**Web Servers**

A web server is a software that is responsible for accepting HTTP requests from clients, such as web browsers, and returning the appropriate response. This could be done in the form of an HTML page, an image, or a file download, among other things. Web server takes requests on a specific port, such as port 80 for HTTP or port 443 for HTTPS. When a request is received, the web server processes it and returns back the appropriate response. The response includes some status code, such as 200 for success, 404 for page not found, 500 for server error and so on.

**History:**

The history of web servers dates back to the early days of the World Wide Web. The first web server was developed in the early 1990s, when Tim Berners-Lee, the inventor of the World Wide Web, implemented the first web server as part of his work at CERN, the European Physics Research Center. This first web server, called CERN HTTPD, was a simple program that used to receive HTTP requests and return files stored in the server file system. It was primarily used to serve static HTML pages and was only available to the limited number of users within CERN. In the following years, other web servers began to emerge, one of them was NCSA HTTPd server, which was developed at the National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign. This server had more features than CERN HTTPd and was made available to the public, becoming one of the first widely used web servers.

**Different Web Servers:**

There are several types of web servers available, each with their own strengths and weaknesses. Following are the most popular web servers that are commonly used:

1. **Apache Servers:**

The apache HTTP Server, commonly known as apache, is one the most used web servers in the world. It was first developed in 1995 by a group of developers at Apache Software Foundation (ASF), which was formed to oversee the development of the Apache web server and other Open-Source Software. The first version of Apache, which was called “Apache Group Server” or “A Patchy Server”, was based on the NCSA HTTPd server. The developers at the ASF took the NCSA HTTPd server and added several new features and improvements, such as support for the HTTP/1.1 protocol and better security.

Apache quickly became most popular among web developers and system administrators due to its stability, security and flexibility. It was also one of the first servers that could be easily configured and extended through the use of modules, which could be added or removed as needed.

Over the years, Apache has continued to evolve and improve its features and functionality, with new versions being released regularly. Some of the major milestones in the history of Apache include:

* **Version 1.0:** The first official release of Apache, in 1995.
* **Version 2.0:** Released in 2002, this version introduced new features such as support for multithreading and IPv6.
* **Version 2.2:** Released in 2005, this version introduced new features such as improved performance and support for new protocols such as WebDAV and SSL.
* **Version 2.4:** Released in 2012, this version introduced new features such as support for virtual hosting, improved performance, and support for new protocols such as HTTP/2.

The Apache HTTP server is one the most popular open-source web servers in the world, with millions of websites and applications relying on it to serve their content. The ASF continues to maintain and develop the Apache server, with new versions being released regularly to address security vulnerabilities and add new features and improvements.

1. **Nginx Servers:**

Another popular open-source web server, Nginx is known for its high performance and ability to handle a large number of concurrent connections. It is commonly used in high-traffic websites and applications. NGINX (pronounced “engine-x”) is a free, open-source, high-performance HTTP server and reverse proxy. It was first released in 2002 by Igor Sysoev, a Russian software engineer, as a way to handle the high number of requests by a large online publication. The software quickly gained popularity among developers and eventually became one of the most widely used web servers in the world.

In 2011, Sysoev formed a company called Nginx Inc. to provide commercial support for the software. In 2019 F5 Network acquired Nginx for $670 million. Since then, the company has continued to develop and improve the software, adding features such as load balancing, caching and support for multiple languages.

1. **Microsoft IIS:**

Microsoft IIS (Internet Information Services) is a web server software developed by Microsoft for use with the windows operating system. It was first released as part of the Windows NT 3.51 operating system in 1995. IIS has undergone several major version releases since its initial release, each with new features and improvements.

IIS version 1.0, released with Windows NT 3.51, was a basic web server with limited functionality. IIS 2.0, released with Windows NT 4.0, added support for server-side scripting and ability to host multiple websites on a single server. IIS 3.0, which was included in Windows NT 4.0 Option Pack, introduced support for the Secure Sockets Layer (SSL) protocol and the Common Gateway Interface (CGI) standard. IIS 4.0, released with Windows NT 4.0 Option Pack, added support for the Active Server Pages (ASP) technology, which allowed developers to create dynamic web pages using a server-side scripting language. IIS 5.0, included with Windows 2000, introduced support for the ASP.NET framework and improved security features.

IIS 6.0, included with Windows Server 2003, introduced support for Web Services, improved support for ASP.NET and introduced a new architecture that improved security and performance. IIS 7.0, released with Windows Server 2008, introduced support for the new IIS Manager, a new modular design that allowed for more flexibility and control, and support for the new web standards like IPv6 and FastCGI. IIS 8.0, released with Windows Server 2012, introduced support for SNI (Server Name Indication) and WebSockets, and also included performance enhancements and additional security features. IIS 8.5 was included with Windows Server 2012 R2 and IIS 10 was included with Windows Server 2016.

IIS has evolved to become a feature-rich and powerful web server, and is widely used for hosting websites and applications on Windows servers. In recent version IIS 10.0, Included with Windows Server, added support for HTTP/2 and support for the latest web development frameworks such as ASP.NET Core and Node.js.

1. **Lighttpd Servers:**

A lightweight open-source web server that is designed for high performance and low resource usage. It is commonly used in embedded systems and other resource-constrained environments.

1. **Tomcat:**

Developed by the Apache Software Foundation, Tomcat is a web server and servlet container that is commonly used to deploy Java-based web applications.

1. **LiteSpeed:**

A high-performance web server that is designed to handle a large number of concurrent connections and high traffic. It is a commercial product and is commonly used in enterprise environments.

1. **Caddy:**

A relatively new web server, Caddy is designed to be easy to use and configure. It has a built-in web server and can automatically obtain and renew SSL certificates.

These are some of the most widely used web servers, but there are many other web servers available, each with their own unique features and capabilities. The choice of which web server to use often depends on the specific needs of the website or application being hosted. In recent years, cloud based web servers and serverless computing have become more popular, as they allow for more scalability and flexibility in deploying and managing web applications.

Overall, the history of web servers has been marked by steady evolution in technology, with new innovations and advancements driven by the growing needs of the World Wide Web and its users.