

How to Install PostgreSQL on a Linux Server?

written by sysadmin | 24 February 2025

PostgreSQL, also known as Postgres, is a free and open-source Relational Database Management System (RDBMS) emphasizing extensibility and SQL compliance.

Problem

How to install PostgreSQL on a Linux server?

Solution

In this article, I use the Linux distro RockyLinux server version 9.5, Ubuntu Server version 24.04, and OpenSUSE version 15.6. As of this writing (January 2025), the version of PostgreSQL that has been released is version 17.2.

A. Install PostgreSQL

Here is how to install PostgreSQL on some Linux distros:

RockyLinux

```
dnf install -y
https://download.postgresql.org/pub/repos/yum/reporpms/EL-9-x86_64/pgdg-redhat-repo-latest.noarch.rpm
dnf -qy module disable postgresql
dnf install -y postgresql17-server
/usr/pgsql-17/bin/postgresql-17-setup initdb
systemctl enable postgresql-17
systemctl start postgresql-17
```

Ubuntu

```
sudo apt install curl ca-certificates
sudo install -d /usr/share/postgresql-common/pgdg
sudo curl -o /usr/share/postgresql-common/pgdg/apt.postgresql.org.asc --fail
https://www.postgresql.org/media/keys/ACCC4CF8.asc
```

```
sudo sh -c 'echo "deb [signed-by=/usr/share/postgresql-  
common/pgdg/apt.postgresql.org.asc] https://apt.postgresql.org/pub/repos/apt  
$(lsb_release -cs)-pgdg main" > /etc/apt/sources.list.d/pgdg.list'  
sudo apt update  
sudo apt -y install postgresql  
sudo systemctl enable postgresql  
sudo systemctl start postgresql
```

Debian

```
sudo apt install curl ca-certificates  
sudo install -d /usr/share/postgresql-common/pgdg  
sudo curl -o /usr/share/postgresql-common/pgdg/apt.postgresql.org.asc --fail  
https://www.postgresql.org/media/keys/ACCC4CF8.asc  
sudo sh -c 'echo "deb [signed-by=/usr/share/postgresql-  
common/pgdg/apt.postgresql.org.asc] https://apt.postgresql.org/pub/repos/apt  
$(lsb_release -cs)-pgdg main" > /etc/apt/sources.list.d/pgdg.list'  
sudo apt update  
sudo apt -y install postgresql  
sudo systemctl enable postgresql  
sudo systemctl start postgresql
```

OpenSUSE

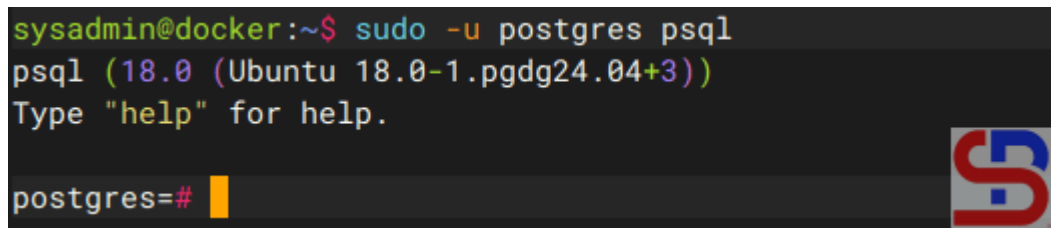
```
sudo zypper install -y postgresql17-server  
sudo systemctl enable postgresql  
sudo systemctl start postgresql
```

If you want to install the latest version of PostgreSQL, go to [this page](#) and choose based on your Linux distro.

B. Connect to PostgreSQL

Now, connect to PostgreSQL using the command below:

```
sudo -u postgres psql
```

A terminal window with a dark background. The prompt is 'sysadmin@docker:~\$'. The command 'sudo -u postgres psql' has been entered and executed. The output shows 'psql (18.0 (Ubuntu 18.0-1.pgdg24.04+3))' and 'Type "help" for help.' Below this, the prompt has changed to 'postgres=#' followed by a yellow cursor bar. In the bottom right corner of the terminal window, there is a small logo consisting of a red 'S' and a blue 'U'.

Access to the PostgreSQL

Note

By default, only Postgres users can enter the PostgreSQL server, so you run the command **sudo -u postgres psql** to connect to PostgreSQL. If you want to connect to PostgreSQL using other users, such as the root user, use the command below:

```
sudo -u root psql
```

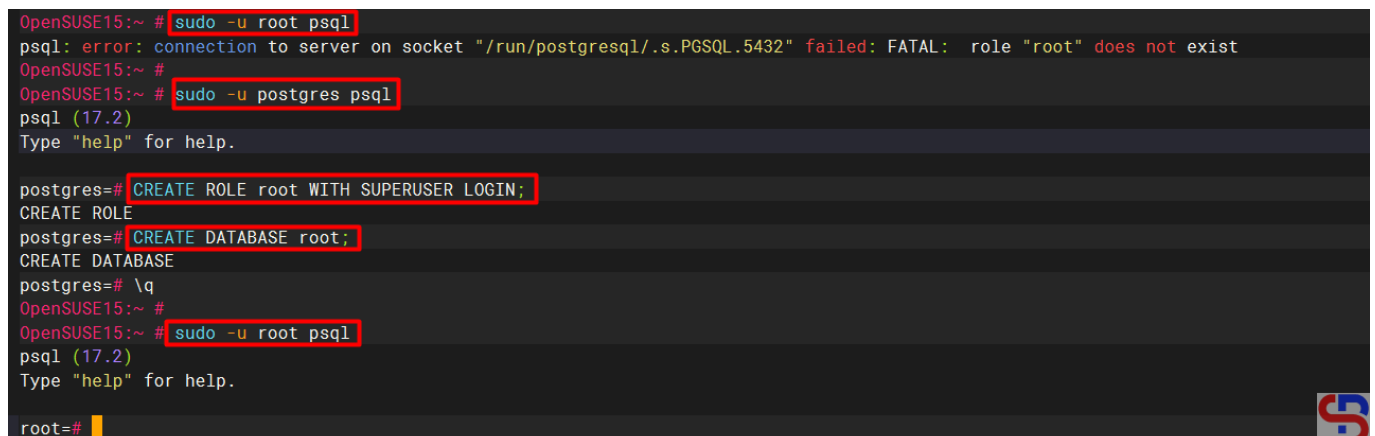
There will be an error like below:

```
psql: error: connection to server on socket  
"/run/postgresql/.s.PGSQL.5432" failed: FATAL: role "root"  
does not exist
```

So, you have to define a new role for the root user. Connect to PostgreSQL, and run the command below:

```
CREATE ROLE root WITH SUPERUSER LOGIN;  
CREATE DATABASE root;  
\q
```

After that, try to connect to PostgreSQL using the root user; it should connect to PostgreSQL as shown in the image below:

A terminal window showing the steps to connect to PostgreSQL as the root user. The user first runs 'sudo -u root psql', which fails with a 'FATAL: role "root" does not exist' error. Then, the user runs 'sudo -u postgres psql' and successfully enters the PostgreSQL prompt. Inside the prompt, the user runs 'CREATE ROLE root WITH SUPERUSER LOGIN;' and 'CREATE DATABASE root;', followed by '\q' to exit. Finally, the user runs 'sudo -u root psql' again, and this time it successfully connects to the PostgreSQL prompt as the 'root' user.

```
OpenSUSE15:~ # sudo -u root psql  
psql: error: connection to server on socket "/run/postgresql/.s.PGSQL.5432" failed: FATAL: role "root" does not exist  
OpenSUSE15:~ #  
OpenSUSE15:~ # sudo -u postgres psql  
psql (17.2)  
Type "help" for help.  
  
postgres=# CREATE ROLE root WITH SUPERUSER LOGIN;  
CREATE ROLE  
postgres=# CREATE DATABASE root;  
CREATE DATABASE  
postgres=# \q  
OpenSUSE15:~ #  
OpenSUSE15:~ # sudo -u root psql  
psql (17.2)  
Type "help" for help.  
  
root=#
```

Connect to PostgreSQL using the root user

References

en.wikipedia.org

postgresql.org

devart.com

neon.com

openbasesystems.com