

□ Ubuntu Server 20.04 □□ Apache + MariaDB + PHP

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PHP 8.x



PHP 7.4

PHP 8

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7.2

2021 1

7.4

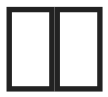
2022 11

8.0

8.1

phpMyAdmin 4.9.5





Apache



1

```
$ sudo apt -y install apache2 apache2-utils  
[sudo] password for ossii:
```

```
“ Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following package was automatically installed and is no longer required:  
libfwupdplugin1  
Use 'sudo apt autoremove' to remove it.  
The following additional packages will be installed:  
apache2-bin apache2-data libapr1 libaprutil1 libaprutil1-dbd-sqlite3  
libaprutil1-ldap libjansson4 liblua5.2-0 ssl-cert  
Suggested packages:  
apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-  
browser openssl-blacklist  
The following NEW packages will be installed:  
apache2 apache2-bin apache2-data apache2-utils libapr1 libaprutil1  
libaprutil1-dbd-sqlite3 libaprutil1-ldap libjansson4 liblua5.2-0 ssl-cert  
0 upgraded, 11 newly installed, 0 to remove and 0 not upgraded.  
Need to get 1,867 kB of archives.  
After this operation, 8,095 kB of additional disk space will be used.  
Get:1 http://tw.archive.ubuntu.com/ubuntu focal/main amd64 libapr1 amd64  
1.6.5-1ubuntu1 [91.4 kB]  
Get:2 http://tw.archive.ubuntu.com/ubuntu focal/main amd64 libaprutil1 amd64  
1.6.1-4ubuntu2 [84.7 kB]  
Get:3 http://tw.archive.ubuntu.com/ubuntu focal/main amd64 libaprutil1-dbd-  
sqlite3 amd64 1.6.1-4ubuntu2 [10.5 kB]  
Get:4 http://tw.archive.ubuntu.com/ubuntu focal/main amd64 libaprutil1-ldap  
amd64 1.6.1-4ubuntu2 [8,736 B]  
Get:5 http://tw.archive.ubuntu.com/ubuntu focal/main amd64 libjansson4 amd64  
2.12-1build1 [28.9 kB]  
Get:6 http://tw.archive.ubuntu.com/ubuntu focal/main amd64 liblua5.2-0 amd64
```

```
5.2.4-1.1build3 [106 kB]
Get:7 http://tw.archive.ubuntu.com/ubuntu focal-updates/main amd64 apache2-
bin amd64 2.4.41-4ubuntu3.12 [1,181 kB]
Get:8 http://tw.archive.ubuntu.com/ubuntu focal-updates/main amd64 apache2-
data all 2.4.41-4ubuntu3.12 [159 kB]
Get:9 http://tw.archive.ubuntu.com/ubuntu focal-updates/main amd64 apache2-
utils amd64 2.4.41-4ubuntu3.12 [84.5 kB]
Get:10 http://tw.archive.ubuntu.com/ubuntu focal-updates/main amd64 apache2
amd64 2.4.41-4ubuntu3.12 [95.6 kB]
Get:11 http://tw.archive.ubuntu.com/ubuntu focal/main amd64 ssl-cert all 1.0.39
[17.0 kB]
Fetched 1,867 kB in 0s (9,618 kB/s)
Preconfiguring packages ...
Selecting previously unselected package libapr1:amd64.
(Reading database ... 74596 files and directories currently installed.)
Preparing to unpack .../00-libapr1_1.6.5-1ubuntu1_amd64.deb ...
Unpacking libapr1:amd64 (1.6.5-1ubuntu1) ...
Selecting previously unselected package libaprutil1:amd64.
Preparing to unpack .../01-libaprutil1_1.6.1-4ubuntu2_amd64.deb ...
Unpacking libaprutil1:amd64 (1.6.1-4ubuntu2) ...
Selecting previously unselected package libaprutil1-dbd-sqlite3:amd64.
Preparing to unpack .../02-libaprutil1-dbd-sqlite3_1.6.1-4ubuntu2_amd64.deb ...
Unpacking libaprutil1-dbd-sqlite3:amd64 (1.6.1-4ubuntu2) ...
Selecting previously unselected package libaprutil1-ldap:amd64.
Preparing to unpack .../03-libaprutil1-ldap_1.6.1-4ubuntu2_amd64.deb ...
Unpacking libaprutil1-ldap:amd64 (1.6.1-4ubuntu2) ...
Selecting previously unselected package libjansson4:amd64.
Preparing to unpack .../04-libjansson4_2.12-1build1_amd64.deb ...
Unpacking libjansson4:amd64 (2.12-1build1) ...
Selecting previously unselected package liblua5.2-0:amd64.
Preparing to unpack .../05-liblua5.2-0_5.2.4-1.1build3_amd64.deb ...
Unpacking liblua5.2-0:amd64 (5.2.4-1.1build3) ...
Selecting previously unselected package apache2-bin.
Preparing to unpack .../06-apache2-bin_2.4.41-4ubuntu3.12_amd64.deb ...
Unpacking apache2-bin (2.4.41-4ubuntu3.12) ...
Selecting previously unselected package apache2-data.
Preparing to unpack .../07-apache2-data_2.4.41-4ubuntu3.12_all.deb ...
Unpacking apache2-data (2.4.41-4ubuntu3.12) ...
Selecting previously unselected package apache2-utils.
Preparing to unpack .../08-apache2-utils_2.4.41-4ubuntu3.12_amd64.deb ...
Unpacking apache2-utils (2.4.41-4ubuntu3.12) ...
Selecting previously unselected package apache2.
Preparing to unpack .../09-apache2_2.4.41-4ubuntu3.12_amd64.deb ...
Unpacking apache2 (2.4.41-4ubuntu3.12) ...
```

Selecting previously unselected package ssl-cert.
Preparing to unpack .../10-ssl-cert_1.0.39_all.deb ...
Unpacking ssl-cert (1.0.39) ...
Setting up libapr1:amd64 (1.6.5-1ubuntu1) ...
Setting up libjansson4:amd64 (2.12-1build1) ...
Setting up ssl-cert (1.0.39) ...
Setting up liblua5.2-0:amd64 (5.2.4-1.1build3) ...
Setting up apache2-data (2.4.41-4ubuntu3.12) ...
Setting up libaprutil1:amd64 (1.6.1-4ubuntu2) ...
Setting up libaprutil1-ldap:amd64 (1.6.1-4ubuntu2) ...
Setting up libaprutil1-dbd-sqlite3:amd64 (1.6.1-4ubuntu2) ...
Setting up apache2-utils (2.4.41-4ubuntu3.12) ...
Setting up apache2-bin (2.4.41-4ubuntu3.12) ...
Setting up apache2 (2.4.41-4ubuntu3.12) ...

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.

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 (0.36-6ubuntu1) ...

```
Processing triggers for systemd (245.4-4ubuntu3.17) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.9) ...
```

2 RedHat / CentOS

```
RedHat / CentOS apache
httpd
a2emod
apache
Ubuntu Server
```

3

```
netstat ( 80 port 443 )
```

```
$ netstat -tlnp
(Not all processes could be identified, non-owned process info
will not be shown, you would have to be root to see it all.)
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program
tcp        0      0 127.0.0.53:53           0.0.0.0:*               LISTEN      -
tcp        0      0 0.0.0.0:22              0.0.0.0:*               LISTEN      -
tcp        0      0 127.0.0.1:6010          0.0.0.0:*               LISTEN      -
tcp6       0      0 :::80                   :::*                    LISTEN      -
tcp6       0      0 :::22                   :::*                    LISTEN      -
tcp6       0      0 :::1:6010               :::*                    LISTEN      -
```

```
systemctl
```

```
$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2022-07-27 09:56:39 CST; 6min ago
     Docs: https://httpd.apache.org/docs/2.4/
  Main PID: 7307 (apache2)
    Tasks: 55 (limit: 2273)
   Memory: 5.2M
   CGroup: /system.slice/apache2.service
           └─7307 /usr/sbin/apache2 -k start
```



```
$ sudo a2enmod ssl
Considering dependency setenvif for ssl:
Module setenvif already enabled
Considering dependency mime for ssl:
Module mime already enabled
Considering dependency socache_shmcb for ssl:
Enabling module socache_shmcb.
Enabling module ssl.
See /usr/share/doc/apache2/README.Debian.gz on how to configure SSL and create self-signed
certificates.
To activate the new configuration, you need to run:
    systemctl restart apache2
$ sudo systemctl restart apache2
```

netstat 443 port

```
$ netstat -tlnp
(Not all processes could be identified, non-owned process info
will not be shown, you would have to be root to see it all.)
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program
name
tcp        0      0 127.0.0.53:53          0.0.0.0:*               LISTEN      -
tcp        0      0 0.0.0.0:22            0.0.0.0:*               LISTEN      -
tcp        0      0 127.0.0.1:6010        0.0.0.0:*               LISTEN      -
tcp6       0      0 :::80                 :::*                   LISTEN      -
tcp6       0      0 :::22                 :::*                   LISTEN      -
tcp6       0      0 :::1:6010             :::*                   LISTEN      -
tcp6       0      0 :::443                :::*                   LISTEN      -
```




PHP 8.1

1

PHP

PHP 8 Ondřej Surý (PHP Debian) Ubuntu Debian
() PHP PPA

```
$ sudo apt install software-properties-common  
[sudo] password for ossii:
```

PHP 8 PPA

```
$ sudo add-apt-repository ppa:ondrej/php
```

Enter

Press [ENTER] to continue or Ctrl-c to cancel adding it.

```
Hit:1 http://tw.archive.ubuntu.com/ubuntu focal InRelease  
Get:2 http://tw.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]  
Get:3 http://tw.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]  
Get:4 http://tw.archive.ubuntu.com/ubuntu focal-security InRelease [114 kB]  
Get:5 http://tw.archive.ubuntu.com/ubuntu focal-updates/universe amd64  
Packages [924 kB]  
Get:6 http://tw.archive.ubuntu.com/ubuntu focal-updates/universe Translation-  
en [208 kB]  
Get:7 http://tw.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f  
Metadata [21.0 kB]  
Get:8 http://tw.archive.ubuntu.com/ubuntu focal-security/universe amd64  
Packages [711 kB]  
Get:9 http://tw.archive.ubuntu.com/ubuntu focal-security/universe Translation-  
en [128 kB]  
Get:10 http://tw.archive.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f  
Metadata [14.7 kB]  
Get:11 http://ppa.launchpad.net/ondrej/php/ubuntu focal InRelease [23.9 kB]
```

Get:12 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 Packages [102 kB]

Get:13 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main Translation-en [33.6 kB]

Fetch: 2,503 kB in 4s (637 kB/s)

Reading package lists... Done

2 `apt`

`apt update`

```
$ sudo apt update
$ sudo apt upgrade -y
```

3 `PHP 8.1`

`PHP`

```
$ sudo apt install php8.1 libapache2-mod-php8.1 php8.1-gd php8.1-mysql php8.1-curl php8.1-
mbstring php8.1-intl -y
$ sudo apt install php8.1-gmp php8.1-bcmath php8.1-imagick php8.1-xml php8.1-zip -y
```

4 `Apache` `PHP`

`Ubuntu` `Apache` `a2enmod`

```
$ sudo a2enmod php8.1
$ sudo systemctl restart apache2
```

5 `PHP`

`/var/www/html/` `info.php`

```
$ sudo vim /var/www/html/info.php
```

`info.php`

```
“<?php
    phpinfo();
```

?>

■■■■■■■■■■■■■■■■■■■■
■■■■■■■■■■■■■■■■■■■■

php ■■■■

https://yourhostip/info.php

PHP Version 8.1.8



System	Linux ubuntu-test-server2 5.4.0-122-generic #138-Ubuntu SMP Wed Jun 22 15:00:31 UTC 2022 x86_64
Build Date	Jul 11 2022 08:29:57
Build System	Linux
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/8.1/apache2
Loaded Configuration File	/etc/php/8.1/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/8.1/apache2/conf.d
Additional .ini files parsed	/etc/php/8.1/apache2/conf.d/10-mysqld.ini, /etc/php/8.1/apache2/conf.d/10-opcache.ini, /etc/php/8.1/apache2/conf.d/10-pdo.ini, /etc/php/8.1/apache2/conf.d/15-xml.ini, /etc/php/8.1/apache2/conf.d/20-bcmath.ini, /etc/php/8.1/apache2/conf.d/20-calendar.ini, /etc/php/8.1/apache2/conf.d/20-ctype.ini, /etc/php/8.1/apache2/conf.d/20-curl.ini, /etc/php/8.1/apache2/conf.d/20-dom.ini, /etc/php/8.1/apache2/conf.d/20-exif.ini, /etc/php/8.1/apache2/conf.d/20-ffi.ini, /etc/php/8.1/apache2/conf.d/20-fileinfo.ini, /etc/php/8.1/apache2/conf.d/20-ftp.ini, /etc/php/8.1/apache2/conf.d/20-gd.ini, /etc/php/8.1/apache2/conf.d/20-gettext.ini, /etc/php/8.1/apache2/conf.d/20-gmp.ini, /etc/php/8.1/apache2/conf.d/20-iconv.ini, /etc/php/8.1/apache2/conf.d/20-imagick.ini, /etc/php/8.1/apache2/conf.d/20-intl.ini, /etc/php/8.1/apache2/conf.d/20-mbstring.ini, /etc/php/8.1/apache2/conf.d/20-mysqli.ini, /etc/php/8.1/apache2/conf.d/20-pdo_mysql.ini, /etc/php/8.1/apache2/conf.d/20-phar.ini, /etc/php/8.1/apache2/conf.d/20-posix.ini, /etc/php/8.1/apache2/conf.d/20-readline.ini, /etc/php/8.1/apache2/conf.d/20-shmop.ini, /etc/php/8.1/apache2/conf.d/20-simplexml.ini, /etc/php/8.1/apache2/conf.d/20-sockets.ini, /etc/php/8.1/apache2/conf.d/20-sysvmsg.ini, /etc/php/8.1/apache2/conf.d/20-sysvsem.ini, /etc/php/8.1/apache2/conf.d/20-sysvshm.ini, /etc/php/8.1/apache2/conf.d/20-tokenizer.ini, /etc/php/8.1/apache2/conf.d/20-xmlreader.ini, /etc/php/8.1/apache2/conf.d/20-xmlwriter.ini, /etc/php/8.1/apache2/conf.d/20-xsl.ini, /etc/php/8.1/apache2/conf.d/20-zip.ini
PHP API	20210902
PHP Extension	20210902

■■■■■■■■■■■■■■■■■■■■
■■■■■■■■■■■■■■■■■■■■

Apache ■■■■
PHP ■■■■■■

PHP ■■■■■■■■■■■■■■■■■■■

info.php



MariaDB 10.3



1 MariaDB 10.3

```

Ubuntu Server 20.04 MariaDB 10.3 10.3
MariaDB

```

```
$ sudo apt install mariadb-server -y
```

2 MariaDB

```

Ubuntu Server 20.04 MariaDB

```

```

root sudo
$ sudo su -
# mysql_secure_installation

```

```

root Enter

```

```

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB
SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY!

In order to log into MariaDB to secure it, we'll need the current
password for the root user. If you've just installed MariaDB, and
you haven't set the root password yet, the password will be blank,
so you should just press enter here.

Enter current password for root (enter for none): Enter

```

```

root Y

```

```

OK, successfully used password, moving on...

Setting the root password ensures that nobody can log into the MariaDB
root user without the proper authorisation.

Set root password? [Y/n] Y

```

```
New password:
Re-enter new password:
Password updated successfully!
Reloading privilege tables..
... Success!
```

```
##### anonymous users ##### Y ##
```

By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment.

```
Remove anonymous users? [Y/n] Y
... Success!
```

```
##### root ##### Y ##
```

Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network.

```
Disallow root login remotely? [Y/n] Y
... Success!
```

```
##### Y ##
```

By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment.

```
Remove test database and access to it? [Y/n] Y
- Dropping test database...
... Success!
- Removing privileges on test database...
... Success!
```

```
## Reload ##### Y ##
```

Reloading the privilege tables will ensure that all changes made so far will take effect immediately.


```
Jul 27 19:53:43 ubuntu-test-server2 /etc/mysql/debian-start[24625]: Checking for insecure root accounts.
```

```
Jul 27 19:53:43 ubuntu-test-server2 /etc/mysql/debian-start[24629]: Triggering myisam-recover for all MyISAM tables and aria-recover for all Aria tables
```

```
■■■■■
```

```
MariaDB ■■■■■■
```



phpMyAdmin

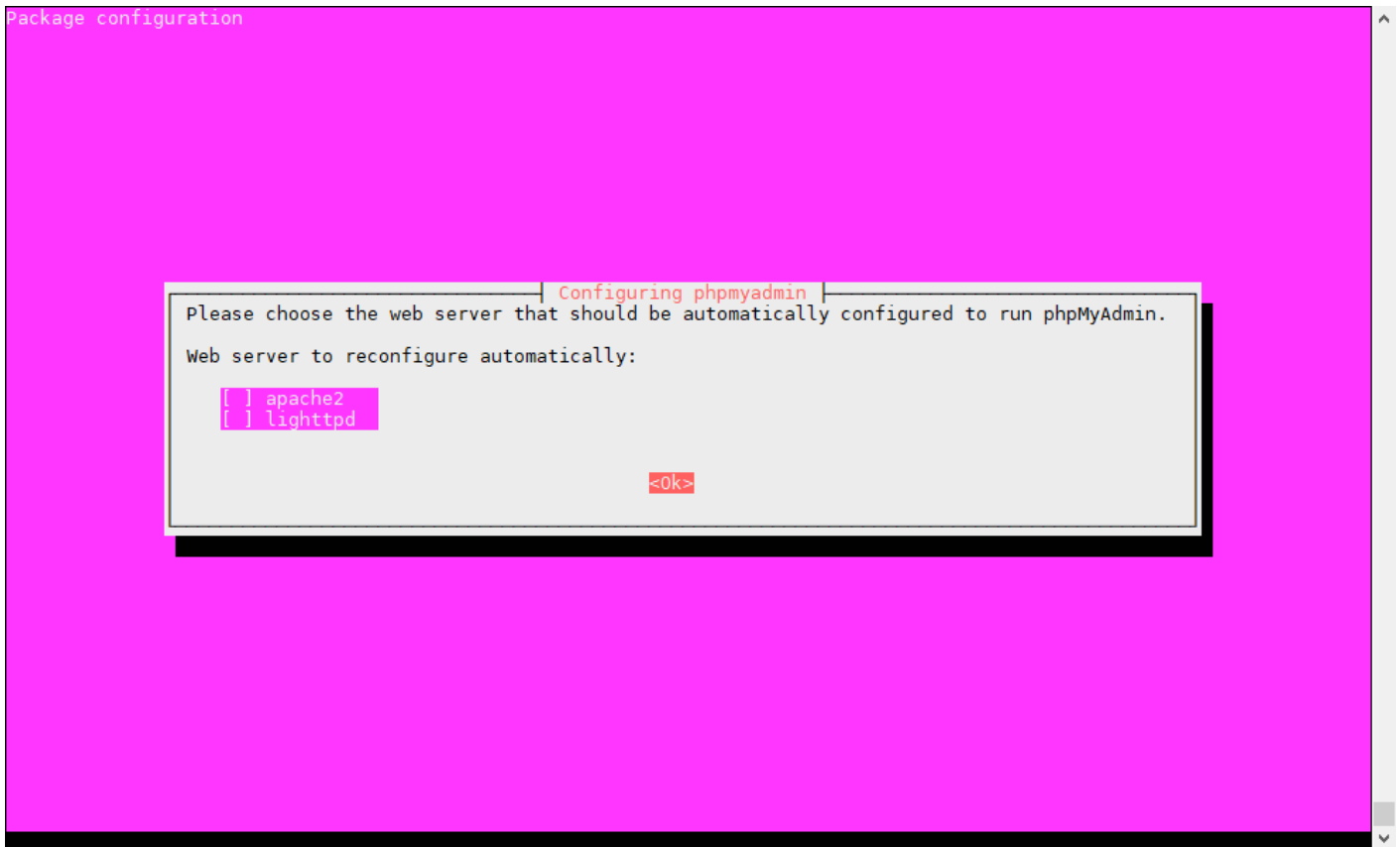
1 apt phpMyAdmin

Ubuntu Server 20.04 phpMyAdmin 4.9.5 apt

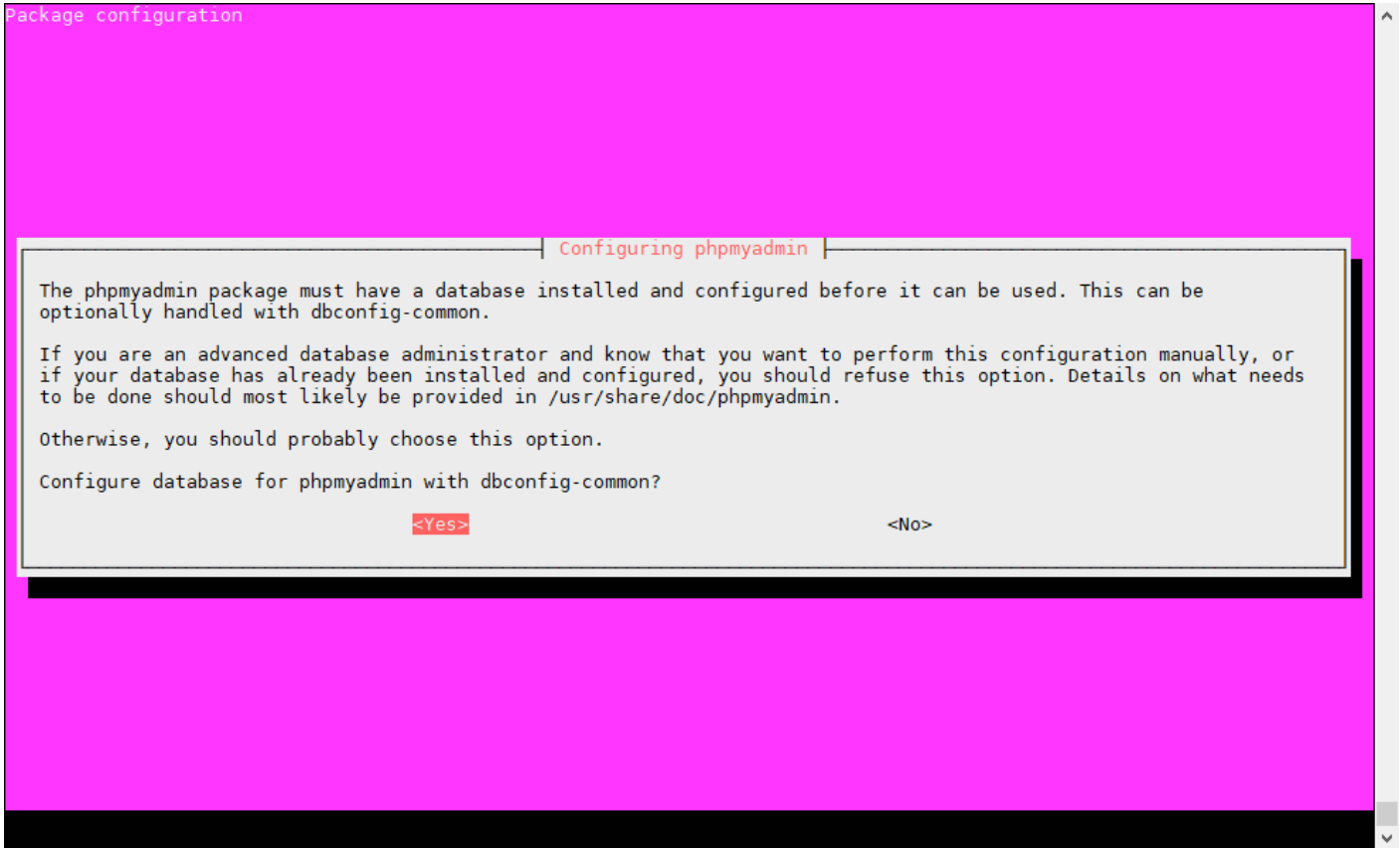
```
$ sudo apt install phpmyadmin php-mbstring php-zip php-gd php-json php-curl -y
```

2 phpMyAdmin

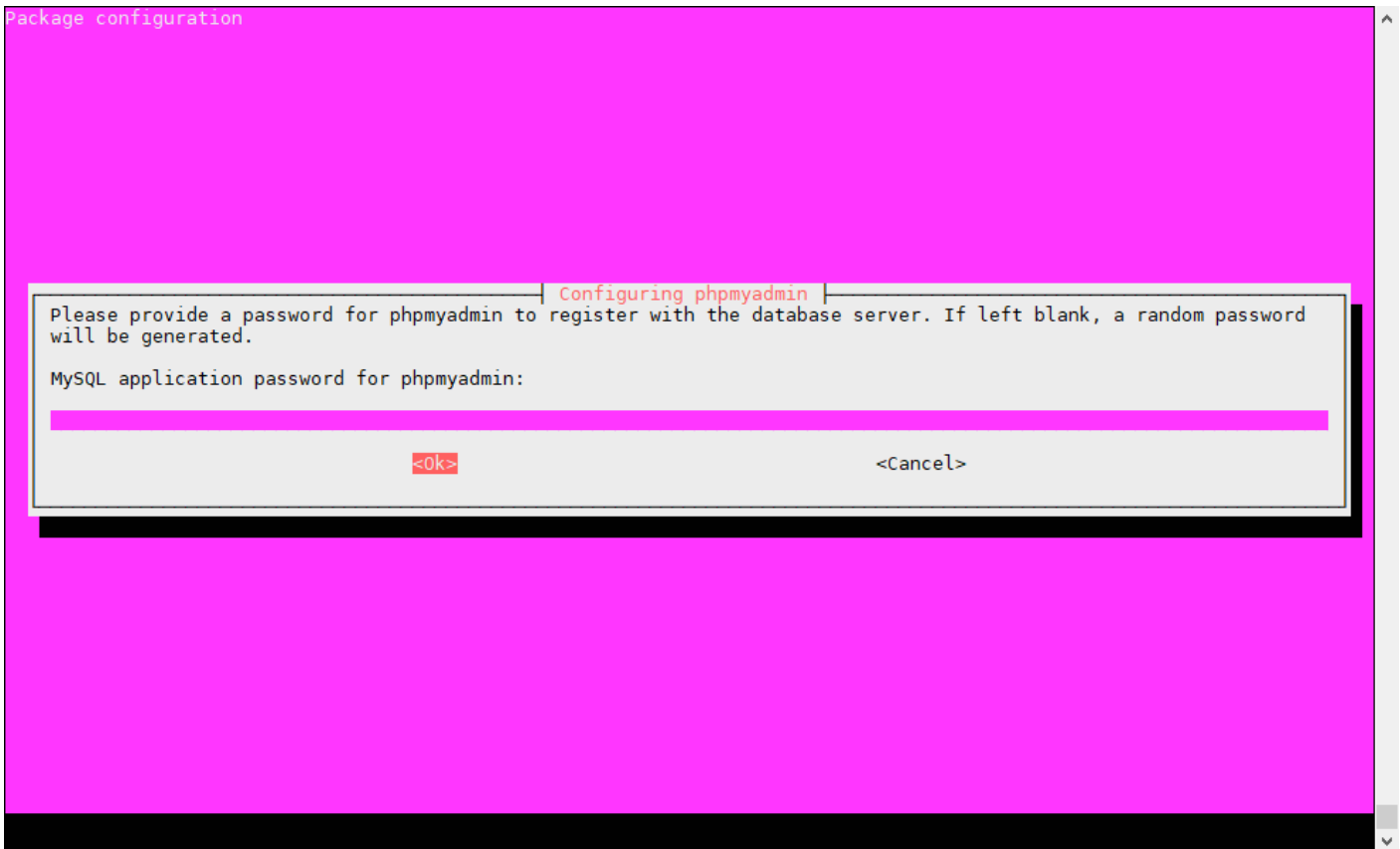
Web apache2
OK Enter



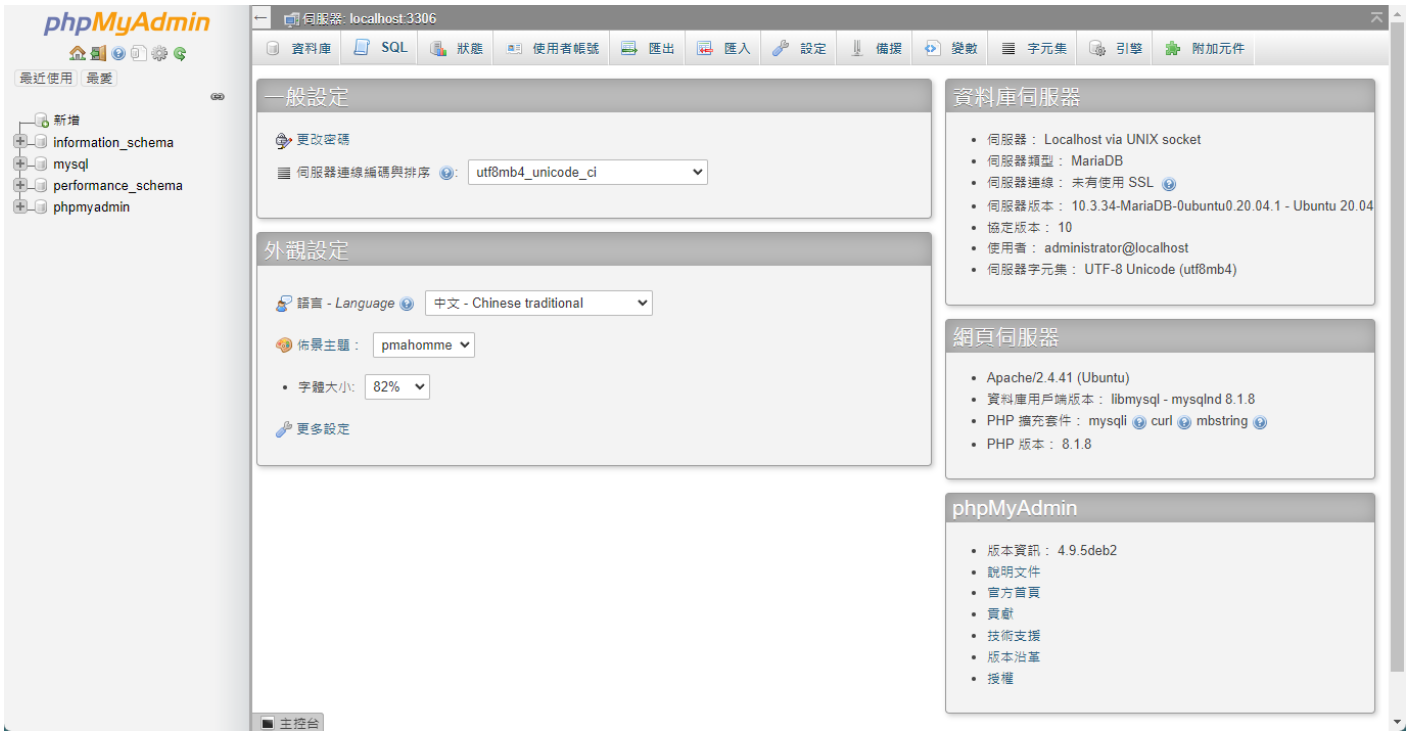
Yes Enter



MySQL application password () phpMyAdmin () (MariaDB)
ENTER ()



phpmyadmin () apache2 ()



phpMyAdmin

5

phpMyAdmin IP
apache

```
$ sudo vim /etc/apache2/conf-available/phpmyadmin.conf
```

IP (Require all granted)

```
<< <IfModule mod_authz_core.c>
# Apache 2.4
Require ip 10.0.0.5 192.168.0.0/24
</IfModule>
```

apache

```
$ sudo systemctl restart apache2
```

IP

Forbidden

You don't have permission to access this resource.