

Setting Up Databases on Ubuntu OS:

apt-get install mysql-server

mysql → to see if the SQL server installed properly or not

```
Created symlink /etc/systemd/system/multi-user.target.wants/mysql.service → /lib/systemd/system/mysql.service.
Setting up mysql-server (8.0.35-0ubuntu0.22.04.1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
root@ubuntu1:/home/simran# mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.35-0ubuntu0.22.04.1 (Ubuntu)

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owners.

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

mysql>
```

show databases;

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

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql      |
| performance_schema |
| sys        |
+-----+
4 rows in set (0.01 sec)

mysql>
```

quit; → if you just want to exit from MySQL

Try to start MySQL with all privileges

mysql -u root -p

```
mysql -u root -p
Bye
root@ubuntu1:/home/simran# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 9
Server version: 8.0.35-0ubuntu0.22.04.1 (Ubuntu)

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

mysql>
```

```
mysql> use new;
Database changed
mysql> create table employees(sno varchar(5) primary key, name varchar(30), age int);
Query OK, 0 rows affected (0.13 sec)

mysql> show tables;
+-----+
| Tables_in_new |
+-----+
| employees      |
+-----+
1 row in set (0.01 sec)

mysql> desc employees;
+-----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| sno   | varchar(5) | NO   | PRI | NULL    |      |
| name  | varchar(30) | YES  |     | NULL    |      |
| age   | int        | YES  |     | NULL    |      |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.02 sec)

mysql> exit
Bye
```

Create a user:

Create user 'user1'@'localhost' identified by 'user1';

See the list of users

Select user, host from mysql.user;

```
mysql> create user 'user1'@'localhost' identified by 'user1';
Query OK, 0 rows affected (0.18 sec)

mysql> select user, host from mysql.user;
+-----+-----+
| user           | host       |
+-----+-----+
| debian-sys-maint | localhost |
| g18             | localhost |
| mysql.infoschema | localhost |
| mysql.session   | localhost |
| mysql.sys       | localhost |
| root            | localhost |
| user1           | localhost |
+-----+-----+
7 rows in set (0.00 sec)

mysql>
```

Check the list of privileges for users:

Show grants for 'root'@'localhost';

Grant all privileges on *.* to 'user1'@'localhost' with grant option;

```
mysql> grant all privileges on *.* to 'user1'@'localhost' with grant option;
Query OK, 0 rows affected (0.05 sec)

mysql>
```

```
| Grants for user1@localhost

+-----+-----+
| user           | host       |
+-----+-----+
| GRANT SELECT, INSERT, UPDATE, DELETE, CREATE, DROP, RELOAD, SHUTDOWN, PROCESS, FILE, REFERENCES, INDEX, ALTER, SHOW DATABASES, SUPER, CREATE TEMPORARY TABLES, LOCK TABLES, EXECUTE, REPLICATION SLAVE, REPLICATION CLIENT, CREATE VIEW, SHOW VIEW, CREATE ROUTINE, ALTER ROUTINE, CREATE USER, EVENT, TRIGGER, CREATE TABLESPACE, CREATE ROLE, DROP ROLE ON *.* TO 'user1'@'localhost' WITH GRANT OPTION
+-----+-----+
```

How to setup PostgreSQL in Ubuntu:

apt-get update

apt-get install postgresql-contrib → installing PostgreSQL with some additional utilities

after installation now check the configuration files of postgresql

cd /etc/postgresql

```

root@ubuntu1:/home/simran# cd /etc/postgresql
root@ubuntu1:/etc/postgresql# ls
14
root@ubuntu1:/etc/postgresql# cd 14
root@ubuntu1:/etc/postgresql/14# ls
bin
root@ubuntu1:/etc/postgresql/14# cd main
root@ubuntu1:/etc/postgresql/14/main# ls
conf.d  pg_ctl.conf  pg_ident.conf  start.conf
environment  pg_hba.conf  postgresql.conf
root@ubuntu1:/etc/postgresql/14/main#

```

Check the status of postgresql

service postgresql

```

root@ubuntu1:/etc/postgresql/14/main# service postgresql
Usage: /etc/init.d/postgresql {start|stop|restart|reload|force-reload|status} [version ..]
root@ubuntu1:/etc/postgresql/14/main#

```

These options we can use for the service PostgreSQL

service postgresql status

```

root@ubuntu1:/etc/postgresql/14/main# service postgresql
Usage: /etc/init.d/postgresql {start|stop|restart|reload|force-reload|status} [version ..]
root@ubuntu1:/etc/postgresql/14/main# service postgresql status
● postgresql.service - PostgreSQL RDBMS
   Loaded: loaded (/lib/systemd/system/postgresql.service; enabled; vendor preset: enabled)
   Active: active (exited) since Tue 2023-12-05 13:42:39 IST; 3s
   Process: 5522 ExecStart=/bin/true (code=exited, status=0/SUCCESS)
   Main PID: 5522 (code=exited, status=0/SUCCESS)
   CPU: 5ms

Dec 05 13:42:39 ubuntu1 systemd[1]: Starting PostgreSQL RDBMS...
Dec 05 13:42:39 ubuntu1 systemd[1]: Finished PostgreSQL RDBMS.
lines 1-9/9 (END)

```

In order to work with postgresql need to switch to default user that is postgres

```

^C
root@ubuntu1:/etc/postgresql/14/main# su postgres
postgres@ubuntu1:/etc/postgresql/14/main$

```

We can use command line tool to enter the commands of postgresql

psql

```

root@ubuntu1:/etc/postgresql/14/main# su postgres
postgres@ubuntu1:/etc/postgresql/14/main$ psql
psql (14.9 (Ubuntu 14.9-0ubuntu0.22.04.1))
Type "help" for help.

postgres=#

```

Check the databases present by default

\l

```

List of databases
+-----+
| Name | Owner | Encoding | Collate | Ctype | Access privileges |
+-----+
| postgres | postgres | UTF8 | en_IN | en_IN | =c/postgres |
| template0 | postgres | UTF8 | en_IN | en_IN | =c/postgres |
| postgres | postgres | UTF8 | en_IN | en_IN | =c/postgres |
| template1 | postgres | UTF8 | en_IN | en_IN | =c/postgres |
+-----+
(3 rows)
(END)

```

These are the default databases.

Now to list-out the users we can use **\du**

Right now only **postgres** is the existing user

```
Role name |                               List of roles
| Member of                               Attributes
-----+-----
postgres | Superuser, Create role, Create DB, Replication, Bypass RLS | {}
(END)
```

we can change the password for default user

alter user postgres with password 'postgres';

```
postgres=# \l
postgres=# \du
postgres=# alter user postgres with password 'postgres';
ALTER ROLE
postgres=#
```

Let's create a new user

create user user1 with password 'user1';

```
postgres=# \du
postgres=# alter user postgres with password 'postgres';
ALTER ROLE
postgres=# create user user1 with password 'user1';
CREATE ROLE
postgres=#
```

\du

User1 got added in the list

```
Role name |                               List of roles
| Member of                               Attributes
-----+-----
postgres | Superuser, Create role, Create DB, Replication, Bypass RLS | {}
user1    |                               | {}
(END)
```

Giving user1 the role of SUPERUSER

alter user user1 with superuser;

```
Role name |                               List of roles
| Member of                               Attributes
-----+-----
postgres | Superuser, Create role, Create DB, Replication, Bypass RLS | {}
user1    | Superuser                               | {}
(END)
```

Now we have created another user 'user2'

Role name		List of roles
Member of		Attributes
-----+-----		
postgres		Superuser, Create role, Create DB, Replication, Bypass RLS
user1		Superuser
user2		
(END)		

How to delete any user

Drop user user2;

```
postgres=# drop user user2;
DROP ROLE
postgres=#
```

Role name		List of roles
Member of		Attributes
-----+-----		
postgres		Superuser, Create role, Create DB, Replication, Bypass RLS
user1		Superuser
(END)		

We left with only 2 users now.

By using 'man psql' you will see all the options available