Sandcastle Sandcastle Help File Builder (SHFB)

A Reference to Sandcastle's XML Documentation Comments

Michael Sorens • Copyright © 2010 • V1.0.3 • 2010.10.19

This quick reference accompanies **Taming Sandcastle: A .NET Programmer's Guide to Documenting Your Code** at http://www.simple-talk.com/dotnet/.net-tools/taming-sandcastle-a-.net-programmers-guide-to-documenting-your-code/.

Anatomy of an Entry

tag • compiler validated • platforms • required • choice of values • optional

<sample> ✔ **.NET** **SHFB** **S** root • mixed p=*value* q="abc"|"5" [n=*int*]

Sandcastle • place holder • literals

Tag	root	child/block	child/inline	namespace	class	constant	field	method	property	event	indexer	operator	constructor	structure	array	interface	enum	delegate	exception	Content	Attributes
<c>			•	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	text	
<code>		•			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	text|element	*many…*
<example>	•				O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	mixed	
<exception>	•								O	O		O	O	O						mixed	cref
<exclude>	•				O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	empty	
<filterpriority>	•				O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	text	
<include>	•				O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	empty	file,path
<inheritdoc>	•	•		O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	empty	cref,select
<list>		•			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	element	type
<note>			•	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	mixed	type
<overloads>	•								O	O										mixed	
<para>		•			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	mixed	
<param>	•							A				A	A					A		mixed	name
<paramref>			•	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	empty	name
<permission>	•				O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	mixed	cref
<pre>		•			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	text|element	*many…*
<preliminary>	•				O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	mixed	
<remarks>	•				O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	mixed	
<returns>	•							A				R	A					A		mixed	
<see>			•		O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	mixed	cref|href
<seealso>	•				O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	mixed	cref|href
<summary>	•				R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	mixed	
<threadsafety>	•				O								O							empty	static,instance
<tocexclude>	•				O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	empty	
<typeparam>	•							A					A							mixed	name
<typeparamref>			•	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	empty	name
<value>	•								R		R									mixed	

R = required • **A** = as needed (i.e. required by context) • **O** = optional

C# Language Specification 4.0 details the language constructs across the top.
Content column terms come from XML standard type declarations.

<c> **.NET** **SHFB** **S** child/inline • text

Format short text content as code.

- Formats code fragments inline; compare to <code>.

<code> **.NET** **SHFB** **S** child/block • text|element

Language [lang=*language_ID* | language= *language_ID*]
Text [region=*region_name*] [source=*file_name*] [title=*text*]
Numerical [tabsize=*number_of_spaces*]
Boolean [filter] [keepSeeTags] [numberLines] [outlining] [removeRegionMarkers]

Format block as code with syntax highlighting for supported languages (default C#).

- Child: <code>
- SHFB adds all above custom attributes to the .NET standard <code> tag.
- Only source and region attributes may be used when nesting <code> elements,
- The language name is if title is omitted. To suppress, set title to single space.
- Attributes are supported by SHFB only, not .NET or Sandcastle.
- Filter attribute applies only to VS2005.

SHFB Help ► Conceptual and Additional Content ► Additional Content ► Importing and Colorizing Code From Source Files

SHFB Help ► Custom Build Components ► Code Block Component

<example> **.NET** **SHFB** **S** root • mixed

Generates an eponymous output section.

- Typically includes <para> and <code> elements.

<exception> ✔ **.NET** **SHFB** **S** root • mixed cref=*member*

Specifies exceptions that can be thrown from the current member.

- Compiler does not require <exception> tags but will validate cref value if used.

<exclude> **SHFB** root • empty

Suppresses documenting the current member in the generated output.

- Supported by SHFB but preferred approach is to use the ApiFilter project property.

<filterpriority> root • text

Used by the VB editor to filter elements in the auto-complete popup.

- Not used by Sandcastle at all. Valid values are 0 to 3. See Scott Dorman's blog.

<include> ✔ **.NET** **SHFB** **S** root • empty file=*file_name* path=*XPath_expr*

Imports a block of XML comments from an external file.

- Select all or part of an XML file with an XPath expression.

<inheritdoc> **SHFB** **S** root|child/block • empty [cref=*member*] [select=*XPath_expr*]

Inherit common information from ancestors.

- Must use cref attribute unless at root level.
- <overloads> tag is never inherited; use select="overloads/*" if needed.
- <param> tags are only inherited if names match base class names.
- Use cref and/or select, plus nested tags, to refine inheritance.

SHFB Help ► Getting Started ► Using the <inheritdoc /> Tag

<list> **.NET** **SHFB** **S** child/block • element type="bullet"|"number"|"table"|"definition"

Create a list or table.

- Child: <listheader> (first child if present) and <item> (multiple instances allowed), each of which contain successive children <term> and <description>.
- Table, bulleted list, or numbered list require just <description> in each <item>.
- Definition list (not officially supported) requires both <term> and <description>.
- Table requires only a <term> in the <listheader>, if present.

<note> **SHFB** **S** child/inline • mixed type="caution"|"inheritinfo"|"implementnotes"

Format text block as a note.

- Use this for a paragraph that should stand out.

<overloads> **SHFB** **S** root • mixed

Adds documentation specific to the overloads page of an overloaded member.

- May contain any root elements.

<para> **.NET** **SHFB** **S** child/block • mixed

Structure a text block as a paragraph.

- Use to structure your text containing multiple paragraphs.

<param> ✔ **.NET** **SHFB** **S** root • mixed name=*param_name*

Describes an ordinary (non-type) parameter of a method or constructor.

- Should be a sentence—not just a fragment—describing each method parameter.

<paramref> **.NET** **SHFB** **S** child/inline • empty name=*param_name*

Indicates that a word refers to an **ordinary** parameter.

<permission> ✔ **.NET** **SHFB** **S** root • mixed cref=*member*

Document the security accessibility of a member.

- Very few examples of this tag exist; all set cref to System.Security.PermissionSet.

<pre> **SHFB** child/inline • text|element

[lang=*language_ID*] [title=*text*] [tabsize=*number_of_spaces*]
[numberLines="true"|"false"] [outlining="true"|"false"]

Syntax-highlights code just like <code> but in HTML additional content files.

- Child: <code>
- <pre> does not apply to XML doc comments, only additional files.
- SHFB adds these custom attributes to the standard HTML <pre> tag.

SHFB Help ► Conceptual and Additional Content ► Additional Content ► Syntax Highlighting <pre> Tag Content

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<preliminary> **SHFB** **S** root • mixed

Marks the current member as preliminary.

- Empty content generates a default message.

<remarks> **.NET** **SHFB** **S** root • mixed

Generates an eponymous output section.

<returns> **.NET** **SHFB** **S** root • mixed

Describes the return value of a method.

<see> ✔ **.NET** **SHFB** **S** child/inline • mixed cref=*member* | href=*URL*

Generates an inline hyperlink to an internal (cref) or external (href) target.

- You may use relative (to `./html` directory) href paths; same for <a> and <img>.
- See discussions of other important usage points in Taming Sandcastle article.

<seealso> ✔ **.NET** **SHFB** **S** root • mixed cref=*member* | href=*URL*

Generates an eponymous output section.

- Generates a block hyperlink to an internal (cref) or external (href) target.
- All such links are collected in the "See Also" section of the page.

<summary> **.NET** **SHFB** **S** root • mixed

Generally short description of a type or member at the top of the generated page.

- The most important element; its content is used for Intellisense, quick info, class view, class designer, object browser, as well as aggregate pages in the generated output (e.g. method list page shows <summary> from each method).
- <summary> is required on every member unless inherited with <inheritdoc>.
- Comments automatically inherited for explicit interface members with no comments.

<threadsafety> **SHFB** **S** root • empty static="true"|"false" instance="true"|"false"

Describes how a class or structure behaves in a multi-threaded scenario.

- Specify class references and instance references separately via attributes.

<tocexclude> **SHFB** root • empty

Suppresses documenting the current member in the table of contents.

SHFB Help ► Build Process Plug-Ins ► Table of Contents Exclusion Plug-In

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<typeparam> ✔ **.NET** **SHFB** **S** root • mixed name=*type_param_name*

Describes a type parameter of a generic type or method.

- Should be a sentence—not just a fragment—describing each type parameter.

<typeparamref> **.NET** **SHFB** **S** child/inline • empty name=*type_param_name*

Indicates that a word refers to a **type** parameter.

<value> **.NET** **SHFB** **S** root • mixed

Describes a value of a property.

- Required even though Visual Studio uses <summary>, not <value>, for Intellisense.

Techniques for Including Special XML Characters

(A) Encoding:

< ► <	> ► >	& ► &	" ► "	' ► '

(B) By reading from an external file (<include>, <code>).
(C) By using a CDATA section (`<![CDATA[ . . . ]]>`).

Material for this wall chart derived in part from:

- Eric Woodruff's Sandcastle Help File Builder Documentation (SHFB Creator)
- C# Prog. Guide: Recommended Tags for Documentation Comments (MSDN)
- Wm. Eric Brunsen's XML Documentation Comments Guide (Dynicity)
- Anson Horton's XML Documentation in C# (Microsoft C# Compiler Program Manager)

This wall chart originally appeared in the Simple-Talk.com newsletter and is available electronically here – or type this URL: http://tiny.cc/q9urn.