Extending
ADOBE® DREAMWEAVER® CS4

Adobe

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Extending Adobe® Dreamweaver® CS4 for Windows® and Mac OS

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Chapter 1: Introduction

The *Extending Dreamweaver CS4* guide describes the Adobe® Dreamweaver® CS4 framework and application programming interface (API) that lets you build extensions to Dreamweaver. The *Extending Dreamweaver CS4* guide provides information about:

- How each type of extension works
- The API functions that Dreamweaver calls to implement the various objects
- Menus, floating panels, server behaviors, and so on, that make up the features of Dreamweaver
- A simple example of each type of extension
- How to customize Dreamweaver by editing tags in various HTML and XML files to add commands or document types

For information on the Utility and general-purpose JavaScript™ APIs that you can use to perform various support operations in your Dreamweaver extensions, see the *Dreamweaver API Reference*. If you plan to create extensions that work with databases, review the topics in *Using Dreamweaver* about making connections to databases.

About extensions

Most Dreamweaver extensions are written in HTML and JavaScript. This guide assumes that you are familiar with Dreamweaver, HTML, XML, and JavaScript programming. If you are implementing C extensions, the guide assumes that you know how to create and use C dynamic link libraries (DLLs). If you are writing extensions for building web applications, you should also be familiar with server-side scripting on at least one platform, such as Active Server Pages (ASP), ASP.NET, PHP: Hypertext Preprocessor (PHP), Adobe® ColdFusion®, or JavaServer Pages (JSP).

Install an extension

To become familiar with the process of writing extensions, you might want to explore the extensions and resources that are available on the Adobe Exchange website at http://www.adobe.com/go/exchange. Installing an existing extension introduces you to some of the tools that you need to work with in your own extensions.

1. Download and install the Adobe® Extension Manager, which is available on the Adobe Downloads website at http://www.adobe.com/go/downloads.
2. Log on to the Adobe Exchange website at http://www.adobe.com/go/exchange.
3. From the available extensions, select one that you want to use. Click the Download link to download the extension package.
4. Save the extension package in the Dreamweaver/Downloaded Extensions folder of your installed Dreamweaver folder.
5. In the Extension Manager, select File > Install Extension. In Dreamweaver, select Commands > Manage Extensions to start the Extension Manager.

The Extension Manager automatically installs the extension from the Downloaded Extensions folder into Dreamweaver.

Some extensions need Dreamweaver to restart before you can use them. If you are running Dreamweaver when you install the extension, you might be prompted to quit and restart the application.

To view basic information on the extension after its installation, go to the Extension Manager (Commands > Manage Extensions) in Dreamweaver.

Creating an extension

Before you create a Dreamweaver extension, go to the Adobe Exchange website at http://www.adobe.com/go/exchange to see if the extension you plan to create already exists. If you do not find an extension that meets your needs, you then perform the following steps to create the extension:

- Determine the type of extension you want to create. For more information about the extension types, see "Types of Dreamweaver extensions" on page 75.
- Review the documentation for the type of extension you plan to create. To become familiar with creating that type of extension, it's a good idea to create the simple extension example in the appropriate topic.
- Determine which files you need to modify or create.
- Plan the user interface (UI), if any, for the extension.
- Create the necessary files and save them in the appropriate folders.
- Restart Dreamweaver so that it recognizes the new extension.
- Test the extension.
- Package the extension so that you can share it with others. For more information, see "Working with the Extension Manager" on page 81.

Additional resources for extension writers

To communicate with other developers who are involved in writing extensions, join the Dreamweaver extensibility newsgroup. You can access the Adobe website for this newsgroup at http://www.adobe.com/cfusion/webforums/forum/categories.cfm?forumid=12&catid=190&entercat=y.

New features in Dreamweaver CS4

Dreamweaver CS4 includes the following new features and interfaces that are extensible.

- Viewing and editing web pages using related files
- Viewing web pages as rendered in a web browser using Live view feature
- Viewing code and design of the HTML pages side-by-side using Vertical Split view feature
- Viewing error messages without disrupting workflow
- Updating the source images without opening Adobe Photoshop, using Photoshop Smart Objects

Each of these features has new related functions that have been added to the Utility API and the JavaScript API. For information on the new functions, see the *Dreamweaver API Reference.*

Documentation Resource Center

Improve your Dreamweaver skills with books from Adobe. Check out the latest content written by the experts at http://www.adobe.com/support/documentation/buy_books.html.

Deprecated functions

In Dreamweaver, several functions have been deprecated. For information on the functions that have been removed from the Utility and JavaScript APIs, see the *Dreamweaver API Reference.*

Conventions used in this guide

The following typographical conventions are used in this guide:

- `Code` font indicates code fragments and API literals, including class names, method names, function names, type names, scripts, SQL statements, and both HTML and XML tag and attribute names.
- *`Italic code`* font indicates replaceable items in code.
- The continuation symbol (¬) indicates that a long line of code has been broken across two or more lines. Due to margin limits in this guide's format, what is otherwise a continuous line of code must be split. When copying the lines of code, eliminate the continuation symbol, and type the lines as one line.
- Curly braces ({ }) that surround a function argument indicate that the argument is optional.
- Function names that have the prefix `dreamweaver.` (as in `dreamweaver.`*`funcname`*) can be abbreviated to `dw.`*`funcname`* when you are writing code. This manual uses the full `dreamweaver.` prefix when defining the function and in the index. Many examples use the shorter `dw.` prefix, however.

  The following naming conventions are used in this guide:

- You—The developer who is responsible for writing extensions
- The user—The person using Dreamweaver
- The visitor—The person who views the web page that the user created

Chapter 2: Customizing Dreamweaver

In addition to creating and using Adobe Dreamweaver extensions, you can customize Dreamweaver in many ways, which lets you work in a manner that's familiar, comfortable, and efficient for you.

Ways to customize Dreamweaver

You can customize Dreamweaver through several general approaches. Some of these approaches are covered in *Using Dreamweaver*. You can set preferences in a variety of areas. It includes accessibility, code coloring, fonts, highlighting, and previewing in browsers, using the Preferences panel (Edit > Preferences, or Dreamweaver > Preferences (Mac OS X)). You can also change keyboard shortcuts using the Keyboard Shortcut Editor (Edit > Keyboard Shortcuts) or by editing a configuration file.

Customizing default documents

The DocumentTypes/NewDocuments folder contains a default (blank) document of each type that you can create using Dreamweaver. When you create a new blank document by selecting File > New and selecting an item from the Basic Page, Dynamic Page, or Other categories, Dreamweaver bases the new document on the appropriate default document in this folder. To change what appears in a default document of a given type, edit the appropriate document in this folder.

Note: *If you want all the pages in your site to contain common elements (such as a copyright notice) or a common layout, it's better to use templates and library items than to change the default documents. For more information about templates and library items, see Using Dreamweaver.*

Customizing page designs

Dreamweaver provides a variety of predesigned Cascading Style Sheets, framesets, and page designs. You can create pages based on these designs by selecting File > New.

To customize the available designs, edit the files in BuiltIn/css, BuiltIn/framesets, BuiltIn/Templates, and BuiltIn/TemplatesAccessible folders.

Note: *The designs listed in the Page Designs and Page Designs (Accessible) categories are Dreamweaver template files; for more information on templates, see Using Dreamweaver.*

You can also create custom page designs by adding files to the subfolders of the BuiltIn folder. To make a description of the file appear in the New Document dialog box, create a Design Notes file (in the appropriate _notes folder) that corresponds to the page design file.

Customizing the appearance of dialog boxes

The dialog box layouts for objects, commands, and behaviors are specified as HTML forms; they reside in HTML files in the Configuration folder within the Dreamweaver application folder. You edit these forms as you would edit any form in Dreamweaver. For more information, see *Using Dreamweaver*.

Note: *In a multiuser operating system, you should edit copies of configuration files in your user Configuration folder rather than editing Dreamweaver configuration files. For more information, see* *"Multiuser Configuration folders" on page 78.*

Change the appearance of a dialog box

1 In Dreamweaver, select Edit > Preferences, and then select the Code Rewriting category.

2 Deselect the Rename Form Items When Pasting option.

   Deselecting this option ensures that form items retain their original names when you copy and paste them.

3 Click OK to close the Preferences dialog box.

4 On your hard disk, find the appropriate HTM file in the Configuration/Objects, Configuration/Commands, or Configuration/Behaviors folder.

5 Make a copy of the file somewhere other than the Configuration folder.

6 Open the copy in Dreamweaver, edit the form, and save it.

7 Quit Dreamweaver.

8 Copy the changed file back to the Configuration folder in place of the original. (It's a good idea to first make a backup of the original, so you can restore it later if needed.)

9 Restart Dreamweaver to see the changes.

You should change only the appearance of the dialog box, not how it works; it must still contain the same types of form elements with the same names, so that the information Dreamweaver obtains from the dialog box can still be used in the same way.

For example, the Comment object takes text input from a text area in a dialog box and uses a simple JavaScript function to turn that text into an HTML comment and insert the comment into your document. The form that describes the dialog box is in the Comment.htm file in the Configuration/Objects/Invisibles folder. You can open that file and change the size and other attributes of the text area, but if you remove the `textarea` tag entirely, or change the value of its name attribute, the Comment object does not work properly.

Changing the default file type

By default, Dreamweaver shows all the file types it recognizes in the File > Open dialog box. You can use a pop-up menu in that dialog box to limit the display to certain types of files. If most of your work involves a specific file type (such as ASP files), you can change the default display. The file type listed on the first line of the Dreamweaver Extensions.txt file becomes the default.

Note: *If you want to see all file types in the File > Open dialog box (even the files Dreamweaver cannot open), select All Files (*.*). It is different from All Documents, which shows only the files Dreamweaver can open.*

Change the Dreamweaver default File > Open file type

1 Make a backup copy of the Extensions.txt file in the Configuration folder.

2 Open Extensions.txt in a text editor.

3 Cut the line corresponding to the new default. Then paste it at the beginning of the file so that it becomes the first line of the file.

4 Save the file.

5 Restart Dreamweaver.

To see the new default, select File > Open, and look at the pop-up menu of file types.

Add new file types to the menu in the File > Open dialog box

1 Make a backup copy of the Extensions.txt file in the Configuration folder.

2 Open Extensions.txt in a text editor.

3 Add a new line for each new file type. In capital letters, enter the filename extensions that the new file type can have, separated by commas. Then add a colon and a brief description to show in the pop-up menu for file types that appear in the File > Open dialog box.

   For example, for JPEG files, enter the following: `JPG,JPEG,JFIF:JPEG Image Files`

4 Save the file.

5 Restart Dreamweaver.

To see the changes, select File > Open, and click the pop-up menu of file types.

Customizing the interpretation of third-party tags

Server-side technologies such as ASP, Adobe ColdFusion, JSP, and PHP use special non-HTML code in HTML files; servers create and serve HTML content based on that code. When Dreamweaver encounters non-HTML tags, it compares them with information in its third-party tag files, which define how Dreamweaver reads and displays non-HTML tags.

For example, in addition to regular HTML, ASP files contain ASP code for the server to interpret. ASP code looks almost like an HTML tag, but is marked by a pair of delimiters: it begins with `<%` and ends with `%>`. The Dreamweaver Configuration/ThirdPartyTags folder contains a file named Tags.xml, which describes the format of various third-party tags, including ASP code, and defines how Dreamweaver displays that code. Because of the way ASP code is specified in Tags.xml, Dreamweaver does not try to interpret anything between the delimiters; instead, in Design view, it displays an icon that indicates ASP code. Your own tag database files can define how Dreamweaver reads and displays your tags. Create a new tag database file for each set of tags, to tell Dreamweaver how to display the tags.

Note: *This section explains how to define the way Dreamweaver displays a custom tag, but doesn't describe how to provide a way to edit the content or properties of a custom tag. For information on how to create a Property inspector to inspect and change the properties of a custom tag, see "Property inspectors" on page 214.*

Each tag database file defines the name, type, content model, rendering scheme, and icon for one or more custom tags. You can create any number of tag database files, but all of them must reside in the Configuration/ThirdPartyTags folder to be read and processed by Dreamweaver. Tag database files have the .xml file extension.

If you are working on several unrelated sites at once (for example, as a freelance developer), you can put all the tag specifications for a particular site in one file. Then, include that tag database file with the custom icons and Property inspectors that you hand over to the people who will maintain the site.

You define a tag specification with an XML tag called `tagspec`. For example, the following code describes the specification for a tag named `happy`:

```
<tagspec tag_name="happy" tag_type="nonempty" render_contents="false" content_model=
"marker_model" icon="happy.gif" icon_width="18" icon_height="18"></tagspec>
```

You can define two kinds of tags using `tagspec`:

- Normal HTML-style tags

  The `happy` tag example is a normal HTML-style tag. It starts with an opening `<happy>` tag, contains data between opening and closing tags, and ends with a closing `</happy>` tag.

- String-delimited tags

String-delimited tags start with one string and end with another string. They are like empty HTML tags (such as `img`) in that they don't surround content and don't have closing tags. If the `happy` tag were a string-delimited tag, the tag specification would include the `start_string` and `end_string` attributes. An ASP tag is a string-delimited tag; it starts with the string `<%` and ends with the string `%>`, and it has no closing tag.

The following information describes the attributes and valid values for the `tagspec` tag. Attributes marked with an asterisk (*) are ignored for string-delimited tags. Optional attributes are marked in the attribute lists with curly braces (`{}`); all attributes not marked with curly braces are required.

<tagspec>

Description

Provides information about a third-party tag.

Attributes

```
tag_name, {tag_type}, {render_contents}, {content_model}, {start_string}, {end_string},
{detect_in_attribute}, {parse_attributes}, icon, icon_width, icon_height, {equivalent_tag},
{is_visual}, {server_model}
```

- `tag_name` is the name of the custom tag. For string-delimited tags, `tag_name` is used only to determine whether a given Property inspector can be used for the tag. If the first line of the Property inspector contains this tag name with an asterisk on each side, the inspector can be used for tags of this type. For example, the tag name for ASP code is `ASP`. Property inspectors that can examine ASP code should have `*ASP*` on the first line. For information on the Property inspector API, see "Property inspectors" on page 214.
- `tag_type` determines whether the tag is empty (as the `img` tag is), or whether it contains anything between its opening and closing tags (as the `code` tag does). This attribute is required for normal (nonstring-delimited) tags. It's ignored for string-delimited tags because they're always empty. Valid values are `"empty"` and `"nonempty"`.
- `render_contents` determines whether the contents of the tag should appear in the Design view or whether the specified icon should appear instead. This attribute is required for nonempty tags and is ignored for empty tags. (Empty tags have no content.) This attribute applies only to tags that appear outside attributes. The contents of tags that appear inside the values of attributes of other tags are not rendered. Valid values are `"true"` and `"false"`.
- `content_model` describes what kinds of content the tag can contain and where in an HTML file the tag can appear. Valid values are `"block_model"`, `"head_model"`, `"marker_model"`, and `"script_model"`.
  - `block_model` specifies that the tag can contain block-level elements such as `div` and `p`, and that the tag can appear only in the body section or inside other body-content tags such as `div`, `layer`, or `td`.
  - `head_model` specifies that the tag can contain text content and that it can appear only in the head section.
  - `marker_model` specifies that the tag can contain any valid HTML code, and that it can appear anywhere in an HTML file. The HTML validator in Dreamweaver ignores tags that are specified as `marker_model`. However, the validator doesn't ignore the contents of such a tag; so even though the tag itself can appear anywhere, the contents of the tag may result in invalid HTML in certain places. For example, plain text cannot appear (outside a valid head element) in the head section of a document, so you can't place a `marker_model` tag that contains plain text in the head section. (To place a custom tag containing plain text in the head section, specify the tag's content model as `head_model` instead of `marker_model`.) Use `marker_model` for tags that should be displayed inline (inside a block-level element such as `p` or `div`—for example, inside a paragraph). If the tag should be displayed as a paragraph of its own, with line breaks before and after it, don't use this model.
  - script_model lets the tag exist anywhere between the opening and closing HTML tags of a document. When Dreamweaver encounters a tag with this model, it ignores all of the tag's content. Use this tag for markup (such as certain ColdFusion tags) that Dreamweaver shouldn't parse.

- `start_string` specifies a delimiter that marks the beginning of a string-delimited tag. String-delimited tags can appear anywhere in the document where a comment can appear. Dreamweaver does not parse tags or decode entities or URLs between `start_string` and `end_string`. This attribute is required if `end_string` is specified.
- `end_string` specifies a delimiter that marks the end of a string-delimited tag. This attribute is required if `start_string` is specified.
- `detect_in_attribute` indicates whether to ignore everything between `start_string` and `end_string` (or between opening and closing tags if those strings are not defined) even when those strings appear inside attribute names or values. You should generally set this to `"true"` for string-delimited tags. The default is `"false"`. For example, ASP tags sometimes appear inside attribute values, and sometimes contain quotation marks (`"`). Because the ASP tag specification specifies `detect_in_attribute="true"`, Dreamweaver ignores the ASP tags, including the internal quotation marks, when they appear inside attribute values.
- `parse_attributes` indicates whether to parse the attributes of the tag. If this is set to `"true"` (the default), Dreamweaver parses the attributes; if it's set to `"false"`, Dreamweaver ignores everything until the next closing angle bracket that appears outside quotation marks. For example, this attribute should be set to `"false"` for a tag such as `cfif` (as in `<cfif a is 1>`, which Dreamweaver cannot parse as a set of attribute name/value pairs).
- `icon` specifies the path and filename of the icon associated with the tag. This attribute is required for empty tags, and for nonempty tags whose contents do not appear in the Document window's Design view.
- `icon_width` specifies the width of the icon in pixels.
- `icon_height` specifies the height of the icon in pixels.
- `equivalent_tag` specifies simple HTML equivalents for certain ColdFusion form-related tags. This is not intended for use with other tags.
- `is_visual` indicates whether the tag has a direct visual effect on the page. For example, the ColdFusion tag `cfgraph` doesn't specify a value for `is_visual` (so the value defaults to `"true"`); the ColdFusion tag `cfset` is specified as having `is_visual` set to `"false"`. Visibility for server markup tags is controlled by the Invisible Elements category of the Preferences dialog box; visibility for visual server markup tags can be set independently of visibility for nonvisual server markup tags.
- `server_model`, if specified, indicates that the `tagspec` tag applies only on pages that belong to the specified server model. If `server_model` is not specified, the `tagspec` tag applies on all pages. For example, the delimiters for ASP and JSP tags are the same, but the `tagspec` tag for JSP specifies a `server_model` of `"JSP"`, so when Dreamweaver encounters code with the appropriate delimiters on a JSP page, it displays a JSP icon. When it encounters such code on a non-JSP page, it displays an ASP icon.

Contents

None (empty tag).

Container

None.

Example

```
<tagspec tag_name="happy" tag_type="nonempty" render_contents="false" content_model=
"marker_model" icon="happy.gif" icon_width="18" icon_height="18"></tagspec>
```

How custom tags appear in the Design view

The way that custom tags appear in the Design view of the Document window depends on the values of the `tag_type` and `render_contents` attributes of the `tagspec` tag. If the value of `tag_type` is `"empty"`, the icon specified in the `icon` attribute appears. If the value of `tag_type` is `"nonempty"` but the value of `render_contents` is `"false"`, the icon appears as it would for an empty tag. The following example shows how an instance of the `happy` tag defined earlier might appear in the HTML:

```
<p>This is a paragraph that includes an instance of the <code>happy</code>
tag (<happy>Joe</happy>).</p>
```

Because `render_contents` is set to `"false"` in the tag specification, the contents of the `happy` tag (the word `Joe`) are not rendered. Instead, the start and end tags and their contents appear as a single icon.

For nonempty tags that have a `render_contents` value of `"true"`, the icon does not appear in the Design view; instead, the content between the opening and closing tags (such as the text between the tags in `<mytag>This is the content between the opening and closing tags</mytag>`) appears. If View > Invisible Elements is enabled, the content is highlighted using the third-party tag color specified in Highlighting preferences. (Highlighting applies only to tags defined in tag database files.)

Change the highlighting color of third-party tags

1. Select Edit > Preferences, and select the Highlighting category.
2. Click the Third-Party Tags color box to display the color picker.
3. Select a color, and click OK to close the Preferences dialog box. For information about selecting a color, see *Using Dreamweaver*.

Avoiding third-party tag overwrites

Dreamweaver corrects certain kinds of errors in HTML code. For details, see *Using Dreamweaver*. By default, Dreamweaver refrains from changing HTML in files with certain filename extensions, including .asp (ASP), .cfm (ColdFusion), .jsp (JSP), and .php (PHP). This default is set so that Dreamweaver does not accidentally modify the code contained in any such non-HTML tags. You can change the Dreamweaver default rewriting behavior so that it rewrites HTML when it opens such files, and you can add other file types to the list of types that Dreamweaver does not rewrite.

Dreamweaver encodes certain special characters by replacing them with numerical values when you enter them in the Property inspector. It's usually best to let Dreamweaver perform this encoding because the special characters are more likely to display correctly across platforms and browsers. However, because such encoding can interfere with third-party tags, you may want to change the Dreamweaver encoding behavior when you're working with files that contain third-party tags.

Allow Dreamweaver to rewrite HTML in more kinds of files

1. Select Edit > Preferences, and select the Code Rewriting category.
2. Select either of the following options:
   - Fix Invalidly Nested And Unclosed Tags
   - Remove Extra Closing Tags
3. Do one of the following:
   - Delete one or more extensions from the list of extensions in the Never Rewrite Code: In Files With Extensions option.

- Deselect the Never Rewrite Code: In Files With Extensions option. (Deselecting this option lets Dreamweaver rewrite HTML in all types of files.)

Add file types that Dreamweaver should not rewrite

1 Select Edit > Preferences, and select the Code Rewriting category.

2 Select either of the following options:

- Fix Invalidly Nested And Unclosed Tags
- Remove Extra Closing Tags

3 Make sure the Never Rewrite Code: In Files With Extensions option is selected, and add the new file extensions to the list in the text field.

If the new file type doesn't appear in the file-types pop-up menu in the File > Open dialog box, you might want to add it to the Configuration/Extensions.txt file. For details, see "Changing the default file type" on page 5.

Turn off Dreamweaver encoding options

1 Select Edit > Preferences, and select the Code Rewriting category.

2 Deselect either or both Special Characters options.

For information on the other Code Rewriting preferences, see *Using Dreamweaver*.

Customizing Dreamweaver in a multiuser environment

You can customize Dreamweaver in a multiuser operating system such as Microsoft® Windows® XP, Windows Vista, or Mac OS® X. Dreamweaver prevents the customized configuration of any user from affecting the configurations of other users. The first time you run Dreamweaver in a multiuser operating system, Dreamweaver copies configuration files into a user Configuration folder. When you customize Dreamweaver by using dialog boxes and panels, the application modifies your user Configuration files instead of modifying the Dreamweaver Configuration files. To customize Dreamweaver in a multiuser environment, edit the appropriate user Configuration file, rather than the Dreamweaver Configuration files. To make changes that affect most users, edit a Dreamweaver Configuration file. However, users who already have corresponding user Configuration files do not see the change. To make changes that affect all users, create an extension and install it using the Extension Manager.

Note: *In older multiuser operating systems (Windows 98, Windows ME, and Mac OS 9.x), all users share a single set of Dreamweaver Configuration files.*

The location of the Configuration folder of the user depends on the platform of the user.

Windows XP platforms use the following location:

hard disk:\Documents and Settings\`username`\Application Data\Adobe\Dreamweaver CS4\Configuration

Note: *It is possible that this folder is inside a hidden folder.*

Windows Vista platforms use the following location:

hard disk:\Users\`username`\AppData\Roaming\Adobe\Dreamweaver CS4\Configuration

Mac OS X platforms use the following location:

hard disk:\Users/`username`/Library/Application Support/Adobe/Dreamweaver CS4/Configuration

Note: *To install extensions that all users can use in a multiuser operating system, you must be logged in as Administrator (Windows) or root (Mac OS X).*

The first time you run Dreamweaver, it copies only some of the configuration files into your user Configuration folder. (The files that it copies are specified in the version.xml file in the Configuration folder.) When you customize Dreamweaver from within the application, Dreamweaver copies the configuration files into your user Configuration folder. For example, Dreamweaver copies the files when you modify one of the predesigned code snippets in the Snippets panel. The version of a file in your user Configuration folder always takes precedence over the version in the Dreamweaver Configuration folder. To customize a configuration file, it must be present in the user Configuration folder. If Dreamweaver has not copied the file already, copy and edit the file in the user Configuration folder.

Deleting configuration files in a multiuser environment

When working in a multiuser operating system, if you do something within Dreamweaver that would delete a configuration file (for example, deleting a predesigned snippet from the Snippets panel), Dreamweaver creates a file in your user Configuration folder called mm_deleted_files.xml. When a file is listed in mm_deleted_files.xml, Dreamweaver behaves as if that file doesn't exist.

Deactivate a configuration file

1. Quit Dreamweaver.
2. Using a text editor, edit mm_deleted_files.xml in your user Configuration folder; add an item tag to that file, giving the path (relative to the Dreamweaver Configuration folder) of the configuration file to deactivate.

   Note: *Do not edit mm_deleted_files.xml in Dreamweaver.*
3. Save and close mm_deleted_files.xml.
4. Start Dreamweaver again.

The mm_deleted_files.xml tag syntax

The mm_deleted_files.xml file contains a structured list of items that specify configuration files that Dreamweaver is to ignore. These items are specified by XML tags, which you can edit in a text editor.

In the syntax descriptions of the mm_deleted_files.xml tags that follow, optional attributes are marked in the attribute lists with curly braces (`{}`); all attributes not marked with curly braces are required.

<deleteditems>

Description

Container tag that holds a list of items that Dreamweaver should treat as deleted.

Attributes

None.

Contents

This tag must contain one or more `item` tags.

Container

None.

Example

```
<deleteditems>
<!-- item tags here -->
</deleteditems>
```

<item>

Description

Specifies a configuration file that Dreamweaver should ignore.

Attributes

`name`

The `name` attribute specifies the path to the configuration file, relative to the Configuration folder. In Windows, use a backslash (\) to separate parts of the path; on the Macintosh®, use a colon (:).

Contents

None (empty tag).

Container

This tag must be contained in a `deleteditems` tag.

Example

```
<item name="snippets\headers\5columnwith4links.csn" />
```

Reinstalling and uninstalling Dreamweaver in a multiuser environment

After you install Dreamweaver, if you later reinstall it or upgrade to a later version, Dreamweaver automatically makes backup copies of existing user configuration files, so that if you've customized those files, you can still access the changes you made. When you uninstall Dreamweaver from a multiuser system (which you can do only if you have administrative privileges), Dreamweaver can remove each user Configuration folder for you.

Changing FTP mappings

The FTPExtensionMap.txt file (Windows) and the FTPExtensionMapMac.txt file (Macintosh) map filename extensions to FTP transfer modes (ASCII or BINARY).

Each line in each of the two files includes a filename extension (such as GIF) and either the word ASCII or the word BINARY, to indicate which of the two FTP transfer modes should be used when transferring a file with that extension. On the Macintosh, each line also includes a creator code (such as DmWr) and a file type (such as TEXT). When you download a file with the given filename extension on the Macintosh, Dreamweaver assigns the specified creator and file type to the file.

If a file that you are transferring doesn't have a filename extension, Dreamweaver uses the BINARY transfer mode.

Note: *Dreamweaver cannot transfer files in Macbinary mode. If you need to transfer files in Macbinary mode, you must use another FTP client.*

The following example shows a line (from the Macintosh file) that indicates that files with the extension .html should be transferred in ASCII mode:

```
HTML DmWr TEXT ASCII
```

In both the FTPExtensionMap.txt file and FTPExtensionMapMac.txt file (Macintosh), all elements on a given line are separated by tabs. The extension and the transfer mode are in uppercase letters.

To change a default setting, edit the file in a text editor.

Add information about a new filename extension

1 Edit the extension-map file in a text editor.
2 On a blank line, enter the filename extension (in uppercase letters) and press Tab.
3 On the Macintosh, add the creator code, a tab, the file type, and another tab.
4 Enter **ASCII** or **BINARY** to set an FTP transfer mode.
5 Save the file.

Extensible document types in Dreamweaver

XML provides a rich system for defining complex documents and data structures. Dreamweaver uses several XML schemas to organize information about server behaviors, tags and tag libraries, components, document types, and reference information.

When you create and work with extensions in Dreamweaver, there are many instances in which you create or modify existing XML files to manage the data that your extension uses. In many cases, you can copy an existing file from the appropriate subfolder within the Configuration folder to use as a template.

Document type definition files

The central component of extensible document types is the document type definition file. There might be several definition files, all of which are located in the Configuration/DocumentTypes folder. Each definition file contains information about at least one document type. For each document type, essential information such as server model, color coding style, descriptions, and so forth, is described.

Note: *Do not confuse Dreamweaver document type definition files with the XML document type definition (DTD). Document type definition files in Dreamweaver contain a set of* `documenttype` *elements, each of which defines a predefined collection of tags and attributes that are associated with a document type. When Dreamweaver starts, it parses the document type definition files and creates an in-memory database of information regarding all defined document types.*

Dreamweaver provides an initial document type definition file. This file, named MMDocumentTypes.xml, contains the document type definitions provided by Adobe:

Document type	Server model	Internal type	File extensions	Previous server model
ASP.NET C#	ASP.NET-Csharp	Dynamic	aspx, ascx	
ASP.NET VB	ASP.NET-VB	Dynamic	aspx, ascx	
ASP JavaScript	ASP-JS	Dynamic	asp	
ASP VBScript	ASP-VB	Dynamic	asp	
ColdFusion	ColdFusion	Dynamic	cfm, cfml	UltraDev 4 ColdFusion

Document type	Server model	Internal type	File extensions	Previous server model
ColdFusion Component		Dynamic	cfc	
JSP	JSP	Dynamic	jsp	
PHP	PHP	Dynamic	php, php3	
Library Item		DWExtension	lbi	
ASP.NET C# Template		DWTemplate	axcs.dwt	
ASP.NET VB Template		DWTemplate	axvb.dwt	
ASP JavaScript Template		DWTemplate	aspjs.dwt	
ASP VBScript Template		DWTemplate	aspvb.dwt	
ColdFusion Template		DWTemplate	cfm.dwt	
HTML Template		DWTemplate	dwt	
JSP Template		DWTemplate	jsp.dwt	
PHP Template		DWTemplate	php.dwt	
HTML		HTML	htm, html	
ActionScript		Text	as	
CSharp		Text	cs	
CSS		Text	css	
Java		Text	java	
JavaScript		Text	js	
VB		Text	vb	
VBScript		Text	vbs	
Text		Text	txt	
EDML		XML	edml	
TLD		XML	tld	
VTML		XML	vtm, vtml	
WML		XML	wml	
XML		XML	xml	

If you need to create a new document type, you can either add your entry to the document definition file that Adobe provides (MMDocumentTypes.xml) or add a custom definition file to the Configuration/DocumentTypes folder.

Note: *The NewDocuments subfolder resides in the Configuration/DocumentTypes folder. This subfolder contains default pages (templates) for each document type.*

Structure of document type definition files

The following example shows what a typical document type definition file looks like:

```
<?xml version="1.0" encoding="utf-8"?>
<documenttypes     xmlns:MMString="http://www.adobe.com/schemes/data/string/">
    <documenttype
        id="dt-ASP-JS"
        servermodel="ASP-JS"
        internaltype="Dynamic"
        winfileextension="asp,htm, html"
        macfileextension=asp, html"
        previewfile="default_aspjs_preview.htm"
        file="default_aspjs.htm"
        priorversionservermodel="UD4-ASP-JS" >
        <title>
            <loadString id="mmdocumenttypes_0title" />
        </title>
        <description>
            <loadString id="mmdocumenttypes_0descr" />
        </description>
    </documenttype>
    ...
</documenttypes>
```

Note: *Color coding for document types is specified in the XML files that reside in the Configuration/CodeColoring folder.*

In the previous example, the `loadString` element identifies the localized strings that Dreamweaver uses for the title and description for ASP-JS type documents. For more information about localized strings, see "Providing localized strings" on page 20.

The following table describes the tags and attributes that you can use within a document type definition file.

Tag	Attribute	Required	Description
`documenttype` `(root)`		Yes	Parent node.
	`id`	Yes	Unique identifier across all document type definition files.

	`servermodel`	No	Specifies the associated server model (case-sensitive); by default, the following values are valid:
			`ASP.NET C#`
			`ASP.NET VB`
			`ASP VBScript`
			`ASP JavaScript`
			`ColdFusion`
			`JSP`
			`PHP MySQL`
			A call to the `getServerModelDisplayName()` functions returns these names. The server model implementation files are located in the Configuration/ServerModels folder.
			Extension developers can create new server models by extending this list.

Tag	Attribute	Required	Description

	`internaltype`	Yes	A broad classification of how Dreamweaver treats a file. The `internaltype` identifies whether the Design view is enabled for this document and handles special cases such as Dreamweaver templates or extensions.
			
			The following values are valid:
			
			`Dynamic`
			
			`DWExtension` (has special display regions)
			
			`DWTemplate` (has special display regions)
			
			`HTML`
			
			`HTML4`
			
			`Text` (Code view only)
			
			`XHTML1`
			
			`XML` (Code view only)
			
			All server model-related document types map to `Dynamic`. HTML maps to `HTML`. Script files (such as CSS, JS, VB, and CS) map to `Text`.
			
			If `internaltype` is `DWTemplate`, specify the `dynamicid`. Otherwise, the Server Behavior or Bindings panel does not recognize the new blank template that the New Document dialog box creates. Instances of this template are simply an HTML template.

	`dynamicid`	No	A reference to the unique identifier of a dynamic document type. This attribute is meaningful only when `internaltype` is `DWTemplate`. This attribute lets you associate a dynamic template with a dynamic document type.
	`winfileextension`	Yes	The filename extension that is associated with the document type on Windows. You specify multiple filename extensions by using a comma-separated list. The first extension in the list is the extension that Dreamweaver uses when the user saves a `documenttype` document. If two nonserver model-related document types have the same filename extension, Dreamweaver recognizes the first one as the document type for the extension.

Tag	Attribute	Required	Description
	`macfileextension`	Yes	The filename extension that is associated with the document type on the Macintosh. You specify multiple filename extensions by using a comma-separated list. The first extension in the list is the extension that Dreamweaver uses when the user saves a `documenttype` document. If two nonserver model-associated document types have the same filename extension, Dreamweaver recognizes the first one as the document type for the extension.
	`previewfile`	No	The file that is rendered in the Preview area of the New Document dialog box.
	`file`	Yes	The file that is located in the DocumentTypes/NewDocuments folder that contains template content for new `documenttype` documents.
	`priorversionservermodel`	No	If the server model of this document has a Dreamweaver UltraDev 4 equivalent, specify the name of the older version of the server model. UltraDev 4 ColdFusion is a valid prior server model.
`title` (subtag)		Yes	The string that appears as a category item under Blank Document in the New Document dialog box. You can place this string directly in the definition file or point to it indirectly for localization purposes. For more information on localizing this string, see "Providing localized strings" on page 20. Formatting is not allowed, so HTML tags cannot be specified.
`description` (subtag)		No	The string that describes the document type. You can place this string directly in the definition file or point to it indirectly for localization purposes. For more information on localizing this string, see "Providing localized strings" on page 20. Formatting is allowed, so HTML tags can be specified.

Note: *When the user saves a new document, Dreamweaver examines the list of extensions for the current platform that are associated with the document type. For example,* `winfileextension` *and* `macfileextension`*. Dreamweaver selects the first string in the list and uses it as the default filename extension. To change this default filename extension, reorder the extensions in the comma-separated list so the new default is listed first.*

When Dreamweaver starts, it reads all document type definition files and builds a list of valid document types. Dreamweaver treats any entries within the definition files that have nonexistent server models as nonserver model document types. Dreamweaver ignores entries that have bad contents or IDs that are not unique.

If document type definition files are corrupt or are not available in the Configuration/DocumentTypes folder, Dreamweaver closes with an error message.

Defining dynamic templates

You can create templates that are based on dynamic document types. These templates are called *dynamic templates*. The following two elements are essential to defining a dynamic template:

- The value of the `internaltype` attribute for the new document type must be `DWTemplate`.
- The `dynamicid` attribute must be set, and the value must be a reference to the identifier of an existing dynamic document type.

  The following example defines a dynamic document type:

```
<documenttype
    id="PHP_MySQL"
    servermodel="PHP MySQL"
    internaltype="Dynamic"
    winfileextension="php,php3"
    macfileextension="php,php3"
    file="Default.php">
    <title>PHP</title>
    <description><![CDATA[PHP document]]></description>
</documenttype>
```

  Now, you can define the following dynamic template, which is based on this `PHP_MySQL` dynamic document type:

```
<documenttype
    id="DWTemplate_PHP"
    internaltype="DWTemplate"
    dynamicid="PHP_MySQL"
    winfileextension="php.dwt"
    macfileextension="php.dwt"
    file="Default.php.dwt">
    <title>PHP Template</title>
    <description><![CDATA[Dreamweaver PHP Template document]]></description>
</documenttype>
```

When a Dreamweaver user creates a new blank template of type DWTemplate_PHP, Dreamweaver lets the user create PHP server behaviors in the file. Furthermore, when the user creates instances of the new template, the user can create PHP server behaviors in the instance.

In the previous example, when the user saves the template, Dreamweaver automatically adds a .php.dwt extension to the file. When the user saves an instance of the template, Dreamweaver adds the .php extension to the file.

Adding and modifying document extensions and file types

By default, Dreamweaver shows all the file types it recognizes in the File > Open dialog box. After creating a document type, extension developers must update the appropriate Extensions.txt file. At times, the user maybe on a multiuser system (such as Windows XP, Windows Vista, or Mac OS X). In such cases, another Extensions.txt file exists in the user Configuration folder. The user must update the Extensions.txt file because it is the instance that Dreamweaver looks for and parses.

The location of the Configuration folder of the user depends on the platform of the user.

Windows XP platform uses the following location:

hard disk:\Documents and Settings*username*\Application Data\Adobe\Dreamweaver CS4\Configuration

Note: *It is possible that this folder is inside a hidden folder.*

Windows Vista platform uses the following location:

hard disk:\Users*username*\AppData\Roaming\Adobe\Dreamweaver CS4\Configuration

Mac OS X platform uses the following location:

hard disk:\Users/*username*/Library/Application Support/Adobe/Dreamweaver CS4/Configuration

If Dreamweaver cannot find the Extensions.txt file in the Configuration folder of the user, Dreamweaver looks for it in the Dreamweaver Configuration folder.

Note: *On multiuser platforms, Dreamweaver parses the copy of the Extensions.txt file in the Configuration folder of the user, not the file in the Dreamweaver Configuration folder. So, if you edit the copy of Extensions.txt that resides in the Dreamweaver Configuration folder, Dreamweaver is not aware of the changes.*

To create a document extension, you can either add the new extension to an existing document type or create a document type.

Add a new extension to an existing document type

1. Edit MMDocumentTypes.xml.
2. Add the new extension to the `winfileextension` and `macfileextension` attributes of the existing document type.

Add a new document type

1. Make a backup copy of the Extensions.txt file in the Configuration folder.
2. Open Extensions.txt in a text editor.
3. Add a new line for each new file type. In capital letters, enter the filename extensions that the new file type can have, separated by commas. Then, add a colon and a brief descriptive phrase to show in the pop-up menu for file types. The pop-up menu appears in the File > Open dialog box.

   For example, for JPEG files, enter `JPG,JPEG,JFIF:JPEG Image Files`
4. Save the Extensions.txt file.
5. Restart Dreamweaver.

To see the changes, select File > Open and click the pop-up menu of file types.

Change the Dreamweaver default File > 0pen file type

1. Make a backup copy of the Extensions.txt file in the Configuration folder.
2. Open Extensions.txt in a text editor.
3. Cut the line that corresponds to the new default. Then, paste it at the beginning of the file to make it the first line of the file.
4. Save the Extensions.txt file.
5. Restart Dreamweaver.

To see the changes, select File > Open and click the pop-up menu of file types.

See also

http://www.adobe.com/go/16410

Providing localized strings

Within a document type definition file, the `<title>` and `<description>` subtags specify the display title and description for the document type. You can use the `MMString:loadstring` directive in the subtags as a placeholder for providing localized strings for the two subtags. This process is similar to server-side scripting where you specify a particular string to use in your page by using a string identifier as a placeholder. For the placeholder, you can use a special tag or you can specify a tag attribute whose value is replaced.

Provide localized strings

1 Place the following statement at the beginning of the document type definition file:

```
<?xml version="1.0" encoding="utf-8"?>
```

2 Declare the `MMString` namespace in the `<documenttypes>` tag:

```
<documenttypes
    xmlns:MMString="http://www.adobe.com/schemes/data/string/">
```

3 At the location in the document type definition file where you want to provide a localized string, use the `MMString:loadstring` directive to define a placeholder for the localized string. You can specify this placeholder in one of the following ways:

```
<description>
    <loadstring>myJSPDocType/Description</loadstring>
</description>
```

Or

```
<description>
    <loadstring id="myJSPDocType/Description" />
</description>
```

In these examples, `myJSPDocType/Description` is a unique string identifier that acts as a placeholder for the localized string. The localized string is defined in the next step.

4 In the Configuration/Strings folder, create a new XML file (or edit an existing file) that defines the localized string. For example, the following code, when placed in the Configuration/Strings/strings.xml file, defines the `myJSPDocType/Description` string:

```
<strings>
...
    <string id="myJSPDocType/Description"
        value=
        "<![CDATA[JavaServer Page with <em>special</em> features]]>"
    />
...
</strings>
```

Note: *String identifiers, such as `myJSPDocType/Description` in the previous example, must be unique within the application. Dreamweaver, when it starts, parses all XML files within the Configuration/Strings folder and loads these unique strings.*

Rules for document type definition files

Dreamweaver lets document types that are associated with a server model share file extensions. For example, ASP-JS and ASP-VB can claim .asp as their file extension. (For information on which server model gets preference, see "canRecognizeDocument()" on page 322.)

Dreamweaver does not let document types that are not associated with a server model share file extensions.

If a file extension is claimed by two document types where one type is associated with a server model and the other is not, the latter document type gets preference. Suppose you have a document type called SAM, which is not associated with a server model, that has a file extension of .sam, and you add this file extension to the ASP-JS document type. When a Dreamweaver user opens a file that has a .sam extension, Dreamweaver assigns the SAM document type to it, not ASP-JS.

Opening a document in Dreamweaver

When a user opens a document file, Dreamweaver follows a series of steps to identify the document type based on the file's extension.

If Dreamweaver successfully finds a unique document type, Dreamweaver uses that type and loads the associated server model (if any) for the document that the user is opening. If the user has selected to use Dreamweaver UltraDev 4 server behaviors, Dreamweaver loads the appropriate UltraDev 4 server model.

If the file extension maps to more than one document type, Dreamweaver performs the following actions:

- If a static document type is among the list of document types, it gets preference.
- If all the document types are dynamic, Dreamweaver creates an alphabetical list of the server models that are associated with these document types and then calls the `canRecognizeDocument()` function in each server model (see "canRecognizeDocument()" on page 322). Dreamweaver collects the return values and determines which server model returned the highest valued positive integer. The document type whose server model returns the highest integer is the document type that Dreamweaver assigns to the document being opened. If, however, more than one server model returns the same integer, Dreamweaver goes through the alphabetical list of those server models, picks the first in the list, and uses that document type. For example, if both ASP-JS and ASP-VB claim an ASP document and if their respective `canRecognizeDocument()` functions return equal values, Dreamweaver assigns the document to ASP-JS (because, alphabetically, ASP-JS is first).

If Dreamweaver cannot map the file extension to a document type, Dreamweaver opens the document as a text file.

Customizing workspace layouts

Dreamweaver lets you customize the workspace layout, including which panels are in the specified layout, as well as other attributes such as the positions and sizes of the panels, their collapsed or expanded states, the position and size of the application window, and the position and size of the Document window.

The workspace layout is specified in XML files stored in the Configuration/Workspace layouts folder. The following sections describe the syntax of the XML tags. Optional attributes are marked in the attribute lists with curly braces (`{}`); all attributes not marked with curly braces are required.

<panelset>

Description

Outermost tag, which signals the start of the panel set description.

Attributes

None.

Contents

This tag may contain one or more `application`, `document`, or `panelset` tags.

Container

None.

Example

```
<panelset>
    <!-- panelset tags here -->
</panelset>
```

<application>

Description

Specifies the application window's initial position and size.

Attributes

`rect, maximize`

- `rect` specifies the position and size of the application window. The string is in the form "left top right bottom" specified as integers.
- `maximize` is a Boolean value: `true` if the application window should be maximized on startup; `false` otherwise. The default value is `true`.

Contents

None.

Container

This tag must be contained in a `panelset` tag.

Example

```
<panelset>
    <application rect="0 0 1000 1200" maximize="false">
    </application>
</panelset>
```

<document>

Description

Specifies the Document window's initial position and size.

Attributes

`rect, maximize`

- `rect` specifies the position and size of the Document window. The string is in the form "left top right bottom" specified as integers. If the `maximize` value is `true`, the `rect` value is ignored.
- `maximize` is a Boolean value: `true` if the Document window should be maximized on startup; `false` otherwise. The default value is `true`.

Contents

None.

Container

This tag must be contained in a `panelset` tag.

Example

```
<panelset>
    <document rect="100 257 1043 1200" maximize="false">
    </document>
</panelset>
```

<panelframe>

Description

Describes an entire panel group.

Attributes

`x, y, {width, height}, dock, collapse`

- `x` specifies the left position of the panel group. Its value can be an integer or a value that is relative to the screen. If the integer value is not on the screen, the panel group appears in the closest screen position possible to make it visible on the screen. Relative values can be “left” or “right”; these values indicate which edge of the panel group to align with which edge of the virtual screen.
- `y` specifies the top position of the panel group. Its value can be an integer or a value that is relative to the screen. If the integer value is not on the screen, the panel group appears in the closest screen position possible to make it visible on the screen. Relative values can be “top” or “bottom”; these values indicate which edge of the panel group to align with which edge of the virtual screen.
- `width` is the width, in pixels, of the panel group. This attribute is optional. If the width is not specified, the built-in default for the panel group is used.
- `height` is the height, in pixels, of the panel group. This attribute is optional. If the height is not specified, the built-in default for the panel group is used.
- `dock` is a string value that specifies to which edge of the application frame to dock the panel group. This attribute is ignored on the Macintosh because panel groups cannot be docked.
- `collapse` is a Boolean value: `true` indicates that the panel group is collapsed: `false` indicates that the panel group is expanded. This attribute is ignored on the Macintosh because panels are floating.

Contents

This tag must contain one or more `panelcontainer` tags.

Container

This tag must be contained in a `panelset` tag.

Example

```
<panelset>
    <panelframe rect="196 453 661 987" visible="true" dock="floating">
        <!-- panelcontainer tags here -->
    </panelframe>
</panelset>
```

<panelcontainer>

Description

Describes an entire panel group.

Attributes

`expanded, title,{ height,} activepanel, visible, maximize, maxRestorePanel, maxRestoreIndex, maxRect, tabsinheader`

- `expanded` is a Boolean value: `true` if the panel is expanded; `false` otherwise.
- `title` is a string that specifies the title of the panel.
- `height` is an integer that specifies the height of the panel in pixels. This attribute is optional. If `height` is not specified, the build-in default for each panel is used.

  Note: *Width is inherited from the parent.*
- `activepanel` is a number that is the ID of the front panel.
- `visible` is a Boolean value: `true` if the panel is visible; `false` otherwise.
- `maximize` is a Boolean value: `true` if the panel should be maximized when it appears initially; `false` otherwise.
- `maxRestorePanel` is a number that is the ID of the panel to restore to.
- `maxRect` is a string that indicates the position and size of the panel when it is maximized. The string is in the form "left top right bottom", specified as integers.
- `tabsinheader` is a Boolean value: `true` indicates that tabs should be positioned in the header instead of below the header bar; `false` otherwise.

Contents

This tag must contain one or more `panel` tags.

Container

This tag must be contained in a `panelframe` tag.

Example

```
<panelset>
    <panelframe rect="196 453 661 987" visible="true" dock="floating">
        <panelcontainer title="Color" height="250" visible="true" expanded="true"
        activepanel="20">
            <!-- panel tags here --->
        </panelcontainer>
    </panelframe>
</panelset>
```

<panel>

Description

Specifies the panel that appears in the panel container.

Attributes

`id, visibleTab`

- `id` is a number that indicates the ID for the panel. The following table contains a list of values:

Software	ID	Panel
Adobe® Flash®	1	Properties
	2	Actions
	3	Align
	4	Behaviors
	5	Components
	6	Component Inspector
	7	Color Mixer
	8	Color Swatches
	9	History
	10	Info
	11	Library
	12	Movie Explorer
	13	Output
	14	Properties
	15	Project
	16	Transform
	17	Scene
	18	Strings
	19	Debugger
	101–110	Library
Dreamweaver	1	Properties
Flex Builder	1	Properties

- `visibleTab` is a Boolean value: `true` if the tab and the panel should be visible; `false` otherwise.

Contents

None.

Container

This tag must be contained in a `panelcontainer` tag.

Example

```
<panelset>
    <panelframe rect="196 453 661 987" visible="true" dock="floating">
        <panelcontainer title="Color" height="250" visible="true" expanded="true"
        activepanel="20">
            <panel id="20"></panel>
        </panelcontainer>
    </panelframe>
</panelset>
```

Customizing the Coding toolbar

The Coding toolbar displays 15 buttons initially. This is a subset of the buttons that are available. You can customize the Coding toolbar by changing the buttons that appear on the toolbar and the order in which they appear by editing the file Configuration/Toolbars/Toolbars.xml. You can also insert your own buttons into the toolbar through the Extension Manager.

Change the order of buttons

1 Open the file Configuration/Toolbars/toolbars.xml.

2 Locate the Code view toolbar section by searching for the following comment:

```
<!-- Code view toolbar -->
```

3 Copy and paste the button tags so that they appear in the order you want on the toolbar.

4 Save the file.

Remove a button

1 Open the file Configuration/Toolbars/toolbars.xml.

2 Locate the Coding toolbar section by searching for the following comment:

```
<!-- Code view toolbar -->
```

3 Surround the button you want to remove with a comment.

The following example shows a button that is surrounded by comments so that it does not appear on the toolbar:

```
<!-- remove button from Coding toolbar
    <button id="DW_ExpandAll"
        image="Toolbars/images/MM/T_ExpandAll_Sm_N.png"
        disabledImage="Toolbars/images/MM/T_ExpandAll_Sm_D.png"
        tooltip="Expand All"
        domRequired="false"
        enabled="dw.getFocus(true) == 'textView' || dw.getFocus(true) == 'html'¬
            "command="if (dw.getFocus(true) == 'textView' || dw.getFocus(true) ¬
            == 'html') dw.getDocumentDOM().source.expandAllCodeFragments();"
        update="onViewChange" />
-->
```

4 Save the file.

To make any buttons that are not visible in the toolbar appear, you remove the comment that surrounds a button in the XML file.

Changing keyboard shortcut mappings

Dreamweaver includes many keyboard shortcuts to Dreamweaver features. The default keyboard shortcuts are listed in the menus.xml file and are created for the U.S. keyboard. Due to the number of shortcuts provided in Dreamweaver, certain nonalphanumeric shortcuts (characters other than a-z or 0-9) require remapping for international keyboards. For this purpose, Dreamweaver comes with a number of XML files that define keyboard shortcut mappings for international keyboards. These files are located in the Configuration\Menus\Adaptive Sets folder. When Dreamweaver detects an international keyboard connected to the computer, it automatically resets the keyboard shortcuts to the mappings file for that keyboard. If the appropriate file is not available for the keyboard layout, Dreamweaver removes any shortcuts that do not work on that keyboard layout.

The keyboard shortcut mappings files are named using a two-letter language code of the keyboard layout they represent. For example, the file for the German keyboard layout is de.xml. If a language has different keyboard layouts for different countries, then the mappings file uses the two-letter language code followed by a dash ("-") and a two-letter country code as its file name. For example, fr-ca.xml is the file name for the Canadian French keyboard layout. The two-letter language codes are defined in ISO 639 (http://en.wikipedia.org/wiki/List_of_ISO_639_codes) and the country codes are defined in ISO 3166 (http://en.wikipedia.org/wiki/ISO_3166-1_alpha-2).

When the active keyboard language setting changes in your computer, Dreamweaver checks whether an appropriate keyboard shortcut mappings file exists for that keyboard's country and language. Dreamweaver checks for a country-specific mappings file first, and then, if the file does not exist, Dreamweaver checks for a file for that language. For example, if you have connected a Canadian French keyboard to your computer, Dreamweaver first looks for fr-ca.xml for Canadian French keyboard layout. If it does not exist, Dreamweaver looks for fr.xml. The following table lists the mappings files provided with Dreamweaver.

Filename	Windows platform	Macintosh platform
ca.xml	Catalan	Catalan Spanish
de.xml	German (Germany, Austria)	Austrian, German
de-ch.xml	German (Switzerland)	Swiss German
es.xml	Spanish (International Sort) Spanish (Traditional Sort)	Spanish - ISO
fr.xml	French (France)	French
fr-ca.xml	French (Canada)	Canadian - CSA
fr-ch.xml	French (Switzerland)	Swiss French
it.xml	Italian (Italy) Italian (Switzerland)	Italian - Pro
it-mac.xml	N/A	Italian
ja.xml	Japanese	Japanese
nl-be.xml	Dutch (Belgium) French (Belgium)	Belgian
zh-cn.xml	Chinese (PRC) Chinese (Singapore)	Simplified Chinese

If you are using a keyboard layout other than those provided by Dreamweaver, you can create a mappings file for your specific keyboard and place it in the Configuration\Menus\Adaptive Sets folder.

Create a keyboard mappings file

1 Make a copy of one of the keyboard mappings files in the Configuration\Menus\Adaptive Sets folder, and name the file using the appropriate 2-letter language name for your keyboard layout with .xml extension.

   When making a copy of an existing file, you should copy a keyboard mappings file that is close to your keyboard layout. For example, if you are creating a keyboard mappings file for the Swedish keyboard, you might want to copy the de.xml because the Swedish keyboard layout is similar to the German keyboard layout.

2 Move the new keyboard mappings file you just created to a folder other than the Configuration\Menus\Adaptive Sets folder.

3 Open the keyboard mappings file in Dreamweaver.

4 Remove or add shortcut tags for your keyboard layout.

   To help you decide on the keyboard shortcut tags you want to modify, you can compare the shortcuts set for the U.S. keyboard with those set for your language. (The next procedure describes comparing shortcuts from two keyboard layouts.)

5 After making your changes to the keyboard shortcuts, save the file and move it back to the Configuration\Menus\Adaptive Sets folder.

Determine the keyboard shortcut tags you want to modify

1 Switch the active keyboard language setting of your computer to your language, if it is not already set. (This is set through the operating system of your computer. For example, in Windows you can select the language through the Control Panels.)

2 Start the Dreamweaver Keyboard Shortcut Editor by selecting Edit > Keyboard Shortcuts.

3 Click the third image button in the upper right of the dialog box. (If you place the pointer over the button, you will see the tooltip "Export set as HTML.")

   The Save As HTML file dialog appears prompting you to enter a name for the keyboard shortcut summary file of your current keyboard layout.

4 After saving the summary file, dismiss the Keyboard Shortcut Editor dialog box.

5 Switch the keyboard layout to the U.S. keyboard (through your computer's operating system).

6 Start the Dreamweaver Keyboard Shortcut Editor by selecting Edit > Keyboard Shortcuts.

7 Click the third image button in the upper right of the dialog box to export the set as an HTML file.

8 After saving the summary file, close the Keyboard Shortcut Editor dialog box.

9 Now, you can print the two keyboard shortcut summary files and compare them to see all the shortcuts that Dreamweaver removed for your language keyboard layout. These are the shortcuts that you have to reassign with new shortcuts using keys available only on your keyboard layout.

   With the information you get from comparing the two files, you can update your keyboard layout mappings file by adding or removing shortcut tags for each shortcut that you want to reassign.

The keyboard layout mapping XML files

The following example shows the format of the French keyboard mappings file (fr.xml):

```
<shortcutset language="French">
<shortcut key="Cmd+[" newkey="Cmd+&ugrave;"/>
<shortcut key="Cmd+]" newkey="Cmd+)"/>
<shortcut platform="win" key="Cmd+Shift+>" newkey="Cmd+Opt+Shift+,"/>
<shortcut platform="mac" key="Cmd+Shift+>" newkey="Cmd+<"/>
<shortcut platform="win" key="Cmd+Shift+<" newkey="Cmd+Shift+,"/>
<shortcut key="Cmd+'" newkey="Cmd+Shift+=" />
...
</shortcutset>
```

The syntax for the keyboard layout XML file:

```
<shortcutset language="language_name">
<shortcut key="key_combination" newkey="key_combination"/>
<shortcut platform="op_system" key="key_combination" newkey="key_combination"/>
</shortcutset>
```

Where:

- *language_name* is the language of the keyboard, such as French, Spanish, German, etc.
- *key_combination* is the keyboard shortcut, such as Cmd+[, Cmd+Shift+>, `Ctrl+$`.
- `key` specifies the keyboard shortcut to be replaced.
- `newkey` specifies the keyboard shortcut to replace the `key`.
- platform=*op_system* is the system for which the shortcut applies. Specify either `win` or `mac`. If no platform is specified, the shortcut applies to both platforms.

Chapter 3: Customizing Code view

Adobe Dreamweaver uses two devices in Code view that help you enter code quickly and make your code readable and accurate. These two devices are code hints and code coloring. In addition, Dreamweaver validates your code for the target browsers that you specify and allows you to change default HTML formatting.

You can customize code hints and code coloring by modifying the XML files that implement them. You can add items to the code hints menu by adding entries to the CodeHints.xml or SpryCodeHints.xml file. You can modify color schemes by modifying the code coloring style file, Colors.xml, or you can change code coloring schemes or add new ones by modifying one of the code coloring syntax files, such as CodeColoring.xml. You can also modify the Cascading Style Sheet (CSS) profile file for your target browser to affect how Dreamweaver validates CSS properties and values. You can also change the Dreamweaver default HTML formatting through the Preferences dialog box. The following sections describe how to customize these features.

About code hints

Code hints are menus that Dreamweaver opens when you type certain character patterns in the Code view. Code hints offer a typing shortcut by providing a list of strings that potentially complete the string you are typing. If the string you are typing appears in the menu, you can scroll to it and press Enter or Return to complete your entry. For example, when you type <, a pop-up menu shows a list of tag names. Instead of typing the rest of the tag name, you can select the tag from the menu to include it in your text. Dreamweaver also provides code hints for the Spry framework.

Dreamweaver loads code hints menus from the CodeHints.xml file and any other XML files in the Configuration/CodeHints folder. You can add code hints menus to Dreamweaver by defining them in your own XML files using the XML schema format described in this topic, and placing them in the Configuration/CodeHints folder.

After Dreamweaver loads the contents of a code hints file, you can also add new code hints menus dynamically through JavaScript. For example, JavaScript code populates the list of session variables in the Bindings panel. You can use the same code to add a code hints menu, so when a user types **"Session."** in Code view, Dreamweaver displays a menu of session variables. For information on using JavaScript to add or modify a code hints menu, see “Code Functions” in the *Dreamweaver API Reference*.

Dreamweaver cannot express some types of code hints menus through the XML file or the JavaScript API. The CodeHints.xml file, the SpryCodeHints.xml file, and the JavaScript API expose a useful subset of the code hints engine, but some Dreamweaver functionality is not accessible. For example, there is no JavaScript hook to open a color picker, so Dreamweaver cannot express the Attribute Values menu using JavaScript. You can only open a menu of text items from which you can insert text.

Note: *When you insert text, the insertion point is placed after the inserted string.*

The CodeHints.xml file

The CodeHints.xml file contains the following entities:

- A list of all the menu groups

  Dreamweaver displays the list of menu groups when you select the code hints category from the Preferences dialog box. You can open the Preferences dialog box by selecting Edit > Preferences. Dreamweaver provides the following menu groups or types of code hints menus: Tag Names, Attribute Names, Attribute Values, Function Arguments, Object Methods and Variables, and HTML Entities.

- The description for each menu group

  The description appears in the Preferences dialog box for the code hints category when you select the menu group in the list. The description for the selected entry appears below the menu group list.

- code hints menus

  A menu consists of a pattern that triggers the code hints menu and a list of commands. For example, a pattern such as `&` could trigger a menu such as `&`, `>`, `<`.

  The following example shows the format of the CodeHints.xml file (The tags in bold are described in "Code hints tags" on page 35):

```
<codehints>
<menugroup name="HTML Entities" enabled="true" id="CodeHints_HTML_Entities">
    <description>
    <![CDATA[ When you type a '&', a pop-up menu shows
        a list of HTML entities. The list of HTML entities
        is stored in Configuration/CodeHints.xml. ]]>
    </description>
    <menu pattern="&amp;">
            <menuitem value="&amp;amp;" texticon="&amp;"/>
            <menuitem value="&amp;lt;" icon="lessThan.gif"/>
    </menu>
</menugroup>

<menugroup name="Tag Names" enabled="true" id="CodeHints_Tag_Names">
    <description>
            <![CDATA[ When you type '<', a pop-up menu shows
            all possible tag names.0You can edit the list of tag
            names using the
            <a href="javascript:dw.popupTagLibraryEditor()"> Tag Library
                 Editor </a>]]>
        </description>
</menugroup>

<menugroup name="Function Arguments" enabled="true"
        id="CodeHints_Function_Arguments">
    <description>
        ...
    </description>
    <function pattern="ArraySort(array, sort_type, sort_order)"
            doctypes="CFML"/>
    <function pattern="Response.addCookie(Cookie cookie)"
            doctypes="JSP"/>
</menugroup>
</codehints>
```

JavaScript code hinting

Dreamweaver supports code hinting for the Spry framework. The Spry code hinting file (SpryCodeHints.xml) has the same basic format as CodeHints.xml. It uses certain new keywords, such as `method`, and there is a new attribute `classpattern` to associate the class member list with the class (for example, Spry.Data.XMLDataSet). The class member list for the classes is nested inside the menu (methods, properties, and events).

The `<method>` tag and its attributes are similar to the `function` tag and its attributes, but the parent `menu` tag needs to have the `classpattern` attribute to drive the association. Also there is a `property` tag for properties and an `event` tag for events, and they are represented by their corresponding icons in the code hints pop-up menu. There are also `parammenu` and `parammenuitem` tags to support parameter hinting.

The following example shows the format of a SpryCodeHints.xml file. (The tags in bold are described in "Code hints tags" on page 35.):

```
<function pattern="XMLDataSet(xmlsource, xpath, {options})"
    caseSensitive="true" />
<menu classpattern="Spry.Data.XMLDataSet">
    <property pattern="url" icon="shared/mm/images/hintMisc.gif" />
    <property pattern="xpath" icon="shared/mm/images/hintMisc.gif" />
    ...
    ...
    <method pattern="getData()" icon="shared/mm/images/hintMisc.gif" />
    <method pattern="getData()" icon="shared/mm/images/hintMisc.gif" />
    <method pattern="loadData()" icon="shared/mm/images/hintMisc.gif" />
    <method pattern="getCurrentRow()" icon= ".../hintMisc.gif" />
    <method pattern="setCurrentRow(rowID)" icon= ".../hintMisc.gif" />
    <method pattern="setCurrentRowNumber(rowNumber)" icon= ".../hintMisc.gif" />
    <method pattern="getRowNumber(rowObj)" icon= ".../hintMisc.gif" />
    <method pattern="setColumnType(columnName, columnType)" icon= ".../hintMisc.gif" />
        <parammenu pattern='"' name="columnName" index="0" type="spryDataReferences">
        </parammenu>
        <parammenu pattern='"' name="columnType" index="1" type="enumerated">
            <parammenuitem label="integer" value="integer" icon=".../hintMisc.gif"/>
            <parammenuitem label="image" value="image" icon=".../hintMisc.gif"/>
            <parammenuitem label="date" value="date" icon=".../hintMisc.gif"/>
            <parammenuitem label="string" value="string" icon=".../hintMisc.gif"/>
        </parammenu>
    </method>
    <method pattern="getColumnType(columnName)" icon= ".../hintMisc.gif" />
    <method pattern="distinct()" icon= ".../hintMisc.gif" />
    <method pattern="getSortColumn()" icon= ".../hintMisc.gif" />
    <method pattern="sort()" icon= ".../hintMisc.gif" />
     ...
     ...
    <event pattern="onCurrentRowChanged" icon= ".../hintMisc.gif" />
    <event pattern="onDataChanged" icon= ".../hintMisc.gif" />
     ...
     ...
</menu>
<function pattern="Accordion(element,{options})" caseSensitive="true" />
<menu classpattern="Spry.Widget.Accordion">
    <method pattern="openNextPanel()" icon= ".../hintMisc.gif" />
    <method pattern="openPreviousPanel()" icon= ".../hintMisc.gif" />
```

```
    <method pattern="openFirstPanel()" icon= ".../hintMisc.gif" />
     ...
     ...
</menu>
</function>
<function pattern="XMLDataSet(xmlsource, xpath, {options})" caseSensitive="true">
    <parammenu pattern='{,' name="options" index="2" type="optionArray"
                allowwhitespaceprefix="true">
        <parammenuitem label="sortOnLoad" value="sortOnLoad:"
                icon="shared/mm/images/hintMisc.gif" datatype="string"/>
            <optionparammenu pattern="sortOrderOnLoad" label="sortOrderOnLoad"
                    value="sortOrderOnLoad:" icon="shared/mm/images/hintMisc.gif"
                    type="enumerated" datatype="string">
                <optionparammenuitem label="ascending" value="ascending"
                    icon="shared/mm/images/hintMisc.gif"/>
                <optionparammenuitem label="descending" value="descending"
                    icon="shared/mm/images/hintMisc.gif"/>
            </optionparammenu>
    </parammenu>
</function>
```

Declaring classes

The following format declares a class by associating a variable to the class:

```
<variablename>[space][= operator][new keyword][space]<classname>
```

For example:

```
var dsFoo = new Spry.Data.XMLDataSet("products.xml", "products/product");
var fooAccordion = new Spry.Widget.Accordion("accordionDivId");
```

In the case of the `Spry.XML.DataSet` class name, you must redeclare it in the ColorCoding.xml file so that the coloring state engine recognizes that it is an instance of a class and takes the variable name defined on the left side of the declaration and stores it in the list of variables with their corresponding class types for that page (such as the variable `fooAccordion` and the class type `Spry.Widget.Accordion` from the previous example).

The syntax for redeclaring the class name in CodeColoring.xml:

```
<classlibrary name="Spry Keywords" id="CodeColor_JavascriptSpry">
    <class>Spry.Data.XMLDataSet</class>
    <class>Spry.Widget.Accordion</class>
</classlibrary>
```

Where:

- `classlibrary` is a new tag to group the classes into the color id `"CodeColor_JavascriptSpry"`

  `class` is used to list each individual class available in the class library. The list of classes can grow to include other spry classes from different spry packages (such as: Debug, Data, Utils, Widgets, and Effects), or other Asynchronous JavaScript and XML (Ajax) toolkits or JavaScript libraries.

Crosstag attributes code hinting

Dreamweaver provides code hinting for the Spry attribute names and values. Since these attributes are common across tags, instead of opening each *tag*.vtm file and adding the Spry attribute list, Dreamweaver has a new XML format for attribute groups (for example: spry:region, spry:repeat) and tag groups which can be applied in a single VTM file named Spry.vtm in the Configuration/TagLibraries directory.

Spry attribute grouping format

The following code shows the format of the .vtm file. This format allows you to specify the attributes that apply to certain tags.

Note: *The format for Spry attribute grouping can also be used outside the Spry framework.*

```
<crosstag_attributes>
    <attributegroup id="group_id_1" name="group_name_1">
        <attrib name = "fooAttr1">
        <attrib name = "barAttr1">
        ...
        <taggroup>
            <tag name = "fooTag1">
            <tag name = "barTag1">
            ...
        </taggroup>
    </attribgroup>
    <attributegroup id="group_id_2" name="group_name_2">
        <attrib name = "fooAttr2">
        <attrib name = "barAttr2">
        ...
        <taggroup>
            <tag name = "fooTag2">
            <tag name = "barTag2">
            ...
        </taggroup>
    </attribgroup>
</crosstag_attributes>
```

Where:

- `attributegroup` lists the attributes for the tag group that follows.
- `taggroup` lists the tags to which the preceding attributes apply.

Example

```
<crosstag_attributes>
    <attribgroup id="spryRegionAttrs" name="Spry1.2">
        <attrib name="spry:region"  type="spryDataSet" allowmultiplevalues="yes"/>
        <attrib name="spry:detailregion"  type="spryDataSet" allowmultiplevalues="yes"/>
        <attrib name="spry:content"/>
        <attrib name="spry:if"/>
        <attrib name="spry:choose">
        <attrib name="spry:when"/>
        <attrib name="spry:default"/>
        <attrib name="spry:state" type="Enumerated">
            <attriboption value="read"   caption="read"/>
            <attriboption value="loading" caption="loading"/>
            <attriboption value="failed"  caption="failed"/>
        </attrib>
        <taggroup>
            <tag name="div"/>
            <tag name="span"/>
            ...
        </taggroup>
    </attribgroup>
    <attribgroup id="spryBehaviorAttrs" name="Spry1.2">
        <attrib name="spry:hover"  type="cssStyle"/>
        <attrib name="spry:select" type="cssStyle"/>
        <attrib name="spry:odd"   type="cssStyle"/>
        <attrib name="spry:even"   type="cssStyle"/>
        <taggroup>
            <tag name="a"/>
            <tag name="abbr"/>
            <tag name="acronym"/>
            ...
        </taggroup>
    </attribgroup>
</crosstag_attributes>
```

Code hints tags

The code hints XML files use the following tags, which define code hints menus. You can use these tags to define additional code hints menus.

<codehints>

Description

The `codehints` tag is the root of the CodeHints.xml and SpryCodeHints.xmlfiles.

Attributes

None.

Contents

One or more `menugroup` tags.

Container

None.

Example

```
<codehints>
```

<menugroup>

Description

Each `menugroup` tag corresponds to a type of menu. You can see the menu types that Dreamweaver defines by selecting the code hints category from the Preferences dialog box. Select Preferences from the Edit menu to display the Preferences dialog box.

You can create a new menu group or add to an existing group. Menu groups are logical collections of menus that the user might want to enable or disable using the Preferences dialog box.

Attributes

`name, enabled, id`

- The `name` attribute is the localized name that appears in the list of menu groups in the code hints category of the Preferences dialog box.
- The `enabled` attribute indicates whether the menu group is currently checked or enabled. A menu group that is enabled appears with a check mark next to it in the code hints category of the Preferences dialog box. Assign a `true` value to enable the menu group or a `false` value to disable a menu group.
- The `id` attribute is a nonlocalized identifier that refers to the menu group.

Contents

The `description`, `menu`, and `function` tags.

Container

The `codehints` tag.

Example

```
<menugroup name="Session Variables" enabled="true" id="Session_Code_Hints">
```

<description>

Description

The `description` tag contains text that Dreamweaver displays when you select the menu group from the Preferences dialog box. The description text displays below the list of menu groups. The description text might optionally contain a single `a` tag where the `href` attribute must be a JavaScript URL that Dreamweaver executes if the user clicks the link. Use the XML CDATA construct to enclose any special or illegal characters in the string so that Dreamweaver treats them as text.

Attributes

None.

Contents

Description text.

Container

The `menugroup` tag.

Example

```
<description>
<![CDATA[ To add or remove tags and attributes, use the
    <a href="javascript:dw.tagLibrary.showTagLibraryEditor()">Tag Library Editor</a>.]]>
</description>
```

<menu>

Description

This tag describes a single pop-up menu. Dreamweaver opens the menu whenever the user types the last character of the string of the pattern attribute. For example, the menu that shows the contents of a Session variable could have a pattern attribute that is equal to "`Session.`".

Attributes

`pattern`, `doctypes`, `casesensitive`, `classpattern`, `displayrestriction`

- The `pattern` attribute specifies the pattern of typed characters that cause Dreamweaver to open the code hints menu. If the first character of the pattern is a letter, number, or underscore, Dreamweaver displays the menu only if the character that precedes the pattern in the document is not a letter, number, or underscore. For example, if the pattern is "`Session.`", Dreamweaver does not display the menu if the user types "`my_Session.`".
- The `doctypes` attribute specifies that the menu is active only for the specified document types. This attribute lets you specify different lists of function names for ASP-JavaScript (ASP-JS), Java Server Pages (JSP), Adobe ColdFusion, and so on. You can specify the `doctypes` attribute as a comma-separated list of document type IDs. See the Dreamweaver Configuration/Documenttypes/MMDocumentTypes.xml file for a list of Dreamweaver document types.
- The `casesensitive` attribute specifies whether the pattern is case-sensitive. The possible values for the `casesensitive` attribute are `true`, `false`, or a subset of the comma-separated list that you specify for the `doctypes` attribute. The list of document types lets you specify that the pattern is case-sensitive for some document types, but not for others. The value defaults to `false` if you omit this attribute. If the `casesensitive` attribute is a value of `true`, the code hints menu opens only if the text that the user types exactly match the pattern that the pattern attribute specifies. If the `casesensitive` attribute is a value of `false`, the menu appears even if the pattern is lowercase and the text is uppercase.
- The `classpattern` attribute associates the class member list with the class.
- The `displayrestriction` attribute is used to restrict the code hinting menu to a specific programming language syntax block based on color coding schemes defined in CodeColoring.xml. For example, if `displayrestriction="JavaScript"`, then the code hinting menu is restricted to JavaScript syntax block.

Contents

The `menuitem` tag.

Container

The `menugroup` tag.

Example

```
<menu pattern="CGI." doctypes="ColdFusion">
```

<menuitem>

Description

This tag specifies the text for an item in a code hints pop-up menu. The `menuitem` tag also specifies the value you must insert into the text when you select the item.

Attributes

`label`, `value`, `{icon}`, `{texticon}`, `object`, `source`

- The `label` attribute is the string that Dreamweaver displays in the pop-up menu.
- The `value` attribute is the string that Dreamweaver inserts in the document when you select the command. When the user selects the item from the menu and presses Enter or Return, Dreamweaver replaces all the text that the user typed since the menu opened. The user typed the pattern-matching characters before the menu opened, so Dreamweaver does not insert them again. For example, if you want to insert `&amp`, which is the HTML entity for ampersand (&), you can define the following `menu` and `menuitem` tags:

  ```
  <menu pattern="&amp;">
  <menuitem label="&amp;amp;" value="amp;" texticon="&amp;"/>
  ```

  The value attribute does not include the ampersand (&) character because the user typed it before the menu opened.
- The `icon` attribute, which is optional, specifies the path to an image file that Dreamweaver displays as an icon to the left of the menu text. The location is expressed as a URL, relative to the Configuration folder.
- The `texticon` attribute, which is optional, specifies a text string to appear in the icon area instead of an image file. This attribute is used for the HTML Entities menu.
- The `object` attribute refers to the type the menuitem belongs to. For example, Built-In Data Type: String or user-defined data type custom JavaScript file.
- The `source` attribute refers to the location in which it is defined or originates from. For example, DOM/Javascript/custom file.js.

Contents

None.

Container

The `menu` tag.

Example

```
<menuitem label="CONTENT_TYPE" value="&quot;CONTENT_TYPE&quot;)
    " icon="shared/mm/images/hintMisc.gif" />
```

<function>

Description

Used in the CodeHints.xml file. This tag replaces the `menu` tag for specifying function arguments and object methods for a code hints pop-up menu. When you type a function or method name in Code view, Dreamweaver opens a menu of function prototypes, displaying the current argument in bold. Each time you type a comma, Dreamweaver updates the menu to display the next argument in bold. For example, if you typed the function name `ArrayAppend` in a ColdFusion document, the code hints menu would display `ArrayAppend(array, value)`. After you type the comma following `array`, the menu updates to show `ArrayAppend(array, value)`.

For object methods, when you type the object name, Dreamweaver opens a menu of the methods that are defined for that object.

The recognized functions are stored in the XML files in the Configuration/CodeHints folder.

Attributes

`pattern, doctypes, casesensitive`

- The `pattern` attribute specifies the name of the function and its argument list. For methods, the pattern attribute describes the name of the object, the name of the method, and the method's arguments. For a function name, the code hints menu appears when the user types `functionname()`. The menu shows the list of arguments for the function. For an object method, the code hints menu appears when the user types `objectname.` (including the period). This menu shows the methods that have been specified for the object. After that, the code hints menu opens a list of the arguments for the method in the same way it does for a function.
- The `doctypes` attribute specifies that the menu is active only for the specified document types. This attribute lets you specify different lists of function names for ASP-JavaScript (ASP-JS), Java Server Pages (JSP), Macromedia ColdFusion, and so on. You can specify the `doctypes` attribute as a comma-separated list of document type IDs. For a list of Dreamweaver document types, see the Dreamweaver Configuration/Documenttypes/MMDocumentTypes.xml file.
- The `casesensitive` attribute specifies whether the pattern is case-sensitive. The possible values for the `casesensitive` attribute are `true`, `false`, or a subset of the comma-separated list that you specify for the `doctypes` attribute. The list of document types lets you specify that the pattern is case-sensitive for some document types but not for others. The value defaults to `false` if you omit this attribute. If the `casesensitive` attribute is a value of `true`, the code hints menu appears only if the text that the user types exactly matches the pattern that the pattern attribute specifies. If the `casesensitive` attribute is a value of `false`, the menu appears even if the pattern is lowercase and the text is uppercase.

Contents

None.

Container

The `menugroup` tag.

Example

```
// function example
<function pattern="CreateDate(year, month, day)" DOCTYPES="ColdFusion" />
// object method example
<function pattern="application.getAttribute(String name)" DOCTYPES="JSP" />
```

<method>

Description

Used for the Spry framework. This tag replaces the `menu` tag for specifying methods for a code hints pop-up menu. When you type a method name in Code view, Dreamweaver opens a menu of method prototypes that provides a list of parameters for the method. It then tracks the sequence of parameters as they are being filled. For methods that don't have parameters, Dreamweaver closes the method call by adding the parentheses "()" characters.

The current argument is displayed in bold. Each time you type a comma, Dreamweaver updates the menu to display the next argument in bold. For object methods, when you type an object name, Dreamweaver opens a menu of the methods that are defined for that object.

Attributes

`pattern`, `icon`, `object`, `source`, `constructor`, `static`, `retType`

- The `pattern` attribute specifies the name of the method and its argument list. It also describes the names of the object and the method, and the arguments of the method. The menu shows the list of arguments for the method. The code hints menu appears when the user types `objectname.` (including the period). This menu shows the methods that have been specified for the object. Then, the code hints menu opens a list of the arguments for the method, as it does for a function.
- The `icon` attribute specifies which icon to use.
- The `object` attribute refers to the type to which the command belongs. For example, Built-In Data Type: String or user-defined data type custom JavaScript file.
- The `source` attribute refers to the location in which it is defined or originates from. For example, DOM/Javascript/custom file.js.
- The `constructor` attribute is a Boolean value. `constructor = true` refers to the method which constructs the object instance and is marked separately compared to other object methods.
- The `static` attribute is a Boolean value. `static = true` indicates that the method does not work on specific object instance, but works on object type itself. For example,

  ```
  Date.parse(dateString)
  ```

- The `retType` attribute refers to the method return type which in turn can be an object type to support a cascade of code hints.

Contents

None.

Container

The `menu` tag.

<parammenu>

Description

Used for any object (JavaScript) to specify parameter hinting for the parameters that the method or function takes.

Attributes

`pattern, name, index, type`

- The `pattern` attribute specifies the character(s) that trigger the code hints menu. This argument is required.
- The `name` attribute specifies the name of the parameter. This argument is required.
- The `index` attribute specifies the index number of the parameter being hinted (zero-based). This argument is required.
- The `type` attribute specifies the data type. The following data types are supported:
  - `enumerated` (the default), which indicates a list of nested `<optionparammenuitem>` to display.
  - `spryDataReferences`, which indicates a list of Spry data set columns.
  - `cssStyle`, which indicates a list of CSS classes available to the page.
  - `cssId`, which indicates a list of CSS selector ID rules available to the page.

- `optionArray`, which indicates a list of nested `<optionparammenu>` and `<parammenuitem>` to display (used to support options array parameter type).

Contents
None.

Container
The `method` or `function` tag.

<parammenuitem>

Description
For any object (JavaScript) to specify parameter hinting for the parameters that the method or function takes.

Attributes
`label`, `value`, `icon`, `{datatype}`, `object`, `source`

- The `label` attribute specifies the name Dreamweaver must display. This argument is required.
- The `value` attribute specifies the value Dreamweaver must drop when the item is selected in the code hints menu. This argument is required.
- The `icon` attribute specifies the icon Dreamwaever must use in the code hints menu. This argument is required.
- The `datatype` attribute enables you to specify `string`, which indicates that closing quotation marks must be added when the user selects a value from the code hints menu. This argument is optional.
- The `object` attribute refers to the type to which the command belongs. For example, Built-In Data Type: String or user-defined data type custom JavaScript file.
- The `source` attribute refers to the location in which it is defined or originates from. For example, DOM/Javascript/custom file.js.

Contents
None.

Container
The `parammenu` tag.

<optionparammenu>

Description
Used for any object (JavaScript) to specify options array hinting for the arguments that the method or function takes. An options array is an argument that can have subarguments in the form of `option:value`. Most Spry objects use an options array argument to allow users to configure the behavior of an object (for example, a data set, widget, or effect). Options arrays generally appear as `{option1: value1, option2: value2, option3: value3, ...}`

Attributes
`pattern, label, value, icon, type`

- The `pattern` attribute specifies the character(s) that trigger the code hints menu. This argument is required.
- The `label` attribute specifies the name of the parameter. This argument is required.

- The `value` attribute specifies the value of the parameter to insert when the user selects the code hint. This argument is required.
- The `icon` attribute specifies the icon to be used. This argument is required.
- The `type` attribute specifies the data type. The following data types are supported:
  - `enumerated` (the default), which indicates a list of nested `optionparammenuitem` to display.
  - `spryDataReferences`, which indicates a list of Spry data set columns.
  - `cssStyle`, which indicates a list of CSS classes available to the page.
  - `cssId`, which indicates a list of CSS selector ID rules available to the page.

Contents

None.

Container

The `parammenu` tag of type `optionArray`.

<optionparammenuitem>

Description

Used for any object (JavaScript) to specify parameter hinting for the parameters that the method or function takes.

Attributes

`label, value, icon, {datatype}`

- The `label` attribute specifies the name to display. This argument is required.
- The `value` attribute specifies value to drop when the item is selected in the code hints menu. This argument is required.
- The `icon` attribute specifies the icon to be used in the code hints menu. This argument is required.
- The `datatype` attribute allows you to specify `string`, which indicates that closing quotation marks are to be added when the user selects a value from the code hints menu. This argument is optional.

Contents

None.

Container

The `<optionparammenu>` tag.

<property>

Description

This tag describes properties or fields of an object and has the following standard attributes.

Attributes

`label`, `value`, `icon`, `object`, `source`, `static`, `propType`, `item`

- The `label` attribute is the string that Dreamweaver displays in the pop-up menu.

- The `value` attribute is the string that Dreamweaver inserts in the document when you select the command. When the user selects the item from the menu and presses Enter or Return, Dreamweaver replaces all the text that the user typed since the menu opened. The user typed the pattern-matching characters before the menu opened, so Dreamweaver does not insert them again.
- The `icon` attribute, which is optional, specifies the path to an image file that Dreamweaver displays as an icon to the left of the menu text. The location is expressed as a URL, relative to the Configuration folder.
- The `object` attribute refers to the type the menuitem belongs to. For example, Built-In Data Type: String or user-defined data type custom JavaScript file.
- The `source` attribute refers to the location in which it is defined or originates from. For example, DOM/Javascript/custom file.js.
- The `static` attribute is a Boolean value. `static` = `true` indicates that the method does not work on specific object instance, but works on object type itself. For example,

  ```
  Number.MAX_VALUE
  ```

- The `propType` attribute refers to property type, which in turn can be an object type to support cascaded hinting of properties. For example,

  ```
  domElement.innerHTML.<code hints for String type>
  ```

- The `item` attribute refers to the type of element when `propType` attribute is the collection container type. The `item` specifies what type each item in the container is (assuming it is a homogenous set, that is, elements of the same type).

Contents

None.

Container

The `menu` tag.

<event>

Description

This tag describes events of an object and has the following standard attributes.

Attributes

`label`, `icon`, `source`, `object`

- The `label` attribute is the name of the event.
- The `icon` attribute specifies the path to an image file that Dreamweaver displays as an icon beside the menu text.
- The `source` attribute refers to the location in which it is defined or originates from.
- The `object` attribute refers to the type the command belongs to.

Container

The `menu` tag.

Example

```
<event label="onblur" source="DOM 1&amp;2" icon="shared/mm/images/codeHintEvent.gif"/>
```

About code coloring

Dreamweaver lets you customize or extend the code coloring schemes that you see in Code view so that you can add new keywords to a scheme or add code coloring schemes for new document types. If you develop JavaScript functions to use in your client-side script, for example, you can add the names of these functions to the keywords section so that they display in the color that is specified in the Preferences dialog box. Likewise, if you develop a new programming language for an application server and you want to distribute a new document type to help Dreamweaver users build pages with it, you could add a code coloring scheme for the document type.

Dreamweaver provides the JavaScript function `dreamweaver.reloadCodeColoring()`, which enables you to reload code coloring XML files that might have been edited manually. For more information on this function, see the *Dreamweaver API Reference*.

To update a code coloring scheme or add a new scheme, you must modify the code coloring definition files.

Code coloring files

Dreamweaver defines code coloring styles and schemes in XML files that reside in the Configuration/CodeColoring folder. A code coloring style file defines styles for fields that are defined in syntax definitions. It has a root node of `<codeColors>`. A code coloring scheme file defines code coloring syntax and has a root node of `<codeColoring>`.

The code coloring style file that Dreamweaver provides is Colors.xml. The code coloring syntax files that Dreamweaver provides are CodeColoring.xml, ASP JavaScript.xml, ASP VBScript.xml, ASP.NET CSharp.xml, and ASP.NET VB.xml.

The following excerpt from the Colors.xml file illustrates the hierarchy of tags in a code coloring style file:

```
<codeColors>
    <colorGroup>
        <syntaxColor id="CodeColor_HTMLEntity" bold="true" />
        <syntaxColor id="CodeColor_JavascriptNative" text="#009999" />
        <syntaxColor id="CodeColor_JavascriptNumber" text="#FF0000" />
...
        <tagColor id="CodeColor_HTMLStyle" text="#990099" />
        <tagColor id="CodeColor_HTMLTable" text="#009999" />
        <syntaxColor id="CodeColor_SpryAttributes" text="#FF6208" />
...
    </colorGroup>
</codeColors>
```

Colors are specified in red-green-blue (RGB) hexadecimal values. For example, the statement `text="009999"` in the preceding XML code assigns a blue-green (teal) color to the ID `"CodeColor_JavascriptNative"`.

The following excerpt from the CodeColoring.xml file illustrates the hierarchy of tags in a code coloring scheme file, and it also illustrates the relationship between the code coloring styles file and the code coloring scheme file:

```
<codeColoring>
    <scheme name="Text" id="Text" doctypes="Text" priority="1">
        <ignoreTags>Yes</ignoreTags>
        <defaultText name="Text" id="CodeColor_TextText" />
        <sampleText doctypes="Text">
<![CDATA[Default file syntax highlighting.
The quick brown fox
jumped over the lazy dog.
]]>
        </sampleText>
    </scheme>
    <scheme name="HTML" id="HTML" doctypes=
"ASP.NET_VB,ASP.NET_CSharp,ASP-JS,ASP-VB,ColdFusion,CFC,HTML,JSP,PHP_MySQL,LibraryItem,
    WML,XSLT" priority="50">
        <ignoreCase>Yes</ignoreCase>
        <ignoreTags>No</ignoreTags>
        <defaultText name="Text" id="CodeColor_HTMLText" />
        <defaultTag name="Other Tags" id="CodeColor_HTMLTag" />
        <defaultAttribute />
        <commentStart name="Comment" id="CodeColor_HTMLComment"><![CDATA[<!--]]>
            </commentStart>
    ...
    <tagGroup name="HTML Anchor Tags" id="CodeColor_HTMLAnchor" taglibrary="DWTagLibrary_html"
         tags="a" />
    <tagGroup name="HTML Form Tags" id="CodeColor_HTMLForm" taglibrary="DWTagLibrary_html" tags
="select,form,input,option,textarea" />
```

Notice that the `syntaxColor` and `tagColor` tags in the Colors.xml file assign color and style values to an `id` string value. The `id` value is then used in the CodeColoring.xml file to assign a style to a scheme tag. For example, the `defaultTag` tag in the CodeColoring.xml excerpt has an `id` of `"CodeColor_HTMLComment"`. In the Colors.xml file, the `id` value of `"CodeColor_HTMLComment"` is assigned a `text=` value of `"#999999"`, which is gray.

Dreamweaver includes the following code coloring schemes: Default, HTML, JavaScript, ASP_JavaScript, ASP_VBScript, JSP, and ColdFusion. The Default scheme has an `id` value equal to `"Text"`, Dreamweaver uses the Default scheme for document types that do not have a defined code coloring scheme.

A code coloring file contains the following tags, described below:

`scheme, blockEnd, blockStart, brackets, charStart, charEnd, charEsc, commentStart, commentEnd, cssImport/, cssMedia/, cssProperty/, cssSelector/, cssValue/, defaultAttribute, defaultTag, defaultText/, endOfLineComment, entity/, functionKeyword, idChar1, idCharRest, ignoreCase, ignoreMMTParams, ignoreTags, isLocked, keyword, keywords, numbers/, operators, regexp, sampleText, searchPattern, stringStart, stringEnd, stringEsc, tagGroup`

<scheme>

Description

The `scheme` tag specifies code coloring for a block of code text. You can have multiple schemes within a file to specify different coloring for different scripting or tag languages. Each scheme has a priority that lets you nest a block of text with one scheme inside a block of text with a different scheme.

Starting with Dreamweaver CS4, the Code Coloring parser now merges <scheme> tags with the same id. All non-conflicting tags are added to the existing <scheme>. The scheme with the newest file date wins any conflicts.

Attributes

name, `id`, `priority`, `{doctypes}`

- *`name="scheme_name"`* A string that assigns a name to the scheme. Dreamweaver shows the scheme name in the Edit Coloring Scheme dialog box. Dreamweaver shows a combination of scheme name and field name, such as `HTML Comment`. If you do not specify a name, the fields for the scheme do not appear in the Edit Coloring Scheme dialog box. For more information about the Edit Coloring Scheme dialog box, see "Editing schemes" on page 63.
- *`id="id_string"`* Required. An identifier string that maps color and style to this syntax item.
- *`priority="string"`* The value ranges from "1" to "99". Highest priority is "1". Specifies the precedence of the scheme. Blocks that are inside blocks with higher priority are ignored; blocks that are inside blocks with the same or lower priority take precedence. The priority has the default value of "50" if you do not specify one.
- *`doctypes="doc_list"`* Optional. Specifies a comma-separated list of the document types to which this code coloring scheme applies. This value is necessary to resolve conflicts in which different start and end blocks use the same extensions.

Contents

`blockEnd, blockStart, brackets, charStart, charEnd, charEsc, commentStart, commentEnd, cssProperty/, cssSelector/, cssValue/, defaultAttribute, defaultText/, endOfLineComment, entity/, functionKeyword, idChar1, idCharRest, ignoreCase, ignoreMMTParam, ignoreTags, keywords, numbers/, operators, regexp, sampleText, searchPattern, stringStart, stringEnd, stringEsc, urlProtocol, urlProtocols`

Container

The `codeColoring` tag.

Example

```
<scheme name="Text" id="Text" doctypes="Text" priority="1">
```

<blockEnd>

Description

Optional. Text values that delimit the end of the text block for this scheme. The `blockEnd` and `blockStart` tags must be paired and the combination must be unique. Values are not evaluated as case-sensitive. The `blockEnd` value can be one character. Multiple instances of this tag are allowed. For more information on `blockEnd` strings, see "Wildcard characters" on page 60.

Attributes

None.

Example

```
<blockEnd><![CDATA[--->]]></blockEnd>
```

<blockStart>

Description

Optional. Specified only if the coloring scheme can be embedded inside a different coloring scheme. The `blockStart` and `blockEnd` tags must be paired, and the combination must be unique. Values are not evaluated as case-sensitive. The `blockStart` value must be two or more characters in length. Multiple instances of this tag are allowed. For more information on `blockStart` strings, see "Wildcard characters" on page 60. For information on the `blockStartscheme` attribute, see "Scheme block delimiter coloring" on page 57.

Attributes

`canNest`, `doctypes`, `id`, `name`, `scheme`

- `canNest` Specifies whether the scheme can nest inside itself. Values are `Yes` or `No`. The default value is `No`.
- `doctypes="doc_type1, doc_type2,… "` Required. Specifies a comma-separated list of document types into which you can nest this code coloring scheme. Document types are defined in the Dreamweaver Configuration/Document Types/MMDocumentTypes.xml file.
- `id="id_string"` Required when `scheme="customText"`. An identifier string that maps color and style to this syntax item.
- `name="display_name"` A string that appears in the Edit Coloring Scheme dialog box when `scheme="customText"`.
- `scheme` Required. This defines how the `blockStart` and `blockEnd` strings are colored. For information on the possible values for the scheme attribute, see "Scheme block delimiter coloring" on page 57.

Example

```
<blockStart doctypes="ColdFusion,CFC" scheme="innerText" canNest="Yes"><![CDATA[<!---]]>
</blockStart>
```

<brackets>

Description

A list of characters that represent brackets.

Attributes

`name`, `id`

- `name="bracket_name"` A string that assigns a name to the list of brackets.
- `id="id_string"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<brackets name="Bracket" id="CodeColor_JavaBracket"><![CDATA[{[()]}]]>
</brackets>
```

<charStart>

Description

Contains a text string that represents the delimiter of the start of a character. You must specify the `charStart` and `charEnd` tags in pairs. Multiple `charStart` … `charEnd` pairs are allowed.

Attributes
None.

Example
```
<charStart><![CDATA[']]></charStart>
```

<charEnd>

Description
Contains a text string that represents the delimiter of the end of a character. You must specify the `charStart` and `charEnd` tags in pairs. Multiple `charStart` … `charEnd` pairs are allowed.

Attributes
None.

Example
```
<charEnd><![CDATA[']]></charEnd>
```

<charEsc>

Description
Contains a text string that represents an escape character. Multiple `charEsc` tags are allowed.

Attributes
None.

Example
```
<charEsc><![CDATA[\]]></charEsc>
```

<commentStart>

Description
A text string that delimits the start of a comment block. You must specify the `commentStart` and `commentEnd` tags in pairs. Multiple `commentStart`… `/commentEnd` pairs are allowed.

Attributes
None.

Example
```
<commentStart><![CDATA[<%--]]></commentStart>
```

<commentEnd>

Description
A text string that delimits the end of a comment block. You must specify the `commentStart` and `commentEnd` tags in pairs. Multiple `commentStart`… `/commentEnd` pairs are allowed.

Attributes

None.

Example

```
<commentEnd><![CDATA[--%>]]></commentEnd>
```

<cssImport/>

Description

An empty tag that indicates the code coloring rule for the `@import` function of the `style` element in a CSS.

Attributes

`name`, `id`

- `name="`*`cssImport_name`*`"` A string that assigns a name to the CSS `@import` function.
- `id="`*`id_string`*`"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<cssImport name="@import" id="CodeColor_CSSImport" />
```

<cssMedia/>

Description

An empty tag that indicates the code coloring rule for the `@media` function of the `style` element in a CSS.

Attributes

`name`, `id`

- `name="`*`cssMedia_name`*`"` A string that assigns a name to the CSS `@media` function.
- `id="`*`id_string`*`"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<cssMedia name="@media" id="CodeColor_CSSMedia" />
```

<cssProperty/>

Description

An empty tag that indicates CSS rules and holds code coloring attributes.

Attributes

`name`, `id`

- `name="`*`cssProperty_name`*`"` A string that assigns a name to the CSS property.
- `id="`*`id_string`*`"` Required. An identifier string that maps color and style to this syntax item.

Code Color Preference

CSS Property

Example

```
<cssProperty name="Property" id="CodeColor_CSSProperty" />
```

<cssSelector/>

Description

An empty tag that indicates CSS rules and holds code coloring attributes.

Attributes

`name`, `id`

- `name="`*`cssSelector_name`*`"` A string that assigns a name to the CSS Selector.
- `id="`*`id_string`*`"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<cssSelector name="Selector" id="CodeColor_CSSSelector" />
```

<cssValue/>

Description

An empty tag that indicates CSS rules and holds code coloring attributes.

Attributes

`name`, `id`

- `name="`*`cssValue_name`*`"` A string that assigns a name to the CSS value.
- `id="`*`id_string`*`"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<cssValue name="Value" id="CodeColor_CSSValue" />
```

<defaultAttribute>

Description

Optional. This tag applies only to tag-based syntax (that is, where `ignoreTags="No"`). If this tag is present, then all tag attributes are colored according to the style assigned to this tag. If this tag is omitted, then attributes are colored the same as the tag.

Attributes

`name` •A string that assigns a name to the default attribute.

Example

```
<defaultAttribute name="Attribute"/>
```

<defaultTag>

Description

This tag is used to specify the default color and style for tags in a scheme.

Attributes

`name`, `id`

- `name="display_name"` A string that Dreamweaver displays in the code color editor.
- `id="id_string"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<defaultTag name="Other Tags" id="CodeColor_HTMLTag" />
```

<defaultText/>

Description

Optional. If this tag is present, all text that is not defined by any other tag is colored according to the style assigned to this tag. If this tag is omitted, black text is used.

Attributes

`name`, `id`

- `name="cssSelector_name"` A string that assigns a name to the CSS Selector.
- `id="id_string"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<defaultText name="Text" id="CodeColor_TextText" />
```

<endOfLineComment>

Description

A text string that delimits the start of a comment that continues until the end of the current line. Multiple `endOfLineComment… /endOfLineComment` tags are allowed.

Attributes

None.

Example

```
<endOfLineComment><![CDATA[//]]></endOfLineComment>
```

<entity/>

Description

An empty tag that indicates that HTML special characters should be recognized and hold coloring attributes.

Attributes

`name`, `id`

- `name="entity_name"` A string that assigns a name to the entity.
- `id="id_string"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<entity name="Special Characters" id="CodeColor_HTMLEntity" />
```

<functionKeyword>

Description

Identifies keywords that define a function. Dreamweaver uses these keywords to perform code navigation. Multiple `functionKeyword` tags are allowed.

Attributes

`name`, `id`

- `name="`*`functionKeyword_name`*`"` A string that assigns a name to the `functionKeyword` block.
- `id="`*`id_string`*`"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<functionKeyword name="Function Keyword"
id="CodeColor_JavascriptFunction">function</functionKeyword>
```

<idChar1>

Description

A list of characters, each of which Dreamweaver can recognize as the first character in an identifier.

Attributes

`name`, `id`

- `name="`*`idChar1_name`*`"` A string that assigns a name to the list of identifier characters.
- `id="`*`id_string`*`"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<idChar1>_$abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ</idChar1>
```

<idCharRest>

Description

A list of characters that are to be recognized as the remaining characters in an identifier. If `idChar1` is not specified, all characters of the identifier are validated against this list.

Attributes

`name`, `id`

- `name="`*`idCharRest_name`*`"` A string that assigns a name to the `stringStart` block.
- `id="`*`id_string`*`"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<idCharRest name="Identifier" id="CodeColor_JavascriptIdentifier">
    _$abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789</idCharRest>
```

<ignoreCase>

Description
Specifies whether case should be ignored when comparing tokens to keywords. Values are `Yes` or `No`. The default is `Yes`.

Attributes
None.

Example
```
<ignoreCase>Yes</ignoreCase>
```

<ignoreMMTParams>

Description
Specifies whether the `MMTInstance:Param`, `<!-- InstanceParam`, or <!-- `#InstanceParam` tag should be colored specially. Values are `Yes` and `No`;the default is `Yes`. This handles proper coloring in pages that use templates.

Attributes
None.

Example
```
<ignoreMMTParams>No</ignoreMMTParams>
```

<ignoreTags>

Description
Specifies whether markup tags should be ignored. Values are `Yes` and `No`;the default is `Yes`. Set to `No` when syntax is for tag markup language that is delimited by `<` and `>`. Set to `Yes` when syntax is for a programming language.

Attributes
None.

Example
```
<ignoreTags>No</ignoreTags>
```

<isLocked>

Description
Specifies whether the text that is matched by this scheme is locked from being edited in the Code view. Values are `Yes` and `No`. Default is `No`.

Attributes
None.

Example
```
<isLocked>Yes</isLocked>
```

<keyword>

Description

A string of text that defines a keyword. Multiple `keyword` tags are allowed. A keyword may start with any character, but subsequent characters may only be `a-z`, `A-Z`, `0-9`, `_`, `$`, or `@`.

The code color is specified by the containing `keyword` tags.

Attributes

None.

Example

```
<keyword>.getdate</keyword>
```

<keywords>

Description

List of keywords for type specified in category attribute. Multiple `keywords` tags are allowed.

Attributes

`name`, `id`

- `name="`*`keywords_name`*`"` A string that assigns a name to the list of keywords.
- `id="`*`id_string`*`"` Required. An identifier string that maps color and style to this syntax item.

Contents

```
<keyword></keyword>
```

Example

```
<keywords name="Reserved Keywords" id="CodeColor_JavascriptReserved">
    <keyword>break</keyword>
    <keyword>case</keyword>
</keywords>
```

<numbers/>

Description

An empty tag that specifies numbers that should be recognized and also holds color attributes.

Attributes

`name`, `id`

- `name="`*`number_name`*`"` A string that assigns a name to the `numbers` tag.
- `id="`*`id_string`*`"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<numbers name="Number" id="CodeColor_CFScriptNumber" />
```

<operators>

Description

A list of characters to be recognized as operators.

Attributes

`name`, `id`

- `name="operator_name"` A string that assigns a name to the list of operator characters.
- `id="id_string"` Required. An identifier string that maps color and style to this syntax item.

Example

```
<operators name="Operator" id="CodeColor_JavaOperator"><![CDATA[+-
*/%<>!?:=&|^~]]></operators>
```

<regexp>

Description

Specifies a list of `searchPattern` tags.

Attributes

`name`, `id`, `delimiter`, `escape`

- `name="stringStart_name"` A string that assigns a name to the list of search pattern strings.
- `id="id_string"` Required. An identifier string that maps color and style to this syntax item.
- `delimiter` The character or string that starts and ends a regular expression.
- `escape` The character or string that signals special character processing, known as the escape character or string.

Contents

```
<searchPattern></searchPattern>
```

Example

```
<regexp name="RegExp" id="CodeColor_JavascriptRegexp" delimiter="/" escape="\\">
    <searchPattern><![CDATA[(\s*/\e*\\/]]></searchPattern>
    <searchPattern><![CDATA[=\s*/\e*\\/]]></searchPattern>
</regexp>
```

<sampleText>

Description

Representative text that appears in the Preview window of the Edit Coloring Scheme dialog box. For more information on the Edit Coloring Scheme dialog box, see “Editing schemes” on page 63.

Attributes

`doctypes`

- `doctypes="doc_type1, doc_type2,..."` The document types for which this sample text appears.

Example

```
<sampleText doctypes="JavaScript"><![CDATA[/* JavaScript */
function displayWords(arrayWords) {
    for (i=0; i < arrayWords.length(); i++) {
        // inline comment
        alert("Word " + i + " is " + arrayWords[i]);
    }
}

var tokens = new Array("Hello", "world");
displayWords(tokens);
]]></sampleText>
```

<searchPattern>

Description

A string of characters that define a regular search pattern using supported wildcard characters. Multiple `searchPattern` tags are allowed.

Attributes

None.

Container

The `regexp` tag.

Example

```
<searchPattern><![CDATA[(\s*/\e*\\/]]></searchPattern>
```

<stringStart>

Description

These tags contain a text string that represents the delimiter of the start of a string. You must specify the `stringStart` and `stringEnd` tags in pairs. Multiple `stringStart` … `stringEnd` pairs are allowed.

Attributes

`name`, `id`, `wrap`

- `name="`*`stringStart_name`*`"` A string that assigns a name to the `stringStart` block.
- `id="`*`id_string`*`"` Required. An identifier string that maps color and style to this syntax item.
- `wrap="true"` or `"false"`. Defines whether code coloring recognizes text strings that wrap to the next line. The default is `"true"`.

Example

```
<stringStart name="Attribute Value" id="CodeColor_HTMLString"><![CDATA["]]></stringStart>
```

<stringEnd>

Description
Contains a text string that represents the delimiter of the end of a code string. You must specify the `stringStart` and `stringEnd` tags in pairs. Multiple `stringStart` … `stringEnd` pairs are allowed.

Attributes
None.

Example
```
<stringEnd><![CDATA[']]></stringEnd>
```

<stringEsc>

Description
Contains a text string that represents the delimiter of a string escape character. Multiple `stringEsc` tags are allowed.

Attributes
None.

Example
```
<stringEsc><![CDATA[\]]></stringEsc>
```

<tagGroup>

Description
This tag groups one or more tags to which you can assign a unique color and style.

Attributes
`id`, `name`, `taglibrary`, `tags`

- `id="`*`id_string`*`"` Required. An identifier string that maps color and style to this syntax item.
- `name="`*`display_name`*`"` A string that Dreamweaver displays in the code color editor.
- `taglibrary="`*`tag_library_id`*`"` The identifier of the tag library to which this group of tags belongs.
- `tags="`*tag_list*`"` A tag or comma-separated list of tags that comprise the tag group.

Example
```
<tagGroup name="HTML Table Tags" id="CodeColor_HTMLTable" taglibrary="DWTagLibrary_html"
    tags="table,tbody,td,tfoot,th,thead,tr,vspec,colw,hspec" />
```

Scheme block delimiter coloring

The `blockStart` scheme attribute controls the coloring of block opening and closing strings or block delimiters. The following values are valid values for the `blockStart` attribute.

Note: *Do not confuse the* `blockStart.scheme` *attribute with the* `scheme` *tag.*

innerText

This value tells Dreamweaver to color the block delimiters the same as the default text of the scheme inside them.

The Template scheme provides an example of the effect of this scheme. The Template scheme matches blocks of read-only code that are colored gray because you cannot edit them. The block delimiters, which are the `<!#EndEditable -->`-- and `<!-- #BeginEditable "..." -->` strings, are also colored gray because they also are not editable.

Sample code

```
<!-- #EndEditable -->
    <p><b><font size="+2">header</font></b></p>
    <!-- #BeginEditable "test" -->
    <p>Here's some editable text </p>
    <p> </p>
    <!-- #EndEditable -->
```

Example

```
<blockStart doctypes="ASP-JS,ASP-VB, ASP.NET_CSharp, ASP.NET_VB, ColdFusion,CFC, HTML,
    JSP,LibraryItem,PHP_MySQL" scheme="innerText"><![CDATA[<!--\s*#BeginTemplate]]>
    </blockStart>
```

customText

This value tells Dreamweaver to use custom colors to color the block delimiters.

Sample code

The delimiters for blocks of PHP script, which appear in red, provide an example of the effect of the `customText` value:

```
<?php
    if ($loginMsg <> "")
    echo $loginMsg;
    ?>
```

Example

```
<blockStart name="Block Delimiter" id="CodeColor_JavaBlock" doctypes="JSP"
    scheme="customText"><![CDATA[<%]]></blockStart>
```

outerTag

The `outerTag` value specifies that both the `blockStart` and `blockEnd` tags are complete tags and that Dreamweaver should color them as tags would be colored in the scheme that surrounds them.

The JavaScript scheme, in which `<script>` and `</script>` strings are the `blockStart` and `blockEnd` tags, provides an example of this value. This scheme matches blocks of JavaScript code, which does not recognize tags, so the delimiters need to be colored by the scheme that surrounds them.

Sample code

```
<script language="JavaScript">
    // comment
    if (true)
    window.alert("Hello, World");
    </script>
```

Example

```
<blockStart doctypes="PHP_MySQL" scheme="outerTag">
    <![CDATA[<script\s+language="php">]]></blockStart>
```

innerTag

This value is identical to the `outerTag` value, except that the tag coloring is taken from the scheme inside the delimiters. This is currently used for the `html` tag.

nameTag

This value specifies that the `blockStart` string is the opening of a tag and `blockEnd` string is the closing of a tag, and these delimiters are to be colored based on the tag settings of the scheme.

This type of scheme displays tags that can be embedded inside other tags, such as the `cfoutput` tag.

Sample code

```
<input type="text" name="zip"
    <cfif newRecord IS "no">
    <cfoutput query="employee"> Value="#zip#" </cfoutput>
    </cfif>
    >
```

Example

```
<blockStart doctypes="ColdFusion,CFC" scheme="nameTag">
    <![CDATA[<cfoutput\n]]></blockStart>
```

nameTagScript

This value is identical to the `nameTag` scheme; however, the content is script, such as assignment statements or expressions, as opposed to attribute `name=value` pairs.

This type of scheme displays a unique type of tag that contains script inside the tag itself, such as the ColdFusion `cfset`, `cfif`, and `cfifelse` tags, and can be embedded inside other tags.

Sample Code

See the sample text for "nameTag" on page 59.

Example

```
<blockStart doctypes="ColdFusion,CFC"
scheme="nameTagScript"><![CDATA[<cfset\n]]></blockStart>
```

Scheme processing

Dreamweaver has three basic code coloring modes: CSS mode, Script mode, and Tags mode.

In each mode, Dreamweaver applies code coloring only to particular fields. The following chart indicates which fields are subject to code coloring in each mode.

Field	CSS	Tags	Script
defaultText		X	X
defaultTag		X	
defaultAttribute		X	
comment	X	X	X
string	X	X	X
cssProperty	X		
cssSelector	X		
cssValue	X		
character		X	X
function keyword			X
identifier			X
number		X	X
operator			X
brackets		X	X
keywords		X	X

To make the process of defining schemes more flexible, Dreamweaver lets you specify wildcard and escape characters.

Wildcard characters

The following is a list of wildcard characters that Dreamweaver supports, along with the strings to specify them and descriptions of their usage.

Wildcard	Escape string	Description
Wildcard	*	Skip all characters in the rule until the character that follows the wildcard is found. For example, use `<MMTInstance:Editable name="\*">` to match all tags of this type that have the name attribute specified.

Wildcard	Escape string	Description
Wildcard with escape character	\e*x	Where `x` is the escape character. This is the same as the wildcard, except that an escape character can be specified. The character following any escape character is ignored. This lets the character following the wildcard appear in the string without matching the criteria to end wildcard processing. For example, `/\e*\\/` is used to recognize a JavaScript regular expression that starts and ends with a forward slash (/) and can contain forward slashes that are preceded by a backslash (\). Because the backslash is the code coloring escape character, you must precede it with a backslash when you specify it in code coloring XML.
Optional white space	\s*	This matches zero or more white space or newline characters. For example, `<!--\s*#include` is used to match ASP include directives whether they have any white space preceding the `#include` token or not because either case is valid. The white space wildcards match any combination of white space and newline characters.
Required white space	\s+	This matches one or more white space or newline characters. For example, `<!--#include\s+virtual` is used to match ASP include directives with any combination of white space between `#include` and `virtual`. White space must be specified between these tokens, but it can be any combination of valid white-space characters. The white space wildcards match any combination of white space and newline characters.

Escape characters

The following is a list of escape characters that Dreamweaver supports, along with the strings to specify them and descriptions of their usage.

Escape character	Escape string	Description
Backslash	\\	The backslash character (\) is the code coloring escape character, so it must be escaped to be specified in a code coloring rule.
White space	\s	This escape character matches any non-visible characters, except those listed that match the newline escape character, such as space and tab characters. The optional white space and required white space wildcards match both the white space and newline characters.
Newline	\n	This escape character matches the newline (also known as linefeed) and carriage-return characters.

Maximum string length

The maximum length allowed for a data string is 100 characters. For example, the following `blockEnd` tag contains a wildcard character.

```
<blockEnd><![CDATA[<!--\s*#BeginEditable\s*"\*"\s*-->]]></blockEnd>
```

Assuming the optional white space wildcard strings (`\s*`) are a single space character, which Dreamweaver generates automatically, then the data string is 26 characters long, plus a wildcard string (`\*`) for the name.

```
<!-- #BeginEditable "\*" -->
```

This leaves an editable region name that can be as many as 74 characters, which is the maximum of 100 characters minus 26.

Scheme precedence

Dreamweaver uses the following algorithm to color text syntax in Code view:

1. Dreamweaver determines the initial syntax scheme based on the document type of the current file. The file document type is matched against the `scheme.documentType` attribute. If no match is found, the scheme where `scheme.documentType = "Text"` is used.
2. Schemes can be nested if they specify `blockStart`… `blockEnd` pairs. All nestable schemes that have the current file extension listed in one of the `blockStart.doctypes` attribute are enabled for the current file and all others are disabled.

   Note: *All `blockStart/blockEnd` combinations should be unique.*

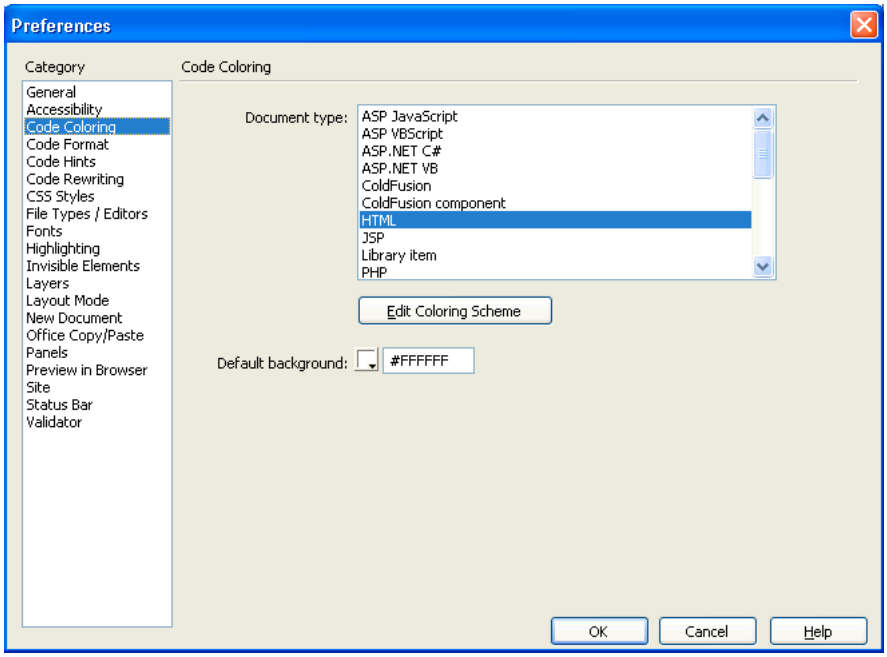
   Schemes can nest within another scheme only if the `scheme.priority` is equal to or greater than the outer scheme. If the priority is equal, the scheme can nest only in the body state of the outer scheme. For example, the `<script>...</script>` block can nest only inside the `<html>...</html>` block where tags are legal—not inside a tag, attribute, string, comment, and so on.

   Schemes with a higher priority than the outer scheme can nest almost anywhere within the outer scheme. For example, in addition to nesting in the body state of the `<html>...</html>` block, the `<%...%>` block can also nest inside a tag, attribute, string, comment, and so on.

   The maximum nesting level is 4.
3. When matching `blockStart` strings, Dreamweaver always uses the longest match.
4. After reaching the `blockEnd` string for the current scheme, syntax coloring returns to the state where the `blockStart` string is detected. For example, if a `<%...%>` block is found within an HTML string, then coloring resumes with the HTML string color.

Editing schemes

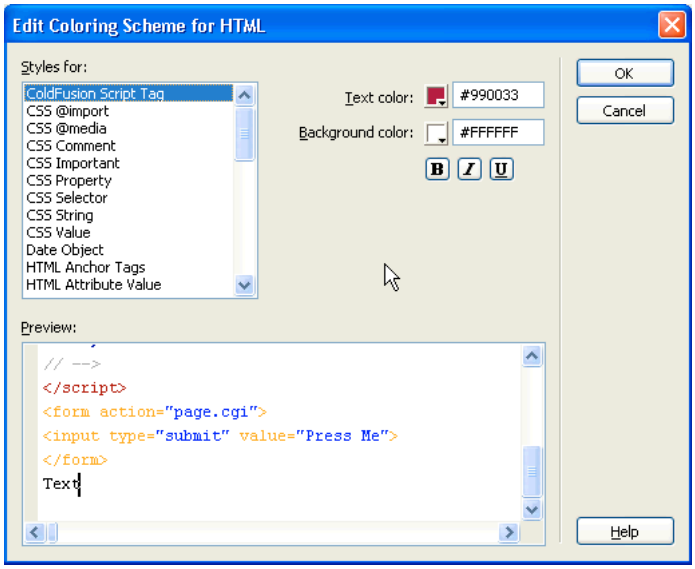
You can edit the styles for a code coloring scheme either by editing the code coloring file or by selecting the Code Coloring category in the Dreamweaver Preferences dialog box, as shown in the following figure:



For fields that you can specify more than once, such as `stringStart`, specify color and style settings only on the first tag. Data will be lost when you split color and style settings across tags and you later edit the colors or styles by using the Preferences dialog box.

Note: *Adobe recommends that you create backup copies of all XML files before you make changes. You should verify all manual changes before you edit color and style settings using the Preferences dialog box. Data will be lost if you edit an invalid XML file using the Preferences dialog box.*

To edit styles for a scheme using the Code Coloring category in the Preferences dialog box, double-click a document type, or click the Edit Coloring Scheme button, to open the Edit Coloring Scheme dialog box.



To edit the style for a particular element, select it in the Styles For list. The items listed in the Styles For pane include the fields for the scheme being edited and also the schemes that might appear as blocks within this scheme. For example, if you edit the HTML scheme, the fields for CSS and JavaScript blocks are also listed.

The fields listed for a scheme correspond to the fields defined in the XML file. The value of the `scheme.name` attribute precedes each field listed in the Styles For pane. Fields that do not have a name are not listed.

The style or format for a particular element includes bold, italic, underline, and background color in addition to code coloring. After you select an element in the Styles For pane, you can change any of these style characteristics.

The Preview area displays how sample text would appear with the current settings. The sample text is taken from the `sampleText` setting for the scheme.

Select an element in the Preview area to change the selection in the Styles For list.

If you change the setting for an element of a scheme, Dreamweaver stores the value in the code coloring file and overrides the original setting. When you click OK, Dreamweaver reloads all code coloring changes automatically.

Code coloring examples

The following code coloring examples illustrate the code coloring schemes for a cascading style document and a JavaScript document. The lists of keywords in the JavaScript example are abbreviated for the sake of keeping the example short.

CSS code coloring

```
<scheme name="CSS" id="CSS" doctypes="CSS" priority="50">
    <ignoreCase>Yes</ignoreCase>
    <ignoreTags>Yes</ignoreTags>
    <blockStart doctypes="ASP-JS,ASP-VB,ASP.NET_CSharp,ASP.NET_VB,ColdFusion,
        CFC,HTML,JSP,LibraryItem,DWTemplate,PHP_MySQL" scheme="outerTag">
        <![CDATA[<style>]]></blockStart>
    <blockEnd><![CDATA[</style>]]></blockEnd>
        <blockStart doctypes="ASP-JS,ASP-VB,ASP.NET_CSharp,ASP.NET_VB,ColdFusion,
        CFC,HTML,JSP,LibraryItem,DWTemplate,PHP_MySQL" scheme="outerTag">
        <![CDATA[<style\s+\*>]]></blockStart>
    <blockEnd><![CDATA[</style>]]></blockEnd>
    <commentStart name="Comment" id="CodeColor_CSSComment"><![CDATA[ /*]]></commentStart>
    <commentEnd><![CDATA[*/]]></commentEnd>
    <endOfLineComment><![CDATA[<!--]]></endOfLineComment>
    <endOfLineComment><![CDATA[-->]]></endOfLineComment>
    <stringStart name="String" id="CodeColor_CSSString"><![CDATA["]]></stringStart>
    <stringEnd><![CDATA["]]></stringEnd>
    <stringStart><![CDATA']]></stringStart>
    <stringEnd><![CDATA']]></stringEnd>
    <stringEsc><![CDATA[\]]></stringEsc>
    <cssSelector name="Selector" id="CodeColor_CSSSelector" />
    <cssProperty name="Property" id="CodeColor_CSSProperty" />
    <cssValue name="Value" id="CodeColor_CSSValue" />
    <sampleText doctypes="CSS"><![CDATA[/* Comment */
H2, .head2     {
            font-family : 'Sans-Serif';
            font-weight : bold;
            color : #339999;
        }]]>
    </sampleText>
</scheme>
```

CSS sample text

The following sample text for the CSS scheme illustrates the CSS code coloring scheme:

```
/* Comment */
H2, .head2     {
    font-family : 'Sans-Serif';
    font-weight : bold;
    color : #339999;
    }
```

The following lines from the Colors.xml file provide the color and style values that are seen in the sample text and were assigned by the code coloring scheme:

```
<syntaxColor id="CodeColor_CSSSelector" text="#FF00FF" />
<syntaxColor id="CodeColor_CSSProperty" text="#000099" />
<syntaxColor id="CodeColor_CSSValue" text="#0000FF" />
```

JavaScript code coloring

```
<scheme name="JavaScript" id="JavaScript" doctypes="JavaScript" priority="50">
        <ignoreCase>No</ignoreCase>
        <ignoreTags>Yes</ignoreTags>
        <blockStart doctypes="ASP-JS,ASP-VB,ASP.NET_CSharp,ASP.NET_VB,ColdFusion,
            CFC,HTML,JSP,LibraryItem,DWTemplate,PHP_MySQL" scheme="outerTag">
            <![CDATA[<script>]]></blockStart>
        <blockEnd><![CDATA[</script>]]></blockEnd>
        <blockStart doctypes="ASP-JS,ASP-VB,ASP.NET_CSharp,ASP.NET_VB,ColdFusion,
            CFC,HTML,JSP,LibraryItem,DWTemplate,PHP_MySQL" scheme="outerTag">
            <![CDATA[<script\s+\*>]]></blockStart>
        <blockEnd><![CDATA[</script>]]></blockEnd>
        <commentStart name="Comment" id="CodeColor_JavascriptComment">
            <![CDATA[/*]]></commentStart>
        <commentEnd><![CDATA[*/]]></commentEnd>
        <endOfLineComment><![CDATA[//]]></endOfLineComment>
        <endOfLineComment><![CDATA[<!--]]></endOfLineComment>
        <endOfLineComment><![CDATA[-->]]></endOfLineComment>
        <stringStart name="String" id="CodeColor_JavascriptString">
            <![CDATA["]]></stringStart>
        <stringEnd><![CDATA["]]></stringEnd>
        <stringStart><![CDATA']]></stringStart>
        <stringEnd><![CDATA']]></stringEnd>
        <stringEsc><![CDATA[\]]></stringEsc>
        <brackets name="Bracket" id="CodeColor_JavascriptBracket">
            <![CDATA[{[()]}]]></brackets>
        <operators name="Operator" id="CodeColor_JavascriptOperator">
            <![CDATA[+-*/%<>!?:=&|^]]></operators>
        <numbers name="Number" id="CodeColor_JavascriptNumber" />
        <regexp name="RegExp" id="CodeColor_JavascriptRegexp" delimiter="/" escape="\\">
            <searchPattern><![CDATA[(\s*/\e*\\/]]></searchPattern>
            <searchPattern><![CDATA[=\s*/\e*\\/]]></searchPattern>
        </regexp>
        <idChar1>_$abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ</idChar1>
        <idCharRest name="Identifier" id="CodeColor_JavascriptIdentifier">
            _$abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789</idCharRest>
        <functionKeyword name="Function Keyword" id="CodeColor_JavascriptFunction">
            function</functionKeyword>
        <keywords name="Reserved Keywords" id="CodeColor_JavascriptReserved">
            <keyword>break</keyword>
. . .
        </keywords>
        <keywords name="Native Keywords" id="CodeColor_JavascriptNative">
            <keyword>abs</keyword>
. . .
```

```
        </keywords>
        <keywords id="CodeColor_JavascriptNumber">
            <keyword>Infinity</keyword>
            <keyword>Nan</keyword>
        </keywords>
        <keywords name="Client Keywords" id="CodeColor_JavascriptClient">
            <keyword>alert</keyword>
. . .
        </keywords>
        <sampleText><![CDATA[/* JavaScript */
function displayWords(arrayWords) {
    for (i=0; i < arrayWords.length(); i++) {
        // inline comment
        alert("Word " + i + " is " + arrayWords[i]);
    }
}
var tokens = new Array("Hello", "world");
displayWords(tokens);
]]></sampleText>
    </scheme>
```

JavaScript sample text

The sample text for the JavaScript scheme illustrates the JavaScript code coloring scheme as follows:

```
/* JavaScript */ function displayWords(arrayWords) {
    for (i=0; i < arrayWords.length(); i++) {
        // inline comment
        alert("Word " + i + " is " + arrayWords[i]);
    }
}
var tokens = new Array("Hello", "world");
displayWords(tokens);
```

The following lines from the Colors.xml file provide the color and style values that are seen in the sample text and were assigned by the code coloring scheme:

```
<syntaxColor id="CodeColor_JavascriptComment" text="#999999" italic="true" />
<syntaxColor id="CodeColor_JavascriptFunction" text="#000000" bold="true" />
<syntaxColor id="CodeColor_JavascriptBracket" text="#000099" bold="true" />
<syntaxColor id="CodeColor_JavascriptNumber" text="#FF0000" />
<syntaxColor id="CodeColor_JavascriptClient" text="#990099" />
<syntaxColor id="CodeColor_JavascriptNative" text="#009999" />
```

About Code validation

When opening a document in Code view, Dreamweaver automatically validates that the document is not using any tags, attributes, CSS properties, or CSS values that are not available in the target browsers that the user selected. Dreamweaver underlines errors with a wavy red line.

Dreamweaver also has a new browser compatibility check feature that locates combinations of HTML and CSS that can trigger browser rendering problems.

Dreamweaver stores browser profiles in the Browser Profile folder inside the Dreamweaver Configuration folder. Each browser profile is defined as a text file that is named for the browser. For example, the browser profile for Internet Explorer version 6.0 is Internet_Explorer_6.0.txt. To support target browser checking for CSS, Dreamweaver stores CSS profile information for a browser in an XML file whose name corresponds to the browser profile but with a suffix of _CSS.xml. For example, the CSS profile for Internet Explorer 6.0 is Internet_Explorer_6.0_CSS.xml. You might want to make changes to a CSS profile file if you find that Dreamweaver is reporting an error that you do not want.

The CSS profile file consists of three XML tags: `css-support`, `property`, and `value`. The following sections describe these tags.

<css-support>

Description

This tag is the root node for a set of `property` and `value` tags that are supported by a particular browser.

Attributes

None.

Contents

The `property` and `value` tags.

Container

None.

Example

```
<css-support>
. . .
</css-support>
```

<property>

Description

Defines a supported CSS property for the browser profile.

Attributes

`name, names, supportlevel, message`

- `name="`*`property_name`*`"`The name of the property for which you are specifying support.
- `names="`*`property_name`*, *`property_name,...`*`"` A comma-separated list of property names for which you are specifying support.

  The `names` attribute is a kind of shorthand. For example, the following `names` attribute is a shorthand method of defining the `name` attribute that follows it:

```
<property names="foo,bar">
    <value type="named" name="top"/>
    <value type="named" name="bottom"/>
</property>
<property name="foo">
    <value type="named" name="top"/>
    <value type="named" name="bottom"/>
</property>
<property name="bar">
    <value type="named" name="top"/>
    <value type="named" name="bottom"/>
</property>
```

- `supportlevel="error", "warning", "info",` or `"supported"`Specifies the level of support for the property. If not specified, `"supported"` is assumed. If you specify a support level other than "`supported`" and omit the message attribute, Dreamweaver uses the default message, "CSS property name *property_name* is not supported."
- `message="message_string"` The `message` attribute defines a message string that Dreamweaver displays when it finds the property in a document. The message string describes possible limitations or workarounds for the property value.

Contents

`value`

Container

`css-support`

Example

```
<property name="background-color" supportLevel="supported">
```

<value>

Description

Defines a list of values supported by the current property.

Attributes

`type, name, names, supportlevel, message`

- `type="any", "named", "units", "color", "string",` or `"function"` Specifies the type of value. If you specify `"named"`, `"units"`, or "`color`", then either the `name` or `names` attribute must specify the value IDs to match for this item. The `"units"` value matches a numeric value, followed by one of the units values specified in the names attribute.
- `name="value_name"`A CSS value identifier. No spaces or punctuation are allowed other than a hyphen (-). The name of one of the values that are valid for the CSS property is named in the parent property node. This can identify either a specific value or a units specifier.
- `names="name1, name2, . . ."`Specifies a comma-separated list of value `IDs`.
- `supportlevel="error", "warning", "info",` or `"supported"`Specifies the level of support for this value in the browser. If not specified, the value `"supported"` is assumed.

- `message="message_string"` The `message` attribute defines a message string that Dreamweaver displays when it finds the property value in a document. If the `message` attribute is omitted, Dreamweaver displays a message string of "*value_name* is not supported."

Contents

None.

Container

`property`

Example

```
<property name="margin">
    <value type="units" name="ex" supportlevel="warning"
        message="The implementation of ex units is buggy in Safari 1.0."/>
    <value type="units" names="%,em,px,in,cm,mm,pt,pc"/>
    <value type="named" name="auto"/>
    <value type="named" name="inherit"/>
</property>
```

Changing default HTML formatting

To change general code formatting preferences, use the Code Format category of the Preferences dialog box. To change the format of specific tags and attributes, use the Tag Library Editor (Edit > Tag Libraries). For more information, see *Using Dreamweaver* on the Dreamweaver Help menu.

You can also edit the formatting for a tag by editing the VTM file that corresponds to the tag (in a subfolder of the Tag Libraries configuration folder), but it's much easier to change formatting within Dreamweaver.

If you add or remove a VTM file, you must edit the TagLibraries.vtm file; Dreamweaver ignores any VTM file that is not listed in TagLibraries.vtm.

Note: *Edit this file in a text editor, not in Dreamweaver.*

About Vertical Split view

The Vertical Split view feature supports a side-by-side view of either code and design or code and code layout modes. Users with dual screen workstation setups can use this feature to display code on one monitor while using their second monitor for working in Design view.

The Vertical Split view feature enables the user to:

- Choose the orientation of Code and Design view (horizontal or vertical).
- Switch between horizontal and vertical orientations of the Code and Design view and Split code.

Restarting Dreamweaver and opening or creating a document shows the document in the Code and Design view with the last used size and orientation. The `dreamweaver.setSplitViewOrientation()` function sets the orientation and `dreamweaver.setPrimaryView()` sets the primary view. For information on using these functions, see "Vertical Split view functions" in the *Dreamweaver API Reference*.

About related files

The related files feature provides users access to the supporting and related files that are associated with the file they are working on. Related files can be CSS, script, Server-side Include (SSI), or XML files.

For example, if a CSS file is associated with the main file, this feature facilitates viewing and editing this CSS file. The user can also view the main file while editing the related file.

How related files work

Related files enhance editing experience of users by assisting them in the following tasks:

- Users can view and access the related files while viewing the main file. When viewing a page that has related files (for example, a CSS file), you can see the following:
  - Design of the page on one side
  - Related file on the other
- The related files bar contains the documents that affect the generation of parent HTML. The users can see the source HTML, generated HTML, and first- level child documents.
- Selecting any related file shown in the related files bar enables users to do the following tasks:
  - View and edit the related file in Code view
  - View the parent page in Design view
- Selecting content in the Design view and making changes in the related file does not dismiss the selection when the user refreshes the Design view.
- If you change the related file code, the changes are reflected in the Design view.

When a file is not found, a file not found message is displayed in a bar at the top of the empty window frame.

Related files terminology

The following terms are commonly used in association with related files:

Term	Description	Example
Top-level document	Any document opened by the user	
Parent document	Any top-level document rendered in Design view.	• HTML — including .lbi, .dwt • CFML • PHP

Term	Description	Example
First-level child document	Any document that is one level deep from the parent document. These documents affect generation of HTML code, except for CSS. CSS files can include other CSS files, but all of them together determine the final styles applied to the page.	• Script file specified by <SCRIPT src="file.js"> • Server-side Include • External CSS • Spry XML and HTML data sets • Library item • <iframe> - remote source • Object tag
Deeper-level child document	Any document that is more than two levels away from the parent document. These documents affect generation of HTML code.	• PHP within PHP • DTDs • Templates
Non-related file	Any document which does not affect generation of HTML code or any files that a user does not actively edit.	• Image files • Media files • Externally linked files by an <a> tag

The following related files are supported:

Type	Description	Nesting level
Client-side script	All languages	1 (nesting script is not possible)
Server-side includes	When all of the following extensible conditions are true: • Defined Server Model • Defined SSI statement (that is pattern) • Defined DW doctype Exception: Apache-style include file statements (`<!--#include ... -->`) in HTML documents is recognized.	1
Spry data set		1 (nesting script is not possible)
CSS	• All external CSS for all media types • DTSS	Infinite

Related files APIs

You can customize the related files menu to display the following:

- Filenames of the related file
- Source HTML and Generated Source code

The `dreamweaver.openRelatedFile()` function displays the related file in the Code view and the `dreamweaver.getActiveRelatedFilePath()` function displays the path for the currently opened related file. For more information on using these APIs, see "Related files functions" in the *Dreamweaver API Reference*.

About Live view

The Live view feature facilitates previewing your web pages as it would appear in a browser, without leaving Dreamweaver. Users can retain direct access to the code and edit the code. Any changes to the code are reflected instantly. It enables users to view the changed web page instantly. If the user edits CSS files, the current state of the file is maintained, but the CSS changes are applied. Users can also interact with the page and view JavaScript effects like rollovers without having to switch from Dreamweaver to a web browser.

Live view feature uses the system Flash Plug-in (%SYSTEM%/Macromed/Flash, /Library/Internet Plug-Ins/). At times, it can fallback to any Firefox version if the system version of the plug-in is not available.

A notification is displayed in the Information bar if the plug-in is not found. The CSS panel always shows the current relevant CSS for what is displayed in Live view, even if the source is generated from a different location. Users can add or remove style sheets. However, other edits to inline CSS or CSS in the <head> is locked. Rules in the CSS panel that cannot be edited are marked as read only.

You can use the Dreamweaver API for the following purposes:

- Getting and setting the Design view mode
- Getting and setting the Live view mode using the server
- Getting Live view defaults
- Getting and setting Live view dependents
- Viewing the Live view parameters

For more information about these APIs, see "Live view functions" in the *Dreamweaver API Reference*.

A simple Live view example

In this example, you use Dreamweaver to create a command that creates a simple browser when the user clicks the command in the Commands menu. For specific information about creating commands before trying this example, see "Commands" on page 131 on page 142. In Dreamweaver, open a new basic HTML file (this file is your Command definition file) and save the file as liveviewexample.htm. Your Command definition file looks like the following example:

```
<!DOCTYPE HTML SYSTEM "-//Adobe//DWExtension layout-engine 10.0// dialog"> <html
xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<title>Browser Test</title>
<script type="text/javascript">
var browserLoad = function(e)
{
    var uri = document.getElementById("uri");
    uri.value = e.currentBrowserLocation;
}
var promptToNavigate = function (e)
{
    if( ! confirm(" Is it ok to go from \n" + e.currentBrowserLocation + " to page \n " +
e.requestedBrowserLocation ) )
    {
        e.preventDefault();
    }
}
function initUI()
```

```
{
    var browser = document.getElementById("browser");
    browser.addEventListener("BrowserControlBeforeNavigation",
promptToNavigate, true);
    browser.addEventListener("BrowserControlLoad", browserLoad, true);
    browser.openURL("http://www.adobe.com");
}
function loadUri()
{
    var uri = document.getElementById("uri");
    var browser = document.getElementById("browser");
    browser.openURL(uri.value);
}
function showSource(){
    var browser = document.getElementById("browser");
    alert(browser.getWindowObj().document.documentElement.outerHTML);
}
function commandButtons() {
                            return new Array( "Close", "window.close()",
                            "Load URI", "loadUri()",
                            "Show Source", "showSource()"
);
}
</script>
</head>
<body onLoad="initUI()">
<form>
<p>
<label>
<input id="uri" type="text" style="width:500px">
</label>
</p> <mm:browsercontrol id="browser" style="width:500px; height:300px;"/> </form> </body>
</html>
```

Chapter 4: Extending Dreamweaver

Dreamweaver provides an extensive set of tools that you can use to add to or customize its functionality.

When you create a Dreamweaver extension, follow the steps outlined in "Creating an extension" on page 2.

The following features of Dreamweaver let you create extensions:

- An HTML parser (also called a *renderer*) makes it possible to design user interfaces (UIs) for extensions. The parser uses form fields, absolutely positioned elements, images, and other HTML elements. Dreamweaver has its own HTML parser.
- A tree of folders that organize and store the files that implement and configure Dreamweaver elements and extensions.
- A series of application programming interfaces (APIs) that provide access to Dreamweaver functionality through JavaScript.
- A JavaScript interpreter, which executes the JavaScript code in extension files. Dreamweaver uses the Netscape JavaScript version 1.5 interpreter. For more information about changes between this version of the interpreter and previous versions, see "How Dreamweaver processes JavaScript in extensions" on page 79.

Types of Dreamweaver extensions

The following list describes the types of Dreamweaver extensions:

Insert bar object extensions create changes in the Insert bar. An object is typically used to automate inserting code into a document. It can also contain a form that gathers input from the user and JavaScript that processes the input. Object files are stored in the Configuration/Objects folder.

Command extensions can perform almost any specific task, with or without input from the user. Command files are typically started from the Commands menu, but they can also be called from other extensions. Command files are stored in the Configuration/Commands folder.

Menu command extensions expand the command API to accomplish tasks related to calling a command from a menu. The menu commands API also lets you create a dynamic submenu.

Toolbar extensions can add elements to existing toolbars or create new toolbars in the Dreamweaver user interface. New toolbars appear below the default toolbar. Toolbar files are stored in the Configuration/Toolbars folder.

Report extensions can add custom site reports or modify the set of prewritten reports that come with Dreamweaver. You can also use the results window API to create a stand-alone report.

Tag Library and Editor extensions work with the associated tag library files. Tag Library and Editor extensions can modify attributes of existing tag dialogs, create new tag dialogs, and add tags to the tag library. Tag Library and Editor extension files are stored in the Configuration/TagLibraries folder.

Property inspector extensions appear in the Property inspector panel. Most of the inspectors in Dreamweaver are part of the core product code. These inspectors cannot be modified. But, custom Property inspector files can override the built-in Dreamweaver Property inspector interfaces or create new ones to inspect custom tags. Inspectors are stored in the Configuration/Inspectors folder.

Floating panel extensions add floating panels to the Dreamweaver user interface. Floating panels can interact with the selection, the document, or the task. They can also display useful information. Floating panel files are stored in the Configuration/Floaters folder.

Behavior extensions let users add JavaScript code to their documents. The JavaScript code performs a specific task in response to an event when the document is viewed in a browser. Behavior extensions appear on the Plus (+) menu of the Dreamweaver Behaviors panel. Behavior files are stored in the Configuration/Behaviors/Actions folder.

Server Behaviors extensions add blocks of server-side code (ASP or ColdFusion) to the document. The server-side code performs tasks on the server when the document is viewed in a browser. Server behaviors appear on the Plus (+) menu of the Dreamweaver Server Behaviors panel. Server behavior files are stored in the Configuration/Server Behaviors folder.

Data source extensions let you build a connection to dynamic data stored in a database. Data source extensions appear on the Plus (+) menu of the Bindings panel. Data source extension files are stored in the Configuration/Data Sources folder.

Server format extensions let you define formatting for dynamic data.

Component extensions let you add new types of components to the Components panel. *Components* is the term that Dreamweaver uses for some of the more popular and modern encapsulation strategies such as ColdFusion components (CFCs).

Server model extensions let you add support for new server models. Dreamweaver supports the most common server models (ASP, JSP, ColdFusion, PHP, and ASP.NET). Server model extensions are needed only for custom server solutions, different languages, or a customized server. Server model files are stored in the Configuration/ServerModels folder.

Data translator extensions convert non-HTML code into HTML that appears in the Design view of the document window. These extensions also lock the non-HTML code to prevent Dreamweaver from parsing it. Translator files are stored in the Configuration/Translators folder.

Other ways to extend Dreamweaver

You can also extend the following elements of Dreamweaver to expand its capabilities or tailor it to your needs.

Document types define how Dreamweaver works with different server models. Information about document types for server models is stored in the Configuration/DocumentTypes folder. For more information, see "Extensible document types in Dreamweaver" on page 13.

Code snippets are reusable blocks of code that are stored as code snippet (CSN) files in the Dreamweaver Configuration/Snippets folder and which Dreamweaver makes accessible in the Snippets panel. You can create additional code snippet files and install them into the Snippets folder to make them available.

Code hints are menus that offer a typing shortcut by displaying a list of strings that potentially complete the string you are typing. If one of the strings in the menu matches the string that you started to type, you can select it to insert it in place of the string that you are typing. Code hints menus are defined in the codehints.xml file in the Configuration/CodeHints folder, and you can add new code hints menus to it for new tags or functions that you have defined.

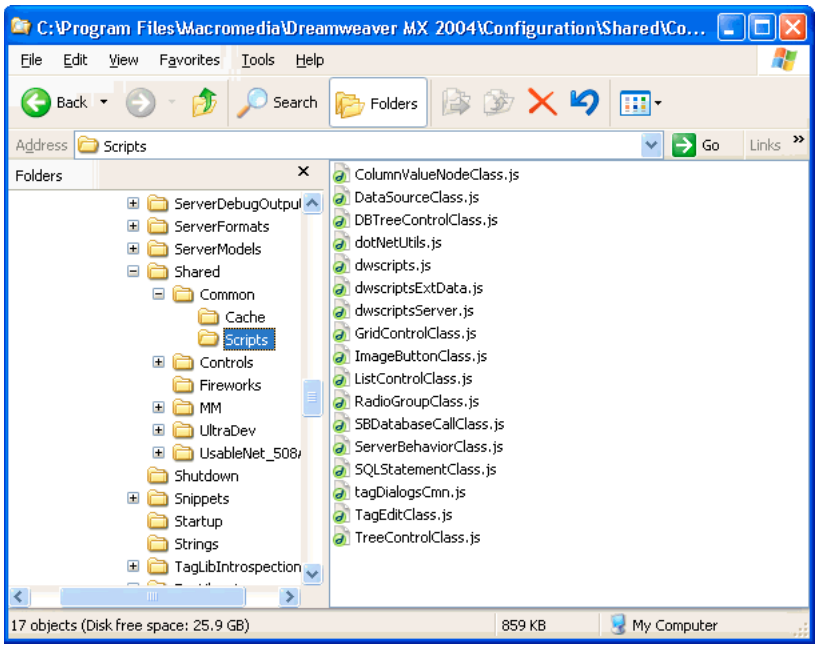
Menus are defined in the menus.xml file in the Configuration/Menus folder. You can add new Dreamweaver menus for your extensions by adding the menu tags for them to the menus.xml file. For more information, see "Menus and menu commands" on page 141.

Configuration folders and extensions

The folders and files that are stored in the Dreamweaver Configuration folder contain the extensions that come with Dreamweaver. When you write an extension, you must save the files in the proper folder for Dreamweaver to recognize them. For example, if you create a Property inspector extension, you save the files in the Configuration/Inspectors folder. If you download and install an extension from the Adobe Exchange website (www.adobe.com/go/exchange), the Extension Manager automatically saves the extension files to the proper folders.

You can use the files in the Dreamweaver Configuration folder as examples, but these files are generally more complex than the average extension that is available on the Adobe Exchange website. For more information on the contents of each subfolder within the Configuration folder, see the Configuration_ReadMe.htm file.

The Configuration/Shared folder does not correspond to a specific extension type. It is the central repository for utility functions, classes, and images that are used by more than one extension. The files in the Configuration/Shared/Common folder are designed to be useful to a broad range of extensions. These files are useful as examples of JavaScript techniques and as utilities. Look here first for the functions that perform specific tasks, such as creating a valid Document Object Model (DOM) reference to an object, testing whether the current selection is inside a particular tag, escaping special characters in strings, and more. If you create common files, you should create a separate subfolder in the Configuration/Shared/Common folder, which is shown in the following figure, and store them there.



Configuration/Shared/Common/Scripts folder structure

For more information about the Shared folder, see "The Shared folder" on page 367.

Multiuser Configuration folders

For the multiuser operating systems of Windows XP, Windows 2000, and Macintosh OS X, Dreamweaver creates a separate Configuration folder for each user in addition to the Dreamweaver Configuration folder. Any time Dreamweaver or a JavaScript extension writes to the Configuration folder, Dreamweaver automatically writes to the user Configuration folder instead. This practice lets each Dreamweaver user customize configuration settings without disturbing the configuration settings of other users. For more information, see "Customizing Dreamweaver in a multiuser environment" on page 10 and "File Access and Multiuser Configuration API" in the *Dreamweaver API Reference*.

Running scripts at startup or shutdown

If you place a command file in the Configuration/Startup folder, the command runs as Dreamweaver starts up. Startup commands load before the menus.xml file, before the files in the ThirdPartyTags folder, and before any other commands, objects, behaviors, inspectors, floating panels, or translators. You can use startup commands to modify the menus.xml file or other extension files. You can also show warnings, prompt the user for information, or call the `dreamweaver.runCommand()` function. However, from within the Startup folder, you cannot call a command that expects a valid Document Object Model (DOM). For information about the Dreamweaver DOM, see "The Dreamweaver Document Object Model" on page 95.

Similarly, if you place a command file in the Configuration/Shutdown folder, the command runs as Dreamweaver shuts down. From the shutdown commands, you can call `dreamweaver.runCommand()` function, show warnings, or prompt the user for information, but you cannot stop the shutdown process.

For more information about commands, see "Commands" on page 131. For more information about the `dreamweaver.runCommand()` function, see the *Dreamweaver API Reference*.

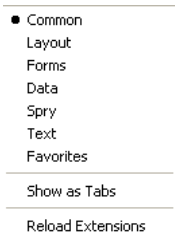
Reloading extensions

If you edit an extension while you are working in Dreamweaver, you can reload the extensions so that Dreamweaver recognizes the change.

Reload extensions

1 Control-click (Windows) or Option-click (Macintosh) the Categories menu in the title bar of the Insert panel.

__Note:__ This option is not visible when you are in Tabs mode. If you are in the Tabs mode, right click Panel menu (top-left). Select Show as Menu, then Ctrl-click on Common to get the menu with the Reload Extensions command.



2 Select Reload Extensions.

__Note:__ In a multiuser operating system, edit copies of configuration files in your user Configuration folder rather than editing master configuration files. For more information, see "Configuration folders and extensions" on page 77.

Extension APIs

The extension APIs provide you with the functions that Dreamweaver calls to implement each type of extension. You must write the bodies of these functions as described for each extension type and specify the return values that Dreamweaver expects.

If you are a developer who wants to work directly in the C programming language, there is a C extensibility API that lets you create dynamic link libraries (DLLs). The functionality that is provided in these APIs wraps your C DLLs in JavaScript so that your extension can work seamlessly in Dreamweaver.

The documentation of extension APIs outlines what each function does, when Dreamweaver calls it, and what value Dreamweaver expects it to return.

See the *Dreamweaver API Reference* for information about the Utility API and the JavaScript API, which provide functions that you can use to perform specific tasks in your extensions.

How Dreamweaver processes JavaScript in extensions

Dreamweaver checks the Configuration/*extension_type* folder during startup. If it encounters an extension file within the folder, Dreamweaver processes the JavaScript by completing the following steps:

- Compiling everything between the beginning and ending `SCRIPT` tags
- Executing any code within `SCRIPT` tags that is not part of a function declaration

  Note: *This procedure is necessary during startup because some extensions might require global variables to initialize.*

Dreamweaver performs the following actions for any external JavaScript files that are specified in the `SRC` attributes of `SCRIPT` tags:

- Reads in the file
- Compiles the code
- Executes the procedures

Note: *If any JavaScript code in your extension file contains the string ", the JavaScript interpreter reads the string as an ending `script` tag and reports an unterminated string literal error. To avoid this problem, break the string into pieces and concatenate them like this: `"<' + '/SCRIPT>"`.*

Dreamweaver executes code in the `onLoad` event handler (if one appears in the `body` tag) when the user selects the command or action from a menu for the Command and Behavior action extension types.

Dreamweaver executes code in the `onLoad` event handler in the `body` tag if the body of the document contains a form for object extensions.

Dreamweaver ignores the `onLoad` handler on the `body` tag in the following extensions:

- Data translator
- Property inspector
- Floating panel

For all extensions, Dreamweaver executes code in other event handlers (for example, `onBlur="alert('This is a required field.')"`) when the user interacts with the form fields to which they are attached.

Dreamweaver supports the use of event handlers within links. Event handlers in links must use syntax, as shown in the following example:

```
<a href="#" onMouseDown=alert('hi')>link text</a>
```

Plug-ins (set to `play` at all times) are supported in the `BODY` of extensions. The `document.write()` statement, Java applets, and Microsoft ActiveX controls are not supported in extensions.

Displaying Help

The `displayHelp()` function, which is part of several extension APIs, causes Dreamweaver to do the following two things when you include it in your extension:

- Add a Help button to the interface.
- Call `displayHelp()` when the user clicks the Help button.

You must write the body of the `displayHelp()` function to display Help. How you code the `displayHelp()` function determines how your extension displays Help. You can call the `dreamweaver.browseDocument()` function to open a file in a browser or devise a custom way to display Help such as displaying messages in another absolutely positioned element in alert boxes.

The following example uses the `displayHelp()` function to display Help by calling `dreamweaver.browseDocument()`:

```
// The following instance of displayHelp() opens a browser to display a file
// that explains how to use the extension.
function displayHelp() {

    var myHelpFile = dw.getConfigurationPath() + "ExtensionsHelp/myExtHelp.htm";
    dw.browseDocument(myHelpFile);
}
```

Localizing an extension

Use the following techniques to make it easier to translate your extensions into local languages.

- Separate extensions into HTML and JavaScript files. The HTML files can be replicated and localized; the JavaScript files are not localized.
- Do not define display strings in the JavaScript files (check for alerts and UI code). Extract all localizable strings into separate XML files in the Dreamweaver Configuration/Strings folder.
- Do not write JavaScript code in the HTML files except for required event handlers. This eliminates the need to fix a bug multiple times for multiple translations after the HTML files are replicated and translated into other languages.

XML string files

Store all strings in XML files in the Dreamweaver Configuration/Strings folder. If you install many related extension files, this lets you share all strings in a single XML file. If applicable, this also lets you refer to the same string from both C++ and JavaScript extensions.

You could create a file called myExtensionStrings.xml. The following example shows the format of the file:

```
<strings>
    <!-- errors for feature X -->
    <string id="featureX/subProblemY" value="There was a with X when you did Y. Try not to
        do Y!"/>
    <string id="featureX/subProblemZ" value="There was another problem with X, regarding Z.
        Don't ever do Z!"/>
</strings>
```

Now your JavaScript files can refer to these translatable strings by calling the `dw.loadString()` function, as shown in the following example:

```
function initializeUI()
{
    ...
    if (problemYhasOccured)
    {
        alert(dw.loadString("featureX/subProblemY");
    }
}
```

You can use slash (/) characters in your string identifiers, but do not use spaces. Using slashes, you can create a hierarchy to suit your needs, and include all the strings in a single XML file.

Note: *Files that begin with cc in the Configuration/Strings folder are Contribute files. For example, the file ccSiteStrings.xml is a Contribute file.*

Localizable strings with embedded values

Some display strings have values embedded in them. You can use the `errMsg()` function to display these strings. You can find the `errMsg()` function, which is similar to the `printf()` function in C, in the string.js file in the Configuration/Shared/MM/Scripts/CMNfolder. Use the placeholder characters percent sign (`%`) and `s` to indicate where values should appear in the string and then pass the string and variable names as arguments to `errMsg()`. For example:

```
<string id="featureX/fileNotFoundInFolder" value="File %s could not be found in folder %s."/>
```

The following example shows how the string, along with any variables to embed, is passed to the `alert()` function.

```
if (fileMissing)
{
    alert( errMsg(dw.loadString("featureX/fileNotFoundInFolder"),fileName,
        folderName) );
}
```

Working with the Extension Manager

If you create extensions for others users, you must package them according to the guidelines on the Adobe Exchange website (www.adobe.com/go/exchange) under the Help > How to Create an Extension category. After you have written and tested an extension in the Extension Manager, select File > Package Extension. After the extension is packaged, you can submit it to the Exchange from the Extension Manager by selecting File > Submit Extension.

The Adobe Extension Manager comes with Dreamweaver. Details about its use are available in its Help files and on the Adobe Exchange website.

Chapter 5: User interfaces for extensions

Most extensions are built to receive information from the user through a user interface (UI). For example, if you create a Property inspector extension for the `marquee` tag, you need to create a way for the user to specify attributes like direction and height. If you plan to submit your extension for Adobe certification, you need to follow the guidelines that are available within the Extension Manager files on the Adobe Exchange website (www.adobe.com/go/exchange). These guidelines are not intended to limit your creativity. Their purpose is to ensure that certified extensions work effectively within the Adobe Dreamweaver user interface (UI) and that the extension UI design does not detract from its functionality.

Extension user interface designing guidelines

Typically, you create an extension to perform a task that users encounter frequently. Certain parts of the task are repetitive; by creating an extension, you can automate the repetitive actions. Some steps in the task can change, or specific attributes of the code that the extension processes can change. To receive user inputs for these variable values, you build a UI.

For example, you might create an extension to update a web catalog. Users periodically need to change values for image sources, item descriptions, and prices. Although the values change, the procedures for getting these values and formatting the information for display on the website remain the same. A simple extension can automate the formatting while letting users manually input the new, updated values for image sources, item descriptions, and prices. A more robust extension can retrieve these values periodically from a database.

The purpose of your extension UI is to receive information that the user inputs. This information handles the variable aspects of a repetitive task that the extension performs. Dreamweaver supports HTML and JavaScript form elements as the basic building blocks for creating extension UI controls and displays the UI using its own HTML renderer. Therefore, an extension UI can be as simple as an HTML file that contains a two-column table with text descriptions and form input fields.

When you design an extension, you should determine what variables are necessary and what form elements can best handle them.

Consider the following basic guidelines when you design an extension UI:

- To name your extension, place the name in the `title` tag of your HTML file. Dreamweaver displays the name in the extension title bar.
- Keep text labels on the left side of your UI, aligned right, with text boxes on the right side, aligned left. This arrangement lets the user's eyes easily locate the beginning of any text box. Minimal text can follow the text box as explanation or units of measure.
- Keep check box and radio button labels on the right side of your UI, aligned left.
- For readable code, assign logical names to your text boxes. If you use Dreamweaver to create your extension UI, you can use the Property inspector or the Quick Tag Editor to assign names to the fields.

In a typical scenario, after you create the UI, you test the extension code to see that it properly performs the following UI-related tasks:

- Getting the values from the text boxes
- Setting default values for the text boxes or gathering values from the selection

- Applying changes to the user document

Dreamweaver HTML rendering control

In earlier versions of Dreamweaver (up to Dreamweaver 4), Dreamweaver rendered more space around form controls than Microsoft Internet Explorer and Netscape Navigator do. Form controls in extension UIs are rendered with extra space around them because Dreamweaver uses its HTML rendering engine to display extension UIs.

In later versions of Dreamweaver, the form-control rendering more closely matches the browsers. To take advantage of the rendering improvements, use one of three new `DOCTYPE` statements in your extension files, as shown in the following examples:

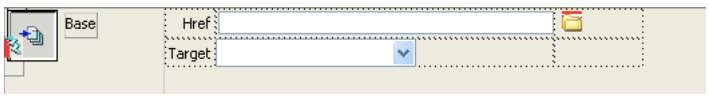
```
<!DOCTYPE HTML SYSTEM "-//Adobe//DWExtension layout-engine 10.0//dialog">
<!DOCTYPE HTML SYSTEM "-//Adobe//DWExtension layout-engine 10.0//floater">
<!DOCTYPE HTML SYSTEM "-//Adobe//DWExtension layout-engine 10.0//pi">
```

In most cases, `DOCTYPE` statements must go on the first line of a document. However, to avoid conflicts with extension-specific directives, `DOCTYPE` statements and directives can now be in any order. But, they must appear before the opening HTML tag. In previous versions, extension-specific directives were required to be on the first line of a file. For example, the comment at the top of a Property inspector file, or the `MENU-LOCATION=NONE` directive in a command.

The new `DOCTYPE` statements let you view your extensions in the Dreamweaver Design view. You can see them as they would appear when viewed by users.

You can see three examples where the dialog case is used in the following files in the Configuration/Commands folder: CFLoginWizard.htm, TeamAdminDlgDates.html, and TeamAdminDlgDays.html.

The following examples show the Base Property inspector without the `DOCTYPE` statement, which improves form-control rendering, and then with the `DOCTYPE` statement.



Custom UI controls in extensions

In addition to the standard HTML form elements, Dreamweaver supports custom controls to help you create flexible, professional-looking interfaces.

Editable select lists

Editable select lists (also known as combo boxes) lets you combine the functionality of a select list with the functionality of a text box.

Extension UIs often contain pop-up menus that are defined using the `select` tag. In Dreamweaver, you can make pop-up menus in extensions editable by adding `editable="true"` to the `select` tag. To set a default value, set the `editText` attribute and the value that you want the select list to display.

The following example shows the settings for an editable select list:

```
<select name="travelOptions" style="width:250px" editable="true" editText="other
    (please specify)">
<option value="plane">plane</option>
<option value="car">car</option>
<option value="bus">bus</option>
</select>
```

When you use select lists in your extensions, check for the presence and value of the editable attribute. If no value is present, the select list returns the default value of `false`, which indicates that the select list is not editable.

As with standard noneditable select lists, editable select lists have a `selectedIndex` property (see "Objects, properties, and methods of the Dreamweaver DOM" on page 96). This property returns -1 if the text box is selected.

To read the value of an active editable text box into an extension, read the value of the `editText` property. The `editText` property returns the string that the user entered into the editable text box or the value of the `editText` attribute. If no text has been entered and no value has been specified for `editText`, it returns an empty string.

Dreamweaver adds the following custom attributes for the `select` tag to control editable pop-up menus:

Attribute name	Description	Accepted values
`editable`	Declares that the pop-up menu has an editable text area	A Boolean value of `true` or `false`
`editText`	Holds or sets text within the editable text area	A string of any value

Note: *Editable select lists are available in Dreamweaver.*

The following example creates a Command extension that contains an editable select list using common JavaScript functions:

Create the example

1 Create a new blank file in a text editor.

2 Enter the following code:

```
<html>
<head>
    <title>Editable Dropdown Test</title>
    <script language="javascript">
    function getAlert()
    {

        var i=document.myForm.mySelect.selectedIndex;
        if (i>=0)
        {
            alert("Selected index: " + i + "\n" + "Selected text " +
                    document.myForm.mySelect.options[i].text);
        }
        else
        {
            alert("Nothing is selected" + "\n" + "or you entered a value");
        }
    }
    function commandButtons()
    {
        return new Array("OK", "getAlert()", "Cancel", "window.close()");
```

```
    }
    </script>
</head>

<body>
<div name="test">
<form name="myForm">
<table>
    <tr>
        <td colspan="2">
        <h4>Select your favorite</h4>
        </td>
    </tr>
    <tr>
        <td>Sport:</td>
        <td>
        <select name="mySelect" editable="true" style="width:150px"
            editText="Editable Text">
            <option> Baseball</option>
            <option> Football </option>
            <option> Soccer </option>
        </select>
        </td>
    </tr>
</table>
</form>
</div>
</body>
</html>
```

3 Save the file as EditableSelectTest.htm in the Dreamweaver Configuration/Commands folder.

Test the example

1 Restart Dreamweaver.

2 Select Commands > EditableSelectTest.

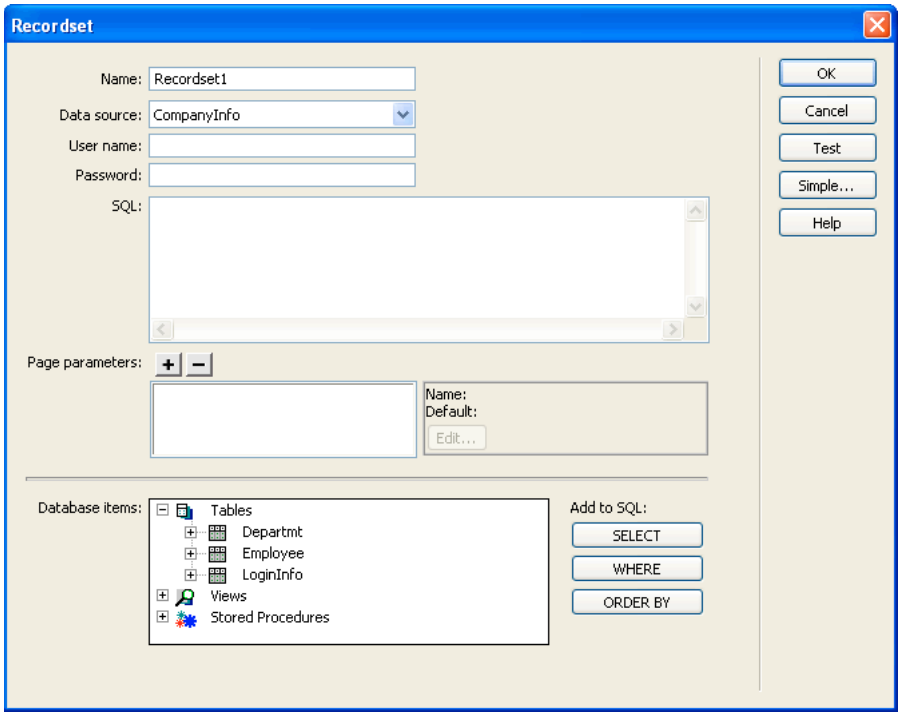
When you select a value from the list, an alert message displays the index of the value and the text. If you enter a value, an alert message indicates that nothing is selected.

Database controls

Database controls facilitate the display of data hierarchies and fields.

Using Dreamweaver, you can extend the HTML `select` tag to create a database tree control. You can also add a variable grid control. The database tree control displays database schema, and the variable grid control displays tabular information.

The following figure shows an advanced Recordset dialog box that uses a database tree control and a variable grid control:



Adding a database tree control

The database tree control has the following attributes:

Attribute name	Description
`name`	Name of the database tree control
`control.style`	Width and height, in pixels
`type`	Type of control
`connection`	Name of the database connection that is defined in the Connection Manager; if empty, the control is empty.
`noexpandbuttons`	When this attribute is specified, the tree control does not draw the expand Plus (+) or collapse Minus (-) indicators or the associated arrows on the Macintosh. This attribute is useful for drawing multicolumn list controls.
`showheaders`	When this attribute is specified, the tree control displays a header at the top that lists the name of each column.

Any option tags that are placed inside the `select` tag are ignored.

To add a database tree control to a dialog box, you can use the following sample code with appropriate substitutions for quoted variables:

```
<select name="DBTree" style="width:400px;height:110px" ¬
type="mmdatabasetree" connection="connectionName" noexpandbuttons showHeaders></select>
```

You can change the `connection` attribute to retrieve selected data and display it in the tree. You can use the `DBTreeControl` attribute as a JavaScript wrapper object for the new tag. For more examples, see the DBTreeControlClass.js file in the Configuration/Shared/Common/Scripts folder.

Adding a variable grid control

The variable grid control has the following attributes:

Attribute name	Description
`name`	Name of the variable grid control
`style`	Width of the control, in pixels
`type`	Type of control
`columns`	Each column must have a name, separated by a comma
`columnWidth`	Width of each column, each separated by a comma. The columns are of equal width if you do not specify widths.

The following example adds a simple variable grid control to a dialog box:

```
<select name="ParamList" style="width:515px;" ¬
type="mmparameterlist columns"="Name,SQL Data ¬
Type,Direction,Default Value,Run-time Value" size=6></select>
```

The following example creates a variable grid control that is 500 pixels wide, with five columns of various widths:

```
<select
    name="ParamList"
    style="width:500px;"
    type="mmparameterlist"
    columns="Name,SQL Data Type,Direction, Default Value,Run-time Value"
    columnWidth="100,25,11,"
    size=6>
```

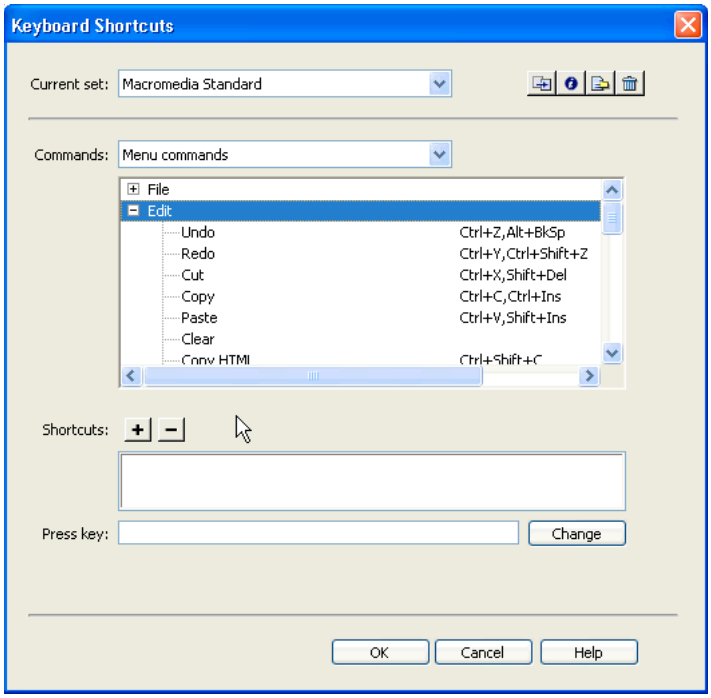
This example creates two blank columns that are 182 pixels wide. (The specified columns total 136. The total width of the variable grid control is 500. The remaining space after the first three columns are placed is 364. Two columns remain; 364 divided by 2 is 182.)

This variable grid control also has a JavaScript wrapper object that should be used to access and manipulate the variable grid control's data. You can find the implementation in the GridControlClass.js file in the Configuration/Shared/MM/Scripts/Class folder.

Tree controls

Tree controls organize information into expandable and collapsible nodes.

Tree controls display data in a hierarchical format and let users expand and collapse nodes in the tree. The `MM:TREECONTROL` tag lets you create tree controls for any type of information. Unlike the database tree control that is described in "Adding a database tree control" on page 86, no association with a database is required. The Dreamweaver Keyboard Shortcuts editor uses the tree control, as shown in the following figure:



Creating a tree control

The `MM:TREECONTROL` tag creates a tree control and can use one or more tags to add structure, as described in the following list:

- `MM:TREECOLUMN` is an empty, optional tag that defines a column in the tree control.
- `MM:TREENODE` is an optional tag that defines a node in the tree. It is a nonempty tag that can contain only other `MM:TREENODE` tags.

`MM:TREECONTROL` tags have the following attributes:

Attribute name	Description
`name`	Name of the tree control
`size`	Optional. Number of rows that show in the control; default is 5 rows
`theControl`	Optional. If the number of nodes in the `theControl` attribute exceeds the value of the size attribute, scrollbars appear
`multiple`	Optional. Allows multiple selections; default is single-selection
`style`	Optional. Style definition for height and width of tree control; if specified, takes precedence over the `size` attribute
`noheaders`	Optional. Specifies that the column headers should not appear

`MM:TREECOLUMN` tags have the following attributes:

Attribute name	Description
`name`	Name of the column
`value`	String to appear in column header
`width`	Width of the column in pixels (percentage not supported); default is 100
`align`	Optional. Specifies whether the text in the column should be aligned left, right, or center; default is left
`state`	Specifies whether the column is visible or hidden

For readability, `TREECOLUMN` tags should follow immediately after the `MM:TREECONTROL` tag, as shown in the following example:

```
<MM:TREECONTROL name="tree1">
<MM:TREECOLUMN name="Column1" width="100" state="visible">
<MM:TREECOLUMN name="Column2" width="80" state="visible">
...
</MM:TREECONTROL>
```

The `MM:TREENODE` attributes are described in the following table:

Attribute name	Description
`name`	Name of the node
`value`	Contains the content for the given node. For more than one column, this is a pipe-delimited string. To specify an empty column, place a single space character before the pipe (|).
`state`	Specifies that the node is expanded or collapsed with the strings `"expanded"` or `"collapsed"`.
`selected`	You can select multiple nodes by setting this attribute on more than one tree node, if the tree has a MULTIPLE attribute.
`icon`	Optional. The index of built-in icon to use, starting with 0: 0 = no icon; 1 = Dreamweaver document icon; 2 = multidocument icon

For example, the following tree control has all its nodes expanded:

```
<mm:treecontrol name="test" style="height:300px;width:300px">

<mm:treenode value="rootnode1" state="expanded">
<mm:treenode value="node1" state="expanded"></mm:treenode>
<mm:treenode value="node3" state="expanded"></mm:treenode>
</mm:treenode>

<mm:treenode value="rootnode2"0state="expanded">
<mm:treenode value="node2" state="expanded"></mm:treenode>
<mm:treenode value="node4" state="expanded"></mm:treenode>
</mm:treenode>

</mm:treecontrol>
```

Manipulating content within a tree control

Tree controls and the nodes within them are implemented as HTML tags. They are parsed by Dreamweaver and stored in the document tree. These tags can be manipulated in the same way as any other document node. For more information on DOM functions and methods, see "The Dreamweaver Document Object Model" on page 95.

Add a node To add a node to an existing tree control programmatically, set the `innerHTML` property of the `MM:TREECONTROL` tag or one of the existing `MM:TREENODE` tags. Setting the `inner HTML` property of a tree node creates a nested node.

The following example adds a node to the top level of a tree:

```
var tree = document.myTreeControl;
//add a top-level node to the bottom of the tree
tree.innerHTML = tree.innerHTML + '<mm:treenode name="node3" value="node3">';
```

Add a child node To add a child node to the currently selected node, set the `innerHTML` property of the selected node.

The following example adds a child node to the currently selected node:

```
var tree = document.myTreeControl;
var selNode = tree.selectedNodes[0];
//deselect the node, so we can select the new one
selnode.removeAttribute("selected");
//add the new node to the top of the selected node's children
selNode.innerHTML = '<mm:treenode name="item10" value="New item11" expanded selected>' + ¬
selNode.innerHTML;
```

Delete a node To delete the currently selected node from the document structure, use the `innerHTML` or `outerHTML` properties.

The following example deletes the entire selected node and any children:

```
var tree = document.myTreeControl;
var selNode = tree.selectedNodes[0];
selNode.outerHTML = "";
```

Adding a color button control

Color button controls let you add color picker interfaces to your extensions.

In addition to the standard input types such as text, check box, and button, Dreamweaver supports `mmcolorbutton`, an additional input type in extensions.

Specifying `<input type="mmcolorbutton">` in your code causes a color picker to appear in the user interface. You can set the default color for the color picker by setting a value attribute on the input tag. If you do not set a value, the color picker appears gray by default and the value property of the input object returns an empty string.

The following example shows a valid `mmcolorbutton` tag:

```
<input type="mmcolorbutton" name="colorbutton" value="#FF0000">
<input type="mmcolorbutton" name="colorbutton" value="teal">
```

A color button has one event, `onChange`, which is triggered when the color changes.

Keep a text box and the color picker synchronized. The following example creates a text box that synchronizes the color of the text box with the color of the color picker:

```
<input type = "mmcolorbutton" name="fgcolorPicker"
onChange="document.fgcolorText.value=this.value">
<input type = "test" name="fgcolorText" onBlur="document.fgColorPicker.value=this.value">
```

In this example, the user changes the value of the text box and then tabs or clicks elsewhere. Then, the color picker updates to show the color that is specified in the text box. Whenever the user selects a new color with the color picker, the text box updates to show the hexadecimal value for that color.

Adding Flash content to Dreamweaver

Flash content (SWF files) can display in the Dreamweaver interface either as part of an object or command. This Flash support is especially useful if you build extensions that use Flash forms, animations, ActionScript or other Flash content.

Basically, you leverage the ability for Dreamweaver objects and commands to display dialogs (see "Insert bar objects" on page 104 for more information about building objects, and "Commands" on page 131 for information about commands) using the `form` tag with the `object` tag to embed your Flash content in a Dreamweaver dialog box.

A simple Flash dialog box example

In this example, you use Dreamweaver to create a command. The command created displays a SWF file called myFlash.swf when the user clicks the command in the Commands menu. For specific information about creating commands before trying this example, see "Commands" on page 131.

Note: *This example assumes that you already have a SWF file called myFlash.swf in the Configuration/Commands folder of your Dreamweaver application installation folder. To test it with your own SWF file, save the SWF file to the application Commands folder, and substitute your filename in all instances of myFlash.swf.*

In Dreamweaver, open a new basic HTML file (this file is your Command definition file). Between the opening and closing `title` tags, enter **My Flash Movie**, so that the head of your page reads as follows:

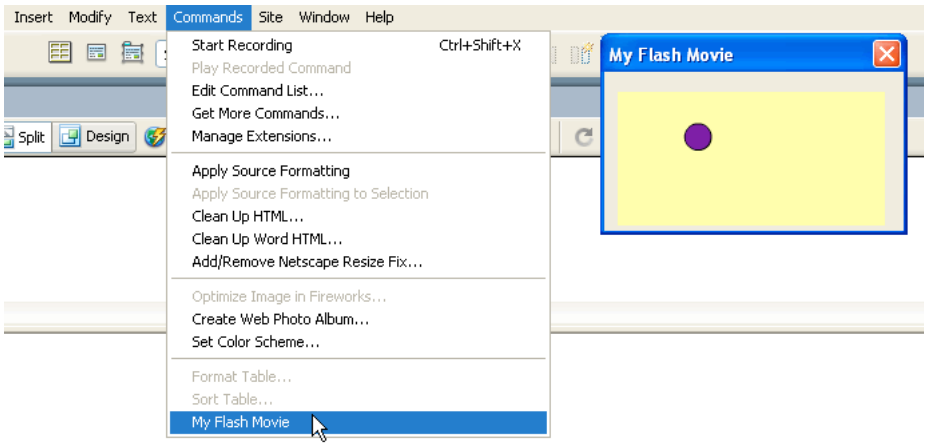
```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
<html>
<head>
<title>My Flash Movie</title>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
</head>
```

Now, save the file as My Flash Movie.htm in the application Configuration/Commands folder (but do not close the file yet). Save the file now, so that you can embed your SWF file with a relative path; otherwise Dreamweaver uses an absolute path.

Back in the HTML document, between the opening and closing `body` tags, add an opening and closing `form` tag. Then, within the `form` tags, use the Insert > Media > Flash option to add your SWF file to the Command definition file. When prompted, select the SWF file in the Commands folder, and click OK. Your Command definition file now looks like the following example (the `width` and `height` attributes could differ, depending on your SWF file properties):

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
<html>
<head>
    <title>My Flash Movie</title>
    <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
</head>
<body>
<body>
<form>
    <object id="FlashID" classid="clsid:D27CDB6E-AE6D-11cf-96B8-444553540000" width="700"
height="150">
    <param name="movie" value="myFlash.swf">
    <!--[if !IE]>-->
    <object type="application/x-shockwave-flash" data="myFlash.swf" width="700"
height="150">
    <!--<![endif]-->
    <param name="quality" value="high"/>
    <param name="wmode" value="opaque" />
    <param name="swfversion" value="8.0.35.0" />
    <!-- This param tag prompts users with Flash Player 6.0 r65 and higher to download the
latest version of Flash Player. Delete it if you don't want users to see the prompt. -->
    <param name="expressinstall"
value="../../../../../ColdFusion8/wwwroot/lr/Scripts/expressInstall.swf" />
    <!-- The browser displays the following alternative content for users with Flash Player
6.0 and older. -->
    <div>
    <h4>Content on this page requires a newer version of Adobe Flash Player.</h4>
    <p><a href="http://www.adobe.com/go/getflashplayer"><img
src="http://www.adobe.com/images/shared/download_buttons/get_flash_player.gif" alt="Get
Adobe Flash player" width="112" height="33" /></a></p>
    </div>
    <!--[if !IE]>-->
</object>
<!--<![endif]-->
</object>
</form>
</body>
</html>
```

Save the file again. Next, exit, and restart Dreamweaver. Select the Command > My Flash Movie option, and your SWF file appears in a Dreamweaver dialog box, as shown in the following figure:



This example shows a simple implementation of the SWF file support of Dreamweaver. After you are familiar with building objects and commands as well as more sophisticated forms, you can integrate SWF files into your Dreamweaver extensions.The integration provides for a more dynamic user experience. For more information, see "Commands" on page 131 about writing a `commandButtons()` function to add buttons to the dialog box that displays your SWF files.

Photoshop integration and Smart Objects

Adobe® Dreamweaver CS4® imports and handles Photoshop files as Smart Objects. Any modification done to the original image using Photoshop is immediately reflected in Dreamweaver. For more information about APIs integrating Photoshop to Dreamweaver, see "Photoshop integration" in the *Dreamweaver API Reference*.

A Smart Object example

In this example, you use Dreamweaver to create a command that updates a Photoshop file (PSD) when the user clicks the command in the Commands menu. To enable this command to work, ensure that you have a Smart Object web image on your HTML page. For specific information about creating commands before trying this example, see "Commands" on page 131.

In Dreamweaver, open a new basic HTML file (this file is your Command definition file). Your Command definition file looks like the following example:

```
<html xmlns:MMStr ing="http://www.adobe.com /schemes/data/   string/">
<head>
    <title> Smart Objects API</ title >
    <SC RIPT SRC="../Shared/Common/Scripts /dwscripts.js"></SC RIPT>
    <SCRIPT LANGUAGE="Javascript">
function invokeSmartObjectJavaScriptAPICall() {
    var selection = dw.getSelection();
    if (!selection) {
    alert("Err: No selection!");
    return;
    }
    var node = dw.offsetsToNode(selection[0], selection[1]);
    if (!node) {
                alert("Err: No Node!");
                return;
                }
    var imageSrc = node.getAttribute("src");
    if (!imageSrc) {
                    alert("Err: No src attribute!");
                    return;
                    }
    var fullPath = getFullPath(imageSrc);
    if (!fullPath) {
                    alert("Err: No path!");
                    return;
                    }
    //alert(fullPath);
    alert("updateSmartObjectFromOriginal");
    dw.updateSmartObjectFromOriginal(fullPath);
}
    <script>
</head>
<body onload="invokeSmartObjectJavaScriptAPICall()">
</body>
</html>
```

Now, save the file as smartobjects.htm in the application Configuration/Commands folder. When prompted, select the SWF file in the Commands folder, and click OK.

Chapter 6: The Dreamweaver Document Object Model

In Adobe Dreamweaver, the Document Object Model (DOM) is a critically important structure for extension builders.

A DOM defines the composition of documents that are created using a markup language. By representing tags and attributes as objects and properties, the DOM lets programming languages access and manipulate documents and their components.

About Dreamweaver DOM

The structure of an HTML document can be seen as a document tree. The root is the `html` tag, and the two largest trunks are the `head` tag and the `body` tag. Offshoots of the `head` tag include the `title`, `style`, `script`, `isindex`, `base`, `meta`, and `link` tags. Offshoots of the `body` tag include:

- Headings (`h1`, `h2`, and so on)
- Block-level elements (`p`, `div`, `form`, and so on)
- Inline elements (`br`, `img`, and so on)
- Other element types

Leaves on these offshoots include attributes such as `width`, `height`, `alt`, and others.

In a DOM, the tree structure is preserved and presented as a hierarchy of parent nodes and child nodes. The root node has no parent, and leaf nodes have no children. At each level within the HTML structure, the HTML element can be exposed to JavaScript as a node. Using this structure, you can access the document or any element within it.

In JavaScript, you can mention any object in the document by name or by index. For example, consider that a Submit button with the name or ID "`myButton`" is the second element in the first form in the document. Then, both of the following references to the button are valid:

- By name, as in `document.myForm.myButton`
- By index, as in `document.forms[0].elements[1]`

The objects with the same name, such as a group of options, are collapsed into an array. You can access a particular object in the array by incrementing the index with zero as the origin. For example, the first option with the name "`myRadioGroup`" inside a form called "`myForm`" is referenced as `document.myForm.myRadioGroup[0]`.

Distinguishing between the user document and extension DOMs

It is important to distinguish between the DOM of the user's document and the DOM of the extension. The information in this topic applies to both types of Dreamweaver documents, but the way that you reference each DOM is different.

If you are familiar with JavaScript in browsers, you can reference objects in the active document by writing `document.` (for example, `document.forms[0]`). In Dreamweaver, `document` refers to the extension file; `document.forms[0]` refers to the first form in the extension UI. To reference objects in the user's document, you must call `dw.getDocumentDOM()`, `dw.createDocument()`, or another function that returns a user document object.

For example, to refer to the first image in the active document, you can write `dw.getDocumentDOM().images[0]`. You can also store the document object in a variable and use that variable in future references, as shown in the following example:

```
var dom = dw.getDocumentDOM();  //get the dom of the current document
var firstImg = dom.images[0];
firstImg.src = "myImages.gif";
```

This kind of notation is common in files throughout the Configuration folder, especially in command files. For more information about the `dw.getDocumentDOM()` method, see the `dreamweaver.getDocumentDOM()` function in the *Dreamweaver API Reference*.

The Dreamweaver DOM

The Dreamweaver DOM contains a subset of objects, properties, and methods from the World Wide Web Consortium (W3C) DOM Level 1 specification, which are combined with some properties of the Microsoft Internet Explorer 4.0 DOM.

Objects, properties, and methods of the Dreamweaver DOM

The following table lists the objects, properties, methods, and events that the Dreamweaver DOM supports. Some properties are read-only when they are accessed as properties of a specific object. A bullet (•) indicates properties that are read-only when they are used in the listed context.

Object	Properties	Methods	Events
window	navigator • document • innerWidth • innerHeight • screenX • screenY •	alert() confirm() escape() unescape() close() setTimeout() clearTimeout() setInterval() clearInterval() resizeTo()	onResize
navigator	platform •	None	None
document	forms • (an array of form objects) images • (an array of image objects) layers • (an array of LAYER, ILAYER, and absolutely positioned elements) child objects by name • nodeType • parentNode • childNodes • previousSibling • nextSibling • documentElement • body • URL • parentWindow •	getElementsByTagName() getElementsByAttributeName() getElementById() hasChildNodes()	onLoad
all tags/ elements	nodeType • parentNode • childNodes • tagName • previousSibling • nextSibling • attributes by name innerHTML outerHTML	getAttribute() setAttribute() removeAttribute() getElementsByTagName() getElementsByAttributeName() hasChildNodes()	

Object	Properties	Methods	Events
form	In addition to the properties that are available for all tags: tags:elements • (an array of button, checkbox, password, radio, reset, select, submit, text, file, hidden, image, and textarea objects) mmcolorbutton child objects by name •	Only those methods available to all tags	None
layer	In addition to the properties that are available for all tags: visibility left top width height zIndex	Only those methods that are available to all tags	None
image	In addition to the properties that are available for all tags: src	Only those methods that are available to all tags	onMouseOver onMouseOut onMouseDown onMouseUp
button reset submit	In addition to the properties that are available for all tags: form •	In addition to the methods that are available for all tags: blur() focus()	onClick
checkbox radio	In addition to the properties that are available for all tags: checked • form •	In addition to the methods that are available for all tags: blur() focus()	onClick
password text file hidden image (field) textarea	In addition to the properties that are available for all tags: form • value	In addition to the methods that are available for all tags: blur() focus() select()	onBlur onFocus
select	In addition to the properties that are available for all tags: form • options • (an array of option objects) selectedIndex	In addition to the methods that are available for all tags: blur() (Windows only) focus() (Windows only)	onBlur (Windows only) onChange onFocus (Windows only)

Object	Properties	Methods	Events
`option`	In addition to the properties that are available for all tags: `text`	Only those methods that are available to all tags	None

`mmcolorbutton`	In addition to the properties that are available for all tags:
	`name`
	`value`
		None	`onChange`

`array`
`boolean`
`date`
`function`
`number`
`object`
`string`
`regexp`
	Matches Netscape Navigator 4.0	Matches Netscape Navigator 4.0	None

`text`	`nodeType`• `parentNode`• `childNodes`• `previousSibling`• `nextSibling`• `data`	`hasChildNodes()`	None
`comment`	`nodeType`• `parentNode`• `childNodes`• `previousSibling`• `nextSibling`• `data`	`hasChildNodes()`	None
`NodeList`	`length`•	`item()`	None
`NamedNodeMap`	`length` •	`item()`	None

Properties and methods of the document object

The following table details the properties and methods of the `document` object that are supported in Dreamweaver. A bullet (•) marks read-only properties.

Property or method	Return value
`nodeType` •	`Node.DOCUMENT_NODE`
`parentNode` •	null
`parentWindow` •	The JavaScript object that corresponds to the document's parent window. (This property is defined in the Microsoft Internet Explorer 4.0 DOM, but is not part of DOM Level 1 or 2.)
`childNodes` •	A `NodeList` that contains all the immediate children of the `document` object. Typically the document has a single child, the `HTML` object.
`previousSibling` •	null
`nextSibling` •	null
`documentElement` •	The JavaScript object that corresponds to the `html` tag. This property is shorthand for getting the value of `document.childNodes` and extracting the `HTML` tag from the `NodeList`.
`body` •	The JavaScript object that corresponds to the `body` tag. This property is shorthand for calling `document.documentElement.childNodes` and extracting the `body` tag from the `NodeList`. For frameset documents, this property returns the node for the outermost frameset.
`URL` •	The ***`file`***`://URL` for the document or, if the file has not been saved, an empty string.
`getElementsByTagName(tagName)`	A `NodeList` that can be used to step through tags of type ***`tagName`*** (for example, `img`, `div`, and so on). If the ***`tagName`*** argument is "LAYER", the function returns all `LAYER` and `ILAYER` tags and all absolutely positioned elements. If the ***`tagName`*** argument is "INPUT", the function returns all form elements. (If a name attribute is specified for one or more ***`tagName`*** objects, it must begin with a letter, which the HTML 4.01 specification requires, or the length of the array that this function returns is incorrect.)
`getElementsById(Id)`	Gets the element node with the specified ***`id`***. Where ***`id`*** is a string containing the ID of the element to get. `var dom = dw.getDocumentDOM(); var contObj = dom.getElementById('content'); alert("The element with the id 'content' is a " + contObj.tagName);`
`getElementsByAttributeName(attrName)`	A `NodeList` that can be used to step through elements with an attribute ***`attrName`*** (for example, all elements with the attribute "for"). Not part of DOM Level 1 or 2.
`getElementById(id)`	The HTML element with the specified ID.
`hasChildNodes()`	`true`

Properties and methods of HTML

The following table lists the properties and methods of HTML elements in Dreamweaver, along with their return values or explanations. A bullet (•) marks read-only properties.

Property or method	Return value
`nodeType` •	`Node.ELEMENT_NODE`
`parentNode` •	The parent tag. If this is the `HTML` tag, the document object returns.
`childNodes` •	A `NodeList` that contains all the immediate children of the tag.
`previousSibling` •	The sibling node immediately prior to this one. For example, in an HTML document the `previousSibling` for the `body` element is the `head` element.
`nextSibling` •	The sibling node immediately following this one. For example, in an HTML document the `nextSibling` for the `head` element is the `body` element. (Any `script`, `style`, or `meta` tags in the head would be child nodes of the `head` element.)
`tagName` •	The HTML tagName for the element, such as `IMG`, `A`, or `DIV`. The value returned is always in uppercase letters.
`attrName`	A string that contains the value of the specified tag attribute.The `tag.`***`attrName`*** cannot be used if the ***`attrName`*** attribute is a reserved word in the JavaScript language (for example, `class`). In this case, use `getAttribute()` and `setAttribute()`.
`innerHTML`	The source code that is contained between the opening tag and the closing tag. For example, in the code `<p><b>Hello</b>, World!</p>`, `p.innerHTML` returns `<b>Hello</b>, World!`. If you write to this property, the DOM tree immediately updates to reflect the new structure of the document. (This property is defined in the Microsoft Internet Explorer 4.0 DOM, but is not part of DOM Level 1 or 2.)
`outerHTML`	The source code for this tag, including the tag. For the previous example code, `p.outerHTML` returns `<p><b>Hello</b>, World!</p>`. If you write to this property, the DOM tree immediately updates to reflect the new structure of the document. (This property is defined in the Microsoft Internet Explorer 4.0 DOM, but is not part of DOM Level 1 or 2.)
`getAttribute(`***`attrName`***`)`	The value of the specified attribute if it is explicitly specified; `null` otherwise.
`getTranslatedAttribute(`***`attrName`***`)`	The translated value of the specified attribute or the same value that `getAttribute()` returns if the attribute's value is not translated. (This property is not included in DOM Level 1; it was added to Dreamweaver 3 to support attribute translation.)
`setAttribute(`***`attrName`***`, `***`attrValue`***`)`	Does not return a value. Sets the specified attribute to the specified value example, `img.setAttribute("src", "image/roses.gif").`
`removeAttribute(`***`attrName`***`)`	Does not return a value. Removes the specified attribute and its value from the HTML for this tag.
`getElementsByTagName(`***`tagName`***`)`	A `NodeList` that can be used to step through child tags of type ***`tagName`*** (for example, `IMG`, `DIV`, and so on). If the ***`tagName`*** argument is "layer", the function returns all `LAYER` and `ILAYER` tags and all absolutely positioned elements. If the ***`tagName`*** argument is "input", the function returns all form elements. (If a name attribute is specified for one or more `tagName` objects, it must begin with a letter, which the HTML 4.01 specification requires, or the length of the array that this function returns is incorrect.)

Property or method	Return value
`getElementsByAttributeName(attrName)`	A `NodeList` that can be used to step through elements with an attribute ***attrName*** (for example, all elements with the attribute "for"). Not part of DOM Level 1 or 2.
`hasChildNodes()`	A Boolean value that indicates whether the tag has any children.
`hasTranslatedAttributes()`	A Boolean value that indicates whether the tag has any translated attributes. (This property is not included in DOM Level 1; it was added to Dreamweaver 3 to support attribute translation.)

Properties and methods of text objects

Each contiguous block of text in an HTML document (for example, the text within a `p` tag) is represented by a JavaScript object. Text objects never have children. The following table describes the properties and methods of text objects that are taken from DOM Level 1 and used in Dreamweaver. A bullet (•) marks read-only properties.

Property or method	Return value
`nodeType` •	`Node.TEXT_NODE`
`parentNode` •	The parent tag
`child Nodes` •	An empty
`previousSibling` •	The sibling node immediately prior to this one. For example, in the code `<p>blah blah</p>`, the `<p>` tag has three child nodes (text node, element node, text node). The `previousSibling` of the third child is the ` ` tag; the `previousSibling` of the first child is `null`.
`nextSibling` •	The sibling node immediately following this one. For example, in the code `<p>blah blah</p>`, the `nextSibling` of the first child of the `p` tag is the ` ` tag; the `nextSibling` of the third child is `null`.
`data`	The actual text string. Entities in the text are represented as a single character (for example, the text `Joseph & I` is returned as `Joseph & I`).
`hasChildNodes()`	`false`

Properties and methods of comment objects

A JavaScript object represents each HTML comment. The following table details the properties and methods of comment objects that are taken from DOM Level 1 and are used in Dreamweaver. A bullet (•) marks read-only properties.

Property or method	Return value
`nodeType` •	`Node.COMMENT_NODE`
`parentNode` •	The parent tag
`childNodes` •	An empty `NodeList` array
`previousSibling` •	The sibling node immediately prior to this one.
`nextSibling` •	The sibling node immediately following this one.
`data`	The text string between the comment markers (`<!-- and -->`)
`hasChildNodes()`	`false`

The dreamweaver and site objects

Dreamweaver implements the standard objects that are accessible through the DOM and adds two custom objects: `dreamweaver` and `site`. These custom objects are widely used within the APIs and in writing extensions. For more information on the methods of the `dreamweaver` and `site` objects, see the *Dreamweaver API Reference*.

Properties of the dreamweaver object

The `dreamweaver` object has two read-only properties, which are described in the following list:

- The `appName` property has the value `"Dreamweaver"`.
- The `appVersion` property has a value of the form `"versionNumber.releaseNumber.buildNumber[languageCode] (platform)"`.

  As an example, the value of the `appVersion` property for the Swedish Windows version of Dreamweaver is `"8.0.XXXX [se] (Win32)"`; the value for the English Macintosh version is `"8.0.XXXX [en] (MacPPC)"`.

  Note: *You can find the version and build number by selecting the Help > About menu item.*

The `appName` and `appVersion` properties were implemented in Dreamweaver 3 and are not available in earlier versions of Dreamweaver.

To find the specific version of Dreamweaver, check first for the existence of `appVersion` and then for the version number, as shown in the following example:

```
if (dreamweaver.appVersion && dreamweaver.appVersion.indexOf('3.01') != -1){¬
    // execute code
}
```

The `dreamweaver` object has a property called `systemScript` that lets you query the language of the user's operating system. Use this property if you need to include special cases in your extension code for localized operating systems, as shown in the following example:

```
if (dreamweaver,systemScript && (dreamweaver.systemScript.indexOf('ja')!=-1){¬
    SpecialCase }
```

The `systemScript` property returns the following values for localized operating systems:

Language	Value
Japanese	`ja`
Korean	`ko`
TChinese	`zh_tw`
SChinese	`zh_cn`

Operating systems for all European languages return `'en'`.

The site object

The `site` object has no properties. For information about the methods of the `site` object, see the *Dreamweaver API Reference*.

Chapter 7: Insert bar objects

You can add items to the Insert bar to automate repetitive tasks for your users or even create dialog boxes for users to set specific attributes.

Objects reside in the Configuration/Objects folder inside the Dreamweaver application folder. The Objects subfolders are grouped according to their location on the Insert bar, and you can open these files to see the construction of current objects. For example, you can open the Configuration/Objects/Common/Hyperlink.htm file to see the code that corresponds to the hypertext link object button on the Insert bar.

The following table lists the files you use to create an object:

Path	File	Description
Configuration/Objects/*objecttype*/	*objectname*.htm	Specifies what to insert in the document.
Configuration/Objects/*objecttype*/	*objectname*.js	Contains the functions to execute.
Configuration/Objects/*objecttype*/	*objectname*.gif	Contains the image that appears on the Insert bar.
Configuration/Objects	insertbar.xml	Specifies the objects that appear, and their order, on the Insert bar.

How object files work

Objects insert specific strings of code into a user document. Objects let users add content, such as images, absolutely positioned (AP) elements, and tables, by clicking icons or options on the menu.

Objects have the following components:

- The HTML file that defines what is inserted into a document

  The head section of an Object file contains JavaScript functions (or references external JavaScript files) that process form input from the body section and control what content is added to the user document. The body of an Object file can contain an HTML form that accepts parameters for the object (for example, the number of rows and columns to insert in a table) and activates a dialog box for users to input attributes.

  Note: *The simplest objects contain only the HTML to insert, without* `body` *and* `head` *tags. For more information, see "Customizing Dreamweaver" on the Adobe Support Center.*

- The 18 x 18 pixel image that appears on the Insert bar
- Additions to the insertbar.xml file. The insertbar.xml file defines where the object appears on the Insert bar.

  A user can select an object by clicking an icon on the Insert bar or by selecting an item on the Insert menu. When a user selects an object, the following events occur:

  1. Adobe Dreamweaver calls the `canInsertObject()` function to determine whether to show a dialog box.

     The Object file is scanned for a `form` tag. If a form exists and you select the Show Dialog When Inserting Objects option in the General Preferences dialog box, Dreamweaver calls the `windowDimensions()` function, if it is defined. Dreamwaver calls the function to determine the size of the dialog box in which to display the form. If no form exists in the Object file, Dreamweaver does not display a dialog box, and skips step 2.

2 If Dreamweaver displays a dialog box in step 1, the user enters parameters for the object (such as the number of rows and columns in a table) in the dialog box text fields and clicks OK.

3 Dreamweaver calls the `objectTag()` function and inserts its return value in the document after the current selection. (It does not replace the current selection.)

4 If Dreamweaver does not find the `objectTag()` function, it looks for an `insertObject()` function and calls that function instead.

The Insert bar definition file

The Configuration/Objects/insertbar.xml file defines the Insert bar properties. This XML file contains definitions for each individual object, in the order in which the objects appear.

The first time a user starts Dreamweaver, the Insert bar appears horizontally above the document. After that, its visibility and position are saved in the registry.

The Insertbar.xml tag hierarchy

The following example shows the format and hierarchy of nested tags in the insertbar.xml file:

```
<?xml version="1.0" ?>
<!DOCTYPE insertbarset SYSTEM "-//Adobe//DWExtension insertbar 10.0">
<insertbar xmlns:MMString="http://www.adobe.com/schemes/data/string/">
<category id="DW_Insertbar_Common" MMString:name="insertbar/categorycommon" folder="Common">
        <button id="DW_Hyperlink" image="Common\Hyperlink.png"
        MMString:name="insertbar/hyperlink" file="Common\Hyperlink.htm" />
        <button id="DW_Email" image="Common\E-Mail Link.png"
        MMString:name="insertbar/email" file="Common\E-Mail Link.htm" />
        <separator />
    <menubutton id="DW_Images" MMString:name="insertbar/images"
    image="Common\Image.png">
        <button id="DW_Image" image="Common\Image.png"
        MMString:name="insertbar/image" file="Common\Image.htm" />
    ...
        </menubutton>
        <separator />
            <button id="DW_TagChooser" MMString:name="insertbar/tagChooser"
            image="Common\Tag Chooser.gif" command="dw.showTagChooser()"
            codeOnly="TRUE"/>
    </category>
        ...
    </insertbar>
```

Note: *The `insertbar` and `category` tags use `</insertbar>` and `</category>` closing tags to denote the end of their content. The tags button, checkbutton, and separator use a slash (/) before the closing bracket to denote the end of their attributes and content.*

Insert bar definition tags

The insertbar.xml file contains the following tags and attributes:

<insertbar>

Description

This tag signals the content of the Insert bar definition file. The `</insertbar>` closing tag specifies the end of the content.

Attributes

None.

Example

```
<insertbar>
    <category id="DW_Insertbar_Common" folder="Common">
        <button id="DW_Hyperlink" image="Common\Hyperlink.gif"
        file="Common\Hyperlink.htm"/>0
...
</insertbar>
```

<category>

Description

This tag defines a category on the Insert bar (such as Common, Forms, or HTML). The `</category>` closing tag specifies the end of the category content.

Note: *By default, the Insert bar is organized into categories of use (such as Common, Forms, or HTML). In previous versions of Dreamweaver, the Insert bar was organized similarly by tabs. Users can set their own preferences for how the Insert bar objects are organized (by category or tab). If the user has selected the tab organization, the category tag defines each tab.*

Attributes

`id, {folder}, {showIf}`

Example

```
<category id="DW_Insertbar_Common" folder="Common">
    <button id="DW_Hyperlink" image="Common\Hyperlink.gif"
    file="Common\Hyperlink.htm"/>
</category>
```

<menubutton>

Description

This tag defines a pop-up menu for the Insert bar.

Attributes

`id, image, {showIf}, {name}, {folder}`

Example

```
<menubutton
    id="DW_ImageMenu"
    name="Images"
    image="Common\imagemenu.gif"
    folder="Images">
    <button id="DW_Image"
        image="Common\Image.gif"
        enabled=""
        showIf=""
        file="Common\Image.htm" />
</menubutton>
```

<button />

Description

This tag defines a button on the Insert bar that the user clicks to execute the code that the `command` or `file` attributes specify.

Attributes

`id, image, name, {canDrag}, {showIf}, {enabled}, {command}, {file}, {tag}, {codeOnly}`

Example

```
<button id="DW_Object"
image="Common\Object.gif"
name="Object"
enabled="true"
showIf=""
file="Common\Obect.htm"
    />
```

<checkbutton />

Description

A checkbutton is a button that has a checked or unchecked state. When clicked, a checkbutton appears pressed in and highlighted. When it is unchecked, a checkbutton appears flat. Dreamweaver has Mouse-over, Pressed, Mouse-over-while-pressed, and Disabled-while-pressed states. The command must ensure that clicking the checkbutton causes its state to change.

Attributes

`id, image, checked, {showIf}, {enabled}, {command}, {file}, {tag}, {name}, {codeOnly}`

Example

```
<checkbutton id="DW_StandardView"
name = "Standard View"
image="Tools\Standard View.gif"
checked="_View_Standard"
command="dw.getDocumentDOM().setShowLayoutView(false)"/>
```

<separator />

Description
This tag displays a vertical line on the Insert bar.

Attributes
`{showIf}`

Example
```
<separator showIf="_VIEW_CODE"/>
```

Insert bar definition tag attributes

The attributes for the Insert bar definition tags have the following meanings:

id="unique id"

Description
The `id` attribute is an identifier for the buttons that appear on the Insert bar. The `id` attribute must be unique for the element within the file.

Example
```
id="DW_Anchor"
```

image="image_path”

Description
This attribute specifies the path, relative to the Dreamweaver Configuration folder, to the icon file that appears on the Insert bar. The icon can be in any format that Dreamweaver can render, but typically it is in GIF or JPEG file format, with a size of 18 x 18 pixels.

Example
```
image="Common/table.gif"
```

canDrag="Boolean”

Description
This attribute specifies whether the user can drag the icon into the code or workspace to insert the object into a document. If omitted, the default value is `true`.

Example
```
canDrag="false"
```

showIf="enabler"

Description

This attribute specifies that this button should appear on the Insert bar only if the given Dreamweaver enabler is a `true` value. If you do not specify `showIf`, the button always appears. The possible enablers are `_SERVERMODEL_ASP`, `_SERVERMODEL_ASPNET`, `_SERVERMODEL_JSP`, `_SERVERMODEL_CFML` (for all versions of Adobe ColdFusion), `_SERVERMODEL_CFML_UD4` (only for UltraDev version 4 of Adobe ColdFusion), `_SERVERMODEL_PHP`, `_FILE_TEMPLATE`, `_VIEW_CODE`, `_VIEW_DESIGN`, `_VIEW_LAYOUT`, `_VIEW_EXPANDED_TABLES`, and `_VIEW_STANDARD`.

To specify multiple enablers, place a comma (which means AND) between the enablers. To specify NOT, use `an` exclamation point (`!`).

Example

If you want a button to appear only in Code view for an ASP page, specify the enablers as follows:

```
showIf="_VIEW_CODE, _SERVERMODEL_ASP"
```

enabled="enabler"

Description

This attribute specifies that the item is available to the user if the *DW_enabler* value is `true`. If you do not specify the `enabled` function, the item defaults to always enabled. The possible enablers are `_SERVERMODEL_ASP`, `_SERVERMODEL_ASPNET`, `_SERVERMODEL_JSP`, `_SERVERMODEL_CFML` (for all versions of ColdFusion), `_SERVERMODEL_CFML_UD4` (only for UltraDev version 4 of ColdFusion), `_SERVERMODEL_PHP`, `_FILE_TEMPLATE`, `_VIEW_CODE`, `_VIEW_DESIGN`, `_VIEW_LAYOUT`, `_VIEW_EXPANDED_TABLES`, and `_VIEW_STANDARD`.

To specify multiple enablers, place a comma (which means AND) between the enablers. To specify NOT, use an exclamation point (`!`).

Example

If you want the button to be available only in Code view, specify the following:

```
enabled="_VIEW_CODE"
```

This dims the button in other views.

checked="enabler"

Description

The `checked` attribute is required if you use the `checkbutton` tag.

The item is checked if the *DW_enabler* value is `true`. The possible enablers are `_SERVERMODEL_ASP`, `_SERVERMODEL_ASPNET`, `_SERVERMODEL_JSP`, `_SERVERMODEL_CFML` (for all versions of ColdFusion), `_SERVERMODEL_CFML_UD4` (only for UltraDev version 4 of ColdFusion), `_SERVERMODEL_PHP`, `_FILE_TEMPLATE`, `_VIEW_CODE`, `_VIEW_DESIGN`, `_VIEW_LAYOUT`, `_VIEW_EXPANDED_TABLES`, and `_VIEW_STANDARD`.

To specify multiple enablers, place a comma (which means AND) between them. To specify NOT, use an exclamation point (`!`).

Example

```
checked="_View_Layout"
```

command="API_function"

Description

Instead of referring Dreamweaver to an HTML file that contains the code to insert, you use this tag to specify a command that Dreamweaver performs when the button is clicked.

Example

```
command="dw.showTagChooser()"
```

file="file_path"

Description

The `file` attribute specifies the path, relative to the Dreamweaver Configuration folder, of an object file. Dreamweaver derives the tooltip for the object icon from the title of the object file, unless you specify the `name` attribute.

Example

```
file="Templates/Editable.htm"
```

tag="editor"

Description

This attribute tells Dreamweaver to invoke a Tag editor. In Code view, if the `tag` attribute is defined and the user clicks the object, Dreamweaver invokes the Tag dialog box. In Code view, if you specify the `tag` and `command` attributes, Dreamweaver invokes the Tag editor. In Design view, if `codeOnly="TRUE"` and you do not specify the `file` attribute, Dreamweaver invokes Code and Design view, places focus in the code, and invokes the Tag editor.

Example

```
tag = "form"
```

name="tooltip_text"

Description

The `name` attribute specifies the tooltip that appears when the mouse pointer rests over the object. If you specify an object file but do not specify the `name` attribute, Dreamweaver uses the name of the object file for the tooltip.

Note: *If the name attribute is not provided, the object will not be available for grouping in the Favorites category on the Insert bar UI.*

Some Insert bar objects use a variation of the name attribute with prefix `MMString`. The MMString denotes a localized string; these values are explained in "Localizing an extension" on page 80.

Example

```
name = "cfoutput"
```

Modifying the Insert bar

You can move objects from one category to another, rename categories, and completely remove objects from the panel. To make the changes appear in the Insert bar, you must either restart Dreamweaver or reload extensions. For information on reloading extensions, see "Reloading extensions" on page 78.

Move or copy an object from one Insert bar category to another or to a new location within a category

1. Save a backup copy of insertbar.xml (with a name such as insertbar.backup.xml).
2. Open the original insertbar.xml file.
3. Find the `button` tag that represents the object you want to move or copy. For example, to move the Image object from its location in the Common category, find the `button` tag that has an `id` attribute of `"DW_Image"`.
4. Cut or copy the entire `button` tag.
5. Find the `category` tag that represents the category in which you want to move or copy the object.
6. Find the location within the category where you want the object to appear.
7. Paste the copied `button` tag.
8. Save the insertbar.xml file.
9. Reload extensions.

Remove an object from the Insert bar

1. Save a backup copy of insertbar.xml (with a name such as insertbar.backup.xml).
2. Open the original insertbar.xml file.
3. Find the `button` tag that represents the object you want to remove.
4. Delete the entire `button` tag.
5. Save the insertbar.xml file.
6. On your disk, move the object's HTML, GIF, and JavaScript files out of their current folder, and put them into a folder that isn't listed in the insertbar.xml file. For example, you can create a new folder in the Configuration/Objects folder named Unused, and move the object's files there. (If you're certain you want to remove the object, you can delete those files entirely; however, it's a good idea to keep backups of those files in case you need to restore the object later.)
7. Reload extensions.

Change the order of categories in the Insert bar

1. Save a backup copy of insertbar.xml (with a name such as insertbar.backup.xml).
2. Open the original insertbar.xml file.
3. Find the `category` tag that corresponds to the category you want to move, and select that tag, including all the tags it contains.
4. Cut that tag.
5. Paste the tag into its new location. Be sure to paste the tag in a location that isn't inside any other `category` tag.
6. Save the insertbar.xml file.
7. Reload extensions.

Create a new category

1 Save a backup copy of insertbar.xml (with a name such as "insertbar.backup.xml").

2 Open the original insertbar.xml file.

3 Create a new category tag, specifying the default folder for the category and a set of objects to appear in the category.

4 For information on the syntax of the tags in insertbar.xml, see "Insert bar definition tags" on page 105.

5 Save the insertbar.xml file.

6 Reload extensions.

Add a new object to the Insert bar

You can add objects to the Insert bar. To make the changes appear in the Insert bar, you must either restart Dreamweaver or reload extensions. For information on reloading extensions, see "Reloading extensions" on page 78.

1 Define the specific string of code for the user's document by using HTML and, optionally, JavaScript.

2 Identify or create an image (18 x 18 pixels) for the button in the Dreamweaver interface.

   If you create a larger image, Dreamweaver scales it to 18 x 18 pixels. If you do not create an image for your object, a default object icon with a question mark (?) appears on the Insert bar.

3 Add the new files to the Configuration/Objects folder.

4 Edit the insertbar.xml file to identify the location of these new files and set attributes (see "The Insert bar definition file" on page 105) for the button's appearance.

5 Restart Dreamweaver or reload extensions.

The new object appears on the Insert bar in the specified location.

Note: *Although you can store Object files in separate folders, it's important that each filename be unique. The* `dom.insertObject()` *function, for example, looks for files anywhere within the Objects folder without regard to subfolders (for more information about the* `dom.insertObject()` *function, see the Dreamweaver API Reference). If a file called Button.htm exists in the Forms folder and another object file called Button.htm is in the MyObjects folder, Dreamweaver cannot distinguish between them. If two separate instances of Button.htm exist,* `dom.insertObject()` *displays two objects called Button, and the user might not recognize any difference.*

Adding objects to the Insert menu

To add or control the position of an object on the Insert menu (or any other menu), modify the menus.xml file. This file controls the entire menu structure for Dreamweaver. For more information about modifying the menus.xml file, see "Menus and menu commands" on page 141.

If you plan to distribute the extension to other Dreamweaver users, see "Working with the Extension Manager" on page 81 to learn more about packaging extensions.

A simple insert object example

This example adds an object to the Insert bar so users can add a line through (strike through) selected text by clicking a button. This object is useful if a user needs to make editorial comments in a document.

Because this example performs text manipulation, you may want to explore some of the objects from the Text pop-up menu in the HTML category on the Insert bar as models. For example, look at the Bold, Emphasis, and Heading object files to see similar functionality, where Dreamweaver wraps a tag around selected text.

You will perform the following steps to create the strike-through insert object:

Create the HTML file

The title of the object is specified between the opening and closing `title` tags. You also specify that the scripting language is JavaScript.

1 Create a new blank file.

2 Add the following code:

```
<html>
<head>
<title>Strikethrough</title>
<script language="javascript">
</script>
</head>
<body>
</body>
</html>
```

3 Save the file as Strikethrough.htm in the Configuration/Objects/Text folder.

Adding the JavaScript functions

In this example, the JavaScript functions define the behavior and insert code for the Strikethrough object. You must place all the API functions in the head section of the file. The existing object files, such as Configuration/Objects/Text/Em.htm, follow a similar pattern of functions and comments.

The first function the object definition file uses is `isDOMRequired()`, which tells whether the Design view needs to be synchronized to the existing Code view before execution continues. However, because the Superscript object might be used with many other objects in the Code view, it does not require a forced synchronization.

Add the isDOMRequired() function

1 In the head section of the Strikethrough.htm file, between the opening and closing `script` tags, add the following function:

```
<script language="javascript">
    function isDOMRequired() {
        // Return false, indicating that this object is available in Code view.
        return false;
}
</script>
```

2 Save the file.

Next, decide whether to use `objectTag()` or `insertObject()` for the next function. The Strikethrough object simply wraps the `s` tag around the selected text, so it doesn't meet the criteria for using the `insertObject()` function (see "insertObject()" on page 122).

Within the `objectTag()` function, use `dw.getFocus()` to determine whether the Code view is the current view. If the Code view has input focus, the function should wrap the appropriate (uppercase or lowercase) tag around the selected text. If the Design view has input focus, the function can use `dom.applyCharacterMarkup()` to assign the formatting to the selected text. Remember that this function works only for supported tags (see `dom.applyCharacterMarkup()` in the *Dreamweaver API Reference*). For other tags or operations, you may need to use other API functions. After Dreamweaver applies the formatting, it should return the insertion point (cursor) to the document without any messages or prompting. The following procedure shows how the `objectTag()` function now reads.

Add the objectTag() function

1 In the head section of the Strikethrough.htm file, after the `isDOMRequired()` function, add the following function:

```
function objectTag() {
    // Determine if the user is in Code view.
    var dom = dw.getDocumentDOM();
    if (dw.getFocus() == 'textView' || dw.getFocus(true) == 'html'){
        var upCaseTag = (dw.getPreferenceString("Source Format", "Tags Upper Case", "") ==
        'TRUE');
        // Manually wrap tags around selection.
        if (upCaseTag){
            dom.source.wrapSelection('<S>','</S>');
        }else{
            dom.source.wrapSelection('<s>','</s>');
        }
    // If the user is not in Code view, apply the formatting in Design view.
    }else if (dw.getFocus() == 'document'){
        dom.applyCharacterMarkup("s");
    }
    // Just return--don't do anything else.
    return;
}
```

2 Save the file as Strikethrough.htm in the Configuration/Objects/Text folder.

Instead of including the JavaScript functions in the head section of the HTML file, you can create a separate JavaScript file. This separate organization is useful for objects that contain several functions, or functions that might be shared by other objects.

Separate the HTML object definition file from the supporting JavaScript functions

1 Create a new blank file.

2 Paste all the JavaScript functions into the file.

3 Remove the functions from Strikethrough.htm, and add the JavaScript filename to the `src` attribute of the script tag, as shown in the following example:

```
<html>
<head>
<title>Strikethrough</title>
<script language="javascript" src="Strikethrough.js">
</script>
</head>
<body>
</body>
</html>
```

4 Save the Strikethrough.htm file.

5 Save the file that now contains the JavaScript functions as Strikethrough.js in the Configuration/Objects/Text folder.

Create the image for the Insert bar

1 Create a GIF image (18 x 18 pixels), as shown in the following figure:

2 Save the file as Strikethrough.gif in the Configuration/Objects/Text folder.

Editing the insertbar.xml file

Next, you need to edit the insertbar.xml file so Dreamweaver can associate these two items with the Insert bar interface.

Note: *Before you edit the insertbar.xml file, you might want to copy the original one as insertbar.xml.bak, so you have a backup.*

The code within the insertbar.xml file identifies all the existing objects on the Insert bar.

- Each `category` tag in the XML file creates a category in the interface.
- Each `menubutton` tag creates a pop-up menu on the Insert bar.
- Each `button` tag in the XML file places an icon on the Insert bar and connects it to the proper HTML file or function.

Add the new object to the Insert bar

1 Find the following line near the beginning of the insertbar.xml file:

```
<category id="DW_Insertbar_Common" MMString:name="insertbar/category/common"
folder="Common">
```

This line identifies the beginning of the Common category on the Insert bar.

2 Start a new line after the category tag; then insert the `button` tag and assign it the `id`, `image`, and `file` attributes for the Strikethrough object.

The ID must be a unique name for the button (following standard naming conventions, use `DW_Text_Strikethrough` for this object). The `image` and `file` attributes simply tell Dreamweaver the location of the supporting files, as shown here:

```
<button id="DW_Text_Strikethrough"
image="Text\Strikethrough.gif"
file="Text\Strikethrough.htm"/>
```

3 Save the insertbar.xml file.

4 Reload the extensions (see "Reloading extensions" on page 78).

The new object appears at the beginning of the Common category on the Insert bar.

Adding a dialog box

You can add a form to your object to let the user enter parameters before Dreamweaver inserts the specified code (for example, the Hyperlink object requests the text, link, target, category index, title, and access key values from the user). In this example, you add a form to the Strikethrough object from the previous example. The form opens a dialog box that provides the user with the option to change the text color to red as well as to add the strike-through tag.

This example assumes you have already created a separate JavaScript file called Strikethrough.js.

First, in Strikethrough.js, you add the function that the form calls if the user changes the text color. This function is similar to the `objectTag()` function for the Strikethrough object, but is an optional function.

Create the function

1 After the `objectTag()` function in Strikethrough.js, create a function called `fontColorRed()` by entering the following code:

```
function fontColorRed(){
    var dom = dw.getDocumentDOM();
        if (dw.getFocus() == 'textView' || dw.getFocus(true) == 'html'){
            var upCaseTag = (dw.getPreferenceString("Source Format", "Tags Upper Case", "")
            == 'TRUE');
            // Manually wrap tags around selection.
            if (upCaseTag){
                 dom.source.wrapSelection('<FONT COLOR="#FF0000">','</FONT>');
            }else{
                dom.source.wrapSelection('<font color="#FF0000">','</font>');
                 }
         }else if (dw.getFocus() == 'document'){
                dom.applyFontMarkup("color", "#FF0000");
                }
    // Just return -- don't do anything else.
    return;
}
```

Note: *Because `dom.applyCharacterMarkup()` doesn't support font color changes, you need to find the appropriate API function for font color changes. (For more information, see `dom.applyFontMarkup()` in the Dreamweaver API Reference).*

2 Save the file as Strikethrough.js.

Next, in the Strikethrough.htm file, you add the form. The form for this example is a simple check box that calls the `fontColorRed()` function when the user clicks on it. You use the `form` tag to define your form, and the table tag for layout control (otherwise, the dialog box might wrap words or size awkwardly).

Add the form

1 After the `body` tag, add the following code:

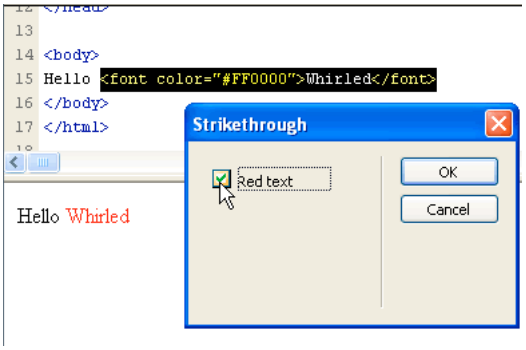
```
<form>
<table border="0" height="100" width="100">
    <tr valign="baseline">
    <td align="left" nowrap>
    <input type="checkbox" name="red" onClick=fontColorRed()>Red text</input>
    </td>
    </tr>
</table>
</form>
```

2 Save the file as Strikethrough.htm.

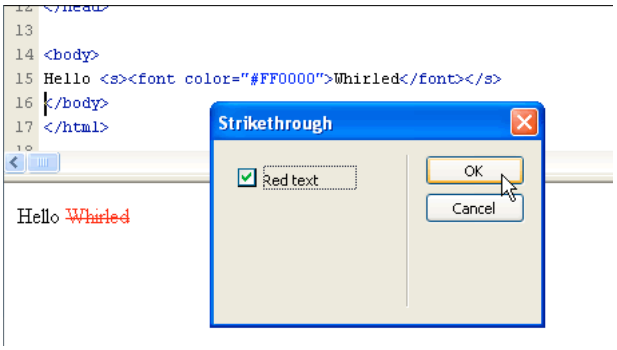
3 Reload the extensions (see "Reloading extensions" on page 78).

Test the dialog box

1 Select the Red Text check box.

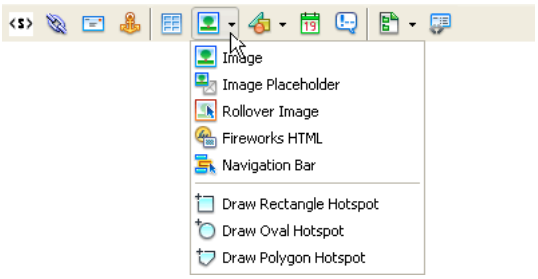


2 Click OK to perform the `objectTag()` function, which adds the strike-through:



Building an Insert bar pop-up menu

The Dreamweaver Insert bar introduces a new organization for objects. The Insert bar now supports pop-up menus to help organize objects into smaller groups, as shown in the following figure.



The following example builds a new category on the Insert bar called Editorial and then adds a pop-up menu to that category. The pop-up menu contains the Strikethrough object you already created and groups it with a Blue Text object you create. The objects in the Editorial category let users:

- Make editorial comments in a file

- Strike through the content they want to remove or make new content blue

Organize the files

1 Create a new Configuration/Objects/Editorial folder in your Dreamweaver installation folder.

2 Copy the files for the Strikethrough object example you created (Strikethrough.htm, Strikethrough.js, and Strikethrough.gif) to the Editorial folder.

Create the Blue Text object

1 Create an HTML file.

2 Add the following code:

```
<html>
<head>
<title>Blue Text</title>
<script language="javascript">
//--------------- API FUNCTIONS---------------
function isDOMRequired() {
    // Return false, indicating that this object is available in Code view.
    return false;
}
function objectTag() {
    // Manually wrap tags around selection.
    var dom = dw.getDocumentDOM();
    if (dw.getFocus() == 'textView' || dw.getFocus(true) == 'html'){
        var upCaseTag = (dw.getPreferenceString("Source Format", "Tags Upper Case", "") ==
        'TRUE');
         // Manually wrap tags around selection.
         if (upCaseTag){
             dom.source.wrapSelection('<FONT COLOR="#0000FF">','</FONT>');
        }else{
             dom.source.wrapSelection('<font color="#0000FF">','</font>');
             }
     }else if (dw.getFocus() == 'document'){
            dom.applyFontMarkup("color", "#0000FF");
            }
    // Just return -- don't do anything else.
    return;
}
</script>
</head>
<body>
</body>
</html>
```

3 Save the file as AddBlue.htm in the Editorial folder.

Now you can create an image for the Blue Text Object.

Create the image

1 Create a GIF file that is 18 x 18 pixels, which looks like the following figure:

2 Save the image as AddBlue.gif in the Editorial folder.

Next, you edit the insertbar.xml file. This file defines the objects on the Insert bar and their locations. Notice the various `menubutton` tags and their attributes within the `category` tags; these `menubutton` tags define each pop-up menu in the HTML category. Within the `menubutton` tags, each `button` tag defines an item in the pop-up menu.

Edit the insertbar.xml

1 Find the following line of code near the beginning of the file:

```
<insertbar xmlns:MMString="http://www.adobe.com/schemes/data/string/">
```

The `insertbar` tag defines the beginning of all the Insert bar contents.

2 After that line, add a new `category` tag for the Editorial category you want to create. Give it a unique ID, name, and folder attributes, and add a closing `category` tag, as shown in the following example:

```
<category id="DW_Insertbar_Editorial" name="Editorial" folder="Editorial">
</category>
```

3 Reload extensions. For information on reloading extensions, see "Reloading extensions" on page 78.

The Editorial category appears on the Insert bar:

4 Within the opening and closing `category` tags, add the pop-up menu by using the `menubutton` tag and the following attributes, including a unique ID.

```
<menubutton id="DW_Insertbar_Markup" name="markup" image="Editorial\Strikethrough.gif"
folder="Editorial">
```

For more information about attributes, see "Insert bar definition tag attributes" on page 108.

5 Add the objects for the new pop-up menu using the `button` tag, as follows:

```
<button id="DW_Editorial_Strikethrough" image="Editorial\Strikethrough.gif"
file="Editorial\Strikethrough.htm"/>
```

6 After the Strikethrough object button tag, add the hypertext object, as follows:

```
<button id="DW_Blue_Text" image="Editorial\AddBlue.gif name="Blue Text"
file="Editorial\AddBlue.htm"/>
```

Note: *The button tag does not have a separate closing tag; it simply ends with* `"/>"` .

7 End the pop-up menu with the `</menubutton>` closing tag.

The following code shows your entire category with the pop-up menu and the two objects:

```
<category id="DW_Insertbar_Editorial" name="Editorial" folder="Editorial">
    <menubutton id="DW_Insertbar_Markup" name="markup"
    image="Editorial\Strikethrough.gif" folder="Editorial">
        <button id="DW_Editorial_Strikethrough"
        image="Editorial\Strikethrough.gif" file="Editorial\Strikethrough.htm"/>
        <button id="DW_Blue_Text" image="Editorial\AddBlue.gif" name="Blue Text"
        file="Editorial\AddBlue.htm"/>
    </menubutton>
</category>
```

Test the new pop-up menu

1 Reload extensions. For information on reloading extensions, see "Reloading extensions" on page 78.

2 Click the Editorial menu.

The following pop-up menu appears:

The objects API functions

This section describes the functions in the objects API. You must define either the `insertObject()` or the `objectTag()` function. For details about these functions, see "insertObject()" on page 122. The remaining functions are optional.

canInsertObject()

Availability

Dreamweaver MX.

Description

This function determines whether to display the Object dialog box.

Arguments

None.

Returns

Dreamweaver expects a Boolean value.

Example

The following code tells Dreamweaver to check to see that the document contains a particular string before allowing the user to insert the selected object:

```
function canInsertObject(){
    var docStr = dw.getDocumentDOM().documentElement.outerHTML;
    var patt = /hava/;
    var found = ( docStr.search(patt) != -1 );
    var insertionIsValid = true;
    if (!found){
        insertionIsValid = false;
        alert("the document must contain a 'hava' string to use this object.");}
    return insertionIsValid;}
```

displayHelp()

Description

If you define this function, it displays a Help button below the OK and Cancel buttons in the Parameters dialog box. This function is called when the user clicks the Help button.

Arguments

None.

Returns

Dreamweaver expects nothing.

Example

The following example opens the myObjectHelp.htm file in a browser; this file explains how to use the extension:

```
function displayHelp(){
    var myHelpFile = dw.getConfigurationPath() +
        '/ExtensionsHelp/myObjectHelp.htm';
    dw.browseDocument(myHelpFile);
}
```

isDOMRequired()

Description

This function determines whether the object requires a valid DOM to operate. If this function returns a `true` value or if the function is not defined, Dreamweaver assumes that the command requires a valid DOM and synchronizes the Code and Design views for the document before executing. Synchronization causes all edits in the Code view to be updated in the Design view.

Arguments

None.

Returns

Dreamweaver expects a `true` value if a command requires a valid DOM to operate; `false` otherwise.

insertObject()

Availability

Dreamweaver MX.

Description

This function is required if the `objectTag()` function is not defined. It is called when the user clicks OK. It either inserts code into the user's document and closes the dialog box or displays an error message and leaves the dialog box open. This works as an alternate function to use in objects instead of the `objectTag()` function. It does not assume that the user is inserting text at the current insertion point and allows data validation when the user clicks OK. You should use the `insertObject()` function if one of the following conditions exists:

- You need to insert code in more than one place.
- You need to insert code somewhere other than the insertion point.
- You need to validate input before inserting code.

If none of these conditions apply, use the `objectTag()` function.

Arguments

None.

Returns

Dreamweaver expects a string that contains an error message or an empty string. If it returns an empty string, the Object dialog box closes when the user clicks OK. If it is not empty, Dreamweaver displays the error message and the dialog box remains.

Enabler

`canInsertObject()`

Example

The following example uses the `insertObject()` function because it needs to validate input before inserting code:

```
function insertObject() {
     var theForm = document.forms[0];
     var nameVal = theForm.firstField.value;
     var passwordVal = theForm.secondField.value;
     var errMsg = "",
     var isValid = true;
     // ensure that field values are complete and valid
     if (nameVal == "" || passwordVal == "") {
         errMsg = "Complete all values or click Cancel."
     } else if (nameVal.length < 4 || passwordVal.length < 6) {
            errMsg = "Your name must be at least four characters, and your password at
            least six";
    }
    if (!errMsg) {
         // do some document manipulation here. Exercise left to the reader
        }
    return errMsg;
}
```

objectTag()

Description

The `objectTag()` and `insertObject()` functions are mutually exclusive: If both are defined in a document, the `objectTag()` function is used. For more information, see "insertObject()" on page 122.

This function inserts a string of code into the user's document. Returning an empty string, or a `null` value (also known as "`return`"), is a signal to Dreamweaver to do nothing.

Note: *The assumption is that edits have been made manually before the `return` statement, so doing nothing in this case is not equivalent to clicking Cancel.*

In Dreamweaver, if the focus is in Code view and the selection is a range (meaning that it is not an insertion point), the range is replaced by the string that the `objectTag()` function returns. This is the value `true`, even if the `objectTag()` function returns an empty string or returns nothing. The `objectTag()` function returns an empty string or a `null` value because edits to the document have already been made manually. Otherwise, double quotation marks (" ") often delete the edit by replacing the selection.

Arguments

None.

Returns

Dreamweaver expects the string to insert into the user's document.

Example

The following example of the `objectTag()` function inserts an `OBJECT/EMBED` combination for a specific ActiveX control and plug-in:

```
function objectTag() {
return '\n' +
'<OBJECT CLASSID="clsid:166F1OOB-3A9R-11FB-8075444553540000" \n'¬
+ 'CODEBASE="http://www.mysite.com/product/cabs/¬
myproduct.cab#version=1,0,0,0" \n' + 'NAME="MyProductName"> \n' ¬
+ '<PARAM NAME="SRC" VALUE=""> \n' + '<EMBED SRC="" HEIGHT="" ¬
WIDTH="" NAME="MyProductName"> \n' + '</OBJECT>'
}
```

windowDimensions()

Description

This function sets specific dimensions for the Options dialog box. If this function is not defined, the window dimensions are computed automatically.

Note: *Do not define this function unless you want an Options dialog box that is larger than 640 x 480 pixels.*

Arguments

platform

- The value of the *platform* argument is either `"macintosh"` or `"windows"`, depending on the user's platform.

Returns

Dreamweaver expects a string of the form `"widthInPixels,heightInPixels"`.

The returned dimensions are smaller than the size of the entire dialog box because they do not include the area for the OK and Cancel buttons. If the returned dimensions do not accommodate all options, scroll bars appear.

Example

The following example of the `windowDimensions()` function sets the dimensions of the Parameters dialog box to 648 x 520 pixels for Windows and 660 x 580 pixels for the Macintosh:

```
function windowDimensions(platform){
    var retval = ""
    if (platform = = "windows"){
    retval = "648, 520";
    }else{
    retval = "660, 580";
    }
    return retval;
}
```

Chapter 8: Browser compatibility check issues API

In Adobe Dreamweaver, the browser compatibility check (BCC) feature helps you create page layouts that work well (that is, the page layouts have the same look and function) across multiple browsers by locating combinations of HTML and CSS that can trigger browser rendering bugs. The feature uses JavaScript to search the user's document for the problematic combinations of HTML and CSS. The JavaScript code is stored in HTML files called Issue detection files; these files must be saved in the Configuration/BrowserProfiles/Issues/ folder to work properly.

How detection works

The first time a user chooses to run a browser compatibility check (and anytime the user clicks OK in the Target Browsers dialog box), the following events occur:

1. Dreamweaver reads in the profiles for the chosen browsers from the Configuration/BrowserProfiles/ folder.
2. Dreamweaver calls the `getIssueID()` function in each Issue file in the Configuration/BrowserProfiles/Issues/ folder to get the unique ID of each Issue.
3. Dreamweaver calls the `getAffectedBrowserDisplayNames()` function, if defined, for each Issue.
4. Dreamweaver calls the `getAffectedBrowserProfiles()` function for each Issue to determine whether the Issue affects one or more of the chosen browsers.
5. Dreamweaver calls the `getIssueName()` function for each Issue to determine the name to display in the Results panel when the Issue is detected.
6. Dreamweaver calls the `getIssueDescription` function for each Issue to determine the text to display in the right side of the Results panel and in the tooltip when the user mouses over an Issue squiggly in Code view, if the Issue is detected.

The following events occur for each browser chosen in the BCC Settings dialog box after step 6 in the preceding procedure and for each subsequent browser compatibility check.

Sequence of events

1. Dreamweaver parses the styles that apply to the current document, whether defined inline, in the head, or in an external style sheet, as the affected browser would read them.
2. Dreamweaver calls the `findIssue()` function in each Issue file that applies to the affected browser.

An Issues example

The following examples are the files `ColAndColgroupCapturedByCaption.htm` and `ColAndColgroupCapturedByCaption.js` located in the Configuration/BrowserProfiles/Issues/ folder.

ColAndColgroupCapturedByCaption.htm

```
<!DOCTYPE HTML SYSTEM "-//
//DWExtension layout-engine 5.0//dialog">
<html>
<head>
<title>Col and Colgroup Captured by Caption</title>

<script src="../../Shared/Common/Scripts/dwscripts.js"></script>
<script src="issue_utils.js"></script>
<script src="ColAndColgroupCapturedByCaption.js"></script>
<script>
//--------------- LOCALIZEABLE GLOBALS------------------
var ISSUE_NAME = "Col and Colgroup/Caption Conflict";
var ISSUE_DESC = "If the caption tag is placed directly after the opening table tag as required
by the HTML 4.01 specification, any styles applied to col and colgroup tags in the same table
are ignored.";

//--------------- END LOCALIZEABLE---------------
</script>
</head>

<body>
</body>
</html>
```

ColAndColgroupCapturedByCaption.js

```
function findIssue(){
  var DOM = dw.getDocumentDOM();
  var issueNodes = new Array();

  if (DOM){
    // first see if there are any caption tags in the doc.
    var captions = DOM.getElementsByTagName('caption');

    // declare a mess of variables that we'll need in the
    // for loop below.
    var currCap = null, props = null, parentTable = null;
    var colgroups = null, cols = null, allcol = null;
    var property = "", definedStyles = new Array();

    // ok, now loop through all the captions, if any.
    for (var i=0; i < captions.length; i++){
      currCap = captions[i];
      parentTable = currCap.parentNode;

      // the caption is only a problem if it's in the valid
      // spot (i.e., the first child of the table)
      if (currCap == parentTable.childNodes[0]){

        // find all colgroup and col tags that are in the
        // same table as the caption.
        colgroups = parentTable.getElementsByTagName('colgroup');
        cols = parentTable.getElementsByTagName('col');
        allcol = colgroups.concat(cols);

        for (var x=0; x < allcol.length; x++){
```

```
          // if styles are declared for any colgroup or col
          // tag in this table, we have a problem node. don't
          // bother looking further.
          props = window.getDeclaredStyle(allcol[x]);
          property = "";
          definedStyles.length = 0;
          for (property in props) {
            definedStyles.push(property);
          }
          if (definedStyles.length > 0){
            issueNodes.push(currCap);
            break;
          }
        }
      }
    }
  }
  return issueNodes;
}
function getAffectedBrowserDisplayNames(){
  return new Array("Safari 2.0");
}
function getAffectedBrowserProfiles(){
  return new Array("Safari 2.0");
}
function getIssueID(){
  return "COL_AND_COLGROUP_CAPTURED_BY_CAPTION";
}
function getIssueName(){
  return ISSUE_NAME;
}
function getIssueDescription(){
  return ISSUE_DESC;
}
function getConfidenceLevel(){
  //DETCON 4
  return issueUtils.CONFIDENCE_HIGH;
}
```

The issues API functions

All of the functions in the issues API are required except for `getAffectedBrowserDisplayNames()`. As with all extension APIs, you are responsible for writing the body of each function and returning an appropriate value to Dreamweaver. For information about browser compatibility check functions, see the "Page Content" topic in the *Dreamweaver API Reference*.

findIssue()

Availability

Dreamweaver CS3.

Description

Searches the document for the combination of CSS and HTML that will trigger a specific browser rendering issue.

Arguments

None.

Returns

An array of element nodes that exhibit (or otherwise represent) the problem. Dreamweaver selects these nodes as the user navigates from one browser compatibility issue to the next.

Example

The following `findIssue()` function returns an array of `<button>` tags to which `float: left` or `float: right` has been applied:

```
function findIssue(){
    var DOM = dw.getDocumentDOM();
    var issueNodes = new Array();
    var buttons = DOM.getElementsByTagName('button');
    var props = null;
    for (var i=0; i < buttons.length; i++){
        props = window.getDeclaredStyle(buttons[i]);
        if (props.cssFloat == "left" || props.cssFloat == "right"){
            issueNodes.push(buttons[i]);
        }
    }
    return issueNodes;
}
```

getAffectedBrowserProfiles()

Availability

Dreamweaver CS3.

Description

Provides Dreamweaver with a list of browsers for which this issue is relevant.

Arguments

None.

Returns

An array of browser names, each of which must match exactly the first line in a valid browser profile (see the TXT files in the Configuration/BrowserProfiles folder).

Example

```
function getAffectedBrowsers(){
    return new Array("Microsoft Internet Explorer 5.0",
        "Microsoft Internet Explorer 5.5",
        "Microsoft Internet Explorer 6.0");
}
```

getAffectedBrowserDisplayNames()

Availability
Dreamweaver CS3.

Description
Provides Dreamweaver with a list of user-visible browser names for which this issue is relevant. This function is optional; if not supplied, the profile names supplied by `getAffectedBrowserProfiles()` will be used instead.

Arguments
None.

Returns
An array of browser names. This array must be parallel to the one returned by `getAffectedBrowserProfiles()`.

Example

```
function getAffectedBrowsers(){
    return new Array("IE/Win 5.0",
        "IE/Win 5.5",
        "IE/Win 6.0");

}
```

getIssueID()

Availability
Dreamweaver CS3.

Description
Provides Dreamweaver with a unique ID for the issue.

Arguments
None.

Returns
A string with a unique issue identifier.

Example

```
function getIssueID() {
    return "EXPANDING_BOX_PROBLEM";
}
```

getIssueName()

Availability
Dreamweaver CS3.

Description
Provides Dreamweaver with the name or a short description of the issue.

Arguments
None.

Returns
A string containing the name or a short description of the issue.

Example
```
function getIssueName(){
    return "The Expanding Box Problem";
}
```

getIssueDescription()

Availability
Dreamweaver CS3.

Description
Provides Dreamweaver with a detailed description of the issue.

Arguments
None.

Returns
A string containing the name or a short description of the issue.

Example
```
function getIssueDescription(){
    return "Fixed-dimension boxes will incorrectly expand to fit their
            content instead of clipping content at the specified width
            or height.";
}
```

Chapter 9: Commands

Adobe Dreamweaver commands can perform almost any kind of edit to a user's current document, other open documents, or any HTML document on a local drive. Commands can insert, remove, or rearrange HTML tags and attributes, comments, and text.

Commands are HTML files. The body section of a command file can contain an HTML form that accepts options for the command (for example, how a table should be sorted and by which column). The head section of a command file contains JavaScript functions that process form input from the body section and control what edits are made to the user's document.

The following table lists the files you use to create a command:

Path	File	Description
Configuration/Commands/	*commandname*.htm	Specifies the user interface.
Configuration/Commands/	*commandname*.js	Contains the functions to execute.

How commands work

When a user clicks a menu that contains a command, the following events occur:

1. Dreamweaver calls the `canAcceptCommand()` function to determine whether the menu item should be disabled. If the `canAcceptCommand()` function returns a `false` value, the command is dimmed in the menu, and the procedure stops. If the `canAcceptCommand()` function returns a `true` value, the procedure can continue.
2. The user selects a command from the menu.
3. Dreamweaver calls the `receiveArguments()` function, if defined, in the selected command file to let the command process any arguments that pass from the menu item or from the `dreamweaver.runCommand()` function. For more information on the `dreamweaver.runCommand()` function, see the *Dreamweaver API Reference*.
4. Dreamweaver calls the `commandButtons()` function, if defined, to determine which buttons appear on the right side of the Options dialog box and what code should execute when the user clicks the buttons.
5. Dreamweaver scans the command file for a `form` tag. If a form exists, Dreamweaver calls the `windowDimensions()` function, which sizes the Options dialog box that contains the body elements of the file. If the `windowDimensions()` function is not defined, Dreamweaver automatically sizes the dialog box.
6. If the command file's `body` tag contains an `onLoad` handler, Dreamweaver executes it (whether or not a dialog box appears). If no dialog box appears, the remaining steps do not occur.
7. The user selects options for the command. Dreamweaver executes event handlers that are associated with the fields as the user encounters them.
8. The user clicks one of the buttons that is defined by the `commandButtons()` function.
9. Dreamweaver executes the associated code. The dialog box remains visible until one of the scripts in the command calls the `window.close()` function.

Adding commands to the Commands menu

Dreamweaver automatically adds any files that are inside the Configuration/Commands folder to the bottom of the Commands menu. To prevent a command from appearing in the Commands menu, insert the following comment on the first line of the file:

```
<!-- MENU-LOCATION=NONE -->
```

When this line is present, Dreamweaver does not create a menu item for the file, and you must call `dw.runCommand()` to execute the command.

A simple command example

This simple extension adds an item to the Commands menu and lets you convert selected text in your document to either uppercase or lowercase. When you click the menu item, it activates a three-button interface that lets you submit your choice.

To create this extension, you create the UI, write the JavaScript code, and test the extension.

This example creates two files in the Commands folder: Change Case.htm, which contains the UI, and Change Case.js, which contains the JavaScript code. If you prefer, you can create only the Change Case.htm file and put the JavaScript code in the head section.

Create the user interface

The user interface is a form that contains two options that let the user select uppercase or lowercase.

1 Create a blank file.

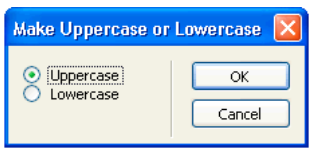
2 Add the following code to the file to create the form:

```
<!DOCTYPE HTML SYSTEM "-//Adobe//DWExtension layout-engine 10.0//dialog">
<HTML>
<HEAD>
<Title>Make Uppercase or Lowercase</Title>
<SCRIPT SRC="Change Selection Case.js"></SCRIPT>
</HEAD>
<BODY>
<form name="uorl">
    <table border="0">
        <!--DWLayoutTable-->
        <tr>
            <td valign="top" nowrap> <p>
                <label>
                <input type="radio" name="RadioGroup1" value="uppercase" checked>
                Uppercase</label>
                <br>
                <label>
                <input type="radio" name="RadioGroup1" value="lowercase">
                Lowercase</label>
            </p></td>
        </tr>
    </table>
</form>
</BODY>
</HTML>
```

3 Save the file as Change Case.htm in the Configuration/Commands folder.

The contents of the `Title` tag, `Make Uppercase or Lowercase`, appears in the top bar of the dialog box. Within the form, a table with two cells controls the layout of the elements. Within the table cells are the two options, Uppercase and Lowercase. The Uppercase option has the `checked` attribute, making it the default selection and ensuring that the user selects one of the two options or cancels the command.

The form looks like the following figure:



The `commandButtons()` function supplies the OK and Cancel buttons that let the user submit the choice or cancel the operation. For more information, see "commandButtons()" on page 138.

Writing the JavaScript code

The following example consists of two extension API functions, `canAcceptCommand()` and `commandButtons()`, which Dreamweaver calls, and one user-defined function, `changeCase()`, which is called from the `commandButtons()` function.

In this example, you will write JavaScript to perform the following tasks:

Determine whether the command should be enabled or dimmed

The first task in creating a command is to determine when the item should be active and when it should be dimmed. When a user clicks the Commands menu, Dreamweaver calls the `canAcceptCommand()` function for each menu item to determine whether it should be enabled. If `canAcceptCommand()` returns the value `true`, Dreamweaver displays the menu item text as active or enabled. If `canAcceptCommand()` returns the value `false`, Dreamweaver dims the menu item. In this example, the menu item is active when the user has selected text in the document.

1 Create a new blank file.

2 Add the following code:

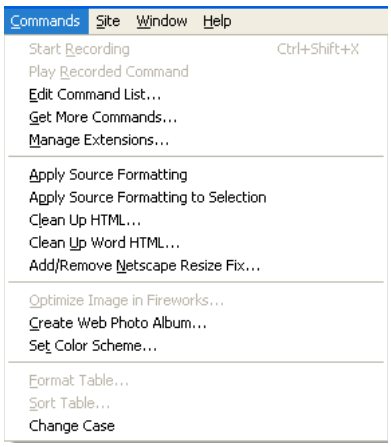
```
function canAcceptCommand(){
    var theDOM = dw.getDocumentDOM(); // Get the DOM of the current document
    var theSel = theDOM.getSelection(); // Get start and end of selection
    var theSelNode = theDOM.getSelectedNode(); // Get the selected node
    var theChildren = theSelNode.childNodes; // Get children of selected node
    return (theSel[0] != theSel[1] && (theSelNode.nodeType == Node.TEXT_NODE¬
        || theSelNode.hasChildNodes() && (theChildren[0].nodeType == ¬
        Node.TEXT_NODE)));
}
```

3 Save the file as Change Case.js in the Configuration/Commands folder.

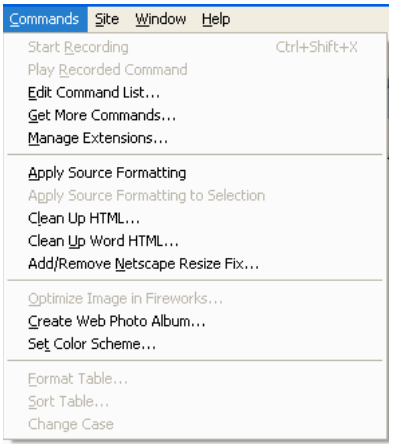
The first lines of the `canAcceptCommand()` function retrieve the selected text by retrieving the DOM for the user's document and calling the `getSelection()` function on the document object. Next, the function retrieves the node that contains the selected text, followed by any children of the node, as shown in the following code. Then, the last line checks to see if the selection or its first child is text and returns the result as a value of `true` or `false`.

The first part of the `return` statement (`theSel[0] != theSel[1]`) checks if the user has selected anything in the document. The variable `theSel` is a two-slot array that holds the beginning and ending offsets of the selection within the document. If the two values are not equal, content has been selected. If the values in the two slots are equal, there is only an insertion point and nothing has been selected.

The next part of the `return` statement (`&& (theSelNode.nodeType == Node.TEXT_NODE`) checks to see if the selected node type is text. If so, the `canAcceptCommand()` function returns the value `true`. If the node type is not text, the test continues to see if the node has children (`|| theSelNode.hasChildNodes()`) and if the type of the first child node is text (`&& (theChildren[0].nodeType == Node.TEXT_NODE)`). If both conditions are true, `canAcceptCommand()` returns the value `true`, and Dreamweaver enables the menu item at the bottom of the Commands menu, as shown in the following figure:



Otherwise, `canAcceptCommand()` returns the value `false` and Dreamweaver dims the item, as shown in the following figure:



Link functions to the OK and Cancel buttons

When the user clicks OK or Cancel, the extension needs to perform the appropriate action. You determine the appropriate action by specifying which JavaScript function to perform when either button is clicked.

1 Open the file Change Case.js in the Configuration/Commands folder.

2 At the end of the file, add the following code:

```
function commandButtons() {
    return new Array("OK", "changeCase()", "Cancel", "window.close()");
}
```

3 Save the file.

The `commandButtons()` function causes Dreamweaver to supply the OK and Cancel buttons and tells Dreamweaver what to do when the user clicks them. The `commandButtons()` function tells Dreamweaver to call `changeCase()` when the user clicks OK and to call `window.close()` when the user clicks Cancel.

Let the user specify uppercase or lowercase

When the user clicks a menu item, the extension needs a mechanism to let the user select uppercase or lowercase. The UI provides this mechanism by defining two radio buttons to let the user make that choice.

1 Open the file Change Case.js.

2 At the end of the file, add the following code:

```
function changeCase() {
    var uorl;
    // Check whether user requested uppercase or lowercase.
    if (document.forms[0].elements[0].checked)
        uorl = 'u';
    else
        uorl = 'l';
    // Get the DOM.
    var theDOM = dw.getDocumentDOM();
    // Get the outerHTML of the HTML tag (the
    // entire contents of the document).
    var theDocEl = theDOM.documentElement;
    var theWholeDoc = theDocEl.outerHTML;
    // Get the node that contains the selection.
    var theSelNode = theDOM.getSelectedNode();
    // Get the children of the selected node.
    var theChildren = theSelNode.childNodes;
    var i = 0;
    if (theSelNode.hasChildNodes()){
        while (i < theChildren.length){
            if (theChildren[i].nodeType == Node.TEXT_NODE){
                var selText = theChildren[i].data;
                var theSel = theDOM.nodeToOffsets(theChildren[0]);
                break;
            }
            ++i;
        }
    }
    else {
    // Get the offsets of the selection
    var theSel = theDOM.getSelection();
    // Extract the selection
    var selText = theWholeDoc.substring(theSel[0],theSel[1]);
}
if (uorl == 'u'){
        theDocEl.outerHTML = theWholeDoc.substring(0,theSel[0]) +
        selText.toUpperCase() + theWholeDoc.substring(theSel[1]);
    }
    else {
        theDocEl.outerHTML = theWholeDoc.substring(0,theSel[0]) +
        selText.toLowerCase() + theWholeDoc.substring(theSel[1]);
    }
// Set the selection back to where it was when you started
    theDOM.setSelection(theSel[0],theSel[1]);
    window.close(); // close extension UI
}
```

3 Save the file as Change Case.js in the Configuration/Commands folder.

The `changeCase()` function is a user-defined function that is called by the `commandButtons()` function when the user clicks OK. This function changes the selected text to uppercase or lowercase. Because the UI uses radio buttons, the code can rely on one choice or the other being checked; it does not need to test for the possibility that the user makes neither choice.

The `changeCase()` function first tests the property `document.forms[0].elements[0].checked`. The `document.forms[0].elements[0]` property refers to the first element in the first form of the current document object, which is the UI for the extension. The `checked` property has the value `true` if the element is checked (or enabled) and `false` if it is not. In the interface, `elements[0]` refers to the first radio button, which is the Uppercase button. Because one of the radio buttons is always checked when the user clicks OK, the code assumes that if the choice is not uppercase, it must be lowercase. The function sets the variable `uorl` to `u` or `l` to store the user's response.

The remaining code in the function retrieves the selected text, converts it to the specified case, and copies it back in place in the document.

To retrieve the selected text for the user's document, the function gets the DOM. It then gets the root element of the document, which is the `html` tag. Finally, it extracts the whole document into the `theWholeDoc` variable.

Next, `changeCase()` calls `getSelectedNode()` to retrieve the node that contains the selected text. It also retrieves any child nodes (`theSelNode.childNodes`) in case the selection is a tag that contains text, such as `<b>text</b>`.

If there are child nodes (`hasChildNodes()` returns the value `true`), the command loops through the children looking for a text node. If one is found, the text (`theChildren[i].data`) is stored in `selText`, and the offsets of the text node are stored in `theSel`.

If there are no child nodes, the command calls `getSelection()` and stores the beginning and ending offsets of the selection in `theSel`. It then extracts the string between those two offsets and stores it in `selText`.

The function then checks the `uorl` variable to determine whether the user selected uppercase. If so, the function writes the HTML code back to the document in sections: first, the beginning of the document to the beginning of the selection; then the selected text, converting it to uppercase (`selText.toUppercase()`); and last, the end of the selected text to the end of the document.

If the user selects lowercase, the function performs the same operation, but calls `selText.toLowerCase()` to convert the selected text to lowercase.

Finally, `changeCase()` resets the selection and calls `window.close()` to close the UI.

Test the extension

After you place the files in the Commands folder, you can test the extension.

1. Restart Dreamweaver or reload extensions. For information on reloading extensions, see "Reloading extensions" on page 78.

   The Change Case entry should now appear on the Commands menu.

2. Type some text in a document.
3. Select the text.

   Note: *Change Case is dimmed until the user selects text in the document.*

4. Select Change Case from the Commands menu.

   The text changes case.

The commands API functions

The custom functions in the commands API are not required.

canAcceptCommand()

Description

This function determines whether the command is appropriate for the current selection.

Note: *Do not define* `canAcceptCommand()` *unless it returns a value of* `false` *in at least one case. If the function is not defined, the command is assumed to be appropriate. Making this assumption saves time and improves performance.*

Arguments

None.

Returns

Dreamweaver expects a `true` value if the command is allowed; if the value is `false`, Dreamweaver dims the command in the menu.

Example

The following example of the `canAcceptCommand()` function makes the command available only when the selection is a table:

```
function canAcceptCommand(){
    var retval=false;
    var selObj=dw.getDocumentDOM.getSelectedNode();
    return (selObj.nodeType == Node.ELEMENT_NODE && ¬
    selObj.tagName=="TABLE");{
        retval=true;
}
return retval;
}
```

commandButtons()

Description

This function defines the buttons that appear on the Options dialog box and their behaviors when they are clicked. If this function is not defined, no buttons appear and the body section of the command file expands to fill the entire dialog box.

By default, these buttons appear at the top of the dialog box. You can choose to display these buttons at the bottom of the dialog box by specifying two additional values in the `commandButtons()` function.

Buttons are right-aligned by default. Specifying the value, *`PutButtonsOnLeft`*, aligns subsequent buttons to the left on the same line.

Arguments

None.

Returns

Dreamweaver expects an array that contains an even number of elements. The first element is a string that contains the label for the topmost button. The second element is a string of JavaScript code that defines the behavior of the topmost button when it is clicked. The remaining elements define additional buttons in the same way.

Example

The following instance of `commandButtons()` defines three buttons: OK, Cancel, and Help that appear at the upper-right corner (default position) of the dialog box:

```
function commandButtons(){
return new Array("OK" , "doCommand()" ,
                "Cancel" , "window.close()" ,
                "Help" , "showHelp()");
}
```

You can customize the placement and alignment of the buttons.

Example

The following instance of `commandButtons()` displays the buttons at the bottom of the dialog box. When the first value in the return array is *`PutButtonsOnBottom`*, you can specify the second value as *`defaultButton`* along with one of the button names. This button is selected by default and used when the Enter key is pressed. In this example, the `OKbutton` is defined as the default.

```
function commandButtons(){
return new Array("PutButtonsOnBottom" , "OkButton defaultButton" ,
                "OK" , "doCommand()" ,
                "Cancel" , "window.close()" ,
                "Help" , "showHelp()");
}
```

Example

In the following example, the Help button is left-aligned using the *`PutButtonsOnLeft`*.

```
function commandButtons(){
return new Array("PutButtonsOnBottom", "OkButton defaultButton",
                 "OK", "doCommand()",
                 "Cancel", "window.close()",
                 "PutButtonsOnLeft",
                 "Help" , "showHelp()");}
```

isDOMRequired()

Description

This function determines whether the command requires a valid DOM to operate. If this function returns a value of `true` or if the function is not defined, Dreamweaver assumes that the command requires a valid DOM and synchronizes the Design and Code views of the document before executing. Synchronization causes all edits in the Code view to update in the Design view.

Arguments

None.

Returns

Dreamweaver expects a `true` value if a command requires a valid DOM to operate; `false` otherwise.

receiveArguments()

Description

This function processes any arguments that pass from a menu item or from the `dw.runCommand()` function.

Arguments

{arg1}, {arg2},...{argN}

- If the `arguments` attribute is defined for a `menuitem` tag, the value of that attribute passes to the `receiveArguments()` function as one or more arguments. Arguments can also pass to a command by the `dw.runCommand()` function.

Returns

Dreamweaver expects nothing.

windowDimensions()

Description

This function sets specific dimensions for the Parameters dialog box. If this function is not defined, the window dimensions are computed automatically.

Note: *Do not define this function unless you want an Options dialog box that is larger than 640 x 480 pixels.*

Arguments

platform

- The value of the *platform* argument is either `"macintosh"` or `"windows"`, depending on the user's platform.

Returns

Dreamweaver expects a string of the form `"widthInPixels,heightInPixels"`.

The returned dimensions are smaller than the size of the entire dialog box because they do not include the area for the OK and Cancel buttons. If the returned dimensions do not accommodate all options, scroll bars appear.

Example

The following example of the `windowDimensions()` function sets the dimensions of the Parameters dialog box to 648 x 520 pixels:

```
function windowDimensions(){
    return "648,520";
}
```

Chapter 10: Menus and menu commands

Adobe Dreamweaver creates all its menus from the structure defined in the menus.xml file in the Dreamweaver Configuration/Menus folder. You can rearrange, rename, and remove menu commands by editing the menus.xml file. You can also add, change, and remove keyboard shortcuts for menu commands. But, in most cases it is easier to edit keyboard shortcuts using the Keyboard Shortcut Editor (see Dreamweaver Help). Changes to the Dreamweaver menus take effect the next time you start Dreamweaver or reload extensions.

The menus.xml file

The menus.xml file contains a structured list of menu bars, menus, menu commands, separators, shortcut lists, and keyboard shortcuts. XML tags describe these items and you can edit them in a text editor.

Note: *Be careful when changing menus. Dreamweaver ignores any menu or menu command that contains an XML syntax error.*

In a multiuser operating system, you can make changes within Dreamweaver that result in changes to menus.xml. For example, changing keyboard shortcuts using the Keyboard Shortcut Editor. In such cases, Dreamweaver creates a menus.xml file in your user Configuration folder. To customize menus.xml in a multiuser operating system, edit the copy of the file in your user Configuration folder. Otherwise, copy the master menus.xml file to your user Configuration folder if Dreamweaver hasn't yet created a version there. For more information, see "Multiuser Configuration folders" on page 78.

If you open menus.xml in an XML editor, sometimes you see error messages regarding the ampersands (&) in the menus.xml file. It's best to edit menus.xml in a text editor; do not edit it in Dreamweaver. For basic information about XML, see Dreamweaver Help.

Note: *Always make a backup copy of the current menus.xml file, or any other Dreamweaver configuration file, before you modify it. In case you forget to make a backup, replace menus.xml with a copy of menus.bak in the Configuration folder .*

A menu bar (tagged with opening and closing `menu bar` tags) is a discrete menu or set of menus. For example, there's a main menu bar, a separate Site panel menu bar (which appears only on Windows, not the Macintosh), and a menu bar for each context menu. Each menu bar contains one or more menus; a menu is contained in a menu tag. Each menu contains one or more menu commands, each described by a `menuitem` tag and its attributes. A menu can also contain separators (described by separator tags) and submenus.

In addition to the primary keyboard shortcuts associated with menu commands, Dreamweaver provides alternate and context-specific shortcuts. For example, Control+Y (Windows) or Command+Y (Macintosh) is the shortcut for Redo. At the same time, Control+Shift+Z or Command+Shift+Z is an alternate shortcut for Redo. These alternates and context-specific shortcuts that can't be represented in the tags for menu commands are defined in the shortcut lists in the menus.xml file. Each shortcut list (described by a `shortcutlist` tag) contains one or more shortcuts, each of which a shortcut tag describes.

The next sections describe the syntax of the tags in the menus.xml file. Optional attributes are marked in the attribute lists with curly brackets ({ }); all attributes not marked with curly brackets are required.

<menubar>

Description
Provides information about a menu bar in the Dreamweaver menu structure.

Attributes
`name, {app}, id, {platform}`

- `name` The name of the menu bar. Although `name` is a required attribute, you can give it the value "".
- `app` The name of the application in which the menu bar is available. Not currently used.
- `id` The menu ID for the menu bar. Each menu ID in the menus.xml file should be unique.
- `platform` Indicates that the menu bar should appear only on the given platform. Valid values are "`win`" and "`mac`".

Contents
This tag must contain one or more `menu` tags.

Container
None.

Example
The main (Document window) menu bar uses the following menubar tag:

```
<menubar name="Main Window" id="DWMainWindow">
<!-- menu tags here -->
</menubar>
```

<menu>

Description
Provides information about a menu or submenu to appear in the Dreamweaver menu structure.

Attributes
`name, {app}, id, {platform}, {showIf}`

- `name` The name of the menu as it will appear on the menu bar. To set the menu's access key (mnemonic) in Windows, use an underscore (_) before the access letter. The underscore is automatically removed on the Macintosh.
- `app` The name of the application in which the menu is available. Not currently used.
- `id` The menu ID for the menu. Every ID in the file should be unique.
- `platform` Indicates that the menu should appear only on the given platform. Valid values are "`win`" and "`mac`".
- `showIf` Specifies that the menu should appear only if the given Dreamweaver enabler is the value `true`. The possible enablers are: `_SERVERMODEL_ASP, _SERVERMODEL_ASPNET, _SERVERMODEL_JSP, _SERVERMODEL_CFML` (for all versions of Adobe ColdFusion), `_SERVERMODEL_CFML_UD4` (for UltraDev version 4 of ColdFusion), `_SERVERMODEL_PHP, _FILE_TEMPLATE, _VIEW_CODE, _VIEW_DESIGN, _VIEW_LAYOUT, _VIEW_EXPANDED_TABLES,` and `_VIEW_STANDARD`. You can specify multiple enablers by placing a comma (which means AND) between the enablers. You can specify NOT with `"!"`. For example, if you want the menu to appear only in Code view for an ASP page, specify the attribute as `showIf="_VIEW_CODE, _SERVERMODEL_ASP"`.

Contents

This tag can contain one or more `menuitem` tags, and one or more `separator` tags. It can also contain other `menu` tags (to create submenus) and standard HTML comment tags.

Container

This tag must be contained in a `menubar` tag.

Example

```
<menu name="_File" id="DWMenu_File">
    <!-- menuitem, separator, menu, and comment tags here -->
</menu>
```

<menuitem>

Description

Defines a menu command for a Dreamweaver menu.

Attributes

`name, id, {app}, {key}, {platform}, {enabled}, {arguments}, {command}, {file}, {checked}, {dynamic}, {isdomrequired}, {showIf}`

- `name` The menu command name that appears in the menu. An underscore indicates that the following letter is the command's access key (mnemonic), for Windows only.
- `id` Used by Dreamweaver to identify the item. This ID must be unique throughout the menu structure. If you add new menu commands to menus.xml, ensure uniqueness by using your company name or another unique string as a prefix for each menu command's ID.
- `app` The name of the application in which the menu command is available. Not currently used.
- `key` The keyboard shortcut for the command, if any. Use the following strings to specify modifier keys:
- `Cmd` specifies the Control key (Windows) or Command key (Macintosh).
- `Alt` and `Opt` interchangeably specify the Alt key (Windows) or Option key (Macintosh).
- `Shift` specifies the Shift key on both platforms.
- `Ctrl` specifies the Control key on both platforms.
- A Plus (+) sign separates modifier keys if a given shortcut uses more than one modifier. For example, `Cmd+Opt+5` in the `key` attribute means the menu command is executed when the user presses Control+Alt+5 (Windows) or Command+Option+5 (Macintosh).
- Special keys are specified by name: `F1` through `F12`, `PgDn`, `PgUp`, `Home`, `End`, `Ins`, `Del`, `Tab`, `Esc`, `BkSp`, and `Space`. Modifier keys can also be applied to special keys.
- `platform` Indicates on which platform the item appears. Valid values are "`win`", meaning Windows, or "`mac`", meaning Macintosh. If you don't specify the `platform` attribute, the menu command appears on both platforms. If you want a menu command to behave differently on different platforms, supply two menu commands with the same name (but different IDs): one with `platform="win"` and the other with `platform="mac"`.
- `enabled` Provides JavaScript code (usually a JavaScript function call) that determines whether the menu command is currently enabled. If the function returns the value `false`, the menu command is dimmed. The default value is `"true"`, but it's best to always specify a value for clarity even if the value is `"true"`.

- `arguments` Provides arguments for Dreamweaver to pass to the code in the JavaScript file that you specify in the `file` attribute. Enclose arguments in single quotation marks ('), inside the double quotation marks (") used to delimit an attribute's value.
- `command` Specifies a JavaScript expression that's executed when the user selects this item from the menu. For complex JavaScript code, use a JavaScript file (specified in the `file` attribute) instead. You must specify either `file` or `command` for each menu command.
- `file` The name of an HTML file containing JavaScript that controls the menu command. Specify a path to the file relative to the Configuration folder. (For example, the Help > Welcome menu command specifies `file="Commands/Welcome.htm"`.) The `file` attribute overrides the `command`, `enabled`, and `checked` attributes. You must specify either `file` or `command` for each menu command. For information on creating a command file using the History panel, see Dreamweaver Help. For information on writing your own JavaScript commands, see "Commands" on page 131.
- `checked` A JavaScript expression that indicates whether the menu command has a check mark next to it in the menu; if the expression evaluates as true, the item appears with a check mark.
- `dynamic` If present, indicates that a menu command is to be determined dynamically by an HTML file; the file contains JavaScript code to set the text and state of the menu command. If you specify a tag as `dynamic`, you must also specify a `file` attribute.
- `isdomrequired` Indicates whether to synchronize the Design view and the Code view before executing the code for this menu command. Valid values are "`true`" (the default) and "`false`". If you set this attribute to "`false`", it means that the changes to the file that this menu command makes do not use the Dreamweaver DOM. For information about the DOM, see "The Dreamweaver Document Object Model" on page 95).
- `showIf` Specifies that the menuitem should appear only if the given Dreamweaver enabler has value `true`. The possible enablers are: `_SERVERMODEL_ASP`, `_SERVERMODEL_ASPNET`, `_SERVERMODEL_JSP`, `_SERVERMODEL_CFML` (for all versions of Adobe ColdFusion), `_SERVERMODEL_CFML_UD4` (for UltraDev version 4 of ColdFusion), `_SERVERMODEL_PHP`, `_FILE_TEMPLATE`, `_VIEW_CODE`, `_VIEW_DESIGN`, `_VIEW_LAYOUT`, `_VIEW_EXPANDED_TABLES`, and `_VIEW_STANDARD`. You can specify multiple enablers by placing a comma (which means AND) between the enablers. You can specify NOT with `"!"`. For example, if you want the menu command to appear in Code view but not for a ColdFusion page, specify the attribute as `showIf="_VIEW_CODE, !_SERVERMODEL_CFML"`.

Contents

None (empty tag).

Container

This tag must be contained in a `menu` tag.

Example

```
<menuitem name="_New" key="Cmd+N" enabled="true" command="dw.createDocument()"
id="DWMenu_File_New" />
```

<separator>

Description

Indicates that a separator should appear at the corresponding location in the menu.

Attributes

`{app}`

`app` The name of the application in which the separator is shown. Not currently used.

Contents

None (empty tag).

Container

This tag must be contained in a `menu` tag.

Example

```
<separator />
```

<shortcutlist>

Description

Specifies a shortcut list in the menus.xml file.

Attributes

`{app}, id, {platform}`

- `app` The name of the application in which the shortcut list is available. Not currently used.
- `id` The ID for the shortcut list. It should be the same as the menu ID for the menu bar (or context menu) in Dreamweaver that the shortcuts are associated with. Valid values are `"DWMainWindow", "DWMainSite", "DWTimelineContext"`, and `"DWHTMLContext"`.
- `platform` Indicates that the shortcut list should appear only on the given platform. Valid values are "`win`" and "`mac`".

Contents

This tag can contain one or more `shortcut` tags. It can also contain one or more comment tags (which use the same syntax as HTML comment tags).

Container

None.

Example

```
<shortcutlist id="DWMainWindow">
<!-- shortcut and comment tags here -->
</shortcutlist>
```

<shortcut>

Description

Specifies a keyboard shortcut in the menus.xml file.

Attributes

`key, {app}, {platform}, {file}, {arguments}, {command}, id, {name}`

- `key` The key combination that activates the keyboard shortcut. For syntax details, see "<menuitem>" on page 143.
- `app` The name of the application in which the shortcut is available. Not currently used.
- `platform` Specifies that the shortcut works only on the indicated platform. Valid values are "`win`" and "`mac`". If you do not specify this attribute, the shortcut works on both platforms.
- `file` The path to a file containing the JavaScript code that Dreamweaver executes when you use the keyboard shortcut. The `file` attribute overrides the `command` attribute. You must specify either `file` or `command` for each shortcut.
- `arguments` Provides arguments for Dreamweaver to pass to the code in the JavaScript file that you specify in the `file` attribute. Enclose arguments in single quotation marks ('), inside the double quotation marks (") used to delimit an attribute's value.
- `command` The JavaScript code that Dreamweaver executes when you use the keyboard shortcut. Specify either `file` or `command` for each shortcut.
- `id` A unique identifier for a shortcut.
- `name` A name for the command executed by the keyboard shortcut, in the style of a menu command name. For example, the `name` attribute for the F12 shortcut is "`Preview in Primary Browser`".

Contents

None (empty tag).

Container

This tag must be contained in a `shortcutlist` tag.

Example

```
<shortcut key="Cmd+Shift+Z" file="Menus/MM/Edit_Clipboard.htm"
arguments="'redo'" id="DWShortcuts_Edit_Redo" />
```

<tool>

Description

Represents one tool; it contains all the shortcuts for the tool as subtags in the menus.xml file.

Attributes

`{name}, id`

- `name` A localized version of the tool name.
- `id` The internal tool identifier that identifies the tool to which the shortcuts apply.

Contents

This tag can contain one or more `activate`, `override`, or `action` tags.

Container

This tag must be contained in a `menu` tag.

Example

```
<tool name="Hand tool" id="com.Macromedia.dreamweaver.tools.hand">
    <!-- tool tags here -->
</tool>
```

<action>

Description

Contains the key combination and JavaScript to execute when the tool is active and the key combination is pressed.

Attributes

`{name}, key, command, id`

- `name` A localized version of the action.
- `key` The key combination used to execute the action. For syntax details, see "<menuitem>" on page 143.
- `command` The JavaScript statements to execute. This attribute has the same format as the `command` attribute of "<shortcut>" on page 145.
- `id` A unique ID used to reference the action.

Contents

None (empty tag).

Container

This tag must be contained in a `tool` tag.

Example

```
<action name="Set magnification to 50%" key="5" command="dw.activeViewScale = 0.50" id
="DWTools_Zoom_50" />
```

<activate>

Description

Contains the key combination to activate the tool.

Attributes

`{name}, key, id`

- `name` A localized version of the action.
- `key` The key combination used to activate the tool. For syntax details, see "<menuitem>" on page 143.
- `id` A unique ID used to reference the action.

Contents

None (empty tag).

Container

This tag must be contained in a `tool` tag.

Example

```
<activate name="Switch to Hand tool" key="H" id="DWTools_Hand_Active1" />
```

<override>

Description

Contains the key combination to temporarily activate the tool. While in another modal tool, the user can press and hold this key to switch to this tool.

Attributes

`{name}, key, id`

- `name` A localized version of the action.
- `key` The key combination used to quickly activate the tool. For syntax details, see "<menuitem>" on page 143.
- `id` A unique ID used to reference the action.

Contents

None (empty tag).

Container

This tag must be contained in a `tool` tag.

Example

```
<override name="Quick switch to Hand tool" key="Space" id="DWTools_Hand_Override" />
```

Changing menus and menu commands

By editing the menus.xml file, you can move menu commands within a menu or from one menu to another, add separators to or remove them from menus, and move menus within a menu bar or even from one menu bar to another.

You can move items into or out of context menus using the same procedure as for other menus.

For information, see "The menus.xml file" on page 141.

Move a menu command

1. Quit Dreamweaver.
2. Make a backup copy of the menus.xml file.
3. Open menus.xml in a text editor such as BBEdit, Macromedia® HomeSite,® or Wordpad. (Don't open it in Dreamweaver.)
4. Cut an entire `menuitem` tag, from the `<menuitem` at the beginning to the `/>` at the end.
5. Place the insertion point at the new location for the menu command. (Make sure it's between a `menu` tag and the corresponding `/menu` tag.)
6. Paste the menu command into its new location.

Create a submenu while moving a menu command

1 Place the insertion point inside a menu (somewhere between a `menu` tag and the corresponding `/menu` tag).

2 Insert a new `menu` tag and `/menu` tag pair inside the menu.

3 Add new menu commands to the new submenu.

Insert a separator between two menu commands

- Place a `separator/` tag between the two `menuitem` tags.

Remove an existing separator

- Delete the corresponding `separator/` line.

Move a menu

1 Quit Dreamweaver.

2 Make a backup copy of the menus.xml file.

3 Open menus.xml in a text editor such as BBEdit, HomeSite, or Wordpad. (Don't open it in Dreamweaver.)

4 Cut an entire menu and its contents, from the opening `menu` tag to the closing `/menu` tag.

5 Place the insertion point at the new location for the menu. (Make sure it's between a `menubar` tag and the corresponding `/menubar` tag.)

6 Paste the menu into its new location.

Change the name of a menu command or menu

You can easily change the name of any menu command or menu by editing the menus.xml file.

1 Quit Dreamweaver.

2 Make a backup copy of the menus.xml file.

3 Open menus.xml in a text editor such as HomeSite, BBEdit, or Wordpad. (Don't open it in Dreamweaver.)

4 If you're changing a menu command, find the appropriate `menuitem` tag, and change the value of its `name` attribute. If you are changing a menu, find the appropriate `menu` tag, and change the value of its `name` attribute. In either case, do not change the `id` attribute.

5 Save and close menus.xml; then start Dreamweaver again to see your changes.

Change keyboard shortcuts

If the default keyboard shortcuts aren't convenient for you, you can change or remove existing shortcuts or add new ones. The easiest way to do this is to use the Keyboard Shortcut Editor. (For more information, see Dreamweaver Help). However, you can also modify keyboard shortcuts directly in menus.xml if you prefer, but it's much easier to make mistakes entering shortcuts in menus.xml than in the Keyboard Shortcut Editor.

1 Quit Dreamweaver.

2 Make a backup copy of the menus.xml file.

3 Open menus.xml in a text editor such as BBEdit, HomeSite, or Wordpad. (Don't open it in Dreamweaver.)

4 Look at the Keyboard Shortcut Matrix (available from the Dreamweaver Support Center at http://www.adobe.com/go/dreamweaver_support) and find a shortcut that is not being used or one that you want to reassign.

If you reassign a keyboard shortcut, change it on a printed copy of the matrix for future reference.

5 If you're reassigning a keyboard shortcut, find the menu command that the shortcut is assigned to, and remove the `key="shortcut"` attribute from that menu command.

6 Find the menu command to assign or reassign the keyboard shortcut.

7 If the menu command already has a keyboard shortcut, find the key attribute on that line. If it doesn't already have a shortcut, add `key=""` anywhere between attributes inside the `menuitem` tag.

8 Between the double quotation marks (") of the `key` attribute, enter the new keyboard shortcut.

Use a Plus (+) sign between the keys in a key combination. For more information about modifiers, see the description of the `menuitem` tag in "<menuitem>" on page 143.

If the keyboard shortcut is in use elsewhere and you didn't remove its other use, the shortcut applies only to the first menu command that uses it in menus.xml.

Note: *You can use the same keyboard shortcut for a Windows-only menu command and for a Macintosh-only menu command.*

9 Write your new shortcut in the appropriate location in the Keyboard Shortcut Matrix.

Pop-up menus and context menus

Dreamweaver provides pop-up menus and context menus in many of its panels and dialog boxes. Some context menus are defined in the menus.xml file; others are defined in other XML files. You can add, remove, or modify items in those menus, although in most cases it's better to write an extension to make such changes.

The following pop-up menus and context menus in Dreamweaver are specified in XML files, using the same tags as menus.xml:

- Data sources (listed in the Plus (+) pop-up menu on the Bindings panel) are specified in DataSources.xml files, in subfolders of the DataSources folder.
- Server behaviors (listed in the Plus (+) pop-up menu on the Server Behaviors panel) are specified in ServerBehaviors.xml files, in subfolders of the ServerBehaviors folder.
- Server formats (listed in the Plus (+) pop-up menu in the Edit Format List dialog box) are specified in ServerFormats.xml files, in subfolders of the ServerFormats folder.
- Items in the formats pop-up menu for a binding in the Bindings panel are specified in Formats.xml files, in subfolders of the ServerFormats folder. You can add entries to this menu from inside Dreamweaver by using the Add Format dialog box.
- The Tag Library Editor dialog box menu commands are specified in the TagLibraries/TagImporters/TagImporters.xml file.
- Menu commands for parameters in the Generate Behavior dialog box, which is part of the Server Behavior Builder, are specified in Shared/Controls/String Menu/Controls.xml.
- Items for context menus associated with ColdFusion Components are specified in Components/ColdFusion/CFCs/CFCsMenus.xml.
- Items for context menus associated with ColdFusion data sources are specified in Components/ColdFusion/DataSources/DataSourcesMenus.xml.
- Items for context menus associated with various server components are specified in XML files, in subfolders of the Components folder.

Menu commands

Menu commands make menus more flexible and dynamic. Menu commands can perform almost any edit to the current document, other open documents, or any HTML document on a local hard drive.

Menu commands are HTML files that are referenced in the `file` attribute of a `menuitem` tag in the menus.xml file. The body section of a menu commands file can contain an HTML form that accepts options for the command. For example, how to sort a table and by which column. The head section of a menu commands file contains JavaScript functions. The functions process form input from the body section and control the edits to the document of the user.

Menu commands are stored in the Configuration/Menus folder inside the Dreamweaver application folder.

Note: *Commands on Mac OS X 10.3 are stored in youUser/Library/Application Support/Adobe/Dreamweaver 9/Commands/yourcommandname.html.*

The following table lists the files you use to create a menu command.

Path	File	Description
Configuration/Menus/	menus.xml	Contains a structured list of menu bars, menus, menu commands, separators, shortcut lists, and keyboard shortcuts. Modify this file to add new menus and menu commands.
Configuration/Menus/	*commandname*.htm	Contains the functions required by the menu command.

Note: *If you add custom menu commands to Dreamweaver, add them at the top level of the Menus folder or create a subfolder. The MM folder is reserved for the menu commands that come with Dreamweaver.*

Modifying the Commands menu

You can add certain kinds of commands to the Commands menu, and change their names, without editing the menus.xml file. For more information about menus.xml, see "Changing menus and menu commands" on page 148.

Note: *The term command has two meanings in Dreamweaver. Strictly speaking, a command is a particular kind of extension. In some contexts, however, command is used interchangeably with menu item to mean any item that appears in a Dreamweaver menu, no matter what it does or how it's implemented.*

To create new commands that are automatically placed in the Commands menu, use the History panel. Alternatively, you can use the Extension Manager to install new extensions, including commands. For more information, see Dreamweaver Help.

To reorder the items in the Commands menu, or to move items between menus, you must edit the menus.xml file.

Rename a command you've created

1. Select Commands > Edit Command List.

   A dialog box appears, listing all the commands whose names you can change. (Commands that are in the default Commands menu don't appear on this list and can't be edited using this approach.)

2. Select a command to rename.
3. Enter a new name for it.
4. Click Close.

The command is renamed in the Commands menu.

Delete a command you've created

1 Select Commands > Edit Command List.

A dialog box appears, listing all the commands you can delete. (Commands that are in the default Commands menu don't appear on this list and can't be deleted using this approach.)

2 Select a command to delete.

3 Click Delete, and then confirm that you want to delete the command.

The command is deleted. The file that contains the code for the command is also deleted; deleting a command does not simply remove the menu command from the menu. Be certain that you really want to delete the command before you use this approach. If you want to remove it from the Commands menu without deleting the file, you can find the file in Configuration/Commands and move it to another folder.

4 Click Close.

How menu commands work

When the user clicks a menu with a menu item that contains a menu command, the following events occur:

1 If any `menuitem` tag in the menu contains the `dynamic` attribute, Dreamweaver calls the `getDynamicContent()` function in the associated menu commands file to populate the menu.

2 Dreamweaver calls the `canAcceptCommand()` function in each menu commands file that is referenced in the menu to check whether the command is appropriate for the selection.

- If the `canAcceptCommand()` function returns a `false` value, the menu item is dimmed.
- If the `canAcceptCommand()` function returns a `true` value or is not defined, Dreamweaver calls the `isCommandChecked()` function to determine whether to display a check mark next to the menu item. If the `isCommandChecked()` function is not defined, no check mark appears.

3 Dreamweaver calls the `setMenuText()` function to determine the text that should appear in the menu.

If the `setMenuText()` function is not defined, Dreamweaver uses the text that is specified in the `menuitem` tag.

4 The user selects an item from the menu.

5 Dreamweaver calls the `receiveArguments()` function, if defined, in the selected menu commands file to let the command process any arguments that pass from the menu item.

Note: *If it is a dynamic menu item, the ID of the menu item passes as the only argument.*

6 Dreamweaver calls the `commandButtons()` function, if defined, to determine which buttons appear on the right side of the Options dialog box and what code should execute when the user clicks the buttons.

7 Dreamweaver scans the menu commands file for a `form` tag.

- If a form exists, Dreamweaver calls the `windowDimensions()` function to determine the size of the Options dialog box that contains the `BODY` elements of the file.
- If the `windowDimensions()` function is not defined, Dreamweaver automatically sizes the dialog box.

8 If the menu commands file's `body` tag contains an `onLoad` handler, Dreamweaver executes the associated code (whether or not a dialog box appears). If no dialog box appears, the remaining steps do not occur.

9 The user selects options in the dialog box. Dreamweaver executes event handlers that are associated with the fields as the user encounters them.

10 The user clicks one of the buttons that are defined by the `commandButtons()` function.

11 Dreamweaver executes the code that is associated with the clicked button.

12 The dialog box remains visible until one of the scripts in the menu commands file calls the `window.close()` function.

A simple menu command example

This simple menu command example shows how Undo and Redo menu commands might work. The Undo menu command reverses the effect of a user's editing operation, and the Redo item reverses an Undo operation and restores the effect of the user's last editing operation.

You implement this example by creating the menu commands, writing the JavaScript code, and placing the command file in the Menu folder.

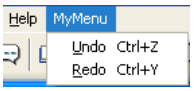
Create a menu command

To create a menu called MyMenu that contains the Undo and Redo menu commands, add the following HTML menu tags. Add the tags after the last closing `</menu>` in menus.xml.

```
<menu name="MyMenu" id="MyMenu_Edit">
<menuitem name="MyUndo" key="Cmd+Z" file="Menus/MyMenu.htm" arguments="'undo'"
id="MyMenu_Edit_Undo" />
<menuitem name="MyRedo" key="Cmd+Y" file="Menus/MyMenu.htm" arguments="'redo'"
id="MyMenu_Edit_Redo" />
</menu>
```

The `key` attribute defines keyboard shortcuts that the user can type to load the menu command. The `file` attribute specifies the name of the menu command file that Dreamweaver executes when Dreamweaver loads the command. The value of the `arguments` attribute defines the arguments that Dreamweaver passes when it calls the `receiveArguments()` function.

The following figure shows these menu commands:



JavaScript code for the menu

When the user selects either Undo or Redo on the MyMenu menu, Dreamweaver calls the MyMenu.htm command file, which is specified by the `file` attribute of the `menuitem` tag. Create the MyMenu.htm command file in the Dreamweaver Configuration/Menus folder and add the three menu command API functions, `canAcceptCommand()`, `receiveArguments()`, and `setMenuText()`, to implement the logic associated with the Undo and Redo menu items. The following sections describe these functions.

canAcceptCommand()

Dreamweaver calls the `canAcceptCommand()` function for each menu item in the MyMenu menu to determine whether it should be enabled or disabled. In the MyMenu.htm file, the `canAcceptCommand()` function checks the value of `arguments[0]` to determine whether Dreamweaver is processing a Redo menu item or an Undo menu item. If the argument is `"undo"`, the `canAcceptCommand()` function calls the enabler function `dw.canUndo()` and returns the returned value, which is either `true` or `false`. Likewise, if the argument is `"redo"`, the `canAcceptCommand()` function calls the enabler function `dw.canRedo()` and returns its value to Dreamweaver. If the `canAcceptCommand()` function returns the value `false`, Dreamweaver dims the menu item for which it called the function. The following example shows the code for the `canAcceptCommand()` function:

```
function canAcceptCommand()
{
    var selarray;
    if (arguments.length != 1) return false;
    var bResult = false;

    var whatToDo = arguments[0];
    if (whatToDo == "undo")
    {
        bResult = dw.canUndo();
    }
    else if (whatToDo == "redo")
    {
        bResult = dw.canRedo();
    }
    return bResult;
}
```

receiveArguments()

Dreamweaver calls the `receiveArguments()` function to process any arguments that you defined for the `menuitem` tag. For the Undo and Redo menu items, the `receiveArguments()` function calls either the `dw.undo()` function or the `dw.redo()` function, depending on whether the value of the argument, `arguments[0]`, is `"undo"` or `"redo"`. The `dw.undo()` function undoes the previous step that the user performed in the document window, dialog box, or panel that has focus. The `dw.redo()` function redoes the last operation that was undone.

The `receiveArguments()` function looks like the following example code:

```
function receiveArguments()
{
    if (arguments.length != 1) return;

    var whatToDo = arguments[0];
    if (whatToDo == "undo")
    {
        dw.undo();
    }
    else if (whatToDo == "redo")
    {
        dw.redo();
    }
}
```

In this command, the `receiveArguments()` function processes the arguments and executes the command. More complex menu commands might call different functions to execute the command. For example, the following code checks whether the first argument is `"foo"`; if it is, it calls the `doOperationX()` function and passes it the second argument. If the first argument is `"bar"`, it calls the `doOperationY()` function and passes it the second argument. The `doOperationX()` or `doOperationY()` function is responsible for executing the command.

```
function receiveArguments(){
    if (arguments.length != 2) return;

    var whatToDo = arguments[0];

    if (whatToDo == "foo"){
        doOperationX(arguments[1]);
    }else if (whatToDo == "bar"){
        doOperationX(arguments[1]);
    }
}
```

setMenuText()

Dreamweaver calls the `setMenuText()` function to determine what text appears for the menu item. If you do not define the `setMenuText()` function, Dreamweaver uses the text that you specified in the `name` attribute of the `menuitem` tag.

The `setMenuText()` function checks the value of the argument that Dreamweaver passes, `arguments[0]`. If the value of the argument is `"undo"`, Dreamweaver calls the `dw.getUndoText()` function; if it is `"redo"`, Dreamweaver calls `dw.getRedoText()`. The `dw.getUndoText()` function returns text that specifies the operation that Dreamweaver will undo. For example, if the user executes multiple Redo operations, `dw.getUndoText()` could return the menu text "Undo Edit Source." Likewise, the `dw.getRedoText()` function returns text that specifies the operation that Dreamweaver will redo. If the user executes multiple Undo operations, the `dw.RedoText()` function could return the menu text "Redo Edit Source."

The `setMenuText()` function looks like the following example code:

```
function setMenuText()
{
    if (arguments.length != 1) return "";

    var whatToDo = arguments[0];
    if (whatToDo == "undo")
        return dw.getUndoText();
    else if (whatToDo == "redo")
        return dw.getRedoText();
    else return "";
}
```

Placing the command file in the Menu folder

To implement the menu Undo and Redo menu items, you must save the `MyMenu.htm` command file in the Dreamweaver Configuration/Menus folder or a subfolder that you create. The location of the file must agree with the location that you specified in the `menuitem` tag. To make it accessible to Dreamweaver, either restart Dreamweaver or reload extensions. For information on how to reload extensions, see "Reloading extensions" on page 78.

To run the menu commands, select the menu item when it is enabled. Dreamweaver will invoke the functions in the command file, as described in "How menu commands work" on page 152.

A dynamic menu example

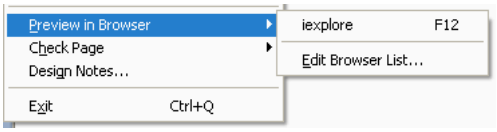
This example implements the Dreamweaver Preview In Browser submenu that displays a list of available browsers. The example also opens the current file, or the selected files in the Site panel, in the user-specified browser. Implementing this dynamic menu, you create the dynamic menu items and write the JavaScript code.

Create dynamic menu items

The following menu tags in the menus.xml file define the Preview In Browser submenu of the File menu:

```
<menu name="_Preview in Browser" id="DWMenu_File_PIB">
    <menuitem dynamic name="No Browsers Selected"
        file="Menus/MM/PIB_Dynamic.htm" arguments="'No Browsers'"
        id="DWMenu_File_PIB_Default" />
    <separator />
    <menuitem name="_Edit Browser List..." enabled="true"
        command="dw.editBrowserList()" id="DWMenu_File_PIB_EditBrowserList" />
    </menu>
```

The first `menuitem` tag defines the default menu item No Browsers Selected, which appears on the submenu if you have not specified any browsers for the Preview In Browser item in the Preferences dialog box. If you specified the Microsoft Internet Explorer browser, however, the submenu would look like the following figure:



The `name` attribute for the first menu item specifies the command file PIB_Dynamic.htm. This file contains the following line:

```
<SCRIPT LANGUAGE="javascript" SRC="PIB_Dynamic.js"></SCRIPT>
```

The `script` tag includes the JavaScript code in the PIB_Dynamic.js file, which supplies the JavaScript code that interacts with the Preview in Browser submenu. This code could be saved directly in the PIB_Dynamic.htm file, but storing it in a separate file allows multiple commands to include the same code.

JavaScript code for the dynamic menu item

Because the first `menuitem` tag contains the `dynamic` attribute, Dreamweaver calls the `getDynamicContent()` function in the PIB_Dynamic.js file, which is shown in the following example:

```
function getDynamicContent(itemID)
{
    var browsers = null;
    var PIB = null;
    var i;
    var j=0;
    browsers = new Array();
    PIB = dw.getBrowserList();

    for (i=0; i<PIB.length; i=i+2)
    {
        browsers[j] = new String(PIB[i]);

        if (dw.getPrimaryBrowser() == PIB[i+1])
            browsers[j] += "\tF12";
        else if (dw.getSecondaryBrowser() == PIB[i+1])
            browsers[j] += "\tCmd+F12";

        browsers[j] += ";id='"+escQuotes(PIB[i])+"'";

        if (itemID == "DWPopup_PIB_Default")
            browsers[j] = MENU_strPreviewIn + browsers[j];

        j = j+1;
    }
    return browsers;
}
```

The `getDynamicContent()` function calls the `dw.getBrowserList()` function to obtain an array of the browser names that have been specified in the Preview In Browser section of the Preferences dialog box. This array contains the name of each browser and the path to the executable file. Next, for each item in the array `(i=0; i<PIB.length; i=i+2)`, the `getDynamicContents()` function moves the name of the browser (`PIB[i]`) into a second array called `browsers` (`browsers[j] = new String(PIB[i]);`). If the browser has been designated as the primary or secondary browser, the function appends the names of the keyboard shortcut keys that invoke them. Next it appends the string `";id="` followed by the name of the browser in single quotation marks (for example, `;id='iexplore'`). If the `itemID` argument is "`DWPopup_PIB_Default`", the function prefixes the array item with the string `Preview in.` After it constructs an entry for each browser listed in the Preferences dialog box, the `getDynamicContent()` function returns the array `browsers` to Dreamweaver. If no browsers have been selected, the function returns the value `null`, and Dreamweaver displays No Browsers Selected in the menu.

canAcceptCommand()

Dreamweaver next calls the `canAcceptCommand()` function for each `menuitem` tag that references a command file with the `file` attribute. If the `canAcceptCommand()` function returns the value `false`, the menu item is dimmed. If the `canAcceptCommand()` function returns the value `true`, Dreamweaver enables the item on the menu. If the function returns `true` or is not defined, Dreamweaver calls the `isCommandChecked()` function to determine whether to display a check mark next to the menu item. If the `isCommandChecked()` function is not defined, no check mark appears.

```
function canAcceptCommand()
{
    var PIB = dw.getBrowserList();

    if (arguments[0] == 'primary' || arguments[0] == 'secondary')
        return havePreviewTarget();

    return havePreviewTarget() && (PIB.length > 0);
}
```

The `canAcceptCommand()` function in the PIB_Dynamic.js file again retrieves the browser list that was created in the Preferences dialog box. Then it checks whether the first argument (`arguments[0]`) is primary or secondary. If so, it returns the value returned by the `havePreviewTarget()` function. If not, it tests the call to the `havePreviewTarget()` function *and* tests whether any browsers have been specified (`PIB.length > 0`). If *both* tests are true, the function returns the value `true`. If either or both of the tests are false, the function returns the value `false`.

havePreviewTarget()

The `havePreviewTarget()` function is a user-defined function that returns the value `true` if Dreamweaver has a valid target to display in the browser. A valid target is a document or a selected group of files in the Site panel. The `havePreviewTarget()` function looks like the following example:

```
function havePreviewTarget()
{
    var bHavePreviewTarget = false;

    if (dw.getFocus(true) == 'site')
    {
        if (site.getFocus() == 'remote')
        {
            bHavePreviewTarget = site.getRemoteSelection().length > 0 &&
                                        site.canBrowseDocument();
        }
        else if (site.getFocus() != 'none')
        {
            var selFiles = site.getSelection();

            if (selFiles.length > 0)
            {
                var i;

                bHavePreviewTarget = true;

                for (i = 0; i < selFiles.length; i++)
                {
                    var selFile = selFiles[i];

                    // For server connections, the files will
                    // already be remote URLs.

                    if (selFile.indexOf("://") == (-1))
                    {
                        var urlPrefix = "file:///";
                        var strTemp = selFile.substr(urlPrefix.length);

                        if (selFile.indexOf(urlPrefix) == -1)
```

```
                        bHavePreviewTarget = false;
                    else if (strTemp.indexOf("/") == -1)
                        bHavePreviewTarget = false;
                    else if (!DWfile.exists(selFile))
                        bHavePreviewTarget = false;
                    else if (DWfile.getAttributes(selFile).indexOf("D") != -1)
                        bHavePreviewTarget = false;
                }
                else
                {
                    bHavePreviewTarget = true;
                }
            }
        }
    }
}
else if (dw.getFocus() == 'document' ||
    dw.getFocus() == 'textView' || dw.getFocus("true") == 'html' )
{
    var dom = dw.getDocumentDOM('document');
    if (dom != null)
    {
        var parseMode = dom.getParseMode();
        if (parseMode == 'html' || parseMode == 'xml')
            bHavePreviewTarget = true;
    }
}

return bHavePreviewTarget;
}
```

The `havePreviewTarget()` function sets the value `bHavePreviewTarget` to `false` as the default return value. The function performs two basic tests calling the `dw.getFocus()` function to determine what part of the application currently has input focus. The first test checks whether the Site panel has focus (if (dw.getFocus(true) == 'site')). If the Site panel does not have focus, the second test checks to see if a document (dw.getFocus() == 'document'), Text view (dw.getFocus() == 'textView'), or the Code inspector (dw.getFocus("true") == 'html') has focus. If neither test is true, the function returns the value `false`.

If the Site panel has focus, the function checks whether the view setting is Remote view. If it is, the function sets `bHavePreviewTarget` to `true` if there are remote files (site.getRemoteSelection().length > 0) and the files can be opened in a browser (site.canBrowseDocument()). If the view setting is not Remote view, and if the view is not None, the function gets a list of the selected files (var selFiles = site.getSelection();) in the form of `file:///` URLs.

For each item in the selected list, the function tests for the presence of the character string "`://`". If it is not found, the code performs a series of tests on the list item. If the item is not in the form of a `file:///` URL (if (selFile.indexOf(urlPrefix) == -1)), it sets the return value to `false`. If the remainder of the string following the `file:///` prefix does not contain a slash (/) (if (strTemp.indexOf("/") == -1)), it sets the return value to `false`. If the file does not exist (else if (!DWfile.exists(selFile))), it sets the return value to `false`. Last, it checks to see if the specified file is a folder (else if (DWfile.getAttributes(selFile).indexOf("D") != -1)). If `selfile` is a folder, the function returns the value `false`. Otherwise, if the target is a file, the function sets `bHavePreviewTarget` to the value `true`.

If a document, Text view, or the Code inspector has input focus (`else if (dw.getFocus() == 'document' ||` dw.getFocus() == 'textView' || dw.getFocus("true") == 'html')), the function gets the DOM and checks to see if the document is an HTML or an XML document. If so, the function sets `bHavePreviewTarget` to `true`. Finally, the function returns the value stored in `bHavePreviewTarget`.

receiveArguments()

Dreamweaver calls the `receiveArguments()` function to let the command process any arguments that pass from the menu item. For the Preview in Browsers menu, the `receiveArguments()` function invokes the browser that the user selects. The `receiveArguments()` function looks like the following example:

```
function receiveArguments()
{
    var whichBrowser = arguments[0];
    var theBrowser = null;
    var i=0;
    var browserList = null;
    var result = false;

    if (havePreviewTarget())
    {
        // Code to check if we were called from a shortcut key
        if (whichBrowser == 'primary' || whichBrowser == 'secondary')
        {
            // get the path of the selected browser
            if (whichBrowser == 'primary')
            {
                theBrowser = dw.getPrimaryBrowser();
            }
            else if (whichBrowser == 'secondary')
            {
                theBrowser = dw.getSecondaryBrowser();
            }

            // Match the path with the name of the corresponding browser
            // that appears in the menu.
            browserList = dw.getBrowserList();
            while(i < browserList.length)
            {
                if (browserList[i+1] == theBrowser)
                    theBrowser = browserList[i];
                i+=2;
            }
        }
        else
            theBrowser = whichBrowser;
        // Only launch the browser if we have a valid browser selected.
        if (theBrowser != "file:///" && typeof(theBrowser) != "undefined" &&
        theBrowser.length > 0)
        {
            if (dw.getFocus(true) == 'site')
            {
                // Only get the first item of the selection because
                // browseDocument() can't take an array.
                //dw.browseDocument(site.getSelection()[0],theBrowser);
                site.browseDocument(theBrowser);
            }
            else
                dw.browseDocument(dw.getDocumentPath('document'),theBrowser);
```

```
        }
        else
        {
            // Otherwise, F12 or Ctrl+F12 was pressed, ask if the user wants
            // to specify a primary or secondary browser now.
            if (whichBrowser == 'primary')
            {
                result = window.confirm(MSG_NoPrimaryBrowserDefined);
            }
            else if (whichBrowser == 'secondary')
            {
                result = window.confirm(MSG_NoSecondaryBrowserDefined);
            }

            // If the user clicked OK, show the prefs dialog with the browser panel.
            if (result)
                dw.showPreferencesDialog('browsers');
        }
    }
}
```

The function first sets the variable `whichBrowser` to the value that Dreamweaver passes, `arguments[0]`. Along with setting other default values, the function also sets `result` to a default value of `false`.

After variables are initialized, the `receiveArguments()` function calls the user-defined function `havePreviewTarget()` and tests the result. If the result of the test is true, the function checks to see if the user selected the primary or secondary browser. If so, the function sets the variable `theBrowser` to the path of the executable file that starts the browser (`dw.getPrimaryBrowser()` or `dw.getSecondaryBrowser()`). The function then performs a loop that examines the list of browsers returned by `dw.getBrowsersList()`. If the path to a browser in the list matches the path to the primary or secondary browser, the function sets the variable `theBrowser` to the matching value in `browserList`. This value contains the name of the browser and the path to the executable file that starts the browser. If `havePreviewTarget()` returns the value `false`, the function sets the variable `theBrowser` to the value of the variable `whichBrowser`.

Next, the `receiveArguments()` function tests the variable `theBrowser` to make sure that it does not begin with a path, that it is not `"undefined"`, and that it has a length greater than 0. If all these conditions are true, and if the Site panel has focus, the `receiveArguments()` function calls the `site.browseDocument()` function to invoke the selected browser with the files selected in the Site panel. If the Site panel does not have focus, the `receiveArguments()` function calls the function `dw.browseDocument()` and passes it the path of the current document and the value of the variable `theBrowser`, which specifies the name of the browser with which to open the document.

If the user pressed the shortcut keys (F12 or Ctrl+F12) and no primary or secondary browser has been specified, a dialog box appears to inform the user. If the user clicks OK, the function calls the function `dw.showPreferencesDialog()` with the `browsers` argument to let the user specify a browser at that point.

The menu commands API functions

The custom functions in the menu commands API are not required.

canAcceptCommand()

Description

Determines whether the menu item is active or dimmed.

Arguments

{arg1}, {arg2},...{argN}}

If it is a dynamic menu item, the unique ID that the `getDynamicContents()` function specifies is the only argument. Otherwise, if the `arguments` attribute is defined for a `menuitem` tag, the value of that attribute passes to the `canAcceptCommand()` function (and to the "isCommandChecked()" on page 163, "receiveArguments()" on page 164, and "setMenuText()" on page 165 functions) as one or more arguments. The `arguments` attribute is useful for distinguishing between two menu items that call the same menu command.

Note: *The `arguments` attribute is ignored for dynamic menu items.*

Returns

Dreamweaver expects a Boolean value: `true` if the item should be enabled; `false` otherwise.

commandButtons()

Description

Defines the buttons that appear on the right side of the Options dialog box and their behavior when they are clicked. If this function is not defined, no buttons appear, and the body section of the Menu Commands file expands to fill the entire dialog box.

Arguments

None.

Returns

Dreamweaver expects an array that contains an even number of elements. The first element is a string that contains the label for the topmost button. The second element is a string of JavaScript code that defines the behavior of the topmost button when it is clicked. The remaining elements define additional buttons in the same manner.

Example

The following example of the `commandButtons()` function defines the OK, Cancel, and Help buttons:

```
function commandButtons(){
    return new Array("OK" , "doCommand()" , "Cancel" , ¬
    "window.close()" , "Help" , "showHelp()");
}
```

getDynamicContent()

Description

Retrieves the content for the dynamic portion of the menu.

Arguments

menuID

The *menuID*argument is the value of the `id` attribute in the `menuitem` tag that is associated with the item.

Returns

Dreamweaver expects an array of strings where each string contains the name of a menu item and its unique ID, separated by a semicolon. If the function returns a `null` value, the menu does not change.

Example

The following example of the `getDynamicContent()` function returns an array of four menu items (My Menu Item 1, My Menu Item 2, My Menu Item 3, and My Menu Item 4):

```
function getDynamicContent(){
    var stringArray= new Array();
    var i=0;
    var numItems = 4;

    for (i=0; i<numItems;i++)
        stringArray[i] = new String("My Menu Item " + i + ";¬
        id='My-MenuItem" + i + "'");

    return stringArray;
}
```

isCommandChecked()

Description

Determines whether to display a check mark next to the menu item.

Arguments

{arg1}, {arg2},...{argN}

If it is a dynamic menu item, the unique ID that the `getDynamicContents()` function specifies is the only argument. Otherwise, if the `arguments` attribute is defined for a `menuitem` tag, the value of that attribute passes to the `isCommandChecked()` function (and to the "canAcceptCommand()" on page 162, "receiveArguments()" on page 164, and "setMenuText()" on page 165 functions) as one or more arguments. The `arguments` attribute is useful for distinguishing between two menu items that call the same menu command.

Note: *The `arguments` attribute is ignored for dynamic menu items.*

Returns

Dreamweaver expects a Boolean value: `true` if a check mark should appear next to the menu item; `false` otherwise.

Example

```
function isCommandChecked()
{
    var bChecked = false;
    var cssStyle = arguments[0];

    if (dw.getDocumentDOM() == null)
        return false;

    if (cssStyle == "(None)")
    {
        return dw.cssStylePalette.getSelectedStyle() == '';
    }
    else
    {
        return dw.cssStylePalette.getSelectedStyle() == cssStyle;
    }
        return bChecked;
}
```

receiveArguments()

Description

Processes any arguments passed from a menu item or from the `dw.runCommand()` function. If it is a dynamic menu item, it processes the dynamic menu item ID.

Arguments

{arg1}, {arg2},...{argN}

If it is a dynamic menu item, the unique ID that the `getDynamicContents()` function specifies is the only argument. Otherwise, if the `arguments` attribute is defined for a `menuitem` tag, the value of that attribute passes to the `receiveArguments()` function (and to the "canAcceptCommand()" on page 162, "isCommandChecked()" on page 163, and "setMenuText()" on page 165 functions) as one or more arguments. The `arguments` attribute is useful for distinguishing between two menu items that call the same menu command.

Note: *The `arguments` attribute is ignored for dynamic menu items.*

Returns

Dreamweaver expects nothing.

Example

```
function receiveArguments()
{
    var styleName = arguments[0];
    if (styleName == "(None)")
        dw.getDocumentDOM('document').applyCSSStyle('','');
    else
        dw.getDocumentDOM('document').applyCSSStyle('',styleName);
}
```

setMenuText()

Description

Specifies the text that should appear in the menu.

Note: *Do not use this function if you are using "getDynamicContent()" on page 162.*

Arguments

{arg1}, {arg2},...{argN}

If the `arguments` attribute is defined for a `menuitem` tag, the value of that attribute passes to the `setMenuText()` function (and to the "canAcceptCommand()" on page 162, "isCommandChecked()" on page 163, and "receiveArguments()" on page 164 functions) as one or more arguments. The `arguments` attribute is useful for distinguishing between two menu items that call the same menu command.

Returns

Dreamweaver expects the string that should appear in the menu.

Example

```
function setMenuText()
{
    if (arguments.length != 1) return "";

    var whatToDo = arguments[0];
    if (whatToDo == "undo")
        return dw.getUndoText();
    else if (whatToDo == "redo")
        return dw.getRedoText();
    else return "";
}
```

windowDimensions()

Description

Sets specific dimensions for the Parameters dialog box. If this function is not defined, the window dimensions are computed automatically.

Note: *Do not define this function unless you want a dialog box that is larger than 640 x 480 pixels.*

Arguments

platform

The value of the *platform* argument is either `"macintosh"` or `"windows"`, depending on the user's platform.

Returns

Dreamweaver expects a string of the form `"widthInPixels,heightInPixels"`.

The returned dimensions are smaller than the size of the entire dialog box because they do not include the area for the OK and Cancel buttons. If the returned dimensions do not accommodate all options, scroll bars appear.

Example

The following example of `windowDimensions()` sets the dimensions of the Parameters dialog box to 648 x 520 pixels:

```
function windowDimensions(){
    return "648,520";
}
```

Chapter 11: Toolbars

You can create a toolbar for Adobe Dreamweaver simply by creating a file that defines the toolbar and placing that file in the Configuration/Toolbars folder.

The following table lists the files you use to create a toolbar:

Path	File	Description
Configuration/Toolbars/	toolbars.xml	Edit this file to change the contents of the toolbar.
Configuration/Toolbars/	*newtoolbar*.xml	Create this file to create a toolbar.
Configuration/Toolbars/	*imagefile*.gif	Icon image for toolbar control.
Configuration/Commands/	MyCommand.htm	Command file associated with toolbar item.

How toolbars work

Toolbars are defined by XML and image files that are stored in the Toolbars folder of the main Dreamweaver Configuration folder. The default Dreamweaver toolbars are stored in the toolbars.xml file in the Configuration/Toolbars folder. When Dreamweaver starts, it loads all the toolbar files in the Toolbars folder. You can add new toolbars simply by copying a file into the Toolbars folder rather than modifying the original toolbars.xml file.

Toolbar XML files define one or more toolbars and their toolbar items. A toolbar is a list of items such as buttons, text boxes, pop-up menus, and so on. A toolbar item represents a single control that a user can access in a toolbar.

Some types of toolbar controls, such as push buttons and pop-up menus, have icon images associated with them. Icon images are stored in an images folder in the Toolbars folder. Images can be in any format that Dreamweaver can render but are typically GIF or JPEG file formats. Images for Adobe-authored toolbars are stored in the Toolbars/images/MM folder.

As with menus, you can specify the functionality of individual toolbar items either through the item attributes or through a command file. Adobe-authored toolbar command files are stored in the Toolbars/MM folder.

The toolbar API is compatible with the menu commands API, so toolbar controls can reuse menu commands files.

Unlike menus, you can define toolbar items independently from the toolbars that use them. This flexibility lets you use toolbar items in multiple toolbars by using the `itemref` tag.

The first time Dreamweaver loads a toolbar, its visibility and position are set by the toolbar definition. After that, its visibility and position are saved in and restored from the registry (Windows) or the Dreamweaver Preferences file (Macintosh).

How toolbars behave

In Windows, Dreamweaver toolbars generally act the same as standard Windows toolbars. Dreamweaver toolbars have the following characteristics:

- You can drag and drop toolbars to dock them, undock them, and reposition them relative to other toolbars.

- You can horizontally dock toolbars to the top or bottom of the frame window.
- Toolbars remain a fixed size. A toolbar does not shrink if the container shrinks or if other toolbars are placed next to it.
- You can show or hide toolbars from the View >Toolbars menu.
- Toolbars cannot overlap.
- Only the outline of the toolbar appears while you drag it.

On the Macintosh, toolbars are always attached to the document window. They can be shown or hidden from the menu, but you cannot drag and drop, rearrange, or undock them.

In the Dreamweaver workspace, which integrates all the Dreamweaver document windows within a single parent frame, you can specify whether toolbars dock to the workspace frame or to the document window.

For toolbars that dock to the Dreamweaver workspace frame, there is only one instance of each toolbar. In this case, the toolbars always operate on the document in front. In the Dreamweaver workspace, you can dock toolbars above, below, or to the left or right of the Insert toolbar. Toolbars that are attached to the Dreamweaver workspace frame do not automatically disable when there is no document window. The toolbar items determine whether they are enabled when no document is open.

When toolbars stay docked to the document window, there is one instance for each window. Toolbars that are attached to a document window completely disable themselves when their window is not the front document and rerun all their update handlers when their window comes to the front.

You cannot drag and drop toolbars between the document window and the Dreamweaver workspace frame.

How toolbar commands work

When Dreamweaver draws a toolbar, the following events occur:

1. For each toolbar control item, Dreamweaver determines whether the `file` attribute exists.
2. If the `file` attribute exists, Dreamweaver calls the `canAcceptCommand()` function to determine whether it should enable the control in the current context of the document.

   For the Document Title text box in the Dreamweaver toolbar, for example, the `canAcceptCommand()` function checks to see if there is a current DOM and if the current document is an HTML file. If both these conditions are true, the function returns `true` and Dreamweaver enables the text box on the toolbar.
3. If the `file` attribute exists, Dreamweaver ignores the following attributes, if they are specified: `checked`, `command`, `DOMRequired`, `enabled`, `script`, `showif`, `update`, and `value`.
4. If the `file` attribute does not exist, Dreamweaver processes the attributes that are set for the toolbar control item: `checked`, `command`, `DomRequired`, and so on.

   For more information on specific item tag attributes, see "Item tag attributes" on page 180.
5. Dreamweaver calls the `getCurrentValue()` function on every update cycle, as specified by the `update` attribute, to determine what value to display for the control.
6. The user selects an item on the toolbar.
7. Dreamweaver calls the `receiveArguments()` function to process any arguments that the `arguments` attribute of the toolbar item specifies.

For more information on the purpose of specific functions in the toolbar command API, see "The toolbar command API functions" on page 185.

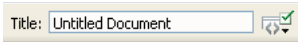
A simple toolbar command file

This simple example implements a Title text box item as seen on the Dreamweaver Document toolbar. The text box item lets the user enter a name for the current Dreamweaver document. You can implement this toolbar example by performing the following steps:

Create the text box

To add a toolbar to Dreamweaver, you place an XML file that contains the toolbar definition in the Toolbars folder inside the Dreamweaver Configuration folder.

The following figure shows the Title text box:



The following toolbar `editcontrol` item defines a text box that is labeled Title:

```
<EDITCONTROL ID="DW_SetTitle"
    label="Title: "
    tooltip="Document Title"
    width="150"
    file="Toolbars/MM/EditTitle.htm"/>
```

The `tooltip` attribute causes Dreamweaver to display Document Title in a tooltip box when the user places the mouse pointer over the text box. The `width` attribute specifies the size of the field in pixels. The `file` attribute specifies that the EditTitle.htm file contains the JavaScript functions that operate on the text box. To see the full definition of the Dreamweaver Document toolbar, see the main toolbar (`id="DW_Toolbar_Main"`) in the toolbars.xml file.

JavaScript code for the text box

When the user interacts with the text box, it causes Dreamweaver to invoke the EditTitle.htm command file in the Toolbars/MM folder. This file contains three JavaScript functions that operate on the Title text box. These functions are `canAcceptCommand()`, `receiveArguments()`, and `getCurrentValue()`.

canAcceptCommand(): enable the toolbar item

The `canAcceptCommand()` function consists of one line of code that checks to see whether there is a current Document Object Model (DOM) and whether the document is parsed as HTML. The function returns the results of those tests. If the conditions are `true`, Dreamweaver enables the text box item on the toolbar. If the function returns the value `false`, Dreamweaver disables the item.

The function is as follows:

```
function canAcceptCommand()
{
    return (dw.getDocumentDOM() != null && dw.getDocumentDOM().getParseMode() == 'html');
}
```

receiveArguments(): set the title

Dreamweaver invokes the `receiveArguments()` function, shown in the following example, when the user enters a value in the Title text box and presses the Enter key or moves the focus away from the control.

The function is as follows:

```
function receiveArguments(newTitle)
{
    var dom = dw.getDocumentDOM();
    if (dom)
        dom.setTitle(newTitle);
}
```

Dreamweaver passes `newTitle`, which is the value that the user enters, to the `receiveArguments()` function. The `receiveArguments()` function first checks to see whether a current DOM exists. If it does, the `receiveArguments()` function sets the new document title by passing `newTitle` to the `dom.setTitle()` function.

getCurrentValue(): get the title

Whenever an update cycle occurs, as determined by the default update frequency of the `onEdit` event handler, Dreamweaver calls the `getCurrentValue()` function to determine what value to display for the control. The default update frequency of the `onEdit` handler determines the update frequency because the Title text edit control has no update attribute.

For the Title text box, the following `getCurrentValue()` function calls the JavaScript application programming interface (API) function `dom.getTitle()` to obtain and return the current title.

The function is as follows:

```
function getCurrentValue()
{
    var title = "";
    var dom = dw.getDocumentDOM();
    if (dom)
        title = dom.getTitle();
    return title;
}
```

Until the user enters a title for the document, the `getTitle()` function returns Untitled Document, which appears in the text box. After the user enters a title, the `getTitle()` function returns that value, and Dreamweaver displays it as the new document title.

To see the complete HTML file that contains the JavaScript functions for the Title text box, see the EditTitle.htm file in the Toolbars/MM folder.

The MM folder is reserved for Adobe files. Create another folder inside the Toolbars folder, and place your JavaScript code in that folder.

The toolbar definition file

A toolbar is simply a list of radio buttons, check buttons, edit boxes, and other toolbar items, optionally divided by `separator` tags. Each toolbar item can be a reference to an item using the `itemref` tag, a separator using the `separator` tag, or a complete toolbar item definition for a check box or an edit box; for example, as described in "Toolbar item tags" on page 175.

Each toolbar definition file starts with the following declarations:

```
<?xml version="1.0" encoding="optional_encoding"?>
<!DOCTYPE toolbarset SYSTEM "-//Macromedia//DWExtension toolbar 5.0">
```

If the encoding is omitted, Dreamweaver uses the default encoding of the operating system.

After the declarations, the file consists of a single `toolbarset` tag, which contains any number of the following tags: `toolbar`, `itemref`, `separator`, `include`, and *itemtype* tags, where *itemtype* is a `button`, `checkbutton`, `radiobutton`, `menubutton`, `dropdown`, `combobox`, `editcontrol`, or `colorpicker`. The following example, which is an abbreviated excerpt from the toolbars.xml file, illustrates the hierarchy of tags in the toolbar file. The example substitutes ellipses (. . .) for the description of the toolbar item attributes.

```
<?xml version="1.0"?>
<!DOCTYPE toolbarset SYSTEM "-//Adobe//DWExtension toolbar 10.0">
<toolbarset>

<!-- main toolbar -->
    <toolbar id="DW_Toolbar_Main" label="Document">
        <radiobutton id="DW_CodeView" . . ./>
        <radiobutton id="DW_SplitView" . . ./>
        <radiobutton id="DW_DesignView" . . ./>
        <separator/>
        <checkbutton id="DW_LiveDebug" . . ./>
        <checkbutton id="DW_LiveDataView" . . ./>
        <separator/>
        <editcontrol id="DW_SetTitle" . . ./>
        <menubutton id="DW_FileTransfer" . . ./>
        <menubutton id="DW_Preview" . . ./>
        <separator/>
        <button id="DW_DocRefresh" . . ./>
        <button id="DW_Reference" . . ./>
        <menubutton id="DW_CodeNav" . . ./>
        <menubutton id="DW_ViewOptions" . . ./>
    </toolbar>
</toolbarset>
```

The following are descriptions of each of the toolbar tags.

<toolbar>

Description

Defines a toolbar. Dreamweaver displays the items and separators from left to right in the specified order, laying out the items automatically. The toolbar file does not specify control over the spacing between the items, but you can specify the widths of certain kinds of items.

Attributes

`id, label, {container}, {initiallyVisible}, {initialPosition}, {relativeTo}`

- `id="`*`unique_id`*`"` Required. An identifier string must be unique within a file and within all files that the file includes. The JavaScript API functions that manipulate a toolbar refer to it by its ID. For more information on these functions, see the *Dreamweaver API Reference*. If two toolbars that are included in the same file have the same ID, Dreamweaver displays an error.
- `label="string"` Required. The label attribute specifies the label, which is a character string, that Dreamweaver displays to the user. The label appears in the View >Toolbars menu and in the title bar of the toolbar when it's floating.

- `container="mainframe"` or `"document"` Defaults to `"mainframe"`. Specifies where the toolbar should dock in the Dreamweaver workspace on Windows. If the container is set to `"mainframe"`, the toolbar appears in the outer workspace frame and operates on the front document. If the container is set to `"document"`, the toolbar appears in each document window. On the Macintosh, all toolbars appear in each document window.
- `initiallyVisible="true"` or `"false"`. This tag specifies whether the toolbar should be visible the first time that Dreamweaver loads it from the Toolbars folder. After the first time, the user controls visibility. Dreamweaver saves the current state to the system registry (Windows) or the Dreamweaver Preferences file (Macintosh) when the user quits Dreamweaver. Dreamweaver restores the setting from the registry or the Preferences file when it restarts. You can manipulate toolbar visibility using the `dom.getToolbarVisibility()` and `dom.setToolbarVisibility()` functions, as described in the *Dreamweaver API Reference*. If you do not set the `initiallyVisible` attribute, it defaults to `true`.
- `initialPosition="top"`, `"below"`, or `"floating"`. Specifies where Dreamweaver initially positions the toolbar, relative to other toolbars, the first time that Dreamweaver loads it. The possible values for `intialPosition` are described in the following list:
- `top` This is the default position, so the toolbar appears at the top of the document window. If multiple toolbars specify `top` for a given window type, the toolbars appear in the order that Dreamweaver encounters them during loading, which might not be predictable, if the toolbars reside in separate files.
- `below` The toolbar appears at the beginning of the row immediately below the toolbar that the `relativeTo` attribute specifies. Dreamweaver reports an error if the `relativeTo` toolbar isn't found. If multiple toolbars specify `below` relative to the same toolbar, they appear in the order that Dreamweaver encounters them during loading, which might not be predictable if the toolbars reside in separate files.
- `floating` Toolbar is not initially docked to the window; it floats above the document. Dreamweaver automatically places the toolbar so it is offset from other floating toolbars. On the Macintosh, `floating` is treated the same as `top`.

  As with the `initiallyVisible` attribute, the `initialPosition` attribute applies only the first time that Dreamweaver loads the toolbar. After that, the toolbar's position is saved to the registry or the Dreamweaver Preferences file. You can reset the position of the toolbar by using the `dom.setToolbarPosition()` function. For more information on the `dom.setToolbarPosition()` function, see the *Dreamweaver API Reference*.

  If you do not specify the `initialPosition` attribute, Dreamweaver positions the toolbar in the order that it is encountered during loading.
- `relativeTo="`*`toolbar_id`*`"` This attribute is required if the `initialPosition` attribute specifies `below`. Otherwise, it is ignored. Specifies the ID of the toolbar below which this toolbar should be positioned.

Contents

The `toolbar` tag contains `include`, `itemref`, and `separator` tags as well as individual item definitions such as `button`, `combobox`, `dropdown`, and so on. For descriptions of the item definitions that you can specify, see "Toolbar item tags" on page 175.

Container

The `toolbarset` tag.

Example

```
<toolbar id="MyDWedit_toolbar" label="Edit">
```

<include/>

Description

Loads toolbar items from the specified file before continuing to load the current file. Toolbar items that are defined in the included file can be referenced in the current file. If a file attempts to recursively include another file, Dreamweaver displays an error message and ignores the recursive include. Any `toolbar` tags in the included file are skipped, although toolbar items in those toolbars are available for reference in the current file.

Attributes

- The `file` path, relative to the Toolbars folder, of the toolbar XML file to include.

Contents

None.

Container

The `toolbar` tag or the `toolbarset` tag.

Example

```
<include file="mine/editbar.xml"/>
```

<itemtype/>

Description

Defines a single toolbar item. Toolbar items include buttons, radio buttons, check buttons, combo boxes, pop-up menus, and so on. For a list of the types of toolbar items that you can define, see "Toolbar item tags" on page 175.

Attributes

The attributes vary, depending on the item that you define. For a complete list of the attributes that you can specify for toolbar items, see "Item tag attributes" on page 180.

Contents

None.

Container

The `toolbar` tag or the `toolbarset` tag.

Example

```
<button id="strikeout_button" .../>
```

<itemref/>

Description

Refers to (and includes in the current toolbar) a toolbar item that was defined either inside a previous toolbar or outside of all toolbars.

Attributes

`id, {showIf}`

- `id="id_reference"` Required. Must be the ID of an item that was previously defined or included in the file. Dreamweaver does not allow forward references. If a toolbar item tag references an undefined ID, Dreamweaver reports an error and ignores the reference.
- `showIf="script"` Specifies that this item appears on the toolbar only if the specified script returns a `true` value. For example, you can use `showIf` to show certain buttons only in a given application or only when a page is written in a server-side language such as Adobe ColdFusion, ASP, or JSP. If you do not specify `showIf`, the item always appears. Dreamweaver checks this property whenever the item's enabler runs; that is, according to the value of the `update` attribute. You should use this attribute sparingly. The attribute can be used either in the item definition or in a reference to the item from a toolbar. If both the definition and the reference specify the `showIf` attribute, Dreamweaver shows the item only if both conditions are true. The `showIf` attribute is equivalent to the `showIf()` function in a command file.

Contents

None.

Container

The `toolbar` tag or the `toolbarset` tag.

Example

```
<itemref id="strikeout_button">
```

<separator/>

Description

Inserts a separator at the current location in the toolbar.

Attributes

{showIf}

- The `showif` attribute specifies that the separator should appear only on the toolbar if the given script returns `true`. For example, you can use the `showIf` attribute to show the separator only in a given application or only when the page has a certain document type. If the `showIf` attribute is unspecified, the separator always appears.

Contents

None.

Container

The `toolbar` tag.

Example

```
<separator/>
```

Toolbar item tags

Each type of toolbar item has its own tag and set of required and optional attributes. You can define `toolbar` items either inside or outside of toolbars. In general, it is better to define them outside of toolbars and refer to them within toolbars using the `itemref` tag.

You can define the following types of items in a toolbar.

<button>

Description

This push button executes a specific command when you click it. It looks and acts the same as the Reference button on the Dreamweaver toolbar.

Attributes

`id, image, tooltip, command, {showIf}, {disabledImage}, {overImage}, {label}, {file}, {domRequired}, {enabled}, {update}, {arguments}`

For a description of each attribute, see "Item tag attributes" on page 180.

Contents

None.

Container

The `toolbar` tag or the `toolbarset` tag.

Example

```
<BUTTON ID="DW_DocRefresh"
    image="Toolbars/images/MM/refresh.gif"
    disabledImage="Toolbars/images/MM/refresh_dis.gif"
    tooltip="Refresh Design View (F5)"
    enabled="((dw.getDocumentDOM() != null) && (dw.getDocumentDOM().getView() != 'browse')
        && (!dw.getDocumentDOM().isDesignViewUpdated()))"
    command="dw.getDocumentDOM().synchronizeDocument()"
    update="onViewChange,onCodeViewSyncChange"/>
```

<checkbutton>

Description

A check button is a button that has a checked or unchecked state and that executes a specific command when clicked. When it is checked, it appears pressed in and highlighted. When it is not checked, it appears flat. Dreamweaver implements the following states for the check button: Mouse-over, Pressed, Mouse-over-while-pressed, and Disabled-while-pressed. The handler that is specified by the `checked` attribute or the `isCommandChecked()` function must ensure that clicking the check button causes the button's state to toggle.

Attributes

`id, {showIf}, image, {disabledImage}, {overImage}, tooltip, {label}, {file}, {domRequired}, {enabled}, checked, {update}, command, {arguments}`

For a description of each attribute, see "Item tag attributes" on page 180.

Contents

None.

Container

The `toolbar` tag or the `toolbarset` tag.

Example

```
<CHECKBUTTON ID="DW_LiveDebug"
    image="Toolbars/images/MM/debugview.gif"
    disabledImage="Toolbars/images/MM/globe_dis.gif"
    tooltip="Live Debug"
    enabled="dw.canLiveDebug()"
    checked="dw.getDocumentDOM() != null && dw.getDocumentDOM().getView() == 'browse'"
    command="dw.toggleLiveDebug()"
    showIf="dw.canLiveDebug()"
    update="onViewChange"/>
```

<radiobutton>

Description

A radio button is exactly the same as a check button, except that when it is off, it appears as a raised button. Dreamweaver implements the following states for the radio button: Mouse-over, Pressed, Mouse-over-while-pressed, and Disabled-while-pressed. Dreamweaver does not enforce mutual exclusion between radio buttons. The handler that the `checked` attribute or the `isCommandChecked()` function specifies must ensure that the checked and unchecked states of radio buttons are consistent with each other.

Radio buttons act the same as the Code view, Design view, and Code and Design view buttons on the Dreamweaver document toolbar.

Attributes

`id, image, tooltip, checked, command, {showIf}, {disabledImage}, {overImage}, {label}, {file}, {domRequired}, {enabled}, {update}, {arguments}`

For a description of each attribute, see "Item tag attributes" on page 180.

Contents

None.

Container

The `toolbar` tag or the `toolbarset` tag.

Example

```
<RADIOBUTTON ID="DW_CodeView"
    image="Toolbars/images/MM/codeView.gif"
    disabledImage="Toolbars/images/MM/codeView_dis.gif"
    tooltip="Show Code View"
    domRequired="false"
    enabled="dw.getDocumentDOM() != null"
    checked="dw.getDocumentDOM() != null && dw.getDocumentDOM().getView() == 'code'"
    command="dw.getDocumentDOM().setView('code')"
    update="onViewChange"/>
```

<menubutton>

Description

A menu button is a button that invokes the context menu that is specified by the `menuid` attribute. Dreamweaver implements Mouse-over and Pressed states for menu buttons. Dreamweaver does not draw the menu arrow, which is the downward-pointing arrow that indicates menu items are attached to the button; you must include it in your icon. The File Management and Code Navigation buttons on the Dreamweaver document toolbar are examples of menu buttons.

Attributes

`id, image, tooltip, menuID, domRequired, enabled, {showIf}, {disabledImage}, {overImage}, {label}, {file}, {update}`

For a description of each attribute, see "Item tag attributes" on page 180.

Contents

None.

Container

The `toolbar` tag or the `toolbarset` tag.

Example

```
<MENUBUTTON ID="DW_CodeNav"
    image="Toolbars/images/MM/codenav.gif"
    disabledImage="Toolbars/images/MM/codenav_dis.gif"
    tooltip="Code Navigation"
    enabled="dw.getFocus() == 'textView' || dw.getFocus() == 'html'"
    menuID="DWCodeNavPopup"
    update="onViewChange"/>
```

<dropdown>

Description

A drop-down menu (or pop-up menu) is a noneditable menu that executes a specific command when you select an entry and the menu updates itself, based on an attached JavaScript function. The drop-down menu looks and acts the same as the Format control in the Text Property inspector, except it's a standard size instead of the small Property inspector size.

Attributes

`id, tooltip, file, enabled, checked, value, command, {showIf}, {label}, {width}, {domRequired}, {update}, {arguments}`

For a description of each attribute, see "Item tag attributes" on page 180.

Contents

None.

Container

The `toolbar` tag or the `toolbarset` tag.

Example

```
<dropdown id="Font_Example"
    width="115"
    tooltip="Font"
    domRequired="false"
    file="Toolbars/mine/fontExample.htm"
    update="onSelChange"/>
```

<combobox>

Description

A combo box is an editable pop-up menu that executes its command when you select an entry or when the user makes an edit in the text box and switches focus. The menu looks and acts the same as the Font control on the Text Property inspector, except it's a standard size instead of the small Property inspector size.

Attributes

`id, file, tooltip, enabled, value, command, {showiI}, {label}, {width}, {domRequired}, {update}, {arguments}`

For a description of each attribute, see "Item tag attributes" on page 180.

Contents

None.

Container

The `toolbar` tag or the `toolbarset` tag.

Example

```
<COMBOBOX ID="Address_URL"
    width="300"
    tooltip="Address"
    label="Address: "
    file="Toolbars/MM/AddressURL.htm"
    update="onBrowserPageBusyChange"/>
```

<editcontrol>

Description

An edit control box is a text-editing box that executes its command when the user changes text in the box and switches focus.

Attributes

`id, tooltip, file, value, command, {showIf}, {label}, {width}, {domRequired}, {enabled}, {update}, {arguments}`

For a description of each attribute, see "Item tag attributes" on page 180.

Contents

None.

Container

The `toolbar` tag or the `toolbarset` tag.

Example

```
<EDITCONTROL ID="DW_SetTitle"
    label="Title: "
    tooltip="Document Title"
    width="150"
    file="Toolbars/MM/EditTitle.htm"/>
```

<colorpicker>

Description

A color picker is a panel of colors that does not have an associated text box that executes its command when the user selects a new color. This panel looks and acts the same as the color picker on the Dreamweaver Property inspector. You can specify a different icon to replace the default icon.

Attributes

`id, tooltip, value, command, {showIf}, {image}, {disabledImage}, {overImage}, {label}, {colorRect}, {file}, {domRequired}, {enabled}, {update}, {arguments}`

For a description of each attribute, see "Item tag attributes" on page 180.

Contents

None.

Container

The `toolbar` tag or the `toolbarset` tag.

Example

```
<colorpicker id="Color_Example"
    image="Toolbars/images/colorpickerIcon.gif"
    disabledImage="Toolbars/images/colorpickerIconD.gif"
    colorRect="0 12 16 16"
    tooltip="Text Color"
    domRequired="false"
    file="Toolbars/mine/colorExample.htm"
    update="onSelChange"/>
```

Item tag attributes

You can assign attributes and commands to toolbar items to specify how they look and behave. You can also include other toolbar files and reference toolbar items that are defined in other toolbars. The attributes for toolbar item tags have the following meanings:

id="unique_id"

Required. The `id` attribute is an identifier for the toolbar item. The `id` attribute must be unique within the current file and all files that are included within the current file. The `itemref` tag uses the item `id` to indicate and include an item within a toolbar.

Example

```
<button id="DW_DocRerefresh" . . . >
```

showIf="script"

Optional. This attribute specifies that the item appears in the toolbar only if the script returns a `true` value. For example, you can use the `showIf` attribute to show certain buttons only when a page is written in a certain server-side language such as Adobe ColdFusion, ASP, or JSP. If you do not specify `showIf`, the item always appears.

The `showIf` attribute is checked whenever the item enabler runs; that is, according to the value of the `update` attribute. Use the `showIf` attribute sparingly.

You can specify the `showIf` attribute in the item definition and in a reference to the item on an `itemref` tag. If the definition and the reference specify the `showIf` attribute, the item shows only if both conditions are true. The `showIf` attribute is the same as the `showIf()` function in a toolbar command file. If you specify both the `showIf` attribute and the `showif()` function, the function overrides the attribute.

Example

```
showIf="dw.canLiveDebug()"
```

image="image_path"

This attribute is required for buttons, check buttons, radio buttons, menu buttons, and combo buttons. The `image` attribute is optional for color pickers and is ignored for other item types. The `image` attribute specifies the path, relative to the Configuration folder, of the icon file that displays on the button. The icon can be in any format that Dreamweaver can render, but typically it is a GIF or JPEG file format.

If an icon is specified for a color picker, the icon replaces the color picker entirely. If the `colorRect` attribute is also set, the current color appears on top of the icon in the specified rectangle.

Example

```
image="Toolbars/images/MM/codenav.gif"
```

disabledImage="image_path"

Optional. Dreamweaver ignores the `disabledImage` attribute for items other than buttons, check buttons, radio buttons, menu buttons, color pickers, and combo buttons. This attribute specifies the path, relative to the Configuration folder, of the icon file that Dreamweaver displays if the button is disabled. If you do not specify the `disabledImage` attribute, Dreamweaver displays the image that is specified in the `image` attribute when the button is disabled.

Example

```
disabledImage="Toolbars/images/MM/codenav_dis.gif"
```

overImage="image_path"

Optional. Dreamweaver ignores the `overImage` attribute for items other than buttons, check buttons, radio buttons, menu buttons, color pickers, and combo buttons. This attribute specifies the path, relative to the Configuration folder, of the icon file that Dreamweaver displays when the user moves the mouse over the button. If you do not specify the `overImage` attribute, the button does not change when the user moves the mouse over it, except for a ring that Dreamweaver draws around the button.

Example

```
overImage="Toolbars/images/MM/codenav_ovr.gif"
```

tooltip="tooltip string"

Required. This attribute specifies the identifying text, or tool tip, that appears when the mouse pointer hovers over the toolbar item.

Example

```
tooltip="Code Navigation"
```

label="label string"

Optional. This attribute specifies a label that displays next to the item. Dreamweaver does not automatically add a colon to labels. Labels for nonbutton items are always positioned on the left of the item. Dreamweaver places labels for buttons, check buttons, radio buttons, menu buttons, and combo buttons inside the button and to the right of the icon.

Example

```
label="Title: "
```

width="number"

Optional. This attribute applies only to text box, pop-up menu, and combo box items by specifying the width of the item in pixels. If you do not specify the `width` attribute, Dreamweaver uses a reasonable default width.

Example

```
width="150"
```

menuID="menu_id"

This attribute is required for menu buttons and combo buttons, unless you specify the `getMenuID()` function in an associated command file. Dreamweaver ignores the `menuID` attribute for other types of items. This attribute specifies the ID of the menu bar that contains the context menu to pop up when the user clicks the button, menu button, or combo button. The ID comes from the ID attribute of a `menubar` tag in the menus.xml file.

Example

```
menuID="DWCodeNavPopup"
```

colorRect="left top right bottom"

This attribute is optional for color pickers that have an image attribute. The `colorRect` attribute is ignored for other types of items and for color pickers that do not specify an image. If you specify the `colorRect` attribute, Dreamweaver displays the color that is currently selected in the color picker in the rectangle, relative to the left or top of the icon. If you do not specify the `colorRect` attribute, Dreamweaver does not display the current color on the image.

Example

```
colorRect="0 12 16 16"
```

file="command_file_path"

Required for pop-up menus and combo boxes. The `file` attribute is optional for other types of items. The `file` attribute specifies the path, relative to the Configuration folder, of a command file that contains JavaScript functions to populate, update, and execute the item. The `file` attribute overrides the `enabled`, `checked`, `value`, `update`, `domRequired`, `menuID`, `showIf`, and `command` attributes. In general, if you specify a command file with the `file` attribute, Dreamweaver ignores all the equivalent attributes that are specified in the tag. For more information about command files, see "The toolbar command API functions" on page 185.

Example

```
file="Toolbars/MM/EditTitle.htm"
```

domRequired="true" or "false"

Optional. As with menus, the `domRequired` attribute specifies whether the Design view should be synchronized with the Code view before Dreamweaver runs the associated command. If you do not specify this attribute, it defaults to a `true` value. This attribute is equivalent to the `isDOMRequired()` function in a toolbar command file.

Example

```
domRequired="false"
```

enabled="script"

Optional. As with menus, the script returns a value that specifies whether the item is enabled. If you do not specify this attribute, it defaults to enabled. The `enabled` attribute is equivalent to the `canAcceptCommand()` function in a toolbar command file.

Example

```
enabled="dw.getFocus() ='textView' || dw.getFocus() == 'html'"
```

checked="script"

This attribute is required for check buttons and radio buttons. Dreamweaver ignores the `checked` attribute for other types of items. As with menus, the script returns a value that specifies whether the item is checked or unchecked. The `checked` attribute is equivalent to `isCommandChecked()` in a toolbar command file. If you do not specify this attribute, it defaults to unchecked.

Example

```
checked="dw.getDocumentDOM() != null && dw.getDocumentDOM().getView() == 'code'"
```

value="script"

This attribute is required for pop-up menus, combo boxes, text boxes, and color pickers. Dreamweaver ignores the `value` attribute for other types of items.

To determine what value to display for pop-up menus and combo boxes, Dreamweaver first calls `isCommandchecked()` for each item in the menu. If the `isCommandchecked()` function returns a `true` value for any items, Dreamweaver displays the value for the first one. If no items return a `true` value or the `isCommandChecked()` function is not defined, Dreamweaver calls the `getCurrentValue()` function or executes the script that the `value` attribute specifies. If the control is a combo box, Dreamweaver displays the returned value. If the control is a pop-up menu, Dreamweaver temporarily adds the returned value to the list and displays it.

In all other cases, the script returns the current value to display. For pop-up menus or combo boxes, this value should be one of the items in the menu list. For combo boxes and text boxes, the value can be any string that the script returns. For color pickers, the value should be a valid color but Dreamweaver does not enforce this.

The value attribute is equivalent to the `getCurrentValue()` function in a toolbar command file.

update="update_frequency_list"

Optional. This attribute specifies how often the `enabled`, `checked`, `showif`, and `value` handlers should run to update the visible state of the item. The `update` attribute is equivalent to the `getUpdateFrequency()` function in a toolbar command file.

You must specify the update frequency for toolbar items because these items are always visible, unlike menu items. For this reason, you should always select the lowest frequency possible and make sure your handlers for the `enabled`, `checked`, and `value` handlers are as simple as possible.

The following list shows the possible handlers for *update_frequency_list*, from least to most frequent. If you do not specify the `update` attribute, the update frequency defaults to `onEdit` frequency. You can specify multiple update frequencies, separated by commas. The handlers run on any of the following specified events:

- `onServerModelChange` executes when the server model of the current page changes.
- `onCodeViewSyncChange` executes when the Code view becomes in or out of sync with the Design view.
- `onViewChange` executes whenever the user switches focus between Code view and Design view or when the user changes between Code view, Design view, or Code and Design view.
- `onEdit` executes whenever the document is edited in Design view. Changes that you make in Code view do not trigger this event.
- `onSelChange` executes whenever the selection changes in Design view. Changes that you make in Code view do not trigger this event.

- `onEveryIdle` executes regularly when the application is idle. This can be time-consuming because the `enabler/checked/showif/value` handlers are running often. It should be used only for buttons that need to have their enable state changed at special times, and handlers should be quick.

  Note: *In all these cases, Dreamweaver actually executes the handlers after the specified event occurs, when the application is in a quiescent state. It is not guaranteed that your handlers run after every edit or selection change; your handlers run soon after a batch of edits or selection changes occur. The handlers are guaranteed to run when the user clicks on a toolbar item.*

Example

```
update="onViewChange"
```

command="script"

This attribute is required for all items except menu buttons. Dreamweaver ignores the `command` attribute for menu buttons. Specifies the JavaScript function to execute when the user performs one of the following actions:

- Clicks a button
- Selects an item from a pop-up menu or combo box
- Tabs out of, presses Return in, or clicks away from a text box or combo box
- Selects a color from a color picker

The `command` attribute is equivalent to the `receiveArguments()` function in a toolbar command file.

Example

```
command="dw.toggleLiveDebug()"
```

arguments="argument_list"

Optional. This attribute specifies the comma-separated list of arguments to pass to the `receiveArguments()` function in a toolbar command file. If you do not specify the `arguments` attribute, Dreamweaver passes the ID of the toolbar item. In addition, pop-up menus, combo boxes, text boxes, and color pickers pass their current value as the first argument, before any arguments that the `arguments` attribute specifies, and before the item ID if no arguments are specified.

Example

On a toolbar that has Undo and Redo buttons, each button calls the menu commands file, Edit_Clipboard.htm, and passes an argument that specifies the action, as shown in the following example:

```
<button id="DW_Undo"
 image="Toolbars/images/MM/undo.gif"
 disabledImage="Toolbars/images/MM/undo_dis.gif"
 tooltip="Undo"
 file="Menus/MM/Edit_Clipboard.htm"
 arguments="'undo'"
 update="onEveryIdle"/>
<button id="DW_Redo"
 image="Toolbars/images/MM/redo.gif"
 disabledImage="Toolbars/images/MM/redo_dis.gif"
 tooltip="Redo"
 file="Menus/MM/Edit_Clipboard.htm"
 arguments="'redo'"
 update="onEveryIdle"/>
```

The toolbar command API functions

In many cases where you specify a script for an attribute, you can also implement the attribute through a JavaScript function in a command file. This action is necessary when the functions need to take arguments, as in the command handler for a text box. It is required for pop-up menus and combo boxes.

The command file API for toolbar items is an extension of the menu commands file API, so you can reuse menu commands files directly as toolbar command files, perhaps with some additional functions that are specific to toolbars.

canAcceptCommand()

Availability

Dreamweaver MX.

Description

Determines whether the toolbar item is enabled. The enabled state is the default condition for an item, so you should not define this function unless it returns a `false` value in at least one case.

Arguments

For pop-up menus, combo boxes, text boxes, and color pickers, the first argument is the current value within the control. The `getDynamicContent()` function can optionally attach individual IDs to items within a pop-up menu. If the selected item in the pop-up menu has an ID attached, Dreamweaver passes that ID to `canAcceptCommand()` instead of the value. For combo boxes, if the current contents of the text box do not match an entry in the pop-up menu, Dreamweaver passes the contents of the text box. Dreamweaver compares against the pop-up menu without case-sensitivity to determine whether the contents of the text box match an entry in the list.

If you specify the `arguments` attribute for this toolbar item in the toolbars.xml file, those arguments are passed next. If you did not specify the `arguments` attribute, Dreamweaver passes the ID of the item.

Returns

Dreamweaver expects a Boolean value; `true` if the item is enabled; `false` otherwise.

Example

```
function canAcceptCommand()
{
    return (dw.getDocumentDOM() != null);
}
```

getCurrentValue()

Availability

Dreamweaver MX.

Description

Returns the current value to display in the item. Dreamweaver calls the `getCurrentValue()` function for pop-up menus, combo boxes, text boxes, and color pickers. For pop-up menus, the current value should be one of the items in the menu. If the value is not in the pop-up menu, Dreamweaver selects the first item. For combo boxes and text boxes, this value can be any string that the function returns. For color pickers, the value should be a valid color, but Dreamweaver does not enforce this. This function is equivalent to the `value` attribute.

Arguments

None.

Returns

Dreamweaver expects a string that contains the current value to display. For the color picker, the string contains the RGB form of the selected color (for example, #FFFFFF for the color white).

Example

```
function getCurrentValue()
{
    var title = "";
    var dom = dw.getDocumentDOM();
    if (dom)
        title = dom.getTitle();
    return title;
}
```

getDynamicContent()

Availability

Dreamweaver MX.

Description

This function is required for pop-up menus and combo boxes. As with menus, this function returns an array of strings that populate the pop-up menu. Each string can optionally end with `";id=id"`. If an ID is specified, Dreamweaver passes the ID to the `receiveArguments()` function instead of the actual string to appear in the menu.

The name `getDynamicContent()` is a misnomer because this function should be used even if the list of entries in the menu is fixed. For example, the Text_Size.htm file in the Configuration/Menus/MM folder is not a dynamic menu; it is designed to be called from each one of a set of static menu items. By adding a `getDynamicContent()` function that simply returns the list of possible font sizes, however, the same command file can also be used for a toolbar pop-up menu. Toolbar items ignore underscores in the strings in a returned array, so you can reuse menu commands files. In the menu commands file, Dreamweaver ignores the `getDynamicContent()` function because the menu item is not marked as dynamic.

Arguments

None.

Returns

Dreamweaver expects an array of strings with which to populate the menu.

Example

```
function getDynamicContent()
{
    var items = new Array;
    var filename = dw.getConfigurationPath() + "/Toolbars/MM/AddressList.xml";
    var location = MMNotes.localURLToFilePath(filename);
    if (DWfile.exists(location))
    {
        var addressData = DWfile.read(location);
        var addressDOM = dw.getDocumentDOM(dw.getConfigurationPath() +
            '/Shared/MM/Cache/empty.htm');
        addressDOM.documentElement.outerHTML = addressData;
        var addressNodes = addressDOM.getElementsByTagName("url");
        if (addressNodes.length)
        {
            for (var i=0; i < addressNodes.length ; i++ )
            {
                items[i] = addressNodes[i].address + ";id='" +
                    addressNodes[i].address + "'";
            }
        }
    }
    return items;
```

getMenuID()

Availability

Dreamweaver MX.

Description

Only valid for menu buttons. Dreamweaver calls the `getMenuID()` function to get the ID of the menu that should appear when the user clicks the button.

Arguments

None.

Returns

Dreamweaver expects a string that contains a menu ID, which is defined in the menus.xml file.

Example

```
function getMenuID()
{
    var dom = dw.getDocumentDOM();
    var menuID = '';
    if (dom)
    {
        var view = dom.getView();
        var focus = dw.getFocus();
        if (view == 'design')
        {
            menuID = 'DWDesignOnlyOptionsPopup';
        }
        else if (view == 'split')
        {
            if (focus == 'textView')
            {
                menuID = 'DWSplitCodeOptionsPopup';
            }
            else
            {
                menuID = 'DWSplitDesignOptionsPopup';
            }
        }
        else if (view == 'code')
        {
            menuID = 'DWCodeOnlyOptionsPopup';
        }
        else
        {
            menuID = 'DWBrowseOptionsPopup';
        }
    }
    return menuID;
}
```

getUpdateFrequency()

Availability

Dreamweaver MX.

Description

Specifies how often to run the handlers for the `enabled`, `checked`, `showIf`, and `value` attributes to update the visible state of the item.

You must specify the update frequency for toolbar items because they are always visible, unlike menus. For this reason, you should always select the lowest frequency possible and make sure your `enabled`, `checked`, and `value` handlers are as simple as possible.

This function is equivalent to the `update` attribute in a toolbar item.

Arguments

None.

Returns

Dreamweaver expects a string that contains a comma-separated list of update handlers. For a complete list of the possible update handlers, see "update="update_frequency_list"" on page 183.

Example

```
function getUpdateFrequency()
{
    return onSelChange";
}
```

isCommandChecked()

Availability

Dreamweaver MX.

Description

Returns a value that specifies whether the item is selected. For a button, checked means that the button appears on or depressed. The `isCommandChecked()` function is equivalent to the `checked` attribute in a toolbar item tag.

Arguments

For pop-up menus, combo boxes, text boxes, and color pickers, the first argument is the current value within the control. The `getDynamicContent()` function can optionally attach individual IDs to items within a pop-up menu. If the selected item in the menu has an ID attached, Dreamweaver passes that ID to the `isCommandChecked()` function instead of the value. For combo boxes, if the current contents of the text box do not match an entry in the pop-up menu, Dreamweaver passes the contents of the text box. For determining whether the text box matches, Dreamweaver compares against the menu without case-sensitivity.

If you specified the `arguments` attribute, those arguments are passed next. If you do not specify the `arguments` attribute, Dreamweaver passes the ID of the item.

Returns

Dreamweaver expects a Boolean value: `true` if the item is checked; `false` otherwise.

Example

The following example determines which item, if any, should be checked in a pop-up menu of paragraph formats and CSS styles:

```
function isCommandChecked()
{
    var bChecked = false;
    var style = arguments[0];
    var textFormat = dw.getDocumentDOM().getTextFormat();

    if (dw.getDocumentDOM() == null)
        bChecked = false;

    if (style == "(None)")
        bChecked = (dw.cssStylePalette.getSelectedStyle() == '' || textFormat ==
"" || textFormat == "P" || textFormat == "PRE");
    else if (style == "Heading 1")
        bChecked =0(textFormat == "h1");
    else if (style == "Heading 2")
        bChecked =0(textFormat == "h2");
    else if (style == "Heading 3")
        bChecked =0(textFormat == "h3");
    else if (style == "Heading 4")
        bChecked =0(textFormat == "h4");
    else if (style == "Heading 5")
        bChecked =0(textFormat == "h5");
    else if (style == "Heading 6")
        bChecked =0(textFormat == "h6");
    else
        bChecked = (dw.cssStylePalette.getSelectedStyle() == style);
    return bChecked;
}
```

isDOMRequired()

Availability

Dreamweaver MX.

Description

Specifies whether the toolbar command requires a valid DOM to operate. If this function returns a `true` value or if the function is not defined, Dreamweaver assumes that the command requires a valid DOM and synchronizes the Code view and Design view for the document before executing the associated command. This function is equivalent to the `domRequired` attribute in a toolbar item tag.

Arguments

None.

Returns

Dreamweaver expects a Boolean value: `true` if the DOM is required; `false` otherwise.

Example

```
function isDOMRequired()
{
    return false;
}
```

receiveArguments()

Availability
Dreamweaver MX.

Description
Processes any arguments that pass from a toolbar item. The `receiveArguments()` function is equivalent to the `command` attribute in a toolbar item tag.

Arguments
For pop-up menus, combo boxes, text boxes, and color pickers, the first argument is the current value within the control. The `getDynamicContent()` function can optionally attach individual IDs to items within a pop-up menu. If the selected item in the pop-up menu has an ID attached, Dreamweaver passes that ID to the `receiveArguments()` function instead of the value. For combo boxes, if the current contents of the text box do not match an entry in the pop-up menu, Dreamweaver passes the contents of the text box. To determine whether the text box matches, Dreamweaver compares against the pop-up menu without case-sensitivity.

If you specified the `arguments` attribute, those arguments are passed next. If you did not specify the `arguments` attribute, Dreamweaver passes the ID of the item.

Returns
Dreamweaver expects nothing.

Example

```
function receiveArguments(newTitle)
{
    var dom = dw.getDocumentDOM();
    if (dom)
        dom.setTitle(newTitle);
}
```

showIf()

Availability
Dreamweaver MX.

Description
Specifies that an item appears on the toolbar only if the function returns a `true` value. For example, you can use the `showIf()` function to show certain buttons only when the page has a certain server model. If the `showif()` function is not defined, the item always appears. The `showIf()` function is the same as the `showIf` attribute in a toolbar item tag.

The `showIf()` function is called whenever the item's enabler runs; that is, according to the value that the `getUpdateFrequency()` function returns.

Arguments
None.

Returns
Dreamweaver expects a Boolean value: `true` if the item appears; `false` otherwise.

Example

```
function showif()
{
        var retval = false;
        var dom = dw.getDocumentDOM();

        if(dom)
        {
            var view = dom.getView();
            if(view == 'design')
            {
                retval = true;
            }
        }
        return retval;
}
```

Chapter 12: Reports

Adobe Dreamweaver supports two types of reports: site reports and stand-alone reports.

Site reports

You use the reports API to create custom site reports or modify the set of prewritten reports that come with Dreamweaver. You can access site reports only through the Reports dialog box.

Site reports reside in the Dreamweaver Configuration/Reports folder. The Reports folder has subfolders that represent report categories. Each report can belong to only one category. The category name cannot exceed 31 characters. Each subfolder can have a file in it named _foldername.txt. If this file is present, Dreamweaver uses its contents as the category name. If _foldername.txt is not present, Dreamweaver uses the folder name as the category name.

When the user selects multiple site reports from the Reports dialog box, Dreamweaver places all the results in the same Results window under the Site Reports tab of the Results panel. Dreamweaver replaces these results the next time the user runs any site report.

The following table lists the files you use to create a site report:

Path	File	Description
Configuration/Reports/{type/}	*reportname*.js	Contains the functions to generate the contents of the report.
Configuration/Reports/{type/}	*reportname*.htm	Calls the appropriate JavaScript files. Defines the user interface (UI) of the Settings dialog box for the report, if needed.
Configuration/Reports/	Reports.js	Provides common functions used in generating reports.

How site reports work

1 Reports are accessible through the Site > Reports command. When it is selected, this command displays a dialog box from which the user selects reports to run on a choice of targets.

2 The user selects which files to run the selected reports on using the Report On: pop-up menu. This menu contains the Current Document, Entire Current Local Site, Selected Files In Site, and Folder commands. When the user selects the Folder command, a Browse button and text field appear, so the user can select a folder.

3 The user can customize reports that have parameters by clicking the Settings button and entering values for the parameters. To let a user set report parameters, a report must contain a Settings dialog box. This dialog box is optional; not every report requires the user to set the report's parameters. If a report does not have a Settings dialog box, the Settings button is dimmed when a user selects the report in the list.

4 After selecting the reports and specifying the settings, the user clicks the Run button.

Note: *If a report has the* `preventFileActivity` *handler, Dreamweaver prevents the user from performing any other file activity while this report is being run.*

At this point, Dreamweaver clears all items from the Site Reports tab of the Results panel. Dreamweaver calls the `beginReporting()` function in each report before the reporting process begins. If a report returns a `false` value from this function, it is removed from the report run.

5 Each file is passed to each report that was selected in the Reports dialog box using the `processFile()` function. If the report needs to include information about this file in the results list, it should call the `dw.resultsPalette.siteReports.addResultItem()` function. This process continues until all files that pertain to the user's selection are processed or the user clicks the Stop button in the bottom of the window. Dreamweaver displays the name of each file being processed and the number of files that remain to be processed.

6 Dreamweaver calls the `endReporting()` function in each report after all the files have been processed and the reporting process completes.

A simple site report example

The simple extension example lists all the images referenced in a particular file, an entire site, selected files, or a folder and displays the report in the Results window under the Site Results tab.

To create this extension, you create the report definition and write the JavaScript code.

This example creates two files in the HTML Reports folder: List images.htm, which contains the report definition, and List Images.js, which contains the JavaScript code specific to this report. In addition, you reference the Reports.js file, which is included with Dreamweaver.

Create the report definition

The report definition specifies the name of the report as it appears in the Reports dialog box, calls any JavaScript files required, and defines the user interface of the Settings dialog box, if needed.

1 Create the file Configuration/Reports/HTML Reports/List images.htm.

2 Add the following to specify the name of the report that you want to appear in the Reports dialog box in the title of the HTML page.

```
<html>
<head>
<title>List Images</title>
```

3 At the end of the file, add the `script` tag and specify the Reports.js file in the `src` attribute.

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

4 At the end of the file, add another `script` tag and specify the List Images.js file, which you will create next, in the `src` attribute.

```
<html>
<head>
<title>List Images</title>
<script src="../Reports.js"></script>
<script src="List Images.js"></script>
```

5 Close the `head` tag, include opening and closing `body` tags, and close the `html` tag.

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

6 Save the file as List Images.js in the Configuration/Reports/HTML Reports folder.

Write the JavaScript code

Dreamweaver includes the Reports.js file. You can call any of the functions in Reports.js. However, you also have to create the JavaScript file that contains any functions that are specific to your custom site report.

1 Create the file Configuration/Reports/HTML Reports/List Images.js, with the following content:

```
// Function: configureSettings
// Description: Standard report API, used to initialize and load
//the default values. Does not initialize the UI.
//
function configureSettings() {
    return false;
}
// Function: processFile
// Description: Report command API called during file processing.
//
function processFile (fileURL) {
    if (!isHTMLType(fileURL)) //If the file isn't an HTML file
        return;                    //skip it.
    var curDOM = dw.getDocumentDOM(fileURL);    // Variable for DOM
    var tagList = curDOM.getElementsByTagName('img'); // Variable for img tags
    var imgfilename; // Variable for file name specified in img tag
    for (var i=0; i < tagList.length; i++) { // For img tag list
        imgfilename = tagList[i].getAttribute('src'); // Get image filename
        if (imgfilename != null) { // If a filename is specified
        // Print the appropriate icon, HTML filename,
        // image filename, and line number
        reportItem(REP_ITEM_CUSTOM, fileURL, imgfilename,
                curDOM.nodeToSourceViewOffsets(tagList[i])); }
    }
}
```

2 Save the file as List Images.js in the Configuration/Reports/HTML Reports folder.

Stand-alone reports

You can use the results window API to create a stand-alone report. Stand-alone reports are regular commands that directly use the results window API rather than the reports API. You can access a stand-alone report the same way you access any other command, through the menus or through another command.

Stand-alone reports reside in the Dreamweaver Configuration/Commands folder. A custom command for a stand-alone report appears on the Commands menu.

Dreamweaver creates a new Results window each time the user runs a new stand-alone report.

Path	File	Description
Configuration/Commands	*commandname*.htm	Defines the UI for the dialog box that appears when the user selects the command and contains the JavaScript code or a reference to the JavaScript file that performs the actions needed to generate the report.
Configuration/Commands	*commandname*.js	Generates a Results window and puts the report in it.

How stand-alone reports work

1 The custom command, which is the command you create to generate the report, opens a new results window by calling the `dw.createResultsWindow()` function and storing the returned results object in a window variable. The remaining functions in this process should be called as methods of this object.

2 The custom command initializes the title and format of the Results window by calling the `setTitle()` and `SetColumnWidths()` functions as methods of the Results window object.

3 The command can either start adding items to the Results window immediately by calling the `addItem()` function, or it can begin iterating through a list of files by calling the `setFileList()` and `startProcessing()` functions as methods of the Results window object.

4 When the command calls `resWin.startProcessing()`, Dreamweaver calls the `processFile()` function for each file URL in the list. Define the `processFile()` function in the stand-alone command. It receives the file URL as its only argument. Use the `setCallbackCommands()` function of the Results window object if you want Dreamweaver to call the `processFile()` function in some other command.

5 To call the `addItem()` function, the `processFile()` function needs to have access to the Results window that was created by the stand-alone command. The `processFile()` function can also call the `stopProcessing()` function of the Results window object to stop processing the list of files.

A simple stand-alone report example

The simple stand-alone report extension lists all the images referenced in a particular file and displays the report in the Results window.

You create this extension by creating the dialog box UI and writing the JavaScript code.

This example creates two files in the Configuration/Commands folder: List images.htm, which defines the UI of the dialog box that appears when the user selects the custom command, and Listimages.js, which contains the JavaScript code specific to this report.

Create the dialog box UI

The body section of the HTML file specifies the contents of the dialog box that appears when the user selects the custom command and calls any JavaScript files required.

1 Create the Configuration/Commands/Listimages.htm file.

2 Enter the following in the Listimages.htm file:

```
<html>
<head>
<title>Standalone report example</title>
<script src="Listimages.js">
</script>
</head>
<body>
<div name="test">
<form name="myForm">
<table>
<tr>
<td>Click OK to display the standalone report.</td>
</tr>
</table>
</form>
</div>
</body>
```

3 Save the file as Listimages.htm in the Configuration/Commands folder.

Write the JavaScript code

Create the JavaScript file that contains any functions that are specific to your stand-alone report.

1 Create the Listimages.js file in the Configuration/Commands folder with the following code:

```
function stdaloneresultwin()
{
    var curDOM = dw.getDocumentDOM("document");
    var tagList = curDOM.getElementsByTagName('img');
    var imgfilename;
    var iOffset = 0;
    var iLineNumber = 0;

    var resWin = dw.createResultsWindow("Images in File", ["Line", "Image"]);

    for (var i=0; i < tagList.length; i++)
    {
        // Get the name of the source file.
            imgfilename = tagList[i].getAttribute('src');
        // Get the character offset from the start of the file
        // to the start of the img tag.
        iOffset = curDOM.nodeToOffsets(curDOM.images[i]);
        // Based on the offset, figure out what line in the file
        // the img tag is on.
        iLineNumber = curDOM.getLineFromOffset(iOffset[0]);
        // As long as the src attribute specifies a file name,
            if (imgfilename != null)
        { // display the line number, and image path.
            resWin.addItem(resWin, "0", "Images in Current File", null, ¬
                null, null, [iLineNumber, imgfilename]);
            }
    }
    return;
}

// add buttons to dialog
function commandButtons()
{
    return new Array("OK", "stdaloneresultwin()", "Cancel", "window.close()");
}
```

2 Save the file as Listimages.js in the Configuration/Commands folder.

The reports API functions

The only required function for the reports API is the `processFile()` function. All other functions are optional.

processFile()

Availability

Dreamweaver 4.

Description

This function is called when there is a file to process. The Report command should process the file without modifying it and use the `dw.ResultsPalette.SiteReports()` function, the `addResultItem()` function, or the `resWin.addItem()` function to return information about the file. Dreamweaver automatically releases each file's DOM when it finishes.

Arguments
strFilePath

The *strFilePath* argument is the full path and filename of the file to process.

Returns
Dreamweaver expects nothing.

beginReporting()

Availability
Dreamweaver 4.

Description
This function is called at the start of the reporting process, before any reports are run. If the Report command returns a `false` value from this function, the Report command is excluded from the report run.

Arguments
target

The *target* argument is a string that indicates the target of the report session. It can be one of the following values: `"CurrentDoc"`, `"CurrentSite"`, `"CurrentSiteSelection"` (for the selected files in a site), or `"Folder:+` *the path to the folder the user selected"* (for example, `"Folder:c:temp"`).

Returns
Dreamweaver expects a Boolean value: `true` if the report runs successfully; `false` if *target* is excluded from the report run.

endReporting()

Availability
Dreamweaver 4.

Description
This function is called at the end of the Report process.

Arguments
None.

Returns
Dreamweaver expects nothing.

commandButtons()

Availability
Dreamweaver 4.

Description
Defines the buttons that should appear on the right side of the Options dialog box and their behavior when they are clicked. If this function is not defined, no buttons appear, and the body section of the report file expands to fill the entire dialog box.

Arguments
None.

Returns
Dreamweaver expects an array that contains an even number of elements. The first element is a string that contains the label for the topmost button. The second element is a string of JavaScript code that defines the behavior of the topmost button when it is clicked. The remaining elements define additional buttons in the same manner.

Example
The following instance of the `commandButtons()` function defines the OK, Cancel, and Help buttons.

```
function commandButtons(){
    return new Array("OK" , "doCommand()" , "Cancel" , ¬
    "window.close()" , "Help" , "showHelp()");
}
```

configureSettings()

Availability
Dreamweaver 4.

Description
Determines whether the Report Settings button should be enabled in the Reports dialog box when this report is selected.

Arguments
None.

Returns
Dreamweaver expects a Boolean value: `true` if the Report Settings button should be enabled; `false` otherwise.

windowDimensions()

Availability
Dreamweaver 4.

Description
Sets specific dimensions for the Parameters dialog box. If this function is not defined, the window dimensions are computed automatically.

Note: *Do not define this function unless you want an Options dialog box that is larger than 640 x 480 pixels.*

Arguments

platform

The value of the *platform* argument is either `"macintosh"` or `"windows"`, depending on the user's platform.

Returns

Dreamweaver expects a string of the form `"widthInPixels,heightInPixels"`.

The returned dimensions are smaller than the size of the entire dialog box because they do not include the area for the OK and Cancel buttons. If the returned dimensions do not accommodate all options, scroll bars appear.

Example

The following instance of the `windowDimensions()` function sets the dimensions of the Parameters dialog box to 648 x 520 pixels:

```
function windowDimensions(){
    return "648,520";
}
```

Chapter 13: Tag libraries and editors

Dreamweaver stores information about each tag, including all tag attributes, in a set of subfolders that reside in the Configuration/TagLibraries folder. The Tag editor and Tag Chooser functions use the information that is stored in this folder when manipulating and editing tags.

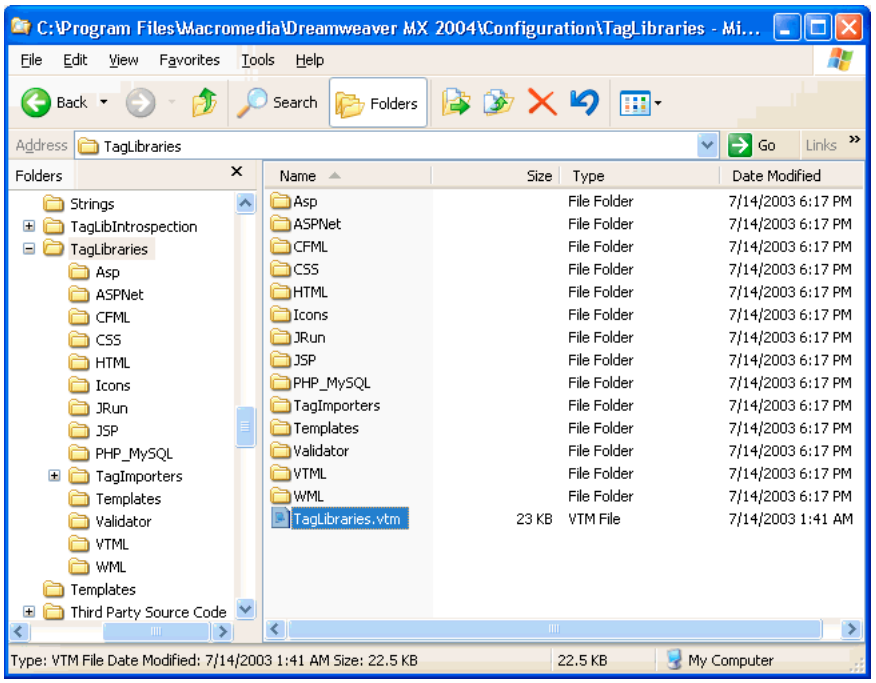
Dreamweaver comes with editors for the following languages: HTML, ASP.NET, CFML, JRun, and JSP. You can customize tag editors that come with Dreamweaver, and you can create new tag editors. You can also add new tags to the tag libraries.

Before you can create custom tag editors, understand the tag library structure. The following table lists the files you use to create a tag library:

Path	**File**	**Description**
Configuration/TagLibraries/	TagLibraries.vtm	Lists every installed tag.
Configuration/TagLibraries/*language*/	*tag*.vtm	Includes information about tags (for example, tag attributes, whether the tag has a closing tag, and formatting rules).
Configuration/TagLibraries/*language*/	*Tagimagefile*.gif	Optional file to display in the Property inspector.

Tag library file format

A tag library consists of a single root file, the TagLibraries.vtm file that lists every installed tag, plus a VTML file for each tag in the tag library. The TagLibraries.vtm file functions as a table of contents and contains pointers to each individual tag's VTML file. The following figure shows how Dreamweaver organizes the VTML files by markup language:



Users of Macromedia HomeSite from Adobe can recognize the VTML file structure, but Dreamweaver does not use VTML files in the same way as HomeSite. The most important difference is that Dreamweaver contains its own HTML renderer that displays extension user interfaces (UIs), so the Dreamweaver VTML files are not used in the user interface (UI) rendering process.

The following example illustrates the structure of the TagLibraries.vtm file:

```
<taglibraries>
<taglibrary name="Name of tag library" doctypes="HTML,ASP-JS,ASP-VB" tagchooser="relative
    path to TagChooser.xml file" id="DWTagLibrary_html">
    <tagref name="tag name" file="relative path to tag .vtm file"/>
</taglibrary>
<taglibrary name="CFML Tags" doctypes="ColdFusion" servermodel="Cold Fusion"
    tagchooser="cfml/TagChooser.xml" id="DWTagLibrary_cfml">
    <tagref name="cfabort" file="cfml/cfabort.vtm"/>
</taglibrary>
<taglibrary name="ASP.NET Tags" doctypes="ASP.NET_CSharp,ASP.NET_VB" servermodel="ASPNet"
    prefix="<asp:" tagchooser="ASPNet/TagChooser.xml" id="DWTagLibrary_aspnet">
    <tagref name="dataset" file="aspnet/dataset.vtm" prefix="<mm:dataset"/>
</taglibrary>
</taglibraries>
```

The `taglibrary` tag groups one or more tags into a tag library. When you import tags or create a new set of tags, you can group them into tag libraries. Typically, a `taglibrary` grouping corresponds to a set of tags that are defined in a JavaServer Pages (JSP) TLD file, an XML document type definition (DTD) file, an ASP.NET namespace, or some other logical grouping.

The following table lists the `taglibrary` attributes:

Attribute	Description	Mandatory/optional
`taglibrary.name`	Used to refer to the tag library in the UI.	Mandatory
`taglibrary.doctypes`	Indicates the document types for which this library is active. When the library is active, library tags appear in the code hints menu. Not all tag libraries can be active at the same time because name conflicts can occur (for example, HTML and WML files are incompatible).	Mandatory
`taglibrary.prefix`	When specified, tags within the tag library have the form `taglibrary.prefix + tagref.name`. For example, if the `taglibrary.prefix` is `"<jrun:"` and the `tagref.name` is `"if"`, then the tag is of the form `"<jrun:if"`. This can be overridden for a particular tag.	Optional
`taglibrary.servermodel`	If the tags in the tag library execute on an application server, the `servermodel` attribute identifies the server model of the tag. If the tags are client-side tags (not server-side tags), the `servermodel` attribute is omitted. The `servermodel` attribute is also used for Check Target Browsers.	Optional
`taglibrary.id`	This can be any string that is different from the `taglibrary.ID` attributes of other tag libraries in the file. The Extension Manager uses the ID attribute, so the MXP files can insert a new `taglibrary` and the `tags` files into the TagLibraries.vtm file.	Optional
`taglibrary.tagchooser`	A relative path to the TagChooser.xml file that is associated with this tag library.	Optional

The following table lists `tagref` attributes:

Attribute	Description	Mandatory/optional
`tagref.name`	Used to refer to the tag in the UI.	Mandatory
`tagref.prefix`	Specifies how the tag appears in Code view. When used, the `tagref.prefix` attribute determines the prefix of the current tag. When the attribute is defined, it overrides the value specified for the `taglibrary.prefix` attribute.	Optional
`tagref.file`	References the VTML file for the tag.	Optional

Because the `tagref.prefix` attribute can override the `taglibrary.prefix` attribute, the relationship between the two attributes can be confusing. The following table shows the relationship between the `taglibrary.prefix` and `tagref.prefix` attributes:

Is the taglibrary.prefix defined?	Is the tagref.prefix defined?	Resulting tag prefix
No	No	`'<' + tagref.name`
Yes	No	`taglibrary.prefix + tagref.name`
No	Yes	`tagref.prefix`
Yes	Yes	`tagref.prefix`

To define tags, Dreamweaver uses a modified version of the VTML file format. The following example demonstrates all the elements that Dreamweaver must use to define an individual tag:

```
<tag name="input" bind="value" casesensitive="no" endtag="no">
    <tagformat indentcontents="yes" formatcontents="yes" nlbeforetag nlbeforecontents=0
    nlaftercontents=0 nlaftertag=1 />
    <tagdialog file = "input.HTM"/>
    <attributes>
        <attrib name="name"/>
        <attrib name="wrap" type="Enumerated">
            <attriboption value="off"/>
            <attriboption value="soft"/>
            <attriboption value="hard"/>
        /attrib>
        <attrib name="onFocus" casesensitive="yes"/>
        <event name="onFocus"/>
    </attributes>
</tag>
```

The following table lists the attributes that define tags:

Attribute	Description	Mandatory/optional
`tag.bind`	Used by the Data Binding panel. When you select a tag of this type, the `bind` attribute indicates the default attribute for data binding.	Optional
`tag.casesensitive`	Specifies whether the tag name is case-sensitive. If the tag is case-sensitive, it is inserted into the user's document using exactly the case that the tag library specifies. If the tag is not case-sensitive, it is inserted using the default case that is specified in the Code Format tab in the Preferences dialog box. If `casesensitive` is omitted, the tag is assumed to be case-insensitive.	Optional
`tag.endtag`	Specifies whether the tag has both an opening and a closing tag. For example, the `input` tag has no closing tag; there is no matching `/input` tag. If the closing tag is optional, the `ENDTAG` attribute should be set to `Yes`.tag. Specify `xml` to enforce XML syntax for an empty tag. For example, `<tag name="foo" endtag="xml" tagtype="empty">` inserts `<foo/>`.	Optional
`tagformat`	Specifies the tag's formatting rules. In Dreamweaver versions before Dreamweaver MX, these rules were stored in the SourceFormat.txt file.	Optional
`tagformat.indentcontents`	Specifies whether the contents of this tag should be indented.	Optional
`tagformat.formatcontents`	Specifies whether the contents of this tag should be parsed. This attribute is set to `No` for tags such as `SCRIPT` and `STYLE`, for which content is something other than HTML.	Optional
`tagformat.nlbeforetag`	Specifies whether to insert a newline character before this tag. The value `0` indicates no, and the value `1` indicates yes.	Optional

Attribute	Description	Mandatory/optional
`tagformat.nlbeforecontents`	The number of newline characters to insert before the contents of this tag.	Optional
`tagformat.nlaftercontents`	The number of newline characters to insert after the contents of this tag.	Optional
`tagformat.nlaftertag`	Specifies whether to insert a newline character after this tag. The value `0` indicates no, and the value `1` indicates yes.	Optional
`attrib.name`	The name of the attribute, as it appears in the source code.	Mandatory
`attrib.type`	If omitted, `attrib.type` is `"text"`. It can have the following values: `TEXT`—free text content `ENUMERATED`—a list of enumerated values `COLOR`—a color value (name or hexadecimal) `FONT`—font name or font family `STYLE`—CSS styles attribute `CSSSTYLE`—CSS class name `CSSID`—CSS class ID `FILEPATH` —a full file path `DIRECTORY`—a folder path `FILENAME`—filename only `RELATIVEPATH` —a relative representation of the path `FLAG` —an ON/OFF attribute that contains no value.	Optional
`attrib.casesensitive`	Specifies whether the attribute name is case-sensitive. If the `CASESENSITIVE` attribute is missing, the attribute name is case-insensitive.	Optional

Note: *In versions before Dreamweaver MX, tag information is stored in the Configuration/TagAttributeList.txt file.*

The Tag Chooser

The Tag Chooser lets you view tags in functional groups so you can easily access frequently used tags. In order to add a tag or a set of tags to the Tag Chooser, you must add it to the tag library. You can do this by using the Tag Library Editor dialog box or by installing a Dreamweaver extension, which is packaged in an MXP file .

TagChooser.xml files

The TagChooser.xml files provide the metadata for organizing tag groupings that appear in the Tag Chooser. Each tag that comes with Dreamweaver is stored in a functional grouping and is available in the Tag Chooser. By editing the TagChooser.xml files, you can regroup existing tags and group new tags. You can customize how tags are organized for your users by creating subcategories so they can easily access their most important tags.

The TagLibraries.vtm files support the use of the `taglibrary.tagchooser` attribute, which points to the TagChooser.xml files. If you change existing TagChooser.xml files or create new ones, the `taglibrary.tagchooser` attribute must point to the correct location for the Tag Chooser to be fully functional.

If there is no `taglibrary.tagchooser` attribute, the Tag Chooser displays the tree structure that is in the TagLibraries.vtm file.

TagChooser.xml files are stored in the Configuration/TagLibraries/*TagLibraryName* folder. The following example shows the structure of TagChooser.xml files:

```
<?xml version="1.0" encoding="iso-8859-1" standalone="yes" ?>
<tclibrary name="Friendly name for library node" desc='Description for incorporated
    reference' reference="Language[,Topic[,Subtopic]]">
    <category name="Friendly name for category node" desc='Description for incorporated
    reference' reference="Language[,Topic[,Subtopic]]" id="Unique id">
        <category name="Friendly name for subcategory node" ICON="Relative path"
        desc='Description for incorporated reference' reference="Language,Topic[,Subtopic]"
        id="Unique id">
            <element name="Friendly name for list item" value='Value to pass to visual dialog
            editors' desc='Description for incorporated reference'
            reference="Language[,Topic[,Subtopic]]" id="Unique id"/>
            ... more elements to display in the list view ...
        </category>
        ... more subcategories ...
    </category>
    ... more categories ...
</tclibrary>
```

The following table lists the tags that are available for use in the TagChooser.xml files:

Tag	Description	Mandatory/Optional
`tclibrary`	The tag is the outermost tag, which encapsulates this tag library's Tag Chooser structure.	Mandatory
`tclibrary.name`	Value appears in the Tree view node.	Mandatory
`tclibrary.desc`	Value is an HTML string and appears in the Tag Info section of the Tag Chooser dialog box. If there is no `desc` attribute, the information for Tag Info comes from the Reference panel. Interchangeable with `tclibrary.reference`.	Optional (`desc` and `reference` are mutually exclusive)
`tclibrary.reference`	Value describes the language, topic, and subtopic to display in the Tag Info section of the Tag Chooser dialog box. Interchangeable with `tclibrary.desc`.	Optional (`desc` and `reference` are mutually exclusive)

The `category` tag represents all other nodes in the Tree view under the `tclibrary`'s node, as shown in the following table:

Tag	Description	Mandatory/Optional
`category.name`	Value appears in the Tree view node.	Mandatory
`category.desc`	Value is an HTML string that appears in the Tag Info section of the Tag Chooser dialog box. If neither `desc` nor `reference attr` is specified, nothing appears in the Tag info section.	Optional (`desc` and `reference` are mutually exclusive)
`category.reference`	Value describes the language, topic, and subtopic to display in the Tag info section.	Optional (`desc` and `reference` are mutually exclusive)
`category.icon`	Value is a relative path to an icon GIF.	Optional
`category.id`	Any string that is different from the `category.id` attributes of other categories in this file.	Mandatory

The following table lists the attributes of the `element` tag, which represents the tag to insert:

Attribute	Description	Mandatory/Optional
`element.name`	Value appears as a List view item.	Mandatory
`element.value`	Value that is either placed directly into the code or a parameter that passes into visual dialog boxes.	Mandatory
`element.desc`	Value is an HTML string and appears in the incorporated Reference panel. If not specified, the `reference` attribute displays reference content in the incorporated Reference panel.	Optional (`desc` and `reference` are mutually exclusive)
`element.reference`	As many as three strings separated by commas that describe the language, topic, and subtopic, respectively. This information appears in the Reference panel. The first string is mandatory. The second string is mandatory for the `element` tag only; optional for `category` and `tclibrary` tags. The third string is optional.	Optional (`desc` and `reference` are mutually exclusive)
`element.id`	Any string that is different from the `element.id` attributes of other elements in this file.	Optional

A simple example of creating a new tag editor

The examples in this section use `cfweather`, a hypothetical Adobe ColdFusion tag designed to extract the current temperature from a weather database, to illustrate the steps necessary to create a new tag editor.

The attributes for the `cfweather` tag are described in the following table:

Attribute	Description
`zip`	A five-digit ZIP code
`tempaturescale`	The temperature scale (Celsius or Fahrenheit)

You create this new tag editor by registering the tag, creating a tag definition, creating a tag editor UI, and adding a tag to the Tag Chooser.

Registering the tag in the tag library

For Dreamweaver to recognize the new tag, it must be identified in the TagLibraries.vtm file, which is located in the Configuration/TagLibraries folder. However, the user could be on a multiuser platform such as Windows XP, Windows 2000, Windows NT, and Mac OS X. If the user is on a multiuser platform, there is another TagLibraries.vtm file in the user Configuration folder. This file is the one that must be updated because this file is the instance that Dreamweaver searches for and parses.

The location of the user Configuration folder depends on the user platform.

For Windows 2000 and Windows XP platforms:

```
<drive>:\Documents and Settings\<username>\Application Data\Adobe\\xc2
Dreamweaver CS4\Configuration
```

Note: *It is possible that in Windows XP, this folder is inside a hidden folder.*

For Mac OS X platforms:

```
<drive>:Users:<username>:Library:Application Support:Adobe:¬
Dreamweaver CS4:Configuration
```

If Dreamweaver cannot find the TagLibraries.vtm file in the user Configuration folder, it searches for the file in the Dreamweaver Configuration folder.

Note: *On multiuser platforms, if you edit the copy of TagLibraries.vtm that resides in the Dreamweaver Configuration folder, Dreamweaver is not aware of the changes. Dreamweaver parses the copy of the TagLibraries.vtm file in the user Configuration folder, not the one in the Dreamweaver Configuration folder.*

The `cfweather` tag is a ColdFusion tag, so an appropriate tag library group exists that you can use to register the `cfweather` tag.

1 Open the TagLibraries.vtm file in a text editor.

2 Scroll through the existing tag libraries to find the CFML tags.

3 Add a new tag reference element, as shown in the following example:

```
<tagref name="cfweather" file="cfml/cfweather.vtm"/>
```

4 Save the file.

The tag is now registered in the tag library, and it has a file pointer to the cfweather.vtm tag definition file.

Create a tag definition (VTML) file

When a user selects a registered tag using the Tag Chooser or a tag editor, Dreamweaver searches for a corresponding VTML file for the tag definition.

1 In a text editor, create a file with the following contents:

```
<TAG NAME="cfweather" endtag="no">
            <TAGFORMAT NLBEFORETAG="1" NLAFTERTAG="1"/>
            <TAGDIALOG FILE="cfweather.htm"/>

            <ATTRIBUTES>
                <ATTRIB NAME="zip" TYPE="TEXT"/>
                <ATTRIB NAME="tempaturescale" TYPE="ENUMERATED">
                    <ATTRIBOPTION VALUE="Celsius"/>
                    <ATTRIBOPTION VALUE="Fahrenheit"/>
                </ATTRIB>
            </ATTRIBUTES>
</TAG>
```

2 Save the cfweather.vtm file in the Configuration/TagLibraries/CFML folder.

Using the tag definition file, Dreamweaver can perform code hinting, code completion, and tag formatting functionality for the `cfweather` tag.

Create a tag editor UI

1 Save the cfweather.htm file in the Configuration/TagLibraries/CFML folder:

```
<!DOCTYPE HTML SYSTEM "-//Adobe//DWExtension layout-engine 10.0//dialog">
<html>
<head>
<title>CFWEATHER</title>
<script src="../../Shared/Common/Scripts/dwscripts.js"></script>
<script src="../../Shared/Common/Scripts/ListControlClass.js"></script>
<script src="../../Shared/Common/Scripts/tagDialogsCmn.js"></script>
<script>

/************************* GLOBAL VARS **************************/
var TEMPATURESCALELIST;    // tempaurelist control (initialized in initializeUI())
var theUIObjects;          // array of UI objects used by common API functions
/****************************************************************/

// inspectTag() API function defined (required by all tag editors)
function inspectTag(tagNodeObj)
{
    // call into a common library version of inspectTagCommon defined
    // in tagDialogCmns.js (note that it's been included)
    // For more information about this function, look at the comments
    // for inspectTagCommon in tagDialogCmn.js
    tagDialog.inspectTagCommon(tagNodeObj, theUIObjects);
}
function applyTag(tagNodeObj)
{
    // call into a common library version of applyTagCommon defined
    // in tagDialogCmns.js (note that it's been included)
    // For more information about this function, look at the comments
    // for applyTagCommon in tagDialogCmn.js
    tagDialog.applyTagCommon(tagNodeObj, theUIObjects);
}
function initializeUI()
{
    // define two arrays for the values and display captions for the list
    control
    var theTempatureScaleCap = new Array("celsius","fahrenheit");
    var theTempatureScaleVal = new Array("celsius","fahrenheit");

    // instantiate a new list control
    TEMPATURESCALELIST = new ListControl("thetempaturescale");

    // add the tempaturescalelist dropdown list control to the uiobjects
    theUIObjects0= new Array(TEMPATURESCALELIST);

    // call common populateDropDownList function defined in tagDialogCmn.js to
    // populate the tempaturescale list control
    tagDialog.populateDropDownList(TEMPATURESCALELIST, theTempatureScaleCap,
    theTempatureScaleVal, 1);
}
</script>

</head>
<body onLoad="initializeUI()">
<div name="General">
```

```
    <table border="0" cellspacing="4">
        <tr>
            <td valign="baseline" align="right" nowrap="nowrap">Zip Code: </td>
            <td nowrap="nowrap">
                <input type="text" id="attr:cfargument:zip" name="thezip" attname="zip"
                style="width:100px"0/> 
            </td>
        </tr>
        <tr>
            <td valign="baseline" align="right" nowrap="nowrap">Type: </td>
            <td nowrap="nowrap">
                <select name="thetempaturescale" id="attr:cfargument:tempaturescale"
                attname="tempaturescale" editable="false" style="width:200px">
                </select>
            </td>
        </tr>
    </table>
</div>
</body>
</html>
```

Next, you'll verify that the tag editor is working.

2 Launch Dreamweaver.

3 Type **cfweather** in Code view.

4 Right-click on the tag.

5 Select Edit Tag `cfweather` from the Context menu.

If the tag editor launches, it has been created successfully.

Add a tag to Tag Chooser

1 Modify the TagChooser.xml file in the Configuration/TagLibraries/CFML folder by adding a new category called Third Party Tags, which features the `cfweather` tag, as shown in the following example:

```
<category name="Third Party Tags" icon="icons/Elements.gif" reference='CFML'>
    <element name="cfweather" value='cfweather zip="" temperaturescale="fahrenheit">' />
</category>
```

Note: *On multiuser platforms, the TagChooser.xml file also exists in the user's Configuration folder. For more information regarding multiuser platforms, see the discussion in "Registering the tag in the tag library" on page 208.*

Next, you'll verify the `cfweather` tag now appears in the Tag Chooser.

2 Select Insert > Tag.

3 Expand the CFML Tags group.

4 Select the Third Party Tags group that appears at the bottom of the Tag Chooser. The `cfweather` tag appears in the list box on the right.

5 Select `cfweather`, and click the Insert button.

The tag editor should appear.

The tag editor API functions

In order to create a new tag editor, you must provide an implementation for the `inspectTag()`, `validateTag()`, and `applyTag()` functions. For an example of an implementation, see "Create a tag editor UI" on page 209.

inspectTag()

Availability

Dreamweaver MX.

Description

The function is called when the tag editor first appears. The function receives as an argument the tag that the user is editing, which is expressed as a `dom` object. The function extracts attribute values from the tag that is being edited and uses these values to initialize form elements in the tag editor.

Arguments

`tag`

- The `tag` argument is the DOM node of the edited tag.

Returns

Dreamweaver expects nothing.

Example

Suppose the user edits the following tag:

```
<crfweather zip = "94065"/>
```

If the editor contains a text field for editing the `zip` attribute, the function needs to initialize the form element so that the user sees the actual ZIP code in the text field, rather than an empty field.

The following code performs the initialization:

```
function inspectTag(tag)
{
    document.forms[0].zip.value = tag.zip
}
```

validateTag()

Availability

Dreamweaver MX.

Description

When a user clicks on a node in the tree control or clicks OK, the function performs input validation on the currently displayed HTML form elements.

Arguments

None.

Returns

Dreamweaver expects a Boolean value: `true` if the input for HTML form elements is valid; `false` if input values are not valid.

Example

When the user creates a table, a negative integer is entered for the number of table rows. The `validateTag()` function detects the invalid input, displays an alert message, and returns a `false` value.

applyTag()

Availability

Dreamweaver MX.

Description

When the user clicks OK, Dreamweaver calls the `validateTag()` function. If the `validateTag()` function returns a `true` value, Dreamweaver calls this function and passes the `dom` object that represents the current tag (the tag that is being edited). The function reads the values out of the form elements and writes them into the `dom` object.

Arguments

`tag`

- The `tag` argument is the DOM node of the tag being edited.

Returns

Dreamweaver expects nothing.

Example

Continuing the `cfweather` example, in the following code, if the user changes the ZIP code from 94065 to 53402, in order to update the user's document to use the new ZIP code, the `dom` object must be updated:

```
function applyTag(tag)
{
    tag.zip = document.forms[0].zip.value
}
```

Chapter 14: Property inspectors

The Property inspector is perhaps the most familiar floating panel in the interface. The Property inspector is indispensable for defining, reviewing, and changing the name, size, appearance, and other attributes of the selection. It is also used for launching internal and external editors for the selected element.

The following table lists the files you use to create a Property inspector:

Path	File	Description
Configuration/Inspectors/	*Propertyinspectorname*.htm	Defines the user interface (UI) of the Property inspector.
Configuration/Inspectors/	*Propertyinspectorname*.js	Contains the functions required by the Property inspector.
Configuration/Inspectors/	*Tagimagefile*.gif	Optional file to display in the Property inspector.

Property inspector files

Dreamweaver has several built-in interfaces for the Property inspector that let you set properties for many standard HTML tags. Because these built-in inspectors are part of the core Dreamweaver code, you cannot find corresponding Property inspector files for them in the Configuration folder. However, custom Property inspector files let you override these built-in interfaces or create new ones to inspect custom tags. Custom Property inspector files reside in the Configuration/Inspectors folder inside the Dreamweaver application folder.

The Property inspector HTML file must contain a comment (in addition to the doctype comment) immediately preceding the opening HTML tag. It is shown in the following example:

```
<!-- tag:serverModel:tagNameOrKeyword,priority:1to10,selection:¬ exactOrWithin,hline,vline,
serverModel-->
<!DOCTYPE HTML SYSTEM "-//Adobe//DWExtension layout-engine 10.0//pi">
```

This comment has the following elements:

- The `serverModel` element specifies that Dreamweaver must load this Property inspector only when the server model specified is active.
- The `tagNameOrKeyword`element is the tag that is inspected or one of the following keywords: `*COMMENT*` (for comments), `*LOCKED*` (for locked regions), or `*ASP*` (for `ASP` tags).
- The `1to10` element is the priority of the Property inspector file. `1` indicates that this inspector is used only when no others can inspect the selection. `10` indicates that this inspector takes precedence over all others that can inspect the selection.
- The `exactOrWithin` element indicates whether the selection can be within the tag (`within`) or must exactly contain the tag (`exact`).
- The `hline` element (optional) indicates that a horizontal gray line must appear between the upper and lower halves of the inspector in expanded mode.
- The `vline` element (optional) indicates that a vertical gray line must appear between the tag name field and the rest of the properties in the inspector.

- The `serverModel` element (optional) indicates the server model of the Property inspector. The server model of the Property inspector must be the same as the Property inspector of the document. If not, Dreamweaver does not use the Property inspector to display the properties of the current selection. For example, consider, the server model of a document is Adobe ColdFusion. But, the server model of the Property inspector is ASP. Then, Dreamweaver does not use that Property inspector for selections in the document.

The following comment is appropriate for an inspector that is designed to inspect the `happy` tag:

```
<!-- tag:happy, priority:8,selection:exact,hline,vline,serverModel:ASP -->
```

In some cases, specifying that your extension uses only Dreamweaver extension rendering and not the previous rendering engine is a must. You can do it by inserting the following line immediately before the tag comment, as shown in the following example:

```
<!--DOCTYPE HTML SYSTEM "-//Adobe//DWExtension layout-engine 10.0//pi"-->
```

The body section of a Property inspector file contains an HTML form. Instead of displaying the form contents in a dialog box, Dreamweaver uses the form to define the input areas and layout of the Property inspector.

The head section of a Property inspector file contains JavaScript functions or a reference to the JavaScript file or files.

How Property inspector files work

At start-up, Dreamweaver reads the first line of each HTM and HTML file in the Configuration/Inspectors folder, searching for the comment string that defines the type, priority, and selection type of a Property inspector. Files that do not have this comment as their first line are ignored.

When the user makes a selection in Dreamweaver or moves the insertion point to a different location, the following events occur:

1. Dreamweaver searches for any inspectors that have a `within` selection type.
2. If there are any `within` inspectors, Dreamweaver searches up the document tree from the currently selected tag to check whether there are inspectors for any tags that surround the selection. If there are no `within` inspectors, Dreamweaver searches for any inspectors that have a selection type of `exact`.
3. For the first tag that has one or more inspectors, Dreamweaver calls each inspector's `canInspectSelection()` function. If this function returns the value `false`, Dreamweaver no longer considers the inspector a candidate for inspecting the selection.
4. If more than one potential inspector remains after calling the `canInspectSelection()` function, Dreamweaver sorts the remaining inspectors by priority.
5. If more than one potential inspector shares the same priority, Dreamweaver selects an inspector alphabetically by name.
6. The selected inspector appears in the Property inspector floating panel. If the Property inspector file defines the `displayHelp()` function, a small question mark (?) icon appears in the upper-right corner of the inspector.
7. Dreamweaver calls the `inspectSelection()` function to gather information about the current selection and populate the inspector's fields.
8. Event handlers attached to the fields in the Property inspector interface execute as the user encounters them. (For example, you might have an `onBlur` event that calls the `setAttribute()` function to set an attribute to the value that the user enters.)

A simple Property inspector example

The following Property inspector inspects the `marquee` tag, which is available only in Microsoft Internet Explorer. The example lets you set the value of the `direction` attribute in the Property inspector. To set the value of the `marquee` tag's other attributes, use this example as a model.

To create this extension, you create the user interface, write the JavaScript code, create the image, and test.

Create the user interface

You create an HTML file that contains a form, which appears in the Property inspector.

1 Create a new blank file.

2 As the first line of the file, add the comment that identifies the Property inspector, as follows:

```
<!-- tag:MARQUEE,priority:9,selection:exact,vline,hline -->
```

3 To specify the document title and the JavaScript file that you will create, add the following after the comment:

```
<HTML>
<HEAD>
<TITLE>Marquee Inspector</TITLE>
<SCRIPT src="marquee.js"></SCRIPT>
</HEAD>
<BODY>

</BODY>
</HTML>
```

4 To specify what appears in the Property inspector, add the following between the opening and closing `body` tags:

```
<!-- Specify the image that will appear in the Property inspector -->
<SPAN ID="image" STYLE="position:absolute; width:23px; height:17px; ¬
    z-index:16; left: 3px; top: 2px">
    <IMG SRC="marquee.png" WIDTH="36" HEIGHT="36" NAME="marqueeImage">
</SPAN>
<SPAN ID="label" STYLE="position:absolute; width:23px; height:17px; ¬
    z-index:16; left: 44px; top: 5px">Marquee</SPAN>

<!-- If your form fields are in different AP elements, you must ¬
    create a separate form inside each AP element and reference it as ¬
    shown in the inspectSelection() and setInterjectionTag() functions. -->

<SPAN ID="topLayer" STYLE="position:absolute; z-index:1; left: 125px; ¬
    top: 3px; width: 431px; height: 32px">
<FORM NAME="topLayerForm">
    <TABLE BORDER="0" CELLPADDING="0" CELLSPACING="0">
        <TR>
            <TD VALIGN="baseline" ALIGN="right">Direction:</TD>
            <TD VALIGN="baseline" ALIGN="right">
            <SELECT NAME="marqDirection" STYLE="width:86"
                onChange="setMarqueeTag()">
                <OPTION VALUE="left">Left</OPTION>
                <OPTION VALUE="right">Right</OPTION>
            </SELECT>
        </TR>
    </TABLE>
</FORM>
</SPAN>
```

5 Save the file as marquee.htm in the Configuration/Inspectors folder.

Write the JavaScript code

You need to add JavaScript functions to make sure you can inspect the selection, to inspect the selection, and to enter the appropriate values in the Property inspector.

1 Create a new blank file.

2 To specify that the Property inspector appears whenever the selection contains the `marquee` tag, add the following function:

```
function canInspectSelection(){
    return true;
}
```

3 To refresh the value of the `direction` attribute that appears in the text field, add the following function at the end of the file:

```
function inspectSelection(){
    // Get the DOM of the current document.
    var theDOM = dw.getDocumentDOM();
    // Get the selected node.
    var theObj = theDOM.getSelectedNode();

    // Get the value of the DIRECTION attribute on the MARQUEE tag.
    var theDirection = theObj.getAttribute('direction');

    // Initialize a variable for the DIRECTION attribute to -1.
    // This is used to store the menu index that corresponds to
    // the value of the attribute.
    // var typeIndex = -1;
    var directionIndex = -1;

    // If there was a DIRECTION attribute...
    if (theDirection){
        // If the value of DIRECTION is "left", set typeIndex to 0.
        if (theDirection.toLowerCase() == "left"){
            directionIndex = 0;
        // If the value of DIRECTION is "right", set typeIndex to 1.
            }else if (theDirection.toLowerCase() == "right"){
                directionIndex = 1;
                }
            }
    // If the value of the DIRECTION attribute was "left"
    // or "right", choose the corresponding
    // option from the pop-up menu in the interface.
    if (directionIndex != -1){
        document.topLayer.document.topLayerForm.marqDirection.selectedIndex =¬
        directionIndex;
    }
}
```

4 To get the current selection and make the text box in the Property inspector display the `direction` attribute's value, add the following function at the end of the file:

```
function setMarqueeTag(){
    // Get the DOM of the current document.
    var theDOM = dw.getDocumentDOM();
    // Get the selected node.
    var theObj = theDOM.getSelectedNode();

    // Get the index of the selected option in the pop-up menu
    // in the interface.
    var directionIndex = ¬
        document.topLayer.document.topLayerForm.marqDirection.selectedIndex;
    // Get the value of the selected option in the pop-up menu
    // in the interface.
    var theDirection = ¬
        document.topLayer.document.topLayerForm.marqDirection.¬
        options[directionIndex].value;

    // Set the value of the direction attribute to theDirection.
    theObj.setAttribute('direction',theDirection);
}
```

5 Save the file as marquee.js in the Configuration/Inspectors folder.

Create the image

You can optionally create the image that appears in the Property inspector.

1 Create an image that is 36 pixels wide and 36 pixels high.

2 Save the image as marquee.gif in Configuration/Inspectors.

In general, you can save images for Property inspectors in any format that Dreamweaver supports.

Test the Property inspector

Finally, you can test the Property inspector.

1 Restart Dreamweaver.

2 Create a new HTML page, or open an existing HTML page.

3 Add the following in the body section of the page:

```
<MARQUEE></MARQUEE>
```

4 Highlight the text you just added.

The Property inspector you created for the `marquee` tag appears.

5 Enter a value for the direction attribute in the Property inspector.

The tag on your page changes to include the direction attribute and the value you entered in the Property inspector.

The Property inspector API functions

Two of the Property inspector API functions (`canInspectSelection()` and `inspectSelection()`) are required.

canInspectSelection()

Description

Determines whether the Property inspector is appropriate for the current selection.

Arguments

None.

Note: *Use `dom.getSelectedNode()` to get the current selection as a JavaScript object (for more information about `dom.getSelectedNode()`, see the Dreamweaver API Reference).*

Returns

Dreamweaver expects a Boolean value: `true` if the inspector can inspect the current selection; `false` otherwise.

Example

The following instance of the `canInspectSelection()` function returns a `true` value if the selection contains the `CLASSID` attribute, and the value of that attribute is `"clsid:D27CDB6E-AE6D-11cf-96B8-444553540000"` (the class ID for Adobe Flash Player):

```
function canInspectSelection(){3
    var theDOM = dw.getDocumentDOM();
    var theObj = theDOM.getSelectedNode();
    return (theObj.nodeType == Node.ELEMENT_NODE && ¬
        theObj.hasAttribute("classid") && ¬
        theObj.getAttribute("classid").toLowerCase()== ¬
        "clsid:D27CDB6E-AE6D-11cf-96B8-444553540000");
}
```

displayHelp()

Description

If this function is defined, a question mark (?) icon appears in the upper-right corner of the Property inspector. This function is called when the user clicks the icon.

Arguments

None.

Returns

Dreamweaver expects nothing.

Example

The following example of the `displayHelp()` function opens a file in a browser window. The file explains the fields of the Property inspector.

```
function displayHelp(){
    dw.browseDocument('http://www.hooha.com/dw/inspectors/inspHelp.html');
}
```

inspectSelection()

Description

Refreshes the contents of the text fields based on the attributes of the current selection.

Arguments

maxOrMin

- The *maxOrMin* argument is either `max` or `min`, depending on whether the Property inspector is in its expanded or contracted state.

Returns

Dreamweaver expects nothing.

Example

The following example of the `inspectSelection()` function gets the value of the `content` attribute and uses it to populate a form field called `keywords`:

```
function inspectSelection(){
    var dom = dreamweaver.getDocumentDOM();
    var theObj = dom.getSelectedNode();
    document.forms[0].keywords.value = theObj.getAttribute("content");
}
```

Chapter 15: Floating panels

You can create floating panels or inspectors without the size and layout limitations of Property inspectors.

A custom Property inspector must be your first choice for setting the properties of the current selection. But, custom floating panels offer more room and flexibility for displaying information about the entire document or multiple selections.

You can create custom panels and add them to the Window menu. For more information on adding items to the menu system, see "Menus and menu commands" on page 141.

The following table lists the files you use to create a floating panel:

Path	File	Description
Configuration/Floaters/	*panelname*.htm	Specifies the text that appears in the title bar of the floating panel, defines the floating panel, and contains the required JavaScript functions.
Configuration/Menus/	*menus*.xml	Adds a command to a menu.

How floating panel files work

Custom floating panel files are HTML files that reside in the Configuration/Floaters folder inside the application folder. The `body` section of a floating panel file contains an HTML form. Event handlers that are attached to form elements can call JavaScript code that performs arbitrary edits to the current document.

Dreamweaver has several built-in floating panels that are accessible from the Window menu. (These built-in panels are part of the core Dreamweaver code and do not have corresponding floating panel files for them in the Configuration/Floaters folder.)

Custom floating panels can be moved, resized, and tabbed together the same way as the floating panels that are built into Dreamweaver. Custom floating panels differ from built-in floating panels in the following ways:

- Custom floating panels display in the default gray. Setting the `bgcolor` attribute in the `body` tag has no effect.
- All custom floating panels either appear in front of the Document window or float behind it when inactive. Where the floating panels appear depends on the setting for All Other Floaters in the Panels preferences.

Floating panel files also differ somewhat from other extensions. Unlike other extension files, Dreamweaver does not load floating panel files into memory at startup unless the floating panels were visible when Dreamweaver last shut down. If the floating panels are not visible when Dreamweaver shut down, reference from one of the following functions to load the files that define the panels.

- `dreamweaver.getFloaterVisibility()`
- `dreamweaver.setFloaterVisibility()`
- `dreamweaver.toggleFloater()`

For more information on these functions, see the *Dreamweaver API Reference*.

When one of the files inside the Configuration folder calls the `dw.getFloaterVisibility(floaterName)`, `dw.setFloaterVisibility(floaterName)`, or `dw.toggleFloater(floaterName)` functions, the following events occur:

1 If *`floaterName`* is not one of the reserved floating panel names, Dreamweaver searches the Configuration/Floaters folder for a file called floaterName.htm. (For a complete list of reserved floating panel names, see the `dreamweaver.getFloaterVisibility()` function in the *Dreamweaver API Reference*. If floaterName.htm is not found, Dreamweaver searches for floaterName.html. If no file is found, nothing happens.

2 When the floating panel file is loaded for the first time, the `initialPosition()` function is called, if it is defined, to determine the default position of the floating panel on the screen. In the same manner, the `initialTabs()` function is called, if it is defined, to determine the default tab grouping of the floating panel.

3 The `selectionChanged()` and `documentEdited()` functions are called on the assumption that changes probably occurred while the floating panel was hidden.

4 When the floating panel is visible, the following actions occur:

- When the selection changes, the `selectionChanged()` function is called, if it is defined.
- When the user changes the document, the `documentEdited()` function is called, if it is defined.
- Event handlers that are attached to the fields in the floating panel interface execute as the user encounters them. (For example, a button with an `onClick` event handler that executes `dw.getDocumentDOM().body.innerHTML=''` removes everything between the opening and closing `body` tags in the document when it is clicked.)

  Floating panels support two special events on the `body` tag: `onShow()` and `onHide()`.

5 When the user quits Dreamweaver, the current visibility, position, and tab grouping of the floating panel are saved. The next time Dreamweaver starts up, it loads the floating panel files for any floating panels that were visible at the last shutdown. Then Dreamweaver displays the floating panels in their last position and tab grouping.

A simple floating panel example

In this example, you create a Script Editor extension that creates a floating panel to display the JavaScript code that underlies a selected script marker in Design view. The Script Editor displays the JavaScript code in the `textarea` element of an HTML form that is defined in a floating panel called `scriptlayer`. If you make changes to the selected code in the floating panel, the extension calls the `updateScript()` function to save your changes. If you have not selected a script marker when you invoke the Script Editor, the extension displays `(no script selected)` in a floating panel called `blanklayer`.

You create this extension by creating floating panels, writing JavaScript code, and creating a menu item.

Creating the floating panels

The beginning of the HTML file for this extension contains the standard document header information and a `title` tag that puts the words Script Editor in the title bar of the floating panels.

Create the HTML file header

1 Create a new blank document.

2 Enter the following:

```
<!doctype html public "-//W3C//DTD HTML 4.01 Transitional//EN">
<html>
<head>
<title>Script Editor</title>
<script language="JavaScript">
```

The extension defines two floating panels that display either `(no script selected)` if the user has not selected a script marker or the JavaScript code that underlies a selected script marker. The following code defines these two floating panels, or absolutely positioned (AP) elements, called `blanklayer` and `scriptlayer`:

Create the two floating panels

1 Add the following code after the header in the HTML file:

```
<body>
<div id="blanklayer" style="position:absolute; width:422px; ¬
height:181px; z-index:1; left: 8px; top: 11px; ¬
visibility: hidden">
<center>
<br>
<br>
<br>
<br>
<br>
(no script selected)
</center>
</div>

<div id="scriptlayer" style="position:absolute; width:422px; ¬
height:181px; z-index:1; left: 8px; top: 11px; ¬
visibility: visible">
<form name="theForm">
<textarea name="scriptCode" cols="80" rows="20" wrap="VIRTUAL" ¬
onBlur="updateScript()"></textarea>
</form>
</div>

</body>
</html>
```

2 Save the file as scriptEditor.htm in the Configuration/Floaters folder.

Both `div` tags use the `style` attribute to specify the position (`absolute`), size (`width:422px` and `height:181px`), and default `visibility` setting (`visible`) of the floating panels. The `blanklayer` panel uses the `center` attribute and a series of break (`br`) tags to position the text in the center of the panel. The `scriptlayer` panel creates a form with a single `textarea` to display the selected JavaScript code. The `textarea` tag also specifies that when an `onBlur` event occurs, indicating that the selected code has changed, the `updateScript()` function is called to write the changed text back to the document.

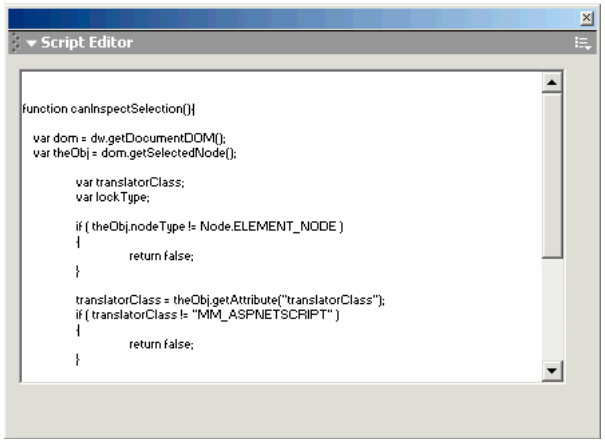
Writing the JavaScript code

The JavaScript code for the Script Editor consists of one floating panel function that Dreamweaver calls, `selectionchanged()`, and one user-defined function, `updateScript()`.

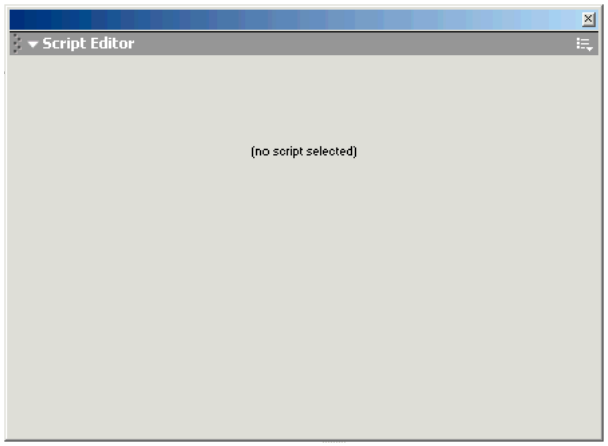
selectionChanged(): is a script marker selected?

The `selectionChanged()` function determines whether a script marker has been selected in Design view. A script marker appears in Design view if there is a JavaScript routine in the body section of a document and if Scripts is selected on the Invisible Elements section of the Preferences dialog box. The following figure shows a script marker icon:

The `selectionChanged()` function first calls the `dw.getDocumentDOM()` function to get the Document Object Model (DOM) for the user's document. It then calls the `getSelectedNode()` function to see if the selected node for that document is, first, an element and, second, a `SCRIPT` tag. If both these conditions are true, the `selectionChanged()` function makes the `scripteditor` floating panel visible and loads it with the underlying JavaScript code. It also sets the `visibility` property of the `blanklayer` floating panel to the value `hidden`. The following figure shows the `scriptlayer` floating panel with the selected JavaScript code:



If the selected node is not an element, or it is not a `script` tag, the `selectionChanged()` function makes the `blanklayer` floating panel visible and hides the `scriptlayer` panel. The `blanklayer` floating panel displays the text `(no script selected)`, as shown in the following figure:



Add the selectionChanged() function

1 Open the file scriptEditor.htm that is in the Configuration/Floaters folder.

2 Enter the following code in the header section of the file.

```
function selectionChanged(){
    /* get the selected node */
    var theDOM = dw.getDocumentDOM();
    var theNode = theDOM.getSelectedNode();

    /* check to see if the node is a script marker */
    if (theNode.nodeType == Node.ELEMENT_NODE && ¬
    theNode.tagName == "SCRIPT"){
        document.layers['scriptlayer'].visibility = 'visible';
        document.layers['scriptlayer'].document.theForm.¬
        scriptCode.value = theNode.innerHTML;
        document.layers['blanklayer'].visibility = 'hidden';
    }else{
        document.layers['scriptlayer'].visibility = 'hidden';
        document.layers['blanklayer'].visibility = 'visible';
    }
}
```

3 Save the file.

updateScript(): write back changes

The `updateScript()` function writes back the selected script when an `onBlur` event occurs in the `textarea` of the `scriptlayer` panel. The `textarea` form element contains the JavaScript code, and the `onBlur` event occurs when `textarea` loses input focus.

1 Open the scriptEditor.htm file that is in the Configuration/Floaters folder.

2 Enter the following code in the header section of the file.

```
/* update the document with any changes made by
    the user in the textarea */

    function updateScript(){
    var theDOM = dw.getDocumentDOM();
    var theNode = theDOM.getSelectedNode();
    theNode.innerHTML = document.layers['scriptlayer'].document.¬
    theForm.scriptCode.value;
}

</script>
</head>
```

3 Save the file.

Creating a menu item

It is not sufficient to save the Script Editor code in the Configuration/Floaters folder. You must also call either the `dw.setFloaterVisibility('scriptEditor',true)` function or the `dw.toggleFloater('scriptEditor')` function to load the floating panel and make it visible. The most obvious place from which to invoke the Script Editor is from the Window menu, which is defined in the menus.xml file. You need to create the `menuitem` tag that creates an entry for the Script Editor extension on the Window menu, as shown in the following figure:

If you select a script marker in Design view for the current document and then select the Script Editor menu item, Dreamweaver invokes the Script Editor floating panel and displays the JavaScript code that underlies the script marker. If you select the menu item when a script marker has not been selected, Dreamweaver displays the `blanklayer` panel that contains the text `(no script selected)`.

1 Open the menus.xml file in the Configuration/Menus folder.

2 locate the tag that begins `<menuitem name="Tile _Vertically"` and position the insertion point after the closing `/>` of the tag.

3 On a new line, insert the following:

```
<menuitem name="Script Editor" enabled="true" ¬
command="dw.toggleFloater('scriptEditor')"¬
checked="dw.getFloaterVisibility('scriptEditor')" />
```

4 Save the file.

The floating panel API functions

All the custom functions in the floating panel API are optional.

Some of the functions in this section operate only on the Windows operating system. The description of the function indicates whether this is the case.

displayHelp()

Description

If this function is defined, a Help button appears below the OK and Cancel buttons in your dialog box. This function is called when the user clicks the Help button.

Arguments

None.

Returns

Dreamweaver expects nothing.

Example

```
// the following instance of displayHelp() opens
// in a browser a file that explains how to use
// the extension.
function displayHelp(){
    var myHelpFile = dw.getConfigurationPath() +
        '/ExtensionsHelp/superDuperHelp.htm';
    dw.browseDocument(myHelpFile);
}
```

documentEdited()

Description

This function is called when the floating panel becomes visible and after the current series of edits is complete; that is, multiple edits might occur before this function is called. This function should be defined only if the floating panel must track edits to the document.

Note: *Define the* `documentEdited()` *function only if you require it because its existence impacts performance.*

Arguments

None.

Returns

Dreamweaver expects nothing.

Example

The following example of the `documentEdited()` function scans the document for AP elements and updates a text field that displays the number of AP elements in the document:

```
function documentEdited(){
    /* create a list of all the AP elements in the document */
    var theDOM = dw.getDocumentDOM();
    var layersInDoc = theDOM.getElementsByTagName("layer");
    var layerCount = layersInDoc.length;
    /* update the numOfLayers field with the new layercount */
    document.theForm.numOfLayers.value = layerCount;
}
```

getDockingSide()

Availability

Dreamweaver MX.

Description

Specifies the locations at which a floating panel can dock. The function returns a string that contains some combination of the words "`left`", "`right`", "`top`", and "`bottom`". If the label is in the string, you can dock a floating panel to that side. If the function is missing, you cannot dock a floating panel to any side.

You can use this function to prevent certain panels from docking on a certain side of the Dreamweaver workspace or to each other.

Arguments
None.

Returns
Dreamweaver expects a string containing the words "`left`", "`right`", "`top`", and "`bottom`", or a combination of them, that specifies where Dreamweaver can dock the floating panel.

Example

```
getDockingSide()
{
    return dock_side = "left top";
}
```

initialPosition()

Description
Determines the initial position of the floating panel the first time it is called. If this function is not defined, the default position is the center of the screen.

Arguments
platform

- The *platform* argument has a value of either `"Mac"` or `"Win"`, depending on the user's platform.

Returns
Dreamweaver expects a string of the form `"leftPosInPixels,topPosInPixels"`.

Example
The following example of the `initialPosition()` function specifies that the first time the floating panel appears, it should be 420 pixels from the left and 20 pixels from the top in Windows, and 390 pixels from the left side of the screen and 20 pixels from the top of the screen on the Macintosh:

```
function initialPosition(platform){
    var initPos = "420,20";
    if (platform == "macintosh"){
        initPos = "390,20";
    }
    return initPos;
}
```

initialTabs()

Description
Determines which other floating panels are tabbed together the first time that this floating panel appears. If any listed floating panel has appeared previously, it is not included in the tab group. To ensure that two custom floating panels are tabbed together, each panel should reference the other with the `initialTabs()` function.

Arguments
None.

Returns

Dreamweaver expects a string of the form `"floaterName1,floaterName2,...floaterNameN"`.

Example

The following example of the `initialTabs()` function specifies that the first time the floating panel appears, it should be tabbed with the scriptEditor floating panel:

```
function initialTabs(){
    return "scriptEditor";
}
```

isATarget()

Availability

Dreamweaver MX (Windows only).

Description

Specifies whether other panels can dock to this floating panel. If the `isATarget()` function is not specified, Dreamweaver prevents other panels from docking to this one. Dreamweaver calls this function when the user tries to combine this panel with others.

Arguments

None.

Returns

Dreamweaver expects a Boolean value: `true` if other floating panels can dock to this one; `false` otherwise.

Example

```
isATarget()
{
    return true;
}
```

isAvailableInCodeView()

Description

Determines whether the floating panel should be enabled when Code view is selected. If this function is not defined, the floating panel is disabled in the Code view.

Arguments

None.

Returns

Dreamweaver expects a Boolean value: `true` if the floating panel should be enabled in Code view; `false` otherwise.

isResizable()

Availability
Dreamweaver 4.

Description
Determines whether a user can resize a floating panel. If the function is not defined or returns a `true` value, the user can resize the floating panel. If the function returns a `false` value, the user cannot resize the floating panel.

Arguments
None.

Returns
Dreamweaver expects a Boolean value: `true` if the user can resize the floating panel; `false` otherwise.

Example
The following example prevents the user from resizing the floating panel:

```
function isResizable()
{
    return false;
}
```

selectionChanged()

Description
Called when the floating panel becomes visible and when the selection changes (when focus switches to a new document or when the insertion point moves to a new location in the current document). This function should be defined only if the floating panel must track the selection.

Note: *Define `selectionChanged()` only if you absolutely require it because its existence impacts performance.*

Arguments
None.

Returns
Dreamweaver expects nothing.

Example
The following example of `selectionChanged()` shows a different AP element in the floating panel, depending on whether the selection is a script marker. If the selection is a script marker, Dreamweaver makes the `scriptlayer` AP element visible. Otherwise, Dreamweaver makes the `blanklayer` AP element visible.

```
function selectionChanged(){
    /* get the selected node */
        var theDOM = dw.getDocumentDOM();
        var theNode = theDOM.getSelectedNode();
    /* check to see if the node is a script marker */
        if (theNode.nodeType == Node.ELEMENT_NODE && ¬
        theNode.tagName == "SCRIPT"){
            document.layers['blanklayer'].visibility = 'hidden';
            document.layers['scriptlayer'].visibility = 'visible';}
        else{
            document.layers['scriptlayer'].visibility = 'hidden';
            document.layers['blanklayer'].visibility = 'visible';
        }
}
```

About performance

Declaring the `selectionChanged()` or `documentEdited()` function in your custom floating panels can impact Dreamweaver performance adversely. Consider that the `documentEdited()` and `selectionChanged()` functions are called after every keystroke and mouse click when Dreamweaver is idle for more than one-tenth of a second. It's important to use different scenarios to test your floating panel, using large documents (100 KB or more of HTML) whenever possible, to test performance impact.

To help avoid performance penalties, use the `setTimeout()` function. As in the browsers, the `setTimeout()` function takes two arguments: the JavaScript to be called and the amount of time in milliseconds to wait before calling it.

The `setTimeout()` method lets you build pauses into your processing. These pauses let the user continue interacting with the application. You must build in these pauses explicitly because the screen freezes while scripts process, which prevents the user from performing further edits. The pauses also prevent you from updating the interface or the floating panel.

The following example is from a floating panel that displays information about every AP element in the document. It uses the `setTimeout()` method to pause for half a second after processing each AP element.

```
/* create a flag that specifies whether an edit is being processed, and set it to false.*/
document.running = false;
/* this function called when document is edited */
function documentEdited(){
    /* create a list of all the AP elements to be processed */
    var dom = dw.getDocumentDOM();
    document.layers = dom.getElementsByTagName("layer");
    document.numLayers = document.layers.length;
    document.numProcessed = 0;
    /* set a timer to call processLayer(); if we didn't get
     * to finish processing the previous edit, then the timer
     * is already set. */
    if (document.running = false){
        setTimeout("processLayer()", 500);
    }
    /* set the processing flag to true */
    document.running = true;
}
/* process one AP element*/
function processLayer(){
    /* display information for the next unprocessed AP element.
        displayLayer() is a function you would write to
        perform the "magic".0*/
     displayLayer(document.layers[document.numProcessed]);
    /* if there's more work to do, set a timeout to process
     * the next layer.0.If we're finished, set the document.running
     * flag to false. */
    document.numProcessed = document.numProcessed + 1;
    if (document.numProcessed < document.numLayers){
        setTimeout("processLayer()", 500);
    }else{
        document.running = false;
    }
}
```

Chapter 16: Behaviors

The term *behavior* refers to the combination of an event and an action. `onClick`, `onLoad`, and `onSubmit` are examples of events. Check Plug-in, Go to URL, and Swap Image are examples of actions. The browser determines which HTML elements accept which events. Files that list events that each browser supports are stored in the Configuration/Behaviors/Events folder within the Adobe Dreamweaver application folder.

The body section of an Action file generally contains an HTML form. The HTML form accepts parameters for the action (for example, parameters that indicate which absolutely positioned elements to display or hide). The head section of an Action file contains JavaScript functions that process form input from the body content. They also control the functions, arguments, and event handlers that are inserted into the document of a user.

Write behavior actions when you want to share functions with users or when you want to insert the same JavaScript function repeatedly. Ensure that you change the parameters each time.

Note: *You cannot use behaviors to insert VBScript functions directly. However, you can add a VBScript function indirectly by editing the Document Object Model (DOM) in the* `applyBehavior()` *function.*

The following table lists the files you use to create behavior actions:

Path	File	Description
Configuration/Behaviors/Actions/	*behavior action*.htm	The body of the file contains an HTML form for the parameters of the action. The head of the file contains the JavaScript functions.

Note: *For information about server behaviors that provide web application functionality, see* *"Server behaviors" on page 246.*

How Behaviors work

When a user selects an HTML element in a Dreamweaver document and clicks the Plus (+) button on the Behaviors panel, the following events occur:

1. Dreamweaver calls the `canAcceptBehavior()` function in each Action file to see whether this action is appropriate for the document or the selected element.

   If the return value of this function is `false`, Dreamweaver dims the action in the Actions pop-up menu. (For example, the Control Shockwave action is dimmed when the user's document has no SWF files.) If the return value is a list of events, Dreamweaver compares each event with the valid events for the currently selected HTML element and target browser until it finds a match. Dreamweaver populates the Events pop-up menu with the matched event from the `canAcceptBehavior()` function at the top of the list. If no match exists, the default event for the HTML element (marked in the Event file with an asterisk [*]) becomes the top item. The remaining events in the menu are assembled from the Event file.

2. The user selects an action from the Actions pop-up menu.

3. Dreamweaver calls the `windowDimensions()` function to determine the size of the Parameters dialog box. If the `windowDimensions()` function is not defined, the size is determined automatically.

   A dialog box always appears, with OK and Cancel buttons at the right edge, regardless of the contents of the `body` element.

4 Dreamweaver displays a dialog box that contains the `BODY` elements of the Action file. If the Action file's `body` tag contains an `onLoad` handler, Dreamweaver executes it.

5 The user fills in the parameters for the action. Dreamweaver executes event handlers that are associated with the form fields as the user encounters them.

6 The user clicks OK.

7 Dreamweaver calls the `behaviorFunction()` and `applyBehavior()` functions in the selected Action file. These functions return strings that are inserted into the user's document.

8 If the user later double-clicks the action in the Actions column, Dreamweaver reopens the Parameters dialog box and executes the `onLoad` handler. Dreamweaver then calls the `inspectBehavior()` function in the selected Action file, which fills in the fields with the data that the user previously entered.

Inserting multiple functions in the user's file

Actions can insert multiple functions—the main behavior function plus any number of helper functions—into the head section. Two or more behaviors can even share helper functions as long as the function definition is exactly the same in each Action file. One way of ensuring that shared functions are identical is to store each helper function in an external JavaScript file and insert it into the appropriate Action files using `<SCRIPT SRC="externalFile.js">`.

When the user deletes a behavior, Dreamweaver attempts to remove any unused helper functions that are associated with the behavior. If other behaviors are using a helper function, it is not deleted. Because the algorithm for deleting helper functions errs on the side of caution, Dreamweaver might occasionally leave an unused function in the user's document.

Handling actions that require return value

Sometimes an event handler must have a return value (for example, `onMouseOver="window.status='This is a link'; return true"`). But if Dreamweaver inserts the `"return behaviorName(args)"` action into the event handler, behaviors later in the list are skipped.

To get around this limitation, set the `document.MM_returnValue` variable to the desired return value within the string that the `behaviorFunction()` function returns. This setting causes Dreamweaver to insert `return document.MM_returnValue` at the end of the list of actions in the event handler. For an example that uses the `MM_returnValue` variable, see the Validate Form.js file in the Configuration/Behaviors/Actions folder within the Dreamweaver application folder.

A simple behavior example

To understand how behaviors work and how you can create one, it's helpful to look at an example. The Configuration/Behaviors/Actions folder inside the Dreamweaver application folder contains examples; however, many are very complex. This example is simpler so that you can learn about creating behaviors. Start with the simple Action file Call JavaScript.htm (along with its counterpart, Call JavaScript.js, which contains all the JavaScript functions).

To create the behavior, you create an extension, create the HTML files to browse, and test the behavior.

Create the behavior extension

The following code presents a relatively simple example. The code checks the brand of the browser. The code opens one page if the brand is Netscape Navigator and another if the brand is Microsoft Internet Explorer. This code can easily be expanded to check for other brands such as Opera and WebTV and modified to perform actions other than going to URLs.

1 Create a new blank file.

2 Add the following to the file:

```
<!DOCTYPE HTML SYSTEM "-//Adobe//DWExtension layout-engine 10.0//dialog">
<html>
<head>
<title>behavior "Check Browser Brand"</title>
<meta http-equiv="Content-Type" content="text/html">
<script language="JavaScript">

// The function that will be inserted into the
// HEAD of the user's document
function checkBrowserBrand(netscapeURL,explorerURL) {
    if (navigator.appName == "Netscape") {
        if (netscapeURL) location.href = netscapeURL;
    }else if (navigator.appName == "Microsoft Internet Explorer") {
        if (explorerURL) location.href = explorerURL;
    }
}

//******************* API *********************

function canAcceptBehavior(){
    return true;
}

// Return the name of the function to be inserted into
// the HEAD of the user's document
function behaviorFunction(){
        return "checkBrowserBrand";
}

// Create the function call that will be inserted
// with the event handler
function applyBehavior() {
    var nsURL = escape(document.theForm.nsURL.value);
    var ieURL = escape(document.theForm.ieURL.value);
    if (nsURL && ieURL) {
        return "checkBrowserBrand(\'" + nsURL + "\',\'" + ieURL + "\')";
    }else{
        return "Please enter URLs in both fields."
    }
}

// Extract the arguments from the function call
// in the event handler and repopulate the
// parameters form
function inspectBehavior(fnCall){
    var argArray = getTokens(fnCall, "()',");
    var nsURL = unescape(argArray[1]);
```

```
    var ieURL = unescape(argArray[2]);
    document.theForm.nsURL.value = nsURL;
    document.theForm.ieURL.value = ieURL;
}

//***************** LOCAL FUNCTIONS *****************

// Put the pointer in the first text field
// and select the contents, if any
function initializeUI(){
    document.theForm.nsURL.focus();
    document.theForm.nsURL.select();
}

// Let the user browse to the Navigator and
// IE URLs
function browseForURLs(whichButton){
    var theURL = dreamweaver.browseForFileURL();
    if (whichButton == "nsURL"){
        document.theForm.nsURL.value = theURL;
    }else{
        document.theForm.ieURL.value = theURL;
    }
}

//*************** END OF JAVASCRIPT *****************
</script>
</head>
<body>
<form method="post" action="" name="theForm">
<table border="0" cellpadding="8">
<tr>
<td nowrap="nowrap">  Go to this URL if the browser is ¬
    Netscape Navigator:<br>
<input type="text" name="nsURL" size="50" value="">  
<input type="button" name="nsBrowse" value="Browse..." ¬
    onClick="browseForURLs('nsURL')"></td>
</tr>
<tr>
<td nowrap="nowrap">  Go to this URL is the browser is ¬
    Microsoft Internet Explorer:<br>
<input type="text" name="ieURL" size="50" value="">  
<input type="button" name="ieBrowse" value="Browse..." ¬
    onClick="browseForURLs('ieURL')"></td>
</tr>
</table>
</form>
</body>
</html>
```

3 Save the file as Configuration/Behaviors/Actions/BrowserDependentURL.htm.

Create the HTML files to browse (deprecated)

Create the HTML files to browse, the file to go to if the browser is Internet Explorer, and the file to go to if the browser is Netscape Navigator.

1 Create a file with the following content:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<title>Internet Explorer Only</title>
</head>

<body>
This is the page to go to if you are using Internet Explorer.
</body>
</html>
```

2 Save the file as iecontent.htm in a site on your computer.

3 Create another file with the following content:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<title>Netscape Navigator content</title>
</head>

<body>
This is the page to go to if you are using Netscape Navigator.
</body>
</html>
```

4 Save the file as netscapecontent.htm in the same folder as the iecontent.htm file.

5 Restart Dreamweaver.

6 Create an HTML file with the following content:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<title>Which browser</title>
</head>

<body>
</body>
</html>
```

7 Save the file as whichbrowser.htm in the same folder as the iecontent.htm file.

8 Click the Plus (+) button on the Behaviors panel and select the Check Browser Band behavior.

9 Click the Browse button next to the Go to the URL option and select the netscapecontent.htm file, if the browser is Netscape Navigator. If the browser is Internet Explorer, select the iecontent.htm file.

10 Click OK.

Dreamweaver adds the specified JavaScript to the whichbrowser.htm file, so that the file appears as follows:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<title>Which browser</title>
<script language="JavaScript" type="text/JavaScript">
<!--
function checkBrowserBrand(netscapeURL,explorerURL) {
    if (navigator.appName == "Netscape") {
        if (netscapeURL) location.href = netscapeURL;
    }else if (navigator.appName == "Microsoft Internet Explorer") {
        if (explorerURL) location.href = explorerURL;
    }
}
//-->
</script>
</head>

<body onLoad="checkBrowserBrand('netscaptecontent.htm','iecontent.htm')">
</body>
</html>
```

Test the behavior

1 View the file whichbrowser.htm in your browser.

2 Depending on which browser you are using, either iecontent.htm or netscapecontent.htm appears.

The behaviors API functions

Two behaviors API functions are required (`applyBehavior()` and `behaviorFunction()`); the rest are optional.

applyBehavior()

Description

This function inserts into the user's document an event handler that calls the function that `behaviorFunction()` inserts. The `applyBehavior()` function can also perform other edits on the user's document, but it must not delete the object to which the behavior is being applied or the object that receives the action.

When you write the `applyBehavior()` function, you must decide how you want to edit the user's document. For example, you might decide to insert some code inside script tags in the body of the document. You would do this using the standard DOM editing APIs.

Arguments

uniqueName

The argument is a unique identifier among all instances of all behaviors in the user's document. Its format is *functionNameInteger*, where *functionName* is the name of the function that `behaviorFunction()` inserts. This argument is useful if you insert a tag into the user's document and you want to assign a unique value to its `NAME` attribute.

Returns

Dreamweaver expects a string that contains the function call to be inserted in the user's document, usually after accepting parameters from the user. If the `applyBehavior()` function determines that the user made an invalid entry, the function can return an error string instead of the function call. If the string is empty (`return "";`), Dreamweaver does not report an error; if the string is not empty and not a function call, Dreamweaver displays a dialog box with the text *Invalid input supplied for this behavior:* and the string returned from `applyBehavior()`. If the return value is `null` (`return;`), Dreamweaver indicates that an error occurred but gives no specific information.

Note: *Quotation marks (`""`) within the returned string must be preceded by a backslash (\) to avoid errors that the JavaScript interpreter reports.*

Example

The following example of the `applyBehavior()` function returns a call to the `MM_openBrWindow()` function and passes user-specified parameters (the height and width of the window; whether the window should have scroll bars, a toolbar, a location bar, and other features; and the URL that should open in the window):

```
function applyBehavior() {
    var i,theURL,theName,arrayIndex = 0;
    var argArray = new Array(); //use array to produce correct ¬
        number of commas w/o spaces
    var checkBoxNames = new Array("toolbar","location",¬
        "status","menubar","scrollbars","resizable");

    for (i=0; i<checkBoxNames.length; i++) {
        theCheckBox = eval("document.theForm." + checkBoxNames[i]);
        if (theCheckBox.checked) argArray[arrayIndex++] = (checkBoxNames[i] + "=yes");
    }
    if (document.theForm.width.value)
        argArray[arrayIndex++] = ("width=" + document.theForm.width.value);
    if (document.theForm.height.value)
        argArray[arrayIndex++] = ("height=" + document.theForm.height.value);
    theURL = escape(document.theForm.URL.value);
    theName = document.theForm.winName.value;
    return "MM_openBrWindow('"+theURL+"','"+theName+"','"+argArray.join()+"')";
}
```

behaviorFunction()

Description

This function inserts one or more functions—surrounded by the following tags, if they don't yet exist—into the head section of the user's document:

```
<SCRIPT LANGUAGE="JavaScript"></SCRIPT>
```

Arguments

None.

Returns

Dreamweaver expects either a string that contains the JavaScript functions or a string that contains the names of the functions to be inserted in the user's document. This value must be exactly the same every time (it cannot depend on user input). The functions are inserted only once, regardless of how many times the action is applied to elements in the document.

Note: *Quotation marks (`""`)within the returned string must be preceded by a backslash (\) escape character to avoid errors that the JavaScript interpreter reports.*

Example

The following instance of the `behaviorFunction()` function returns the `MM_popupMsg()` function:

```
function behaviorFunction(){
    return ""+
    "function MM_popupMsg(theMsg) { //v1.0\n"+
    "alert(theMsg);\n"+
    "}";
}
```

The following example is equivalent to the preceding `behaviorFunction()` declaration and is the method used to declare the `behaviorFunction()` function in all behaviors that come with Dreamweaver:

```
function MM_popupMsg(theMsg){ //v1.0
    alert(theMsg);
}

function behaviorFunction(){
    return "MM_popupMsg";
}
```

canAcceptBehavior()

Description

This function determines whether the action is allowed for the selected HTML element and specifies the default event that should trigger the action. Can also check for the existence of certain objects (such as SWF files) in the user's document and not allow the action if these objects do not appear.

Arguments

HTMLElement

The argument is the selected HTML element.

Returns

Dreamweaver expects one of the following values:

- A `true` value if the action is allowed but has no preferred events.
- A list of preferred events (in descending order of preference) for this action. Specifying preferred events overrides the default event (as denoted with an asterisk [*] in the Event file) for the selected object. See step 1 in "How Behaviors work" on page 234.
- A `false` value if the action is not allowed.

  If the `canAcceptBehavior()` function returns a `false` value, the action is dimmed in the Actions pop-up menu on the Behaviors panel.

Example

The following instance of the `canAcceptBehavior()` function returns a list of preferred events for the behavior if the document has any named images:

```
function canAcceptBehavior(){
    var theDOM = dreamweaver.getDocumentDOM();
    // Get an array of all images in the document
    var allImages = theDOM.getElementsByTagName('IMG');
    if (allImages.length > 0){
        return "onMouseOver, onClick, onMouseDown";
    }else{
        return false;
    }
}
```

displayHelp()

Description

If this function is defined, a Help button appears below the OK and Cancel buttons in the Parameters dialog box. This function is called when the user clicks the Help button.

Arguments

None.

Returns

Dreamweaver expects nothing.

Example

```
// the following instance of displayHelp() opens
// in a browser a file that explains how to use
// the extension.
function displayHelp(){
    var myHelpFile = dw.getConfigurationPath() +
        '/ExtensionsHelp/superDuperHelp.htm';
    dw.browseDocument(myHelpFile);
}
```

deleteBehavior()

Description

This function undoes any edits that the `applyBehavior()` function performed.

Note: *Dreamweaver automatically deletes the function declaration and the event handler that are associated with a behavior when the user deletes the behavior in the Behaviors panel. It is necessary to define the* `deleteBehavior()` *function only if the* `applyBehavior()` *function performs additional edits on the user's document (for example, if it inserts a tag).*

Arguments

applyBehaviorString

This argument is the string that the `applyBehavior()` function returns.

Returns
Dreamweaver expects nothing.

identifyBehaviorArguments()

Description
This function identifies arguments from a behavior function call as navigation links, dependent files, URLs, Netscape Navigator 4.0-style references, or object names so that URLs in behaviors can update if the user saves the document to another location and so the referenced files can appear in the site map and be considered dependent files for the purposes of uploading to and downloading from a server.

Arguments
theFunctionCall

This argument is the string that the `applyBehavior()` function returns.

Returns
Dreamweaver expects a string that contains a comma-separated list of the types of arguments in the function call. The length of the list must equal the number of arguments in the function call. Argument types must be one of the following types:

- The `nav` argument type specifies that the argument is a navigational URL, and therefore, it should appear in the site map.
- The `dep` argument type specifies that the argument is a dependent file URL, and therefore, it should be included with all other dependent files when a document that contains this behavior is downloaded from or uploaded to a server.
- The `URL` argument type specifies that the argument is both a navigational URL and a dependent URL or that it is a URL of an unknown type and should appear in the site map and be considered a dependent file when downloading from or uploading to a server.
- The `NS4.0ref` argument type specifies that the argument is a Netscape Navigator 4.0-style object reference.
- The `IE4.0ref` argument type specifies that the argument is an Internet Explorer DOM 4.0-style object reference.
- The `objName` argument type specifies that the argument is a simple object name, as specified in the `NAME` attribute for the object. This type was added in Dreamweaver 3.
- The `other` argument type specifies that the argument is none of the above types.

Example
This simple example of the `identifyBehaviorArguments()` function works for the Open Browser Window behavior action, which returns a function that always has three arguments (the URL to open, the name of the new window, and the list of window properties):

```
function identifyBehaviorArguments(fnCallStr) {
    return "URL,other,other";
}
```

A more complex version of the `identifyBehaviorArguments()` function is necessary for behavior functions that have a variable number of arguments (such as Show/Hide Layer). For this example version of the `identifyBehaviorArguments()` function, there is a minimum number of arguments, and additional arguments always come in multiples of the minimum number. In other words, a function with a minimum number of arguments of 4 may have 4, 8, or 12 arguments, but it cannot have 10 arguments:

```
function identifyBehaviorArguments(fnCallStr) {
    var listOfArgTypes;
    var itemArray = dreamweaver.getTokens(fnCallStr, '(),');

    // The array of items returned by getTokens() includes the
    // function name, so the number of *arguments* in the array
    // is the length of the array minus one. Divide by 4 to get the
    // number of groups of arguments.
    var numArgGroups = ((itemArray.length - 1)/4);
    // For each group of arguments
    for (i=0; i < numArgGroups; i++){

    // Add a comma and "NS4.0ref,IE4.0ref,other,dep" (because this
    // hypothetical behavior function has a minimum of four
    // arguments the Netscape object reference, the IE object
    // reference, a dependent URL, and perhaps a property value
    // such as "show" or "hide") to the existing list of argument
    // types, or if no list yet exists, add only
    // "NS4.0ref,IE4.0ref,other,dep"
    var listOfArgTypes += ((listOfArgTypes)?",":"") + ¬
    "NS4.0ref,IE4.0ref,other,dep";
    }
}
```

inspectBehavior()

Description

This function inspects the function call for a previously applied behavior in the user's document and sets the values of the options in the Parameters dialog box accordingly. If the `inspectBehavior()` function is not defined, the default option values appear.

Note: *The `inspectBehavior()` function must rely solely on information that the `applyBehaviorString` argument passes to it. Do not attempt to obtain other information about the user's document (for example, using `dreamweaver.getDocumentDOM()`) within this function.*

Arguments

applyBehaviorString

This argument is the string that the `applyBehavior()` function returns.

Note: *If the HTML element contains code that is similar to `'onClick="someBehavior(); return document.MM_returnValue;"'`, and you add a new behavior from the behavior menu, Dreamweaver calls `inspectBehavior()` as soon as the new behavior UI pops up, and passes an empty string as the parameter. Consequently, be sure to check the `applyBehaviorString` parameter, as shown in the following example:*

```
function inspectBehavior(enteredStr){
    if(enteredStr){
    //do your work here
    }
}
```

Returns

Dreamweaver expects nothing.

Example

The following instance of the `inspectBehavior()` function, taken from the Display Status Message.htm file, fills in the Message field in the Parameters dialog box with the message that the user selected when the behavior was originally applied:

```
function inspectBehavior(msgStr){
    var startStr = msgStr.indexOf("'") + 1;
    var endStr = msgStr.lastIndexOf("'");
    if (startStr > 0 && endStr > startStr) {
        document.theForm.message.value = ¬
        unescQuotes(msgStr.substring(startStr,endStr));
    }
}
```

Note: *For more information about the* `unescQuotes()` *function, see the dwscripts.js file in the Configuration/Shared/Common/Scripts/CMN folder.*

windowDimensions()

Description

This function sets specific dimensions for the Parameters dialog box. If this function is not defined, the window dimensions are computed automatically.

Note: *Do not define this function unless you want a Parameters dialog box that is larger than 640 x 480 pixels.*

Arguments

`platform`

The value of the *`platform`* argument is either `macintosh` or `windows`, depending on the platform of the user.

Returns

Dreamweaver expects a string of the form `widthInPixels,heightInPixels`.

The returned dimensions are smaller than the size of the entire dialog box because they do not include the area for the OK and Cancel buttons. If the returned dimensions do not accommodate all options, scroll bars appear.

Example

The following instance of `windowDimensions()` sets the dimensions of the Parameters dialog box to 648 x 520 pixels:

```
function windowDimensions(){
    return "648,520";
}
```

Chapter 17: Server behaviors

Adobe® Dreamweaver® provides users with an interface for adding server behaviors into their documents to perform server-side tasks such as the following:

- Filtering records based on user criteria
- Paging through records
- Linking result lists to details pages
- Inserting records into a result set

While using Dreamweaver, at times you insert the same runtime code repeatedly into the documents. In such cases, create an extension to automate the procedure of updating the document with the frequently used code blocks. For details about working with the Server Behavior Builder interface to implement a custom server behavior, see "Adding Custom Server Behaviors" in *Getting Started with Dreamweaver*. Then, read the Server behaviors chapter for details about working with the supporting server behavior files and the functions that interact with established server behaviors. For individual function information, see "Server Behavior functions" and "Extension Data Manager functions" in the *Dreamweaver API Reference*. Dreamweaver currently supports server behaviors extensions that add runtime code for the following server models: ASP/JavaScript, ASP/VBScript, ColdFusion, and PHP/MySQL.

Server behavior terminology

The following terms are commonly used in association with server behavior:

Server behaviors extension The server behaviors extension is the interface between server-side code and Dreamweaver. A server behaviors extension consists of JavaScript, HTML, and Extension Data Markup Language (EDML), which is XML that is created specifically for extension data. Examples of these files reside in your installation folder in the Configuration/ServerBehaviors folder, arranged according to server model. When you write script for an extension, use the `dwscripts.applySB()` function to instruct Dreamweaver to read the EDML files, retrieve the components of your extension, and add the appropriate code blocks to the user document.

Server behavior instance When Dreamweaver adds code blocks to a user document, the inserted code constitutes an instance of the server behavior. The user can apply most server behaviors more than once, which results in multiple server behavior instances. Each server behavior instance is listed in the Server Behaviors panel of the Dreamweaver interface.

Runtime code Runtime code is the set of code blocks that are added to a document when a server behavior is applied. These code blocks usually include some server-side code, such as ASP script that is enclosed in `<% ... %>` tags.

Participants Your server behaviors extension inserts code blocks into the user document. A code block is a single, continuous block of script. For example, a server-side tag, an HTML tag, or an attribute that adds server-side functionality to a web page. An EDML file defines each code block as a participant. All the participants for a given server behavior make up one participant group.

Note: *For information about participants, participant groups, and how Dreamweaver EDML files are structured, see* *"Extension Data Markup Language" on page 247.*

Dreamweaver architecture

When you use the Server Behavior Builder to create a Dreamweaver-specific extension, Dreamweaver creates several files (EDML and HTML script files) that support inserting the server behavior code into a Dreamweaver document (some behaviors also reference JavaScript files for additional functionality). The architecture simplifies your implementation of the API and also separates your runtime code from how Dreamweaver deploys it. This topic discusses ways of modifying these files.

Server behavior folders and files

The user interface (UI) for each server behavior resides in the Configuration/ServerBehaviors/ServerModelName folder, where `ServerModelName` is one of the following server types: ASP_Js (JavaScript), ASP_Vbs (VBScript), ColdFusion, PHP_MySQL, or Shared (cross-server model implementations).

Extension Data Markup Language

Dreamweaver generates two EDML files when you use the Server Behavior Builder: a group EDML file and a participant EDML file corresponding to the names that you provide in the Server Behavior Builder. The group file defines the relevant participants, which represent code blocks, and the groups define which participants are combined to make an individual server behavior.

Group files

Group files contain a list of participants, and participant files have all server-model-specific code data. Participant files can be used by more than one extension, so several group files can refer to the same participant file.

The following example shows a high-level view of the Server Behavior Group EDML file. For a complete list of elements and attributes, see "Group EDML file tags" on page 259.

```
<group serverBehavior="Go To Detail Page.htm" dataSource="Recordset.htm">
    <groupParticipants selectParticipant="goToDetailPage_attr">
        <groupParticipant name="moveTo_declareParam"0partType="member"/>
        <groupParticipant name="moveTo_keepParams"0partType="member"/>
        <groupParticipant name="goToDetailPage_attr" partType="identifier" />
    </groupParticipants>
</group>
```

In the `groupParticipants` block tag, each `groupParticipant` tag indicates the EDML participant file that contains the code block to use. The value of the `name` attribute is the participant file name minus the .edml extension (for example, the `moveTo_declareParam` attribute).

Participant files

A participant represents a single code block on the page, such as a server tag, an HTML tag, or an attribute. A participant file must be listed in a group file to be available to a Dreamweaver document author. Several group files can use a single participant file.

For example, the moveTo_declareParam.edml file contains the following code:

```
<participant>
    <quickSearch><![CDATA[MM_paramName]]></quickSearch>
    <insertText location="aboveHTML+80">
<![CDATA[
<% var MM_paramName = ""; %>
]]>
    </insertText>
    <searchPatterns whereToSearch="directive">
        <searchPattern><![CDATA[/var\s*MM_paramName/]]></searchPattern>
    </searchPatterns>
</participant>
```

When Dreamweaver adds a server behavior to a document, it needs to have detailed information, including where to insert the code, what the code looks like, and what parameters the Dreamweaver author or data replaced at runtime. Each participant EDML file describes these details for each block of code. Specifically, the participant file describes the following data:

- The code and where to put the unique instance are defined by the `insertText` tag parameters, as shown in the following example:

  ```
  <insertText location="aboveHTML+80">
  ```

- How to recognize instances already on the page are defined by the `searchPatterns` tag, as shown in the following example:

  ```
  <searchPatterns whereToSearch="directive">
      <searchPattern><![CDATA[/var\s*MM_paramName/]]></searchPattern>
  </searchPatterns>
  ```

  In the `searchPatterns` block tag, each `searchPattern` tag contains a pattern that finds instances of runtime code and extracts specific parameters. For more details, see "Server behavior techniques" on page 283.

The script file

Each server behavior also has an HTML file that contains functions and links to the scripts that manage the integration of the server behavior code with the Dreamweaver interface. The functions that are available for editing in this file are discussed in "Server behavior implementation functions" on page 256.

A simple server behavior example

This example shows the process of creating a new server behavior so you can see the files that Dreamweaver generates and how to handle them. For details about working with the Server Behavior Builder interface, see "Adding Custom Server Behaviors" in *Getting Started with Dreamweaver*. The example displays "Hello World" from the ASP server. The Hello World behavior has only one participant (a single ASP tag) and does not modify or add anything else on the page.

To create the behavior, you create the dynamic page document, define the new server behavior, and define the code to insert.

Creating the dynamic page document

1. In Dreamweaver, select the File > New menu option.
2. In the New Document dialog box, select Category: Dynamic Page, and Dynamic Page: ASP JavaScript.
3. Click Create.

Defining the new server behavior

Note: *If the Server Behaviors panel is not open and visible, select the Window > Server Behaviors menu option.*

1 In the Server Behaviors panel, select the Plus (+) button, and then select the New Server Behavior menu option.

2 In the New Server Behavior dialog box, select Document Type: ASP JavaScript, and Name: Hello World. (Leave the "Copy existing server behavior" check box unchecked.)

3 Click OK.

Defining the code to insert

1 Select the Plus (+) button for Code Blocks to Insert.

2 In the Create A New Code Block dialog box, enter **Hello_World_block1** (Dreamweaver might automatically enter this information for you).

3 Click OK.

4 In the Code Block text field, enter **<% Response.Write("Hello World") %>.**

5 In the Insert Code pop-up menu, select Relative To The Selection so the user can control where this code goes in the document.

6 In the Relative Position pop-up menu, select After The Selection.

7 Click OK.

In the Server Behaviors panel, you can see that the Plus (+) menu contains the new server behavior in the pop-up list. Also, in the installation folder for your Dreamweaver files, the Configuration/ServerBehaviors/ASP_Js folder now contains the following three files:

- The group file: Hello World.edml
- The participant file: Hello World_block1.edml
- A script file: Hello World.htm

Note: *If you are working in a multiuser configuration, these files appear in your Application Data folder.*

Scenarios in which the server behavior API functions are called

The server behavior API functions are called in the following scenarios:

- The `findServerBehaviors()` function is called when the document opens and again when the participant is edited. It searches the user's document for instances of the server behavior. For each instance it finds, the `findServerBehaviors()` function creates a JavaScript object, and uses JavaScript properties to attach state information to the object.
- If it is implemented, Dreamweaver calls the `analyzeServerBehavior()` function for each behavior instance that is found in the user's document after all the `findServerBehaviors()` functions are called.

When the `findServerBehaviors()` function creates a behavior object, it usually sets the four properties (`incomplete`, `participants`, `selectedNode`, and `title`). However, it is sometimes easier to delay setting some of the properties until all the other server behaviors find instances of themselves. For example, the Move To Next Record behavior has two participants: a link object and a recordset object. Rather than finding the recordset object in its `findServerBehaviors()` function, wait until the recordset behavior's `findServerBehaviors()` function runs because the recordset finds all instances of itself.

When the Move To Next Record behavior's `analyzeServerBehavior()` function is called, it gets an array that contains all the server behavior objects in the document. The function can look through the array for its recordset object.

Sometimes, during analysis, a single tag in the user's document is identified by two or more behaviors as being an instance of that behavior. For example, the `findServerBehaviors()` function for the Dynamic Attribute behavior might detect an instance of the Dynamic Attribute behavior that is associated with an `input` tag in the user's document. At the same time, the `findServerBehaviors()` function for the Dynamic Textfield behavior might look at the same `input` tag and detect an instance of the Dynamic Textfield behavior. As a result, the Server Behaviors panel shows the Dynamic Attribute block and the Dynamic Textfield. To correct this problem, the `analyzeServerBehavior()` functions need to delete all but one of these redundant server behaviors.

To delete a server behavior, an `analyzeServerBehavior()` function can set the `deleted` property of any server behavior to the value `true`. If the `deleted` property still has the value `true` when Dreamweaver finishes calling the `analyzeServerBehavior()` functions, the behavior is deleted from the list.

- When the user clicks the Plus (+) button in the Server Behaviors panel, the pop-up menu appears.

  To determine the content of the menu, Dreamweaver first looks for a ServerBehaviors.xml file in the same folder as the behaviors. ServerBehaviors.xml references the HTML files that should appear in the menu.

  If the referenced HTML file contains a title tag, the contents of the title tag appear in the menu. For example, if the ServerBehaviors/ASP_Js/ GetRecords.htm file contains the tag `<title>Get More Records</title>`, the text *Get More Records* appears in the menu.

  If the file does not contain a title tag, the filename appears in the menu. For example, if GetRecords.htm does not contain a title tag, the text GetRecords appears in the menu.

  If there is no ServerBehaviors.xml file or the folder contains one or more HTML files that are not mentioned in ServerBehaviors.xml, Dreamweaver checks each file for a title tag and uses the title tag or filename to populate the menu.

  If you do not want a file that is in the ServerBehaviors folder to appear in the menu, put the following statement on the first line in the HTML file:

  ```
  <!-- MENU-LOCATION=NONE -->
  ```

- When the user selects an item from the menu, the `canApplyServerBehavior()` function is called. If that function returns a `true` value, a dialog box appears. When the user clicks OK, the `applyServerBehavior()` function is called.
- If the user edits an existing server behavior by double-clicking it, Dreamweaver displays the dialog box, executes the `onLoad` handler on the `body` tag, if one exists, and then calls the `inspectServerBehavior()` function. The `inspectServerBehavior()` function populates the form elements with the current argument values. When the user clicks OK, Dreamweaver calls the `applyServerBehavior()` function again.
- If the user clicks the Minus (-) button, the `deleteServerBehavior()` function is called. The `deleteServerBehavior()` function removes the behavior from the document.

- When the user selects a server behavior and uses the Cut or Copy commands, Dreamweaver passes the object that represents the server behavior to its `copyServerBehavior()` function. The `copyServerBehavior()` function adds any other properties to the server behavior object that are needed to paste it later.

  After the `copyServerBehavior()` function returns, Dreamweaver converts the server behavior object to a form that can be put on the Clipboard. When Dreamweaver converts the object, it deletes all the properties that reference objects; every property on the object that is not a number, Boolean value, or string is lost.

  When the user uses the Paste command, Dreamweaver unpacks the contents of the Clipboard and generates a new server behavior object. The new object is identical to the original, except that it does not have properties that reference objects. Dreamweaver passes the new server behavior object to the `pasteServerBehavior()` function. The `pasteServerBehavior()` function adds the behavior to the user's document. After the `pasteServerBehavior()` function returns, Dreamweaver calls the `findServerBehaviors()` function to get a new list of all the server behaviors in the user's document.

  Users can copy and paste behaviors from one document to another. The `copyServerBehavior()` and `pasteServerBehavior()` functions should rely only on properties on the behavior object to exchange information.

The server behavior API

You can manage server behaviors with the following API functions.

analyzeServerBehavior()

Availability
Dreamweaver UltraDev 1.

Description
Lets server behaviors set their `incomplete` and `deleted` properties.

After the `findServerBehaviors()` function is called for every server behavior on the page, an array of all the behaviors in the user's document appears. The `analyzeServerBehavior()` function is called for each JavaScript object in this array. For example, for a Dynamic Text behavior, Dreamweaver calls the `analyzeServerBehavior()` function in the DynamicText.htm (or DynamicText.js) file.

One purpose of the `analyzeServerBehavior()` function is to finish setting all the properties (`incomplete`, `participants`, `selectedNode`, and `title`) on the behavior object. Sometimes it's easier to perform this task after the `findServerBehaviors()` function generates the complete list of server behaviors in the user's document.

The other purpose of the `analyzeServerBehavior()` function is to notice when two or more behaviors refer to the same tag in the user's document. In this case, the `deleted` property removes all but one behavior from the array.

Suppose the Recordset1, DynamicText1, and DynamicText2 server behaviors are on a page. Both the DynamicText server behaviors need Recordset1 to exist on the page. After the server behaviors are found with the `findServerBehaviors()` function, Dreamweaver calls the `analyzeServerBehavior()` function for the three server behaviors. When the `analyzeServerBehavior()` function is called for DynamicText1, the function searches the array of all the server behavior objects on the page, looking for the one that belongs to Recordset1. If a server behavior

object that belongs to Recordset1 cannot be found, the `incomplete` property is set to the value `true` so that an exclamation point appears in the Server Behaviors panel, which alerts the user that a problem exists. Similarly, when the `analyzeServerBehavior()` function is called for DynamicText2, the function searches for the object that belongs to Recordset1. Because Recordset1 does not depend on other server behaviors, it does not need to define the `analyzeServerBehavior()` function in this example.

Arguments

serverBehavior, {*serverBehaviorArray*}

- The *serverBehavior* argument is a JavaScript object that represents the behavior to analyze.
- The {*serverBehaviorArray*} argument is an array of JavaScript objects that represents all the server behaviors that are found on a page.

Returns

Dreamweaver expects nothing.

applyServerBehavior()

Availability

Dreamweaver UltraDev 1.

Description

Reads values from the form elements in the dialog box and adds the behavior to the user's document. Dreamweaver calls this function when the user clicks OK in the Server Behaviors dialog box. If this function returns successfully, the Server Behaviors dialog box closes. If this function fails, it displays an error message without closing the Server Behaviors dialog box. This function can edit a user's document.

For more information, see "dwscripts.applySB()" on page 256.

Arguments

serverBehavior

The *serverBehavior* JavaScript object represents the server behavior; it is necessary to modify an existing behavior. If this is a new behavior, the argument is `null`.

Returns

Dreamweaver expects an empty string if successful or an error message if this function fails.

canApplyServerBehavior()

Availability

Dreamweaver UltraDev 1.

Description

Determines whether a behavior can be applied. Dreamweaver calls this function before the Server Behaviors dialog box appears. If this function returns a `true` value, the Server Behaviors dialog box appears. If this function returns a `false` value, the Server Behaviors dialog box does not appear and the attempt to add a server behavior stops.

Arguments

serverBehavior

The *serverBehavior* JavaScript object represents the behavior; it is necessary to modify an existing behavior. If this is a new behavior, the argument is `null`.

Returns

Dreamweaver expects a Boolean value: `true` if the behavior can be applied; `false` otherwise.

copyServerBehavior()

Availability

Dreamweaver UltraDev 1.

Description

Implementing the `copyServerBehavior()` function is optional. Users can copy instances of the specified server behavior. In the following example, this function is implemented for recordsets. If a user selects a recordset in the Server Behaviors panel or the Data Bindings panel, using the Copy command copies the behavior to the Clipboard; using the Cut command cuts the behavior to the Clipboard. For server behaviors that do not implement this function, the Copy and Cut commands do nothing. For more information, see "Scenarios in which the server behavior API functions are called" on page 249.

The `copyServerBehavior()` function should rely only on behavior object properties that can be converted into strings to exchange information with the `pasteServerBehavior()` function. The Clipboard stores only raw text, so `participant` nodes in the document should be resolved and the resulting raw text should be saved into a secondary property.

Note: *The pasteServerBehavior() function must also be implemented to let the user paste the behavior into any Dreamweaver document.*

Arguments

serverBehavior

- The *serverBehavior* JavaScript object represents the behavior.

Returns

Dreamweaver expects a Boolean value: `true` if the behavior copies successfully to the Clipboard; `false` otherwise.

deleteServerBehavior()

Availability

Dreamweaver UltraDev 1.

Description

Removes the behavior from the user's document. It is called when the user clicks the Minus (-) button on the Server Behaviors panel. It can edit a user's document.

For more information, see "dwscripts.deleteSB()" on page 257.

Arguments
serverBehavior

- The *serverBehavior* JavaScript object represents the behavior.

Returns
Dreamweaver expects nothing.

displayHelp()

Description
If this function is defined, a Help button appears below the OK and Cancel buttons in the dialog box. This function is called when the user clicks the Help button.

Arguments
None.

Returns
Dreamweaver expects nothing.

Example

```
// the following instance of displayHelp() opens
// in a browser a file that explains how to use
// the extension.
function displayHelp(){
    var myHelpFile = dw.getConfigurationPath() +
        '/ExtensionsHelp/superDuperHelp.htm';
    dw.browseDocument(myHelpFile);
}
```

findServerBehaviors()

Availability
Dreamweaver UltraDev 1.

Description
Searches the user's document for instances of itself. For each instance it finds, the `findServerBehaviors()` function creates a JavaScript object, and it attaches state information as JavaScript properties of the object.

The four required properties are `incomplete`, `participants`, `title`, and `selectedNode`. You can set additional properties as necessary.

For more information, see "dwscripts.findSBs()" on page 256 and `dreamweaver.getParticipants()` in the *Dreamweaver API Reference*.

Arguments
None.

Returns
Dreamweaver expects an array of JavaScript objects; the length of the array is equal to the number of behavior instances that are found in the page.

inspectServerBehavior()

Availability
Dreamweaver UltraDev 1.

Description
Determines the settings for the Server Behaviors dialog box, based on the specified behavior object. Dreamweaver calls the `inspectServerBehavior()` function when a user opens a Server Behaviors dialog box. Dreamweaver calls this function only when a user edits an existing behavior.

Arguments
serverBehavior

The *serverBehavior* argument is a JavaScript object that represents the behavior. It is the same object that `findServerBehaviors()` returns.

Returns
Dreamweaver expects nothing.

pasteServerBehavior()

Availability
Dreamweaver UltraDev 1.

Description
If this function is implemented, users can paste instances of the specified server behavior using the `pasteServerBehavior()` function. When the user pastes the server behavior, Dreamweaver organizes the contents of the Clipboard and generates a new behavior object. The new object is identical to the original, except that it lacks pointer properties. Dreamweaver passes the new behavior object to the `pasteServerBehavior()` function. The `pasteServerBehavior()` function relies on the properties of the behavior object to determine what to add to the user's document. The `pasteServerBehavior()` function then adds the behavior to the user's document. After `pasteServerBehavior()` returns, Dreamweaver calls the `findServerBehaviors()` functions to get a new list of all the server behaviors in the user's document.

Implementing the `pasteServerBehavior()` function is optional. For more information, see "Scenarios in which the server behavior API functions are called" on page 249.

Note: *If you implement this function, you must also implement the copyServerBehavior() function.*

Arguments
behavior

The *behavior* JavaScript object represents the behavior.

Returns
Dreamweaver expects a Boolean value: `true` if the behavior pastes successfully from the Clipboard; `false` otherwise.

Server behavior implementation functions

These functions can be added or edited within the HTML script files or the specified JavaScript files that are listed within the HTML script file.

dwscripts.findSBs()

Availability
Dreamweaver MX (this function replaces the `findSBs()` function from earlier versions of Dreamweaver).

Description
Finds all instances of a server behavior and all the participants on the current page. It sets the title, type, participants array, weights array, types array, `selectedNode` value, and incomplete flag. This function also creates a parameter object that holds an array of user-definable properties such as recordset, name, and column name. You can return this array from the `findServerBehaviors()` function.

Arguments
serverBehaviorTitle

The *serverBehaviorTitle* argument is an optional title string that is used if no title is specified in the EDML title, which is useful for localization.

Returns
Dreamweaver expects an array of JavaScript objects where the required properties are defined. Returns an empty array if no instances of the server behavior appear on the page.

Example
The following example searches for all instances of a particular server behavior in the current user document:

```
function findServerBehaviors() {
    allMySBs = dwscripts.findSBs();
    return allMySBs;
}
```

dwscripts.applySB()

Availability
Dreamweaver MX (this function replaces the `applySB()` function from earlier versions of Dreamweaver).

Description
Inserts or updates runtime code for the server behavior. If the *sbObj* argument has a `null` value, it inserts new runtime code; otherwise, it updates existing runtime code that is indicated by the *sbObj* object. User settings should be set as properties on a JavaScript object and passed in as *paramObj*. These settings should match all the arguments that are declared as `@@paramName@@` in the EDML insertion text.

Arguments

paramObj, sbObj

- The *paramObj* argument is the object that contains the user settings.
- The *sbObj* argument is the prior server behavior object if you are updating an existing server behavior; `null` otherwise.

Returns

Dreamweaver expects a Boolean value: `true` if the server behavior is added successfully to the user's document; `false` otherwise.

Example

In the following example, you fill the `paramObj` object with the user's input and call the `dwscripts.applySB()` function, passing in the input and your server behavior, `sbObj`:

```
function applyServerBehaviors(sbObj) {
    // get all UI values here...
    paramObj = new Object();
    paramObj.rs= rsName.value;
    paramObj.col = colName.value;
    paramObj.url = urlPath.value;
    paramObj.form__tag = formObj;
     dwscripts.applySB(paramObj, sbObj);
}
```

dwscripts.deleteSB()

Availability

Dreamweaver MX (this function replaces the `deleteSB()` function from earlier versions of Dreamweaver).

Description

Deletes all the participants of the `sbObj` server behavior instance. The entire participant is deleted, unless the EDML file indicates special delete instructions with the `delete` tag. It does not delete participants that belong to more than one server behavior instance (reference count > 1).

Arguments

sbObj

- The *sbObj* argument is the server behavior object instance that you want to remove from the user's document.

Returns

Dreamweaver expects nothing.

Example

The following example deletes all the participants of the `sbObj` server behavior, except the participants that are protected by the EDML file's `delete` tag.

```
function deleteServerBehavior(sbObj) {
    dwscripts.deleteSB(sbObj);
}
```

EDML files

You must maintain Dreamweaver coding conventions when you edit a file. Pay attention to the dependency of one element upon another. For example, if you update the tags that are being inserted, you might also need to update the search patterns.

Note: *EDML files were new in Dreamweaver MX. If you are working with legacy server behaviors, see the earlier versions of the Extending Dreamweaver manuals.*

Regular expressions

You must understand regular expressions as they are implemented in JavaScript 1.5. You must also know when it is appropriate to use them in the server behavior EDML files. For example, regular expressions cannot be used in `quickSearch` values, but they are used in the content of the `searchPattern` tag to find and extract data.

Regular expressions describe text strings by using characters that are assigned with special meanings (metacharacters) to represent the text, break it up, and process it according to predefined rules. Regular expressions are powerful parsing and processing tools because they provide a generalized way to represent a pattern.

Good reference books on JavaScript 1.5 have a regular expression section or chapter. This section examines how Dreamweaver server behavior EDML files use regular expressions in order to find arguments in your runtime code and extract their values. Each time a user edits a server behavior, prior argument values need to be extracted from the instances of the runtime code. You use regular expressions for the extraction process.

You should understand a few metacharacters and metasequences (special character groupings) that are useful in server behavior EDML files, as described in the following table:

Regular expression	Description
\	Escapes special characters. For example: \. reverts the metacharacter back to a literal period; \/ reverts the forward slash to its literal meaning; and, \) reverts the parenthesis to its literal meaning.
/ ... /i	Ignores case when searching for the metasequence.
(...)	Creates a parenthetical subexpression within the metasequence.
\s*	Searches for white spaces.

The EDML tag `<searchPatterns whereToSearch="directive">` declares that runtime code needs to be searched. Each `<searchPattern>...</searchPattern>` subtag defines one pattern in the runtime code that must be identified. For the Redirect If Empty example, there are two patterns.

In the following example, to extract argument values from `<% if (@@rs@@.EOF) Response.Redirect("@@new__url@@"); %>`, write a regular expression that identifies any string `rs` and `new__url`:

```
<searchPattern paramNames="rs,new__url">
    /if d ((\w+)\.EOF\) Response\.Redirect\("([^\r\n]*)"\)/i
</searchPattern>
```

This process searches the user's document and, if there is a match, extracts the argument values. The first parenthetical subexpression (`\w+`) extracts the value for `rs`. The second subexpression (`[^\r\n]*`) extracts the value for `new_url`.

Note: *The character sequence "[^\r\n]*" matches any character that is not a linefeed, for the Macintosh and Windows platforms.*

EDML structure

You should use a unique filename to identify your server behavior group. If only one group file uses an associated participant file, match the participant filename with the group name. Using this convention, the server behavior group file `updateRecord.edml` works with the participant file `updateRecord_init.edml`. When participant files might be shared among server behavior groups, assign unique descriptive names.

Note: *The EDML name space is shared, regardless of folder structure. Make sure you use unique filenames. Filenames should not exceed 31 characters (including the .edml extension), due to Macintosh limitations.*

The runtime code for your server behavior resides inside the EDML files. The EDML parser should not confuse any of your runtime code with EDML markup, so the `CDATA` tag must wrap around your runtime code. The `CDATA` tag represents character data and is any text that is not EDML markup. When you use the `CDATA` tag, the EDML parser won't try to interpret it as markup, but instead, considers it as a block of plain text. The `CDATA`-marked blocks begin with `<![CDATA[` and end with `]]>`.

If you insert the text **Hello, World**, it is simple to specify your EDML, as shown in the following example:

```
<insertText>Hello, World</insertText>
```

However, if you insert content that has tags in it, such as `<img src='foo.gif'>`, it can confuse the EDML parser. In that case, embed it in the `CDATA` construct, as shown in the following example:

```
<insertText><![CDATA[<img src='foo.gif'>]]></insertText>
```

The ASP runtime code is wrapped within the `CDATA` tag, as shown in the following example:

```
<![CDATA[
    <% if (@@rs@@.EOF) Response.Redirect("@@new__url@@"); %>
]]
```

Because of the `CDATA` tag, the ASP tags `<%= %>`, along with the other content within the tag, aren't processed. Instead, the Extension Data Manager (EDM) receives the uninterpreted text, as shown in the following example:

```
<% if (Recordset1.EOF) Response.Redirect("http://www.Adobe.com"); %>
```

In the following EDML definitions, the locations where the `CDATA` tag is recommended are indicated in the examples.

Group EDML file tags

These tags and attributes are valid within the EDML group files.

<group>

Description

This tag contains all the specifications for a group of participants.

Parent

None.

Type

Block tag.

Required
Yes.

<group> attributes

The following items are valid attributes of the group tag.

version

Description
This attribute defines which version of Dreamweaver server behavior processing the current server behavior targets. For Dreamweaver CS3, the version number is 9. If no version is specified, Dreamweaver assumes version 7. For this release of Dreamweaver, all groups and participants that the Server Behavior Builder creates have the version attribute set to 9.0. The group version of this attribute currently has no effect.

Parent
`group`

Type
Attribute.

Required
No.

serverBehavior

Description
The `serverBehavior` attribute indicates which server behavior can use the group. When any of the group's participant `quickSearch` strings are found in the document, the server behavior that is indicated by the `serverBehavior` attribute has Dreamweaver call the `findServerBehaviors()` function.

In some cases, if multiple groups are associated with a single server behavior, the server behavior must resolve which particular group to use.

Parent
`group`

Type
Attribute.

Required
No.

Value
The value is the exact name (without a path) of any server behavior HTML file within a Configuration/ServerBehaviors folder, as shown in the following example:

```
<group serverBehavior="redirectIfEmpty.htm">
```

dataSource

Description

This advanced feature supports new data sources that can be added to Dreamweaver.

Multiple versions of a server behavior can differ, depending on which data source you use. For example, the Repeat Region server behavior is designed for the standard Recordset.htm data source. If Dreamweaver is extended to support a new type of data source (such as a COM object), you can set `dataSource="COM.htm"` in a group file with a different implementation of Repeat Region. The Repeat Region server behavior then applies the new implementation of Repeat Region if you select the new data source.

Parent

`group`

Type

Attribute.

Required

No.

Value

The exact name of a data source file within a Configuration/DataSources folder, as shown in the following example:

```
<group serverBehavior="Repeat Region.htm" dataSource="myCOMdataSource.htm">
```

This group defines a new implementation of the Repeat Region server behavior to use if you use the COM data source. In the `applyServerBehaviors()` function, you can indicate that this group should be applied by setting the `MM_dataSource` property on the parameter object, as shown in the following example:

```
function applyServerBehavior(ssRec) {
    var paramObj = new Object();
    paramObj.rs = getComObjectName();
    paramObj.MM_dataSource = "myCOMdataSource.htm";

    dwscripts.applySB(paramObj, sbObj);
}
```

subType

Description

This advanced feature supports multiple implementations of a server behavior.

Multiple versions of a server behavior might differ, depending on user selection. When a server behavior is applied, but multiple group files are relevant, the correct group file can be selected by passing in a `subType` value. The group with that specific `subType` value is applied.

Parent

`group`

Type

Attribute.

Required
No.

Value
The value is a unique string that determines which group to apply, as shown in the following example:

```
<group serverBehavior="myServerBehavior.htm" subType="longVersion">
```

This group attribute defines the long version of the `myServerBehavior` subtype. You would also have a version with the `subType="shortVersion"` attribute. In the `applyServerBehaviors()` function, you can indicate which group should be applied by setting the `MM_subType` property on the parameter object, as shown in the following example:

```
function applyServerBehavior(ssRec) {
    var paramObj = new Object();
    if (longVersionChecked) {
        paramObj.MM_subType = "longVersion";
    } else {
        paramObj.MM_subType = "shortVersion";
    }
    dwscripts.applySB(paramObj, sbObj);
}
```

<title>

Description
This string appears in the Server Behaviors panel for each server behavior instance that is found in the current document.

Parent
`group`

Type
Block tag.

Required
No.

Value
The value is a plain text string that can include argument names to make each instance unique, as shown in the following example:

```
<title>Redirect If Empty (@@recordsetName@@)</title>
```

<groupParticipants>

Description
This tag contains an array of `groupParticipant` declarations.

Parent
`group`

Type
Block tag.

Required
Yes.

<groupParticipants> attributes

The following items are valid attributes of the `groupParticipants` tag.

selectParticipant

Description
Indicates which participant should be selected and highlighted in the document when an instance is selected in the Server Behaviors panel. The server behavior instances that are listed in this panel are ordered by the selected participant, so set the `selectParticipant` attribute even if the participant is not visible.

Parent
`groupParticipants`

Type
Attribute.

Required
No.

Value
The *participantName* value is the exact name (without the .edml extension) of a single participant file that is listed as a group participant, as shown in the following example. For more information, see "name" on page 264.

```
<groupParticipants selectParticipant="redirectIfEmpty_link">
```

<groupParticipant>

Description
This tag represents the inclusion of a single participant in the group.

Parent
`groupParticipants`

Type
Tag.

Required
Yes (at least one).

<groupParticipant> attributes

The following items are valid attributes of the `groupParticipant` tag.

name

Description

This attribute names a particular participant to be included in the group. The `name` attribute on the `groupParticipant` tag should be the same as the filename of the participant (without the .edml file extension).

Parent

`groupParticipant`

Type

Attribute.

Required

Yes.

Value

The value is the exact name (without the .edml extension) of any participant file, as shown in the following example:

```
<groupParticipant name="redirectIfEmpty_init">
```

This example refers to the redirectIfEmpty_init.edml file.

partType

Description

This attribute indicates the type of participant.

Parent

`groupParticipant`

Type

Attribute.

Required

No.

Values

identifier, *member*, *option*, *multiple*, *data*

- The *identifier* value is a participant that identifies the entire group. If this participant is found in the document, the group is considered to exist. This is the default value if the `partType` attribute is not specified.
- The *member* value is a normal member of a group. If it is found by itself, it does not identify a group. If it is not found in a group, the group is considered incomplete.
- The *option* value indicates that the participant is optional. If it is not found, the group is still considered complete and no incomplete flag is set in the Server Behaviors panel.

- The *multiple* value indicates that the participant is optional and multiple copies of it can be associated with the server behavior. Any arguments that are unique to this participant are not used when grouping participants because they might have different values.
- The *data* value is a nonstandard participant that is used by programmers as a repository for additional group data. It is ignored by everything else.

Participant EDML files

These tags and attributes are valid within the EDML participant files.

<participant>

Description
This tag contains all the specifications for a single participant.

Parent
None.

Type
Block tag.

Required
Yes.

<participant> attributes

The following items are valid attributes of the participant tag.

version

Description
This attribute defines which version of Dreamweaver server behavior processing the current server behavior targets. For Dreamweaver CS3, the version number is 9. If no version is specified, Dreamweaver assumes version 7. For this release of Dreamweaver, all groups and participants that the Server Behavior Builder creates have the version attribute set to 0.0.

Note: *The participant version attribute overrides the group version attribute if they are different. But, the participant file will use the group version attribute if the participant does not specify one.*

For participant files, this attribute determines if code-block merging should occur. For participants without this attribute (or have it set to 4 or earlier), the inserted code blocks are not merged with other code blocks on the page. Participants that have this set to version 5 or later are merged with other code blocks on the page when possible. Please note that code-block merging occurs only for participants above and below the HTML tag.

Parent
`participant`

Type
Attribute.

Required
No.

<quickSearch>

Description
This tag is a simple search string that is used for performance reasons. It cannot be a regular expression. If the string is found in the current document, the rest of the search patterns are called to locate specific instances. This string can be empty to always use the search patterns.

Parent
`participant`

Type
Block tag.

Required
No.

Value
The *searchString* value is a literal string that exists on the page if the participant exists. The string should be as unique as possible to maximize performance, but the string does not have to be definitively unique. It is not case-sensitive, but be careful with nonessential spaces that can be changed by the user, as shown in the following example:

```
<quickSearch>Response.Redirect</quickSearch>
```

If the `quickSearch` tag is empty, it is considered to match, and more precise searches use the regular expressions that are defined in the `searchPattern` tags. This is helpful if a simple string cannot be used to express a reliable search pattern and regular expressions are required.

<insertText>

Description
This tag provides information about what to insert in the document and where to insert it. It contains the text to insert. Parts of the text that are customized should be indicated by using the `@@parameterName@@` format.

In some cases, such as a translator-only participant, you might not need this tag.

Parent
`implementation`

Type
Block tag.

Required
No.

Value
The value is the text to insert in the document. If any parts of the text need customizing, they can be passed in later as parameters. Arguments should be embedded within two at (`@@`) signs. Because this text can interfere with the EDML structure, it should use the `CDATA` construct, as shown in the following example:

```
<insertText location="aboveHTML">
    <![CDATA[<%= @@recordset@@).cursorType %>]]>
</insertText>
```

When the text is inserted, the `@@recordset@@` argument is replaced by a recordset name that the user supplies. For more information on conditional and repeating code blocks, see "Adding Custom Server Behaviors" in *Getting Started with Dreamweaver*.

<insertText> attributes

The following items are valid attributes of the `insertText` tag.

location

Description
This attribute specifies where the participant text should be inserted. The insert location is related to the `whereToSearch` attribute of the `searchPatterns` tag, so be sure to set both carefully (see "whereToSearch" on page 269).

Parent
`insertText`

Type
Attribute.

Required
Yes.

Values
aboveHTML `[+weight]`, *belowHTML* `[+weight]`, *beforeSelection*, *replaceSelection*, *wrapSelection*, *afterSelection*, *beforeNode*, *replaceNode*, *afterNode*, *firstChildOfNode*, *lastChildOfNode*, *nodeAttribute[+attribute]*

- The *aboveHTML* `[+weight]` value inserts the text above the `HTML` tag (suitable only for server code). The weight can be an integer from `1` to `99` and is used to preserve relative order among different participants. By convention, recordsets have a weight of `50`, so if a participant refers to recordset variables, it needs a heavier weight, such as `60`, so the code is inserted below the recordset, as shown in the following example:

  ```
  <insert location="aboveHTML+60">
  ```

  If no weight is provided, it is internally assigned a weight of `100` and is added below all specifically weighted participants, as shown in the following example:

  ```
  <insert location="aboveHTML">
  ```

- The *belowHTML* `[+weight]` value is similar to the `aboveHTML` value, except that participants are added below the closing `/HTML` tag.
- The *beforeSelection* value inserts the text before the current selection or insertion point. If there is no selection, it inserts the text at the end of the `body` tag.
- The *replaceSelection* value replaces the current selection with the text. If there is no selection, it inserts the text at the end of the `body` tag.
- The *wrapSelection* value balances the current selection, inserts a block tag before the selection, and adds the appropriate closing tag after the selection.
- The *afterSelection* value inserts the text after the current selection or insertion point. If there is no selection, it inserts the text at the end of the `body` tag.
- The *beforeNode* value inserts the text before a node, which is a specific location in the DOM. When a function such as `dwscripts.applySB()` is called to make the insertion, the node pointer must pass in as a *paramObj* parameter. The user-definable name of this parameter must be specified by the `nodeParamName` attribute (see "nodeParamName" on page 268).

  In summary, if your location includes the word `node`, make sure that you declare the `nodeParamName` tag.
- The *replaceNode* value replaces a node with the text.
- The *afterNode* value inserts the text after a node.
- The *firstChildOfNode* value inserts the text as the first child of a block tag; for example, if you want to insert something at the beginning of a `FORM` tag.
- *lastChildOfNode* inserts the text as the last child of a block tag; for example, if you want to insert code at the end of a `FORM` tag, which is useful for adding hidden form fields.
- *nodeAttribute[+attribute]* sets an attribute of a tag node. If the attribute does not already exist, this value creates it.

  For example, use `<insert location="nodeAttribute+ACTION" nodeParamName="form">` to set the `ACTION` attribute of a form. This variation changes the user's `FORM` tag from `<form>` to `<form action="myText">`.

  If you do not specify an attribute, the *nodeAttribute* location causes the text to be added directly to the open tag. For example, use `insert location="nodeAttribute"` to add an optional attribute to a tag. This can be used to change a user's `INPUT` tag from `<input type="checkbox">` to `<input type="checkbox" <%if(foo)Reponse.Write("CHECKED")%>>`.

  Note: *For the location="nodeAttribute" attribute value, the last search pattern determines where the attribute starts and ends. Make sure that the last pattern finds the entire statement.*

nodeParamName

Description

This attribute is used only for node-relative insert locations. It indicates the name of the parameter that passes the node in at insertion time.

Parent

`insertText`

Type

Attribute.

Required

This attribute is required only if the insert location contains the word `node`.

Value

The *tagtype_Tag* value is a user-specified name for the node parameter that passes with the parameter object to the `dwscripts.applySB()` function. For example, if you insert some text into a form, you might use a *form_tag* parameter. In your server behavior `applyServerBehavior()` function, you could use the *form_tag* parameter to indicate the exact form to update, as shown in the following example:

```
function applyServerBehavior(ssRec) {
    var paramObj = new Object();
    paramObj.rs = getRecordsetName();
    paramObj.form_tag = getFormNode();
    dwscripts.applySB(paramObj, sbObj);
}
```

You can indicate the `form_tag` node parameter in your EDML file, as shown in the following example:

```
<insertText location="lastChildOfNode" nodeParamName="form_tag">
    <![CDATA[<input type="hidden" name="MY_DATA">]]>
</insertText>
```

The text is inserted as the `lastChildOfNode` value, and the specific node passes in using the `form_tag` property of the parameter object.

<searchPatterns>

Description

This tag provides information about finding the participant text in the document, and it contains a list of patterns that are used when searching for a participant. If multiple search patterns are defined, they must all be found within the text being searched (the search patterns have a logical AND relationship), unless they are marked as optional using the `isOptional` flag.

Parent

`implementation`

Type

Block tag.

Required

No.

<searchPatterns> attributes

The following items are valid attributes of the `searchPatterns` tag.

whereToSearch

Description

This attribute specifies where to search for the participant text. This attribute is related to the insert location, so be sure to set each attribute carefully (see "location" on page 267).

Parent

`searchPatterns`

Type

Attribute.

Required

Yes.

Values

`directive`, *`tag+tagName`*, *tag+**, *comment*, *text*

- The *directive* value searches all server directives (server-specific tags). For ASP and JSP, this means search all `<% ... %>` script blocks.

  Note: *Tag attributes are not searched, even if they contain directives.*

- The *tag+tagName* value searches the contents of a specified tag, as shown in the following example:

  ```
  <searchPatterns whereToSearch="tag+FORM">
  ```

  This example searches only `form` tags. By default, the entire `outerHTML` node is searched. For `INPUT` tags, specify the type after a slash (/). In the following example, to search all submit buttons, use the following code:

  ```
  <searchPatterns whereToSearch="tag+INPUT/SUBMIT">.
  ```

- The *tag+** value searches the contents of any tag, as shown in the following example:

  ```
  <searchPatterns whereToSearch="tag+*">
  ```

  This example searches all tags.

- The *comment* value searches only within the HTML comments `<! ... >`, as shown in the following example:

  ```
  <searchPatterns whereToSearch="comment">
  ```

  This example searches tags such as `<!-- my comment here -->`.

- The *text* value searches only within raw text sections, as shown in the following example:

  ```
  <searchPatterns whereToSearch="text">
      <searchPattern>XYZ</searchPattern>
  </searchPatterns>
  ```

  This example finds a text node that contains the text `XYZ`.

<searchPattern>

Description

This tag is a pattern that identifies participant text and extracts parameter values from it. Each parameter subexpression must be enclosed in parentheses ().

You can have patterns with no parameters (which are used to identify participant text), patterns with one parameter, or patterns with many parameters. All non-optional patterns must be found, and each parameter must be named and found exactly once.

For more information about using the `searchPattern` tag, see "Finding server behaviors" on page 283.

Parent

`searchPatterns`

Type

Block tag.

Required

Yes.

Values

searchString, */regularExpression/*, *<empty>*

- The *searchString* value is a simple search string that is case-sensitive. It cannot be used to extract parameters.
- The */regularExpression/* value is a regular expression search pattern.
- The *<empty>* value is used if no pattern is given. It is always considered a match, and the entire value is assigned to the first parameter.

In the following example, to identify the participant text `<%= RS1.Field.Items("author_id") %>`, you can define a simple pattern, followed by a precise pattern that also extracts the two parameter values:

```
<searchPattern>Field.Items</searchPattern>
<searchPattern paramNames="rs,col">
    <![CDATA[
    /<%=\s*(\w+)\.Field\.Items\("(\w+)"\)/
    ]]>
</searchPattern>
```

This example matches the pattern precisely and assigns the value of the first subexpression (`\w+`) to parameter `rs` and the second subexpression (`\w+`) to parameter `col`.

Note: *It is important that regular expressions start and end with a slash (/). Otherwise, the expression is used as a literal string search. Regular expressions can be followed by the regular-expression modifier `i` to indicate case-insensitivity (as in `/pattern/i`). For example, VBScript is not case-sensitive, so it should use `/pattern/i`. JavaScript is case-sensitive and should use `/pattern/`.*

Sometimes you might want to assign the entire contents of the limited search location to a parameter. In that case, provide no pattern, as shown in the following example:

```
<searchPatterns whereToSearch="tag+OPTION">
    <searchPattern>MY_OPTION_NAME</searchPattern>
    <searchPattern paramNames="optionLabel" limitSearch="innerOnly">
    </searchPattern>
</searchPatterns>
```

This example sets the `optionLabel` parameter to the entire `innerHTML` contents of an `OPTION` tag.

<searchPattern> attributes

The following items are valid attributes of the `searchPattern` tag.

paramNames

Description

This attribute is a comma-separated list of parameter names whose values are being extracted. These parameters are assigned in the order of the subexpression. You can assign single parameters or use a comma-separated list to assign multiple parameters. If other parenthetical expressions are used but do not indicate parameters, extra commas can be used as placeholders in the Parameter Name list.

The parameter names should match the ones that are specified in the insertion text and the update parameters.

Parent

`searchPattern`

Type

Attribute.

Required

Yes.

Values

paramName1, *paramName2*, ...

Each parameter name should be the exact name of a parameter that is used in the insertion text. For example, if the insertion text contains `@@p1@@`, you should define exactly one parameter with that name:

```
<searchPattern paramNames="p1">patterns</searchPattern>
```

To extract multiple parameters using a single pattern, use a comma-separated list of parameter names, in the order that the subexpressions appear in the pattern. Suppose the following example shows your search pattern:

```
<searchPattern paramName="p1,,p2">/(\w+)_(BIG|SMALL)_(\w+)/</searchPattern>
```

There are two parameters (with some text in between them) to extract. Given the text: `<%= a_BIG_b %>`, the first subexpression in the search pattern matches `a`, so `p1="a"`. The second subexpression is ignored (notice the `,,` in the `paramName` value). The third subexpression matches `b`, so `p2="b"`.

limitSearch

Description

This attribute limits the search to some part of the `whereToSearch` tag.

Parent

`searchPattern`

Type

Attribute.

Required

No.

Values

all, *attribute+attribName*, *tagOnly*, *innerOnly*

- The *all* value (default) searches the entire tag that is specified in the `whereToSearch` attribute.
- The *attribute+attribName* value searches only within the value of the specified attribute, as shown in the following example:

```
<searchPatterns whereToSearch="tag+FORM">
    <searchPattern limitSearch="attribute+ACTION">
        /MY_PATTERN/
    </searchPattern>
</searchPatterns>
```

  This example indicates that only the value of the `ACTION` attribute of `FORM` tags should be searched. If that attribute is not defined, the tag is ignored.
- The *tagOnly* value searches only the outer tag and ignores the `innerHTML` tag. This value is valid only if `whereToSearch` is a tag.
- The *innerOnly* value searches only the `innerHTML` tag and ignores the outer tag. This value is valid only if `whereToSearch` is a tag.

isOptional

Description

This attribute is a flag that indicates that the search pattern is not required to find the participant. This is useful for complex participants that might have non-critical parameters to extract. You can create some patterns for distinctly identifying a participant and have some optional patterns for extracting non-critical parameters.

Parent

`searchPattern`

Type

Attribute.

Required

No.

Values

true, *false*

- The value is *true* if the `searchPattern` is not necessary to identify the participant.
- The value is *false* (default) if the `searchPattern` tag is required.

For example, consider the following simple recordset string:

```
<%
var Recordset1 = Server.CreateObject("ADODB.Recordset");
Recordset1.ActiveConnection = "dsn=andescoffee;";
Recordset1.Source = "SELECT * FROM PressReleases";
Recordset1.CursorType = 3;
Recordset1.Open();
%>
```

The search patterns must identify the participant and extract several parameters. However, if a parameter such as *cursorType* is not found, you should still recognize this pattern as a recordset. The *cursor* parameter is optional. In the EDML, the search patterns might look like the following example:

```
<searchPattern paramNames="rs">/var (\w+) = Server.CreateObject/
</searchPattern>
<searchPattern paramNames="src">/ActiveConnection = "([^\r\n]*)"/</searchPattern>
<searchPattern paramNames="conn">/Source = "([^\r\n]*)"/</searchPattern>
<searchPattern paramNames="cursor" isOptional="true">/CursorType = (\d+)/
</searchPattern>
```

The first three patterns are required to identify the recordset. If the last parameter is not found, the recordset is still identified.

<updatePatterns>

Description

This optional advanced feature lets you update the participant precisely. Without this tag, the participant is updated automatically by replacing the entire participant text each time. If you specify an `updatePatterns` tag, it must contain specific patterns to find and replace each parameter within the participant.

This tag is beneficial if the user edits the participant text. It performs precise updates only to the parts of the text that need changing.

Parent

`implementation`

Type

Block tag.

Required

No.

<updatePattern>

Description

This tag is a specific type of regular expression that lets you update participant text precisely. There should be at least one update pattern definition for every unique parameter that is declared in the insertion text (of the form `@@paramName@@`).

Parent

`updatePatterns`

Type

Block tag.

Required

Yes (at least one, if you declare the `updatePatterns` tag).

Values

The value is a regular expression that finds a parameter between two parenthetical subexpressions, in the form */(pre-pattern)parameter-pattern(post-pattern)/*. You need to define at least one update pattern for each unique `@@paramName@@` in the insertion text. The following example shows how your insertion text might look:

```
<insertText location="afterSelection">
    <![CDATA[<%= @@rs@@.Field.Items("@@col@@") %>]]>
</insertText>
```

A particular instance of the insertion text on a page might look like the following example:

```
<%= RS1.Field.Items("author_id") %>
```

There are two parameters, `rs` and `col`. To update this text after you insert it on the page, you need two update pattern definitions:

```
<updatePattern paramName="rs" >
    /(\b)\w+(\.Field\.Items)/
</updatePattern>
<updatePattern paramName="col">
    /(\bItems\(")\w+("\))/
</updatePattern>
```

The literal parentheses, as well as other special regular expression characters, are escaped by preceding them with a backslash (\). The middle expression, defined as `\w+`, is updated with the latest value that passed in for parameters `rs` and `col`, respectively. The values `RS1` and `author_id` can be precisely updated with new values.

Multiple occurrences of the same pattern can be updated simultaneously by using the regular expression global flag `g` after the closing slash (such as */pattern/g)*.

If the participant text is long and complex, you might need multiple patterns to update a single parameter, as shown in the following example:

```
<% ...
    Recordset1.CursorType = 0;
    Recordset1.CursorLocation = 2;
    Recordset1.LockType = 3;
%>
```

To update the recordset name in all three positions, you need three update patterns for a single parameter, as shown in the following example:

```
<updatePattern paramName="rs">
    /(\b)\w+(\.CursorType)/
</updatePattern>
<updatePattern paramName="rs">
    /(\b)\w+(\.CursorLocation)/
</updatePattern>
<updatePattern paramName="rs">
    /(\b)\w+(\.LockType)/
</updatePattern>
```

Now you can pass in a new value for the recordset, and it is precisely updated in three locations.

<updatePattern> attributes

The following items are valid attributes of the `updatePattern` tag.

paramName

Description
This attribute indicates the name of the parameter whose value is used to update the participant. This parameter should match the ones that are specified in the insertion text and search parameters.

Parent
`updatePattern`

Type
Attribute.

Required
Yes.

Values
The value is the exact name of a parameter that is used in the insertion text. In the following example, if the insertion text contains an `@@rs@@` value, you should have a parameter with that name:

```
<updatePattern paramName="rs">pattern</updatePattern>
```

<delete>

Description
This tag is an optional advanced feature that lets you control how to delete a participant. Without this tag, the participant is deleted by removing it completely but only if no server behaviors refer to it. By specifying a `delete` tag, you can specify that it should never be deleted or that only portions should be deleted.

Parent
`implementation`

Type
Tag.

Required
No.

<delete> attributes

The following items are valid attributes of the `delete` tag.

deleteType

Description
This attribute is used to indicate the type of delete to perform. It has different meanings, depending on whether the participant is a directive, a tag, or an attribute. By default, the entire participant is deleted.

Parent

`delete`

Type

Attribute.

Required

No.

Values

all, *none*, *tagOnly*, *innerOnly*, *attribute+attribName*, *attribute+**

- The *all* value (default) deletes the entire directive or tag. For attributes, it deletes the entire definition.
- The *none* value is never automatically deleted.
- The *tagOnly* value removes only the outer tag but leaves the contents of the `innerHTML` tag intact. For attributes, it also removes the outer tag if it is a block tag. It is meaningless for directives.
- The *innerOnly* value, when applied to tags, removes only the contents (the `innerHTML` tag). For attributes, it removes only the value. It is meaningless for directives.
- The *attribute+attribName* value, when applied to tags, removes only the specified attribute. It is meaningless for directives and attributes.
- The *attribute+** value removes all attributes for tags. It is meaningless for directives and attributes.

If your server behavior converts selected text into a link, you can remove the link by removing the outer tag only, as shown in the following example:

```
<delete deleteType="tagOnly"/>
```

This example changes a link participant from `<A HREF=". . .">HELLO</A>` to `HELLO`.

<translator>

Description

This tag provides information for translating a participant so that it can be rendered differently and have a custom Property inspector.

Parent

`implementation`

Type

Block tag.

Required

No.

<searchPatterns>

Description
This tag lets Dreamweaver find each specified instance in a document. If multiple search patterns are defined, they must all be found within the text being searched (the search patterns have a logical AND relationship), unless they are marked as optional using the `isOptional` flag.

Parent
`translator`

Type
Block tag.

Required
Yes.

<translations>

Description
This tag contains a list of translation instructions where each instruction indicates where to search for the participant and what to do with the participant.

Parent
`translator`

Type
Block tag.

Required
No.

<translation>

Description
This tag contains a single translation instruction that includes the location for the participant, what type of translation to perform, and the content that should replace the participant text.

Parent
`translations`

Type
Block tag.

Required
No.

<translation> attributes

The following items are valid attributes of the `translation` tag.

whereToSearch

Description

This attribute specifies where to search for the text, which is related to the insert location, so be sure to set each location carefully (see "location" on page 267).

Parent

`translation`

Type

Attribute.

Required

Yes.

limitSearch

Description

This attribute limits the search to some part of the `whereToSearch` tag.

Parent

`translation`

Type

Attribute.

Required

No.

translationType

Description

This attribute indicates the type of translation to perform. These types are preset and give the translation specific functionality. For example, if you specify `dynamic data`, any data that is translated should behave the same as Dreamweaver dynamic data; that is, it should have the dynamic data placeholder look in the Design view (curly braces ({ }) notation with dynamic background color) and appear in the Server Behaviors panel.

Parent

`translation`

Type

Attribute.

Required
Yes.

Values
dynamic data, *dynamic image*, *dynamic source*, *tabbed region start*, *tabbed region end*, *custom*

- The *dynamic data* value indicates that the translated directives look and behave the same as Dreamweaver dynamic data, as shown in the following example:

```
<translation whereToSearch="tag+IMAGE"
    limitSearch="attribute+SRC"
    translationType="dynamic data">
```

- The *dynamic image* value indicates that the translated attributes should look and behave the same as Dreamweaver dynamic images, as shown in the following example:

```
<translation whereToSearch="IMAGE+SRC"
    translationType="dynamic image">
```

- The *dynamic source* value indicates that the translated directives should behave the same as Dreamweaver dynamic sources, as shown in the following example:

```
<translation whereToSearch="directive"
    translationType="dynamic source">
```

- The `tabbed region start` value indicates that the translated `<CFLOOP>` tags define the beginning of a tabbed outline, as shown in the following example:

```
<translation whereToSearch="CFLOOP"
    translationType="tabbed region start">
```

- The `tabbed region end` value indicates that the translated `</CFLOOP>` tags define the end of a tabbed outline, as shown in the following example:

```
<translation whereToSearch="CFLOOP"
    translationType="tabbed region end">
```

- The *custom* value is the default case in which no internal Dreamweaver functionality is added to the translation. It is often used when specifying a tag to insert for a custom Property inspector, as shown in the following example:

```
<translation whereToSearch="directive"
    translationType="custom">
```

<openTag>

Description
This optional tag can be inserted at the beginning of the translation section. This tag lets certain other extensions, such as custom Property inspectors, find the translation.

Parent
`translation`

Type
Block tag.

Required
No.

Values
The *tagName* value is a valid tag name. It should be unique to prevent conflicts with known tag types. For example, if you specify `<openTag>MM_DYNAMIC_CONTENT</openTag>` the dynamic data is translated to the `MM_DYNAMIC_CONTENT` tag.

<attributes>

Description
This tag contains a list of attributes to add to the translated tag that is specified by the `openTag` tag. Alternatively, if the `openTag` tag is not defined and the `searchPattern` tag specifies `tag`, this tag contains a list of translated attributes to add to the tag that is found.

Parent
`translation`

Type
Block tag.

Required
No.

<attribute>

Description
This tag specifies a single attribute (or translated attribute) to add to the translated tag.

Parent
`attributes`

Type
Block tag.

Required
Yes (at least one).

Values
The *attributeName*="*attributeValue*" specification sets an attribute to a value. Typically, the attribute name is fixed, and the value contains some parameter references that are extracted by the parameter patterns, as shown in the following example:

```
<attribute>SOURCE="@@rs@@"</attribute>
<attribute>BINDING="@@col@@"</attribute>
```

or

```
<attribute>
    mmTranslatedValueDynValue="VALUE={@@rs@@.@@col@@}"
</attribute>
```

<display>

Description
This tag is an optional display string that should be inserted in the translation.

Parent
`translation`

Type
Block tag.

Required
No.

Values
The *displayString* value is any string comprising text and HTML. It can include parameter references that are extracted by the parameter patterns. For example, `<display>{@@rs@@.@@col@@}</display>` causes the translation to render as `{myRecordset.myCol}`.

<closeTag>

Description
This optional tag should be inserted at the end of the translated section. This tag enables certain other extensions, such as custom Property inspectors, to find the translation.

Parent
`translation`

Type
Block tag.

Required
No.

Values
The *tagName* value is a valid tag name; it should match a translation *openTag* tag.

Example
If you specify the value `<closeTag>MM_DYNAMIC_CONTENT</closeTag>`,the dynamic data is translated to end with the `</MM_DYNAMIC_CONTENT>` tag.

Server behavior techniques

This section covers the common and advanced techniques that create and edit server behaviors. Most of the suggestions involve specific settings in the EDML files.

Finding server behaviors

You can find server behaviors by:

- Writing search patterns
- Using optional search patterns

Writing search patterns

To update or delete server behaviors, provide a way for Dreamweaver to find each instance in a document. It requires a `quickSearch` tag and at least one `searchPattern` tag, which is contained within the `searchPatterns` tag.

The `quickSearch` tag must be a string, not a regular expression, that indicates that the server behavior exists on the page. It is not case-sensitive. It must be short and unique, and it must avoid spaces and other sections that the user can change. The following example shows a participant that consists of the simple ASP JavaScript tag:

```
<% if (Recordset1.EOF) Response.Redirect("some_url_here") %>
```

In the following example, the `quickSearch` string checks for that tag:

```
<quickSearch>Response.Redirect</quickSearch>
```

For performance reasons, the `quickSearch` pattern is the beginning of the process of finding server behavior instances. If this string is found in the document and the participant identifies a server behavior (in the group file, `partType="identifier"` for this participant), the related server behavior files are loaded and the `findServerBehaviors()` function is called. If your participant has no reliable strings for which to search (or for debugging purposes), you can leave the `quickSearch` string empty, as shown in the following example:

```
<quickSearch></quickSearch>
```

In this example, the server behavior is always loaded and can search the document.

Next, the `searchPattern` tag searches the document more precisely than the `quickSearch` tag and extracts parameter values from the participant code. The search patterns specify where to search (the `whereToSearch` attribute) with a series of `searchPattern` tags that contain specific patterns. These patterns can use simple strings or regular expressions. The previous example code is an ASP directive. So the `whereToSearch="directive"` specification and a regular expression identify the directive and extract the parameters, as shown in the following example:

```
<quickSearch>Response.Write</quickSearch>
<searchPatterns whereToSearch="directive">
    <searchPattern paramNames="rs,new__url">
        /if\s*\((\w+)\.EOF\)\s*Response\.Redirect\("([^\r\n]*)"\)/i
    </searchPattern>
</searchPatterns>
```

The search string is defined as a regular expression by starting and ending with a slash (/). An `i` follows the slash, which means that it is not case-sensitive. Within the regular expression, special characters such as parentheses () and periods (.) are escaped by preceding them with a backslash (\). The two parameters `rs` and `new_url` are extracted from the string by using parenthetical subexpressions (the parameters must be enclosed in parentheses). In this example, `(\w+)` and `([^\r\n]*)` indicate the parameters. These values correspond to the regular expression values that `$1` and `$2` normally returns.

Optional search patterns

Sometimes you want to identify a participant even if some parameters are not found. The participant stores some optional information such as a telephone number. For such an example, you could use the following ASP code:

```
<% //address block
    LNAME = "joe";
    FNAME = "smith";
    PHONE = "123-4567";
%>
```

You could use the following search patterns:

```
<quickSearch>address</quickSearch>
<searchPatterns whereToSearch="directive">
    <searchPattern paramNames="lname">/LNAME\s*=\s*"([^\r\n]*)"/i</searchPattern>
    <searchPattern paramNames="fname">/FNAME\s*=\s*"([^\r\n]*)"/i</searchPattern>
    <searchPattern paramNames="phone">/PHONE\s*=\s*"([^\r\n]*)"/i</searchPattern>
</searchPatterns>
```

In the previous example, the telephone number must be specified. However, you can make the telephone number optional, by adding the `isOptional` attribute, as shown in the following example:

```
<quickSearch>address</quickSearch>
<searchPatterns whereToSearch="directive">
    <searchPattern paramNames="lname">/LNAME\s*=\s*"([^\r\n]*)"/i</searchPattern>
    <searchPattern paramNames="fname">/FNAME\s*=\s*"([^\r\n]*)"/i</searchPattern>
    <searchPattern paramNames="phone" isOptional="true">/PHONE\s*=\s*"([^\r\n]*)"/i¬
    </searchPattern>
</searchPatterns>
```

Now the participant is recognized, even if the telephone number is not found.

How participants are matched

If a server behavior has more than one participant, the participants must be identified in the user document and matched. If the user applies multiple instances of the server behavior to a document, each group of participants must be matched accordingly. To ensure that participants are matched correctly, change or add parameters and construct participants so they can be uniquely identified.

Matching requires some rules. Participants are matched when all parameters with the same name have the same value. Above and below the `html` tag, there can be only one instance of a participant with a given set of parameter values. Within the `html`...`/html` tags, Dreamwaever matches participants by their position relative to the selection or to common nodes that are used for insertion.

Participants without parameters are automatically matched, as shown in the following example of a server behavior with group file:

```
<group serverBehavior="test.htm">
    <title>Test</title>
    <groupParticipants>
        <groupParticipant name="test_p1" partType="identifier" />
        <groupParticipant name="test_p2" partType="identifier" />
    </groupParticipants>
</group>
```

The following example inserts two simple participants above the `html` tag:

```
<% //test_p1 %>
<% //test_p2 %>
<html>
```

These participants are found and matched, and *Test* appears once in the Server Behaviors panel. If you add the server behavior again, nothing is added because the participants exist.

If the participants have unique parameters, multiple instances can be inserted above the `html` tag. For example, by adding a name parameter to the participant, a user can enter a unique name in the Test Server Behavior dialog box. If the user enters the name **aaa**, the following participants are inserted:

If you add the server behavior again with a different name, such as **bbb**, the document now looks like the following example:

```
<% //test_p1 name="aaa" %>
<% //test_p2 name="aaa" %>
<html>
```

Two instances of Test are listed in the Server Behaviors panel. If the user tries to add a third instance to the page and names it **aaa**, nothing is added because it exists.

Within the `html` tag, matching can also use position information. In the following example, you have two participants, one that is added before the selection and another that is added after the selection:

```
<% if (expression) { //mySBName %>
```

Random HTML selection here:

```
<% } //end mySBName %>
```

These two participants are without parameters, so they are grouped. However, you can add another instance of this server behavior elsewhere in the HTML, as shown in the following example:

```
<% if (expression) { //mySBName %>
```

Random HTML selection here:

```
<% } //end mySBName %>
```

More HTML here:

```
<% if (expression) { //mySBName %>
```

Another HTML selection here:

```
<% } //end mySBName %>
```

Now, you have two identical instances of each participant, which is allowed within the HTML. Dreamweaver matches them by the order in which they occur in the document.

The following example shows a matching problem and how to avoid it. You can create a participant that computes the tax on some dynamic data and displays the result at the selection.

```
<% total = Recordset1.Fields.Item("itemPrice").Value * 1.0825 %>
<html>
<body>
    The total (with taxes) is $<%=total%>
</body>
</html>
```

The two participants are matched because they have no common parameters. However, if you add a second instance of this server behavior, you must have the following code:

```
<% total = Recordset1.Fields.Item("itemPrice").Value * 1.0825 %>
<% total = Recordset1.Fields.Item("salePrice").Value * 1.0825 %>
<html>
<body>
    The total0(with taxes) is $<%=total%>
    Sale price (with taxes) is $<%=total%>
</body>
</html>
```

This server behavior no longer works correctly because only one parameter is named `total`. To solve this problem, make sure that a parameter with a unique value exists and that it can be used to match the participants. In the following example, you could make the `total` variable name unique using the column name:

```
<% itemPrice_total = Recordset1.Fields.Item("itemPrice").Value * 1.0825 %>
<% salePrice_total = Recordset1.Fields.Item("salePrice").Value * 1.0825 %>
<html>
<body>
    The total0(with taxes) is $<%=itemPrice_total%>
    Sale price (with taxes) is $<%=salePrice_total%>
</body>
</html>
```

The search patterns now uniquely identify and match the participants.

Search pattern resolution

Dreamweaver supports the following actions by using the participant `searchPatterns` functionality:

- File transfer dependency
- Updating the file paths for any file reference (such as those for include files)

When Dreamweaver creates server models, it builds lists of patterns by scanning all the participants for special `paramNames` attributes. To find URLs to check file dependency and to fix the pathname, Dreamweaver uses each `searchPattern` tag in which one of the `paramNames` attribute ends with `_url`. Multiple URLs can be specified in a single `searchPattern` tag.

For each translator `searchPattern` tag that has a `paramNames` attribute value that ends with `_includeUrl`, Dreamweaver uses that `searchPattern` tag to translate include file statements on the page. Dreamweaver uses a different suffix string to identify include file URLs because not all URL references are translated. Also, only a single URL can be translated as an include file.

In resolving a `searchPatterns` tag, Dreamweaver uses the following algorithm:

1. Look for the `whereToSearch` attribute within the `searchPatterns` tag.
2. If the attribute value starts with `tag+`, the remaining string is assumed to be the tag name (no spaces are allowed in the tag name).
3. Look for the `limitSearch` attribute within the `searchPattern` tag.
4. If the attribute value starts with `attribute+`, the remaining string is assumed to be the attribute name (no spaces are allowed in the attribute name).

If these four steps are successful, Dreamweaver assumes a tag/attribute combination. Otherwise, Dreamweaver starts looking for `searchPattern` tags with a `paramName` attribute that has a `_url` suffix and a regular expression that is defined. (For information about regular expressions, see "Regular expressions" on page 258.)

The following example of a `searchPatterns` tag has no search pattern because it combines a tag (`cfinclude`) with an attribute (`template`) to isolate the URL for dependency file checking, path fixing, and so forth:

```
<searchPatterns whereToSearch="tag+cfinclude">
    <searchPattern paramNames="include_url" limitSearch="attribute+template" />
</searchPatterns>
```

The tag/attribute combination (see the previous example) does not apply to translation because Dreamweaver always translates to straight text in the JavaScript layer. File dependency checking, path fixing, and so on occurs in the C layer. In the C layer, Dreamweaver internally splits the document into directives (straight text) and tags (parsed into an efficient tree structure).

Updating server behaviors

You can update server behaviors by:

- Replacement update
- Precision update

Replacement update

By default, participant EDML files do not have an `<updatePatterns>` tag, and instances of the participant are updated in the document by replacing them entirely. When a user edits an existing server behavior and clicks OK, any participant that contains a parameter whose value has changed is removed. Then, the participant is reinserted with the new value in the same location.

If the user customizes participant code in the document, the participant might not be recognized if the search patterns look for the old code. Shorter search patterns can let the user customize the participant code in their document. However, updating the server behavior instance can cause the replacement of the participant, which loses the custom edits.

Precision update

In some cases, it is desirable to let users customize the participant code after it is inserted in the document. This situation can be achieved by limiting the search patterns and providing update patterns in the EDML file. After you add the participant to the page, the server behavior updates only specific parts of it. The following example shows a simple participant with two parameters:

```
<% if (Recordset1.EOF) Response.Redirect("some_url_here") %>
```

This example might use the following search patterns:

```
<quickSearch>Response.Write</quickSearch>
<searchPatterns whereToSearch="directive">
    <searchPattern paramNames="rs,new__url">
        /if\s*\((\w+)\.EOF\)\s*Response\.Redirect\("([^\r\n]*)"\)/i
    </searchPattern>
</searchPatterns>
```

The user could add another test to a particular instance of this code, as shown in the following example:

```
<% if (Recordset1.EOF || x > 2) Response.Redirect("some_url_here") %>
```

The search patterns fail because they are looking for a parenthesis after the `EOF` parameter. To make the search patterns more forgiving, you can shorten them by splitting them up, as shown in the following example:

```
<quickSearch>Response.Write</quickSearch>
<searchPatterns whereToSearch="directive">
    <searchPattern paramNames="rs">/(\w+)\.EOF/</searchPattern>
    <searchPattern paramNames="new__url">
        /if\s*\([^\r\n]*\)\s*Response\.Redirect\("([^\r\n]*)"/i
    </searchPattern>
</searchPatterns>
```

These shortened search patterns are flexible, so the user can add to the code. However, if the server behavior changes the URL when the user clicks OK, the participant is replaced and the customizations are lost. To update more precisely, add an `updatePatterns` tag that contains a pattern for updating each parameter:

```
<updatePatterns>
    <updatePattern paramNames="rs">/(\b)\w+(\.EOF)/\</updatePattern>
    <updatePattern paramNames="new__url">
        /(Response\.Redirect\(")[^\r\n]*("/i
    </updatePattern>
</updatePatterns>
```

In update patterns, the parentheses are reversed and are placed around the text before and after the parameter. For search patterns, use the `textBeforeParam(param)textAfterParam` parameter. For update patterns, use the `(textBeforeParam)param(textAfterParam)` parameter. All the text between the two parenthetical subexpressions is replaced with the new value for the parameter.

Deleting server behaviors

You can delete server behaviors by:

- Default deletion and dependency counts
- Using delete flags to limit participant deletion

Default deletion and dependency counts

The user can delete an instance that is selected in the Server Behaviors panel by clicking the Minus (-) button or pressing Delete. All the participants are removed except for the ones that other server behaviors share. Specifically, if more than one server behavior has a participant pointer to the same node, the node is not deleted.

By default, participants are deleted by removing an entire tag. If the insert location is `wrapSelection`, only the outer tag is removed. For attributes, the entire attribute declaration is removed. The following example shows an attribute participant on the `ACTION` attribute of a `form` tag:

```
<form action="<% my_participant %>">
```

After deleting the attribute, only `form` remains.

Using delete flags to limit participant deletion

To limit the way that participants are deleted, add a delete tag to the EDML file. The following example shows a participant that is an `href` attribute of a link:

```
<a href="<%=MY_URL%>">Link Text</a>
```

When this attribute participant is deleted, the resulting tag is `<a>Link Text</a>`, which no longer appears as a link in Dreamweaver. Deleting only the attribute value is preferred. Deletion is done by adding the following tag to the participant EDML file:

```
<delete deleteType="innerOnly"/>
```

Another approach is to remove the entire tag; typing `<delete deleteType="tagOnly"/>` deletes the attribute. The resulting text is *Link Text*.

Share-in-memory JavaScript files

If several HTML files reference a particular JavaScript file, Dreamweaver loads the JavaScript into a central location where the HTML files can share the same JavaScript source. These files contain the following line:

```
//SHARE-IN-MEMORY=true
```

If a JavaScript file has the `SHARE-IN-MEMORY` directive and an HTML file references it (by using the `SCRIPT` tag with the `SRC` attribute), Dreamweaver loads the JavaScript into a memory location where the code is implicitly included in all HTML files thereafter.

Note: *Because JavaScript files that are loaded into this central location share memory, the files cannot duplicate any declarations. If a share-in-memory file defines a variable or function and any other JavaScript file defines the same variable or function, a name conflict occurs. When writing new JavaScript files, be aware of these files and their naming conventions.*

Chapter 18: Data sources

Data source files are stored in the Configuration/DataSources/*ServerModelName* folder. Dreamweaver currently supports the following server models: ASP.NET/C#, ASP.NET/VisualBasic, ASP/JavaScript, ASP/VBScript, Adobe ColdFusion, JSP, and PHP/MySQL. Within each server model subfolder are HTML and EDML files that are associated with the data sources for that server model.

The following table lists the files you use to create a data source:

Path	File	Description
Configuration/DataSources/*ServerModelName*	*datasourcename*.htm	Specifies the name of the data source and where to find the supporting JavaScript files.
Configuration/DataSources/*ServerModelName*	*datasourcename*.edml	Defines the code that Dreamweaver inserts into the document to represent the data source value.
Configuration/DataSources/*ServerModelName*	*datasourcename*.js	Contains the JavaScript functions to add, insert, and delete the necessary code into a document.

How data sources work

Dreamweaver users can add dynamic data by using the Bindings panel. The dynamic data objects that are shown on the Plus (+) menu are based on the server model that is specified for the page. For example, users can insert recordsets, commands, request variables, session variables, and application variables for ASP applications. For related information, see the function `dreamweaver.dbi.getDataSources()` in the *Dreamweaver API Reference*.

The following steps describe the process that is involved in adding dynamic data:

1. When the user clicks the Plus (+) menu in the Bindings panel, a pop-up menu appears.

   To determine the contents of the menu, Dreamweaver first looks for a DataSources.xml file in the same folder as the data sources (for example, Configuration/DataSources/ASP_Js/DataSources.xml). The DataSources.xml file describes the contents of the pop-up menu; it contains references to the HTML files that are placed in the pop-up menu.

   Dreamweaver checks each referenced HTML file for a title tag. If the file contains a title tag, the content of the title tag appears in the menu. If the file does not contain a title tag, the filename is used in the menu.

   After Dreamweaver finishes reading the DataSources.xml file, it searches the rest of the folder for other items that ought to appear in the menu. It does the same if the DataSources.xml file does not exist. If Dreamweaver finds files in the main folder that aren't in the menu, it adds them to the menu. If subfolders contain files that aren't in the menu, Dreamweaver creates a submenu and adds those files to the submenu.

2. When the user selects an item from the Plus (+) menu, Dreamweaver calls the `addDynamicSource()` function. It is done so that code for the data source is added to the document of the user.

3 Dreamweaver goes through each file in the appropriate server model folder, calling the `findDynamicSources()` function in each file. For each value in the returned array, Dreamweaver calls the `generateDynamicSourceBindings()` function in the same file. It is done to get a new list of all the fields in each data source for the document of the user. Those fields are presented to the user as a tree control in the Dynamic Data or the Dynamic Text dialog box or in the Bindings panel. The data source tree for an ASP document appears as shown in the following example:

```
Recordset (Recordset1)
    ColumnOneInRecordset
    ColumnTwoInRecordset
Recordset (Recordset2)
    ColumnOfRecordset
Request
    NameOfRequestVariable
    NameOfAnotherRequestVariable
Session
    NameOfSessionVariable
```

4 If the user double-clicks a data source name in the Bindings panel, Dreamweaver calls the `editDynamicSource()` function to handle editing within the tree.

5 If the user clicks the Minus (-) button, Dreamweaver gets the current node selection from the tree and passes it to the `deleteDynamicSource()` function. The function deletes the code that was added earlier with the `addDynamicSource()` function. If it cannot delete the current selection, the function returns an error message. After the `deleteDynamicSource()` function returns, Dreamweaver refreshes the data source tree by calling the `findDynamicSources()` and the `generateDynamicSourceBindings()` functions.

6 If the user selects a data source and clicks OK in the Dynamic Data or the Dynamic Text dialog box, Dreamweaver calls the `generateDynamicDataRef()` function. It does the same when the user clicks Insert or Bind in the Bindings panel. The return value is inserted in the document at the current insertion point.

7 If the user edits a dynamic data object using the Dynamic Data, the selection in the data source tree must be initialized to the object. Same is the case if the user edits a dynamic data object using the Dynamic Text dialog box. To initialize the tree control, Dreamweaver goes through each file in the appropriate server model folder. For example, the Configuration/DataSources/ASP_Js folder. Dreamweaver goes through each file calling the implementation of the `inspectDynamicDataRef()` function.

   Dreamweaver calls the `inspectDynamicDataRef()` function to convert the dynamic data object back from the code in the user document to an item in the tree. (This process is the reverse of what occurs when the `generateDynamicDataRef()` function is called.) If the `inspectDynamicDataRef()` function returns an array that contains two elements, Dreamweaver provides visual cues to the tree item that is bound to the current selection.

8 Every time the user changes the selection, Dreamweaver calls the `inspectDynamicDataRef()` function. Dreamweaver does it to determine whether the new selection is dynamic text or a tag with a dynamic attribute. If it is dynamic text, Dreamweaver displays the bindings for the current selection in the Bindings panel.

9 It is possible to change the data format for a dynamic text object or a dynamic attribute that the user has already added to the page. To do it, use the Dynamic Data or the Dynamic Text dialog box or the Bindings panel. When the format changes, Dreamweaver calls the `generateDynamicDataRef()` function to get the string to insert into the document of the user. Then it passes that string to the `formatDynamicDataRef()` function (see "formatDynamicDataRef()" on page 307). The string that the `formatDynamicDataRef()` function returns is inserted in the document of the user.

A simple data source example

This extension adds a custom data source to the Bindings panel for Adobe ColdFusion documents. Users can specify the variable they want from the new data source.

This example creates a data source called MyDatasource, which includes a MyDatasource.js JavaScript file, a MyDatasource_DataRef.edml file, and MyDatasource Variable command files to implement a dialog box for users to enter the name of a specific variable. The MyDatasource example is based on the implementation of the Cookie Variable data source and the URL Variable data source. The files for these data sources reside in the Configuration/DataSources/ColdFusion folder.

You create this data source by creating a definition file, an EDML file, a JavaScript file, and supporting command files; then you test the new data source.

Creating the data source definition file

The data source definition file tells Dreamweaver the name of the data source as it will appear in the Bindings Plus (+) menu and also tells Dreamweaver where to find the supporting JavaScript files for the data source implementation.

When a user clicks on the Bindings Plus (+) menu, Dreamweaver searches the DataSources folder for the current server model to gather all available data sources defined in the folder's HTML (HTM) files. So, to make a new data source available to the user, you need to create a data source definition file that simply provides the name of the data source using the `title` tag and the location of all supporting JavaScript files using the `script` tag.

In addition, several supporting files are necessary for implementing this data source. In general, you might not need to use the functions in these supporting files, but they are often useful (and necessary in this example). For example, the dwscriptsServer.js file contains the `dwscripts.stripCFOutputTags()` function used in the implementation of this data source. And, using the DataSourceClass.js file, you create an instance of the DataSource class to use as the return value of the `findDynamicSources()` function.

1 Create a new blank file.

2 Enter the following:

```
<HTML>
<HEAD>
<TITLE>MyDatasource</TITLE>
<SCRIPT SRC="../../Shared/Common/Scripts/dwscripts.js"></SCRIPT>
<SCRIPT SRC="../../Shared/Common/Scripts/dwscriptsServer.js"></SCRIPT>
<SCRIPT SRC="../../Shared/Common/Scripts/DataSourceClass.js"></SCRIPT>
<SCRIPT SRC="MyDatasource.js"></SCRIPT>
</HEAD>
<body></body>
</HTML>
```

3 Save the file as MyDatasource.htm in the Configuration/DataSources/ColdFusion folder.

Creating the EDML file

The EDML file defines the code that Dreamweaver inserts into the document to represent the data source value. (For more information about EDML files, see "Server behaviors" on page 246). When a user adds a particular value from a data source to a document, Dreamweaver inserts the code that will translate into the actual value at runtime. The participant EDML file defines the code for the document (for more information, see "Participant EDML files" on page 265).

For the MyDatasource Variable, you want Dreamweaver to insert the ColdFusion code `<cfoutput>#MyXML.variable#</cfoutput>` where *variable* is the value the user wants from the data source.

1 Create a new blank file.

2 Enter the following:

```
<participant>
    <quickSearch><![CDATA[#]]></quickSearch>
    <insertText location="replaceSelection"><![CDATA[<cfoutput>#MyDatasource.
        @@bindingName@@#</cfoutput>]]></insertText>
    <searchPatterns whereToSearch="tag+cfoutput">
        <searchPattern paramNames="sourceName,bindingName"><![CDATA[/#(?:\s*\w+\s*\()?
        (MyDatasource)\.(\w+)\b[^#]*#/i]]></searchPattern>
    </searchPatterns>
</participant>
```

3 Save the file as MyDatasource_DataRef.edml in the Configuration/DataSources/ColdFusion folder.

Creating the JavaScript file that implements the data sources API functions

After you have defined the name of the data source, the name of the supporting script files, and the code for the working Dreamweaver document, you need to specify the JavaScript functions for Dreamweaver to provide the user with the ability to add, insert, and delete the necessary code into a document.

Based on the construction of the Cookie Variable data source, you can implement the MyXML data source, as shown in the following example. (The `MyDatasource_Variable` command used in the `addDynamicSource()` function is defined in "Creating the supporting command files for user input" on page 295.)

1 Create a new blank file.

2 Enter the following:

```
//************** GLOBALS VARS *****************
var MyDatasource_FILENAME = "REQ_D.gif";
var DATASOURCELEAF_FILENAME = "DSL_D.gif";

//****************** API *********************
function addDynamicSource()
{
    MM.retVal = "";
    MM.MyDatasourceContents = "";
    dw.popupCommand("MyDatasource_Variable");
    if (MM.retVal == "OK")
    {
        var theResponse = MM.MyDatasourceContents;
        if (theResponse.length)
        {
            var siteURL = dw.getSiteRoot();
            if (siteURL.length)
            {
                dwscripts.addListValueToNote(siteURL, "MyDatasource", theResponse);
            }
            else
            {
                alert(MM.MSG_DefineSite);
            }
        }
        else
```

```
        {
        alert(MM.MSG_DefineMyDatasource);
        }
    }
}

function findDynamicSources()
{
    var retList = new Array();

    var siteURL = dw.getSiteRoot()

    if (siteURL.length)
    {
        var bindingsArray = dwscripts.getListValuesFromNote(siteURL, "MyDatasource");
        if (bindingsArray.length > 0)
        {

    // Here you create an instance of the DataSource class as defined in the
    // DataSourceClass.js file to store the return values.

        retList.push(new DataSource("MyDatasource",
                                    MyDatasource_FILENAME,
                                    false,
                                    "MyDatasource.htm"))
        }
    }

    return retList;
}

function generateDynamicSourceBindings(sourceName)
{
    var retVal = new Array();

    var siteURL = dw.getSiteRoot();

    // For localized object name...
    if (sourceName != "MyDatasource")
    {
        sourceName = "MyDatasource";
    }

    if (siteURL.length)
    {
        var bindingsArray = dwscripts.getListValuesFromNote(siteURL, sourceName);
        retVal = getDataSourceBindingList(bindingsArray,
                                          DATASOURCELEAF_FILENAME,
                                          true,
                                          "MyDatasource.htm");
    }

    return retVal;
}

function generateDynamicDataRef(sourceName, bindingName, dropObject)
{
```

```
    var paramObj = new Object();
    paramObj.bindingName = bindingName;
    var retStr = extPart.getInsertString("", "MyDatasource_DataRef", paramObj);

    // We need to strip the cfoutput tags if we are inserting into a CFOUTPUT tag
    // or binding to the attributes of a ColdFusion tag. So, we use the
    // dwscripts.canStripCfOutputTags() function from dwscriptsServer.js

    if (dwscripts.canStripCfOutputTags(dropObject, true))
    {
        retStr = dwscripts.stripCFOutputTags(retStr, true);
    }
    return retStr;
}

function inspectDynamicDataRef(expression)
{
    var retArray = new Array();

    if(expression.length)
    {
        var params = extPart.findInString("MyDatasource_DataRef", expression);
        if (params)
        {
            retArray[0] = params.sourceName;
            retArray[1] = params.bindingName;
        }
    }

    return retArray;
}
function deleteDynamicSource(sourceName, bindingName)
{
    var siteURL = dw.getSiteRoot();

    if (siteURL.length)
    {
        //For localized object name
        if (sourceName != "MyDatasource")
        {
            sourceName = "MyDatasource";
        }

        dwscripts.deleteListValueFromNote(siteURL, sourceName, bindingName);
    }
}
```

3 Save the file as MyDatasource.js in the Configuration/DataSources/ColdFusion folder.

Creating the supporting command files for user input

The `addDynamicSource()` function contains the command `dw.popupCommand("MyDatasource_Variable")`, which opens a dialog box for the user to enter a specific variable name. However, you must create the dialog box for MyDatasource Variable.

To provide a dialog box for the user, create a set of command files: a command definition file in HTML and a command implementation file in JavaScript (for more information about command files, see "How commands work" on page 131).

The command definition file tells Dreamweaver the location of the supporting implementation JavaScript files. The definition file also tells the form for the dialog box that the user sees. The supporting JavaScript file determines the buttons for the dialog box and how to assign the user input from the dialog box.

Create the command definition file

1 Create a new blank file.

2 Enter the following:

```
<!DOCTYPE HTML SYSTEM "-//Adobe//DWExtension layout-engine 10.0//dialog">
<html>
<head>
<title>MyDatasource Variable</title>
<script src="MyDatasource_Variable.js"></script>
<SCRIPT SRC="../Shared/MM/Scripts/CMN/displayHelp.js"></SCRIPT>
<SCRIPT SRC="../Shared/MM/Scripts/CMN/string.js"></SCRIPT>
<link href="../fields.css" rel="stylesheet" type="text/css">
</head>
<body>
<form>
    <div ALIGN="center">
        <table border="0" cellpadding="2" cellspacing="4">
            <tr>
                <td align="right" valign="baseline" nowrap>Name:</td>
                <td valign="baseline" nowrap>
                    <input name="theName" type="text" class="medTField">
                </td>
            </tr>
        </table>
    </div>
</form>
</body>
</html>
```

3 Save the file as MyDatasource_Variable.htm in the Configuration/Commands folder.

Note: *The file MyDatasource_Variable.js is the implementation file that you create in the next procedure.*

Create the supporting JavaScript file

1 Create a new blank file.

2 Enter the following:

```
//******************* API *********************

function commandButtons(){
    return new Array(MM.BTN_OK,"okClicked()",MM.BTN_Cancel,"window.close()");
}

//***************** LOCAL FUNCTIONS*****************

function okClicked(){
    var nameObj = document.forms[0].theName;

    if (nameObj.value) {
        if (IsValidVarName(nameObj.value)) {
            MM.MyDatasourceContents = nameObj.value;
            MM.retVal = "OK";
            window.close();
        } else {
            alert(nameObj.value + " " + MM.MSG_InvalidParamName);
        }
    } else {
        alert(MM.MSG_NoName);
    }
}
```

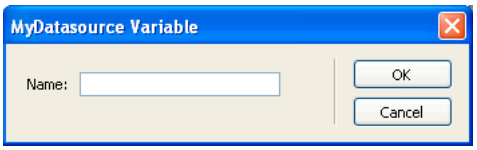
3 Save the file as MyDatasource_Variable.js in the Configuration/Commands folder.

Test the new data source

You can now open Dreamweaver (or restart it if you already have it open), and open a ColdFusion file or create a new one.

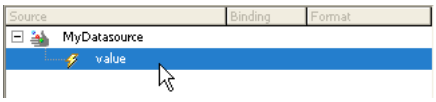
1 With the pointer in the document, click on the Bindings Plus (+) menu to see all the available data sources. MyDatasource should appear at the bottom of the list.

2 Click the MyDatasource data source option, and the MyDatasource Variable dialog box you created appears:



3 Enter a value in the dialog box and click OK.

The Bindings panel displays the data source in a tree with the variable from the dialog box under the data source name:



4 Drag the variable to your document, and Dreamweaver inserts the appropriate code from the EDML file:

```
1  <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
   "http://www.w3.org/TR/html4/loose.dtd">
2  <html>
3  <head>
4  <title>Untitled Document</title>
5  <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
6  </head>
7
8  <body><cfoutput>#MyDatasource.value#</cfoutput>
9
10 </body>
11 </html>
```

The data sources API functions

The functions in the data sources API let you find, add, edit, and delete data sources and also generate and inspect dynamic data objects.

addDynamicSource()

Availability

Dreamweaver UltraDev 1.

Description

This function adds a dynamic data source. Because there is one implementation of this function in each data source file, Dreamweaver calls the appropriate implementation of the `addDynamicSource()` function when you select a data source from the Plus (+) menu.

For example, for recordsets or commands, Dreamweaver calls the `dw.serverBehaviorInspector.popupServerBehavior()` function, which inserts a new server behavior into the document. For request, session, and application variables, Dreamweaver displays an HTML/JavaScript dialog box to collect the name of the variable; the behavior stores the variable name for future use.

After the `addDynamicSource()` function returns, Dreamweaver erases the contents of the data source tree and calls the `findDynamicSources()` and `generateDynamicSourceBindings()` functions to repopulate the data source tree.

Returns

Dreamweaver expects nothing.

deleteDynamicSource()

Availability

Dreamweaver UltraDev 1.

Description

Dreamweaver calls this function when a user selects a data source in the tree and clicks the Minus (-) button.

For example, in Dreamweaver, if the selection is a recordset or command, the `deleteDynamicSource()` function calls the `dw.serverBehaviorInspector.deleteServerBehavior()` function. If the selection is a request, session, or application variable, the function remembers that the variable was deleted and does not continue to display it. After the `deleteDynamicSource()` function returns, Dreamweaver erases the contents of the data source tree and calls the `findDynamicSources()` and `generateDynamicSourceBindings()` functions to get a new list of all the data sources for the user's document.

Arguments
sourceName, *bindingName*

- The *sourceName* argument is the name of the top-level node to which the child node is associated.
- The *bindingName* argument is the name of the child node.

Returns
Dreamweaver expects nothing.

displayHelp()

Description
If this function is defined, a Help button appears below the OK and Cancel buttons in the dialog box. This function is called when the user clicks the Help button.

Arguments
None.

Returns
Dreamweaver expects nothing.

Example

```
// The following instance of displayHelp() opens
// a file (in a browser) that explains how to use
// the extension.
function displayHelp(){
    var myHelpFile = dw.getConfigurationPath() +
        '/ExtensionsHelp/superDuperHelp.htm';
    dw.browseDocument(myHelpFile);
}
```

editDynamicSource()

Availability
Dreamweaver MX.

Description
This function is called when the user double-clicks a data source name in the Bindings panel to edit the data source. You can implement this function to handle user edits in the tree. Otherwise, the server behavior that matches the data source is automatically invoked. The extension developer can use this function to override the default implementation of server behaviors and provide a custom handler.

Arguments
sourceName, *bindingName*

- The *sourceName* argument is the name of the top-level node to which the child node is associated.
- The *bindingName* argument is the name of the child node.

Returns
Dreamweaver expects a Boolean value: `true` if the function has handled the edit; `false` otherwise.

findDynamicSources()

Availability
Dreamweaver UltraDev 1.

Description
This function returns the top-level nodes from the data source tree that appears in the Dynamic Data or Dynamic Text dialog box or in the Bindings panel. Each data source file has an implementation of the `findDynamicSources()` function. When Dreamweaver refreshes the tree, Dreamweaver reads through all the files in the DataSources folder and calls the `findDynamicSources()` function in each file.

Returns
Dreamweaver expects an array of JavaScript objects where each object can have as many as five properties, which are described in the following list:

- The `title` property is the label string that appears to the right of the icon for each parent node. The `title` property is always required.
- The `imageFile` property is the path of a file that contains the icon (a GIF image), which represents the parent node in the tree control in the Dynamic Data or Dynamic Text dialog box or in the Bindings panel. This property is required.
- The `allowDelete` property is optional. If this property is set to `false`, when the user clicks this node in the Bindings panel, the Minus (-) button is disabled. If this property is set to `true`, the Minus (-) button is enabled. If the property is not defined, the default is `true`.
- The `dataSource` property is the simple name of the file in which the `findDynamicSources()` function is defined. For example, the `findDynamicSources()` function in the Session.htm file, which is located in the Configuration/DataSources/ASP_Js folder, sets the `dataSource` property to `session.htm`. This property is required.
- The `name` property is the name of the server behavior that is associated with the data source, if one exists. Some data sources, such as recordsets, are associated with server behaviors. When you create a recordset and name it `rsAuthors`, the `name` attribute must equal `rsAuthors`. The `name` property is always defined, but can be an empty string (`""`) if no server behavior is associated with the data source (such as a session variable).

Note: *A JavaScript class that defines these properties exists in the DataSourceClass.js file, which is located in the Configuration/Shared/Common/Scripts folder.*

generateDynamicDataRef()

Availability
Dreamweaver UltraDev 1.

Description
This function generates the dynamic data object for a child node.

Arguments
sourceName, *bindingName*

- The *sourceName* argument is the name of the top-level node that is associated with the child node.
- The *bindingName* argument is the name of the child node from which you want to generate a dynamic data object.

Returns
Dreamweaver expects a string, which can be passed to the `formatDynamicDataRef()` function to format it before inserting it in a user's document.

generateDynamicSourceBindings()

Availability
Dreamweaver UltraDev 1.

Description
This function returns the children of a top-level node.

Arguments
sourceName

- The *sourceName* argument is the name of the top-level node whose children you want to return.

Returns
Dreamweaver expects an array of JavaScript objects where each object can have as many as four properties, which are described in the following list:

- The `title` property is the label string that appears on the right of the icon for each parent node. This property is required.
- The `allowDelete` property is optional. If this property is set to the value `false`, when the user clicks this node in the Bindings panel, the Minus (-) button is disabled. If this property is set to the value `true`, the Minus (-) button is enabled. If the property is not defined, the default is the value `true`.
- The `dataSource` property is the simple name of the file in which the `findDynamicSources()` function is defined. For example, the `findDynamicSources()` function in the Session.htm file, which is located in the Configuration/DataSources/ASP_Js folder, sets the `dataSource` property to `session.htm`. This property is required.

- The `name` property is the name of the server behavior that is associated with the data source, if one exists. It is a required property. Some data sources, such as recordsets, are associated with server behaviors. When you create a recordset and name it `rsAuthors`, the `name` property must equal `rsAuthors`. Other data sources, such as session variables, do not have a corresponding server behavior. Their name property must be the empty string (`""`).

Note: *A JavaScript class that defines these properties exists in the DataSourceClass.js file, which is located in the Configuration/Shared/Common/Scripts folder.*

inspectDynamicDataRef()

Availability

Dreamweaver UltraDev 1.

Description

This function determines the corresponding node in the data source tree from a dynamic data object. The `inspectDynamicDataRef()` function takes the string that Dreamweaver passes in and compares it to the string that `generateDynamicDataRef()` returns for each node in the tree. If a match is found, the `inspectDynamicDataRef()` function indicates which node in the tree matches the passed-in string. The function identifies the node by using an array that contains two elements. The first element is the name of the parent node, and the second element is the name of the child node. If no match is found, the `inspectDynamicDataRef()` function returns an empty array.

Each implementation of the `inspectDynamicDataRef()` function checks only for matches of its own object type. For example, the recordset implementation of the `inspectDynamicDataRef()` function finds a match only if the passed-in string matches a recordset node in the tree.

Arguments

string

- The *string* argument is the dynamic data object.

Returns

Dreamweaver expects an array of two elements (parent name and child name) for the matched node; it returns a `null` value if no matches are found.

Chapter 19: Server formats

"Data sources" on page 290 discusses how Adobe Dreamweaver inserts dynamic data into a user document by adding a server expression at the appropriate location. When a visitor requests the document from the web server, that server expression is converted to a value from a database, the contents of a request variable, or some other dynamic value. The Dreamweaver server formats let you format how this dynamic value is presented to the visitor.

How data formatting works

Dreamweaver users can format data with built-in formats. They can also create new formats that are based on built-in format types, or create new formats that are based on custom format types.

The user can format dynamic data in several ways. To format the data before inserting it into an HTML document, use the Format menu. It is in the Dynamic Data or the Dynamic Text dialog box or in the Bindings panel. To create a format, select the Edit Format List command from the Format menu and select a format type from the Plus (+) menu. The Plus (+) menu contains a list of format types. Format types are basic format categories, such as Currency, DateTime, or AlphaCase. Format types collect all the common parameters for a category of format, letting you streamline the work to create a format.

An example is to create a currency format. Currency formatting consists of converting a number to a string, inserting commas and decimal points, and inserting a currency symbol, such as a dollar ($) sign. The Currency format data type collects all the common parameters and prompts you for the required values.

The server format API discusses the API that formats the dynamic data that the functions described in "Data sources" on page 290 return. The functions that are described in both topics work together to format dynamic data.

All format files reside in the Configuration/ServerFormats/*currentServerModel* folder. Each subfolder contains one XML file and multiple HTML files.

The Formats.xml file describes all the choices in the Format menu. Dreamweaver automatically adds the Edit Format List and None options.

The folder also contains one HTML file for each currently installed format type, which includes `AlphaCase`, `Currency`, `DateTime`, `Math`, `Number`, `Percent`, `Simple`, and `Trim`.

Note: *Currency format is not available for PHP server models.*

The Formats.xml file

The Formats.xml file contains one `format` tag for each item in the Format menu. Each `format` tag contains the following mandatory attributes:

- The `file=`*`fileName`* attribute is the HTML file for this format type, such as `"Currency"`.
- The `title=`*`string`* attribute is the string that appears in the Format menu, such as `"Currency - default"`.

- The `expression=regexp` attribute is a regular expression that matches the dynamic data objects that use this format. The expression determines what format is currently applied to a dynamic data object. For example, the expression for the `"Currency - default"` format is `"<%\s*=\s*FormatCurrency\(.*, -1, -2, -2,-2\)\s*%>|<%\s*=\s*DoCurrency\(.*, -1, -2, -2, -2\)\s*%>"`. The value of the `expression` attribute must be unique among all `format` tags in the file; it must be specific enough to guarantee that only instances of this format match the expression.
- The `visibility=[hidden | visible]` attribute indicates whether the value appears in the Format menu. If the value of the `visibility` attribute is `hidden`, the format does not appear in the Format menu.

The `format` tag can contain additional, arbitrarily named attributes.

Some data formatting functions require an argument, *format*, which is a JavaScript object. This object is the node that corresponds to the `format` tag in the Formats.xml file. The object has a JavaScript property for each attribute of the corresponding `format` tag.

The following example shows the `format` tag for the `"Currency - default"` string:

```
<format file="Currency" title="Currency - default" ¬
expression="<%\s*=\s*FormatCurrency\(.*, -1, -2, -2, -2\)\s*%>|¬
    <%\s*=\s*DoCurrency\(.*, -1, -2, -2, -2\)\s*%>"
NumDigitsAfterDecimal=-1 IncludeLeadingDigit=-2 ¬
    UseParensForNegativeNumbers=-2 GroupDigits=-2/>
```

The format type for this format is `Currency`. The `"Currency - default"` string appears on the Format menu. The expression `<%\s*=\s*FormatCurrency\(.*, -1, -2, -2,-2\)\s*%>|<%\s*=\s*DoCurrency\(.*, -1, -2, -2, -2\)\s*%>` finds occurrences of this format in the user's document.

The `NumDigitsAfterDecimal`, `IncludeLeadingDigit`, `UseParensForNegativeNumbers`, and `GroupDigits` parameters are for the `Currency` format type and are not required. These parameters appear in the Parameters dialog box for the `Currency` format type. The Parameters dialog box appears when a user selects the `Currency` format type from the Plus (+) menu of the Edit Format List dialog box. The values that are specified for these parameters define the new format.

The Edit Format List Plus (+) menu

If you do not want a file in the ServerFormats folder to appear in the Edit Format List Plus (+) menu, add the following statement as the first line of the HTML file:

```
<!-- MENU-LOCATION=NONE -->
```

To determine the contents of the menu, Dreamweaver first searches for a ServerFormats.xml file in the same folder as the data formats (for example, in Configuration/ServerFormats/ASP/). The ServerFormats.xml file describes the contents of the Edit Format List Plus (+) menu, and it contains references to the HTML files that it lists in the menu.

Dreamweaver checks each referenced HTML file for a `title` tag. If the file contains a title tag, the content of the title tag appears in the menu. If the file does not contain a title tag, the filename is used in the menu.

After Dreamweaver finishes searching for the file, or if the file does not exist, Dreamweaver scans the rest of the folder to find other items that should appear in the menu. If Dreamweaver finds files in the main folder that aren't already in the menu, it adds them. If subfolders contain files that aren't already in the menu, Dreamweaver creates a submenu and adds those files to it.

Scenarios in which the data formatting functions are called

The data formatting functions are called in the following scenarios:

- In the Dynamic Data or the Dynamic Text dialog box, the user selects a node from the data source tree and a format from the Format menu. When the user selects the format, Dreamweaver calls the `generateDynamicDataRef()` function and passes the return value from the `generateDynamicDataRef()` function to the `formatDynamicDataRef()` function. The return value from the `formatDynamicDataRef()` function appears in the Code setting of the dialog box. After the user clicks OK, the string of code is inserted into the user's document. Next, Dreamweaver calls the `applyFormat()` function to insert a function declaration. For more information, see "generateDynamicDataRef()" on page 301. A similar process occurs when the user works with the Bindings panel.
- If the user changes the format or deletes the dynamic data item, the `deleteFormat()` function is called. The `deleteFormat()` function removes the support scripts from the document.
- When the user clicks the Plus (+) button in the Edit Format List dialog box, Dreamweaver displays a menu that contains all the format types for the specified server model. Each format type corresponds to a file in the Configuration/ServerFormats/*currentServerModel* folder.

  If the user selects a format from the Plus (+) menu that requires a user-specified parameter, Dreamweaver executes the `onload` handler on the `body` tag and displays the Parameters dialog box, which shows the parameters for the format type. In this dialog box, when the user selects parameters for the format and clicks OK, Dreamweaver calls the `applyFormatDefinition()` function.

  If the selected format does not need to display a Parameters dialog box, Dreamweaver calls the `applyFormatDefinition()` function when the user selects the format type from the Plus (+) menu.
- Later, if the user edits the format by selecting it in the Edit Format List dialog box and clicking the Edit button, Dreamweaver calls the `inspectFormatDefinition()` function before the Parameters dialog box appears, so the form controls can be initialized to the correct values.

The server formats API functions

The server formats API consists of the following data formatting functions.

applyFormat()

Availability

Dreamweaver UltraDev 1.

Description

This function can edit a user's document by adding a format function declaration to it. When a user selects a format from the Format text field in the Dynamic Data or the Dynamic Text dialog box or in the Bindings panel, Dreamweaver makes two changes to the user's document: It adds the appropriate format function before the HTML tag (if it's not already there), and it changes the dynamic data object to call the appropriate format function.

Dreamweaver adds the function declaration by calling the `applyFormat()` JavaScript function in the data format file. It changes the dynamic data object by calling the `formatDynamicDataRef()` function.

The `applyFormat()` function should use the DOM to add function declarations to the top of the user's document. For example, if the user selects Currency - Default, the function adds the `Currency` function declaration.

Arguments
format

- The *format* argument is a JavaScript object that describes the format to apply. The JavaScript object is the node that corresponds to the `format` tag in the Formats.xml file. The object has a JavaScript property for each attribute of the corresponding `format` tag.

Returns
Dreamweaver expects nothing.

applyFormatDefinition()

Availability
Dreamweaver UltraDev 1.

Description
Commits the changes to a format that was created using the Edit Format dialog box.

Users can create, edit, or delete formats with the Edit Format List dialog box. This function is called to commit any modifications that are made to a format. It can also set other, arbitrarily named properties on the object. Each property is stored as an attribute of the `format` tag in the Formats.xml file.

Arguments
format

- The *format* argument corresponds to the JavaScript `format` object. The function must set the `expression` property of the JavaScript object to be the regular expression for the format. The function can also set other, arbitrarily named properties of the object. Each property is stored as an attribute of the `format` tag.

Returns
Dreamweaver expects the format object, if the function completes successfully. If an error occurs, the function returns an error string. If it returns an empty string, the form is closed, but the new format is not created, which is the same as a Cancel operation.

deleteFormat()

Availability
Dreamweaver UltraDev 1.

Description
Removes the format function declaration from the top of the user's document.

When the user changes the format of a dynamic data object (in the Dynamic Data or the Dynamic Text dialog box or in the Bindings panel) or deletes a formatted dynamic data object, Dreamweaver removes the function declaration from the top of the document and also removes the function call from the dynamic data object by calling the `deleteFormat()` function.

Use the DOM with the `deleteFormat()` function to remove the function declaration from the top of the current document.

Arguments
format

The *format* argument is a JavaScript object that describes the format to remove. The JavaScript object is the node that corresponds to the `format` tag in the Formats.xml file.

Returns
Dreamweaver expects nothing.

formatDynamicDataRef()

Availability
Dreamweaver UltraDev 1.

Description
Adds the format function call to the dynamic data object. When a user selects a format from the Format text box in the Dynamic Data or the Dynamic Text dialog box or in the Bindings panel, Dreamweaver makes two changes to the user's document: It adds the appropriate format function before the HTML tag (if it's not already there), and it changes the dynamic data object to call the appropriate format function.

Dreamweaver adds the function declaration by calling the `applyFormat()` JavaScript function in the data format file. It changes the dynamic data object by calling the `formatDynamicDataRef()` function.

The `formatDynamicDataRef()` function is called when the user selects a format from the Format text box in the Dynamic Data or the Dynamic Text dialog box or in the Bindings panel. It does not edit the user's document.

Arguments
dynamicDataObject, *format*

- The *dynamicDataObject* argument is a string that contains the dynamic data object.
- The *format* argument is a JavaScript object that describes the format to apply. The JavaScript object is the node that corresponds to the `format` tag in the Formats.xml file. The object has a JavaScript property for each attribute of the corresponding `format` tag.

Returns
Dreamweaver expects the new value for the dynamic data object.

If an error occurs, the function displays an alert message under certain conditions. If the function returns an empty string, the Format text box is set to `None`.

inspectFormatDefinition()

Availability
Dreamweaver UltraDev 1.

Description

Initializes form controls when a user edits a format in the Edit Format List dialog box.

Arguments

format

The *format* argument is a JavaScript object that describes the format to apply. The JavaScript object is the node that corresponds to the `format` tag in the Formats.xml file. The object has a JavaScript property for each attribute of the corresponding `format` tag.

Returns

Dreamweaver expects nothing.

Chapter 20: Components

Adobe Dreamweaver supports the creation of many of the most popular types of components. In addition, Dreamweaver lets you extend the types of components that appear in the Components panel.

About component basics

Programmers use various strategies to encapsulate their work. You can think of *encapsulation* as creating an entity that exists in a virtual black box. To use it, you need not know how it works. But, knowing what information it requires to do its job and what information it will result in after its job is complete is a must. For example, a programmer creates a program that gets information from an employee database. Anyone, including other programs, can then use that program to query that database. Thus, the program is reusable.

Experience shows that well-organized programs that use encapsulation are easier to maintain, enhance, and reuse. Different technologies offer programmers different ways to accomplish this encapsulation, and different names describe these strategies: *functions*, *modules*, and others. Dreamweaver uses the term *component* for some of the more popular and modern encapsulation strategies such as Adobe ColdFusion components (CFCs). So, when users build web applications in Dreamweaver, the Components panel assists them in using CFCs.

Components from recent technologies (such as web services, JavaBeans, or CFCs) can describe themselves. Usually, information about the component is embedded in the files that constitute the component. The ability of a component to publish or share this information is called *introspection*. So, a program like Dreamweaver can ask a component for a list of the functions it exposes. (Exposed functions are those functions that can be loaded from another program). Depending on the technology in use, a component can reveal other information about itself.

Extending the Components panel

To use a component strategy that is not represented in the current Components panel, extend the logic of the Components panel. This way, the panel can handle new kinds of components.

To add a new component to the Dreamweaver Components panel, locate the available components (in the environment of the user). Then, request descriptions from each component (or parse them if they are written using ASCII files).

The precise way that the location of components and how component details are retrieved varies among technologies. Additionally, it can vary based on the server model (ASP.NET, JSP/J2EE, ColdFusion, or others). So, the JavaScript you write to extend the Components panel depends on the component technology you want to add. The functions described here are meant to assist you in getting information to appear in the Components panel. But, you yourself must write much of the logic for locating components and introspecting them. It includes querying the internal structure of the component and making its fields, methods, and properties available through Dreamweaver.

Finally, server models such as ASP.NET, JSP/J2EE, or ColdFusion tend to support some, but not all, component types. For example, ASP.NET supports web services but not JavaBeans. Adobe ColdFusion also supports web services and CFCs. When you add a new component type to the Components panel, it must be server-model specific. For example, if a Dreamweaver user is working on a ColdFusion site, CF Components appear in the pop-up menu in the Components panel.

In some cases, writing some JavaScript code that calls certain component-related function, is a must for altering files.

Customizing the Components panel

The Dreamweaver Components panel lets users load and work with components. It lists all the available component types that are compatible with each enabled server model. For example, CFCs can work only on an Adobe ColdFusion page; they appear only in the Adobe ColdFusion server model within the Components panel.

Extensibility lets you add new component types to the panel. Follow several general steps when adding a new component type to the Components panel:

1 Add the component to the list of available component types for the appropriate server models.

2 Add instructions for setting up the component in the Components panel or in a dialog box (depending on the extension for which the steps are implemented). The instructions are also known as setup steps, and appear as interactive numbered steps. Make sure that check marks appear next to any steps the user has completed.

3 List the components of the component type that exist either on the computer of the user or in the current site only.

4 Create a component when the user clicks the Plus (+) button in the Components panel.

In addition, you can enable the user to edit a component and delete a component.

Customizing Components panel files

The Configuration/Components folder has a subfolder for each implemented server model. Component files are stored in the Configuration/Components/*server-model*/*ComponentType* folder. You can add other server models and supporting server extensions (for more information, see "Server models" on page 322 and "Server behaviors" on page 246).

Create a custom component that can work in the Components panel

1 Create an HTML file that identifies the locations of supporting JavaScript and image files.

2 Write the JavaScript to enable the component.

3 Create or identify existing GIF image files to represent the component in the Components panel.

To make the component type appear in a tree control view, create the associated optional files and populate the tree control.

You can set a component type to work at three levels: individual web page, set of web pages, or an entire site. Your JavaScript code must include the logic for component persistence—for saving itself between sessions and reloading at the start of a new session.

Add a new lightweight directory access protocol (LDAP) service component

1 Using existing component type files as a model (such as the files in the application folder Configuration/Components/Common/WebServices), create all the required files, plus the desired optional files, to display the new component type in the Dreamweaver Components panel, as shown in the following table:

Filename	Description	Required/Optional
*.htm	The extension file that identifies other supporting JavaScript and GIF files.	Required
*.js	The extension file that implements the Component API callback.	Required
*.gif	The image that appears in the Components pop-up menu.	Required
*Menus.xml	The repository for metadata that organizes the Components panel structure. Although the common WebServices component does not use this file, you can refer to the file WebServicesMenus.xml in the application folder Components/ColdFusion/WebServices as an example.	Optional
*.gif	Toolbar images, which can be enabled or disabled, as shown in the following example: `ToolBarImageUp.gif ToolBarImageDown.gif ToolBarImageDisabled.gif` or, tree node images.	Optional

Note: *Keep the same prefix throughout all the files that correspond to one component so that each file and its corresponding component can be identified easily.*

2 Write the JavaScript code to implement the new server component.

The extension file (HTM) defines the locations of the JavaScript code in the `SCRIPT` tag. These JavaScript files can reside in the Shared folder, in the same folder as the extension file, or in the Common folder for code that applies to multiple server models.

For example, the WebServices.htm file in the Configuration/Components/Common/WebServices/ folder contains the line:

```
<SCRIPT SRC="../../Common/WebServices/WebServicesCommon.js"></SCRIPT>
```

For more information on the available Component API functions, see "Components panel API functions" on page 312.

When adding a new service, you might want to use the Components panel to browse meta information so that the information is readily available as you create the extension. Dreamweaver can browse added components and display nodes in the component tree. The Components panel provides drag-and-drop support and keyboard support in Code view.

Properties of tree control

Use the `ComponentRec` property to populate a Components panel tree control, so that it appears within the Components panel in the proper location. Every node in a tree control must have the following properties:

Property name	Description	Required/Optional
`name`	Name of the tree node item	Required
`image`	Icon of the tree node item. If it is not specified, a default icon is used.	Optional
`hasChildren`	Responds to clicks on the Plus (+) and Minus (-) buttons in the tree control by loading children. You can work with a tree that is not prepopulated.	Required

Property name	Description	Required/Optional
`toolTipText`	Tooltip text of the tree node item	Optional
`isCodeViewDraggable`	Determines whether the item can be dragged and dropped into the Code view.	Optional
`isDesignViewDraggable`	Determines whether the item can be dragged and dropped into the Design view.	Optional

For example, the following WebServicesClass node has web methods as its children:

```
this.name = "TrafficLocatorWebService";
this.image = "Components/Common/WebServices/WebServices.gif";
this.hasChildren = true;
this.toolTipText = "TrafficLocatorWebService";
this.isCodeViewDraggable = true;
// the following allows of enabling/disabling of the button that appears
// above the Component Tree
this.allowDelete = true;
this.isDesignViewDraggable = false;
```

Components panel API functions

This section describes the API functions for populating the Components panel.

getComponentChildren()

Availability

Dreamweaver MX.

Description

This function returns a list of child `ComponentRec` objects for the active parent `ComponentRec` object. To load the root-level tree items, this function needs to read its metadata from its persistent store.

Arguments

`{parentComponentRec}`

The *parentComponentRec* argument is the `componentRec` object of the parent. If it is omitted, Dreamweaver expects a list of `ComponentRec` objects for the root node.

Returns

An array of `ComponentRec` objects.

Example

See `function getComponentChildren(componentRec)` in the WebServices.js file in the Configuration/Components/Common/WebServices folder.

getContextMenuId()

Availability

Dreamweaver MX.

Description

Returns the context menu ID for the component type. Every component type can have a context menu associated with it. The Context Menu pop-up menus are defined in the *ComponentName*Menus.xml file, and they work the same way as the menu.xml file. The menu string can be static or dynamic. Keyboard shortcuts (accelerator keys) are supported.

Arguments

None.

Returns

A string defining the context menu ID.

Example

The following example sets the Options menu for the Components panel for CFCs associated with the Adobe ColdFusion server model.The example also defines the keyboard shortcuts for the menu:

```
function getContextMenuId()
{
    return "DWCFCsContext";
}
```

The DWWebServicesContext of the menu is defined in the file in the Configuration/Components/ColdFusion/CFCs/CFCsMenus.xml as follows:

```
<menubar xmlns:MMString="http://www.macromedia.com/schemes/dat/string/" name=""
id="DWCFCsContext">
    <menu MMString:name="Components/ColdFusion/CFCs/CFCsMenus_xml/DWContext_CFCs/menu/name"
id="DWContext_CFCs">
    <menuitem
MMString:name="Components/ColdFusion/CFCs/CFCsMenus_xml/DWContext_CFCs_createNewCFC/menuitem
/name" domRequired="false" enabled="true" command="createCFC()"
id="DWContext_CFCs_createNewCFC" />
    <menuitem
MMString:name="Components/ColdFusion/CFCs/CFCsMenus_xml/DWContext_CFCs_editCode/menuitem/nam
e" domRequired="false" enabled="canGetSelectedCFC()" command="editCFC();"
id="DWContext_CFCs_editCode" />
<separator/>
    <menuitem
MMString:name="Components/ColdFusion/CFCs/CFCsMenus_xml/DWContext_CFCs_getDetails/menuitem/n
ame" domRequired="false" enabled="canGetDetails()" command="getDetails()"
id="DWContext_CFCs_getDetails" />
    <menuitem
MMString:name="Components/ColdFusion/CFCs/CFCsMenus_xml/DWContext_CFCs_getDescription/menuit
em/name" domRequired="false" enabled="canGetSelectedCFC()" command="getDescription()"
id="DWContext_CFCs_getDescription" />
    <separator/>
    <menuitem
MMString:name="Components/ASP_NET_Csharp/Connections/ConnectionsMenus_xml/DWShortcuts_Server
Component_Insert/menuitem/name" domRequired="false" enabled="insertCFCEnabled();"
command="clickedInsertCFC();" id="DWShortcuts_ServerComponent_Insert" />
    </menu>
</menubar>
```

getCodeViewDropCode()

Availability

Dreamweaver MX.

Description

This function gets the code that is either dragged, cut, or copied into the Code view from the Components panel.

Arguments

componentRec

- The *componentRec* argument is an object.

Returns

The string that contains the code for the component.

Example

The following example identifies the code for an Adobe ColdFusion Component (CFC):

```
  function getCodeVi e wDropCode(compone nt  Rec )
{
    var codeToDrop="";
    if (componentRec)
     {
        if  (componentRec.objectType == "Connection")
        {
            v ar  connPart = new Participant("d at asource_tag");
            var paramObj = new Obje ct( );
            paramObj.datasource = componentRec.name;
            codeToDrop =  con nPart.getInsertString(paramObj, "aboveHTML");}
        el se if ((componentRec.objectType == "Column")| |
                (componentRec.objectType == "Paramete r "))
        {
            c  odeToDrop = componentRec.dropcode;
        }
        e ls e{
            codeToDrop =  co mponentRec.name;
            }
        }
        return codeToDrop;
}
```

getSetupSteps()

Availability

Dreamweaver MX.

Description

Dreamweaver calls this function if the `setupStepsCompleted()` function returns zero or a positive integer. This function controls the server-side setup instructions, which can be implemented using extensions that use a modal dialog box and extensions that use server components.

This function returns an array of the strings for Dreamweaver to display in either the Setup Steps dialog box or the Components panel, depending on the extension type.

Arguments

None.

Returns

An array of *n*+1 strings, where *n* is the number of steps, as described in the following list:

- The title that appears above the list of setup steps
- For each step, the text instructions, which can include any HTML markup that is legal inside a `li` tag

  You can include links (`a` tags) in the list of steps by using the following form:

  ```
  <a href="#" onMouseDown="handler">Blue Underlined Text</a>
  ```

  The *"handler"* value can be replaced by any of the following strings or any JavaScript expression, such as "`dw.browseDocument('http://www.adobe.com')`":

- An `"Event:SetCurSite"` handler opens a dialog box to set the current site.

- An `"Event:CreateSite"` handler opens a dialog box to create a new site.
- An `"Event:SetDocType"` handler opens a dialog box to change the document type of the user's document.
- An `"Event:CreateConnection"` handler opens a dialog box to create a new database connection.
- An `"Event:SetRDSPassword"` handler opens a dialog box to set the Remote Development Service (RDS) user name and password (Adobe ColdFusion only).
- An `"Event:CreateCFDataSource"` handler opens the Adobe ColdFusion administrator in a browser.

Example

The following example sets four steps for Adobe ColdFusion components, and provides a hypertext link in the fourth step so the user can enter the RDS user name and password:

```
function getSetupSteps()
{
    var doSDK = false;
    dom = dw.getDocumentDOM();
    if (dom && dom.serverModel)
    {
        var aServerModelName = dom.serverModel.getDisplayName();
    }
    else
    {
        var aServerModelName = site.getServerDisplayNameForSite();
    }
    if (aServerModelName.length)
    {
        if(aServerModelName != "ColdFusion")
        {
            if(needsSDKInstalled != null)
            {
                doSDK = needsSDKInstalled();
            }
        }
    }

    var someSteps = new Array();
    someSteps.push(MM.MSG_WebService_InstructionsTitle);
    someSteps.push(MM.MSG_Dynamic_InstructionsStep1);
    someSteps.push(MM.MSG_Dynamic_InstructionsStep2);
    if(doSDK == true)
    {
        someSteps.push(MM.MSG_WebService_InstructionsStep3);
    }
    someSteps.push(MM.MSG_WebService_InstructionsStep4);

    return someSteps;
}
```

setupStepsCompleted()

Availability

Dreamweaver MX.

Description
Dreamweaver calls this function before the Components tab appears. Dreamweaver then calls the `getSetupSteps()` function if the `setupStepsCompleted()` function returns zero or a positive integer.

Arguments
None.

Returns
An integer that represents the number of setup steps the user has completed, as described in the following list:

- A value of either zero or a positive integer indicates the number of completed steps.
- A value of `-1` indicates that all the necessary steps are complete, so the instruction list does not appear.

handleDesignViewDrop()

Availability
Dreamweaver MX.

Description
Handles the drop operation when the user drags a table or view from the Databases panel or a component from the Components panel to the Design view.

Arguments
componentRec

- The *componentRec* argument is an object that contains the following properties:
- The `name` property is the name of the tree node item.
- The `image` property is an optional icon for the tree node item. If omitted, Dreamweaver MX uses a default icon.
- The `hasChildren` property is a Boolean value that indicates whether the tree node item is expandable: if `true`, Dreamweaver MX displays the Plus (+) and Minus (-) buttons for the tree node item; if `false`, the item is not expandable.
- The `toolTipText` property is optional tool tip text for the tree node item.
- The `isCodeViewDraggable` property is a Boolean value that indicates whether the tree node item can be dragged and dropped into the Code view.
- The `isDesignViewDraggable` property is a Boolean value that indicates whether the tree node item can be dragged and dropped into the Design view.

Returns
A Boolean value that indicates whether the drop operation was successful: `true` if successful; `false` otherwise.

Example
The following example determines if the component is a table or view, and then returns the appropriate `bHandled` value:

```
function handleDesignViewDrop(componentRec)
{
    var bHandled = false;
    if (componentRec)
    {
        if ((componentRec.objectType == "Table")||
            (componentRec.objectType == "View"))
        {
            alert("popup Recordset Server Behavior");
            bHandled = true;
        }
    }
    return bHandled;
}
```

handleDoubleClick()

Availability

Dreamweaver MX.

Description

When the user double-clicks the node in the tree, the event handler is called to allow editing. This function is optional. The function can return a `false` value, which indicates that the event handler is not defined. In this case, double-clicking causes the default behavior, which expands or collapses the tree nodes.

Arguments

componentRec

- The *componentRec* argument is an object that contains the following properties:
- The `name` property is the name of the tree node item.
- The `image` property is an optional icon for the tree node item. If this icon is omitted, Dreamweaver uses a default icon.
- The `hasChildren` property is a Boolean value that indicates whether the tree node item is expandable: if `true`, Dreamweaver displays the Plus (+) and Minus (-) buttons for the tree node item; if `false`, the item is not expandable.
- The `toolTipText` property is an optional tooltip text for the tree node item.
- The `isCodeViewDraggable` property is a Boolean value that indicates whether the tree node item can be dragged and dropped into Code view.
- The `isDesignViewDraggable` property is a Boolean value that indicates whether the tree node item can be dragged and dropped into Design view.

Returns

Nothing.

Example

In the following example, the extension has a chance to handle a double-click on the tree node item; if it returns the value `false`, the default behavior is to expand/collapse the nodes.

```
function handleDoubleClick(componentRec)
{
    var selectedObj = dw.serverComponentsPalette.getSelectedNode();
    if(dwscripts.IS_WIN)
    {
        if (selectedObj && selectedObj.wsRec && selectedObj.wsRec[ProxyGeneratorNamePropName])
        {
            if (selectedObj.objectType == "Root")
            {
                editWebService();
                return true;
            }
            else if (selectedObj.objectType == "MissingProxyGen")
            {
                displayMissingProxyGenMessage(componentRec);
                editWebService();
                return true;
            }
        }
    }
    return false;
}
```

toolbarControls()

Availability

Dreamweaver MX.

Description

Every component type returns a list of `toolBarButtonRec` objects, which represents the toolbar icons, in left-to-right order. Each `toolBarButtonRec` object contains the following properties:

Property name	Description
`image`	Path to image file
`disabledImage`	Optional; path to disabled image searches for the toolbar button
`pressedImage`	Optional; path to pressed image searches for the toolbar button
`toolTipText`	Tooltip for the toolbar button
`toolStyle`	Left/right

Property name	Description
`enabled`	JavaScript code that returns a Boolean value (`true` or `false`). The enablers are called when the following conditions exist: • When the `dreamweaver.serverComponents.refresh()` function is called • When the selection in the tree changes • When server model changes
`command`	The JavaScript code to execute. The command handler can force a refresh using the `dreamweaver.serverComponents.refresh()` function.
`menuId`	The unique menu ID for the pop-up menu button when the button is clicked. When this ID is present, it overrides the command handler. In other words, the button can be either a button associated with a command, or a button that has a pop-up menu associated with it, but not both at the same time.

Arguments

None.

Returns

An array of toolbar buttons in left-to-right order.

Example

The following example assigns properties to the toolbar buttons:

```
function toolbarControls()
{
    var toolBarBtnArray = new Array();
    dom = dw.getDocumentDOM();
    var plusButton = new ToolbarControlRec();
    var aServerModelName = null;
    if (dom && dom.serverModel)
    {
        aServerModelName = dom.serverModel.getDisplayName();
    }
    else
    {
        //look in the site for potential server model
        aServerModelName = site.getServerDisplayNameForSite();
    }
    if (aServerModelName.length)
    {
        if(aServerModelName == "ColdFusion")
        {
            plusButton.image           = PLUS_BUTTON_UP;
            plusButton.pressedImage    = PLUS_BUTTON_DOWN;
            plusButton.disabledImage   = PLUS_BUTTON_UP;
            plusButton.toolStyle       = "left";
            plusButton.toolTipText    = MM.MSG_WebServicesAddToolTipText;
            plusButton.enabled        = "dwscripts.IS_WIN";
            plusButton.command        = "invokeWebService()";
        }
        else
        {
            plusButton.image          = PLUSDROPBUTTONUP;
```

```
            plusButton.pressedImage   = PLUSDROPBUTTONDOWN;
            plusButton.disabledImage  = PLUSDROPBUTTONUP;
            plusButton.toolStyle      = "left";
            plusButton.toolTipText    = MM.MSG_WebServicesAddToolTipText;
            plusButton.enabled        = "dwscripts.IS_WIN";
            plusButton.menuId         = "DWWebServicesChoosersContext";
        }
        toolBarBtnArray.push(plusButton);

        var minusButton            = new ToolbarControlRec();
        minusButton.image          = MINUSBUTTONUP;
        minusButton.pressedImage   = MINUSBUTTONDOWN;
        minusButton.disabledImage  = MINUSBUTTONDISABLED;
        minusButton.toolStyle      = "left";
        minusButton.toolTipText    = MM.MSG_WebServicesDeleteToolTipText;
        minusButton.command        = "clickedDelete()";
        minusButton.enabled  = "(dw.serverComponentsPalette.getSelectedNode() != null &&
            dw.serverComponentsPalette.getSelectedNode() &&
            ((dw.serverComponentsPalette.getSelectedNode().objectType=='Root') ||
            (dw.serverComponentsPalette.getSelectedNode().objectType == 'Error') ||
            (dw.serverComponentsPalette.getSelectedNode().objectType ==
            'MissingProxyGen')))";
        toolBarBtnArray.push(minusButton);

        if(aServerModelName != null && aServerModelName.indexOf(".NET") >= 0)
        {
            var deployWServiceButton           = new ToolbarControlRec();
            deployWServiceButton.image         = DEPLOYSUPPORTBUTTONUP;
            deployWServiceButton.pressedImage  = DEPLOYSUPPORTBUTTONDOWN;
            deployWServiceButton.disabledImage = DEPLOYSUPPORTBUTTONUP;
            deployWServiceButton.toolStyle     = "right";
            deployWServiceButton.toolTipText   = MM.MSG_WebServicesDeployToolTipText;
            deployWServiceButton.command  = "site.showTestingServerBinDeployDialog()";
            deployWServiceButton.enabled  = true;
            toolBarBtnArray.push(deployWServiceButton);
        }
        //add the rebuild proxy button for windows only.
        //bug 45552:
        if(navigator.platform.charAt(0) !="M")
        {
            var proxyButton            = new ToolbarControlRec();
            proxyButton.image          = PROXYBUTTONUP;
            proxyButton.pressedImage   = PROXYBUTTONDOWN;
            proxyButton.disabledImage  = PROXYBUTTONDISABLED;
            proxyButton.toolStyle      = "right";
            proxyButton.toolTipText    = MM.MSG_WebServicesRegenToolTipText;
            proxyButton.command        = "reGenerateProxy()";
            proxyButton.enabled        = "enableRegenerateProxyButton()";
            toolBarBtnArray.push(proxyButton);
        }
    }
    return toolBarBtnArray;
}
```

Chapter 21: Server models

Server models are the technologies that run scripts on a server. When users define a new site, they can identify the server model that they want to use at the site level and at the individual document level. This server model handles any dynamic elements that the user adds to the document.

Server model configuration files are stored in the Configuration/ServerModels folder. Within that folder, each server model has its own HTML file that implements a set of functions that the server model requires.

Customizing server models

You can customize some features of a server model using the functions that are available in the server model API.

Adobe Dreamweaver asks new users to identify server models when they first start Dreamweaver. For cases when the user does not identify a server model, you can create a dynamic dialog box that prompts the user to complete the necessary steps. This dialog box appears when the user attempts to insert a server object. For information on creating this dialog box, see the functions "getSetupSteps()" on page 315 and "setupStepsCompleted()" on page 316.

You might want to create a specialized server model. Adobe suggests that you create a new server model rather than editing any of the ones that come with Dreamweaver. (For information regarding creating new document types that are supported by your server model, see "Extensible document types in Dreamweaver" on page 13.)

When you create a new server model, you need to include an implementation of the `canRecognizeDocument()` function in your server model file. This function tells Dreamweaver the level of preference that it should give to your server model for handling a file extension when multiple server models claim a particular file extension.

The server model API functions

This section describes the functions that configure server models for Dreamweaver.

canRecognizeDocument()

Availability
Dreamweaver MX.

Description
When opening a document (and when more than one server model claims a file extension), Dreamweaver calls this function for each of the extension-associated server models to see whether any of the functions can identify whether the document is its file. If more than one server model claims the file extension, Dreamweaver gives priority to the server model that returns the highest integer.

Note: *All Dreamweaver-defined server models return a value of `1`, so third-party server models can override the file-extension association.*

Arguments

dom

The *dom* argument is the Adobe document object, which is returned by the `dreamweaver.getDocumentDOM()` function.

Returns

Dreamweaver expects an integer that indicates the priority that you give to the server model for the file extension. This function should return a value of `-1` if the server model does not claim the file extension; otherwise, this function should return a value greater than zero.

Example

In the following example, if the user opens a JavaScript document for the current server model, the sample code returns a value of `2`. This value lets the current server model take precedence over the Dreamweaver default server model.

```
var retVal = -1;
var langRE = /@\s*language\s*=\s*(\"|\')?javascript(\"|\')?/i;
// Search for the string language="javascript"
var oHTML = dom.documentElement.outerHTML;
if (oHTML.search(langRE) > -1)
    retVal = 2;
return retVal;
```

getFileExtensions()

Availability

Dreamweaver UltraDev 1, deprecated in Dreamweaver MX.

Description

Returns the document file extensions with which a server model can work. For example, the ASP server model supports .asp and .htm file extensions. This function returns an array of strings, and Dreamweaver uses these strings to populate the Default Page Extension list that is found in the App Server category in the Site Definition dialog box.

Note: *The Default Page Extension list exists only in Dreamweaver 4 and earlier. For Dreamweaver MX, and later, the Site Definition dialog box does not list file extension settings. Instead, Dreamweaver reads the Extensions.txt file and parses the element in the mmDocumentTypes.xml file. (For more information on these two files and the* `documenttype` *element, see "Extensible document types in Dreamweaver" on page 13.)*

Arguments

None.

Returns

Dreamweaver expects an array of strings that represent the allowed file extensions.

getLanguageSignatures()

Availability

Dreamweaver MX.

Description

This function returns an object that describes the method and array signatures that the scripting language uses. The `getLanguageSignatures()` function helps map generic signature mapping to language-specific mapping for the following elements:

- The function
- Constructors
- Drop code (return values)
- Arrays
- Exceptions
- Data type mappings for primitive data types

The `getLanguageSignatures()` function returns a map of these signature declarations. Extension developers can use this map to generate language-specific code blocks that Dreamweaver drops on the page (based on the appropriate server model for the page) when the user drags and drops a Web Services method, for example.

For examples of how to write this function, see the HTML implementation files for the JSP and the ASP.NET server models. Server model implementation files are located in the Configuration/ServerModels folder.

Arguments

None.

Returns

Dreamweaver expects an object that defines the scripting language signatures. This object should map the generic signatures to language-specific ones.

getServerExtension()

Availability

Dreamweaver UltraDev 4, deprecated in Dreamweaver MX.

Description

This function returns the default file extension of files that use the current server model. The `serverModel` object is set to the server model of the currently selected site if no user document is currently selected.

Arguments

None.

Returns

Dreamweaver expects a string that represents the supported file extensions.

getServerInfo()

Availability

Dreamweaver MX.

Description

This function returns a JavaScript object that can be accessed from within the JavaScript code. You can retrieve this object by calling the `dom.serverModel.getServerInfo()` JavaScript function. Furthermore, `serverName`, `serverLanguage`, and `serverVersion` are special properties, which you can access through the following JavaScript functions:

```
dom.serverModel.getServerName()
dom.serverModel.getServerLanguage()
dom.serverModel.getServerVersion()
```

Arguments

None.

Returns

Dreamweaver expects an object that contains the properties of your server model.

Example

```
var obj = new Object();
obj.serverName = "ASP";
obj.serverLanguage = "JavaScript";
obj.serverVersion = "2.0";
...
return obj;
```

getServerLanguages()

Availability

Dreamweaver UltraDev 1, deprecated in Dreamweaver MX.

Description

This function returns the supported scripting languages of a server model with an array of strings. Dreamweaver uses these strings to populate the Default Scripting Language list that is found in the App Server category in the Site Definition dialog box.

Note: *The Default Scripting Language list exists only in Dreamweaver 4 and earlier. For Dreamweaver MX and later, the Site Definition dialog box does not list supported scripting languages, nor does Dreamweaver use the* `getServerLanguages()` *function. Dreamweaver does not use this function because each server model has only one server language in Dreamweaver.*

In earlier versions of Dreamweaver, a server model could support multiple scripting languages; for example, the ASP server model supports JavaScript and VBScript.

If you want a file in the ServerFormats folder to apply only to a specific scripting language, add the following statement so it is the first line in the HTML file:

```
<!-- SCRIPTING-LANGUAGE=XXX -->
```

In this example, `XXX` represents the scripting language. This statement causes the server behavior to appear in the Plus (+) menu of the Server Behaviors panel only when the currently selected scripting language is `XXX`.

Arguments

None.

Returns
Dreamweaver expects an array of strings that represent the supported scripting languages.

getServerModelExtDataNameUD4()

Availability
Dreamweaver MX.

Description
This function returns the server model implementation name that Dreamweaver should use when accessing the UltraDev 4 extension data files that reside in the Configurations/ExtensionData folder.

Arguments
None.

Returns
Dreamweaver expects a string, such as `"ASP/JavaScript"`.

getServerModelDelimiters()

Availability
Dreamweaver MX.

Description
This function returns the script delimiters that the application server uses, and it indicates whether each delimiter can participate in merging code blocks. You can access this returned value from JavaScript by calling the `dom.serverModel.getDelimiters()` function.

Arguments
None.

Returns
Dreamweaver expects an array of objects where each object contains the following three properties:

- The *startPattern* property is a regular expression that matches the opening script delimiter (such as `<%`).
- The *endPattern* property is a regular expression that matches the closing script delimiter (such as `%>`).
- The *participateInMerge* property is a Boolean value that specifies whether the content enclosed in the listed delimiters should (`true`) or should not (`false`) participate in block merging.

getServerModelDisplayName()

Availability
Dreamweaver MX.

Description
This function returns the name that should appear in the user interface for this server model. You can access this value from JavaScript by calling the `dom.serverModel.getDisplayName()` function.

Arguments
None.

Returns
Dreamweaver expects a string, such as `"ASP JavaScript"`.

getServerModelFolderName()

Availability
Dreamweaver MX.

Description
This function returns the folder name to use for this server model within the Configuration folder. You can access this value from JavaScript by calling the `dom.serverModel.getFolderName()` function.

Arguments
None.

Returns
Dreamweaver expects a string, such as `"ASP_JS"`.

getServerSupportsCharset()

Availability
Dreamweaver MX.

Description
This function returns a `true` value if the current server supports the specified character set. From JavaScript, you can determine whether the server model supports a specific character set by calling the `dom.serverModel.getServerSupportsCharset()` function.

Arguments
metaCharSetString

The *metaCharSetString* argument is a string that holds the value of the document's `"charset="` attribute.

Returns
Dreamweaver expects a Boolean value.

getVersionArray()

Availability

Dreamweaver UltraDev 1, deprecated in Dreamweaver MX.

Description

This function retrieves the mapping of server technologies to version numbers. This function is called by the `dom.serverModel.getServerVersion()` function.

Arguments

None.

Returns

Dreamweaver expects an array of version objects, each with a version name and version value, as listed in the following examples:

- `ASP version 2.0`
- `ADODB version 2.1`

Chapter 22: Data translators

Data translators translate specialized markups into code that Adobe Dreamweaver can read and display. Server-side includes, conditional JavaScript statements, or other code such as PHP3, JSP, CFML, or ASP are examples of specialized markups. In Dreamweaver, you can translate attributes within tags as well as entire tags or blocks of code. All data translators—block/tag or attribute—are HTML files.

Data translation at times involves complex operations that either cannot be done with JavaScript or that can be done more efficiently using C. It is especially true for entire tags or blocks of code. If you are familiar with C or C++, read "C-level extensibility" on page 347 also.

The following table lists the files you use to create a data translator:

Path	File	Description
Configuration/ThirdPartyTags/	*language*.xml	Contains information about tags in the markup language.
Configuration/ThirdPartyTags/	*language*.gif	Icon for tags in the language.
Configuration/Translators/	*language*.htm	Contains JavaScript functions for the data translator.

How data translators work

Dreamweaver handles all translator files the same way, regardless of whether they translate entire tags or only attributes. At startup, Dreamweaver reads all the files in the Configuration/Translators folder and calls the `getTranslatorInfo()` function to obtain information about the translator. Dreamweaver ignores any file in which the `getTranslatorInfo()` function does not exist or contains an error that causes it to be undefined.

Note: *To prevent JavaScript errors from interfering with startup, errors in any translator file are reported only after all translators are loaded. For more information on debugging translators, see "Finding bugs in your translator" on page 335.*

Dreamweaver also calls the `translateMarkup()` function in all applicable translator files (as specified in the Translation preferences) whenever the user might add new content or change existing content that needs translation. Dreamweaver calls the `translateMarkup()` function when the user performs one of the following actions:

- Opens a file in Dreamweaver
- Switches back to Design view after making changes in the HTML panel or in Code view
- Changes the properties of an object in the current document
- Inserts an object (using either the Insert bar or the Insert menu)
- Refreshes the current document after making changes to it in another application
- Applies a template to the document
- Pastes or drags content into or within the Document window
- Saves changes to a dependent file
- Invokes a command, behavior, server behavior, Property inspector, or other extension that sets the `innerHTML` or `outerHTML` property of any tag object or the `data` property of any comment object
- Selects File > Convert > 3.0 Browser Compatible

- Selects Modify > Convert > Convert Tables To AP Divs
- Selects Modify > Convert > Convert AP Divs To Table
- Changes a tag or attribute in the Quick Tag Editor and presses Tab or Enter

Determining what kind of translator to use

All translators must contain the `getTranslatorInfo()` and `translateMarkup()` functions, and they must reside in the Configuration/Translators folder. They differ, however, in the kind of code that they insert into the user's document and in how that code must be inspected, as described in the following list:

- To translate small pieces of server markup that determine attribute values or that conditionally add attributes to a standard HTML tag, write an attribute translator. Standard HTML tags that contain translated attributes can be inspected with the Property inspectors that are built into Dreamweaver. It is not necessary to write a custom Property inspector (see "Adding a translated attribute to a tag" on page 330).
- To translate an entire tag (for example, a server-side include (SSI)) or a block of code (for example, JavaScript, ColdFusion, PHP, or other scripting), write a block/tag translator. The code that is generated by a block/tag translator cannot be inspected with the Property inspectors that are built into Dreamweaver. You must write a custom Property inspector for the translated content if you want users to be able to change the properties of the original code (see "Locking translated tags or blocks of code" on page 331).

Adding a translated attribute to a tag

Attribute translation relies on the Dreamweaver parser to ignore server markup. By default, Dreamweaver already ignores the most common kinds of server markup (including ASP, CFML, and PHP); if you use server markup that has different opening and closing markers, you must modify the third-party tag database to ensure that your translator works properly. For more information on modifying the third-party tag database, see "Customizing Dreamweaver" in *Using Dreamweaver*.

When Dreamweaver handles preserving the original server markup, the translator generates a valid attribute value that can be viewed in the Document window. (If you use server markup only for attributes that do not have a user-visible effect, you do not need a translator.)

The translator creates an attribute value that has a visible effect in the Document window by adding a special attribute, `mmTranslatedValue`, to the tag that contains the server markup. The `mmTranslatedValue` attribute and its value are not visible in the HTML panel or in Code view, nor are they saved with the document.

The `mmTranslatedValue` attribute must be unique within the tag. If it is likely that your translator needs to translate more than one attribute in a single tag, you must add a routine in the translator that appends numbers to the `mmTranslatedValue` attribute (for example, `mmTranslatedValue1`, `mmTranslatedValue2`, and so on).

The value of the `mmTranslatedValue` attribute must be a URL-encoded string that contains at least one valid attribute-value pair. This means that `mmTranslatedValue="src=%22open.jpg%22"` is a valid translation for both `src="<? if (dayType == weekday) then open.jpg else closed.jpg" ?>` and `<? if (dayType == weekday) then src="open.jpg" else src="closed.jpg" ?>`. As `mmTranslatedValue="%22open.jpg%22"` contains only the value, not the attribute, it is not valid for either example.

Translating more than one attribute at a time

The `mmTranslatedValue` attribute can contain more than one valid attribute-value pair. Consider the following untranslated code:

```
<img <? if (dayType==weekday) then src="open.jpg" width="320" height="100" else
src="closed.jpg" width="100" height="320" ?> alt="We're open 24 hours a day from
12:01am Monday until 11:59pm Friday">
```

The following example shows how the translated markup might appear:

```
<img <? if (dayType==weekday) then src="open.jpg" width="320" height="100" else
src="closed.jpg" width="100" height="320" ?>
mmTranslatedValue="src=%22open.jpg%22 width=%22320%22 height=%22100%22"
alt="We're open 24 hours a day from 12:01am Monday until 11:59pm Friday">
```

The spaces between the attribute-value pairs in the `mmTranslatedValue` attribute are not encoded. Because Dreamweaver looks for these spaces when it attempts to render the translated value, each attribute-value pair in the `mmTranslatedValue` attribute must be encoded separately and then pieced back together to form the full `mmTranslatedValue` attribute. For an example of this process, see "A simple attribute translator example" on page 336.

Inspecting translated attributes

Translated attributes do not require locks, which makes it simple to inspect the tags that contain them.

When a server markup specifies a single attribute that is represented in a Property inspector, Dreamweaver displays it in the Property inspector.

The markup appears irrespective of whether a translator is associated with it. The translator runs whenever the user edits the server markup that appears in the Property inspector.

When server markup controls more than one attribute in a tag, the server markup does not appear in the Property inspector. However, the lightning bolt icon shows that translated markup exists for the selected element.

Note: *The lightning bolt icon does not appear when text or table cells, rows, or columns are selected. Translation continues if the user edits server markup in the panel and a translator exists to handle that type of markup.*

The text boxes in the Property inspector are editable; users can enter values for attributes that server markup controls. It results in duplicate attributes. If both a translated value and a regular value are set for a particular attribute, Dreamweaver displays the translated value in the Document window, decides whether your translator searches for duplicate attributes and removes them.

Locking translated tags or blocks of code

In most cases, you want a translator to change the markup so that Dreamweaver can display it, but you want to save the original markup, not the changes. For such cases, Dreamweaver provides special XML tags in which to wrap translated content and to refer to the original code.

When you use these XML tags, the contents of the original attributes are duplicated in Code view. If the file is saved, the original, untranslated markup is written to the file. The untranslated content is what Dreamweaver displays in Code view.

The syntax of the XML tags is shown in the following example:

```
<MM:BeginLock translatorClass="translatorClass" ¬
type="tagNameOrType" depFiles="dependentFilesList" ¬
orig="encodedOriginalMarkup">
Translated content
<MM:EndLock>
```

The values in this example have the following significance:

- The *translatorClass* value is the unique identifier for the translator; it is the first string in the array that the `getTranslatorInfo()` function returns.
- The *tagNameOrType* value is a string that identifies the type of markup (or the tag name that is associated with the markup) that is contained in the lock. The string can contain only alphanumeric, hyphen (-), or underscore (_) characters. You can check this value in the `canInspectSelection()` function of a custom Property inspector to determine whether the Property inspector is the right one for the content. For more information, see "Creating Property inspectors for locked content" on page 333. Locked content cannot be inspected by the Dreamweaver built-in Property inspectors. For example, specifying `type="IMG"` does not make the Image panel appear.
- The *dependentFilesList* value is a string that contains a comma-separated list of files on which the locked markup depends. Files are referenced as URLs, relative to the user's document. If the user updates one of the files named in the *dependentFilesList* string, Dreamweaver automatically retranslates the content in the document that contains the list.
- The *encodedOriginalMarkup* value is a string that contains the original, untranslated markup, encoded using a small subset of URL encoding (use `%22` for `"`, `%3C` for `<`, `%3E` for `>`, and `%25` for `%`). The quickest way to URL-encode a string is to use the `escape()` method. For example, if `myString` equals `'<img src="foo.gif">'`, `escape(myString)` returns `%3Cimg%20src=%22foo.gif%22%3E`.

The following example shows the locked portion of code that might be generated from the translation of the server-side include `<!--#include virtual="/footer.html" -->`:

```
<MM:BeginLock translatorClass="MM_SSI" type="ssi" ¬
depFiles="C:\sites\webdev\footer.html" orig="%3C!--#include ¬
virtual=%22/footer.html%22%20--%3E">
<!-- begin footer -->
<CENTER>
<HR SIZE=1 NOSHADE WIDTH=100%>

<BR>

[<A TARGET="_top" HREF="/">home</A>]
[<A TARGET="_top" HREF="/products/">products</A>]
[<A TARGET="_top" HREF="/services/">services</A>]
[<A TARGET="_top" HREF="/support/">support</A>]
[<A TARGET="_top" HREF="/company/">about us</A>]
[<A TARGET="_top" HREF="/help/">help</A>]
</CENTER>
<!-- end footer -->
<MM:EndLock>
```

Creating a translator that locks code inside a `script` tag can cause the translator to fail. For example, suppose you have the following code:

```
<script language="javascript">
<!--
function foo() {
alert('<bean:message key="show.message"/>');
}
// -->
</script>
```

Then you create a translator for the `bean:messagestruts` tag, the translator fails because you are creating a `MM:BeginLock` section inside a `MM:BeginLock` section. A workaround is to create a JSP wrapper around the `bean:message` tag that uses regular JSP tags like `<%= My_lookup.lookup("show.message") %>`. This causes your translator to skip this code, and the translation succeeds.

Creating Property inspectors for locked content

After you create a translator, you need to create a Property inspector for the content so the user can change its properties (for example, the file to be included or one of the conditions in a conditional statement). Inspecting translated content is a unique problem for several reasons:

- The user might want to change the properties of the translated content, and those changes must be reflected in the untranslated content.
- The Document Object Model (DOM) contains the translated content (that is, the `lock` tags and the tags they surround are nodes in the DOM), but the `outerHTML` property of the `documentElement` object and the `dreamweaver.getSelection()` and `dreamweaver.nodeToOffsets()` functions act on the untranslated source.
- The tags you inspect are different before and after translation.

  A Property inspector for the `HAPPY` tag might have a comment that looks similar to the following example:

  ```
  <!-- tag:HAPPY,priority:5,selection:exact,hline,vline, attrName:xxx,¬ attrValue:yyy -->
  ```

  The Property inspector for the translated `HAPPY` tag, however, would have a comment that looks similar to the following example:

  ```
  <!-- tag:*LOCKED*,priority:5,selection:within,hline,vline -->
  ```

  The `canInspectSelection()` function for the untranslated `HAPPY` Property inspector is simple. Because the `selection` type is `exact`, it can return a value of `true` without further analysis. For the translated `HAPPY` Property inspector, this function is more complicated; the keyword `*LOCKED*` indicates that the Property inspector is appropriate when the selection is within a locked region, but because a document can have several locked regions, further checks must be performed to determine whether the Property inspector matches this particular locked region.

  Another problem is inherent in inspecting translated content. When you call the `dom.getSelection()` function, the values that return by default are offsets into the untranslated source. To expand the selection properly so that the locked region (and only the locked region) is selected, use the following technique:

  ```
  var currentDOM = dw.getDocumentDOM();
  var offsets = currentDOM.getSelection();
  var theSelection = currentDOM.offsetsToNode(offsets[0],offsets[0]+1);
  ```

  Using `offsets[0]+1` as the second argument ensures that you remain within the opening `lock` tag when you convert the offsets to a node. If you use `offsets[1]` as the second argument, you risk selecting the node above the lock.

  After you make the selection (after ensuring that its `nodeType` is `node.ELEMENT_NODE`), you can inspect the `type` attribute to see if the locked region matches this Property inspector, as shown in the following example:

```
if (theSelection.nodeType == node.ELEMENT_NODE && ¬
theSelection.getAttribute('type') == 'happy'){
    return true;
}else{
    return false
}
```

To populate the text boxes in the Property inspector for the translated tag, you must parse the value of the `orig` attribute. For example, if the untranslated code is `<HAPPY TIME="22">` and the Property inspector has a Time text box, you must extract the value of the `TIME` attribute from the `orig` string:

```
function inspectSelection() {
    var currentDOM = dw.getDocumentDOM();
    var currSelection = currentDOM.getSelection();
    var theObj = currentDOM.offsetsToNode(curSelection[0],curSelection[0]+1);

    if (theObj.nodeType != Node.ELEMENT_NODE) {
        return;
    }

    // To convert the encoded characters back to their
    // original values, use the unescape() method.
    var origAtt = unescape(theObj.getAttribute("ORIG"));

    // Convert the string to lowercase for processing
    var origAttLC = origAtt.toLowerCase();

    var timeStart = origAttLC.indexOf('time="');
    var timeEnd = origAttLC.indexOf('"',timeStart+6);
    var timeValue = origAtt.substring(timeStart+6,timeEnd);

    document.layers['timelayer'].document.timeForm.timefield.value = timeValue;
}
```

After you parse the `orig` attribute to populate the boxes in the Property inspector for the translated tag, the next step is probably to set the value of the `orig` attribute if the user changes the value in any of the text boxes. You might find restrictions against making changes in a locked region. You can avoid this problem by changing the original markup and retranslating.

The Property inspector for translated server-side includes (the ssi_translated.js file in the Configuration/Inspectors folder) demonstrates this technique in its `setComment()` function. Rather than rewriting the `orig` attribute, the Property inspector assembles a new server-side include comment. It inserts that comment into the document, replacing the old one by rewriting the contents of the document, which generates a new `orig` attribute. The following code summarizes this technique:

```
// Assemble the new include comment. radioStr and URL are
// variables defined earlier in the code.
newInc = "<!--#include " + radioStr + "=" + '"' + URL + '"' + " -->";
// Get the contents of the document.
var entireDocObj = dreamweaver.getDocumentDOM();
var docSrc = entireDocObj.documentElement.outerHTML;
// Store everything up to the SSI comment and everything after
// the SSI comment in the beforeSelStr and afterSelStr variables.
var beforeSelStr = docSrc.substring(0, curSelection[0] );
var afterSelStr= docSrc.substring(curSelection[1]);
// Assemble the new contents of the document.
docSrc = beforeSelStr + newInc + afterSelStr;
// Set the outerHTML of the HTML tag (represented by
// the documentElement object) to the new contents,
// and then set the selection back to the locked region
// surrounding the SSI comment.
entireDocObj.documentElement.outerHTML = docSrc;
entireDocObj.setSelection(curSelection[0], curSelection[0]+1);
```

Finding bugs in your translator

If the `translateMarkup()` function contains certain types of errors, the translator loads properly, but it fails without an error message when you invoke it. Although failing silently prevents Dreamweaver from becoming unstable, it can hinder development, especially when you need to find one small syntax error in multiple lines of code.

If your translator fails, one effective debugging method is to turn the translator into a command, as described in the following steps:

1. Copy the entire contents of the translator file to a new document, and save it in the Configuration/Commands folder inside the Dreamweaver application folder.
2. At the top of the document, between the `SCRIPT` tags, add the following function:

```
function commandButtons(){
    return new Array( "OK","translateMarkup(dreamweaver.¬
    getDocumentPath('document'), dreamweaver.getSiteRoot(), ¬
    dreamweaver.getDocumentDOM().documentElement.outerHTML); ¬
    window.close()", "Cancel", "window.close()");
}
```

3. At the end of the `translateMarkup()` function, comment out the `return`*whateverTheReturnValueIs* line, and replace it with `dreamweaver.getDocumentDOM().documentElement.outerHTML =` *`whateverTheReturnValueIs`*, as shown in the following example:

```
    // return theCode;
    dreamweaver.getDocumentDOM().documentElement.outerHTML = theCode;
}
/* end of translateMarkup() */
```

4. In the body of the document, add the following form with no text boxes:

```
<body>
<form>
Hello.
</form>
</body>
```

5 Restart Dreamweaver, and select your translator command from the Commands menu. When you click OK, the `translateMarkup()` function is called, which simulates translation.

   If no error message appears and translation still fails, you probably have a logic error in your code.

6 Add `alert()` statements in strategic spots throughout the `translateMarkup()` function so you can make sure you're getting the proper branches and so you can check the values of variables and properties at different points:

```
for (var i=0; i< foo.length; i++){
    alert("we're at the top of foo.length array, and the value of i is " + i);
    /* rest of loop */
}
```

7 After adding the `alert()` statements, select your command from the Commands menu, click Cancel, and select it again. This process reloads the command file and incorporates your changes.

A simple attribute translator example

To better understand attribute translation, it's helpful to look at an example. The following translator is Pound Conditional (Poco) markup, a syntax that's somewhat similar to ASP or PHP.

You create the attribute translator by creating a `tagspec` tag, an icon, and an attribute translator.

Create the tagspec tag

The first step in making this translator work properly is to create a `tagspec` tag for Poco markup, which prevents Dreamweaver from parsing the untranslated Poco statements.

1 Create a new blank file.

2 Enter the following:

```
<tagspec tag_name="poco" start_string="<#" end_string="#>" ¬
detect_in_attribute="true" icon="poco.gif" icon_width="17" ¬
icon_height="15"></tagspec>
```

3 Save the file as poco.xml in the Configuration/ThirdPartyTags folder.

For an example of creating the `tagspec` tag, see the Tags.xml file in the Configuration/ThirdPartyTags folder.

Create the icon

Next, you create the icon for Poco tags.

1 Create an image file that is 18 x 18 pixels for the Poco tags icon.

2 Save the file as poco.gif in the Configuration/ThirdPartyTags folder.

Create the attribute translator

You create an HTML file that contains the functions necessary for the attribute translator.

1 Create a new blank file.

2 Enter the following:

```
<html>
<head>
<title>Conditional Translator</title>
<meta http-equiv="Content-Type" content="text/html; charset=">
<script language="JavaScript">

/************************************************************
 * This translator handles the following statement syntaxes: *
 * <# if (condition) then foo else bar #>                   *
 * <# if (condition) then att="foo" else att="bar" #>       *
 * <# if (condition) then att1="foo" att2="jinkies"         *
 * att3="jeepers" else att1="bar" att2="zoinks" #>          *
 *                                                          *
 * It does not handle statements with no else clause.       *
 ************************************************************/

var count = 1;

function translateMarkup(docNameStr, siteRootStr, inStr){
var count = 1;
// Counter to ensure unique mmTranslatedValues
var outStr = inStr;
// String that will be manipulated
var spacer = "";
// String to manage space between encoded attributes
var start = inStr.indexOf('<# if');   // 1st instance of Pound Conditional code
// Declared but not initalized //
var attAndValue;
// Boolean indicating whether the attribute is part of
// the conditional statement
var trueStart;
// The beginning of the true case
var falseStart;
// The beginning of the false case
var trueValue;
// The HTML that would render in the true case
var attName;
// The name of the attribute that is being
// set conditionally.
var equalSign;
// The position of the equal sign just to the
// left of the <#, if there is one
var transAtt;
// The entire translated attribute
var transValue;
// The value that must be URL-encoded
var back3FromStart;
// Three characters back from the start position
// (used to find equal sign to the left of <#
var tokens;
// An array of all the attributes set in the true case
var end;
// The end of the current conditional statement.
// As long as there's still a <# conditional that hasn't been
// translated.
while (start != -1){
    back3FromStart = start-3;
```

```
end = outStr.indexOf(' #>',start);
equalSign = outStr.indexOf('="<# if',back3FromStart);
attAndValue = (equalSign != -1)?false:true;
trueStart = outStr.indexOf('then', start);
falseStart = outStr.indexOf(' else', start);
trueValue = outStr.substring(trueStart+5, falseStart);
tokens = dreamweaver.getTokens(trueValue,' ');

// If attAndValue is false, find out what attribute you're
// translating by backing up from the equal sign to the
// first space. The substring between the space and the
// equal sign is the attribute.
if (!attAndValue){
    for (var i=equalSign; i > 0; i--){
        if (outStr.charAt(i) == " "){
            attName = outStr.substring(i+1,equalSign);
            break;
        }
    }
    transValue = attName + '="' + trueValue + '"';
    transAtt = ' mmTranslatedValue' + count + '="' + ¬
    escape(transValue) + '"';
    outStr = outStr.substring(0,end+4) + transAtt + ¬
    outStr.substring(end+4);
// If attAndValue is true, and tokens is greater than
// 1, then trueValue is a series of attribute/value
// pairs, not just one. In that case, each attribute/value
// pair must be encoded separately and then added back
// together to make the translated value.
}else if (tokens.length > 1){
    transAtt = ' mmTranslatedValue' + count + '="'
    for (var j=0; j < tokens.length; j++){
        tokens[j] = escape(tokens[j]);
        if (j>0){
            spacer=" ";
        }
        transAtt += spacer + tokens[j];
    }
    transAtt += '"';
    outStr = outStr.substring(0,end+3) + transAtt + ¬
    outStr.substring(end+3)

// If attAndValue is true and tokens is not greater
// than 1, then trueValue is a single attribute/value pair.
// This is the simplest case, where all that is necessary is
// to encode trueValue.
}else{
    transValue = trueValue;
    transAtt = ' mmTranslatedValue' + count + '="' + ¬
    escape(transValue) + '"';
    outStr = outStr.substring(0,end+3) + transAtt + ¬
    outStr.substring(end+3);
}
// Increment the counter so that the next instance
// of mmTranslatedValue will have a unique name, and
// then find the next <# conditional in the code.
count++;
```

```
    start = outStr.indexOf('<# if',end);
}
// Return the translated string.
return outStr
}
function getTranslatorInfo(){
    returnArray = new Array(7);

    returnArray[0] = "Pound_Conditional";                // The translatorClass
    returnArray[1] = "Pound Conditional Translator";     // The title
    returnArray[2] = "2";                                // The number of extensions
    returnArray[3] = "html";                             // The first extension
    returnArray[4] = "htm";                              // The second extension
    returnArray[5] = "1";                                // The number of expressions
    returnArray[6] = "<#";                               // The first expression
    returnArray[7] = "byString";                         //
    returnArray[8] = "50";                                   //
    return returnArray
}
</script>
</head>

<body>
</body>
</html>
```

3 Save the file as Poco.htm in the Configuration/Translators folder.

A simple block/tag translator example

To help understand translation, look at a translator that is written entirely in JavaScript, which does not rely on a C library for any functionality. The following translator example would be more efficient if it were written in C, but the JavaScript version is simpler, which makes it perfect for demonstrating how translators work.

As with most translators, this one is designed to mimic server behavior. Assume that your web server is configured to replace the `KENT` tag with a different picture of an engineer, depending on the day of the week, the time of day, and the user's platform. The translator does the same thing, only locally.

Create the block/tag translator

1 Create a new blank file.

2 Enter the following code:

```
<html>
<head>
<title>Kent Tag Translator</title>
<meta http-equiv="Content-Type" content="text/html; charset=">
<script language="JavaScript">
/*********************************************************
 * The getTranslatorInfo() function provides information  *
 * about the translator, including its class and name,    *
 * the types of documents that are likely to contain the  *
 * markup to be translated, the regular expressions that  *
 * a document containing the markup to be translated      *
 * would match (whether the translator should run on all  *
 * files, no files, in files with the specified           *
 * extensions, or in files matching the specified         *
 * expressions).                                          *
 *********************************************************/
function getTranslatorInfo(){
    //Create a new array with 6 slots in it
    returnArray = new Array(6);

    returnArray[0] = "DREAMWEAVER_TEAM";           // The translatorClass
    returnArray[1] = "Kent Tags";                  // The title
    returnArray[2] = "0";                          // The number of extensions
    returnArray[3] = "1";                          // The number of expressions
    returnArray[4] = "<kent";                      // Expression
    returnArray[5] = "byExpression";               // run if the file contains "<kent"
    return returnArray;
}

/***************************************************************************
 * The translateMarkup() function performs the actual translation.        *
 * In this translator, the translateMarkup() function is written          *
 * entirely in JavaScript (that is, it does not rely on a C library) --   *
 * and it's also extremely inefficient. It's a simple example, however,   *
 * which is good for learning.                                             *
***************************************************************************/
function translateMarkup(docNameStr, siteRootStr, inStr){
    var outStr = "";                      // The string to be returned after translation
    var start = inStr.indexOf('<kent>');  // The first position of the KENT tag
                                          // in the document.
    var replCode = replaceKentTag();      // Calls the replaceKentTag() function
                                          // to get the code that will replace KENT.
        var outStr = "";                  // The string to be returned after translation
     //If the document does not contain any content, terminate the translation.
    if ( inStr.length <= 0 ){
         return "";
    }

    // As long as start, which is equal to the location in inStr of the
    // KENT tag, is not equal to -1 (that is, as long as there is another
    // KENT tag in the document)
    while (start != -1){
         // Copy everything up to the start of the KENT tag.
         // This is very important, as translators should never change
         // anything other than the markup that is to be translated.
         outStr = inStr.substring(0, start);
         // Replace the KENT tag with the translated HTML, wrapped in special
```

```
        // locking tags. For more information on the repacement operation, see
        // the comments in the replaceKentTag() function.
        outStr = outStr + replCode;

        // Copy everything after the KENT tag.
        outStr = outStr + inStr.substring(start+6);

        // Use the string you just created for the next trip through
        // the document. This is the most inefficient part of all.
        inStr = outStr;
        start = inStr.indexOf('<kent>');

    }
    // When there are no more KENT tags in the document, return outStr.
    return outStr;
}

/*************************************************************
* The replaceKentTag() function assembles the HTML that will  *
* replace the KENT tag and the special locking tags that will *
* surround the HTML. It calls the getImage() function to      *
* determine the SRC of the IMG tag.                           *
*************************************************************/
function replaceKentTag(){
    // The image to display.
    var image = getImage();
    // The location of the image on the local disk.
    var depFiles = dreamweaver.getSiteRoot() + image;
    // The IMG tag that will be inserted between the lock tags.
    var imgTag = '<IMG SRC="/' + image + '" WIDTH="320" HEIGHT="240" ALT="Kent">\n';
    // 1st part of the opening lock tag. The remainder of the tag is assembled
    below.
    var start = '<MM:BeginLock translatorClass="DREAMWEAVER_TEAM" type="kent"';
    // The closing lock tag.
    var end = '<MM:EndLock>';

    //Assemble the lock tags and the replacement HTML.
    var replCode = start + ' depFiles="' + depFiles + '"';
    replCode = replCode + ' orig="%3Ckent%3E">\n';
    replCode = replCode + imgTag;
    replCode = replCode + end;

    return replCode;
}

/*****************************************************************
 * The getImage() function determines which image to display      *
 * based on the day of the week, the time of day and the          *
 * user's platform. The day and time are figured based on UTC     *
 * time (Greenwich Mean Time) minus 8 hours, which gives          *
 * Pacific Standard Time (PST). No allowance is made for Daylight *
 * Savings Time in this routine.                                  *
*****************************************************************/
function getImage(){
    var today = new Date();                  // Today's date & time.
    var day = today.getUTCDay();             // Day of the week in the GMT time zone.
                                             // 0=Sunday, 1=Monday, and so on.
```

```
    var hour = today.getUTCHours();     // The current hour in GMT, based on the
                                        // 24-hour clock.
var SFhour = hour - 8;                  // The time in San Francisco, based on the
                                        // 24-hour clock.
var platform = navigator.platform;      // User's platform. All Windows computers
                                        // are identified by Dreamweaver as "Win32",
                                        // all Macs as "MacPPC".
    var imageRef;                       // The image reference to be returned.
        // If SFhour is negative, you have two adjustments to make.
        // First, subtract one from the day count because it is already the wee
        // hours of the next day in GMT. Second, add SFhour to 24 to
        // give a valid hour in the 24-hour clock.
 if (SFhour < 0){
     day = day - 1;
         // The day count back one would make it negative, and it's Saturday,
         // so set the count to 6.
         if (day < 0){
                 day = 6;
         }
     SFhour = SFhour + 24;
 }

// Now determine which photo to show based on whether it's a work day or a
// weekend; what time it is; and, if it's a time and day when Kent is
// working, what platform the user is on.

//If it's not Sunday
if (day != 0){
     //And it's between 10am and noon, inclusive
     if (SFhour >= 10 && SFhour <= 12){
            imageRef = "images/kent_tiredAndIrritated.jpg";
        //Or else it's between 1pm and 3pm, inclusive
     }else if (SFhour >= 13 && SFhour <= 15){
            imageRef ="images/kent_hungry.jpg";
     //Or else it's between 4pm and 5pm, inclusive
     }else if (SFhour >= 16 && SFhour <= 17){
            //If user is on Mac, show Kent working on Mac
            if (platform == "MacPPC"){
                 imageRef = "images/kent_gettingStartedOnMac.jpg";
            //If user is on Win, show Kent working on Win
            }else{
                 imageRef = "images/kent_gettingStartedOnWin.jpg";
            }
     //Or else it's after 6pm but before the stroke of midnight
     }else if (SFhour >= 18){
             //If it's Saturday
             if (day == 6){
                 imageRef = "images/kent_dancing.jpg";
            //If it's not Saturday, check the user's platform
            }else if (platform == "MacPPC"){
                 imageRef = "images/kent_hardAtWorkOnMac.jpg";
```

```
                }else{
                     imageRef = "images/kent_hardAtWorkOnWin.jpg";
                }
           }else{
                imageRef = "images/kent_sleeping.jpg";
           }
      //If it's after midnight and before 10am, or anytime on Sunday
      }else{
           imageRef = "images/kent_sleeping.jpg";
      }

      return imageRef;
}

</script>
</head>

<body>
</body>
</html>
```

3 Save the file as kent.htm in the Configuration/Translators folder.

The data translator API functions

This section describes the functions used to define translators for Dreamweaver.

getTranslatorInfo()

Description

This function provides information about the translator and the files it can affect.

Arguments

None.

Returns

An array of strings. The elements of the array must appear in the following order:

1 The *translatorClass* string uniquely identifies the translator. This string must begin with a letter and can contain only alphanumeric characters, hyphens (-), and underscores (_).

2 The *title* string describes the translator in no more than 40 characters.

3 The *nExtensions* string specifies the number of file extensions to follow. If *nExtensions* is zero, the translator can run on any file. If *nExtensions* is zero, *nRegExps* is the next element in the array.

4 The *extension* string specifies a file extension (for example, `"htm"` or `"SHTML"`) that works with this translator. This string is not case-sensitive and should not contain a leading period. The array should contain the same number of *extension* elements that are specified in *nExtensions*.

5 The *nRegExps* string specifies the number of regular expressions that follow. If *nRegExps* is zero, *runDefault* is the next element in the array.

6 The *regExps* string specifies a regular expression that you can check. The array should contain the same number of *regExps* elements as are specified in *nRegExps*, and at least one of the *regExps* elements must match a piece of the document's source code before the translator can act on a file.

7 The *runDefault* string specifies when this translator executes. The following list gives the possible string values:

String	Definition
`"allFiles"`	Sets the translator to always execute.
`"noFiles"`	Sets the translator to never execute.
`"byExtension"`	Sets the translator to execute for files that have one of the file extensions that are specified in the extension.
`"byExpression"`	Sets the translator to execute if the document contains a match for one of the specified regular expressions.
`"bystring"`	Sets the translator to execute if the document contains a match for one of the specified strings.

Note: *If you set `runDefault` to `"byExtension"` but do not specify any extensions (see step 4.), the effect is the same as setting `"allFiles"`. If you set `runDefault` to `"byExpression"` but do not specify any expressions (see step 6.), the effect is the same as setting `"noFiles"`.*

8 The *priority* string specifies the default priority for running this translator. The priority is a number between `0` and `100`. If you do not specify a priority, the default priority is `100`. The highest priority is `0`, and `100` is the lowest. When multiple translators apply to a document, this setting controls the order in which the translators are applied. The highest priority is applied first. When multiple translators have the same priority, they are applied in alphabetical order by `translatorClass`.

Example

The following instance of the `getTranslatorInfo()` function gives information about a translator for server-side includes:

```
function getTranslatorInfo(){
    var transArray = new Array(11);
    transArray[0] = "SSI";
    transArray[1] = "Server-Side Includes";
    transArray[2] = "4";
    transArray[3] = "htm";
    transArray[4] = "stm";
    transArray[5] = "html";
    transArray[6] = "shtml";
    transArray[7] = "2";
    transArray[8] = "<!--#include file";
    transArray[9] = "<!--#include virtual";
    transArray[10] = "byExtension";
    transArray[11] = "50";
    return transArray;
}
```

translateDOM()

Availability

Dreamweaver CS3.

Description

Dreamweaver performs two translation passes. The first pass goes through all the translators and calls the `translateMarkup()` functions. After those functions are called, the second pass calls the `translateDOM()` functions. The `dom` passed in is the `dom` to translate. The only edits that are allowed during the second pass are those dealing with translated attributes.

Arguments

dom, sourceStr

- The *dom* argument.
- The *sourceStr* argument is the same string passed into `translateMarkup`. It's provided for reference, but all translation should be done on the *dom* argument, not the *sourceStr* argument.

Returns

Dreamweaver expects nothing.

Example

```
translateDOM( dom, sourceStr ); //returns nothing
```

The following instance of the `translateDOM()` function hides the tag with ID `div1` in the document.

```
function translateDOM(dom, sourceStr){
    var div1 = dom.getAttributeById("div1");
    if (div1){
    div1.style.display = "none";
    }
}
```

translateMarkup()

Description

This function performs the translation.

Arguments

docName, *siteRoot*, *docContent*

- The *docName* argument is a string that contains the file:// URL for the document to be translated.
- The *siteRoot* argument is a string that contains the file:// URL for the root of the site that contains the document to be translated. If the document is outside a site, this string might be empty.
- The *docContent* argument is a string that contains the contents of the document.

Returns

A string that contains the translated document or an empty string if nothing is translated.

Example

The following instance of the `translateMarkup()` function calls the C function `translateASP()`, which is contained in a dynamic link library (DLL) (Windows) or a code library (Macintosh) called ASPTrans:

```
function translateMarkup(docName, siteRoot, docContent){
    var translatedString = "";
    if (docContent.length > 0){
    translatedString = ASPTrans.translateASP(docName, siteRoot, ¬
    docContent);
    }
    return translatedString;
}
```

For an all-JavaScript example, see "A simple attribute translator example" on page 336 or "A simple block/tag translator example" on page 339.

liveDataTranslateMarkup()

Availability

Dreamweaver UltraDev 1.

Description

This function translates documents when users are using the Live Data window. When the user selects the View > Live Data command or clicks the Refresh button, Dreamweaver calls the `liveDataTranslateMarkup()` function instead of the `translateMarkup()` function.

Arguments

docName, *siteRoot*, *docContent*

- The *docName* argument is a string that contains the file:// URL for the document to be translated.
- The *siteRoot* argument is a string that contains the file:// URL for the root of the site that contains the document to be translated. If the document is outside a site, this string might be empty.
- The *docContent* argument is a string that contains the contents of the document.

Returns

A string that contains the translated document or an empty string if nothing is translated.

Example

The following instance of the `liveDataTranslateMarkup()` function calls the C function `translateASP()`, which is contained in a DLL (Windows) or a code library (Macintosh) called ASPTrans:

```
function liveDataTranslateMarkup(docName, siteRoot, docContent){
    var translatedString = "";
    if (docContent.length > 0){
    translatedString = ASPTrans.translateASP(docName, siteRoot, docContent);
    }
    return translatedString;
}
```

Chapter 23: C-level extensibility

The C-level extensibility mechanism lets you implement Adobe Dreamweaver extensibility files using a combination of JavaScript and custom C code. You define functions using C, bundle them in a dynamic linked library (DLL) or a shared library, save the library in the Configuration/JSExtensions folder within the Dreamweaver application folder, and then call the functions from JavaScript using the Dreamweaver JavaScript interpreter.

For example, you might want to define a Dreamweaver object that inserts the contents of a user-specified file into the current document. Because client-side JavaScript does not provide support file input/output (I/O), you must write a function in C to provide this functionality.

How integrating C functions works

You can use the following HTML and JavaScript to create a simple Insert Text from File object. The `objectTag()` function calls the `readContentsOfFile()` C function, which is stored in a library named `myLibrary`.

```
<HTML>
<HEAD>
<SCRIPT>
function objectTag() {
    fileName = document.forms[0].myFile.value;
    return myLibrary.readContentsOfFile(fileName);
}
</SCRIPT>
</HEAD>

<BODY>
<FORM>
Enter the name of the file to be inserted:
<INPUT TYPE="file" NAME="myFile">
</FORM>
</BODY>
</HTML>
```

The `readContentsOfFile()` function accepts a list of arguments from the user, retrieves the filename argument, reads the contents of the file, and returns the contents of the file. For more information about the JavaScript data structures and functions that appear in the `readContentsOfFile()` function, see "C-level extensibility and the JavaScript interpreter" on page 349.

```
JSBool
readContentsOfFile(JSContext *cx, JSObject *obj, unsigned int ¬
argc, jsval *argv, jsval *rval)
{
    char *fileName, *fileContents;
    JSBool success;
    unsigned int length;

    /* Make sure caller passed in exactly one argument. If not,
     * then tell the interpreter to abort script execution.*/
    if (argc != 1){
        JS_ReportError(cx, "Wrong number of arguments", 0);
    return JS_FALSE;
    }

    /* Convert the argument to a string */
    fileName = JS_ValueToString(cx, argv[0], &length);
    if (fileName == NULL){
        JS_ReportError(cx, "The argument must be a string", 0);
        return JS_FALSE;
    }

    /* Use the string (the file name) to open and read a file */
    fileContents = exerciseLeftToTheReader(fileName);

    /* Store file contents in rval, which is the return value passed
    * back to the caller */
    success = JS_StringToValue(cx, fileContents, 0, *rval);
    free(fileContents);

    /* Return true to continue or false to abort the script */
    return success;
}
```

To ensure that the `readContentsOfFile()` function executes properly and doesn't cause a JavaScript error, you must register the function with the JavaScript interpreter by including a `MM_Init()` function in your library. When Dreamweaver loads the library at startup, it calls the `MM_Init()` function to get the following three pieces of information:

- The JavaScript name of the function
- A pointer to the function
- The number of arguments that the function expects

The following example shows how the `MM_Init()` function for the library `myLibrary` might look:

```
void
MM_Init()
{
    JS_DefineFunction("readContentsOfFile", readContentsOfFile, 1);
}
```

Your library must include exactly one instance of the following macro:

```
/* MM_STATE is a macro that expands to some definitions that are
 * needed to interact with Dreamweaver. This macro must
 * be defined exactly once in your library. */
MM_STATE
```

Note: *The library can be implemented in either C or C++, but the file that contains the* `MM_Init()` *function and the* `MM_STATE` *macro must be implemented in C. The C++ compiler garbles function names, which makes it impossible for Dreamweaver to find the* `MM_Init()` *function.*

C-level extensibility and the JavaScript interpreter

The C code in your library must interact with the Dreamweaver JavaScript interpreter at the following different times:

- At startup, to register the library's functions
- When the function is called, to parse the arguments that JavaScript is passing to C
- Before the function returns, to package the return value

To accomplish these tasks, the interpreter defines several data types and exposes an API. Definitions for the data types and functions that are listed in this section appear in the mm_jsapi.h file. For your library to work properly, you must include the mm_jsapi.h file with the following line at the top of each file in your library:

```
#include "mm_jsapi.h"
```

Including the mm_jsapi.h file includes, in turn, mm_jsapi_environment.h, which defines the `MM_Environment` structure.

Data types

The JavaScript interpreter defines the following data types.

typedef struct JSContext JSContext
A pointer to this opaque data type passes to the C-level function. Some functions in the API accept this pointer as one of their arguments.

typedef struct JSObject JSObject
A pointer to this opaque data type passes to the C-level function. This data type represents an object, which might be an array object or some other object type.

typedef struct JSVal JSVal
An opaque data structure that can contain an integer, or a pointer to a floating-point number, string, or object. Some functions in the API can read the values of function arguments by reading the contents of a JSVal structure, and some can be used to write the function's return value by writing a JSVal structure.

typedef enum { JS_FALSE = 0, JS_TRUE = 1 } JSBool
A simple data type that stores a Boolean value.

The C-level API

The C-level extensibility API consists of the following functions:

typedef JSBool (*JSNative)(JSContext *cx, JSObject *obj, unsigned int argc, jsval *argv, jsval *rval)

Description

This function signature describes C-level implementations of JavaScript functions in the following situations:

- The *cx* pointer is a pointer to an opaque `JSContext` structure, which must be passed to some of the functions in the JavaScript API. This variable holds the interpreter's execution context.
- The *obj* pointer is a pointer to the object in whose context the script executes. While the script is running, the `this` keyword is equal to this object.
- The *argc* integer is the number of arguments being passed to the function.
- The *argv* pointer is a pointer to an array of `JSVal` structures. The array is `argc` elements in length.
- The *rval* pointer is a pointer to a single `JSVal` structure. The function's return value should be written to `*rval`.

The function returns `JS_TRUE` if successful; `JS_FALSE` otherwise. If the function returns `JS_FALSE`, the current script stops executing and an error message appears.

JSBool JS_DefineFunction()

Description

This function registers a C-level function with the JavaScript interpreter in Dreamweaver. After the `JS_DefineFunction()` function registers the C-level function that you specify in the *call* argument, you can invoke it in a JavaScript script by referring to it with the name that you specify in the *name* argument. The *name* argument is case-sensitive.

Typically, this function is called from the `MM_Init()` function, which Dreamweaver calls during startup.

Arguments

`char *`*name*, `JSNative`*call*, `unsigned int nargs`

- The *name* argument is the name of the function as it is exposed to JavaScript.
- The *call* argument is a pointer to a C-level function. The function must accept the same arguments as `readContentsOfFile`, and it must return a `JSBool`, which indicates success or failure.
- The *nargs* argument is the number of arguments that the function expects to receive.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

char *JS_ValueToString()

Description

This function extracts a function argument from a JSVal structure, converts it to a string if possible, and passes the converted value back to the caller.

Note: *Do not modify the returned buffer pointer. It can corrupt the data structures of the JavaScript interpreter. To change the string, copy the characters into another buffer and create a JavaScript string.*

Arguments

JSContext `*cx`, JSVal `v`, unsigned integer `*pLength`

- The `*cx` argument is the opaque JSContext pointer that passes to the JavaScript function.
- The `v` argument is the JSVal structure from which Dreamweaver extracts the string.
- The `*pLength` argument is a pointer to an unsigned integer. This function sets `*pLength` equal to the length of the string in bytes.

Returns

A pointer that points to a null-terminated string if successful, or to a `null` value on failure. The calling routine must not free this string when it finishes.

JSBool JS_ValueToInteger()

Description

This function extracts a function argument from a `JSVal` structure, converts it to an integer (if possible), and passes the converted value back to the caller.

Arguments

`JSContext *cx`, `JSVal v`, `long *lp`

- The *cx* argument is the opaque `JSContext` pointer that passes to the JavaScript function.
- The *v* argument is the `JSVal` structure from which the integer is to be extracted.
- The *lp* argument is a pointer to a 4-byte integer. This function stores the converted value in **lp*.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

JSBool JS_ValueToDouble()

Description

This function extracts a function argument from a `JSVal` structure, converts it to a double (if possible), and passes the converted value back to the caller.

Arguments

`JSContext *cx`, `JSVal v`, `double *dp`

- The *cx* argument is the opaque `JSContext` pointer that passes to the JavaScript function.
- The *v* argument is the `JSVal` structure from which the double is to be extracted.
- The *dp* argument is a pointer to an 8-byte double. This function stores the converted value in **dp*.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

JSBool JS_ValueToBoolean()

Description

This function extracts a function argument from a `JSVal` structure, converts it to a Boolean value (if possible), and passes the converted value back to the caller.

Arguments

`JSContext *cx`, `JSVal v`, `JSBool *bp`

- The *cx* argument is the opaque `JSContext` pointer that passes to the JavaScript function.
- The *v* argument is the `JSVal` structure from which the Boolean value is to be extracted.
- The *bp* argument is a pointer to a `JSBool` Boolean value. This function stores the converted value in **bp*.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

JSBool JS_ValueToObject()

Description

This function extracts a function argument from a `JSVal` structure, converts it to an object (if possible), and passes the converted value back to the caller. If the object is an array, use `JS_GetArrayLength()` and `JS_GetElement()` to read its contents.

Arguments

`JSContext *cx`, `JSVal v`, `JSObject **op`

- The *cx* argument is the opaque `JSContext` pointer that passes to the JavaScript function.
- The *v* argument is the `JSVal` structure from which the object is to be extracted.
- The *op* argument is a pointer to a `JSObject` pointer. This function stores the converted value in **op*.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

JS_ValueToUCString()

Description

This function extracts a function argument from a JSVal structure, converts it to a string if possible, and passes the converted value back to the caller.

Note: *Do not modify the returned buffer pointer. It can corrupt the data structures of the JavaScript interpreter. To change the string, copy the characters into another buffer and create a JavaScript string.*

Arguments

JSContext **cx*, JSVal *v*, unsigned int **pLength*

- The **cx* argument is the opaque JSContext pointer that passes to the JavaScript function.
- The *v* argument is the JSVal structure from which Dreamweaver extracts the string.

- The `*pLength`argument is a pointer to an unsigned integer. This function sets `*pLength` equal to the length of the string in bytes.

Returns
A pointer that points to a null-terminated UTF-8 string if successful, or to a `null` value on failure. The calling routine must not free this string when it finishes.

JSBool JS_StringToValue()

Description
This function stores a string return value in a JSVal structure. It allocates a new JavaScript string object.

Arguments
JSContext `*cx`, JSVal `*bytes`, *size_t sz*, JSVal`*vp`

- The `*cx` argument is the opaque JSContext pointer that passes to the JavaScript function.
- The `bytes` argument is the string that Dreamweaver stores in the JSVal structure. The string data is copied, so the caller must free the string when it is not needed. If the string size is not specified (see the `sz` argument), the string must be null-terminated.
- The `sz` argument is the size of the string, in bytes. If `sz` is `0`, the length of the null-terminated string is computed automatically.
- The `*vp` argument is a pointer to the JSVal structure into which the contents of the string is copied.

Returns
A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

JSBool JS_UCStringToValue()

Description
This function stores a string return value in a `JSVal` structure. It allocates a new JavaScript string object.

Arguments
JSContext `*cx` , JSVal `*bytes`, `size_t`*sz*, JSVal `*vp`

- The `*cx` argument is the opaque JSContext pointer that passes to the JavaScript function.
- The `*bytes` argument is the string that Dreamweaver stores in the JSVal structure. The string data is copied, so the caller must free the string when it is not needed. If the string size is not specified (see the `sz` argument), the string must be null-terminated.
- The `sz` argument is the size of the string, in bytes. If `sz` is `0`, the length of the null-terminated string is computed automatically.
- The `*vp` argument is a pointer to the JSVal structure into which the contents of the string is copied.

Returns
A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure

Note: *The `JS_UCStringToValue()` method is like the `JSBool JS_StringToValue()` in every way, except that it returns a UTF-8 string.*

JSBool JS_DoubleToValue()

Description

This function stores a floating-point number return value in a JSVal structure.

Arguments

`JSContext *cx`, `double dv`, `JSVal *vp`

- The *cx* argument is the opaque `JSContext` pointer that passes to the JavaScript function.
- The *dv* argument is an 8-byte floating-point number.
- The *vp* argument is a pointer to the `JSVal` structure into which the contents of the double should be copied.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

JSVal JS_BooleanToValue()

Description

This function stores a Boolean return value in a `JSVal` structure.

Arguments

`JSBool bv`

- The *bv* argument is a Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

Returns

A `JSVal` structure that contains the Boolean value that passes to the function as an argument.

JSVal JS_IntegerToValue()

Description

This function converts a long integer value to `JSVal` structure.

Arguments

lv

The *lv* argument is the long integer value that you want to convert to a `JSVal` structure.

Returns

A `JSVal` structure that contains the integer that was passed to the function as an argument.

JSVal JS_ObjectToValue()

Description

This function stores an object return value in a `JSVal`. Use `JS_ NewArrayObject()` to create an array object; use `JS_SetElement()` to define its contents.

Arguments

`JSObject *obj`

The *obj* argument is a pointer to the `JSObject` object that you want to convert to a `JSVal` structure.

Returns

A `JSVal` structure that contains the object that you passed to the function as an argument.

char *JS_ObjectType()

Description

Given an object reference, the `JS_ObjectType()` function returns the class name of the object. For example, if the object is a DOM object, the function returns "`Document`". If the object is a node in the document, the function returns "`Element`". For an array object, the function returns "`Array`".

Note: *Do not modify the returned buffer pointer or you might corrupt the data structures of the JavaScript interpreter.*

Arguments

`JSObject *obj`

Typically, this argument is passed in and converted using the `JS_ValueToObject()` function.

Returns

A pointer to a null-terminated string. The caller should not free this string when it finishes.

JSObject *JS_NewArrayObject()

Description

This function creates a new object that contains an array of `JSVals`.

Arguments

`JSContext *cx`, `unsigned int length`, `JSVal *v`

- The *cx* argument is the opaque `JSContext` pointer that passes to the JavaScript function.
- The *length* argument is the number of elements that the array can hold.
- The *v* argument is an optional pointer to the `JSVals` to be stored in the array. If the return value is not `null`, *v* is an array that contains *length* elements. If the return value is `null`, the initial content of the array object is undefined and can be set using the `JS_SetElement()` function.

Returns

A pointer to a new array object or the value `null` upon failure.

long JS_GetArrayLength()

Description
Given a pointer to an array object, this function gets the number of elements in the array.

Arguments
`JSContext *cx`, `JSObject*obj`

- The *cx* argument is the opaque `JSContext` pointer that passes to the JavaScript function.
- The *obj* argument is a pointer to an array object.

Returns
The number of elements in the array or `-1` upon failure.

JSBool JS_GetElement()

Description
This function reads a single element of an array object.

Arguments
`JSContext *cx`, `JSObject *obj`, `unsigned int index`, `JSVal *v`

- The *cx* argument is the opaque `JSContext` pointer that passes to the JavaScript function.
- The *obj* argument is a pointer to an array object.
- The *index* argument is an integer index into the array. The first element is `index0`, and the last element is `index (length - 1)`.
- The *v* argument is a pointer to a `jsval` where the contents of the `JSVal` structure in the array should be copied.

Returns
A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

JSBool JS_SetElement()

Description
This function writes a single element of an array object.

Arguments
*JSContext *cx, JSObject *obj, unsigned int index, JSVal *v*

- The *cx* argument is the opaque `JSContext` pointer that passes to the JavaScript function.
- The *obj* argument is a pointer to an array object.
- The *index* argument is an integer index into the array. The first element is `index0`, and the last element is `index (length - 1)`.
- The *v* argument is a pointer to a `JSVal` structure whose contents should be copied to the `JSVal` in the array.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

JSBool JS_ExecuteScript()

Description

This function compiles and executes a JavaScript string. If the script generates a return value, it returns in **rval*.

Arguments

`JSContext *cx`, `JSObject *obj`, *char *script*, *unsigned int* `sz`, `JSVal *rval`

- The *cx* argument is the opaque `JSContext` pointer that passes to the JavaScript function.
- The *obj* argument is a pointer to the object in whose context the script executes. While the script is running, the `this` keyword is equal to this object. Usually this is the `JSObject` pointer that passes to the JavaScript function.
- The *script* argument is a string that contains JavaScript code. If the string size is not specified (see the *sz* argument), the string must be null-terminated.
- The *sz* argument is the size of the string, in bytes. If *sz* is 0, the length of the null-terminated string is computed automatically.
- The *rval* argument is a pointer to a single `JSVal` structure. The function's return value is stored in **rval*.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

JSBool JS_ReportError()

Description

This function describes the reason for a script error. Call this function before returning the value `JS_FALSE` for a script error to give the user information about why the script failed (for example, "wrong number of arguments").

Arguments

`JSContext *cx`, `char *error`, `size_t sz`

- The *cx* argument is the opaque `JSContext` pointer that passes to the JavaScript function.
- The *error* argument is a string that contains the error message. The string is copied, so the caller should free the string when it is not needed. If the string size is not specified (see the *sz* argument), the string must be null-terminated.
- The *sz* argument is the size of the string, in bytes. If *sz* is `0`, the length of the null-terminated string is computed automatically.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

File access and multiuser configuration API

Adobe recommends that you always use the file access and multiuser configuration API to access the file system through C-level extensions. For files other than Configuration files, the functions access the specified file or folder.

Dreamweaver supports multiple-user configurations for the Windows XP, Windows 2000, and Mac OS X operating systems.

Typically, you install Dreamweaver in a restricted folder such as C:\Program Folders in Windows. As a result, only users with administrator privileges can make changes in the Dreamweaver Configuration folder. To enable users on multiuser operating systems to create and maintain individual configurations, Dreamweaver creates a separate Configuration folder for each user. Whenever Dreamweaver or a JavaScript extension writes to the Dreamweaver Configuration folder, Dreamweaver automatically writes to the user Configuration folder instead. This process lets each user customize Dreamweaver configuration settings without disturbing the customized configurations of other users.

Dreamweaver creates the user Configuration folder in a location where the user has full read and write access. The location of the user Configuration folder depends on the user platform.

For Windows 2000 and Windows XP platforms:

```
<drive>:\Documents and Settings\<username>\Application Data\Adobe\\
Dreamweaver CS4\Configuration
```

Note: *It is possible that in Windows XP, this folder is inside a hidden folder.*

For Mac OS X platforms:

```
<drive>:Users:<username>:Library:Application Support:Adobe:Dreamweaver CS4:Configuration
```

In many cases, JavaScript extensions open files and write to the Configuration folder. JavaScript extensions can access the file system by using DWFile or MMNotes, or by passing a URL to the `dreamweaver.getDocumentDOM()` function. When an extension accesses the file system in a Configuration folder, it generally uses the `dw.getConfigurationPath()` function and adds the filename, or it gets the path by accessing the `dom.URL` property of an open document and adding the filename. An extension can also get the path by accessing the `dom.URL` and stripping the filename. The `dw.getConfigurationPath()` function and the `dom.URL` property always return a URL in the Dreamweaver Configuration folder, even if the document is located in the user Configuration folder.

Any time a JavaScript extension opens a file in the Dreamweaver Configuration folder, Dreamweaver intercepts the access, and checks the user Configuration folder first. If a JavaScript extension saves data to disk in the Dreamweaver Configuration folder through DWFile or MMNotes, Dreamweaver intercepts the call. Then it redirects the call to the user Configuration folder.

For example, in Windows 2000 or Windows XP, if the user asks for file:///C|/Program Files/Adobe/Adobe Dreamweaver CS4/Configuration/Objects/Common/Table.htm, Dreamweaver searches for a Table.htm file in the C:\Documents and Settings*username*\adobe\Dreamweaver CS4\Configuration\Objects\Common folder and, if it exists, uses it instead.

C-level extensions, or shared libraries, must use the file access and multiuser configuration API to read and write to the Dreamweaver Configuration folder. Using the file access and multiuser configuration API lets Dreamweaver read and write to the user Configuration folder. It also ensures that the file operations do not fail due to insufficient access privileges. If the files in the Dreamweaver Configuration folder that your C-level extension accesses is created through JavaScript with DWFile, MMNotes, or DOM manipulations, use the File Access and Multiuser Configuration API. It is possible that these files are located in the Configuration folder of the user.

Note: *Most JavaScript extensions need not be changed to write to the user Configuration folder. Only C shared libraries that write to the Configuration folder must be updated to use the file access and multiuser configuration API functions.*

When you delete a file from the Dreamweaver Configuration folder, Dreamweaver adds an entry to a mask file. This entry is added to indicate which files in the Configuration folder must not appear in the user interface. A masked file or folder does not appear to exist to Dreamweaver although it possibly exists in the folder.

For example, if you use the Trash Can icon in the Snippets panel to delete a Snippets folder called javascript and a file called onepixelborder.csn, Dreamweaver writes a file in the user Configuration folder called mm_deleted_files.xml. It looks like the following example:

```
<?xml version = "1.0" encoding="utf-8" ?>
    <deleteditems>
    <item name="snippets/javascript/" />
    <item name="snippets/html/onepixelborder.csn" />
    </deleteditems>
```

As Dreamweaver populates the Snippets panel, it reads all the files in the user Configuration/Snippets folder. It also reads all the files in the Dreamweaver Configuration/Snippets folder, except the Configuration/Snippets/javascript folder and the Configuration/Snippets/html/onepixelborder.csn file. It adds the resulting list of files to the Snippets panel list.

If a C-level extension calls the `MM_ConfigFileExists()` function for the `file:///c|Program Files/Adobe /Adobe Dreamweaver CS4/Configuration/Snippets/javascript/onepixelborder.csn` URL, it returns a value of `false`. Likewise, if a JavaScript extension tries to call `dw.getDocumentDom(file:///c|Program Files/Adobe/Adobe Dreamweaver CS4/Configuration/Snippets/javascript/onepixelborder.csn)`, it returns a `null` value.

Edit the mm_deleted_files.xml file to prevent Dreamweaver from showing files in the user interface, such as objects, canned content in the new dialog box, and so on. You can call the `MM_DeleteConfigfile()` function to add file paths to the mm_deleted_files.xml file.

JS_Object MM_GetConfigFolderList()

Availability

Dreamweaver MX.

Description

This function gets a list of files, folders, or both for the specified folder. If you specify a configuration folder, the function gets a list of the folders that exists in both the user Configuration folder and the Dreamweaver Configuration folder, subject to filtering by the mm_deleted_files.xml file.

Arguments

*char *fileURL, char *constraints*

- The *char *fileUrl* argument is a pointer to a string that names the folder for which you want a list of the contents. The string must have the format of a file:// URL. The function accepts valid wildcard characters of asterisks (*) and question marks (?) in the file:// URL string. Use asterisks (*) to represent one or more unspecified characters, and question marks (?) to represent a single unspecified character.
- The *char *contstraints* argument can be `files` or `directories` or a `null` value. If you specify `null`, the `MM_GetConfigFolderList()` function returns files and folders.

Returns

`JSObject` is an array that contains the list of files or folders in either the user Configuration folder or the Dreamweaver Configuration folder, subject to filtering by the mm_deleted_files.xml file.

Examples

```
JSObject *jsobj_array;
jsobj_array = MM_GetConfigFolderList("file:///¬
    c|/Program Files/Adobe/Adobe Dreamweaver CS3/Configuration", "directories" );
```

JSBool MM_ConfigFileExists()

Availability

Dreamweaver MX.

Description

This function checks whether the specified file exists. If it is a file in a configuration folder, the function searches for the file in the user Configuration folder or the Dreamweaver Configuration folder. The function also checks whether the filename is listed in the mm_deleted_files.xml file. If the name is listed in this file, the function returns a `false` value.

Arguments

*char *fileUrl*

The *char *fileUrl* argument is a pointer to a string that names the desired file, which is provided in the format of a file:// URL.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

Example

```
char *dwConfig = "file:///c|/Program Files/Adobe/Adobe Dreamweaver CS3/
Configuration/Extensions.txt";
int fileno = 0;
if(MM_ConfigFileExists(dwConfig))
{
    fileno = MM_OpenConfigFile(dwConfig, "read");
}
```

int MM_OpenConfigFile()

Availability

Dreamweaver MX.

Description

This function opens the file and returns an operating system file handle. You can use the operating system file handle in calls to system file functions. You must close the file handle with a call to the system `_close` function.

If the file is a configuration file, it finds the file in either the user Configuration folder or the Dreamweaver Configuration folder. If you open the Configuration file for writing, the function creates the file in the user Configuration folder even if it exists in the Dreamweaver Configuration folder.

Note: *If you want to read the file before writing to it, open the file in* `"read"` *mode. When you want to write to the file, close the read handle and open the file again in* `"write"` *or* `"append"` *mode.*

Arguments

*char *fileURL, char *mode*

- The *char *fileURL* argument is a pointer to a string that names the file that you are opening, which is provided as a file:// URL. If it specifies a path in the Dreamweaver Configuration folder, the `MM_OpenConfigFile()` function resolves the path before opening the file.
- The *char *mode* argument points to a string that specifies how you want to open the file. You can specify `null`, "`read`", "`write`", or "`append`" mode. If you specify "`write`" and the file does not exist, the `MM_OpenconfigFile()` function creates it. If you specify "`write`", the `MM_OpenConfigFile()` function opens the file with an exclusive share. If you specify "`read`", the `MM_OpenConfigFile()` function opens the file with a non-exclusive share.

  If you open the file in "`write`" mode, any existing data in the file is truncated before writing new data. If you open the file in "`append`" mode, any data you write is appended to the end of the file.

Returns

An integer that is the operating system file handle for this file. Returns `-1` if the file cannot be found or does not exist.

Example

```
char *dwConfig = "file:///c|/Program Files/Adobe/Adobe Dreamweaver CS3/
    Configuration/Extensions.txt";
int = fileno;
if(MM_ConfigFileExists(dwConfig))
{
    fileno = MM_OpenConfigFile(dwConfig, "read");
}
```

JSBool MM_GetConfigFileAttributes()

Availability

Dreamweaver MX.

Description

This function finds the file and returns the attributes of the file. You can set any of the arguments except *fileURL* to `null` if you do not need the value.

Arguments

*char *fileURL, unsigned long *attrs, unsigned long *filesize, unsigned long *modtime, unsigned long *createtime*

- The *char *fileURL* argument is a pointer to a string that names the file for which you want the attributes. You must provide this argument as a file:// URL. If *fileURL* specifies a path in the Dreamweaver Configuration folder, the `MM_GetConfigFileAttributes()` function resolves the path before opening the file.
- The *unsigned long *attrs* argument is the address of an integer that contains the returned attribute bits (see "JSBool MM_SetConfigFileAttributes()" on page 362 for available attributes).
- The *unsigned long *filesize* argument is the address of an integer in which the function returns the file size in bytes.

- The *unsigned long *modtime* argument is the address of an integer in which the function returns the time that the file was last modified. The time is given as the operating-system time value. For more information about the operating-system time value, see `DWfile.getModificationDate()` in the *Dreamweaver API Reference*.
- The *unsigned long *createtime* argument is the address of an integer in which the function returns the time that the file was created. The time is given as the operating-system time value. For more information on the operating system time value, see `DWfile.getCreationDate()` in the *Dreamweaver API Reference*.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure. Returns `JS_FALSE` if the file does not exist or an error occurs while getting the attributes.

Example

```
char dwConfig = "file:///c|/Program Files/Adobe/Adobe Dreamweaver CS3/
    Configuration/Extensions.txt";
unsigned long attrs;
unsigned long filesize;
unsigned long modtime;
unsigned long createtime;
MM_GetConfigAttributes(dwConfig, &attrs, &filesize, &modtime, &createtime);
```

JSBool MM_SetConfigFileAttributes()

Availability

Dreamweaver MX.

Description

This function sets the attributes that you specify for the file, if they are different from the current attributes.

If the specified file URL is in the Dreamweaver Configuration folder, this function first copies the file to the user Configuration folder before it sets the attributes. If the attributes are the same as the current file attributes, the file is not copied.

Arguments

*char *fileURL, unsigned long attrs*

- The *char *fileURL* argument is a pointer to a string that names the file for which you want to set the attributes, which is provided as a file:// URL.
- The *unsigned long attrs* argument specifies the attribute bits to set on the file. You can use a logical `OR` on the following constants to set the attributes:

  ```
  MM_FILEATTR_NORMAL
  MM_FILEATTR_RDONLY
  MM_FILEATTR_HIDDEN
  MM_FILEATTR_SYSTEM
  MM_FILEATTR_SUBDIR
  ```

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure. Returns `JS_FALSE` if the file does not exist or is marked for deletion.

Example

```
char *dwConfig = "file:///c|/Program Files/Adobe/Adobe Dreamweaver CS3/
    Configuration/Extensions.txt";
unsigned long attrs;
attrs = (MM_FILEATTR_NORMAL | MM_FILEATTR_RDONLY);
int fileno = 0;
if(MM_SetConfigFileAttrs(dwConfig, attrs))
{
    fileno = MM_OpenConfigFile(dwConfig);
}
```

JSBool MM_CreateConfigFolder()

Availability

Dreamweaver MX.

Description

This function creates a folder in the specified location.

If the *fileURL* argument specifies a folder within the Dreamweaver Configuration folder, the function creates the folder in the user Configuration folder. If *fileURL* does not specify a folder in the Dreamweaver Configuration folder, the function creates the specified folder, including all higher-level folders in the path, if they do not already exist.

Arguments

*char *fileURL*

- The *char *fileURL* argument is a pointer to a file:// URL string that names the configuration folder that you want to create.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

Example

```
char *dwConfig = "file:///c|/Program Files/Adobe/Adobe Dreamweaver CS3 -
    /Configuration/Extensions.txt";
MM_CreateConfigFolder(dwConfig);
```

JSBool MM_RemoveConfigFolder()

Availability

Dreamweaver MX.

Description

This function removes the folder and its files and subfolders. If the folder is in the Dreamweaver Configuration folder, it marks the folder for deletion in the mm_deleted_files.xml file.

Arguments

*char *fileURL*

- The *char *fileURL* argument is a pointer to a string that names the folder to remove, which is provided as a file:// URL.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

Example

```
char *dwConfig = "file:///c|/Program Files/Adobe/Adobe Dreamweaver CS3 -
    /Configuration/Objects";
MM_RemoveConfigFolder(dwConfig);
```

JSBool MM_DeleteConfigFile()

Availability

Dreamweaver MX.

Description

This function deletes the file, if it exists. If the file exists below the Dreamweaver Configuration folder, the function marks the file for deletion in the mm_deleted_files.xml file.

If the *fileURL* argument does not specify a folder in the Dreamweaver Configuration folder, the function deletes the specified file.

Arguments

*char *fileURL*

- The *char *fileURL* argument is a pointer to a string that names the configuration folder to remove, which is provided as a file:// URL.

Returns

A Boolean value: `JS_TRUE` indicates success; `JS_FALSE` indicates failure.

Example

```
char dwConfig = "file:///c:|Program Files/Adobe/Adobe Dreamweaver CS3
    /Configuration/Objects/insertbar.xml";
MM_DeleteConfigFile(dwConfig);
```

Calling a C function from JavaScript

After you understand how C-level extensibility works in Dreamweaver and its dependency on certain data types and functions, it's useful to know how to build a library and call a function.

The following example requires the following five files, located in the Dreamweaver-application-folder/Tutorial_assets/Extending folder as archives for both the Macintosh and Windows platforms:

- The mm_jsapi.h header file includes definitions for the data types and functions that are described in "C-level extensibility and the JavaScript interpreter" on page 349.
- The mm_jsapi_environment.h file defines the MM_Environment.h structure.
- The MMInfo.h file provides access to the Design Notes API.

- The Sample.c example file defines the `computeSum()` function.
- The Sample.mak make file lets you build the Sample.c source file into a DLL with Microsoft Visual C++; Sample.mcp is the equivalent file for building a Mach-O Bundle with Metrowerks CodeWarrior and Sample.xcode is the equivalent file for Apple Xcode. If you use another tool, you can create the makefile.

Build the DLL in Windows using VS.Net 2003

1 Use File > Open, and select Sample.mak with Files Of Type set to All Files (*.*). (VS.Net 2003 does not open MAK files directly). You are then prompted to verify that you want to convert the project to the new format.

2 Select Build > Rebuild Solution.

When the build operation finishes, the Sample.dll file appears in the folder that contains Sample.mak (or one of its subfolders).

Build the DLL in Windows using Microsoft Visual C++

1 In Microsoft Visual C++, select File > Open Workspace, and select Sample.mak.

2 Select Build > Rebuild All.

When the build operation finishes, the Sample.dll file appears in the folder that contains Sample.mak (or one of its subfolders).

Build the shared library on the Macintosh using Metrowerks CodeWarrior 9 or later

1 Open Sample.mcp.

2 Build the project (Project > Make) to generate a Mach-O Bundle.

When the build operation finishes, the Sample.bundle file appears in the folder that contains Sample.mcp.

Note: *The Mach-O Bundle that is generated can only be used in Dreamweaver 8 and later. Earlier versions of Dreamweaver do not recognize it.*

Build the shared library on the Macintosh using Apple Xcode 1.5 or later

1 Open Sample.xcode.

2 Build the project (Build > Build) to generate a Mach-O Bundle.

When the build operation finishes, the Sample.bundle file appears in the build folder that is next to the Sample.xcode file.

Note: *The Mach-O Bundle that is generated can only be used in Dreamweaver 8 and later. Earlier versions of Dreamweaver do not recognize it.*

Call the computeSum() function from the Insert Horizontal Rule object

1 Create a folder called JSExtensions in the Configuration folder within the Dreamweaver application folder.

2 Copy Sample.dll (Windows) or Sample.bundle (Macintosh) to the JSExtensions folder.

3 In a text editor, open the HR.htm file in the Configuration/Objects/Common folder.

4 Add the line `alert(Sample.computeSum(2,2));` to the `objectTag()` function, as shown in the following example:

```
function objectTag() {
    // Return the html tag that should be inserted
    alert(Sample.computeSum(2,2));
    return "<HR>";
}
```

5 Save the file and restart Dreamweaver.

To execute the `computeSum()` function, select Insert > HTML > Horizontal Rule.

A dialog box that contains the number 4 (the result of computing the sum of 2 plus 2) appears.

Chapter 24: The Shared folder

The Shared folder is the central repository for utility functions, classes, and images that are commonly used by all extensions. Any extension can reference the files in the Shared folder's subfolders, and you can add custom common utilities to the ones already provided by Adobe Dreamweaver. The multiple user Configuration folders installed for users on Windows XP, Windows 2000, and Mac OS X platforms also contain a Shared folder for individual customizations. For example, when you install an extension from the Adobe exchange, you might notice that the new extension adds contents to your user Configuration/Shared folder rather than the Dreamweaver application Configuration/Shared folder. For more information on the Dreamweaver Configuration folders on a multiuser computer, see "Multiuser Configuration folders" on page 78.

The Shared folder contents

The Shared folder has subfolders that contain files shared by multiple extensions, including functions for browsing a user's folder system, inserting a tree control, creating editable grids, and other features.

Note: *The JavaScript files in the Shared folder have comments within the code that provide details about the functions they contain.*

In addition to looking at the JavaScript files in the Shared folder, you should also search for HTML files in the Configuration folder that include these JavaScript files so that you can investigate how they are used.

Generally, you use the functions and resources in the Common and MM folders or add resources to the Common folder for use in new extensions. You should always look in the Shared/Common/Scripts folder first for utilities and functions. These functions and utilities are the most current and comprise the formal interface to the Shared folder. Use files in other folders at your own risk because they might be out of date.

Specifically, the Shared folder contains the following useful folders.

The Common folder

The Common folder has shared scripts and classes for use in third-party extensions.

File	Description
CodeBehindMgr.js	Contains functions for creating a code-behind document. A code-behind document lets you create distinct pages that separate the code for user interface (UI) logic from the code for a UI design. The methods of `JSCodeBehindMgr` defined in this file can create new code-behind documents and manage the link to design documents.
ColumnValueNodeClass.js	Contains functions for mapping database columns to values. The methods of `ColumnValueNode` defined in this file let you get and set various values and properties of a database column. Dreamweaver uses this storage class when applying and inspecting edit operations objects (insert and update record objects) and working with the SQLStatement class.
CompilerClass.js	Contains functions for a base class used by `CompilerASPNetCSharp` and `CompilerASPNVBNet` but could be extended to support other compilers.
DataSourceClass.js	Contains functions that define the return structure for "findDynamicSources() on page 300."

File	Description
DBTreeControlClass.js	Contains functions that build a database tree control. This class is used to create and interact with a database tree control. To create a database tree control, such as the one in the advanced recordset server behaviors, create a special `<select>` list with `type="mmdatabasetree"` in your HTML file. Attach a `CBTreeControl` class to the HTML control by passing the `<select>` list name to the class constructor. Then use the `DBTreeControl` functions to manipulate the control.
dotNetUtils.js	Contains functions to facilitate working with object property inspectors, and server behaviors for ASP.NET form controls, which are translated.
dwscripts.js	Look in this main file to find useful functions for all Dreamweaver extensions. It includes functions for working with strings, files, design notes, and so on.
dwscriptsExtData.js	This file is an extension of the dwscripts.js file. This file facilitates working with server behaviors, particularly with server behavior EDML files. Used extensively in Dreamweaver's implementation of server behaviors.
dwscriptsServer.js	This file is an extension of the dwscripts.js file. It contains functions that are specific to server models. Many of these functions are used when working with server behaviors.
GridControlClass.js	Use this class to create and manipulate an editable grid. You add a special select list in your HTML, and attach this class to it in JavaScript to manipulate the grid.
ImageButtonClass.js	This class makes it easy to control the Pressed/Mouse-over-while-pressed/Mouse-over/Disabled-while-pressed look of a button.
ListControlClass.js	Contains functions that manage a `<select>` tag, also known as a list control. The methods of the `ListControl` object in this file get, set, and change the value of the `SELECT` control.
PageSettingsASPNet.js	Contains functions that set the properties of an ASP.NET document.
RadioGroupClass.js	Contains functions that define and manage a radio button group. The methods of the `RadioGroup` object in this file set and get values and behavior of a radio button group. You attach this class to radio buttons in your HTML to control their behavior.
SBDatabaseCallClass.js	A subclass of `ServerBehavior` class. This class includes functionality specific to making database calls, for example, calling a stored procedure, using SQL to return a recordset, and so on. This is an abstract base class, which means that it cannot be created and used on its own. To use it, you must subclass `SBDatabaseCall()` and implement the placeholder functions. Dreamweaver uses this class to implement its recordset and stored procedures server behaviors.
ServerBehaviorClass.js	Contains functions that communicate information about server behaviors to Dreamweaver. You can subclass this class as part of implementing your own server behaviors.
ServerSettingsASPNet.js	Contains functions that store the properties of a ASP.NET server.
SQLStatementClass.js	Contains functions that let you create and edit SQL statements, such as `SELECT`, `INSERT`, `UPDATE`, and `DELETE`, and stored procedure statements.
tagDialogsCmn.js	Contains functions that help you develop custom tag dialog boxes. The methods of the `tagDialog` object defined in this file modify attributes and values for a particular tag.
TagEditClass.js	Contains functions that edit tags without changing the DOM of the current page. The methods of the `TagEdit` object defined in this file get and set a tag's value, attributes, and children.
TreeControlClass.js	Contains functions that manage a tree control within Dreamweaver. The methods of the `TreeControl` object defined in this file get, set, and arrange values in a tree. You attach this class to a special `MM:TREECONTROL` tag in your HTML to manage the tree control functionality.
XMLPropSheetClass.js	Contains functions that manage the location and values of an XML property sheet.

The MM folder

The MM folder contains the shared scripts, images, and classes used by the extensions that come with Dreamweaver, including the scripts for building a navigation bar, specifying preload calls, and defining the shortcut key definitions.

The Scripts subfolder

The Scripts subfolder contains the following utility functions:

File	Description
CFCutilities.js	Contains utility functions related to Adobe ColdFusion components. Functions parse attributes from within the opening tag of a given node, parse a CFC tree, get the current URL DOM, get the CFC DOM, and more.
event.js	Contains functions to register events, notify parties of events from the menus.xml file, and add event notifiers to the menus.xml file.
FlashObjects.js	Contains functions that update a color picker, check for hexadecimal color, check for an absolute link, add an extension to a filename, generate error messages, set Flash attributes, check a link for Flash object, and so on.
insertFireworksHTML.js	Contains functions to insert Adobe Fireworks CS3 HTML code into Dreamweaver documents. Functions check whether current document is a Fireworks document, insert Fireworks HTML at insertion point, update a Fireworks style block to Dreamweaver, and more. Also contains related utility functions.
jumpMenuUI.js	Contains functions for use with the jump menu object and jump menu behavior. Functions populate menu options, create an option label, add an option, delete an option, and so on.
keyCodes.js	Contains an array of keyboard key codes.
navBar.js	Contains classes and functions for working with a navigation bar and navigation bar elements. Includes functions to add, remove, and manipulate navigation bar elements.
NBInit.js	Contains functions related to navigation bar image behaviors.
pageEncodings.js	Defines various language codes.
preload.js	Contains functions for adding and deleting preload-image calls to the `BODY/onLoad` `MM_preloadImages` handler.
RecordsetDialogClass.js	Contains the static class and functions to display the recordset server behaviors UI. Functions determine which interface, simple or advanced, to display. Also, houses functionality shared between the UI implementations and mediates switches between the UIs.
sbUtils.js	Contains shared functions for use within Adobe server behaviors. The `dwscripts` class in the Configuration/Shared/Common/Scripts folder contains more general purpose utilities.
setText.js	Contains functions to escape an expression string, unescape an expression string, and extract an expression string.
sortTable.js	Contains functions to initialize and sort a table as well as functions to sort an array, set the mouse pointer to a hand icon or pointer, and check the type and version of the browser.

The Scripts folder also contains two subfolders, Class and CMN.

The Class folder

The Class folder contains the following utility functions:

File	Description
classCheckbox.js	Helps manipulate a check box control in your HTML extension.
FileClass.js	Contains a class that represents a file in the file system. The paths are represented by URLs for cross-platform compatibility. Methods include `toString()`, `getName()`, `getSimpleName()`, `getExtension()`, `getPath()`, `setPath()`, `isAbsolute()`, `getAbsolutePath()`, `getParent()`, `getAbsoluteParent()`, `exists()`, `getAttributes()`, `canRead()`, `canWrite()`, `isFile()`, `isFolder()`, `listFolder()`, `createFolder()`, `getContents()`, `setContents()`, `copyTo()`, and `remove()`.
GridClass.js	Contains a class that manages `MM:TREECONTROL`.
GridControlClass.js	Older version of the `GridControlClass` in the Common folder. See the GridControlClass.js file in the Shared/Common/Scripts folder.
ImageButtonClass.js	Older version of the `ImageButtonClass` in the Common folder. See the ImageButtonClass.js file in the Shared/Common/Scripts folder.
ListControlClass.js	Older version of the `ListControlClass` in the Common folder. See the Shared/Common/Scripts/ListControlClass.js file.
NameValuePairClass.js	Creates and manages a list of name/value pairs. Names can contain any character. Values can be blank, but cannot be set to `null`, which is the same as deleting them.
PageControlClass.js	Example of a page class to be used with the `TabControl` class. See TabControlClass.js description.
PreferencesClass.js	Contains an object and methods that contain all the preference information for a command.
RadioGroupClass.js	Older version of the `RadioGroupClass` in the Common folder. See the RadioGroupClass.js file in the Shared/Common/Scripts folder.
TabControlClass.js	Helps build an extension that has multiple tab views, `page.lastUnload()`.

The CMN folder

The CMN folder contains the following utility functions:

File	Description
dateID.js	Contains two functions, `createDateID()` and `decipherDateID()`. Given three strings, `"dayFormat"`, `"dateFormat"`, and `"timeFormat"`, `createDateID()` creates an ID for them. Given a date array, `decipherDateID()` returns an array with three items: the `dayFormat`, the `dateFormat`, and the `timeFormat`.
displayHelp.js	Contains one function that displays the specified Help document.
docInfo.js	Contains functions that provide information about the user's document. Operations performed by functions include returning an array of object references for a specified browser type and tag, returning all instances of a specified tag name, searching for a tag that wraps the current selection, and so on.
DOM.js	Contains general helper functions for working with the Dreamweaver DOM. Includes functions that get the root node of the active document, find a tag of a given name, create a list of nodes from the specified starting node, check whether a given tag is contained inside another tag, perform various operations on behavior functions, and more.
enableControl.js	Contains one function, `SetEnabled()`, which enables or disables a control based on the arguments it receives. It is OK to enable a control that is already enabled or disable a control that is already disabled.
errmsg.js	Contains logging functions for accumulating tracing output into an array of log pages that appear in a dialog box.

File	Description
file.js	Contains functions pertaining to file operations. Functions let the user browse for local filename, convert the relative path to the file URL path, return the filename for the current document, determine if a specified document has been saved in current site and return the document-relative path, or determine if a specified file is currently open.
form.js	Contains functions that add a form around a given text string if a form does not already exist in the current document or AP element. Includes functions that determine if an object is a AP element and determine if the insertion point is inside a form.
handler.js	Contains functions that get a function for an event handler, add a function to an event handler, and delete a function from an event handler.
helper.js	Contains a handful of useful functions that replace encoding, unescape quotation marks ("), check whether a node is inside a selection range, and checks for duplicate object names.
insertion.js	Contains the `insertIntoDocument()` function, which inserts a text string into a document at the insertion point. Also contains the supporting functions `getHigherBlockTag()` and `arrContains()`. The `getHigherBlockTag()` function gets the next highest `blockTag`, as defined in the `blockTags` array, and the `arrContains()` function finds a specified item in an array.
localText.js	Reserved variables, not for general use. Use Startup/mminit.htm instead or use the strings from the Dreamweaver Configuration/Strings/*.xml files.
menuItem.js	Contains functions that add values to or remove values from a listed menu item.
niceName.js	Contains functions that convert an array of Object references to an array of simpler names.
quickString.js	Contains functions that aggregate smaller strings without doing a memory allocation each time.
string.js	Contains a generic set of functions for manipulating and parsing text strings. Functions include: `extractArgs()`, `escQuotes()`, `unescQuotes()`, `quoteMeta()`, `errMsg()`, `badChars()`, `getParam()`, `quote()`, `stripSpaces()`, `StripChars()`, `AllInRange()`, `reformat()`, `trim()`, `createDisplayString()`, `entityNameEncode()`, `entityNameDecode()`, `stripAccelerator()`, and `SprintF()`.
TemplateUtils.js	Contains utility functions for Dreamweaver templates. Functions insert an editable region into a document, insert a repeating region into a document, scan a document for a specified editable region, and so on.
UI.js	Contains generic functions that control the UI. These functions find a designated object in the current document, load select list options with localized strings, return the attribute value for a selected option, and word-wrap the text message for an alert.

Other folders

The following list describes other folders of interest in the Shared folder:

Controls The Controls folder contains the elements used to build a server behavior. These controls include interfaces for text and recordset menus.

Note: *These controls are used by the Dreamweaver Server Behavior Builder and by many of the Dreamweaver server behaviors, but some are useful for managing a control in your extension.*

Fireworks The Fireworks folder has the supporting files for Fireworks integration.

UltraDev Dreamweaver maintains this folder primarily for backward compatibility, and it should not be used for new extensions. Use the Dreamweaver Configuration/Shared/Common folder, where most of this functionality also exists. See "The Common folder" on page 367.

Using the Shared folder

Look first in the Dreamweaver Configuration/Shared/Common folder for useful extension code because this folder contains the most current and commonly used functionality.

Extensions can leverage the resources in the Shared folder for their own functionality. An object, command, or other extension can specify one of the JavaScript files in the Shared folder as a source file in a `script` tag, and then use the function in the body of the file or in another included JavaScript file. Objects and commands can even link several JavaScript files together, and those JavaScript files can leverage Shared folder resources.

For example, open the Hypertext object file (Hyperlink.htm) in the application folder Configuration/Objects/Common. Notice that the `head` tag of the file contains the following lines:

```
<script language="javascript"
src="../../Shared/Common/Scripts/ListControlClass.js"></script>
<script language="javascript" src="Hyperlink.js"></script>
```

And, if you open the related Hyperlink.js file, you can see the following lines:

```
LIST_LINKS = new ListControl('linkPath');
```

and

```
LIST_TARGETS = new ListControl('linkTarget');
```

With the `new listControl` declarations, Hyperlink.js defines two new ListControl objects. The code in the Hyperlink.htm file then attaches them to the `SELECT` controls in the form, as follows:

```
<td  align="left"> <input name="linkText" type="text" class="basicTextField" value="">
```

and

```
<td align="left" nowrap><select name="linkPath" class="basicTextField" editable="true">
```

Now, the Hyperlink.js script can call methods or get properties for the `LIST_LINKS` or `LIST_TARGETS` objects to interact with the `SELECT` controls in the form.

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