

# How To Install PostgreSQL 13 on CentOS 7

By [Josphat Mutai](#) - November 11, 2020

PostgreSQL is an object-relational database management system based on POSTGRES 4.2. PostgreSQL 13 has been released for general public use and for Production use. PostgreSQL runs on all major Linux operating systems and has been [ACID](#)-compliant since 2001. Additionally it has powerful add-ons such as the popular [PostGIS](#) geospatial database extender. This guide will walk you through the installation of PostgreSQL 13 on CentOS 7.

PostgreSQL development team provides pre-built packages in an online YUM and APT repository for both RHEL and Debian based systems respectively. Among the distributions supported are all Red Hat family of which includes CentOS, Fedora, Scientific Linux, Oracle Linux and Red Hat Enterprise Linux. We can now start the installation of PostgreSQL 13 on CentOS 7.

## How To Install PostgreSQL 13 on CentOS 7

Use the steps below to install PostgreSQL 13 on CentOS 7 Linux. We recently created a separate article on the [installation of PostgreSQL 13 on CentOS / RHEL 8](#) systems.

### Step 1: Add PostgreSQL Yum Repository to CentOS 7

The PostgreSQL Yum Repository will integrate with your normal systems and patch management, and provide automatic updates for all supported versions of PostgreSQL throughout the support lifetime of PostgreSQL. Run the following commands to add PostgreSQL 13 repository to your CentOS 7 Linux machine.

```
sudo yum -y install  
https://download.postgresql.org/pub/repos/yum/reporpms/EL-7-  
x86_64/pgdg-redhat-repo-latest.noarch.rpm
```

I recommend you perform system reboot after adding the repository.

```
sudo yum -y update
sudo reboot
```

## Step 2: Install PostgreSQL 13 on CentOS 7

After successfully adding the repository, you can proceed to install PostgreSQL 13 on CentOS 7.

Confirm the list of enabled repositories.

```
$ sudo yum repolist
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
 * base: mirror.alpha-labs.net
 * extras: artfiles.org
 * updates: mirror.plustech.de
repo id                repo name
status
base/7/x86_64          CentOS-7 - Base
10,070
extras/7/x86_64        CentOS-7 - Extras
413
pgdg-common/7/x86_64   PostgreSQL common RPMs for RHEL/CentOS 7 - x86_64
360
pgdg10/7/x86_64        PostgreSQL 10 for RHEL/CentOS 7 - x86_64
789
pgdg11/7/x86_64        PostgreSQL 11 for RHEL/CentOS 7 - x86_64
838
pgdg12/7/x86_64        PostgreSQL 12 for RHEL/CentOS 7 - x86_64
414
pgdg13/7/x86_64        PostgreSQL 13 for RHEL/CentOS 7 - x86_64
140
pgdg95/7/x86_64        PostgreSQL 9.5 for RHEL/CentOS 7 - x86_64
698
```

```
pgdg96/7/x86_64      PostgreSQL 9.6 for RHEL/CentOS 7 - x86_64
759
updates/7/x86_64      CentOS-7 - Updates
1,134
repolist: 15,615
```

Check to see if PostgreSQL 13 packages are available on the repository.

```
$ sudo yum search postgresql13
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
* base: mirror.alpha-labs.net
* extras: artfiles.org
* updates: mirror.plustech.de
===== N/S matched: postgresql13
=====

postgresql13.x86_64 : PostgreSQL client programs and libraries
postgresql13-contrib.x86_64 : Contributed source and binaries
distributed with
                                : PostgreSQL
postgresql13-devel.x86_64 : PostgreSQL development header files and
libraries
postgresql13-docs.x86_64 : Extra documentation for PostgreSQL
postgresql13-libs.x86_64 : The shared libraries required for any
PostgreSQL
                                : clients
postgresql13-llvmjit.x86_64 : Just-in-time compilation support for
PostgreSQL
postgresql13-plperl.x86_64 : The Perl procedural language for
PostgreSQL
postgresql13-plpython3.x86_64 : The Python3 procedural language for
PostgreSQL
postgresql13-pltcl.x86_64 : The Tcl procedural language for PostgreSQL
```

```
postgresql13-server.x86_64 : The programs needed to create and run a
PostgreSQL
```

```
: server
```

```
postgresql13-test.x86_64 : The test suite distributed with PostgreSQL
```

Name and summary matches only, use "search all" for everything.

Now install PostgreSQL 13 packages on your CentOS 7.

```
sudo yum -y install postgresql13 postgresql13-server
```

Import GPG key when asked by the installer.

```
-----
-----
-----

Total
7.0 MB/s | 15 MB 00:00:02
Retrieving key from file:///etc/pki/rpm-gpg/RPM-GPG-KEY-PGDG
Importing GPG key 0x442DF0F8:
  Userid      : "PostgreSQL RPM Building Project <pgsqlrpms-
hackers@pgfoundry.org>"
  Fingerprint: 68c9 e2b9 1a37 d136 fe74 d176 1f16 d2e1 442d f0f8
  Package     : pgdg-redhat-repo-42.0-11.noarch (@/pgdg-redhat-repo-
latest.noarch)
  From        : /etc/pki/rpm-gpg/RPM-GPG-KEY-PGDG
Is this ok [y/N]: y
```

## Step 3: Initialize and start database service

After fresh installation of PostgreSQL 13 on CentOS 7 initialization is required.

```
$ sudo /usr/pgsql-13/bin/postgresql-13-setup initdb
Initializing database ... OK
```

## Start the PostgreSQL database service.

```
sudo systemctl start postgresql-13
```

## Check the service status to confirm it is running.

```
$ systemctl status postgresql-13
● postgresql-13.service - PostgreSQL 13 database server
   Loaded: loaded (/usr/lib/systemd/system/postgresql-13.service;
   enabled; vendor preset: disabled)
   Active: active (running) since Thu 2020-07-09 23:35:30 CEST; 37s ago
     Docs: https://www.postgresql.org/docs/13/static/
   Process: 1860 ExecStartPre=/usr/pgsql-13/bin/postgresql-13-check-db-
   dir ${PGDATA} (code=exited, status=0/SUCCESS)
   Main PID: 1865 (postmaster)
     Tasks: 8 (limit: 12210)
    Memory: 17.3M
    CGroup: /system.slice/postgresql-13.service
            └─1865 /usr/pgsql-13/bin/postmaster -D
/var/lib/pgsql/13/data/
            └─1867 postgres: logger
            └─1869 postgres: checkpointer
            └─1870 postgres: background writer
            └─1871 postgres: walwriter
            └─1872 postgres: autovacuum launcher
            └─1873 postgres: stats collector
            └─1874 postgres: logical replication launcher

Jul 09 23:35:30 centos-01.computingforgeeks.com systemd[1]: Starting
PostgreSQL 13 database server...
Jul 09 23:35:30 centos-01.computingforgeeks.com postmaster[1865]: 2020-
07-09 23:35:30.180 CEST [1865] LOG:  redirecting log output to logging
collector process
```

```
Jul 09 23:35:30 centos-01.computingforgeeks.com postmaster[1865]: 2020-07-09 23:35:30.180 CEST [1865] HINT: Future log output will appear in directory "log".
Jul 09 23:35:30 centos-01.computingforgeeks.com systemd[1]: Started PostgreSQL 13 database server.
```

Enable the service to start when the system is rebooted.

```
$ sudo systemctl enable postgresql-13
Created symlink from /etc/systemd/system/multi-user.target.wants/postgresql-13.service to /usr/lib/systemd/system/postgresql-13.service.
```

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

Update the PostgreSQL admin user password.

```
$ sudo su - postgres
]$ psql -c "alter user postgres with password 'StrongDBPassword'"
ALTER ROLE
```

## Step 5: Enabling remote Database connections (Optional)

Edit the file `/var/lib/pgsql/13/data/postgresql.conf` and set Listen address to your server IP address or `"*"` for all interfaces.

```
$ sudo vi /var/lib/pgsql/13/data/postgresql.conf
# line 59
listen_addresses = '172.20.11.11'
```

Also set PostgreSQL to accept remote connections

```
$ sudo vi /var/lib/pgsql/13/data/pg_hba.conf

# Accept from anywhere (not recommended)
```

```
host all all 0.0.0.0/0 md5

# Accept from trusted subnet (Recommended setting)
host all all 172.20.11.0/24 md5
```

Restart the database service after saving the changes.

```
sudo systemctl restart postgresql-13
```

Test connection using the psql command while providing username and optionally database name.

```
$ psql -U <dbuser> -h <serverip> -p 5432 <dbname>
```

## Step 6: Install pgAdmin 4 Web interface

pgAdmin is an Open Source tool for administering PostgreSQL database server. Use our guide below to install and use pgAdmin4 on CentOS 7 machine.

### How To Install pgAdmin 4 on CentOS 7

We have completed installation of PostgreSQL 13 on CentOS 7 server or Workstation. For more reading refer to the [PostgreSQL Administration documentation](#).