

JSP Basics

Дистрибуирани софтверски системи

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What is a JSP file?

- ❖ HTML page with integrated Java code
- ❖ HTML page with dynamic content generate with Java code



JSP scripting elements

Element	Syntax
JSP Expression	<code><%= some Java expression %></code>
JSP Scriptlet	<code><% some Java code: 1 to many lines %></code>
JSP Declaration	<code><%! variable or method declaration %></code>

JSP Expressions

- ❖ Compute and expression
- ❖ Result included in a HTML page sent to Web browser

Example:

JSP code

```
<%= new java.util.Date() %>
```

HTML page content

```
Sun Feb 26 21:23:47 CET 2023
```

JSP Scriptlets

- ❖ One or more lines of Java code
- ❖ To include content in the page use: `out.println(...)`

Example:

```
<%  
    for (int i=1; i <= 5; i++) {  
        out.println("<br/>loop index: " + i);  
    }  
%>
```

JSP Declarations

- ❖ Declare Java methods in a JSP page
- ❖ Call Java methods in the same JSP page

Example:

Declaration

```
<%!  
    String makeItLower(String data) {  
        return data.toLowerCase();  
    }  
%>
```

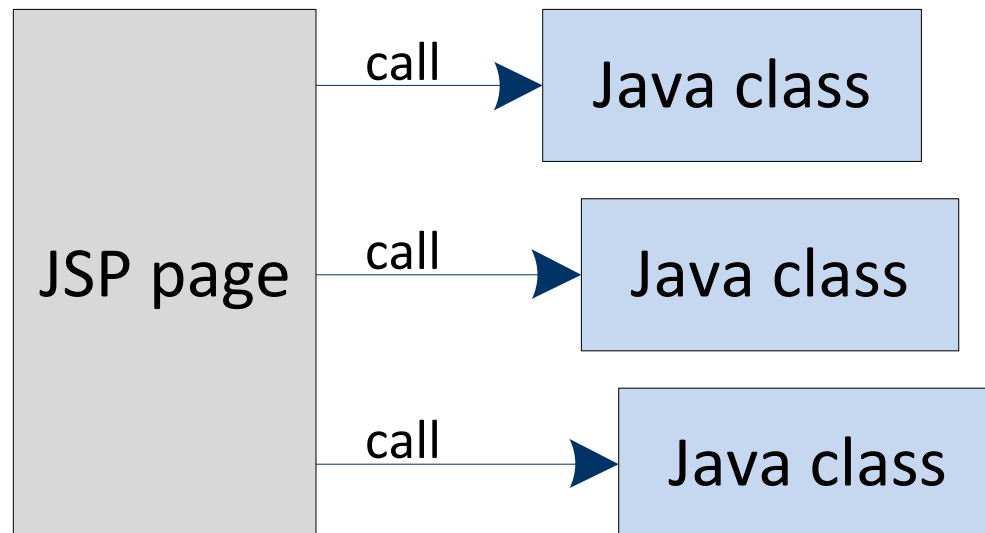
Call

```
Lower case "Hello World": <%= makeItLower("Hello World") %>
```

JSP best practice recommendation

- ❖ Minimize the **scriptlets** and **declarations** in a JSP
- ❖ Avoid using thousands of lines of code in a JSP
- ❖ Refactor this into a **separate Java classes**

→ make use of Model-View-Controller (MVC)



Call Java Classes from JSP

❖ Create Java class

```
package dss.jsp;  
public class JspUtil {  
    public static String makeItLower(String data) {  
        return data.toLowerCase();  
    }  
}
```

❖ Call Java classe from JSP

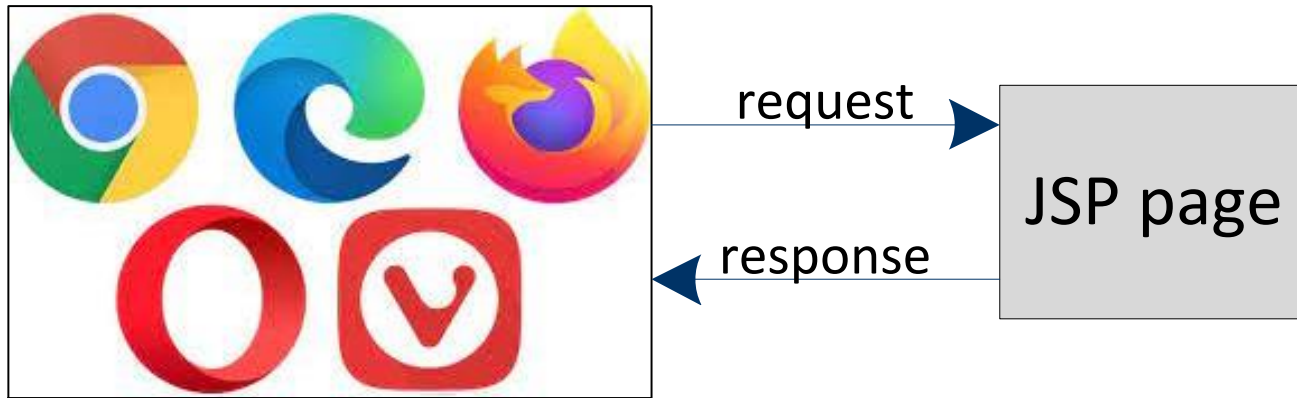
```
<%@ page import="dss.jsp.*" %>  
<html>  
<body>  
    Call static method from Java class:  
    <%= JspUtil.makeItLower("Some random TeXT") %>  
</body>  
</html>
```


JSP Built-In Server Objects

❖ Objects built-in server for free use in JSP

Object	Description
request	Contains HTTP request headers and form data
response	Provides HTTP support for sending response
out	JspWriter for including content in HTML page
session	Unique session for each user of the web application
application	Shared data for all users of the web application

Typical HTTP request/response scenario



Example:

```
Request user agent: <%= request.getHeader("User-Agent") %>  
<br/>
```

```
Request language: <%= request.getLocale() %>
```

Link:

<https://www.geeksforgeeks.org/http-headers-user-agent/>