Why do we need JSTL?

Jakarta Servlet & JSP

Miss Xing

Jakarta Standard Tag Library (JSTL)

Jakarta Servlet & JSP

Miss Xing

JSTL Intro

- Represents a set of tags to simplify the JSP development
- JSTL tags can be classified, according to their functions:

Tag Name	URL	Description
Core tags	http://java.sun.com/jsp/jstl/core	provide variable support, URL management, flow control, etc.
Function tags	http://java.sun.com/jsp/jstl/functions	provide support for string manipulation and string length.
Formatting tags	http://java.sun.com/jsp/jstl/fmt	provide support for message formatting, number and date formatting, etc.
XML tags	http://java.sun.com/jsp/jstl/xml	provide flow control, transformation, etc.
SQL tags	http://java.sun.com/jsp/jstl/sql	provide SQL support.

Install JSTL Library

- Either one of them works, may have others available

```xml
<dependency>
    <groupId>org.glassfish.web</groupId>
    <artifactId>jakarta.servlet.jsp.jstl</artifactId>
    <version>2.0.0-M1</version>
</dependency>

<dependency>
    <groupId>org.eclipse.jetty</groupId>
    <artifactId>apache-jstl</artifactId>
    <version>11.0.0.beta2</version>
</dependency>
```

Add JSP taglib directive

- Core Tag Library
  - `<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>`

- Function Tag Library
  - `<%@ taglib prefix="fn" uri="http://java.sun.com/jsp/jstl/functions" %>`

- Formatting Tag Library
  - `<%@ taglib prefix="fmt" uri="http://java.sun.com/jsp/jstl/fmt" %>`

- XML Tag Library
  - `<%@ taglib prefix="x" uri="http://java.sun.com/jsp/jstl/xml" %>`

- SQL Tag Library
  - `<%@ taglib prefix="sql" uri="http://java.sun.com/jsp/jstl/sql" %>`

JSTL: Core Tag Library

Jakarta Servlet & JSP

Miss Xing

JSTL Core Tags List

Tags	Description
c:out	It display the result of an expression, similar to the way <%=...%> tag work.
c:import	It Retrives relative or an absolute URL and display the contents to either a String in 'var',a Reader in 'varReader' or the page.
c:set	It sets the result of an expression under evaluation in a 'scope' variable.
c:remove	It is used for removing the specified scoped variable from a particular scope.
c:catch	It is used for Catches any Throwable exceptions that occurs in the body.
c:if	It is conditional tag used for testing the condition and display the body content only if the expression evaluates is true.
c:choose, c:when, c:otherwise	It is the simple conditional tag that includes its body content if the evaluated condition is true.
c:forEach	It is the basic iteration tag. It repeats the nested body content for fixed number of times or over collection.
c:forTokens	It iterates over tokens which is separated by the supplied delimeters.
c:param	It adds a parameter in a containing 'import' tag's URL.
c:redirect	It redirects the browser to a new URL and supports the context-relative URLs.
c:url	It creates a URL with optional query parameters.

JSTL: Core Tag Library - c:set,c:out

Jakarta Servlet & JSP

Miss Xing

c:set

- Initialize or set a variable of the web application in a specific scope.

- Syntax:
  - <c:set var = "variable" value = "value" scope = "scope" />

c:out

- Displays the result of an expression

- Is similar to JSP expression tag **<%= %>**

- Can use "." notation.

- Automatically escape XML tags so they aren't evaluated as actual tags.

- Syntax:
  - <c:out value="variable" default="default value"/>
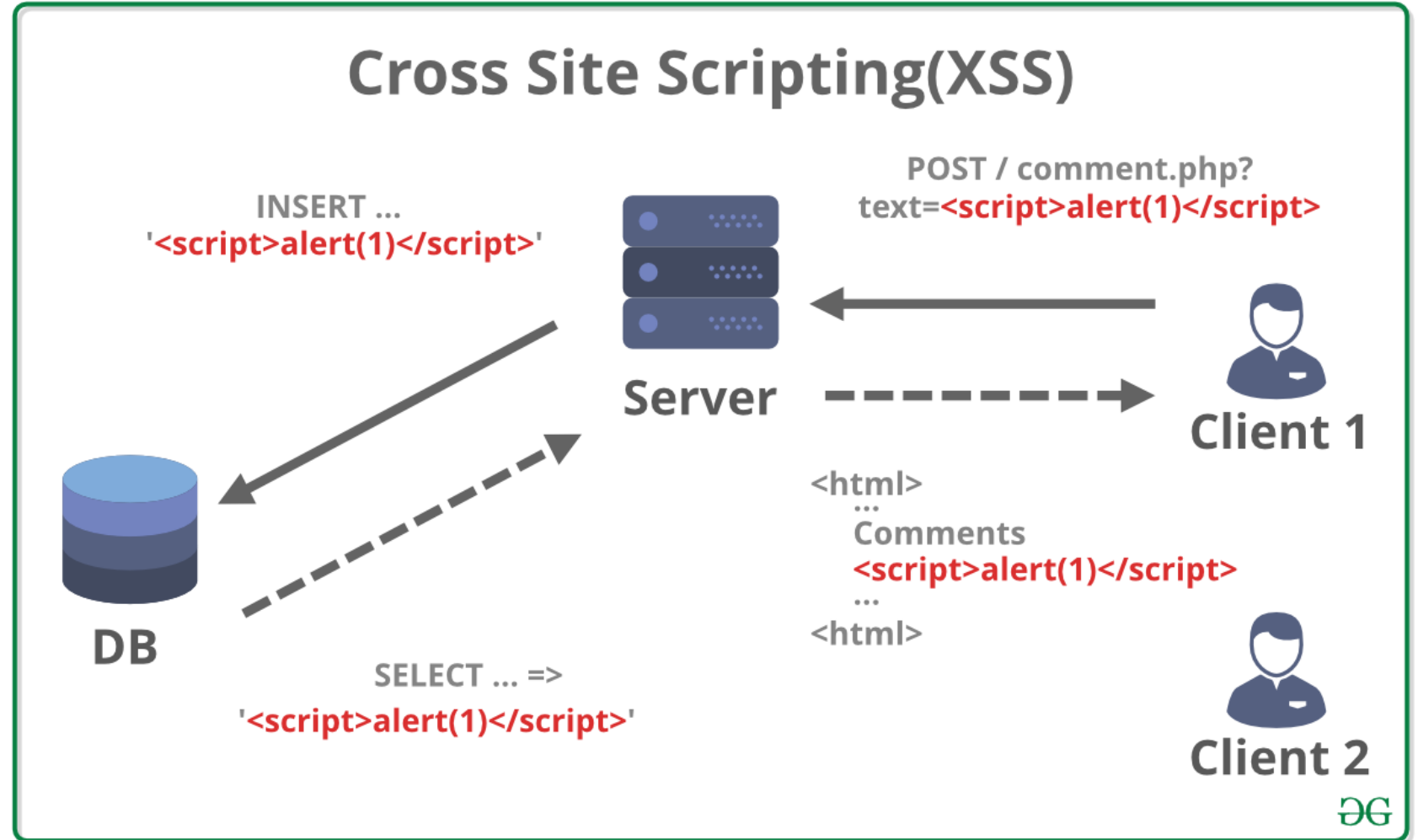 - <c:out value="expression" default="default value" />

What is Cross Site Scripting (XSS) ?

Jakarta Servlet & JSP

Miss Xing

Cross-site scripting (XSS)

- XSS attacks enable attackers to inject client-side scripts into web pages viewed by other users.

- Cross Site Scripting (XSS) is a vulnerability in a web application that allows a third party to execute a script in the user's browser on behalf of the web application.

JSTL: Core Tag Library
- c:out prevents XSS attacks

Jakarta Servlet & JSP

Miss Xing

JSTL: Core Tag Library
- c:choose, c:when, c:otherwise

Jakarta Servlet & JSP

Miss Xing

JSTL: Core Tag Library - c:forEach

Jakarta Servlet & JSP

Miss Xing

JSTL: Core Tag Library - c:url,c:param

Jakarta Servlet & JSP

Miss Xing

JSTL: Function Tag Library

Jakarta Servlet & JSP

Miss Xing

JSTL Function Tags List

JSTL Functions	Description
fn:contains()	It is used to test if an input string containing the specified substring in a program.
fn:containsIgnoreCase()	It is used to test if an input string contains the specified substring as a case insensitive way.
fn:endsWith()	It is used to test if an input string ends with the specified suffix.
fn:escapeXml()	It escapes the characters that would be interpreted as XML markup.
fn:indexOf()	It returns an index within a string of first occurrence of a specified substring.
fn:trim()	It removes the blank spaces from both the ends of a string.
fn:startsWith()	It is used for checking whether the given string is started with a particular string value.
fn:split()	It splits the string into an array of substrings.
fn:toLowerCase()	It converts all the characters of a string to lower case.
fn:toUpperCase()	It converts all the characters of a string to upper case.
fn:substring()	It returns the subset of a string according to the given start and end position.
fn:substringAfter()	It returns the subset of string after a specific substring.
fn:substringBefore()	It returns the subset of string before a specific substring.
fn:length()	It returns the number of characters inside a string, or the number of items in a collection.
fn:replace()	It replaces all the occurrence of a string with another string sequence.

JSTL: Formatting Tag Library

Jakarta Servlet & JSP

Miss Xing

JSTL Formatting Tags List

Formatting Tags	Descriptions
fmt:parseNumber	It is used to Parses the string representation of a currency, percentage or number.
fmt:timeZone	It specifies a parsing action nested in its body or the time zone for any time formatting.
fmt:formatNumber	It is used to format the numerical value with specific format or precision.
fmt:parseDate	It parses the string representation of a time and date.
fmt:bundle	It is used for creating the ResourceBundle objects which will be used by their tag body.
fmt:setTimeZone	It stores the time zone inside a time zone configuration variable.
fmt:setBundle	It loads the resource bundle and stores it in a bundle configuration variable or the named scoped variable.
fmt:message	It display an internationalized message.
fmt:formatDate	It formats the time and/or date using the supplied pattern and styles.

Jakarta Standard Tag Library Summary

Jakarta Servlet & JSP

Miss Xing

References

- https://www.javatpoint.com/jstl