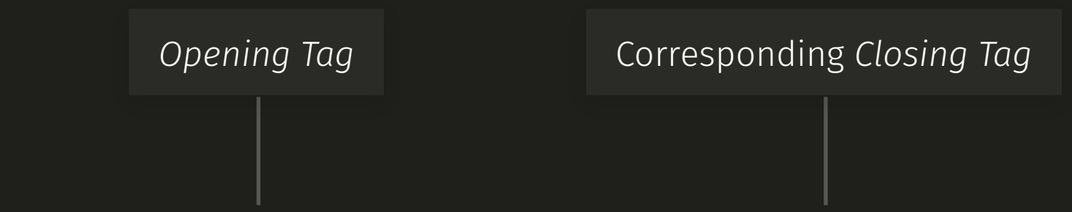
HTML Syntax



Basic HTML element diagram, showing its opening and closing tags.

An HTML element's *opening tag* and *closing tag* are delimited with less-than and greater-than signs (< and >) surrounding the element's *tag name*. Its *closing tag* includes a slash (/) before the *tag name*.

```
<div></div>
```

Example of the complete opening and closing tags of a `div` *element, with no contents.*

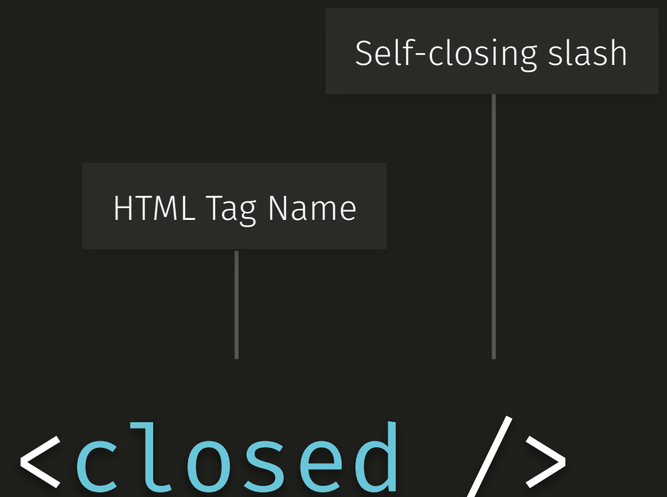


Diagram of a self-closing HTML element.

Self-closing HTML elements do not require a corresponding *closing tag*. However, they do include a / just before the delimiting less-than character >.

A break tag
produces a line break in the rendered page. Without one,

whitespace is meaningless.

The self-closing HTML `br` *element..*

A `br` (“break”) element is an example of a self-closing tag. Any sequence whitespace in HTML is interpreted as a single space, unless a `br` element is used.

Diagram of an HTML Tag with text

HTML elements can contain *text*, which appears between the delimiters of the *opening* and *closing tags*.

```
<h3>Cheeseburgers</h3>
```

Example of the HTML `h3` *element.*

This element creates a level-three heading with the text `Cheeseburgers` visible in the page.

```
<article>
  <h3>First Day of Class</h3>
  <p>Please bring a laptop and be
     ready to code!</p>
</article>
```

Example of nesting h3 *and* p *elements inside an article element.*

In addition to text, we can have HTML elements nested inside one another. This is the most basic way of creating hierarchy with HTML. All *opening tags* must have a corresponding *closing tag* inside their parent element, except, of course, self-closing tags.

We've also used *newlines* and *indentation* to remind ourselves that the elements are nested.

```
<article><h3>First Day of Class
</h3><p>Please bring a laptop and be
ready to code!</p></article>
```

HTML without white-space.

If we don’t use indentation or newlines, HTML becomes difficult to interpret. Opening and closing tags aren’t as clearly demarcated, and errors are harder to spot.

Use whitespace and keep indentation consistent.

```
<article>
  <h3>First Day of Class</h3>
  <section>
    <h4>Section 1</h4>
    <p>First Paragraph</p>
    <p>Second Paragraph</p>
  </section>
</article>
```

How we might indent elements nested multiple times.

Notice how the opening and closing tags are either on the same line (see the `p` and `h4` elements), or are indented the same amount (like the `article` and `section` elements). This helps us quickly scan and match up the opening and closing tags of each element.

```
<p>
  In a word processor, we can create
  <em>emphasis</em> with italics.
</p>
```

Another case when we can nest HTML tags to enrich text.

In some situations, tags might be spliced into text. The newline and indentation after the opening p tag is used only for clarity, and has no meaning.

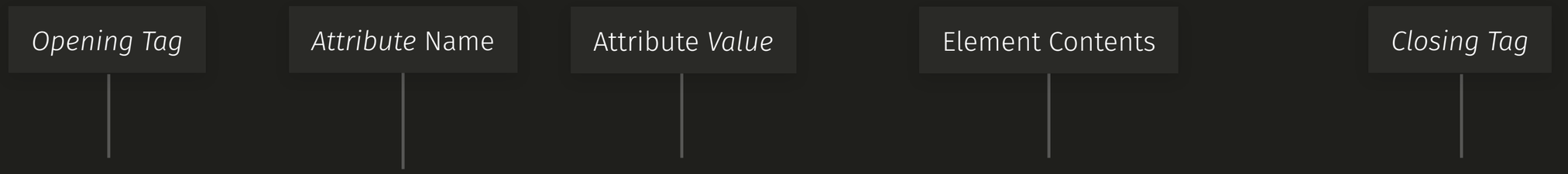


Diagram of an HTML element with a single attribute.

To add descriptive details to HTML elements, we use attributes and attribute values. The attributes and their respective values only appear in the *opening tag*, and are separated from the tag name by a space. An equals sign (=) separates the attribute name from its value which is surrounded by quotes (" ").

Think of this as an assignment, the way you would use x=7 in algebra to denote that the variable x is 7.

```
<div class="box"></div>
```

Example `div` *element with a single attribute.*

This `div` element has the `class` attribute set to box. The element has no content.

```
<div class="box" align="right">
  Text in here will be aligned
  to the right edge of the element.
</div>
```

A `div` *element with two attributes and text-only content.*

This `div` element has two attributes, separated by a space, each using an equals sign and quotes.

The attribute always comes before the value.

```
<meta name="description" content="Your
site’s description could go here." />
```

Example of the HTML `meta` *element, which has attributes, but uses a self-closing tag.*

Self-closing tags can also have attributes and attribute values.

```
<html lang="en-US">
  <head>
    <title>To-Do</title>
    <meta name="description" content="Fall To-Do List" />
  </head>
  <body>
    <div class="checklist">
      <h4>Checklist</h4>
      <ul>
        <li class="done">Learn HTML Syntax</li>
        <li>Build first website</li>
        <li>Present to class</li>
      </ul>
    </div>
  </body>
</html>
```

Example of a complete HTML document, containing nested elements, some with attributes.

Nested elements can have attributes, and often must to differentiate them. Notice that one of the `li` elements has a `class` of “done”