



# Install Postgresql 12 on AWS Ec2 Amazon Linux 2

PostgreSQL is a powerful, free and open-source relational database management system with SQL compliance.

The original name was POSTGRES, referring to its origins as a successor to the Ingres database developed at the University of California, Berkeley.

**The PostgreSQL database server have been in active development for over 30 years that has earned it a strong reputation for reliability, feature robustness, and performance.**

The official documentation has vast amount of information on the architecture, features, installation, and day 2 related usage of PostgreSQL database server.

## Install PostgreSQL 12 on Amazon Linux 2

This installation will be performed on Amazon 2 Linux server. Before you begin installation confirm you have met the following minimum requirements.

- Amazon Linux 2 Virtual Machine
- 2GB of RAM
- 1 virtual cpu core
- 1GB of disk space for installation
- User account with sudo or root user credentials

Once the system is ready, update installed packages to the latest available releases.

```
sudo yum -y update
```

### Step 1: Add PostgreSQL Yum Repository to Amazon Linux 2



Next, we need to add the PostgreSQL repository to our Amazon Linux 2 machine for us to be able to install packages. Also note that PostgreSQL 11 and PostgreSQL 10 packages are available in Amazon Linux extras repository.

```
$ sudo amazon-linux-extras | grep postgre

5 postgresql9.6      available  \
6 postgresql10      available  [ =10 =stable ]
41 postgresql11     available  [ =11 =stable ]
```

To add official PostgreSQL repository to Amazon Linux 2 server, run the following commands as root or user account with sudo privileges.

```
sudo tee /etc/yum.repos.d/pgdg.repo<<EOF

[pgdg12]

name=PostgreSQL 12 for RHEL/CentOS 7 - x86_64

baseurl=https://download.postgresql.org/pub/repos/yum/12/redhat/rhel-7-x86_64

enabled=1

gpgcheck=0

EOF
```

To add official PostgreSQL repository to Amazon Linux 2 server, run the following commands as root or user account with sudo privileges.

```
sudo tee /etc/yum.repos.d/pgdg.repo<<EOF

[pgdg12]

name=PostgreSQL 12 for RHEL/CentOS 7 - x86_64
```



```
baseurl=https://download.postgresql.org/pub/repos/yum/12/redhat/rhel-7-x86_64  
  
enabled=1  
  
gpgcheck=0  
  
EOF
```

Update your packages index file.

```
sudo yum makecache
```

## Step 2: Install PostgreSQL 12 on Amazon Linux 2

Once the repository has been added we can install PostgreSQL server and client packages on Amazon Linux 2 by using the following commands.

```
sudo yum install postgresql12 postgresql12-server
```

Review the list of dependencies to be installed and agree to proceed with the installation.

### Resolving Dependencies

```
--> Running transaction check
```

```
---> Package postgresql12.x86_64 0:12.3-5PGDG.rhel7 will be installed
```

```
--> Processing Dependency: postgresql12-libs(x86-64) = 12.3-5PGDG.rhel7 for package:  
postgresql12-12.3-5PGDG.rhel7.x86_64
```

```
--> Processing Dependency: libpq.so.5()(64bit) for package: postgresql12-12.3-5PGDG.rhel7.x86_64
```

```
---> Package postgresql12-server.x86_64 0:12.3-5PGDG.rhel7 will be installed
```

```
--> Running transaction check
```



---> Package postgresql12-libs.x86\_64 0:12.3-5PGDG.rhel7 will be installed

--> Finished Dependency Resolution

#### Dependencies Resolved

```
=====
=====
=====
```

Package Size	Arch	Version	Repository
-----------------	------	---------	------------

```
=====
=====
=====
```

#### Installing:

postgresql12 pgdg12	1.6 M	x86_64	12.3-5PGDG.rhel7
postgresql12-server pgdg12	5.0 M	x86_64	12.3-5PGDG.rhel7

#### Installing for dependencies:

postgresql12-libs pgdg12	369 k	x86_64	12.3-5PGDG.rhel7
-----------------------------	-------	--------	------------------

#### Transaction Summary

```
=====
=====
=====
```



Install 2 Packages (+1 Dependent package)

Total download size: 6.9 M

Installed size: 29 M

Is this ok [y/d/N]: y

For any successful installation on Amazon Linux 2 a Complete message should be printed.

Running transaction

Installing : postgresql12-libs-12.3-5PGDG.rhel7.x86\_64  
1/3

Installing : postgresql12-12.3-5PGDG.rhel7.x86\_64  
2/3

Installing : postgresql12-server-12.3-5PGDG.rhel7.x86\_64  
3/3

Verifying : postgresql12-libs-12.3-5PGDG.rhel7.x86\_64  
1/3

Verifying : postgresql12-12.3-5PGDG.rhel7.x86\_64  
2/3

Verifying : postgresql12-server-12.3-5PGDG.rhel7.x86\_64  
3/3

Installed:

postgresql12.x86\_64 0:12.3-5PGDG.rhel7  
0:12.3-5PGDG.rhel7

postgresql12-server.x86\_64



Dependency Installed:

```
postgresql12-libs.x86_64 0:12.3-5PGDG.rhel7
```

Complete!

### Step 3: Initialize and start database service

We need to initialize the database server for configuration files to be generated. This is done by calling the setup script.

```
$ sudo /usr/pgsql-12/bin/postgresql-12-setup initdb
```

Initializing database ... OK

PostgreSQL 12 server uses configuration file in `/var/lib/pgsql/12/data/postgresql.conf`. You can review all default values and tune to your liking before using the database server for your Production workloads. To start and enable the service to start at OS boot, run the following command:

```
sudo systemctl enable --now postgresql-12
```

This is the expected execution output:

```
Created symlink from /etc/systemd/system/multi-user.target.wants/postgresql-12.service to /usr/lib/systemd/system/postgresql-12.service.
```

Check service status to confirm it is in running state.

```
$ systemctl status postgresql-12
```

- postgresql-12.service - PostgreSQL 12 database server



Loaded: loaded (/usr/lib/systemd/system/postgresql-12.service; enabled; vendor preset: disabled)

Active: active (running) since Tue 2020-08-04 15:09:14 UTC; 1min 13s ago

Docs: <https://www.postgresql.org/docs/12/static/>

Process: 21830 ExecStartPre=/usr/pgsql-12/bin/postgresql-12-check-db-dir \${PGDATA}  
(code=exited, status=0/SUCCESS)

Main PID: 21835 (postmaster)

CGroup: /system.slice/postgresql-12.service

└─21835 /usr/pgsql-12/bin/postmaster -D /var/lib/pgsql/12/data/

└─21838 postgres: logger

└─21840 postgres: checkpointer

└─21841 postgres: background writer

└─21842 postgres: walwriter

└─21843 postgres: autovacuum launcher

└─21844 postgres: stats collector

└─21845 postgres: logical replication launcher

Aug 04 15:09:14 amazon-linux systemd[1]: Starting PostgreSQL 12 database server...

Aug 04 15:09:14 amazon-linux postmaster[21835]: 2020-08-04 15:09:14.408 UTC [21835] LOG:  
starting PostgreSQL 12.3 on x86\_64-pc-linux-gnu, compiled by...), 64-bit

Aug 04 15:09:14 amazon-linux postmaster[21835]: 2020-08-04 15:09:14.409 UTC [21835] LOG:  
listening on IPv4 address "127.0.0.1", port 5432



```
Aug 04 15:09:14 amazon-linux postmaster[21835]: 2020-08-04 15:09:14.410 UTC [21835] LOG:
listening on Unix socket "/var/run/postgresql/.s.PGSQL.5432"
```

```
Aug 04 15:09:14 amazon-linux postmaster[21835]: 2020-08-04 15:09:14.411 UTC [21835] LOG:
listening on Unix socket "/tmp/.s.PGSQL.5432"
```

```
Aug 04 15:09:14 amazon-linux postmaster[21835]: 2020-08-04 15:09:14.418 UTC [21835] LOG:
redirecting log output to logging collector process
```

```
Aug 04 15:09:14 amazon-linux postmaster[21835]: 2020-08-04 15:09:14.418 UTC [21835] HINT:
Future log output will appear in directory "log".
```

```
Aug 04 15:09:14 amazon-linux systemd[1]: Started PostgreSQL 12 database server.
```

Hint: Some lines were ellipsized, use -l to show in full.

## Step 4: Set PostgreSQL admin user's password

Set PostgreSQL admin user password that you'll use to escalate privilege for DB operations.

### Change user password

```
sudo passwd postgres
```

### Login using Postgres system account-

```
su - postgres
```

### Now, change the admin database password-

```
psql -c "ALTER USER postgres WITH PASSWORD 'your-password';"
```





**Note:** Replace **your-password** in the above with a secure password that you want to set for the admin database user.