

Working with Frames

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Goals

- How to work with the Frameset DTD
- How to create frames
- How to create nested frames
- How to format frames
- How to create inline frames

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The Frameset DTD

- Frames must be defined in a separate document from other HTML code
- Because of the many problems and complaints associated with frames, they are deprecated in XHTML in favor of tables
- If frames are deprecated, then why study them at all?

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The Frameset DTD

- Frames are still widely used and will more likely continue for some time
- The W3C created the Frameset DTD to allow Web page authors to create frames in well-formed documents until the Web completely switches to XML-based Web sites using the Strict DTD
- <http://www.w3.org/TR/REC-html40/present/frames.html>

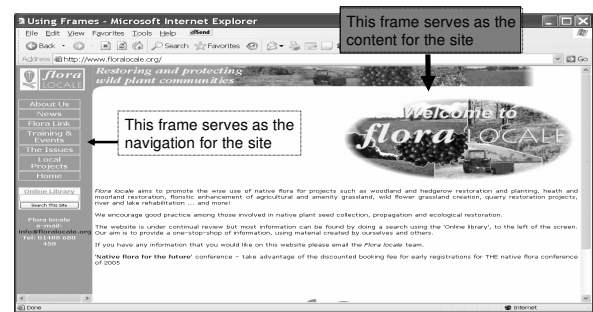
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Creating Frames

- Using frames, you can split a single Web page into multiple windows, each of which can open a different document
- **Frames** are independent, scrollable portions of a Web browser window, with each frame capable of displaying a different document

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Creating Frames



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Creating Frames

- Advantages
- You pick the elements you want to be visible
- Table of contents is readily available
- Ability to view more than one document at a time on the screen

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Creating Frames

- You divide a document into frames using the `<frameset>` element
- The `<frame>` element and other `<frameset>` elements are the only items that you can place inside a `<frameset>` element

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Frame Layout

- The general syntax for creating an HTML file with frames:

```
<html>
<head>
  <title>Page Title</title>
</head>
<frameset>
  Frame Definitions
</frameset>
</html>
```

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Creating Frames

- The `<frameset>` element replaces the `<body>` element that is used in non-frame documents
- You can create frames in a document in horizontal rows, vertical columns, or both
- There is a main HTML page that defines the structure of the frames as they will appear on the browser window

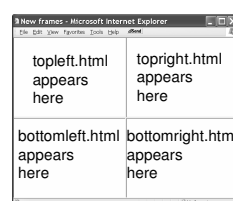
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Creating Frames

- Two attributes of the `<frameset>` element, **rows** and **cols**, determine whether frames are created as rows or columns
 - The **rows attribute** determines the number of horizontal frames to create
 - The **cols attribute** determines the number of vertical frames to create

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Creating Frames



```
<frameset rows="50%, 50%">
  <frameset cols="50%, 50%">
    <frame src="topleft.html">
    <frame src="topright.html">
  </frameset>
</frameset>

<frameset cols="50%, 50%">
  <frame src="bottomleft.html">
  <frame src="bottomright.html">
</frameset>
</frameset>
```

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Creating Frames

- It is helpful to use an asterisk (*) to represent the size of frames that do not require an exact number of pixels or exact window percentage
- The asterisk allocates any remaining screen space to an individual frame
- "50%,50%" is the same as "50%,*"
- If you forget the double quotes in frameset, it may still work providing there are no spaces separating the sizes: "50%,50%" = 50%,50% <> 50%, 50%

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Creating Frames

- You can use combinations of pixels, percentages, and the asterisk to create frames
- The **<frameset>** element creates the initial frames within a document

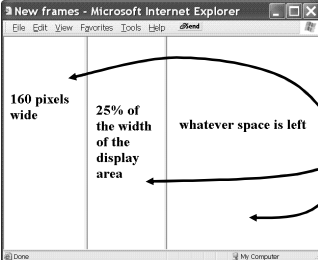
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Creating Frames

- Use the single **<frame>** element to specify options for individual frames
- The **src** attribute of the **<frame>** element specifies the document to be opened in an individual frame

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Creating Frames



The diagram illustrates a browser window titled "New frames - Microsoft Internet Explorer" divided into three vertical frames. The leftmost frame is labeled "160 pixels wide". The middle frame is labeled "25% of the width of the display area". The rightmost frame is labeled "whatever space is left". To the right of the browser window, the HTML code for creating these frames is shown:

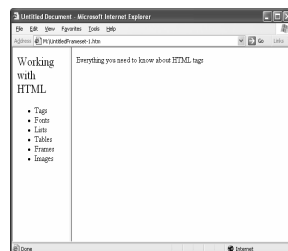
```
<html>
<head>
<title>New frames</title>
</head>
<frameset cols="160,25%,*">
<frame src="a.html">
<frame src="b.html">
<frame src="c.html">
</frameset>
</html>
```

Arrows point from the text labels in the browser window to the corresponding values in the `cols` attribute of the `<frameset>` tag in the code.

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target and base Attributes

- One popular use of frames creates a table of contents frame on the left side of a Web browser window with a display frame on the right side



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target and base Attributes

- The **target** attribute determines in which frame or Web browser window a document opens
- When you are using the same target window or frame for a long list of hyperlinks, it is easier to use the target attribute in the **<base>** element instead of repeating the **target** attribute within each hyperlink

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target and base Attributes

- You use the **target** attribute with the **<base>** element to specify a default target for all links in a document, using the assigned name of a window or frame
- Used within the <head> tags
`<base target="frame name">`

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Nesting Frames

- Each individual frame within a window can contain its own set of frames
- You accomplish this nesting by including a **<frameset>** element *inside* another **<frameset>** element

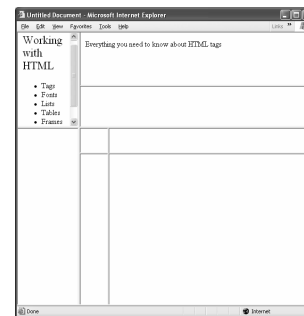
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Nesting Frames

- Frames that are contained within other frames are called **nested frames**
- In the next example the first **<frameset>** element creates the four parent frames in the window

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Nested Frames



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Frame Formatting

<frame> attributes

Attribute	Description
bordercolor	Specifies a colour to use for the frame borders
frameborder	Specifies whether to place a border around the frame.
framespacing	Specifies the amount of space in pixels to use for the frame border.
longdesc	Identifies the URL of a web page containing a long description of a frame
marginheight	Specifies the amount of space in pixels to leave above and below the content of the page
marginwidth	Specifies the amount of space in pixels to leave right and left of the content of the page

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Frame Formatting

<frame> attributes

Attribute	Description
name	Specifies a unique name you want to use for this frame (used in conjunction with the element
noresize	If you include noresize, users cannot resize the frame. The default is to allow users to resize any frame.
scrolling	Set to either "yes" to always display scrollbars or "no" to never show scrollbars. Default is to show scrollbars when necessary
src	Defines the HTML file or URL to use for this frame

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The `frameborder` Attribute

- The **`frameborder`** attribute specifies whether to display a border around the frame
- You assign to the **`frameborder`** attribute a value of "1" to display a border and a value of "0" to suppress the border

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The `framespacing` Attribute

- To completely suppress a border between two frames in Internet Explorer, you must include the **`framespacing`** attribute and assign to it a value of zero
- The **`framespacing`** attribute (only for Internet Explorer) determines the amount of space between frames in Internet Explorer

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The `longdesc` Attribute

- For accessibility, you should include the **`longdesc`** attribute in your `<frame>` elements and assign to it the URL of a Web page containing a long description of the frame

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The `longdesc` Attribute

- The inclusion of the **`longdesc`** attribute is especially important for a frame that displays image, video, or other types of multimedia as its contents
- You should use the **`longdesc`** attribute in a `<frame>` element in addition to a title attribute

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The `noresize` Attribute

- The Boolean **`noresize`** attribute disables the user's ability to resize an individual frame
- Normally, users can adjust the size of frames to suit their own purposes

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The `name` Attribute

- There are reserved target words
- Special names that can be used in place of a frame name as the target
- Useful in situations where the name of the frame is unavailable, or a new window

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The `name` Attribute

<code>_blank</code>	loads web document into a new window
<code>_self</code>	Loads web document into this frame
<code>_parent</code>	In a layout of nested frames, loads the document into the frame that contains the frame with the hypertext tag
<code>_top</code>	Loads the document into the full display area, replacing the current frame layout

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The `noresize` Attribute

- You use the **`noresize`** attribute when you want to add a title that should always be visible in a frame or on a Web page
- To disable resizing of a frame, add the **`noresize`** attribute to the `<frame>` element and assign to it a value of **`"noresize"`** using the following statement:
`noresize="noresize"`

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The `scrolling` Attribute

- By default, a Web browser automatically adds scroll bars to a frame when the contents of the frame are larger than the visible area
- You can disable a frame's scroll bars using the **`scrolling` attribute**
- The **`scrolling`** attribute can take one of three values; **`yes`**, **`no`**, and **`auto`**

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The `scrolling` Attribute

- A value of **`yes`** always turns on the scroll bars, even when the contents of a frame fit within the visible area
- A value of **`no`** completely disables a frame's scroll bars, even when the contents of a frame do not fit within the visible area

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The `scrolling` Attribute

- **`Auto`** turns the scroll bars on and off, depending on the visibility of the contents within a frame

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The `<noframes>` Element

- The **`<noframes>`** element displays a message to users of Web browsers that are not capable of displaying frames
- For your frameset document to be well formed, you must place the **`<noframes>`** element within a **`<frameset>`** element

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The <noframes> Element

- The <noframes> element must also include a <body> element in order to be well formed
- The <noframes> element usually precedes the last <frameset> element

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Inline Frames

- You can insert an inline frame into a non-frame document using the <iframe> element
- The <iframe> element creates an **inline frame** that displays another document within the body of the current document

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Inline Frames

- You use an inline frame when you want to display another document within the current document, but you do not need to divide the Web browser into multiple frames

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<iframe> Attributes

Attribute	Description
align	Specifies how the inline frame is to be aligned according to the content on the left and right sides
frameborder	Specifies whether to place a border around the frame.
height	Specifies the height of an inline frame.
longdesc	Identifies the URL of a web page containing a long description of a frame
marginheight	Specifies the amount of space in pixels to leave above and below the content of the page
marginwidth	Specifies the amount of space in pixels to leave right and left of the content of the page

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<iframe> Attributes

Attribute	Description
name	Assigns a name to an individual inline frame
scrolling	Set to either "yes" to always display scrollbars or "no" to never show scrollbars. Default is to show scrollbars when necessary
src	Defines the HTML file or URL to use for this frame
width	Specifies the width on an inline frame

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Inline Frames

- If you use an <iframes>...</iframes> tag pair, then you should include as its content a message to users of Web browsers that are not capable of displaying frames, the same as with the <noframes> element

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Problems with Frames

- Jakob Nielsen comments on frames:
 - Frames break the unified model of the Web and introduce a new way of looking at data that has not been well integrated into the other aspects of the Web. With frames, the user's view of information on the screen is now determined by a *sequence* of navigation actions rather than a *single* navigation action.
- <http://www.useit.com/alertbox/9612.html>

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Problems with Frames

- Bookmarking can be difficult for older browsers – which document on the screen gets bookmarked?
- Some search engines will ignore sites with frames
- Printing problems can arise
- Using frames can take up a lot of screen space

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Summary

- Frames are independent, scrollable portions of a Web browser window, with each frame capable of displaying its own URL

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Summary

- The **<frame>** element and other **<frameset>** elements are the only items that can be placed inside a **<frameset>** element
- The **target** attribute determines in which frame or Web browser window a URL opens

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Summary

- The **longdesc** attribute specifies the URL of a Web page containing a long description of the frame
- The **marginheight** and **marginwidth** attributes determine the margins of the frame in pixels
 - If you specify just one, the browser will use your specified margin value for the other

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Summary

- The **<noframes>** element displays an alternate message to users of Web browsers that cannot display frames

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Resources

- Slides were adapted from the following text & companion lectures:

XHTML, Comprehensive

First Edition

Dan Gosselin

Published by Course Technology (2004)

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Quiz A

1. Why is the <body> tag unnecessary for pages that contain frames?
2. What HTML code would you use to create three rows of frames with the height of first row set to 200 pixels, the height of the second row to 50% of the display area, and the height of the third row set to occupy the remaining space?
3. What HTML code do you use to specify myhome.html as a source for a frame?
4. What HTML code do you use to remove the scroll bars from the frame for myhome.html?
5. What HTML code do you use to set the size of the margin above and below the myhome.html frame to 3 pixels?
6. What HTML code do you use to prevent users from moving the frame borders in myhome.html?

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Quiz B

1. When you click on a hypertext link inside a frame, in what frame will the Web page appear by default?
2. What HTML code would you use to assign the name "Address" to a frame with the document source address.html?
3. What HTML code would you use to direct a hypertext link to a frame named "News"?
4. What HTML tag would you use to set the frame border width to 8 pixels?
5. What HTML tag would you use to set the frame border colour of every frame on the page to blue?
6. What HTML tag would you use to direct all hypertext links in a document to the "News" target?

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Questions?



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Quiz A Answers

1. Because there is no page body. Instead the browser displays the <body> tags from other pages.
2. <frameset rows="200,50%,*">
3. <frame src="myhome.html">
4. <frame src="myhome.html" scrolling="no">
5. <frame src="myhome.html" marginheight="3">
6. <frame src="myhome.html" noresize?

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Quiz B Answers

1. The frame containing the hypertext link.
2. <frame src="address.html" name="Address">
3.
4. <frameset borderwidth="5">
5. <frameset bordercolor="blue">
6. Place the tag <base target="News"> in the head section of the HTML file.

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