SQLFluff SQL linter and formatter

START HERE

`sqlfluff lint <path>`
Report violations

`sqlfluff fix <path>`
Auto-fix them

`sqlfluff format <path>`
Reformat only

`sqlfluff lint --dialect <name> <path>`
Pick the SQL flavour

`sqlfluff parse <file>`
Show the parse tree

`sqlfluff rules`
List all rules

`sqlfluff dialects`
List dialects

`cat <file> | sqlfluff lint -`
Lint stdin

Template jinja / dbt → `render` → **Lex + parse** per dialect → `rules` → **Lint** violations → `fix` → **Fixed SQL** written back

CONCEPTS

Always set a dialect (--dialect or in .sqlfluff); without one SQLFluff cannot lint most real SQL.

Config is read from .sqlfluff, tox.ini, setup.cfg or pyproject.toml in the current and parent dirs; closer files win.

format applies a stable subset of fixes (layout and capitalisation); fix applies every fixable rule.

LINT

`sqlfluff lint <path>`
Lint a file or directory

`sqlfluff lint .`
Lint the current directory

`sqlfluff lint -d <dialect> <path>`
Set the dialect

`sqlfluff lint -r <rules> <path>`
Check only these rules
Comma-separated codes or names, e.g. LT01,CP01

`sqlfluff lint -e <rules> <path>`
Skip these rules

`sqlfluff lint -f json <path>`
Machine-readable output

`sqlfluff lint --nofail <path>`
Always exit 0
Useful while rolling out to a legacy codebase

`sqlfluff lint -p <n> <path>`
Parallel processes
0 = all CPUs, -1 = all but one

`sqlfluff lint --stdin-filename <path> -`
Pick config for stdin

`sqlfluff lint --warn-unused-ignores <path>`
Flag useless noqa comments

FIX AND FORMAT

`sqlfluff fix <path>`
Fix violations in place
Rewrites files; commit or stash first

`sqlfluff format <path>`
Autoformat in place

`sqlfluff fix -r <rules> <path>`
Fix only these rules

`sqlfluff fix --check <path>`
Preview, then confirm

`sqlfluff fix -x _fixed <path>`
Write to a suffixed copy

`sqlfluff fix --FIX-EVEN-UNPARSABLE <path>`
Fix files with template errors
Risky: can produce broken SQL

`cat <file> | sqlfluff fix -`
Fix stdin to stdout

INSPECT

`sqlfluff parse <file>`
Print the parse tree

`sqlfluff parse -c <file>`
Code elements only

`sqlfluff render <file>`
Show templated SQL

`sqlfluff rules`
List all rules

`sqlfluff dialects`
List all dialects

OPTIONS

`--templater / -t <name>`
raw, jinja, python, placeholder

`--config <file>`
Add an extra config file

`--ignore-local-config`
Skip discovered config files

`--disable-noqa`
Ignore all noqa comments

CONFIG

`[sqlfluff]`
Core settings section

`dialect = <name>`
Default dialect

CONFIG (cont.)

`templater = jinja`
Choose the templater

`exclude_rules = <list>`
Rules to skip

`rules = <list>`
Rules to run only

`max_line_length = <n>`
Line length limit (LT05)

`[sqlfluff:rules:<rule>]`
Per-rule settings

`[sqlfluff:indentation]`
Indent settings

`[tool.sqlfluff]`
Section in pyproject.toml

`capitalisation_policy = <p>`
consistent, upper or lower

`.sqlfluffignore`
Paths to skip

IGNORING CODE

`-- noqa`
Ignore all rules on this line

`-- noqa: <rules>`
Ignore listed rules on this line

`-- noqa: disable=<rules>`
Ignore from here on

`-- noqa: enable=<rules>`
Resume checking

`-- noqa: disable=all`
Ignore everything from here

COMMON RULES

LT01
Spacing

LT02
Indentation

LT05
Line too long

LT12
Single trailing newline

LT09
Select targets on own lines

CP01
Keyword capitalisation

CP02
Identifier capitalisation

AL01
Table alias with AS

COMMON RULES (cont.)

AL05
Unused table alias

RF01
Unresolvable references

RF02
Qualify multi-table columns

ST03
Unused CTE

ST05
Subquery instead of CTE

INTEGRATION

`id: sqlfluff-lint`
pre-commit hook: lint
Hook repo: https://github.com/sqlfluff/sqlfluff

`id: sqlfluff-fix`
pre-commit hook: fix

`pip install sqlfluff`
Install

`pip install sqlfluff-templater-dbt`
dbt templater plugin

RECIPES

Minimal .sqlfluff

```
[sqlfluff]
dialect = postgres
exclude_rules = LT05, ST07
max_line_length = 100

[sqlfluff:indentation]
tab_space_size = 4
```

CI lint of changed files

```
git diff --name-only origin/main
-- '*.sql' \
  | xargs sqlfluff lint -f
github-annotation \
  --annotation-level warning
```

pre-commit config

```
repos:
  - repo: https://github.com/
sqlfluff/sqlfluff
    rev: <version>
    hooks:
      - id: sqlfluff-lint
      - id: sqlfluff-fix
```

Adopt gradually

```
sqlfluff lint models/ --nofail -
f json > baseline.json
sqlfluff fix models/ -r
LT01,LT02,CP01
sqlfluff lint models/
```