

## XML

The well-known **HTML** was the foundational language for web development. HTML is primarily used for **data presentation** but unsuitable for describing data structures. The basic function of HTML is to define how information is displayed on the web (e.g., font size, type, tables, paragraphs).

**XML** (eXtensible Markup Language) is a **text-based descriptive language** that carries **structural information** about the data. XML is a web-adapted version of **SGML** (Standard Generalized Markup Language ISO 8879). Although XML is sometimes referred to as a programming language, it is actually a **meta-language**, meaning it can be used to describe other languages.

### Three Key Features of XML

1. **Extensible:** You can declare your own elements, making it flexible.
2. **Markup:** It is a markup language because elements are distinguishable by specific tags.
3. **Language:** It has a fixed vocabulary and syntax.

The fundamental difference between **HTML** and **XML** is that you can define your own **tags** in XML. HTML works with a predefined set of tags, whereas XML allows the creation of custom tags.

### Languages Created in XML for Specific Problem-Solving and Generalization

- **XSL:** A formatting language specifically designed for processing XML data.
- **XHTML:** eXtensible HyperText Markup Language. [Learn more about XHTML]([https://www.w3schools.com/html/html\\_xhtml.asp](https://www.w3schools.com/html/html_xhtml.asp)).
- **WAP:** The language for mobile communication. [WAP/WML Reference]([http://www.w3schools.com/wap/wml\\_reference.asp](http://www.w3schools.com/wap/wml_reference.asp)).
- **SMIL:** A standard multimedia description language that enables advanced multimedia and web displays. [Learn more about SMIL]([http://www.w3schools.com/smil/smil\\_intro.asp](http://www.w3schools.com/smil/smil_intro.asp)).
- **XSL Patterns:** A query language that enables efficient searches in XML documents.
- **SVG:** Scalable Vector Graphics for describing 2D vector graphics. [Learn more about SVG](<http://www.w3.org/TR/voicexml20/>).
- **VoiceXML:** Used for speech recognition, internet voice transmission, and audio compression. [Learn more about VoiceXML](<http://www.w3.org/TR/voicexml20/>).
- **MathML:** A language for describing mathematical formulas. [Learn more about MathML](<http://www.w3.org/TR/REC-MathML/>).

This provides an overview of XML's capabilities, applications, and its differences from HTML.

From:  
<https://edu.iit.uni-miskolc.hu/> - **Institute of Information Science - University of Miskolc**

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Last update: **2025/12/02 05:49**

