PgBouncer Postgres connection pooler

CONCEPTS

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

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

> 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)

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

INSPECT (SHOW) (cont.)

SHOW STATS;
Totals and averages per database

SHOW CLIENTS;
Connected clients and their state

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

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

PGBOUNCER.INI: POOLING (cont.)

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)

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)

server_idle_timeout = *<sec>*
Close idle server conns (default 600)

logfile = *<path>*
Log file location

RECIPES

[databases] section

```
[databases]
appdb = host=10.0.0.5 port=5432
dbname=app pool_size=30
reports = host=10.0.0.6
pool_mode=session
* = host=10.0.0.5
```