

Browser Elements

Table 4-1: Elements of Web browser

Browser Element	Description
Rendering engine	The part of the browser responsible for reading the Web page and presenting it to an end user. Has the ability to read, parse and represent HTML, images and other tools. Also called the layout engine. Examples include Mozilla's Gecko, Opera Software's Presto and the KDE project's KHTML engine, which is used in Linux systems as well as Apple's Safari Web browser.
Interpreter	The part of the browser responsible for reading and processing programming languages. A browser often has several interpreters installed by default. Common browser interpreters include those for JavaScript and Java.
Sandbox	A programming method that isolates a particular application or process. A sandbox is vital in secure Web browsing because it helps the browser keep information from being exposed or misused. Sandboxing also helps ensure a stable browser; if one sandboxed process or plug-in malfunctions, the browser can still function properly, rather than experience a crash that results in loss of data.

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Thread	An instruction from a running application that executes a particular task. When a single-threaded application starts a thread, that application must wait until that thread is finished working. Most Web browsers have traditionally been single-threaded, which can lead to slow performance or browser crashes if a particular thread experiences a problem. Newer browsers engage in a practice called asynchronous threading, which allows a browser to more easily recover from an error in an interpreter or browser supplement.
Window	The screen that contains the Web page you are viewing.
Tab	Another instance of a browser window within a browser.
Cache	Web page cookies and related data stored locally on the hard drive, unless the browser's privacy mode has been invoked.
Supplements	Often called plug-ins, add-ons or helper applications. Includes Adobe Flash, Microsoft Silverlight, and Firefox add-ons.
Network programming	Code that controls how the browser accesses a network. Web browsers usually default to allowing a direct connection to the Internet. However, you can specify proxy server settings that help your browser communicate with proxy-oriented corporate firewalls. Proxy servers will be discussed later in this lesson.

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Download controls	Settings that determine how the Web browser will process downloads.
Plug-in	An application that adds extra capabilities to your Web browser, such as the ability to view movies or Flash animations. Plug-ins are easy to install and integrate seamlessly into the main HTML file that you are viewing in your browser window. You will learn more about plug-ins in the next lesson.