

Other PostgreSQL client applications

Command-line tools

4. BACKUP & RESTORE using command-line tools

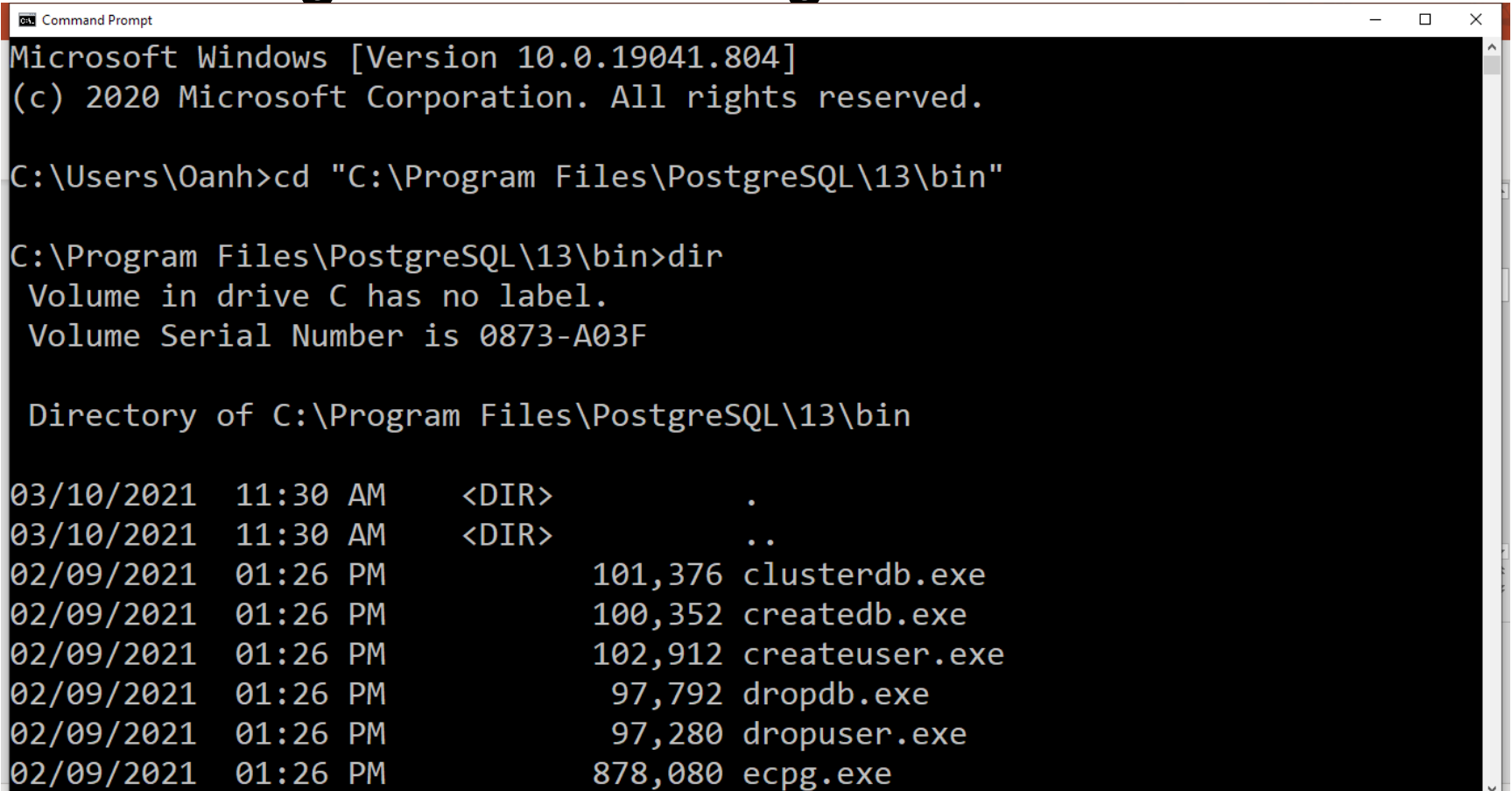
PostgreSQL Client Applications

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PostgreSQL Client Applications

- Open Terminal
- `cd C:\Program Files\Postgres\13\bin\`



```
Command Prompt
Microsoft Windows [Version 10.0.19041.804]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\Oanh>cd "C:\Program Files\PostgreSQL\13\bin"

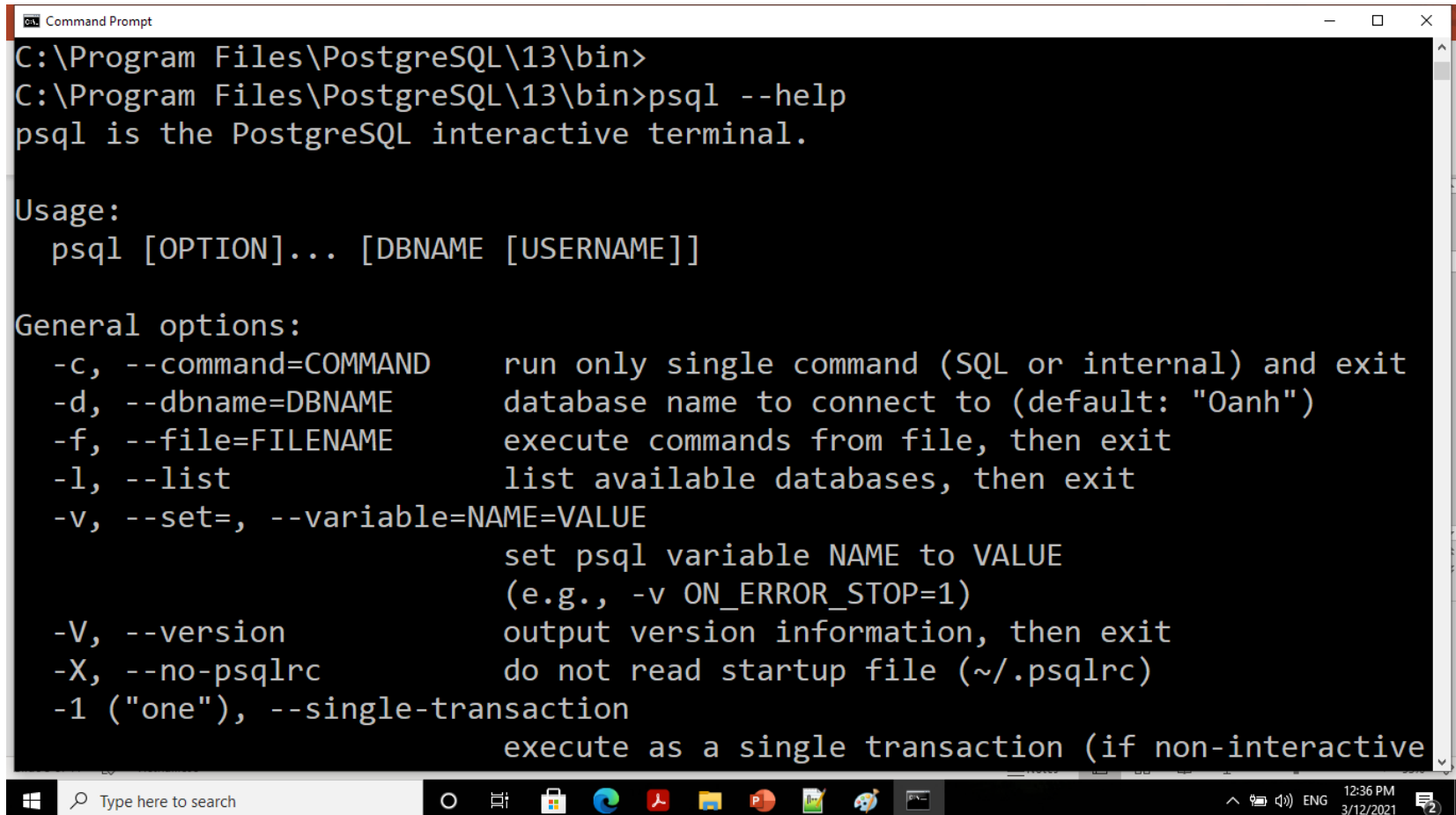
C:\Program Files\PostgreSQL\13\bin>dir
Volume in drive C has no label.
Volume Serial Number is 0873-A03F

Directory of C:\Program Files\PostgreSQL\13\bin

03/10/2021  11:30 AM    <DIR>          .
03/10/2021  11:30 AM    <DIR>          ..
02/09/2021  01:26 PM             101,376 clusterdb.exe
02/09/2021  01:26 PM             100,352 createdb.exe
02/09/2021  01:26 PM             102,912 createuser.exe
02/09/2021  01:26 PM              97,792 dropdb.exe
02/09/2021  01:26 PM              97,280 dropuser.exe
02/09/2021  01:26 PM             878,080 ecpg.exe
```

PostgreSQL Client Applications

- **Help:** `Program_name --help`



```
Command Prompt
C:\Program Files\PostgreSQL\13\bin>
C:\Program Files\PostgreSQL\13\bin>psql --help
psql is the PostgreSQL interactive terminal.

Usage:
  psql [OPTION]... [DBNAME [USERNAME]]

General options:
  -c, --command=COMMAND      run only single command (SQL or internal) and exit
  -d, --dbname=DBNAME        database name to connect to (default: "0anh")
  -f, --file=FILENAME        execute commands from file, then exit
  -l, --list                  list available databases, then exit
  -v, --set=, --variable=NAME=VALUE
                              set psql variable NAME to VALUE
                              (e.g., -v ON_ERROR_STOP=1)
  -V, --version               output version information, then exit
  -X, --no-psqlrc             do not read startup file (~/.psqlrc)
  -1 ("one"), --single-transaction
                              execute as a single transaction (if non-interactive)
```

PostgreSQL Client Applications

- **pg_config:** see the current configuration values used to compile and install the PostgreSQL package

```
pg_config --help
```

```
pg_config --version
```

```
Pg_config --bindir
```

PostgreSQL Client Applications

- **psql**: a command-line interface to the PostgreSQL system
- **Simple usage:**
 - Connect to the postgres (or test) database with postgres (barney) account

```
psql postgres postgres
```

```
psql test barney
```

- Meta-command in psql

- to list all databases: `\l`

- to quit psql: `\q`

- Connect to other database: `\c test`

- View list of tables: `\dt ; \dt store.*`

- Show table schema: `\dt store."Customer"`

PostgreSQL Client Applications

- **createdb:** create a new database

```
createdb -U postgres test2
```

- **dropdb:** drop a database

```
dropdb -U postgres test2
```

PostgreSQL Client Applications

- **pg_dump**: dump (or back up) the contents of a database on the PostgreSQL system to a file
 - Script: SQL files
 - Archived: compressed binary files (using **pg_restore** to restore)

```
pg_dump -U postgres -f D:\testDB_bk.sql test
```

```
pg_dump -U postgres test >D:\testDB_bk.sql
```

```
pg_dump -U postgres -Fc test >D:\testDB_bk.dump
```

-F: output file format (custom (-Fc), directory (-Fd), tar (-Ft), plain (-Fp default))

-U: login user

-f : output filename

PostgreSQL Client Applications

- **pg_dumpall**: similar to the `pg_dump` program, except it dumps all of the databases to a file

```
pg_dumpall -U postgres -f D:\postgres_allDB.sql
```

- **pg_restore**: restore a PostgreSQL database from an archive file created by ***pg_dump***

PostgreSQL Client Applications

- **pg_restore:** restore a PostgreSQL database from an archive file created by *pg_dump*

--restore from an archive file (format custom, tar, directory)

```
createdb -U postgres test2 (if test2 does not exist)
```

```
pg_restore -d test2 -U postgres D:\testDB_bk.dump
```

-- clean the database objects before recreating

```
pg_restore -c -d test2 -U postgres D:\testDB_bk.dump
```

PostgreSQL Client Applications

- **pg_restore:** can not restore from an plain format
→ use *psql*

-- drop and create a new database if need

```
dropdb -U postgres test2
```

```
createdb -U postgres test2
```

-- restore

```
psql -d test2 -U postgres -f D:\testDB_bk.sql
```

