

# How to Install postgresql-client on Linux?

written by sysadmin | 3 December 2025

Just as MariaDB requires [the mariadb-client package](#) to connect other hosts to a MariaDB database, PostgreSQL also requires the postgresql-client package to connect other hosts to a PostgreSQL database.

## Problem

How to install postgresql-client on Linux?

## Solution

Below is the command to install postgresql-client on some Linux distributions:

### Ubuntu/Debian

```
sudo apt update
sudo apt install postgresql-client
```

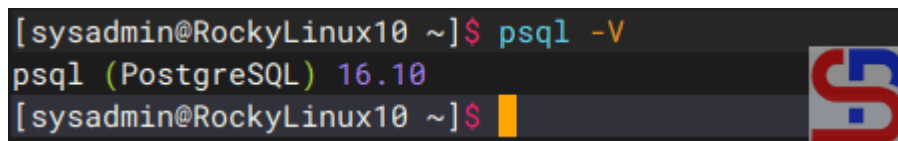
### RockyLinux/AlmaLinux/RHEL/CentOS

```
sudo yum install postgresql-client
```

Then run the command below to see the installed PostgreSQL version:

```
psql --version
```

```
[sysadmin@RockyLinux10 ~]$ psql -V
psql (PostgreSQL) 16.10
[sysadmin@RockyLinux10 ~]$
```

A terminal window screenshot with a dark background. The prompt is [sysadmin@RockyLinux10 ~]. The command 'psql -V' is entered and executed. The output is 'psql (PostgreSQL) 16.10'. The prompt changes to [sysadmin@RockyLinux10 ~]\$ and a yellow cursor is visible. A large red and blue 'S' logo is on the right side of the terminal window.

Check PostgreSQL version

As you can see in the image above, the version of postgresql-client that you installed is version 16.10. But you should know that, usually by default, the package provided by the distro is a stable old version and not the latest stable version. Therefore, if you want the mariadb-client package to use the latest stable version, use the command below if you use a Ubuntu/Debian distro:

```
sudo apt install -y postgresql-common  
sudo /usr/share/postgresql-common/pgdg/apt.postgresql.org.sh
```

Then run the command below to install the latest version of postgresql-client (The last version of postgresql in November 2025 is version 18.0):

```
sudo apt install postgresql-client-18
```

If your distro is using RockyLinux/AlmaLinux/RHEL version 10, use the command below to upgrade the postgresql-client package to the latest version:

```
sudo dnf remove -y postgresql  
sudo dnf install -y  
https://download.postgresql.org/pub/repos/yum/repos/pms/EL-10-x86_64/pgdg-redhat-repo-latest.noarch.rpm  
sudo dnf clean all  
sudo dnf makecache  
sudo dnf install -y postgresql18
```

## Note

If you want to know how to access the MariaDB database from another host, you can go to [this article](#).

## References

[postgresql.org](https://www.postgresql.org/)  
[docs.risingwave.com](https://docs.risingwave.com/)  
[dewanahmed.com](https://dewanahmed.com/)

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# How to Access a MariaDB Database From Another Host?

written by sysadmin | 3 December 2025

[The previous article](#) already explained how to access a MariaDB database from localhost. This article will explain how to access the MariaDB database from another host.

## Problem

How to access a MariaDB database from another host?

## Solution

To access the MariaDB database, you can follow the format below:

```
mariadb -h your_server_ip -u username -P port_number -p
```

By default, the MariaDB database uses port 3306, so if your MariaDB database uses port 3306, then there is no need to write the port when executing the command to access the MariaDB database. I have a MariaDB database server with an IP of 192.168.56.101 and an Ubuntu server with an IP of 192.168.56.11. I want to access the MariaDB database via the Ubuntu server using the user john and run the command:

```
mariadb -h 192.168.56.101 -u john -p
```

But I got an error like below:

```
ERROR 2002 (HY000): Can't connect to server on '192.168.56.101' (115)
```

```
sysadmin@ubuntu2404:/etc/mysql$ mariadb -h 192.168.56.101 -u john -p
Enter password:
ERROR 2002 (HY000): Can't connect to server on '192.168.56.101' (115)
sysadmin@ubuntu2404:/etc/mysql$
```



Error when accessing the MariaDB from another host

Below are the steps to access the MariaDB database:

### 1. Open the port

Open port 3306 on both servers. If you use RockyLinux/AlmaLinux/RHEL for your servers, use the command below:

```
firewall-cmd --add-port=3306/tcp --permanent
firewall-cmd --reload
```

But if you use Ubuntu/Debian for your server, type the command below:

```
sudo ufw allow 3306
```

### 2. Check the MariaDB version

You should know that to access the MariaDB database, you need a mariadb-client package whose version is the same as the MariaDB database version. If the mariadb-client version is different from the mariadb database version, then there will usually be an error. To install the mariadb-client package, you can go to [this page](#).

### 3. Grant access

On the database server, run a query with the format below:

```
GRANT option ON db_name.* TO username@"ip_address" IDENTIFIED BY "password";
```

For example, if user john wants to access the entire MariaDB database from the host with IP 192.168.56.11, then use the

query below:

```
GRANT ALL ON *.* TO john@"192.168.56.11" IDENTIFIED BY "123456";
```

```
MariaDB [(none)]> GRANT ALL ON *.* TO john@'192.168.56.11' IDENTIFIED BY '123456';  
Query OK, 0 rows affected (0.002 sec)
```

```
MariaDB [(none)]> SELECT User,Host FROM mysql.user;
```

```
+-----+-----+  
| User      | Host      |  
+-----+-----+  
| john      | 192.168.56.11 |  
| mariadb.sys | localhost  |  
| mysql     | localhost  |  
| root      | localhost  |  
+-----+-----+  
4 rows in set (0.001 sec)
```

```
MariaDB [(none)]> 
```



Grant access for user john

#### Warning

If you want user john to be able to access only the Zabbix database, use the query below:

```
GRANT ALL ON zabbix.* TO john@"192.168.56.101" IDENTIFIED BY "qwerty";
```

And use the query below if you want user john to be able to view only the Zabbix database:

```
GRANT SELECT ON zabbix.* TO john@"192.168.56.101" IDENTIFIED BY "qwerty";
```

## 4. Configure the file

Go to the file `/etc/mysql/mariadb.conf.d/50-server.cnf` and change the bind-address item to be as below:

```
bind-address          = 0.0.0.0
```

#### Warning

You can also change the bind-address item in the `/etc/mysql/my.cnf` file by

adding the following script to the file:

```
[mysqld]  
bind-address = 0.0.0.0
```

## 5. Restart MariaDB

After that, restart the MariaDB service using the command below:

```
sudo systemctl restart mariadb
```

Then, try to access it again, and you should be able to access the database like in the picture below:

```
sysadmin@ubuntu2404:~$ mariadb -h 192.168.56.101 -u john -p  
Enter password:  
Welcome to the MariaDB monitor.  Commands end with ; or \g.  
Your MariaDB connection id is 35  
Server version: 12.1.2-MariaDB-ubu2404 mariadb.org binary distribution  
  
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
MariaDB [(none)]> show databases;  
+-----+  
| Database |  
+-----+  
| db_office |  
| information_schema |  
| mysql |  
| performance_schema |  
| sys |  
+-----+  
5 rows in set (0.001 sec)  
  
MariaDB [(none)]> █
```

Succeed to access MariaDB from another host

## Note

If you want your MariaDB database to only be accessed from a

certain IP, for example, IP 192.168.56.11, then use the command below if your distro uses Ubuntu/Debian:

```
sudo ufw allow from 192.168.56.11 to any port 3306
```

But, if you use RockyLinux/AlmaLinux/RHEL, type the below command to open port 3306 only from IP 192.168.56.11

```
firewall-cmd --zone=public --add-rich-rule 'rule family=ipv4 source address=192.168.56.11 port port=3306 protocol=tcp accept'
firewall-cmd --reload
firewall-cmd --list-rich-rules
```

## References

[mariadb.com](https://mariadb.com)  
[tencentcloud.com](https://tencentcloud.com)  
[webdock.io](https://webdock.io)

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## [How to Install the mariadb-client in Linux?](#)

written by sysadmin | 3 December 2025

If you want to access MariaDB databases from other hosts, then your device must have a mariadb-client package.

### Problem

How to install the mariadb-client in Linux?

### Solution

Below is the command to install mariadb-client on some Linux distros:

## Ubuntu/Debian

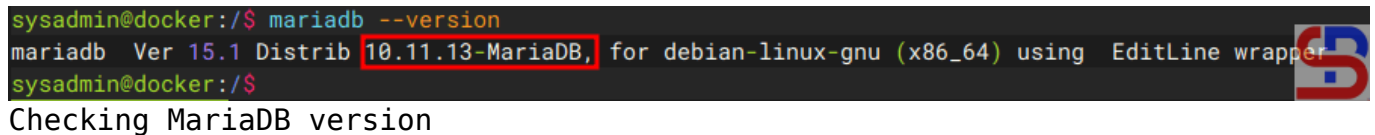
```
sudo apt update  
sudo apt install mariadb-client
```

## RockyLinux/AlmaLinux/RHEL

```
sudo yum install mariadb-client-*
```

Use the command below to see the version of mariadb-client after you installed the package:

```
mariadb --version
```



```
sysadmin@docker:/$ mariadb --version  
mariadb Ver 15.1 Distrib 10.11.13-MariaDB, for debian-linux-gnu (x86_64) using EditLine wrapper  
sysadmin@docker:/$
```

Checking MariaDB version

As you can see in the image above, the version of mariadb-client that you installed is version 10.11.3. But you should know that, usually by default, the package provided by the distro is a stable old version and not the latest stable version. Therefore, if you want the mariadb-client package to use the latest stable version, use the command below:

```
curl -LsS https://r.mariadb.com/downloads/mariadb_repo_setup | sudo bash
```

After that, reinstall the package using the command above (*sudo apt install mariadb-client* or *sudo yum install mariadb-client-\**), and your MariaDB version should be the latest.

## **Note**

If you want to know how to access the MariaDB database from another host, you can go to [this article](#).



## References

[bytebase.com  
simplified.guide](https://bytebase.com/simplified/guide)

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# How to Access a PostgreSQL Database From Another Host?

written by sysadmin | 3 December 2025

I want to access a PostgreSQL database from another host.

## Problem

How to access a PostgreSQL database from another host?

## Solution

I have 2 servers, the PostgreSQL server IP is 192.168.56.101, and the Ubuntu server IP is 192.168.56.11. I want to access the PostgreSQL database from the Ubuntu server. By default, use the format below if you want to access PostgreSQL:

```
psql -h ip_db -u username -d db_name -p port_number
```

By default, the PostgreSQL database uses port 5432, so if you access your PostgreSQL using port 5432, you don't need to write the port. I accessed my PostgreSQL by writing the command:

```
psql -h 192.168.56.101 -u postgres -d mydb
```

But I got an error like the image below:

psql: error: connection to server at '192.168.56.101', port 5432 failed:  
Connection refused  
Is the server running on that host and accepting TCP/IP connections?

```
sysadmin@ubuntu2404:~$ psql -h 192.168.56.101 -U mydb_user -d mydb
psql: error: connection to server at "192.168.56.101", port 5432 failed: Connection refused
Is the server running on that host and accepting TCP/IP connections?
sysadmin@ubuntu2404:~$
```



Error when accessing the PostgreSQL database

The following are the steps to access a PostgreSQL database from another host:

## 1. Open port

Open port 5432 on each server. If you use RockyLinux/AlmaLinux/RHEL for your servers, use the command below:

```
firewall-cmd --add-port=5432/tcp --permanent
firewall-cmd --reload
```

But if you use Ubuntu/Debian for your server, type the command below:

```
sudo ufw allow 5432
```

## 2. Config postgresql.conf

In the database server, go to **/etc/postgresql/18/main/postgresql.conf** file if you use PostgreSQL 18, but back up the file first:

```
sudo cp /etc/postgresql/18/main/postgresql.conf
/etc/postgresql/18/main/postgresql.conf.ori
```

After that, change the script below in the file:

```
#listen_addresses = 'localhost'
```

to

```
listen_addresses = '*'
```

### 3. Configure pg\_hba.conf

After that, go to `/etc/postgresql/18/main/pg_hba.conf` if you use PostgreSQL 18, but backup the file first:

```
sudo cp /etc/postgresql/18/main/pg_hba.conf
/etc/postgresql/18/main/pg_hba.conf.ori
```

Then, add your IP host (in this case, IP is 192.168.56.11) like the below script:

```
host      all             all             192.168.56.11/32      scram-sha-256
```

#### Warning

You must change the file `/etc/postgresql/18/main/postgresql.conf` if you want to use scram-sha-256 encryption as described in [this article](#).

### 4. Restart PostgreSQL

Restart postgresql service using the command below:

```
sudo systemctl restart postgresql
```

Now, try to access the PostgreSQL again, and you should be able to access the database like the command below:

```
sysadmin@docker:~$ psql -h localhost -U mydb_user -d mydb
Password for user mydb_user:
psql (18.0 (Ubuntu 18.0-1.pgdg24.04+3))
SSL connection (protocol: TLSv1.3, cipher: TLS_AES_256_GCM_SHA384, compression: off, ALPN: postgresql)
Type "help" for help.
```

```
mydb=> INSERT INTO employee (name,age,city) VALUES ('queen',23,'Florida');
```

```
INSERT 0 1
```

```
mydb=> select * from employee;
```

| name  | age | city     |
|-------|-----|----------|
| bob   | 21  | New York |
| John  | 22  | Chicago  |
| steve | 22  | Kansas   |
| trump | 20  | Orlando  |
| paul  | 20  | Texas    |
| queen | 23  | Florida  |

```
(6 rows)
```

```
mydb=>
```

Do CRUD on the database



## Note

If you have an error when you want to display data, like the image below:

**ERROR: permission denied for table employee**

```
sysadmin@ubuntu2404:~$ psql -h 192.168.56.101 -U mydb_user -d mydb
Password for user mydb_user:
psql (18.0 (Ubuntu 18.0-1.pgdg24.04+3))
SSL connection (protocol: TLSv1.3, cipher: TLS_AES_256_GCM_SHA384, compression: off, ALPN: postgresql)
Type "help" for help.

mydb=> SELECT * FROM employee;
ERROR: permission denied for table employee
mydb=>
```

Error when querying in the postgresql

Then you have to change the owner of the database and the tables in the database. You can follow how to change it via [this page](#).

## References

[dev.to](#)  
[dba.stackexchange.com](#)  
[prisma.io](#)  
[tigerdata.com](#)

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## How to Change Ownership in PostgreSQL?

written by sysadmin | 3 December 2025

Ownership of a database and the tables in it in PostgreSQL is very crucial because this has a big influence on users who want to carry out CRUD (Create, Read, Update, Delete) activities in a PostgreSQL database. If the user is not the owner of the database and the tables in it, then the user will not be able to perform CRUD.

## Problem

How to change ownership in PostgreSQL?

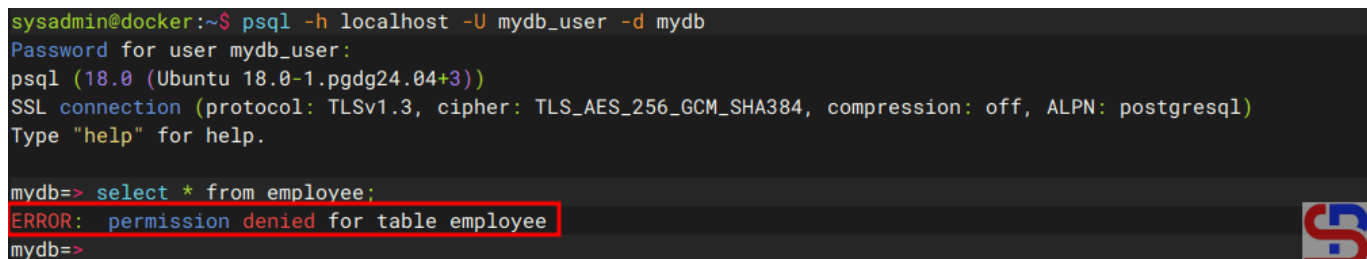
## Solution

For example, I have a mydb database and mydb\_user as a user. When I access the database using the user mydb\_user and perform a query:

```
select * from employee;
```

There is an error as shown below:

**ERROR: permission denied for table employee**

A screenshot of a terminal window. The prompt is 'sysadmin@docker:~\$'. The command entered is 'psql -h localhost -U mydb\_user -d mydb'. The output shows the password prompt, the PostgreSQL version 'psql (18.0 (Ubuntu 18.0-1.pgdg24.04+3))', and the SSL connection details. The user then enters 'mydb=> select \* from employee;'. The output is 'ERROR: permission denied for table employee'. The error message is highlighted with a red box. The terminal window has a dark background and a small logo in the bottom right corner.

```
sysadmin@docker:~$ psql -h localhost -U mydb_user -d mydb
Password for user mydb_user:
psql (18.0 (Ubuntu 18.0-1.pgdg24.04+3))
SSL connection (protocol: TLSv1.3, cipher: TLS_AES_256_GCM_SHA384, compression: off, ALPN: postgresql)
Type "help" for help.

mydb=> select * from employee;
ERROR: permission denied for table employee
mydb=>
```

Error permission denied

After I searched on the internet, it turned out that this was caused by the user mydb\_user not being the owner of the mydb database and the tables in it. To see the owner of the database, you can use the query below:

```
SELECT datname AS database_name,
       pg_catalog.pg_get_userbyid(datdba) AS owner
FROM pg_database;
```

```

mydb=> SELECT datname AS database_name,
        pg_catalog.pg_get_userbyid(datdba) AS owner
FROM pg_database;
 database_name | owner
-----+-----
 postgres      | postgres
 template1     | postgres
 template0     | postgres
 mydb          | postgres
(4 rows)

```



List the owners

You can see in the picture above, the postgres user is the owner of the mydb database. This is because when creating the database uses the postgres user and not the mydb\_user.

#### INFO

You can also use an alternative query like the one below to see the owner of your database:

```

SELECT d.datname AS database_name, r.rolname AS owner
FROM pg_database d
JOIN pg_roles r ON d.datdba = r.oid
WHERE d.datname = 'your_database_name';

```

or using the simple query:

```
\l
```

Similarly, if you want to see the owners of the tables in the database (but you must first log in to that database to run this query), use the query below:

```

SELECT tablename, tableowner
FROM pg_tables
WHERE schemaname = 'public';

```

Then there will be a display like the following:

```

postgres=# \c mydb;
You are now connected to database "mydb" as user "postgres".
mydb=# SELECT tablename, tableowner
FROM pg_tables
WHERE schemaname = 'public';
 tablename | tableowner
-----+-----
 employee  | postgres
(1 row)

mydb=#

```



Show the owner of the tables

You can see in the image above that the owner of the table employee in the mydb database is a postgres user. This is because when creating the tables uses user postgres and user mydb.

#### INFO

You can also use a query like the one below to see the ownership of all tables in PostgreSQL:

```

SELECT
    schemaname,
    tablename,
    tableowner
FROM pg_tables
ORDER BY schemaname, tablename;

```

#### A. Change database owner

If you want to change ownership of the mydb database from user postgres to user mydb\_user, then you have to log in to PostgreSQL as an existing user, which in the case of a postgres user:

```
ALTER DATABASE mydb OWNER to mydb_user;
```

Run the query below to check ownership of the database:

\l

```
mydb=# \l
```

| Name      | Owner    | Encoding | Locale Provider | Collate     | Ctype       | Locale | ICU Rules | Access privileges                                                   |
|-----------|----------|----------|-----------------|-------------|-------------|--------|-----------|---------------------------------------------------------------------|
| mydb      | postgres | UTF8     | libc            | en_US.UTF-8 | en_US.UTF-8 |        |           | =Tc/postgres +<br>postgres=CTc/postgres +<br>mydb_user=CTc/postgres |
| postgres  | postgres | UTF8     | libc            | en_US.UTF-8 | en_US.UTF-8 |        |           |                                                                     |
| template0 | postgres | UTF8     | libc            | en_US.UTF-8 | en_US.UTF-8 |        |           | =c/postgres +<br>postgres=CTc/postgres                              |
| template1 | postgres | UTF8     | libc            | en_US.UTF-8 | en_US.UTF-8 |        |           | =c/postgres +<br>postgres=CTc/postgres                              |

(4 rows)

```
mydb=# ALTER DATABASE mydb OWNER to mydb_user;
```

```
ALTER DATABASE
```

```
mydb=# \l
```

| Name      | Owner     | Encoding | Locale Provider | Collate     | Ctype       | Locale | ICU Rules | Access privileges                          |
|-----------|-----------|----------|-----------------|-------------|-------------|--------|-----------|--------------------------------------------|
| mydb      | mydb_user | UTF8     | libc            | en_US.UTF-8 | en_US.UTF-8 |        |           | =Tc/mydb_user +<br>mydb_user=CTc/mydb_user |
| postgres  | postgres  | UTF8     | libc            | en_US.UTF-8 | en_US.UTF-8 |        |           |                                            |
| template0 | postgres  | UTF8     | libc            | en_US.UTF-8 | en_US.UTF-8 |        |           | =c/postgres +<br>postgres=CTc/postgres     |
| template1 | postgres  | UTF8     | libc            | en_US.UTF-8 | en_US.UTF-8 |        |           | =c/postgres +<br>postgres=CTc/postgres     |

(4 rows)

Change the database owner

You can see that the owner of the mydb database has changed to user mydb\_user. But even so, you still can't run CRUD on the database because the tables in the database still belong to the postgres user.

## B. Change the owner of the table

Still using the postgres user, log in to the mydb database using the command:

```
\c mydb;
```

Then run the query below to change the table, sequence, and view to mydb\_user:

```
DO $$
DECLARE
    r RECORD;
BEGIN
    -- Change the owner of all tables
    FOR r IN SELECT schemaname, tablename FROM pg_tables WHERE schemaname =
'public'
```



```

LOOP
    EXECUTE format('ALTER TABLE %I.%I OWNER TO mydb_user;', r.schemaname,
r.tablename);
END LOOP;

-- Change the owner of all sequences
FOR r IN SELECT sequence_schema, sequence_name FROM
information_schema.sequences WHERE sequence_schema = 'public'
LOOP
    EXECUTE format('ALTER SEQUENCE %I.%I OWNER TO mydb_user;',
r.sequence_schema, r.sequence_name);
END LOOP;

-- Change the owner of all views
FOR r IN SELECT table_schema, table_name FROM information_schema.views
WHERE table_schema = 'public'
LOOP
    EXECUTE format('ALTER VIEW %I.%I OWNER TO mydb_user;',
r.table_schema, r.table_name);
END LOOP;
END $$;

```

```

postgres=# \c mydb;
You are now connected to database "mydb" as user "postgres".
mydb=# DO $$
DECLARE
    obj RECORD;
BEGIN
    -- Change the owner of all tables
    FOR obj IN
        SELECT 'TABLE', schemaname, tablename
        FROM pg_tables
        WHERE schemaname = 'public'
    LOOP
        EXECUTE format('ALTER TABLE %I.%I OWNER TO mydb_user;', obj.schemaname, obj.tablename);
    END LOOP;

    -- Change the owner of all sequences
    FOR obj IN
        SELECT sequence_schema, sequence_name
        FROM information_schema.sequences
        WHERE sequence_schema = 'public'
    LOOP
        EXECUTE format('ALTER SEQUENCE %I.%I OWNER TO mydb_user;', obj.sequence_schema, obj.sequence_name);
    END LOOP;

    -- Change the owner of all views
    FOR obj IN
        SELECT table_schema, table_name
        FROM information_schema.views
        WHERE table_schema = 'public'
    LOOP
        EXECUTE format('ALTER VIEW %I.%I OWNER TO mydb_user;', obj.table_schema, obj.table_name);
    END LOOP;
END;
$$;
DO
mydb=#

```

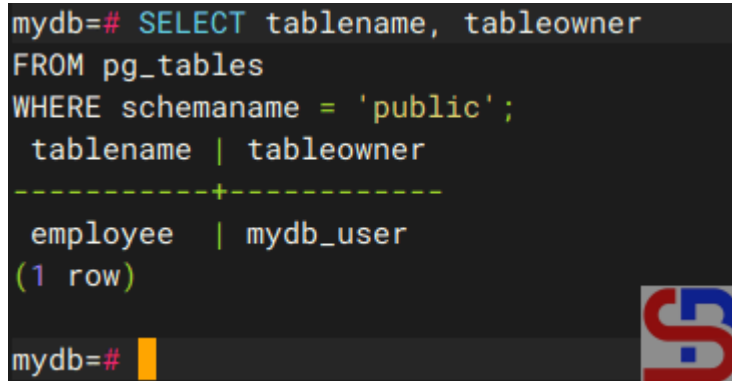
Query to change the owner of the tables



After that, run the command below to view the ownership of the tables in the mydb database:

```
SELECT tablename, tableowner
FROM pg_tables
WHERE schemaname="public";
```

```
mydb=# SELECT tablename, tableowner
FROM pg_tables
WHERE schemaname = 'public';
 tablename | tableowner 
-----+-----
 employee  | mydb_user 
(1 row)
```

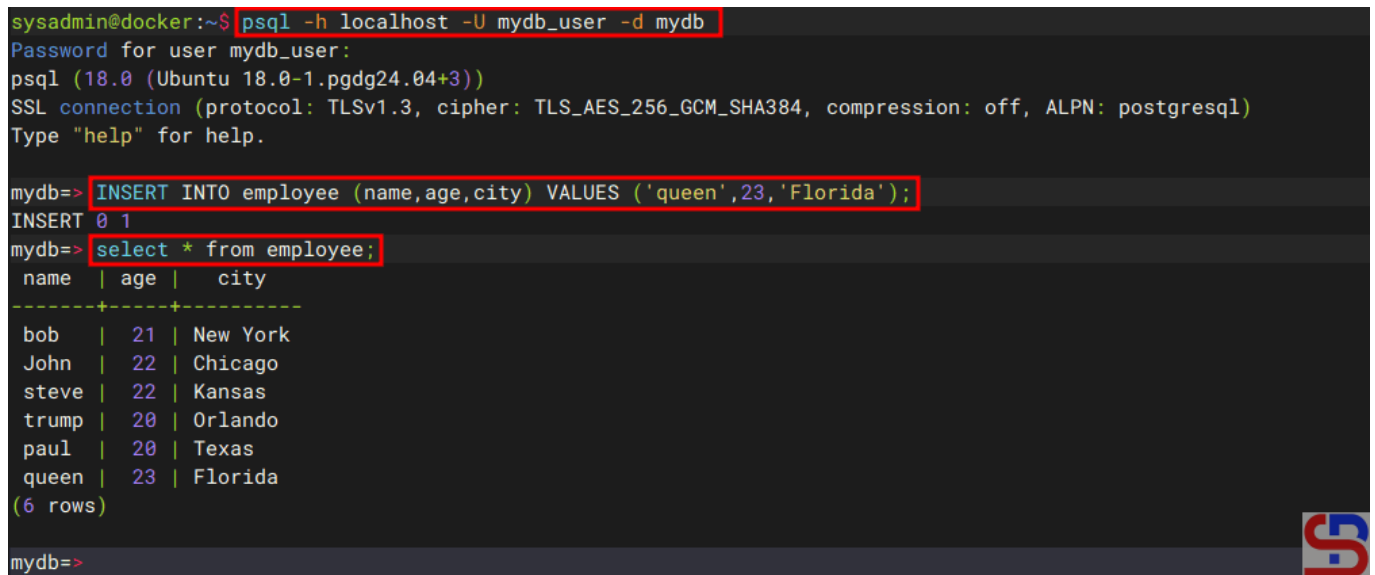


Change the owner of the tables

From the image above, you can see the owner of the tables in the mydb database is not a postgres user but a mydb\_user. So, you should be able to do CRUD using the mydb\_user user as shown in the image below:

```
sysadmin@docker:~$ psql -h localhost -U mydb_user -d mydb
Password for user mydb_user:
psql (18.0 (Ubuntu 18.0-1.pgdg24.04+3))
SSL connection (protocol: TLSv1.3, cipher: TLS_AES_256_GCM_SHA384, compression: off, ALPN: postgresql)
Type "help" for help.

mydb=> INSERT INTO employee (name,age,city) VALUES ('queen',23,'Florida');
INSERT 0 1
mydb=> select * from employee;
 name | age | city 
-----+-----+-----
 bob  |  21 | New York
 John |  22 | Chicago
 steve | 22  | Kansas
 trump | 20  | Orlando
 paul |  20 | Texas
 queen | 23  | Florida
(6 rows)
```



Do CRUD on the database

## Note

As a reminder, to create databases and tables in the database, you should not use postgres user but create a new user because it is very dangerous to use postgres user to

carry out daily activities in the PostgreSQL database.

## References

[commandprompt.com](https://commandprompt.com)

[stackoverflow.com](https://stackoverflow.com)

[w3resource.com](https://w3resource.com)

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## How to Install Mytop?

written by sysadmin | 3 December 2025

As a sysadmin, you need a tool to monitor the MariaDB database, and one of the tools you can use is mytop.

## Problem

How to install mytop?

## Solution

Mytop is an open-source utility developed by Jeremy Zawodny with Perl for real-time monitoring of MySQL/MariaDB databases. To install this tool, use the commands below:

```
wget https://jeremy.zawodny.com/mysql/mytop/mytop-1.6.tar.gz
tar -zxvf mytop-1.6.tar.gz
cd mytop-1.6/
perl Makefile.PL
make
make test
sudo make install
```

To run this tool, use the format below:

```
mytop --prompt -d db_name
```

For example, if you want to monitor the Zabbix database, then use the command below:

```
mytop --prompt -d zabbix
```

#### Warning

But, if you want to use another user, you have to use the command below:

```
mytop --prompt -u zabbix_user -d zabbix
```

By default, Mytop uses the root user to enter the database, then enter the password from the root user, and you should see a display like the one below:

```
MySQL on localhost (10.11.13-MariaDB-0ubuntu0.24.04.1) up 0+01:28:45 [06:08:59]
Queries: 8.0 qps: 0 Slow: 0.0 Se/In/Up/De(%): 00/00/00/00
qps now: 0 Slow qps: 0.0 Threads: 32 ( 1/ 0) 00/00/00/00
Key Efficiency: 100.0% Bps in/out: 0.1/ 5.4 Now in/out: 8.3/374.8

  Id      User      Host/IP      DB      Time      Cmd Query or State
  --      -
  8       zabbix     localhost   zabbix    0      Sleep
  42      zabbix     localhost   zabbix    0      Sleep
  65      root       localhost   zabbix    0      Query show full processlist
  48      zabbix     localhost   zabbix    1      Sleep
  47      zabbix     localhost   zabbix    4      Sleep
  10      zabbix     localhost   zabbix    6      Sleep
  52      zabbix     localhost   zabbix    7      Sleep
  44      zabbix     localhost   zabbix    8      Sleep
  45      zabbix     localhost   zabbix   14      Sleep
  36      zabbix     localhost   zabbix   15      Sleep
  43      zabbix     localhost   zabbix   16      Sleep
  57      zabbix     localhost   zabbix   16      Sleep
  37      zabbix     localhost   zabbix   22      Sleep
  11      zabbix     localhost   zabbix   38      Sleep
  61      zabbix     localhost   zabbix   38      Sleep
  39      zabbix     localhost   zabbix   58      Sleep
  56      zabbix     localhost   zabbix  137      Sleep
  58      zabbix     localhost   zabbix  257      Sleep
  59      zabbix     localhost   zabbix  377      Sleep
  55      zabbix     localhost   zabbix  497      Sleep
  38      zabbix     localhost   zabbix 1662      Sleep
  60      zabbix     localhost   zabbix 5261      Sleep
  62      zabbix     localhost   zabbix 5322      Sleep
  40      zabbix     localhost   zabbix 5323      Sleep
  41      zabbix     localhost   zabbix 5323      Sleep
  46      zabbix     localhost   zabbix 5323      Sleep
  49      zabbix     localhost   zabbix 5323      Sleep
```

View of mytop application

You see from the image above, it looks like the **top** command in Linux. The following is a brief explanation of what the image above looks like:

- The **first line** shows the version of the MariaDB Database and the uptime of the server.
- The **second line** shows the number of queries that have been processed on the server (Queries), the average number of queries per second (qps), the number of slow queries (Slow), and the percentage of Select, Insert, Update, and Delete queries (Se/In/Up/De(%)).
- The **third line** shows the current value since the last mytop refresh, which defaults to 5 seconds. The first field is the number of queries per second. The second value is the number of slow queries per second. The threads segment indicates there are a total of 32 connected threads,

1 is active (the others are sleeping), and there are 0 threads in the thread cache. The last field in the third line shows the query percentages, like in the previous line, but since last mytop refresh.

- The **fourth line** shows crucial buffer efficiency (the frequency of key reads from the buffer instead of the disk) and the total number of bytes that MySQL has both sent and received, including data from the last mytop cycle. Key Efficiency: 100.0% indicates that all keys are read from the buffer, not from the disk. Bps in/out: 0.1/5.4 shows that since startup, MySQL has averaged 0.1kbps of inbound traffic and 5.4kbps for outbound traffic. Now in/out shows the traffic again, but since last mytop refresh.
- The next line up to the last line shows a list of current MySQL threads, sorted according to their idle time (least idle first).

If you want to see more details about a query, then you can press the **f** button, and you will see a display like the one below:

| Id | User   | Host/IP   | DB     | Time | Cmd Query or State          |
|----|--------|-----------|--------|------|-----------------------------|
| -- | ----   | -----     | --     | ---- | -----                       |
| 42 | zabbix | localhost | zabbix | 0    | Sleep                       |
| 47 | zabbix | localhost | zabbix | 0    | Sleep                       |
| 48 | zabbix | localhost | zabbix | 0    | Sleep                       |
| 65 | root   | localhost | zabbix | 0    | Query show full processlist |
| 8  | zabbix | localhost | zabbix | 1    | Sleep                       |
| 44 | zabbix | localhost | zabbix | 5    | Sleep                       |
| 10 | zabbix | localhost | zabbix | 7    | Sleep                       |
| 43 | zabbix | localhost | zabbix | 7    | Sleep                       |
| 11 | zabbix | localhost | zabbix | 9    | Sleep                       |
| 52 | zabbix | localhost | zabbix | 9    | Sleep                       |
| 61 | zabbix | localhost | zabbix | 9    | Sleep                       |
| 39 | zabbix | localhost | zabbix | 29   | Sleep                       |
| 36 | zabbix | localhost | zabbix | 44   | Sleep                       |
| 45 | zabbix | localhost | zabbix | 45   | Sleep                       |
| 55 | zabbix | localhost | zabbix | 108  | Sleep                       |
| 57 | zabbix | localhost | zabbix | 228  | Sleep                       |
| 37 | zabbix | localhost | zabbix | 233  | Sleep                       |
| 56 | zabbix | localhost | zabbix | 348  | Sleep                       |
| 58 | zabbix | localhost | zabbix | 468  | Sleep                       |
| 59 | zabbix | localhost | zabbix | 588  | Sleep                       |
| 38 | zabbix | localhost | zabbix | 1873 | Sleep                       |
| 60 | zabbix | localhost | zabbix | 5472 | Sleep                       |
| 62 | zabbix | localhost | zabbix | 5533 | Sleep                       |
| 40 | zabbix | localhost | zabbix | 5534 | Sleep                       |
| 41 | zabbix | localhost | zabbix | 5534 | Sleep                       |
| 46 | zabbix | localhost | zabbix | 5534 | Sleep                       |
| 49 | zabbix | localhost | zabbix | 5534 | Sleep                       |

full query for which thread id:

Type the **f** button to get more details

Select the ID number for which you want to display the query in detail, for example, number 65, then type number 65 and press the **Enter** button, and then there will be a display like the one below:

```
Thread 65 was executing following query:  
  
show full processlist  
  
-- paused. press any key to resume or (e) to explain --
```



Display the query in more detail

If you want to see an explanation of a query, then type the **e** button as in the image below, then there will be a display like the one below:

| Id | User   | Host/IP   | DB     | Time | Cmd Query or State          |
|----|--------|-----------|--------|------|-----------------------------|
| -- | ----   | -----     | --     | ---- | -----                       |
| 42 | zabbix | localhost | zabbix | 0    | Sleep                       |
| 43 | zabbix | localhost | zabbix | 0    | Sleep                       |
| 47 | zabbix | localhost | zabbix | 0    | Sleep                       |
| 65 | root   | localhost | zabbix | 0    | Query show full processlist |
| 8  | zabbix | localhost | zabbix | 2    | Sleep                       |
| 10 | zabbix | localhost | zabbix | 2    | Sleep                       |
| 48 | zabbix | localhost | zabbix | 2    | Sleep                       |
| 45 | zabbix | localhost | zabbix | 4    | Sleep                       |
| 52 | zabbix | localhost | zabbix | 4    | Sleep                       |
| 36 | zabbix | localhost | zabbix | 5    | Sleep                       |
| 44 | zabbix | localhost | zabbix | 6    | Sleep                       |
| 61 | zabbix | localhost | zabbix | 34   | Sleep                       |
| 11 | zabbix | localhost | zabbix | 35   | Sleep                       |
| 39 | zabbix | localhost | zabbix | 56   | Sleep                       |
| 55 | zabbix | localhost | zabbix | 73   | Sleep                       |
| 58 | zabbix | localhost | zabbix | 74   | Sleep                       |
| 57 | zabbix | localhost | zabbix | 433  | Sleep                       |
| 37 | zabbix | localhost | zabbix | 439  | Sleep                       |
| 56 | zabbix | localhost | zabbix | 554  | Sleep                       |
| 59 | zabbix | localhost | zabbix | 794  | Sleep                       |
| 38 | zabbix | localhost | zabbix | 2079 | Sleep                       |
| 60 | zabbix | localhost | zabbix | 5678 | Sleep                       |
| 62 | zabbix | localhost | zabbix | 5739 | Sleep                       |
| 40 | zabbix | localhost | zabbix | 5740 | Sleep                       |
| 41 | zabbix | localhost | zabbix | 5740 | Sleep                       |
| 46 | zabbix | localhost | zabbix | 5740 | Sleep                       |
| 49 | zabbix | localhost | zabbix | 5740 | Sleep                       |

explain which query (id):

Type the ID number to explain the query

Type the ID number you want to explain, and after that, press the **Enter** key. If you want to see the command view, press the **c** button, then there will be a display like below:

| Command          | Total | Pct | Last | Pct  |
|------------------|-------|-----|------|------|
| -----            | ----- | --- | ---- | ---  |
| show status      | 78    | 50% | 1    | 100% |
| show processlist | 71    | 46% | 0    | 0%   |
| change db        | 4     | 2%  | 0    | 0%   |
| show variables   | 1     | 0%  | 0    | 0%   |
| Compression      | 0     | 0%  | 0    | 0%   |

Display the command view



The Command column displays the type of command or query that was executed, and the following is a brief explanation:

- – The **Total column** represents the overall count of that type of command executed since the server began.
- – The **Last column** indicates how many of that command type were executed since the last mytop refresh
- – The **Pct column** indicates the equivalent percentage.

If you want to exit the mytop application, press the **q** button. If you want to enter the mytop application without having to type a password, you can create a .mytop file. Type the command:

```
vi ~/.mytop
```

After that, copy the script below, assuming the Zabbix database that you want to monitor uses the mytop application:

```
host=localhost
db=zabbix
user=root
pass=qwerty
delay=5
port=3306
socket=
batchmode=0
color=1
idle=1
```

After that, type the mytop command, and the mytop application should immediately display the mytop application without you having to write arguments and passwords, as in the image below:

```
sysadmin@ubuntu2404:~$
```

```
I
```

Run the mytop tool without arguments and a password

You should only make a user a viewer if you are afraid that others will see your database password.

## Note

Regrettably, this application is no longer under development, and the final version available is 1.6 from 2007. Nonetheless, after I use this tool in November 2025, it remains effective for monitoring MySQL/MariaDB databases.

## References

[jeremy.zawodny.com](http://jeremy.zawodny.com)  
[digitalocean.com](http://digitalocean.com)  
[tecmint.com](http://tecmint.com)  
[whplus.com](http://whplus.com)  
[geeksforgeeks.org](http://geeksforgeeks.org)

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## How to Install PHPMysqlAdmin on Linux?

written by sysadmin | 3 December 2025

By default, if you want to access the MariaDB database, then you have to access it using the CLI. However, this method is a bit difficult, especially for those who are not used to the CLI. So you need an application that can display the database in the GUI, and you can interact with the database using the application. One application that is often used is the PHPMysqlAdmin application.

### Problem

How to install PHPMysqlAdmin on Linux?

### Solution

phpMyAdmin is an open-source, free MySQL and MariaDB administration tool, and as of this writing (November 2025), this application has version 5.2.3. This application is a web application and is written using PHP. Before installing the PHPMysqlAdmin application, you must have installed the database on your Linux server, and you must have provided a password for the database. Here is how to install the PHPMysqlAdmin application on Linux, based on the distro:

Ubuntu/Debian

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

### RockyLinux/AlmaLinux/CentOS

```
yum install httpd
yum install php-phpmysql
```

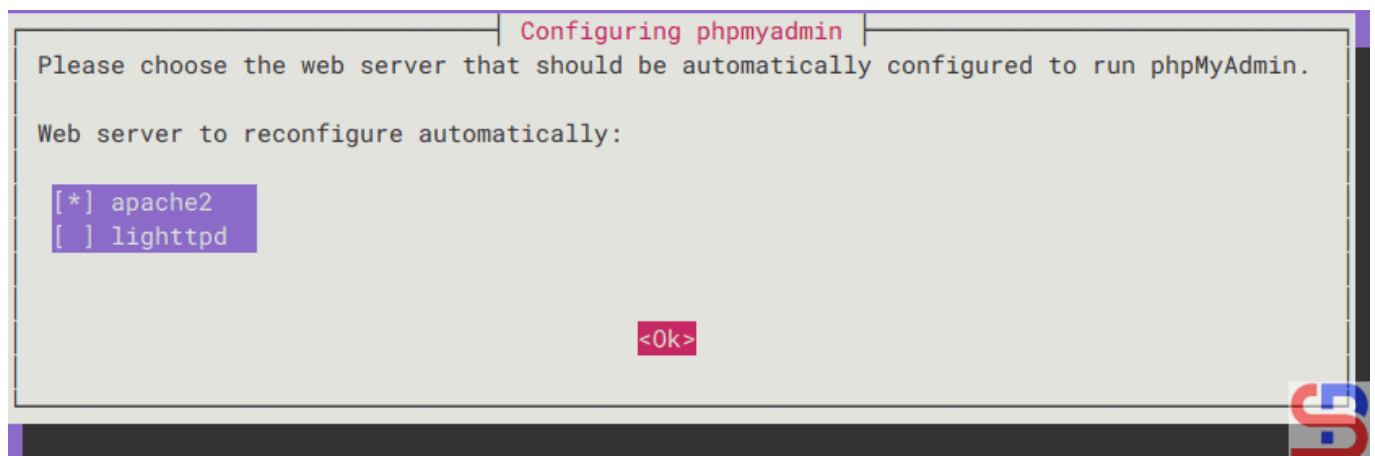
### OpenSUSE

```
sudo zypper install apache2
sudo zypper install php7 php7-mysql apache2-mod_php7 phpMyAdmin
```

This article will install PHPMyAdmin on **Ubuntu 24.04** and run the command below:

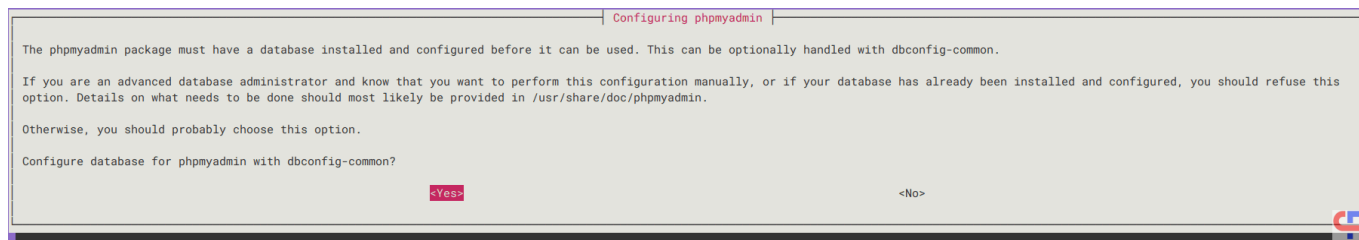
```
sudo apt update
sudo apt install phpmyadmin php-mbstring php-zip php-gd php-json php-curl
```

During installation, a pop-up will appear as below:



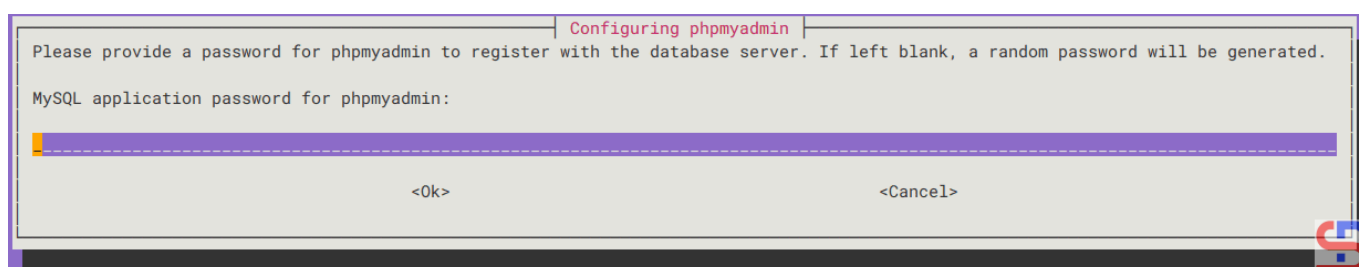
Select the web server

Select the web server used, and I use the Apache web server, and click **OK**. Then there will be another pop-up like below:



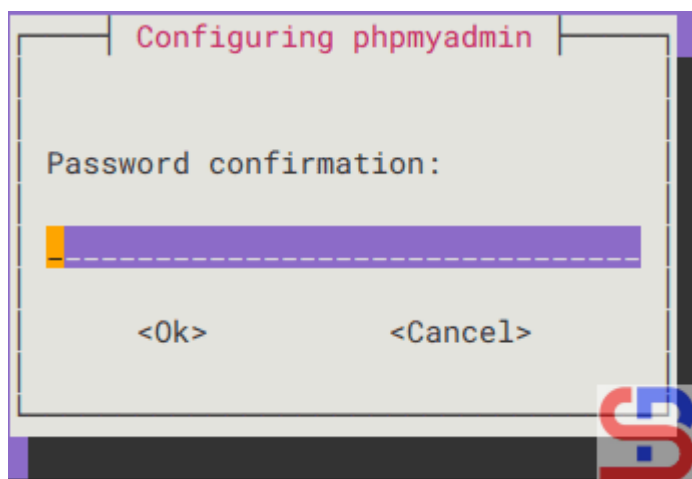
## Configuring phpmyadmin

Choose **Yes**, and the installation will continue, but after that, you must enter the password for phpadmin as in the image below:



Enter the password

Enter your password, click **Ok**, and then there will be an email confirmation as in the image below:

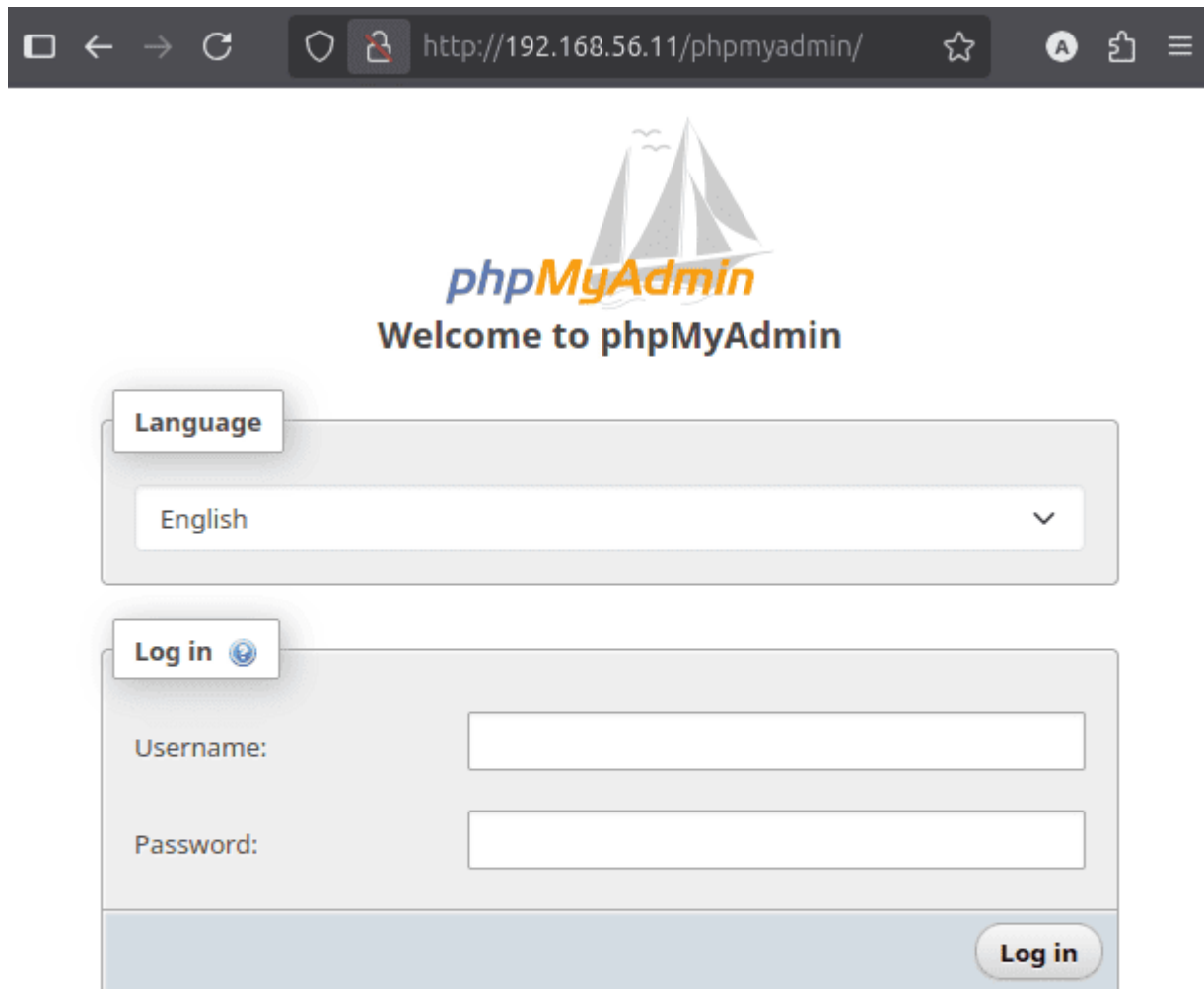


Password confirmation

Enter your password again, click **Ok**, and the installation process will continue. And you have to wait until the installation process is complete. After that, open your browser and type the URL below:

[http://your\\_ip\\_server/phpmyadmin](http://your_ip_server/phpmyadmin)

There should be a display like the image below:

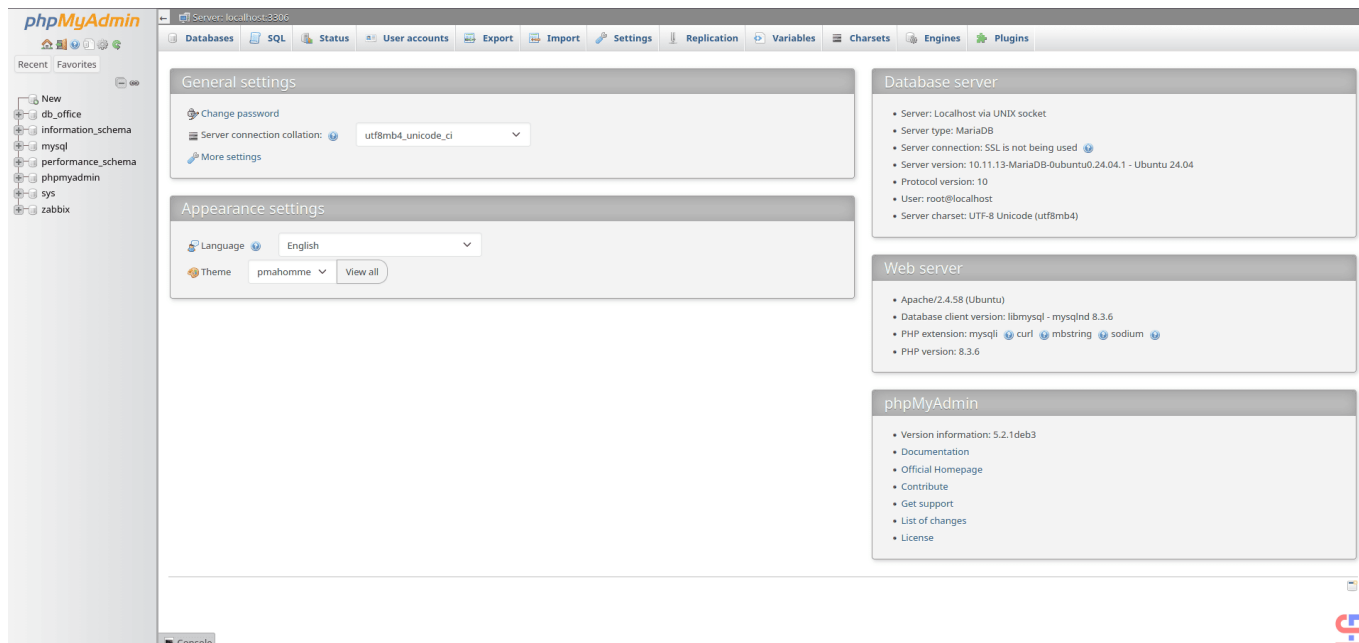


The image shows a web browser window with the address bar displaying `http://192.168.56.11/phpmyadmin/`. The page features the phpMyAdmin logo, which includes a stylized sailboat and the text "phpMyAdmin" in blue and orange, followed by "Welcome to phpMyAdmin" in blue. Below the logo is a "Language" dropdown menu currently set to "English". Underneath is a "Log in" section with a blue globe icon. It contains two input fields: "Username:" and "Password:". At the bottom right of the login section is a "Log in" button. The entire interface is clean and modern, with a light gray background and rounded corners.



Enter username and password

If there is no display like the one above, it looks like you have to [open port](#) 80 on your server. Enter your username and password in your MySQL/MariaDB Database, and if there are no errors, then there will be a display like in the image below:



Access to PHPMyAdmin

To see all the databases in your database, click **Database** as shown in the image below:



## Databases

**Create database**

Create

☐ Check all
 

Drop

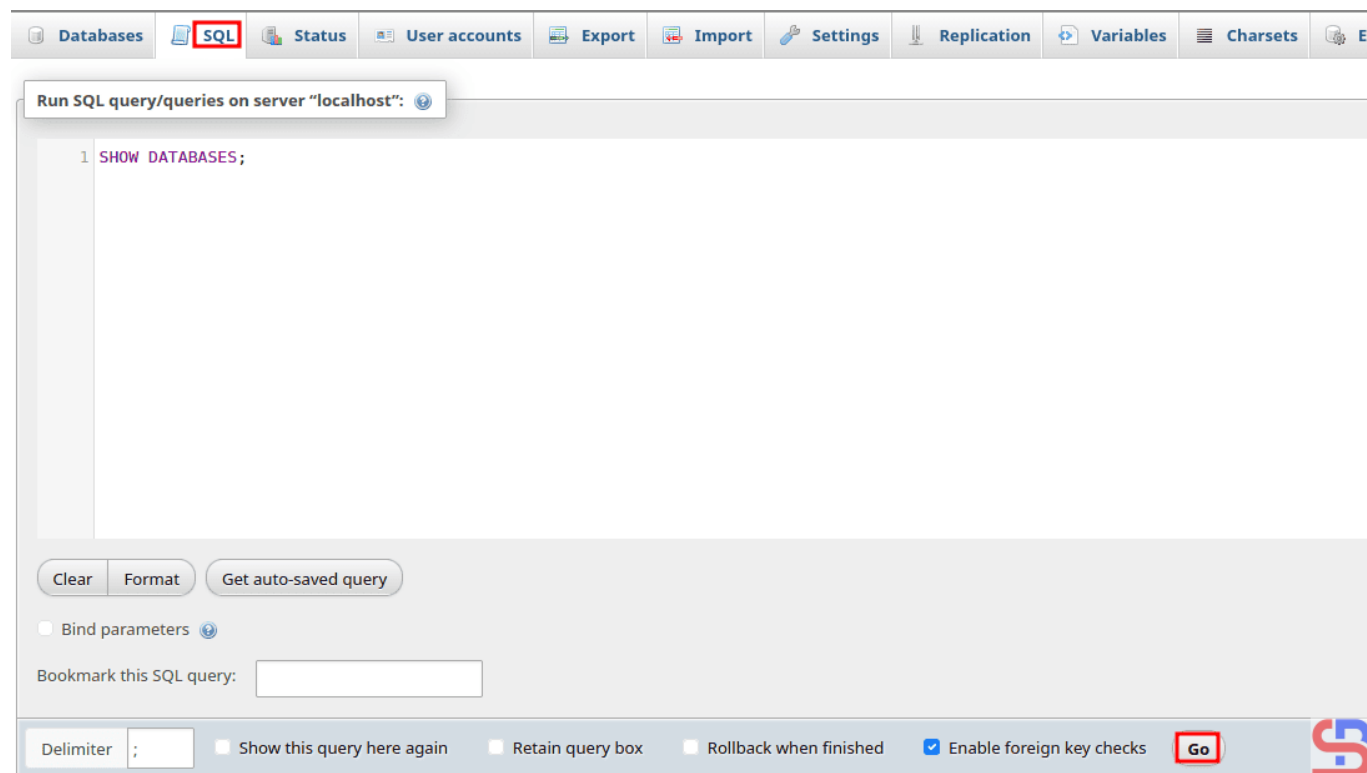
|                          | Database           | Collation          | Action           |
|--------------------------|--------------------|--------------------|------------------|
| <input type="checkbox"/> | db_office          | utf8mb4_general_ci | Check privileges |
| <input type="checkbox"/> | information_schema | utf8mb3_general_ci | Check privileges |
| <input type="checkbox"/> | mysql              | utf8mb4_general_ci | Check privileges |
| <input type="checkbox"/> | performance_schema | utf8mb3_general_ci | Check privileges |
| <input type="checkbox"/> | phpmyadmin         | utf8mb4_general_ci | Check privileges |
| <input type="checkbox"/> | sys                | utf8mb3_general_ci | Check privileges |
| <input type="checkbox"/> | zabbix             | utf8mb4_bin        | Check privileges |

**Total: 7**



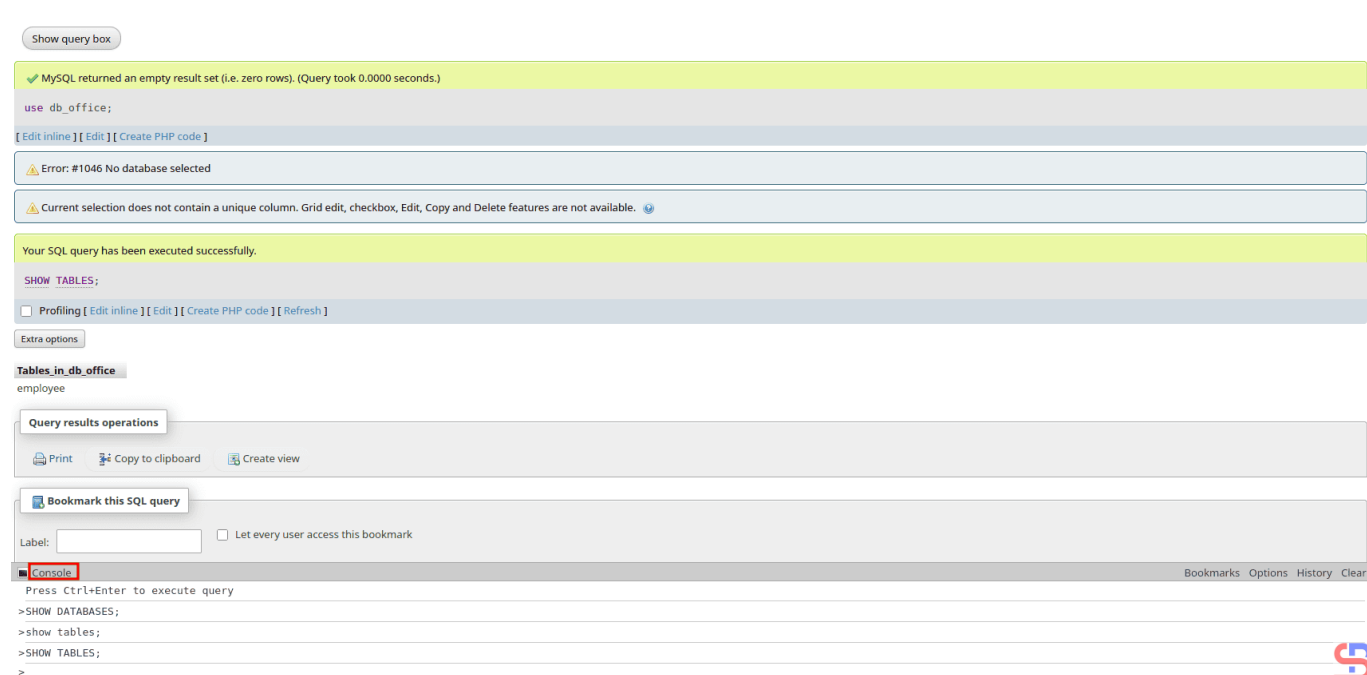
List all databases

You can also perform queries in the SQL section, as in the image below:



Execute query in PHPMyAdmin

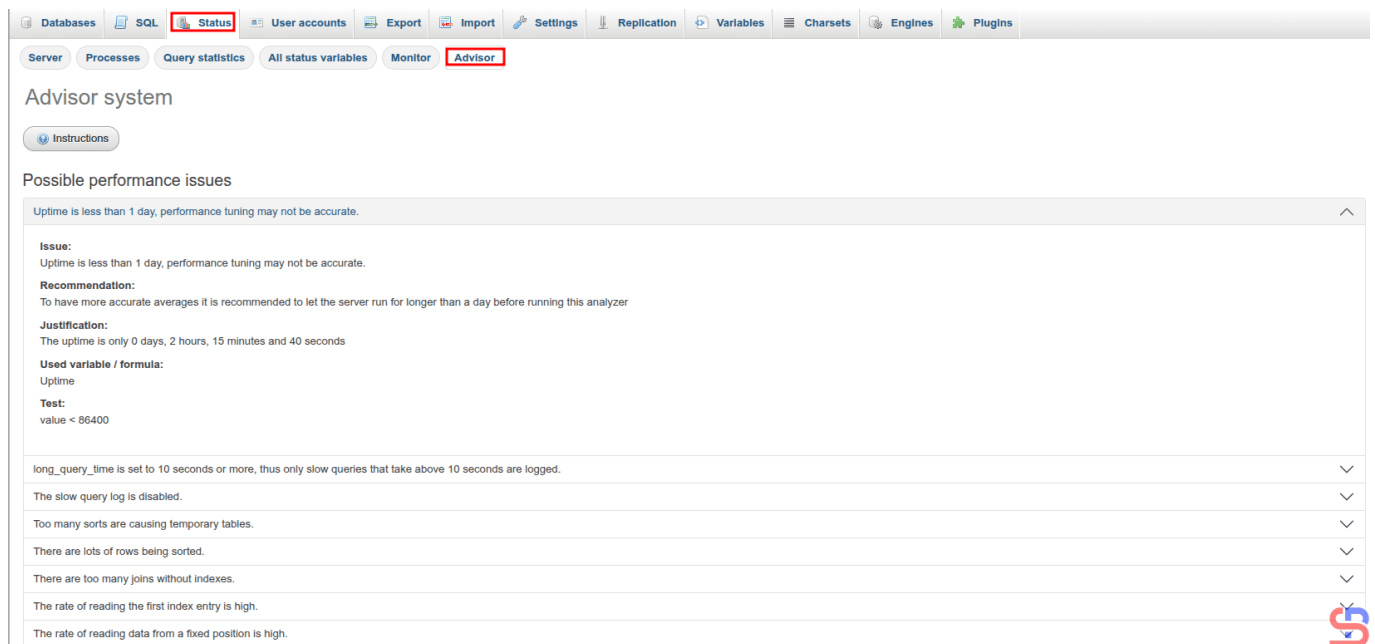
And you can see the history of queries that you have done in PHPMyAdmin in the **console** section, as in the image below:





Show the history of the query in PHPMYAdmin

And in the console section, you can also perform queries by pressing **Ctrl+Enter** after you write the query. In fact, this application also provides an advisor feature to provide recommendations for your MariaDB database, as shown in the image below:



Recommendation for your database in phpMyAdmin

## Note

It is highly recommended to restrict access to the PHPMYAdmin application. Therefore, this application should only be allowed on certain IPs, for example, office IPs. And you can make these restrictions in the **/etc/apache2/conf-available/phpmyadmin.conf** file in the **/usr/share/phpmyadmin** section. For example, if you want only IP 192.168.56.1 to be able to access this application, then add the script below:

```
# Limit IP
Order Deny,Allow
Deny from All
Allow from sysadminpedia.com
Allow from 192.168.56.1
Allow from 127.0.0.1
```

```
<Directory /usr/share/phpmyadmin>
    Options SymLinksIfOwnerMatch
    DirectoryIndex index.php

    # limit libapache2-mod-php to files and directories necessary by pma
    <IfModule mod_php7.c>
        php_admin_value upload_tmp_dir /var/lib/phpmyadmin/tmp
        php_admin_value open_basedir /usr/share/phpmyadmin/:/usr/share/doc/phpmyadmin/:/etc/phpmyadmin/:/var/lib/phpmyadmin/:/usr/share/php/:/usr/share/javascript/
    </IfModule>

    # PHP 8+
    <IfModule mod_php.c>
        php_admin_value upload_tmp_dir /var/lib/phpmyadmin/tmp
        php_admin_value open_basedir /usr/share/phpmyadmin/:/usr/share/doc/phpmyadmin/:/etc/phpmyadmin/:/var/lib/phpmyadmin/:/usr/share/php/:/usr/share/javascript/
    </IfModule>

    # Limit IP
    Order Deny,Allow
    Deny from All
    Allow from sysadminpedia.com
    Allow from 192.168.56.1
    Allow from 127.0.0.1
</Directory>
```

## IP limitation in PHPMYAdmin

After that, restart your web server. Now you can't open the phpMyAdmin application except at the IP you have specified in the phpmyadmin.conf file

## References

[en.wikipedia.org](https://en.wikipedia.org)  
[digitalocean.com](https://digitalocean.com)  
[tutorialspoint.com](https://tutorialspoint.com)  
[synaptica.info](https://synaptica.info)  
[linuxblog.io](https://linuxblog.io)