

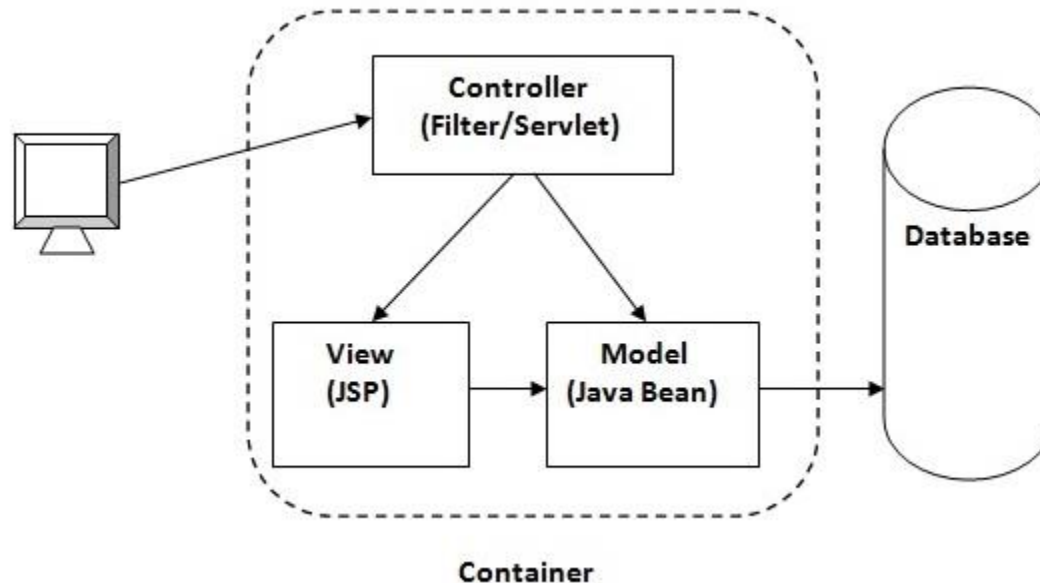
# DEZVOLTAREA APLICATIILOR WEB

LAB 6

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- MVC Pattern with JSP and Servlets
- Custom Tag Example

- MVC = Model – View – Controller.
- design pattern that separates the business logic, presentation logic and data.
- Advantage
  - Navigation Control is centralized
  - Easy to maintain the large applications



## ➤ LoginPage.jsp

```
<%@ page language="java" contentType="text/html; charset=windows-1256"
pageEncoding="windows-1256"%>
<%
response.setHeader("Cache-Control", "no-store, must-revalidate");
response.setHeader("Pragma", "no-cache");
response.setDateHeader("Expires", -1);
%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
  <meta http-equiv="Content-Type" content="text/html; charset=windows-1256">
  <script>
    function clearForms() {
      var i;
      for (i = 0; (i < document.forms.length); i++)
        document.forms[i].reset();
    }
  </script>
</head>
</html>
```

## ➤ LoginPage.jsp – 2

```
function validateForm() {
    var x = document.forms["myForm"]["un"].value;
    if (x == null || x == "") {
        alert("Username must be filled out");
        document.getElementById('un').focus();
        return false;
    }
    var y = document.forms["myForm"]["pw"].value;
    if (y == null || y == "") {
        alert("password must be filled out");
        document.getElementById('pw').focus();
        return false;
    }
}
</script>
<title>Login Page</title>
</head>
<body onLoad="clearForms()" onunload="clearForms()">
    <form action="LoginServlet" onsubmit="return validateForm()" method="post"
    name="myForm">
        Please enter your user name <input type="text" name="un" id="un" /><br>
        Please enter your password <input type="text" name="pw" id="pw" />
        <input type="submit" value="submit">
    </form>
</body>
</html>
```

## ➤ invalidLogin.jsp

```
<%@ page language="java"
    contentType="text/html; charset=windows-1256"
    pageEncoding="windows-1256"
%>
<%
    response.setHeader("Cache-Control","no-store,must-revalidate");
    response.setHeader("Pragma","no-cache");
    response.setDateHeader("Expires",-1);
    new java.util.Date();
%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
    "http://www.w3.org/TR/html4/loose.dtd">

<html>

    <head>
        <meta http-equiv="Content-Type"
            content="text/html; charset=windows-1256">
        <title>Invalid Login</title>
    </head>

    <body>
        <center>
            Sorry, you are not a registered user! Please sign up first
        </center>
    </body>

</html>
```

## ➤ userLogged.jsp

```
<%@ page language="java"
    contentType="text/html; charset=windows-1256"
    pageEncoding="windows-1256"
    import="ExamplePackage.UserBean"%>
<%
response.setHeader("Cache-Control","no-store,must-revalidate");
response.setHeader("Pragma","no-cache");
response.setDateHeader("Expires",-1);

if(session.getAttribute("currentSessionUser")!=null) {
%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
    <meta http-equiv="Content-Type" content="text/html; charset=windows-1256">
    <title>    User Logged Successfully    </title>
    <script type="text/javascript">
        function noBack() {
            window.history.forward();
        }
    </script>
</head>
```

## ➤ userLogged.jsp – 2

```
<body onload="noBack();"
  <a href="LogoutServlet">Logout</a>
  <center>
<% UserBean currentUser = (UserBean) (session.getAttribute("currentSessionUser"));%>

  Welcome <%= currentUser.getFirstName() + " " + currentUser.getLastName() %>
  </center>

  </body>

</html>
<%
} else {
  response.sendRedirect("LoginPage.jsp");
}
%>
```



## ➤ LoginServlet.java

```
package ExamplePackage;

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 {

    public void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, java.io.IOException {

        try {
            UserBean user = new UserBean();
            user.setUsername(request.getParameter("un"));
            user.setPassword(request.getParameter("pw"));
            user = UserDAO.login(user);

            if (user.isValid()) {
                HttpSession session = request.getSession(true);
                session.setAttribute("currentSessionUser", user);
                response.sendRedirect("userLogged.jsp"); // logged-in page
            }
            else
                response.sendRedirect("invalidLogin.jsp"); // error page
        }
        catch (Throwable theException) {
            System.out.println(theException);
        }
    }
}
```

## ➤ UserBean.java

```
package ExamplePackage;
public class UserBean {

    private String username;
    private String password;
    private String firstName;
    private String lastName;
    public boolean valid;

    public String getFirstName() {
        return firstName;
    }

    public void setFirstName(String newFirstName) {
        firstName = newFirstName;
    }

    public String getLastName() {
        return lastName;
    }

    public void setLastName(String newLastName) {
        lastName = newLastName;
    }

    public String getPassword() {
        return password;
    }
}
```

### ➤ UserBean.java – 2

```
public void setPassword(String newPassword) {
    password = newPassword;
}
public void removePassword() {
    password = null;
}

public String getUsername() {
    return username;
}

public void setUsername(String newUsername) {
    username = newUsername;
}
public void removeUserName() {
    username = null;
}
public void removeLastName() {
    lastName = null;
}
public void removeFirstName() {
    firstName = null;
}

public boolean isValid() {
    return valid;
}

public void setValid(boolean newValid) {
    valid = newValid;
}
}
```

## ➤ UserDao.java

```
package ExamplePackage;

import java.sql.*;

public class UserDao {
    static Connection currentCon = null;
    static ResultSet rs = null;

    public static UserBean login(UserBean bean) {

        // preparing some objects for connection
        Statement stmt = null;

        String username = bean.getUsername();
        String password = bean.getPassword();

        String searchQuery = "select * from users where username='" + username +
            "' AND password='" + password + "'";

        // "System.out.println" prints in the console; Normally used to trace
        // the process
        System.out.println("Your user name is " + username);
        System.out.println("Your password is " + password);
        System.out.println("Query: " + searchQuery);

        try {
            // connect to DB
            currentCon = DriverManager.getConnection();
            stmt = currentCon.createStatement();
        }
    }
}
```

## ➤ UserDao.java – 2

```
        rs = stmt.executeQuery(searchQuery);
        boolean more = rs.next();

        // if user does not exist set the isValid variable to false
        if (!more) {
            System.out.println("Sorry, you are not a registered user! Please
sign up first");
            bean.setValid(false);
        }

        // if user exists set the isValid variable to true
        else if (more) {
            String firstName = rs.getString("FirstName");
            String lastName = rs.getString("LastName");

            System.out.println("Welcome " + firstName);
            bean.setFirstName(firstName);
            bean.setLastName(lastName);
            bean.setValid(true);
        }
    } catch (Exception ex) {
        System.out.println("Log In failed: An Exception has occurred! " + ex);
    }
    // some exception handling
```

## ➤ UserDao.java – 3

```
        finally {
            if (rs != null) {
                try {
                    rs.close();
                } catch (Exception e) {
                }
                rs = null;
            }

            if (stmt != null) {
                try {
                    stmt.close();
                } catch (Exception e) {
                }
                stmt = null;
            }

            if (currentCon != null) {
                try {
                    currentCon.close();
                } catch (Exception e) {
                }

                currentCon = null;
            }
        }
        return bean;
    }
}
```

## ➤ ConnectionManager.java

```
package ExamplePackage;

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

public class ConnectionManager {

    static Connection con;
    static String url;

    public static Connection getConnection() {

        try {
            String url = "jdbc:oracle:thin:@localhost:1521:XE";
            Class.forName("oracle.jdbc.driver.OracleDriver");

            try {
                con = DriverManager.getConnection(url, "*****", "*****");
            }

            catch (SQLException ex) {
                ex.printStackTrace();
            }
        } catch (ClassNotFoundException e) {
            System.out.println(e);
        }
        return con;
    }
}
```

## ➤ LogoutServlet.java

```
package ExamplePackage;

import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;
import ExamplePackage.UserBean;

public class LogoutServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;

    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, java.io.IOException {

        try {
            UserBean user = new UserBean();
            user.removeUserName();
            user.removePassword();
            HttpSession session = request.getSession(false);
            session.removeAttribute("currentSessionUser");
            session.invalidate();
            response.sendRedirect("LoginPage.jsp");
        } catch (Throwable theException) {
            System.out.println(theException);
        }
    }
}
```



## ➤ AcceptInput.html

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
<title>Insert title here</title>
</head>
<body style="font-family:'Verdana';font-size: 1.5em;color: #112244;">
    <h2>Select a color of your choice</h2>

    <form method="post" action="Hello.jsp">
        <br>
        <input type="radio" name="r1" value="G">Green<br>
        <input type="radio" name="r1" value="Y">Yellow<br>
        <input type="radio" name="r1" value="R">Red<br>
        <input type="radio" name="r1" value="B">Blue<br>
        <p>
            Enter Name <input type="text" name="uname">
            <br><br>
            <input type="Submit" value="Submit" name="b1" >
        </p>
    </form>
</body>
</html>
```

## ➤ Hello.jsp

```
<%@ taglib uri="/Mytaglib.tld" prefix="first"%>
<html>
<head>
<title>Customized Tag</title>
</head>
<body>
    <%
        String str = request.getParameter("r1");
        if (str.compareTo("G") == 0) {
    %>
    <first:hello color="LIGHTGREEN">
        <%=request.getParameter("uname") %>
    </first:hello>
    <%
        }
        if (str.compareTo("R") == 0) {
    %>
    <first:hello color="RED">
        <%=request.getParameter("uname") %>
    </first:hello>
    <%
        }
        if (str.compareTo("Y") == 0) {
    %>
    <first:hello color="LIGHTYELLOW">
        <%=request.getParameter("uname") %>
    </first:hello>
```

## ➤ Hello.jsp – 2

```
<%  
  }  
  if (str.compareTo("B") == 0) {  
%>  
<first:hello color="LIGHTBLUE">  
  <%=request.getParameter("uname") %>  
</first:hello>  
<%  
  }  
%>  
<br>  
</body>  
</html>
```

## ➤ /src/hello/HelloTag.java

```
package hello;

import java.io.*;
import javax.servlet.jsp.*;
import javax.servlet.jsp.tagext.*;
import java.util.GregorianCalendar;

public class HelloTag extends BodyTagSupport {
    private String name;
    private PageContext pageContext;
    private Tag parent;
    String color;

    public HelloTag() {
        super();
    }

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

    public void setColor(String color) {
        this.color = color;
    }

    ...
}
```

## ➤ HelloTag.java – doAfterBody method

```
public int doAfterBody() throws JspException {
    try {
        BodyContent bc = getBodyContent();
        String body = bc.getString();
        JspWriter out = bc.getEnclosingWriter();
        String dt;
        GregorianCalendar now = new GregorianCalendar();
        dt = now.getTime().toString();
        String dt1 = dt.substring(11, 16);
        out.print("<body bgcolor=" + color + ">");
        if (body != null)
            out.print("<CENTER>Hi" + body + "! </CENTER>");
        if (dt1.compareTo("12.00") < 0)
            out.print("<CENTER>Good Morning to You.</CENTER>");
        if ((dt1.compareTo("12.00") > 0) && (dt1.compareTo("16.00") < 0))
            out.print("<CENTER>Good Afternoon to You.</CENTER>");
        if ((dt1.compareTo("16.00") > 0) && (dt1.compareTo("24.00") < 0))
            out.print("<CENTER>Good Evening to You.</CENTER>");
        out.print("<BR>");
        out.print("<CENTER>Welcome to ABC Inc.</CENTER>");
        out.print("<BR>");
        out.print("<CENTER>The current time: " + dt1 + "</CENTER>");
        out.print("</body>");
    } catch (IOException ioe) {
        throw new JspException("Error:" + ioe.getMessage());
    }
    return SKIP_BODY;
}
```

## ➤ Mytaglib.tld

```
<taglib>
  <tlib-version>1.0</tlib-version>
  <jsp-version>1.2</jsp-version>
  <short-name>first</short-name>
  <uri></uri>
  <info>A simple tag library for the examples</info>
  <tag>
    <name>hello</name>
    <tag-class>hello.HelloTag</tag-class>
    <body-content>JSP</body-content>
    <attribute>
      <name>color</name>
      <rtexprvalue>true</rtexprvalue>
      <required>true</required>
    </attribute>
  </tag>
</taglib>
```