Assignment - 1

CSA - 4307

Internet Programming

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1) operating systems : Linux (LAMP) vs Windows (WAMP

Linux (LAMP)

Advantages

*Open source, free & cost efficive

*Highly stable

*Secure

*Which has been Preferred in cloud Environments (AWS, GCP, Azure)

*Native support for command-line tools

Limitations

*Requires some familiarity with terminal Commands and Linux file system.

*Steeper learning curve for non-technical users.

Windows (WAMP)

*User-freendly GUI Based management.

*Better Integration.

*Easier for clients & teams

* which has been used in windows infastructure

Limitation

* Requires Licensing
* Less optimal
* high scalable system
* less efficient

2) usage scenarios and stack Recommendation

Project A.

E-commerce platform

Recommended stack : LAMP.

Why ?

Open source stack reduces hosting

Scalable infrastructure.

Strong community & Security.

Ideal for cloud deployment and auto scaling.

Ideal for cloud deploy and auto scaling

Project - B

Educational. CMS

Recommeded stack } WAMP

Why ?

Compatible with wind

based on Internal Infrastructure

Easier for IT staff

Seamless Integratio

Active directory

3) Common Applications

LINUX vs windows

LAMP- E-commerce, APIs, blogs, forms
Custom Apps wordpress (on Linux)

WAMP- Internal dashboards, School portals
moodle, Custon Intranet tools.

4) Critical factor when choosing a stack

LAMP		WAMP
High	← Security →	Low
Excellent	← Porfomance →	Moderate.
Limited	← Cost-free Requries →	Easily Scalable.
Extensive Support	← Community Support →	moderate support

Conclusion

Project A :- (E-commerce) LAMP - Cost effective, Secure, Scalable for Growth

Project : B :- (CMS for Institution) WAMP Best fit for Windows - based Environment & Integrations

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3) LAMP stack (Linux, Apache, mySQL, PHP)

Platform : LINUX

* Linux :- The operating system that provides the environment for hosting and running web application

* Apache :- The web server that handles HTTP requests from user

* MySQL :- The Relational database management System used to store data

* PHP :- The server side scripting language used to create dynamic content

Platform: windows (Apache, mySQL, PHP)

WAMP uses the same components (Apache, mySQL, PHP) as LAMP but it runs on windows os instead for linux

How to configure a LAMP stack on Ubuntu

1) Update the package index sudo apt update

2) Install Apache

3) Install mysql

4) secure mysql Installational (optional)

5) Install PHP.

6) Restart Apache to apply changes

7) TEST PHP (optional)

echo "<?php phpinfo(); ?>" | sudo tee /var/www/html/info.php

Then visit http://localhost/info.PHP in your browser

How the components communicate user Request

(Eg. www.Example.com)

=> Apache receives the Request and Identifies the requested resource

=> PHP scripts are executed by the PHP Engine. If the Requests is for Php. file

=> PHP communicates with mySQL to store data

(Eg: login Info, Product data)

=> My SQL database sends the results back to PHP

=> PHP Generates the HTML content and send it back through Apache to the user's browser

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