**Servlets :**

**Print message (Heading)**

**package** example.servlet;

**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;

/\*\*

\* Servlet implementation class HelloServlet

\*/

**public** **class** HelloServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

/\*\*

\* **@see** HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

response.setContentType("text/html"); // server will send HTML content to web browser.

PrintWriter out = response.getWriter(); // how servlet will send the data -using PrintWriter

out.println("<h2>Welcome from servlet...</h2>");

}

}

Init():

**package** example.servlet;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** javax.servlet.ServletConfig;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

/\*\*

\* Servlet implementation class GreetingServlet

\*/

**public** **class** GreetingServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

/\*\*

\* **@see** HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

response.setContentType("text/html"); // server will send HTML content to web browser.

PrintWriter out = response.getWriter();

String user = getInitParameter("UserName");

String msg = getInitParameter("greetingMessage");

out.println("<h1>"+msg+ " " + user+"</h1");

}

**public** **void** init(ServletConfig config)**throws** ServletException{

**super**.init(config);

System.***out***.println("Inside init()");

}

**public** **void** init()**throws** ServletException{

System.***out***.println("Inside init2()");

}

**public** **void** destroy() {

System.***out***.println("Inside destroy");

}

}

ServletContext:

**package** example.servlets;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** java.time.LocalTime;

**import** javax.servlet.ServletContext;

**import** javax.servlet.ServletException;

**import** javax.servlet.annotation.WebServlet;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** example.beans.Timeintervals;

/\*\*

\* Servlet implementation class DataStoreServlet

\*/

@WebServlet(name = "MyDataStore", urlPatterns = { "/store" })

**public** **class** DataStoreServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

/\*\*

\* **@see** HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

ServletContext ctx = getServletContext();

Object obj = ctx.getAttribute("times");

Timeintervals interval = **null**;

**if** (obj == **null**) {

interval = **new** Timeintervals();

}

**else** {

interval = (Timeintervals) obj;

}

interval.addTimeInterval(LocalTime.*now*());

ctx.setAttribute("times", interval);

out.println("<h1>Local Time added...</h1>");

}

}

package example.beans;

import java.time.LocalTime;

import java.util.ArrayList;

import java.util.List;

public class Timeintervals {

private List<LocalTime> timeInervals= new ArrayList<>();

public void addTimeInterval(LocalTime locTime) {

timeInervals.add(locTime);

}

public List<LocalTime> getTimeInterval(){

return timeInervals;

}

}

package example.servlets;

import java.io.IOException;

import java.io.PrintWriter;

import java.time.LocalTime;

import java.util.List;

import javax.servlet.ServletContext;

import javax.servlet.ServletException;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import example.beans.Timeintervals;

/\*\*

\* Servlet implementation class DataStoreServlet

\*/

@WebServlet(name = "MyDataLoad", urlPatterns = { "/load" })

public class DataLoadServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

/\*\*

\* @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)

\*/

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

response.setContentType("text/html");

PrintWriter out = response.getWriter();

ServletContext ctx = getServletContext();

Object obj = ctx.getAttribute("times");

Timeintervals interval = null;

if (obj == null) {

out.println("<h1> Data has not been set</h1>");

}

else {

interval = (Timeintervals) obj;

List<LocalTime> times = interval.getTimeInterval();

for(LocalTime lt : times) {

out.println("<h2>" +lt+ "</h2>");

}

}

}

}

Login and validate results :

**package** example.beans;

**import** java.util.HashMap;

**import** java.util.Map;

**public** **class** UserRepository {

**private** **static** Map<String, User> *user* = **new** HashMap();

**static** {

User user1 = **new** User("james", "phoenix123");

User user2 = **new** User("neel", "kingFisher456");

User user3 = **new** User("mac", "jenny3454");

*user*.put("james", user1);

*user*.put("neel", user2);

*user*.put("mac", user3);

}

**public** **static** User getUser(String username) {

User us = *user*.get(username);

**return** us;

}

}

**package** example.beans;

**public** **class** User {

**private** String userName;

**private** String password;

**public** User(String userName, String password) {

**super**();

**this**.userName = userName;

**this**.password = password;

}

**public** String getUserName() {

**return** userName;

}

**public** **void** setUserName(String userName) {

**this**.userName = userName;

}

**public** String getPassword() {

**return** password;

}

**public** **void** setPassword(String password) {

**this**.password = password;

}

@Override

**public** **int** hashCode() {

**final** **int** prime = 31;

**int** result = 1;

result = prime \* result + ((password == **null**) ? 0 : password.hashCode());

result = prime \* result + ((userName == **null**) ? 0 : userName.hashCode());

**return** result;

}

@Override

**public** **boolean** equals(Object obj) {

**if** (**this** == obj)

**return** **true**;

**if** (obj == **null**)

**return** **false**;

**if** (getClass() != obj.getClass())

**return** **false**;

User other = (User) obj;

**if** (password == **null**) {

**if** (other.password != **null**)

**return** **false**;

} **else** **if** (!password.equals(other.password))

**return** **false**;

**if** (userName == **null**) {

**if** (other.userName != **null**)

**return** **false**;

} **else** **if** (!userName.equals(other.userName))

**return** **false**;

**return** **true**;

}

}

**package** example.beans;

**public** **class** UserValidator {

**public** **static** **boolean** isValid(User currentUser) {

String username = currentUser.getUserName();

User existingUser = UserRepository.*getUser*(username);

**boolean** found = currentUser.equals(existingUser);

**return** found;

}

}

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body bgcolor = *"cyan"*>

<form action=*"Login"* method = *"post"*>

<pre>

First input: <input type=*"text"* name = *'uid'*/>

Second input: <input type=*"password"* name = *'pwd'*/>

<input type=*"submit"* value = *'Sign In'*/>

</pre>

</form>

</body>

</html>

**package** example.servlets;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** javax.servlet.ServletException;

**import** javax.servlet.annotation.WebInitParam;

**import** javax.servlet.annotation.WebServlet;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** example.beans.User;

**import** example.beans.UserValidator;

/\*\*

\* Servlet implementation class LoginServlet

\*/

@WebServlet(

urlPatterns = { "/Login" },

initParams = {

@WebInitParam(name = "successMessage", value = "Welcome to our website"),

@WebInitParam(name = "failureMessage", value = "Sorry, Access Denied")

})

**public** **class** LoginServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

/\*\*

\* **@see** HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String uname = request.getParameter("uid");

String passw = request.getParameter("pwd");

User currUser = **new** User(uname,passw);

**boolean** success = UserValidator.*isValid*(currUser);

String loginStatus = **null**;

**if**(success) {

loginStatus = getInitParameter("successMessage");

}

**else** {

loginStatus = getInitParameter("failureMessage");

}

out.println("<h1>" +loginStatus + "</h1>");

}

}

Response from one servlet to another :

**package** example.beans;

**import** java.util.HashMap;

**import** java.util.Map;

**public** **class** UserRepository {

**private** **static** Map<String, User> *user* = **new** HashMap<>();

**private** **static** Map<User, UserInformation> *userDetails* = **new** HashMap<>();

**static** {

User user1 = **new** User("james", "phoenix123");

User user2 = **new** User("neel", "kingFisher456");

User user3 = **new** User("mac", "jenny3454");

*user*.put("james", user1);

*user*.put("neel", user2);

*user*.put("mac", user3);

UserInformation info1 = **new** UserInformation("James Gosling","james@oracle.com", 75);

UserInformation info2 = **new** UserInformation("neel Gosling","neel@oracle.com", 60);

UserInformation info3 = **new** UserInformation("Mac Gosling","mac@oracle.com", 40);

*userDetails*.put(user1, info1);

*userDetails*.put(user2, info2);

*userDetails*.put(user3, info3);

}

**public** **static** User getUser(String username) {

User us = *user*.get(username);

**return** us;

}

**public** **static** UserInformation getUserInformation(User us) {

UserInformation ui = *userDetails*.get(us);

**return** ui;

}

}

**package** example.beans;

**public** **class** User {

**private** String userName;

**private** String password;

**public** User(String userName, String password) {

**super**();

**this**.userName = userName;

**this**.password = password;

}

**public** String getUserName() {

**return** userName;

}

**public** **void** setUserName(String userName) {

**this**.userName = userName;

}

**public** String getPassword() {

**return** password;

}

**public** **void** setPassword(String password) {

**this**.password = password;

}

@Override

**public** **int** hashCode() {

**final** **int** prime = 31;

**int** result = 1;

result = prime \* result + ((password == **null**) ? 0 : password.hashCode());

result = prime \* result + ((userName == **null**) ? 0 : userName.hashCode());

**return** result;

}

@Override

**public** **boolean** equals(Object obj) {

**if** (**this** == obj)

**return** **true**;

**if** (obj == **null**)

**return** **false**;

**if** (getClass() != obj.getClass())

**return** **false**;

User other = (User) obj;

**if** (password == **null**) {

**if** (other.password != **null**)

**return** **false**;

} **else** **if** (!password.equals(other.password))

**return** **false**;

**if** (userName == **null**) {

**if** (other.userName != **null**)

**return** **false**;

} **else** **if** (!userName.equals(other.userName))

**return** **false**;

**return** **true**;

}

}

**package** example.beans;

**public** **class** UserValidator {

**public** **static** **boolean** isValid(User currentUser) {

String username = currentUser.getUserName();

User existingUser = UserRepository.*getUser*(username);

**boolean** found = currentUser.equals(existingUser);

**return** found;

}

}

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body bgcolor = *"cyan"*>

<form action=*"Login"* method = *"post"*>

<pre>

First input: <input type=*"text"* name = *'uid'*/>

Second input: <input type=*"password"* name = *'pwd'*/>

<input type=*"submit"* value = *'Sign In'*/>

</pre>

</form>

</body>

</html>

**package** example.servlets;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** javax.servlet.RequestDispatcher;

**import** javax.servlet.ServletException;

**import** javax.servlet.annotation.WebInitParam;

**import** javax.servlet.annotation.WebServlet;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** example.beans.User;

**import** example.beans.UserInformation;

**import** example.beans.UserRepository;

**import** example.beans.UserValidator;

/\*\*

\* Servlet implementation class LoginServlet

\*/

@WebServlet(

urlPatterns = { "/Login" },

initParams = {

@WebInitParam(name = "successMessage", value = "Welcome to our website"),

@WebInitParam(name = "failureMessage", value = "Sorry, Access Denied")

})

**public** **class** LoginServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

/\*\*

\* **@see** HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String uname = request.getParameter("uid");

String passw = request.getParameter("pwd");

User currUser = **new** User(uname,passw);

**boolean** success = UserValidator.*isValid*(currUser);

RequestDispatcher rd = **null**;

String loginStatus = **null**;

**if**(success) {

loginStatus = getInitParameter("successMessage");

rd = request.getRequestDispatcher("ShowUser");

UserInformation ui = UserRepository.*getUserInformation*(currUser);

request.setAttribute("userinfo", ui);

request.setAttribute("status", loginStatus);

rd.forward(request, response);

}

**else** {

loginStatus = getInitParameter("failureMessage");

rd = request.getRequestDispatcher("Login.html");

out.println("<h2>" +loginStatus+ "Please try again!! + </h2>");

rd.include(request, response);

}

out.println("<h1>" +loginStatus + "</h1>");

}

}

**package** example.beans;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** javax.servlet.ServletException;

**import** javax.servlet.annotation.WebServlet;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

/\*\*

\* Servlet implementation class ShowUserServlet

\*/

@WebServlet("/ShowUser")

**public** **class** ShowUserServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

/\*\*

\* **@see** HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String uname = request.getParameter("uid"); // orginal request are obtaining through get parameter

Object userInfo = request.getAttribute("userinfo");// request transfer from another using getAttreibute

Object status = request.getAttribute("status");

out.println("<h1>Hello" +uname + "</h1>");

out.println("<h1>" +status + "</h1>");

out.println("<h1>your details are: </h1>");

out.println("<h1>" +userInfo + "</h1>");

}

}

Session Management :

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body bgcolor = *"cyan"*>

<form action=*"Login"* method = *"post"*>

<pre>

First input: <input type=*"text"* name = *'uid'*/>

Second input: <input type=*"password"* name = *'pwd'*/>

<input type=*"submit"* value = *'Sign In'*/>

</pre>

</form>

</body>

</html>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body bgcolor = *"cyan"*>

<form action=*"sessionExample"* method = *"post"*>

<pre>

First input: <input type=*"text"* name = *'uid'*/>

Second input: <input type=*"password"* name = *'pwd'*/>

<input type=*"submit"* name = *"sub"* value = *'User Entry'*/>

</pre>

</form>

</body>

</html>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body bgcolor = *"cyan"*>

<form action=*"sessionExample"* method = *"post"*>

<pre>

First input: <input type=*"text"* name = *'fname'*/>

Second input: <input type=*"text"* name = *'email'*/>

third input: <input type=*"text"* name = *'age'*/>

<input type=*"submit"* name = *"sub"* value = *'UserInfo Entry'*/>

</pre>

</form>

</body>

</html>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

To view all information, please <a href = *"sessionExample"*>Click Here</a>

</body>

</html>

**package** example.servlets;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** javax.servlet.RequestDispatcher;

**import** javax.servlet.ServletException;

**import** javax.servlet.annotation.WebServlet;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.http.HttpSession;

**import** example.beans.User;

**import** example.beans.UserInformation;

/\*\*

\* Servlet implementation class SessionExampleServlet

\*/

@WebServlet("/sessionExample")

**public** **class** SessionExampleServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

/\*\*

\* **@see** HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

HttpSession session = request.getSession();

Object obj1 = session.getAttribute("user");

Object obj2 = session.getAttribute("userInfo");

out.println(obj1);

out.println(obj2);

}

**protected** **void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String button = request.getParameter("sub");

HttpSession session = request.getSession();

RequestDispatcher rd = **null**;

**if**(button.equals("User Entry"))

{

String uname = request.getParameter("uid");

String passw = request.getParameter("pwd");

User user = **new** User(uname, passw);

session.setAttribute("user", user);

rd = request.getRequestDispatcher("userInfoEntry.html");

out.println("<h1>User Credential accepted.</h1>");

rd.include(request, response);

}

**else** {

String fname1 = request.getParameter("fname");

String email1 = request.getParameter("email");

String sAge = request.getParameter("age");

**int** age1 = Integer.*parseInt*(sAge);

UserInformation ui = **new** UserInformation(fname1, email1, age1);

session.setAttribute("userInfo", ui);

rd = request.getRequestDispatcher("userShow.html");

out.println("<h1>User Information Accepted</h1>");

rd.include(request, response);

}

}

}

New Basic program:

**package** com.jd;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** javax.servlet.ServletConfig;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

/\*\*

\* Servlet implementation class LoginServlet

\*/

**public** **class** LoginServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

**private** String user;

**public** LoginServlet() {

**super**();

System.***out***.println("Inside Constructor of Login Servlet");

}

**public** **void** init(ServletConfig config) **throws** ServletException {

System.***out***.println("Inside init()");

user = config.getInitParameter("uname");

}

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

System.***out***.println("Inside doGet()");

PrintWriter out = response.getWriter();

out.println("<html>");

out.println("<body>");

out.println("<h3>welcome" +user + "</h3>");

//out.println("<form method ='post'> action='login'");

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

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

}

**protected** **void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

System.***out***.println("Inside doPost()");

doGet(request, response);

}

}

servletConfig and Context :

**package** com.jd;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** javax.servlet.ServletConfig;

**import** javax.servlet.ServletContext;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

/\*\*

\* Servlet implementation class LoginServlet

\*/

**public** **class** LoginServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

**private** String user;

String ci ;

**public** LoginServlet() {

**super**();

System.***out***.println("Inside Constructor of Login Servlet");

}

**public** **void** init(ServletConfig config) **throws** ServletException {

System.***out***.println("Inside init()");

user = config.getInitParameter("uname");

ServletContext context = config.getServletContext();

ci = context.getInitParameter("city");

}

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

System.***out***.println("Inside doGet()");

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

PrintWriter out = response.getWriter();

out.println("<html>");

out.println("<body>");

out.println("<h3>welcome: " +user + "</h3>");

out.println("<h3>welcome to " + ci + "</h3>");

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

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

}

**protected** **void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

System.***out***.println("Inside doPost()");

doGet(request, response);

}

}

New Code :

**package** com.jd;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** javax.servlet.RequestDispatcher;

**import** javax.servlet.ServletConfig;

**import** javax.servlet.ServletContext;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

/\*\*

\* Servlet implementation class LoginServlet

\*/

**public** **class** LoginServlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

**private** String user;

String ci ;

**public** LoginServlet() {

**super**();

System.***out***.println("Inside Constructor of Login Servlet");

}

**public** **void** init(ServletConfig config) **throws** ServletException {

System.***out***.println("Inside init()");

user = config.getInitParameter("uname");

ServletContext context = config.getServletContext();

ci = context.getInitParameter("city");

}

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

System.***out***.println("Inside doGet()");

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

PrintWriter out = response.getWriter();

RequestDispatcher rd = request.getRequestDispatcher("Login2");

request.setAttribute("user", user);

rd.forward(request, response);

/\* out.println("<html>");

out.println("<body>");

out.println("<h3>welcome: " +user + "</h3>");

out.println("<h3>welcome to " + ci + "</h3>");

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

out.println("</html>");\*/

}

**protected** **void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

System.***out***.println("Inside doPost()");

doGet(request, response);

}

}

**package** com.jd;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** javax.servlet.RequestDispatcher;

**import** javax.servlet.ServletConfig;

**import** javax.servlet.ServletContext;

**import** javax.servlet.ServletException;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

/\*\*

\* Servlet implementation class Login2Servlet

\*/

**public** **class** Login2Servlet **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

System.***out***.println("Inside Servlet 2");

ServletContext context = request.getServletContext();

String city = context.getInitParameter("city");

PrintWriter out = response.getWriter();

String user = (String) request.getAttribute("user");

/\* out.println("<html>");

out.println("<body>");

out.println("<h3>welcome: " +user + "</h3>");

out.println("<h3>welcome to " + city + "</h3>");

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

out.println("</html>");\*/

}

/\*\*

\* **@see** HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

// **TODO** Auto-generated method stub

doGet(request, response);

}

}

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

<h3>welcome <%=request.getAttribute("user") %></h3>

<h3>welcome to <%=application.getInitParameter("city")%></h3>

</body>

</html>

**.JSP Scrptlet:=**

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

<%! **int** i=0; %>

<% i++; %>

This page has been accessed<%=i %>times.

</body>

</html>

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

<%!

**int** i=0;

**public** String sayHello(String name){

**return** "Hello Mr" + name;

}

%>

<% i++; %>

This page has been accessed<%=i %>times.

Greeting<%= sayHello("Dipti")%>

</body>

</html>

**Counter jsp program :**

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"* import=*"java.util.\*"* isErrorPage=*"false"* errorPage=*"error.jsp"* session=*"true"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

<%!

List<String> list = **new** ArrayList<>();

%>

<%!

**int** i=0;

**public** String sayHello(String name){

**return** "Hello Mrs" + name;

}

%>

<% i++; %>

This page has been accessed<%=i %>times.

Greeting<%= sayHello("Dipti")%>

</body>

</html>

Filter :

package com.jd;

import java.io.IOException;

import javax.servlet.Filter;

import javax.servlet.FilterChain;

import javax.servlet.FilterConfig;

import javax.servlet.ServletException;

import javax.servlet.ServletRequest;

import javax.servlet.ServletResponse;

/\*\*

\* Servlet Filter implementation class LogFilter

\*/

public class LogFilter implements Filter {

/\*\*

\* Default constructor.

\*/

public LogFilter() {

System.out.println("Inside LogFilter Constructor");

}

public void destroy() {

System.out.println("Inside Destroy method()");

}

public void doFilter(ServletRequest request, ServletResponse response, FilterChain chain) throws IOException, ServletException {

System.out.println("inside doFilter");

long start = System.currentTimeMillis();

System.out.println("before calling servlet");

chain.doFilter(request, response);

System.out.println("after invoking servlet");

long end = System.currentTimeMillis();

long timetaken = end-start;

System.out.println("Time taken to process request." +timetaken);

}

public void init(FilterConfig fConfig) throws ServletException {

String state = fConfig.getInitParameter("State");

System.out.println("inside init of Filter");

System.out.println("Welcome to : " +state);

}

}

Filter example :



package com.jd;

import java.io.IOException;

import java.io.PrintWriter;

import javax.servlet.RequestDispatcher;

import javax.servlet.ServletConfig;

import javax.servlet.ServletContext;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

/\*\*

\* Servlet implementation class LoginServlet

\*/

public class LoginServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

private String user;

String ci ;

public LoginServlet() {

super();

System.out.println("Inside Constructor of Login Servlet");

}

public void init(ServletConfig config) throws ServletException {

System.out.println("Inside init()");

user = config.getInitParameter("uname");

ServletContext context = config.getServletContext();

ci = context.getInitParameter("city");

}

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

System.out.println("Inside doGet()");

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

PrintWriter out = response.getWriter();

RequestDispatcher rd = request.getRequestDispatcher("Login2");

request.setAttribute("user", user);

rd.forward(request, response);

/\* out.println("<html>");

out.println("<body>");

out.println("<h3>welcome: " +user + "</h3>");

out.println("<h3>welcome to " + ci + "</h3>");

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

out.println("</html>");\*/

}

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {

System.out.println("Inside doPost()");

doGet(request, response);

}

}



package com.jd;

import java.io.IOException;

import java.io.PrintWriter;

import javax.servlet.RequestDispatcher;

import javax.servlet.ServletConfig;

import javax.servlet.ServletContext;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

/\*\*

\* Servlet implementation class Login2Servlet

\*/

public class Login2Servlet extends HttpServlet {

private static final long serialVersionUID = 1L;

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

System.out.println("Inside Servlet 2");

ServletContext context = request.getServletContext();

String city = context.getInitParameter("city");

PrintWriter out = response.getWriter();

String user = (String) request.getAttribute("user");

RequestDispatcher rd = request.getRequestDispatcher("LoginSuccess.jsp");

rd.forward(request, response);

/\* out.println("<html>");

out.println("<body>");

out.println("<h3>welcome: " +user + "</h3>");

out.println("<h3>welcome to " + city + "</h3>");

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

out.println("</html>");\*/

}

/\*\*

\* @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)

\*/

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {

// TODO Auto-generated method stub

doGet(request, response);

}

}



package com.jd;

import java.io.IOException;

import javax.servlet.Filter;

import javax.servlet.FilterChain;

import javax.servlet.FilterConfig;

import javax.servlet.ServletException;

import javax.servlet.ServletRequest;

import javax.servlet.ServletResponse;

/\*\*

\* Servlet Filter implementation class LogFilter

\*/

public class LogFilter implements Filter {

/\*\*

\* Default constructor.

\*/

public LogFilter() {

System.out.println("Inside LogFilter Constructor");

}

public void destroy() {

System.out.println("Inside Destroy method()");

}

public void doFilter(ServletRequest request, ServletResponse response, FilterChain chain) throws IOException, ServletException {

System.out.println("inside doFilter");

long start = System.currentTimeMillis();

System.out.println("before calling servlet");

chain.doFilter(request, response);

System.out.println("after invoking servlet");

long end = System.currentTimeMillis();

long timetaken = end-start;

System.out.println("Time taken to process request." +timetaken);

}

public void init(FilterConfig fConfig) throws ServletException {

String state = fConfig.getInitParameter("State");

System.out.println("inside init of Filter");

System.out.println("Welcome to : " +state);

}

}



Web.xml :

<?xml version=*"1.0"* encoding=*"UTF-8"*?>

<web-app xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"* xmlns=*"http://java.sun.com/xml/ns/javaee"* xsi:schemaLocation=*"http://java.sun.com/xml/ns/javaee http://java.sun.com/xml/ns/javaee/web-app\_2\_5.xsd"* id=*"WebApp\_ID"* version=*"2.5"*>

<display-name>LoginApp</display-name>

<servlet>

<description>To login.</description>

<display-name>LoginServlet</display-name>

<servlet-name>LoginServlet</servlet-name>

<servlet-class>com.jd.LoginServlet</servlet-class>

<init-param>

<description></description>

<param-name>uname</param-name>

<param-value>Dipti</param-value>

</init-param>

</servlet>

<servlet-mapping>

<servlet-name>LoginServlet</servlet-name>

<url-pattern>/login</url-pattern>

</servlet-mapping>

<context-param>

<param-name>city</param-name>

<param-value>pune</param-value>

</context-param>

<servlet>

<description></description>

<display-name>Login2Servlet</display-name>

<servlet-name>Login2Servlet</servlet-name>

<servlet-class>com.jd.Login2Servlet</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>Login2Servlet</servlet-name>

<url-pattern>/Login2</url-pattern>

</servlet-mapping>

<filter>

<display-name>LogFilter</display-name>

<filter-name>LogFilter</filter-name>

<filter-class>com.jd.LogFilter</filter-class>

<init-param>

<description></description>

<param-name>State</param-name>

<param-value>Maharashtra</param-value>

</init-param>

</filter>

<filter-mapping>

<filter-name>LogFilter</filter-name>

<url-pattern>/\*</url-pattern>

</filter-mapping>

</web-app>

ContextListener :

**package** com.jd;

**import** javax.servlet.ServletContext;

**import** javax.servlet.ServletContextEvent;

**import** javax.servlet.ServletContextListener;

**import** javax.servlet.annotation.WebListener;

/\*\*

\* Application Lifecycle Listener implementation class MyContextListener

\*

\*/

@WebListener

**public** **class** MyContextListener **implements** ServletContextListener {

/\*\*

\* Default constructor.

\*/

**public** MyContextListener() {

System.***out***.println("Inside context constructor");

}

/\*\*

\* **@see** ServletContextListener#contextDestroyed(ServletContextEvent)

\*/

**public** **void** contextDestroyed(ServletContextEvent sce) {

System.***out***.println("INSIDE context destroy");

//ServletContextListener.super.contextDestroyed(sce);

}

/\*\*

\* **@see** ServletContextListener#contextInitialized(ServletContextEvent)

\*/

**public** **void** contextInitialized(ServletContextEvent sce) {

System.***out***.println("inside contextInitialized");

//ServletContextListener.super.contextInitialized(sce);

ServletContext context = sce.getServletContext();

context.setAttribute("database", "Mysql");

context.setInitParameter("db2", "NoSQL");

}

}

The change is only in

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

<h3>welcome <%=request.getAttribute("user") %></h3>

<h3>welcome to <%=application.getInitParameter("city")%></h3>

<h3>welcome to <%=application.getAttribute("database")%></h3>

<h3>welcome to <%=application.getInitParameter("db2")%></h3>

</body>

</html>

Forward to data from one JSP to another JSP

HTML File

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Forward action test page</title>

</head>

<body bgcolor=*"cyan"*>

<h1>Forward action test page</h1>

<form method = *"post"* action=*"forward.jsp"*>

<p>

Please enter your username:

<input type=*"text"* name=*"userName"*>

<br>

Please enter your password:

<input type=*"password"* name=*"Password"*>

</p>

<p><input type=*"submit"* value=*"Log in"*>

</p>

</form>

<p>

</body>

</html>

JSP File : *forward2.jsp*

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>JSP Forward Example</title>

</head>

<body>

<%

**if** ((request.getParameter("userName").equals("Dipti")) &&

(request.getParameter("Password").equals("dipti"))){

%>

<jsp:forward page=*"forward2.jsp"*></jsp:forward>

<% } **else** { %>

<%@ include file=*"Index1.html"* %>

<% } %>

</body>

</html>

2nd JSP : *forward2.jsp*

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

<h1>Forward action: Login Successful</h1>

<p>

Welcome, <%= request.getParameter("userName")%>

</p>

</body>

</html>

@Directive – jstl @taglib :

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<%@taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

<c:out value=*"Welcome to Standard tags"*>

</c:out>

<br>

<c:set var=*"Salary"* scope=*"session"* value=*"*${4000\*12}*"*>

</c:set>

<c:out value=*"*${Salary}*"*>

</c:out>

</body>

</html>

Scope of request :

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<%@taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

<c:out value=*"Welcome to Standard tags"*>

</c:out>

<br>

<c:set var=*"Salary"* scope=*"session"* value=*"*${4000\*12}*"*>

</c:set>

<c:set var=*"Salary"* scope=*"request"* value=*"*${3000\*12}*"*>

</c:set>

<c:out value=*"*${sessionScope.Salary}*"*>

<%--<c:out value="${requestScope.Salary}"> --%>

</c:out>

</body>

</html>

Another example with catch:

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<%@taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

<c:out value=*"Welcome to Standard tags"*>

</c:out>

<br>

<c:set var=*"Salary"* scope=*"session"* value=*"*${4000\*12}*"*>

</c:set>

<c:set var=*"Salary"* scope=*"request"* value=*"*${3000\*12}*"*>

</c:set>

<c:out value=*"*${sessionScope.Salary}*"*>

<%--<c:out value="${requestScope.Salary}"> --%>

</c:out>

<br>

<c:remove var=*"Salary"*/>

<br>

After removal of value : <c:out value=*"*${Salary}*"*></c:out>

<br>

<c:catch var=*"myException"*>

<%**int** x = 2/0; %>

</c:catch>

<c:if test=*"*${myException !=null}*"*>

<p>the type of exception is : ${myException}<br/>

There is an exception: ${myException.message}</p>

</c:if>

<c:forEach begin=*"1"* end=*"10"* step=*"1"* var=*"myValue"*>

<c:out value=*"*${myValue}*"*></c:out>

</c:forEach>

</body>

</html>

Fmt : Standard tag

.jsp File

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<%@ page session = *"false"*%>

<%@taglib prefix=*"fmt"* uri=*"http://java.sun.com/jsp/jstl/fmt"* %>

<fmt:setLocale value=*"en\_US"*/>

<fmt:setBundle basename=*"com.jd.Messages"*/>

<!DOCTYPE html>

<html>

<head>

<meta http-equiv=*"Content-Type"* content=*"text/html; charset="*ISO-8859-1">

<title>Login Page</title>

</head>

<body>

<h4>Login</h4>

<br>

<form id=*"Login"* method = *"post"* action=*""*>

<fmt:message key=*"usernamelabel"*></fmt:message> <input type=*"text"* id=*"username"* name=*"username"*/>

<fmt:message key=*"passwordlabel"*></fmt:message> <input type=*"text"* id=*"password"* name=*"password"*/>

<br>

<input type=*"submit"* value=*"Sign In"*/>

</form>

<hr>

</body>

</html>

2 File unfder package com.deere

usernamelabel=username

passwordlabel=password

second file :

usernamelabel =Nom d'utilisateur

passwordlabel =Mot de passe

Custom Tag :

.tld page:

<?xml version=*"1.0"* encoding=*"ISO-8859-1"* ?>

<!DOCTYPE taglib

PUBLIC "-//Sun Microsystems, Inc.//DTD JSP Tag Library 1.2//EN"

"http://java.sun.com/dtd/web-jsptaglibrary\_1\_2.dtd">

<taglib>

<tlib-version>1.2</tlib-version>

<jsp-version>2.1</jsp-version>

<short-name>hello tag</short-name>

<uri>http://com.softra.modernhello</uri>

<tag>

<name>hello</name>

<tag-class>com.jd.MordernHelloTag</tag-class>

<body-content>scriptless</body-content> <!-- default value is JSP -->

<attribute>

<name>name</name>

<required>true</required>

<rtexprvalue>true</rtexprvalue> <!--if true then run time value is allowed. -->

<type>java.lang.String</type>

</attribute>

</tag>

</taglib>

Java class :

**package** com.jd;

**import** java.io.IOException;

**import** javax.servlet.jsp.JspException;

**import** javax.servlet.jsp.JspWriter;

**import** javax.servlet.jsp.PageContext;

**import** javax.servlet.jsp.tagext.SimpleTagSupport;

**public** **class** MordernHelloTag **extends** SimpleTagSupport{

**private** String name;

**private** PageContext pageContext = **null**;

**public** MordernHelloTag() {

System.***out***.println("Inside HelloTag constructor");

}

Cus

**public** **void** setName(String name) {

System.***out***.println("Inside setName()");

**this**.name = name;

}

@Override

**public** **void** doTag() **throws** JspException, IOException {

//super.doTag();

System.***out***.println("Inside DoTag()");

pageContext = (PageContext)getJspContext();

JspWriter out = pageContext.getOut();

out.print("Welcome Ms." +name);

}

}

.jsp file :

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<%@taglib uri=*"http://com.softra.modernhello"* prefix=*"hi"* %>

<!DOCTYPE html>

<html>

<head>

<meta http-equiv=*"Content-Type content="*text/html; charset=*"ISO-8859-1"*>

<title>Hello Custom Tag</title>

</head>

<body>

<hi:hello name=*"Dipti"*></hi:hello>

<hi:hello name=*"Jain"*></hi:hello>

<hi:hello name=*"DJ"*></hi:hello>

</body>

</html>