

Extensible Stylesheet Language

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Extensible Stylesheet Language

In [computing](#), the **Extensible Stylesheet Language (XSL)**, a family of [transformation languages](#), allows one to describe how to format or transform files encoded in the [XML](#) standard. The XSL language itself uses valid XML syntax, with constructs such as:

```
<xsl:if test="@author='Jones'">Hello Mrs. Jones!</xsl:if>
```

The start-tag and end-tag of every statement echo the syntax of the opening and closing parenthesis of [Lisp](#). The designers of XSL wanted a [data driven](#) language: it strongly encourages the [inversion of control design pattern](#). The language assumes the processing of an XML file as a [tree](#) to produce a text-based output document, generally [HTML](#), [XML](#), [plain-text](#), or [PDF](#). XSL programmers can declare variables, but not change their values. The language provides several data-driven looping constructs, but programmers can still construct arbitrary [loops](#) without altering any variables by using [recursion](#) (as in [Scheme](#)).

The XSL family comprises three languages:

1. XSL Transformations ([XSLT](#)): an [XML](#) language for transforming XML documents
2. XSL Formatting Objects ([XSL-FO](#)): an [XML](#) language for specifying the visual formatting of an XML document
3. the XML Path Language ([XPath](#)): a non-XML language used by XSLT, and also available for use in non-XSLT contexts, for addressing the parts of an XML document.

[W3C recommendations](#) specify each of the three languages.

Early [Working Drafts](#) that preceded the XSLT Recommendation didn't have the "T" at the end of *XSLT*; they used the term *XSL* instead; and the language included rudiments of what later became XPath.

History

XSL began as an attempt to bring the functionality of [DSSSL](#), particularly in the area of print and high-end [typesetting](#), to XML.

A W3C [working group](#) on *CSS XSL* started operating in December 1997, with [Sharon Adler](#) and [Steve Zilles](#) as co-chairs, with [James Clark](#) acting as editor (and unofficially as chief designer), and [Chris Lilley](#) as the W3C staff contact. The group released a first public Working Draft on [18 August 1998](#). XSLT and XPath became W3C Recommendations on [16 November 1999](#) and XSL-FO reached Recommendation status on [15 October 2001](#).

"XSL" in Microsoft products

Microsoft's [MSXML](#), first released in March 1999, contained an incomplete implementation of the December 1998 Working Draft of XSL. Since the mid-2000 release of MSXML 3.0, MSXML has had complete support for both XSLT 1.0 and the older dialect. MSXML 3.0 became the default XML services [library](#) of [Internet Explorer](#) (IE) upon the release of IE 6.0 in August 2001. Older versions of IE could use MSXML 3.0 only with a custom install in "replace mode".

Some commentators^[*who?*] use the term "XSL" to refer to the dialect described in the Working Draft and as implemented in MSXML, including MSXML-specific extensions and omissions. Other commentators^[*who?*] generally refer to it as **WD-xsl**.

The XSL family

XSL Transformations

Main article: [XSL Transformations](#)

XSL Transformations (XSLT) currently has many implementations available. Several [web browsers](#), including [Internet Explorer](#) (using the [MSXML](#) engine), [Firefox](#), [Mozilla](#), and [Netscape](#) (all using the [TransforMiiX](#) engine), and [Opera](#) (native engine), all support transformation of XML to HTML through XSLT. Other notable implementations include [Saxon](#) and [Xalan](#).

XSL Formatting Objects

Main article: [XSL Formatting Objects](#)

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Support for XSL Formatting Objects has become more widespread [as of late](#):

- the [XEP](#) package from [RenderX](#) has near 100% support for XSL-FO 1.0
- XSLFormatter from [Antenna House](#) also has near 100% support for the XSL-FO 1.0 specification and has 100% support for all new features within the XSL-FO 1.1 specification
- XINC from [Lunasil](#) has a great amount of support for the XSL-FO 1.0 specification
- [FOP](#) from the [Apache](#) project can render a portion of the XSL formatting objects 1.0 specification to [PDF](#)

XSL Formatting Objects support other [file formats](#) to varying degrees:

- [PostScript](#)
- [SVG](#)
- [MIF](#)
- [PCL](#)
- [text files](#)

XPath

Main article: [XPath](#)

XML Path Language ([XPath](#)), itself part of the XSL family, functions within [XSLT](#) as a means of navigating an [XML document](#).

Another [W3C](#) project, [XQuery](#), aims to provide similar capabilities for querying XML documents using [XPath](#).

See also

- [List of stylesheet languages](#)
- [Comparison of stylesheet languages](#)

External links

- [XSL language definition.](#)
- [Extensible Stylesheet Language](#)
- [Holman, G. Ken \(2002-03-20\). "What is XSL-FO". *XML.com*. O'Reilly Media, Inc.. Retrieved on 2008-09-01.](#)
- [XML Focus Topics : CSS, XSL, XSL-FO](#)
- [IBM XSL Formatting Objects Composer](#)
- [W3schools XSL Tutorial](#)

v • d • e

[XSLT \(elements\)](#) • [XSL-FO](#) • [XPath](#)

v • d • e

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Recommendations	Canonical XML • CDF • CSS • DOM • HTML • MathML • OWL • PLS • RDF • RDF Schema • SISR • SMIL • SOAP • SRGS • SSML • SVG • SPARQL • Timed Text • VoiceXML • WSDL • XForms • XHTML • XML • XML Base • XML Events • XML Information Set • XML Schema (W3C) • XML Signature • XPath • XPointer • XQuery • XSL Transformations • XSL-FO • XLink
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