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Why Publish with WebSite Professional?

Serious webmasters need powerful tools to publish the information their users demand. Dynamic content, active pages, secure storefronts, virtual servers, controlled access—all of these are on a webmaster's daily to do list. Meeting and exceeding these demands is the goal of WebSite Professional 2.0 from O'Reilly & Associates. WebSite Pro 2.0 provides you with a fully-featured, easy-to-use server and full bag of tools to create and manage content. Whether you have a single web with simple pages or a complex site with multiple identities, dynamically-generated pages, and secure transactions, you will find WebSite Pro 2.0 meets your needs.

Following in the tradition of previous versions of WebSite and WebSite Pro, version 2.0 has an open architecture to support a wide variety of indispensable development tools from Java to Active Server Pages to Perl. In addition, WebSite Pro 2.0 comes with a complete suite of web building and management tools including an HTML editor, site manager, indexing program, image map editor, and statistics utility.

Integrated with WebSite Pro 2.0 is iHTML Professional from Inline Internet Systems. This powerful server-side extension to HTML lets you easily add dynamic content to your site. Pull from ODBC databases, generate graphics on the fly, incorporate background processing, and more by using iHMTL Professional's special HTML tags.

With WebSite Pro you can easily set up shop on the Internet. Handle secure trans-actions such as credit card payments without risk through WebSite Pro's support for Secure Sockets Layer (SSL version 3) encryption protocol. The iHTML Merchant, a pre-built iHTML application included with WebSite Pro, gives you a storefront, catalog, shopping cart, and more. All you add is a secure server certifi-cate and the goods and you're ready for ecommerce.

In addition to enhanced security, WebSite Pro 2.0 supports several aspects of Windows NT native security system. You can now restrict access to your site using the members of your NT user database. If you are on an intranet, you may want to use WebSite Pro's built-in NTLM support, which passes users local names and passwords transparently across the network to the server. The ability to process requests to the WebSite Pro server (or any virtual server) in the context of a specific NT account opens the possibility for allowing fully-protected CGI and API uploading and execution to your site—a real boon to webmasters who provide web hosting services to others.

This book, *Mastering the Elements,* is dedicated to showing you how to install and administer WebSite Professional 2.0 and how to build and manage your web. The second volume of this documentation set, *Creating Dynamic Content,* shows you how to use Website Pro's many tools for adding dynamic content and developing web applications. This first chapter gives you an overview of WebSite Pro's features and components as well as some ideas for using WebSite Professional 2.0 for advanced, secure Web publishing.

How Can I Use WebSite Professional?

Running a web server is essentially a way to publish information. Publishing on the Web differs from traditional paper-based publishing by giving you the ability to include multimedia elements, to link information from many locations, to update and distribute information quickly, and to create dynamic content from other sources and applications. Taking these general capabilities as a jumping-off point, let's look at some ways you might want to use WebSite Pro:

- Whether your business is a global corporation or an independent consultancy, WebSite Pro lets you conduct business on the Internet. You can publish prod-uct and service information, competitive analyses, philosophy of business, biographies of key people, employment opportunities, press releases, and pric-ing data. Add forms for interactive contact with visitors to your web. Let those visitors become paying customers by allowing them to order products from your site, using WebSite Pro's cryptographic security for secure credit card transactions and the iHTML Merchant storefront.

- In a department or office, WebSite Pro is an easy way to make data readily available to others on an intranet, a TCP/IP-based local area network. For

example, you have employee records, accounting information, sales projections, project plans, and customer data that coworkers need to use on a regular basis. You can easily create and maintain Web documents for these valuable records. On an NT-based intranet, you can simplify access security by using WebSite Pro's support for NT user authentication. By tapping into the NT user database for setting access control and passing username and password information over the network, you save time in setting up access restrictions and your users don't have to remember as many passwords.

- If you have existing data in Windows applications such as word processors and spreadsheets, you can use WebSite Pro's Windows CGI to generate virtual documents from that data. Instead of making a request directly to the application, the user gives information to the CGI program through a browser. The CGI program makes the request to the application and displays the information in a Web document. If your data is housed in ODBC databases, iHTML Professional makes getting that data as simple as including a few iHTML tags in your HTML documents. Working with databases over the Web has never been easier.

- WebSite Pro's virtual server capability lets you host webs for other businesses, departments, or individuals. WebSite Pro 2.0 now supports IP-less virtual servers, which are identified by browsers including the name of the server (the hostname) in the request. You can now host multiple servers from one single IP address. You can choose to manage the web for each server or you can hand that over to a virtual server administrator. Using WebSite Pro's support for Netscape Navigator Gold, the web administrator can edit and publish new documents. WebSite Pro's new support for processing requests in the context of an NT user account also lets the web administrator upload and execute programs in his web without fear of endangering other parts of the server or the system. This built-in protection opens the door for increased web hosting services. Setting up multiple identities is easy with the improved New Identity wizard.

- Often, large companies have procedural information that is frequently updated to share among employees. If you are responsible for updating and distributing this information, you know how difficult it is to keep track of multiple copies. If you receive updates regularly, you know how time-consuming it is to file the new procedures and dispose of the old. Putting procedures (or other frequently updated information) on a WebSite Pro server solves both the updating and distribution problems. Updates are completed once, and, when the files are added to your web, the distribution is complete. The files don't even have to be in HTML; simply configure your users' browsers to correctly display or download other file types such as Microsoft Word or WordPerfect. For sensitive information, WebSite Pro lets you restrict access to particular users or groups of users. This solution works well both for companies with

only one location and for those with many locations around the world, since the Internet is an existing global network.

- A company with business partners in different buildings, cities, states, or around the world can use WebSite Pro to exchange product designs, specs, reviews, and progress reports. For example, at company headquarters in California, product managers can post designs and specs for a manufacturer in Singapore to review and download. The factory in Singapore can post responses, revised designs (based on capability), and progress reports for the company to review and respond to. Exchanging highly confidential information on products under development takes full advantage of WebSite Pro's support for SSL cryptographic security; you can share this information confident that your competitors are not able to tamper with or read it.

- Setting up a WebSite Pro server can be a great solution for busy educators. You can create a web with links to course descriptions, current assignments, summer reading lists, and class schedules. Your web can also have links to external resources such as libraries or databases that your students need for research. A CGI or iHTML application for pulling students' grades from your electronic grade book allows your students to always know where they stand in your class. Of course, you want to restrict this page's URL to require user authentication. Including a *mailto* URL on a web page leaves your students no excuse for not communicating with you.

- Creating web applications for others is a growing area of opportunity for talented programmers. Have an idea to make the Web or a web server run better, faster, be more interesting? The WebSite Application Programming Interface (WSAPI) comes with seven built-in extensions and over 50 exposed functions to let you tap the power of the WebSite Pro server. In fact, WebSite Pro's server-side include support is an example of the post-processor extension. WebSite Pro also runs Microsoft ISAPI-Internet Server Applications through a special generator extension so you can develop cross-platform applications.

- Still want to create Web applications but you're not a high-level C/C++ programmer? Check out WebSite Pro's support for Microsoft's Active Server Pages framework. Create and run ASP pages from your WebSite Pro server. ASP not your cup of coffee? WebSite Pro 2.0 has a software development kit for creating and running Java servlets. You can run Java servlets with no additional software using the built-in Java Runtime Environment (JRE) that ships with WebSite Pro. To create your own Java servlets for WebSite, simply add the Java Development Kit 1.1 and you are ready to roll. WebSite Pro also includes the newest version of Perl 5 for Win32 as well a Python for Win32. And of course, WebSite Pro's continued support for the Windows and Standard CGIs means you can program in a variety of environments including Visual Basic, Delphi, and C++/MFC.

These are just a few ideas; you probably have many more for publishing your information. You'll also find more ideas scattered through the documentation along with specific examples for implementing them.

What Comes with WebSite Professional?

WebSite Professional 2.0 includes the web server and a full range of tools to manage the server and develop web content and applications. This section briefly describes those components:

WebSite Pro Server

The heart of WebSite Pro, the server handles requests from clients (browsers) for documents, whether they be text, graphic, multimedia, or virtual. The WebSite Pro server is a full 32-bit, multithreaded HTTP (with many HTTP 1.1 features in place) server that runs under Windows NT4.0 or Windows 95. The server takes full advantage of the operating system's Registry and multi-threading support. Under both operating systems, the server can run as an application or as a service.

Server Properties

Server Properties lets you configure the WebSite Pro server to meet the needs of your environment. Although the install program handles the basic configuration, you will want to enhance your server by changing some settings. Mapping, identities for virtual servers, access control, managing secure server certificates, automatic directory listings, and logging parameters are tasks you accomplish through Server Properties, the server's property sheet. The general settings of Server Properties are covered in Chapter 3; the other settings are covered in Section 3 of this book.

WebView

Completely overhauled from earlier versions, WebView 2.0 helps you build and manage your site by graphically depicting it. WebView now includes a high-level view of your site that shows all virtual servers, mappings, and subfolders. You can add, change, and delete mappings from this view. You can also add folders and documents. In the link view, WebView shows you all the hypertext links between and within documents—internal, external, broken, and virtual. WebView not only lets you see your web from a bird's eye view, it also lets you edit individual files with hooks to the appropriate editor for the type of file (HTML, GIF, perl, and so on). You can now change the editor associations through WebView rather than through the Windows Explorer. WebView also lets you use the other web building tools included with WebSite Pro—WebIndex, MapThis, and QuickStats. WebView is the subject of Chapter 4.

WebIndex and WebFind

WebIndex and WebFind work together to provide full-text search capability for users of your web. The revamped WebIndex is a wizard that walks you through the steps of creating a new index, reconfiguring an existing one, or deleting an old one. Blazingly fast, WebIndex can create searchable indexes with ease. A variety of preferences allows you to tailor index contents. WebFind is the CGI program that searches the indexes created by WebIndex. When users click on a WebFind hypertext link in one of your documents, WebFind first displays a search form for the user to complete and then executes the search. You can completely customize the resulting WebFind page. The command line *index* program lets you build even more complex indexes as well as schedule them to run on a regular basis. WebIndex, WebFind, and *index* are covered in Chapter 6.

QuickStats

This statistics program reads any of WebSite Pro's three log formats and gives you a quick look at the activity on your web. QuickStats can report on any virtual server, URL path, or specific document to tell you the number of requests (and various types) and give you a list of IP addresses of browsers making those requests. With one button click, QuickStats resolves those IP addresses into domain names so you can get a much better picture of who is visiting your site. QuickStats is discussed in Chapter 4 and Chapter 12 of this book.

Map This

Clickable image maps—images with defined hotspots that send the user to other locations—are a great addition to any web. Many webs use clickable image maps on their home pages to help users navigate through the contents of their webs. Map This lets you create clickable image maps easily, in a graphical environment. Map This supports both NCSA file-based maps and client-side image maps. Map This is the topic of Chapter 7.

HomeSite HTML Editor

Creating HTML documents with a plain-text editor is time-consuming both in the initial input and in later error correcting. The HomeSite HTML editor from Allaire Corporation simplifies coding by supplying templates, tag references, quick search and replace, and many more features. Now you can concentrate on what you are saying and not how the tags are typed. Including hypertext links, images, and other multimedia elements is barely more than a button click. Chapter 5 covers HomeSite and other HTML topics.

WebSite Java Servlet SDK

New with WebSite Professional 2.0, the WebSite Java Servlet Software Development Kit is a framework for developing Java servlets to run under WebSite Pro. To create your own servlets, you need to install the Java Development Kit (JDK) 1.1. However, if you just want to run Java servlets, the WebSite Java

SDK includes a copy of the Java Runtime Environment (JRE) so you can add the power of Java servlets to your server right away. The WebSite Java Servlet SDK is covered in Chapters 15 and 16 of *Creating Dynamic Content*.

Active Server Page Support

WebSite Professional 2.0 also includes built-in support for Microsoft's Active Server Page technology. The WebSite ASP wizard activates that support once you have installed the ASP framework (available from Microsoft). Add dynamic content easily with Active Server Pages or use those created by others. WebSite Pro runs these flawlessly and you don't have to edit the Registry to set up anything. Server-side scripting with Active Server Pages is the topic of Chapter 7 in *Mastering the Elements*.

iHTML Professional

iHTML Professional is a powerful, streamlined scripting language that extends HTML while eliminating hours of programming. Using iHTML Professional's HTML-like tags, you can add dynamic functions and graphics to your pages. iHTML Professional was designed by Inline Internet Systems specifically for the Web and is built on such core technologies as dynamic web graphics (for generating graphs, charts, and overlay images in real time); web-to-database access (for ODBC database access on the fly); and back page processing technology, which allows pages to be processed in the background on developer-determined schedules. iHTML Professional is the topic of Chapters 4-6 in *Creating Dynamic Content*.

iHTML Merchant

Also from the folks at Inline Internet Systems, iHTML Merchant is a full-featured merchant server that greatly simplifies the setup and administration of online stores. It includes support for an unlimited number of stores and an unlimited number of categories and products within each store, fully customizable store templates, browser-based administration, dynamic sales reports, banner ad rotation, a shopping cart, automatic tax and shipping calculations, and an easy-to-implement interface to CyberCash, allowing for real-time credit card verification over the Internet (with or without customer wallets). As the name implies, iHTML Merchant is built entirely with iHTML and (unlike most merchant servers) is completely customizable in appearance *and* functionality simply by editing the HTML documents and the iHTML code within them. iHTML Merchant is the topic of Chapter 5 in *Mastering the Elements.*

Perl 5 for Win32

The latest version of Perl 5 for the Win32—and indispensable tool for creating CGI and API programs—is included with WebSite Professional 2.0. The Perl SDK includes support for both (standard) CGI-based and API-based perl programming. The Perl 5 for Win32 package comes with a connector DLL for Microsoft's ISAPI interface and is compatible with WebSite Pro's ISAPI emulation mode. The WebSite Pro setup installs everything you need to use this

mode if you wish. A full development kit comes with it including online documentation and examples.

Python for Win32

A new addition to WebSite Professional, Python is becoming a popular scripting language. Like Perl, Python is powerful, but easier to use than a traditional compiler language like C or C++. Unlike Perl, Python uses an object-oriented paradigm, making it a particularly useful scripting language for C++ programmers and the Windows/OLE environments. Although Python is used mostly in UNIX environments, its following is growing in the Windows world. The version of Python included with WebSite Pro is specifically ported to the Win32 environment and includes online documentation.

Remote Administration

With WebSite Professional 2.0 remote administration becomes even easier. A special version of Server Properties is available from the WebSite Pro CD for installing on the system from which you wish to administer your WebSite Pro server. Opening this remote property sheet for the server lets you change the server's configuration as though you were sitting at the same computer. Remote administration is the topic of Chapter 13.

WebSite Pro Resources

WebSite Professional 2.0 comes with a variety of online resources, including examples, diagnostics, additional documentation, reference material, and tutorials. The WebSite Pro Resources is the location for finding this helpful material. This HTML page is the starting point for all WebSite Pro's online resources, including the server self-test; troubleshooting tips; software development kits for the WebSite API, server-side Java, and Perl 5 for Win32; the latest readme file; the Windows CGI specification; and more. We suggest you start here when you need information about WebSite Pro that you can't find in the documentation.

What's New with WebSite Professional 2.0?

If you are upgrading from a previous version of WebSite or WebSite Pro, you'll see many new features and completely overhauled applications in WebSite Professional 2.0. The WebSite team is dedicated to bringing you the latest Web technology in a high-quality package to help you meet the demands of your information publishing environment. Many features and enhancements were added in response to suggestions and requests from current WebSite Pro users. As always, we welcome your feedback as we continue to develop the best Windows web server package on the market.

In addition to the new integrated and bundled programs and SDKs described above, some of the new features you'll see in WebSite Professional 2.0 include:

- Support for IP-less virtual servers (multiple identities sharing a single IP address). Identities are now determined by the value of the Host: header sent by most browsers. (For browsers that don't send the Host: header field, the old method of identifying virtual servers by IP address applies.) Mix and match IP-less virtual servers with IP-bound ones. A new identity wizard makes creating virtual servers quick and error free.

- Support for separate server administrator email addresses for each identity.

- Support for NT native users and groups for password access in addition to WebSite Pro's own users, groups, and realms.

- Support for Microsoft NTLM authentication eliminates the need for users to enter usernames and passwords on NT-based intranets.

- Request processing in the context of an NT account (anonymous or authenticated). Layer WebSite Pro's powerful access control with NT's native access control for super-flexible security. Assign separate anonymous accounts for virtual servers. ISPs: Now you can provide protected CGI/API uploads!

- New Key Ring Manager provides graphical control over private/public key pairs, certificates, and trusted roots. Generates and accepts standard (PKCS#10/X509) formats. (Replaces the Certificate Manager provided in WebSite Pro version 1.)

- Key Ring also creates renewal requests for certificates and allows you to export your public keys.

- Support for SSL version 3 on the server side is complete.

- New Explorer-like interface for WebView provides more pertinent information than ever.

- Edit or preview any type document from WebView, using associations you create or change in WebView. No need to make associations with the Windows Explorer.

- New wizard-based keyword indexer WebIndex eases the task of creating and editing most document indexes. Extended characters such as $ and @ can be indexed.

- Scriptable command-line keyword indexer can create indexes based on complex criteria, including recursive indexing.

- New WebFind keyword search form and report page can be customized in many ways.

- QuickStats reads any of WebSite's log formats and supports multiple identities and multiple logs.

- Automatic directory listings include colors, which can be customized.

- You can now associate file types for executables and DLLs to make them run more quickly and not rely on the file type associations made by the operating system.

- Support for disabling executable documents on a URL basis helps protect your web from unauthorized tampering.

- Many HTTP/1.1 features, including the all-important persistent connections and byte-range support. More HTTP/1.1 features to be phased in on an ongoing basis.

- WebSite Java Servlet SDK supports Java 1.1 and lets you create and run your own Java servlets for WebSite Pro.

- Support for Microsoft's Active Server Pages through a built-in, easy-to-install framework.