☰

How to Migrate your PostgreSQL Data Directory in Windows

by Raphael Dumas on August 8, 2016 under tutorial
3 minute read

Migrating the data cluster from C:\ to E:\

I'm new to working with large data in Windows, and ran into some unexpected difficulty when the PostgreSQL database ran out of space on my server's C drive. It might also be a good idea to isolate your postgres database from a location other than the `C:\Program Files\` folder for permissions/security/data integrity reasons (I had a reference for this but I lost it). Here's how to move your PostgreSQL data directory

Basing myself on this dba.stackex answer (https://dba.stackexchange.com/a/28927) and this wiki post (https://wiki.postgresql.org/wiki/Change_the_default_PGDATA_directory_on_Windows)

1. Stop the PostgreSQL service

Go to `Start` › `Services` . Scroll down to `postgresql-x64-9.5` and right-click `Stop`

2. Copy data

I copied the data with File Explorer from `C:\Program Files\PostgreSQL\9.5\data\` to `E:\pg_db\data`

3. ~~Modify postgresql.conf~~ (*probably not necessary if you move everything to the new location*)

I edited the following lines

```
#-------------------------------------------------------------------------
# FILE LOCATIONS
#-------------------------------------------------------------------------

# The default values of these variables are driven from the -D command-line
# option or PGDATA environment variable, represented here as ConfigDir.

data_directory = 'E:\pg_db\data'              # use data in another directory
                                      # (change requires restart)
hba_file = 'C:\Program Files\PostgreSQL\9.5\data\pg_hba.conf'   # host-based authentication file
                                      # (change requires restart)
ident_file = 'C:\Program Files\PostgreSQL\9.5\data\pg_ident.conf'      # ident configuration file
                                      # (change requires restart)
```

4. Modify the command that starts PostgreSQL

If you Right Click to `Properties` on the PostgreSQL services in `Services` , you'll notice that the startup command is

`"C:\Program Files\PostgreSQL\9.5\bin\pg_ctl.exe" runservice -N "postgresql-x64-9.5" -D "C:\Program Files\PostgreSQL\9.5\data" -w`

The `-D "C:\Program Files\PostgreSQL\9.5\data"` flag is indicating that the data directory is `C:\Program Files\PostgreSQL\9.5\data`

DO NOT EDIT THE REGISTRY

In any case, I didn't have permission on the server I was using and it seems to be a **Bad Idea**(tm) see here (https://stackoverflow.com/a/24877051/4047679)

> ❝
> Direct registry modification should be avoided (because you can't be sure what else Windows is changing when it modifies the path to exe, f.e.) unless you are absolutely sure what you do

Start the `cmd` prompt as an administrator by hitting the Windows button and typing `cmd` then right-clicking "Run as Administrator"

You can see the current configuration for PostgreSQL by typing `sc qc postgresql-x64-9.5 1000` and hitting Enter.

Modify the configuration to the following with the `sc` command

```
sc config postgresql-x64-9.5 binPath= "\"C:\Program Files\PostgreSQL\9.5\bin\pg_ctl.exe\" runservice -N \"postgresql-x64-9.5\" -D \"E:\pg_db\data\" -w"
```

5. Change permissions for the new data directory

For the new data-dictionary folder: Right-click on it and click `Properties`. Under the `Security` Tab click " `Edit...` " and then " `Add...` ". Type " `Network Service` " and then click " `Check Names` ", make sure it has `Modify` and `Full Control` permissions and then click `OK`. **Equally important** PostgreSQL needs to be able to "see" the data-directory (see my ServerFault.StackEx question (https://serverfault.com/questions/793461/why-does-changing-data-directory-for-postgresql-9-5-in-server-2008-lead-to-dire? noredirect=1#comment1004149_793461)), i.e. it needs to have read access to the parent directories above it. So Right-click on the `pg_db` folder and under the `Security` Permissions add `Network Services` again, but this time it only needs `Read & Execute` as well as `List folder contents` permissions.

6. Restart the Service

Go back to the `Services` window (if it was still open, refresh it) and `Start` the PostgreSQL service. You should be able to connect to it again in PGAdmin

🏷 postgresql

I ❤ feedback.
Let me know what you think of this article on twitter @dumasraphael (https://www.twitter.com/dumasraphael)!

Made by Raphael Dumas (https://twitter.com/DumasRaphael)

Carte-Noire theme by Jacob Tomlinson (https://twitter.com/_JacobTomlinson) ⑂ on Github (https://github.com/jacobtomlinson/carte-noire) 🐱