# usql Universal SQL CLI

## CONCEPTS

> usql is psql's command set for many databases. The scheme of the DSN picks the driver (pg, my, ms, or, sq ...). Which drivers exist depends on the build: check with \drivers.

**DSN** driver://user:pass@host/db
↓ parses
**Driver** chosen by scheme or alias
↓ connects
**Prompt** SQL plus \commands
↓ prints
**Output** table, CSV, JSON, HTML

### Common schemes

| Database | Scheme | Alias |
|---|---|---|
| PostgreSQL | postgres | pg |
| MySQL | mysql | my |
| SQL Server | sqlserver | ms |
| Oracle | oracle | or |
| SQLite3 | sqlite3 | sq |
| DuckDB | duckdb | dk |
| ClickHouse | clickhouse | ch |

## CONNECT

**usql pg://user:pass@host/db**
Connect to PostgreSQL

**usql my://user:pass@host:3306/db**
Connect to MySQL

**usql sq://*<path>*.db**
SQLite, create if missing

**usql *<path>***
Open an existing file or socket

**\c *<dsn or name>***
Switch connection in the prompt

**\drivers**
List drivers built in

## RUN AND SCRIPT

**usql *<dsn>* -c "*<sql>*"**
Run one command and exit

**usql *<dsn>* -f *<file>***
Run a file and exit

**\i *<file>***
Run a file from the prompt

**\g**
Run the query buffer (same as ;)

**\p**
Print the query buffer

**\r**
Clear the query buffer

## RUN AND SCRIPT (cont.)

**\e**
Edit the buffer in $EDITOR

**\begin / \commit / \rollback**
Manual transaction

## INSPECT THE SCHEMA

**\dt[S+] [*<pattern>*]**
List tables

**\d[S+] [*<name>*]**
List relations or describe one

**\dn [*<pattern>*]**
List schemas

**\l[+]**
List databases

## OUTPUT FORMATS

**-C**
CSV output

**-J**
JSON output

**-x**
Expanded output (one field per line)

**-t**
Rows only, no headers

**\x [on|off|auto]**
Toggle expanded output

**\G**
Run and print vertically

## VARIABLES AND SCRIPTING

**\set *<name>* *<value>***
Set a script variable

**:*<name>* / :'*<name>*' / :"*<name>*"**
Interpolate raw / as string / as identifier

**\gexec**
Run each result value as a statement

**\if *<expr>* / \elif / \else / \endif**
Conditional blocks in scripts

**`*<command>*`**
Backtick: use shell output as an argument

## VARIABLES AND SCRIPTING (cont.)

**\cset *<name>* *<dsn>***
Save a named connection (this session)

**\? [options|variables]**
Help on commands, flags, variables

**help**
Short help at the prompt

## COPY AND CONFIG

**\copy *<src>* *<dst>* *<query>* *<table>***
Copy query results between databases

**~/.config/usql/config.yaml**
Config file (Linux)

**connections: { *<name>*: *<dsn>* }**
Named DSNs in config.yaml

**init: |**
Startup script in config.yaml

**usql --version**
Show version

**usql --help**
Show all flags

## RECIPES

### SQLite to CSV

```
usql sq://app.db -C -c "select * from users" > users.csv
```

### JSON for jq

```
usql pg://localhost/app -J -c "select id, name from users" | jq .
```

### Copy a table across engines

```
usql -c "\copy pg://localhost/src my://localhost/dst 'select * from t' t"
```

### Safe script run

```
usql pg://localhost/app -1 -v id=42 -f fix.sql
```

### Named connections

```
# ~/.config/usql/config.yaml
connections:
  prod: pg://app@db.example.com/app
  dev: sq://dev.db

usql prod -c '\dt'
```