Motivation, Advantages and Disadvantages of XAMPP, WAMP AND LAMP Servers

As Part of the Course

CEN223 Internet Communication

by

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Abstract

The number of websites increased with rapid development of the internet. Several components must be come together for complex websites. These components are web servers, database and one or more programming language. When you don't have any of these components, you can't release to your project. If These components come together. They are called as web service stack. These components can be changed depending on your requirements but their have same purpose which is creating modern site or application according to your requirement. In this work, We will introduce three of most popular web service stack. They are XAMPP, WAMP and LAMP. After that We will compare these web service stack according to advantage and disadvantage. Finally, all research of web service stacks are summarized and the best stack is determined.

Contents

1. Introduction

Web service stack is combination of software. These software are an operating system, a web server, a database system and programming languages. For example LAMP include Linux(operating system), Apache(web server), MySQL(database system), PHP(programming language). Web service is service provide to communicate electronic devices with each other thanks to layer architecture. According to layer architecture, when client send request to server, software of web service stack send or get data with each other according to this request. And then, server send data(HTML, JSON or XML) to client.

Three of most popular web service stack are XAMPP, LAMP and WAMP. There are a lot of developers which use these stacks. They are similar to each other. Three of them are open source and can be modify for your business requirements. For all that, there are advantage and disadvantage according to each other.

The rest of work is organized as follows. In section 2, information of web service stack is given. In section 3, advantage, disadvantage of XAMPP, LAMP, WAMP are given and they are described. section 4 concludes the work.

2. Web Service Stack

[1]Web service is service for communicating electronic device with each other. Server listens for request at particular ports. And then it sends web documents according to request. This documents has standardization such as XML, JSON and HTML for different device and software can communicate with each other. Also there are domain problems and it creates web application such as WWW, HTTP, and Internet to solve this problem. For example HTTP used for transferring file which has XML or JSON format. Web service stack is combination of software which is used to make this communication.

[2]Web service stack consist of a operating system, a web server, a database systems and one or more programming languages. Web service have layer architecture and these software are layers of web service. First layer is a web server. When web server get request for web page from user. Web server passes the request to file which the request is for. And then file is loaded and executed according to code which contain in the file. File is wrote with programming language which is used in web service stack. Also the file communicate with database system. According to code in the file, file can get any data and store any data in the database. The file create web document with data which in the database according

to code. After execute code in the file, resulting data back to web server to send user.

3. What Are XAMPP, WAMP and LAMP?

There are a lof of Apache distribution softwares like XAMPP, WAMP, LAMP, AMP and more. The best known ditributions are XAMPP, WAMP and LAMP. They usually serve the same purpose but they have different opportunities.

3.1. What Is LAMP?

[3] LAMP is one of the oldest open source web service stack. The LAMP is an acronym for Linux (operating system), the Apache (web server), MySQL (relational database management system), PHP (programming language). Dynamic web sites and applications can be built with LAMP. The LAMP adapts to use different components. Perl or Python can be used as programming language instead of PHP. LAMP has a different versions for different operating systems. WAMP is for Windows operating systems and MAMP is for MacOS operating system. Also the LAMP can combine with many open source packages such as netsniff-ng (security testing and hardening), RRDtool (diagrams).

[4]There are many advantages of LAMP.

- LAMP is easy to modify and you can build powerful web applications according to your requirement.
- Most of components are open source so they provide customization features.
- LAMP has a powerful security features to reduce attacks. It is stable and if you have any errors, you can fixed with cheaper approach.
- LAMP has the large community which are ready to support.
- LAMP is economically suitable.

[5]There aren't a lot of disadvantages of LAMP.

- It is not easy to install as compare to XAMPP and WAMP.

- LAMP is easy to learn so there are a lot of developer which building garbage apps. Learning PHP is easy but mastering in PHP is too hard. It is also true for security in PHP apps.

3.2.   What Is WAMP?

[6] Basically WAMP is a virtual server. WAMP is used to turn a Windows operating system computer into a web development environment. It is a package program that contains various applications. These applications are Apache web server, MySQL, PhpMyAdmin database management application. Essentially, these applications are the reason why the program is named WAMP: W *(Windows operating system)*, A *(Apache)*, M *(MySQL)*, P *(PHP)*.

[7] What is Wamp Server used for? WAMP turns a Windows operating system computer into a local server. All Wordpress features can be tested out easily and quickly thanks to WAMP. In addition, there is no need to install Apache, MySQL and PHP packages seperately, WAMP includes all three.

[8]There are a lot of advantages of WAMP, the most important of these advantages :
- It is easy to configure.
- Changes in project can be transferred to website easily and quickly without uploading files thanks to WAMP, so backups are much easier (It saves time) [7].
- Everything on the website is easily accessible thanks to WAMP's convenient and simple interface [7].
- When WAMP is installed , the package applications(Apache, MySQL and PHP) are automatically configured to be compatible between them [7].
- Coding PHP or creating databes(In MySQL) is easier thanks to WAMP.
- WAMP can be used on both 64 bit and 32-bit system.

[8] There are also a number of disadvantages, although not much :
- Installing WAMP is not easy as compared to XAMPP.

- It is used for only Windows.

3.3.   What Is XAMPP?

[9]XAMPP is a software distribution which supplies Apache web server, MariaDB database, PHP, PERL and phpMyAdmin. It is a cross-platform software because of being an available on Windows, Linux and OS X.

[9]XAMPP is basically used for creating a local server. Before uploading the websites to remote web server, It helps you for testing them on the local server. Also, the XAMPP server provides you appropriate environment for testing MySQL databases, files created with PHP, Apache and Perl projects on local computer.

There are a lot of advantages of XAMPP[10]

- It is easy to install as compare to other web server options like Wamp and Lamp.
- It is a multi cross-platform.
- It comes with a number of Bitnami modules including WordPress, Joomla!, Drupal, Moodle LMS, phpBB, MediaWiki and others. [11]
- XAMPP is offered in both a full and a standard version
- It can be started and stopped the whole web server and database stack with one command line

There are two disadvantages of XAMPP[10]

- It's configuration and settings is hard to do comparing to others.[10]
- When there occurs a problem on XAMPP, it is hard to solve the problem. Because of being a multi cross-platform, the solutions of problem can be different.

4. Conclusion

A local host turns a computer into a web development environment.WAMP, XAMPP and LAMP are packages to build local servers running on different operating systems. All of these programs include and configure various applications that Apache, MySQL, PHP but they have different work area. WAMP is used for Windows operating system, LAMP is used for Linux operating system and XAMPP can be used for both operating system and macOS.

WAMP, LAMP and XAMP work like a local server on the computer and create a web development area. These programs enable to change what developers has made in the project to be applied on the website without uploading files to server. Users can work on different applications like Apache, MySQL, PHP because WAMP, LAMP, XAMPP are package services. These programs are installed by them. Also, they are automatically configured to be compatible between these applications. These softwares bring the developer a lot of features. But, the best software is XAMPP. Because, as we told in this report, it has more advantages than others. The most beneficial advantage of it is being a cross platform software which means it can be installed on Windows, Linux and macOS.

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