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

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## 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>, <strong>, <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** |
| --- | --- | --- |
| <b> | <apiname><uicontrol><cmdname> | Specifies the name of an API object.Specifies the name of a user interface control. Specifies the name of a CLI command.  |
| <pre> | <codeblock><screen><systemoutput> | Delimits a block of sample code. Delimits a block of text resembling a CLI screen interface. Delimits a block of system out text.  |
| <ol> | <steps><step><cmd><stepxmp> | Delimits a sequence of <step> elements in a procedure. Specifies a single step in a <steps> procedure.Specifies the action required for the completion of a <step>. Provides an example for a particular <step>. |

## 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.