Brian Cassidy

Prof. M. Tirrito

CMP 263-26164

24 February 2025

LAMP Stack Investigative Report

Prior to beginning my research for this report I have not heard of LAMP stacks before. Through my research I hope to gain new insight into what LAMP stacks are, how they function, as well as what its importance is in the process of web development. Next, I will assess which courses at CCM that might cover the LAMP stack more in depth. I will then apply my research from my previous report and consider in which jobs it may be beneficial to have an understanding of the LAMP stack. Lastly, I will list some of the other alternative stacks.

WHAT IS THE LAMP STACK?

Technology stacks consist of a collection of individual components that together create a comprehensive environment for developing web applications. These components are typically created independently, but their common use and compatibility with one another allow them to be grouped into what is known as a “stack”(Kaplarevic).

When choosing what stack to use developers often opt for the LAMP stack because it is an open-source software that has the necessary components needed to create web applications, such as an operating system, web server, database management software, and programming languages (What is a lamp stack? - lamp stack explained - AWS). The LAMP stack gets its name from the four components that make it up, taking the first letter from each component creates the LAMP acronym.

These components are: (IBM)

- Linux - the operating system which runs the components
- Apache HTTP Server - a web server software which delivers both static and dynamic web pages to users
- MySQL - a relational database management system used to create web databases and store/manage content
- PHP, Perl, or Python - the three programming languages that developers can choose from

The combination of these technologies working together creates a functional web environment.

HOW THE LAMP STACK WORKS

The LAMP stack manages the backend operations of web applications, it covers all the processes that occur out of sight from the user. Web applications utilize the LAMP stack to process and respond to browser requests. When you navigate to a website through a browser the LAMP stack goes through the process of receiving the request, processing the request, and then returning a response (What is a lamp stack? - lamp stack explained - AWS).

WHAT IT IS USED FOR & IT'S IMPORTANCE

A LAMP stack is utilized for developing and processing backend web applications. A backend application is a type of software that operates in an environment not visible to the end users. Some examples of backend applications are: data processing softwares, database components, and API's for communicating with other applications (What is a lamp stack? - lamp stack explained - AWS). Through the use of these various backend applications the LAMP is able to manage both dynamic and static web content (Kyle).

LAMP stacks are important in the web development process because they offer an incredible set of tools for developing and maintaining web applications, while being

open-sourced and easily accessible. The benefits of using a LAMP stack are that it is cost effective, due to it being open-sourced, it offers scalability, it is highly customizable and flexible to work with, and lastly it has a large community for support (Kyle).

LAMP STACK AT CCM

Without any course descriptions given on the CCM website there isn't a great way for me to know for sure which courses do or do not cover LAMP stacks. However, based on their course titles I can make some inferences. CMP 249 Advanced Web Programming, CMP 241 Database Programming (SLQ), and CMP 170 Mobile App Design were a few of the classes that stuck out to me as courses that could possibly go into deeper detail on how LAMP stacks work.

JOBS INVOLVING LAMP STACKS

Based on my previous research report, I can infer which jobs within web development would be most beneficial to have an in-depth knowledge about LAMP stacks. Considering that LAMP stacks manage the backend operations of web applications, it would be advantageous to know how LAMP stacks function as a back-end developer/full-stack developer.

ALTERNATIVE STACKS

There are multiple variations of the four-stack model. These variations use different software. Some examples of these alternatives include: (Kaplarevic)

- MEAN (MongoDB, Express.js, Angular, Node.js)
- LEMP (Linux, NGINX, MySQL/MariaDB, PHP/Perl/Python)
- XAMPP (Cross-platform, Apache, MariaDB, PHP, Perl)
- LLMP (Linux, Lighttpd, MySQL/MariaDB, PHP/Perl/Python)
- LAPP (Linux, Apache, PostgreSQL, PHP)
- LEAP (Linux, Eucalyptus, AppScale, Pytho

Works Cited

IBM. “What Is Lamp Stack?” IBM, 23 Dec. 2024, www.ibm.com/think/topics/lamp-stack.

Kaplarevic, Vladimir. “What Is Lamp? Components, Benefits and Challenges.” PhoenixNAP, 7 Feb. 2024, phoenixnap.com/kb/what-is-a-lamp-stack.

Kyle, Phil. “What Is a Lamp Stack?” *Liquid Web*, 26 Nov. 2024, www.liquidweb.com/blog/what-is-a-lamp-stack/.

“What Is a Lamp Stack? - Lamp Stack Explained - AWS.” Aws.Amazon.Com, aws.amazon.com/what-is/lamp-stack/. Accessed 19 Feb. 2025.