

# Changelog

## ⚠ Attention

Major and minor releases of pip also include changes listed within prior beta releases.

## 26.0.1 (2026-02-04)

### Bug Fixes

- Fix `--pre` not being respected from the command line when a requirement file includes an option e.g. `-extra-index-url`. ([#13788](#))

## 26.0 (2026-01-30)

### Deprecations and Removals

- Remove support for non-bare project names in egg fragments. Affected users should use the [Direct URL requirement syntax](#). ([#13157](#))

### Features

- Display pip's command-line help in colour, if possible. ([#12134](#))
- Support installing dependencies declared with inline script metadata ([PEP 723](#)) with `--requirements-from-script`. ([#12891](#))
- Add `--all-releases` and `--only-final` options to control pre-release and final release selection during package installation. ([#13221](#))
- Add `--uploaded-prior-to` option to only consider packages uploaded prior to a given datetime when the `upload-time` field is available from a remote index. ([#13625](#))
- Add `--use-feature inprocess-build-deps` to request that build dependencies are installed within the same pip install process. This new mechanism is faster, supports `--no-clean` and `--no-cache-dir` reliably, and supports prompting for authentication. Enabling this feature will also enable `--use-feature build-constraints`. This feature will become the default in a future pip version. ([#9081](#))

`--use-feature inprocess-build-deps` and `pip cache remove` now clean up empty directories and legacy files left by `pip cache remove`. ([#9058](#))

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## Bug Fixes

- Fix selecting pre-release versions when only pre-releases match. For example, `package>1.0` with versions `1.0`, `2.0rc1` now installs `2.0rc1` instead of failing. ([#13746](#))
- Revisions in version control URLs now must be percent-encoded. For example, use `git+https://example.com/repo.git@issue%231` to specify the branch `issue#1`. If you previously used a branch name containing a `%` character in a version control URL, you now need to replace it with `%25` to ensure correct percent-encoding. ([#13407](#))
- Preserve original casing when a path is displayed. ([#6823](#))
- Fix bash completion when the `$IFS` variable has been modified from its default. ([#13555](#))
- Precompute Python requirements on each candidate, reducing time of long resolutions. ([#13656](#))
- Skip redundant work converting version objects to strings when using the `importlib.metadata` backend. ([#13660](#))
- Fix `pip index versions` to honor only-binary/no-binary options. ([#13682](#))
- Fix fallback logic for options, allowing overriding global options with defaults from user config. ([#13703](#))
- Use a path-segment prefix comparison, not char-by-char. ([#13777](#))

## Vendored Libraries

- Upgrade CacheControl to 0.14.4
- Upgrade certifi to 2026.1.4
- Upgrade idna to 3.11
- Upgrade packaging to 26.0
- Upgrade platformdirs to 4.5.1

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## 25.3 (2025-10-24)

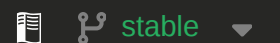
### Deprecations and Removals

- Remove support for the legacy `setup.py develop` editable method in `setuptools` editable installs; `setuptools >= 64` is now required. ([#11457](#))
- Remove the deprecated `--global-option` and `--build-option`. `--config-setting` is now the only way to pass options to the build backend. ([#11859](#))
- Deprecate the `PIP_CONSTRAINT` environment variable for specifying build constraints. Use the `--build-constraint` option or the `PIP_BUILD_CONSTRAINT` environment variable instead. When build constraints are used, `PIP_CONSTRAINT` no longer affects isolated build environments. To enable this behavior without specifying any build constraints, use `--use-feature=build-constraint`. ([#13534](#))
- Remove support for non-standard legacy wheel filenames. ([#13581](#))
- Remove support for the deprecated `setup.py bdist_wheel` mechanism. Consequently, `--use-pep517` is now always on, and `--no-use-pep517` has been removed. ([#6334](#))

### Features

- When [PEP 658](#) metadata is available, full distribution files are no longer downloaded when using `pip lock` or `pip install --dry-run`. ([#12603](#))
- Add support for installing an editable requirement written as a Direct URL (`PackageName @ URL`). ([#13495](#))
- Add support for build constraints via the `--build-constraint` option. This allows constraining the versions of packages used during the build process (e.g., `setuptools`) without affecting the final installation. ([#13534](#))
- On `ResolutionImpossible` errors, include a note about causes with no candidates. ([#13588](#))
- Building pip itself from source now uses `flit-core` instead of `setuptools`. This does not affect how pip installs or builds packages you use. ([#13473](#))

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## Bug Fixes

- Handle malformed `version` metadata entries and show a sensible error message instead of crashing. ([#13443](#))
- Permit spaces between a filepath and extras in an install requirement. ([#13523](#))
- Ensure the self-check files in the cache have the same permissions as the rest of the cache. ([#13528](#))
- Avoid concurrency issues and improve performance when caching locally built wheels, especially when the temporary build directory is on a different filesystem than the cache. The wheel directory passed to the build backend is now a temporary subdirectory inside the cache directory. ([#13540](#))
- Include relevant user-supplied constraints in logs when reporting dependency conflicts. ([#13545](#))
- Fix a regression in configuration parsing that was turning a single value into a list and thus leading to a validation error. ([#13548](#))
- For Python versions that do not support [PEP 706](#), pip will now raise an installation error for a source distribution when it includes a symlink that points outside the source distribution archive. ([#13550](#))
- Prevent `--user` installs if `site.ENABLE_USER_SITE` is set to `False`. ([#8794](#))

## Vendored Libraries

- Upgrade certifi to 2025.10.5
- Upgrade msgpack to 1.1.2
- Upgrade platformdirs to 4.5.0
- Upgrade requests to 2.32.5
- Upgrade resolvelib to 1.2.1
- Upgrade rich to 14.2.0
- Upgrade tomli to 2.3.0
- Upgrade truststore to 0.10.4

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## 25.2 (2025-07-30)

### Features

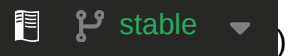
- Declare support for Python 3.14 ([#13506](#))
- Automatic download resumption and retrying is enabled by default. ([#13464](#))
- Requires-Python error message displays version clauses in numerical order. ([#13367](#))
- Minor performance improvement getting the order to install a very large number of interdependent packages. ([#13424](#))
- Show time taken instead of `eta 0:00:00` at download completion. ([#13483](#))
- Speed up small CLI tools by removing `import re` from the console script executable template. ([#13165](#))
- Remove warning when cloning from a Git reference that does not look like a commit hash. ([#12283](#))

### Bug Fixes

- `pip config debug` now correctly separates options as set by the different files at the same level. ([#12099](#))
- Ensure truststore feature remains active even when a proxy is also in use. ([#13343](#))
- Include sub-commands in tab completion. ([#13140](#))
- `pip list` with the `json` or `freeze` format enabled will no longer crash when encountering a package with an invalid version. ([#13345](#))
- Provide a hint if a system error is raised involving long filenames or path segments on Windows. ([#13346](#))
- Resumed downloads are saved to the HTTP cache like any other normal download. ([#13441](#))
- Configured verbosity is consistently forwarded while calling Git during VCS operations. ([#13329](#))
- Suppress the progress bar, when running with `--log` and `--quiet`.  
Consequently, a new `auto` mode for `--progress-bar` has been added. `auto` will enable progress bars unless suppressed by `--quiet`, while `on` will always enable progress bars. ([#10915](#))
- Fix normalization of local URLs with non-`file` schemes. ([#13509](#))
- Fix normalization of local file URLs on Windows in newer Python versions. ([#13510](#))
- Fix remaining test failures in Python 3.14 by adjusting `path_to_url` and similar functions.

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`network` test markings, making the suite pass in offline environment



## Vendored Libraries

- Upgrade CacheControl to 0.14.3
- Upgrade certifi to 2025.7.14
- Upgrade distlib to 0.4.0
- Upgrade msgpack to 1.1.1
- Upgrade platformdirs to 4.3.8
- Upgrade pygments to 2.19.2
- Upgrade requests to 2.32.4
- Upgrade resolvelib to 1.2.0
- Upgrade rich to 14.1.0
- Remove vendored typing-extensions.

## Process

- pip's own licensing metadata now follows [PEP 639](#). In addition, the licenses of pip's vendored dependencies are now included in the `License-File` metadata field and in the wheel.

## 25.1.1 (2025-05-02)

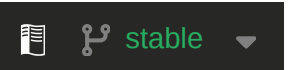
### Bug Fixes

- Fix `req.source_dir` AssertionError when using the legacy resolver. ([#13353](#))
- Fix crash on Python 3.9.6 and lower when pip failed to compile a Python module during installation. ([#13364](#))
- Names in dependency group includes are now normalized before lookup, which fixes incorrect `Dependency group '...' not found` errors. ([#13372](#))

## Vendored Libraries

- Fix issues with using tomllib from the stdlib if available, rather than tomli
- Upgrade dependency-groups to 1.3.1

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# 25.1 (2025-04-26)

## Deprecations and Removals

- Drop support for Python 3.8. ([#12989](#))
- On python 3.14+, the `pkg_resources` metadata backend cannot be used anymore. ([#13010](#))
- Hide `--no-python-version-warning` from CLI help and documentation as it's useless since Python 2 support was removed. Despite being formerly slated for removal, the flag will remain as a no-op to avoid breakage. ([#13303](#))
- A warning is emitted when the deprecated `pkg_resources` library is used to inspect and discover installed packages. This warning should only be visible to users who set an undocumented environment variable to disable the default `importlib.metadata` backend. ([#13318](#))
- Deprecate the legacy `setup.py bdist_wheel` mechanism. To silence the warning, and future-proof their setup, users should enable `--use-pep517` or add a `pyproject.toml` file to the projects they control. ([#13319](#))

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# Features

- Suggest checking “pip config debug” in case of an InvalidProxyURL error. ([#12649](#))
- Using `--debug` also enables verbose logging. ([#12710](#))
- Display a transient progress bar during package installation. ([#12712](#))
- Minor performance improvement when installing packages with a large number of dependencies by increasing the requirement string cache size. ([#12873](#))
- Add a `--group` option which allows installation from [PEP 735](#) Dependency Groups. `--group` accepts arguments of the form `group` or `path:group`, where the default path is `pyproject.toml`, and installs the named Dependency Group from the provided `pyproject.toml` file. ([#12963](#))
- Add support to enable resuming incomplete downloads.  
Control the number of retry attempts using the `--resume-retries` flag. ([#12991](#))
- Use [PEP 753](#) “Well-known Project URLs in Metadata” normalization rules when identifying an equivalent project URL to replace a missing `Home-Page` field in `pip show`. ([#13135](#))
- Remove `experimental` warning from `pip index versions` command. ([#13188](#))
- Add a structured `--json` output to `pip index versions` ([#13194](#))
- Add a new, *experimental*, `pip lock` command, implementing [PEP 751](#). ([#13213](#))
- Speed up resolution by first only considering the preference of candidates that must be required to complete the resolution. ([#13253](#))
- Improved heuristics for determining the order of dependency resolution. ([#13273](#))
- Provide hint, documentation, and link to the documentation when resolution too deep error occurs. ([#13282](#))
- Include traceback on failure to import `setuptools` when `setup.py` is being invoked directly. ([#13290](#))
- Support for [PEP 738](#) Android wheels. ([#13299](#))
- Display wheel build tag in `pip list` columns output if set. ([#5210](#))
- Build environment dependencies are no longer compiled to bytecode during installation for a minor performance improvement. ([#7294](#))

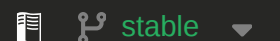
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## Bug Fixes

- When using the `importlib.metadata` backend (the default on Python 3.11+), `pip list` does not show installed egg distributions more than once anymore. Additionally, egg distributions whose parent directory was in `sys.path` but the egg themselves were not in `sys.path` are not detected anymore. ([#12308](#))
- Disable Git and SSH prompts when `--no-input` is passed. ([#12718](#))
- Gracefully handle Windows registry access errors while guessing the MIME type of a file. ([#12769](#))
- Support multiple global configuration paths returned by `platformdirs` on MacOS. ([#12903](#))
- Resolvelib 1.1.0 fixes a known issue where pip would report a `ResolutionImpossible` error even though there is a valid solution. However, some very complex dependency resolutions that previously resolved may resolve slower or fail with an `ResolutionTooDeep` error. ([#13001](#))
- Show the correct path to the interpreter also when it's a symlink in a venv in the pip upgrade prompt. ([#13156](#))
- Parse wheel filenames according to [binary distribution format specification](#). When a filename doesn't match the spec a deprecation warning is emitted and the filename is parsed using the old method. ([#13229](#))
- While resolving dependencies prefer if any of the known requirements are “direct”, e.g. points to an explicit URL. ([#13244](#))
- When choosing a preferred requirement for resolving dependencies do not consider a specifier with a `*` in it, e.g. “`==1.*`”, to be a pinned specifier. ([#13252](#))
- Fix a regression that causes dependencies to be checked *before* `Requires-Python` project metadata is checked, leading to wasted cycles when the Python version is unsupported. ([#13270](#))
- Don't require the `wheel` library to be installed to use `--no-use-pep517`, any more. ([#13330](#))
- Fix regression that suppressed errors indicating which packages were ignored due to incompatible `requires-python` metadata. ([#13333](#))
- Fix fish shell completion when commandline contains multiple commands. ([#9727](#))

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## Vendored Libraries

- Upgrade CacheControl to 0.14.2
- Upgrade certifi to 2025.1.31
- Upgrade packaging to 25.0
- Upgrade platformdirs to 4.3.7
- Upgrade pygments to 2.19.1
- Upgrade resolvelib to 1.1.0.
- Upgrade rich to 14.0.0
- Vendor tomli-w 1.2.0
- Upgrade truststore to 0.10.1
- Upgrade typing\_extensions to 4.13.2

## Improved Documentation

- Added support for building only the man pages with minimal dependencies using the sphinx-build `--tag man` option. This enables distributors to generate man pages without requiring HTML documentation dependencies. ([#13168](#))

## 25.0.1 (2025-02-09)

### Bug Fixes

- Fix an unsupported type annotation on Python 3.10 and earlier. ([#13181](#))
- Fix a regression where truststore would never be used while installing build dependencies. ([#13186](#))

## 25.0 (2025-01-26)

### Deprecations and Removals

- Deprecate the `no-python-version-warning` flag as it has long done nothing since Python 2 support was removed in pip 21.0. ([#13154](#))

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## Features

- Prefer to display [PEP 639](#) `License-Expression` in `pip show` if metadata version is at least 2.4. ([#13112](#))
- Support [PEP 639](#) `License-Expression` and `License-File` metadata fields in JSON output. `pip inspect` and `pip install --report` now emit `license_expression` and `license_file` fields in the `metadata` object, if the corresponding fields are present in the installed `METADATA` file. ([#13134](#))
- Files in the network cache will inherit the read/write permissions of pip's cache directory (in addition to the current user retaining read/write access). This enables a single cache to be shared among multiple users. ([#11012](#))
- Return the size, along with the number, of files cleared on `pip cache purge` and `pip cache remove`. ([#12176](#))
- Cache `python-requires` checks while filtering potential installation candidates. ([#13128](#))
- Optimize package collection by avoiding unnecessary URL parsing and other processing. ([#13132](#))

## Bug Fixes

- Reorder the encoding detection when decoding a requirements file, relying on UTF-8 over the locale encoding by default, matching the documented behaviour. ([#12771](#))
- The pip version self check is disabled on `EXTERNALLY-MANAGED` environments. ([#11820](#))
- Fix a security bug allowing a specially crafted wheel to execute code during installation. ([#13079](#))
- The inclusion of `packaging` 24.2 changes how pre-release specifiers with `<` and `>` behave. Including a pre-release version with these specifiers now implies accepting pre-releases (e.g., `<2.0dev` can include `1.0rc1`). To avoid implying pre-releases, avoid specifying them (e.g., use `<2.0`). The exception is `!=`, which never implies pre-releases. ([#13163](#))
- The `--cert` and `--client-cert` command-line options are now respected while installing build dependencies. Consequently, the private `_PIP_STANDALONE_CERT` environment variable is no longer used. ([#5502](#))
- The `--proxy` command-line option is now respected while installing build dependencies. ([#6018](#))

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## Vendored Libraries

- Upgrade CacheControl to 0.14.1
- Upgrade idna to 3.10
- Upgrade msgpack to 1.1.0
- Upgrade packaging to 24.2
- Upgrade platformdirs to 4.3.6
- Upgrade pyproject-hooks to 1.2.0
- Upgrade rich to 13.9.4
- Upgrade tomli to 2.2.1

## Improved Documentation

- Removed section about non-existing `--force-keyring` flag. ([#12455](#))

## Process

- Started releasing to PyPI from a GitHub Actions CI/CD workflow that implements trusted publishing and bundles [PEP 740](#) digital attestations.

## 24.3.1 (2024-10-27)

### Bug Fixes

- Allow multiple nested inclusions of the same requirements file again. ([#13046](#))

## 24.3 (2024-10-27)


### Deprecations and Removals

- Deprecate wheel filenames that are not compliant with [PEP 440](#). ([#12918](#))

### Features

- Detect recursively referencing requirements files and help users identify the source. ([#12653](#))
- Support for [PEP 730](#) iOS wheels. ([#12961](#))

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## Bug Fixes

- Display a better error message when an already installed package has an invalid requirement. ([#12953](#))
- Ignore `PIP_TARGET` and `pip.conf global.target` when preparing a build environment. ([#8438](#))
- Restore support for macOS 10.12 and older (via truststore). ([#12901](#))
- Allow installing pip in editable mode in a virtual environment on Windows. ([#12666](#))

## Vendored Libraries


- Upgrade certifi to 2024.8.30
- Upgrade distlib to 0.3.9
- Upgrade truststore to 0.10.0
- Upgrade urllib3 to 1.26.20

# 24.2 (2024-07-28)

## Deprecations and Removals

- Deprecate `pip install --editable` falling back to `setup.py develop` when using a setuptools version that does not support [PEP 660](#) (setuptools v63 and older). ([#11457](#))

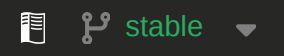
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# Features

- Check unsupported packages for the current platform. ([#11054](#))
- Use system certificates *and* certifi certificates to verify HTTPS connections on Python 3.10+. Python 3.9 and earlier only use certifi.  
To revert to previous behaviour, pass the flag `--use-deprecated=legacy-certs`. ([#11647](#))
- Improve discovery performance of installed packages when the `importlib.metadata` backend is used to load distribution metadata (used by default under Python 3.11+). ([#12656](#))
- Improve performance when the same requirement string appears many times during resolution, by consistently caching the parsed requirement string. ([#12663](#))
- Minor performance improvement of finding applicable package candidates by not repeatedly calculating their versions ([#12664](#))
- Disable pip's self version check when invoking a pip subprocess to install PEP 517 build requirements. ([#12683](#))
- Improve dependency resolution performance by caching platform compatibility tags during wheel cache lookup. ([#12712](#))
- `wheel` is no longer explicitly listed as a build dependency of `pip`. `setuptools` injects this dependency in the `get_requires_for_build_wheel()` hook and no longer needs it on newer versions. ([#12728](#))
- Ignore `--require-virtualenv` for `pip check` and `pip freeze` ([#12842](#))
- Improve package download and install performance.  
Increase chunk sizes when downloading (256 kB, up from 10 kB) and reading files (1 MB, up from 8 kB). This reduces the frequency of updates to pip's progress bar. ([#12810](#))
- Improve pip install performance.  
Files are now extracted in 1MB blocks, or in one block matching the file size for smaller files. A decompressor is no longer instantiated when extracting 0 bytes files, it is not necessary because there is no data to decompress. ([#12803](#))

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## Bug Fixes

- Set `no_color` to global `rich.console` instance. ([#11045](#))
- Fix resolution to respect `--python-version` when checking `Requires-Python`. ([#12216](#))
- Perform hash comparisons in a case-insensitive manner. ([#12680](#))
- Avoid `dlopen` failure for glibc detection in musl builds ([#12716](#))
- Avoid keyring logging crashes when pip is run in verbose mode. ([#12751](#))
- Fix finding hardlink targets in tar files with an ignored top-level directory. ([#12781](#))
- Improve pip install performance by only creating required parent directories once, instead of before extracting every file in the wheel. ([#12782](#))
- Improve pip install performance by calculating installed packages printout in linear time instead of quadratic time. ([#12791](#))

## Vendored Libraries

- Remove vendored tenacity.
- Update the preload list for the `DEBUNDLED` case, to replace `pep517` that has been renamed to `pyproject_hooks`.
- Use `tomllib` from the `stdlib` if available, rather than `tomli`
- Upgrade `certifi` to 2024.7.4
- Upgrade `platformdirs` to 4.2.2
- Upgrade `pygments` to 2.18.0
- Upgrade `setuptools` to 70.3.0
- Upgrade `typing_extensions` to 4.12.2

## Improved Documentation

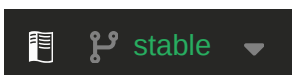
- Correct `--ignore-conflicts` (including an em dash) to `--ignore-conflicts`. ([#12851](#))

# 24.1.2 (2024-07-07)

## Bug Fixes

- Fix finding hardlink targets in tar files with an ignored top-level directory. ([#12781](#))

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## 24.1.1 (2024-06-26)

### Bug Fixes

- Actually use system trust stores when the truststore feature is enabled.

### Vendored Libraries

- Upgrade requests to 2.32.3

## 24.1 (2024-06-20)

### Vendored Libraries

- Upgrade truststore to 0.9.1.

## 24.1b2 (2024-06-12)

### Features

- Report informative messages about invalid requirements. ([#12713](#))

### Bug Fixes

- Eagerly import the self version check logic to avoid crashes while upgrading or downgrading pip at the same time. ([#12675](#))
- Accommodate for mismatches between different sources of truth for extra names, for packages generated by `setuptools`. ([#12688](#))
- Accommodate for development versions of CPython ending in `+` in the version string. ([#12691](#))

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## Vendored Libraries

- Upgrade packaging to 24.1
- Upgrade requests to 2.32.0
- Remove vendored colorama
- Remove vendored six
- Remove vendored webencodings
- Remove vendored charset\_normalizer

`requests` provides optional character detection support on some APIs when processing ambiguous bytes. This isn't relevant for pip to function and we're able to remove it due to recent upstream changes.

## 24.1b1 (2024-05-06)

### Deprecations and Removals

- Drop support for EOL Python 3.7. ([#11934](#))
- Remove support for legacy versions and dependency specifiers.

Packages with non standard-compliant versions or dependency specifiers are now ignored by the resolver. Already installed packages with non standard-compliant versions or dependency specifiers must be uninstalled before upgrading them. ([#12063](#))

### Features

- Improve performance of resolution of large dependency trees, with more caching. ([#12453](#))
- Further improve resolution performance of large dependency trees, by caching hash calculations. ([#12657](#))
- Reduce startup time of commands (e.g. `show`, `freeze`) that do not access the network by 15-30%. ([#4768](#))
- Reword and improve presentation of uninstallation errors. ([#10421](#))
- Add a 'raw' `progress_bar` type for simple and parsable download progress reports ([#11508](#))
- `pip list` no longer performs the pip version check unless `--outdated` or `--uptodate` is given. ([#11677](#))
- Use the `data_filter` when extracting tarballs, if it's available. ([#12111](#))
- Display the Project-URL value under key "Home-page" in `pip show` when the Home-Page

Skip to content is not set.

Project-URL key detection is case-insensitive, and ignores any dashes and underscores. ([#11221](#))



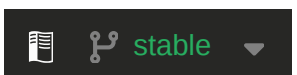
## Bug Fixes

- Ensure `-vv` gets passed to any `pip install` build environment subprocesses. ([#12577](#))
- Deduplicate entries in the `Requires` field of `pip show`. ([#12165](#))
- Fix error on checkout for subversion and bazaar with verbose mode on. ([#11050](#))
- Fix exception with completions when `COMP_CWORD` is not set ([#12401](#))
- Fix intermittent “cannot locate t64.exe” errors when upgrading pip. ([#12666](#))
- Remove duplication in invalid wheel error message ([#12579](#))
- Remove the incorrect `pip3.x` console entrypoint from the pip wheel. This console script continues to be generated by pip when it installs itself. ([#12536](#))
- Gracefully skip VCS detection in pip freeze when `PATH` points to a non-directory path. ([#12567](#))
- Make the `--proxy` parameter take precedence over environment variables. ([#10685](#))

## Vendored Libraries

- Add charset-normalizer 3.3.2
- Remove chardet
- Remove pyparsing
- Upgrade CacheControl to 0.14.0
- Upgrade certifi to 2024.2.2
- Upgrade distro to 1.9.0
- Upgrade idna to 3.7
- Upgrade msgpack to 1.0.8
- Upgrade packaging to 24.0
- Upgrade platformdirs to 4.2.1
- Upgrade pygments to 2.17.2
- Upgrade rich to 13.7.1
- Upgrade setuptools to 69.5.1
- Upgrade tenacity to 8.2.3
- Upgrade typing\_extensions to 4.11.0
- Upgrade urllib3 to 1.26.18

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## Improved Documentation

- Document UX research done on pip. ([#10745](#))
- Fix the direct usage of zipapp showing up as `python -m pip.pyz` rather than `./pip.pyz / .\pip.pyz` ([#12043](#))
- Add a warning explaining that the snippet in “Fallback behavior” is not a valid `pyproject.toml` snippet for projects, and link to `setuptools` documentation instead. ([#12122](#))
- The Python Support Policy has been updated. ([#12529](#))
- Document the environment variables that correspond with CLI options. ([#12576](#))
- Update architecture documentation for command line interface. ([#6831](#))

## Process

- Remove `setup.py` since all the pip project metadata is now declared in `pyproject.toml`.
- Move remaining pip development tools configurations to `pyproject.toml`.

# 24.0 (2024-02-03)

## Features

- Retry on HTTP status code 502 ([#11843](#))
- Automatically use the `setuptools` PEP 517 build backend when `--config-settings` is used for projects without `pyproject.toml`. ([#11915](#))
- Make pip freeze and pip uninstall of legacy editable installs of packages whose name contains `_` compatible with `setuptools>=69.0.3`. ([#12477](#))
- Support per requirement `--config-settings` for editable installs. ([#12480](#))

## Bug Fixes

- Optimized usage of `--find-links=<path-to-dir>`, by only scanning the relevant directory once, only considering file names that are valid wheel or sdist names, and only considering files in the directory that are related to the install. ([#12327](#))
- Removed `wheel` from the `[build-system].requires` list fallback that is used when `pyproject.toml` is absent. ([#12449](#))

## Vendored Libraries

[Skip to content](#) to 0.3.8



## Improved Documentation

- Fix explanation of how `PIP_CONFIG_FILE` works ([#11815](#))
- Fix outdated pip install argument description in documentation. ([#12417](#))
- Replace some links to PEPs with links to the canonical specifications on the [Python Packaging User Guide](#) ([#12434](#))
- Updated the `pyproject.toml` document to stop suggesting to depend on `wheel` as a build dependency directly. ([#12449](#))
- Update supported interpreters in development docs ([#12475](#))

## Process

- Most project metadata is now defined statically via pip's `pyproject.toml` file.

## 23.3.2 (2023-12-17)

### Bug Fixes

- Fix a bug in extras handling for link requirements ([#12372](#))
- Fix mercurial revision “parse error”: use `--rev={ref}` instead of `-r={ref}` ([#12373](#))

## 23.3.1 (2023-10-21)

### Bug Fixes

- Handle a timezone indicator of Z when parsing dates in the self check. ([#12338](#))
- Fix bug where installing the same package at the same time with multiple pip processes could fail. ([#12361](#))

## 23.3 (2023-10-15)

### Process

- Added reference to [vulnerability reporting guidelines](#) to pip's security policy.

### Deprecations and Removals

Skip to content to using SecureTransport on macOS. It was useful when pip was using `pip 20.1`, but the current pip does not support any Python version supporting such old OpenSSL versions. ([#12175](#))

## Features

- Improve extras resolution for multiple constraints on same base package. ([#11924](#))
- Improve use of datastructures to make candidate selection 1.6x faster. ([#12204](#))
- Allow `pip install --dry-run` to use platform and ABI overriding options. ([#12215](#))
- Add `is_yanked` boolean entry to the installation report (`--report`) to indicate whether the requirement was yanked from the index, but was still selected by pip conform to [PEP 592](#). ([#12224](#))

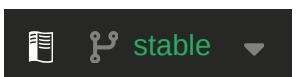
## Bug Fixes

- Ignore errors in temporary directory cleanup (show a warning instead). ([#11394](#))
- Normalize extras according to [PEP 685](#) from package metadata in the resolver for comparison. This ensures extras are correctly compared and merged as long as the package providing the extra(s) is built with values normalized according to the standard. Note, however, that this *does not* solve cases where the package itself contains unnormalized extra values in the metadata. ([#11649](#))
- Prevent downloading sdist twice when [PEP 658](#) metadata is present. ([#11847](#))
- Include all requested extras in the install report (`--report`). ([#11924](#))
- Removed uses of `datetime.datetime.utcnow` from non-vendored code. ([#12005](#))
- Consistently report whether a dependency comes from an extra. ([#12095](#))
- Fix completion script for zsh ([#12166](#))
- Fix improper handling of the new `onexc` argument of `shutil.rmtree()` in Python 3.12. ([#12187](#))
- Filter out yanked links from the available versions error message: “(from versions: 1.0, 2.0, 3.0)” will not contain yanked versions conform PEP 592. The yanked versions (if any) will be mentioned in a separate error message. ([#12225](#))
- Fix crash when the git version number contains something else than digits and dots. ([#12280](#))
- Use `-r=...` instead of `-r ...` to specify references with Mercurial. ([#12306](#))
- Redact password from URLs in some additional places. ([#12350](#))
- pip uses less memory when caching large packages. As a result, there is a new on-disk cache format stored in a new directory (`$PIP_CACHE_DIR/http-v2`). ([#2984](#))

## Vendored Libraries

- Upgrade certifi to 2023.7.22

Skip to content [0.8.0](#)  
; to 1.26.17



## Improved Documentation

- Document that `pip search` support has been removed from PyPI ([#12059](#))
- Clarify `--prefer-binary` in CLI and docs ([#12122](#))
- Document that using OS-provided Python can cause pip's test suite to report false failures. ([#12334](#))

## 23.2.1 (2023-07-22)

### Bug Fixes

- Disable [PEP 658](#) metadata fetching with the legacy resolver. ([#12156](#))

## 23.2 (2023-07-15)

### Process

- Deprecate support for eggs for Python 3.11 or later, when the new `importlib.metadata` backend is used to load distribution metadata. This only affects the egg *distribution format* (with the `.egg` extension); distributions using the `.egg-info` *metadata format* (but are not actually eggs) are not affected. For more information about eggs, see [relevant section in the setuptools documentation](#).

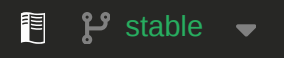
## Deprecations and Removals

- Deprecate legacy version and version specifiers that don't conform to the [specification](#). ([#12063](#))
- `freeze` no longer excludes the `setuptools`, `distribute`, and `wheel` from the output when running on Python 3.12 or later, where they are not included in a virtual environment by default. Use `--exclude` if you wish to exclude any of these packages. ([#4256](#))

## Features

- make rejection messages slightly different between 1 and 8, so the user can make the difference. ([#12040](#))

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## Bug Fixes

- Fix `pip completion --zsh`. (#11417)
- Prevent downloading files twice when [PEP 658](#) metadata is present (#11847)
- Add permission check before configuration (#11920)
- Fix deprecation warnings in Python 3.12 for usage of `shutil.rmtree` (#11957)
- Ignore invalid or unreadable `origin.json` files in the cache of locally built wheels. (#11985)
- Fix installation of packages with [PEP 658](#) metadata using non-canonicalized names (#12038)
- Correctly parse `dist-info-metadata` values from JSON-format index data. (#12042)
- Fail with an error if the `--python` option is specified after the subcommand name. (#12067)
- Fix slowness when using `importlib.metadata` (the default way for pip to read metadata in Python 3.11+) and there is a large overlap between already installed and to-be-installed packages. (#12079)
- Pass the `-r` flag to mercurial to be explicit that a revision is passed and protect against `hg` options injection as part of VCS URLs. Users that do not have control on VCS URLs passed to pip are advised to upgrade. (#12119)

## Vendored Libraries

- Upgrade certifi to 2023.5.7
- Upgrade platformdirs to 3.8.1
- Upgrade pygments to 2.15.1
- Upgrade pyparsing to 3.1.0
- Upgrade Requests to 2.31.0
- Upgrade rich to 13.4.2
- Upgrade setuptools to 68.0.0
- Updated typing\_extensions to 4.6.0
- Upgrade typing\_extensions to 4.7.1
- Upgrade urllib3 to 1.26.16

## 23.1.2 (2023-04-26)

### Vendored Libraries

- Upgrade setuptools to 67.7.2

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## 23.1.1 (2023-04-22)

### Bug Fixes

- Revert [#11487](#), as it causes issues with virtualenvs created by the Windows Store distribution of Python. ([#11987](#))

### Vendored Libraries

- Revert `pkg_resources` (via `setuptools`) back to 65.6.3

### Improved Documentation

- Update documentation to reflect the new behavior of using the cache of locally built wheels in hash-checking mode. ([#11967](#))

## 23.1 (2023-04-15)

### Deprecations and Removals

- Remove support for the deprecated `--install-options`. ([#11358](#))
- `--no-binary` does not imply `setup.py install` anymore. Instead a wheel will be built locally and installed. ([#11451](#))
- `--no-binary` does not disable the cache of locally built wheels anymore. It only means “don’t download wheels”. ([#11453](#))
- Deprecate `--build-option` and `--global-option`. Users are invited to switch to `--config-settings`. ([#11859](#))
- Using `--config-settings` with projects that don’t have a `pyproject.toml` now prints a deprecation warning. In the future the presence of config settings will automatically enable the default build backend for legacy projects and pass the settings to it. ([#11915](#))
- Remove `setup.py install` fallback when building a wheel failed for projects without `pyproject.toml`. ([#8368](#))
- When the `wheel` package is not installed, pip now uses the default build backend instead of `setup.py install` and `setup.py develop` for project without `pyproject.toml`. ([#8559](#))

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# Features

- Specify egg-link location in assertion message when it does not match installed location to provide better error message for debugging. ([#10476](#))
- Present conflict information during installation after each choice that is rejected (pass `-vv` to `pip install` to show it) ([#10937](#))
- Display dependency chain on each Collecting/Processing log line. ([#11169](#))
- Support a per-requirement `--config-settings` option in requirements files. ([#11325](#))
- The `--config-settings / -c` option now supports using the same key multiple times. When the same key is specified multiple times, all values are passed to the build backend as a list, as opposed to the previous behavior, where pip would only pass the last value if the same key was used multiple times. ([#11681](#))
- Add `-c` as a short version of the `--config-settings` option. ([#11786](#))
- Reduce the number of resolver rounds, since backjumping makes the resolver more efficient in finding solutions. This also makes pathological cases fail quicker. ([#11908](#))
- Warn if `--hash` is used on a line without requirement in a requirements file. ([#11935](#))
- Stop propagating CLI `--config-settings` to the build dependencies. They already did not propagate to requirements provided in requirement files. To pass the same config settings to several requirements, users should provide the requirements as CLI arguments. ([#11941](#))
- Support wheel cache when using `--require-hashes`. ([#5037](#))
- Add `--keyring-provider` flag. See the Authentication page in the documentation for more info. ([#8719](#))
- In the case of virtual environments, configuration files are now also included from the base installation. ([#9752](#))

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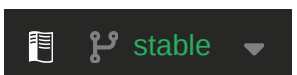
## Bug Fixes

- Fix grammar by changing “A new release of pip available:” to “A new release of pip is available:” in the notice used for indicating that. ([#11529](#))
- Normalize paths before checking if installed scripts are on PATH. ([#11719](#))
- Correct the way to decide if keyring is available. ([#11774](#))
- More consistent resolution backtracking by removing legacy hack related to setuptools resolution ([#11837](#))
- Include `AUTHORS.txt` in pip’s wheels. ([#11882](#))
- The `uninstall` and `install --force-reinstall` commands no longer call `normalize_path()` repeatedly on the same paths. Instead, these results are cached for the duration of an uninstall operation, resulting in improved performance, particularly on Windows. ([#11889](#))
- Fix and improve the parsing of hashes embedded in URL fragments. ([#11936](#))
- When package A depends on package B provided as a direct URL dependency including a hash embedded in the link, the `--require-hashes` option did not warn when user supplied hashes were missing for package B. ([#11938](#))
- Correctly report `requested_extras` in the installation report when extras are specified for a local directory installation. ([#11946](#))
- When installing an archive from a direct URL or local file, populate `download_info.info.hashes` in the installation report, in addition to the legacy `download_info.info.hash` key. ([#11948](#))

## Vendored Libraries

- Upgrade msgpack to 1.0.5
- Patch pkg\_resources to remove dependency on `jaraco.text`.
- Upgrade platformdirs to 3.2.0
- Upgrade pygments to 2.14.0
- Upgrade resolvelib to 1.0.1
- Upgrade rich to 13.3.3
- Upgrade setuptools to 67.6.1
- Upgrade tenacity to 8.2.2
- Upgrade typing\_extensions to 4.5.0
- Upgrade urllib3 to 1.26.15

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## Improved Documentation

- Cross-reference the `--python` flag from the `--prefix` flag, and mention limitations of `--prefix` regarding script installation. ([#11775](#))
- Add SECURITY.md to make the policy official. ([#11809](#))
- Add username to Git over SSH example. ([#11838](#))
- Quote extras in the pip install docs to guard shells with default glob qualifiers, like zsh. ([#11842](#))
- Make it clear that requirements/constraints file can be a URL ([#11954](#))

## 23.0.1 (2023-02-17)

### Features

- Ignore `PIP_REQUIRE_VIRTUALENV` for `pip index` ([#11671](#))
- Implement `--break-system-packages` to permit installing packages into `EXTERNALLY-MANAGED` Python installations. ([#11780](#))

### Bug Fixes

- Improve handling of isolated build environments on platforms that customize the Python's installation schemes, such as Debian and Homebrew. ([#11740](#))
- Do not crash in presence of misformatted hash field in `direct_url.json`. ([#11773](#))

## 23.0 (2023-01-30)

### Features

- Change the hashes in the installation report to be a mapping. Emit the `archive_info.hashes` dictionary in `direct_url.json`. ([#11312](#))
- Implement logic to read the `EXTERNALLY-MANAGED` file as specified in [PEP 668](#). This allows a downstream Python distributor to prevent users from using pip to modify the externally managed environment. ([#11381](#))
- Enable the use of `keyring` found on `PATH`. This allows `keyring` installed using `pipx` to be used by `pip`. ([#11589](#))
- The inspect and installation report formats are now declared stable, and their version has been bumped from `0` to `1`. ([#11757](#))

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## Bug Fixes

- Wheel cache behavior is restored to match previous versions, allowing the cache to find existing entries. ([#11527](#))
- Use the “venv” scheme if available to obtain prefixed lib paths. ([#11598](#))
- Deprecated a historical ambiguity in how `egg` fragments in URL-style requirements are formatted and handled. `egg` fragments that do not look like [PEP 508](#) names now produce a deprecation warning. ([#11617](#))
- Fix scripts path in isolated build environment on Debian. ([#11623](#))
- Make `pip show` show the editable location if package is editable ([#11638](#))
- Stop checking that `wheel` is present when `build-system.requires` is provided without `build-system.build-backend` as `setuptools` (which we still check for) will inject it anyway. ([#11673](#))
- Fix an issue when an already existing in-memory distribution would cause exceptions in `pip install` ([#11704](#))

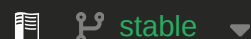
## Vendored Libraries

- Upgrade certifi to 2022.12.7
- Upgrade chardet to 5.1.0
- Upgrade colorama to 0.4.6
- Upgrade distro to 1.8.0
- Remove pep517 from vendored packages
- Upgrade platformdirs to 2.6.2
- Add pyproject-hooks 1.0.0
- Upgrade requests to 2.28.2
- Upgrade rich to 12.6.0
- Upgrade urllib3 to 1.26.14

## Improved Documentation

- Fixed the description of the option “--install-options” in the documentation ([#10265](#))
- Remove mention that editable installs are necessary for pip freeze to report the VCS URL. ([#11675](#))
- Clarify that the egg URL fragment is only necessary for editable VCS installs, and otherwise not necessary anymore. ([#11676](#))

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## 22.3.1 (2022-11-05)

### Bug Fixes

- Fix entry point generation of `pip.X`, `pipX.Y`, and `easy_install-X.Y` to correctly account for multi-digit Python version segments (e.g. the “11” part of 3.11). ([#11547](#))

## 22.3 (2022-10-15)

### Deprecations and Removals

- Deprecate `--install-options` which forces pip to use the deprecated `install` command of `setuptools`. ([#11358](#))
- Deprecate installation with ‘setup.py install’ when no-binary is enabled for source distributions without ‘pyproject.toml’. ([#11452](#))
- Deprecate `--no-binary` disabling the wheel cache. ([#11454](#))
- Remove `--use-feature=2020-resolver` opt-in flag. This was supposed to be removed in 21.0, but missed during that release cycle. ([#11493](#))
- Deprecate installation with ‘setup.py install’ when the ‘wheel’ package is absent for source distributions without ‘pyproject.toml’. ([#8559](#))
- Remove the ability to use `pip list --outdated` in combination with `--format=freeze`. ([#9789](#))

### Features

- Use `shell=True` for opening the editor with `pip config edit`. ([#10716](#))
- Use the `data-dist-info-metadata` attribute from [PEP 658](#) to resolve distribution metadata without downloading the dist yet. ([#11111](#))
- Add an option to run the test suite with pip built as a zipapp. ([#11250](#))
- Add a `--python` option to allow pip to manage Python environments other than the one pip is installed in. ([#11320](#))
- Document the new (experimental) zipapp distribution of pip. ([#11459](#))
- Use the much faster ‘bzip2 --lightweight’ to obtain a copy of a Bazaar tree. ([#5444](#))

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## Bug Fixes

- Fix `--no-index` when `--index-url` or `--extra-index-url` is specified inside a requirements file. ([#11276](#))
- Ensure that the candidate `pip` executable exists, when checking for a new version of pip. ([#11309](#))
- Ignore distributions with invalid `Name` in metadata instead of crashing, when using the `importlib.metadata` backend. ([#11352](#))
- Raise `RequirementsFileParseError` when parsing malformed requirements options that can't be successfully parsed by `shlex`. ([#11491](#))
- Fix build environment isolation on some system Pythons. ([#6264](#))

## Vendored Libraries

- Upgrade `certifi` to 2022.9.24
- Upgrade `distlib` to 0.3.6
- Upgrade `idna` to 3.4
- Upgrade `pep517` to 0.13.0
- Upgrade `pygments` to 2.13.0
- Upgrade `tenacity` to 8.1.0
- Upgrade `typing_extensions` to 4.4.0
- Upgrade `urllib3` to 1.26.12

## Improved Documentation

- Mention that `--quiet` must be used when writing the installation report to `stdout`. ([#11357](#))

## 22.2.2 (2022-08-03)

### Bug Fixes

- Avoid `AttributeError` when removing the `setuptools`-provided `_distutils_hack` and it is missing its implementation. ([#11314](#))
- Fix import error when reinstalling `pip` in user site. ([#11319](#))
- Show `pip` deprecation warnings by default. ([#11330](#))

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## 22.2.1 (2022-07-27)

### Bug Fixes



- Send the pip upgrade prompt to stderr. ([#11282](#))
- Ensure that things work correctly in environments where `setuptools-injected distutils` is available by default. This is done by cooperating with `setuptools`' injection logic to ensure that pip uses the `distutils` from the Python standard library instead. ([#11298](#))
- Clarify that `pip cache`'s wheels-related output is about locally built wheels only. ([#11300](#))

## 22.2 (2022-07-21)

### Deprecations and Removals

- Remove the `html5lib` deprecated feature flag. ([#10825](#))
- Remove `--use-deprecated=backtrack-on-build-failures`. ([#11241](#))

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## Features

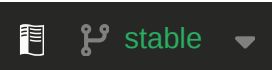
- Add support to use `truststore` as an alternative SSL certificate verification backend. The backend can be enabled on Python 3.10 and later by installing `truststore` into the environment, and adding the `--use-feature=truststore` flag to various pip commands. `truststore` differs from the current default verification backend (provided by `certifi`) in it uses the operating system's trust store, which can be better controlled and augmented to better support non-standard certificates. Depending on feedback, pip may switch to this as the default certificate verification backend in the future. ([#11082](#))
- Add `--dry-run` option to `pip install`, to let it print what it would install but not actually change anything in the target environment. ([#11096](#))
- Record in wheel cache entries the URL of the original artifact that was downloaded to build the cached wheels. The record is named `origin.json` and uses the PEP 610 Direct URL format. ([#11137](#))
- Support [PEP 691](#). ([#11158](#))
- pip's deprecation warnings now subclass the built-in `DeprecationWarning`, and can be suppressed by running the Python interpreter with `-W ignore::DeprecationWarning`. ([#11225](#))
- Add `pip inspect` command to obtain the list of installed distributions and other information about the Python environment, in JSON format. ([#11245](#))
- Significantly speed up isolated environment creation, by using the same sources for pip instead of creating a standalone installation for each environment. ([#11257](#))
- Add an experimental `--report` option to the install command to generate a JSON report of what was installed. In combination with `--dry-run` and `--ignore-installed` it can be used to resolve the requirements. ([#53](#))

## Bug Fixes

- Fix `pip install --pre` for packages with pre-release build dependencies defined both in `pyproject.toml`'s `build-system.requires` and `setup.py`'s `setup_requires`. ([#10222](#))
- When pip rewrites the shebang line in a script during wheel installation, update the hash and size in the corresponding `RECORD` file entry. ([#10744](#))
- Do not consider a `.dist-info` directory found inside a wheel-like zip file as metadata for an installed distribution. A package in a wheel is (by definition) not installed, and is not guaranteed to work due to how a wheel is structured. ([#11217](#))
- Use `importlib.resources` to read the `vendor.txt` file in `pip debug`. This makes the command work on a zipapp. ([#11248](#))

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`--no-pep517` option of the `download` command apply not just to the package specified on the command line, but to their dependencies, as well. ([#9523](#))



## Process

- Remove reliance on the `stdlib cgi` module, which is deprecated in Python 3.11.

## Vendored Libraries

- Remove `html5lib`.
- Upgrade `certifi` to 2022.6.15
- Upgrade `chardet` to 5.0.0
- Upgrade `colorama` to 0.4.5
- Upgrade `distlib` to 0.3.5
- Upgrade `msgpack` to 1.0.4
- Upgrade `pygments` to 2.12.0
- Upgrade `pyparsing` to 3.0.9
- Upgrade `requests` to 2.28.1
- Upgrade `rich` to 12.5.1
- Upgrade `typing_extensions` to 4.3.0
- Upgrade `urllib3` to 1.26.10

## 22.1.2 (2022-05-31)

### Bug Fixes

- Revert [#10979](#) since it introduced a regression in certain edge cases. ([#10979](#))
- Fix an incorrect assertion in the logging logic, that prevented the upgrade prompt from being presented. ([#11136](#))

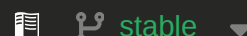
## 22.1.1 (2022-05-20)

### Bug Fixes

- Properly filter out optional dependencies (i.e. extras) when checking build environment distributions. ([#11112](#))
- Change the build environment dependency checking to be opt-in. ([#11116](#))
- Allow using a pre-release version to satisfy a build requirement. This helps manually populated

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ments to more accurately detect build-time requirement conflicts

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## 22.1 (2022-05-11)

### Process

- Enable the `importlib.metadata` metadata implementation by default on Python 3.11 (or later). The environment variable `_PIP_USE_IMPORTLIB_METADATA` can still be used to enable the implementation on 3.10 and earlier, or disable it on 3.11 (by setting it to `0` or `false`).

### Bug Fixes

- Revert [#9243](#) since it introduced a regression in certain edge cases. ([#10962](#))
- Fix missing `REQUESTED` metadata when using URL constraints. ([#11079](#))
- `pip config` now normalizes names by converting underscores into dashes. ([#9330](#))

## 22.1b1 (2022-04-30)

### Process

- Start migration of distribution metadata implementation from `pkg_resources` to `importlib.metadata`. The new implementation is currently not exposed in any user-facing way, but included in the code base for easier development.

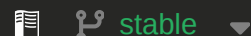
### Deprecations and Removals

- Drop `--use-deprecated=out-of-tree-build`, according to deprecation message. ([#11001](#))

### Features

- Add option to install and uninstall commands to opt-out from running-as-root warning. ([#10556](#))
- Include Project-URLs in `pip show` output. ([#10799](#))
- Improve error message when `pip config edit` is provided an editor that doesn't exist. ([#10812](#))
- Add a user interface for supplying config settings to build backends. ([#11059](#))
- Add support for Powershell autocompletion. ([#9024](#))
- Explains why specified version cannot be retrieved when *Requires-Python* is not satisfied. ([#9615](#))
- Validate build dependencies when using `--no-build-isolation`. ([#9794](#))

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## Bug Fixes

- Fix conditional checks to prevent `pip.exe` from trying to modify itself, on Windows. ([#10560](#))
- Fix uninstall editable from Windows junction link. ([#10696](#))
- Fallback to pyproject.toml-based builds if `setup.py` is present in a project, but `setuptools` cannot be imported. ([#10717](#))
- When checking for conflicts in the build environment, correctly skip requirements containing markers that do not match the current environment. ([#10883](#))
- Disable brotli import in vendored urllib3 so brotli could be uninstalled/upgraded by pip. ([#10950](#))
- Prioritize URL credentials over netrc. ([#10979](#))
- Filter available distributions using hash declarations from constraints files. ([#9243](#))
- Fix an error when trying to uninstall packages installed as editable from a network drive. ([#9452](#))
- Fix pip install issues using a proxy due to an inconsistency in how Requests is currently handling variable precedence in session. ([#9691](#))

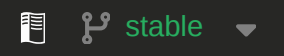
## Vendored Libraries

- Upgrade CacheControl to 0.12.11
- Upgrade distro to 1.7.0
- Upgrade platformdirs to 2.5.2
- Remove `progress` from vendored dependencies.
- Upgrade `yparsing` to 3.0.8 for startup performance improvements.
- Upgrade rich to 12.2.0
- Upgrade tomli to 2.0.1
- Upgrade typing\_extensions to 4.2.0

## Improved Documentation

- Add more dedicated topic and reference pages to the documentation. ([#10899](#))
- Capitalise Y as the default for “Proceed (y/n)?” when uninstalling. ([#10936](#))
- Add `scheme://` requirement to `--proxy` option’s description ([#10951](#))
- The wheel command now references the build interface section instead of stating the legacy setuptools behavior as the default. ([#10972](#))
- Improved usefulness of `pip config --help` output. ([#11074](#))

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## 22.0.4 (2022-03-06)

### Deprecations and Removals

- Drop the doctype check, that presented a warning for index pages that use non-compliant HTML 5. ([#10903](#))

### Vendored Libraries

- Downgrade distlib to 0.3.3.

## 22.0.3 (2022-02-03)

### Features

- Print the exception via `rich.traceback`, when running with `--debug`. ([#10791](#))

### Bug Fixes

- Only calculate topological installation order, for packages that are going to be installed/upgraded. This fixes an *AssertionError* that occurred when determining installation order, for a very specific combination of upgrading-already-installed-package + change of dependencies + fetching some packages from a package index. This combination was especially common in Read the Docs' builds. ([#10851](#))
- Use `html.parser` by default, instead of falling back to `html5lib` when `--use-deprecated=html5lib` is not passed. ([#10869](#))

### Improved Documentation

- Clarify that using per-requirement overrides disables the usage of wheels. ([#9674](#))

## 22.0.2 (2022-01-30)

### Deprecations and Removals

- Instead of failing on index pages that use non-compliant HTML 5, print a deprecation warning and fall back to `html5lib`-based parsing for now. This simplifies the migration for non-compliant index pages, by letting such indexes function with a warning. ([#10847](#))

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## 22.0.1 (2022-01-30)

### Bug Fixes

- Accept lowercase `<!doctype html>` on index pages. ([#10844](#))
- Properly handle links parsed by html5lib, when using `--use-deprecated=html5lib`. ([#10846](#))

## 22.0 (2022-01-29)

### Process

- Completely replace [tox](#) in our development workflow, with [nox](#).

### Deprecations and Removals

- Deprecate alternative progress bar styles, leaving only `on` and `off` as available choices. ([#10462](#))
- Drop support for Python 3.6. ([#10641](#))
- Disable location mismatch warnings on Python versions prior to 3.10.

These warnings were helping identify potential issues as part of the `sysconfig -> distutils` transition, and we no longer need to rely on reports from older Python versions for information on the transition. ([#10840](#))

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## Features

- Changed `PackageFinder` to parse HTML documents using the stdlib `html.parser.HTMLParser` class instead of the `html5lib` package.  
For now, the deprecated `html5lib` code remains and can be used with the `--use-deprecated=html5lib` command line option. However, it will be removed in a future pip release. ([#10291](#))
- Utilise `rich` for presenting pip's default download progress bar. ([#10462](#))
- Present a better error message when an invalid wheel file is encountered, providing more context where the invalid wheel file is. ([#10535](#))
- Documents the `--require-virtualenv` flag for `pip install`. ([#10588](#))
- `pip install <tab>` autocompletes paths. ([#10646](#))
- Allow Python distributors to opt-out from or opt-in to the `sysconfig` installation scheme backend by setting `sysconfig._PIP_USE_SYSCONFIG` to `True` or `False`. ([#10647](#))
- Make it possible to deselect tests requiring cryptography package on systems where it cannot be installed. ([#10686](#))
- Start using Rich for presenting error messages in a consistent format. ([#10703](#))
- Improve presentation of errors from subprocesses. ([#10705](#))
- Forward pip's verbosity configuration to VCS tools to control their output accordingly. ([#8819](#))

## Bug Fixes

- Optimize installation order calculation to improve performance when installing requirements that form a complex dependency graph with a large amount of edges. ([#10557](#))
- When a package is requested by the user for upgrade, correctly identify that the extra-ed variant of that same package depended by another user-requested package is requesting the same package, and upgrade it accordingly. ([#10613](#))
- Prevent pip from installing yanked releases unless explicitly pinned via the `==` or `===` operators. ([#10617](#))
- Stop backtracking on build failures, by instead surfacing them to the user and aborting immediately. This behaviour provides more immediate feedback when a package cannot be built due to missing build dependencies or platform incompatibility. ([#10655](#))
- Silence `Value for <location> does not match` warning caused by an erroneous patch in Slackware-distributed Python 3.9. ([#10668](#))
- Fix an issue where pip did not consider dependencies with and without extras to be equal

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## Vendored Libraries

- Upgrade CacheControl to 0.12.10
- Upgrade certifi to 2021.10.8
- Upgrade distlib to 0.3.4
- Upgrade idna to 3.3
- Upgrade msgpack to 1.0.3
- Upgrade packaging to 21.3
- Upgrade platformdirs to 2.4.1
- Add pygments 2.11.2 as a vendored dependency.
- Tree-trim unused portions of vendored pygments, to reduce the distribution size.
- Upgrade pyparsing to 3.0.7
- Upgrade Requests to 2.27.1
- Upgrade resolvelib to 0.8.1
- Add rich 11.0.0 as a vendored dependency.
- Tree-trim unused portions of vendored rich, to reduce the distribution size.
- Add typing\_extensions 4.0.1 as a vendored dependency.
- Upgrade urllib3 to 1.26.8

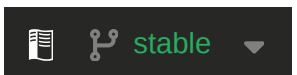
## 21.3.1 (2021-10-22)

### Bug Fixes

- Always refuse installing or building projects that have no `pyproject.toml` nor `setup.py`. ([#10531](#))
- Tweak running-as-root detection, to check `os.getuid` if it exists, on Unix-y and non-Linux/non-MacOS machines. ([#10565](#))
- When installing projects with a `pyproject.toml` in editable mode, and the build backend does not support [PEP 660](#), prepare metadata using `prepare_metadata_for_build_wheel` instead of `setup.py egg_info`. Also, refuse installing projects that only have a `setup.cfg` and no `setup.py` nor `pyproject.toml`. These restore the pre-21.3 behaviour. ([#10573](#))
- Restore compatibility of where configuration files are loaded from on MacOS (back to `Library/Application Support/pip`, instead of `Preferences/pip`). ([#10585](#))

[Skip to content](#) **.libraries**

- upgrade pep517 to 0.12.0





## 21.3 (2021-10-11)

### Deprecations and Removals

- Improve deprecation warning regarding the copying of source trees when installing from a local directory. ([#10128](#))
- Suppress location mismatch warnings when pip is invoked from a Python source tree, so `ensurepip` does not emit warnings on CPython `make install`. ([#10270](#))
- On Python 3.10 or later, the installation scheme backend has been changed to use `sysconfig`. This is to anticipate the deprecation of `distutils` in Python 3.10, and its scheduled removal in 3.12. For compatibility considerations, pip installations running on Python 3.9 or lower will continue to use `distutils`. ([#10358](#))
- Remove the `--build-dir` option and aliases, one last time. ([#10485](#))
- In-tree builds are now the default. `--use-feature=in-tree-build` is now ignored. `--use-deprecated=out-of-tree-build` may be used temporarily to ease the transition. ([#10495](#))
- Un-deprecate source distribution re-installation behaviour. ([#8711](#))

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## Features

- Replace vendored appdirs with platformdirs. ([#10202](#))
- Support [PEP 610](#) to detect editable installs in `pip freeze` and `pip list`. The `pip list` column output has a new `Editable project location` column, and the JSON output has a new `editable_project_location` field. ([#10249](#))
- `pip freeze` will now always fallback to reporting the editable project location when it encounters a VCS error while analyzing an editable requirement. Before, it sometimes reported the requirement as non-editable. ([#10410](#))
- `pip show` now sorts `Requires` and `Required-By` alphabetically. ([#10422](#))
- Do not raise error when there are no files to remove with `pip cache purge/remove`. Instead log a warning and continue (to log that we removed 0 files). ([#10459](#))
- When backtracking during dependency resolution, prefer the dependencies which are involved in the most recent conflict. This can significantly reduce the amount of backtracking required. ([#10479](#))
- Cache requirement objects, to improve performance reducing reparses of requirement strings. ([#10550](#))
- Support editable installs for projects that have a `pyproject.toml` and use a build backend that supports [PEP 660](#). ([#8212](#))
- When a revision is specified in a Git URL, use git's partial clone feature to speed up source retrieval. ([#9086](#))
- Add a `--debug` flag, to enable a mode that doesn't log errors and propagates them to the top level instead. This is primarily to aid with debugging pip's crashes. ([#9349](#))
- If a host is explicitly specified as trusted by the user (via the `--trusted-host` option), cache HTTP responses from it in addition to HTTPS ones. ([#9498](#))

## Bug Fixes

- Present a better error message, when a `file:` URL is not found. ([#10263](#))
- Fix the auth credential cache to allow for the case in which the index url contains the username, but the password comes from an external source, such as keyring. ([#10269](#))
- Fix double unescape of HTML `data-requires-python` and `data-yanked` attributes. ([#10378](#))
- New resolver: Fixes depth ordering of packages during resolution, e.g. a dependency 2 levels deep will be ordered before a dependency 3 levels deep. ([#10482](#))
- Correctly indent metadata preparation messages in pip output. ([#10524](#))

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## Vendored Libraries

- Remove appdirs as a vendored dependency.
- Upgrade distlib to 0.3.3
- Upgrade distro to 1.6.0
- Patch pkg\_resources to use platformdirs rather than appdirs.
- Add platformdirs as a vendored dependency.
- Upgrade progress to 1.6
- Upgrade resolvelib to 0.8.0
- Upgrade urllib3 to 1.26.7

## Improved Documentation

- Update links of setuptools as setuptools moved these documents. The Simple Repository link now points to PyPUG as that is the canonical place of packaging specification, and setuptools's `easy_install` is deprecated. ([#10430](#))
- Create a “Build System Interface” reference section, for documenting how pip interacts with build systems. ([#10497](#))

## 21.2.4 (2021-08-12)

### Bug Fixes

- Fix 3.6.0 compatibility in link comparison logic. ([#10280](#))

## 21.2.3 (2021-08-06)

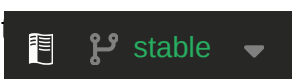
### Bug Fixes

- Modify the `sysconfig.get_preferred_scheme` function check to be compatible with CPython 3.10's alpha releases. ([#10252](#))

## 21.2.2 (2021-07-31)

### Bug Fixes

- [Skip to content](#) When a package is specified with extras in constraints, and with requirements, the resolver now correctly identifies the constraint's extras and avoids backtracking. ([#10233](#))



## 21.2.1 (2021-07-25)

### Process

- The source distribution re-installation feature removal has been delayed to 21.3.

## 21.2 (2021-07-24)

### Process

- `pip freeze`, `pip list`, and `pip show` no longer normalize underscore (`_`) in distribution names to dash (`-`). This is a side effect of the migration to `importlib.metadata`, since the underscore-dash normalization behavior is non-standard and specific to `setuptools`. This should not affect other parts of pip (for example, when feeding the `pip freeze` result back into `pip install`) since pip internally performs standard PEP 503 normalization independently to `setuptools`.

### Deprecations and Removals

- Git version parsing is now done with regular expression to prepare for the pending upstream removal of non-PEP-440 version parsing logic. ([#10117](#))
- Re-enable the “Value for ... does not match” location warnings to field a new round of feedback for the `distutils - sysconfig` transition. ([#10151](#))
- Remove deprecated `--find-links` option in `pip freeze` ([#9069](#))

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## Features

- New resolver: Loosen URL comparison logic when checking for direct URL reference equivalency. The logic includes the following notable characteristics:
  - The authentication part of the URL is explicitly ignored.
  - Most of the fragment part, including `egg=`, is explicitly ignored. Only `subdirectory=` and hash values (e.g. `sha256=`) are kept.
  - The query part of the URL is parsed to allow ordering differences. ([#10002](#))
- Support TOML v1.0.0 syntax in `pyproject.toml`. ([#10034](#))
- Added a warning message for errors caused due to Long Paths being disabled on Windows. ([#10045](#))
- Change the encoding of log file from default text encoding to UTF-8. ([#10071](#))
- Log the resolved commit SHA when installing a package from a Git repository. ([#10149](#))
- Add a warning when passing an invalid requirement to `pip uninstall`. ([#4958](#))
- Add new subcommand `pip index` used to interact with indexes, and implement `pip index version` to list available versions of a package. ([#7975](#))
- When pip is asked to uninstall a project without the dist-info/RECORD file it will no longer traceback with `FileNotFoundError`, but it will provide a better error message instead, such as:

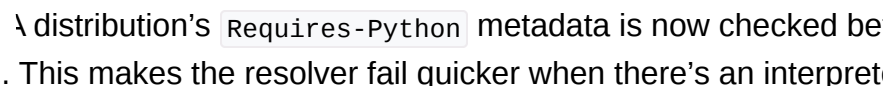
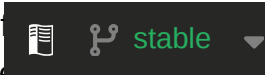
```
ERROR: Cannot uninstall foobar 0.1, RECORD file not found. You might be able to recover
```

When dist-info/INSTALLER is present and contains some useful information, the info is included in the error message instead:

```
ERROR: Cannot uninstall foobar 0.1, RECORD file not found. Hint: The package was instal
```

([#8954](#))

- Add an additional level of verbosity. `--verbose` (and the shorthand `-v`) now contains significantly less output, and users that need complete full debug-level output should pass it twice (`--verbose --verbose` or `-vv`). ([#9450](#))
- New resolver: The order of dependencies resolution has been tweaked to traverse the dependency graph in a more breadth-first approach. ([#9455](#))
- Make “yes” the default choice in `pip uninstall`’s prompt. ([#9686](#))
- Add a special error message when users forget the `-r` flag when installing. ([#9915](#))

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([#9925](#))

- Suppress “not on PATH” warning when `--prefix` is given. (#9931)
- Include `rustc` version in pip’s `User-Agent`, when the system has `rustc`. (#9987)

## Bug Fixes

- Update vendored six to 1.16.0 and urllib3 to 1.26.5 (#10043)
- Correctly allow PEP 517 projects to be detected without warnings in `pip freeze`. (#10080)
- Strip leading slash from a `file://` URL built from an path with the Windows drive notation. This fixes bugs where the `file://` URL cannot be correctly used as requirement, constraint, or index URLs on Windows. (#10115)
- New resolver: URL comparison logic now treats `file://localhost/` and `file:///` as equivalent to conform to RFC 8089. (#10162)
- Prefer credentials from the URL over the previously-obtained credentials from URLs of the same domain, so it is possible to use different credentials on the same index server for different `--extra-index-url` options. (#3931)
- Fix extraction of files with utf-8 encoded paths from tars. (#7667)
- Skip distutils configuration parsing on encoding errors. (#8931)
- New resolver: Detect an unnamed requirement is user-specified (by building its metadata for the project name) so it can be correctly ordered in the resolver. (#9204)
- Fix `pip freeze` to output packages `installed from git` in the correct `git+protocol://git.example.com/MyProject#egg=MyProject` format rather than the old and no longer supported `git+git@` format. (#9822)
- Fix warnings about install scheme selection for Python framework builds distributed by Apple’s Command Line Tools. (#9844)
- Relax interpreter detection to quell a location mismatch warning where PyPy is deliberately breaking backwards compatibility. (#9845)

## Vendored Libraries

- Upgrade certifi to 2021.05.30.
- Upgrade idna to 3.2.
- Upgrade packaging to 21.0
- Upgrade requests to 2.26.0.
- Upgrade resolvelib to 0.7.1.
- Upgrade urllib3 to 1.26.6.

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## 21.1.3 (2021-06-26)

### Bug Fixes

- Remove unused optional `tornado` import in vendored `tenacity` to prevent old versions of Tornado from breaking pip. ([#10020](#))
- Require `setup.cfg`-only projects to be built via PEP 517, by requiring an explicit dependency on `setuptools` declared in `pyproject.toml`. ([#10031](#))

## 21.1.2 (2021-05-23)

### Bug Fixes

- New resolver: Correctly exclude an already installed package if its version is known to be incompatible to stop the dependency resolution process with a clear error message. ([#9841](#))
- Allow ZIP to archive files with timestamps earlier than 1980. ([#9910](#))
- Emit clearer error message when a project root does not contain either `pyproject.toml`, `setup.py` or `setup.cfg`. ([#9944](#))
- Fix detection of existing standalone pip instance for PEP 517 builds. ([#9953](#))

## 21.1.1 (2021-04-30)

### Deprecations and Removals

- Temporarily set the new “Value for ... does not match” location warnings level to `DEBUG`, to hide them from casual users. This prepares pip 21.1 for CPython inclusion, while pip maintainers digest the first intake of location mismatch issues for the `distutils`-`sysconfig` transition. ([#9912](#))

### Bug Fixes

- This change fixes a bug on Python  $\leq 3.6.1$  with a `Typing` feature added in 3.6.2 ([#9831](#))
- Fix compatibility between `distutils` and `sysconfig` when the project name is unknown outside of a virtual environment. ([#9838](#))
- Fix Python 3.6 compatibility when a PEP 517 build requirement itself needs to be built in an isolated environment. ([#9878](#))

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# 21.1 (2021-04-24)


## Process

- Start installation scheme migration from `distutils` to `sysconfig`. A warning is implemented to detect differences between the two implementations to encourage user reports, so we can avoid breakages before they happen.

## Features

- Add the ability for the new resolver to process URL constraints. ([#8253](#))
- Add a feature `--use-feature=in-tree-build` to build local projects in-place when installing. This is expected to become the default behavior in pip 21.3; see [Installing from local packages](#) for more information. ([#9091](#))
- Bring back the “(from versions: …)” message, that was shown on resolution failures. ([#9139](#))
- Add support for editable installs for project with only `setup.cfg` files. ([#9547](#))
- Improve performance when picking the best file from indexes during `pip install`. ([#9748](#))
- Warn instead of erroring out when doing a PEP 517 build in presence of `--build-option`. Warn when doing a PEP 517 build in presence of `--global-option`. ([#9774](#))

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## Bug Fixes

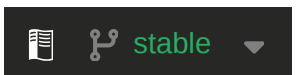
- Fixed `--target` to work with `--editable` installs. ([#4390](#))
- Add a warning, discouraging the usage of pip as root, outside a virtual environment. ([#6409](#))
- Ignore `.dist-info` directories if the stem is not a valid Python distribution name, so they don't show up in e.g. `pip freeze`. ([#7269](#))
- Only query the keyring for URLs that actually trigger error 401. This prevents an unnecessary keyring unlock prompt on every pip install invocation (even with default index URL which is not password protected). ([#8090](#))
- Prevent packages already-installed alongside with pip to be injected into an isolated build environment during build-time dependency population. ([#8214](#))
- Fix `pip freeze` permission denied error in order to display an understandable error message and offer solutions. ([#8418](#))
- Correctly uninstall script files (from `setuptools`' `scripts` argument), when installed with `--user`. ([#8733](#))
- New resolver: When a requirement is requested both via a direct URL (`req @ URL`) and via version specifier with extras (`req[extra]`), the resolver will now be able to use the URL to correctly resolve the requirement with extras. ([#8785](#))
- New resolver: Show relevant entries from user-supplied constraint files in the error message to improve debuggability. ([#9300](#))
- Avoid parsing version to make the version check more robust against lousily debundled downstream distributions. ([#9348](#))
- `--user` is no longer suggested incorrectly when pip fails with a permission error in a virtual environment. ([#9409](#))
- Fix incorrect reporting on `Requires-Python` conflicts. ([#9541](#))
- Make wheel compatibility tag preferences more important than the build tag ([#9565](#))
- Fix pip to work with warnings converted to errors. ([#9779](#))
- **SECURITY:** Stop splitting on unicode separators in git references, which could be maliciously used to install a different revision on the repository. ([#9827](#))

## Vendored Libraries

- Update `urllib3` to 1.26.4 to fix CVE-2021-28363
- Remove `contextlib2`.
- Upgrade `idna` to 3.1

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- Upgrade vendored `resolvelib` to 0.7.0.
- Upgrade `tenacity` to 7.0.0



## Improved Documentation

- Update “setuptools extras” link to match upstream. ([#4822829F-6A45-4202-87BA-A80482DF6D4E](#))
- Improve SSL Certificate Verification docs and `--cert` help text. ([#6720](#))
- Add a section in the documentation to suggest solutions to the `pip freeze` permission denied issue. ([#8418](#))
- Add warning about `--extra-index-url` and dependency confusion ([#9647](#))
- Describe `--upgrade-strategy` and direct requirements explicitly; add a brief example. ([#9692](#))

## 21.0.1 (2021-01-30)

### Bug Fixes

- `commands: debug`: Use `packaging.version.parse` to compare between versions. ([#9461](#))
- New resolver: Download and prepare a distribution only at the last possible moment to avoid unnecessary network access when the same version is already installed locally. ([#9516](#))

### Vendored Libraries

- Upgrade packaging to 20.9

## 21.0 (2021-01-23)

### Deprecations and Removals

- Drop support for Python 2. ([#6148](#))
- Remove support for legacy wheel cache entries that were created with pip versions older than 20.0. ([#7502](#))
- Remove support for VCS pseudo URLs editable requirements. It was emitting deprecation warning since version 20.0. ([#7554](#))
- Modernise the codebase after Python 2. ([#8802](#))
- Drop support for Python 3.5. ([#9189](#))
- Remove the VCS export feature that was used only with editable VCS requirements and had correctness issues. ([#9338](#))

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## Features

- Add `--ignore-requires-python` support to pip download. ([#1884](#))
- New resolver: Error message shown when a wheel contains inconsistent metadata is made more helpful by including both values from the file name and internal metadata. ([#9186](#))

## Bug Fixes

- Fix a regression that made `pip wheel` do a VCS export instead of a VCS clone for editable requirements. This broke VCS requirements that need the VCS information to build correctly. ([#9273](#))
- Fix `pip download` of editable VCS requirements that need VCS information to build correctly. ([#9337](#))

## Vendored Libraries

- Upgrade msgpack to 1.0.2.
- Upgrade requests to 2.25.1.

## Improved Documentation

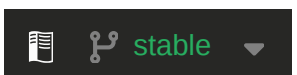
- Render the unreleased pip version change notes on the news page in docs. ([#9172](#))
- Fix broken email link in docs feedback banners. ([#9343](#))

# 20.3.4 (2021-01-23)

## Features

- `pip wheel` now verifies the built wheel contains valid metadata, and can be installed by a subsequent `pip install`. This can be disabled with `--no-verify`. ([#9206](#))
- Improve presentation of XMLRPC errors in pip search. ([#9315](#))

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## Bug Fixes

- Fixed hanging VCS subprocess calls when the VCS outputs a large amount of data on stderr. Restored logging of VCS errors that was inadvertently removed in pip 20.2. ([#8876](#))
- Fix error when an existing incompatibility is unable to be applied to a backtracked state. ([#9180](#))
- New resolver: Discard a faulty distribution, instead of quitting outright. This implementation is taken from 20.2.2, with a fix that always makes the resolver iterate through candidates from indexes lazily, to avoid downloading candidates we do not need. ([#9203](#))
- New resolver: Discard a source distribution if it fails to generate metadata, instead of quitting outright. This implementation is taken from 20.2.2, with a fix that always makes the resolver iterate through candidates from indexes lazily, to avoid downloading candidates we do not need. ([#9246](#))

## Vendored Libraries

- Upgrade resolvelib to 0.5.4.

## 20.3.3 (2020-12-15)

### Bug Fixes

- Revert “Skip candidate not providing valid metadata”, as that caused pip to be overeager about downloading from the package index. ([#9264](#))

## 20.3.2 (2020-12-15)

### Features

- New resolver: Resolve direct and pinned (`==` or `===`) requirements first to improve resolver performance. ([#9185](#))
- Add a mechanism to delay resolving certain packages, and use it for setuptools. ([#9249](#))

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## Bug Fixes

- New resolver: The “Requirement already satisfied” log is not printed only once for each package during resolution. ([#9117](#))
- Fix crash when logic for redacting authentication information from URLs in `--help` is given a list of strings, instead of a single string. ([#9191](#))
- New resolver: Correctly implement PEP 592. Do not return yanked versions from an index, unless the version range can only be satisfied by yanked candidates. ([#9203](#))
- New resolver: Make constraints also apply to package variants with extras, so the resolver correctly avoids backtracking on them. ([#9232](#))
- New resolver: Discard a candidate if it fails to provide metadata from source, or if the provided metadata is inconsistent, instead of quitting outright. ([#9246](#))

## Vendored Libraries

- Update vendoring to 20.8

## Improved Documentation

- Update documentation to reflect that pip still uses legacy resolver by default in Python 2 environments. ([#9269](#))

## 20.3.1 (2020-12-03)

### Deprecations and Removals

- The `--build-dir` option has been restored as a no-op, to soften the transition for tools that still used it. ([#9193](#))

## 20.3 (2020-11-30)

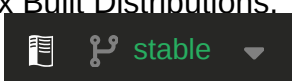
### Deprecations and Removals

- Remove `--unstable-feature` flag as it has been deprecated. ([#9133](#))

## Features

- Add support for [PEP 600](#): Future ‘manylinux’ Platform Tags for Portable Linux Built Distributions.

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- The new resolver now resolves packages in a deterministic order. ([#9100](#))
- Add support for MacOS Big Sur compatibility tags. ([#9138](#))

## Bug Fixes

- New Resolver: Rework backtracking and state management, to avoid getting stuck in an infinite loop. ([#9011](#))
- New resolver: Check version equality with `packaging.version` to avoid edge cases if a wheel used different version normalization logic in its filename and metadata. ([#9083](#))
- New resolver: Show each requirement in the conflict error message only once to reduce cluttering. ([#9101](#))
- Fix a regression that made `pip wheel` generate zip files of editable requirements in the wheel directory. ([#9122](#))
- Fix ResourceWarning in VCS subprocesses ([#9156](#))
- Redact auth from URL in help message. ([#9160](#))
- New Resolver: editable installations are done, regardless of whether the already-installed distribution is editable. ([#9169](#))

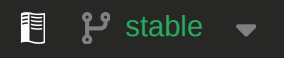
## Vendored Libraries

- Upgrade certifi to 2020.11.8
- Upgrade colorama to 0.4.4
- Upgrade packaging to 20.7
- Upgrade pep517 to 0.9.1
- Upgrade requests to 2.25.0
- Upgrade resolvelib to 0.5.3
- Upgrade toml to 0.10.2
- Upgrade urllib3 to 1.26.2

## Improved Documentation

- Add a section to the User Guide to cover backtracking during dependency resolution. ([#9039](#))
- Reorder and revise installation instructions to make them easier to follow. ([#9131](#))

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# 20.3b1 (2020-10-31)

## Deprecations and Removals

- `pip freeze` will stop filtering the `pip`, `setuptools`, `distribute` and `wheel` packages from `pip freeze` output in a future version. To keep the previous behavior, users should use the new `--exclude` option. ([#4256](#))
- Deprecate support for Python 3.5 ([#8181](#))
- Document that certain removals can be fast tracked. ([#8417](#))
- Document that Python versions are generally supported until PyPI usage falls below 5%. ([#8927](#))
- Deprecate `--find-links` option in `pip freeze` ([#9069](#))

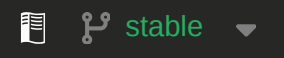
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# Features

- Add `--exclude` option to `pip freeze` and `pip list` commands to explicitly exclude packages from the output. ([#4256](#))
- Allow multiple values for `--abi` and `--platform`. ([#6121](#))
- Add option `--format` to subcommand `list` of `pip cache`, with `abspath` choice to output the full path of a wheel file. ([#8355](#))
- Improve error message friendliness when an environment has packages with corrupted metadata. ([#8676](#))
- Make the `setup.py install` deprecation warning less noisy. We warn only when `setup.py install` succeeded and `setup.py bdist_wheel` failed, as situations where both fails are most probably irrelevant to this deprecation. ([#8752](#))
- Check the download directory for existing wheels to possibly avoid fetching metadata when the `fast-deps` feature is used with `pip wheel` and `pip download`. ([#8804](#))
- When installing a git URL that refers to a commit that is not available locally after git clone, attempt to fetch it from the remote. ([#8815](#))
- Include http subdirectory in `pip cache info` and `pip cache purge` commands. ([#8892](#))
- Cache package listings on index packages so they are guaranteed to stay stable during a pip command session. This also improves performance when a index page is accessed multiple times during the command session. ([#8905](#))
- New resolver: Tweak resolution logic to improve user experience when user-supplied requirements conflict. ([#8924](#))
- Support Python 3.9. ([#8971](#))
- Log an informational message when backtracking takes multiple rounds on a specific package. ([#8975](#))
- Switch to the new dependency resolver by default. ([#9019](#))
- Remove the `--build-dir` option, as per the deprecation. ([#9049](#))

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## Bug Fixes

- Propagate `--extra-index-url` from requirements file properly to session auth, so that keyring auth will work as expected. ([#8103](#))
- Allow specifying verbosity and quiet level via configuration files and environment variables. Previously these options were treated as boolean values when read from there while through CLI the level can be specified. ([#8578](#))
- Only converts Windows path to unicode on Python 2 to avoid regressions when a POSIX environment does not configure the file system encoding correctly. ([#8658](#))
- List downloaded distributions before exiting `pip download` when using the new resolver to make the behavior the same as that on the legacy resolver. ([#8696](#))
- New resolver: Pick up hash declarations in constraints files and use them to filter available distributions. ([#8792](#))
- Avoid polluting the destination directory by resolution artifacts when the new resolver is used for `pip download` or `pip wheel`. ([#8827](#))
- New resolver: If a package appears multiple times in user specification with different `--hash` options, only hashes that present in all specifications should be allowed. ([#8839](#))
- Tweak the output during dependency resolution in the new resolver. ([#8861](#))
- Correctly search for installed distributions in new resolver logic in order to not miss packages (virtualenv packages from system-wide-packages for example) ([#8963](#))
- Do not fail in pip freeze when encountering a `direct_url.json` metadata file with `editable=True`. Render it as a non-editable `file://` URL until modern editable installs are standardized and supported. ([#8996](#))

## Vendored Libraries

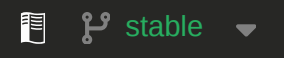
- Fix devendoring instructions to explicitly state that `vendor.txt` should not be removed. It is mandatory for `pip debug` command.

## Improved Documentation

- Add documentation for '.netrc' support. ([#7231](#))
- Add OS tabs for OS-specific commands. ([#7311](#))
- Add note and example on keyring support for index basic-auth ([#8636](#))
- Added initial UX feedback widgets to docs. ([#8783](#), [#8848](#))
- Add UX documentation ([#8807](#))

Skip to content [docs](#) to reflect new resolver as default in 20.3. ([#9044](#))

- improve migration guide to reflect changes in new resolver behavior. ([#9056](#))



## 20.2.4 (2020-10-16)

### Deprecations and Removals

- Document that certain removals can be fast tracked. ([#8417](#))
- Document that Python versions are generally supported until PyPI usage falls below 5%. ([#8927](#))

### Features

- New resolver: Avoid accessing indexes when the installed candidate is preferred and considered good enough. ([#8023](#))
- Improve error message friendliness when an environment has packages with corrupted metadata. ([#8676](#))
- Cache package listings on index packages so they are guaranteed to stay stable during a pip command session. This also improves performance when a index page is accessed multiple times during the command session. ([#8905](#))
- New resolver: Tweak resolution logic to improve user experience when user-supplied requirements conflict. ([#8924](#))

### Bug Fixes

- New resolver: Correctly respect `Requires-Python` metadata to reject incompatible packages in `-no-deps` mode. ([#8758](#))
- New resolver: Pick up hash declarations in constraints files and use them to filter available distributions. ([#8792](#))
- New resolver: If a package appears multiple times in user specification with different `--hash` options, only hashes that present in all specifications should be allowed. ([#8839](#))

### Improved Documentation

- Add ux documentation ([#8807](#))

## 20.2.3 (2020-09-08)

### Deprecations and Removals

- Deprecate support for Python 3.5 ([#8181](#))

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## Features

- Make the `setup.py install` deprecation warning less noisy. We warn only when `setup.py install` succeeded and `setup.py bdist_wheel` failed, as situations where both fails are most probably irrelevant to this deprecation. ([#8752](#))

## 20.2.2 (2020-08-11)

### Bug Fixes

- Only attempt to use the keyring once and if it fails, don't try again. This prevents spamming users with several keyring unlock prompts when they cannot unlock or don't want to do so. ([#8090](#))
- Fix regression that distributions in system site-packages are not correctly found when a virtual environment is configured with `system-site-packages` on. ([#8695](#))
- Disable caching for range requests, which causes corrupted wheels when pip tries to obtain metadata using the feature `fast-deps`. ([#8701](#), [#8716](#))
- Always use UTF-8 to read `pyvenv.cfg` to match the built-in `venv`. ([#8717](#))
- 2020 Resolver: Correctly handle marker evaluation in constraints and exclude them if their markers do not match the current environment. ([#8724](#))

## 20.2.1 (2020-08-04)

### Features

- Ignore require-virtualenv in `pip list` ([#8603](#))

### Bug Fixes

- Correctly find already-installed distributions with dot (.) in the name and uninstall them when needed. ([#8645](#))
- Trace a better error message on installation failure due to invalid `.data` files in wheels. ([#8654](#))
- Fix SVN version detection for alternative SVN distributions. ([#8665](#))
- New resolver: Correctly include the base package when specified with extras in `--no-deps` mode. ([#8677](#))
- Use UTF-8 to handle ZIP archive entries on Python 2 according to PEP 427, so non-ASCII paths can be resolved as expected. ([#8684](#))

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## Improved Documentation

- Add details on old resolver deprecation and removal to migration documentation. ([#8371](#))
- Fix feature flag name in docs. ([#8660](#))

## 20.2 (2020-07-29)

### Deprecations and Removals

- Deprecate setup.py-based builds that do not generate an `.egg-info` directory. ([#6998](#), [#8617](#))
- Disallow passing install-location-related arguments in `--install-options`. ([#7309](#))
- Add deprecation warning for invalid requirements format “base>=1.0[extra]” ([#8288](#))
- Deprecate legacy setup.py install when building a wheel failed for source distributions without pyproject.toml ([#8368](#))
- Deprecate `-b/--build/--build-dir/--build-directory`. Its current behaviour is confusing and breaks in case different versions of the same distribution need to be built during the resolution process. Using the `TMPDIR/TEMP/TMP` environment variable, possibly combined with `--no-clean` covers known use cases. ([#8372](#))
- Remove undocumented and deprecated option `--always-unzip` ([#8408](#))

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# Features

- Log debugging information about pip, in `pip install --verbose`. ([#3166](#))
- Refine error messages to avoid showing Python tracebacks when an HTTP error occurs. ([#5380](#))
- Install wheel files directly instead of extracting them to a temp directory. ([#6030](#))
- Add a beta version of pip's next-generation dependency resolver.

Move pip's new resolver into beta, remove the `--unstable-feature=resolver` flag, and enable the `--use-feature=2020-resolver` flag. The new resolver is significantly stricter and more consistent when it receives incompatible instructions, and reduces support for certain kinds of [Constraints Files](#), so some workarounds and workflows may break. More details about how to test and migrate, and how to report issues, at [Changes to the pip dependency resolver in 20.3 \(2020\)](#). Maintainers are preparing to release pip 20.3, with the new resolver on by default, in October. ([#6536](#))

- Introduce a new `ResolutionImpossible` error, raised when pip encounters un-satisfiable dependency conflicts ([#8546](#), [#8377](#))
- Add a subcommand `debug` to `pip config` to list available configuration sources and the key-value pairs defined in them. ([#6741](#))
- Warn if index pages have unexpected content-type ([#6754](#))
- Allow specifying `--prefer-binary` option in a requirements file ([#7693](#))
- Generate PEP 376 REQUESTED metadata for user supplied requirements installed by pip. ([#7811](#))
- Warn if package url is a vcs or an archive url with invalid scheme ([#8128](#))
- Parallelize network operations in `pip list`. ([#8504](#))
- Allow the new resolver to obtain dependency information through wheels lazily downloaded using HTTP range requests. To enable this feature, invoke `pip` with `--use-feature=fast-deps`. ([#8588](#))
- Support `--use-feature` in requirements files ([#8601](#))

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## Bug Fixes

- Use canonical package names while looking up already installed packages. ([#5021](#))
- Fix normalizing path on Windows when installing package on another logical disk. ([#7625](#))
- The VCS commands run by pip as subprocesses don't merge stdout and stderr anymore, improving the output parsing by subsequent commands. ([#7968](#))
- Correctly treat non-ASCII entry point declarations in wheels so they can be installed on Windows. ([#8342](#))
- Update author email in config and tests to reflect decommissioning of pypa-dev list. ([#8454](#))
- Headers provided by wheels in .data directories are now correctly installed into the user-provided locations, such as `--prefix`, instead of the virtual environment pip is running in. ([#8521](#))

## Vendored Libraries

- Vendored html5lib no longer imports deprecated xml.etree.cElementTree on Python 3.
- Upgrade appdirs to 1.4.4
- Upgrade certifi to 2020.6.20
- Upgrade distlib to 0.3.1
- Upgrade html5lib to 1.1
- Upgrade idna to 2.10
- Upgrade packaging to 20.4
- Upgrade requests to 2.24.0
- Upgrade six to 1.15.0
- Upgrade toml to 0.10.1
- Upgrade urllib3 to 1.25.9

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## Improved Documentation

- Add `--no-input` option to pip docs ([#7688](#))
- List of options supported in requirements file are extracted from source of truth, instead of being maintained manually. ([#7908](#))
- Fix pip config docstring so that the subcommands render correctly in the docs ([#8072](#))
- replace links to the old pypa-dev mailing list with <https://mail.python.org/mailman3/lists/distutils-sig.python.org/> ([#8353](#))
- Fix example for defining multiple values for options which support them ([#8373](#))
- Add documentation for the ResolutionImpossible error that helps the user fix dependency conflicts ([#8459](#))
- Add feature flags to docs ([#8512](#))
- Document how to install package extras from git branch and source distributions. ([#8576](#))

## 20.2b1 (2020-05-21)

### Bug Fixes

- Correctly treat wheels containing non-ASCII file contents so they can be installed on Windows. ([#5712](#))
- Prompt the user for password if the keyring backend doesn't return one ([#7998](#))

## Improved Documentation

- Add GitHub issue template for reporting when the dependency resolver fails ([#8207](#))

## 20.1.1 (2020-05-19)

### Deprecations and Removals

- Revert building of local directories in place, restoring the pre-20.1 behaviour of copying to a temporary directory. ([#7555](#))
- Drop parallelization from `pip list --outdated`. ([#8167](#))

### Bug Fixes

- Fix permission issues when `umask` has the executable bit set. ([#8164](#))
- Add necessary message about the wheel package not being installed when the package has not been built. Additionally, clarify the message. ([#8178](#))

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## 20.1 (2020-04-28)

### Process

- Document that pip 21.0 will drop support for Python 2.7.

### Features

- Add `pip cache dir` to show the cache directory. ([#7350](#))

### Bug Fixes

- Abort pip cache commands early when cache is disabled. ([#8124](#))
- Correctly set permissions on metadata files during wheel installation, to permit non-privileged users to read from system site-packages. ([#8139](#))

## 20.1b1 (2020-04-21)

### Deprecations and Removals

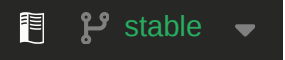
- Remove emails from AUTHORS.txt to prevent usage for spamming, and only populate names in AUTHORS.txt at time of release ([#5979](#))
- Remove deprecated `--skip-requirements-regex` option. ([#7297](#))
- Building of local directories is now done in place, instead of a temporary location containing a copy of the directory tree. ([#7555](#))
- Remove unused `tests/scripts/test_all_pip.py` test script and the `tests/scripts` folder. ([#7680](#))

### Features

- pip now implements PEP 610, so `pip freeze` has better fidelity in presence of distributions installed from Direct URL requirements. ([#609](#))
- Add `pip cache` command for inspecting/managing pip's wheel cache. ([#6391](#))
- Raise error if `--user` and `--target` are used together in `pip install` ([#7249](#))
- Significantly improve performance when `--find-links` points to a very large HTML page. ([#7729](#))
- Indicate when wheel building is skipped, due to lack of the `wheel` package. ([#7768](#))

Skip to content : behaviour to always cache responses from trusted-host sources

- An alpha version of a new resolver is available via `--unstable-feature=resolver`. ([#988](#))



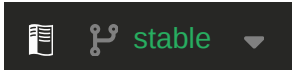
## Bug Fixes

- Correctly freeze a VCS editable package when it is nested inside another VCS repository. ([#3988](#))
- Correctly handle `%2F` in URL parameters to avoid accidentally unescape them into `/`. ([#6446](#))
- Reject VCS URLs with an empty revision. ([#7402](#))
- Warn when an invalid URL is passed with `--index-url` ([#7430](#))
- Use better mechanism for handling temporary files, when recording metadata about installed files (RECORD) and the installer (INSTALLER). ([#7699](#))
- Correctly detect global site-packages availability of virtual environments created by PyPA's `virtualenv>=20.0`. ([#7718](#))
- Remove current directory from `sys.path` when invoked as `python -m pip <command>` ([#7731](#))
- Stop failing uninstallation, when trying to remove non-existent files. ([#7856](#))
- Prevent an infinite recursion with `pip wheel` when `$TMPDIR` is within the source directory. ([#7872](#))
- Significantly speedup `pip list --outdated` by parallelizing index interaction. ([#7962](#))
- Improve Windows compatibility when detecting writability in folder. ([#8013](#))

## Vendored Libraries

- Update semi-supported debundling script to reflect that `appdirs` is vendored.
- Add `ResolveLib` as a vendored dependency.
- Upgrade `certifi` to 2020.04.05.1
- Upgrade `contextlib2` to 0.6.0.post1
- Upgrade `distro` to 1.5.0.
- Upgrade `idna` to 2.9.
- Upgrade `msgpack` to 1.0.0.
- Upgrade `packaging` to 20.3.
- Upgrade `pep517` to 0.8.2.
- Upgrade `pyparsing` to 2.4.7.
- Remove `pytoml` as a vendored dependency.
- Upgrade `requests` to 2.23.0.
- Add `toml` as a vendored dependency.
- Upgrade `urllib3` to 1.25.8.

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## Improved Documentation

- Emphasize that VCS URLs using git, git+git and git+http are insecure due to lack of authentication and encryption ([#1983](#))
- Clarify the usage of --no-binary command. ([#3191](#))
- Clarify the usage of freeze command in the example of Using pip in your program ([#7008](#))
- Add a “Copyright” page. ([#7767](#))
- Added example of defining multiple values for options which support them ([#7803](#))

## 20.0.2 (2020-01-24)

### Bug Fixes

- Fix a regression in generation of compatibility tags. ([#7626](#))

### Vendored Libraries

- Upgrade packaging to 20.1

## 20.0.1 (2020-01-21)

### Bug Fixes

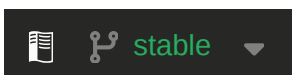
- Rename an internal module, to avoid ImportError due to improper uninstallation. ([#7621](#))

## 20.0 (2020-01-21)

### Process

- Switch to a dedicated CLI tool for vendoring dependencies.

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## Deprecations and Removals

- Remove wheel tag calculation from pip and use `packaging.tags`. This should provide more tags ordered better than in prior releases. ([#6908](#))
- Deprecate setup.py-based builds that do not generate an `.egg-info` directory. ([#6998](#))
- The pip>=20 wheel cache is not retro-compatible with previous versions. Until pip 21.0, pip will continue to take advantage of existing legacy cache entries. ([#7296](#))
- Deprecate undocumented `--skip-requirements-regex` option. ([#7297](#))
- Deprecate passing install-location-related options via `--install-option`. ([#7309](#))
- Use literal “abi3” for wheel tag on CPython 3.x, to align with PEP 384 which only defines it for this platform. ([#7327](#))
- Remove interpreter-specific major version tag e.g. `cp3-none-any` from consideration. This behavior was not documented strictly, and this tag in particular is [not useful](#). Anyone with a use case can create an issue with pypa/packaging. ([#7355](#))
- Wheel processing no longer permits wheels containing more than one top-level `.dist-info` directory. ([#7487](#))
- Support for the `git+git@` form of VCS requirement is being deprecated and will be removed in pip 21.0. Switch to `git+https://` or `git+ssh://`. `git+git://` also works but its use is discouraged as it is insecure. ([#7543](#))

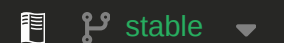
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# Features

- Default to doing a user install (as if `--user` was passed) when the main site-packages directory is not writeable and user site-packages are enabled. ([#1668](#))
- Warn if a path in PATH starts with tilde during `pip install`. ([#6414](#))
- Cache wheels built from Git requirements that are considered immutable, because they point to a commit hash. ([#6640](#))
- Add option `--no-python-version-warning` to silence warnings related to deprecation of Python versions. ([#6673](#))
- Cache wheels that `pip wheel` built locally, matching what `pip install` does. This particularly helps performance in workflows where `pip wheel` is used for [building before installing](#). Users desiring the original behavior can use `pip wheel --no-cache-dir`. ([#6852](#))
- Display CA information in `pip debug`. ([#7146](#))
- Show only the filename (instead of full URL), when downloading from PyPI. ([#7225](#))
- Suggest a more robust command to upgrade pip itself to avoid confusion when the current pip command is not available as `pip`. ([#7376](#))
- Define all old pip console script entrypoints to prevent import issues in stale wrapper scripts. ([#7498](#))
- The build step of `pip wheel` now builds all wheels to a cache first, then copies them to the wheel directory all at once. Before, it built them to a temporary directory and moved them to the wheel directory one by one. ([#7517](#))
- Expand `~` prefix to user directory in path options, configs, and environment variables. Values that may be either URL or path are not currently supported, to avoid ambiguity:
  - `--find-links`
  - `--constraint`, `-c`
  - `--requirement`, `-r`
  - `--editable`, `-e` ([#980](#))

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## Bug Fixes

- Correctly handle system site-packages, in virtual environments created with venv (PEP 405). ([#5702](#), [#7155](#))
- Fix case sensitive comparison of pip freeze when used with -r option. ([#5716](#))
- Enforce PEP 508 requirement format in `pyproject.toml` `build-system.requires`. ([#6410](#))
- Make `ensure_dir()` also ignore `ENOTEMPTY` as seen on Windows. ([#6426](#))
- Fix building packages which specify `backend-path` in `pyproject.toml`. ([#6599](#))
- Do not attempt to run `setup.py clean` after a `pep517` build error, since a `setup.py` may not exist in that case. ([#6642](#))
- Fix passwords being visible in the index-url in “Downloading <url>” message. ([#6783](#))
- Change method from `shutil.remove` to `shutil.rmtree` in `noxfile.py`. ([#7191](#))
- Skip running tests which require subversion, when `svn` isn’t installed ([#7193](#))
- Fix not sending client certificates when using `--trusted-host`. ([#7207](#))
- Make sure `pip wheel` never outputs pure python wheels with a python implementation tag. Better fix/workaround for [#3025](#) by using a per-implementation wheel cache instead of caching pure python wheels with an implementation tag in their name. ([#7296](#))
- Include `subdirectory` URL fragments in cache keys. ([#7333](#))
- Fix typo in warning message when any of `--build-option`, `--global-option` and `--install-option` is used in `requirements.txt` ([#7340](#))
- Fix the logging of cached HTTP response shown as downloading. ([#7393](#))
- Effectively disable the wheel cache when it is not writable, as is the case with the http cache. ([#7488](#))
- Correctly handle relative cache directory provided via `--cache-dir`. ([#7541](#))

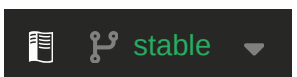
## Vendored Libraries

- Upgrade CacheControl to 0.12.5
- Upgrade certifi to 2019.9.11
- Upgrade colorama to 0.4.1
- Upgrade distlib to 0.2.9.post0
- Upgrade ipaddress to 1.0.22
- Update packaging to 20.0.
- Upgrade pkg\_resources (via setuptools) to 44.0.0

Skip to content [sing to 2.4.2](#)

[Upgrade setuptools to 1.12.0](#)

- Upgrade urllib3 to 1.25.6



## Improved Documentation

- Document that “coding: utf-8” is supported in requirements.txt ([#7182](#))
- Explain how to get pip’s source code in [Getting Started](#) ([#7197](#))
- Describe how basic authentication credentials in URLs work. ([#7201](#))
- Add more clear installation instructions ([#7222](#))
- Fix documentation links for index options ([#7347](#))
- Better document the requirements file format ([#7385](#))

## 19.3.1 (2019-10-17)

### Features

- Document Python 3.8 support. ([#7219](#))

### Bug Fixes

- Fix bug that prevented installation of PEP 517 packages without `setup.py`. ([#6606](#))

## 19.3 (2019-10-14)

### Deprecations and Removals

- Remove undocumented support for un-prefixed URL requirements pointing to SVN repositories. Users relying on this can get the original behavior by prefixing their URL with `svn+` (which is backwards-compatible). ([#7037](#))
- Remove the deprecated `--venv` option from `pip config`. ([#7163](#))

### Features

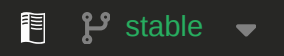
- Print a better error message when `--no-binary` or `--only-binary` is given an argument starting with `-`. ([#3191](#))
- Make `pip show` warn about packages not found. ([#6858](#))
- Support including a port number in `--trusted-host` for both HTTP and HTTPS. ([#6886](#))
- Redact single-part login credentials from URLs in log messages. ([#6891](#))
- Implement manylinux2014 platform tag support. manylinux2014 is the successor to

Skip to content \. It allows carefully compiled binary wheels to be installed on CPython 3.7. It is the successor to manylinux2014 platform tag definition can be found in [PEP599](#)

## Bug Fixes

- Abort installation if any archive contains a file which would be placed outside the extraction location. ([#3907](#))
- pip's CLI completion code no longer prints a Traceback if it is interrupted. ([#3942](#))
- Correct inconsistency related to the `hg+file` scheme. ([#4358](#))
- Fix `rmtree_errorhandler` to skip non-existing directories. ([#4910](#))
- Ignore errors copying socket files for local source installs (in Python 3). ([#5306](#))
- Fix requirement line parser to correctly handle PEP 440 requirements with a URL pointing to an archive file. ([#6202](#))
- The `pip-wheel-metadata` directory does not need to persist between invocations of pip, use a temporary directory instead of the current `setup.py` directory. ([#6213](#))
- Fix `--trusted-host` processing under HTTPS to trust any port number used with the host. ([#6705](#))
- Switch to new `distlib` wheel script template. This should be functionally equivalent for end users. ([#6763](#))
- Skip copying `.tox` and `.nox` directories to temporary build directories ([#6770](#))
- Fix handling of tokens (single part credentials) in URLs. ([#6795](#))
- Fix a regression that caused `~` expansion not to occur in `--find-links` paths. ([#6804](#))
- Fix bypassed pip upgrade warning on Windows. ([#6841](#))
- Fix 'm' flag erroneously being appended to ABI tag in Python 3.8 on platforms that do not provide SOABI ([#6885](#))
- Hide security-sensitive strings like passwords in log messages related to version control system (aka VCS) command invocations. ([#6890](#))
- Correctly uninstall symlinks that were installed in a virtualenv, by tools such as `flit install --symlink`. ([#6892](#))
- Don't fail installation using pip.exe on Windows when pip wouldn't be upgraded. ([#6924](#))
- Use canonical distribution names when computing `Required-By` in `pip show`. ([#6947](#))
- Don't use hardlinks for locking selfcheck state file. ([#6954](#))
- Ignore "require\_virtualenv" in `pip config` ([#6991](#))
- Fix `pip freeze` not showing correct entry for mercurial packages that use subdirectories. ([#7071](#))
- Fix a crash when `sys.stdin` is set to `None`, such as on AWS Lambda. ([#7118](#), [#7119](#))

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## Vendored Libraries

- Upgrade certifi to 2019.9.11
- Add contextlib2 0.6.0 as a vendored dependency.
- Remove Lockfile as a vendored dependency.
- Upgrade msgpack to 0.6.2
- Upgrade packaging to 19.2
- Upgrade pep517 to 0.7.0
- Upgrade pyparsing to 2.4.2
- Upgrade pytoml to 0.1.21
- Upgrade setuptools to 41.4.0
- Upgrade urllib3 to 1.25.6

## Improved Documentation

- Document caveats for UNC paths in uninstall and add .pth unit tests. ([#6516](#))
- Add architectural overview documentation. ([#6637](#))
- Document that `--ignore-installed` is dangerous. ([#6794](#))

## 19.2.3 (2019-08-25)

### Bug Fixes

- Fix 'm' flag erroneously being appended to ABI tag in Python 3.8 on platforms that do not provide SOABI ([#6885](#))

## 19.2.2 (2019-08-11)

### Bug Fixes

- Fix handling of tokens (single part credentials) in URLs. ([#6795](#))
- Fix a regression that caused `~` expansion not to occur in `--find-links` paths. ([#6804](#))

## 19.2.1 (2019-07-23)

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- Fix a `NoneType` `AttributeError` when evaluating hashes and no hashes are provided. ([#6772](#))

# 19.2 (2019-07-22)

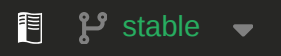
## Deprecations and Removals

- Drop support for EOL Python 3.4. ([#6685](#))
- Improve deprecation messages to include the version in which the functionality will be removed. ([#6549](#))

## Features

- Credentials will now be loaded using *keyring* when installed. ([#5948](#))
- Fully support using `--trusted-host` inside requirements files. ([#3799](#))
- Update timestamps in pip's `--log` file to include milliseconds. ([#6587](#))
- Respect whether a file has been marked as “yanked” from a simple repository (see [PEP 592](#) for details). ([#6633](#))
- When choosing candidates to install, prefer candidates with a hash matching one of the user-provided hashes. ([#5874](#))
- Improve the error message when `METADATA` or `PKG-INFO` is `None` when accessing metadata. ([#5082](#))
- Add a new command `pip debug` that can display e.g. the list of compatible tags for the current Python. ([#6638](#))
- Display hint on installing with `--pre` when search results include pre-release versions. ([#5169](#))
- Report to Warehouse that pip is running under CI if the `PIP_IS_CI` environment variable is set. ([#5499](#))
- Allow `--python-version` to be passed as a dotted version string (e.g. `3.7` or `3.7.3`). ([#6585](#))
- Log the final filename and SHA256 of a `.whl` file when done building a wheel. ([#5908](#))
- Include the wheel's tags in the log message explanation when a candidate wheel link is found incompatible. ([#6121](#))
- Add a `--path` argument to `pip freeze` to support `--target` installations. ([#6404](#))
- Add a `--path` argument to `pip list` to support `--target` installations. ([#6551](#))

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## Bug Fixes

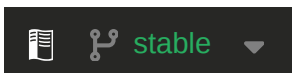
- Set `sys.argv[0]` to the underlying `setup.py` when invoking `setup.py` via the `setuptools` shim so `setuptools` doesn't think the path is `-c`. (#1890)
- Update `pip download` to respect the given `--python-version` when checking "Requires-Python". (#5369)
- Respect `--global-option` and `--install-option` when installing from a version control url (e.g. `git`). (#5518)
- Make the “ascii” progress bar really be “ascii” and not Unicode. (#5671)
- Fail elegantly when trying to set an incorrectly formatted key in config. (#5963)
- Prevent `DistutilsOptionError` when prefix is indicated in the global environment and `--target` is used. (#6008)
- Fix `pip install` to respect `--ignore-requires-python` when evaluating links. (#6371)
- Fix a debug log message when freezing an editable, non-version controlled requirement. (#6383)
- Extend to Subversion 1.8+ the behavior of calling Subversion in interactive mode when pip is run interactively. (#6386)
- Prevent `pip install <url>` from permitting directory traversal if e.g. a malicious server sends a `Content-Disposition` header with a filename containing `../` or `..\`. (#6413)
- Hide passwords in output when using `--find-links`. (#6489)
- Include more details in the log message if `pip freeze` can't generate a requirement string for a particular distribution. (#6513)
- Add the line number and file location to the error message when reading an invalid requirements file in certain situations. (#6527)
- Prefer `os.confstr` to `ctypes` when extracting `glibc` version info. (#6543, #6675)
- Improve error message printed when an invalid editable requirement is provided. (#6648)
- Improve error message formatting when a command errors out in a subprocess. (#6651)

## Vendored Libraries

- Upgrade `certifi` to 2019.6.16
- Upgrade `distlib` to 0.2.9.post0
- Upgrade `msgpack` to 0.6.1
- Upgrade `requests` to 2.22.0
- Upgrade `urllib3` to 1.25.3

‡ `html5lib`, to prefer using `collections.abc` where possible.

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## Improved Documentation

- Document how Python 2.7 support will be maintained. ([#6726](#))
- Upgrade Sphinx version used to build documentation. ([#6471](#))
- Fix generation of subcommand manpages. ([#6724](#))
- Mention that pip can install from git refs. ([#6512](#))
- Replace a failing example of pip installs with extras with a working one. ([#4733](#))

## 19.1.1 (2019-05-06)

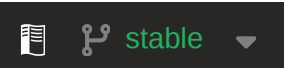
### Features

- Restore `pyproject.toml` handling to how it was with pip 19.0.3 to prevent the need to add `--no-use-pep517` when installing in editable mode. ([#6434](#))

### Bug Fixes

- Fix a regression that caused `@` to be quoted in pypiserver links. This interfered with parsing the revision string from VCS urls. ([#6440](#))

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# 19.1 (2019-04-23)

## Features

- Configuration files may now also be stored under `sys.prefix` (#5060)
- Avoid creating an unnecessary local clone of a Bazaar branch when exporting. (#5443)
- Include in pip's User-Agent string whether it looks like pip is running under CI. (#5499)
- A custom (JSON-encoded) string can now be added to pip's User-Agent using the `PIP_USER_AGENT_USER_DATA` environment variable. (#5549)
- For consistency, passing `--no-cache-dir` no longer affects whether wheels will be built. In this case, a temporary directory is used. (#5749)
- Command arguments in `subprocess` log messages are now quoted using `shlex.quote()`. (#6290)
- Prefix warning and error messages in log output with *WARNING* and *ERROR*. (#6298)
- Using `--build-options` in a PEP 517 build now fails with an error, rather than silently ignoring the option. (#6305)
- Error out with an informative message if one tries to install a `pyproject.toml`-style (PEP 517) source tree using `--editable` mode. (#6314)
- When downloading a package, the ETA and average speed now only update once per second for better legibility. (#6319)

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## Bug Fixes

- The stdout and stderr from VCS commands run by pip as subprocesses (e.g. `git`, `hg`, etc.) no longer pollute pip's stdout. ([#1219](#))
- Fix handling of requests exceptions when dependencies are debundled. ([#4195](#))
- Make pip's self version check avoid recommending upgrades to prereleases if the currently-installed version is stable. ([#5175](#))
- Fixed crash when installing a requirement from a URL that comes from a dependency without a URL. ([#5889](#))
- Improve handling of file URIs: correctly handle `file://localhost/...` and don't try to use UNC paths on Unix. ([#5892](#))
- Fix `utils.encoding.auto_decode()` `LookupError` with invalid encodings. `utils.encoding.auto_decode()` was broken when decoding Big Endian BOM byte-strings on Little Endian or vice versa. ([#6054](#))
- Fix incorrect URL quoting of IPv6 addresses. ([#6285](#))
- Redact the password from the extra index URL when using `pip -v`. ([#6295](#))
- The spinner no longer displays a completion message after subprocess calls not needing a spinner. It also no longer incorrectly reports an error after certain subprocess calls to Git that succeeded. ([#6312](#))
- Fix the handling of editable mode during installs when `pyproject.toml` is present but PEP 517 doesn't require the source tree to be treated as `pyproject.toml`-style. ([#6370](#))
- Fix `NameError` when handling an invalid requirement. ([#6419](#))

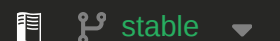
## Vendored Libraries

- Updated certifi to 2019.3.9
- Updated distro to 1.4.0
- Update progress to 1.5
- Updated pyparsing to 2.4.0
- Updated pkg\_resources to 41.0.1 (via setuptools)

## Improved Documentation

- Make dashes render correctly when displaying long options like `--find-links` in the text. ([#6422](#))

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## 19.0.3 (2019-02-20)

### Bug Fixes

- Fix an `IndexError` crash when a legacy build of a wheel fails. ([#6252](#))
- Fix a regression introduced in 19.0.2 where the filename in a RECORD file of an installed file would not be updated when installing a wheel. ([#6266](#))

## 19.0.2 (2019-02-09)

### Bug Fixes

- Fix a crash where PEP 517-based builds using `--no-cache-dir` would fail in some circumstances with an `AssertionError` due to not finalizing a build directory internally. ([#6197](#))
- Provide a better error message if attempting an editable install of a directory with a `pyproject.toml` but no `setup.py`. ([#6170](#))
- The implicit default backend used for projects that provide a `pyproject.toml` file without explicitly specifying `build-backend` now behaves more like direct execution of `setup.py`, and hence should restore compatibility with projects that were unable to be installed with `pip` 19.0. This raised the minimum required version of `setuptools` for such builds to 40.8.0. ([#6163](#))
- Allow `RECORD` lines with more than three elements, and display a warning. ([#6165](#))
- `AdjacentTempDirectory` fails on unwritable directory instead of locking up the uninstall command. ([#6169](#))
- Make failed uninstalls roll back more reliably and better at avoiding naming conflicts. ([#6194](#))
- Ensure the correct wheel file is copied when building PEP 517 distribution is built. ([#6196](#))
- The Python 2 end of life warning now only shows on CPython, which is the implementation that has announced end of life plans. ([#6207](#))

### Improved Documentation

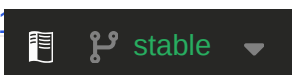
- Re-write README and documentation index ([#5815](#))

## 19.0.1 (2019-01-23)

### Bug Fixes

- Fix a crash when using `--no-cache-dir` with PEP 517 distributions ([#6158](#), [#6159](#))

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# 19.0 (2019-01-22)

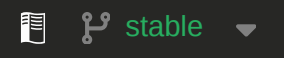
## Deprecations and Removals

- Deprecate support for Python 3.4 ([#6106](#))
- Start printing a warning for Python 2.7 to warn of impending Python 2.7 End-of-life and prompt users to start migrating to Python 3. ([#6148](#))
- Remove the deprecated `--process-dependency-links` option. ([#6060](#))
- Remove the deprecated SVN editable detection based on dependency links during freeze. ([#5866](#))

## Features

- Implement PEP 517 (allow projects to specify a build backend via pyproject.toml). ([#5743](#))
- Implement manylinux2010 platform tag support. manylinux2010 is the successor to manylinux1. It allows carefully compiled binary wheels to be installed on compatible Linux platforms. ([#5008](#))
- Improve build isolation: handle `.pth` files, so namespace packages are correctly supported under Python 3.2 and earlier. ([#5656](#))
- Include the package name in a freeze warning if the package is not installed. ([#5943](#))
- Warn when dropping an `--[extra-]index-url` value that points to an existing local directory. ([#5827](#))
- Prefix pip's `--log` file lines with their timestamp. ([#6141](#))

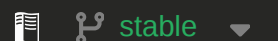
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## Bug Fixes

- Avoid creating excessively long temporary paths when uninstalling packages. ([#3055](#))
- Redact the password from the URL in various log messages. ([#4746](#), [#6124](#))
- Avoid creating excessively long temporary paths when uninstalling packages. ([#3055](#))
- Avoid printing a stack trace when given an invalid requirement. ([#5147](#))
- Present 401 warning if username/password do not work for URL ([#4833](#))
- Handle `requests.exceptions.RetryError` raised in `PackageFinder` that was causing pip to fail silently when some indexes were unreachable. ([#5270](#), [#5483](#))
- Handle a broken stdout pipe more gracefully (e.g. when running `pip list | head`). ([#4170](#))
- Fix crash from setting `PIP_NO_CACHE_DIR=yes`. ([#5385](#))
- Fix crash from unparseable requirements when checking installed packages. ([#5839](#))
- Fix content type detection if a directory named like an archive is used as a package source. ([#5838](#))
- Fix listing of outdated packages that are not dependencies of installed packages in `pip list --outdated --not-required` ([#5737](#))
- Fix sorting `TypeError` in `move_wheel_files()` when installing some packages. ([#5868](#))
- Fix support for invoking pip using `python src/pip ...`. ([#5841](#))
- Greatly reduce memory usage when installing wheels containing large files. ([#5848](#))
- Editable non-VCS installs now freeze as editable. ([#5031](#))
- Editable Git installs without a remote now freeze as editable. ([#4759](#))
- Canonicalize sdist file names so they can be matched to a canonicalized package name passed to `pip install`. ([#5870](#))
- Properly decode special characters in SVN URL credentials. ([#5968](#))
- Make `PIP_NO_CACHE_DIR` disable the cache also for truthy values like `"true"`, `"yes"`, `"1"`, etc. ([#5735](#))

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## Vendored Libraries

- Include license text of vendored 3rd party libraries. ([#5213](#))
- Update certifi to 2018.11.29
- Update colorama to 0.4.1
- Update distlib to 0.2.8
- Update idna to 2.8
- Update packaging to 19.0
- Update pep517 to 0.5.0
- Update pkg\_resources to 40.6.3 (via setuptools)
- Update pyparsing to 2.3.1
- Update pytoml to 0.1.20
- Update requests to 2.21.0
- Update six to 1.12.0
- Update urllib3 to 1.24.1

## Improved Documentation

- Include the Vending Policy in the documentation. ([#5958](#))
- Add instructions for running pip from source to Development documentation. ([#5949](#))
- Remove references to removed `#egg=<name>-<version>` functionality ([#5888](#))
- Fix omission of command name in HTML usage documentation ([#5984](#))

# 18.1 (2018-10-05)

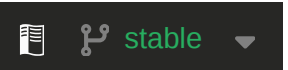
## Features

- Allow PEP 508 URL requirements to be used as dependencies.  
As a security measure, pip will raise an exception when installing packages from PyPI if those packages depend on packages not also hosted on PyPI. In the future, PyPI will block uploading packages with such external URL dependencies directly. ([#4187](#))
- Allows dist options (`--abi`, `--python-version`, `--platform`, `--implementation`) when installing with `--target` ([#5355](#))
- Support passing `svn+ssh` URLs with a username to `pip install -e`. ([#5375](#))

Skip to content [#5561](#) as that the RECORD file is sorted when installing from a wheel

----- for Python 3.7. ([#5561](#))

- Malformed configuration files now show helpful error messages, instead of tracebacks. ([#5798](#))



## Bug Fixes

- Checkout the correct branch when doing an editable Git install. ([#2037](#))
- Run self-version-check only on commands that may access the index, instead of trying on every run and failing to do so due to missing options. ([#5433](#))
- Allow a Git ref to be installed over an existing installation. ([#5624](#))
- Show a better error message when a configuration option has an invalid value. ([#5644](#))
- Always revalidate cached simple API pages instead of blindly caching them for up to 10 minutes. ([#5670](#))
- Avoid caching self-version-check information when cache is disabled. ([#5679](#))
- Avoid traceback printing on autocomplete after flags in the CLI. ([#5751](#))
- Fix incorrect parsing of egg names if pip needs to guess the package name. ([#5819](#))

## Vendored Libraries

- Upgrade certifi to 2018.8.24
- Upgrade packaging to 18.0
- Upgrade pyparsing to 2.2.1
- Add pep517 version 0.2
- Upgrade pytoml to 0.1.19
- Upgrade pkg\_resources to 40.4.3 (via setuptools)

## Improved Documentation

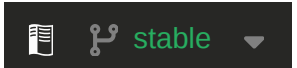
- Fix “Requirements Files” reference in User Guide ([#user\\_guide\\_fix\\_requirements\\_file\\_ref](#))

# 18.0 (2018-07-22)

## Process

- Switch to a Calendar based versioning scheme.
- Formally document our deprecation process as a minimum of 6 months of deprecation warnings.
- Adopt and document NEWS fragment writing style.
- Switch to releasing a new, non-bug fix version of pip every 3 months.

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## Deprecations and Removals

- Remove the legacy format from pip list. (#3651, #3654)
- Dropped support for Python 3.3. (#3796)
- Remove support for cleaning up #egg fragment postfixes. (#4174)
- Remove the shim for the old get-pip.py location. (#5520)

For the past 2 years, it's only been redirecting users to use the newer <https://bootstrap.pypa.io/get-pip.py> location.

## Features

- Introduce a new `--prefer-binary` flag, to prefer older wheels over newer source packages. (#3785)
- Improve autocompletion function on file name completion after options which have `<file>`, `<dir>` or `<path>` as metavar. (#4842, #5125)
- Add support for installing PEP 518 build dependencies from source. (#5229)
- Improve status message when upgrade is skipped due to only-if-needed strategy. (#5319)

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## Bug Fixes

- Update pip's self-check logic to not use a virtualenv specific file and honor cache-dir. (#3905)
- Remove compiled pyo files for wheel packages. (#4471)
- Speed up printing of newly installed package versions. (#5127)
- Restrict install time dependency warnings to directly-dependant packages. (#5196, #5457)  
Warning about the entire package set has resulted in users getting confused as to why pip is printing these warnings.
- Improve handling of PEP 518 build requirements: support environment markers and extras. (#5230, #5265)
- Remove username/password from log message when using index with basic auth. (#5249)
- Remove trailing os.sep from PATH directories to avoid false negatives. (#5293)
- Fix “pip wheel pip” being blocked by the “don't use pip to modify itself” check. (#5311, #5312)
- Disable pip's version check (and upgrade message) when installed by a different package manager. (#5346)  
This works better with Linux distributions where pip's upgrade message may result in users running pip in a manner that modifies files that should be managed by the OS's package manager.
- Check for file existence and unlink first when clobbering existing files during a wheel install. (#5366)
- Improve error message to be more specific when no files are found as listed in as listed in PKG-INFO. (#5381)
- Always read `pyproject.toml` as UTF-8. This fixes Unicode handling on Windows and Python 2. (#5482)
- Fix a crash that occurs when PATH not set, while generating script location warning. (#5558)
- Disallow packages with `pyproject.toml` files that have an empty build-system table. (#5627)

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## Vendored Libraries

- Update CacheControl to 0.12.5.
- Update certifi to 2018.4.16.
- Update distro to 1.3.0.
- Update idna to 2.7.
- Update ipaddress to 1.0.22.
- Update pkg\_resources to 39.2.0 (via setuptools).
- Update progress to 1.4.
- Update pytoml to 0.1.16.
- Update requests to 2.19.1.
- Update urllib3 to 1.23.

## Improved Documentation

- Document how to use pip with a proxy server. (#512, #5574)
- Document that the output of pip show is in RFC-compliant mail header format. (#5261)

# 10.0.1 (2018-04-19)

## Features

- Switch the default repository to the new “PyPI 2.0” running at <https://pypi.org/>. (#5214)

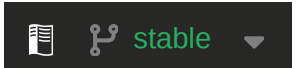
## Bug Fixes

- Fix a bug that made get-pip.py unusable on Windows without renaming. (#5219)
- Fix a TypeError when loading the cache on older versions of Python 2.7. (#5231)
- Fix and improve error message when EnvironmentError occurs during installation. (#5237)
- A crash when reinstalling from VCS requirements has been fixed. (#5251)
- Fix PEP 518 support when pip is installed in the user site. (#5524)

## Vendored Libraries

- Upgrade distlib to 0.2.7

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# 10.0.0 (2018-04-14)

## Bug Fixes

- Prevent false-positive installation warnings due to incomplete name normalization. (#5134)
- Fix issue where installing from Git with a short SHA would fail. (#5140)
- Accept pre-release versions when checking for conflicts with pip check or pip install. (#5141)
- `ioctl(fd, termios.TIOCGWINSZ, ...)` needs 8 bytes of data (#5150)
- Do not warn about script location when installing to the directory containing `sys.executable`. This is the case when 'pip install'ing without activating a virtualenv. (#5157)
- Fix PEP 518 support. (#5188)
- Don't warn about script locations if `--target` is specified. (#5203)

# 10.0.0b2 (2018-04-02)

## Bug Fixes

- Fixed line endings in CA Bundle - 10.0.0b1 was inadvertently released with Windows line endings. (#5131)

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# 10.0.0b1 (2018-03-31)

## Deprecations and Removals

- Removed the deprecated `--egg` parameter to `pip install`. (#1749)
- Removed support for uninstalling projects which have been installed using `distutils`. `distutils` installed projects do not include metadata indicating what files belong to that install and thus it is impossible to *actually* uninstall them rather than just remove the metadata saying they've been installed while leaving all of the actual files behind. (#2386)
- Removed the deprecated `--download` option to `pip install`. (#2643)
- Removed the deprecated `--(no-)use-wheel` flags to `pip install` and `pip wheel`. (#2699)
- Removed the deprecated `--allow-external`, `--allow-all-external`, and `--allow-unverified` options. (#3070)
- Switch the default for `pip list` to the columns format, and deprecate the legacy format. (#3654, #3686)
- Deprecate support for Python 3.3. (#3796)
- Removed the deprecated `--default-vcs` option. (#4052)
- Removed the `setup.py test` support from our `sdist` as it wasn't being maintained as a supported means to run our tests. (#4203)
- Dropped support for Python 2.6. (#4343)
- Removed the `--editable` flag from `pip download`, as it did not make sense (#4362)
- Deprecate SVN detection based on dependency links in `pip freeze`. (#4449)
- Move all of pip's APIs into the `pip._internal` package, properly reflecting the fact that pip does not currently have any public APIs. (#4696, #4700)

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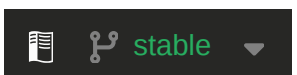
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# Features

- Add `--progress-bar <progress_bar>` to `pip download`, `pip install` and `pip wheel` commands, to allow selecting a specific progress indicator or, to completely suppress, (for example in a CI environment) use `--progress-bar off``. (#2369, #2756)
- Add `--no-color` to `pip`. All colored output is disabled if this flag is detected. (#2449)
- `pip uninstall` now ignores the absence of a requirement and prints a warning. (#3016, #4642)
- Improved the memory and disk efficiency of the HTTP cache. (#3515)
- Support for packages specifying build dependencies in `pyproject.toml` (see [PEP 518](#)). Packages which specify one or more build dependencies this way will be built into wheels in an isolated environment with those dependencies installed. (#3691)
- `pip` now supports environment variable expansion in requirement files using only `${VARIABLE}` syntax on all platforms. (#3728)
- Allowed combinations of `-q` and `-v` to act sanely. Then we don't need warnings mentioned in the issue. (#4008)
- Add `--exclude-editable` to `pip freeze` and `pip list` to exclude editable packages from installed package list. (#4015, #4016)
- Improve the error message for the common `pip install ./requirements.txt` case. (#4127)
- Add support for the new `@ url` syntax from PEP 508. (#4175)
- Add `setuptools` version to the statistics sent to BigQuery. (#4209)
- Report the line which caused the hash error when using requirement files. (#4227)
- Add a `pip config` command for managing configuration files. (#4240)
- Allow `pip download` to be used with a specific platform when `--no-deps` is set. (#4289)
- Support build-numbers in wheel versions and support sorting with build-numbers. (#4299)
- Change `pip outdated` to use `PackageFinder` in order to do the version lookup so that local mirrors in Environments that do not have Internet connections can be used as the Source of Truth for latest version. (#4336)
- `pip` now retries on more HTTP status codes, for intermittent failures. Previously, it only retried on the standard 503. Now, it also retries on 500 (transient failures on AWS S3), 520 and 527 (transient failures on Cloudflare). (#4473)
- `pip` now displays where it is looking for packages, if non-default locations are used. (#4483)
- Display a message to run the right command for modifying `pip` on Windows (#4490)
- Add Man Pages for `pip` (#4491)
- Make `uninstall` command less verbose by default (#4493)
- `pip` now allows to skip to content `ult upgrade strategy to be 'only-if-needed'` (#4500)
- `installing from a local directory or a VCS URL now builds a wheel to install, rather than running setup.py install`. Wheels from these sources are not cached. (#4501)

- Don't log a warning when installing a dependency from Git if the name looks like a commit hash. (#4507)
- pip now displays a warning when it installs scripts from a wheel outside the PATH. These warnings can be suppressed using a new `--no-warn-script-location` option. (#4553)
- Local Packages can now be referenced using forward slashes on Windows. (#4563)
- pip show learnt a new Required-by field that lists currently installed packages that depend on the shown package (#4564)
- The command-line autocompletion engine `pip show` now autocompletes installed distribution names. (#4749)
- Change documentation theme to be in line with Python Documentation (#4758)
- Add auto completion of short options. (#4954)
- Run 'setup.py develop' inside pep518 build environment. (#4999)
- pip install now prints an error message when it installs an incompatible version of a dependency. (#5000)
- Added a way to distinguish between pip installed packages and those from the system package manager in 'pip list'. Specifically, 'pip list -v' also shows the installer of package if it has that meta data. (#949)
- Show install locations when list command ran with "-v" option. (#979)

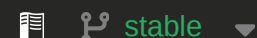
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## Bug Fixes

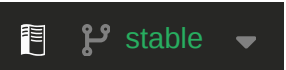
- Allow pip to work if the `GIT_DIR` and `GIT_WORK_TREE` environment variables are set. (#1130)
- Make `pip install --force-reinstall` not require passing `--upgrade`. (#1139)
- Return a failing exit status when `pip install`, `pip download`, or `pip wheel` is called with no requirements. (#2720)
- Interactive `setup.py` files will no longer hang indefinitely. (#2732, #4982)
- Correctly reset the terminal if an exception occurs while a progress bar is being shown. (#3015)
- “Support URL-encoded characters in URL credentials.” (#3236)
- Don’t assume `sys.__stderr__.encoding` exists (#3356)
- Fix `pip uninstall` when `easy-install.pth` lacks a trailing newline. (#3741)
- Keep install options in `requirements.txt` from leaking. (#3763)
- pip no longer passes global options from one package to later packages in the same requirement file. (#3830)
- Support installing from Git refs (#3876)
- Use `pkg_resources` to parse the entry points file to allow names with colons. (#3901)
- `-q` specified once correctly sets logging level to `WARNING`, instead of `CRITICAL`. Use `-qqq` to have the previous behavior back. (#3994)
- Shell completion scripts now use correct executable names (e.g., `pip3` instead of `pip`) (#3997)
- Changed vendored encodings from `utf8` to `utf-8`. (#4076)
- Fixes destination directory of `data_files` when `pip install --target` is used. (#4092)
- Limit the disabling of requests’ `pyopenssl` to Windows only. Fixes “`SNIMissingWarning / InsecurePlatformWarning` not fixable with pip 9.0 / 9.0.1” (for non-Windows) (#4098)
- Support the installation of wheels with non-PEP 440 version in their filenames. (#4169)
- Fall back to `sys.getdefaultencoding()` if `locale.getpreferredencoding()` returns `None` in `pip.utils.encoding.auto_decode`. (#4184)
- Fix a bug where `SETUPTOOLS_SHIM` got called incorrectly for relative path requirements by converting relative paths to absolute paths prior to calling the shim. (#4208)
- Return the latest version number in search results. (#4219)
- Improve error message on permission errors (#4233)
- Fail gracefully when `/etc/image_version` (or another distro version file) appears to exist but is not readable. (#4249)
- Avoid importing `setuptools` in the parent pip process, to avoid a race condition when upgrading `setuptools` dependencies. (#4264)

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- Fix for an incorrect `freeze` warning message due to a package being included in multiple requirements files that were passed to `freeze`. Instead of warning incorrectly that the package is not installed, pip now warns that the package was declared multiple times and lists the name of each requirements file that contains the package in question. (#4293)
- Generalize help text for `compile / no-compile` flags. (#4316)
- Handle the case when `/etc` is not readable by the current user by using a hardcoded list of possible names of release files. (#4320)
- Fixed a `NameError` when attempting to catch `FileNotFoundError` on Python 2.7. (#4322)
- Ensure `USER_SITE` is correctly initialised. (#4437)
- Reinstalling an editable package from Git no longer assumes that the `master` branch exists. (#4448)
- This fixes an issue where when someone who tries to use git with pip but pip can't because git is not in the path environment variable. This clarifies the error given to suggest to the user what might be wrong. (#4461)
- Improve handling of text output from build tools (avoid Unicode errors) (#4486)
- Fix a “No such file or directory” error when using `--prefix`. (#4495)
- Allow commands to opt out of `--require-venv`. This allows pip help to work even when the environment variable `PIP_REQUIRE_VIRTUALENV` is set. (#4496)
- Fix warning message on mismatched versions during installation. (#4655)
- pip now records installed files in a deterministic manner improving reproducibility. (#4667)
- Fix an issue where `pip install -e` on a Git url would fail to update if a branch or tag name is specified that happens to match the prefix of the current `HEAD` commit hash. (#4675)
- Fix an issue where a variable assigned in a try clause was accessed in the except clause, resulting in an undefined variable error in the except clause. (#4811)
- Use log level *info* instead of *warning* when ignoring packages due to environment markers. (#4876)
- Replaced typo mistake in subversion support. (#4908)
- Terminal size is now correctly inferred when using Python 3 on Windows. (#4966)
- Abort if reading configuration causes encoding errors. (#4976)
- Add a `--no-user` option and use it when installing build dependencies. (#5085)

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## Vendored Libraries

- Upgraded appdirs to 1.4.3.
- Upgraded CacheControl to 0.12.3.
- Vendored certifi at 2017.7.27.1.
- Vendored chardet at 3.0.4.
- Upgraded colorama to 0.3.9.
- Upgraded distlib to 0.2.6.
- Upgraded distro to 1.2.0.
- Vendored idna at idna==2.6.
- Upgraded ipaddress to 1.0.18.
- Vendored msgpack-python at 0.4.8.
- Removed the vendored ordereddict.
- Upgraded progress to 1.3.
- Upgraded pyparsing to 2.2.0.
- Upgraded pytoml to 0.1.14.
- Upgraded requests to 2.18.4.
- Upgraded pkg\_resources (via setuptools) to 36.6.0.
- Upgraded six to 1.11.0.
- Vendored urllib3 at 1.22.
- Upgraded webencodings to 0.5.1.

## Improved Documentation

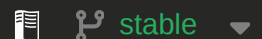
- Added documentation on usage of --build command line option (#4262)
- (#4358)
- Document how to call pip from your code, including the fact that we do not provide a Python API. (#4743)

## 9.0.3 (2018-03-21)

- Fix an error where the vendored requests was not correctly containing itself to only the internal vendored prefix.

Restore compatibility with 2.6.

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## 9.0.2 (2018-03-16)

- Fallback to using SecureTransport on macOS when the linked OpenSSL is too old to support TLSv1.2.




## 9.0.1 (2016-11-06)

- Correct the deprecation message when not specifying a `--format` so that it uses the correct setting name (`format`) rather than the incorrect one (`list_format`). (#4058)
- Fix `pip check` to check all available distributions and not just the local ones. (#4083)
- Fix a crash on non ASCII characters from `lsb_release`. (#4062)
- Fix an `SyntaxError` in an unused module of a vendored dependency. (#4059)
- Fix UNC paths on Windows. (#4064)

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## 9.0.0 (2016-11-02)

- **BACKWARD INCOMPATIBLE** Remove the attempted autodetection of requirement names from URLs, URLs must include a name via `#egg=`.
- **DEPRECATION** `pip install --egg` have been deprecated and will be removed in the future. This “feature” has a long list of drawbacks which break nearly all of pip’s other features in subtle and hard-to-diagnose ways.
- **DEPRECATION** `--default-vcs` option. (#4052)
- **WARNING** pip 9 cache can break forward compatibility with previous pip versions if your package repository allows chunked responses. (#4078)
- Add an `--upgrade-strategy` option to `pip install`, to control how dependency upgrades are managed. (#3972)
- Add a `pip check` command to check installed packages dependencies. (#3750)
- Add option allowing user to abort pip operation if file/directory exists
- Add Appveyor CI
- Uninstall existing packages when performing an editable installation of the same packages. (#1548)
- `pip show` is less verbose by default. `--verbose` prints multiline fields. (#3858)
- Add optional column formatting to `pip list`. (#3651)
- Add `--not-required` option to `pip list`, which lists packages that are not dependencies of other packages.
- Fix builds on systems with symlinked `/tmp` directory for custom builds such as numpy. (#3701)
- Fix regression in `pip freeze`: when there is more than one git remote, priority is given to the remote named `origin`. (#3708, #3616).
- Fix crash when calling `pip freeze` with invalid requirement installed. (#3704, #3681)
- Allow multiple `--requirement` files in `pip freeze`. (#3703)
- Implementation of pep-503 `data-requires-python`. When this field is present for a release link, pip will ignore the download when installing to a Python version that doesn’t satisfy the requirement.
- `pip wheel` now works on editable packages too (it was only working on editable dependencies before); this allows running `pip wheel` on the result of `pip freeze` in presence of editable requirements. (#3695, #3291)
- Load credentials from `.netrc` files. (#3715, #3569)
- Add `--no-binary`, `--python-version`, `--implementation` and `--abi` parameters to `pip`
- Skip to content   stable 
- Skip scanning virtual environments, even when `venv/bin/python` is a dangling symlink.

- Added `pip completion` support for the `fish` shell.
- Fix problems on Windows on Python 2 when username or hostname contains non-ASCII characters. (#3463, #3970, #4000)
- Use `git fetch --tags` to fetch tags in addition to everything else that is normally fetched; this is necessary in case a git requirement url points to a tag or commit that is not on a branch. (#3791)
- Normalize package names before using in `pip show` (#3976)
- Raise when Requires-Python do not match the running version and add `--ignore-requires-python` option as escape hatch. (#3846)
- Report the correct installed version when performing an upgrade in some corner cases. (#2382)
- Add `-i` shorthand for `--index` flag in `pip search`.
- Do not optionally load C dependencies in requests. (#1840, #2930, #3024)
- Strip authentication from SVN url prior to passing it to `svn`. (#3697, #3209)
- Also install in platlib with `--target` option. (#3694, #3682)
- Restore the ability to use inline comments in requirements files passed to `pip freeze`. (#3680)

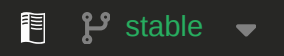
## 8.1.2 (2016-05-10)

- Fix a regression on systems with uninitialized locale. (#3575)
- Use environment markers to filter packages before determining if a required wheel is supported. (#3254)
- Make glibc parsing for *manylinux1* support more robust for the variety of glibc versions found in the wild. (#3588)
- Update environment marker support to fully support legacy and PEP 508 style environment markers. (#3624)
- Always use debug logging to the `--log` file. (#3351)
- Don't attempt to wrap search results for extremely narrow terminal windows. (#3655)

## 8.1.1 (2016-03-17)

- Fix regression with non-ascii requirement files on Python 2 and add support for encoding headers in requirement files. (#3548, #3547)

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## 8.1.0 (2016-03-05)

- Implement PEP 513, which adds support for the `manylinux1` platform tag, allowing carefully compiled binary wheels to be installed on compatible Linux platforms.
- Allow wheels which are not specific to a particular Python interpreter but which are specific to a particular platform. (#3202)
- Fixed an issue where `call_subprocess` would crash trying to print debug data on child process failure. (#3521, #3522)
- Exclude the wheel package from the `pip freeze` output (like `pip` and `setuptools`). (#2989)
- Allow installing modules from a subdirectory of a vcs repository in non-editable mode. (#3217, #3466)
- Make `pip wheel` and `pip download` work with vcs urls with subdirectory option. (#3466)
- Show classifiers in `pip show`.
- Show PEP376 Installer in `pip show`. (#3517)
- Unhide completion command. (#1810)
- Show latest version number in `pip search` results. (#1415)
- Decode requirement files according to their BOM if present. (#3485, #2865)
- Fix and deprecate package name detection from url path. (#3523, #3495)
- Correct the behavior where interpreter specific tags (such as `cp34`) were being used on later versions of the same interpreter instead of only for that specific interpreter. (#3472)
- Fix an issue where `pip` would erroneously install a 64 bit wheel on a 32 bit Python running on a 64 bit macOS machine.
- Do not assume that all git repositories have an origin remote.
- Correctly display the line to add to a `requirements.txt` for an URL based dependency when `--require-hashes` is enabled.

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## 8.0.3 (2016-02-25)

- Make `install --quiet` really quiet. (#3418)
- Fix a bug when removing packages in python 3: disable INI-style parsing of the `entry_point.txt` file to allow entry point names with colons. (#3434)
- Normalize generated script files path in RECORD files. (#3448)
- Fix bug introduced in 8.0.0 where subcommand output was not shown, even when the user specified `-v` / `--verbose`. (#3486)
- Enable python `-W` with respect to `PipDeprecationWarning`. (#3455)
- Upgrade distlib to 0.2.2.
- Improved support for Jython when quoting executables in output scripts. (#3467)
- Add a `--all` option to `pip freeze` to include usually skipped package (like `pip`, `setuptools` and `wheel`) to the freeze output. (#1610)

## 8.0.2 (2016-01-21)

- Stop attempting to trust the system CA trust store because it's extremely common for them to be broken, often in incompatible ways. (#3416)

## 8.0.1 (2016-01-21)

- Detect `CAPaths` in addition to `CAFiles` on platforms that provide them.
- Installing `argparse` or `wsgiref` will no longer warn or error - pip will allow the installation even though it may be useless (since the installed thing will be shadowed by the standard library).
- Upgrading a distutils installed item that is installed outside of a virtual environment, while inside of a virtual environment will no longer warn or error.
- Fix a bug where pre-releases were showing up in `pip list --outdated` without the `--pre` flag.
- Switch the SOABI emulation from using `RuntimeWarnings` to debug logging.
- Rollback the removal of the ability to uninstall distutils installed items until a future date.

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## 8.0.0 (2016-01-19)

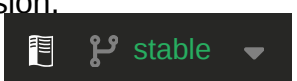
- **BACKWARD INCOMPATIBLE** Drop support for Python 3.2.
- **BACKWARD INCOMPATIBLE** Remove the ability to find any files other than the ones directly linked from the index or find-links pages.
- **BACKWARD INCOMPATIBLE** Remove the `--download-cache` which had been deprecated and no-op'd in 6.0.
- **BACKWARD INCOMPATIBLE** Remove the `--log-explicit-levels` which had been deprecated in 6.0.
- **BACKWARD INCOMPATIBLE** Change pip wheel `--wheel-dir` default path from `<cwd>/wheelhouse` to `<cwd>`.
- Deprecate and no-op the `--allow-external`, `--allow-all-external`, and `--allow-unverified` functionality that was added as part of PEP 438. With changes made to the repository protocol made in PEP 470, these options are no longer functional.
- Allow `--trusted-host` within a requirements file. (#2822)
- Allow `--process-dependency-links` within a requirements file. (#1274)
- Allow `--pre` within a requirements file. (#1273)
- Allow repository URLs with secure transports to count as trusted. (E.g., “git+ssh” is okay.) (#2811)
- Implement a top-level `pip download` command and deprecate `pip install --download`.
- When uninstalling, look for the case of paths containing symlinked directories (#3141, #3154)
- When installing, if building a wheel fails, clear up the build directory before falling back to a source install. (#3047)
- Fix user directory expansion when `HOME=/`. Workaround for Python bug <https://bugs.python.org/issue14768>. (#2996)
- Correct reporting of requirements file line numbers. (#3009, #3125)
- Fixed Exception(IOError) for `pip freeze` and `pip list` commands with subversion `>= 1.7`. (#1062, #3346)
- Provide a spinner showing that progress is happening when installing or building a package via `setup.py`. This will alleviate concerns that projects with unusually long build times have with pip appearing to stall.
- Include the functionality of `peep` into pip, allowing hashes to be baked into a requirements file and ensuring that the packages being downloaded match one of those hashes. This is an additional, opt-in security measure that, when used, removes the need to trust the repository.
- Fix a bug causing pip to not select a wheel compiled against an OSX SDK later than what Python Skip to content compiled against when running on a newer version of OSX.
- Add a new `--prefix` option for `pip install` that supports wheels and sdist. (#3252)

- Fixed issue regarding wheel building with `setup.py` using a different encoding than the system. (#2042)
- Drop PasteScript specific `egg_info` hack. (#3270)
- Allow combination of pip list options `--editable` with `--outdated/--uptodate`. (#933)
- Gives VCS implementations control over saying whether a project is under their control. (#3258)
- Git detection now works when `setup.py` is not at the Git repo root and when `package_dir` is used, so `pip freeze` works in more cases. (#3258)
- Correctly freeze Git develop packages in presence of the `&subdirectory` option (#3258)
- The detection of editable packages now relies on the presence of `.egg-link` instead of looking for a VCS, so `pip list -e` is more reliable. (#3258)
- Add the `--prefix` flag to `pip install` which allows specifying a root prefix to use instead of `sys.prefix`. (#3252)
- Allow duplicate specifications in the case that only the extras differ, and union all specified extras together. (#3198)
- Fix the detection of the user's current platform on OSX when determining the OSX SDK version. (#3232)
- Prevent the automatically built wheels from mistakenly being used across multiple versions of Python when they may not be correctly configured for that by making the wheel specific to a specific version of Python and specific interpreter. (#3225)
- Emulate the SOABI support in wheels from Python 2.x on Python 2.x as closely as we can with the information available within the interpreter. (#3075)
- Don't roundtrip to the network when git is pinned to a specific commit hash and that hash already exists locally. (#3066)
- Prefer wheels built against a newer SDK to wheels built against an older SDK on OSX. (#3163)
- Show entry points for projects installed via wheel. (#3122)
- Improve message when an unexisting path is passed to `--find-links` option. (#2968)
- `pip freeze` does not add the VCS branch/tag name in the `#egg=...` fragment anymore. (#3312)
- Warn on installation of editable if the provided `#egg=name` part does not match the metadata produced by `setup.py egg_info`. (#3143)
- Add support for `.xz` files for python versions supporting them (`>= 3.3`). (#722)

## 7.1.2 (2015-08-22)

Don't raise an error if pip is not installed when checking for the latest pip version.

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## 7.1.1 (2015-08-20)

- Check that the wheel cache directory is writable before we attempt to write cached files to them.
- Move the pip version check until *after* any installs have been performed, thus removing the extraneous warning when upgrading pip.
- Added debug logging when using a cached wheel.
- Respect platlib by default on platforms that have it separated from purelib.
- Upgrade packaging to 15.3. - Normalize post-release spellings for rev/r prefixes.
- Upgrade distlib to 0.2.1. - Updated launchers to decode shebangs using UTF-8. This allows non-ASCII pathnames to be correctly handled. - Ensured that the executable written to shebangs is normcased. - Changed ScriptMaker to work better under Jython.
- Upgrade ipaddress to 1.0.13.

## 7.1.0 (2015-06-30)

- Allow constraining versions globally without having to know exactly what will be installed by the pip command. (#2731)
- Accept `--no-binary` and `--only-binary` via pip.conf. (#2867)
- Allow `--allow-all-external` within a requirements file.
- Fixed an issue where `--user` could not be used when `--prefix` was used in a distutils configuration file.
- Fixed an issue where the SOABI tags were not correctly being generated on Python 3.5.
- Fixed an issue where we were advising windows users to upgrade by directly executing pip, when that would always fail on Windows.
- Allow `~` to be expanded within a cache directory in all situations.

## 7.0.3 (2015-06-01)

- Fixed a regression where `--no-cache-dir` would raise an exception. (#2855)

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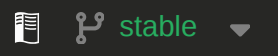
## 7.0.2 (2015-06-01)

- **BACKWARD INCOMPATIBLE** Revert the change (released in v7.0.0) that required quoting in requirements files around specifiers containing environment markers. (#2841)
- **BACKWARD INCOMPATIBLE** Revert the accidental introduction of support for options interleaved with requirements, version specifiers etc in `requirements` files. (#2841)
- Expand `~` in the cache directory when caching wheels. (#2816)
- Use `python -m pip` instead of `pip` when recommending an upgrade command to Windows users.

## 7.0.1 (2015-05-22)

- Don't build and cache wheels for non-editable installations from VCSs.
- Allow `--allow-all-external` inside of a requirements.txt file, fixing a regression in 7.0.

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# 7.0.0 (2015-05-21)

- **BACKWARD INCOMPATIBLE** Removed the deprecated `--mirror`, `--use-mirrors`, and `-M` options.
- **BACKWARD INCOMPATIBLE** Removed the deprecated `zip` and `unzip` commands.
- **BACKWARD INCOMPATIBLE** Removed the deprecated `--no-install` and `--no-download` options.
- **BACKWARD INCOMPATIBLE** No longer implicitly support an insecure origin origin, and instead require insecure origins be explicitly trusted with the `--trusted-host` option.
- **BACKWARD INCOMPATIBLE** Removed the deprecated link scraping that attempted to parse HTML comments for a specially formatted comment.
- **BACKWARD INCOMPATIBLE** Requirements in requirements files containing markers must now be quoted due to parser changes. For example, use `"SomeProject; python_version < '2.7'"`, not simply `SomeProject; python_version < '2.7'` (#2697, #2725)
- `get-pip.py` now installs the “wheel” package, when it’s not already installed. (#2800)
- Ignores bz2 archives if Python wasn’t compiled with bz2 support. (#497)
- Support `--install-option` and `--global-option` per requirement in requirement files. (#2537)
- Build Wheels prior to installing from sdist, caching them in the pip cache directory to speed up subsequent installs. (#2618)
- Allow fine grained control over the use of wheels and source builds. (#2699)
- `--no-use-wheel` and `--use-wheel` are deprecated in favour of new options `--no-binary` and `--only-binary`. The equivalent of `--no-use-wheel` is `--no-binary=:all:`. (#2699)
- The use of `--install-option`, `--global-option` or `--build-option` disable the use of wheels, and the autobuilding of wheels. (#2711, #2677)
- Improve logging when a requirement marker doesn’t match your environment. (#2735)
- Removed the temporary modifications (that began in pip v1.4 when distribute and setuptools merged) that allowed distribute to be considered a conflict to setuptools. `pip install -U setuptools` will no longer upgrade “distribute” to “setuptools”. Instead, use `pip install -U distribute`. (#2767)
- Only display a warning to upgrade pip when the newest version is a final release and it is not a post release of the version we already have installed. (#2766)
- Display a warning when attempting to access a repository that uses HTTPS when we don’t have Python compiled with SSL support. (#2761)
- Allowing using extras when installing from a file path without requiring the use of an editable.

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- `pip install -U` loop when the cache directory is stored on a file system which does not support hard links. (#2796)

- Remove the implicit debug log that was written on every invocation, instead users will need to use `--log` if they wish to have one. (#2798)

## 6.1.1 (2015-04-07)

- No longer ignore dependencies which have been added to the standard library, instead continue to install them.

## 6.1.0 (2015-04-07)

- Fixes upgrades failing when no potential links were found for dependencies other than the current installation. (#2538, #2502)
- Use a smoother progress bar when the terminal is capable of handling it, otherwise fallback to the original ASCII based progress bar.
- Display much less output when `pip install` succeeds, because on success, users probably don't care about all the nitty gritty details of compiling and installing. When `pip install` fails, display the failed install output once instead of twice, because once is enough. (#2487)
- Upgrade the bundled copy of requests to 2.6.0, fixing CVE-2015-2296.
- Display format of latest package when using `pip list --outdated`. (#2475)
- Don't use pywin32 as ctypes should always be available on Windows, using pywin32 prevented uninstallation of pywin32 on Windows. (#2467)
- Normalize the `--wheel-dir` option, expanding out constructs such as `~` when used. (#2441)
- Display a warning when an undefined extra has been requested. (#2142)
- Speed up installing a directory in certain cases by creating a sdists instead of copying the entire directory. (#2535)
- Don't follow symlinks when uninstalling files (#2552)
- Upgrade the bundled copy of cachecontrol from 0.11.1 to 0.11.2. (#2481, #2595)
- Attempt to more smartly choose the order of installation to try and install dependencies before the projects that depend on them. (#2616)
- Skip trying to install libraries which are part of the standard library. (#2636, #2602)
- Support arch specific wheels that are not tied to a specific Python ABI. (#2561)
- Output warnings and errors to stderr instead of stdout. (#2543)
- Adjust the cache dir file checks to only check ownership if the effective user is root. (#2396)
- Skip to content `^` into a per project name directory instead of all of them into the root directory when al environment. (#2421)

## 6.0.8 (2015-02-04)

- Fix an issue where the `--download` flag would cause pip to no longer use randomized build directories.
- Fix an issue where pip did not properly unquote quoted URLs which contain characters like PEP 440's epoch separator (`!`).
- Fix an issue where distutils installed projects were not actually uninstalled and deprecate attempting to uninstall them altogether.
- Retry deleting directories in case a process like an antivirus is holding the directory open temporarily.
- Fix an issue where pip would hide the cursor on Windows but would not reshown it.

## 6.0.7 (2015-01-28)

- Fix a regression where Numpy requires a build path without symlinks to properly build.
- Fix a broken log message when running `pip wheel` without a requirement.
- Don't mask network errors while downloading the file as a hash failure.
- Properly create the state file for the pip version check so it only happens once a week.
- Fix an issue where switching between Python 3 and Python 2 would evict cached items.
- Fix a regression where pip would be unable to successfully uninstall a project without a normalized version.

## 6.0.6 (2015-01-03)

- Continue the regression fix from 6.0.5 which was not a complete fix.

## 6.0.5 (2015-01-03)

- Fix a regression with 6.0.4 under Windows where most commands would raise an exception due to Windows not having the `os.geteuid()` function.

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## 6.0.4 (2015-01-03)

- Fix an issue where ANSI escape codes would be used on Windows even though the Windows shell does not support them, causing odd characters to appear with the progress bar.
- Fix an issue where using `-v` would cause an exception saying `TypeError: not all arguments converted during string formatting`.
- Fix an issue where using `-v` with dependency links would cause an exception saying `TypeError: 'InstallationCandidate' object is not iterable`.
- Fix an issue where upgrading distribute would cause an exception saying `TypeError: expected string or buffer`.
- Show a warning and disable the use of the cache directory when the cache directory is not owned by the current user, commonly caused by using `sudo` without the `-H` flag.
- Update PEP 440 support to handle the latest changes to PEP 440, particularly the changes to `>v` and `<v` so that they no longer imply `!=v.*`.
- Document the default cache directories for each operating system.
- Create the cache directory when the pip version check needs to save to it instead of silently logging an error.
- Fix a regression where the `-q` flag would not properly suppress the display of the progress bars.

## 6.0.3 (2014-12-23)

- Fix an issue where the implicit version check new in pip 6.0 could cause pip to block for up to 75 seconds if PyPI was not accessible.
- Make `--no-index` imply `--disable-pip-version-check`.

## 6.0.2 (2014-12-23)

- Fix an issue where the output saying that a package was installed would report the old version instead of the new version during an upgrade.
- Fix left over merge conflict markers in the documentation.
- Document the backwards incompatible PEP 440 change in the 6.0.0 changelog.

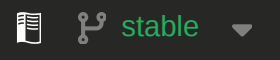
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## 6.0.1 (2014-12-22)

- Fix executable file permissions for Wheel files when using the distutils scripts option.
- Fix a confusing error message when an exceptions was raised at certain points in pip's execution.
- Fix the missing list of versions when a version cannot be found that matches the specifiers.
- Add a warning about the possibly problematic use of > when the given specifier doesn't match anything.
- Fix an issue where installing from a directory would not copy over certain directories which were being excluded, however some build systems rely on them.

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# 6.0 (2014-12-22)

- **PROCESS** Version numbers are now simply `x.y` where the leading `1` has been dropped.
- **BACKWARD INCOMPATIBLE** Dropped support for Python 3.1.
- **BACKWARD INCOMPATIBLE** Removed the bundle support which was deprecated in 1.4. (#1806)
- **BACKWARD INCOMPATIBLE** File lists generated by `pip show -f` are now rooted at the location reported by `show`, rather than one (unstated) directory lower. (#1933)
- **BACKWARD INCOMPATIBLE** The ability to install files over the FTP protocol was accidentally lost in pip 1.5 and it has now been decided to not restore that ability.
- **BACKWARD INCOMPATIBLE** PEP 440 is now fully implemented, this means that in some cases versions will sort differently or version specifiers will be interpreted differently than previously. The common cases should all function similarly to before.
- **DEPRECATION** `pip install --download-cache` and `pip wheel --download-cache` command line flags have been deprecated and the functionality removed. Since pip now automatically configures and uses it's internal HTTP cache which supplants the `--download-cache` the existing options have been made non functional but will still be accepted until their removal in pip v8.0. For more information please see [https://pip.pypa.io/en/stable/reference/pip\\_install.html#caching](https://pip.pypa.io/en/stable/reference/pip_install.html#caching)
- **DEPRECATION** `pip install --build` and `pip install --no-clean` are now *NOT* deprecated. This reverses the deprecation that occurred in v1.5.3. (#906)
- **DEPRECATION** Implicitly accessing URLs which point to an origin which is not a secure origin, instead requiring an opt-in for each host using the new `--trusted-host` flag (`pip install --trusted-host example.com foo`).
- Allow the new `--trusted-host` flag to also disable TLS verification for a particular hostname.
- Added a `--user` flag to `pip freeze` and `pip list` to check the user site directory only.
- Silence byte compile errors when installation succeed. (#1873)
- Added a virtualenv-specific configuration file. (#1364)
- Added site-wide configuration files. (1978)
- Added an automatic check to warn if there is an updated version of pip available. (#2049)
- `wsgiref` and `argparse` (for >py26) are now excluded from `pip list` and `pip freeze`. (#1606, #1369)
- Add `--client-cert` option for SSL client certificates. (#1424)
- `pip show --files` was broken for wheel installs. (#1635, #1484)
- `install_lib` should take precedence when reading `distutils` config. (#1642, #1641)
- `Send-Ascent-Encoding: identity` when downloading files in an attempt to convince some servers Skip to content `np`ress the downloaded file to stop doing so. (#1688)
- Stop breaking when given pip commands in uppercase (#1559, #1725)

- pip no longer adds duplicate logging consumers, so it won't create duplicate output when being called multiple times. (#1618, #1723)
- *pip wheel* now returns an error code if any wheels fail to build. (#1769)
- *pip wheel* wasn't building wheels for dependencies of editable requirements. (#1775)
- Allow the use of `--no-use-wheel` within a requirements file. (#1859)
- Attempt to locate system TLS certificates to use instead of the included CA Bundle if possible. (#1680, #1866)
- Allow use of Zip64 extension in Wheels and other zip files. (#1319, #1868)
- Properly handle an index or `--find-links` target which has a `<base>` without a href attribute. (#1101, #1869)
- Properly handle extras when a project is installed via Wheel. (#1885, #1896)
- Added support to respect proxies in `pip search`. (#1180, #932, #1104, #1902)
- *pip install --download* works with vcs links. (#798, #1060, #1926)
- Disabled warning about insecure index host when using localhost. Based off of Guy Rozendorn's work in #1718. (#1456, #1967)
- Allow the use of OS standard user configuration files instead of ones simply based around `$HOME`. (#2021)
- When installing directly from wheel paths or urls, previous versions were not uninstalled. (#1825, #804, #1838)
- Detect the location of the `.egg-info` directory by looking for any file located inside of it instead of relying on the record file listing a directory. (#2075, #2076)
- Use a randomized and secure default build directory when possible. (#1964, #1935, #676, #2122, CVE-2014-8991)
- Support environment markers in requirements.txt files. (#1433, #2134)
- Automatically retry failed HTTP requests by default. (#1444, #2147)
- Handle HTML Encoding better using a method that is more similar to how browsers handle it. (#1100, #1874)
- Reduce the verbosity of the pip command by default. (#2175, #2177, #2178)
- Fixed #2031 - Respect `sys.executable` on OSX when installing from Wheels.
- Display the entire URL of the file that is being downloaded when downloading from a non PyPI repository. (#2183)
- Support `setuptools` style environment markers in a source distribution. (#2153)

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## 14-05-16)

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- Upgrade requests to 2.3.0 to fix an issue with proxies on Python 3.4.1. (#1821)

## 1.5.5 (2014-05-03)

- Uninstall issues on debianized pypy, specifically issues with setuptools upgrades. (#1632, #1743)
- Update documentation to point at <https://bootstrap.pypa.io/get-pip.py> for bootstrapping pip.
- Update docs to point to <https://pip.pypa.io/>
- Upgrade the bundled projects (distlib==0.1.8, html5lib==1.0b3, six==1.6.1, colorama==0.3.1, setuptools==3.4.4).

## 1.5.4 (2014-02-21)

- Correct deprecation warning for `pip install --build` to only notify when the `--build` value is different than the default.

## 1.5.3 (2014-02-20)

- **DEPRECATION** `pip install --build` and `pip install --no-clean` are now deprecated. (#906)
- Fixed being unable to download directly from wheel paths/urls, and when wheel downloads did occur using requirement specifiers, dependencies weren't downloaded. (#1112, #1527)
- `pip wheel` was not downloading wheels that already existed. (#1320, #1524)
- `pip install --download` was failing using local `--find-links`. (#1111, #1524)
- Workaround for Python bug <https://bugs.python.org/issue20053>. (#1544)
- Don't pass a unicode `__file__` to `setup.py` on Python 2.x. (#1583)
- Verify that the Wheel version is compatible with this pip. (#1569)

## 1.5.2 (2014-01-26)

- Upgraded the vendored `pkg_resources` and `_markerlib` to setuptools 2.1.
- Fixed an error that prevented accessing PyPI when `pyopenssl`, `ndg-httpsclient`, and `pyasn1` are installed.
- Fixed an issue that caused trailing comments to be incorrectly included as part of the URL in a requirements file.

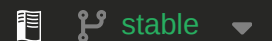
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## 1.5.1 (2014-01-20)

- pip now only requires setuptools (any setuptools, not a certain version) when installing distributions from src (i.e. not from wheel). (#1434)
- `get-pip.py` now installs setuptools, when it's not already installed. (#1475)
- Don't decode downloaded files that have a `Content-Encoding` header. (#1435)
- Fix to correctly parse wheel filenames with single digit versions. (#1445)
- If `--allow-unverified` is used assume it also means `--allow-external`. (#1457)

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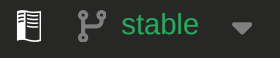


# 1.5 (2014-01-01)

- **BACKWARD INCOMPATIBLE** pip no longer supports the `--use-mirrors`, `-M`, and `--mirrors` flags. The mirroring support has been removed. In order to use a mirror specify it as the primary index with `-i` or `--index-url`, or as an additional index with `--extra-index-url`. (#1098, CVE-2013-5123)
- **BACKWARD INCOMPATIBLE** pip no longer will scrape insecure external urls by default nor will it install externally hosted files by default. Users may opt into installing externally hosted or insecure files or urls using `--allow-external PROJECT` and `--allow-unverified PROJECT`. (#1055)
- **BACKWARD INCOMPATIBLE** pip no longer respects dependency links by default. Users may opt into respecting them again using `--process-dependency-links`.
- **DEPRECATION** `pip install --no-install` and `pip install --no-download` are now formally deprecated. See #906 for discussion on possible alternatives, or lack thereof, in future releases.
- **DEPRECATION** `pip zip` and `pip unzip` are now formally deprecated.
- pip will now install Mac OSX platform wheels from PyPI. (#1278)
- pip now generates the appropriate platform-specific console scripts when installing wheels. (#1251)
- pip now confirms a wheel is supported when installing directly from a path or url. (#1315)
- `--ignore-installed` now behaves again as designed, after it was unintentionally broke in v0.8.3 when fixing #14. (#1097, #1352)
- Fixed a bug where global scripts were being removed when uninstalling `--user` installed packages. (#1353)
- `--user` wasn't being respected when installing scripts from wheels. (#1163, #1176)
- Assume `'_'` means `'-'` in versions from wheel filenames. (#1150, #1158)
- Error when using `--log` with a failed install. (#219, #1205)
- Fixed logging being buffered and choppy in Python 3. (#1131)
- Don't ignore `--timeout`. (#70, #1202)
- Fixed an error when setting `PIP_EXISTS_ACTION`. (#772, #1201)
- Added colors to the logging output in order to draw attention to important warnings and errors. (#1109)
- Added warnings when using an insecure index, find-link, or dependency link. (#1121)
- Added support for installing packages from a subdirectory using the `subdirectory` editable option. (#1082)

Skip to content or: bad operand type for unary” in some cases when installing

packages. (#1192, #1218)



- Archive contents are now written based on system defaults and umask (i.e. permissions are not preserved), except that regular files with any execute permissions have the equivalent of “chmod +x” applied after being written. (#1133, #317, #1146)
- PreviousBuildDirError now returns a non-zero exit code and prevents the previous build dir from being cleaned in all cases. (#1162)
- Renamed --allow-insecure to --allow-unverified, however the old name will continue to work for a period of time. (#1257)
- Fixed an error when installing local projects with symlinks in Python 3. (#1006, #1311)
- The previously hidden `--log-file` option, is now shown as a general option. (#1316)

## 1.4.1 (2013-08-07)

- **New Signing Key** Release 1.4.1 is using a different key than normal with fingerprint: 7C6B 7C5D 5E2B 6356 A926 F04F 6E3C BCE9 3372 DCFA
- Fixed issues with installing from pybundle files. (#1116)
- Fixed error when sysconfig module throws an exception. (#1095)
- Don't ignore already installed pre-releases. (#1076)
- Fixes related to upgrading setuptools. (#1092)
- Fixes so that --download works with wheel archives. (#1113)
- Fixes related to recognizing and cleaning global build dirs. (#1080)

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## 1.4 (2013-07-23)

- **BACKWARD INCOMPATIBLE** pip now only installs stable versions by default, and offers a new `--pre` option to also find pre-release and development versions. (#834)
- **BACKWARD INCOMPATIBLE** Dropped support for Python 2.5. The minimum supported Python version for pip 1.4 is Python 2.6.
- Added support for installing and building wheel archives. Thanks Daniel Holth, Marcus Smith, Paul Moore, and Michele Lacchia (#845)
- Applied security patch to pip's ssl support related to certificate DNS wildcard matching (<https://bugs.python.org/issue17980>).
- To satisfy pip's setuptools requirement, pip now recommends setuptools>=0.8, not distribute. setuptools and distribute are now merged into one project called 'setuptools'. (#1003)
- pip will now warn when installing a file that is either hosted externally to the index or cannot be verified with a hash. In the future pip will default to not installing them and will require the flags `--allow-external NAME`, and `--allow-insecure NAME` respectively. (#985)
- If an already-downloaded or cached file has a bad hash, re-download it rather than erroring out. (#963)
- `pip bundle` and support for installing from pybundle files is now considered deprecated and will be removed in pip v1.5.
- Fix a number of issues related to cleaning up and not reusing build directories. (#413, #709, #634, #602, #939, #865, #948)
- Added a User Agent so that pip is identifiable in logs. (#901)
- Added ssl and `--user` support to get-pip.py. Thanks Gabriel de Perthuis. (#895)
- Fixed the proxy support, which was broken in pip 1.3.x (#840)
- Fixed pip failing when server does not send content-type header. Thanks Hugo Lopes Tavares and Kelsey Hightower. (#32, #872)
- "Vendorized" distlib as pip.vendor.distlib (<https://distlib.readthedocs.io/>).
- Fixed git VCS backend with git 1.8.3. (#967)

### 1.3.1 (2013-03-08)

- Fixed a major backward incompatible change of parsing URLs to externally hosted packages that got accidentally included in 1.3.

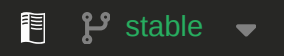
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## 1.3 (2013-03-07)

- SSL Cert Verification; Make https the default for PyPI access. Thanks James Cleveland, Giovanni Bajo, Marcus Smith and many others. (#791, CVE-2013-1629)
- Added “pip list” for listing installed packages and the latest version available. Thanks Rafael Caricio, Miguel Araujo, Dmitry Gladkov. (#752)
- Fixed security issues with pip’s use of temp build directories. Thanks David (d1b) and Thomas Guttler. (#780, CVE-2013-1888)
- Improvements to sphinx docs and cli help. (#773)
- Fixed an issue dealing with macOS temp dir handling, which was causing global NumPy installs to fail. (#707, #768)
- Split help output into general vs command-specific option groups. Thanks Georgi Valkov. (#744, #721)
- Fixed dependency resolution when installing from archives with uppercase project names. (#724)
- Fixed problem where re-installs always occurred when using `file://` find-links. (#683, #702)
- “pip install -v” now shows the full download url, not just the archive name. Thanks Marc Abramowitz (#687)
- Fix to prevent unnecessary PyPI redirects. Thanks Alex Gronholm (#695)
- Fixed an install failure under Python 3 when the same version of a package is found under 2 different URLs. Thanks Paul Moore (#670, #671)
- Fix git submodule recursive updates. Thanks Roey Berman. (#674)
- Explicitly ignore `rel='download'` links while looking for html pages. Thanks Maxime R. (#677)
- `--user/--upgrade` install options now work together. Thanks ‘eevee’ for discovering the problem. (#705)
- Added check in `install --download` to prevent re-downloading if the target file already exists. Thanks Andrey Bulgakov. (#669)
- Added support for bare paths (including relative paths) as argument to `--find-links`. Thanks Paul Moore for draft patch.
- Added support for `--no-index` in requirements files.
- Added “pip show” command to get information about an installed package. Thanks Kelsey Hightower and Rafael Caricio. (#131)
- Added `--root` option for “pip install” to specify root directory. Behaves like the same option in distutils but also plays nice with pip’s egg-info. Thanks Przemek Wrzos. (#253, #693)

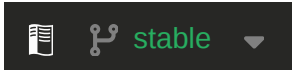
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## 1.2.1 (2012-09-06)

- Fixed a regression introduced in 1.2 about raising an exception when not finding any files to uninstall in the current environment. Thanks for the fix, Marcus Smith.

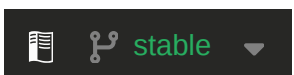
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## 1.2 (2012-09-01)

- **Dropped support for Python 2.4** The minimum supported Python version is now Python 2.5.
- Fixed PyPI mirror support being broken on some DNS responses. Thanks philwhin. (#605)
- Fixed pip uninstall removing files it didn't install. Thanks pjdelport. (#355)
- Fixed a number of issues related to improving support for the user installation scheme. Thanks Marcus Smith. (#493, #494, #440, #573)
- Write failure log to temp file if default location is not writable. Thanks andreigc.
- Pull in submodules for git editable checkouts. Thanks Hsiaoming Yang and Markus Hametner. (#289, #421)
- Use a temporary directory as the default build location outside of a virtualenv. Thanks Ben Rosser. (#339, #381)
- Added support for specifying extras with local editables. Thanks Nick Stenning.
- Added `--egg` flag to request egg-style rather than flat installation. Thanks Kamal Bin Mustafa. (#3)
- Prevent e.g. `gmpy2-2.0.tar.gz` from matching a request to `pip install gmpy`; sdist filename must begin with full project name followed by a dash. Thanks casevh for the report. (#510)
- Allow package URLs to have querystrings. Thanks W. Trevor King. (#504)
- pip freeze now falls back to non-editable format rather than blowing up if it can't determine the origin repository of an editable. Thanks Rory McCann. (#58)
- Added a `__main__.py` file to enable `python -m pip` on Python versions that support it. Thanks Alexey Luchko.
- Fixed upgrading from VCS url of project that does exist on index. Thanks Andrew Knapp for the report. (#487)
- Fix upgrade from VCS url of project with no distribution on index. Thanks Andrew Knapp for the report. (#486)
- Add a clearer error message on a malformed VCS url. Thanks Thomas Fenzl. (#427)
- Added support for using any of the built in guaranteed algorithms in `hashlib` as a checksum hash.
- Raise an exception if current working directory can't be found or accessed. (#321)
- Removed special casing of the user directory and use the Python default instead. (#82)
- Only warn about version conflicts if there is actually one. This re-enables using `==dev` in requirements files. (#436)

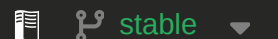
[Skip to content](#) | be run on Travis CI: <https://travis-ci.org/pypa/pip>  
help formatter.



# 1.1 (2012-02-16)

- Don't crash when a package's setup.py emits UTF-8 and then fails. Thanks Marc Abramowitz. (#326)
- Added `--target` option for installing directly to arbitrary directory. Thanks Stavros Korokithakis.
- Added support for authentication with Subversion repositories. Thanks Qiangning Hong.
- `--download` now downloads dependencies as well. Thanks Qiangning Hong. (#315)
- Errors from subprocesses will display the current working directory. Thanks Antti Kaihola.
- Fixed compatibility with Subversion 1.7. Thanks Qiangning Hong. Note that setuptools remains incompatible with Subversion 1.7; to get the benefits of pip's support you must use Distribute rather than setuptools. (#369)
- Ignore py2app-generated macOS mpkg zip files in finder. Thanks Rene Dudfield. (#57)
- Log to `~/Library/Logs/` by default on macOS framework installs. Thanks Dan Callahan for report and patch. (#182)
- Understand version tags without minor version ("py3") in sdist filenames. Thanks Stuart Andrews for report and Olivier Girardot for patch. (#310)
- pip now supports optionally installing setuptools "extras" dependencies; e.g. "pip install Paste[openid]". Thanks Matt Maker and Olivier Girardot. (#7)
- freeze no longer borks on requirements files with `--index-url` or `--find-links`. Thanks Herbert Pfennig. (#391)
- Handle symlinks properly. Thanks lebedov for the patch. (#288)
- pip install -U no longer reinstalls the same versions of packages. Thanks iguananaut for the pull request. (#49)
- Removed `-E / --environment` option and `PIP_RESPECT_VIRTUALENV`; both use a restart-in-venv mechanism that's broken, and neither one is useful since every virtualenv now has pip inside it. Replace `pip -E path/to/venv install Foo` with `virtualenv path/to/venv && path/to/venv/pip install Foo`.
- Fixed pip throwing an IndexError when it calls `scraped_rel_links`. (#366)
- pip search should set and return a useful shell status code. (#22)
- Added global `--exists-action` command line option to easier script file exists conflicts, e.g. from editable requirements from VCS that have a changed repo URL. (#351, #365)

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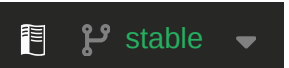
## 1.0.2 (2011-07-16)

- Fixed docs issues.
- Reinstall a package when using the `install -I` option. (#295)
- Finds a Git tag pointing to same commit as origin/master. (#283)
- Use absolute path for path to docs in setup.py. (#279)
- Correctly handle exceptions on Python3. (#314)
- Correctly parse `--editable` lines in requirements files. (#320)

## 1.0.1 (2011-04-30)

- Start to use git-flow.
- `find_command` should not raise `AttributeError`. (#274)
- Respect Content-Disposition header. Thanks Bradley Ayers. (#273)
- pathext handling on Windows. (#233)
- svn+svn protocol. (#252)
- multiple CLI searches. (#44)
- Current working directory when running setup.py clean. (#266)

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# 1.0 (2011-04-04)

- Added Python 3 support! Huge thanks to Vinay Sajip, Vitaly Babiy, Kelsey Hightower, and Alex Gronholm, among others.
- Download progress only shown on a real TTY. Thanks Alex Morega.
- Fixed finding of VCS binaries to not be fooled by same-named directories. Thanks Alex Morega.
- Fixed uninstall of packages from system Python for users of Debian/Ubuntu python-setuptools package (workaround until fixed in Debian and Ubuntu).
- Added [get-pip.py](#) installer. Simply download and execute it, using the Python interpreter of your choice:

```
$ curl -O https://raw.githubusercontent.com/pypa/pip/master/contrib/get-pip.py
$ python get-pip.py
```

This may have to be run as root.

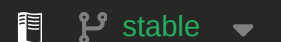
## Note

Make sure you have [distribute](#) installed before using the installer!

## 0.8.3

- Moved main repository to GitHub: <https://github.com/pypa/pip>
- Transferred primary maintenance from Ian to Jannis Leidel, Carl Meyer, Brian Rosner
- Fixed no uninstall-on-upgrade with URL package. Thanks Oliver Tonnhofer. (#14)
- Fixed egg name not properly resolving. Thanks Igor Sobreira. (#163)
- Fixed Non-alphabetical installation of requirements. Thanks Igor Sobreira. (#178)
- Fixed documentation mentions --index instead of --index-url. Thanks Kelsey Hightower (#199)
- rmtree undefined in mercurial.py. Thanks Kelsey Hightower. (#204)
- Fixed bug in Git vcs backend that would break during reinstallation.
- Fixed bug in Mercurial vcs backend related to pip freeze and branch/tag resolution.
- Fixed bug in version string parsing related to the suffix “-dev”.

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  [stable](#) ▼

## 0.8.2

- Avoid redundant unpacking of bundles (from pwaller)
- Fixed checking out the correct tag/branch/commit when updating an editable Git requirement. (#32, #150, #161)
- Added ability to install version control requirements without making them editable, e.g.:

```
pip install git+https://github.com/pypa/pip/
```

(#49)

- Correctly locate build and source directory on macOS. (#175)
- Added `git+https://` scheme to Git VCS backend.

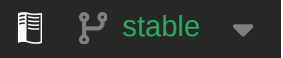
## 0.8.1

- Added global `--user` flag as shortcut for `--install-option="--user"`. From Ronny Pfannschmidt.
- Added support for [PyPI mirrors](#) as defined in [PEP 381](#), from Jannis Leidel.
- Fixed git revisions being ignored. Thanks John-Scott Atakson. (#138)
- Fixed initial editable install of github package from a tag failing. Thanks John-Scott Atakson. (#95)
- Fixed installing if a directory in cwd has the same name as the package you're installing. (#107)
- `--install-option="--prefix=~/.local"` ignored with `-e`. Thanks Ronny Pfannschmidt and Wil Tan. (#39)

## 0.8

- Track which `build/` directories pip creates, never remove directories it doesn't create. From Hugo Lopes Tavares.
- pip now accepts `file://` index URLs. Thanks Dave Abrahams.
- Various cleanup to make test-running more consistent and less fragile. Thanks Dave Abrahams.
- Real Windows support (with passing tests). Thanks Dave Abrahams.
- `pip-2.7` etc. scripts are created (Python-version specific scripts)
- `contrib/build-standalone` script creates a runnable `.zip` form of pip, from Jannis Leidel
- Editable nit repos are updated when reinstalled

Skip to content `h --editable` when multiple `.egg-info/` directories are found



- A number of VCS-related fixes for `pip freeze`, from Hugo Lopes Tavares.
- Significant test framework changes, from Hugo Lopes Tavares.

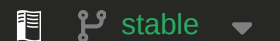
## 0.7.2

- Set `zip_safe=False` to avoid problems some people are encountering where pip is installed as a zip file.

## 0.7.1

- Fixed opening of logfile with no directory name. Thanks Alexandre Conrad.
- Temporary files are consistently cleaned up, especially after installing bundles, also from Alex Conrad.
- Tests now require at least ScriptTest 1.0.3.

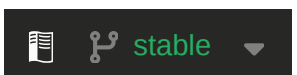
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# 0.7

- Fixed uninstallation on Windows
- Added `pip search` command.
- Tab-complete names of installed distributions for `pip uninstall`.
- Support tab-completion when there is a global-option before the subcommand.
- Install header files in standard (scheme-default) location when installing outside a virtualenv. Install them to a slightly more consistent non-standard location inside a virtualenv (since the standard location is a non-writable symlink to the global location).
- `pip` now logs to a central location by default (instead of creating `pip-log.txt` all over the place) and constantly overwrites the file in question. On Unix and macOS this is `'$HOME/.pip/pip.log'` and on Windows it's `'%HOME%\pip\pip.log'`. You are still able to override this location with the `$PIP_LOG_FILE` environment variable. For a complete (appended) logfile use the separate `'--log'` command line option.
- Fixed an issue with Git that left an editable package as a checkout of a remote branch, even if the default behaviour would have been fine, too.
- Fixed installing from a Git tag with older versions of Git.
- Expand “~” in logfile and download cache paths.
- Speed up installing from Mercurial repositories by cloning without updating the working copy multiple times.
- Fixed installing directly from directories (e.g. `pip install path/to/dir/`).
- Fixed installing editable packages with `svn+ssh` URLs.
- Don't print unwanted debug information when running the freeze command.
- Create log file directory automatically. Thanks Alexandre Conrad.
- Make test suite easier to run successfully. Thanks Dave Abrahams.
- Fixed “`pip install .`” and “`pip install ..`”; better error for directory without `setup.py`. Thanks Alexandre Conrad.
- Support Debian/Ubuntu “dist-packages” in zip command. Thanks duckx.
- Fix relative `--src` folder. Thanks Simon Cross.
- Handle missing VCS with an error message. Thanks Alexandre Conrad.
- Added `--no-download` option to `install`; pairs with `--no-install` to separate download and installation into two steps. Thanks Simon Cross.
- Fix uninstalling from requirements file containing `-f`, `-i`, or `--extra-index-url`.

[Skip to content](#) Directories are now removed. Thanks Alexandre Conrad.



## 0.6.3

- Fixed import error on Windows with regard to the backwards compatibility package

## 0.6.2

- Fixed uninstall when /tmp is on a different filesystem.
- Fixed uninstallation of distributions with namespace packages.

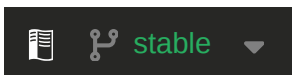
## 0.6.1

- Added support for the `https` and `http-static` schemes to the Mercurial and `ftp` scheme to the Bazaar backend.
- Fixed uninstallation of scripts installed with `easy_install`.
- Fixed an issue in the package finder that could result in an infinite loop while looking for links.
- Fixed issue with `pip bundle` and local files (which weren't being copied into the bundle), from Whit Morriss.

## 0.6

- Add `pip uninstall` and `uninstall-before upgrade` (from Carl Meyer).
- Extended configurability with config files and environment variables.
- Allow packages to be upgraded, e.g., `pip install Package==0.1` then `pip install Package==0.2`.
- Allow installing/upgrading to `Package==dev` (fix “Source version does not match target version” errors).
- Added command and option completion for bash and zsh.
- Extended integration with virtualenv by providing an option to automatically use an active virtualenv and an option to warn if no active virtualenv is found.
- Fixed a bug with `pip install --download` and editable packages, where directories were being set with 0000 permissions, now defaults to 755.
- Fixed uninstallation of `easy_installed console_scripts`.
- Fixed uninstallation on macOS Framework layout installs

[Skip to content](#) entering uninstall of editables with source outside venv.  
load cache directory if not existing.



## 0.5.1

- Fixed a couple little bugs, with git and with extensions.

## 0.5

- Added ability to override the default log file name ( `pip-log.txt` ) with the environmental variable `$PIP_LOG_FILE`.
- Made the freeze command print installed packages to stdout instead of writing them to a file. Use simple redirection (e.g. `pip freeze > stable-req.txt` ) to get a file with requirements.
- Fixed problem with freezing editable packages from a Git repository.
- Added support for base URLs using `<base href='... '>` when parsing HTML pages.
- Fixed installing of non-editable packages from version control systems.
- Fixed issue with Bazaar's bzd+ssh scheme.
- Added `--download-dir` option to the install command to retrieve package archives. If given an editable package it will create an archive of it.
- Added ability to pass local file and directory paths to `--find-links`, e.g. `--find-links=file:///path/to/my/private/archive`
- Reduced the amount of console log messages when fetching a page to find a distribution was problematic. The full messages can be found in `pip-log.txt`.
- Added `--no-deps` option to install ignore package dependencies
- Added `--no-index` option to ignore the package index (PyPI) temporarily
- Fixed installing editable packages from Git branches.
- Fixes freezing of editable packages from Mercurial repositories.
- Fixed handling read-only attributes of build files, e.g. of Subversion and Bazaar on Windows.
- When downloading a file from a redirect, use the redirected location's extension to guess the compression (happens specifically when redirecting to a bitbucket.org tip.gz file).
- Editable freeze URLs now always use revision hash/id rather than tip or branch names which could move.
- Fixed comparison of repo URLs so incidental differences such as presence/absence of final slashes or quoted/unquoted special characters don't trigger "ignore/switch/wipe/backup" choice.
- Fixed handling of attempt to checkout editable install to a non-empty, non-repo directory.

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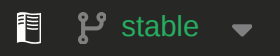
## 0.4

- Make `-e` work better with local hg repositories
- Construct PyPI URLs the exact way `easy_install` constructs URLs (you might notice this if you use a custom index that is slash-sensitive).
- Improvements on Windows (from [lonel Maries Cristian](#)).
- Fixed problem with not being able to install private git repositories.
- Make `pip zip` zip all its arguments, not just the first.
- Fix some filename issues on Windows.
- Allow the `-i` and `--extra-index-url` options in requirements files.
- Fix the way bundle components are unpacked and moved around, to make bundles work.
- Adds `-s` option to allow the access to the global site-packages if a virtualenv is to be created.
- Fixed support for Subversion 1.6.

### 0.3.1

- Improved virtualenv restart and various path/cleanup problems on win32.
- Fixed a regression with installing from svn repositories (when not using `-e`).
- Fixes when installing editable packages that put their source in a subdirectory (like `src/`).
- Improve `pip -h`

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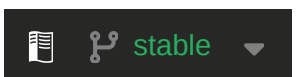
## 0.3

- Added support for editable packages created from Git, Mercurial and Bazaar repositories and ability to freeze them. Refactored support for version control systems.
- Do not use `sys.exit()` from inside the code, instead use a return. This will make it easier to invoke programmatically.
- Put the install record in `Package.egg-info/installed-files.txt` (previously they went in `site-packages/install-record-Package.txt`).
- Fix a problem with `pip freeze` not including `-e svn+` when an svn structure is peculiar.
- Allow `pip -E` to work with a virtualenv that uses a different version of Python than the parent environment.
- Fixed Win32 virtualenv (`-E`) option.
- Search the links passed in with `-f` for packages.
- Detect zip files, even when the file doesn't have a `.zip` extension and it is served with the wrong Content-Type.
- Installing editable from existing source now works, like `pip install -e some/path/` will install the package in `some/path/`. Most importantly, anything that package requires will also be installed by pip.
- Add a `--path` option to `pip un/zip`, so you can avoid zipping files that are outside of where you expect.
- Add `--simulate` option to `pip zip`.

### 0.2.1

- Fixed small problem that prevented using `pip.py` without actually installing pip.
- Fixed `--upgrade`, which would download and appear to install upgraded packages, but actually just reinstall the existing package.
- Fixed Windows problem with putting the install record in the right place, and generating the `pip` script with Setuptools.
- Download links that include embedded spaces or other unsafe characters (those characters get %-encoded).
- Fixed use of URLs in requirement files, and problems with some blank lines.
- Turn some tar file errors into warnings.

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## 0.2

- Renamed to `pip`, and to install you now do `pip install PACKAGE`
- Added command `pip zip PACKAGE` and `pip unzip PACKAGE`. This is particularly intended for Google App Engine to manage libraries to stay under the 1000-file limit.
- Some fixes to bundles, especially editable packages and when creating a bundle using unnamed packages (like just an svn repository without `#egg=Package`).

## 0.1.4

- Added an option `--install-option` to pass options to pass arguments to `setup.py install`
- `.svn/` directories are no longer included in bundles, as these directories are specific to a version of svn -- if you build a bundle on a system with svn 1.5, you can't use the checkout on a system with svn 1.4. Instead a file `svn-checkout.txt` is included that notes the original location and revision, and the command you can use to turn it back into an svn checkout. (Probably unpacking the bundle should, maybe optionally, recreate this information -- but that is not currently implemented, and it would require network access.)
- Avoid ambiguities over project name case, where for instance `MyPackage` and `mypackage` would be considered different packages. This in particular caused problems on Macs, where `MyPackage/` and `mypackage/` are the same directory.
- Added support for an environmental variable `$PIP_DOWNLOAD_CACHE` which will cache package downloads, so future installations won't require large downloads. Network access is still required, but just some downloads will be avoided when using this.

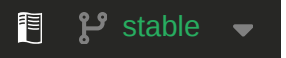
## 0.1.3

- Always use `svn checkout` (not `export`) so that `tag_svn_revision` settings give the revision of the package.
- Don't update checkouts that came from `.pybundle` files.

## 0.1.2

- Improve error text when there are errors fetching HTML pages when seeking packages.
- Improve bundles: include empty directories, make them work with editable packages.

Skip to content `!nv` and the environment `env/` doesn't exist, a new virtual env



- Fix `dependency_links` for finding packages.

## 0.1.1

- Fixed a `NameError` exception when running pip outside of a virtualenv environment.
- Added HTTP proxy support (from Prabhu Ramachandran)
- Fixed use of `hashlib.md5` on python2.5+ (also from Prabhu Ramachandran)

## 0.1

- Initial release

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