Flake8 Python linter

CONCEPTS

Flake8 wraps pycodestyle (E, W), pyflakes (F) and mccabe (C90). It only reports; it never rewrites your code.

Python files found by path
↓ parse
Plugins E W F C90 + extras
↓ filter
select / ignore config + CLI + noqa
↓ report
Output exit 1 if any

Codes are prefixes: E501 is one rule, E5 a group, E all style errors. Options take comma-separated prefixes.

Config is read from setup.cfg, tox.ini or .flake8 in the current directory; pyproject.toml is not supported without a plugin.

RUN

flake8
Check all Python files here

flake8 *<path>* **...**
Check files or directories

flake8 -
Read source from stdin

flake8 --version
Show versions of flake8 and plugins

flake8 --count
Print total number of violations

flake8 -q
Print only file names with errors

flake8 -qq
Print nothing, just set the exit code

flake8 --exit-zero
Always exit 0 despite violations

flake8 --color never
Disable coloured output

OUTPUT

flake8 --show-source
Print the offending source line

OUTPUT (cont.)

flake8 --statistics
Count violations per code

flake8 --format=pylint
Pylint-style output

flake8 --output-file *<file>*
Write report to a file

SELECT AND IGNORE

flake8 --select=*<codes>*
Report only these codes or prefixes

flake8 --extend-select=*<codes>*
Add codes to the default selection

flake8 --ignore=*<codes>*
Replace the default ignore list

flake8 --extend-ignore=*<codes>*
Ignore more codes, keep the defaults

flake8 --per-file-ignores='*<glob>***:***<codes>***'**
Ignore codes for matching files

flake8 --disable-noqa
Report even lines with # noqa

flake8 --max-complexity=*<n>*
Enable C901 above this complexity

flake8 --max-line-length=*<n>*
Line length limit for E501

flake8 --builtins=*<names>*
Extra names F821 should accept

FILES

flake8 --exclude=*<patterns>*
Replace the default exclude list

flake8 --extend-exclude=*<patterns>*
Skip more paths, keep defaults

git diff --name-only -- '*.py' | xargs flake8
Lint only changed files

INLINE CONTROL

 # noqa
Silence all codes on this line

INLINE CONTROL (cont.)

 # noqa: *<code>*[, *<code>*]
Silence only these codes on this line

 # flake8: noqa
Skip the whole file (own line)

CONFIG

flake8 --config *<file>*
Use only this config file

flake8 --isolated
Ignore all config files

flake8 -v
Show which config and plugins load

A [flake8] section in setup.cfg, tox.ini or .flake8; option names use dashes or underscores, e.g. max-line-length.

COMMON CODES

Frequent codes

Code	Meaning
E501	line too long
E302	expected 2 blank lines
E231	missing whitespace after ','
E203	whitespace before ':'
W291	trailing whitespace
W605	invalid escape sequence
F401	imported but unused
F841	local variable assigned, never used
F821	undefined name
E722	bare except
E741	ambiguous variable name
C901	function too complex

Code prefixes

Prefix	Source
E1-E7	pycodestyle errors
W	pycodestyle warnings
F	pyflakes
C90	mccabe

RECIPES

setup.cfg / .flake8

```
[flake8]
max-line-length = 100
extend-ignore = E203
per-file-ignores =
    __init__.py: F401
    tests/*: S101
exclude = .git,build,.venv
```