

PostgreSQL ... in 5 minutes



pg_basebackup

Many people around the globe have used PostgreSQL streaming replication successfully and enjoy its simplicity. pg_basebackup is the most commonly used tool to create an initial copy of the database instance around.

Typically a base backup is created as follows:

pg_basebackup -h master.example.com -D /slave

For a very basic backup this can be enough.

However, there are two issues with this command, which are often forgotten or simply not known by users.

Waiting for a checkpoint

The first important thing here is that pg_basebackup has to wait for a checkpoint on the master. In case of a very large database, people might not notice this delay. However, in case of a small database, it is pointless to wait for a couple of minutes.

To speed up the process, the following command can help:

pg basebackup -h master.example.com -D /slave --checkpoint=fast

Consistent backups

However, there is more. The backup we have just created cannot be used without some transaction log stored in some archive.

To solve the problem, pg_basebackup allows us to use "--xlog-method=stream". It opens a second stream, which fetches the transaction log created while the base backup is running.

This is how it works:

pg basebackup -h master.example.com -D /slave --checkpoint=fast --xlog-method=stream

In this case the backup can be used without a recovery.conf file. You can start the database directly and you will have a ready to use database instance.

By the way: This method is perfect for quickly cloning test machines for your developers. In addition to that --xlog-method=stream is a wonderful additional safety net because the backup is actually usable.