
About This Article

This article is part of a series of web pages on [Developing Web Pages for Teaching](#). They were originally developed by [Scott Van Bramer](#) for a faculty development workshop at [Widener University](#). They have been modified reorganized and expanded for the [CCCE Newsletter](#).

The first article in this series, [Developing Web Pages for Teaching, Part I - Introduction](#), discussed the basics of what a web page can do and what might be useful. The second article, [Developing Web Pages for Teaching, Part II - Creating Web Pages](#), talks about the details of how you actually create a web page and put it out there for the world to see. This article introduces the basics of tables, frames, images, javascript, and embedded items. The details will be different for your computer system, but there should be enough information here that you can at least talk to the technical experts at your school to get up and running. Good luck.

Tables

Tables are one of the most useful tools for controlling the layout of a web page. In a web page a table does not have to be a data table, instead it is a way to organize page layout. You can use it for traditional data tables, but it is much more flexible than this. Be warned, however, that the appearance of a table can vary dramatically depending upon the viewers browser and monitor settings. I caution you not to try and specify an exacting page layout that makes everything perfect on your computer. If you do, it will probably come out terribly on another. Give up some of the control and let the browser make some of the decisions. It may not look perfect, but it will usually be pretty good.

Basic Tags

1. Table Tag. This tag marks the beginning and the end of the table. This table is 60% the width of the browser window each cell will have a border (these specifications are optional).

```
<TABLE WIDTH=60% BORDER></TABLE>
```

2. Caption. This tag marks the beginning and end of a caption at the top of the table.

```
<CAPTION ALIGN=top>Table Caption</CAPTION>
```

3. Row. This tag marks the beginning and end of each row in the table.

```
<TR></TR>
```

4. Header. This tag is used for column or row headers. Text in the header is centered in the cell and displayed in a bold font.

```
<TH></TH>
```

5. Data. The data tag is used to mark the start and stop of each cell in the table. The data may be anything that can be displayed in a browser. Including text, images, and links.

```
<TD></TD>
```

Example

This table is created using the HTML shown below.

Table Caption

Top Col 1	Top Col 2	Top Col 3
data 1a	data 2a	data 3a
data 1b	data 2b	data 3b
data 1c	data 2c	data 3c

```
<TABLE WIDTH=60% ALIGN=center BORDER>
<CAPTION ALIGN=top>
Table Caption</CAPTION>
<TR>
<TH>Top Col 1</TH>
<TH>Top Col 2</TH>
<TH>Top Col 3</TH>
</TR>
<TR>
<TD>data 1a</TD>
<TD>data 2a</TD>
<TD>data 3a</TD>
</TR>
<TR>
<TD>data 1b</TD>
<TD>data 2b</TD>
<TD>data 3b</TD>
</TR>
<TR>
<TD>data 1c</TD>
<TD>data 2c</TD>
```

```
<TD>data 3c</TD>  
</TR>  
</TABLE>
```

Features

Useful Features for the Data Tag. Add these elements to a data tag as needed.

ALIGN= *setting* .

setting specifies how information is aligned within the cell. Options include left, right, center, justify. Default is left.

VALIGN= *setting*.

setting specifies the vertical alignment of information within a cell. Options include top, middle, bottom or baseline.

COLSPAN=#.

specifies how many columns the data cell spans. A data cell with COLSPAN=2 would be two columns wide.

ROWSPAN=#.

specifies how many rows the data cell spans. A data cell with ROWSPAN=2 would be two rows high..

WIDTH=#.

Specifies the width of the cell. This may be in pixels (ie: 150) or in percentages (ie: 20%). Pixels works well for images but the actual size of the cell will depend upon the resolution and size of the monitor. Percentages work well for text since the size will be proportional to the screen size.

BGCOLOR=*setting*

setting may be the name of a color or a hexadecimal number in the format rrggbb. Where rr specifies the amount of red, gg specifies the amount of green, and bb specifies the amount of blue. Selecting colors is a bit difficult and it is easiest to do with a program that generates the color codes.

Generating and editing tables

1. Netscape will generate tables. You specify the number of columns and rows. Then the outline of the table is generated and you can enter the data for each cell. You may add rows or columns easily and have good control over format and style for each cell, row, or column. Editing is much like editing a table in Word. Use the drop down menus or right click.
 2. HTML Editors usually include a table generator. You specify format features and enter data in a set of cells. Then the program generates all the table codes. Additional editing is done by hand. This may be a bit tedious, but it provides complete control. These can often input an ASCII delimited file to quickly build data tables.
 3. Word processors that export HTML are capable of generating tables. However, they do not provide much control of the layout. If you like the format they produce, they are very easy to use. In general they over specify the details of the table and produce HTML that only looks good on a specific browser and computer combination.
-

Additional Information

1. [HTML 4.1 Specifications, Tables](#). These are the standards for Tables based upon HTML 4.1. It details all the tags and variables that may be used. Other tags may be browser specific and may not display properly on all browsers.
 2. [Beginners Guide to HTML](#) This is a great place to start. Highly recommended reading for anyone starting to write HTML.
 3. [Composing Good HTML](#) This is a more advanced and detailed discussion about writing HTML documents. This is highly recommended for anyone who has started writing HTML and they are ready for some more detail and to find out what they are doing that is not so good.
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Frames

Frames are very useful for producing web pages that are easy to navigate. However, they are a bit complex to develop. With a set of templates, this is much easier. The basic layout is that you use a set of individual HTML documents to generate the frame set. The first HTML document specifies how the window will be divided (horizontal or vertical) and the number and size of each frame. This first document then specifies the name of the document to place in each frame. Frames may be nested and linked in a variety of ways to provide very useful navigation features. The best way to learn how this can be useful is to look at some frame sites. This is also a good way to learn how frames can cause problems.

Basic Tags.

- a. Base Target. This tag provides a default link to place new documents in the "top" window. Without this, you may accidentally create nested frames. This tag should be included in any HTML page used with frames.

```
<base target=_top>
```

- b. The following HTML generates a page with two horizontal frames. Top frame is 30% of area and displays file "header.html". Bottom frame is 70% and displays file "about.html".

```
<FRAMESET ROWS=30,70>  
<FRAME SRC="header.html" NAME=Top>  
<FRAME SRC="bottom.html" NAME=Bottom>  
</FRAMESET>
```

- c. The following HTML generate a page with two vertical frames. Left frame is 100 points wide, right frame fills remaining space.

```
<FRAMESET COLS=100,*>  
<FRAME SRC="left.html" NAME=left>  
<FRAME SRC="right.html" NAME=right>  
</FRAMESET>
```

- d. No Frames. These tags are for browsers that do not support frames. Any information between these tags is ignored by a frames capable browser. Use these to provide access to users without new browsers.

```
<NOFRAMES> </NOFRAMES>
```

Frames Templates

These HTML documents may be used as a templates to develop a set of frames. Copy and paste the HTML code from the table below into an HTML editor for use. You can click on the link to see how it works, and you can right click on the link to save the file.

1. Horizontal Frame Set

- i. [Main](#). This file sets up the frames.

```
<title>Template for a set of horizontal frames</title>

<!-- Sets default target for any link to the "_top"
window. Any link without a specified target will load into
the full window. This prevents accidental nesting of
frames -->

<base target=_top>

<FRAMESET ROWS=30,70>

<!-- Define the frameset. As rows dividing the available
space 30:70. Changing these numbers will change the
relative size of the frame. You may specify more than
two rows. -->

<!-- Defining the document to place in each of the
frames. The NAME, defines the name of the frame for
future reference. -->

<FRAME SRC="top.html" NAME=Top>

<FRAME SRC="bottom_1.html" NAME="Bottom">

</FRAMESET>

<!-- The NOFRAMES part of the document is ignored by
frames capable browsers. Browsers that can not view
frames will see any information in this tag. Use this to
provide access to users with old browsers. -->

<NOFRAMES>

This document is designed to view with a frames
capable browser. If you see this, you should seriously
consider upgrading your web browser. You may view
the individual frames using the links below.

<ul>

<li><A HREF="top.html">Link to top frame</A>
```

```

<li><A HREF="bottom.html">Link to bottom
frame</A>

</ul>

</NOFRAMES>

```

- ii. [Top](#). This file is placed in the top frame.

```

<title>Contents of Top Frame</title>

<base target=_top>

<H2 ALIGN=center>Contents of Top Frame</H2>

This HTML document may be designed like any other
HTML document. It is displayed in the top frame. It is
possible to update other frames using links to new
documents or to specific locations in the current
document. Like Bottom Document 1, spot <A
HREF="bottom_1.html#A" TARGET="Bottom">A</A>
or <A HREF="bottom_1.html#B"
TARGET="Bottom">B</A>. Or you can load a different
document in the bottom Like Document <A
HREF="bottom_2.html" TARGET="Bottom">Bottom
2</A>

```

- iii. [Bottom 1](#). This file is placed in the bottom frame.

```

<title>This is the HTML document for the bottom
frame</title>

<base target=_top>

<H3>This is the HTML document for the bottom
frame</H3>

This document may contain any HTML code. It is
displayed in the bottom frame.<P>

You may specify names for different locations in the
document.<P>

For example this is spot <A NAME="A">A</A>
<BR><BR><BR><BR><BR><BR>

```

```
<BR><BR><BR><BR><BR><BR>
<BR><BR><BR><BR><BR><BR>
<BR><BR><BR><BR><BR><BR>
<BR><BR><BR><BR><BR><BR>
<BR><BR><BR><BR>
```

This is part B (it is located further down the page)

- iv. [Bottom 2](#). This file may be placed in the bottom frame with the appropriate link from the top.

```
<title>This is the HTML document for the bottom
frame</title>
```

```
<base target=_top>
```

```
<H3>This is a different HTML document that is loaded
in the bottom frame</H3>
```

2. Vertical

- i. [Main](#)

```
<title>bottom frame</title>
```

```
<base target=_top>
```

```
<FRAMESET COLS=400,*>
```

```
<FRAME SRC="left.html" NAME=Left>
```

```
<FRAME SRC="right.html" NAME=Right>
```

```
</FRAMESET>
```

- ii. [Left](#)

```
<title>Contents</title>
```

```
<base target=_top>
```

This HTML document may be designed like any other HTML document. It is displayed in the left frame. It is possible to update other frames using links to new documents or to specific locations in the current document. Like Right document, spot A or B.

- iii. [Right](#)

```
<HTML>
<HEAD>
<TITLE>1</TITLE>
</HEAD>
<BODY>
This document is displayed in the right frame.
<BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR> <BR>
This is location <A NAME="A">A</A>
<BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR> <BR>
<BR> <BR> <BR> <BR> <BR> <BR> <BR> <BR>
<BR> <BR>
This is location <A NAME="B">B</A>
</BODY>
</HTML>
```

Additional Information

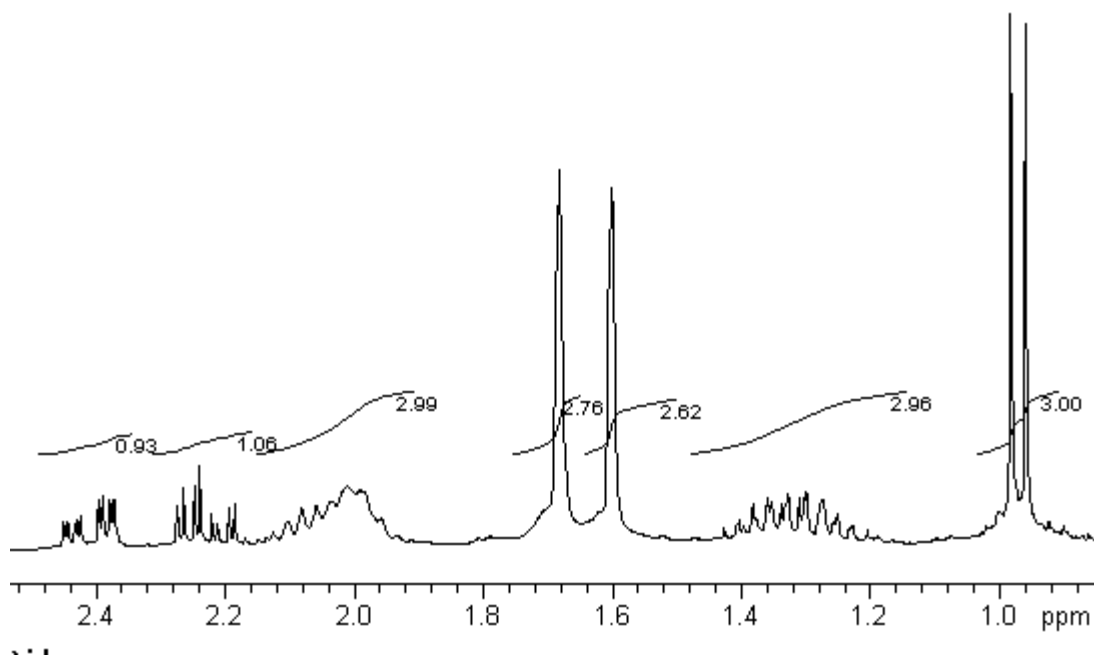
1. [Frames Tutorial](#) If you are really getting into this, learn about one of the latest HTML features and make really fancy pages. Note this is a Netscape extension that is not supported by all browsers. It has some significant advantages, but it is not easy and there are many pitfalls.
2. [HTML 4.1 Specifications, Frames](#). These are the standards for Tables based upon HTML 4.1. It details all the tags and variables that may be used. Other tags may be browser specific and may not display properly on all browsers.
3. Generating Frames. The easiest way to generate frames is by using a set of templates. To get frames to do what you want, you will probably need to edit some HTML code by hand.

Images

Basics of Images

There are several different ways that images may be used with web pages. Most browsers can view two different types of graphics files. The GIF (Graphical Image Format) file format works best for line art and small images. This file type preserves sharp lines and gets excellent compression when there are large

spaces with the same color. The gif image below is inserted with the following HTML code:



Notice that the HTML code specifies the width and height of the image. This allows the browser to format the rest of the web page while the image downloads. If the image size is not specified the browser must wait to render the rest of the document. The ALT command in the tag specifies text to displayed until the graphic downloads. It is also important for readers with limited vision who rely upon a text to voice program to hear a web page.

The JPEG (Joint Photographic Experts Group) file format works best for photographs and color images. Some resolution is lost for line art (lines are not as crisp) but file size for photographs is dramatically reduced. This compression works by using shades of color to reduce the file size.



Because images files can be large, spend some time editing the graphic so that it is as small as practical and use as much compression as you can. If you really need to use a high resolution image it is good form