In This Chapter

- Insert a Script into a Page
- How to Handle Older Browsers
- noscript Tag
- Script Tags

Insert a Script into a Page

Add scripts to HTML pages to make them more dynamic and interactive. A script in HTML is defined with the `<script>` tag.

This example demonstrates how to insert a script into your HTML document. Note that you will have to use the `type` attribute to specify the scripting language. The following script produces the output shown in Figure 24.1.

```html
<html>
<body>
<script type="text/javascript">
document.write("Hello World!")
</script>
</body>
</html>
```

Figure 24.1

To learn more about scripting in HTML, read w3schools’ JavaScript tutorial at:

http://www.w3schools.com/js/
How to Handle Older Browsers

A browser that does not recognize the `<script>` tag at all will display the `<script>` tag's content as text on the page. To prevent the browser from doing this, you should hide the script in comment tags. An old browser (that does not recognize the `<script>` tag) will ignore the comment, and it will not write the tag's content on the page. On the other hand, a new browser will understand that the script should be executed, even if it is surrounded by comment tags.

JavaScript:
```html
<script type="text/javascript">
<!-
   document.write("Hello World!")
//-->
</script>
```

VBScript:
```html
<script type="text/vbscript">
<!-
   document.write("Hello World!")
'-->
</script>
```

The following example demonstrates how to prevent browsers that do not support scripting from displaying text unintentionally. The results appear in Figure 24.2.

```
<html>
<body>

<script type="text/javascript">
<!--
   document.write("If this is displayed, your browser supports scripting!")
//-->
</script>
<noscript>No JavaScript support!</noscript>

</body>
</html>
```

If this is displayed, your browser supports scripting!

Figure 24.2
noscript Tag

In addition to hiding the script inside a comment, you can also add a `<noscript>` tag.

The `<noscript>` tag is used to define an alternate text if a script is NOT executed. This tag is used for browsers that recognize the `<script>` tag, but do not support the script inside, so these browsers will display the text inside the `<noscript>` tag instead. However, if a browser supports the script inside the `<script>` tag it will ignore the `<noscript>` tag.

JavaScript:
```html
<script type="text/javascript">
<!--
document.write("Hello World!")
//-->
</script>
<noscript> Your browser does not support JavaScript! </noscript>
```

VBScript:
```html
<script type="text/vbscript">
<!-
document.write("Hello World!")
'-->
</script>
<noscript> Your browser does not support VBScript! </noscript>
```

**Script Tags**

<table>
<thead>
<tr>
<th>TAG</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;script&gt;</code></td>
<td>Defines a script</td>
</tr>
<tr>
<td><code>&lt;noscript&gt;</code></td>
<td>Defines an alternate text if the script is not executed</td>
</tr>
<tr>
<td><code>&lt;object&gt;</code></td>
<td>Defines an embedded object</td>
</tr>
<tr>
<td><code>&lt;param&gt;</code></td>
<td>Defines runtime settings (parameters) for an object</td>
</tr>
<tr>
<td><code>&lt;applet&gt;</code></td>
<td>Deprecated. Use <code>&lt;object&gt;</code> instead</td>
</tr>
</tbody>
</table>
HTML STANDARD ATTRIBUTES

In This Chapter

- Core Attributes
- Language Attributes
- Keyboard Attributes

HTML tags can have attributes. The special attributes for each tag are listed under each tag description. The attributes listed here are the core and language attributes that are standard for all tags (with a few exceptions).

Core Attributes

Not valid in base, head, html, meta, param, script, style, and title elements.

<table>
<thead>
<tr>
<th>ATTRIBUTE</th>
<th>VALUE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td>class_rule or style_rule</td>
<td>The class of the element</td>
</tr>
<tr>
<td>id</td>
<td>id_name</td>
<td>A unique id for the element</td>
</tr>
<tr>
<td>style</td>
<td>style_definition</td>
<td>An inline style definition</td>
</tr>
<tr>
<td>title</td>
<td>tooltip_text</td>
<td>A text to display in a tool tip</td>
</tr>
</tbody>
</table>

Language Attributes

Not valid in base, br, frame, frameset, hr, iframe, param, and script elements.

<table>
<thead>
<tr>
<th>ATTRIBUTE</th>
<th>VALUE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>dir</td>
<td>ltr</td>
<td>rtl</td>
</tr>
<tr>
<td>lang</td>
<td>language_code</td>
<td>Sets the language code</td>
</tr>
</tbody>
</table>
Keyboard Attributes

<table>
<thead>
<tr>
<th>ATTRIBUTE</th>
<th>VALUE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>accesskey</td>
<td>character</td>
<td>Sets a keyboard shortcut to access an element</td>
</tr>
<tr>
<td>tabindex</td>
<td>number</td>
<td>Sets the tab order of an element</td>
</tr>
</tbody>
</table>
In This Chapter

- Window Events
- Form Element Events
- Keyboard Events
- Mouse Events

New to HTML 4.0 is the ability to let HTML events trigger actions in the browser, like starting a JavaScript when a user clicks on an HTML element. The following tables list attributes that can be inserted into HTML tags to define event actions.

If you want to learn more about programming with these events, you should study w3schools’ tutorials on JavaScript and DHTML:

JavaScript: http://www.w3schools.com/js
DHTML: http://www.w3schools.com/dhtml

Window Events

These attributes are valid only in body and frameset elements.

<table>
<thead>
<tr>
<th>ATTRIBUTE</th>
<th>VALUE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>onload</td>
<td>script</td>
<td>Script to be run when a document loads</td>
</tr>
<tr>
<td>onunload</td>
<td>script</td>
<td>Script to be run when a document unloads</td>
</tr>
</tbody>
</table>
Form Element Events

These attributes are valid only in form elements.

<table>
<thead>
<tr>
<th>ATTRIBUTE</th>
<th>VALUE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>onchange</td>
<td>script</td>
<td>Script to be run when the element changes</td>
</tr>
<tr>
<td>onsubmit</td>
<td>script</td>
<td>Script to be run when the form is submitted</td>
</tr>
<tr>
<td>onreset</td>
<td>script</td>
<td>Script to be run when the form is reset</td>
</tr>
<tr>
<td>onselect</td>
<td>script</td>
<td>Script to be run when the element is selected</td>
</tr>
<tr>
<td>onblur</td>
<td>script</td>
<td>Script to be run when the element loses focus</td>
</tr>
<tr>
<td>onfocus</td>
<td>script</td>
<td>Script to be run when the element gets focus</td>
</tr>
</tbody>
</table>

Keyboard Events

These attributes are not valid in base, bdo, br, frame, frameset, head, html, iframe, meta, param, script, style, and title elements.

<table>
<thead>
<tr>
<th>ATTRIBUTE</th>
<th>VALUE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>onkeydown</td>
<td>script</td>
<td>What to do when key is pressed</td>
</tr>
<tr>
<td>onkeypress</td>
<td>script</td>
<td>What to do when key is pressed and released</td>
</tr>
<tr>
<td>onkeyup</td>
<td>script</td>
<td>What to do when key is released</td>
</tr>
</tbody>
</table>

Mouse Events

These attributes are not valid in base, bdo, br, frame, frameset, head, html, iframe, meta, param, script, style, and title elements.

<table>
<thead>
<tr>
<th>ATTRIBUTE</th>
<th>VALUE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>onclick</td>
<td>script</td>
<td>What to do on a mouse click</td>
</tr>
<tr>
<td>ondblclick</td>
<td>script</td>
<td>What to do on a mouse double-click</td>
</tr>
<tr>
<td>onmousedown</td>
<td>script</td>
<td>What to do when mouse button is pressed</td>
</tr>
<tr>
<td>onmousemove</td>
<td>script</td>
<td>What to do when mouse pointer moves</td>
</tr>
<tr>
<td>onmouseout</td>
<td>script</td>
<td>What to do when mouse pointer moves out of an element</td>
</tr>
<tr>
<td>onmouseover</td>
<td>script</td>
<td>What to do when mouse pointer moves over an element</td>
</tr>
<tr>
<td>onmouseup</td>
<td>script</td>
<td>What to do when mouse button is released</td>
</tr>
</tbody>
</table>
In This Chapter

- URL Encoding
- Common URL Encoding Characters

URL Encoding

URL encoding converts characters into a format that can be safely transmitted over the Internet.

As you learned in Chapter 23, "HTML Uniform Resource Locators," Web browsers request pages from Web servers by using a URL. The URL is the address of a Web page like http://www.w3schools.com.

URLs can only be sent over the Internet using the ASCII character set. ASCII is a 7-bit character set containing 128 characters. It contains the numbers from 0-9, the uppercase and lowercase English letters from A to Z, and some special characters.

Because URLs often contain characters outside the ASCII set, the URL has to be converted. URL encoding converts the URL into a valid ASCII format. It replaces unsafe ASCII characters with "%" followed by two hexadecimal digits corresponding to the character values in the ISO-8859-1 character set. ISO-8859-1 is the default character set in most browsers.

The first 128 characters of ISO-8859-1 are the original ASCII character set (the numbers from 0-9, the uppercase and lowercase English alphabet, and some special characters). The higher part of ISO-8859-1 (codes from 160-255) contains the characters used in Western European countries and some commonly used special characters.


See Appendix H, "HTML Symbol Entities Reference" for the complete ISO-8859-1 character set.
Learn HTML and CSS with w3schools

URLs cannot contain spaces. URL encoding normally replaces a space with a + sign.

Common URL Encoding Characters

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>URL ENCODING</th>
</tr>
</thead>
<tbody>
<tr>
<td>€</td>
<td>%80</td>
</tr>
<tr>
<td>£</td>
<td>%A3</td>
</tr>
<tr>
<td>©</td>
<td>%A9</td>
</tr>
<tr>
<td>®</td>
<td>%AE</td>
</tr>
<tr>
<td>À</td>
<td>%C0</td>
</tr>
<tr>
<td>Á</td>
<td>%C1</td>
</tr>
<tr>
<td>Â</td>
<td>%C2</td>
</tr>
<tr>
<td>Æ</td>
<td>%C3</td>
</tr>
<tr>
<td>Å</td>
<td>%C4</td>
</tr>
<tr>
<td>Ä</td>
<td>%C5</td>
</tr>
<tr>
<td>space</td>
<td>%20</td>
</tr>
</tbody>
</table>

See the w3schools’ HTML Language Code Reference for the complete URL Encoding reference.
In This Chapter

❑ Your Windows PC as a Web Server
❑ Installing IIS on Windows Vista and Windows 7
❑ Installing IIS on Windows XP and Windows 2000
❑ Testing Your Web
❑ Your Next Step: A Professional Web Server

Your Windows PC as a Web Server

If you want other people to view your pages, you must publish them. To publish your work, you must save your pages on a Web server.

Your own PC can act as a Web server if you install Internet Information Server (IIS) or Personal Web Server (PWS). IIS or PWS turns your computer into a Web server. Microsoft IIS and PWS are free Web server components.

NOTE  Mac OS X users can also run their own local web server simply by checking the "Web Sharing" option in the Systems Sharing preference and then sticking their .html/.css/.Web files in their "Sites" folder. See: http://docs.info.apple.com/article.html?path=Mac/10.6/en/8236.html

Internet Information Server (IIS)

IIS is a set of Internet-based services for servers created by Microsoft for use with Microsoft Windows. IIS comes with Windows 2000, XP, Vista, and 7. It is also available for Windows NT.

IIS is easy to install and ideal for developing and testing Web applications. IIS includes Active Server Pages (ASP), a server-side scripting standard that can be used to create dynamic and interactive Web applications.
Learn HTML and CSS with w3schools

If you want to know more about ASP, see the w3schools ASP tutorial:

http://www.w3schools.com/asp

**Personal Web Server (PWS)**

PWS is for older Windows systems like Windows 95, 98, and NT. PWS is easy to install and can be used for developing and testing Web applications including ASP.

**NOTE**

We don’t recommend running PWS for anything other than training. It is outdated and has security issues.

**Windows Web Server Versions**

Not all versions of Windows support IIS and/or PWS, but most do. Here’s a relatively complete list.

- Windows 7 Home, Professional, Enterprise, and Ultimate come with IIS 7.5
- Windows Vista Business, Enterprise and Ultimate come with IIS 7
- Windows Vista Home Premium comes with IIS 7
- Windows Vista Home Edition does not support PWS or IIS
- Windows XP Professional comes with IIS 5.1
- Windows XP Home Edition does not support IIS or PWS
- Windows 2000 Professional comes with IIS 5.0
- Windows NT Professional comes with IIS 3 and also supports IIS 4
- Windows NT Workstation supports PWS and IIS 3
- Windows Me does not support PWS or IIS
- Windows 98 comes with PWS
- Windows 95 supports PWS

**Installing IIS on Windows Vista and Windows 7**

Follow these steps to install IIS on Windows Vista or 7:

1. Open the Control Panel from the Start menu.
2. Double-click Programs and Features.
3. Click “Turn Windows features on or off” (a link to the left).
4. Select the check box for Internet Information Services (IIS), and click OK.
After you install IIS, be sure to run Microsoft Update to install all patches for bugs and security problems. Test your Web, as explained later in this chapter.

**Installing IIS on Windows XP and Windows 2000**

Follow these steps to install IIS on Windows XP and Windows 2000:

1. On the Start menu, click Settings and select Control Panel.
2. Double-click Add or Remove Programs.
3. Click Add/Remove Windows Components.
4. Click Internet Information Services (IIS).
5. Click Details.
6. Select the check box for World Wide Web Service, and click OK.
7. In Windows Component selection, click Next to install IIS.

After you install IIS, be sure to run Microsoft Update to install all patches for bugs and security problems. Test your Web, as described next.

**Testing Your Web**

After you install IIS or PWS, follow these steps:

1. Look for a new folder called Inetpub on your hard drive.
2. Open the Inetpub folder, and find a folder named wwwroot.
3. Create a new folder under wwwroot and name it something like “MyWeb.”
4. Write some ASP code and save the file as test1.asp in the new folder.
5. Make sure your Web server is running.
6. Open your browser and type “http://localhost/MyWeb/test1.asp” to view your first Web page.

**NOTE**

Look for the IIS (or PWS) symbol in your Start menu or taskbar. The program has functions for starting and stopping the Web server, disabling and enabling ASP, and much more.
Installing PWS on Windows 95, 98, and Windows NT

Follow these steps to install PWS on Windows 95, 98, and Windows NT:

- **Windows 98.** Open the Add-ons folder on your Windows CD, find the PWS folder and double-click runsetup.exe to install PWS.
- **Windows 95 or Windows NT.** Download Windows NT 4.0 Option Pack from Microsoft, and install PWS.

Test your Web as described earlier.

Your Next Step: A Professional Web Server

If you do not want to use PWS or IIS, you must upload your files to a public server. Most Internet service providers (ISPs) will offer to host your Web pages. If your employer has an Internet server, you can ask him to host your Web site.

If you are really serious about this, you should install your own Internet server. Before you select an ISP, be sure you read w3schools Web Hosting Tutorial at:

http://www.w3schools.com/hosting
You Have Learned HTML, Now What?

This tutorial has taught you how to use HTML to create your own Web site.

HTML is the universal markup language for the Web. HTML lets you format text, add graphics, create links, input forms, frames, and tables, and so on, and save it all in a text file that any browser can read and display.

The key to HTML is the tags, which indicate what content is coming up.

For more information on HTML, the w3schools.com Web site offers two helpful tools you can study:

- HTML Examples: http://www.w3schools.com/html/html_examples.asp
- HTML Reference: http://www.w3schools.com/tags

What’s Next?

The next step is to learn CSS.

CSS

CSS is used to control the style and layout of multiple Web pages all at once. With CSS, all formatting can be removed from the HTML document and stored in a separate file. CSS gives you total control of the layout, without messing up the document content.

You can learn more about styles and CSS in the companion book Learn CSS and HTML with w3schools, or by visiting http://www.w3schools.com/css.