  
          java.util.Date date = new java.util.Date();  
          pw.println("<h2>"+"Current Date & Time: " +date.toString()+"</h2>");  
          //close stream object  
          pw.close();  
     }  
}

**Output:**  
  
date time

1. **Write a servlet application to establish communication between html and servlet page using hyperlink.**  
     
   **Answer:**

index.html

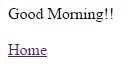
<!doctype html>  
<html lang="en">  
     <head>  
          <meta charset="UTF-8">  
          <title>Wishing message</title>  
     </head>  
     <body>  
          <a href = "http://localhost:2020/WishSrvApp/test">Get wishing</a>  
     </body>  
</html>

WishApp.java

import java.io.\*;  
import java.util.\*;  
import javax.servlet.\*;  
import javax.servlet.http.\*;  
public class WishApp extends HttpServlet  
{  
     public void service(HttpServletRequest req, HttpServletResponse res) throws IOException, ServletException  
     {  
          //set response content type  
          res.setContentType("text/html");  
          //get printWrite obj  
          PrintWriter pw = res.getWriter();  
          //write request processing logic to generate wish message  
          Calendar cal = Calendar.getInstance();  
          //get current hours of the day  
          int hour = cal.get(Calendar.HOUR\_OF\_DAY);//24 hrs format  
          //generate wish message  
          if(hour<12)  
               pw.println("Good Morning!!");  
          else if (hour < 16)  
               pw.println("Good afternoon");  
          else if(hour<20)  
               pw.println("Good evening");  
          else  
               pw.println("Good night");  
  
          pw.println("<br><br><a href= '../WishSrvApp/index.html'>Home</a>");  
          //close stream object  
          pw.close();  
     }  
}

web.xml

<web-app>  
     <servlet>  
          <servlet-name>abc</servlet-name>  
          <servlet-class>WishApp</servlet-class>  
     </servlet>  
     <servlet-mapping>  
          <servlet-name>abc</servlet-name>  
          <url-pattern>/test</url-pattern>  
     </servlet-mapping>  
</web-app>

**Output:**  
  
wish message  
  
When we click on the above link In the morning it displays following message.  
  


**3. Write an application to auto refresh a page in servlet.**  
  
**Answer:**  
  
When we need to refresh the web page automatically after some time, then we can use Servlet **setIntHeader()** method.  This method sends back header "Refresh" to the browser along with an integer value which indicates time interval in seconds. It is used when we displaying live game score, share market status etc.  
  
Below example shows how to use of **setIntHeader()** method to set Refresh header to simulate a digital clock.

Refresh.java

import java.io.\*;  
import javax.servlet.\*;  
import javax.servlet.http.\*;  
import java.util.\*;  
  
// Extend HttpServlet class  
public class Refresh extends HttpServlet  
{  
     // Method to handle GET method request.  
     public void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException  
     {  
          // Set refresh, autoload time as 1 seconds  
          response.setIntHeader("Refresh", 1);  
  
          // Set response content type  
          response.setContentType("text/html");  
  
          // Get current time  
          Calendar calendar = new GregorianCalendar();  
          String am\_pm;  
          int hour = calendar.get(Calendar.HOUR);  
          int minute = calendar.get(Calendar.MINUTE);  
          int second = calendar.get(Calendar.SECOND);  
          if(calendar.get(Calendar.AM\_PM) == 0)  
               am\_pm = "AM";  
          else  
               am\_pm = "PM";  
  
          String CT = hour+":"+ minute +":"+ second +" "+ am\_pm;  
      
          PrintWriter out = response.getWriter();  
        
          out.println("<h1 align='center'>Auto Refresh Page</h1><hr>");  
          out.println("<h3 align='center'>Current time: "+CT+"</h3>");  
     }  
     // Method to handle POST method request.  
     public void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException  
     {  
          doGet(request, response);  
     }  
}

web.xml

<web-app>  
     <servlet>  
          <servlet-name>Refresh</servlet-name>  
          <servlet-class>Refresh</servlet-class>  
     </servlet>  
     <servlet-mapping>  
          <servlet-name>Refresh</servlet-name>  
          <url-pattern>/Refresh</url-pattern>  
     </servlet-mapping>    
</web-app>

**Output:**  
  
  
  
It refreshes the browser every second and current time will be changed automatically.

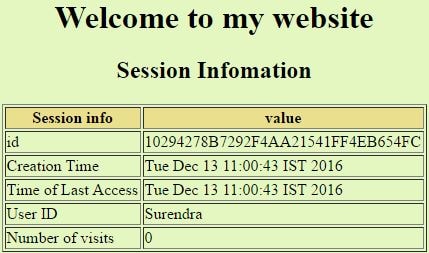
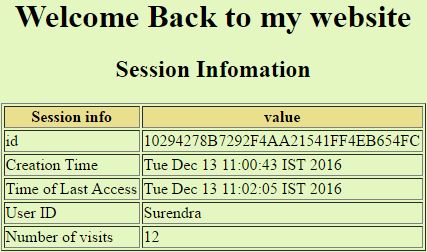
**4. Write an application to demonstrate the session tracking in Servlet.**  
  
**Answer:**  
  
Session is basically a time frame and tracking means maintaining user data for certain period of time frame. Session Tracking is a mechanism used by the web container to store session information for a particular user. It is used to recognize a particular user.  
  
Below example shows how HttpSession object finds out creation time and last accessed time for a session.

SessionDemo.java

import java.io.\*;  
import javax.servlet.\*;  
import javax.servlet.http.\*;  
import java.util.\*;  
  
// Extend HttpServlet class  
public class SessionDemo extends HttpServlet  
{  
     public void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException  
     {  
           // Create a session object if it is already not  created.  
           HttpSession session = request.getSession(true);  
           // Get session creation time.  
           Date createTime = new Date(session.getCreationTime());  
           // Get last access time of this web page.  
           Date lastAccessTime = new Date(session.getLastAccessedTime());  
       
           String title = "Welcome Back to my website";  
           Integer visitCount = new Integer(0);  
           String visitCountKey = new String("visitCount");  
           String userIDKey = new String("userID");  
           String userID = new String("Surendra");  
  
           // Check if this is new comer on your web page.  
           if (session.isNew())  
          {  
               title = "Welcome to my website";  
               session.setAttribute(userIDKey, userID);  
          }  
          else  
          {  
               visitCount = (Integer)session.getAttribute(visitCountKey);  
               visitCount = visitCount + 1;  
               userID = (String)session.getAttribute(userIDKey);  
          }  
          session.setAttribute(visitCountKey,  visitCount);  
  
          // Set response content type  
          response.setContentType("text/html");  
          PrintWriter out = response.getWriter();  
  
          String docType =  
          "<!doctype html public \"-//w3c//dtd html 4.0 " +  
          "transitional//en\">\n";  
  
           out.println(docType +  
               "<html>\n" +  
               "<head><title>" + title + "</title></head>\n" +  
               "<body bgcolor=\"#e5f7c0\">\n" +  
               "<h1 align=\"center\">" + title + "</h1>\n" +  
               "<h2 align=\"center\">Session Infomation</h2>\n" +  
               "<table border=\"1\" align=\"center\">\n" +  
               "<tr bgcolor=\"#eadf8c\">\n" +  
               "<th>Session info</th><th>value</th></tr>\n" +  
               "<tr>\n" +  
               "  <td>id</td>\n" +  
               "  <td>" + session.getId() + "</td></tr>\n" +  
               "<tr>\n" +  
               "  <td>Creation Time</td>\n" +  
               "  <td>" + createTime +  
               "  </td></tr>\n" +  
               "<tr>\n" +  
               "  <td>Time of Last Access</td>\n" +  
               "  <td>" + lastAccessTime +  
               "  </td></tr>\n" +  
               "<tr>\n" +  
               "  <td>User ID</td>\n" +  
               "  <td>" + userID +  
               "  </td></tr>\n" +  
               "<tr>\n" +  
               "  <td>Number of visits</td>\n" +  
               "  <td>" + visitCount + "</td></tr>\n" +  
               "</table>\n" +  
               "</body></html>");  
     }  
}

web.xml

<web-app>  
     <servlet>  
          <servlet-name>abc</servlet-name>  
          <servlet-class>SessionDemo</servlet-class>  
     </servlet>  
     <servlet-mapping>  
          <servlet-name>abc</servlet-name>  
          <url-pattern>/test</url-pattern>  
     </servlet-mapping>  
</web-app>

**Output:**  
  
**i. When we run the application first time**  
  
  
  
**ii. After refreshing the application**  
  


**5. Write a servlet program to select the record from the database.**  
  
**Answer:**  
  
The communication between servlet program to database is same as the JDBC connection. In this example we fetch the record from the database and display it on the browser.

SelectDB.java

import java.io.\*;  
import java.util.\*;  
import javax.servlet.\*;  
import javax.servlet.http.\*;  
import java.sql.\*;  
  
public class SelectDB extends HttpServlet  
{  
     public void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException  
     {  
          Statement stmt=null;  
          ResultSet rs=null;  
          Connection conn= null;  
       
          // Set response content type  
          response.setContentType("text/html");  
          PrintWriter out = response.getWriter();  
          String title = "Database Result";  
          String docType =  
          "<!doctype html" +  
          "transitional//en\">\n";  
          out.println(docType +  
          "<html>\n" +  
          "<head><title>" + title + "</title></head>\n" +  
          "<body>");  
          try  
          {  
               // Register JDBC driver  
               Class.forName("oracle.jdbc.driver.OracleDriver");  
  
               // Open a connection  
               conn = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "local", "test");  
  
               // Execute SQL query  
               stmt = conn.createStatement();  
               String sql;  
               sql = "SELECT \* FROM Employees";  
               rs = stmt.executeQuery(sql);  
               out.println("<table border=1 >");  
               out.println("<caption><h2>Employee Record</h2></caption>");  
  
               out.println("<tr style='background-color:#ffffb3; color:red'>");  
               out.println("<th>Emp Id</th>");  
               out.println("<th> Age(Year)</th>");  
               out.println("<th>First Name</th>");  
               out.println("<th>Last Name</th>");  
               out.println("</tr>");  
               // Extract data from result set  
               while(rs.next())  
               {  
                    //Retrieve by column name  
                    int id  = rs.getInt("id");  
                    int age = rs.getInt("age");  
                    String first = rs.getString("first");  
                    String last = rs.getString("last");  
  
                    //Display values  
                    out.println("<tr style='background-color:#b3ffd9;'>");  
                    out.println("<td>" + id + "</td>");  
                    out.println("<td>" + age + "</td>");  
                    out.println("<td>" + first + "</td>");  
                    out.println("<td>" + last + "</td>");  
                    out.println("</tr>");  
               }  
               out.println("</table>");  
               out.println("</bod;=y></html>");  
  
               // Clean-up environment  
               rs.close();  
               stmt.close();  
               conn.close();  
          }  
          catch(SQLException se)  
          {  
               se.printStackTrace();  
          }  
          catch(Exception e)  
          {  
               e.printStackTrace();  
          }  
          finally  
          {  
               //finally block used to close resources  
               try  
               {  
                    if(stmt!=null)  
                         stmt.close();  
               }  
               catch(SQLException se2)  
               {}// nothing we can do  
               try  
               {  
               if(conn!=null)  
                    conn.close();  
               }  
               catch(SQLException se)  
               {  
               se.printStackTrace();  
               }  
          }  
     }  
}

web.xml

<web-app>  
     <servlet>  
          <servlet-name>abc</servlet-name>  
          <servlet-class>SelectDB</servlet-class>  
     </servlet>  
     <servlet-mapping>  
          <servlet-name>abc</servlet-name>  
          <url-pattern>/test</url-pattern>  
     </servlet-mapping>  
</web-app>

**Output:**  
  


**6. Write a Servlet application for login page, which is check the username and password. If username and password are matched, display welcome message.**  
  
**Answer:**  
  
In this example, we match the username and password from the database.    
  
**First create the userlist table**  
  
Create table userlist(name varchar2(20), pass varchar2(20));  
     
**There are five files in the below program.**  
  
i. Index.html  
ii. FirstServlet.java  
iii. LoginDao.java  
iv. WelcomeServlet.java  
v. Web.xml

Index.html

<!doctype html>  
<html lang="en">  
     <head>  
          <title>Document</title>  
     </head>  
     <body>  
          <form action="servlet1" method="post">  
               <fieldset style="width:20%; background-color:#ccffcc">  
                    <h2 align="center">Login Page</h2>  
                    <hr>  
                    <table>  
                    <tr><td>Name</td><td><input type="text" name="username"/></td>  
                    <tr><td>Password</td><td><input type="password" name="userpass"/></td></tr>  
                    <tr><td></td><td><input type="submit" value="login"/></td></tr>  
                    </table>  
               </fieldset>  
          </form>    
     </body>  
</html>

FirstServlet.java

import java.io.IOException;    
import java.io.PrintWriter;    
import javax.servlet.RequestDispatcher;    
import javax.servlet.ServletException;    
import javax.servlet.http.HttpServlet;    
import javax.servlet.http.HttpServletRequest;    
import javax.servlet.http.HttpServletResponse;    
    
public class FirstServlet extends HttpServlet  
{  
     public void doPost(HttpServletRequest request, HttpServletResponse response)    
     throws ServletException, IOException  
     {    
          response.setContentType("text/html");    
          PrintWriter out = response.getWriter();    
            
          String n=request.getParameter("username");    
          String p=request.getParameter("userpass");    
          if(LoginDao.validate(n, p))  
          {    
               RequestDispatcher rd=request.getRequestDispatcher("servlet2");    
               rd.forward(request,response);    
          }    
          else  
          {    
               out.print("Sorry username or password error");    
               RequestDispatcher rd=request.getRequestDispatcher("index.html");    
               rd.include(request,response);    
          }    
          out.close();    
     }    
}

LoginDao.java

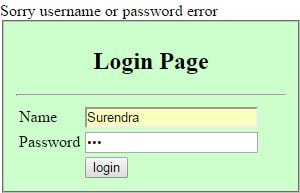
import java.sql.\*;    
public class LoginDao  
{    
     public static boolean validate(String name,String pass)  
     {    
          boolean status=false;  
          try  
          {    
               Class.forName("oracle.jdbc.driver.OracleDriver");    
               Connection con=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe","local","test");    
        
               PreparedStatement ps=con.prepareStatement(    
               "select \* from userreg where name=? and pass=?");    
               ps.setString(1,name);    
               ps.setString(2,pass);    
               ResultSet rs=ps.executeQuery();    
               status=rs.next();    
          }  
          catch(Exception e)  
          {  
               System.out.println(e);  
          }    
          return status;    
     }    
}

WelcomeServlet.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;    
    
public class WelcomeServlet extends HttpServlet  
{    
     public void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException  
     {      
          response.setContentType("text/html");    
          PrintWriter out = response.getWriter();    
          String n=request.getParameter("username");    
          out.print("Welcome "+n);    
          out.close();    
     }    
}

web.xml

<web-app>  
  <servlet>  
    <servlet-name>FirstServlet</servlet-name>  
    <servlet-class>FirstServlet</servlet-class>  
  </servlet>  
  <servlet>  
    <servlet-name>WelcomeServlet</servlet-name>  
    <servlet-class>WelcomeServlet</servlet-class>  
  </servlet>  
  
  <servlet-mapping>  
    <servlet-name>FirstServlet</servlet-name>  
    <url-pattern>/servlet1</url-pattern>  
  </servlet-mapping>  
  <servlet-mapping>  
    <servlet-name>WelcomeServlet</servlet-name>  
    <url-pattern>/servlet2</url-pattern>  
  </servlet-mapping>  
  
  <welcome-file-list>  
    <welcome-file>index.html</welcome-file>  
  </welcome-file-list>  
    
</web-app>

**Output:**  
  
**i. Enter username or password**  
  
  
  
**ii. Correct username and password**  
  
  
  
welcome message

**7. Develop a registration page in servlet with proper validation and store all records in the database.**  
  
**Answer:**  
  
In the below example we take all detail from the user and store them on to the database. If user leaves any of the fields blank, then it will not be saved.  
  
**Create a "Registration" table**  
  
SQL> create table registration (Name varchar2(20), password varchar2(10), email varchar2(20), mobile number, dob varchar2(20), gender varchar2(6), country varchar2 (10));  
  
**There are three files in registration page**  
  
i. register.html  
ii. Register.java  
iii. web.xml

register.html

<!doctype html>    
   <body>    
      <form action="servlet/Register" method="post">    
         <fieldset style="width:20%; background-color:#ccffeb">  
            <h2 align="center">Registration form</h2><hr>  
            <table>  
               <tr>  
                  <td>Name</td>  
                  <td><input type="text" name="userName" required /></td>  
               </tr>    
               <tr>  
                  <td>Password</td>  
                  <td><input type="password" name="userPass" required /></td>  
               </tr>    
               <tr>  
                  <td>Email Id</td>  
                  <td><input type="text" name="userEmail" required /></td>  
               </tr>    
               <tr>  
                  <td>Mobile</td>  
                  <td><input type="text" name="userMobile" required/></td>  
               </tr>    
               <tr>  
                  <td>Date of Birth</td>  
                  <td><input type="date" name="userDOB" required/></td>  
               </tr>    
               <tr>  
                  <td>Gender</td>  
                  <td><input type="radio" name="gender" value="male" checked> Male  
                  <input type="radio" name="gender" value="female"> Female </td></tr>  
               <tr>  
                  <td>Country</td>  
                  <td><select name="userCountry" style="width:130px">    
                     <option>Select a country</option>    
                     <option>India</option>    
                     <option>America</option>    
                     <option>England</option>    
                     <option>other</option></select>  
                  </td>  
               </tr>  
               <tr>  
                  <td><input type="reset" value="Reset"/></td>  
                  <td><input type="submit" value="Register"/></td>  
               </tr>  
            </table>  
         </fieldset>    
      </form>    
   </body>    
</html>

Register.java

import java.io.\*;    
import java.sql.\*;    
import javax.servlet.ServletException;    
import javax.servlet.http.\*;    
    
public class Register extends HttpServlet  
{    
     public void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException  
     {    
          response.setContentType("text/html");    
          PrintWriter out = response.getWriter();    
            
          String name = request.getParameter("userName");    
          String pwd = request.getParameter("userPass");    
          String email = request.getParameter("userEmail");  
          int mobile = Integer.parseInt(request.getParameter("userMobile"));  
          String dob = request.getParameter("userDOB");    
          String gender = request.getParameter("gender");    
          String country =request.getParameter("userCountry");    
            
          try  
          {    
               //load the driver  
               Class.forName("oracle.jdbc.driver.OracleDriver");    
               //create connection object  
               Connection con=DriverManager.getConnection( "jdbc:oracle:thin:@localhost:1521:xe","local","test");    
               // create the prepared statement object  
               PreparedStatement ps=con.prepareStatement("insert into registration values(?,?,?,?,?,?,?)");    
    
               ps.setString(1,name);    
               ps.setString(2,pwd);    
               ps.setString(3,email);    
               ps.setInt(4, mobile);  
               ps.setString(5,dob);    
               ps.setString(6,gender);    
               ps.setString(7,country);    
    
               int i = ps.executeUpdate();    
               if(i>0)    
               out.print("You are successfully registered...");    
    
          }  
          catch (Exception ex)  
          {  
               ex.printStackTrace();  
          }    
          out.close();    
     }    
}

web.xml

<web-app>      
     <servlet>    
          <servlet-name>Register</servlet-name>    
          <servlet-class>Register</servlet-class>    
     </servlet>    
    
     <servlet-mapping>    
          <servlet-name>Register</servlet-name>    
          <url-pattern>/servlet/Register</url-pattern>    
     </servlet-mapping>    
    
     <welcome-file-list>    
          <welcome-file>register.html</welcome-file>    
     </welcome-file-list>      
</web-app>

**Output:**  
  
This page doesn’t allow to submit the record without filling the textbox.    
  
  
  
After filling all textbox, it allows to submit the record.  
  
  
  
Click on Register button.  
  
message  
  
Check the record on the database, the textbox value will be inserted

**8 . Write a Servlet application to count the total number of visits on your website.**  
  
**Answer:**  
  
When first time servlet runs then session is created and value of the counter will be zero and after access of servlet again, the counter value will be increased by one.

CounterServlet.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;  
  
public class CounterServlet extends HttpServlet  
{  
     //Instance variable used for counting hits on this servlet  
     private int iHitCounter;  
  
     //init method just initializes the hitCounter to zero  
     public void init() throws ServletException  
     {  
          iHitCounter = 0;  
     }  
     public void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException  
     {  
          PrintWriter out =  response.getWriter();  
          out.println("<form><fieldset style='width:15%'>");  
          out.println("<h3>Welcome to my website !</h3><hr>");  
          out.println("You are visitor number: "+ (++iHitCounter));  
          out.println("</fieldset></form>");  
     }  
     public void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException  
     {  
          doGet(request, response);  
     }  
}

**Output:**  
  


**9. Write a java program to accept the details of Teacher (TId, Name, Address) from the user and insert it into the Database.**  
  
**Answer:**  
  
In below example we create teacher registration page in html which accepts id, name and address. After clicking submit button, all data gets stored in the database.  
  
**Create a table in a database to store the record.**  
  
Create table teacherdetails (tid number, name varchar2(20), address varchar2(40);

register.html

<!doctype html>    
     <body>    
          <form action="servlet/Register" method="post">    
               <fieldset style="width:20%; background-color:#ccffeb">  
                    <h2 align="center">Registration form</h2><hr>  
                    <table>  
                         <tr>  
                              <td>TId</td>  
                              <td><input type="text" name="TId" required /></td>  
                         </tr>    
                         <tr>  
                              <td>Name</td>  
                              <td><input type="text" name="Name" required /></td>  
                         </tr>    
                         <tr>  
                              <td>Address</td>  
                              <td><textarea name="address" placeholder="Enter address here..."></textarea></td>  
                         </tr>    
                         <tr>  
                              <td><input type="reset" value="Reset"/></td>  
                              <td><input type="submit" value="Register"/></td>  
                         </tr>  
                    </table>  
               </fieldset>    
          </form>    
     </body>    
</html>

Register.java

import java.io.\*;    
import java.sql.\*;    
import javax.servlet.ServletException;    
import javax.servlet.http.\*;    
    
public class Register extends HttpServlet  
{    
     public void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException  
     {    
          response.setContentType("text/html");    
          PrintWriter out = response.getWriter();              
          int id = Integer.parseInt(request.getParameter("TId"));  
          String name = request.getParameter("name");    
          String address = request.getParameter("address");    
          try  
          {    
               //load the driver  
               Class.forName("oracle.jdbc.driver.OracleDriver");    
               //create connection object  
               Connection con=DriverManager.getConnection( "jdbc:oracle:thin:@localhost:1521:xe","local","test");    
               // create the prepared statement object  
               PreparedStatement ps=con.prepareStatement("insert into TeacherDetails values(?,?,?)");    
    
               ps.setInt(1, id);  
               ps.setString(2,name);    
               ps.setString(3,address);    
    
               int i = ps.executeUpdate();    
               if(i>0)    
               out.print("You are successfully registered...");    
          }  
          catch (Exception ex)  
          {  
               ex.printStackTrace();  
          }    
          out.close();    
     }    
}

web.xml

<web-app>     
     <servlet>    
          <servlet-name>Register</servlet-name>    
          <servlet-class>Register</servlet-class>    
     </servlet>      
     <servlet-mapping>    
          <servlet-name>Register</servlet-name>    
          <url-pattern>/servlet/Register</url-pattern>    
     </servlet-mapping>     
     <welcome-file-list>    
          <welcome-file>register.html</welcome-file>    
     </welcome-file-list>     
</web-app>

**Output:**  
  
  
  
teacher registration

**10 . Write a Servlet program that accepts the age and name and displays if the user is eligible for voting or not.**     
  
**Answer:**  
  
In this example we will check if the user is eligible for voting or not. If the age is greater than 17, then user is eligible to vote. There is one html page which takes name and age from the user.

index.html

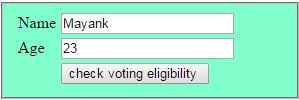
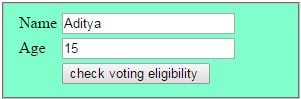
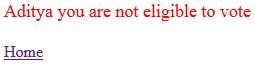
<!doctype html>  
<html lang="en">  
     <head>  
          <meta charset="UTF-8">  
          <title>VoterApp</title>  
     </head>  
     <body>  
          <form action= "vturl" method="get">  
               <fieldset style="width:20%; background-color:#80ffcc">  
                    <table>  
                         <tr><td>Name</td><td><input type="text" name="name"></td></tr>  
                         <tr><td>Age</td><td><input type="text" name="age"></td></tr>  
                         <tr><td></td><td><input type = "submit" value="check voting eligibility"></td></tr>  
                    </table>  
               </fieldset>  
          </form>  
     </body>  
</html>

VoterSrv.java

import java.io.\*;  
import java.util.\*;  
import javax.servlet.\*;  
import javax.servlet.http.\*;  
public class VoterSrv extends HttpServlet  
{  
     public void service(HttpServletRequest req, HttpServletResponse res) throws IOException,ServletException  
     {  
          //set response content type  
          res.setContentType("text/html");  
          //get printWrite obj  
          PrintWriter pw = res.getWriter();  
          //read form data from page as request parameter  
          String name = req.getParameter("name");  
          int age = Integer.parseInt(req.getParameter("age"));  
          if (age>=18)  
          {  
               pw.println("<font color='green' size='4'>"+name+" you are eligible to vote</font>");  
          }  
          else  
               pw.println("<font color='red' size='4'>"+name+" you are not eligible to vote</font>");  
          //add hyperlink to dynamic page  
          pw.println("<br><br><a href= 'index.html'>Home</a>");  
          //close the stream  
          pw.close();  
     }  
}

web.xml

<web-app>  
     <servlet>  
          <servlet-name>abc</servlet-name>  
          <servlet-class>VoterSrv</servlet-class>  
     </servlet>  
     <servlet-mapping>  
          <servlet-name>abc</servlet-name>  
          <url-pattern>/vturl</url-pattern>  
     </servlet-mapping>  
</web-app>

**Output:**  
  
  
  
voter check  
  
  
  
  


**11 . Write a servlet program that accepts the Mobile phone details from user and displays the details on the next page.**  
  
**Answer:**  
  
The register.html page accepts the mobile details and then communicates to the java page. All the records are stored in the database and details displayed on the next page.

register.html

<!doctype html>    
     <body>    
          <form action="servlet/MobileDetails" method="post">    
               <fieldset style="width:25%; background-color:#b3ffff">  
                    <h2 align="center">Mobile Details form</h2><hr>  
                    <table>  
                         <tr><td>Model Number</td>  
                         <td><input type="text" name="model" required /></td></tr>    
                         <tr><td>Mobile Price</td>  
                         <td><input type="text" name="price" required /></td></tr>    
                         <tr><td>Mobile Company</td>  
                         <td><input type="text" name="company" required /></td></tr>    
                         <tr><td>Mobile Color</td>  
                         <td><input type="text" name="color" required/></td></tr>    
  
                         <tr><td><input type="reset" value="Reset"/></td>  
                         <td><input type="submit" value="Register"/></td></tr>  
                    </table>  
               </fieldset>    
          </form>    
     </body>    
</html>

MobileDetails.html

import java.io.\*;    
import java.sql.\*;    
import javax.servlet.ServletException;    
import javax.servlet.http.\*;    
    
public class MobileDetails extends HttpServlet  
{    
     public void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException  
     {    
          response.setContentType("text/html");    
          PrintWriter out = response.getWriter();    
          String model = request.getParameter("model");    
          int price = Integer.parseInt(request.getParameter("price"));  
          String company = request.getParameter("company");    
          String color = request.getParameter("color");  
            
          try  
          {    
               //load the driver  
               Class.forName("oracle.jdbc.driver.OracleDriver");    
               //create connection object  
               Connection con=DriverManager.getConnection( "jdbc:oracle:thin:@localhost:1521:xe","local","test");    
               //create the prepared statement object  
               PreparedStatement ps=con.prepareStatement("insert into MobileDetails values(?,?,?,?)");    
    
               ps.setString(1,model);    
               ps.setInt(2,price);    
               ps.setString(3,company);    
               ps.setString(4, color);  
    
               int i = ps.executeUpdate();    
               if(i>0)    
               out.print("<font color='green' size='4'>Record inserted successfully...</font>");  
  
               //create the statement object  
               Statement stmt = con.createStatement();  
               String sql;  
               sql = "SELECT \* FROM MobileDetails";  
               ResultSet rs = stmt.executeQuery(sql);  
               out.println("<table border=1 >");  
               out.println("<caption><h2>Mobile Details</h2></caption>");  
  
               out.println("<tr style='background-color:#ffffb3; color:red'>");  
               out.println("<th>Model Id</th>");  
               out.println("<th>Price(Rs.)</th>");  
               out.println("<th>Company</th>");  
               out.println("<th>Color</th>");  
               out.println("</tr>");  
               // Extract data from result set  
               while(rs.next())  
               {  
                    //Retrieve by column name  
                    String mModel = rs.getString("model");  
                    int mPrice = rs.getInt("price");  
                    String mCompany = rs.getString("company");  
                    String mColor = rs.getString("color");  
  
                    //Display values  
                    out.println("<tr style='background-color:#b3ffd9;'>");  
                    out.println("<td>" + mModel + "</td>");  
                    out.println("<td>" + mPrice + "</td>");  
                    out.println("<td>" + mCompany + "</td>");  
                    out.println("<td>" + mColor + "</td>");  
                    out.println("</tr>");  
               }  
               out.println("</table>");  
               out.println("<a href='register.html'>Home</a>");  
  
               // Clean-up environment  
               rs.close();  
               stmt.close();  
               con.close();  
          }  
          catch (Exception ex)  
          {  
               ex.printStackTrace();  
          }    
          out.close();    
     }    
}

web.xml

<web-app>  
     <servlet>    
          <servlet-name>MobileDetails</servlet-name>    
          <servlet-class>MobileDetails</servlet-class>    
     </servlet>    
     <servlet-mapping>    
          <servlet-name>MobileDetails</servlet-name>    
          <url-pattern>/servlet/MobileDetails</url-pattern>    
     </servlet-mapping>    
     <welcome-file-list>    
          <welcome-file>register.html</welcome-file>    
     </welcome-file-list>    
</web-app>

**Output:**  
  
**i. Insert record**  
  
  
  
**ii. Display the record**  
  


**12 . Create an Html page that contains 4 option buttons Java, UNIX, DDBMS, OOSE and 2 buttons Submit and Reset. When the user clicks on Submit button the server responds by adding cookie containing the selected Subject and sends the html page to the client. Program should not allow duplicate cookie to be written.**  
                      
**Answer:**  
  
Information which is stored on the client machine is called cookies. It has parameters like name, value, path, host, expires and connection type.  
  
In this example, when we click on submit button after checking the value, the cookies add selected value.

index.html

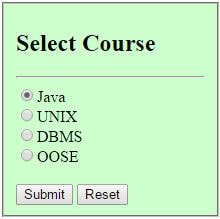
<!doctype html>  
     <head>  
          <title>CookiesExample</title>  
     </head>  
     <body>  
          <form method='post' action='servlet/cookies'>  
               <fieldset style="width:14%; background-color:#ccffcc">  
                    <h2>Select Course</h2> <hr>  
                         <input type='radio' name='course' value='Java'>Java<br>    
                         <input type='radio' name='course' value='UNIX'>UNIX<br>    
                         <input type='radio' name='course' value='MCA'>DBMS<br>    
                         <input type='radio' name='course' value='OOSE '>OOSE<br><br>  
                         <input type='submit'> <input type='reset'><br>    
               </fieldset>  
          </form>    
     </body>  
</html>

AddCookie.java

import java.io.\*;  
import javax.servlet.\*;  
import javax.servlet.http.\*;    
public class AddCookie extends HttpServlet  
{    
     public void doPost(HttpServletRequest req, HttpServletResponse res) throws ServletException,IOException  
     {  
          res.setContentType("text/html");  
          PrintWriter pw = res.getWriter();  
          Cookie []c = req.getCookies();  
          int id=1;  
          if(c!=null) id = c.length+1;  
               String value = req.getParameter("course");  
          Cookie newCookie = new Cookie("course:"+id,value);  
          res.addCookie(newCookie);    
          pw.println("<h4>Cookie added with value "+value+"</h4>");  
     }  
  
}

web.xml

<web-app>  
     <servlet>  
          <servlet-name>AddCookie</servlet-name>  
          <servlet-class>AddCookie</servlet-class>  
     </servlet>  
     <servlet-mapping>  
          <servlet-name>AddCookie</servlet-name>  
          <url-pattern>/servlet/cookies</url-pattern>  
     </servlet-mapping>  
     <welcome-file-list>  
          <welcome-file>index.html</welcome-file>  
     </welcome-file-list>  
</web-app>

**Output:**  
  
Select Java and click on submit. It adds the cookies with value Java.  
  
  
  
cookies