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Matheus Marques Portela - 2310823

Instalação e configuração de Servidor Web no WSL 2 – Apache + PHP + MariaDB + PHPMyAdmin

Abaixo teremos como foi feita a instalação de um servidor web com um Banco de dados via WSL.

Primeiro abrimos o WSL em nossa maquina com SO Windows, logo após realizamos os seguintes passos:

1. Instalação Apache:

```
root@b10-02:~# sudo apt update
Hit:1 http://archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [14.1 MB]
Get:6 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1392 kB]
Get:7 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [243 kB]
Get:8 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [3768 kB]
Get:9 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [299 kB]
Get:10 http://archive.ubuntu.com/ubuntu jammy/universe Translation-en [5652 kB]
Get:11 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [848 kB]
Get:12 http://archive.ubuntu.com/ubuntu jammy/universe amd64 c-n-f Metadata [286 kB]
Get:13 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [162 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [217 kB]
Get:15 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [16.8 kB]
Get:16 http://archive.ubuntu.com/ubuntu jammy/multiverse Translation-en [112 kB]
Get:17 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [37.2 kB]
Get:18 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 c-n-f Metadata [8372 B]
Get:19 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [7588 B]
Get:20 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [260 B]
Get:21 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1610 kB]
Get:22 http://archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [303 kB]
Get:23 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [1830 kB]
Get:24 http://archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [311 kB]
Get:25 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1070 kB]
Get:26 http://archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [244 kB]
Get:27 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [22.1 kB]
Get:28 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [42.7 kB]
Get:29 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [10.4 kB]
Get:30 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [472 B]
Get:31 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [67.1 kB]
Get:32 http://archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [11.0 kB]
Get:33 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [388 B]
Get:34 http://archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [110 B]
Get:35 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.4 kB]
Get:36 http://archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.2 kB]
Get:37 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [644 B]
Get:38 http://archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [110 B]
Fetched 31.0 MB in 26s (1558 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
98 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

Primeiro fazemos a atualização do wsl com o comando:

- `sudo apt update`

Logo após fazermos a atualização do ambiente instalamos o Apache utilizando o seguinte comando:

- `sudo apt install apache2`

```

$ sudo apt-get install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils bzip2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.3-0 mailcap mime-support ssl-cert
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser bzip2-doc
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils bzip2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.3-0 mailcap mime-support ssl-cert
0 upgraded, 13 newly installed, 0 to remove and 98 not upgraded.
Need to get 2139 kB of archives.
After this operation, 8521 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libapr1 amd64 1.7.0-8ubuntu0.22.04.1 [100 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libaprutil1 amd64 1.6.1-5ubuntu0.22.04.2 [12.8 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.1-5ubuntu0.22.04.2 [11.3 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libaprutil1-ldap amd64 1.6.1-5ubuntu0.22.04.2 [9178 B]
Get:5 http://archive.ubuntu.com/ubuntu jammy/main amd64 liblua5.3-0 amd64 5.3.6-1build1 [140 kB]
Get:6 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2-bin amd64 2.4.52-1ubuntu0.9 [1347 kB]
Get:7 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2-data all 2.4.52-1ubuntu0.9 [165 kB]
Get:8 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2-utils amd64 2.4.52-1ubuntu0.9 [46.7 kB]
Get:9 http://archive.ubuntu.com/ubuntu jammy/main amd64 mailcap all 3.70+nmu1ubuntu1 [23.8 kB]
Get:10 http://archive.ubuntu.com/ubuntu jammy/main amd64 mime-support all 3.66 [3506 B]
Get:11 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2 amd64 2.4.52-1ubuntu0.9 [97.9 kB]
Get:12 http://archive.ubuntu.com/ubuntu jammy/main amd64 bzip2 amd64 1.0.8-5build1 [54.8 kB]
Get:13 http://archive.ubuntu.com/ubuntu jammy/main amd64 ssl-cert all 1.1.2 [17.4 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 apache2-bin amd64 2.4.52-1ubuntu0.9 [1347 kB]
Fetched 2139 kB in 11s (192 kB/s)
Unpacking packages...
Selecting previously unselected package libapr1:amd64.
Reading database ... 84280 files and directories currently installed.)
Preparing to unpack .../00-libapr1_1.7.0-8ubuntu0.22.04.1_amd64.deb ...
Unpacking libapr1:amd64 (1.7.0-8ubuntu0.22.04.1) ...
Selecting previously unselected package libaprutil1:amd64.
Preparing to unpack .../01-libaprutil1_1.6.1-5ubuntu0.22.04.2_amd64.deb ...
Unpacking libaprutil1:amd64 (1.6.1-5ubuntu0.22.04.2) ...
Selecting previously unselected package libaprutil1-dbd-sqlite3:amd64.
Preparing to unpack .../02-libaprutil1-dbd-sqlite3_1.6.1-5ubuntu0.22.04.2_amd64.deb ...
Unpacking libaprutil1-dbd-sqlite3:amd64 (1.6.1-5ubuntu0.22.04.2) ...
Selecting previously unselected package libaprutil1-ldap:amd64.
Preparing to unpack .../03-libaprutil1-ldap_1.6.1-5ubuntu0.22.04.2_amd64.deb ...
Unpacking libaprutil1-ldap:amd64 (1.6.1-5ubuntu0.22.04.2) ...
Selecting previously unselected package liblua5.3-0:amd64.
Preparing to unpack .../04-liblua5.3-0_5.3.6-1build1_amd64.deb ...
Unpacking liblua5.3-0:amd64 (5.3.6-1build1) ...
Selecting previously unselected package apache2-bin.
Preparing to unpack .../05-apache2-bin_2.4.52-1ubuntu0.9_amd64.deb ...
Unpacking apache2-bin (2.4.52-1ubuntu0.9) ...
Selecting previously unselected package apache2-data.
Preparing to unpack .../06-apache2-data_2.4.52-1ubuntu0.9_all.deb ...
Unpacking apache2-data (2.4.52-1ubuntu0.9) ...
Selecting previously unselected package apache2-utils.
Preparing to unpack .../07-apache2-utils_2.4.52-1ubuntu0.9_amd64.deb ...
Unpacking apache2-utils (2.4.52-1ubuntu0.9) ...
Selecting previously unselected package mailcap.
Preparing to unpack .../08-mailcap_3.70+nmu1ubuntu1_all.deb ...
Unpacking mailcap (3.70+nmu1ubuntu1) ...
Selecting previously unselected package mime-support.
Preparing to unpack .../09-mime-support_3.66_all.deb ...
Unpacking mime-support (3.66) ...
Selecting previously unselected package apache2.
Preparing to unpack .../10-apache2_2.4.52-1ubuntu0.9_amd64.deb ...
Unpacking apache2 (2.4.52-1ubuntu0.9) ...
Selecting previously unselected package bzip2.
Preparing to unpack .../11-bzip2_1.0.8-5build1_amd64.deb ...
Unpacking bzip2 (1.0.8-5build1) ...
Selecting previously unselected package ssl-cert.
Preparing to unpack .../12-ssl-cert_1.1.2_all.deb ...
Unpacking ssl-cert (1.1.2) ...
Setting up libapr1:amd64 (1.7.0-8ubuntu0.22.04.1) ...
Setting up bzip2 (1.0.8-5build1) ...
Setting up ssl-cert (1.1.2) ...
Setting up liblua5.3-0:amd64 (5.3.6-1build1) ...
Setting up apache2-data (2.4.52-1ubuntu0.9) ...
Setting up mailcap (3.70+nmu1ubuntu1) ...
Setting up mime-support (3.66) ...
Setting up libaprutil1-ldap:amd64 (1.6.1-5ubuntu0.22.04.2) ...
Setting up libaprutil1-dbd-sqlite3:amd64 (1.6.1-5ubuntu0.22.04.2) ...
Setting up apache2-utils (2.4.52-1ubuntu0.9) ...
Setting up apache2-bin (2.4.52-1ubuntu0.9) ...
Setting up apache2 (2.4.52-1ubuntu0.9) ...
Enabling module mpm_event.
Enabling module authz_core.
Enabling module authz_host.
Enabling module authn_core.
Enabling module auth_basic.
Enabling module access_compat.
Enabling module authn_file.
Enabling module authz_user.
Enabling module alias.
Enabling module dir.
Enabling module autoindex.
Enabling module env.
Enabling module mime.
Enabling module negotiation.
Enabling module setenvif.
Enabling module filter.
Enabling module deflate.
Enabling module status.
Enabling module reqtimeout.
Enabling conf charset.
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.

```

```

Unpacking liblua5.3-0:amd64 (5.3.6-1build1) ...
Selecting previously unselected package apache2-bin.
Preparing to unpack .../05-apache2-bin_2.4.52-1ubuntu0.9_amd64.deb ...
Unpacking apache2-bin (2.4.52-1ubuntu0.9) ...
Selecting previously unselected package apache2-data.
Preparing to unpack .../06-apache2-data_2.4.52-1ubuntu0.9_all.deb ...
Unpacking apache2-data (2.4.52-1ubuntu0.9) ...
Selecting previously unselected package apache2-utils.
Preparing to unpack .../07-apache2-utils_2.4.52-1ubuntu0.9_amd64.deb ...
Unpacking apache2-utils (2.4.52-1ubuntu0.9) ...
Selecting previously unselected package mailcap.
Preparing to unpack .../08-mailcap_3.70+nmu1ubuntu1_all.deb ...
Unpacking mailcap (3.70+nmu1ubuntu1) ...
Selecting previously unselected package mime-support.
Preparing to unpack .../09-mime-support_3.66_all.deb ...
Unpacking mime-support (3.66) ...
Selecting previously unselected package apache2.
Preparing to unpack .../10-apache2_2.4.52-1ubuntu0.9_amd64.deb ...
Unpacking apache2 (2.4.52-1ubuntu0.9) ...
Selecting previously unselected package bzip2.
Preparing to unpack .../11-bzip2_1.0.8-5build1_amd64.deb ...
Unpacking bzip2 (1.0.8-5build1) ...
Selecting previously unselected package ssl-cert.
Preparing to unpack .../12-ssl-cert_1.1.2_all.deb ...
Unpacking ssl-cert (1.1.2) ...
Setting up libapr1:amd64 (1.7.0-8ubuntu0.22.04.1) ...
Setting up bzip2 (1.0.8-5build1) ...
Setting up ssl-cert (1.1.2) ...
Setting up liblua5.3-0:amd64 (5.3.6-1build1) ...
Setting up apache2-data (2.4.52-1ubuntu0.9) ...
Setting up mailcap (3.70+nmu1ubuntu1) ...
Setting up mime-support (3.66) ...
Setting up libaprutil1-ldap:amd64 (1.6.1-5ubuntu0.22.04.2) ...
Setting up libaprutil1-dbd-sqlite3:amd64 (1.6.1-5ubuntu0.22.04.2) ...
Setting up apache2-utils (2.4.52-1ubuntu0.9) ...
Setting up apache2-bin (2.4.52-1ubuntu0.9) ...
Setting up apache2 (2.4.52-1ubuntu0.9) ...
Enabling module mpm_event.
Enabling module authz_core.
Enabling module authz_host.
Enabling module authn_core.
Enabling module auth_basic.
Enabling module access_compat.
Enabling module authn_file.
Enabling module authz_user.
Enabling module alias.
Enabling module dir.
Enabling module autoindex.
Enabling module env.
Enabling module mime.
Enabling module negotiation.
Enabling module setenvif.
Enabling module filter.
Enabling module deflate.
Enabling module status.
Enabling module reqtimeout.
Enabling conf charset.
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.

```

```

Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
invoke-rc.d: could not determine current runlevel
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /lib/systemd/system/apache-htcacheclean.service.
Processing triggers for ufw (0.36.1-4ubuntu0.1) ...
invoke-rc.d: Could not determine abilities version
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.4) ...

```

“Logo após a instalação do Apache precisamos habilitar o “mod_rewrite”, pois precisamos dele para trabalhar com arquivos “.htaccess”. E para acessamos utilizamos o seguinte comando:

- `sudo a2enmod rewrite`

E por fim fazemos a inicialização do Apache com o seguinte comando:

- `sudo service apache2 start`

```
root@lb10-03:~# sudo service apache2 start
* Starting Apache httpd web server apache2
[Tue Apr 23 20:10:16.208024 2024] [core:warn] [pid 774:tid 139844322592640] (92)Protocol not available: AH00076: Failed to enable APR_TCP_DEFER_ACCEPT
*
```

E para testarmos se a instalação do Apache funcionou basta ir no navegador e colocar o seguinte caminho:

- <http://localhost>

Se tiver instalado corretamente irá aparecer a seguinte tela:



2. Instalação do PHP:

Para a instalação do PHP é muito simples, utilizamos o comando de instalação do Linux voltado ao PHP, segue o comando abaixo:

- `sudo apt install php`

Ao colocar o comando acima o Linux realizará a instalação conforme a imagem abaixo:

```
root@lb10-03:~# sudo apt install php
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libapache2-mod-php8.1 php-common php8.1-cli php8.1-common php8.1-openssl php8.1-readline
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php8.1 php php-common php8.1-cli php8.1-common php8.1-openssl php8.1-readline
0 upgraded, 8 newly installed, 0 to remove and 0 not upgraded.
Need to get 519B kB of archives.
After this operation, 212.9B of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu [main/main amd64 php-common all 2:82ubuntu1 [12.4 kB]
Get:2 http://archive.ubuntu.com/ubuntu [main/main amd64 libapache2-mod-php8.1-common amd64 8.1.2-1ubuntu1.15 [1127 kB]
Get:3 http://archive.ubuntu.com/ubuntu [main/main amd64 php8.1-openssl amd64 8.1.2-1ubuntu1.15 [265 kB]
Get:4 http://archive.ubuntu.com/ubuntu [main/main amd64 php8.1-readline amd64 8.1.2-1ubuntu1.15 [11.6 kB]
Get:5 http://archive.ubuntu.com/ubuntu [main/main amd64 php8.1-cli amd64 8.1.2-1ubuntu1.15 [1811 kB]
Get:6 http://archive.ubuntu.com/ubuntu [main/main amd64 libapache2-mod-php8.1 amd64 8.1.2-1ubuntu1.15 [1766 kB]
Get:7 http://archive.ubuntu.com/ubuntu [main/main amd64 php8.1 all 8.1.2-1ubuntu1.15 [9156 B]
Get:8 http://archive.ubuntu.com/ubuntu [main/main amd64 php all 8.1.2-1ubuntu1.15 [2756 B]
Fetched 519B kB in 4s (1315 kB/s)
Selecting previously unselected package php-common.
(Reading database ... 24977 files and directories currently installed.)
Preparing to unpack .../8-php-common_2:82ubuntu1_all.deb ...
Unpacking php-common (2:82ubuntu1) ...
Selecting previously unselected package php8.1-common.
Preparing to unpack .../7-libapache2-mod-php8.1_8.1.2-1ubuntu1.15_amd64.deb ...
Unpacking php8.1-common (8.1.2-1ubuntu1.15) ...
Selecting previously unselected package php8.1-openssl.
Preparing to unpack .../2-php8.1-openssl_8.1.2-1ubuntu1.15_amd64.deb ...
Unpacking php8.1-openssl (8.1.2-1ubuntu1.15) ...
Selecting previously unselected package php8.1-readline.
Preparing to unpack .../3-php8.1-readline_8.1.2-1ubuntu1.15_amd64.deb ...
Unpacking php8.1-readline (8.1.2-1ubuntu1.15) ...
Selecting previously unselected package php8.1-cli.
Preparing to unpack .../4-php8.1-cli_8.1.2-1ubuntu1.15_amd64.deb ...
Unpacking php8.1-cli (8.1.2-1ubuntu1.15) ...
Selecting previously unselected package libapache2-mod-php8.1.
Preparing to unpack .../5-libapache2-mod-php8.1_8.1.2-1ubuntu1.15_amd64.deb ...
Unpacking libapache2-mod-php8.1 (8.1.2-1ubuntu1.15) ...
Selecting previously unselected package php8.1.
Preparing to unpack .../6-php8.1_8.1.2-1ubuntu1.15_all.deb ...
Unpacking php8.1 (8.1.2-1ubuntu1.15) ...
Selecting previously unselected package php.
Preparing to unpack .../7-php_8.1.2-1ubuntu1.15_all.deb ...
Unpacking php (8.1.2-1ubuntu1.15) ...
Setting up php-common (2:82ubuntu1) ...
Created symlink /etc/systemd/system/timer.target-wants/phpsessionclean.timer → /lib/systemd/system/phpsessionclean.timer.
Setting up php8.1-common (8.1.2-1ubuntu1.15) ...
Creating config file /etc/php/8.1/mods-available/calendar.ini with new version
Creating config file /etc/php/8.1/mods-available/ctype.ini with new version
Creating config file /etc/php/8.1/mods-available/ctype.ini with new version
Creating config file /etc/php/8.1/mods-available/fileinfo.ini with new version
Creating config file /etc/php/8.1/mods-available/ffi.ini with new version
Creating config file /etc/php/8.1/mods-available/ftp.ini with new version
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```
Creating config file /etc/php/8.1/mode-available/calendar.ini with new version
Creating config file /etc/php/8.1/mode-available/cyberinfo.ini with new version
Creating config file /etc/php/8.1/mode-available/exif.ini with new version
Creating config file /etc/php/8.1/mode-available/fileinfo.ini with new version
Creating config file /etc/php/8.1/mode-available/fpdf.ini with new version
Creating config file /etc/php/8.1/mode-available/fpdflib.ini with new version
Creating config file /etc/php/8.1/mode-available/gettext.ini with new version
Creating config file /etc/php/8.1/mode-available/iconv.ini with new version
Creating config file /etc/php/8.1/mode-available/pdo.ini with new version
Creating config file /etc/php/8.1/mode-available/phar.ini with new version
Creating config file /etc/php/8.1/mode-available/posix.ini with new version
Creating config file /etc/php/8.1/mode-available/shmop.ini with new version
Creating config file /etc/php/8.1/mode-available/sockets.ini with new version
Creating config file /etc/php/8.1/mode-available/sysvmsg.ini with new version
Creating config file /etc/php/8.1/mode-available/sysvsem.ini with new version
Creating config file /etc/php/8.1/mode-available/sysvshm.ini with new version
Creating config file /etc/php/8.1/mode-available/tokenizer.ini with new version
Setting up php8.1-readline (8.1.2-ubuntu2.15) ...
Creating config file /etc/php/8.1/mode-available/readline.ini with new version
Setting up php8.1-opcache (8.1.2-ubuntu2.15) ...
Creating config file /etc/php/8.1/mode-available/opcache.ini with new version
Setting up php8.1-cli (8.1.2-ubuntu2.15) ...
update-alternatives: using /usr/bin/php8.1 to provide /usr/bin/php in auto mode
update-alternatives: using /usr/bin/php8.1 to provide /usr/bin/php8.1 in auto mode
update-alternatives: using /usr/bin/php8.1 to provide /usr/bin/php8.1 in auto mode
update-alternatives: using /usr/bin/php8.1 to provide /usr/bin/php8.1 in auto mode
update-alternatives: using /usr/bin/php8.1 to provide /usr/bin/php8.1 in auto mode
update-alternatives: using /usr/bin/php8.1 to provide /usr/bin/php8.1 in auto mode
Setting up php8.1-mysql (8.1.2-ubuntu2.15) ...
Setting up libapache2-mod-php8.1 (8.1.2-ubuntu2.15) ...
Creating config file /etc/php/8.1/apache2/php.ini with new version
Module mpm_event disabled.
Enabling module mpm_prefork.
apache2_switch_mpm to prefork
invoke-rc.d: could not determine current runlevel
invoke-rc.d: could not determine current runlevel
apache2_invoke: Enable module php8.1
invoke-rc.d: could not determine current runlevel
Setting up php8.1 (8.1.2-ubuntu2.15) ...
Setting up php8.1-zip (8.1.2-ubuntu2.15) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for php8.1-cli (8.1.2-ubuntu2.15) ...
Processing triggers for libapache2-mod-php8.1 (8.1.2-ubuntu2.15) ...
```

Com isso realizamos a instalação do PHP.

3. Instalação MariaDB:

Para realizarmos a instalação do Banco de dados MariaDB é bem simples conforme os passos acima, basta abrirmos nosso terminal WSL e colocar os comandos abaixo:

Primeiro utilizamos o comando para a instalação:

- `sudo apt install mariadb-server`

[illegible]

```

[atched 18.7 MB in 27s (400 kB/s)
Extracting templates from packages: 100%
Preconfiguring packages ...
Selecting previously unselected package mysql-common.
(Reading database ... 25187 files and directories currently installed.)
Preparing to unpack .../00-mysql-common-5.8+1.0.8_all.deb ...
Unpacking mysql-common (5.8+1.0.8) ...
Selecting previously unselected package mariadb-common.
Preparing to unpack .../01-mariadb-common_10.6.16-0ubuntu0.22.04.1_all.deb ...
Unpacking mariadb-common (1:10.6.16-0ubuntu0.22.04.1) ...
Selecting previously unselected package galera-4.
Preparing to unpack .../02-galera-4_26.4.9-1build1_amd64.deb ...
Unpacking galera-4 (26.4.9-1build1) ...
Selecting previously unselected package libdbi-perl:amd64.
Preparing to unpack .../03-libdbi-perl_1.643-3build3_amd64.deb ...
Unpacking libdbi-perl:amd64 (1.643-3build3) ...
Selecting previously unselected package libconfig-inifiles-perl.
Preparing to unpack .../04-libconfig-inifiles-perl_3.0000003-1_all.deb ...
Unpacking libconfig-inifiles-perl (3.0000003-1) ...
Selecting previously unselected package libmariadb3:amd64.
Preparing to unpack .../05-libmariadb3_10.6.16-0ubuntu0.22.04.1_amd64.deb ...
Unpacking libmariadb3:amd64 (1:10.6.16-0ubuntu0.22.04.1) ...
Selecting previously unselected package mariadb-client-core-10.6.
Preparing to unpack .../06-mariadb-client-core-10.6_10.6.16-0ubuntu0.22.04.1_amd64.deb ...
Unpacking mariadb-client-core-10.6 (1:10.6.16-0ubuntu0.22.04.1) ...
Selecting previously unselected package mariadb-client-10.6.
Preparing to unpack .../07-mariadb-client-10.6_10.6.16-0ubuntu0.22.04.1_amd64.deb ...
Unpacking mariadb-client-10.6 (1:10.6.16-0ubuntu0.22.04.1) ...
Selecting previously unselected package libdaxctl1:amd64.
Preparing to unpack .../08-libdaxctl1_72.1-1_amd64.deb ...
Unpacking libdaxctl1:amd64 (72.1-1) ...
Selecting previously unselected package libndctl6:amd64.
Preparing to unpack .../09-libndctl6_72.1-1_amd64.deb ...
Unpacking libndctl6:amd64 (72.1-1) ...
Selecting previously unselected package libpmem1:amd64.
Preparing to unpack .../10-libpmem1_1.11.1-3build1_amd64.deb ...
Unpacking libpmem1:amd64 (1.11.1-3build1) ...
Selecting previously unselected package libnappyvis:amd64.
Preparing to unpack .../11-libnappyvis_1.1.6-1build1_amd64.deb ...
Unpacking libnappyvis:amd64 (1.1.6-1build1) ...
Selecting previously unselected package liburing2:amd64.
Preparing to unpack .../12-liburing2_2.1-1build1_amd64.deb ...
Unpacking liburing2:amd64 (2.1-1build1) ...
Selecting previously unselected package mariadb-server-core-10.6.
Preparing to unpack .../13-mariadb-server-core-10.6_10.6.16-0ubuntu0.22.04.1_amd64.deb ...
Unpacking mariadb-server-core-10.6 (1:10.6.16-0ubuntu0.22.04.1) ...
Selecting previously unselected package libwrap0:amd64.
Preparing to unpack .../14-libwrap0_7.6.q-3build2_amd64.deb ...
Unpacking libwrap0:amd64 (7.6.q-3build2) ...
Selecting previously unselected package socat.
Preparing to unpack .../15-socat_1.7.4.1-3ubuntu4_amd64.deb ...
Unpacking socat (1.7.4.1-3ubuntu4) ...
Setting up mysql-common (5.8+1.0.8) ...
update-alternatives: using /etc/mysql/my.cnf.fallback to provide /etc/mysql/my.cnf (my.cnf) in auto mode
Setting up mariadb-common (1:10.6.16-0ubuntu0.22.04.1) ...
update-alternatives: using /etc/mysql/mariadb.cnf to provide /etc/mysql/my.cnf (my.cnf) in auto mode
Selecting previously unselected package mariadb-server-10.6.
(Reading database ... 2579 files and directories currently installed.)
Preparing to unpack .../00-mariadb-server-10.6_10.6.16-0ubuntu0.22.04.1_amd64.deb ...
Unpacking mariadb-server-10.6 (1:10.6.16-0ubuntu0.22.04.1) ...
Selecting previously unselected package libhtml-tagset-perl.
Preparing to unpack .../01-libhtml-tagset-perl_3.20-4_all.deb ...
Unpacking libhtml-tagset-perl (3.20-4) ...

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Selecting previously unselected package libtimedate-perl.
Preparing to unpack .../14-libtimedate-perl_2.3300-2_all.deb ...
Unpacking libtimedate-perl (2.3300-2) ...
Selecting previously unselected package libhttp-date-perl.
Preparing to unpack .../15-libhttp-date-perl_6.05-1_all.deb ...
Unpacking libhttp-date-perl (6.05-1) ...
Selecting previously unselected package libio-html-perl.
Preparing to unpack .../16-libio-html-perl_1.004-2_all.deb ...
Unpacking libio-html-perl (1.004-2) ...
Selecting previously unselected package liblwp-mediatypes-perl.
Preparing to unpack .../17-liblwp-mediatypes-perl_6.04-1_all.deb ...
Unpacking liblwp-mediatypes-perl (6.04-1) ...
Selecting previously unselected package libhttp-message-perl.
Preparing to unpack .../18-libhttp-message-perl_6.36-1_all.deb ...
Unpacking libhttp-message-perl (6.36-1) ...
Selecting previously unselected package libterm-readkey-perl.
Preparing to unpack .../19-libterm-readkey-perl_2.38-1build4_amd64.deb ...
Unpacking libterm-readkey-perl (2.38-1build4) ...
Selecting previously unselected package mariadb-server.
Preparing to unpack .../20-mariadb-server_10.6.16-0ubuntu0.22.04.1_all.deb ...
Unpacking mariadb-server (1:10.6.16-0ubuntu0.22.04.1) ...
Setting up libconfig-inifiles-perl (3.0000003-1) ...
Setting up galera-4 (26.4.9-1build1) ...
Setting up libmysqlclient21:amd64 (8.0.36-0ubuntu0.22.04.1) ...
Setting up libfcgi-bin:amd64 (2.4.2-2build2) ...
Setting up libclone-perl (0.45-1build3) ...
Setting up libhtml-tagset-perl (3.20-4) ...
Setting up liblwp-mediatypes-perl (6.04-1) ...
Setting up libfcgi-bin (2.4.2-2build2) ...
Setting up libencode-locale-perl (1.05-1) ...
Setting up libnappyvis:amd64 (1.1.6-1build1) ...
Setting up libwrap0:amd64 (7.6.q-3build2) ...
Setting up socat (1.7.4.1-3ubuntu4) ...
Setting up libio-html-perl (1.004-2) ...
Setting up libmariadb3:amd64 (1:10.6.16-0ubuntu0.22.04.1) ...
Setting up libdaxctl1:amd64 (72.1-1) ...
Setting up libndctl6:amd64 (72.1-1) ...
Setting up libfcgi-perl:amd64 (0.82+ds-1build1) ...
Setting up libterm-readkey-perl (2.38-1build4) ...
Setting up liburing2:amd64 (2.1-1build1) ...
Setting up libpmem1:amd64 (1.11.1-3build1) ...
Setting up liburi-perl (5.10-1) ...
Setting up libdbi-perl:amd64 (1.643-3build3) ...
Setting up mariadb-server-core-10.6 (1:10.6.16-0ubuntu0.22.04.1) ...
Setting up libhttp-date-perl (6.05-1) ...
Setting up mariadb-client-core-10.6 (1:10.6.16-0ubuntu0.22.04.1) ...
Setting up libdbd-mysql-perl:amd64 (4.050-0ubuntu0.22.04.1) ...
Setting up libhtml-parser-perl:amd64 (3.76-1build2) ...
Setting up mariadb-client-10.6 (1:10.6.16-0ubuntu0.22.04.1) ...
Setting up libhttp-message-perl (6.36-1) ...
Setting up libfcgi-pm-perl (4.54-1) ...
Setting up libhtml-template-perl (2.97-1.1) ...
Setting up mariadb-server-10.6 (1:10.6.16-0ubuntu0.22.04.1) ...
invoke-rc.d: could not determine current runlevel
* Stopping MariaDB database server mariadb
Created symlink /etc/systemd/system/multi-user.target.wants/mariadb.service → /lib/systemd/system/mariadb.service.
invoke-rc.d: could not determine current runlevel
Setting up libfcgi-fast-perl (1.2.15-1) ...
Setting up mariadb-server (1:10.6.16-0ubuntu0.22.04.1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.4) ...
root@b1b1e43:~#

```

Após a instalação do Banco iremos iniciar o serviço do MariaDB com o seguinte comando:

- `sudo service mysql start`

Depois de iniciarmos o serviço faremos algumas melhorias na segurança do nosso bando de dados, como definição do usuário root, remover contas anônimas, desabilitar o login do usuário root fora do localhost e remover o banco de dados test que é acessado por usuários anônimos.

Primeiramente iremos definir a senha para o ROOT, com isso usamos o seguinte:

- `sudo mysql_secure_installation`

Ao colocar o comando basta clicar em Enter que ele solicitará a senha.

4. Instalação PHPMYAdmin:

Por fim faremos a instalação do PHPMyadmin, com isso usamos o comando:

- `sudo apt install phpmyadmin`

[illegible]

Logo após fazemos a ativação do módulo mbstring, com o comando:

- `sudo phpenmod mbstring`

Com isso fazemos algumas configurações no apache:

- `sudo nano /etc/apache2/apache2.conf`
- `IncludeOptional /etc/phpmyadmin/apache.conf`