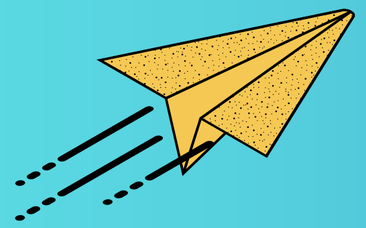
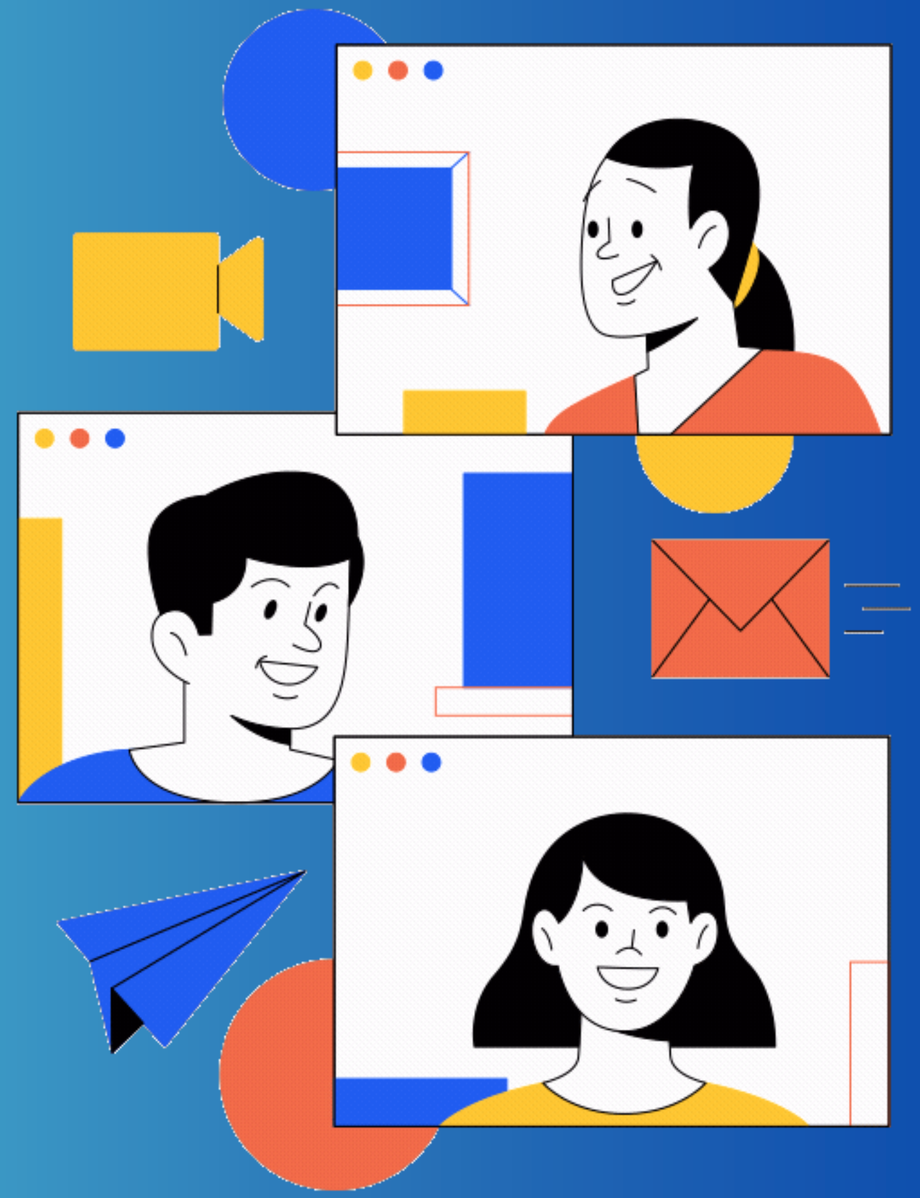
PRESENTED BY GROUP 8



Unleashing Power with

LAMP in OPEN SOURCE TECHNOLOGY



LAMP

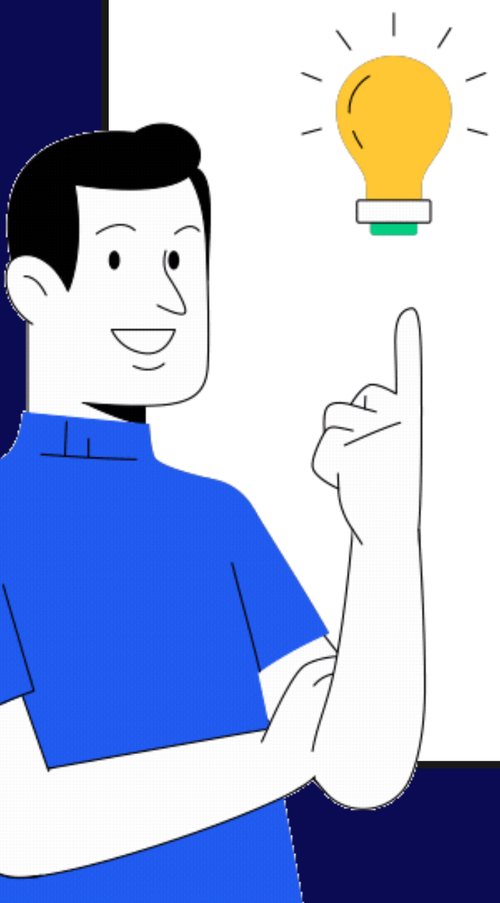
Linux

Apache

MySq

PHP

WHAT IS LAMP ?



LAMP is an **open-source** Web development platform that uses **Linux** as the operating system, **Apache** as the Web server, **MySQL** as the relational database management system and **PHP/Perl/Python** as the object-oriented scripting language.

- Sometimes LAMP is referred to as a **LAMP stack** because the platform has four layers. Stacks can be built on different operating systems.

TECHNOLOGIES use in LAMP

LINUX

- Linux is an open-source operating system that you can install and configure to meet different application requirements. Linux sits at the first level of the LAMP stack and supports other components on the upper layers.
- The core of the system is the linux kernel. On the top of the kernel a linux distribution will usually utilize many tools from the free software foundation's GNU project
- Developed by Linus Torvalds in 1991
- **Key Features:**
  - Stable, secure, highly customizable
  - Powers servers, desktops, embedded systems
- Distributions (e.g., Ubuntu, Fedora) tailored for different needs.
- Favors open-source software and community collaboration.
- Widely used in web hosting, servers, supercomputers.

TECHNOLOGIES use in LAMP

APACHE

- Apache is a free and open-source software that allows users to deploy their websites on the internet. Since 1996 apache has been the most popular webserver on the internet.
- Apache 2.0, Apache has become a **robust well documented multithreaded web server.** Support for non-UNIX systems.
- presently apache holds **67%** of the market.
- Established in 1995 by Apache Software Foundation
- Key Features:
  - Cross-platform compatibility
  - Highly extensible through modules
- Dominates web server market share
- Powers websites, applications, and services globally

APACHE
HTTP SERVER PROJECT

TECHNOLOGIES use in LAMP

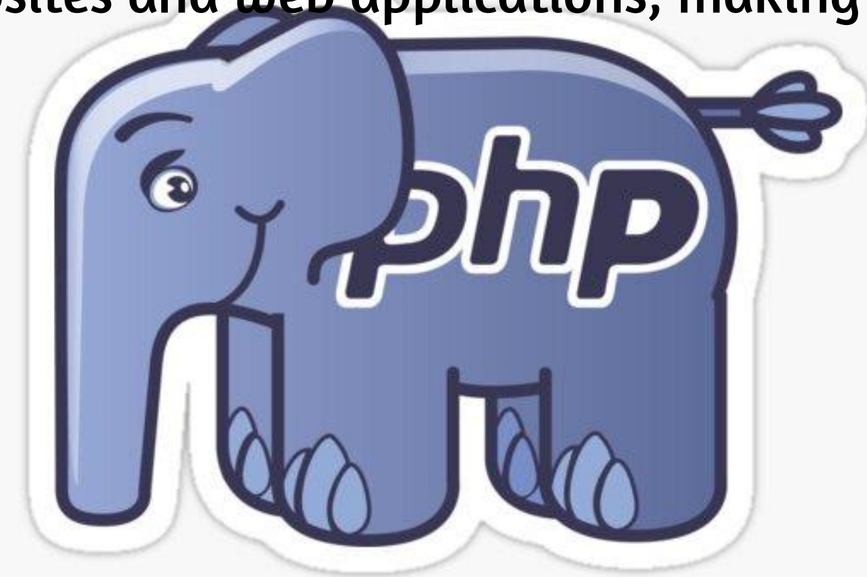
MYSQL

- MySQL is a fast flexible Relational Database. MySQL is the most widely used Relational Database Management System in the world with over **4 million instances** in use.
- MySQL is high-performance, robust, multi-threaded and multi user. MySQL utilizes a client server architecture.
- MySQL' focus is on stability and speed. Support for all aspects of the SQL standard that do not conflict with the performance goals are supported.
- Developed by MySQL AB (Now owned by **Oracle Corporation**)
- Inception: 1995
- **Key Features:**
  - Relational Database Management System (RDBMS)
  - Structured Query Language (SQL) Support
- **Versatility**:
  - Supports Various Platforms and Languages
- Popular in Web Development and Applications

TECHNOLOGIES use in LAMP

PHP

- PHP, which stands for Hypertext Preprocessor, is a widely-used server-side scripting language designed for web development.
- It was created by Rasmus Lerdorf in 1994 and is now maintained by the PHP development team.
- PHP is embedded within HTML code, allowing developers to create dynamic and interactive web pages.
- It is particularly popular for building dynamic websites and web applications, making it a crucial tool in modern web development.
  - Key Features:
    - Embedded within HTML
    - Dynamic and versatile
  - Widely used for web development
  - Powers dynamic websites and applications



HISTORY OF LAMP

- The scripting component of the LAMP stack has its origins in the CGI web interfaces that became popular in the early 1990s.
- Michael Kunze coined the acronym LAMP in an article for the German computing magazine c't in April 1998.
- He uses it for Linux-Apache-mSQL/MySQL-Perl/PHP software stack.
- The article aimed to show that a bundle of free software could provide a viable alternative to commercial packages. Knowing the IT-world's love of acronyms, Kunze came up with LAMP as a marketing-like term to increase the popularity of free software.
- O'Reilly and MySQL AB have made the term popular among English-speakers

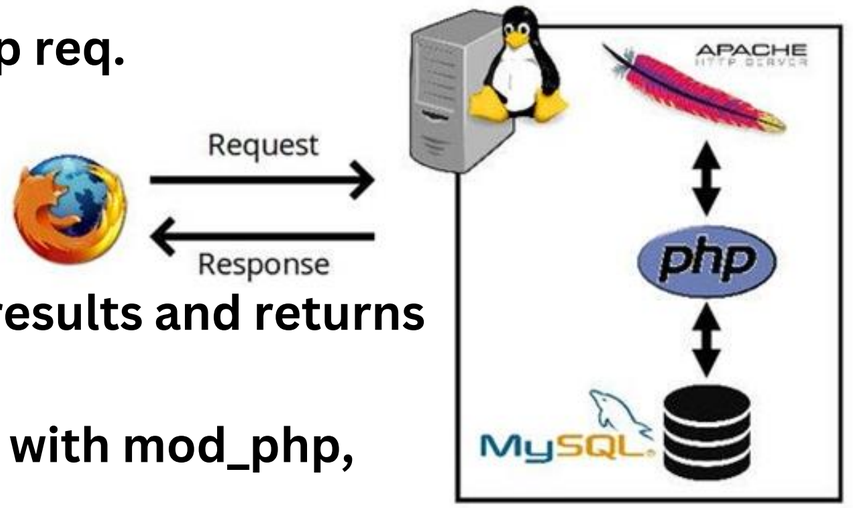
ARCHITECTURE OF LAMP

1. Web browser: This is used to run web applications Placing http req.

2. Apache API: This listens to port 60 for HTTP request

3.Mod_PH P: Passes the PHP scripts, My SQL queries, Receives results and returns to final HTML

4.My SQL Server: Stores data Sever running Apache web server with mod_php, my SQL server.



By combining these tools you can rapidly develop and deliver applications. Each of these tools is the best in its class and a wealth of information is available for the beginner.

• Because LAMP is easy to get started with yet capable of delivering enterprise-scale applications the LAMP software model just might be the way to go for your next, or your first application

ADVANTAGES OF LAMP

- LAMP is open-source. The software's source code is shared and available for people to make changes and improvements, enhancing its overall performance.
- It is easily customizable. Users can replace every component with another open-source solution to suit the particular application's needs.
- It is easy to find support due to the size of the LAMP community.
- It is a mature stack that is easy to set up.
- Automated availability monitoring, failover recovery, and failback of all LAMP application and IT- infrastructure resources.

FEATURES OF LAMP IN OPEN SOURCE TECHNOLOGY:

1.Cost-effective :

All components of LAMP are open-source and free to use, making it an economical choice for web development.

2.Community Support:

Each component of LAMP has a large and active community of developers and users.

3.Scalability:

LAMP applications can be scaled to handle increased traffic and data as needed.

4.Cross-Platform:

LAMP can run on various operating systems, not just Linux

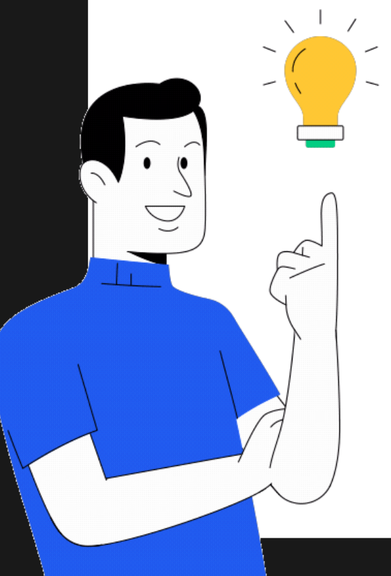
5. Flexibility and Customization:

The modular nature of LAMP allows developers to swap out components or add new ones based on project requirements.

LICENSING :

The LAMP stack itself doesn't have a specific licensing entity or package because it's a combination of individual open-source software components. Here's a breakdown of the licensing for each component within the LAMP stack in an OST (Operating System Technology) environment

SECURITY :



The standard method is to use the security and authentication features of the apache web server. The tool mod_auth allows for password based authentication.

You can also use allow/deny directives to limit access based on location.

BEST PRACTICES FOR LAMP IN OST

- **Secure Your Code**

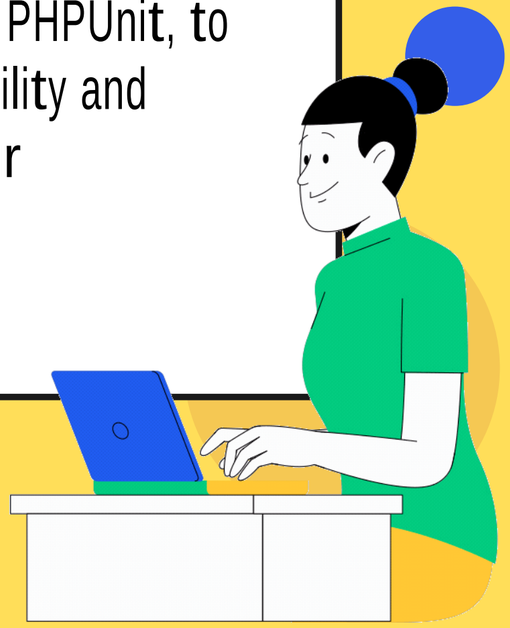
  Implement secure coding practices and regular code reviews to safeguard against vulnerabilities.

- **OptimizePerformance**

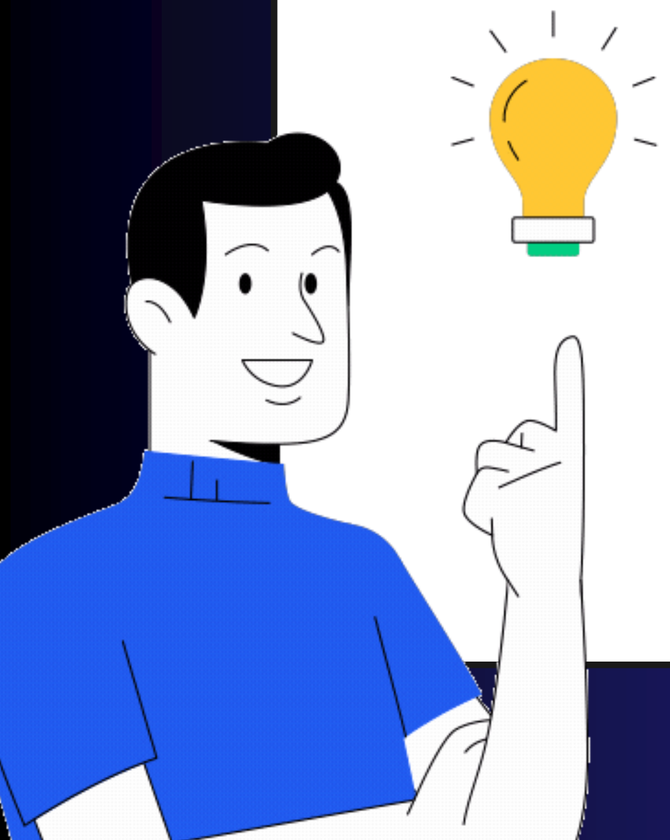
  Tune your LAMP applications by using caching techniques, optimizing database queries, and fine-tuning server configurations.

- **Continuous Testings**

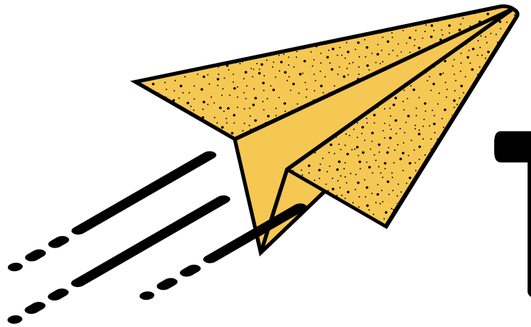
  Employ an automated testing framework, like PHPUnit, to ensure the stability and reliability of your applications.



CONCLUSIONS AND KEY TAKEAWAYS



LAMP's flexibility, cost-effectiveness, and strong community make it a compelling choice for OST development.
Embrace LAMP's power and start building groundbreaking applications today!



THANK YOU!

Presented by : GROUP 8