



Web Hosting

Comprehensive, scalable solutions for hosting dynamic websites, secure web services, and enterprise applications.

Features

High-performance Apache web server

- Support for 64-bit services, including Apache 2, MySQL 5, and Java VM on Intel
- Apache 2.2 and 1.3 with HTTP 1.1 support¹
- Support for virtual hosting, including multiple IP addresses and virtual domains
- Encrypted data transport using SSL and TLS
- WebDAV support for collaborative content publishing

Dynamic content deployment

- Extensible Apache module architecture
- In line HTML scripting using server-side includes (SSIs) and PHP
- Support for the UNIX CGI 1.1 standard and scripting using Perl, Ruby, and Python
- Apache Tomcat 5 for hosting JavaServer Pages (JSPs) and Java Servlets
- Ruby on Rails with Mongrel and Capistrano
- Apache Axis for SOAP and WSDL Web Services
- WebObjects Deployment 5.4
- MySQL version 5 with AMP integration
- ODBC and JDBC database connectivity

Wikis and blogs

- Apple-developed Wiki Server for content publishing and group collaboration
- Content syndication using RSS, RSS2, and Atom
- Apple-designed templates and themes

Security and authentication

- Public key infrastructure (PKI) for X.509 certificate-based authentication
- 128-bit strong cryptography worldwide
- Flexible security controls with realm-based user name and password authentication
- Open Directory integration for digest and single sign-on authentication

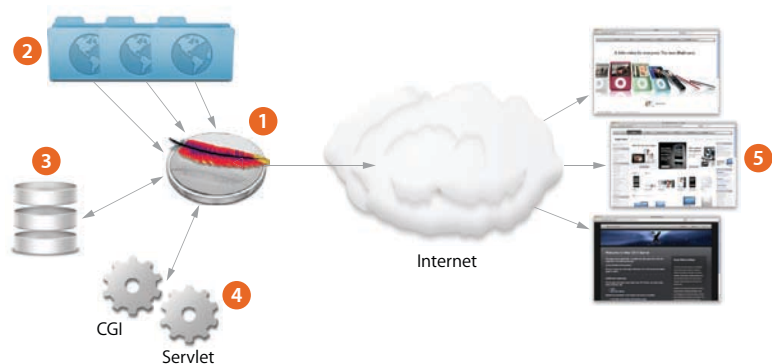
Technology Brief

Mac OS X Server: Web Hosting

Mac OS X Server combines the latest open source and standards-based Internet services in a complete, easy-to-use web hosting solution. At the core is Apache, the world's most popular web server. Performance optimized for Mac OS X Server, Apache provides fast, reliable web hosting and an extensible architecture for deploying enterprise Java applications and delivering dynamic content and sophisticated web services. Apple's innovative administrative tools make it possible for organizations of any size to host websites and deploy powerful web applications quickly, easily, and affordably.

Mac OS X Server takes the complexity out of configuring, hosting, and managing websites. An intuitive administrative interface makes it easy to get started with a static website, while providing advanced capabilities for professional webmasters responsible for deploying sophisticated services. Tools for serving dynamic content, CGI scripting, enterprise applications, database integration, wikis, and blog publishing and syndication are already built in, as is OpenSSL for encrypted data transport. Mac OS X Server combines all of these web technologies with innovative management tools for superior ease of use. Right out of the box, it's ready to host secure e-commerce sites, transaction-based intranet solutions, and robust web services.

Web Hosting at a Glance



- 1 Provide reliable, high-performance web hosting with the built-in Apache web server.
- 2 Host multiple websites on a single server, using SSL and realm-based authentication to secure network transactions and control access to web content.
- 3 Link your site to a database using the included MySQL database; ODBC and JDBC database connectivity is also supported.
- 4 Generate dynamic server-side content with CGIs and Java Servlets.
- 5 Deliver web content and deploy enterprise Java applications to Internet clients with any standards-based browser.

Automatic web hosting

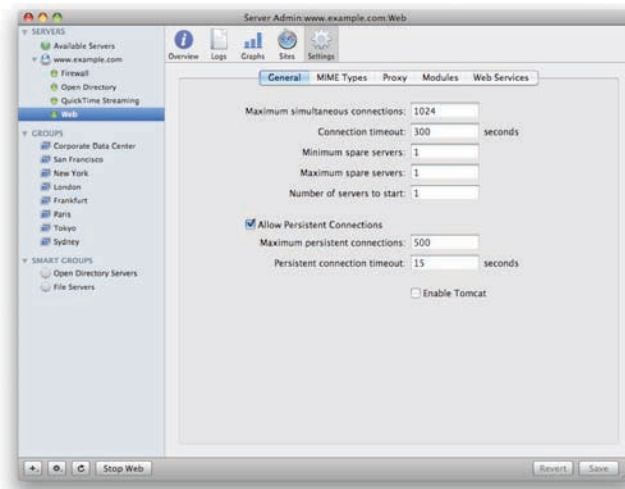
With Mac OS X Server, you can provide web hosting services for users throughout your organization automatically. Mac OS X clients can simply save HTML content to the Sites folder in their network home directory, and it's instantly available online. And since content is hosted on the server—rather than on users' computers—there's no need to reconfigure firewall settings or arrange static IP addresses for your network clients.

Apache-Based Web Hosting

Included in Mac OS X Server is Apache, the most widely used HTTP server on the Internet. Mac OS X Server offers experienced webmasters support for using either Apache 2.2 or Apache 1.3 from within the Server Admin application.¹

One-step website deployment

You don't need to be an experienced webmaster to set up websites and host them on Mac OS X Server. Apache is preconfigured with default settings, so deployment is as simple as selecting Start Web in Server Admin. Any HTML content saved to the server's default web folder will be served over the Internet automatically.



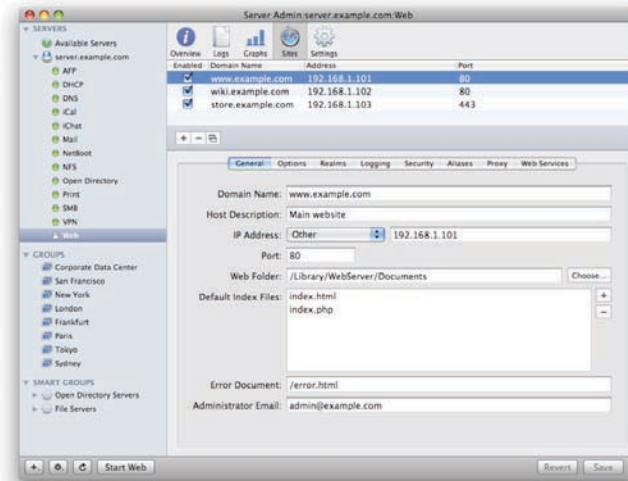
Server Admin has a graphical interface that makes it easy to customize settings and implement advanced web hosting features. You can configure security options, define MIME types and content handlers, and turn on additional services, including WebDAV and webmail. The web server supports aliases for greater website flexibility, allowing you to move web pages without breaking links and create multiple URLs that refer to a single file. Server Admin also makes it easy to set up a proxy server for improving the efficiency and security of your organization's network.

Collaborative web publishing using WebDAV

Mac OS X Server includes support for Web-based Distributed Authoring and Versioning, or WebDAV. This enhancement to the HTTP protocol turns a website into a document database that enables collaborative creation, editing, and searching from remote locations—particularly useful for updating content on a website. WebDAV works with popular web publishing applications such as Adobe GoLive and iWeb, allowing web content creators on any Internet-connected computer to open files, make changes or additions, and save those revisions back to the web server—while it's still running.

Hosting multiple websites

Support for virtual hosting in Mac OS X Server allows you to host multiple websites on a single server. Depending on how you configure the server, each website can have a different domain name (using virtual domains) and even a different IP address. In addition, each website can be configured with unique security options and separate log files for tracking and reporting.

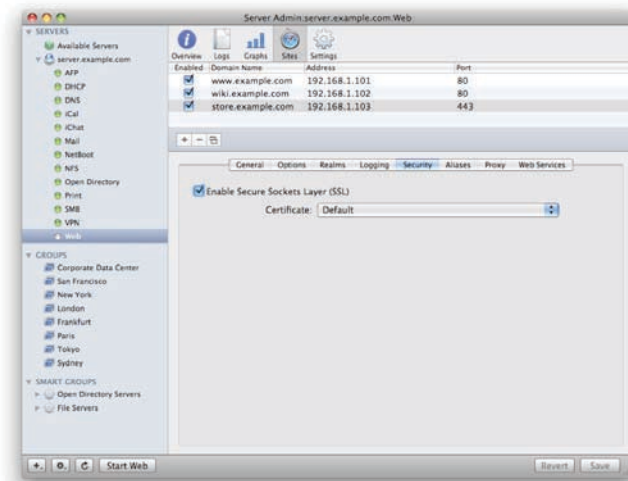


Security and Authentication

OpenSSL

OpenSSL is the open source cryptographic toolkit for implementing the Secure Sockets Layer (SSLv2 and SSLv3) and Transport Layer Security (TLSv1) protocols over TCP/IP networks. Using OpenSSL, Mac OS X Server supports X.509 digital certificates for client and server authentication. It also provides strong 128-bit encryption worldwide.

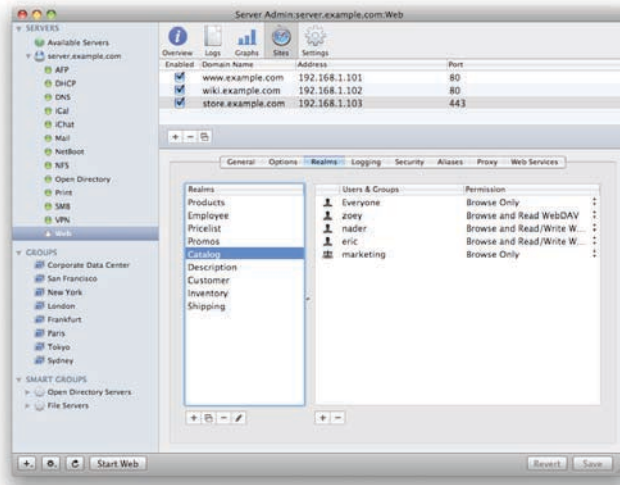
Mac OS X Server integrates OpenSSL with the Apache web server, providing support for strong 128-bit encryption and public key infrastructure (PKI) authentication using X.509 digital certificates. This high-grade security architecture protects credit card information and other confidential personal and business data transmitted during web transactions.



Digital certificates issued by a trusted third-party Certifying Authority (CA) enable users' web browsers to authenticate your server using SSL for e-commerce or secure web transactions. CA companies, such as VeriSign, Entrust, and Thawte, provide independent verification of your company information and domain name, ensuring the identity of your online store or other secure website.

Flexible access controls with realms

Server Admin makes it easy to set up realms to require user authentication for areas of your website. Especially valuable for intranet sites and for collaborative publishing scenarios, realms allow you to secure specified web pages and manage browsing and authoring privileges on a per-user or per-group basis.



Apache modules

Open source and Apple-developed Apache modules extend the capabilities of your web server. More than 40 modules are provided with Mac OS X Server, including the following:

mod_dav. Provides class 1 and class 2 WebDAV functionality for creating, moving, copying, and deleting resources and collections on a remote web server.

mod_perl. Integrates the Perl programming language with web services and scripts.

mod_php4. Enables the use of PHP for writing dynamically generated web pages.

mod_ssl. Combines SSL and TLS support for hosting secure websites using HTTPS.

mod_auth_apple. Enables Open Directory to authenticate users from any defined LDAP directory server.

mod_macbinary_apple. Provides MacBinary encoding support for downloading older Mac files that contain resource forks.

mod_hfs_apple. Adds security for case-insensitive volumes such as HFS+.

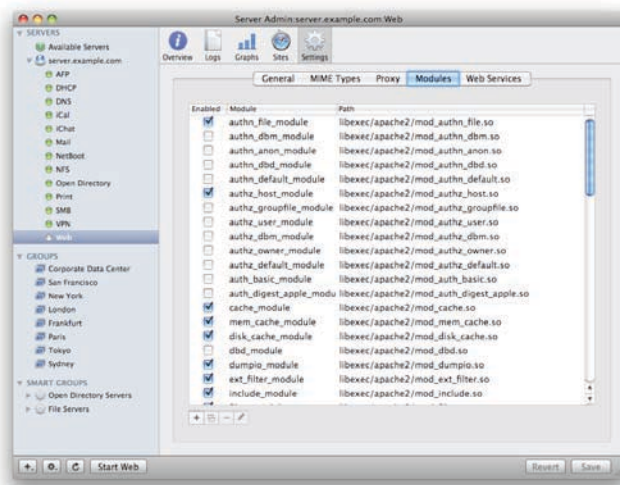
apache_mod_bonjour. Registers individual users' sites to enable discovery using Bonjour.

mod_spotlight_apple. Provides web-based searching of Spotlight-indexed content on the server.

You can define realms for different groups that use your website, such as customers, partners, students, or departments, and specify access privileges to the appropriate pages for each group. You can also require user authentication to access any hosted page or folder with a specific string of characters in the URL. Mac OS X Server provides integration with Open Directory for digest and single sign-on authentication.

Hosting Dynamic Content

Apache is extremely flexible, so you can add dynamic content for a more interactive Internet solution. Dynamic content enables you to host stores, auctions, shared calendars, portal systems, polls, and other database-driven services. The robust server-side architecture in Apache supports dynamic content generated by server-side includes (SSIs), PHP and Apache modules, and custom CGIs—as well as by JavaServer Pages (JSPs) and Java Servlets. The Server Admin tool makes it easy to extend Apache functionality—simply click the checkbox to enable or disable each module.



PHP modules

Modules built into Mac OS X Server extend the capabilities of PHP with a range of services, including ODBC database connectivity, CURL library connections, Web Distributed Data Exchange (WDDX), and XML-RPC Web Services. Additional modules provide integrated support for dynamic image creation using GD Library, reading EXIF metadata from digital cameras, and reading and writing compressed files using Zlib.



Support for iPhone applications

Mac OS X Server v10.5 supports the latest generation of web application frameworks, including Apache 2, Ruby on Rails, Tomcat 5, and WebObjects 5.4, for hosting web-based applications for iPhone. And since Mac OS X Server includes a robust VPN server that supports the same industry-standard VPN protocols as iPhone—L2TP/IPSec and PPTP—iPhone users can securely and remotely connect back to the network for access to internal web-based applications and services.

Inline scripting

Server-side includes (SSIs) and PHP provide a simple way to add dynamic information to web pages. These inline scripting languages allow you to embed dynamic logic in your HTML code, rather than writing a separate program that generates HTML. SSIs are used to insert boilerplate or frequently updated content as a page is sent to the user—so you can make edits once and keep all your pages current. PHP is commonly used to extract information from a database and publish it dynamically on each request. You can also use inline scripts to vary web content based on the client's browser or operating system, providing more relevant information for a better user experience.

Common Gateway Interface (CGI) scripts

A Common Gateway Interface is a set of rules for sophisticated interactions between the web server and server-side applications. CGI scripts allow users, for example, to place a product order or respond to an information request. The CGI takes care of connecting to a database—validating, searching for, or storing information—and formatting the results as HTML code. Any piece of software can be a CGI program if it handles data input and output according to the CGI standard. Mac OS X Server includes Apache modules that support CGI applications written in Perl, Ruby, and Python, as well as in other common scripting languages.

JavaServer Pages and Java Servlets

Mac OS X Server features the open source Apache Tomcat and a robust Java virtual machine (JVM) to host dynamic websites using platform-independent Java code. Similar to PHP and SSIs, a JSP allows you to embed Java source code in an HTML page, providing a simple way to deliver dynamic server-side content. Analogous to CGIs, Java Servlets are server-side Java applications, often used for e-commerce or other database-driven solutions. Because they're written in Java, Servlets are portable across servers and operating systems. This makes it easy to integrate Mac OS X Server with web solutions you already have in place.

Database integration

The latest version of MySQL version 5, the popular open source SQL database, is preinstalled in Mac OS X Server—enabling you to link data in different tables or databases and store information for delivering dynamic web content. For organizations that already have a database infrastructure, the Apache web server supports connectivity to a wide range of third-party SQL, ODBC, and JDBC database solutions.

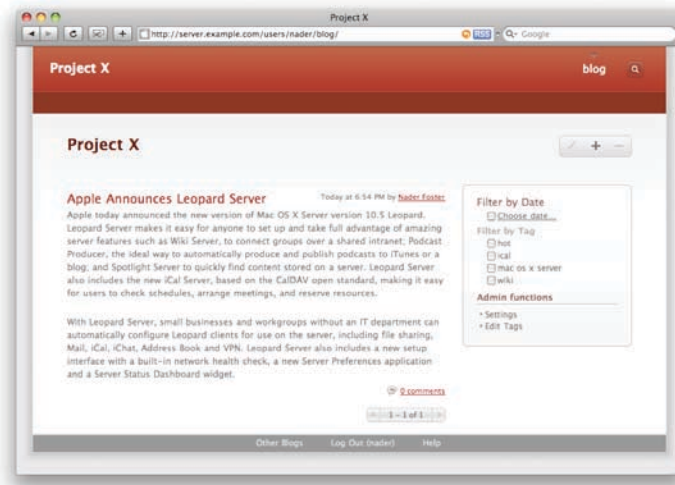
Web Applications Using Web 2.0 Frameworks

Mac OS X Server is one of the easiest ways to develop and deploy robust, reliable web applications based on Sun's Java 2 platform. It comes with all of the components necessary to host J2EE-based applications, including Apache Tomcat and Apache Axis. Together they enable enterprise-class application services such as Enterprise Java Beans (EJBs), Java Message Services (JMS), XML-based web services, and Java Database Connectivity (JDBC). Mac OS X Server also supports SOAP and WSDL Web Services standards for exchanging data among distributed applications. Increasingly popular for business-to-business transactions, these transport protocols provide the integration essential in sophisticated, multitiered applications.

Mac OS X Server v10.5 adds Ruby on Rails with Mongrel and Capistrano, enhancing its status as a premiere platform for web application development. Web 2.0 frameworks such as Ruby on Rails drastically reduce development time, improving developer productivity and accelerating the release of business-critical applications—so you and your developers can concentrate more on functionality and usability and less on how to get the application working.

Wikis and Blogs

With the emergence of wikis and blogs, organizations now have a quick and easy way to share information. The new Wiki Server in Mac OS X Server v10.5 makes it simple for users to publish and syndicate online content and for groups to collaborate through their own wiki-powered website—complete with shared calendar, blog, and mailing list.

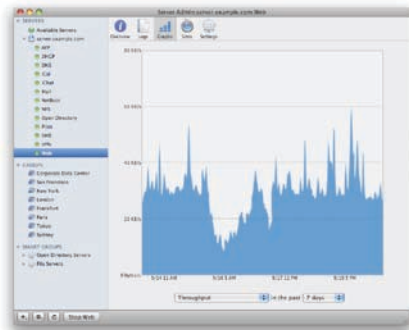


Wiki pages, blogs, tags, and even search terms can be subscribed to as an RSS feed. This allows users to receive notification automatically whenever content is added or edited.

Remote Management and Monitoring

In addition to making it easy to set up your web server, Server Admin provides secure remote monitoring of your Apache server and website traffic.² Mac OS X Server supports the Common and Extended Log Formats, offering compatibility with third-party log analysis programs for creating statistical reports and detailed site usage analyses.

The full suite of Server Admin capabilities can also be accessed from the terminal using SSH—making setup and management easy for UNIX-savvy administrators who prefer a scriptable, command-line environment.



You can graph the volume of page requests and web server throughput and view real-time activity logs in Server Admin.

Apple Server Solutions

Web hosting services are among the powerful workgroup solutions built into Mac OS X Server, Apple's UNIX server operating system. Combining the latest open source technologies with Mac ease of use, Mac OS X Server unleashes the power of Xserve, Apple's rack-optimized server hardware. With phenomenal performance, massive storage capacity, high-bandwidth I/O, and integrated remote management tools, Xserve running Mac OS X Server is the ideal solution for education, small businesses, and enterprises alike.

¹Server Admin provides a user interface for Apache versions 1.3 and 2.2, but only one can be displayed at a time. ²Server Admin provides remote server administration from any Internet-connected Mac OS X v10.3 or later system.

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For More Information

For more information about Mac OS X Server, Xserve, and other Apple server solutions, visit www.apple.com/server.