# Pylint Python linter

## CONCEPTS

Every finding has an id (C0116) and a symbol (missing-function-docstring); either works in enable, disable and pragmas.

**Config** pyproject / pylintrc
↓ load
**Targets** files, packages
↓ parse
**Checkers** enabled messages
↓ report
**Output** text, json2, score + exit code

The first letter of an id is its category: C convention, R refactor, W warning, E error, F fatal. I is informational.

Pylint imports your code's dependencies to infer types, so run it in the project's virtualenv or you get false import-error and no-member.

## RUNNING

`pylint <file.py>`
Lint a single file

`pylint <package>`
Lint a package or module by name

`pylint --recursive=y <dir>`
Lint every .py file under a directory

`pylint -j 0 <path>`
Use all CPU cores

`pylint --ignore-paths=<regex>`
Skip paths matching a regex

## CHOOSING MESSAGES

`pylint -E <path>`
Report errors only (--errors-only)

`pylint --disable=<msg>[,<msg>]`
Turn messages off by id or symbol

`pylint --enable=<msg>`
Turn a message back on

`pylint --disable=all --enable=<msg>`
Run only the listed messages

## CHOOSING MESSAGES (cont.)

`pylint --disable=C,R <path>`
Disable whole categories (C, R, W, E, F)

## OUTPUT AND SCORE

`pylint --fail-under=<score> <path>`
Exit non-zero if the score is below it

`pylint --score=n <path>`
Hide the 0-10 score (--score=n)

`pylint -f json2 <path>`
Machine-readable JSON output

`pylint --msg-template='<tmpl>'`
Custom line, e.g. '{path}:{line}: {msg_id} {msg}'

## HELP AND DISCOVERY

`pylint --help-msg=<msg>`
Explain a message by id or symbol

`pylint --list-msgs`
List all messages by checker

`pylint --list-msgs-enabled`
Show which messages are on and off

## CONFIGURATION

`pylint --rcfile=<file> <path>`
Use a specific config file

`pylint --generate-toml-config`
Print a documented pyproject-style config

`pylint --generate-rcfile`
Print a documented .pylintrc

**pyproject.toml: [tool.pylint.main]**
Project-wide settings (jobs, ignore-paths)

**[tool.pylint."messages control"]**
disable / enable lists in pyproject.toml

**[tool.pylint.format] max-line-length = <n>**
Change the line length limit (default 100)

## CONFIGURATION (cont.)

**[tool.pylint.basic] good-names = [<names>]**
Allow short names like i, df, x

## INLINE CONTROL

`# pylint: disable=<msg>`
End of a line: silence it for that line

`# pylint: disable=<msg>`
On its own line: silence to end of the block

`# pylint: disable-next=<msg>`
Silence the following line only

## MESSAGES YOU WILL MEET

**C0114 / C0115 / C0116**
Missing module / class / function docstring

**C0103 invalid-name**
Name breaks the naming style

**C0301 line-too-long**
Line exceeds max-line-length

**W0611 unused-import**
Imported but never used

**W0612 / W0613**
Unused variable / unused argument

**E0401 import-error**
Module cannot be imported (wrong env?)

**E1101 no-member**
Attribute not found on inferred type

**E0602 undefined-variable**
Name is not defined

**W0102 dangerous-default-value**
Mutable default argument

**W0718 broad-exception-caught**
except Exception is too general

**W1203 logging-fstring-interpolation**
Use lazy %s formatting in logging calls

**R1705 no-else-return**
else after return is unnecessary