

REVIEW OF WEB SERVERS

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Abstract: This review offers a comprehensive analysis of diverse net servers, specializing in their overall performance, safety capabilities, and scalability. With the proliferation of net-primarily based packages and services, selecting the right web server is essential for making sure surest overall performance and safeguarding in opposition to cyber threats. thru an in depth assessment of popular internet servers inclusive of Apache HTTP server, Nginx, Caddy, Apache TomCat, Haiwatha and LiteSpeed, this paper examines their key functions, which include request handling, resource usage. moreover, issues consisting of ease of configuration, community help, and licensing fashions are discussed to assist directors and builders in making knowledgeable choices. The assessment targets to provide treasured insights into deciding on the maximum suitable web server for various use instances, deliberating the evolving needs of the digital landscape.

I] Introduction:

The performance, reliability and security of a website can be determined by the choice of a web server. The Internet has web server that serve web pages to users around the world. The capabilities of web server have evolved over the years from simple static content processing to dynamic web applications.

The goal of this review is to explore and evaluate the features and performance of the web server available today. Whether you're a web developer, system administrator, or business owner looking to establish a secure online presence, understanding the strengths and weaknesses of different web server is essential to making an informed decision that best suits your specific requirements and goals.

This review will give you an idea of how each web server stacks up against the competition, giving you the right solution to support your web infrastructure and deliver a great online experience It was your audience.

II]Overview:

SERVER	DEVELOPED BY	SOFTWARE LICENSE	LAST STABLE VERSION	LATEST RELEASED DATE
Apache http server	Apache software foundation	Apache	2.4.58	2023-10-19
Apache tomcat	Apache software foundation	apache	10.1.15	2023-10-16
haiwatha	Hugo leisink	GNU GPLv2	11.5	2023-10-13
Litespeed web server	Litespeed technologies	GNU GPLv3/ proprietary license	6.1.2	2023-05-24
Nginx	NGINX,INC.	BSD variant	1.25.4	2024-03-14
caddy	Matt Holt	APACHE	2.6.4	2023-02-14

III]REVIEW OF SERVERS:

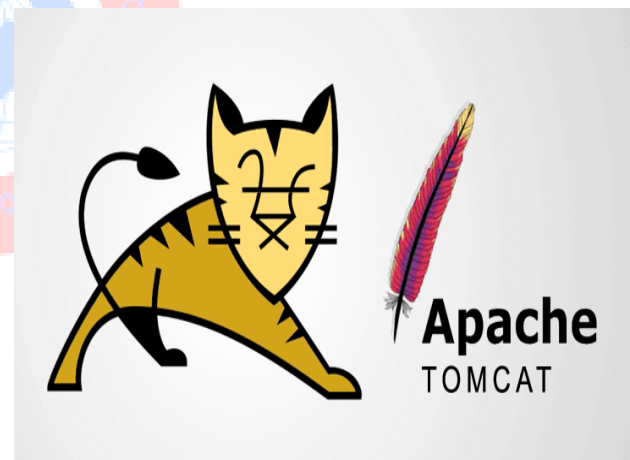
i] APACHE HTTP SERVER:



The Apache net server is the most popular web server within the industry. it's far advanced by using the Apache software basis, it's unfastened and open source. Apache is available for almost every essential working device such as Linux, Unix, FreeBSD, macOS and Microsoft windows. due to its reputation and help with the aid of a vast developer community, Apache has a large choice of add-on modules for the entirety from protection to overall performance upgrades. whilst Apache is written in C, it supports a extensive kind of improvement languages

in its upload-on modules. Apache helps HTTP/2 and IPv6 along with a number of critical community functions[1].

ii] TOMCAT:



The Apache Software Foundation developed Apache Tomcat, an open-sourced web server and servlet container. It's one of the most popular ways to deploy Java-based web applications.

It is suitable for both small-scale and large-scale deployment because it is lightweight and flexible. It's used in conjunction with Apache to serve static and dynamic content.

The Java Servlet, JavaServer Pages (JSP), Java Expression Language (EL), and

running Java web applications, handling HTTP requests, managing sessions, and serving static and dynamic content.

Tomcat's configuration files can be used by administrators and developers to extend its features. Apache Tomcat is a popular option for deployment of Java web applications[2].

iii] HAIWATHA:



The Hiawatha web server is designed specifically to be highly secure. It runs on Unix and most variants of Linux. It runs in containers or in the cloud, as well as in other virtualization environments. It is an opensource web server that is available for free. By default, it supports the security of web applications and functions. It includes intrusion detection, cross-site scripting and responds to denial of service attacks. It detects attacks like SQL injection and automatically blocks the sender's IP address when it detects an attack. It supports TLS with perfect forward secrecy. One important feature is an easy configuration environment that helps reduce errors that can lead to security issues. Hiawatha also features excellent performance and supports load balancing. Hiawatha is a

lightweight application and runs on legacy hardware or embedded systems[7].

iv] LITESPEED:



LITESPEED

The opensource version of the enterprise litespeed web server is called OpenLiteSpeed. The open version has community support while the enterprise version has commercial support. The free tier is included in the enterprise version. The OpenLiteSpeed version requires a restart if you want to use it for individual sites that don't change often. It has an unlimited number of worker processes. Important security features of the enterprise version are included in the open version. The commercial version has full Apache compatibility and uses Apache configuration files[3].

v] NGINX:



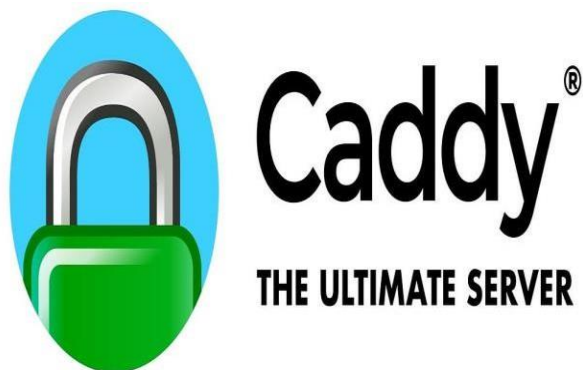
NGINX

NGINX (pronounced "Engine X") is considered by many to be the preferred

source web server with a wide range of additional features including load balancing, a mail proxy and the ability to provide predictable performance under heavy loads. While the total number of websites using NGINX is smaller than the number using IIS, NGINX appears on more large sites, and depending on how you count, may be as much as Apache. NGINX runs on a number of high-profile sites, including Microsoft and IBM, each of which has its own web server software. The server handles a large number of concurrent users using an event-driven approach that avoids multiple threads. NGINX ensures secure communication using TLS/SSL and minimizes memory usage.

While NGINX is free and open source, there is also a company of the same name that is part of F5 as the F5 NGINX application platform, which is not free. However, the commercial version provides a number of enterprise-level improvements including security and scalability. Learn how to install and configure an NGINX web server on Linux in our documentation library[4].

vi] CADDY:



The Caddy web server is an open source and free web server evolved by way of Matthew Holt. Caddy runs on Linux, Unix, FreeBSD, macOS, and Microsoft windows. Caddy robotically uses comfortable communications with HTTPS and TLS being the defaults. in line with Caddy, the server is easy to configure, rapid to installation, and it'll run in a variety of environments, inclusive of in packing containers without amendment. It's written within the cross language. Caddy helps HTTP/2, IPv6, opposite proxy and cargo balancing. Caddy model 2 is now available, which the employer says gets rid of a few previous barriers. To learn how to set up Caddy, talk over with our publications on the Caddy net server[6].

Operating system supports

SERVER	windows	linux	mac OS	BSD	solaries	eComStation	open VMS	AIX	IBM i
Apache http server	yes	yes	yes	yes	yes	yes	yes	yes	yes
Apache TomCat	yes	yes	yes	yes	yes	no	yes	yes	yes
Hiawatha	yes	yes	yes	yes	yes	no	no	no	no

caddy	yes	yes	yes	yes	yes	no	no	no	no
nginx	yes	yes	yes	yes	yes	no	no	yes	no
litespeed	no	yes	yes	yes	yes	no	no	no	no

Conclusion:

In summary, our review of Apache, Tomcat, Caddy, Hiawatha, and Nginx reveals the many options available for hosting web applications and delivering web content. Each presenter has their own unique strengths and focus; This leads to different uses and interests in the web development community. products, making it a reliable choice for web development. Designed specifically for Java-based web applications, Apache Tomcat becomes the top choice for Java developers thanks to its compatibility with Java Servlets and JavaServer Pages (JSP). Describe the process of setting up and managing a web site, especially for functions such as automatic HTTPS and reverse proxies. Hiawatha's emphasis on security and privacy, along with features like integrated URL rewriting and access control systems, make it an excellent choice for people who care about this important issue. It is particularly well known for link hosting and serving static content, having become an essential part of today's web infrastructure. Its event-driven architecture and support for regression and object balance make it ideal for the demanding web environment. Overcome by carefully analyzing these factors, developers can choose a web server that meets their project goals, thus providing a solid foundation to deliver a reliable and responsive web experience to their users.

References:

[1] "Apache Module mod_ssl". Retrieved 2014-07-04.

[2]"Apache Tomcat 6.0 - SSL Configuration HOW-TO". Retrieved 2014-07-04.

[3]"LiteSpeed Web Server v5.4 is Here!". 24 July 2019. Retrieved 11 November 2019.

[4]"nginx changelog". www.nginx.com. 2015-09-22.

[5]Leisink, Hugo. "Features - Hiawatha webserver". hiawatha-webserver.org. Retrieved 2014-07-04.

[6]"Global options". caddyserver.com. Retrieved 11 August 2020.

[7]Hugo Leisink. "About - Hiawatha webserver". hiawatha-webserver.org. Retrieved 2014-06-21.