

Restore from Backup

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WHAT'S COVERED

This lesson explores using `pg_restore` to restore data from a dump in the command line, in three parts. Specifically, this lesson will cover:

1. [Getting Started](#)
2. [Using `pqsl`](#)
3. [Using `pg_restore`](#)

1. Getting Started

There are two commands that can be used to restore database backups.

- The **`psql`** command will restore plain SQL script files that have been created by `pg_dump` and `pg_dumpall` tools.
- The **`pg_restore`** command is a utility that restores a PostgreSQL database from an archive created using the `pg_dump` command using one of the non-text formats, such as a TAR file. The `pg_restore` command runs the commands needed to reconstruct the database as it existed when the dump was created.



TERMS TO KNOW

`psql`

A command line tool for restoring a database from a plain-text SQL dump file made using `pg_dump` or `pg_dumpall`.

`pg_restore`

A command line tool used for restoring databases that were created in non-text formatting using `pg_dump` or `pg_dumpall`.

2. Using `pqsl`

Using the `psql` tool, you can execute the entire SQL script simultaneously. The command will look like the following:

```
psql -U adminrole -f backupfile.sql
```

The above command will log in using the `adminrole` account (prompting you for its password) and run the `backupfile.sql` script file to restore the data. The `-f` option is used to specify the file name.

Like with the `pg_dump` command, you can specify options to fine-tune its behavior. For example:

- `a` will output all of the input lines to the standard output so you can watch the progress of the restore.
- `d` enables you to specify the database name to which to connect, like `-d mydb`.
- `W` forces `psql` to prompt for a password if needed.

3. Using `pg_restore`

The `pg_restore` command restores databases that are in a non-text format created from the `pg_dump` or `pg_dumpall` tools. Using this command, you can specify database objects from a file containing a full backup of a file containing an entire server's databases or individual databases. This tool can also take a backed-up database from an older version of a database and restore it to a new version.

For example, say we had a `backup.tar` file that had been created in the same folder. We can restore the database by doing the following:

```
pg_restore -d mydb -f backup.tar
```

We also have options with the `pg_restore` command:

- The `a` option will restore the data but not create the schema. This would assume that the schema has already been created.
- `-c` will clean/drop the database objects before recreating them.
- `-C` (with an uppercase `C`) will create the entire database before restoring it.
- `d <database>` will drop the current database and recreate it before restoring.
- `-f` can pass the filename if we include the file name.
- `-s` will only create the schema but not restore the data into the database.
- With the `-t` option, we can specify the table name to restore.



SUMMARY

In this lesson's **getting started** section, you learned that there are two options for restoring a database from a `pg_dump` or `pg_dumpall` file: `psql` and `pg_restore`. You learned how to **use `psql`** to restore a dump that was saved in plain-text format, and you learned about the options available to fine-tune the

process. You also learned how to **use pg_restore** to restore a dump that was saved in a non-text format such as a TAR archive, along with the available options.

Source: THIS TUTORIAL WAS AUTHORED BY DR. VINCENT TRAN, PHD (2020) AND FAITHE WEMPEN (2024) FOR SOPHIA LEARNING. PLEASE SEE OUR [TERMS OF USE](#).



TERMS TO KNOW

pg_restore

A command line tool used for restoring databases that were created in non-text formatting using pg_dump or pg_dumpall.

psql

A command line tool for restoring a database from a plain-text SQL dump file made using pg_dump or pg_dumpall.