

# Comprehensive Guide to Web Design 1.5

Compiled by: Black Hat, Inc.

Compiled Using W3Schools.com's web references and Tutorials

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**(x)HTML**

## Basic (x)HTML Walkthrough

A web page needs 5 things to be a “valid web page”.

- 4 Main Tags
- 1 Doctype

### 4 Tags

1. <html> - This tells a web browser that this item is a web page.
2. <head> - Contents of this tag allow heightened control of your site.
3. <title> - Nested in the <head> tag; names your web page.
4. <body> - what will actually be displayed to your web page's viewers.

For full validity, all tags must be nested, closed, and cased correctly. As a reminder, all tags should be lower case for full compatibility.

### 1 Doctype

The doctype declaration tells a web browser exactly how it should interpret the code of the page, a full listing of the current doctypes can be found after this walkthrough.

Reminder: A doctype is not a tag, and therefore, has no close tag. Also, the doctype precedes the <html> tag.

The most basic valid web page is as follows and is entirely blank when viewed.

Code:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/HTML4/loose.dtd">
<html>
<head>
<title></title>
</head>
<body>
</body>
</html>
```

Tag nesting is imperative, every tag has its place and should be no where, but there, if there at all.

To help keep the source (how you wrote your web page) more accessible to other developers, you can tab your nested tags.

i.e.

```
<html>
  <head>
    <title></title>
  </head>
  <body>
</body>
</html>
```

Once you have this basic layout, you can utilize the tags outlined in the tag list given in this guide to make your web page be as you want it. Keep in mind, certain tags cannot be used in certain doctypes. Make sure you define your doctype to match the tags you wish to use. I left the doctype out of the example above, but you should always declare a doctype in your web pages.

Reminder: if you write your web site all on one line, no web developer will even offer to help with debugging your page. Well organized pages make everyone's life better.

## Doctype Listing

### HTML 4.01

#### **Transitional-**

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/HTML4/loose.dtd">
```

#### **Strict-**

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN"
"http://www.w3.org/TR/HTML4/strict.dtd">
```

#### **Frameset-**

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset//EN"
"http://www.w3.org/TR/HTML4/frameset.dtd">
```

### XHTML 1.0

#### **Transitional-**

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/XHTML1/DTD/XHTML1-transitional.dtd">
```

#### **Strict-**

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/XHTML1/DTD/XHTML1-strict.dtd">
```

#### **Frameset-**

```
<!DOCTYPE (x)HTML PUBLIC "-//W3C//DTD XHTML 1.0 Frameset//EN"
"http://www.w3.org/TR/XHTML1/DTD/XHTML1-frameset.dtd">
```

### XHTML 1.1

#### **DTD-**

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/XHTML11/DTD/XHTML11.dtd">
```

**(x)HTML Tag List**

<b><u>Start Tag</u></b>	<b><u>Function</u></b>	<b><u>DTD</u></b>
<b><u>Basic Tags</u></b>		
<!DOCTYPE>	Defines the Document Type	STF
<html>	Defines an (x)HTML Document	STF
<body>	Defines the Body Element	STF
<h1> to <h6>	Defines header 1 to header 6	STF
<p>	Defines a paragraph	STF
 	Defines a Single Line Break	STF
<hr>	Defines a Horizontal Rule	STF
<!--...-->	Defines a Comment	STF
<b><u>Char Format</u></b>		
<b>	Defines Bold Text	STF
<font>	Defines text font, size, and color	TF
<i>	Defines Italicized Text	STF
<em>	Defines Emphasized Text	STF
<big>	Defines Big Text	STF
<strong>	Defines Strong Text	STF
<small>	Defines Small Text	STF
<sup>	Defines Superscripted Text	STF
<sub>	Defines Subscripted Text	STF
<bdo>	Defines the direction of text display	STF
<u>	Defines Underlined Text	TF
<b><u>Output</u></b>		
<pre>	Defines Preformatted Text	STF
<code>	Defines Computer Code text	STF
<tt>	Defines Teletype Text	STF
<kbd>	Defines Keyboard Text	STF

<var>	Defines a variable	STF
<dfn>	Defines a definition term	STF
<samp>	Defines Sample Computer Code	STF
<xmp>	Defines Preformatted Text	
<b><u>Blocks</u></b>		
<acronym>	Defines an Acronym	STF
<abbr>	Defines an Abbreviation	STF
<address>	Defines an Address Element	STF
<blockquote>	Defines a Long Quotation	STF
<center>	Defines Centered Text	TF
<q>	Defines a Short Quotation	STF
<cite>	Defines a Citation	STF
<ins>	Defines Inserted Text	STF
<del>	Defines Deleted Text	STF
<s>	Defines Strikethrough Text	TF
<strike>	Defines Strikethrough Text	TF
<b><u>Links</u></b>		
<a>	Defines an Anchor	STF
<link>	Defines a Resource Reference	STF
<b><u>Frames</u></b>		
<frame>	Defines a frame	F
<frameset>	Defines a set of frames	F
<noframes>	Defines a noframe section	TF
<iframe>	Defines an inline frame	TF
<b><u>Input</u></b>		
<form>	Defines a Form	STF
<input>	Defines an Input Area	STF
<textarea>	Defines a Text Area	STF

<button>	Defines a Push Button	STF
<select>	Defines a Selectable List	STF
<optgroup>	Defines an Option Group	STF
<option>	Defines an Item in a List Box	STF
<label>	Defines a Label for a Form Control	STF
<fieldset>	Defines a Fieldset	STF
<legend>	Defines a Title in a Fieldset	STF
<isindex>	Defines a Single-Line Input Field	TF
<b><u>Lists</u></b>		
<ul>	Defines an Unordered List	STF
<ol>	Defines an Ordered List	STF
<li>	Defines a List Item	STF
<dir>	Defines a Directory List	TF
<dl>	Defines a Definition List	STF
<dt>	Defines a Definition Term	STF
<dd>	Defines a Definition Description	STF
<menu>	Defines a Menu List	TF
<b><u>Images</u></b>		
<img>	Defines an Image	STF
<map>	Defines an Image Map	STF
<area>	Defines an area inside an Image Map	STF
<b><u>Tables</u></b>		
<table>	Defines a Table	STF
<caption>	Defines a Table Caption	STF
<th>	Defines a Table Header	STF
<tr>	Defines a Table Row	STF
<td>	Defines a Table Cell	STF
<thead>	Defines a Table Header	STF
<tbody>	Defines a Table Body	STF

<tfoot>	Defines a Table Footer	STF
<col>	Defines Attributes for Table Columns	STF
<colgroup>	Defines groups of Table Columns	STF
<b><u>Styles</u></b>		
<style>	Defines a Style Definition	STF
<div>	Defines a Section in a Document	STF
<span>	Defines a Section in a Document	STF
<b><u>Meta Info</u></b>		
<head>	Defines Information about the Document	STF
<title>	Defines the Document Title	STF
<meta>	Defines Meta Information	STF
<base>	Defines a Base URL for all the Links in a page	STF
<basefont>	Defines a Base Font	TF
<b><u>Programming</u></b>		
<script>	Defines a Script	STF
<noscript>	Defines a Noscript Section	STF
<applet>	Defines an Applet	TF
<object>	Defines an Embedded Object	STF
<param>	Defines a Parameter for an Object	STF

**(x)HTML Attributes**

<b><u>Attributes</u></b>	<b><u>Value</u></b>	<b><u>Description</u></b>
<b><u>Core Attributes</u></b>		
class	<i>class_rule</i> or <i>style_rule</i>	The Class of the Element
id	<i>id_name</i>	A Unique Id for the Element
style	<i>style_definition</i>	An Inline Style Definition
title	<i>tooltip_text</i>	A Text to Display in a Tool tip
<b><u>Language Attributes</u></b>		
dir	<i>ltr</i>   <i>rtl</i>	Sets the Text Direction
lang	<i>language_code</i>	Sets the Language Code
<b><u>Keyboard Attributes</u></b>		
accesskey	<i>character</i>	Sets a Keyboard Shortcut to access an Element
tabindex	<i>number</i>	Sets the Tab Order of an Element

**(x)HTML Events**

<u>Attribute</u>	<u>Value</u>	<u>Description</u>
<b><u>Window Events</u></b>		
OnLoad	<i>script</i>	Script to be run when a Document Loads
OnUnload	<i>script</i>	Script to be run when a Document Unloads
<b><u>Form Element Events</u></b>		
OnChange	<i>script</i>	Script to be run when the Element Changes
OnSubmit	<i>script</i>	Script to be run when the Form is Submitted
OnReset	<i>script</i>	Script to be run when the Form is Reset
OnSelect	<i>script</i>	Script to be run when the Form is Selected
OnBlur	<i>script</i>	Script to be run when the Element loses Focus
OnFocus	<i>script</i>	Script to be run when the Element gets Focus
<b><u>Keyboard Events</u></b>		
OnKeyDown	<i>script</i>	What to do when key is pressed
OnKeyPress	<i>script</i>	What to do when key is pressed an released
OnKeyUp	<i>script</i>	What to do when key is released
<b><u>Mouse Events</u></b>		
OnClick	<i>script</i>	What to do on a Mouse Click
OnDbClick	<i>script</i>	What to do on a Mouse Double Click
OnMouseDown	<i>script</i>	What to do when Mouse Button is Pressed
OnMouseMove	<i>script</i>	What to do when Mouse Pointer Moves
OnMouseOver	<i>script</i>	What to do when Mouse Pointer Moves over an Element
OnMouseOut	<i>script</i>	What to do when Mouse Pointer Moves out of an Element
OnMouseUp	<i>script</i>	What to do when Mouse Button is Released

## General (x)HTML Comments

HTML stands for (Extensible) HyperText Markup Language.

Version 4.01 of HTML and version 1.0 of XHTML are the standards for web programming.

The main difference between XHTML and HTML is that, XHTML is more strict. HTML has become abused, and now, many web programmers are writing extremely invalid pages. XHTML was created to help fix that problem. It encourages web programmers to write more valid and correctly written pages.

The most serious difference between HTML 4.01 Transitional and XHTML 1.0 Transitional is how you end unclosed tags. In HTML, you would leave tags like the `<link>` tag without an end tag. In XHTML, you must end the opening tag with a `</>`. For instance, a link tag would look like `<link />`. And for compatibility reasons, you should leave an extra space between the last attribute in a tag and the `</>`.

Another main difference are the tag sets. You will notice that in the tag list, some of the tags are highlighted red, and there is a column to the far right that says, "DTD". The red means that the tag has been deprecated, and has a replacement. This also means it is less likely to be included in XHTML. The DTD column lists the doctypes that the tag is included in in XHTML.

One more main difference is that the `<html>` tag has an attribute. This attribute is the `xmlns` attribute. This is obviously not in HTML, and must be included in XHTML for the page to be valid.

HTML web pages must be saved as a `.html`

XHTML web pages can be saved as either a `.html` or a `.xhtml`.

# CSS

## CSS Syntax

selector {property: value}

### **Group Selectors**

selector, selector, selector

```
{  
property: value  
}
```

### **Class Selector**

.class {property: value}

[In (x)HTML]

<Boolean class="X">

The value for the class attribute in (x)HTML must match the name after the "." in CSS

### **ID Selector**

#id {property: value}

[In (x)HTML]

<Boolean id="X">

The value for the id attribute in (x)HTML must match the name after the "#" in CSS

### **Group Properties**

selector {property: value; property: value}

### **Inline Styles**

<Boolean style="property: value; property: value">

The syntax is the same, only it is tag specific.

### **CSS Comments**

/\* Boolean \*/

## General CSS Comments

CSS stands for Cascading Style-Sheets.

CSS is used to help keep your (x)HTML tidy, by allowing you to not include presentational elements, and keep all of your stylistic changes in one place, while still allowing you to do element specific modifications.

While CSS is a little harder to understand than the presentation elements in HTML, it is more powerful and capable than any of them. This coupled with the fact that the workgroups for (x)HTML are taking out all presentational elements in future versions of (x)HTML are pushing both new and more experienced web programmers to use CSS.

One of the best ways to keep your web page clean cut and very accessible is to keep all of your styles either in the head of your page, or to store your styles entirely external and link to them in your site's head.

External CSS must be saved as a .css.

# AJAX / Javascript

## AJAX / Javascript Syntax

### **Basic Javascript Syntax**

```
<script type="text/javascript">  
AreaOfEffect.command("Boolean")  
</script>
```

### **Basic AJAX / Javascript Function**

```
<script type="text/javascript">  
function FunctionName ()  
{  
Command  
}  
</script>
```

[In (x)HTML]

```
<Boolean Event="FunctionName()" value="Call Function">
```

The Event is one of those listed as (x)HTML Events

### **External AJAX / Javascript Script**

```
<script src="script.js"></script>
```

If a script is not stored externally, then it must be in either the Head or the Body of the (x)HTML document.

## **AJAX / Javascript General Comments**

AJAX stands for Asynchronous Javascript ...

Both AJAX and Javascript are client-side scripting. This means that, based off of interactions with the web browser, or with the user, the web page instructs the browser to do certain tasks.

As a clarification, Javascript can be abbreviated as JS, and Javascript is not even close to the same thing as Java. Java is an actual environment programming language. JS is meant to make web pages more interactive and more feature-rich.

AJAX, as can be seen from its name is essentially just extremely complicated and extensive JS. It is used to make web pages extremely impressive and usable for users. While AJAX is not meant to replace Java, it is capable of doing many of the same things, and is quite a bit more light weight.

External JS files must be saved as a .js.

# PHP

## PHP Syntax

### **PHP code segments**

```
<?php  
?>
```

A shorthand version of this is allowed:

```
<?  
?>
```

While this is quicker, it is less compatible.

### **PHP Comments**

```
//Comment
```

```
/*  
Comment  
Block  
*/
```

Both types of comments must be within a Code segment.

### **PHP Functions**

PHP functions are called in the same way as AJAX / JS functions are.

### **PHP Commands**

PHP commands must be nested inside of of a code segment.

They are executed in the same way as AJAX / JS commands. However, they are different command sets. For instance, where JS uses the “DocumentWrite” command, PHP uses the “echo” command.

## PHP General Comments

PHP stands for **Ph**: **H**ypertext **P**rocessing.

And yes, I know that means the first letter isn't defined, but that is what it stands for.

PHP is server-side scripting. This means that, based off of client interactions with the page, the server will instruct the browser do certain things.

PHP files include all (x)HTML tags and capabilities, along with the added capability of PHP.

One thing that many website designers use PHP for is member logins and Members Only Areas. This is done because, if the member area is saved as a different web page, it could be accessed without correct login info, so PHP writes the entire member area on the page that you submit the login info on.

PHP files **CANNOT** be saved as a .html or .xhtml.

PHP files can either be saved as a .php or a .phtml.

## Credits

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Another thanks goes to Ian Weller. He was the one who really got me interested in web programming, helped me learn php, and allowed me to use his server to host my web page. He is not going to update his server anymore, so I will be moving from [darf.ianweller.org](http://darf.ianweller.org) to [networkofdoom.net](http://networkofdoom.net).

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