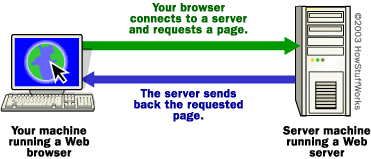
WEB SERVER

A web server in its simplest sense is simply what store, process and delivers web pages to clients. (http://www.webopedia.com/TERM/W/Web\_server.html) Or to illustrate, imagine inputting a url(uniform resource locator) in your browser and once you press ‘Enter’ the website will immediately boot up whenever you are and wherever you are. So, in this process, once you inputted a url, it will send a request in the server. The server will then look through the data stored on it and find if it’s in there. If it is, it will send back the requested page. If it isn’t, it will send back an error message or the typical ‘Site not found error.’



<http://computer.howstuffworks.com/web-server1.htm>

For a more detailed illustration and a more technical way. The browser will break the browser into three parts.

1. The protocol (http://)
2. The server name (www.google.com)
3. The file name (dummy.htm)

The browser will then communicate with a domain name and translate it to an IP address. This IP address will then be used to connect to the server machine. The browser then formed a connection to the server by that IP address.

Following the protocol, the server will then send a get request to the server and asking for the file that you are looking for. Once, it finds that content it will send the HTML text for the browser to interpret. It will read the HTML tags and format the page in your screen.

**ARCHITECTURE**

<https://www.tutorialspoint.com/internet_technologies/web_servers.htm>

The web server architecture follows two different approaches:

1. Concurrent Approach – this allows a web server to take multiple requests at the same time.
2. Single-Process-Event-Driven Approach - this allows a web server to take single requests at a time.

*The Concurrent Approach:*

This approach can be achieved in three ways:

1. Multi-process – A parent process initiates a several single-threaded child processes and distributes the incoming requests among them. The child process is in charge of a single task while the parent process is responsible for loading and monitoring them.
2. Multi-threaded – A parent process, unlike the multi-process, creates multiple single-threaded process.
3. Hybrid Method – This is a combination of the first two approaches.

**HISTORY**

* 1989 – Tim Berners-Lee proposed a new project to his employer CERN with the goal of making an exchange system between scientists through a hypertext system.
* 1990 – Berners-Lee wrote two programs: (1) World Wide Web browser, (2) the world’s first web server, later known as CERN httpd which ran on NeXTSTEP.
* Between 1991 and 1994 – the world-wide web is ported through different operating systems by the simplicity and effectiveness of the technologies used in the exchange of data. It spreads its use among universities and scientific organizations and onwards to the industry.
* 1994 – Berners-Lee constituted the World Wide Web Consortium(w3C) to regulate the further development of many technologies to standardization.

**EXAMPLES:**

1. Apache HTTP Server
2. Internet Information Services
3. Lighttpd
4. Sun Java System Web Server
5. Jigsaw Server

**WEB CLIENT**

**DEFINITION (http://www.pcmag.com/encyclopedia/term/54284/web-client)**

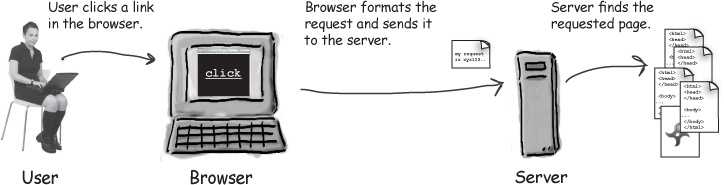
The web client typically refers to the browser and may also refer to plug-ins that support special services to the site. It can also refer to whatever a person is using to access a website like handheld devices or electronic devices.

This is also known as a thin client because it doesn’t handle the heavy work, which is the work of the server.

We can also refer to the client as either the human user or the browser.

The main purpose of the web client is to search for the content in the world wide web and display it in the shape of a webpage, image, audio and the like. If the data is available then it will be sent to the browser for viewing.

The process is shown by the images below.



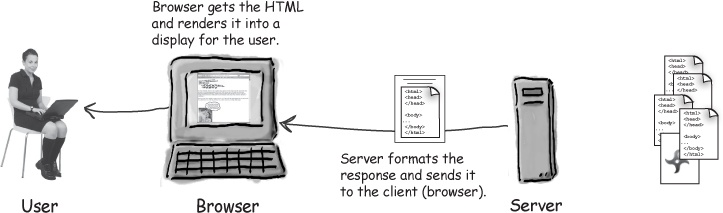


Image from: <https://www.safaribooksonline.com/library/view/head-first-servlets/9780596516680/ch01s03.html>

Examples: Chrome, Safari, Opera Mini, Firefox (or any other common browsers)

**WEB APPLICATION**

Definition (https://techterms.com/definition/web\_application)

This is an application that runs on a web server and must be accessed through a web browser. A web application can run through any kind of browsers. In a user standpoint, it shows a more consistent user interface because the appearance is dependent on the browser.

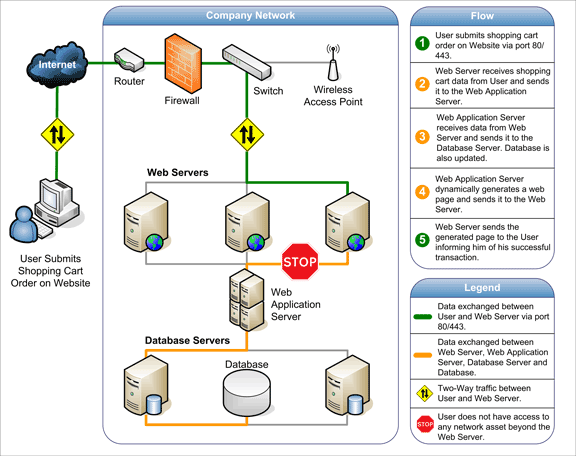
Any website component that performs some function for the user qualifies as a web application.

http://www.acunetix.com/websitesecurity/web-applications/

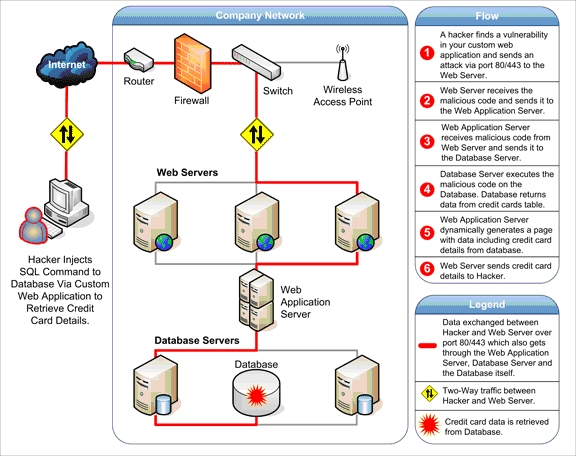
From a technical point of view, the web application is a highly programmable environment that allows mass customization through the immediate deployment of diverse applications that can be accessed by billions and billions of people.

Web applications are computer programs that allows the user to retrieve and send data to a database from the internet using their preferred browser. The data is then presented to the user in specific formats(such as HTML using CSS) through the web application through a web server.

HOW IT WORKS



Issues



This is plainly because it is easy to hack at the web application level.

HISTORY

<https://www.lifewire.com/what-is-a-web-application-3486637>

The Web Applications have been around since the Web gained mainstream popularity.

In the future, some common apps like the Microsoft Office are now going web or leaning more to cloud given the fact that data can now be stored to a database. This is also convenient for people to be able to access their data anywhere and anytime.

**USENET**

**DEFINITION and USES: (http://www.usenet.org/)**

* A collection of newsgroups where the users can post messages and the following are stored in different servers and are only available for a certain amount of time. This can be likened to an internet forum post with a messaging system with a time limit and a lot of servers instead of just one.
* *Newsreaders :* Typically used applications for people to read and reply in newsgroups
* *Retention Time -*  the time allotted for the messages before they are not considered available anymore
* Also, downloading from usenet is also allowed, which works similar as posting messages. Only a short binary file will be posted in binary newsgroups also called binaries. These binaries are usually recognizable by the name of their newsgroup name.
* In order to download things, post messages, reply to messages, there is a need for a usenet reader which can be downloaded in their site.
* Usenet popularized the terms, FAQ, flame and spam

**NEWSGROUPS**

* *Newsgroup:* subject collection of posted notes. These can be hosted in Internet servers or servers that are not supported by the internet(<http://searchnetworking.techtarget.com/definition/Usenet>).

MODERATED and UNMODERATED NEWSGROUPS (https://en.wikipedia.org/wiki/Usenet)

* Moderated newsgroups are when people can post messages that are then sent to moderators for approval.
* Unmoderated newsgroups are when people can simply post messages that will be immediately seen by everyone.

THE BIG EIGHT OF USENET : The eight major sets of usenet with consensual guidelines governed by their names.

1. comp.\* - computer related discussions
2. humanities.\* - fine arts, literary, philosophy
3. misc.\* - miscellaneous topics
4. news.\* - discussion and announcement about news
5. rec.\* - recreation and entertainment
6. sci.\* - sciences
7. soc.\* - social subjects
8. talk.\* - talk about various controversial topics

**ORIGINAL PROTOCOL**

* UUCP (Unix to Unix copy)
* NNTP (Network News Transfer Protocol)

**HISTORY**

* 1979 – Tom Truscott and Jim Ellis of Duke University came up with the ideas as a replacement for local announcement programs. They established a link with Steve Bevollin’s bourne shell scripts. Its public release is a conventional compiled software by Tom Truscott and Steve Daniel
* 1980 – Usenet was connected to ARPANET
* Mark Horton who set up the connection feeded mailing lists on Usenet from the Arpanet with the “fa” identifier of “from Arpanet”. From there the number of users rose dramatically.

**SOME USENET PROVIDERS**

* UseNet Server Review
* Newshosting Review
* GigaNews Review
* EasyNews Review
* SuperNews Review
* Fast UseNet Review