

Module 7: Lecture Guide Part I

Overview:

The Web may use a straightforward two-tier client/server architecture since the Internet is platform neutral. Web browsers (the clients) request files from Web servers and then convert them into Web pages that are displayed. Online firms use three-tier or higher (n-tier) designs that link databases and payment-processing software with shipping and inventory control software to carry out increasingly complicated tasks including transaction processing and dynamic Web page development.

Microsoft systems and UNIX-based operating systems like Linux are just two examples of the operating systems used by web server computers. Along with Microsoft Internet Information Server, the open-source Apache HTTP Server and nginx are the most popular web server applications.

Spam is a problem that peaked in 2009 and has been getting less and less since then. Content filters, especially naive Bayesian filters, offer some protection, and anti-spam legislation has had some impact. Another technical approach that has assisted in reducing spam is the identification and blocking of spam email origins.

A wide range of utility programs, including Tracert, Telnet, and FTP, are also run-on web server systems. Additionally, a lot of Web administrators use software for things like remote server administration and link verification.

Overall, Web server performance is influenced by the operating system, connection bandwidth, user capacity, and the kinds of pages the site delivers. Companies can assess configurations of Web server hardware, software, and operating systems with the aid of benchmarking tools and consulting companies that employ it.

When establishing an online store, the web server's hardware must also be taken into consideration. The right servers must be chosen and configured. Large websites with several web servers manage their tremendous volume of traffic with load-balancing hardware and software. Online retailers can use cloud computing, especially hybrid cloud techniques, to increase the flexibility and security of their Web server architecture. To lessen the latency that their consumers might otherwise suffer when downloading huge files, such as music and video content, many internet firms enter contracts with content delivery networks, sometimes indirectly.

Websites:

These Web server computers must be used in big numbers by websites with a lot of traffic to efficiently distribute Web page files. It is necessary to synchronize the activity of many

computers to distribute the burden among them. Additionally crucial are website operation components.

People's PCs become Web client machines on a global client/server network when they use Web browser software to connect to the Web. LANs, WANs, and the Web all use client/server systems. In a client/server architecture, the client computers often request services from the server, which then executes the clients' requests. Examples of these services include printing, information retrieval, and database access. In comparison to the client computers they service, servers typically feature larger, quicker disk drives and more RAM. Recall from module 1 that computers can serve as Web clients thanks to Web browser software. Consequently, web client software also refers to a web browser.

The Internet connects a wide variety of computers and other devices, each of which utilizes a distinct operating system. Platform neutrality refers to a network's capacity to link devices running various operating systems. Platform-neutral Web software makes it possible for all the devices it connects to communicate with one another quickly and effectively. The fast adoption of the Internet and the Web and its wide acceptance were both attributed to platform neutrality. Before the Internet, to speak with one another, computers connected via leased phone lines either had to run the same operating system or required installation of specially tailored translation software on each machine.

Software for Web Servers

While some Web Server software can only be used with a single computer operating system, others can be used with several operating systems. Companies frequently operate internet utilities and email software on Web servers or other computers as part of their electronic commerce activities.



Web Server Operating Systems

Running programs and allocating computer resources like memory and disk space to those programs are examples of operating system tasks. Input and output services are also provided by operating system software to connected devices such as keyboards, mice, touch screens, displays, scanners, and printers. The operating system for large systems must additionally monitor several users who are logged in and make sure they do not conflict with one another.

Linux, Microsoft Windows Server, or other UNIX-based operating systems like FreeBSD are used to run the majority of Web server software. Some businesses feel that Microsoft products are easier to learn and utilize for their information systems staff than UNIX-based systems. Other businesses are concerned about the security flaws brought on by Microsoft products' close integration of the operating system and application software. More people use UNIX-based Web servers, and many industry insiders think UNIX is a more secure operating system to host a Web server on.

Linux is a quick, effective, and simple-to-install open-source operating system. A growing number of businesses that sell PCs that are meant to be used as Web servers come pre-configured with Linux. Even though Linux may be downloaded for free via the Internet, most businesses purchase it from a for-profit distributor. These Linux commercial distributions

provide with extra software, like installation tools, as well as an operating system maintenance agreement. Red Hat and SUSE Linux Enterprise are two commercial Linux distributors that offer versions of the operating system with tools for Web servers. The Ubuntu Linux distribution is supported and serviced by Canonical. Along with its Solaris operating system, which is based on UNIX, Oracle also provides Web server hardware. The Open-Source Initiative website, OpenSource.org has further information on open-source software in general.

Watch the following video to see how Linux functions in comparison to Unix.



Now that you know the differences, have a whole class discussion on how and when to use each of these web servers and explore the open source website more to find other more up to date topics to explore.