HTML stands for HyperText Markup Language

Document Type Definition

DTD is short for "Document Type Definition", and among other things it defines what elements and attributes are allowed to be used in a certain flavor of HTML

The doctype is used for two things, by different kinds of software:

- 1. Web browsers use it to determine which rendering mode they should use (more on rendering modes later).
- 2. Markup validators look at the doctype to determine which rules they should check the document against (more on that later as well).

Here is an example:

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN"
"http://www.w3.org/TR/html4/strict.dtd">

The most important parts of the doctype are the two strings delimited by quotes."-//W3C//DTD HTML 4.01//EN" states that this is a DTD document published by the W3C, that the DTD describes HTML version 4.01, and that the language used in the DTD is English.

The second string, "http://www.w3.org/TR/html4/strict.dtd", is a URL that points to the DTD document used for this doctype.

If you do not provide a doctype, browsers will handle and render the document anyway. However, without a doctype, the results may not look like you intended, because of something called "doctype sniffing" or "doctype switching".

- **Standards mode** : In standards mode, browsers generally try to render the page according to the CSS specifications—they trust that the person who created the document knew what they were doing.
- **Quirks mode** : Quirks mode assumes that the document is old or that it has not been created with web standards in mind—it means that the web page will still render, but it will take a lot more processing power to do so, and you'll likely get a strange or ugly result, which you weren't quite expecting.

The differences are mostly related to how CSS is rendered, and only in a few cases about how the actual HTML is treated

https://www.w3.org/wiki/Choosing_the_right_doctype_for_your_HTML_documents

See also w3school

Element vs. Tag

An element is a part of a webpage. In XML and HTML, an element may contain a data item or a chunk of text or an image, or perhaps nothing. A typical element includes an opening tag with some attributes, enclosed text content, and a closing tag.

Anatomy of an HTML element



Example: in Hello world!, '' is an opening tag, 'class="nice"' is an attribute and its value, 'Hello world!' is enclosed text content, and '' is a closing tag.

Elements and tags are not the same things. Tags begin or end an element in source code, whereas elements are part of the DOM, the document model for displaying the page in the browser.

https://developer.mozilla.org/en-US/docs/Glossary/Element

Void element

A void element is an element in HTML that cannot have any child nodes (i.e., nested elements or text nodes). Void elements only have a start tag; end tags must not be specified for void elements.

https://developer.mozilla.org/en-US/docs/Glossary/Void_element

Tag types

Container tags

Container tags are those tags that have both opening and closing tags. Container tags enclose elements like text, images, and videos. The content that we write inside a container tag gets displayed on the browser.

The opening and closing tags are also known as On and Off tags. If a user forgets to add a closing tag in an HTML document, the browser automatically adds the closing tag at the end of the document.

Common HTML Container Tags

- A. Essential Tags : html, head, title, body
- B. Headings Tags : h1, h2, h3, h4, h5, h6
- C. Text Formatters Tags : p, b, i
- D. HyperLinks Tag : a

- E. Button Tag : button
- F. Division Tag : div
- G. Iframe Tag : iframe
- H. Navigation Tag : nav
- I. Script Tag : script
- J. List Tags : li, ol, ul

Empty tags

Empty tags are those tags that do not have any closing tags. Empty tags only have the opening tag. In other words, these tags are self-closing. These tags do not have any text or embedded elements. However, they are used to perform specific actions like inserting line breaks or adding metadata to the web page.

```
<area>, <base>, <br>, <col>, <embed>, <hr>, <img>, <input>, <link>, <meta>, <param>, <source>,
<track>, <wbr>
```

https://www.scaler.com/topics/container-tags-in-html/

Self-closing tags

In HTML, an opening and closing tag combined into one is known as a self-closing tag. It is used to indicate that there is no content between the opening and closing tags. Self-closing tags in HTML only have **attributes** and **do not contain any content**, and they also **cannot have any children**.

Is the Ending Slash Optional?

- HTML5: Using a slash is absolutely **optional**.
- HTML4: Using a slash is technically invalid. However, the W3C's HTML validator still accepts it.
- XHTML: A slash is **required**, and all tags can be self-closed.

Self-closing tags in HTML are sometimes also known as empty tags, void tags, singletons tags, etc. This means that these tags have no content and cannot have any children.

All void elements are considered as self-closing tags.

https://www.scaler.com/topics/self-closing-tags-in-html/

HTML Element Reference - By Category

- Basic HTML
- Formatting
- Forms and Input
- Frames
- Images
- Audio / Video
- Links

- Lists
- Tables
- Styles and Semantics
- Meta Info
- Programming

https://www.w3schools.com/tags/ref_byfunc.asp