
flake8-aaa Documentation

Release 0.4.0

James Cooke

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Contents:

1	flake8-aaa	3
1.1	Installation	3
1.2	Resources	3

Extends `Flake8` to check Python tests follow the [Arrange Act Assert](#) pattern.

1.1 Installation

Install with `pip`:

```
$ pip install flake8-aaa
```

Check that `flake8-aaa` was installed correctly by asking `flake8` for its version signature:

```
$ flake8 --version
3.5.0 (aaa: 0.4.0, mccabe: 0.6.1, pycodestyle: 2.3.1, pyflakes: 1.6.0) CPython 3.5.2_
↪on Linux
```

The `aaa: 0.4.0` part of that output tells you `flake8` found this plugin.

There is more information on invoking `flake8` on the [Invoking Flake8](#) documentation page.

1.2 Resources

- [Documentation on ReadTheDocs](#)
- [Package on PyPI](#)
- [Source code on GitHub](#)
- [Licensed on MIT](#)
- [Changelog](#)

Tested on Pythons 2.7 and 3.6.

1.2.1 Test discovery

- Filename must start with `test_` and have been collected for linting by `flake8`.
- Test must be a function or class method.
- Test names must start with `test`.
- Tests that contain only comments, docstrings or `pass` are skipped.

1.2.2 Rules and error codes

The rules applied by `flake8-aaa` are from the [Arrange Act Assert](#) pattern for Python developers.

AAA01: no Act block found in test

An Act block is usually a line like `result =` or a check that an exception is raised. `flake8-aaa` could not find an Act block in the indicated test function.

Resolution

Add an Act block to the test or mark a line that should be considered the action.

Even if the result of a test action is `None`, assign that result and pin it with a test:

```
result = action()
assert result is None
```

If you can not assign a `result`, then mark the end of the line considered the Act block with `# act` (case insensitive):

```
data['new_key'] = 1 # act
```

Code blocks wrapped in `pytest.raises()` and `unittest.assertRaises()` context managers are recognised as Act blocks.

AAA02: multiple Act blocks found in test

There must be one and only one Act block in every test but `flake8-aaa` found more than one potential Act block. This error is usually triggered when a test contains more than one `result =` statement or more than one line marked `# act`. Multiple Act blocks create ambiguity and raise this error code.

Resolution

Split the failing test into multiple tests. Where there is complicated or reused set-up code then apply the DRY principle and extract the reused code into one or more fixtures.

AAA03: expected 1 blank line before Act block, found none

For tests that have an Arrange block, there must be a blank line between the Arrange and Act blocks, but `flake8-aaa` could not find one.

This blank line creates separation between the arrangement and the action and makes the Act block easy to spot.

This rule works best with `pycodestyle`'s E303 rule enabled because it ensures that there are not multiple blank lines between the blocks.

Resolution

Add a blank line before the Act block.

AAA04: expected 1 blank line before Assert block, found none

For tests that have an Assert block, there must be a blank line between the Act and Assert blocks, but `flake8-aaa` could not find one.

This blank line creates separation between the action and the assertions and makes the Act block easy to spot.

As with rule AAA03, this rule works best with E303 enabled.

Resolution

Add a blank line before the Assert block.