



What is semantic markup? And why would I use it?

Stanley Doherty, Ph.D.

Guidepost

Purpose: This resource introduces the concept of semantic markup in structured content.

Learning objective(s):

- Clarify terminology related to semantic markup.
- Review several examples of semantic markup.
- Explain different types of semantic markup.
- Explain the benefits of migrating to semantic markup.

Terminology

Semantic pertains to language and its usage.

Markup pertains to collections of plain-text "tags" that can be understood by people and systems.

- HTML5: <p>, , <cite>, <pre>
- XML DocBook: <para>, <emphasis>, <cite>, <code>
- XML DITA: <p>, <keyword>, <cite>, <codeblock>

Semantic markup pertains to "tags" that describe the meaning or function of the content within the tag.

- HTML5: <pre>Msg042: No connection to the server.</pre>
- XML DITA: <msgblock>Msg042: No connection to the server.</msgblock>

Semantic markup syntax

HTML5 and XML markup use elements and attributes to specify semantic content.

Elements: Delimited by opening and closing in angle-brackets:

- `<note>`If the system reports a VM usage above 16, contact Support.`</note>`
- `<shortdesc>`This guide shows you how to prepare the TC23 system.`</shortdesc>`

Attributes: Delimited by spaces within the opening element tag.

- `<note type="warning">`Do not reconfigure the VM during backup.`</note>`
- `<step id="mix">``<cmd>`Mix all the ingredients`</cmd>``</step>`

Lightweight markup languages do not have tags, but often implement semantic markup using embedded HTML5 markup or custom extensions (`{ .shortdesc }`).

Categories of semantic markup

Semantic markup can provide different types of information.

Descriptive markup: The element name describes the meaning of its content.

- `<filepath>`C:\usr\jeff\manifest.json`</filepath>`

Structural markup: The element name describes the role of the enclosed content in the overall organization of the topic, document, or page.

- `<shortdesc>`Here's how to plan your backup.`</shortdesc>`
- `<section>``<title>`Background research`</title>``</section>`

Metadata: The element name contains information about the topic, document, or page. This information is used by processors, but is not directly visible to readers.

- `<head>``<meta name="author" content="Pete Townsend">``</head>`

Migrating to semantic markup

Generic markup	Semantic markup	Semantic function
<code></code>	<code><apiname></code> <code><uicontrol></code> <code><cmdname></code>	Specifies the name of an API object. Specifies the name of a user interface control. Specifies the name of a CLI command.
<code><pre></code>	<code><codeblock></code> <code><screen></code> <code><systemoutput></code>	Delimits a block of sample code. Delimits a block of text resembling a CLI screen interface. Delimits a block of system out text.

<code></code>	<code><steps></code> <code><step></code> <code><cmd></code> <code><stepxmp></code>	Delimits a sequence of <code><step></code> elements in a procedure. Specifies a single step in a <code><steps></code> procedure. Specifies the action required for the completion of a <code><step></code> . Provides an example for a particular <code><step></code> .
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What are the benefits of using semantic markup?

- It forces writers to be more focused in what they tag.
- It provides consistency in the markup used across large doc sets.
- It separates content from presentation. If you want all `<uicontrol>` elements to be formatted red in the output, you can do so.
- It allows machine processors to extrapolate blocks and phrases of content.
- It supports automation when finding/replacing content.
- It feeds search engine optimization (SEO), artificial intelligence (AI) and machine learning (ML) engines quite efficiently.

Thank You!

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See <https://acm-sigdoc-structured.org> to learn more about committee activities, available resources, and volunteer opportunities.