

Chapter 8: Tables

The HTML **<table>** element allows web authors to display tabular data (such as text, images, links, other tables, etc.) in a two dimensional table with rows and columns of cells.

Section 8.1: Simple Table

```
<table>
  <tr>
    <th>Heading 1/Column 1</th>
    <th>Heading 2/Column 2</th>
  </tr>
  <tr>
    <td>Row 1 Data Column 1</td>
    <td>Row 1 Data Column 2</td>
  </tr>
  <tr>
    <td>Row 2 Data Column 1</td>
    <td>Row 2 Data Column 2</td>
  </tr>
</table>
```

This will render a **<table>** consisting of three total rows (**<tr>**): one row of header cells (**<th>**) and two rows of content cells (**<td>**). **<th>** elements are *tabular headers* and **<td>** elements are *tabular data*. You can put whatever you want inside a **<td>** or **<th>**.

Heading 1/Column 1 **Heading 2/Column 2**

Row 1 Data Column 1 Row 1 Data Column 2

Row 2 Data Column 1 Row 2 Data Column 2

Section 8.2: Spanning columns or rows

Table cells can span multiple columns or rows using the `colspan` and `rowspan` attributes. These attributes can be applied to **<th>** and **<td>** elements.

```
<table>
  <tr>
    <td>row 1 col 1</td>
    <td>row 1 col 2</td>
    <td>row 1 col 3</td>
  </tr>
  <tr>
    <td colspan="3">This second row spans all three columns</td>
  </tr>
  <tr>
    <td rowspan="2">This cell spans two rows</td>
    <td>row 3 col 2</td>
    <td>row 3 col 3</td>
  </tr>
  <tr>
    <td>row 4 col 2</td>
    <td>row 4 col 3</td>
  </tr>
</table>
```

Will result in

row 1 col 1	row 1 col 2	row 1 col 3
This second row spans all three columns		
This cell spans two rows	row 3 col 2	row 3 col 3
	row 4 col 2	row 4 col 3

Note that you should not design a table where both rows and columns overlap as this is invalid HTML and the result is handled differently by different web browsers.

rowspan = A non-negative integer that specifies the number of rows spanned by a cell. The default value of this attribute is one (1). A value of zero (0) means that the cell will extend from the current row until the last row of the table (**<thead>**, **<tbody>**, or **<tfoot>**).

colspan = A non-negative integer that specifies the number of columns spanned by the current cell. The default value of this attribute is one (1). A value of zero (0) means that the cell will extend from the current to the last column of the column group **<colgroup>** in which the cell is defined.

Section 8.3: Column Groups

Sometimes you may want to apply styling to a column or group of columns. Or for semantic purposes, you may want to group columns together. To do this, use **<colgroup>** and **<col>** elements.

The optional **<colgroup>** tag allows you to group columns together. **<colgroup>** elements must be child elements of a **<table>** and must come after any **<caption>** elements and before any table content (e.g., **<tr>**, **<thead>**, **<tbody>**, etc.).

```
<table>
  <colgroup span="2"></colgroup>
  <colgroup span="2"></colgroup>
  ...
</table>
```

The optional **<col>** tag allows you to reference individual columns or a range of columns without applying a logical grouping. **<col>** elements are optional, but if present, they must be inside a **<colgroup>** element.

```
<table>
  <colgroup>
    <col id="MySpecialColumn" />
    <col />
  </colgroup>
  <colgroup>
    <col class="CoolColumn" />
    <col class="NeatColumn" span="2" />
  </colgroup>
  ...
</table>
```

The following CSS styles can be applied to **<colgroup>** and **<col>** elements:

- border
- background

- `width`
- `visibility`
- `display` (as in `display: none`)
 - `display: none`; will actually remove the columns from the display, causing the table to render as if those cells don't exist

For more information, see [HTML5 Tabular data](#).

Section 8.4: Table with `thead`, `tbody`, `tfoot`, and `caption`

HTML also provides the tables with the `<thead>`, `<tbody>`, `<tfoot>`, and `<caption>` elements. These additional elements are useful for adding semantic value to your tables and for providing a place for separate CSS styling.

When printing out a table that doesn't fit onto one (paper) page, most browsers repeat the contents of `<thead>` on every page.

There's a specific order that must be adhered to, and we should be aware that not every element falls into place as one would expect. The following example demonstrates how our 4 elements should be placed.

```
<table>
<caption>Table Title</caption> <!--| caption is the first child of table |-->
<thead> <!--=====| thead is after caption |-->
  <tr>
    <th>Header content 1</th>
    <th>Header content 2</th>
  </tr>
</thead>

<tbody> <!--=====| tbody is after thead |-->
  <tr>
    <td>Body content 1</td>
    <td>Body content 2</td>
  </tr>
</tbody>

<tfoot><!--| tfoot can be placed before or after tbody, but not in a group of tbody. |-->
<!--| Regardless where tfoot is in markup, it is rendered at the bottom. |-->

  <tr>
    <td>Footer content 1</td>
    <td>Footer content 2</td>
  </tr>
</tfoot>

</table>
```

The following example's results are demonstrated twice--the first table lacks any styles, the second table has a few CSS properties applied: `background-color`, `color`, and `border`*. The styles are provided as a visual guide and is not an essential aspect of the topic at hand.

Table Title	
Header content 1	Header content 2
Body content 1	Body content 2
Footer content 1	Footer content 2

Table Title	
Header content 1	Header content 2
Body content 1	Body content 2
Footer content 1	Footer content 2

Element	Styles Applies
<caption>	Yellow text on black background.
<thead>	Bold text on purple background.
<tbody>	Text on blue background.
<tfoot>	Text on green background.
<th>	Orange borders.
<td>	Red borders.

Section 8.5: Heading scope

th elements are very commonly used to indicate headings for table rows and columns, like so:

```
<table>
  <thead>
    <tr>
      <td></td>
      <th>Column Heading 1</th>
      <th>Column Heading 2</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <th>Row Heading 1</th>
      <td></td>
      <td></td>
    </tr>
    <tr>
      <th>Row Heading 2</th>
      <td></td>
      <td></td>
    </tr>
  </tbody>
</table>
```

This can be improved for accessibility by the use of the scope attribute. The above example would be amended as follows:

```
<table>
  <thead>
    <tr>
      <td></td>
      <th scope="col">Column Heading 1</th>
      <th scope="col">Column Heading 2</th>
```

```
        </tr>
    </thead>
    <tbody>
        <tr>
            <th scope="row">Row Heading 1</th>
            <td></td>
            <td></td>
        </tr>
        <tr>
            <th scope="row">Row Heading 1</th>
            <td></td>
            <td></td>
        </tr>
    </tbody>
</table>
```

scope is known as an *enumerated attribute*, meaning that it can have a value from a specific set of possible values. This set includes:

- col
- row
- colgroup
- rowgroup

References:

- <https://developer.mozilla.org/en-US/docs/Web/HTML/Element/th#attr-scope>
- <https://www.w3.org/TR/WCAG20-TECHS/H63.html>