

Environment for Developing Websites

Software Packages

To develop PHP websites on your computer, you need to have the following software packages.

A HTTP Server

This is the software to accept connections and requests from clients (e.g. web browsers) and response to such requests. A request from a client is the message sent to the server (HTTP server here) after the user hits the enter key after typing the URL of the server (e.g., <http://www.google.com>, <http://localhost>, <http://127.0.0.1>, <http://localhost/yourWebDirectory/aWebPage.php>, <http://127.0.0.1/yourWebDirectory/anotherDirectory/aWebPage.html>). The response contains contents which can be a HTML web page (e.g., aWebPage.html, aWebPage.php), a text file (e.g., aFile.txt), or other types of files that may not be viewed by the web browser and the user is forced to download it (e.g., aFile.zip, aFile.docx).

There are many HTTP server implementations out there, namely, Apache HTTP Server, Nginx, npm, IBM HTTP Server, Internet Information Service (IIS), etc. The most popular HTTP server now is Apache HTTP Server [<http://news.netcraft.com/archives/2014/05/07/may-2014-web-server-survey.html>], and there is a lot of information on the Internet.

PHP Interpreter (PHP Runtime Environment)

As its name suggests, it is an engine to interpret PHP source code into a lower-level language that can be executed by a machine. This is just like that Java has Java interpreter (the Java Virtual Machine or Java Runtime Environment) to translate Java byte code to the machine-understandable code. It can be said to be PHP engine too. When coupled with a HTTP server, this engine is invoked when there is a request for a PHP document. HTTP server will not immediately respond with that raw PHP document, but it will pass the document to PHP engine in order for the latter to interpret PHP source code, execute it, get the result, and return the result back to HTTP server. HTTP server will then respond to the request with this result.

When a HTTP server and PHP interpreter are meant to work together, they must be configured to know each other, which is another story administrator or Web developers need to learn.

A Database Server

A database server is used to store data the web site need to use. There are many types of database, but a popular type in use nowadays is relational database. There are also plenty of relational database products, namely, MySQL, Oracle database, IBM DB2, Microsoft SQL Server, Postgresql, SQLite, etc. Some are open source and free while some are proprietary and are under commercial licenses. All of them use the language called SQL to manipulate databases and data inside.

MySQL is an open-source relational database product that are widely used and it is easy to find information about.

Software Bundles

To make your computer a PHP web development environment, you need to install the above three software packages. Moreover, you need to configure them so that they can work together, which is not an easy task for a new developer. There are groups of people trying to eliminate such complex configuration task by building pre-configured packages or bundles, which include the above three packages in ready-to-use state. Such bundles come as a form of a software package, ready to be installed. After one of those is installed, the developer just need to start it, and can start developing and testing web sites.

Some Examples of Bundles

Cross-Platform

- XAMPP
- AMPPS
- Zend Server Community Edition

Windows

- WAMP
- AMPPS
- XAMPP
- AppServ
- Uniform Server

Mac OS X

- MAMP
- AMPPS
- XAMPP
- DAMP

Linux

- LAMP
- AMPPS
- XAMPP

Caveat

You should not install more than one of bundles on the same machine because they all have Apache HTTP server and MySQL server. If you do, it just is like you install more than one Apache HTTP server and MySQL server and you will have problems starting the services.

You should not also install a bundle while you are having standalone Apache HTTP

server or MySQL server installed on your machine, because of the same reason as installing more than one bundle.

Website's Files Location

If you are using Apache HTTP server, you can observe the location to place your website files in Apache configuration file httpd.conf. Then look for the location at the line saying "DocumentRoot".

Make sure that you start Apache HTTP server and MySQL server. Then you can test your website by entering a URL like <http://localhost/yourWebDirectory/test.php> in a web browser, provided that you put test.php inside <DocumentRootPath>/yourWebDirectory.