Tool Confusion

Pythonic Code with flake8, tox and pre-commit

Jürgen Gmach

@jugmac00

juergen.gmach@googlemail.com

https://jugmac00.github.io/

Super Cool Project

```
def calculate_square (NUMBER):return NUMBER*NUMBER

from flask import      Flask

app=Flask(__name__)
@app.route('/square/<int:number>')
def square( number ) :
    result = calculate_square(number)
    return jsonify (

         { "result": result
} )
```

What Is Pythonic?

- many definitions
- What is Pythonic? by Martijn Faassen => using language idioms
- following style guide
- PEP 8 - Style Guide for Python Code
- flake8

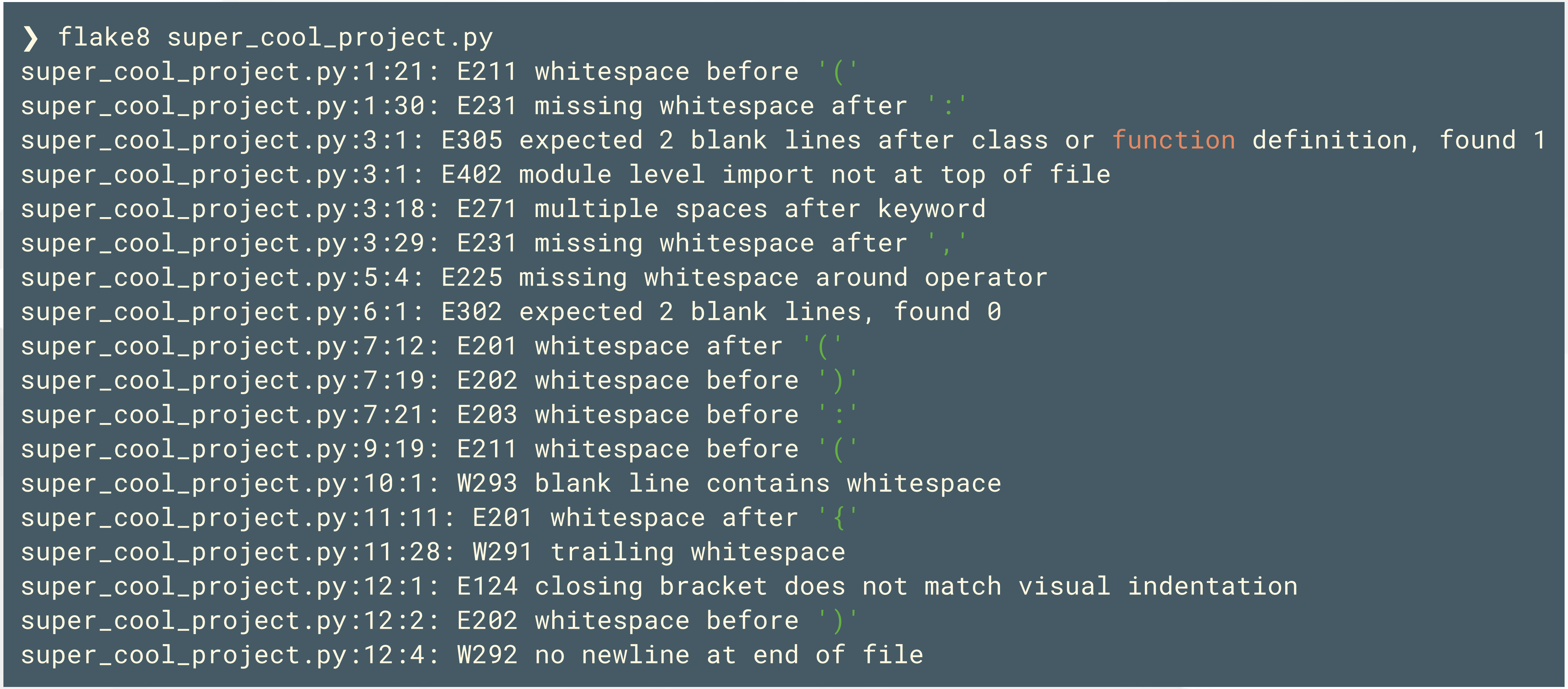
Install flake8

```
pip install flake8
```

=> don't `pip install flake8` => **global site packages**

```
python3 -m venv venv
source venv/bin/activate
pip install flake8
```

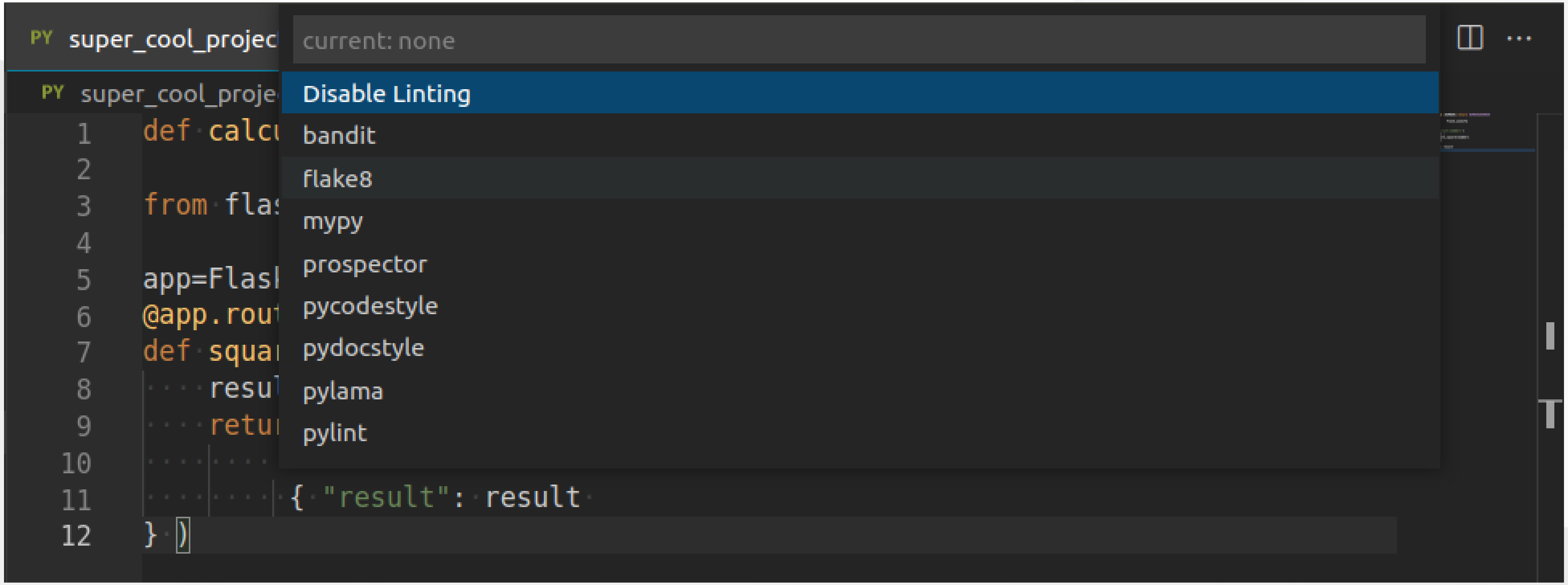
```
flake8 super_cool_project.py
```



```
❯ flake8 super_cool_project.py
super_cool_project.py:1:21: E211 whitespace before '('
super_cool_project.py:1:30: E231 missing whitespace after ':'
super_cool_project.py:3:1: E305 expected 2 blank lines after class or function definition, found 1
super_cool_project.py:3:1: E402 module level import not at top of file
super_cool_project.py:3:18: E271 multiple spaces after keyword
super_cool_project.py:3:29: E231 missing whitespace after ','
super_cool_project.py:5:4: E225 missing whitespace around operator
super_cool_project.py:6:1: E302 expected 2 blank lines, found 0
super_cool_project.py:7:12: E201 whitespace after '('
super_cool_project.py:7:19: E202 whitespace before ')'
super_cool_project.py:7:21: E203 whitespace before ':'
super_cool_project.py:9:19: E211 whitespace before '('
super_cool_project.py:10:1: W293 blank line contains whitespace
super_cool_project.py:11:11: E201 whitespace after '{'
super_cool_project.py:11:28: W291 trailing whitespace
super_cool_project.py:12:1: E124 closing bracket does not match visual indentation
super_cool_project.py:12:2: E202 whitespace before ')'
super_cool_project.py:12:4: W292 no newline at end of file
```

Run flake8 in your IDE

- e.g. VS Code -> `CTRL + SHIFT + P` -> type `linter`



```
def calcu

from flas

app=Flas
@app.rout
def squa
    resul
    retur

        { "result": result
} )
```

Use tox

- virtualenv management and test command line tool

```
[tox]
envlist = py37,py38,py39,flake8

[testenv:flake8]
deps = flake8
commands = flake8 super_cool_project.py
```

run it

```
tox -e flake8
```

Run flake8 in CI

- e.g. GitHub actions

```
jobs:
  linting:
    ...
    steps:
      - uses: "actions/checkout@v2"
      - uses: "actions/setup-python@v2"
      ...
      - name: "Install and run flake8"
        run: |
          python -m pip install --upgrade flake8
          flake8 super_cool_project.py
```

Use pre-commit

```
repos:
  - repo: https://github.com/PyCQA/flake8
    rev: 3.9.2
    hooks:
    - id: flake8
```

```
pre-commit install  # one time per repository
```

```
git commit  # triggers pre-commit
```

caps lock
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Update tox.ini

```ini
[tox]
envlist = py37, py38, py39, lint

[testenv:lint]
deps = pre-commit
commands = pre-commit run --all-files

[gh-actions]
python =
    3.7: py37
    3.8: py38
    3.9: py39, lint
```

Update GitHub Actions

```yaml
jobs:
  linting:
    ...
    steps:
      - uses: "actions/checkout@v2"
      - uses: "actions/setup-python@v2"
      ...
      - name: "Install and run pre-commit via tox"
        run: |
          python -m pip install --upgrade tox tox-gh-actions
          python -m tox
```

Best of All Worlds

- clean configuration files
- everything only defined once
- low chance to forget running linter
- CI catches bad commits

Setup in Action

Flask-Reuploaded

https://github.com/jugmac00/flask-reuploaded/

hibpcli

https://github.com/jugmac00/hibpcli

Thank you, Anthony Sottile!

Thank you, Yuki Hattori!

- https://github.com/marp-team/marp

Thank you!

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Thank you!

Jürgen Gmach

@jugmac00

juergen.gmach@googlemail.com

https://jugmac00.github.io/