If you have been doing some surfing and finding all sorts of interesting things on the Web - but you are not quite sure how it all works - this is the place for you! We have prepared this online 'seminar' to help demystify the Web. We will show you some of the information available on the Web, describe how the Web works, and pass on some hints on how to use the Web. And where we can we'll provide links to other places where you can get more information.

The topics are:

- Why the Web is Important
- What is the Web?
- Relationship Between the Web and Internet
- How the Web is Used Today
- How the Web Works
- Browsers
- Servers
- Example of Web Requests
- URLs
- HTML
- Resources
- Hints
- Summary

On each page you will find navigation buttons, pointing you to either the next page, or back to this page ("index"). There are also buttons at the very bottom of each page which will take you to WebMaster magazine, CIO magazine, the CIO Communications Home Page (our parent company), or a button "to contact webmaster" which allows you to send us mail. You can use this last button to report problems, or to ask questions. We'd love to hear from you!

You can go to a specific area, or start by looking at why the World Wide Web is important.
There has been a lot of talk about the Web. Is it that important? Will it have an effect on business? We strongly believe so, for these four reasons:

1. The ability to easily deliver information in any format, to/from a wide range of computing platforms.

   On the Web you can access information from many diverse sources - your competitors, customers, technology providers, international universities, financial institutions, and many other places. This information is on many different computing platforms. The mechanisms of the Web insulate us from needing to know or deal with this - it takes care of getting, moving and presenting the information we need.

   In addition to information from external companies, many companies are also using the Web as a mechanism to share information within the enterprise. Several large companies have hundreds of internal servers, and the number is growing rapidly. You can learn more about this at WebMaster's Intranet Resource Center.

The Web has become a standard method of providing distributed information to many different platforms. We are just beginning to appreciate the capability this provides us. We expect to see more applications integrated into the Web in the future, taking advantage of the ability to access and share information across a wide area.

2. Its potential as a client-server environment.

   Web browsers provide a tested client upon which more organizations are building (or converting) client-server applications. Testing time is greatly reduced, and the application will be available on many platforms with no extra effort.

   See this paper ("Building HTML Application Systems: Converting Existing MS-Windows Applications to HTML" by CDC's Robert Thralls) for an example - they claim to have cut development and testing time to 10% of what it used to be!.

3. Simplified access to the Internet.

   The Internet provides access to mail, interactive conferences, network news, and is rich with information resources...but the Internet can be difficult to use and understand. The World Wide Web makes it easier to use the Internet:
Why is the Web Important?

- it provides a graphical interface (on many platforms)
- it supports multimedia (sound, video, as well as graphics)
- it uses the same tools as the Internet, but hides the ugly details
- it is based on standards/conventions, so sharing is much easier than before
- all this makes it easier to access information
- and makes it easier to provide information

4. The wide and rapidly growing amount of information available.

The volume of information available is huge, and growing rapidly. Many of the world's major companies, universities and research organizations are on the Web today, with many others joining daily. The Internet is growing at a phenomenal rate (no one knows exactly how big it is, but as of May 25, 1996 Internet Solutions estimated there were 59,628,024 people on the Internet, and an estimated 304,177 World Wide Web sites on the Internet.

Let's look at what the Web is
What is the "World Wide Web"?

The World Wide Web is a global, seamless environment in which all information (text, images, audio, video, computational services) that is accessible from the Internet can be accessed in a consistent and simple way by using a standard set of naming and access conventions.

Whew! Quite a statement, but it is true, and it exists today. You are on the Web now - consider....

- You can access sites all over the world. You can connect from your desktop to thousands of Web servers simply by "clicking" on a selection (the underlined words), or by entering a specific address.
- You can connect to many different types of systems - and not be aware of the differences.
- You can access many different types of information - text, images (like the heading on this page, and the diagrams we'll use), audio, video, computational services - again, usually with no extra work on your part.
- You are using a single Web-browser to do this. One tool accessing many different types of systems, information across the world!

Already we can see some of the unique aspects of the Web that make it so popular:

1. it is easy to use
2. it is easy to move from place to place
3. it combines words, graphics....even sound and movies - any data type!
4. there are many tools (like this browser) that make the Web easy to use
5. it is easy to publish information
6. and there are millions of people using it now - and more every day!

The Web was initially conceived by Tim Berners-Lee and others at CERN. The scientists at CERN needed access to a wide variety of information on many different, distributed, computers. Berners-Lee had this idea of universal readership, which is that any client should be able to read any information. Berners-Lee developed the basis ideas, which others have since added to. Then those involved agreed to work by a common set of principles:

- there would be no central control. The Web works because people work within the agreed-to guidelines. As part of this the Web ethic is that anyone can publish, and anyone (who is authorized) can read information.
- all Web servers would use the same protocols/mechanisms....
  - http, a fast, stateless, extensible transport mechanism would be used to communicate within the Web
  - httpd, or http daemons, would be the base Web server - receiving messages and providing data as requested
  - URLs (Universal Resource Locator) would be used for network-wide addressing
  - all Web browsers would use the same basic language - HyperText Markup Language HTML
- and built into the mechanisms is support for format negotiation. Web clients tell servers what formats they can handle, and Web viewers allow basic browsers to use different formats.

We'll look at those mechanisms in more detail in a few minutes. But one of the most important factors in the success of the Web is that it is built on the Internet, so next we'll look at the relationship between the Web and the Internet.

Additional information:

There are many documents on the Web about the Web. In fact, it is truly a self-documented system. Here are some of the documents that explain the Web:

- Information on WWW
- World Wide Web Frequently Asked Questions (FAQ)
- World Wide Web Initiative: The Project
- The World-Wide Web: Origins And Beyond
- Main W3 World-Wide Web page
The Web and the Internet

The basis for the Web is the Internet. The Web is built on the Internet, and makes use of many of the mechanisms the Internet provides.

The Internet is the physical aspects - computers, networks, services. It allows us to connect to thousands of other computers across the world. But it doesn't mean that those systems users' can look at, and understand, the information there.

The Web is an abstraction and common set of services on top of the Internet. It is the set of protocols and tools that let us share information with each other.

The Web was developed with the concept of "universal readership"

any participating system should be able to read the information on any connected system using a common set of tools

browsers

servers/gateways

addressing schemes

common protocols

format negotiation
This is a generalized picture, but shows many aspects of the physical net.

Your system, which has a unique number assigned to it (an IP address) is connected to an Internet Service Provider, possibly through a dial-in modem, or by a direct connection. There are currently about 2,300 of these ISPs in the States, most of which run local networks of their own with multiple Points of Presences (POPs), allowing you to dial in to a local number, even if your ISP is not located nearby.

The ISP in turn is connected to other providers, and eventually to one of the big carriers, who have huge networks that use fiber optic cables running at 45 mb/second (these are referred to as T3s).

At the other end there is probably an ISP who gets a request you made to a specific web address, and who will route it to the server at that address, which then does its magic, and sends you back what you asked for - again using the various pieces of the network we just went through.

Let's look at how the Web is being used today....
The Web is used in many creative and interesting ways today, and new uses are being introduced nearly daily. This page contains links to some examples of how the Web is used. Many of these pages are available for you to use at any time, as a part of Web Central:

- By companies all over the World
  - for external communication...
  - to share product information
  - to learn about the marketplace
  - to share in process work with business partners
  - and for internal sharing of information....

- by business people....
- for education at all levels....
- by technical people....
- for reference Information
- for online news...
- to provide financial information...
- by lawyers....
- for library information...
- for government information...
- for personal services...
- and for information about the Web itself!
- ..and for some unusual reasons...

You can use this list to explore the Web in more detail later.
We discussed what the Web is, and saw some examples of how the Web is being used. Now we'll look at how the Web works.

The Web has a simple architecture. Clients send messages to Web servers, which are referred to as HTTP daemons (or HTTPD).

The httpd servers are responsible for sending the requested information to the client (also known as browsers), who are then responsible for presenting the document to the user. (See the diagram below)

These messages can be viewed as short bursts - the client sends a request to the server, the server sends back what was requested, and the connection is ended. This simplifies communications, but makes it difficult to handle longer-lived transactions, as the server does not retain context information, i.e. it does not necessarily "remember" the messages it has received.

**How the Web Works**

**The Simple View**

- **Clients/ Browsers**
  - user interface
  - listens to users
  - sends requests
  - renders returned information

- **Servers/ httpd**
  - Server interface
  - listens to clients
  - reads or creates information
  - returns info to Client

- **Documents/ HTML**

some more details....
Let's look at that simplified view in a little more detail. This has the same basic components, but we've now added a new server path, which can be one that goes through a firewall, and/or which accesses applications.

A firewall is a mechanism to control access to and from Web servers. Most companies have firewalls set up to prevent access to their internal servers from external clients.

There are many different clients, such as Netscape or Microsoft's Explorer.

The Web client usually sends an http message, but as the diagram shows it can send any Internet message (e.g. ftp, file, gopher, wais). The servers can be behind a firewall, which is a way to prevent access to a server. Servers can include gateways which allow them to "talk" to applications. These gateways can be in any computing language, the most common
being perl and TCL, but C and other languages are also used. Finally, the components know how to find documents because they all use a standard addressing scheme, or URLs.

Note that there is no central control. Anyone can create a Web server, and for the most part anyone can read what is online. The reason it all works is because everyone is using the same set of "standards".

The next set of pages will look at all this in more detail, starting with Browsers.

On to Browsers!
Web browsers are powerful tools, performing many different functions, as the picture above shows.

There is no standard way of viewing or navigating the Web. A variety of Web browsers exist. Most browsers have most of the functionality shown in the diagram, although there are some differences in levels of support and overall performance. Most browsers are still being updated and improved, with new releases every two or three months. Each computing platform will have a number of browsers available on them, including character cell browsers like Lynx for terminal-based users (without the graphics support, of course).
One of the key concepts behind the Web is that the user should be able to control the presentation, so most browsers provide ways to tailor the interface (e.g. size, color and type of fonts, whether images are always shown, whether traversed links are highlighted, and so on).

The most used browser today is the Netscape browser, which is used by an estimated 75-80% of the current user base. (For more stats on this see http://www.netaxs.com/~jayfar/sursays.html).

To find out what's happening in the browser area, check out Browser Watch.

HTML and Netscape

It's no accident that Netscape is the most popular browser on the Web; there is certain HTML code that is only interpreted by Netscape's browser. Microsoft's Internet Explorer is battling with Netscape and supports most of the same coding. For example, if you use Netscape you can see colored backgrounds; most other browsers don't support the viewing of colored backgrounds. Also, Netscape supports tables, text color, Java and more. Look at Netscape's home page to find out more.

Other resources for Netscape HTML information:

- Webmaster's Resource Center
- HTML Extensions Summary - Netscape
- Netscape Navigator Extensions to HTML
- Netscape Extensions Overview and Seminar
- Netscape Color Chart
The phrase "World-Wide Web" is often used to refer to the collective network of servers speaking HTTP as well as the global body of information available using the protocol. In a May 1996 survey Netcraft found 193,150 servers on the Web (and who knows how many more exist behind corporate firewalls?).

A Web client (or browser) sends requests to a Web server.

Every retrievable piece of information on the Web is identified by a URL, which includes the name of the object, where it is located, and the protocol used to get it.

Only information on a server (or your local system) is part of the Web. You need to "publish it" (i.e. put it on a Web server) to make it accessible.

The Web server is responsible for document storage and retrieval. It sends the document requested (or an error message) back to the requesting client.

The client interprets and presents the document. The client is responsible for document presentation.

The language that Web clients and servers use to communicate with each other is called the Hypertext Transfer Protocol (HTTP). All Web clients and servers must be able to speak HTTP in order to send and receive hypermedia documents. For this reason, Web servers are often called HTTP servers, or HTTP Deaemons (HTTPD).

There are many different Web servers, running on many platforms. For the latest information on servers, check out serverwatch.internet.com. Paul Hoffman maintains a survey of Web Server usage, and a WWW Servers Comparison Chart, and there is the Netcraft Web Server Survey at http://www.netcraft.co.uk/survey/

An example of how the process works....
1. In this example you are using a browser (Netscape, or Mosaic, or some other browser) and you click on a reference to WebMaster Magazine Online. The browser is able to figure out that what you really want (in Web terminology) is the object the Web knows as http://www.cio.com/WebMaster/wmhome.html - the Web address (or URL) for WebMaster Magazine Online.

2. The browser sends your request to the right server. How it figures out what that machine is, and where it is, is beyond this discussion, but gets us into looking at name servers and other tools which keep track of domain names, address names, and physical locations. Let's trust that some bit of magic occurs, and the browser can send your request off to the machine that handles requests for www.cio.com.

   In the message it sends there is a lot of information you don't need to see, like the method to be used, the URL, possibly parameters (used when you want to pass a search string, for example), and other information.

3. When it gets to the server the Web server, also known as the httpd (which stands for http daemon) takes over. It knows where it stores Web objects, and it tracks down the one you asked for. It
might pass your request off to another process (like a search engine or an application), and wait for a reply. When it gets what it asked for, it sends the object back to your browser.

If the document contains several Web objects (for example, this document includes several different graphic files as well as the HTML you are reading, each of which is a separate object), the server will send each of these objects back individually.

4. Your browser collects together the different pieces you requested. A Web page can have references to objects all over the net, and may include objects that are on your local system (for example objects that it cached earlier). It pulls them all together, and presents the finished product to you.

The server actions can be more complicated than a simple object fetch, in which case you will need to learn about CGI's. The Common Gateway Interface (CGI) is a standard for external gateway programs to interface with information servers such as HTTP servers. This allows them to do transactions, security, access other applications. (LinkMaster has additional links to CGI and HTTP information.)
Common Gateway Interface (CGI)

The **Common Gateway Interface** (CGI) is a standard for external gateway programs to interface with information servers such as HTTP servers. This allows them to do transactions, security, access other applications. (LinkMaster has [additional links to CGI and HTTP information](http://www.cio.com/WebMaster/sem2_cgi.html).)

CGI programs are generally written in Perl or C and reside on the server. Before attempting to write any CGI program, however, the server must be equipped to run CGI programs. If it is, CGI programs can be used for any of the following:

- Creating forms for transactions and data collection
- Performing searches on a database or on a particular Web site
- Creating counters and tracking the domain names of visitors
- Customizing Web pages to meet individual user preferences
- Creating dynamic Web pages on the fly
- Creating interactive Web sites

An example of a CGI program in action is a form found on many Web sites that's designed to elicit information and feedback from users. (Subscription requests and surveys are common examples of such forms found on the Web). The form itself is created in HTML along with the rest of the Web page the form resides on. When someone enters data in this form, the data gets sent to the server and executes a CGI program. This program puts the data entered in the form into a specific file or location and then sends a notification message back to the client when processing the form is successful. Without the CGI program, the data entered in the form would simply go to the server; a CGI program is needed to format and place data.

Webmasters use CGI in a variety of seemingly limitless ways. CGI can increase interactively, productivity and ease of navigation. Some sites use CGI to randomly rotate a set of ads, while other sites use CGI to create password-protected pages so only users with passwords can have access. Many search engines also implement a CGI program to search databases.

Places to go for more information on CGI:

- [What is CGI programming?](http://www.cio.com/WebMaster/sem2_cgi.html)
- [How to use CGI](http://www.cio.com/WebMaster/sem2_cgi.html)
- [The CGI Book](http://www.cio.com/WebMaster/sem2_cgi.html)
- [The WebMaster Resources](http://www.cio.com/WebMaster/sem2_cgi.html)

You can also find information at [WebMasters Technology Links](http://www.cio.com/WebMaster/sem2_cgi.html) and at [WebMasters](http://www.cio.com/WebMaster/sem2_cgi.html).
Changes to HTTP

People are beginning to realize that HTTP causes some serious performance problems. When a web request is made there are many lower-level messages that are passed between the browser and the server before things really happen. Then the server handles the request, sending back whatever data was asked for, and the connection is ended. Then the whole series of events starts all over for the next request - messages are sent back and forth, then the data is sent back, and the connection is ended. When we consider that a web page can include many objects (e.g. the HTML, the images on the page), each of which requires this set of activities, we start to see why performance can be a problem. A big problem.

In the short term one of the solutions will be improvements that are coming for HTTP. These are in HTTP version 1.1, which provides two features to solve these problems: persistent connections and request pipelining.

A persistent connection is one that doesn't close once a file is done transmitting; it handles multiple requests before closing. The connection between the browser and the server would continue to stay open until the browser told it to close or until things had been idle long enough that the server would close it itself.

The second new feature is pipelining, which is the ability to send lots of file requests over the same persistent connection.

The combination of persistent connections and pipelining means that the browser and server can avoid all that setup for each individual connection and automatically speed up the time it takes to download pages.

The organization working on this, the W3C, predicts that this will reduce the amount of network traffic between a browser and server up to a factor of ten and can cut download time by as much as half - without having to change a single line of HTML.

You can find more information on HTTP 1.1 at the RFC located at http://www.ics.uci.edu/pub/ietf/http/rfc2068.txt.
A URL is simply a "Web address" - the identifier for a specific place on the Web. URL stands for Uniform Resource Locator. A URL can be viewed as a networked extension of the standard filename concept:

- not only can you point to a file in a directory
- but that file and that directory can exist on any machine on the network
- can be served by any of several different methods
- and might not even be something as simple as a file.

URLs can also point to queries, documents stored in databases, or the results of a system command.

It is possible to represent nearly any file or service on the Internet with a URL.

### URL Syntax

```
scheme://host.domain[:port]/path/filename
```

- **scheme** can include:
  - http: a file on a World Wide Web server
  - file: a file on your local system, or a file on an anonymous FTP server
  - ftp: a file on an FTP server
  - gopher: a file on a Gopher endpoint
  - news: a file on a news server
  - wais: a file on a WAIS server
  - telnet: a file on a Telnet server
  - (custom): a file on a custom server

```html
www.cio.com
```
Using URLs

URL’s can be used within HTML to provide pointers to specific documents. For example, to link to this presentation, you would include:

```html
<A HREF="http://www.cio.com/WebMaster/sem2_home.html">
```

Relative URLs

In case you use the HTML files for this presentation we need to explain relative URLs as we use those constantly. They are easier to type in, and are faster to reference.

Once you are viewing a document located somewhere on the network (say, the document http://www.cio.com/WebMaster/sem2_home.html), you can use a partial, or relative, URL to point to another file in the same directory, on the same machine, being served by the same server software. So we could refer to the URL above as simply sem2_home.html, and this is a valid partial URL.

This provides an easy way to build sets of hypertext documents. If a set of hypertext documents are sitting in a common directory, they can refer to one another (i.e., be hyperlinked) by just their filenames -- however a reader got to one of the documents, a jump can be made to any other document in the same directory by merely using the other document's filename as the partial URL at that point. The additional information (access method, hostname, port number, directory name, etc.) will be assumed based on the URL used to reach the first document.

CNames

Canonical names, or Cnames, are a form of logical addresses which can be associated with a server. If a cname is used in an HTML page the referenced server can be changed, and the cname pointer changed, without having to alter the HTML.

For example, the server that this presentation is on can have several names, one of which is the Web Cname of www.cio.com. It could have several cnames. If we wanted to replace
or change the physical machine we could do so easily if we had referenced it as its' cname in our HTML pages.
HTML is the standard language for creating and translating Web documents. It allows writers to separate information from document presentation.

HTML is a simple tool to learn, as there are less than ten commonly used statements. HTML documents are nothing more than files with *formatting* codes that contain information about layout (text styles, document titles, paragraphs, lists) and *hyperlinks*. Rather than duplicate what others have done, we suggest you read through one of the references below, try writing your own, and then look at the HTML of interesting pages you come across, using the "view source" command in your browser to add to your "bag of tricks".

HTML can be written with any text editor, with one of the HTML editors that are starting to become available (HoTMeTaL, or CyberLeaf for example), or can be created with Microsoft's [Internet Assistant](http://www.microsoft.com/). While writing HTML is not difficult, designing effective Web pages is an art - and then keeping pages up to date is a challenge.

To start, you can look at the source code for this page (using the View Source option of the browser). Take some time to see how the browser interprets the HTML.

**References:**

Some HTML reference material:

- [The Bare Bones Guide to HTML](http://www.cio.com/WebMaster/sem2_html.html)
- [HTML Cheat Sheet](http://www.cio.com/WebMaster/sem2_html.html)
- [Internet Basics](http://www.cio.com/WebMaster/sem2_html.html)
- [HTML Summary Information](http://www.cio.com/WebMaster/sem2_html.html)
- [HTML Writers Guild](http://www.cio.com/WebMaster/sem2_html.html)
- [How Do They Do That With HTML?](http://www.cio.com/WebMaster/sem2_html.html)
- [How to write HTML](http://www.cio.com/WebMaster/sem2_html.html)
- [HTML Summary Information](http://www.cio.com/WebMaster/sem2_html.html)
- [HTML Tools Library](http://www.cio.com/WebMaster/sem2_html.html)
- [A tutorial to writing HTML](http://www.cio.com/WebMaster/sem2_html.html)

A more complete list is also available at the Webmaster's Notebook.
Conversion software is available for translating documents from many other formats into HTML.

- RTF (Rich Text Format)
- WordPerfect
- FrameMaker
- man pages
- mail archives
- text-only documents

Some of the resources available to help you use the Web.
There are many tools to help you on your journey through the Web. You will quickly find your own resources on the Web. Here are some to get you started (and let us know about new ones you find!):

**Web "surfing" and Learning What's New**

New information, services or functionality becomes available daily, and it can be difficult keeping track of all this. **Web Central** is a good reference point as you travel the 'net. Use it to find out what's available, or when you are looking for a specific server. Web Central provides a variety of pointers for commonly used information, and is kept updated constantly. To reference it point to [http://www.cio.com/central/](http://www.cio.com/central/). You may want to make it your default home page, or at least include it in your Bookmarks.

Included there is a list of other starting places, which you can try to see which works best for you. Some of the places listed are the Global Network Navigator EINet Galaxy Directory Services, Starting Point, Planet Earth Home Page, The Whole Internet Catalog, The Spider's Web, and some places that list new servers, such as Yahoo What's New, New Commercial Sites, NCSA's What's New, Starting Point - New, What's New Too, and What's New from Netscape.

As you can see there are many places to go to find information. We read many of these every day, and select entries of possible interest for our readers, and add them to the Web Central pages daily.

**Sites to Visit**

- FAQ's
- Netiquette
- Newbie Newz
- Guide To Cyberspace
- Everything you Need to Surf the Net--For Free!
- Becoming a Web-Head
- FAQ's & Other Periodic Postings
- Global Village Tour of the Internet
- Glossary of Internet Terms Netscape Tutorial
- Zen & the Art of the Internet
Finding Information

Finding what you need is the hardest problem for most Web users today. But there are places you can go for help.

To search the Web see the list of search tools available on LinkMaster. These include tools such as Alta Vista, Yahoo and WebCrawler. Each has different strengths, and you will need to decide for yourself which works best for you.

Learning

Check out the The Unofficial Internet Book List. There are lots of books to choose from, and new ones roll off the press almost daily.

WebMaster Magazine contains a good deal of information on the Web and how it is used. Several other magazines also cover the Web regularly.

The LinkMaster Technical Information page has a good list of some of the general Web information available.

The News Groups

If you are very involved in the technology there are several useful news groups on the internet that you could follow or ask for help in:

- comp.infosystems.www.advocacy
- comp.infosystems.www.announce
- comp.infosystems.www.authoring.cgi
- comp.infosystems.www.authoring.html
- comp.infosystems.www.authoring.images
- comp.infosystems.www.authoring.misc
- comp.infosystems.www.browsers.mac
- comp.infosystems.www.browsers.misc
- comp.infosystems.www.browsers.ms-windows
- comp.infosystems.www.browsers.x
- comp.infosystems.www.misc
- comp.infosystems.www.providers
- comp.infosystems.www.servers.mac
- comp.infosystems.www.servers.misc
- comp.infosystems.www.servers.ms-windows
- comp.infosystems.www.servers.unix
- comp.infosystems.www.users

To view newsgroups you may be able to use your browser (Netscape supports reading newsgroups), or you may need (or want to use) a separate News Reader.
Web Surfing Hints

1. As you find interesting locations use the **Hotlist** or **Bookmark** facility to "remember" where they are. Take some time to learn how to use the bookmarks on your browser, as they can save you time later.

2. There are several magazines that cover the Web, such as **WebMaster** and **several others**. In addition there are often articles about the Web in other publications. Hopefully this mini-seminar has helped you understand some of the basic terms they may use.

3. If you really want to understand the Web, read one of the **many books available about the Web**.

4. To learn about how the Web works, and how people are using it, walk through this presentation for more information. Follow some of the links. The Web is indeed a self-documenting "system"!

5. If you are on character cell terminal you can use **Lynx** to get at the same textual information that you can access on a graphical browser.

6. When connecting to a server especially during their business hours, be patient.

7. You can stop a connection if you need to by using the Stop button (Netscape) or the spinning globe (Mosaic).

8. If a connection fails **retry** it later. Even a few seconds or minutes later may work.

9. If you are using a **slower connection** (for example dial-in) you can increase your performance by turning image loading off. This will cause your browser to show an icon where an image should be. If you do want to see the image, then click on the icon and it will be fetched.

   You can do this in Netscape by unselecting Auto Load Images under Options. In Mosaic select Delay Image Loading under Options. The image will appear as an icon. Click on whichever icon you decide you want to see.

10. Use **Web Central** or some other public set of pages as a starting place, or as a reference point. To add this as your Home Page do the following:

    If you are using Netscape:

    1. Click "Options" on your menu bar.
    2. Click "Preferences..."
    3. Select "Styles" from the pull-down menu.
    4. Add "http://www.cio.com/central/" as your Start With: Home Page Location (you can cut and paste to Netscape)
    5. To add it as a Bookmark go to the start of **LinkMaster**, then click on the menu bar "Bookmarks". Then click "Add Bookmark". You can then use the Bookmark to get back to **LinkMaster** at any time.

    If you are using NCSA Mosaic:
1. Add Web Central to your hotlist by clicking on menu bar "Navigate".
2. Then click "Add Current to Hotlist".

If you are using NetCruiser:
1. Add Web Central to your bookmarks by clicking on menu bar "Bookmarks"
2. Then click "Add Bookmark".

11. Check one of the other search tools provided on Web Central.

12. Try creating your own Web pages. Use "View Source" to see how others have done something you would like to do. In time you may want to create your own Home page. There are many examples, ranging from ones that include lots of graphics, to ones that simply list interesting places. Look around and find a style you like.

13. If you have an error check out this list of possible error reasons.

14. You can print any page by using the Print option under the File menu bar. You can also save the page to a file on your system.

Conclusion

WEBMASTER MAGAZINE
http://www.web-master.com/

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Some Common Problems

1. It's taking forever, and you can't wait any longer!
   
   There can be any of a number of reasons for this. Perhaps the server you are trying to connect to is very busy, or just is not working, or possibly the network is overloaded.

   If you decide you can't wait you can stop the transfer by clicking on the globe (Mosaic) or the Netscape icon (Netscape)!

2. The file you asked for is not available.
   
   There could be a number of reasons this happens.
   - The server is overloaded. **Retry** it later. Even a few minutes later may work.
   - The file is not there (404 Not Found)
      
      The URL is incorrect. Need to find the right one. The file may have been deleted, or you may have a bad URL.

   
   Check out [C|net's list of errors and what they mean](http://www.cio.com/WebMaster/sem2_errors.html) for help.

4. The browser will not/can not display what you asked.
   
   You probably do not have the right viewer for that type of data. You will need to get it installed.

5. You can't find what you are looking for.
   
   Try one or more of the **search** tools that are available:
   - Webcrawler
   - Jumpstation
   - The Nomad
   - RBSE's URL Database
   - The NorthStar Database
   - The ALIWEB Database
   - The SIMON Index
   - The WWW Worm
   - Harvest
   - Lycos

   You may need to try several strategies before you find what you wanted. Be patient and persistent.
That's it for our overview. We looked at what the Web is, some of the information available and then how it works. We finished by discussing some of the resources available to help you, and then passed on some hints on using the Web.

Hopefully you have seen the power and potential of the Web, and have an understanding of the technology that makes it happen. While there is no magic here, many hours of engineering have gone into the tools that are available to us today, and thousands of people across the world are working on making even better tools!

As you learn more about the Web, and the power it provides, we hope you will take advantage of the information WebMaster magazine provides you. We will be watching how the Web evolves, and will be keeping you updated on how others are using and expanding the power of the Web.

Let us know what you liked or did not like!