**SERVLET EXAMPLE**

**1] HELLO WORLD**

Package com.barclays.Hello;

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 HelloWorld extends HttpServlet {

private static final long serialVersionUID = 1L;

private String message;

public HelloWorld() {

super();

message = "Hello World";

}

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

// Set response content type

response.setContentType("text/html");

// Actual logic goes here.

PrintWriter out = response.getWriter();

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

}

}

**2] index.html**

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

hi

</body>

</html>

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>ServletExample</display-name>

<welcome-file-list>

<welcome-file>index.html</welcome-file>

<welcome-file>index.htm</welcome-file>

<welcome-file>index.jsp</welcome-file>

<welcome-file>default.html</welcome-file>

<welcome-file>default.htm</welcome-file>

<welcome-file>default.jsp</welcome-file>

</welcome-file-list>

<servlet>

<description></description>

<display-name>HelloWorld</display-name>

<servlet-name>HelloWorld</servlet-name>

<servlet-class>com.barclays.Hello.HelloWorld</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>HelloWorld</servlet-name>

<url-pattern>/HelloWorld</url-pattern>

</servlet-mapping>

</web-app>

3] index.html

<html>

<body>

<form action="HelloForm" method="GET">

First Name: <input type="text" name="first\_name">

<br />

Last Name: <input type="text" name="last\_name" />

<input type="submit" value="Submit" />

</form>

</body>

</html>

HelloForm.java

// Import required java libraries

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

// Extend HttpServlet class

public class HelloForm extends HttpServlet {

// Method to handle GET method request.

public void doGet(HttpServletRequest request,

HttpServletResponse response)

throws ServletException, IOException

{

// Set response content type

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String title = "Using GET Method to Read Form Data";

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=\"#f0f0f0\">\n" +

"<h1 align=\"center\">" + title + "</h1>\n" +

"<ul>\n" +

" <li><b>First Name</b>: "

+ request.getParameter("first\_name") + "\n" +

" <li><b>Last Name</b>: "

+ request.getParameter("last\_name") + "\n" +

"</ul>\n" +

"</body></html>");

}

// Method to handle POST method request.

public void doPost(HttpServletRequest request,

HttpServletResponse response)

throws ServletException, IOException {

doGet(request, response);

}

}

CHECK BOX DEMO

<html>

<body>

<form action="CheckBox" method="POST" target="\_blank">

<input type="checkbox" name="maths" checked="checked" /> Maths

<input type="checkbox" name="physics" /> Physics

<input type="checkbox" name="chemistry" checked="checked" />

Chemistry

<input type="submit" value="Select Subject" />

</form>

</body>

</html>

// Import required java libraries

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

// Extend HttpServlet class

public class CheckBox extends HttpServlet {

// Method to handle GET method request.

public void doGet(HttpServletRequest request,

HttpServletResponse response)

throws ServletException, IOException

{

// Set response content type

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String title = "Reading Checkbox Data";

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=\"#f0f0f0\">\n" +

"<h1 align=\"center\">" + title + "</h1>\n" +

"<ul>\n" +

" <li><b>Maths Flag : </b>: "

+ request.getParameter("maths") + "\n" +

" <li><b>Physics Flag: </b>: "

+ request.getParameter("physics") + "\n" +

" <li><b>Chemistry Flag: </b>: "

+ request.getParameter("chemistry") + "\n" +

"</ul>\n" +

"</body></html>");

}

// Method to handle POST method request.

public void doPost(HttpServletRequest request,

HttpServletResponse response)

throws ServletException, IOException {

doGet(request, response);

}

}

NEW DEMO

<html>

<body>

<form action="ReadParams" method="POST" target="\_blank">

<input type="checkbox" name="maths" checked="checked" /> Maths

<input type="checkbox" name="physics" /> Physics

<input type="checkbox" name="chemistry" checked="checked" /> Chem

<input type="submit" value="Select Subject" />

</form>

</body>

</html>

// Import required java libraries

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.util.\*;

// Extend HttpServlet class

public class ReadParams extends HttpServlet {

// Method to handle GET method request.

public void doGet(HttpServletRequest request,

HttpServletResponse response)

throws ServletException, IOException

{

// Set response content type

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String title = "Reading All Form Parameters";

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=\"#f0f0f0\">\n" +

"<h1 align=\"center\">" + title + "</h1>\n" +

"<table width=\"100%\" border=\"1\" align=\"center\">\n" +

"<tr bgcolor=\"#949494\">\n" +

"<th>Param Name</th><th>Param Value(s)</th>\n"+

"</tr>\n");

Enumeration paramNames = request.getParameterNames();

while(paramNames.hasMoreElements()) {

String paramName = (String)paramNames.nextElement();

out.print("<tr><td>" + paramName + "</td>\n<td>");

String[] paramValues =

request.getParameterValues(paramName);

// Read single valued data

if (paramValues.length == 1) {

String paramValue = paramValues[0];

if (paramValue.length() == 0)

out.println("<i>No Value</i>");

else

out.println(paramValue);

} else {

// Read multiple valued data

out.println("<ul>");

for(int i=0; i < paramValues.length; i++) {

out.println("<li>" + paramValues[i]);

}

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

}

}

out.println("</tr>\n</table>\n</body></html>");

}

// Method to handle POST method request.

public void doPost(HttpServletRequest request,

HttpServletResponse response)

throws ServletException, IOException {

doGet(request, response);

}

}

AUTO REFRESH

// Import required java libraries

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 5 seconds

response.setIntHeader("Refresh", 5);

// 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();

String title = "Auto Refresh Header Setting";

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=\"#f0f0f0\">\n" +

"<h1 align=\"center\">" + title + "</h1>\n" +

"<p>Current Time is: " + CT + "</p>\n");

}

// Method to handle POST method request.

public void doPost(HttpServletRequest request,

HttpServletResponse response)

throws ServletException, IOException {

doGet(request, response);

}

}

Error Handler Servlet Example:

Following is the Servlet Example that would be used as Error Handler in case of any error or exception occurs with your any of the servlet defined.

This example would give you basic understanding of Exception Handling in Servlet, but you can write more sophisticated filter applications using the same concept:

// Import required java libraries

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

import java.util.\*;

// Extend HttpServlet class

public class ErrorHandler extends HttpServlet {

// Method to handle GET method request.

public void doGet(HttpServletRequest request,

HttpServletResponse response)

throws ServletException, IOException

{

// Analyze the servlet exception

Throwable throwable = (Throwable)

request.getAttribute("javax.servlet.error.exception");

Integer statusCode = (Integer)

request.getAttribute("javax.servlet.error.status\_code");

String servletName = (String)

request.getAttribute("javax.servlet.error.servlet\_name");

if (servletName == null){

servletName = "Unknown";

}

String requestUri = (String)

request.getAttribute("javax.servlet.error.request\_uri");

if (requestUri == null){

requestUri = "Unknown";

}

// Set response content type

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String title = "Error/Exception Information";

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=\"#f0f0f0\">\n");

if (throwable == null && statusCode == null){

out.println("<h2>Error information is missing</h2>");

out.println("Please return to the <a href=\"" +

response.encodeURL("http://localhost:8080/") +

"\">Home Page</a>.");

}else if (statusCode != null){

out.println("The status code : " + statusCode);

}else{

out.println("<h2>Error information</h2>");

out.println("Servlet Name : " + servletName +

"</br></br>");

out.println("Exception Type : " +

throwable.getClass( ).getName( ) +

"</br></br>");

out.println("The request URI: " + requestUri +

"<br><br>");

out.println("The exception message: " +

throwable.getMessage( ));

}

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

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

}

// Method to handle POST method request.

public void doPost(HttpServletRequest request,

HttpServletResponse response)

throws ServletException, IOException {

doGet(request, response);

}

}

Compile **ErrorHandler.java** in usual way and put your class file in <Tomcat-installation-directory>/webapps/ROOT/WEB-INF/classes.

Let us add the following configuration in web.xml to handle exceptions:

<servlet>

<servlet-name>ErrorHandler</servlet-name>

<servlet-class>ErrorHandler</servlet-class>

</servlet>

<!-- servlet mappings -->

<servlet-mapping>

<servlet-name>ErrorHandler</servlet-name>

<url-pattern>/ErrorHandler</url-pattern>

</servlet-mapping>

<error-page>

<error-code>404</error-code>

<location>/ErrorHandler</location>

</error-page>

<error-page>

<exception-type>java.lang.Throwable</exception-type >

<location>/ErrorHandler</location>

</error-page>

Now try to use a servlet which raise any exception or type a wrong URL, this would trigger Web Container to call **ErrorHandler** servlet and display an appropriate message as programmed. For example, if you type a wrong URL then it would display the following result:

The status code : 404

Above code may not work with some web browsers. So try with Mozilla and Safari and it should work.