**Module 10.2 – Creating Custom Tags**

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**Creating Custom Tags**

A custom tag is a user-defined action tag in Java Server Pages (JSP). The custom tag encapsulates reusable, server-side functionality. It behaves the same as scriptlets in JSP. Using scriptlets will mix business logic and front-end code. In contrast, custom tags can separate the presentation and business logic codes. The purpose of creating custom tags is to improve reusability and readability and to separate concerns. There are a lot of benefits to creating custom tags, but there are also some disadvantages that we need to keep in mind.

Reusability is an advantage of custom tags. According to Andersen and the MoldStud Research Team (2025), teams utilizing reusable components can reduce development time by up to 30%. This efficiency not only accelerates project timelines but also improves consistency across applications. You can avoid duplicating code in different files by using custom tags. Developers can develop the function in a custom tag, which can be reused as often as needed without repeating the same code logic, such as when you need a header for multiple pages. It will be better to create a custom tag for the header. So, the developer can use the custom header tag on various pages.

Using custom tags improves the readability and maintainability of the application. If developers use scriptlets in JSP pages, it is hard to read because of the mix of business logic and presentation code. However, custom tags could only use one line of code instead. So, it is easier to read and maintain. Scriptless JSPs are much easier to read and understand than JSPs embedded with scriptlets (GeeksforGeeks, 2025).

Custom tags also encapsulate other types of dynamic functionality (Oracle, 2010). It separates the business logic and presentational code. The JSP pages with simple tags are easy to understand because you don’t have to worry about the complex business logic. When the logic is encapsulated, it reduces the risk of errors and enhances code consistency within the project.

Complexity, steep learning curve, performance issues, and hard to maintain are disadvantages of creating custom tags. To create JSP custom tags, you must understand the concepts and rules, such as the syntax of the empty and non-empty custom tags and the three main components. It makes creating custom tags more complex and also increases the learning curve. Developers must spend more time learning about all the custom tags and what each tag does. The custom tags without proper documentation make it even more challenging. Due to the reusability of the tags, it will be hard to maintain because developers and testers need to check all the use cases. If the logic in custom tags is too complex, it will affect the rendering speed.

According to GeeksforGeeks, three main components are required to develop custom tags: Tag Handler, Tag Library Descriptor (TLD) file, and Taglib directive in a JSP file. A tag handler is a class that contains the tag’s logic and behavior, such as what to display based on the input. A TLD file is an XML-based configuration file. It is used to match the tag name to related tag handlers. The Taglib directive is used to access a particular tag library within a JSP. You cannot create a custom tag without any of the three components.

Custom tags are a powerful tool and handy for large projects. The reusability of tags helps to enhance the consistency of the project. It allows teams to create a clean code base and decoupled components. Custom tags make developing more efficient as well. However, it is overkill for a small project because custom tags must maintain documentation. Developers should avoid creating custom tags just for abstraction.

Overall, custom tags are a powerful tool with pros and cons. Custom tags provide reusability, readability, maintainability, and encapsulation. Developers can improve their productivity by using reusable tags. The code structure is cleaner and easier to read. Separating the business logic and presentation code reduces the risk of errors and improves consistency. However, custom tags have the disadvantages of a steep learning curve, being hard to maintain, and performance issues. Developers should avoid creating custom tags just for abstraction.

**Reference**

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