



→ **‘GlusterFS’** → **Replicación de Volúmenes** → **‘HA’**.

→ **Notaciones.**

# → Indica que debe hacerse para **ambos** ‘Servidores’.

[root@srv1 ~]# → Solo para el **srv1**.

[root@srv2 ~]# → Solo para el **srv2**.

→ **Dependencia de artículo precedente:** →

[https://www.cadilinea.com/blog/wp-content/uploads/2020/03/02-GlusterFS\\_NFS-Ganesha-v3.0.pdf](https://www.cadilinea.com/blog/wp-content/uploads/2020/03/02-GlusterFS_NFS-Ganesha-v3.0.pdf)

→ **Estructura inicial.**

→ **srv1**

```
...
/dev/mapper/vg_bricks-lv_brickpool--01 /bricks/replBrick-01 xfs defaults 1 2
srv1.enermol.lan:repVol-01 /srv1/repVol-01/ glusterfs _netdev 1 2
srv2:repVol-01 /srv2/nfsganesha nfs _netdev 1 2
...
```

→ **srv2**

```
...
/dev/mapper/vg_bricks-lv_brickpool--02 /bricks/replBrick-02 xfs defaults 1 2
srv2.enermol.lan:repVol-01 /srv2/repVol-01/ glusterfs _netdev 1 2
srv1:repVol-01 /srv1/nfsganesha nfs _netdev 1 2
...
```

# **getenforce**

**Enforcing**

# **systemctl restart glusterd.service nfs-ganesha.service**

# **systemctl status glusterd.service nfs-ganesha.service**

● **glusterd.service - GlusterFS, a clustered file-system server**

Loaded: loaded (/usr/lib/systemd/system/glusterd.service; enabled; vendor preset: enabled)

Active: active (running) since Sun 2020-03-29 10:47:49 CEST; 30min ago

Docs: man:glusterd(8)

Process: 2649 ExecStart=/usr/sbin/glusterd -p /var/run/glusterd.pid --log-level \$LOG\_LEVEL \$GLUSTERD\_OPTIONS (code=exited, status=0/SUCCESS)

Main PID: 2651 (glusterd)

Tasks: 40 (limit: 17948)

Memory: 34.4M

CGroup: /system.slice/glusterd.service

└─1581 /usr/sbin/glusterfsd -s srv1.enermol.lan --volfile-id repVol-01.srv1.enermol.lan.bricks-replBrick-01-data -p /var/run/gluster/vols/repVol-01/srv1.enermol.lan-bricks-replBrick-01-data.pid -S /v>

└─2651 /usr/sbin/glusterd -p /var/run/glusterd.pid --log-level INFO



```
└─2735 /usr/sbin/glusterfs -s localhost --volfile-id shd/repVol-01 -p
/var/run/gluster/shd/repVol-01/repVol-01-shd.pid -l /var/log/glusterfs/glustershd.log -S
/var/run/gluster/2a584450718f1fdd.socket>
```

```
mar 29 10:47:45 srv1.enermol.lan systemd[1]: Starting GlusterFS, a clustered file-system server...
mar 29 10:47:49 srv1.enermol.lan systemd[1]: Started GlusterFS, a clustered file-system server.
```

### • nfs-ganesha.service - NFS-Ganesha file server

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

Active: active (running) since Sun 2020-03-29 10:47:45 CEST; 30min ago

Docs: <http://github.com/nfs-ganesha/nfs-ganesha/wiki>

Process: 2650 ExecStop=/bin/dbus-send --system --dest=org.ganesha.nfsd --type=method\_call /org/ganesha/nfsd/admin org.ganesha.nfsd.admin.shutdown (code=exited, status=0/SUCCESS)

Process: 2671 ExecStart=/bin/bash -c \${NUMACTL} \${NUMAOPTS} /usr/bin/ganesha.nfsd \$ {OPTIONS} \${EPOCH} (code=exited, status=0/SUCCESS)

Main PID: 2674 (ganesha.nfsd)

Tasks: 30 (limit: 17948)

Memory: 23.6M

CGroup: /system.slice/nfs-ganesha.service

```
└─2674 /usr/bin/ganesha.nfsd -L /var/log/ganesha/ganesha.log -f /etc/ganesha/ganesha.conf
-N NIV_EVENT
```

```
mar 29 10:47:45 srv1.enermol.lan systemd[1]: Starting NFS-Ganesha file server...
```

```
mar 29 10:47:45 srv1.enermol.lan systemd[1]: Started NFS-Ganesha file server.
```

```
mar 29 10:47:45 srv1.enermol.lan ganesha.nfsd[2674]: libnfsidmap: res_querydomain() failed for
_nfsv4idmapdomain.enermol.lan: Unknown host
```

```
mar 29 10:47:45 srv1.enermol.lan ganesha.nfsd[2674]: libnfsidmap: using (default) domain:
enermol.lan
```

```
mar 29 10:47:45 srv1.enermol.lan ganesha.nfsd[2674]: libnfsidmap: Realms list: 'ENERMOL.LAN'
```

```
mar 29 10:47:45 srv1.enermol.lan ganesha.nfsd[2674]: libnfsidmap: loaded plugin
```

```
/usr/lib64/libnfsidmap/nsswitch.so for method nsswitch
```

### # mount -a

```
[root@srv1 ~]# lsblk
```

```
NAME                                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                                  8:0  0  40G  0 disk
├─sda1                               8:1  0   1G  0 part /boot
├─sda2                               8:2  0  39G  0 part
│ └─cl-root                          253:0  0  36G  0 lvm /
│ └─cl-swap                          253:1  0  3,1G  0 lvm [SWAP]
sdb                                  8:16  0  40G  0 disk
└─vg_bricks-lv_brickpool--01 253:2  0  40G  0 lvm /bricks/replBrick-01
sr0                                  11:0  1   7G  0 rom
```

```
[root@srv1 ~]# df -hT
```

```
S.ficheros      Tipo      Tamaño Usados  Disp Uso% Montado en
```



```

devtmpfs          devtmpfs      1,4G  0 1,4G  0% /dev
tmpfs             tmpfs         1,4G  38M 1,4G  3% /dev/shm
tmpfs            tmpfs         1,4G  8,7M 1,4G  1% /run
tmpfs            tmpfs         1,4G  0 1,4G  0% /sys/fs/cgroup
/dev/mapper/cl-root      xfs           36G  2,9G 34G  8% /
/dev/mapper/vg_bricks-lv_brickpool--01 xfs           40G  318M 40G  1% /bricks/replBrick-01
/dev/sda1            ext4           976M  191M 719M 21% /boot
tmpfs             tmpfs         284M  0 284M  0% /run/user/0
srv1.enermol.lan:/repVol-01 fuse.glusterfs 40G  728M 40G  2% /srv1/repVol-01
srv2:/repVol-01      nfs4           40G  728M 40G  2% /srv2/nfsganesha

```

**[root@srv2 ~]# lsblk**

```

NAME                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                  8:0  0  40G  0 disk
├─sda1                8:1  0   1G  0 part /boot
├─sda2                8:2  0  39G  0 part
├─cl-root            253:0  0  36G  0 lvm /
└─cl-swap            253:1  0  3,1G  0 lvm [SWAP]
sdb                  8:16  0  40G  0 disk
└─vg_bricks-lv_brickpool--02 253:2  0  40G  0 lvm /bricks/replBrick-02
sr0                  11:0  1    7G  0 rom

```

**[root@srv2 ~]# df -hT**

```

S.ficheros          Tipo          Tamaño Usados  Disp Uso% Montado en
devtmpfs            devtmpfs      1,4G  0 1,4G  0% /dev
tmpfs               tmpfs         1,4G  53M 1,4G  4% /dev/shm
tmpfs               tmpfs         1,4G  8,7M 1,4G  1% /run
tmpfs               tmpfs         1,4G  0 1,4G  0% /sys/fs/cgroup
/dev/mapper/cl-root      xfs           36G  2,9G 34G  8% /
/dev/mapper/vg_bricks-lv_brickpool--02 xfs           40G  318M 40G  1% /bricks/replBrick-02
/dev/sda1            ext4           976M  191M 719M 21% /boot
tmpfs               tmpfs         284M  0 284M  0% /run/user/0
srv2.enermol.lan:/repVol-01 fuse.glusterfs 40G  728M 40G  2% /srv2/repVol-01
srv1:/repVol-01      nfs4           40G  728M 40G  2% /srv1/nfsganesha

```

**[root@srv1 ~]# pcs status**

Cluster name: **cluster-odoo**

Stack: corosync

Current DC: srv2.enermol.lan (version 2.0.2-3.el8\_1.2-744a30d655) - partition with quorum

Last updated: Sun Mar 29 11:02:30 2020

Last change: Sun Mar 29 11:02:24 2020 by root via crm\_resource on srv1.enermol.lan

2 nodes configured

2 resources configured

Online: [ **srv1.enermol.lan** **srv2.enermol.lan** ]



Full list of resources:

```
pgsql-vip (ocf::heartbeat:IPaddr2): Started srv1.enermol.lan
pgsql-alt-vip (ocf::heartbeat:IPaddr2): Started srv1.enermol.lan
```

Daemon Status:

```
corosync: active/enabled
pacemaker: active/enabled
pcsd: active/enabled
```

```
[root@srv1 ~]# pcs resource
```

```
pgsql-vip (ocf::heartbeat:IPaddr2): Started srv1.enermol.lan
pgsql-alt-vip (ocf::heartbeat:IPaddr2): Started srv1.enermol.lan
```

```
[root@srv1 ~]# rm /srv1/repVol-01/* -f
[root@srv1 ~]# ls /srv1/repVol-01
```

### → Instalación de 'Postgresql'

```
# firewall-cmd --permanent --add-service={postgresql,high-availability}
# firewall-cmd --reload
```

```
# dnf update -y
```

```
# dnf module list postgresql
```

Última comprobación de caducidad de metadatos hecha hace 0:00:52, el dom 29 mar 2020 12:16:20 CEST.

CentOS-8 - AppStream

Name	Stream	Profiles
Summary		
postgresql	9.6	client, server [d]
PostgreSQL server and client module		
postgresql	10 [d]	client, server [d]
PostgreSQL server and client module		
postgresql	12	client, server
PostgreSQL server and client module		

Leyenda: [d] predeterminado, [e] activo, [x] inactivo, [i] instalado

```
# dnf -qy module disable postgresql:{9.6,10}
# dnf module enable postgresql:12
```

Última comprobación de caducidad de metadatos hecha hace 0:02:48, el dom 29 mar 2020 12:16:20 CEST.

Dependencias resueltas.

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



```
=====
Paquete                Arquitectura                Versión
Repositorio            Tam.
=====
=====
=====
Activando flujos de módulos:
postgresql                12

Resumen de la transacción
=====
=====
=====
```

¿Está de acuerdo [s/N]?: **s**  
¡Listo!

### # dnf module list postgresql

Última comprobación de caducidad de metadatos hecha hace 0:03:11, el dom 29 mar 2020 12:16:20 CEST.

CentOS-8 - AppStream

Name	Stream	Profiles
Summary		
postgresql	9.6	client, server [d]
PostgreSQL server and client module		
postgresql	10 [d]	client, server [d]
PostgreSQL server and client module		
postgresql	12 [e]	client, server
PostgreSQL server and client module		

Legenda: [d] predeterminado, [e] activo, [x] inactivo, [i] instalado

### # dnf install postgresql\* -y

### # dnf module info postgresql

Última comprobación de caducidad de metadatos hecha hace 0:20:56, el dom 29 mar 2020 12:16:20 CEST.

```
Name       : postgresql
Stream     : 10 [d]
Version    : 8000020190628020724
Context    : 55190bc5
Architecture : x86_64
Profiles   : client, server [d]
Default profiles : server
Repo       : AppStream
Summary    : PostgreSQL server and client module
Description : PostgreSQL is an advanced Object-Relational database management system
```



(DBMS). The postgresql-server package contains the programs needed to create and run a PostgreSQL server, which will in turn allow you to create and maintain PostgreSQL databases. The base postgresql package contains the client programs that you'll need to access a PostgreSQL DBMS server.

```
Artifacts      : postgresql-0:10.6-1.module_el8.0.0+15+f57f353b.src
               : postgresql-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-contrib-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-contrib-debuginfo-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-debuginfo-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-debugsource-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-docs-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-docs-debuginfo-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-plperl-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-plperl-debuginfo-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-plpython3-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-plpython3-debuginfo-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-pltcl-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-pltcl-debuginfo-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-server-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-server-debuginfo-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-server-devel-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-server-devel-debuginfo-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-static-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-test-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-test-debuginfo-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-test-rpm-macros-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-upgrade-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-upgrade-debuginfo-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-upgrade-devel-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
               : postgresql-upgrade-devel-debuginfo-0:10.6-1.module_el8.0.0+15+f57f353b.x86_64
```

```
Name          : postgresql
Stream        : 9.6
Version       : 8000020190628020724
Context       : 55190bc5
Architecture  : x86_64
Profiles      : client, server [d]
Default profiles : server
Repo          : AppStream
Summary       : PostgreSQL server and client module
Description   : PostgreSQL is an advanced Object-Relational database management system
(DBMS). The postgresql-server package contains the programs needed to create and run a
PostgreSQL server, which will in turn allow you to create and maintain PostgreSQL databases. The
base postgresql package contains the client programs that you'll need to access a PostgreSQL
DBMS server.
```

```
Artifacts      : postgresql-0:9.6.10-1.module_el8.0.0+16+7a9f6089.src
               : postgresql-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
```



```
: postgresql-contrib-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-contrib-debuginfo-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-debuginfo-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-debugsource-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-docs-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-docs-debuginfo-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-plperl-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-plperl-debuginfo-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-plpython3-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-plpython3-debuginfo-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-pltcl-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-pltcl-debuginfo-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-server-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-server-debuginfo-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-server-devel-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-server-devel-debuginfo-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-static-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-test-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-test-debuginfo-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
: postgresql-test-rpm-macros-0:9.6.10-1.module_el8.0.0+16+7a9f6089.x86_64
```

```
Name      : postgresql
Stream    : 12 [e] [a]
Version   : 8010020200205032101
Context   : cdc1202b
Architecture : x86_64
Profiles  : client, server
Repo      : AppStream
```

Summary : PostgreSQL server and client module

Description : PostgreSQL is an advanced Object-Relational database management system (DBMS). The postgresql-server package contains the programs needed to create and run a PostgreSQL server, which will in turn allow you to create and maintain PostgreSQL databases. The base postgresql package contains the client programs that you'll need to access a PostgreSQL DBMS server.

```
Artifacts : pgaudit-0:1.4.0-4.module_el8.1.0+273+979c16e6.src
: pgaudit-0:1.4.0-4.module_el8.1.0+273+979c16e6.x86_64
: pgaudit-debuginfo-0:1.4.0-4.module_el8.1.0+273+979c16e6.x86_64
: pgaudit-debugsource-0:1.4.0-4.module_el8.1.0+273+979c16e6.x86_64
: postgres-decoderbufs-0:0.10.0-2.module_el8.1.0+273+979c16e6.src
: postgres-decoderbufs-0:0.10.0-2.module_el8.1.0+273+979c16e6.x86_64
: postgres-decoderbufs-debuginfo-0:0.10.0-2.module_el8.1.0+273+979c16e6.x86_64
: postgres-decoderbufs-debugsource-0:0.10.0-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-0:12.1-2.module_el8.1.0+273+979c16e6.src
: postgresql-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-contrib-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-contrib-debuginfo-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-debuginfo-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-debugsource-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
```



```
: postgresql-docs-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-docs-debuginfo-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-plperl-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-plperl-debuginfo-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-plpython3-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-plpython3-debuginfo-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-pltcl-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-pltcl-debuginfo-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-server-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-server-debuginfo-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-server-devel-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-server-devel-debuginfo-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-static-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-test-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-test-debuginfo-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-test-rpm-macros-0:12.1-2.module_el8.1.0+273+979c16e6.noarch
: postgresql-upgrade-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-upgrade-debuginfo-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-upgrade-devel-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
: postgresql-upgrade-devel-debuginfo-0:12.1-2.module_el8.1.0+273+979c16e6.x86_64
```

→ Para: → 'srv1'.

```
[root@srv1 ~]# mkdir -p /srv1/repVol-01/pgsql/data
[root@srv1 ~]# chown -R postgres:postgres /srv1/repVol-01/pgsql/data/
[root@srv1 ~]# chmod 0750 /srv1/repVol-01/pgsql/data/
```

```
[root@srv1 ~]# su - postgres
[postgres@srv1 ~]$ vim /var/lib/pgsql/.bash_profile
[-f /etc/profile ] && source /etc/profile
```

```
PGDATA=/srv1/repVol-01/pgsql/data/
export PGDATA
```

```
[postgres@srv1 ~]$ exit
logout
```

```
[root@srv1 ~]# vim /usr/lib/systemd/system/postgresql.service
...
#Environment=PGDATA=/var/lib/pgsql/data
Environment=PGDATA=/srv1/repVol-01/pgsql/data/
...
```

```
[root@srv1 ~]# systemctl daemon-reload
```

```
[root@srv1 ~]# su - postgres
```





```
[postgres@srv1 ~]$ cd /srv1/repVol-01/pgsql/data/
```

```
[postgres@srv1 data]$ pwd
```

```
/srv1/repVol-01/pgsql/data
```

```
[postgres@srv1 data]$ initdb -D /srv1/repVol-01/pgsql/data/
```

Los archivos de este cluster serán de propiedad del usuario «postgres».

Este usuario también debe ser quien ejecute el proceso servidor.

El cluster será inicializado con configuración regional «es\_ES.UTF-8».

La codificación por omisión ha sido por lo tanto definida a «UTF8».

La configuración de búsqueda en texto ha sido definida a «spanish».

Las sumas de verificación en páginas de datos han sido desactivadas.

corrigiendo permisos en el directorio existente /srv1/repVol-01/pgsql/data ... hecho

creando subdirectorios ... hecho

seleccionando implementación de memoria compartida dinámica ...posix

seleccionando el valor para max\_connections ... 100

seleccionando el valor para shared\_buffers ... 128MB

seleccionando el huso horario por omisión ... Europe/Madrid

creando archivos de configuración ... hecho

ejecutando script de inicio (bootstrap) ... hecho

realizando inicialización post-bootstrap ... hecho

sincronizando los datos a disco ... hecho

initdb: precaución: activando el método de autenticación «trust» para conexiones locales

Puede cambiar esto editando **pg\_hba.conf** o usando el parámetro **-A**,

o **--auth-local** y **--auth-host** la próxima vez que ejecute initdb.

**Completado. Ahora puede iniciar el servidor de bases de datos usando:**

```
pg_ctl -D /srv1/repVol-01/pgsql/data/ -l archivo_de_registro start
```

```
[postgres@srv1 data]$ exit
```

```
logout
```

```
[root@srv1 ~]# ls /srv1/repVol-01/pgsql/data/
```

```
base pg_commit_ts pg_hba.conf pg_logical pg_notify pg_serial pg_stat pg_subtrans
```

```
pg_twophase pg_wal postgresql.auto.conf
```

```
global pg_dynshmem pg_ident.conf pg_multixact pg_replslot pg_snapshots pg_stat_tmp
```

```
pg_tblspc PG_VERSION pg_xact postgresql.conf
```

```
[root@srv2 ~]# ls /srv2/repVol-01/pgsql/data/
```

```
base pg_commit_ts pg_hba.conf pg_logical pg_notify pg_serial pg_stat pg_subtrans
```

```
pg_twophase pg_wal postgresql.auto.conf
```

```
global pg_dynshmem pg_ident.conf pg_multixact pg_replslot pg_snapshots pg_stat_tmp
```

```
pg_tblspc PG_VERSION pg_xact postgresql.conf
```



```
[root@srv1 ~]# vim /srv1/repVol-01/pgsql/data/pg_hba.conf
```

```
...
# IPv4 local connections:
host all all 127.0.0.1/32 trust
host all all 192.168.10.0/24 trust
...
```

```
[root@srv1 ~]# vim /srv1/repVol-01/pgsql/data/postgresql.conf
```

```
...
listen_addresses = '*'          # what IP address(es) to listen on;
                                # comma-separated list of addresses;
                                # defaults to 'localhost'; use '*' for all
                                # (change requires restart)
port = 5432                     # (change requires restart)
...
```

```
[root@srv1 ~]# systemctl status postgresql.service
```

```
● postgresql.service - PostgreSQL database server
   Loaded: loaded (/usr/lib/systemd/system/postgresql.service; disabled; vendor preset: disabled)
   Active: inactive (dead)
```

```
[root@srv1 ~]# vim /usr/lib/systemd/system/postgresql.service
```

```
# It's not recommended to modify this file in-place, because it will be
# overwritten during package upgrades. It is recommended to use systemd
# "dropin" feature; i.e. create file with suffix .conf under
# /etc/systemd/system/UNITNAME.service.d directory overriding the
# unit's defaults. Look at systemd.unit(5) manual page for more info.
```

```
[Unit]
Description=PostgreSQL database server
After=network.target
```

```
[Service]
Type=notify
```

```
User=postgres
Group=postgres
```

```
# Where to send early-startup messages from the server (before the logging
# options of postgresql.conf take effect)
# This is normally controlled by the global default set by systemd
# StandardOutput=syslog
```

```
# Disable OOM kill on the postmaster
OOMScoreAdjust=-1000
# ... but allow it still to be effective for child processes
# (note that these settings are ignored by Postgres releases before 9.5)
```



```
Environment=PG_OOM_ADJUST_FILE=/proc/self/oom_score_adj
Environment=PG_OOM_ADJUST_VALUE=0
```

```
#Environment=PGDATA=/var/lib/pgsql/data
Environment=PGDATA=/srv1/repVol-01/pgsql/data/
```

```
ExecStartPre=/usr/libexec/postgresql-check-db-dir %N
# Even though the $PGDATA variable is exported (postmaster would accept that)
# use the -D option here so PGDATA content is printed by /bin/ps and by
# 'systemctl status'.
ExecStart=/usr/bin/postmaster -D ${PGDATA}
ExecReload=/bin/kill -HUP $MAINPID
KillMode=mixed
KillSignal=SIGINT
```

```
# No artificial start/stop timeout (rhbz#1525477, pgrpms#2786).
TimeoutSec=0
```

```
[Install]
WantedBy=multi-user.target
```

```
[root@srv1 ~]# systemctl start postgresql.service
```

```
...
-- Unit postgresql.service has failed.
--
-- The result is RESULT.
mar 29 13:56:56 srv1.enermol.lan dbus-daemon[1000]: [system] Activating service
name='org.fedoraproject.Setroubleshootd' requested by ':1.101' (uid=0 pid=964
comm="/usr/sbin/sedispatch " label="system_u:system_>
mar 29 13:56:58 srv1.enermol.lan dbus-daemon[1000]: [system] Successfully activated service
'org.fedoraproject.Setroubleshootd'
mar 29 13:56:58 srv1.enermol.lan setroubleshoot[8468]: Deleting alert c2f06b2d-7485-4ae3-892d-
fb107c394a8f, it is allowed in current policy
```

```
[root@srv1 ~]# ausearch -c 'postmaster' --raw | audit2allow -M my-postmaster # semodule -X
300 -i my-postmaster.pp
```

```
***** IMPORTANTE *****
```

```
Para activar este paquete de políticas, ejecute:
```

```
semodule -i my-postmaster.pp
```

```
...
```

```
[root@srv1 ~]# semodule -i my-postmaster.pp
```

```
libsemanage.semanage_direct_install_info: Overriding my-postmaster module at lower priority 300
with module at priority 400.
```

```
[root@srv1 ~]# systemctl start postgresql.service
```



```
[root@srv1 ~]# systemctl status postgresql.service
```

```
● postgresql.service - PostgreSQL database server
  Loaded: loaded (/usr/lib/systemd/system/postgresql.service; disabled; vendor preset: disabled)
  Active: active (running) since Sun 2020-03-29 14:07:36 CEST; 31min ago
  Process: 3161 ExecStartPre=/usr/libexec/postgresql-check-db-dir postgresql (code=exited,
status=0/SUCCESS)
  Main PID: 3163 (postmaster)
  Tasks: 8 (limit: 17948)
  Memory: 28.8M
  CGroup: /system.slice/postgresql.service
├─3163 /usr/bin/postmaster -D /srv1/repVol-01/pgsql/data/
├─3166 postgres: logger
├─3259 postgres: checkpointer
├─3260 postgres: background writer
├─3261 postgres: walwriter
├─3262 postgres: autovacuum launcher
├─3263 postgres: stats collector
└─3264 postgres: logical replication launcher
```

```
mar 29 14:07:25 srv1.enermol.lan systemd[1]: Starting PostgreSQL database server...
mar 29 14:07:25 srv1.enermol.lan postmaster[3163]: 2020-03-29 14:07:25.871 CEST [3163] LOG:
iniciando PostgreSQL 12.1 on x86_64-redhat-linux-gnu, compiled by gcc (GCC) 8.3.1 20190507
(Red Hat 8.3.1-4), 64-bit
mar 29 14:07:25 srv1.enermol.lan postmaster[3163]: 2020-03-29 14:07:25.872 CEST [3163] LOG:
escuchando en la dirección IPv4 «0.0.0.0», port 5432
mar 29 14:07:25 srv1.enermol.lan postmaster[3163]: 2020-03-29 14:07:25.872 CEST [3163] LOG:
escuchando en la dirección IPv6 «:::», port 5432
mar 29 14:07:25 srv1.enermol.lan postmaster[3163]: 2020-03-29 14:07:25.897 CEST [3163] LOG:
escuchando en el socket Unix «/var/run/postgresql/.s.PGSQL.5432»
mar 29 14:07:25 srv1.enermol.lan postmaster[3163]: 2020-03-29 14:07:25.920 CEST [3163] LOG:
escuchando en el socket Unix «/tmp/.s.PGSQL.5432»
mar 29 14:07:26 srv1.enermol.lan postmaster[3163]: 2020-03-29 14:07:26.273 CEST [3163] LOG:
redirigiendo la salida del registro al proceso recolector de registro
mar 29 14:07:26 srv1.enermol.lan postmaster[3163]: 2020-03-29 14:07:26.273 CEST [3163] HINT:
La salida futura del registro aparecerá en el directorio «log».
mar 29 14:07:36 srv1.enermol.lan systemd[1]: Started PostgreSQL database server.
```

```
[root@srv1 ~]# su - postgres -c "createuser -s odoo -p 5432"
```

```
[root@srv1 ~]# su - postgres
```

```
Último inicio de sesión:dom mar 29 14:40:42 CEST 2020en pts/0
```

```
[postgres@srv1 ~]$ psql
```

```
psql (12.1)
```

```
Digite «help» para obtener ayuda.
```

```
postgres=# \du
```

```
Lista de roles
```



Nombre de rol	Atributos	Miembro de
<b>odoo</b>	Superusuario, Crear rol, Crear BD	{}
postgres	Superusuario, Crear rol, Crear BD, Replicación, Ignora RLS	{}

```
postgres=# exit
```

```
[root@srv1 ~]# systemctl stop postgresql.service
```

→ **Para:** → 'srv2'.

```
[root@srv2 ~]# ls /srv2/repVol-01/pgsql/data
```

```
total 43
drwx-----. 20 postgres postgres 4096 mar 29 14:44 .
drwxr-xr-x. 3 root root 18 mar 29 12:54 ..
drwx-----. 5 postgres postgres 41 mar 29 13:22 base
-rw-----. 1 postgres postgres 30 mar 29 14:07 current_logfiles
drwx-----. 2 postgres postgres 4096 mar 29 14:40 global
drwx-----. 2 postgres postgres 32 mar 29 13:56 log
drwx-----. 2 postgres postgres 6 mar 29 13:22 pg_commit_ts
drwx-----. 2 postgres postgres 6 mar 29 13:22 pg_dynshmem
-rw-----. 1 postgres postgres 4586 mar 29 13:31 pg_hba.conf
-rw-----. 1 postgres postgres 1636 mar 29 13:22 pg_ident.conf
drwx-----. 4 postgres postgres 68 mar 29 14:44 pg_logical
drwx-----. 4 postgres postgres 36 mar 29 13:22 pg_multixact
drwx-----. 2 postgres postgres 18 mar 29 14:07 pg_notify
drwx-----. 2 postgres postgres 6 mar 29 13:22 pg_replslot
drwx-----. 2 postgres postgres 6 mar 29 13:22 pg_serial
drwx-----. 2 postgres postgres 6 mar 29 13:22 pg_snapshots
drwx-----. 2 postgres postgres 63 mar 29 14:44 pg_stat
drwx-----. 2 postgres postgres 6 mar 29 14:44 pg_stat_tmp
drwx-----. 2 postgres postgres 18 mar 29 13:22 pg_subtrans
drwx-----. 2 postgres postgres 6 mar 29 13:22 pg_tblspc
drwx-----. 2 postgres postgres 6 mar 29 13:22 pg_twophase
-rw-----. 1 postgres postgres 3 mar 29 13:22 PG_VERSION
drwx-----. 3 postgres postgres 60 mar 29 13:22 pg_wal
drwx-----. 2 postgres postgres 18 mar 29 13:22 pg_xact
-rw-----. 1 postgres postgres 88 mar 29 13:22 postgresql.auto.conf
-rw-----. 1 postgres postgres 26625 mar 29 13:55 postgresql.conf
-rw-----. 1 postgres postgres 53 mar 29 14:07 postmaster.opts
```

```
[root@srv1 ~]# su - postgres
```

```
[postgres@srv2 ~]$ vim /var/lib/pgsql/.bash_profile
[-f /etc/profile ] && source /etc/profile
```

```
PGDATA=/srv2/repVol-01/pgsql/data/
export PGDATA
```



```
[postgres@srv2 ~]$ exit
```

```
logout
```

```
[root@srv2 ~]# vim /usr/lib/systemd/system/postgresql.service
```

```
...
#Environment=PGDATA=/var/lib/pgsql/data
Environment=PGDATA=/srv2/repVol-01/pgsql/data/
...
```

```
[root@srv2 ~]# systemctl daemon-reload
```

```
[root@srv2 ~]# ls /srv2/repVol-01/pgsql/data/
```

```
base pg_commit_ts pg_hba.conf pg_logical pg_notify pg_serial pg_stat pg_subtrans
pg_twophase pg_wal postgresql.auto.conf
global pg_dynshmem pg_ident.conf pg_multixact pg_replslot pg_snapshots pg_stat_tmp
pg_tblspc PG_VERSION pg_xact postgresql.conf
```

```
[root@srv2 ~]# vim /srv2/repVol-01/pgsql/data/pg_hba.conf
```

```
...
# IPv4 local connections:
host all all 127.0.0.1/32 trust
host all all 192.168.10.0/24 trust
...
```

```
[root@srv2 ~]# vim /srv2/repVol-01/pgsql/data/postgresql.conf
```

```
...
listen_addresses = '*'          # what IP address(es) to listen on;
                                # comma-separated list of addresses;
                                # defaults to 'localhost'; use '*' for all
                                # (change requires restart)
port = 5432                     # (change requires restart)
...
```

```
[root@srv2 ~]# systemctl status postgresql.service
```

```
● postgresql.service - PostgreSQL database server
  Loaded: loaded (/usr/lib/systemd/system/postgresql.service; disabled; vendor preset: disabled)
  Active: inactive (dead)
```

```
[root@srv2 ~]# vim /usr/lib/systemd/system/postgresql.service
```

```
# It's not recommended to modify this file in-place, because it will be
# overwritten during package upgrades. It is recommended to use systemd
# "dropin" feature; i.e. create file with suffix .conf under
# /etc/systemd/system/UNITNAME.service.d directory overriding the
# unit's defaults. Look at systemd.unit(5) manual page for more info.
```



```
[Unit]
Description=PostgreSQL database server
After=network.target
```

```
[Service]
Type=notify
```

```
User=postgres
Group=postgres
```

```
# Where to send early-startup messages from the server (before the logging
# options of postgresql.conf take effect)
# This is normally controlled by the global default set by systemd
# StandardOutput=syslog
```

```
# Disable OOM kill on the postmaster
OOMScoreAdjust=-1000
# ... but allow it still to be effective for child processes
# (note that these settings are ignored by Postgres releases before 9.5)
Environment=PG_OOM_ADJUST_FILE=/proc/self/oom_score_adj
Environment=PG_OOM_ADJUST_VALUE=0
```

```
#Environment=PGDATA=/var/lib/pgsql/data
Environment=PGDATA=/srv2/repVol-01/pgsql/data/
```

```
ExecStartPre=/usr/libexec/postgresql-check-db-dir %N
# Even though the $PGDATA variable is exported (postmaster would accept that)
# use the -D option here so PGDATA content is printed by /bin/ps and by
# 'systemctl status'.
ExecStart=/usr/bin/postmaster -D ${PGDATA}
ExecReload=/bin/kill -HUP $MAINPID
KillMode=mixed
KillSignal=SIGINT
```

```
# No artificial start/stop timeout (rhbz#1525477, pgrpms#2786).
TimeoutSec=0
```

```
[Install]
WantedBy=multi-user.target
```

```
[root@srv2 ~]# systemctl start postgresql.service
```

```
...
-- Unit postgresql.service has failed.
--
-- The result is RESULT.
mar 29 13:56:56 srv1.enermol.lan dbus-daemon[1000]: [system] Activating service
name='org.fedoraproject.Setroubleshootd' requested by ':1.101' (uid=0 pid=964
```



```
comm="/usr/sbin/sedispach " label="system_u:system_>
mar 29 13:56:58 srv1.enermol.lan dbus-daemon[1000]: [system] Successfully activated service
'org.fedoraproject.Setroubleshootd'
mar 29 13:56:58 srv1.enermol.lan setroubleshoot[8468]: Deleting alert c2f06b2d-7485-4ae3-892d-
fb107c394a8f, it is allowed in current policy
```

```
[root@srv2 ~]# ausearch -c 'postmaster' --raw | audit2allow -M my-postmaster # semodule -X
300 -i my-postmaster.pp
```

```
***** IMPORTANTE *****
```

Para activar este paquete de políticas, ejecute:

```
semodule -i my-postmaster.pp
```

```
...
```

```
[root@srv2 ~]# /sbin/restorecon -v /srv2/repVol-01/pgsql/data
```

```
[root@srv2 ~]# semodule -i my-postmaster.pp
```

```
libsemanage.semanage_direct_install_info: Overriding my-postmaster module at lower priority 300
with module at priority 400.
```

```
[root@srv2 ~]# systemctl start postgresql.service
```

```
[root@srv2 ~]# systemctl status postgresql.service
```

```
● postgresql.service - PostgreSQL database server
   Loaded: loaded (/usr/lib/systemd/system/postgresql.service; disabled; vendor preset: disabled)
   Active: active (running) since Sun 2020-03-29 19:03:46 CEST; 8s ago
   Process: 7479 ExecStartPre=/usr/libexec/postgresql-check-db-dir postgresql (code=exited,
status=0/SUCCESS)
   Main PID: 7482 (postmaster)
     Tasks: 8 (limit: 17948)
    Memory: 18.5M
   CGroup: /system.slice/postgresql.service
           └─7482 /usr/bin/postmaster -D /srv2/repVol-01/pgsql/data/
             └─7491 postgres: logger
               └─7498 postgres: checkpointer
                 └─7499 postgres: background writer
                   └─7500 postgres: walwriter
                     └─7501 postgres: autovacuum launcher
                       └─7502 postgres: stats collector
                         └─7503 postgres: logical replication launcher
```

```
mar 29 19:03:39 srv2.enermol.lan systemd[1]: Starting PostgreSQL database server...
```

```
mar 29 19:03:40 srv2.enermol.lan postmaster[7482]: 2020-03-29 19:03:40.157 CEST [7482] LOG:
iniciando PostgreSQL 12.1 on x86_64-redhat-linux-gnu, compiled by gcc (GCC) 8.3.1 20190507
(Red Hat 8.3.1-4), 64-bit
```

```
mar 29 19:03:40 srv2.enermol.lan postmaster[7482]: 2020-03-29 19:03:40.158 CEST [7482] LOG:
escuchando en la dirección IPv4 «0.0.0.0», port 5432
```





```

mar 29 19:03:40 srv2.enermol.lan postmaster[7482]: 2020-03-29 19:03:40.158 CEST [7482] LOG:
escuchando en la dirección IPv6 «:::», port 5432
mar 29 19:03:40 srv2.enermol.lan postmaster[7482]: 2020-03-29 19:03:40.166 CEST [7482] LOG:
escuchando en el socket Unix «/var/run/postgresql/.s.PGSQL.5432»
mar 29 19:03:40 srv2.enermol.lan postmaster[7482]: 2020-03-29 19:03:40.201 CEST [7482] LOG:
escuchando en el socket Unix «/tmp/.s.PGSQL.5432»
mar 29 19:03:40 srv2.enermol.lan postmaster[7482]: 2020-03-29 19:03:40.575 CEST [7482] LOG:
redirigiendo la salida del registro al proceso recolector de registro
mar 29 19:03:40 srv2.enermol.lan postmaster[7482]: 2020-03-29 19:03:40.575 CEST [7482] HINT:
La salida futura del registro aparecerá en el directorio «log».
mar 29 19:03:46 srv2.enermol.lan systemd[1]: Started PostgreSQL database server.

```

```
[root@srv2 ~]# su - postgres
```

```
Último inicio de sesión:dom mar 29 14:40:42 CEST 2020en pts/0
```

```
[postgres@srv2 ~]$ psql
```

```
psql (12.1)
```

```
Digite «help» para obtener ayuda.
```

```
postgres=# \du
```

Lista de roles

Nombre de rol	Atributos	Miembro de
<b>odoo</b>	<b>Superusuario, Crear rol, Crear BD</b>	<b>{ }</b>
postgres	Superusuario, Crear rol, Crear BD, Replicación, Ignora RLS	{ }

```
postgres=# exit
```

```
[root@srv2 ~]# systemctl stop postgresql.service
```

→ **Instalación de 'pgadmin4'**

```
# dnf install https://download.postgresql.org/pub/repos/yum/reporpms/EL-8-x86\_64/pgdg-redhat-repo-latest.noarch.rpm -y
```

```
# dnf --enablerepo=PowerTools install pgadmin4 -y
```

```
# systemctl enable --now httpd
```

```
# cp /etc/httpd/conf.d/pgadmin4.conf.sample /etc/httpd/conf.d/pgadmin4.conf
```

```
# mkdir -p /var/lib/pgadmin4/
```

```
# vim /usr/lib/python3.6/site-packages/pgadmin4-web/config_distro.py
```

```
HELP_PATH = '/usr/share/doc/pgadmin4-docs/en_US/html'
```

```
UPGRADE_CHECK_ENABLED = False
```

```
LOG_FILE = '/var/log/pgadmin4/pgadmin4.log'
```

```
SQLITE_PATH = '/var/lib/pgadmin4/pgadmin4.db'
```

```
SESSION_DB_PATH = '/var/lib/pgadmin4/sessions'
```



```
STORAGE_DIR = '/var/lib/pgadmin4/storage'
```

```
# python3 /usr/lib/python3.6/site-packages/pgadmin4-web/setup.py
```

NOTE: Configuring authentication for SERVER mode.

Enter the email address and password to use for the initial pgAdmin user account:

Email address: **info@example.com**

Password:

Retype password:

pgAdmin 4 - Application Initialisation

=====

```
# systemctl restart postgresql.service httpd.service
```

```
# chown -R apache:apache /var/lib/pgadmin4
```

```
# semanage fcontext -a -t httpd_sys_rw_content_t "/var/lib/pgadmin4(/.*)?"
```

```
# restorecon -Rv /var/lib/pgadmin4/
```

```
[root@srv1 ~]# semanage fcontext -a -t postgresql_db_t "/srv1/repVol-01/pgsql/data(/.*)?"
```

```
[root@srv1 ~]# restorecon -Rv /srv1/repVol-01/pgsql/data
```

```
[root@srv2 ~]# semanage fcontext -a -t postgresql_db_t "/srv2/repVol-01/pgsql/data(/.*)?"
```

```
[root@srv2 ~]# restorecon -Rv /srv2/repVol-01/pgsql/data
```

```
# ausearch -c 'postmaster' --raw | audit2allow -M my-postmaster
```

```
# semodule -X 300 -i my-postmaster.pp
```

```
# setsebool -P httpd_can_network_connect 1
```

```
# firewall-cmd --permanent --zone public --add-service={http,https}
```

```
# firewall-cmd --reload
```

```
# systemctl restart postgresql.service httpd.service
```

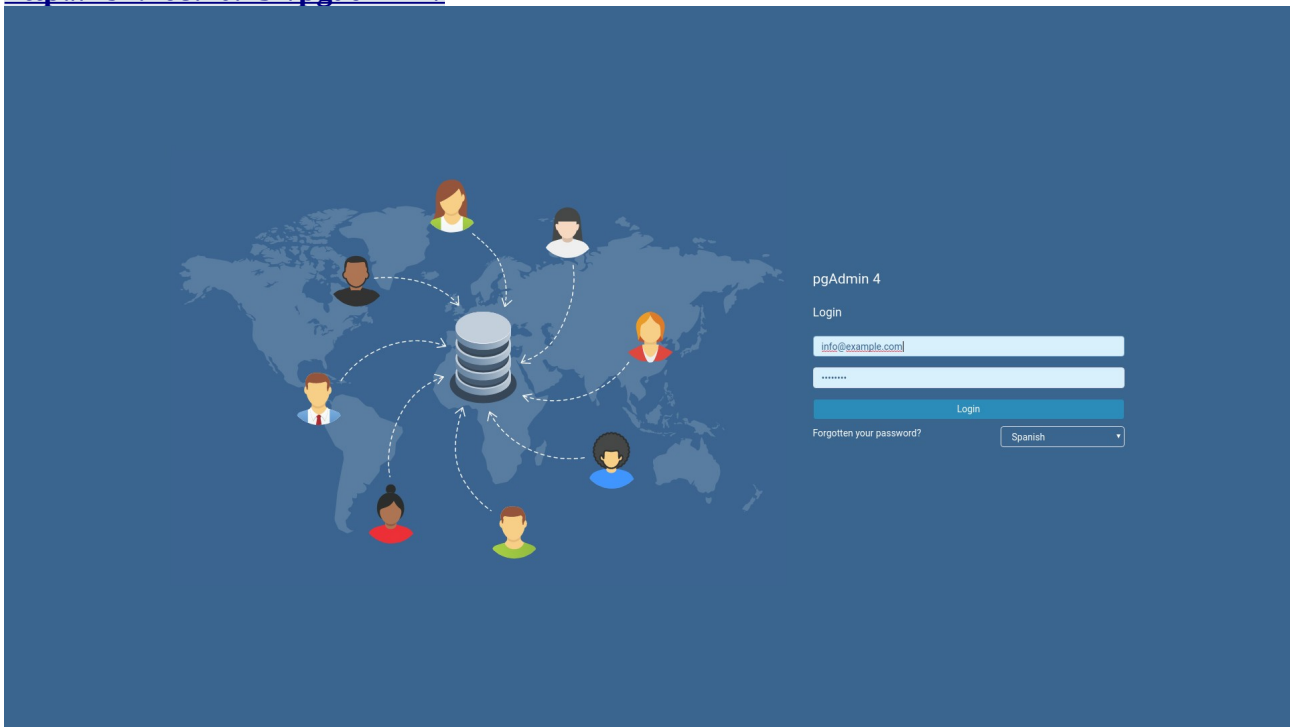
```
# getenforce
```

**Enforcing**



<http://192.168.10.151/pgadmin4/>

<http://192.168.10.152/pgadmin4/>



pgAdmin 4 interface showing database monitoring and activity.

**Database sessions**

Category	Value
Totales	1.00
Activa	0.80
Inactiva	0.60

**Transacciones por segundo**

Category	Value
Transacciones	3.00
Cometer	2.50
Retroceder	2.00

**Tuplas Insertadas**

Category	Value
Inserciones	1.00
Actualizaciones	0.50
Borrados	0.00

**Tuplas Leídas**

Category	Value
Recuperado	1250
Retornado	1000

**Bloqueo I/O**

Category	Value
Leídas	500
Tocadas	300

**Actividad del servidor**

Sesiones	Bloqueos	Transacciones Preparadas	Search
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

PID	Usuario	Aplicación	Cliente	Inicio del backend	Estado	Wait event	PIDs Bloqueando
4531	postgres	pgAdmin 4 - DB postgres	192.168.99.106	2020-03-30 19:03:05 CEST	active		



## RECURSOS:

<https://linuxconfig.org/how-to-install-packages-on-redhat-8>  
<https://linuxize.com/post/how-to-install-postgresql-on-centos-8/>  
<https://computingforgeeks.com/how-to-install-postgresql-12-on-centos-7/>  
<https://tecadmin.net/install-postgresql-centos8/>  
<https://www.tecmint.com/install-postgresql-and-pgadmin-in-centos-8/>  
[https://wiki.postgresql.org/wiki/SEPostgreSQL\\_SELinux\\_Overview](https://wiki.postgresql.org/wiki/SEPostgreSQL_SELinux_Overview)  
[https://linux.die.net/man/8/postgresql\\_selinux](https://linux.die.net/man/8/postgresql_selinux)  
[https://www.systutorials.com/docs/linux/man/8-postgresql\\_selinux/](https://www.systutorials.com/docs/linux/man/8-postgresql_selinux/)

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