PgBouncer Postgres connection pooler

Client many connections → `port 6432` → **PgBouncer** pools by db + user → `few server conns` → **PostgreSQL** port 5432

CONCEPTS

The admin console is a virtual database named pgbouncer; only admin_users and stats_users may log in.

pool_mode decides when a server connection returns to the pool: session (on disconnect), transaction (on commit), statement (after each statement).

In transaction mode, session state (SET, advisory locks, LISTEN, session-level prepared statements) is not reliable across transactions.

RUN AND SIGNALS

`pgbouncer` *`<pgbouncer.ini>`*
Start in the foreground

`pgbouncer -d` *`<pgbouncer.ini>`*
Run as a daemon

`pgbouncer --version`
Show the version

`kill -HUP` *`<pid>`*
Reload config (same as RELOAD)

RUN AND SIGNALS (cont.)

`kill -TERM` *`<pid>`*
Wait for clients, then shut down

CONNECT TO THE CONSOLE

`psql -p 6432 pgbouncer`
Admin console on the default port

`psql -h` *`<host>`* **`-p 6432 -U`** *`<admin>`* **`pgbouncer`**
Console over TCP as an admin user

`psql -p 6432 -U` *`<user>`* *`<db>`*
Use the pooler like a normal database

INSPECT (SHOW)

`SHOW POOLS;`
Client and server counts per pool

`SHOW STATS;`
Totals and averages per database

`SHOW CLIENTS;`
Connected clients and their state

INSPECT (SHOW) (cont.)

`SHOW SERVERS;`
Backend connections and their state

`SHOW DATABASES;`
Configured databases and limits

`SHOW CONFIG;`
Settings, defaults, runtime-changeable?

`SHOW STATE;`
active or paused

CONTROL

`RELOAD;`
Re-read config, auth_file and HBA file

`PAUSE;`
Wait for servers to be released, hold clients

`RESUME;`
Continue after PAUSE or KILL

`PAUSE` *`<db>`**`;`**
Pause a single database

`RESUME` *`<db>`**`;`**
Resume a single database

`RECONNECT` *`<db>`**`;`**
Recycle server connections once released

CONTROL (cont.)

`SET` *`<key>`* **`=`** *`<value>`**`;`**
Change a runtime setting

PGBOUNCER.INI: POOLING

`pool_mode = transaction`
Release server conn after each transaction

`max_client_conn =` *`<n>`*
Max client connections (default 100)

`default_pool_size =` *`<n>`*
Server conns per user/db pair (default 20)

`server_reset_query = DISCARD ALL`
Clean session state on release

`ignore_startup_parameters =` *`<p>`*
Ignore these client startup params

PGBOUNCER.INI: NETWORK AND AUTH

`listen_addr =` *`<addr>`*
Bind address, comma list or * (unset: socket only)

PGBOUNCER.INI: NETWORK AND AUTH (cont.)

`listen_port = 6432`
TCP port to accept clients on

`auth_type = scram-sha-256`
How clients are authenticated (default md5)

`auth_file =` *`<path>`*
Users file (userlist.txt) with names and hashes

`auth_user =` *`<user>`*
Look up unlisted users with this account

`auth_query =` *`<sql>`*
Query used to fetch a user's password

`admin_users =` *`<list>`*
Users allowed all console commands

`stats_users =` *`<list>`*
Users limited to read-only SHOW

PGBOUNCER.INI: TIMEOUTS AND LOGS

`query_wait_timeout =` *`<sec>`*
Drop clients waiting too long (default 120)