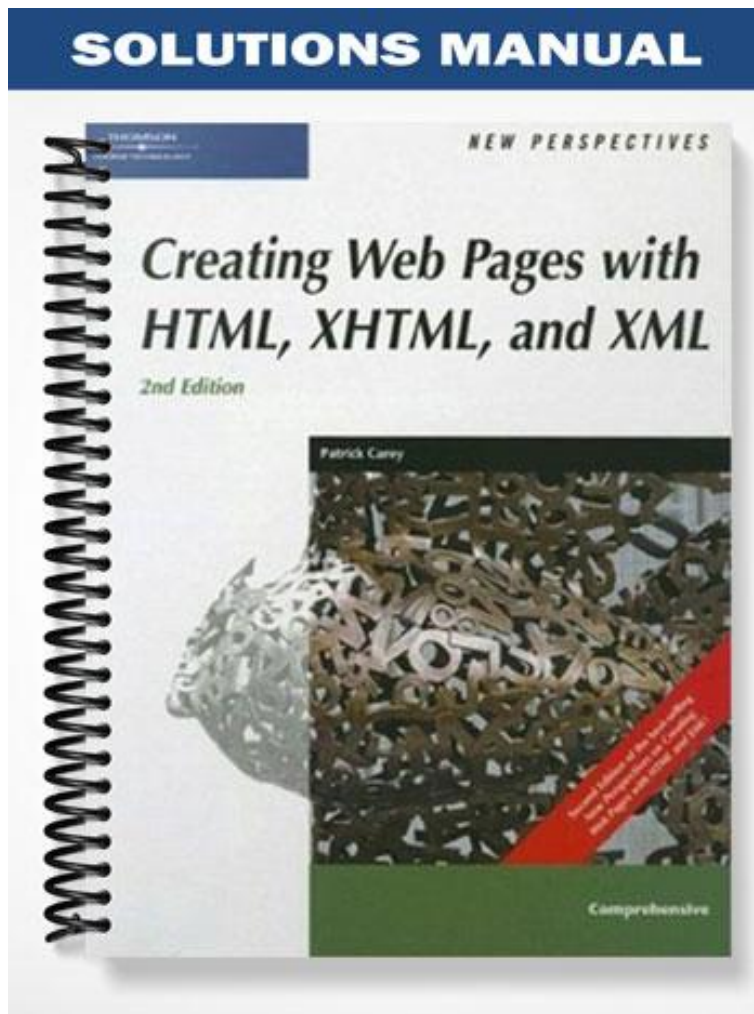


# SOLUTIONS MANUAL



# Tutorial 2

## Developing a Basic Web Site

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## Instructor's Notes

### TUTORIAL APPROACH

This tutorial explores the basics of hypertext documents. The students learn how to create hypertext links between elements within a Web page and between different Web pages. They learn how to create anchors for text elements and inline images. They learn about relative and absolute pathnames for files. Students review basic Web structures and become familiar with storyboarding technique. Finally, they will be able to create hypertext links to various Internet resources, including Web pages, FTP servers, and newsgroups.

In the first session, students learn about the destinations of the links within Web documents. They learn how to create element ids and how to create links that jump to different locations in the same document.

The second session explores the basics of storyboarding technique and design principles of creating a system of Web pages. Students review different Web page structures, such as linear and hierarchical. They learn how to create hypertext links between different Web pages and navigate to a specific location elsewhere in a document. Finally, students create hypertext links to different sections of another document

In the third session, students learn about absolute and relative pathnames for documents located in different folders. They explore the fundamentals of the Uniform Resource Locator. In this session they learn how to create hypertext links to documents located in other folders as well as to other locations on the Internet. They also see how to display linked documents in separate browser windows. Finally, they become familiar with how to create hypertext links to FTP servers, newsgroups, and e-mail addresses on the Web pages.

### LECTURE NOTES

#### *Working with Links*

Review the concept of hypertext links with your students. A hypertext document contains hypertext links, items that you can select to view another topic or document (the destination of the link). You can usually select hypertext links by clicking a mouse. These links can point to another section in the same document, to a different Web page, or to a variety of other Web objects.

You might want to track the entire process of creating a link on the chalkboard or a flip chart. The simplest form of link is one that points to a location in the same Web page. This section, and the ones that follow, explain how to do that. Later in the Tutorial students learn how to create links to documents in other locations on the Web.

Begin with the process of entering text that will be designated as a link. Demonstrate how to create a list of items that users can click on, that is, a list of links. Use the technique described on page 57 and in Figure 2-2 to add code for text links.

#### *Creating Element ids*

You need to mark the destination of the link; use the id attribute to do this. The procedure is explained on page 58 of the Tutorial. Once an item has a label, you can refer to it later.

### ***Creating Links with a Document***

The final step of creating a link is to join the link with its destination. Demonstrate how to use the <a> tag and the href attribute to complete the process. The Reference Window on page 61 summarizes how to do this.

#### **Quick Quiz:**

1. To mark a piece of text as a link, you need to assign it a(n) \_\_\_\_\_.
2. A(n) \_\_\_\_\_ attribute identifies the link target.
3. True/False: To support older browsers, you need to use anchor elements to create links.

Answers: ID attribute, href , True.

#### **Classroom Activity:**

What advantages do element IDs provide over anchor tags? Discuss this with the class. Why do students think that element IDs were introduced?

### ***Web page structures***

Before students set up links for navigating a group of Web pages, they should know how to use different web structures. Teach the students about a technique known as storyboarding. They can use this technique to map out the pages that they want to relate to one another. Explain that students should determine which structure works best for the type of information they are presenting. It should be easy for users to navigate from page to page. To design their own system of Web pages, they can use different Web page structures.

Explain the linear Web page structure, in which each page is linked to the next and to previous pages, in an ordered chain of pages. Figure 2-9 illustrates this structure. If you want to make it easier for users to return to the first page, use an augmented linear structure, as shown in Figure 2-10. To apply this structure to several pages, include a link in each page that jumps directly back to the first page, while keeping the links to the next and previous pages within your structure.

Another popular structure is the hierarchical structure of Web pages, shown in Figure 2-11. A hierarchical structure starts with a general topic that includes links to more specific topics. Each specific topic includes links to more specialized topics, and so on. Including a link to the top of the structure on each page gives users an easy path back to the beginning. You can combine linear and hierarchical structures. The best time to organize a structure is when you start creating pages.

Be sure students note the structure illustrated in Figure 2-13, which is an example of how *not* to structure a Web site.

#### **Quick Quiz:**

1. Which of the following is not a basic Web page structure?
  - a. Storyboarding
  - b. Linear
  - c. Hierarchical
  - d. Augmented linear
2. A(n) \_\_\_\_\_ structure starts with a general topic that includes links to more specific topics.
3. True/False: You can combine linear and hierarchical structures.

Answers: a, hierarchical, True.

**Classroom Activity:**

Discuss with your students the different design approaches and basic Web structures. If you have a computer and a projection device in class, search the Web to find examples of good and bad structures.

***Creating Links Between Documents***

Review the process of creating links between documents. To create a link between two Web pages, use the `<a>` tag with the href attribute. Unlike creating hypertext links between elements on the same page, this process does not require you set an anchor in a file to link to it. The filename of the file serves as the anchor or destination point. In order for the browser to be able to locate and open linked document, it must be in the same folder as the document containing the link. Detailed instructions begin on page 69 of the Tutorial.

When you create a link to a Web page, it navigates to the top of the destination page. If you want to navigate to a specific location in a document, you can set an anchor and a link to an anchor within the document. Use the pound symbol (#) in the `<a>` tag to distinguish the filename from the anchor name. Detailed instructions begin on page 72 of the Tutorial.

In some situations you want to place different files in different folders. When referencing a file located in a different folder than the link tag, you must include the location, or path, for the file. HTML supports two kinds of paths: absolute paths and relative paths.

Discuss the difference between absolute paths and relative paths. An absolute path provides a precise location for a file. With HTML, absolute pathnames begin with a slash (/) and are followed by a sequence of folders beginning with the highest-level folder and proceeding to the folder that contains the file, and then the filename itself. Each folder is separated by the slash. The absolute pathnames for files located on different computers begin with slash followed by the drive letter and a vertical bar (|).

When there are many folders and subfolders involved, absolute pathnames are confusing. For that reason, most Web designers use relative pathnames in their hypertext links. A second reason to use relative pathnames is that they make hyperlinks portable. A relative path specifies the location for a file in relation to the folder containing the current Web document. Folder names are separated by slashes. To reference a file in a folder directly above the current folder in the folder hierarchy, relative pathnames use two periods (..).

Review with students how to change the base in the document's head. This allows you to move a document to a new folder without having to redo all the relative paths.

**Quick Quiz:**

1. The HTML code `<a href = "contacts.htm">Contact me</ a>`
  - a. Links to a spot in the same document with the ID contacts.htm
  - b. Links to a document called contacts.htm located in the root directory
  - c. Links to a document called contacts.htm located in the same folder as the original page
  - d. Links to a section called "Contact me" in a file called contacts.htm
2. To link to a specific spot in another document, you must specify both the filename and the \_\_\_\_\_ of the target.
3. True/False: You should always use absolute paths in your links because they are more precise than relative paths.

Answers: c, ID or anchor, False.

**Classroom Activity**

Students are sometimes confused by paths. Create a demonstration of folders and paths using manila file folders and papers, or you can ask a group of students to design their own demonstration. Be sure to demonstrate subfolders by tucking folders inside one another. Show how two subfolders can have the same name, as long as they are located inside different main folders.

***Linking to Resources on the Internet***

Ask students to brainstorm about what other resources you can link to in a Web page. Review the process of linking to items such as Web pages (not your own), e-mail addresses and FTP sites.

Review the process of creating other kinds of links with your students. To create a hypertext link to a resource on the Internet, you need to know the URL. A URL, or Uniform Resource Locator, specifies a precise location on the Web. You can find the URL of a Web page or other resource in the Location or Address box of your browser's document window. Once you know the URL, you can create a link to it by adding the URL to the <a> tag along with the href attribute in your text file.

Remind students that they can link to resources other than Web pages. The World Wide Web allows users to access several types of Internet resources, such as FTP servers or Usenet newsgroups. You can create a link to each object, if you know the URL for it. Each URL follows the same format. The first part of the URL identifies the communication protocol, which is a set of rules that governs how information is exchanged. Web pages use Hypertext Transfer Protocol (HTTP). Following the communication protocol, there is a separator, such as colon and two slashes. The rest of the URL identifies the location of the document or resource on the Internet. By convention, if the path and filename are left off the URL, the browser searches for a file named "index.html" in the root folder of the Web server.

FTP Servers use the communication protocol FTP, or File Transfer Protocol. FTP servers can store files that Internet users can download, or transfer, to their computers. URLs for FTP servers follow the same format as for Web pages, except that they use the FTP protocol rather than the HTTP protocol.

Usenet is a collection of discussion forums called newsgroups. They allow users to exchange messages with other users on a wide variety of topics. The URL for a newsgroup is "news:newsgroup". When you click a link to a newsgroup, your computer starts your newsgroup software and accesses the newsgroup.

Many Web designers include their e-mail addresses on their Web pages. You can identify e-mail addresses as hypertext links. When a user clicks the e-mail address, the browser starts a mail program and automatically inserts the e-mail address. The URL for an e-mail address is "mailto:e-mail\_address".

**Quick Quiz:**

1. \_\_\_\_\_ servers can store files that Internet users can download, or transfer, to their computers.
  - a. FTP
  - b. Web
  - c. HTTP
  - d. HTML
2. There should always be a(n) \_\_\_\_\_ following the communication protocol in a URL.
3. True/False: By convention, if the path and filename are left out of the URL, the browser searches for a file named "index.html" in the current folder.

Answers: a, separator, False.

### **Classroom Activity**

Search the Web to find examples of Web pages that link to other Internet resources. Challenge students to find links to FTP sites, newsgroups and e-mail addresses.

### ***Working with Hypertext Attributes***

Define hypertext attributes for your students: these are HTML elements that control the behavior and appearance of your links. Use them to control whether links open in the current browser window, or in a new one. The target attribute controls this. Figure 2-38 describes the syntax.

You can also use a hypertext attribute to create a popup title, descriptive text that appears whenever a user runs the mouse over a link. Other hypertext attributes let you create access keys, and set up semantic links, which the browser can use to perform tasks such as building a custom toolbar. Figure 2-41 provides a list of link types.

### ***Using the Link Element***

Remind students that link elements were primarily used to link to style sheets, though other uses are emerging. Refer students to the Reference Window on page 88 for the exact syntax for the link element.

### ***Tips for Creating Effective Links***

Review the bullet points on page 89 for creating effective links. Ask students to brainstorm about more ideas. Which tip do they think is the most important?

### **Quick Quiz:**

1. By default, each new page you open appears in a(n) \_\_\_\_\_ browser window.
2. True/False: All browsers support popup windows, so you should use them whenever you can.
3. True/False: You should not place important elements in a link element unless those links are also duplicated elsewhere on the page.

Answers: existing, False, True.

### **Classroom Activity**

Challenge students to find examples of Web pages that violate the tips for creating effective links, listed on page 89. Ask students to explain how their examples violate the rules, and discuss what problems are caused by the failure to use these guidelines.

## **TUTORIAL DISCUSSION QUESTIONS**

1. Is it possible to overuse links? Have students ever encountered a Web page that they felt had too many links? Was the page difficult to use? Was it visually appealing?
2. Discuss the different Web site structures (lineal, hierarchical, etc.) in greater detail. Ask students to plan an example site with you, and discuss which structure is best. Are there structures that work better for different situations? Discuss the problems that can arise when adding pages to an existing site; for example, new pages can violate a carefully created hierarchy. What is the best solution in this kind of situation?



**KEY TERMS**

<b>Term</b>	<b>Definition</b>
<b>Absolute path</b>	The precise location of a file on a computer, expressed in relation to the folder structure of the computer.
<b>Access key</b>	A key combination that can be used to access a link.
<b>Anchor element</b>	An element that marks a specific location within a document.
<b>Augmented linear structure</b>	A linear Web site structure in which each page contains an additional link back to an opening page.
<b>Destination</b>	The Web page or location in a Web page that is accessed through a link.
<b>E-mail harvesters</b>	Programs that scan HTML code on the Web looking for e-mail addresses to be used for spam.
<b>File Transfer Protocol (FTP)</b>	A protocol used to transfer files rapidly over the Internet.
<b>FTP client</b>	A computer that is downloading files from an FTP server.
<b>FTP servers</b>	A computer that stores files that can be downloaded via the FTP protocol.
<b>Hierarchical structure</b>	A Web site structure in which pages are linked going from the most general page down to more specific pages.
<b>Hypertext Transfer Protocol (HTTP)</b>	The protocol used by Web browsers and Web servers to communicate with one another.
<b>Linear structure</b>	A Web site structure in which each page is linked with the pages that precede and follow it.
<b>Link</b>	Elements in a hypertext document that allow you to jump from one location in the document to another
<b>Newsgroup</b>	A discussion forum on the Internet that lets users publicly exchange messages with each other on a variety of topics.
<b>Newsreader</b>	Software that can read newsgroups.
<b>Path</b>	The location of a file on a computer.
<b>Popup title</b>	Descriptive text that appears whenever a user rolls the mouse over a link.
<b>Protocol</b>	A set of rules that define how information is exchanged between two devices.
<b>Relative path</b>	The location of a file on a computer, expressed in relation to the location of the current document.
<b>Semantic link</b>	Links containing the rel and rev attributes, used to establish a relationship between links.
<b>Sibling folder</b>	A folder at the same hierarchical level as another folder
<b>Site index</b>	A Web site page containing an outline of the entire Web site and its contents.
<b>Spam</b>	Unsolicited junk e-mail.
<b>Storyboard</b>	A diagram of a Web site's structure.
<b>URL (Uniform Resource Locator)</b>	The precise location of a resource on the Internet.
<b>Usenet</b>	A collection of discussion forums, or newsgroups.