pg_dump and pg_restore

PostgreSQL backups

CONCEPTS

pg_dump saves one database; roles and tablespaces live cluster-wide, so add pg_dumpall -g.

Pick a format (-F)

Flag	Format	Restore with	Parallel -j
`-Fp`	plain SQL (default)	psql	no
`-Fc`	custom archive	pg_restore	restore only
`-Fd`	directory	pg_restore	dump and restore
`-Ft`	tar	pg_restore	no

Database live, consistent
↓ pg_dump
Dump SQL or archive
↓ psql / pg_restore
New database empty target

Dumps are consistent snapshots and do not block writers, so you can dump a live database.

DUMP A DATABASE

pg_dump *<db>* **> db.sql**
Plain SQL script to stdout

pg_dump -f db.sql *<db>*
Write the script to a file

pg_dump -Fc -f *<file> <db>*
Custom-format archive

pg_dump -Fd -f *<dir> <db>*
Directory-format archive

pg_dump -Fd -j *<n>* **-f** *<dir> <db>*
Dump n tables in parallel

CHOOSE WHAT TO DUMP

pg_dump -s *<db>*
Schema only, no data

pg_dump -a *<db>*
Data only, no schema

pg_dump -t *<table> <db>*
Only matching tables

pg_dump -T *<table> <db>*
Skip matching tables

CHOOSE WHAT TO DUMP (cont.)

pg_dump -n *<schema> <db>*
Only matching schemas

pg_dump -N *<schema> <db>*
Skip matching schemas

pg_dump --no-owner --no-privileges *<db>*
Omit owners and GRANTs

RESTORE A DUMP

psql -X -d *<db>* **-f db.sql**
Restore a plain SQL dump

pg_restore -d *<db> <file>*
Restore an archive into a database

pg_restore -l *<file>*
List the archive's contents

pg_restore -j *<n>* **-d** *<db> <file>*
Restore with n parallel jobs

createdb -T template0 *<db>*
Create an empty target first

pg_restore -C -d postgres *<file>*
Create the database from the archive

pg_restore -c --if-exists -d *<db> <file>*
Drop objects before recreating

pg_restore -s -d *<db> <file>*
Schema only

pg_restore -t *<table>* **-d** *<db> <file>*
Restore a single table

WHOLE CLUSTER

pg_dumpall > all.sql
Every database, roles, tablespaces

pg_dumpall -g > globals.sql
Roles and tablespaces only

CONNECTION

pg_dump -h *<host>* **-p** *<port>* **-U** *<user> <db>*
Connect to another server

pg_restore does not read PGDATABASE. Without -d it prints SQL instead of restoring.