

Web Development with Jakarta Server Pages and Servlets

Session: 12

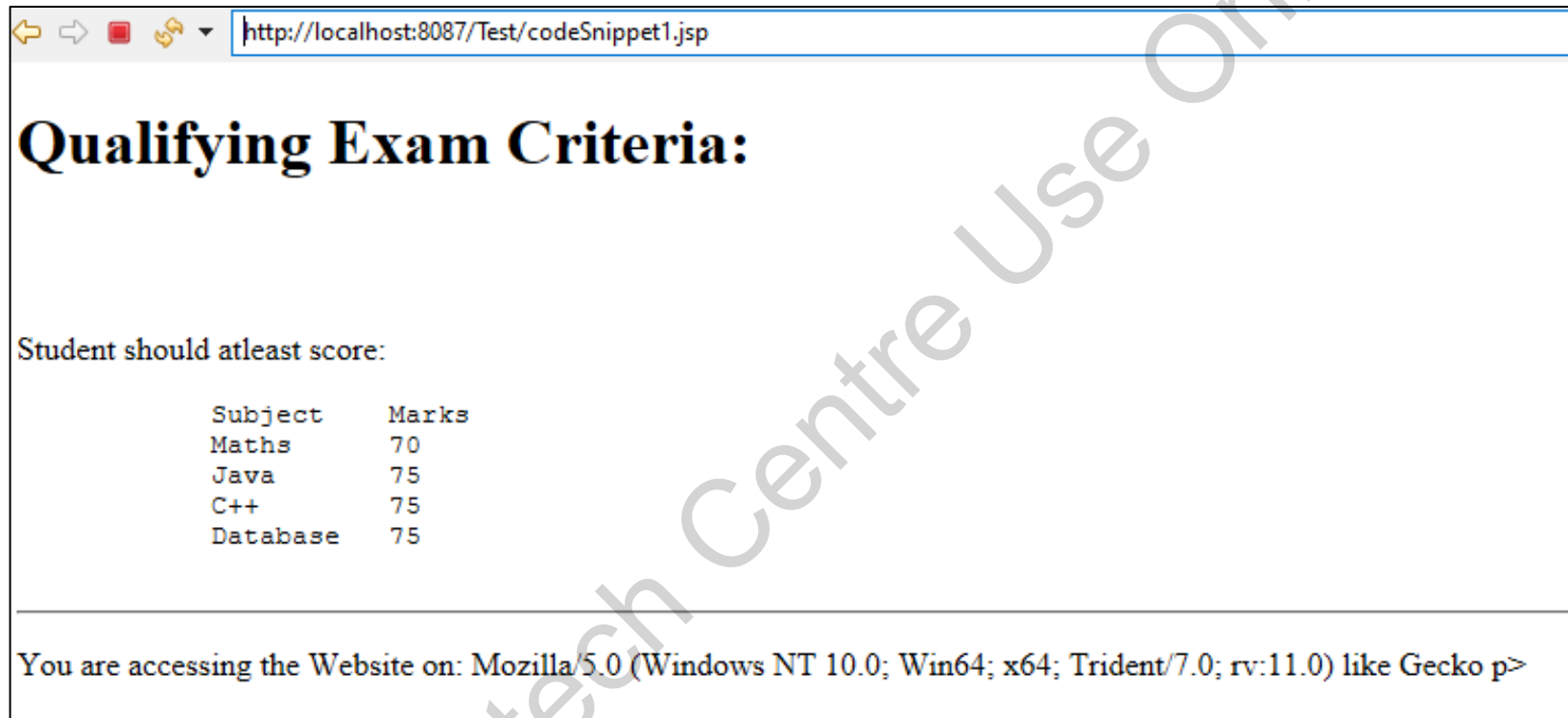
JSP EL Expressions



Objectives

- ❖ Explain how to use script expressions in JSP
- ❖ Describe the implicit objects used in EL
- ❖ Describe various operators used in EL
- ❖ Explain how to create static method and tag library descriptor using EL
- ❖ Explain how to modify deployment descriptor using EL
- ❖ Explain how to access EL functions within JSP
- ❖ Explain the concept of boxing and unboxing
- ❖ Explain how to coerce a value to string or number type
- ❖ Explain CDI 2.0 in Jakarta EE 9 (CDI 2.0)

Expression Language



The screenshot shows a web browser window with the address bar displaying `http://localhost:8087/Test/codeSnippet1.jsp`. The page content includes a heading **Qualifying Exam Criteria:**, a text prompt **Student should atleast score:**, and a table with two columns: **Subject** and **Marks**. The table lists the following subjects and marks: Maths (70), Java (75), C++ (75), and Database (75). Below the table, a footer message states: **You are accessing the Website on: Mozilla/5.0 (Windows NT 10.0; Win64; x64; Trident/7.0; rv:11.0) like Gecko p>**

Subject	Marks
Maths	70
Java	75
C++	75
Database	75

Expression Language

EL Implicit Objects

`pageContext`

Provides access to page attributes.

`servletContext`

Specifies the JSP page, servlet, and Web components contained in the same application.

`session`

Represents the session created for the client sending a request.

`request`

Represents the request accepted by the JSP page from client.

EL Operators

Category	Operators
Variable	. and []
Arithmetic	+, - (binary), *, / and div, % and mod, - (unary)
Conditional	A ? B : C
Relational	==, eq, !=, ne, <, lt, >, gt, <=, le, >=, ge
Logical	and, &&, or, , not, !
Empty/Null checking	empty

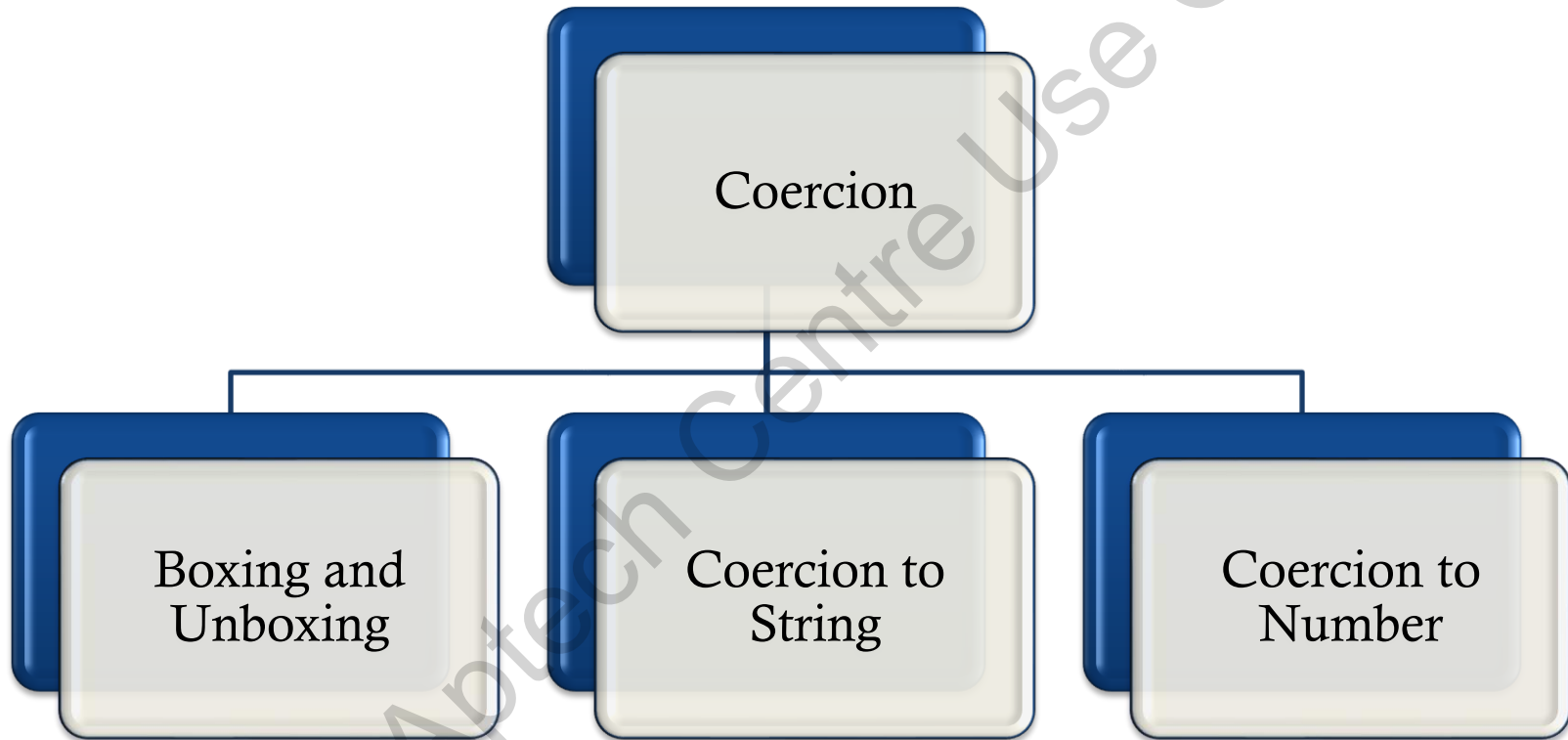
Functions Using EL

Creating 'static' Methods

Creating Tag Library Descriptor

Modifying Deployment Descriptor

Accessing EL Functions within JSP



Context and Dependency Injection (CDI) 2.0 and 3.0

Supports prioritization of observer methods.

Extension of event interface to permit asynchronous events.

Introduction of
`javax.enterprise.inject.spi.InterceptionFactory <T>`
interface

Module-based software development.

Supports Java Standard Edition and Java Enterprise Edition.

Summary (1-2)

- ❖ EL is simple and robust. It can handle both expressions and literals, which are constants and are assigned some memory location.
- ❖ EL is a great help to the page authors in accessing and manipulating the application data without mastering the complexities of the programming language such as Java and JavaScript.
- ❖ JSP implicit objects are a standard set of classes. The user creates an instance of an implicit object to use available methods and variables.
- ❖ Operators are used to perform different arithmetic, relational, and logical operations. Dot operator (.) or [] is used to access value of a variable. Various operators used in Expression Language are arithmetic operators, relational operators, logical operators, empty operators, and dot operators.

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Summary (2-2)

- ❖ In Expression language the static java methods can be called within the EL expression. To access the function using EL, the function must be implemented as a static function in a java class.
- ❖ The TLD file uses XML syntax to map the name of functions defined in a class with EL. Setting the value of the `<el-ignored>` element in the deployment descriptor can explicitly change the default mode.
- ❖ The accessing of the function created in a TLD file using a JSP file is possible by importing the TLD file using the `taglib` directive.
- ❖ Coercion means that the parameters are converted to the appropriate objects or primitives automatically. Coercion is an implicit type conversion.