
What's New in Python

Release 3.14.0a0

A. M. Kuchling

June 04, 2024

Python Software Foundation
Email: docs@python.org

Contents

1	Summary – Release highlights	2
2	New Features	2
3	Other Language Changes	2
4	New Modules	2
5	Improved Modules	2
5.1	ast	2
6	Optimizations	2
7	Deprecated	2
8	Removed	2
8.1	argparse	2
8.2	ast	3
8.3	collections.abc	3
8.4	email	3
8.5	importlib	3
8.6	itertools	4
8.7	pathlib	4
8.8	sqlite3	4
8.9	typing	4
8.10	Others	4
9	Porting to Python 3.14	4
10	Build Changes	5
11	C API Changes	5
11.1	New Features	5
11.2	Porting to Python 3.14	5
11.3	Deprecated	5
11.4	Removed	5

Editor
TBD

This article explains the new features in Python 3.14, compared to 3.13.

For full details, see the changelog.

Note: Prerelease users should be aware that this document is currently in draft form. It will be updated substantially as Python 3.14 moves towards release, so it's worth checking back even after reading earlier versions.

1 Summary – Release highlights

2 New Features

3 Other Language Changes

4 New Modules

- None yet.

5 Improved Modules

5.1 ast

Added `ast.compare()` for comparing two ASTs. (Contributed by Batuhan Taskaya and Jeremy Hylton in [bpo-15987](#).)

6 Optimizations

7 Deprecated

- Passing a complex number as the *real* or *imag* argument in the `complex()` constructor is now deprecated; it should only be passed as a single positional argument. (Contributed by Serhiy Storchaka in [gh-109218](#).)

8 Removed

8.1 argparse

- Remove the *type*, *choices*, and *metavar* parameters of `argparse.BooleanOptionalAction`. They were deprecated since 3.12.

8.2 ast

- Remove the following classes. They were all deprecated since Python 3.8, and have emitted deprecation warnings since Python 3.12:

- `ast.Num`
- `ast.Str`
- `ast.Bytes`
- `ast.NameConstant`
- `ast.Ellipsis`

Use `ast.Constant` instead. As a consequence of these removals, user-defined `visit_Num`, `visit_Str`, `visit_Bytes`, `visit_NameConstant` and `visit_Ellipsis` methods on custom `ast.NodeVisitor` subclasses will no longer be called when the `NodeVisitor` subclass is visiting an AST. Define a `visit_Constant` method instead.

Also, remove the following deprecated properties on `ast.Constant`, which were present for compatibility with the now-removed AST classes:

- `ast.Constant.n`
- `ast.Constant.s`

Use `ast.Constant.value` instead.

(Contributed by Alex Waygood in [gh-119562](#).)

8.3 collections.abc

- Remove `collections.abc.ByteString`. It had previously raised a `DeprecationWarning` since Python 3.12.

8.4 email

- Remove the `isdst` parameter from `email.utils.localtime()`. (Contributed by Hugo van Kemenade in [gh-118798](#).)

8.5 importlib

- Remove deprecated `importlib.abc` classes:
 - `importlib.abc.ResourceReader`
 - `importlib.abc.Traversable`
 - `importlib.abc.TraversableResources`

Use `importlib.resources.abc` classes instead:

- `importlib.resources.abc.Traversable`
- `importlib.resources.abc.TraversableResources`

(Contributed by Jason R. Coombs and Hugo van Kemenade in [gh-93963](#).)

8.6 itertools

- Remove `itertools` support for `copy`, `deepcopy`, and `pickle` operations. These had previously raised a `DeprecationWarning` since Python 3.12. (Contributed by Raymond Hettinger in [gh-101588](#).)

8.7 pathlib

- Remove support for passing additional keyword arguments to `pathlib.Path`. In previous versions, any such arguments are ignored.
- Remove support for passing additional positional arguments to `pathlib.PurePath.relative_to()` and `is_relative_to()`. In previous versions, any such arguments are joined onto *other*.

pty

- Remove deprecated `pty.master_open()` and `pty.slave_open()`. They had previously raised a `DeprecationWarning` since Python 3.12. Use `pty.openpty()` instead. (Contributed by Nikita Sobolev in [gh-118824](#).)

8.8 sqlite3

- Remove `version` and `version_info` from `sqlite3`. (Contributed by Hugo van Kemenade in [gh-118924](#).)
- Disallow using a sequence of parameters with named placeholders. This had previously raised a `DeprecationWarning` since Python 3.12; it will now raise a `sqlite3.ProgrammingError`. (Contributed by Erlend E. Aasland in [gh-118928](#) and [gh-101693](#).)

8.9 typing

- Remove `typing.ByteString`. It had previously raised a `DeprecationWarning` since Python 3.12.

8.10 Others

- Using `NotImplemented` in a boolean context will now raise a `TypeError`. It had previously raised a `DeprecationWarning` since Python 3.9. (Contributed by Jelle Zijlstra in [gh-118767](#).)
- The `int()` built-in no longer delegates to `__trunc__()`. Classes that want to support conversion to integer must implement either `__int__()` or `__index__()`. (Contributed by Mark Dickinson in [gh-119743](#).)

9 Porting to Python 3.14

This section lists previously described changes and other bugfixes that may require changes to your code.

10 Build Changes

11 C API Changes

11.1 New Features

11.2 Porting to Python 3.14

11.3 Deprecated

- Macros `Py_IS_NAN`, `Py_IS_INFINITY` and `Py_IS_FINITE` are soft deprecated, use instead `isnan`, `isinf` and `isfinite` available from `math.h` since C99. (Contributed by Sergey B Kirpichev in [gh-119613](#).)

11.4 Removed

- Creating `immutable` types with mutable bases was deprecated since 3.12 and now raises a `TypeError`.