

Web Server Lab Setup

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- **LAMP Architecture**

- L – Linux
- A – Apache
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✓ Install Apache

- `sudo apt install apache2 -y`

```
kiran@kiran:~$ sudo apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  dbconfig-common icc-profiles-free javascript-common libaiolt64 libcgi-fast-perl libcgi-pm-perl libevent-core-2.1-7t64
  libevent-pthreads-2.1-7t64 libfcgi-bin libfcgi-perl libfcgi0t64 libhtml-template-perl libjs-bootstrap5 libjs-codemirror
  libjs-jquery libjs-jquery-metadata libjs-jquery-mousewheel libjs-jquery-tablesorter libjs-jquery-timepicker libjs-jquery-ui
  libjs-popper.js libjs-sizzle libjs-sphinxdo libjs-underscore libmcrypt4 libmecab2 libprotobuf-lite32t64 libzip4t64
  mecab-ipadic mecab-ipadic-utf8 mecab-utils node-jquery
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
0 upgraded, 8 newly installed, 0 to remove and 56 not upgraded.
Need to get 1,902 kB of archives.
After this operation, 7,451 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu noble-updates/main amd64 libapr1t64 amd64 1.7.2-3.1ubuntu0.1 [108 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1t64 amd64 1.6.3-1.1ubuntu7 [91.9 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.3-1.1ubuntu7 [11.2 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu noble/main amd64 libaprutil1-ldap amd64 1.6.3-1.1ubuntu7 [9,116 B]
Get:5 http://in.archive.ubuntu.com/ubuntu noble-updates/main amd64 apache2-bin amd64 2.4.58-1ubuntu8.8 [1,331 kB]
```

- `sudo systemctl start apache2`
- `sudo systemctl enable apache2`
- `systemctl status apache2`

```
kiran@kiran:~$ sudo systemctl start apache2
kiran@kiran:~$ 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
kiran@kiran:~$ systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
   Active: active (running) since Sun 2026-01-18 10:02:17 UTC; 2min 15s ago
     Docs: https://httpd.apache.org/docs/2.4/
 Main PID: 12756 (apache2)
    Tasks: 6 (limit: 13060)
   Memory: 10.6M (peak: 10.8M)
      CPU: 138ms
```

✓ Install php

```
➤ sudo apt install php -y
```

```
kiran@kiran:~$ sudo apt install php
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  dbconfig-common icc-profiles-free javascript-common libabio1t64 libcgi-fast-perl libcgi-pm-perl libevent-core-2.1-7t64
  libevent-pthreads-2.1-7t64 libfcgi-bin libfcgi-perl libfcgi0t64 libhtml-template-perl libjs-bootstrap5 libjs-codemirror
  libjs-jquery libjs-jquery-metadata libjs-jquery-mousewheel libjs-jquery-tablesorter libjs-jquery-timepicker libjs-jquery-ui
  libjs-popper.js libjs-sizzle libjs-sphinxdoc libjs-underscore libmcrypt4 libmecab2 libprotobuf-lite3t64 libzip4t64
  mecab-ipadic mecab-ipadic-utf8 mecab-utils node-jquery
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libapache2-mod-php8.3 php-common php8.3 php8.3-cli php8.3-common php8.3-opcache php8.3-readline
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php8.3 php php-common php8.3 php8.3-cli php8.3-common php8.3-opcache php8.3-readline
0 upgraded, 8 newly installed, 0 to remove and 56 not upgraded.
Need to get 18.0 kB/4,918 kB of archives.
After this operation, 22.4 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu noble/main amd64 php-common all 2:93ubuntu2 [13.9 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu noble/main amd64 php all 2:8.3+93ubuntu2 [4,076 B]
Fetched 18.0 kB in 3s (5,851 B/s)
Selecting previously unselected package php-common.
(Reading database ... 159260 files and directories currently installed.)
```

✓ Install MySql Server

```
➤ sudo apt install mysql-server -y
```

```
kiran@kiran:~$ sudo apt install mysql-server -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  dbconfig-common icc-profiles-free javascript-common libjs-bootstrap5 libjs-codemirror libjs-jquery libjs-jquery-metadata
  libjs-jquery-mousewheel libjs-jquery-tablesorter libjs-jquery-timepicker libjs-jquery-ui libjs-popper.js libjs-sizzle
  libjs-sphinxdoc libjs-underscore libmcrypt4 libzip4t64 node-jquery
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  mysql-client-8.0 mysql-client-core-8.0 mysql-common mysql-server-8.0 mysql-server-core-8.0
Suggested packages:
  mailx tinyca
The following NEW packages will be installed:
  mysql-client-8.0 mysql-client-core-8.0 mysql-common mysql-server mysql-server-8.0 mysql-server-core-8.0
0 upgraded, 6 newly installed, 0 to remove and 56 not upgraded.
Need to get 21.7 MB of archives.
After this operation, 185 MB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu noble/main amd64 mysql-common all 5.8+1.1.0build1 [6,746 B]
Get:2 http://in.archive.ubuntu.com/ubuntu noble-updates/main amd64 mysql-client-core-8.0 amd64 8.0.44-0ubuntu0.24.04.02 [2,740 kB]
```

- ```
➤ sudo systemctl start mysql
➤ sudo systemctl enable mysql
➤ sudo systemctl start mysql
```

```
kiran@kiran:~$ sudo systemctl start mysql
kiran@kiran:~$ sudo systemctl enable mysql
Synchronizing state of mysql.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable mysql
kiran@kiran:~$ sudo systemctl status mysql
● mysql.service - MySQL Community Server
 Loaded: loaded (/usr/lib/systemd/system/mysql.service; enabled; preset: enabled)
 Active: active (running) since Sun 2026-01-18 10:13:52 UTC; 11min ago
 Main PID: 13953 (mysqld)
 Status: "Server is operational"
 Tasks: 38 (limit: 13060)
 Memory: 374.0M (peak: 377.9M)
 CPU: 19.252s
```

## ✓ To create a user for mysql service

- mysql -uroot
- CREATE USER 'root'@'%' IDENTIFIED BY 'kiran@kk';
- GRANT ALL PRIVILEGES ON \*.\* TO 'root'@'%';
- FLUSH PRIVILEGES;

```
root@ubuntu:~# mysql -uroot
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.44-Ubuntu0.24.04.2 (Ubuntu)

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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> CREATE USER 'root'@'%' IDENTIFIED BY 'kiran@kk';
Query OK, 0 rows affected (0.07 sec)

mysql> GRANT ALL PRIVILEGES ON *.* TO 'root'@'%';
Query OK, 0 rows affected (0.02 sec)

mysql> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.02 sec)

mysql> exit
Bye
root@ubuntu:~#
```

## ✓ Install phpMyAdmin

- sudo apt install phpmyadmin

```
kiran@kiran:~$ sudo apt install phpmyadmin
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
 dbconfig-mysql php-bz2 php-composer-ca-bundle php-curl php-fqg-http-message-util php-gd php-getallheaders
 php-google-recaptcha php-mariadb-mysql-kbs php_mbstring php_mcrypt php_mysql php_nikic_fast-route
 php-phpmyadmin-motranslator php-phpmyadmin-shapefile php-phpmyadmin-sql-parser php_psr_cache php_psr_container
 php_psr_http_factory php_psr_http_message php_psr_log php_slim_ps7 php_symfony_cache php_symfony_cache_contracts
 php_symfony_config php_symfony_dependency_injection php_symfony_deprecation_contracts php_symfony_expression_language
 php_symfony_filesystem php_symfony_polyfill_php80 php_symfony_service_contracts php_symfony_var_exporter php_tcpdf php twig
 php twig_i18n_extension php_webmozart_assert php_xml php_zip php8.3-bz2 php8.3-curl php8.3-gd php8.3_mbstring php8.3_mcrypt
 php8.3-mysql php8.3-xm php8.3-zip
Suggested packages:
 php-apcu php-dbase php_imagick php twig_doc php_recode php_gd2 php_pragmarx_google2fa_qrcode php_bacon_qr_code
 php_code_lts_u2f_php_server
The following NEW packages will be installed:
 dbconfig-mysql php-bz2 php-composer-ca-bundle php-curl php-fqg-http-message-util php-gd php-getallheaders
 php-google-recaptcha php-mariadb-mysql-kbs php_mbstring php_mcrypt php_mysql php_nikic_fast-route
 php-phpmyadmin-motranslator php-phpmyadmin-shapefile php-phpmyadmin-sql-parser php_psr_cache php_psr_container
 php_psr_http_factory php_psr_http_message php_psr_log php_slim_ps7 php_symfony_cache php_symfony_cache_contracts
 php_symfony_config php_symfony_dependency_injection php_symfony_deprecation_contracts php_symfony_expression_language
 php_symfony_filesystem php_symfony_polyfill_php80 php_symfony_service_contracts php_symfony_var_exporter php_tcpdf php twig
 php twig_i18n_extension php_webmozart_assert php_xml php_zip php8.3-bz2 php8.3-curl php8.3-gd php8.3_mbstring php8.3_mcrypt
 php8.3-mysql php8.3-xm php8.3-zip phpmyadmin
```

- cd /etc/apache2
- ls
- sudo nano apache2.conf

- Go to last and add

- #phpMyAdmin Configuration
  - Include /etc/phpmyadmin/apache2.conf

```
Include the virtual host configurations:
IncludeOptional sites-enabled/*.conf

#phpMyAdmin Configuration
Include /etc/phpmyadmin/apache.conf
```

- service apache2 restart