

Cloud Backup - Pre-requisites for PostGreSQL backup on a Linux Server

Description

This article describes the steps needed for successful backup of a PostGreSQL database on a Linux server.

The steps below highlight the following:

- 1) Backup Client is already installed on the Linux server
- 2) creating a symbolic link to the postgres library
- 3) configuring a group with correct permissions
- 4) entering your account details/password, database names, ports, etc to ensure your backup will be configured correctly.

Prerequisites:

P1. It is assumed a PostGreSQL Backup Client is installed on the Linux server.

[Cloud Backup - Provisioning Cloud Backup for a Server \(step by step\)](#)

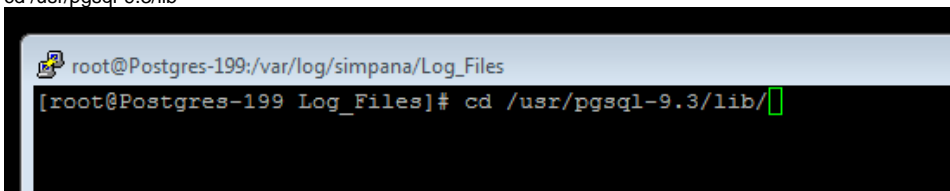
Solution:

1. **Open an ssh session to the Linux server in question. Make a connection to the server where your PostGreSQL client is installed [in the example below is the IP address as shown].**

```
Brandons-Potts-MacBook-Pro:~ bpotts$ ssh -X root@10.101.41.199
root@10.101.41.199's password:
X11 forwarding request failed on channel 0
Last login: Mon Oct 14 23:23:37 2013 from 10.230.97.220
[root@Postgres-199 ~]#
```

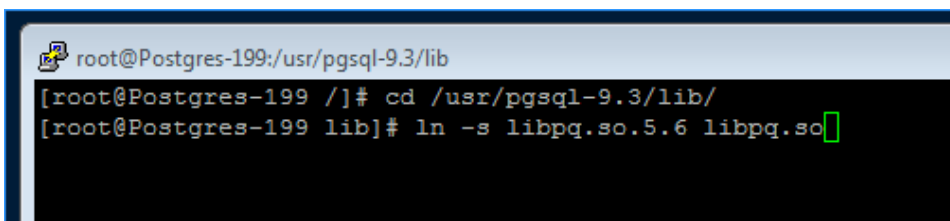
2. To ensure that the PostgresSQL agent works on the system a Symlink needs to be created first between a file to ensure that the backups will work. The Postgres agent is looking for a specific library file and if it does not exist they you will need to perform this step.

Check to see if the following file exists in the **usr/pgsql-9.3/lib** directory. Perform the following command to see if this file exists -> "**ls libpq.so**". Note -> if the file is not there please continue
cd /usr/pgsql-9.3/lib

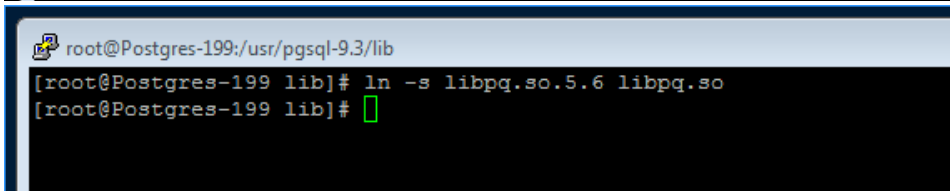


```
root@Postgres-199:/var/log/simpana/Log_Files
[root@Postgres-199 Log_Files]# cd /usr/pgsql-9.3/lib/
```

Create the Symbolic link or symlink for short. Type "**ln -s libpq.so.5.6 libpq.so**" and press enter as shown.



```
root@Postgres-199:/usr/pgsql-9.3/lib
[root@Postgres-199 /]# cd /usr/pgsql-9.3/lib/
[root@Postgres-199 lib]# ln -s libpq.so.5.6 libpq.so
```



```
root@Postgres-199:/usr/pgsql-9.3/lib
[root@Postgres-199 lib]# ln -s libpq.so.5.6 libpq.so
[root@Postgres-199 lib]#
```

3. Start postgres service with the below command.

```
service postgresql-9.3 start
Once this has been completed you can move onto step 4 below.
```

4. Change the directory to the PostGre data folder. example -> `cd /var/lib/pgsql/9.3/data`

```
[root@Postgres-199 ~]# cd /var/lib/pgsql/9.3/data
[root@Postgres-199 data]#
```

5. You will need to change the archive settings in the postgresql.conf file using the VI editor
Enter vi postgresql.conf (this will start the editor)

```
[root@Postgres-199 data]# vi postgresql.conf
```

6. Enter `/archive_command`

```
#-----
# FILE LOCATIONS
#-----
/archive_command
```

7. Type `l` for insert mode

```
archive_command = 'gzip /var/lib/pgsql/9.3/data/pg_xlog/%f /var/lib/pgsql/9.3/wals/%f.gz'
archive_command = 'test ! -f /var/lib/pgsql/9.3/wals/%f.gz && gzip -c %p > /var/lib/pgsql/9.3/wals/%f.gz'
```

8. Make sure the existing archive_commands have a # symbol in the front as shown here

```
#archive_command = 'gzip /var/lib/pgsql/9.3/data/pg_xlog/%f /var/lib/pgsql/9.3/wa
ls/%f.gz'
#archive_command = 'test ! -f /var/lib/pgsql/9.3/wals/%f.gz && gzip -c %p > /var/
lib/pgsql/9.3/wals/%f.gz'
```

9. Ensure this following line is entered into the conf file ->

```
archive_command = 'cp %p /var/lib/pgsql/9.3/wals/%f'
archive_command = 'cp %p /var/lib/pgsql/9.3/wals/%f'
```

10. Press `esc` to exist insert mode.

Enter `:wq`. This will write the postgresql.conf file to disk and exit the VI editor.

```
#archive_command = 'gzip /var/lib/pgsql/9.3/data/pg_xlog/%f /var/lib/pgsql/9.3/wa
ls/%f.gz'
#archive_command = 'test ! -f /var/lib/pgsql/9.3/wals/%f.gz && gzip -c %p > /var/
lib/pgsql/9.3/wals/%f.gz'
archive_command = 'cp %p /var/lib/pgsql/9.3/wals/%f'
```

```
:wq
```

11. Now that this Config file has been changed it is recommended that you create a new group called **simpiana**. This group will be used for all the security involved in performing the backups for the local file system as well as the database. From the command prompt, type `groupadd simpiana` (this will create the group)

```
[root@Postgres-199 data]#
[root@Postgres-199 data]# groupadd simpiana
```

12. Type `vi /etc/group`

```
[root@Postgres-199 data]# vi /etc/group
```

13. Press I for insert mode

```
simpana:x:500:postgres
-- INSERT --
```

14. Go to the following line and make sure that it reads as follows if it does not look like this change it so it looks like below.

```
screen:x:84:
postgres:x:26:
simpana:x:500:postgres
:qw
```

15. Change the directory to the following `cd /opt/simpana/installer`

```
[root@Postgres-199 data]# cd /opt/simpana/installer/
[root@Postgres-199 installer]#
```

16. Enter this command -> `./cvpkgchg`

```
[root@Postgres-199 installer]# ./cvpkgchg
```

17. Enter 1 to select the **Change Unix group** option.

Selecting Tasks to Change Unix Group and Permissions

Please choose one or more tasks for Instance001 from the list below.

Please note if you choose both Change and Fix, only Fix will take effect.

```
[ ] 1) Change Unix group
[ ] 2) Change access permissions
[ ] 3) Fix Unix group and access permissions
```

```
[a=all n=none r=reverse q=quit d=done >=next <=previous ?=help]
Enter number(s)/one of "a,n,r,q,d,>,<," here: 1
```

18. Press **Enter** to start the process.

Selecting Tasks to Change Unix Group and Permissions

Please choose one or more tasks for Instance001 from the list below.

Please note if you choose both Change and Fix, only Fix will take effect.

```
[X] 1) Change Unix group
[ ] 2) Change access permissions
[ ] 3) Fix Unix group and access permissions
```

```
[a=all n=none r=reverse q=quit d=done >=next <=previous ?=help]
Enter number(s)/one of "a,n,r,q,d,>,<," here:
```

19. When you are it asked **Would you like to assign a specific group to Simpana**, enter **Yes**

Deciding If to Use a Unix Group

Most of Simpana processes run with root privileges, but some are launched by databases and inherit database access rights. To make sure that registry and log files can be written to by both kinds of processes we can either make such files world-writeable or we can grant write access only to processes belonging to a particular group, e.g. a "simpana" or a "dba" group.

We highly recommend now that you create a new user group and enter its name in the next setup screen. If you choose not to assign a dedicated group to Simpana processes, you will need to specify the access permissions later.

If you're planning to backup Oracle DB you should use "dba" group.

```
Would you like to assign a specific group to Simpana? [yes]
```

20. For the Group Name, enter **simpana**

Setting Unix Group

Please enter the name of the group which will be assigned to all Simpana files and on behalf of which all Simpana processes will run.

In most of the cases it's a good idea to create a dedicated "simpana" group. However, if you're planning to use Oracle iDataAgent or SAP Agent, you should enter Oracle's "dba" group here.

Group name: simpana

21. Type **Enter** to continue

REMINDER

If you are planning to install Simpana Informix, DB2, Sybase or LotusNotes iDataAgent, please make sure to include informix, db2, etc. users into group "simpana"..

Press <ENTER> to continue ...

22. When you are prompted for **Would you like to stop Simpana on all instances?**, enter **Yes**
Deciding If to Stop Services for All Instances

To perform the tasks specified, Simpana services on all instances must be stopped. Please make sure there are no running jobs before proceeding.

If you are not sure, please enter no so that the program will exit and no changes will be applied.

Would you like to stop Simpana services on all instances? [no] yes

23. Press **Enter** to continue

Press the up arrow key to bring up the previous command -> ./cvpkgchg

```
[root@Postgres-199 installer]# ./cvpkgchg
```

24. Enter **2** to select the **Change access permissions** option.
Selecting Tasks to Change Unix Group and Permissions

Please choose one or more tasks for Instance001 from the list below.

Please note if you choose both Change and Fix, only Fix will take effect.

```
[ ] 1) Change Unix group
[X] 2) Change access permissions
[ ] 3) Fix Unix group and access permissions
```

```
[a=all n=none r=reverse q=quit d=done >=next <=previous ?=help]
Enter number(s)/one of "a,n,r,q,d,>,<," here:
```

- 25.

Enter **4** to disable the **Allow read permission to other user's** option.

Enter **5** to disable the **Allow writepermission to other user's** option.

Enter 6 to disable the **Allow execute permission to other users** option.

Setting Access Permissions for Group and Other Users

Installer will assign full access rights to root user for all installed Simpana files and its processes.

For group and any other users, you can specify the access permissions now.

If you did not assign a dedicated group in previous step, make sure you specify sufficient access rights here if you are also planning to install Simpana agents involving third party software protection.

- [X] 1) Allow read permission to group users
- [X] 2) Allow write permission to group users
- [X] 3) Allow execute permission to group users
- [] 4) Allow read permission to other users
- [] 5) Allow write permission to other users
- [] 6) Allow execute permission to other users

[a=all n=none r=reverse q=quit d=done >=next <=previous ?=help]
Enter number(s)/one of "a,n,r,q,d,>,<,>?" here: █

26. Press **Enter** to continue

When prompted **Would you like to stop Simpana on all instances?**, enter **Yes**

Deciding If to Stop Services for All Instances

To perform the tasks specified, Simpana services on all instances must be stopped. Please make sure there are no running jobs before proceeding.

If you are not sure, please enter no so that the program will exit and no changes will be applied.

Would you like to stop Simpana services on all instances? [no] yes █

27. Press **Enter** to continue

Changing Group and Other User's Access Permissions for Instance001

Changing access permissions for group users to 7 and other users to 0 for the following directories...

- Registry(/etc/CommVaultRegistry) ... done.
- Executables(/opt/simpana) ... done.
- Logs(/var/log/simpana) ... done.
- DC Cache(/opt/simpana/iDataAgent/jobResults/cvdcache) ... done.
- Job Results for Postgres-199(/opt/simpana/iDataAgent/jobResults) ... done.
- Updating /opt/simpana/Base/pkginfo for GALAXY_OTHER_ACCESS=0 ... done.
- Updating /opt/simpana/Base0/pkginfo for GALAXY_OTHER_ACCESS=0 ... done.
- Updating /opt/simpana/Base/pkginfo for GALAXY_GROUP_ACCESS=7 ... done.
- Updating /opt/simpana/Base0/pkginfo for GALAXY_GROUP_ACCESS=7 ... done.

Done for changing access permissions for group and other users for Instance001.

Press <ENTER> to continue ... █

28.

Now the permissions should be set correctly., to enable a successful PostgreSQL database backup.

Done

[PLEASE READ THE FOLLOWING NOTES]

- (1) Depending on the file type, the actual permission might be more restrictive. For example, a text file may not have executable bit on.
- (2) If you run installer to add more instances or modules, you might need to rerun this utility to fix certain files changed during the install.

Thank you for using CommVault Systems, Inc. Simpana.

[root@Postgres-199 installer]# █

29. Go to the Cloud Backup agent on your server will be located in **/opt/simpana/RestoreClient**.

To launch the application browse to `/opt/simpana/RestoreClient` and execute the following command.

```
[root@10-101-41-160 ~]# perl restoreClient.pl _
```

30. You'll also see the screen with options available for configuration, restore and Job Status. Select the menu item number 5 below to configure the backup job service.

```
-----
Cloud Backup Helper
-----

SELECT RECOVERY TYPE:

    1. Linux File System
    2. MySQL Database

CONFIGURE SERVICES:

    3. Create MySQL Instance
    4. Modify MySQL Instance
    5. Create PostgreSQL Instance
    6. Modify PostgreSQL Instance

JOB STATUS:

    7. Job History
    8. Job Status
    Q. Quit

Enter your choice: 1
Source Item or Path (e.g. /etc, /home/users/larry/help.txt) : /etc
Destination path (e.g. /restore/) : /restore
Date to recover in format YYYY-MM-DD (e.g. 2011-11-28) : 2011-11-11

Started job 1488. Look at /restore for restore files.
[root@10-101-41-160 RestoreClient]#
```

31. This will request the SA UserName, Password, and the relevant directories and ports for a PostgreSQL database. Please fill in the details correctly so that your backup/restore jobs will work as expected.

```
-----
Cloud Backup v
-----

Instructions :
Make sure archive_mode is on and this path should be specified in postgresql.conf
file prior to performing PostgreSQL FS backup. E.g.
archive_mode = on
archive_command = 'cp %p /opt/wal/%f'
From PostgreSQL 9.x.x version onwards, use the following configuration:
Set wal_level = archive instead of default wal_level = minimal

PostgreSQL User Name           : postgres
Account Password               : postgres
Confirm Password               : postgres
Binary Directory (e.g. /usr/bin) : /usr/lib/postgresql/9.1/bin
Archive (WAL) Log Directory (e.g. /opt/wal) : /opt/wal
Maintenance Database Name (e.g. postgres) : postgres
PostgreSQL TCP Port (default is 5432) : 5432
Path to libpq.so (e.g. /usr/lib64) : /usr/lib
Started job.
Press Enter key to continue... █
```

1. In order to modify the PostgreSQL instance of your backup job, go back to the screen here and select option 6.

```
-----
Cloud Backup Helper
-----

SELECT RECOVERY TYPE:

    1. Linux File System
    2. MySQL Database

CONFIGURE SERVICES:

    3. Create MySQL Instance
    4. Modify MySQL Instance
    5. Create PostgreSQL Instance
    6. Modify PostgreSQL Instance

JOB STATUS:

    7. Job History
    8. Job Status
    Q. Quit

Enter your choice: 1
Source Item or Path (e.g. /etc, /home/users/larry/help.txt) : /etc
Destination path (e.g. /restore/) : /restore
Date to recover in format YYYY-MM-DD (e.g. 2011-11-28) : 2011-11-11

Started job 1488. Look at /restore for restore files.
[root@10-101-41-160 RestoreClient]#
```

2. re-select the options to modify your backup job.

```
-----
Cloud Backup v
-----

Instructions :
Make sure archive_mode is on and this path should be specified in postgresql.conf
file prior to performing PostgreSQL FS backup. E.g.
archive_mode = on
archive_command = 'cp %p /opt/wal/%f'
From PostgreSQL 9.x.x version onwards, use the following configuration:
Set wal_level = archive instead of default wal_level = minimal

PostgreSQL User Name           : postgres
Account Password               : postgres
Confirm Password               : postgres
Binary Directory (e.g. /usr/bin) : /usr/lib/postgresql/9.1/bin
Archive (WAL) Log Directory (e.g. /opt/wal) : /opt/wal
Maintenance Database Name (e.g. postgres) : postgres
PostgreSQL TCP Port (default is 5432)      : 5432
Path to libpq.so (e.g. /usr/lib64)        : /usr/lib
Started job.
Press Enter key to continue...█
```

Related Articles:

- [How do I Identify Hardware Specifications and Capabilities Available in a Data Center Location](#)
- [How to Move a Client Image between User-Manageable Clusters](#)
- [How to Add Additional IP Addresses to a Red Hat / CentOS Linux Server](#)
- [Cloud Backup - Pre-requisites for PostgreSQL backup on a Linux Server](#)
- [Cloud Backup - Access Cloud Backup Functions in the Updated UI](#)