David Ghedini Linux, Java, Oracle, and PostgreSQL

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Tuesday Mar 01, 2011

Install PostgreSQL 9 on CentOS

This post will cover installing and basic configuration of PostgreSQL 9.x on CentOS.

We will install PostgreSQL 9 using the PostgreSQL repository and yum.

The same procedure can be used to install PostgreSQL 9 on Red Hat and Fedora using the appropriate rpm.

Optionally, we'll also see how to install PostGIS.

As the directory structure of PostgreSQL has changed with the release of PostgreSQL 9, we will also look a look at how we can create symlinks to make life easier when installing software or modules that still expect the old directory structure.

Finally, for Webmin users, we will see how to configuring Webmin to manage PostgreSQL 9.

I am using CentOS 6, but the same procedure works for CentOS 5. Finally, if you are using Webmin, we will also show how to configure Webmin to manage PostgreSQL 9.

With the release of PostgreSQL 9, the directory structure of PostgreSQL has changed.

We will also creating symlinks (if needed) from the new PostgreSQL 9 file locations to the previous PostgreSQL 8 file locations.

If you are looking trying to install PostgreSQL 9 on cPanel, please see my post here.

We'll use the simplest method to install, which is the postrgres repo rpms.

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1. Download and Install the PostgreSQL Repository

Download the latest production release for your distro here:
http://yum.pgrpms.org/repopackages.php

The repo rpms are 32 and 64 bit specific.

Since I am installing on CentOS 6 x64, I will need:

http://yum.pgrpms.org/9.1/redhat/rhel-5-x86_64/pgdg-centos91-9.1-4.noarch.rpm

So, using wget:

wget http://yum.pgrpms.org/9.1/redhat/rhel-6-x86_64/pgdg-centos91-9.1-4.noarch.rpm

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```
01. [root@server1 ~]# wget http://yum.pgrpms.org/9.1/redhat/rhel-6-
    x86_64/pgdg-centos91-9.1-4.noarch.rpm
02. --2011-11-01 00:11:50--  http://yum.pgrpms.org/9.1/redhat/rhel-6-
    x86_64/pgdg-centos91-9.1-4.noarch.rpm
03. Resolving yum.pgrpms.org... 98.129.198.114
04. Connecting to yum.pgrpms.org|98.129.198.114|:80... connected.
05. HTTP request sent, awaiting response... 200 OK
06. Length: 5124 (5.0K) [application/x-redhat-package-manager]
07. Saving to: pgdg-centos91-9.1-4.noarch.rpm
08.
09. 100%[======================================>] 5,124       --.-
    K/s   in 0s
10.
11. 2011-11-01 00:11:51 (310 MB/s) - pgdg-centos91-9.1-4.noarch.rpm
12.
13. [root@server1 ~]#
```

Now, install the repo....

```
view plain  copy to clipboard  print  ?
01. [root@server1 ~]# rpm -i pgdg-centos91-9.1-4.noarch.rpm
```

We now need to edit the CentOS-Base.repo to exclude postgreql.

To do, so we simply edit CentOS-Base.repo and add 'exclude=postgresql*' to the [base] and [updates] sections:

```
view plain  copy to clipboard  print  ?
01. [root@server1 ~]# cd /etc/yum.repos.d
02. [root@server1 yum.repos.d]# vi CentOS-Base.repo
```

```
view plain  copy to clipboard  print  ?
01. [root@server1 yum.repos.d]# vi CentOS-Base.repo
02. # remarked out baseurl= line instead.
03. #
04. #
05.
06. [base]
07. name=CentOS-$releasever - Base
08. mirrorlist=http://mirrorlist.centos.org/?
    release=$releasever&arch=$basearch&repo=os
09. #baseurl=http://mirror.centos.org/centos/$releasever/os/$basearch/
10. gpgcheck=1
11. gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-6
12. exclude=postgresql*
13.
14. #released updates
15. [updates]
16. name=CentOS-$releasever - Updates
17. mirrorlist=http://mirrorlist.centos.org/?
    release=$releasever&arch=$basearch&repo=updates
18. #baseurl=http://mirror.centos.org/centos/$releasever/updates/$basearch/
19. gpgcheck=1
20. gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-6
21. exclude=postgresql*
```

Now, let's use 'yum list' to check the packages that are now available.

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```
[root@server1 yum.repos.d]# yum list postgres*
Loaded plugins: fastestmirror
base                                                     | 3.7 kB     00:00
base/primary_db                                          | 4.2 MB     00:09
extras                                                   | 3.0 kB     00:00
extras/primary_db                                        | 1.9 kB     00:00
pgdg91                                                   | 2.8 kB     00:00
pgdg91/primary_db                                        |  79 kB     00:00
updates                                                  | 3.5 kB     00:00
updates/primary_db                                       | 3.3 MB     00:00
vz-
base                                                   |  951 B     00:00
vz-
base/primary                                           | 1.3 kB     00:00
vz-
base                                                                     3/
vz-
updates                                                |  951 B     00:00
vz-
updates/primary                                        |  157 B     00:00
Available Packages
postgresql91.x86_64                          9.1.1-
1PGDG.rhel6                pgdg91
postgresql91-contrib.x86_64                  9.1.1-
1PGDG.rhel6                pgdg91
postgresql91-debuginfo.x86_64                9.1.1-
1PGDG.rhel6                pgdg91
postgresql91-devel.i686                      9.1.1-
1PGDG.rhel6                pgdg91
postgresql91-devel.x86_64                    9.1.1-
1PGDG.rhel6                pgdg91
postgresql91-docs.x86_64                     9.1.1-
1PGDG.rhel6                pgdg91
postgresql91-jdbc.x86_64                     9.1.901-
1PGDG.rhel6              pgdg91
postgresql91-jdbc-debuginfo.x86_64           9.1.901-
1PGDG.rhel6              pgdg91
postgresql91-libs.i686                       9.1.1-
1PGDG.rhel6                pgdg91
postgresql91-libs.x86_64                     9.1.1-
1PGDG.rhel6                pgdg91
```

```
27. postgresql91-odbc.x86_64                    09.00.0200-
    1PGDG.rhel6        pgdg91
28. postgresql91-odbc-debuginfo.x86_64          09.00.0200-
    1PGDG.rhel6        pgdg91
29. postgresql91-plperl.x86_64                  9.1.1-
    1PGDG.rhel6             pgdg91
30. postgresql91-plpython.x86_64                9.1.1-
    1PGDG.rhel6             pgdg91
31. postgresql91-pltcl.x86_64                   9.1.1-
    1PGDG.rhel6             pgdg91
32. postgresql91-python.x86_64                  4.0-
    2PGDG.rhel6               pgdg91
33. postgresql91-python-debuginfo.x86_64        4.0-
    2PGDG.rhel6               pgdg91
34. postgresql91-server.x86_64                  9.1.1-
    1PGDG.rhel6             pgdg91
35. postgresql91-tcl.x86_64                     1.9.0-
    1.rhel6                 pgdg91
36. postgresql91-tcl-debuginfo.x86_64           1.9.0-
    1.rhel6                 pgdg91
37. postgresql91-test.x86_64                    9.1.1-
    1PGDG.rhel6             pgdg91
38. postgresql_autodoc.noarch                   1.40-
    1.rhel6                  pgdg91
39. [root@server1 yum.repos.d]#
```

2. Install PostgreSQL 9.1 Using Yum

We can now install PostgreSQL 9 using yum:

yum install postgresql91 postgresql91-devel postgresql91-server postgresql91-libs postgresql91-contrib

```
    view plain  copy to clipboard  print  ?
01. [root@server1 yum.repos.d]# yum install postgresql91 postgresql91-
    devel postgresql91-server postgresql91-libs postgresql91-contrib
02. Loaded plugins: fastestmirror
03. Determining fastest mirrors
04.  * base: mirror.us.leaseweb.net
```

```
 * extras: mirror.lug.udel.edu
 * updates: centos.mirror.choopa.net
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package postgresql91.x86_64 0:9.1.1-1PGDG.rhel6 set to be updated
---> Package postgresql91-devel.x86_64 0:9.1.1-
1PGDG.rhel6 set to be updated
---> Package postgresql91-libs.x86_64 0:9.1.1-
1PGDG.rhel6 set to be updated
---> Package postgresql91-server.x86_64 0:9.1.1-
1PGDG.rhel6 set to be updated
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================
 Package                  Arch        Version                  Repository
================================================================================
Installing:
 postgresql91             x86_64      9.1.1-
1PGDG.rhel6       pgdg91      939 k
 postgresql91-devel       x86_64      9.1.1-
1PGDG.rhel6       pgdg91      1.4 M
 postgresql91-libs        x86_64      9.1.1-
1PGDG.rhel6       pgdg91      186 k
 postgresql91-server      x86_64      9.1.1-
1PGDG.rhel6       pgdg91      3.4 M

Transaction Summary
================================================================================
Install       4 Package(s)
Upgrade       0 Package(s)

Total download size: 5.9 M
Installed size: 25 M
Is this ok [y/N]: y
Downloading Packages:
(1/4): postgresql91-9.1.1-
1PGDG.rhel6.x86_64.rpm         | 939 kB     00:02
(2/4): postgresql91-devel-9.1.1-
1PGDG.rhel6.x86_64.rpm   | 1.4 MB     00:01
(3/4): postgresql91-libs-9.1.1-
1PGDG.rhel6.x86_64.rpm    | 186 kB     00:00
(4/4): postgresql91-server-9.1.1-
1PGDG.rhel6.x86_64.rpm  | 3.4 MB     00:02
--------------------------------------------------------------------------------
-------
```

```
Total                                              800 kB/s | 5.9 MB     00:07
Running rpm_check_debug
Running Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing     : postgresql91-libs-9.1.1-
1PGDG.rhel6.x86_64                1/4
  Installing     : postgresql91-9.1.1-
1PGDG.rhel6.x86_64                      2/4
  Installing     : postgresql91-server-9.1.1-
1PGDG.rhel6.x86_64              3/4
  Installing     : postgresql91-devel-9.1.1-
1PGDG.rhel6.x86_64               4/4

Installed:
  postgresql91.x86_64 0:9.1.1-1PGDG.rhel6
  postgresql91-devel.x86_64 0:9.1.1-1PGDG.rhel6
  postgresql91-libs.x86_64 0:9.1.1-1PGDG.rhel6
  postgresql91-server.x86_64 0:9.1.1-1PGDG.rhel6

Complete!
[root@server1 yum.repos.d]#
```

3. Initialize and Start PostgreSQL 9.1

We can now initialize and Start PostgreSQL

NOTE: when using Webmin, please see 'Configuring Webmin to Manage PostgreSQL9 below.

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```
[root@server1 yum.repos.d]# service postgresql-9.1 initdb
Initializing database:                                     [  OK  ]
[root@server1 yum.repos.d]#
```

Start the PostgreSQL server:

```
view plain  copy to clipboard  print  ?
01. [root@server1 yum.repos.d]# service postgresql-9.1 start
02. Starting postgresql-9.1 service:                       [  OK  ]
03. [root@server1 yum.repos.d]#
```

If you encounter startup errors, check under /var/lib/pgsql/9.1/data/pg_log for clues.

4. Set PostgreSQL 9 Environment

The deault home directory for the user postgres is at /var/lib/pgsql

The bash_profile for the user postgres will look like this:

```
view plain  copy to clipboard  print  ?
01. [ -f /etc/profile ] && source /etc/profile
02. PGDATA=/var/lib/pgsql/9.1/data
03. export PGDATA
```

This contains a path for the data directory, but no path for the executable/binary directory. To ammend this, add the path as below:

```
view plain  copy to clipboard  print  ?
01. [ -f /etc/profile ] && source /etc/profile
02. PGDATA=/var/lib/pgsql/9.1/data
03. export PGDATA
04. PATH=$PATH:$HOME/bin:/usr/pgsql-9.1/bin
```

```
05. export PATH
```

Placing the binary directory in the path for postgres will allow you to invoke pg_ctl and other commands from the shell.

5. Set postgres Password

The superuser postgres has no password set by default.

To set the password, switch to postgres user:

```
view plain copy to clipboard print ?
01. [root@server1 yum.repos.d]# su - postgres
```

Connect as postgres to the postgres database and set the password for user postgres using alter user as below:

```
view plain copy to clipboard print ?
01. -bash-4.1$ psql postgres postgres
02. psql (9.1.1)
03. Type "help" for help.
04.
05. postgres=# alter user postgres with password 'postgres';
06. ALTER ROLE
07. postgres=#
```

6. Configure PostgreSQL 9 pg_hba.conf File

Locate your pg_hba.conf file under /var/lib/pgsql/9.1/data

On installation, your pg_hba.conf file will look like this:

view plain copy to clipboard print ?

```
[root@server1 yum.repos.d]# vi /var/lib/pgsql/9.1/data/pg_hba.conf
# Put your actual configuration here
# ----------------------------------
#
# If you want to allow non-local connections, you need to add more
# "host" records.  In that case you will also need to make PostgreSQL
# listen on a non-local interface via the listen_addresses
# configuration parameter, or via the -i or -h command line switches.



# TYPE  DATABASE        USER            ADDRESS                 METHOD

# "local" is for Unix domain socket connections only
local   all             all                                     peer
# IPv4 local connections:
host    all             all             127.0.0.1/32            ident
# IPv6 local connections:
host    all             all             ::1/128                 ident
# Allow replication connections from localhost, by a user with the
# replication privilege.
#local   replication     postgres                                peer
#host    replication     postgres        127.0.0.1/32            ident
#host    replication     postgres        ::1/128                 ident
```

Change the METHOD to md5 as shown below:

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```
# TYPE  DATABASE        USER            ADDRESS                 METHOD

# "local" is for Unix domain socket connections only
local   all             all                                     md5
# IPv4 local connections:
```

```
host    all             all             127.0.0.1/32            md5
# IPv6 local connections:
host    all             all             ::1/128                 md5
```

In order for the change to take effect, reload the pg_hba.conf file.

As with any command, there are several ways you can reload the pg_hba.conf file.

Method 1: From the shell using pg_ctl reload:

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```
[root@server1 yum.repos.d]# su - postgres
-bash-4.1$ pg_ctl reload
server signaled
-bash-4.1$
```

Method 2: From psql using pg_reload_conf();

view plain copy to clipboard print ?

```
-bash-4.1$ psql postgres postgres
psql (9.1.1)
Type "help" for help.

postgres=# select pg_reload_conf();
 pg_reload_conf
----------------
 t
(1 row)

postgres=#
```

Method 3: From the shell using -c switch to run select pg_reload_conf();

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```
-bash-4.1$ psql postgres postgres -c "select pg_reload_conf();"
Password for user postgres:
 pg_reload_conf
```

```
----------------
 t
(1 row)

-bash-4.1$
```

7. Configure Remote Access for PostgreSQL 9

Locate the postgresql.conf file under /var/lib/pgsql/9.1/data.

Look for CONNECTIONS AND AUTHENTICATION. It will look as below:

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```
#------------------------------------------------------------------------------
# CONNECTIONS AND AUTHENTICATION
#------------------------------------------------------------------------------

# - Connection Settings -

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

By default, access is limited to local machine (localhost).

To enable remote connections, uncomment listen_addresses and change to '*' as shown below.

view plain copy to clipboard print ?

```
#------------------------------------------------------------------------
------
# CONNECTIONS AND AUTHENTICATION
#------------------------------------------------------------------------
------

# - Connection Settings -

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

You can also set the listen_address limit to a specific IP (or IPs using a comma separated list).

Note: For security, it is also a good idea to change the default port. To do this, uncomment port and set to a new port value.

If you change the port, you will need to restart the service.

Restart the postgresql service:

```
view plain  copy to clipboard  print  ?

service postgresql-9.1 restart
Stopping postgresql-9.1 service:                           [  OK  ]
Starting postgresql-9.1 service:                           [  OK  ]
[root@server1 yum.repos.d]#
```

If you encounter startup errors, check under /var/lib/pgsql/9.1/data/pg_log for clues.

Verify the changes to listen_address and port (if changed):

```
view plain  copy to clipboard  print  ?

-bash-4.1$ psql
Password:
```

```
psql (9.1.1)
Type "help" for help.

postgres=# show listen_addresses;
 listen_addresses
------------------
 *
(1 row)


postgres=# show port;
 port
------
 5432
(1 row)

postgres=#
```

8. Create User and Database for PostgreSQL 9

To check Check functionality, connect to postgres db as user postgres.

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```
[root@server1 yum.repos.d]# psql postgres postgres
Password for user postgres:
psql (9.1.1)
Type "help" for help.

postgres=#
```

Create a user:

view plain copy to clipboard print ?

```
postgres=# create user myuser with password 'secret';
CREATE ROLE
```

Create a database and give ownership to the new user:

```
view plain  copy to clipboard  print  ?
01. postgres=# create database mytestdb owner=myuser;
02. CREATE DATABASE
```

Connect to the database as user:

```
view plain  copy to clipboard  print  ?
01. postgres=# \c mytestdb myuser
02. Password for user myuser:
03. You are now connected to database "mytestdb" as user "myuser".
```

Create a table and insert row(s):

```
view plain  copy to clipboard  print  ?
01. mytestdb=> create table testtable (col1 varchar);
02. CREATE TABLE
03. mytestdb=> insert into testtable values('hello');
04. INSERT 0 1
```

Select on the table you created:

```
view plain  copy to clipboard  print  ?
01. mytestdb=> select * from testtable;
02.  col1
03. -------
04.  hello
```

```
(1 row)

mytestdb=>
```

Describe table:

```
view plain  copy to clipboard  print  ?
mytestdb=> \dt
          List of relations
 Schema |   Name    | Type  | Owner
--------+-----------+-------+--------
 public | testtable | table | myuser
(1 row)
```

Note that by default the schema used is Public. You should create a specific schema for your users.

9. Configure PostgreSQL 9 Service to Start at Boot

By default, the service postgresql-9.1 is added to chkconifg, but all run levels are set to off.

Add for run levels 2,3, and 4 for the postgresql-9.1 service.

```
view plain  copy to clipboard  print  ?
[root@server1 yum.repos.d]# chkconfig --level 234 postgresql-9.1 on
```

10. Create Symlinks for Backward Compatibility from PostgreSQL 9 to PostgreSQL 8

Many, if not most, third party software and modules are still be set to look for PoistgreSQL's conf file and data directory under their old (pre-version 9) locations.

You can address this, and make life easier for yourself, by creating a few symlinks from the new locations to the old.

Symlink 1: Symlink for the binary directory. This is particularly useful as this is the location of the pg_config file

```
view plain  copy to clipboard  print  ?
01. root@server1 [~]# ln -s /usr/pgsql-9.1/bin/pg_config /usr/bin
```

Symlink 2: Symlink for the old data directory location of /var/lob/pgsql

```
view plain  copy to clipboard  print  ?
01. root@server1 [~]# ln -s /var/lib/pgsql/9.1/data /var/lib/pgsql
02. root@server1 [~]# ln -s /var/lib/pgsql/9.1/backups /var/lib/pgsql
```

11. Install PostGIS on PostgreSQL 9

Using the postgresql repo, we can easily install PostGIS if we wish to.

The installtion will also install Proj4 and Geos and required perl modules.

```
view plain  copy to clipboard  print  ?
```

```
[root@server1 yum.repos.d]# yum install postgis91 postgis91-utils
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
 * base: mirror.us.leaseweb.net
 * extras: mirror.lug.udel.edu
 * updates: centos.mirror.choopa.net
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package postgis91.x86_64 0:1.5.3-2.rhel6 set to be updated
--> Processing Dependency: proj for package: postgis91-1.5.3-
2.rhel6.x86_64
--> Processing Dependency: geos for package: postgis91-1.5.3-
2.rhel6.x86_64
--> Processing Dependency: libgeos_c.so.1()
(64bit) for package: postgis91-1.5.3-2.rhel6.x86_64
--> Processing Dependency: libproj.so.0()(64bit) for package: postgis91-
1.5.3-2.rhel6.x86_64
---> Package postgis91-utils.x86_64 0:1.5.3-2.rhel6 set to be updated
--> Processing Dependency: perl-DBD-Pg for package: postgis91-utils-
1.5.3-2.rhel6.x86_64
--> Running transaction check
---> Package geos.x86_64 0:3.3.0-1.rhel6 set to be updated
---> Package perl-DBD-Pg.x86_64 0:2.15.1-3.el6 set to be updated
--> Processing Dependency: perl(DBI) for package: perl-DBD-Pg-2.15.1-
3.el6.x86_64
---> Package proj.x86_64 0:4.7.0-1.rhel6 set to be updated
--> Running transaction check
---> Package perl-DBI.x86_64 0:1.609-4.el6 set to be updated
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================
 Package                Arch          Version                Repository
================================================================================
Installing:
 postgis91              x86_64        1.5.3-
2.rhel6         pgdg91        1.3 M
 postgis91-utils        x86_64        1.5.3-
2.rhel6         pgdg91         21 k
Installing for dependencies:
 geos                   x86_64        3.3.0-
1.rhel6         pgdg91        502 k
 perl-DBD-Pg            x86_64        2.15.1-
3.el6           base          197 k
 perl-DBI               x86_64        1.609-
4.el6           base          705 k
```

```
 proj                    x86_64        4.7.0-
1.rhel6         pgdg91        157 k

Transaction Summary
================================================================================
Install       6 Package(s)
Upgrade       0 Package(s)

Total download size: 2.9 M
Installed size: 11 M
Is this ok [y/N]: y
Running rpm_check_debug
Running Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing     : proj-4.7.0-
1.rhel6.x86_64                                 1/6
  Installing     : perl-DBI-1.609-
4.el6.x86_64                                 2/6
  Installing     : perl-DBD-Pg-2.15.1-
3.el6.x86_64                               3/6
  Installing     : geos-3.3.0-
1.rhel6.x86_64                                 4/6
  Installing     : postgis91-1.5.3-
2.rhel6.x86_64                               5/6
  Installing     : postgis91-utils-1.5.3-
2.rhel6.x86_64                       6/6

Installed:
  postgis91.x86_64 0:1.5.3-2.rhel6    postgis91-utils.x86_64 0:1.5.3-
2.rhel6

Dependency Installed:
  geos.x86_64 0:3.3.0-1.rhel6          perl-DBD-Pg.x86_64 0:2.15.1-
3.el6
  perl-DBI.x86_64 0:1.609-4.el6        proj.x86_64 0:4.7.0-1.rhel6

Complete!
[root@server1 yum.repos.d]#
```

The required PostGIS sql files will be installed under /usr/pgsql-9.1/share/contrib/postgis-1.5

Create a database.

```
view plain copy to clipboard print ?
01. -bash-4.1$ createdb pgisdb
02. Password:
03. -bash-4.1$
```

Run the postgis.sql and spatial_ref_sys.sql files using below.

```
view plain copy to clipboard print ?
01. -bash-4.1$ psql -d pgisdb -f /usr/pgsql-9.1/share/contrib/postgis-
1.5/postgis.sql
```

```
view plain copy to clipboard print ?
01. -bash-4.1$ psql -d pgisdb -f /usr/pgsql-9.1/share/contrib/postgis-
1.5/spatial_ref_sys.sql
```

12. Configuring Webmin to Manage PostegreSQL 9

Due to the directory structure of PostgreSQL 9, you will need to make a few changes to the Webmin management interface it let Webmin know where the Postgre files are located.

Under Servers>PostgreSQL Database Server Click on Module Configuration.

Make the following substitutions in the System Configuration Section:

1. Path to psql command: Original:

```
view plain copy to clipboard print ?
01. /usr/bin/psql
```

Change to:

```
view plain  copy to clipboard  print  ?
01.  /usr/pgsql-9.1/bin/psql
```

2. Command to start PostgreSQL Original:

```
view plain  copy to clipboard  print  ?
01.  if [ -
r /etc/rc.d/init.d/rhdb ]; then /etc/rc.d/init.d/rhdb start; else /etc/rc.d
```

Change to:

```
view plain  copy to clipboard  print  ?
01.  if [ -
r /etc/rc.d/init.d/rhdb ]; then /etc/rc.d/init.d/rhdb start; else /etc/rc.d
9.1 start; fi
```

3. Command to stop PostgreSQL Original:

```
view plain  copy to clipboard  print  ?
01.  if [ -
r /etc/rc.d/init.d/rhdb ]; then /etc/rc.d/init.d/rhdb stop; else /etc/rc.d/
```

Change to:

```
view plain  copy to clipboard  print  ?
01.  if [ -
r /etc/rc.d/init.d/rhdb ]; then /etc/rc.d/init.d/rhdb stop; else /etc/rc.d/
9.1 stop; fi
```

4. Command to initialize PostgreSQL Original:

```
view plain  copy to clipboard  print  ?
01.  if [ -
```

```
r /etc/rc.d/init.d/rhdb ]; then /etc/rc.d/init.d/rhdb start; else /etc/rc.
```

Change to:

```
view plain  copy to clipboard  print  ?
01. if [ -
r /etc/rc.d/init.d/rhdb ]; then /etc/rc.d/init.d/rhdb start; else /etc/rc.
9.1 initdb ; /etc/rc.d/init.d/postgresql-9.1 start; fi
```

5. Path to postmaster PID file Original:

```
view plain  copy to clipboard  print  ?
01. /var/run/postmaster.pid
```

Change to:

```
view plain  copy to clipboard  print  ?
01. /var/run/postmaster-9.1.pid
```

6. Paths to host access config file Original:

```
view plain  copy to clipboard  print  ?
01. /var/lib/pgsql/data/pg_hba.conf
```

Change to:

```
view plain  copy to clipboard  print  ?
01. /var/lib/pgsql/9.1/data/pg_hba.conf
```

7. Default backup repository directory Original:

```
view plain  copy to clipboard  print  ?
01. /home/db_repository
```

Change to:

```
view plain  copy to clipboard  print  ?
01. /var/lib/pgsql/9.1/backups
```

Save the configuration.

If you have not already initialized the database, do so now by clicking the initialize database button.

Additional information and references:

Postgresql.Org/

PostgreSQL 9.1 Documentation

Posted at 07:02AM Mar 01, 2011 by David in PostgreSQL | Comments[22] | Tags: centos postgis postgresql | Export to: |

Comments:

This was *seriously* helpful, thank you for creating this.

I am brand new to postgres, still trying to figure out how to install modules, not very clear from the docs... can't find the pg_module command to generate the sql (and catalog)

Posted by **Jasdeep** on January 30, 2012 at 12:44 PM CST #

Hi Jasdeep -

Glad you found it useful.

Which module(s) are you having problems with?

David

Posted by **David Scott Ghedini** on January 30, 2012 at 01:39 PM CST #

This is likely the most useful set of installation instructions that I've ever seen anyone post. It is very well laid out, but also thoughtful and considerate in the level of detail. You've managed to make it useful for a wide range of programmers; kudos to you!

I followed these to install Postgresql v9.1.2 on my virtual dedicated server, provided by Godaddy. It is on Centos 5.6, but the pre-build comes with

Postgresql v8.1.22. Starting from scratch for the 12th time in as many days, I just performed a "yum upgrade" and a Webmin install prior to following your procedure to install Postgresql.

I've learned that from a freshly-provisioned GoDaddy server, it is best to do nothing at all to the v8 Postgresql: don't start it, initialize it, or even try to remove it. If it is removed, it also takes away some of the required turbopanel packages, and will cripple Godaddy's Simple Control Panel. Just pretend it isn't there.

I started running into problems around step 7: restarting the server. The problems were likely just related to the existing v8 Postgresql. I just rebooted and skipped to using Webmin, where I could finish everything else off.

I like Webmin a lot as well, and was really impressed that you provided module configuration instructions for that as well.

Thank you very much for posting this. You will be top on my search for guidance in the future.

Cheers!

~Sean

Posted by **Sean Harasymchuk** on January 31, 2012 at 10:17 PM CST #

Thanx David, it is really helpful.

Best Regards from Indonesia
Dayat

Posted by **Dayat** on February 15, 2012 at 05:14 AM CST #

Hello David,
I have followed this manual step by step. But in step 7, I have modified the port

with 5555.
Before restart the server continues in 5432.
When I write:
#service postgresql-9.1 start
¿What script execute? ¿Would it is set a PGPORT?
Thanks a lot in advance

Posted by **Agus** on March 04, 2012 at 03:13 AM CST #

Hello again. I have resolved the problem with:

# service postgresql-9.1 stop
# cd /etc/sysconfig/pgsql/
# vi postgresql-9.1
PGPORT=5555
export PGPORT
service postgresql-9.1 start
You can see the result in:
/var/lib/pgsql/9.1/pgstartup.log
And test it with:
psql -p 5555 postgres postgres
Thank you,

Posted by **Agus** on March 04, 2012 at 11:48 AM CST #

Hi, Your blog is vert useful. helped me a ot while installing apache,jboss and pgsql.Would you please help me to integrate openldap and pgsql.??

Posted by **Aswathi** on March 20, 2012 at 05:04 AM CDT #

Hi All, Thank you very much for the instructions, they proved very useful for my installation.
Being reasonably new to the installation process on Centos I'm curious to know

why most examples first execute 'rpm -i', then 'yum install'?
As far as I understand 'yum install' is effectively the same 'rpm -i'.
I haven't been able to find any answer as to why both are usually executed in an installation when they are effectively the same process.

Thanks

Posted by **Steven** on April 06, 2012 at 07:47 PM CDT #

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excellent..... piece of information.
Usually i read from multiple places to achieve some installation like this. This is all in one

Posted by **Umakanth Srinivasan** on July 26, 2012 at 01:00 PM CDT #

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thanks

Posted by **vicky** on August 10, 2012 at 03:02 AM CDT #

Hi,tutorial is excellent.
When I Create a User and Database for PostgreSQL 9, I got error in my console:
FATAL: Peer authentication failed for user"postgres"

Posted by **Ashokkumar** on August 23, 2012 at 06:41 AM CDT #

Thanks a lot four you tutorial !
It's a very good one.
I work on this installation since 2 days, and I succeed the installation with your site.
Thanks a lot.

Posted by **Antoine** on August 23, 2012 at 09:36 AM CDT #

Hi Ashokkumar,

Check your pg_hba.conf (step 6).

Be sure to reload the file as well after making the changes (also in step 6)

Thanks,
David

Posted by **David Ghedini** on August 23, 2012 at 09:17 PM CDT #

Thank you. Very helpful. Helped me past rpm and yum problems.

Posted by **Scott** on September 07, 2012 at 04:47 PM CDT #

Great Work by davidghedini.
Really very thankful to you for putting so nice tutorial and i have configured posgresql 9.1 on centos 6 without any single error.
Again regards.
Farrukh

Posted by **farrukh** on September 12, 2012 at 07:02 AM CDT #

This was such a timesaver. Thanks. Georg

Posted by **Georg Zimmer** on September 27, 2012 at 09:10 AM CDT #

Thank you very much this was so helpfull !!!

Posted by **Sebastien** on October 02, 2012 at 07:44 AM CDT #

Thanks a lot, clear and very helpfull.

Posted by **ivan** on November 13, 2012 at 01:15 PM CST #

Thank you very much. I have used this and the JBoss as well as Apache tutorial.

Best regards
Benjamin

Posted by **Benjamin** on March 22, 2013 at 10:41 AM CDT #

Thanks

Posted by **Mauricio dos Santos Magnani Junior** on April 23, 2013 at 09:35 PM CDT #

Thank you for the excellent tutorials on your website. Postgres installation went fine and I followed all the steps. However, when I reboot my machine and log in with non-root user account, postgres does not autostart even though I set the chkconfig levels in step 9. Is there anything I need to change to the startup service to work as non-root user? Thanks, Gianni

Posted by **Gianni** on June 23, 2013 at 03:39 AM CDT #

thank you for great instructions on virtualmin after upgrade to 9.2, when executing psql --version i get psql (PostgreSQL) 8.4.13 how can i remove or disable the 8.4.13?

Posted by **david** on June 24, 2013 at 11:06 AM CDT #

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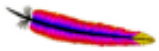

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