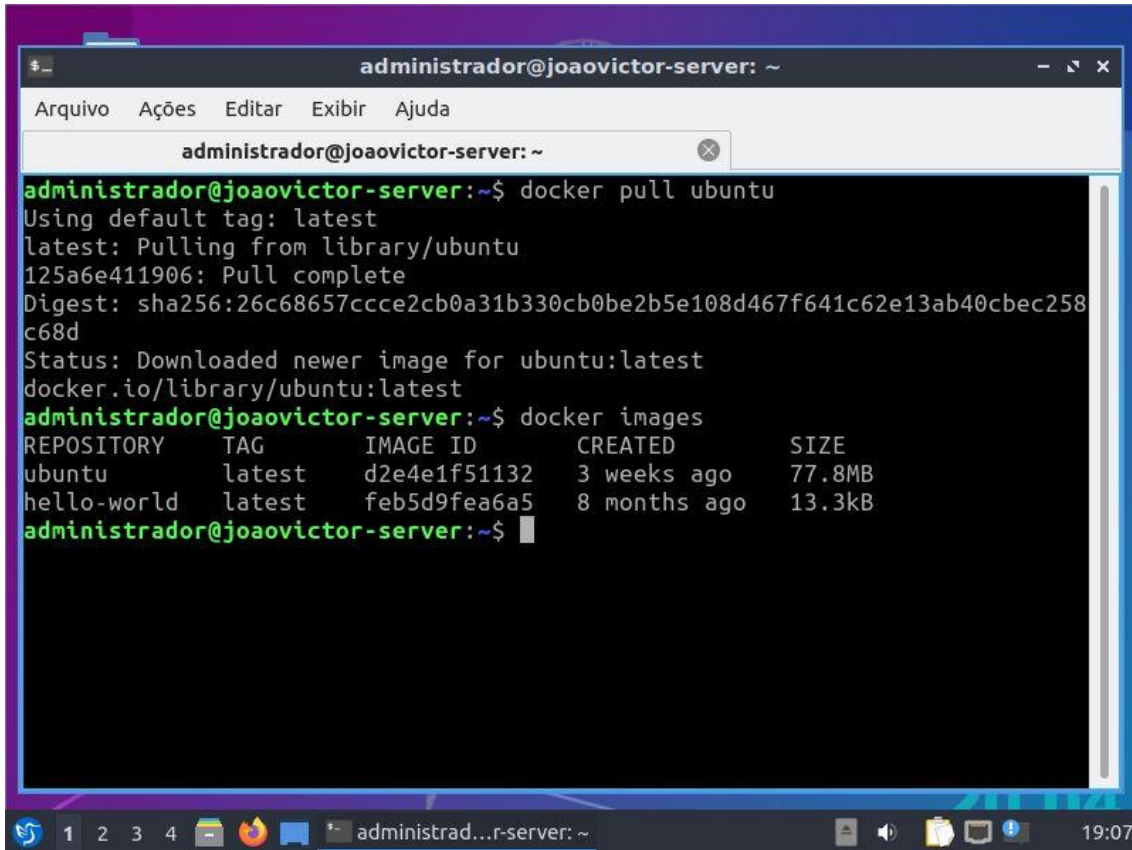


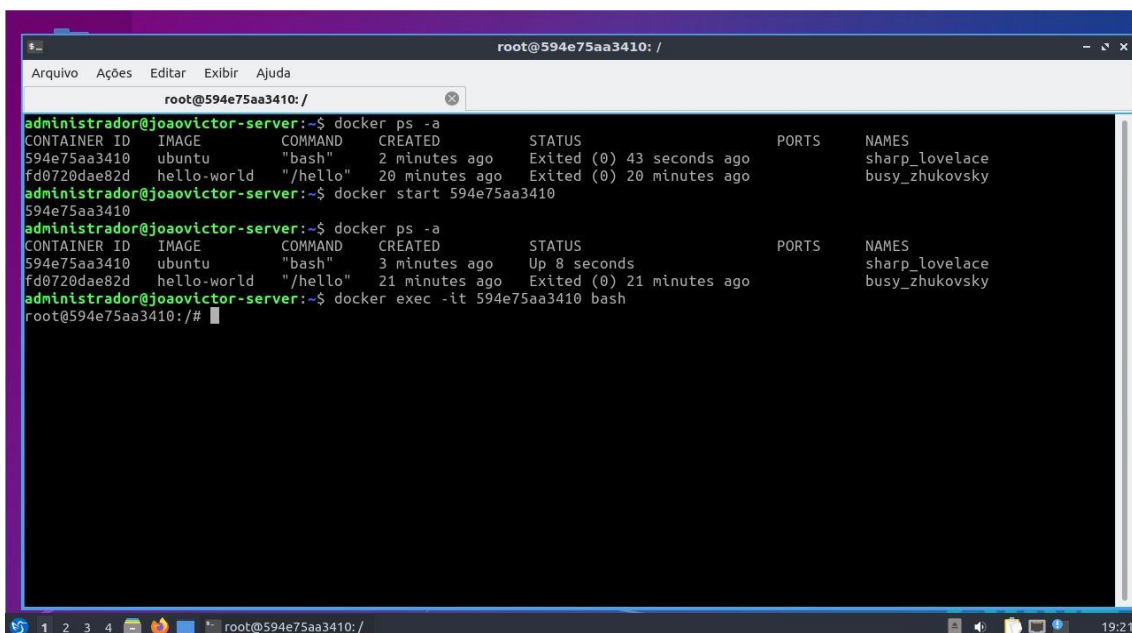
1) Criar um container a partir de uma imagem ubuntu ou alpine;

Criando container ubuntu



```
administrador@joaovictor-server: ~  
Arquivo  Ações  Editar  Exibir  Ajuda  
administrador@joaovictor-server: ~  
administrador@joaovictor-server:~$ docker pull ubuntu  
Using default tag: latest  
latest: Pulling from library/ubuntu  
125a6e411906: Pull complete  
Digest: sha256:26c68657ccce2cb0a31b330cb0be2b5e108d467f641c62e13ab40cbec258c68d  
Status: Downloaded newer image for ubuntu:latest  
docker.io/library/ubuntu:latest  
administrador@joaovictor-server:~$ docker images  
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE  
ubuntu         latest    d2e4e1f51132   3 weeks ago    77.8MB  
hello-world    latest    feb5d9fea6a5   8 months ago   13.3kB  
administrador@joaovictor-server:~$
```

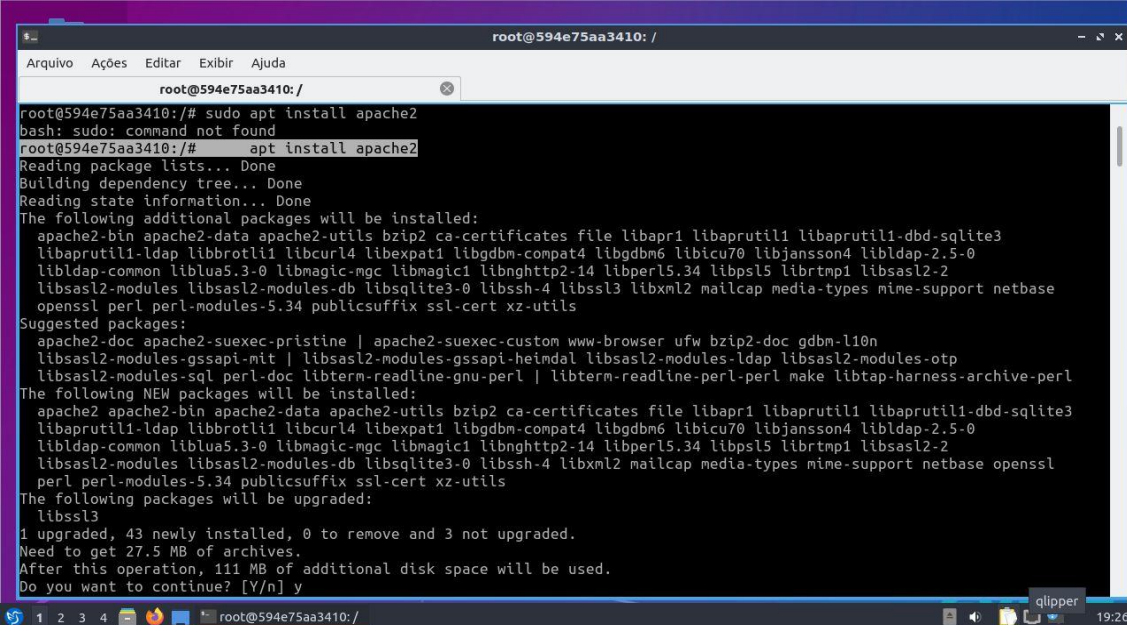
Acessando container



```
root@594e75aa3410: /  
Arquivo  Ações  Editar  Exibir  Ajuda  
root@594e75aa3410: /  
administrador@joaovictor-server:~$ docker ps -a  
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES  
594e75aa3410   ubuntu   "bash"    2 minutes ago   Exited (0) 43 seconds ago   sharp_lovelace  
fd0720dae82d   hello-world   "/hello"  20 minutes ago   Exited (0) 20 minutes ago   busy_zhukovsky  
administrador@joaovictor-server:~$ docker start 594e75aa3410  
594e75aa3410  
administrador@joaovictor-server:~$ docker ps -a  
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES  
594e75aa3410   ubuntu   "bash"    3 minutes ago   Up 8 seconds                sharp_lovelace  
fd0720dae82d   hello-world   "/hello"  21 minutes ago   Exited (0) 21 minutes ago   busy_zhukovsky  
administrador@joaovictor-server:~$ docker exec -it 594e75aa3410 bash  
root@594e75aa3410:/#
```

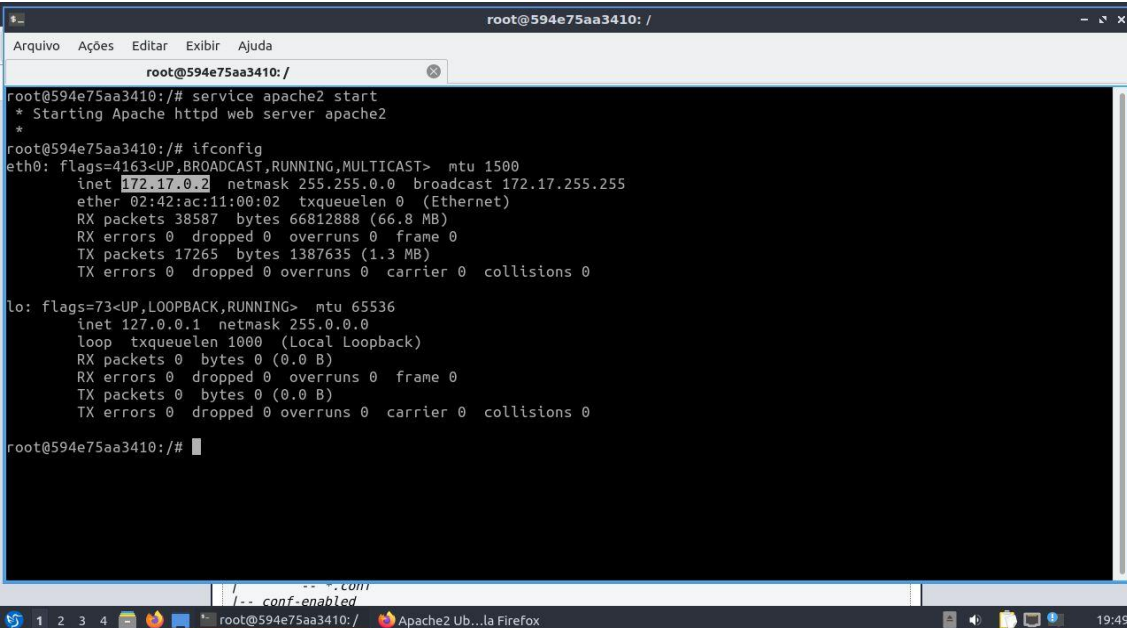
2) Entrar no container de formar a usar o shell e instalar o Apache, o PHP e o MySQL;

Instalando Apache



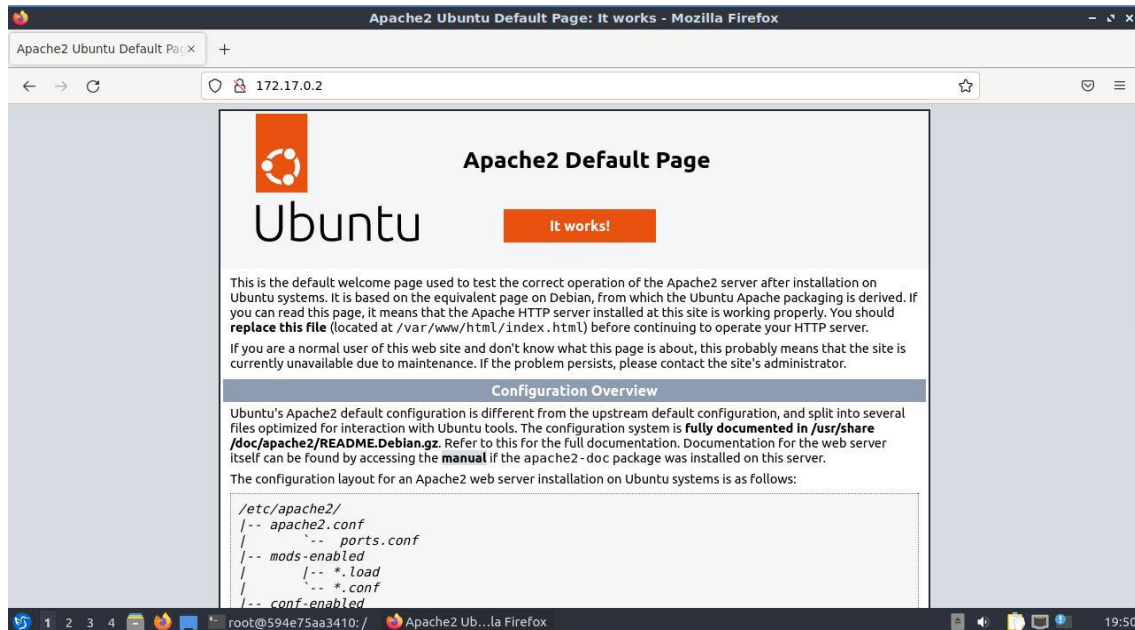
```
root@594e75aa3410: /  
root@594e75aa3410:/# sudo apt install apache2  
bash: sudo: command not found  
root@594e75aa3410:/# apt install apache2  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following additional packages will be installed:  
  apache2-bin apache2-data apache2-utils bzip2 ca-certificates file libapr1 libaprutil1 libaprutil1-dbd-sqlite3  
  libaprutil1-ldap libbrotli1 libcurl4 libexpat1 libgdbm-compat4 libgdbm6 libicu70 libjansson4 libldap-2.5-0  
  libldap-common liblua5.3-0 libmagic-mgc libmagic1 libnghttp2-14 libperl5.34 libpsl5 librtmp1 libsasl2-2  
  libsasl2-modules libsasl2-modules-db libsasl2-modules-gssapi-mit libsasl2-modules-gssapi-heimdal libsasl2-modules-ldap  
  libsasl2-modules-otp libsasl2-modules-sql perl-modules-5.34 publicsuffix ssl-cert xz-utils  
Suggested packages:  
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser ufw bzip2-doc gdbm-l10n  
  libsasl2-modules-gssapi-mit | libsasl2-modules-gssapi-heimdal libsasl2-modules-ldap libsasl2-modules-otp  
  libsasl2-modules-sql perl-doc libterm-readline-gnu-perl | libterm-readline-perl-perl make libtap-harness-archive-perl  
The following NEW packages will be installed:  
  apache2 apache2-bin apache2-data apache2-utils bzip2 ca-certificates file libapr1 libaprutil1 libaprutil1-dbd-sqlite3  
  libaprutil1-ldap libbrotli1 libcurl4 libexpat1 libgdbm-compat4 libgdbm6 libicu70 libjansson4 libldap-2.5-0  
  libldap-common liblua5.3-0 libmagic-mgc libmagic1 libnghttp2-14 libperl5.34 libpsl5 librtmp1 libsasl2-2  
  libsasl2-modules libsasl2-modules-db libsasl2-modules-gssapi-mit libsasl2-modules-gssapi-heimdal libsasl2-modules-ldap  
  libsasl2-modules-otp libsasl2-modules-sql perl-modules-5.34 publicsuffix ssl-cert xz-utils  
The following packages will be upgraded:  
  libssl3  
1 upgraded, 43 newly installed, 0 to remove and 3 not upgraded.  
Need to get 27.5 MB of archives.  
After this operation, 111 MB of additional disk space will be used.  
Do you want to continue? [Y/n] y
```

Inicializando Apache

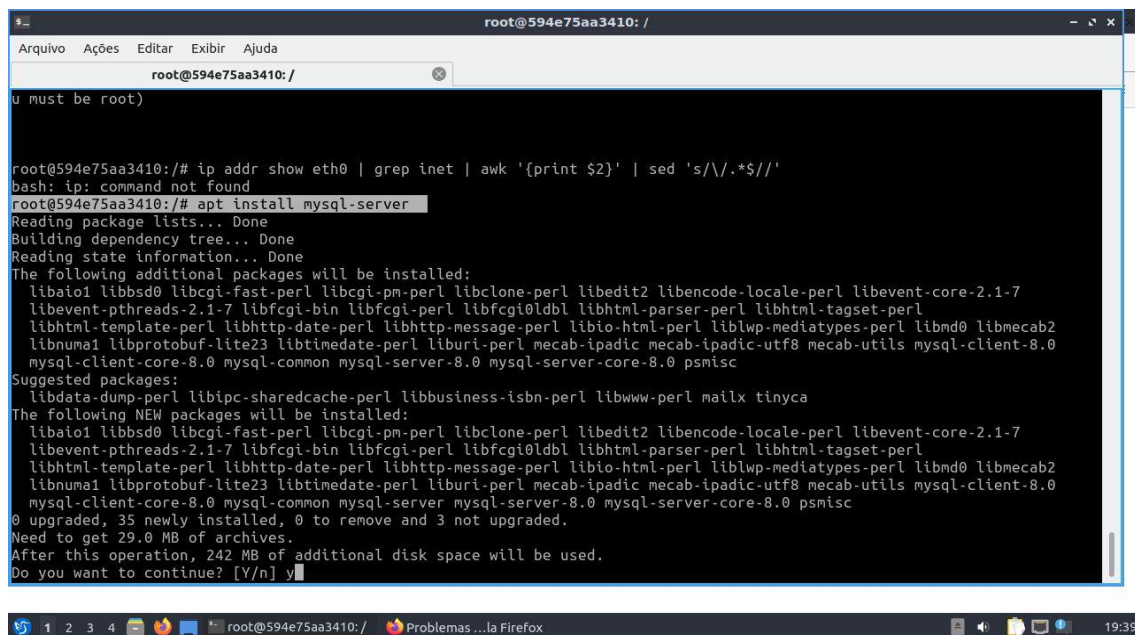


```
root@594e75aa3410: /  
root@594e75aa3410:/# service apache2 start  
* Starting Apache httpd web server apache2  
*  
root@594e75aa3410:/# ifconfig  
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 172.17.0.2 netmask 255.255.0.0 broadcast 172.17.255.255  
    ether 02:42:ac:11:00:02 txqueuelen 0 (Ethernet)  
    RX packets 38587 bytes 66812888 (66.8 MB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 17265 bytes 1387635 (1.3 MB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536  
    inet 127.0.0.1 netmask 255.0.0.0  
    loop txqueuelen 1000 (Local Loopback)  
    RX packets 0 bytes 0 (0.0 B)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 0 bytes 0 (0.0 B)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
root@594e75aa3410:/#
```

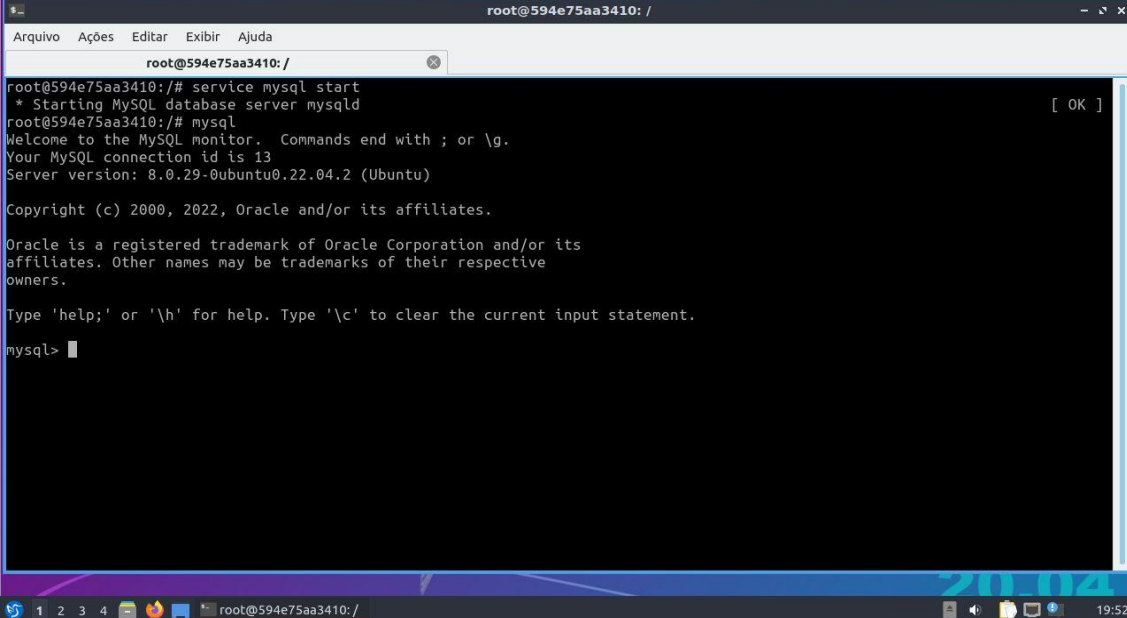
Apache funcionando



Instalando MySQL



Iniciando e acessando MySQL

A terminal window titled 'root@594e75aa3410: /' with a menu bar (Arquivo, Ações, Editar, Exibir, Ajuda). The terminal shows the command 'service mysql start' being executed, which starts the MySQL database server. Then, the 'mysql' command is entered to access the MySQL monitor. The monitor displays a welcome message, the connection ID (13), and the server version (8.0.29-0ubuntu0.22.04.2). It also shows copyright information and instructions on how to use the monitor. The prompt 'mysql>' is visible at the bottom.

```
root@594e75aa3410: /
root@594e75aa3410:/# service mysql start
* Starting MySQL database server mysqld
root@594e75aa3410:/# mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 8.0.29-0ubuntu0.22.04.2 (Ubuntu)

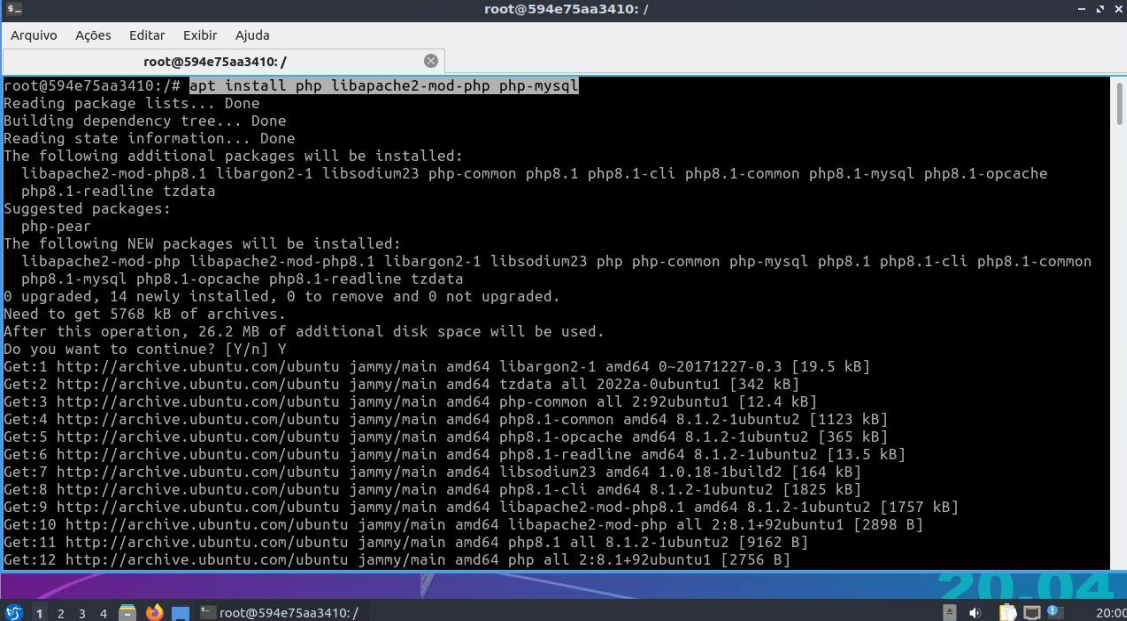
Copyright (c) 2000, 2022, Oracle and/or its affiliates.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

Instalando PHP

A terminal window titled 'root@594e75aa3410: /' with a menu bar (Arquivo, Ações, Editar, Exibir, Ajuda). The terminal shows the command 'apt install php libapache2-mod-php php-mysql' being executed. The output shows the package lists being read, dependencies being built, and state information being read. It then lists the additional packages to be installed, suggested packages, and the new packages to be installed. The disk space requirements are shown, and the user is prompted to continue. The installation progress is shown with a list of packages and their sizes.

```
root@594e75aa3410: /
root@594e75aa3410:/# apt install php libapache2-mod-php php-mysql
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libapache2-mod-php8.1 libargon2-1 libsodium23 php-common php8.1 php8.1-cli php8.1-common php8.1-mysql php8.1-opcache
  php8.1-readline tzdata
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php libapache2-mod-php8.1 libargon2-1 libsodium23 php php-common php-mysql php8.1 php8.1-cli php8.1-common
  php8.1-mysql php8.1-opcache php8.1-readline tzdata
0 upgraded, 14 newly installed, 0 to remove and 0 not upgraded.
Need to get 5768 kB of archives.
After this operation, 26.2 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu jammy/main amd64 libargon2-1 amd64 0-20171227-0.3 [19.5 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy/main amd64 tzdata all 2022a-0ubuntu1 [342 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy/main amd64 php-common all 2:92ubuntu1 [12.4 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy/main amd64 php8.1-common amd64 8.1.2-1ubuntu2 [1123 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy/main amd64 php8.1-opcache amd64 8.1.2-1ubuntu2 [365 kB]
Get:6 http://archive.ubuntu.com/ubuntu jammy/main amd64 php8.1-readline amd64 8.1.2-1ubuntu2 [13.5 kB]
Get:7 http://archive.ubuntu.com/ubuntu jammy/main amd64 libsodium23 amd64 1.0.18-1build2 [164 kB]
Get:8 http://archive.ubuntu.com/ubuntu jammy/main amd64 php8.1-cli amd64 8.1.2-1ubuntu2 [1825 kB]
Get:9 http://archive.ubuntu.com/ubuntu jammy/main amd64 libapache2-mod-php8.1 amd64 8.1.2-1ubuntu2 [1757 kB]
Get:10 http://archive.ubuntu.com/ubuntu jammy/main amd64 libapache2-mod-php all 2:8.1+92ubuntu1 [2898 B]
Get:11 http://archive.ubuntu.com/ubuntu jammy/main amd64 php8.1 all 8.1.2-1ubuntu2 [9162 B]
Get:12 http://archive.ubuntu.com/ubuntu jammy/main amd64 php all 2:8.1+92ubuntu1 [2756 B]
```


Instalando PHP

```
root@594e75aa3410: /
root@594e75aa3410: /
root@594e75aa3410: /# apt install php libapache2-mod-php php-mysql
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libapache2-mod-php8.1 libargon2-1 libsodium23 php-common php8.1 php8.1-cli php8.1-common php8.1-mysql php8.1-opcache
  php8.1-readline tzdata
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php libapache2-mod-php8.1 libargon2-1 libsodium23 php php-common php-mysql php8.1 php8.1-cli php8.1-common
  php8.1-mysql php8.1-opcache php8.1-readline tzdata
0 upgraded, 14 newly installed, 0 to remove and 0 not upgraded.
Need to get 5768 kB of archives.
After this operation, 26.2 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu jammy/main amd64 libargon2-1 amd64 0-20171227-0.3 [19.5 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy/main amd64 tzdata all 2022a-0ubuntu1 [342 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy/main amd64 php-common all 2:92ubuntu1 [12.4 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy/main amd64 php8.1-common amd64 8.1.2-1ubuntu2 [1123 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy/main amd64 php8.1-opcache amd64 8.1.2-1ubuntu2 [365 kB]
Get:6 http://archive.ubuntu.com/ubuntu jammy/main amd64 php8.1-readline amd64 8.1.2-1ubuntu2 [13.5 kB]
Get:7 http://archive.ubuntu.com/ubuntu jammy/main amd64 libsodium23 amd64 1.0.18-1build2 [164 kB]
Get:8 http://archive.ubuntu.com/ubuntu jammy/main amd64 php8.1-cli amd64 8.1.2-1ubuntu2 [1825 kB]
Get:9 http://archive.ubuntu.com/ubuntu jammy/main amd64 libapache2-mod-php8.1 amd64 8.1.2-1ubuntu2 [1757 kB]
Get:10 http://archive.ubuntu.com/ubuntu jammy/main amd64 libapache2-mod-php all 2:8.1+92ubuntu1 [2898 B]
Get:11 http://archive.ubuntu.com/ubuntu jammy/main amd64 php8.1 all 8.1.2-1ubuntu2 [9162 B]
Get:12 http://archive.ubuntu.com/ubuntu jammy/main amd64 php all 2:8.1+92ubuntu1 [2756 B]
```

Versão do PHP

```
root@594e75aa3410: /
root@594e75aa3410: /
root@594e75aa3410: /# php -v
PHP 8.1.2 (cli) (built: Apr  7 2022 17:46:26) (NTS)
Copyright (c) The PHP Group
Zend Engine v4.1.2, Copyright (c) Zend Technologies
    with Zend OPcache v8.1.2, Copyright (c), by Zend Technologies
root@594e75aa3410: /#
```

3) Instalar o PHPMyAdmin;

Instalando PHPMyAdmin;

```
root@594e75aa3410: /
Arquivo  Ações  Editar  Exibir  Ajuda

root@594e75aa3410: /
root@594e75aa3410:/# apt-get install phpmyadmin php-mbstring
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  dbconfig-common dbconfig-mysql fontconfig-config fonts-dejavu-core icc-profiles-free javascript-common libdeflate0
  libfontconfig1 libfreetype6 libgd3 libjpeg8 libjs-bootstrap4 libjs-codemirror libjs-jquery
  libjs-jquery-mousewheel libjs-jquery-timepicker libjs-jquery-ui libjs-popper.js libjs-sizzle libjs-sphinxdoc
  libjs-underscore libonig5 libpng16-16 libtiff5 libwebp7 libx11-6 libx11-data libxau6 libxcb1 libxdmcp6 libxpm4 libxslt1.1
  libzip4 node-jquery php-bz2 php-curl php-gd php-google-recaptcha php-json php-mariadb-mysql-kbs php-nikic-fast-route
  php-phpmyadmin-motranslator php-phpmyadmin-shapefile php-phpmyadmin-sql-parser php-phpseclib php-psr-cache
  php-psr-container php-psr-log php-symfony-cache php-symfony-cache-contracts php-symfony-config
  php-symfony-dependency-injection php-symfony-deprecation-contracts php-symfony-expression-language php-symfony-file-system
  php-symfony-polyfill-php80 php-symfony-polyfill-php81 php-symfony-service-contracts php-symfony-var-exporter php-tcpdf
  php-twig php-twig-i18n-extension php-xml php-zip php8.1-bz2 php8.1-curl php8.1-gd php8.1-mbstring php8.1-xml php8.1-zip
Suggested packages:
  libgd-tools libjs-requirejs libjs-jquery-ui-docs php-dbase php-libsodium php-mcrypt php-gmp php-symfony-yaml
  php-symfony-finder php-symfony-proxy-manager-bridge php-imagick php-twig-doc php-recode www-browser php-gd2
  php-pragmarx-google2fa-qrcode php-samyoul-u2f-php-server
Recommended packages:
  php-mcrypt
The following NEW packages will be installed:
  dbconfig-common dbconfig-mysql fontconfig-config fonts-dejavu-core icc-profiles-free javascript-common libdeflate0
  libfontconfig1 libfreetype6 libgd3 libjpeg8 libjs-bootstrap4 libjs-codemirror libjs-jquery
  libjs-jquery-mousewheel libjs-jquery-timepicker libjs-jquery-ui libjs-popper.js libjs-sizzle libjs-sphinxdoc
  libjs-underscore libonig5 libpng16-16 libtiff5 libwebp7 libx11-6 libx11-data libxau6 libxcb1 libxdmcp6 libxpm4 libxslt1.1
  libzip4 node-jquery php-bz2 php-curl php-gd php-google-recaptcha php-json php-mariadb-mysql-kbs php-mbstring
  php-nikic-fast-route php-phpmyadmin-motranslator php-phpmyadmin-shapefile php-phpmyadmin-sql-parser php-phpseclib
```

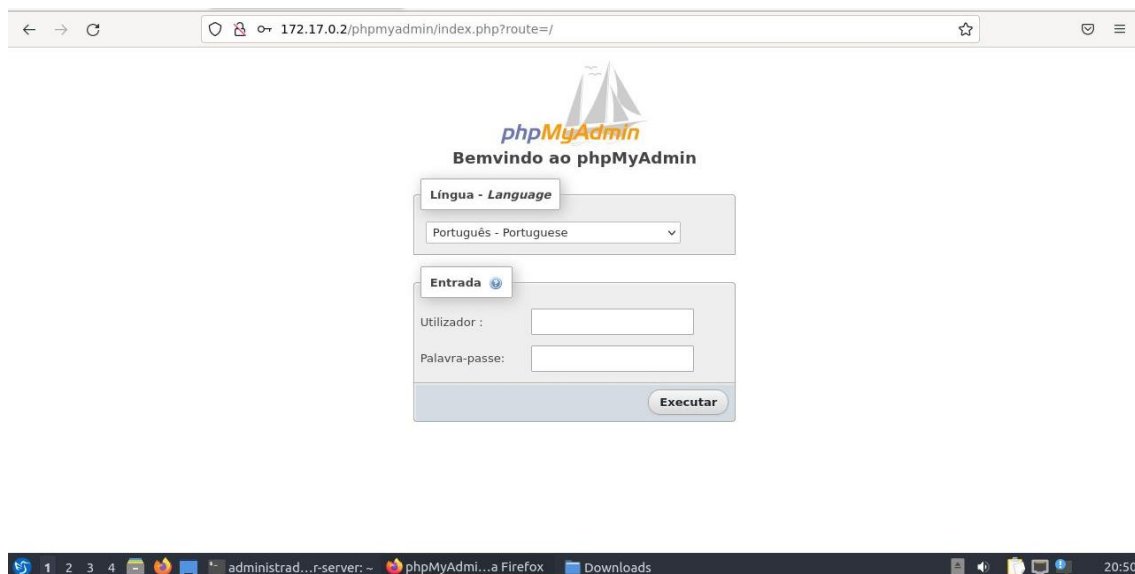
Reiniciando Apache para iniciar PHPMyAdmin

```
mysql> GRANT ALL PRIVILEGES ON *.* TO 'phpmyadmin'@'localhost';
Query OK, 0 rows affected (0.00 sec)

mysql> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.00 sec)

mysql> EXIT
Bye
root@594e75aa3410:/# service apache2 restart
* Restarting Apache httpd web server apache2
AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.17.0.2. Set the 'ServerName'
directive globally to suppress this message
root@594e75aa3410:/#
```

PHPMyAdmin funcionando



3) Commitar o container com o apelido ubuntu/phpmyadmin;

```
administrador@joaovictor-server:~$ docker ps -a
CONTAINER ID   IMAGE          COMMAND        CREATED        STATUS        PORTS        NAMES
594e75aa3410   ubuntu        "bash"        2 hours ago   Up 2 hours                   sharp_lovelace
fd0720dae82d   hello-world   "/hello"      2 hours ago   Exited (0) 2 hours ago      busy_zhukovsky
administrador@joaovictor-server:~$ docker exec -it 594e75aa3410 bash
root@594e75aa3410:/# exit
exit
administrador@joaovictor-server:~$ sudo docker ps -q
[sudo] senha para administrador:
594e75aa3410
administrador@joaovictor-server:~$ sudo docker commit 594e75aa3410 ubuntu/phpmyadmin
sha256:2bbb4ad4886df3648214b545ff871ecb0049e1e2a68334cc01c1b480e0c50b58
administrador@joaovictor-server:~$ sudo docker images
REPOSITORY      TAG          IMAGE ID      CREATED        SIZE
ubuntu/phpmyadmin  latest      2bbb4ad4886d  14 seconds ago  900MB
ubuntu           latest      d2e4e1f51132  3 weeks ago    77.8MB
hello-world      latest      feb5d9fea6a5  8 months ago   13.3kB
administrador@joaovictor-server:~$
```