

Summarising the main differences between XML, HTML, CSS, and JSON:

Aspect	XML (Extensible Markup Language)	HTML (Hypertext Markup Language)	CSS (Cascading Style Sheets)	JSON (JavaScript Object Notation)
Purpose	Designed to store and transport data; tag semantics are not defined by the language itself.	Designed to display data and to focus on how data looks; tag semantics are predefined.	Designed to style HTML or XML content; controls layout, visual display, and presentation.	Designed to represent structured data; often used for configurations and data interchange.
Syntax	Tags are user-defined and must be closed; can have attributes; must be well-formed.	Tags are predefined (<code><h1></code> , <code><p></code> , <code><div></code> , etc.); must be opened and closed (with exceptions like <code>
</code> , <code><hr></code>).	Style rules consisting of selectors and declaration blocks { property: value; }.	Key-value pairs (objects) and arrays; values can be strings, numbers, objects, arrays, true , false , or null .
Flexibility	Highly flexible in creating custom structures.	Less flexible with a fixed set of tags.	Highly flexible in presentation, allowing for complex designs and layouts.	Flexible structure but follows a strict syntax with limited data types.
Use Cases	Data interchange between systems, web services, document metadata, and more.	Building and structuring web pages and web applications; content display.	Styling and layout for web pages, including responsive design.	Data interchange, especially in web applications; configuration files.

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Data Types	Doesn't have data types; everything is a string.	Doesn't deal with data types; focuses on document structure.	Doesn't have data types; deals with the presentation of elements.	Supports various data types: string, number, object, array, boolean, null.
Readability	Human-readable and machine-readable, but more verbose.	Human-readable and focused on web browsers.	Intended for styling so not really "readable" in a data sense but human-readable for style definition.	Human-readable and less verbose than XML; favored for its simplicity.
File Extension	.xml	.html or .htm	.css	.json
MIME Type	application/xml, text/xml	text/html	text/css	application/json
Compatibility	Can be used with any type of data and is application-agnostic.	Primarily used for the web.	Used with HTML or XML to style documents for the web.	Language-independent but has a syntax similar to JavaScript objects; widely used in web APIs.