

Going to configure a LAMP (Linux, Apache, MySQL, PHP) stack on Ubuntu.

Ran `sudo apt update`.

```
Get:82 http://archive.ubuntu.com/ubuntu noble-backports/universe Icons (64x64@2)
[29 B]
Get:83 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Compone
nts [216 B]
Get:84 http://archive.ubuntu.com/ubuntu noble-backports/restricted Icons (48x48)
[29 B]
Get:85 http://archive.ubuntu.com/ubuntu noble-backports/restricted Icons (64x64)
[29 B]
Get:86 http://archive.ubuntu.com/ubuntu noble-backports/restricted Icons (64x64@
2) [29 B]
Get:87 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Compone
nts [212 B]
Get:88 http://archive.ubuntu.com/ubuntu noble-backports/multiverse Icons (48x48)
[29 B]
Get:89 http://archive.ubuntu.com/ubuntu noble-backports/multiverse Icons (64x64)
[29 B]
Get:90 http://archive.ubuntu.com/ubuntu noble-backports/multiverse Icons (64x64@
2) [29 B]
Fetched 34.9 MB in 6s (5974 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
230 packages can be upgraded. Run 'apt list --upgradable' to see them.
ubuntu@ubuntu:~$
```

## 1. Install Apache.

1a. Ran sudo apt install apache2

```
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 → /usr/lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /usr/lib/systemd/system/apache-htcacheclean.service.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8) ...
ubuntu@ubuntu:~$
```

1b. Enabled apache service and set it to start on boot.

```
Processing triggers for libc-bin (2.39-0ubuntu8) ...
ubuntu@ubuntu:~$ sudo systemctl enable apache2
Synchronizing state of apache2.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable apache2
ubuntu@ubuntu:~$ sudo systemctl start apache2
ubuntu@ubuntu:~$ sudo systemctl start apache2
```

1c. Found the ip using hostname -I to view the page to make sure apache works and it does.



# Ubuntu

## Apache2 Default Page

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

### Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in </usr/share/doc/apache2/README.Debian.gz>**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|   |-- ports.conf
|-- mods-enabled
|   |-- *.load
|   |-- *.conf
|-- conf-enabled
|   |-- *.conf
|-- sites-enabled
|   |-- *.conf
```

## 2. Install MySQL.

2a. Ran `sudo apt install mysql-server` to install the database server.

```
reading /usr/share/mecab/dic/ipadic/Suffix.csv ... 1393
reading /usr/share/mecab/dic/ipadic/Symbol.csv ... 208
reading /usr/share/mecab/dic/ipadic/Verb.csv ... 130750
emitting double-array: 100% |#####|
reading /usr/share/mecab/dic/ipadic/matrix.def ... 1316x1316
emitting matrix      : 100% |#####|

done!
update-alternatives: using /var/lib/mecab/dic/ipadic-utf8 to provide /var/lib/me
cab/dic/debian (mecab-dictionary) in auto mode
Setting up mysql-server-8.0 (8.0.37-0ubuntu0.24.04.1) ...
update-alternatives: using /etc/mysql/mysql.cnf to provide /etc/mysql/my.cnf (my
.cnf) in auto mode
Renaming removed key_buffer and myisam-recover options (if present)
mysqld will log errors to /var/log/mysql/error.log
mysqld is running as pid 10003
Created symlink /etc/systemd/system/multi-user.target.wants/mysql.service → /usr
/lib/systemd/system/mysql.service.
Setting up mysql-server (8.0.37-0ubuntu0.24.04.1) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8) ...
ubuntu@ubuntu:~$
```

## 2b. Securing the installation - sudo mysql\_secure\_installation

- Set low password validation policy.
- Removed anonymous user capability.
- Disallowed root login remotely.
- Removed test database and access to it.
- Reloaded privilege tables.

```
Remove anonymous users? (Press y|Y for Yes, any other key for No) : y
Success.

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? (Press y|Y for Yes, any other key for No) : y
Success.

By default, MySQL 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? (Press y|Y for Yes, any other key for No) : y
- Dropping test database...
Success.

- Removing privileges on test database...
Success.

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

Reload privilege tables now? (Press y|Y for Yes, any other key for No) : y
Success.

All done!
ubuntu@ubuntu:~$
```

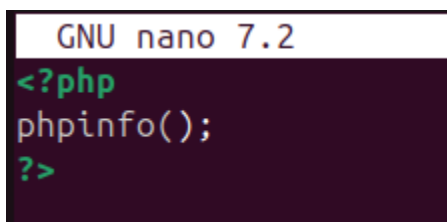
### 3. Install PHP with common modules.

3a. Ran `sudo apt install php libapache2-mod-php php-mysql`

3b. Testing PHP. Ran `sudo nano /var/www/html/info.php`

3c. Entered the following code to test:

```
<?php
phpinfo();
?>
```

A screenshot of the GNU nano 7.2 text editor. The editor's title bar at the top reads "GNU nano 7.2". The main editing area contains the following PHP code: `<?php`, `phpinfo();`, and `?>`. The code is displayed in a monospaced font with green syntax highlighting for the opening and closing PHP tags.

3d. Saved the file and went to "ip address"/info.php

3e. Page displayed!

System	Linux ubuntu 6.8.0-31-generic #31-Ubuntu SMP PREEMPT_DYNAMIC Sat Apr 20 00:40:06 UTC 2024 x86_64
Build Date	Jun 13 2024 15:23:20
Build System	Linux
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/8.3/apache2
Loaded Configuration File	/etc/php/8.3/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/8.3/apache2/conf.d
Additional .ini files parsed	/etc/php/8.3/apache2/conf.d/10-mysqld.ini, /etc/php/8.3/apache2/conf.d/10-opcache.ini, /etc/php/8.3/apache2/conf.d/10-pdo.ini, /etc/php/8.3/apache2/conf.d/20-calendar.ini, /etc/php/8.3/apache2/conf.d/20-ctype.ini, /etc/php/8.3/apache2/conf.d/20-exif.ini, /etc/php/8.3/apache2/conf.d/20-ffi.ini, /etc/php/8.3/apache2/conf.d/20-fileinfo.ini, /etc/php/8.3/apache2/conf.d/20-ftp.ini, /etc/php/8.3/apache2/conf.d/20-gettext.ini, /etc/php/8.3/apache2/conf.d/20-iconv.ini, /etc/php/8.3/apache2/conf.d/20-mysqli.ini, /etc/php/8.3/apache2/conf.d/20-pdo_mysql.ini, /etc/php/8.3/apache2/conf.d/20-phar.ini, /etc/php/8.3/apache2/conf.d/20-posix.ini, /etc/php/8.3/apache2/conf.d/20-readline.ini, /etc/php/8.3/apache2/conf.d/20-shmop.ini, /etc/php/8.3/apache2/conf.d/20-sockets.ini, /etc/php/8.3/apache2/conf.d/20-sysvmsg.ini, /etc/php/8.3/apache2/conf.d/20-sysvsem.ini, /etc/php/8.3/apache2/conf.d/20-sysvshm.ini, /etc/php/8.3/apache2/conf.d/20-tokenizer.ini
PHP API	20230831
PHP Extension	20230831
Zend Extension	420230831
Zend Extension Build	API420230831,NTS
PHP Extension Build	API20230831,NTS
Debug Build	no
Thread Safety	disabled

4. Adjusting directory index to prioritize .php instead of .html.

4a. Moving index.php after the DirectoryIndex directive to be prioritized first.

```

GNU nano 7.2 /etc/apache2/mods-enabled/dir.conf
<IfModule mod_dir.c>
DirectoryIndex index.php index.html index.cgi index.pl index.xhtml index.htm
</IfModule>

```

4b. Saving, closing and restarting Apache - sudo systemctl restart apache2

5. Remove the test php file.

sudo rm /var/www/html/info.php