PHP

PHP is a server-side scripting language designed for web development but also used as a general-purpose programming language. Originally created by Rasmus Lerdorf in 1994,[3] the PHP reference implementation is now produced by The PHP Group.[4] PHP originally stood for Personal Home Page,[3] but it now stands for the recursive backronym PHP: Hypertext Preprocessor.[5]

PHP code may be embedded into HTML code, or it can be used in combination with various web template systems, web content management system and web frameworks. PHP code is usually processed by a PHP interpreter implemented as a module in the web server or as a Common Gateway Interface (CGI) executable. The web server combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP code may also be executed with a command-line interface (CLI) and can be used to implement standalone graphical applications.[6]

The standard PHP interpreter, powered by the Zend Engine, is free software released under the PHP License. PHP has been widely ported and can be deployed on most web servers on almost every operating system and platform, free of charge.[7]

The PHP language evolved without a written formal specification or standard until 2014, leaving the canonical PHP interpreter as a de facto standard. Since 2014 work has gone on to create a formal PHP specification.

MySQL

MySQL (officially pronounced as /maɪ ˌɛskjuːˈɛl/ "My S-Q-L",[5]) is an open-source relational database management system (RDBMS);[6] in July 2013, it was the world's second most[a] widely used RDBMS, and the most widely used open-source client–server model RDBMS.[9] It is named after Michael Widenius' (who is a co-founder of MySQL) daughter, My,[10] while "SQL" stands as the abbreviation for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation.[11] For proprietary use, several paid editions are available, and offer additional functionality.

MySQL is a popular choice of database for use in web applications, and is a central component of the widely used LAMP open-source web application software stack (and other "AMP" stacks). LAMP is an acronym for "Linux, Apache, MySQL, Perl/PHP/Python". Free-software open-source projects that require a full-featured database management system often use MySQL. Applications that use the MySQL database include: TYPO3, MODx, Joomla, WordPress, phpBB, MyBB, Drupal and other software. MySQL is also used in many high-profile, large-scale websites, including Google[12][13] (though not for searches), Facebook,[14][15][16] Twitter,[17] Flickr,[18] and YouTube.[19]

On all platforms except Windows, MySQL ships with no GUI tools to administer MySQL databases or manage data contained within the databases. Users may use the included command line tools,[20][21] or install MySQL Workbench via a separate download. Many third party GUI tools are also available.

HTML

HyperText Markup Language, commonly abbreviated as HTML, is the standard markup language used to create web pages. Along with CSS, and JavaScript, HTML is a cornerstone technology used to create web pages,[1] as well as to create user interfaces for mobile and web applications. Web browsers can read HTML files and render them into visible or audible web pages. HTML describes the structure of a website semantically and, before the advent of Cascading Style Sheets (CSS), included cues for the presentation or appearance of the document (web page), making it a markup language, rather than a programming language.

HTML elements form the building blocks of HTML pages. HTML allows images and other objects to be embedded and it can be used to create interactive forms. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as <img /> and <input /> introduce content into the page directly. Others such as <p>...</p> surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

HTML can embed scripts written in languages such as JavaScript which affect the behavior of HTML web pages. HTML markup can also refer the browser to Cascading Style Sheets (CSS) to define the look and layout of text and other material. The World Wide Web Consortium (W3C), maintainer of both the HTML and the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.

**Apache HTTP Server**

The Apache HTTP Server, colloquially called Apache (/əˈpætʃiː/ ə-PA-chee), is the world's most used web server software. Originally based on the NCSA HTTPd server, development of Apache began in early 1995 after work on the NCSA code stalled. Apache played a key role in the initial growth of the World Wide Web,[4] quickly overtaking NCSA HTTPd as the dominant HTTP server, and has remained most popular since April 1996. In 2009, it became the first web server software to serve more than 100 million websites.[5]

Apache is developed and maintained by an open community of developers under the auspices of the Apache Software Foundation. Most commonly used on a Unix-like system (usually Linux),[6] the software is available for a wide variety of operating systems besides Unix, including eComStation, Microsoft Windows, NetWare, OpenVMS, OS/2, and TPF. Released under the Apache License, Apache is free and open-source software.

As of November 2015, Apache was estimated to serve 50% of all active websites and 37% of the top servers across all domains.

**HTTP server and proxy features**

* Loadable Dynamic Modules
* Multiple Request Processing modes (MPMs) including [Event-based/Async](https://en.wikipedia.org/wiki/Event_driven_programming), Threaded and Prefork.
* Highly scalable (easily handles [more than 10,000 simultaneous connections](https://en.wikipedia.org/wiki/C10k_problem))
* Handling of static files, index files, auto-indexing and content negotiation
* .htaccess support[[12]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-12)
* [Reverse proxy](https://en.wikipedia.org/wiki/Reverse_proxy) with caching[[13]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-13)
  + [Load balancing](https://en.wikipedia.org/wiki/Load_balancing_%28computing%29)[[14]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-14) with in-band health checks
  + Multiple load balancing mechanisms
  + [Fault tolerance](https://en.wikipedia.org/wiki/Fault-tolerant_design) and Failover with automatic recovery
  + [WebSocket](https://en.wikipedia.org/wiki/WebSocket), [FastCGI](https://en.wikipedia.org/wiki/FastCGI), [SCGI](https://en.wikipedia.org/wiki/SCGI), [AJP](https://en.wikipedia.org/wiki/Apache_JServ_Protocol) and uWSGI support with caching
  + Dynamic configuration[[15]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-15)
* [TLS/SSL](https://en.wikipedia.org/wiki/Transport_Layer_Security) with [SNI](https://en.wikipedia.org/wiki/Server_Name_Indication) and [OCSP stapling](https://en.wikipedia.org/wiki/OCSP_stapling) support, via [OpenSSL](https://en.wikipedia.org/wiki/OpenSSL).
* Name- and IP address-based virtual servers
* [IPv6](https://en.wikipedia.org/wiki/IPv6)-compatible
* [HTTP/2](https://en.wikipedia.org/wiki/HTTP/2) protocol support
* Fine-grained authentication and authorization access control[[16]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-16)
* [gzip](https://en.wikipedia.org/wiki/Gzip) compression and decompression
* URL rewriting[[17]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-17)
* Headers[[18]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-18) and content[[19]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-19)[[20]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-20) rewriting
* Custom logging with rotation
* Concurrent connection limiting
* Request processing rate limiting
* [Bandwidth throttling](https://en.wikipedia.org/wiki/Bandwidth_throttling)
* [Server Side Includes](https://en.wikipedia.org/wiki/Server_Side_Includes)[[21]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-21)
* IP address-based [geolocation](https://en.wikipedia.org/wiki/Geolocation)
* User and Session tracking[[22]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-22)
* [WebDAV](https://en.wikipedia.org/wiki/WebDAV)
* Embedded [Perl](https://en.wikipedia.org/wiki/Perl), [PHP](https://en.wikipedia.org/wiki/PHP) and [Lua](https://en.wikipedia.org/wiki/Lua_%28programming_language%29) scripting
* [CGI](https://en.wikipedia.org/wiki/Common_Gateway_Interface) support[[23]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-23)
* public\_html per-user web-pages[[24]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-24)
* Generic expression parser[[25]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-25)
* Real-time status views[[26]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-26)
* [XML](https://en.wikipedia.org/wiki/XML) support[[27]](https://en.wikipedia.org/wiki/Apache_HTTP_Server#cite_note-27)

**MD5 Security**

The MD5 message-digest algorithm is a widely used cryptographic hash function producing a 128-bit (16-byte) hash value, typically expressed in text format as a 32-digit hexadecimal number. MD5 has been utilized in a wide variety of cryptographic applications and is also commonly used to verify data integrity.

MD5 is a one-way function; it is neither encryption nor encoding. It cannot be reversed other than by brute-force attack.

MD5 was designed by Ronald Rivest in 1991 to replace an earlier hash function MD4.[3] The source code in RFC 1321 contains a "by attribution" RSA license.

The security of the MD5 has been severely compromised, with its weaknesses having been exploited in the field, most infamously by the Flame malware in 2012. The CMU Software Engineering Institute considers MD5 essentially "cryptographically broken and unsuitable for further use".