

Skip to content

[![logo](../../assets/logo-letter.svg)](../../ "uv")

uv

Using uv in GitLab CI/CD

Initializing search

[uv](https://github.com/astral-sh/uv "Go to repository")

[![logo](../../assets/logo-letter.svg)](../../ "uv") uv

[uv](https://github.com/astral-sh/uv "Go to repository")

- * [Introduction](../../)
- * [Getting started](../../getting-started/)

Getting started

- * [Installation](../../getting-started/installation/)
- * [First steps](../../getting-started/first-steps/)
- * [Features](../../getting-started/features/)
- * [Getting help](../../getting-started/help/)
- * [Guides](../../)

Guides

- * [Installing Python]([../../install-python/](#))
- * [Running scripts]([../../scripts/](#))
- * [Using tools]([../../tools/](#))
- * [Working on projects]([../../projects/](#))
- * [Publishing packages]([../../package/](#))
- * [Integrations]([../](#))

Integrations

- * [Docker]([../docker/](#))
- * [Jupyter]([../jupyter/](#))
- * [GitHub Actions]([../github/](#))
- * GitLab CI/CD [GitLab CI/CD]([../](#)) Table of contents
 - * Using the uv image
 - * Caching
 - * Using uv pip
- * [Pre-commit]([../pre-commit/](#))
- * [PyTorch]([../pytorch/](#))
- * [FastAPI]([../fastapi/](#))
- * [Alternative indexes]([../alternative-indexes/](#))
- * [Dependency bots]([../dependency-bots/](#))
- * [AWS Lambda]([../aws-lambda/](#))
- * [Concepts]([../../../concepts/](#))

Concepts

- * [Projects]([../..../concepts/projects/](#))

Projects

- * [Structure and files]([../..../concepts/projects/layout/](#))

- * [Creating projects]([../..../concepts/projects/init/](#))

- * [Managing dependencies]([../..../concepts/projects/dependencies/](#))

- * [Running commands]([../..../concepts/projects/run/](#))

- * [Locking and syncing]([../..../concepts/projects/sync/](#))

- * [Configuring projects]([../..../concepts/projects/config/](#))

- * [Building distributions]([../..../concepts/projects/build/](#))

- * [Using workspaces]([../..../concepts/projects/workspaces/](#))

- * [Tools]([../..../concepts/tools/](#))

- * [Python versions]([../..../concepts/python-versions/](#))

- * [Resolution]([../..../concepts/resolution/](#))

- * [Caching]([../..../concepts/cache/](#))

- * [Configuration]([../..../configuration/](#))

Configuration

- * [Configuration files]([../..../configuration/files/](#))

- * [Environment variables]([../..../configuration/environment/](#))

- * [Authentication]([../..../configuration/authentication/](#))

- * [Package indexes]([../..../configuration/indexes/](#))

- * [Installer]([../..../configuration/installer/](#))

- * [The pip interface]([../..../pip/](#))

The pip interface

- * [Using environments]([../..../pip/environments/](#))
- * [Managing packages]([../..../pip/packages/](#))
- * [Inspecting packages]([../..../pip/inspection/](#))
- * [Declaring dependencies]([../..../pip/dependencies/](#))
- * [Locking environments]([../..../pip/compile/](#))
- * [Compatibility with pip]([../..../pip/compatibility/](#))
- * [Reference]([../..../reference/](#))

Reference

- * [Commands]([../..../reference/cli/](#))
- * [Settings]([../..../reference/settings/](#))
- * [Troubleshooting]([../..../reference/troubleshooting/](#))

Troubleshooting

- * [Build failures]([../..../reference/troubleshooting/build-failures/](#))
- * [Reproducible examples]([../..../reference/troubleshooting/reproducible-examples/](#))
- * [Resolver]([../..../reference/resolver-internals/](#))
- * [Benchmarks]([../..../reference/benchmarks/](#))
- * [Policies]([../..../reference/policies/](#))

Policies

- * [Versioning]([../../reference/policies/versioning/](#))
- * [Platform support]([../../reference/policies/platforms/](#))
- * [License]([../../reference/policies/license/](#))

Table of contents

- * Using the uv image
- * Caching
- * Using uv pip

1. [Introduction]([../...](#))
2. [Guides]([../...](#))
3. [Integrations]([../](#))

Using uv in GitLab CI/CD

Using the uv image

Astral provides [\[Docker images\]\(../docker/#available-images\)](#) with uv preinstalled. Select a variant that is suitable for your workflow.

gitlab-ci.yml

variables:

UV_VERSION: 0.5

PYTHON_VERSION: 3.12

BASE_LAYER: bookworm-slim

GitLab CI creates a separate mountpoint for the build directory,

so we need to copy instead of using hard links.

UV_LINK_MODE: copy

uv:

image: ghcr.io/astral-sh/uv:\$UV_VERSION-python\$PYTHON_VERSION-\$BASE_LAYER

script:

your `uv` commands

Note

If you are using a distroless image, you have to specify the entrypoint:

uv:

image:

name: ghcr.io/astral-sh/uv:\$UV_VERSION

entrypoint: [""]

...

Caching

Persisting the uv cache between workflow runs can improve performance.

uv-install:

variables:

UV_CACHE_DIR: .uv-cache

cache:

- key:

files:

- uv.lock

paths:

- \$UV_CACHE_DIR

script:

Your `uv` commands

- uv cache prune --ci

See the [GitLab caching documentation](<https://docs.gitlab.com/ee/ci/caching/>)

for more details on configuring caching.

Using `uv cache prune --ci` at the end of the job is recommended to reduce cache size. See the [uv cache documentation]([../..../concepts/cache/#caching-in-continuous-integration](https://docs.uv.rs/concepts/cache/#caching-in-continuous-integration)) for more details.

Using `uv pip`

If using the `uv pip`` interface instead of the `uv project` interface, `uv` requires a virtual environment by default. To allow installing packages into the system environment, use the `--system`` flag on all `uv` invocations or set the `UV_SYSTEM_PYTHON`` variable.

The `UV_SYSTEM_PYTHON`` variable can be defined in at different scopes. You can read more about how [variables and their precedence works in GitLab here](<https://docs.gitlab.com/ee/ci/variables/>)

Opt-in for the entire workflow by defining it at the top level:

gitlab-ci.yml

```
variables:
```

```
  UV_SYSTEM_PYTHON: 1
```

```
# [...]
```

To opt-out again, the `--no-system`` flag can be used in any `uv` invocation.

When persisting the cache, you may want to use `requirements.txt`` or `pyproject.toml`` as your cache key files instead of `uv.lock``.

January 29, 2025

Back to top [Previous GitHub Actions](..../github/) [Next Pre-commit](..../pre-commit/)

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