

Creating Tables with HTML 5

You may want to consider using HTML tables in your website. In addition to creating HTML tables to present data in rows and columns, you can also create HTML tables to organize information on your web page.

The process of creating an HTML table is similar to the process that you used to create your web page and any elements that you may have already included in your page, such as links or frames. Coding HTML tables into your web page is fairly easy since you need only understand a few basic table codes.

Tables have been a standard for HTML design since the 1990s. Tables were then replaced by DIV elements, which lay out HTML content without the restrictions of rows and columns. Some designers still use tables for some basic layouts, and you use them to display a spreadsheet of information to the user. You might also need to redesign a site that uses tables, so it's good to understand how they work.

When to Use Tables and When Not To

Web design used to call for tables to lay out pages. The designer would create one table and then use embedded tables within the main table's rows and columns to control the placement of HTML elements. This practice is no longer standard.

You use tables when you want to display lists of data. Tables give you the ability to list data with headers and footers. You can also use tables to display alternating colors within rows, which make it easier for the user to read the data. Tables also let you set a "hover" color, so the user intuitively knows which record he's clicking in your interface. These are a few reasons you use tables.

Creating a basic table

The basic structure of an HTML table consists of the following tags:

Table tags: `<table>` `</table>`

Row tags: `<tr>` `</tr>`

Cell tags: `<td>` `</td>`

Constructing an HTML table consists of describing the table between the beginning table tag, `<table>`, and the ending table tag, `</table>`. Between these tags, you then construct each row and each cell in the row. To do this, you would first start the row with the beginning row tag, `<tr>`, and then build the row by creating each cell with the beginning cell tag, `<td>`, adding the data for that

cell, and then closing the cell with the ending cell tag, </td>. When you finish all of the cells for a row, you would then close the row with the ending row tag, </tr>. Then, for each new row, you would repeat the process of beginning the row, building each cell in the row, and closing the row.

The following table is an example of a basic table with three rows and two columns of data.

Row 1, cell 1	Row 1, cell 2	Row 1, cell 3
Row 2, cell 1	Row 2, cell 2	Row 2, cell 3
Row 3, cell 1	Row 3, cell 2	Row 3, cell 3
Row 4, cell 1	Row 4, cell 2	Row 4, cell 3

The codes that generated this table look like this:

```
<!DOCTYPE html>
<html>
<head>
<title> Creating Tables in HTML5</title>
<link rel="stylesheet" type="text/css" href="styles.css">
</head>
<body>
<table>
  <tr>
    <td>Row 1, cell 1</td>
    <td>Row 1, cell 2</td>
    <td>Row 2, cell 3</td>
  </tr>
  <tr>
    <td>Row 2, cell 1</td>
    <td>Row 2, cell 2</td>
    <td>Row 2, cell 3</td>
  </tr>
  <tr>
    <td>Row 3, cell 1</td>
    <td>Row 3, cell 2</td>
    <td>Row 3, cell 3</td>
  </tr>
  <tr>
    <td>Row 4, cell 1</td>
    <td>Row 4, cell 2</td>
    <td>Row 4, cell 3</td>
  </tr>
</table>
</body>
</html>
```

Create a new folder in your HTML folder named Tables. Then create a new html document in your editor and save it in your Table folder as Table1.html. Then type this code in your editor.

This table contains no border, title, or headings. If you wish to add any of these elements to your table, you need to include additional HTML codes. The codes for these elements are explained in the next section.

Adding a border, title, and headings

In addition to the basic table tags, several options are available for adding additional elements to your table. For example, if you add a border, title, and column headings to the table in the previous section, the table would then resemble the following:

TABLE TITLE		
Column A	Column B	Column C
Row 1, cell 1	Row 1, cell 2	Row 1, cell 3
Row 2, cell 1	Row 2, cell 2	Row 2, cell 3
Row 3, cell 1	Row 3, cell 2	Row 3, cell 3
Row 4, cell 1	Row 4, cell 2	Row 4, cell 3

The following codes generated the border, TABLE TITLE, and Column A, Column B, and Column C headings for this table:

```
<!DOCTYPE html>
<html>
<head>
<title> Creating Tables in HTML5</title>
<link rel="stylesheet" type="text/css" href="styles.css">
</head>
<body>
<table border="5">
  <tr>
    <th colspan="3">
      <h3><br>Table Title</h3></th>
    </tr>
  <tr>
    <td>Row 1, cell 1</td>
    <td>Row 1, cell 2</td>
    <td>Row 1, cell 3</td>
  </tr>

  <tr>
    <td>Row 2, cell 1</td>
    <td>Row 2, cell 2</td>
    <td>Row 2, cell 3</td>
  </tr>

  <tr>
    <td>Row 3, cell 1</td>
    <td>Row 3, cell 2</td>
```

Open a new file in your HTML editor. Paste the code from your Table1.html file. Then modify the code to include the code here and then save it as Table2.html.

```

        <td>Row 3, cell 3</td>
    </tr>
<tr>
    <td>Row 4, cell 1</td>
    <td>Row 4, cell 2</td>
    <td>Row 4, cell 3</td>
</tr>
</table>
</body>
</html>

```

Notice that the beginning table tag, `<table>`, now includes the border tag, `border="5"`, which places a border around the table and frames each cell. The number that you ascribe to the border tag, **border=n**, sets the width of the table border. Depending on how you design your table, you can then determine the border size that best suits your table and the overall design of your web page.

To add a title to your table, you would place the title and the attributes of that title between the row commands, `<tr>` and `</tr>`. The heading codes, `<th>` and `</th>`, define a heading cell and, by default, these codes center the heading and set it in bold type. However, if you want the title to span across the columns below it, you need to include the **colspan=n** code. Since this table has three columns, the **colspan="3"** code was necessary. To add emphasis to the header, you can use the header commands to make the text larger. In this table, notice that the `<h3>` and `</h3>` commands made the title larger. Finally, the `
` tag created a space above the title.

The individual column headings are also described by the heading codes, `<th>` and `</th>`. Since these codes, by default, center the heading and set it in bold type, no additional commands or attributes were included in the heading commands.

Polishing your table

To give your table a more polished look, you can include commands that will adjust the size of your table, add space in the cell, add space between rows, and align the data in a cell. Working with these commands is basically a process of trial and error to create the most appealing presentation of your information. The type of table that you create and the overall design of your web site will help you determine what works best for your table.

Some of the commands that enable you to customize your table include:

- The **width=n%** command sets the width of your table as a percentage of the screen. The letter n designates the percentage that you assign to this command. For example, if you want the width of your table to be one half the width of the screen, you would include the `width="50%"` command in the beginning table command.
- The `cellpadding=n` command adjusts the vertical dimension of the cells. The letter n designates the numerical value that you assign to this command.

- The cellpadding=n command sets the space or border around the cells. The letter n designates the numerical value that you assign to this command.
- The align=(left, right, or center) command will horizontally align the data in a cell. For example, if you wish to place the data in the center of each cell in a row, you would include the align=center command within the row command.
- The valign=(top, middle, or bottom) command will vertically align the data in a cell. For example, if you wish to place the data in the center of each cell in a row, you would include the align=middle command within the row command.

Table Title		
Column A	Column B	Column C
Row 1, cell 1	Row 1, cell 2	Row 1, cell 3
Row 2, cell 1	Row 2, cell 2	Row 2, cell 3
Row 3, cell 1	Row 3, cell 2	Row 3, cell 3
Row 4, cell 1	Row 4, cell 2	Row 4, cell 3

In

addition to the codes that were explained in the previous sections, the table above now includes some of these commands:

```
<table border="5" width="50%" cellpadding="4" cellspacing="3">
  <tr>
    <th colspan="2"><br><h3>Table Title</h3>
  </th>
</tr>
<tr>
  <th>Column A</th>
  <th>Column B</th>
  <th>Column C</th>
</tr>
<tr align="center">
  <td>Row 1, cell 1</td>
  <td>Row 1, cell 2</td>
  <td>Row 1, cell 3</td>
</tr> </tr>
</table>
```

Open a new file in your HTML editor. Paste the code from your Table2.html file. Then modify the code to include the code here and then save it as Table3.html.

Notice that the table command now includes the width="50%" command. this command extends the table across one half of the width of the text. also, the cellpadding="4" command increases the vertical dimension of the cells, and the cellspacing="3" command increases the border around the

cells. Finally, the align="center" command places Data 1 and Data 2 in the center of the cell. (you can also copy the align=center code to the other data cells).

Creating links

After you create your table, you can also create a link to another web page in one or more cells. To do this, you need only include the link commands between the <td> and </td> commands.

Adding Backgrounds

The HTML bgcolor attribute has been deprecated but is still widely supported. The standard is to use CSS styles to format tables (and HTML pages). You can add a color or an image as a background for the entire table by inserting the code in the opening table tag like this:

```
<table style="background-color:#ffff66" border="5" width="50% cellpadding="4" cellspacing="3">
```

Or this,

```
<table style="background-image:url(elephant.jpg)" border="5" width="50% cellpadding="4" cellspacing="3">
```

**NB: Note that the whole picture is not seen in this example, only the top left portion – it is advisable to choose your pictures carefully for purpose and result.*

If you would prefer you can add color or images to each individual cell like this:

```
<tr align="center">  
  <td style="background-image:url(elephant.jpg)" width="50" align="center">Row 1, cell 1</td>  
  <td style="background-image:url(elephant.jpg)" width="50" align="center">Row 1, cell 2</td>  
  <td style="background-image:url(elephant.jpg)" width="50" align="center">Row 1, cell 3</td>  
</tr>
```

Sometimes it is a good idea to include a background color **and** an image. We might want to do this because tables are slow loading and colors will load before images, Therefore we want to choose an image that will fit inside the cell and a background color that is similar to the image color.

Planning to use Tables

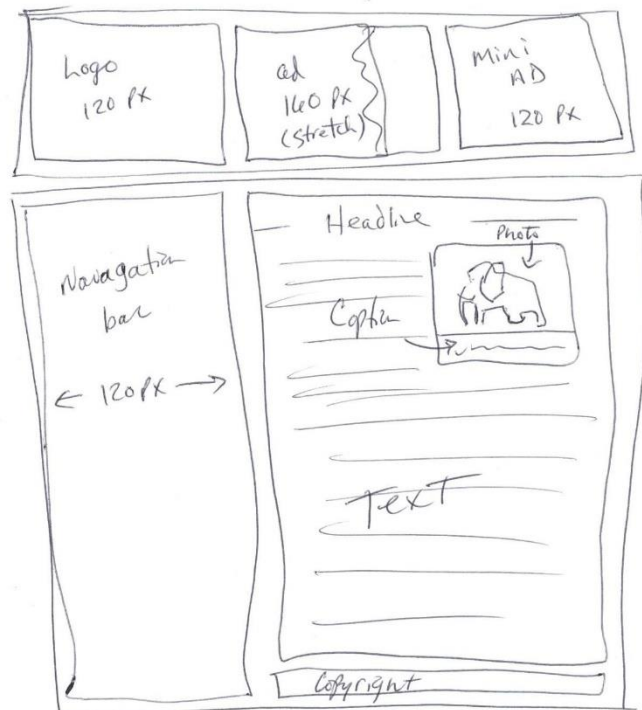
It's important to keep track of the number of rows and columns you create with your tables. You can easily lose track of opening and closing tags, and accidentally missing a tag can render unforeseen results. A good idea to help with this problem is to map out your page.

Before you create a complicated table, it is important to have a vision of what you want to construct. You should know how many rows and columns you need, how big these should be, and where each of these items should go.

1. Begin with a pen and paper.
2. Figure out how many rows and columns you will need and how big each need to be, also identify any rows or columns that will span more than one space.
3. Keep in mind that the standard width is 600 pixels, but use percentages in your coding for a liquid design (a design that will work on any device).
4. Create the skeleton of your design with very little content to ensure the table design is correct.
5. Create or insert the content.

Let's illustrate with an example. Here is a drawing of a webpage design we want to create using tables. Note that the table cells are all given a numerical width value in pixels and there is space for padding and borders. The idea here is to have a top table row with three cells, a side navigation bar of one cell and another cell of text with a table inside it for a picture and caption, and then a cell at the bottom for copyright information.

web page example.



Let's begin with the table containing a picture and a caption.

```

<!DOCTYPE html>
<html>
<head>
<title> Table 4 </title>
</head>
<body>
<table>
  <tr><td></td></tr>
  <tr><td class="caption"> A baby elephant hanging around with its mom, aunts and great-aunts.</td></tr>
</table>
</body>
</html>

```

Open a new file in your HTML editor and add this code and save it as Table4.html in your HTML folder

When this is run it shows a picture with text running beyond the frame of the picture because the table will naturally run to the width of the browser. So to keep the caption text in line with the picture we need to add a width to the opening table tag, like this:

```
<table border=0 width="200">
```

Modify the code in your Table4.html file to reflect this change and then save the file as Table5.html.

Now let's wrap some text around our table (picture and caption). Begin by placing a title above the table tag, like this:

```
<h1>The Truth about Elephants</h1>
```

Then we will align the table to the right of the page, like this:

```
<table border=0 width="200" align="right">
```

Then the table goes in, and then the text, like this:

```
<!DOCTYPE html>
<html>
<head>
<title> Table 4 </title>
</head>
<body>
<h1>The Truth about Elephants</h1>
<table border=0 width="200" align="right">
  <tr><td></tr>
  <tr><td> A baby elephant hanging around with its mom, aunts and great-aunts.</td></tr>
</table>
<p> (open the elephant.txt file then copy it and paste it in between the paragraph tags to see how the
text will wrap around the table above).
Elephants are large mammals of the family Elephantidae and the order Proboscidea. ...
</p>
</body>
</html>
```

This will show how the paragraph text floats around the table (picture and caption).

To achieve the left navigation bar we can place all of this content inside a table and then creating a row with one cell that is 200 pixels wide, like this:

```
<table width="100%" border="1">
<tr><td width="120px"><!--Left Navigation--></td>
```

Note the use of a comment (highlighted) to assist in the development of the page

Then we add a cell to contain the content we have already used, and

```
<!DOCTYPE html>
<html>
<head>
<title> Table 4 </title>
</head>
```



```

<body>
<table width="100%" border="1">
<tr><td width=120px"><!--Left Navigation--></td>
<td><!--Main Content-->
<h1>The Truth about Elephants</h1>
<table border=0 width="200" align="right">
  <tr><td></td></tr>
  <tr><td> A baby elephant hanging around with its mom, aunts and great-
aunts.</td></tr>
</table>
<p>Elephants are large mammals.... <!--Paragraph content goes here-->
</p>
</td>
</tr>
</table>
</body>
</html>

```

With this we have a table containing a left navigation bar, a right text content cell and a table containing the elephant pic and caption.

Now let's add the top logo bar. We will add a separate table to sit on top of our existing one. The key to making this look natural is to ensure you have the same number of cells and that they are all the same width. Because we want this logo bar to be on top of the current table, we need to place the new code above the current table, like this:

```

<!--Top Logo Bar-->
<table width="100%">
<tr><td>
</td>
<td align="center"></td>
<td align="right"></td>
</tr></table>

```

This provides a top banner with the left and right cells maintaining their outside edge on the outside of the browser with the center ad staying centered on the page.

Now we need to add the links to the left navigation bar. Of course the links will not work because we have not created the pages to link to, but you will get the idea:

```

<table width="100%" border="1">
<td valign="top" width=120px"><!--Left Navigation-->

```

```

<p><a
href="http://www.nationalgeographic.com/animals/mammals/group/armadillos/">armadillos
</a> <br>
<a href="table5.html">Elephants</a><br>
<a href="hyenas.html">Hyenas</a><br>
<a href="giraffes.html">Giraffes</a><br>
<a href="gorillas.html">Gorillas</a><br>
<a href="lions.html">Lions</a><br>
</p>
</td>

```

If we want a navigation bar on the left side of our page and we want a particular image and color we can achieve this by applying the CSS style rule to the cell of the navigation bar only, like this:

```
<td style= "background-color:#339966" valign="top" width=120px"><!--Left Navigation-->
```

This will place a green color only on the navigation bar.

Now let's apply our picture in the same manner, ensure the picture comes before the color:

```
<td Style="background-image:url(fish.jpg); "background-color:#339966";
valign="top" width=120px"><!--Left Navigation-->
```

Now we need to change the color of the text so it stands out more against the picture. However, because the text are links, we need to use the CSS **Style** rules in the head section to apply color and font weight to the links in the webpage, like this:

```

<head>
<title> Table 4 </title>
<style>a:link {color: white}
a:hover {color:white; font-weight:bold}
a:visited {color:yellow}
</style>
</head>
<body>

```

This will turn the unvisited links (a:link) white, and the links that are hovered over (a:hover) a bold white, and the visited links (a:visited) yellow.

***NB:** these rules will apply to all links on the page, if you want to have different rules apply to different sections then you need to assign classes and IDs which is beyond the scope of this tutorial

(but you can get information on how to do this from the W3C schools website:

<https://www.w3schools.com/css/default.asp>)

Now lets put a background color behind the three top logo images. Because I created the `miniad.jpg` logo, I know the color used to create the background, so I used it as a background for the three top images, like this:

```
<!--Top Logo Bar-->
<table width="100%">
<tr><td style="background-color: #ffff66" border="0">
</td>
<td style="background-color: #ffff66" align="center">
</td>
<td style="background-color: #ffff66" align="right"></td>
</tr></table>
```

Perhaps you noticed the `border="0"`? I was trying to get rid of the white lines between the three images. There is a technique for doing this – you must set the `cellspacing`, `cellpadding`, and `border` to “0” inside the opening table tag, like this:

```
<!--Top Logo Bar-->
<table width="100%" cellspacing="0" cellpadding="0" border="0">
<tr><td style="background-color: #ffff66" border="0">
</td>
<td style="background-color: #ffff66" align="center">
</td>
<td style="background-color: #ffff66" align="right"></td>
</tr></table>
```

One thing left to show you, how to add a space at the bottom for copyright row (or a row of links). Sometimes this is easily achieved with spanning a cell across columns. This also useful if you wish to have a title or headline across several columns. The process is to

1. Type `<td colspan="n">` (where "n" equals the number of columns the cell should span).
2. Type the cell's contents
3. Type `</td>`

So if we want to have a spanned column at the bottom of our table we would type the following below all content, and the last closing `</tr>`:

```
... and popular culture.</p>
</td></tr>
<tr><td colspan="2" align="right">Copyright &copy; 2017 by Magnetic Hill Zoo
Inc.</td></tr>
</table>
</body>
</html>
```

Then we add the background:

```
<tr><td colspan="2" align="right" style="background-image:url(fish.jpg); "background-color:#339966";>Copyright &copy; 2017 by Magnetic Hill Zoo Inc.</td></tr>
```

And this page built in tables is complete.

HTML Table Tags

Tag	Description
<code><table></code>	Defines a table
<code><th></code>	Defines a header cell in a table
<code><tr></code>	Defines a row in a table
<code><td></code>	Defines a cell in a table
<code><caption></code>	Defines a table caption
<code><colgroup></code>	Specifies a group of one or more columns in a table for formatting
<code><col></code>	Specifies column properties for each column within a <code><colgroup></code> element
<code><thead></code>	Groups the header content in a table
<code><tbody></code>	Groups the body content in a table
<code><tfoot></code>	Groups the footer content in a table

Source: https://www.w3schools.com/html/html_tables.asp

Resources:

Castro, Elizabeth. *HTML, XHTML & CSS: visual quickstart guide*. Berkeley, CA: Peachpit Press, 2007. Print.

Elephant.txt: <https://en.wikipedia.org/wiki/Elephant>

<https://www.universalclass.com/articles/computers/creating-tables-with-html-5.htm>

<https://computerservices.temple.edu/creating-tables-html>

https://www.w3schools.com/html/html_tables.asp

<https://www.youtube.com/watch?v=fgSkI30R53A>

<http://www.html5-tutorials.org/tables/basics-of-tables/>

<https://css-tricks.com/complete-guide-table-element/>

<http://www.html-5-tutorial.com/table-tag.htm>

<https://developer.mozilla.org/en/docs/Web/HTML/Element/table>

http://www.htmliseasy.com/table_tutor/background.html

Pictures:

Elephant.jpg - <https://www.shutterstock.com/video/search/african-elephant#>

Fish.jpg - <https://wallpapersafari.com/wallpaper-fish-swimming-on-pc/>

Lion.jpg - <https://www.britannica.com/animal/lion>

Zoo.jpg - <http://www.lszooduluth.org/boo-zoo-countdown-kickoff/>