pre-commit Git hook manager

CONCEPTS

Hooks only see staged files on commit. A fresh config does nothing until you run --all-files once.

git commit staged files
↓ hook script
pre-commit reads config
↓ filters files
Hooks cached envs
↓ exit code
Commit or abort

A hook that edits files counts as a failure: review the changes, git add them and commit again.

INSTALL & SETUP

pip install pre-commit
Install with pip

pre-commit install
Install the git pre-commit hook

pre-commit install --install-hooks
Install hook and build environments

pre-commit install -t *<hook-type>*
Install another hook type

pre-commit sample-config
Print a starter config

RUNNING

pre-commit run
Run hooks on staged files

pre-commit run --all-files
Run on every tracked file

pre-commit run *<hook-id>*
Run a single hook

pre-commit run *<hook-id>* **--all-files**
One hook on all files

pre-commit run --files *<file>*...
Run on named files

pre-commit run --from-ref *<ref>* **--to-ref** *<ref>*
Run on files changed between refs

RUNNING (cont.)

pre-commit run --show-diff-on-failure
Print the diff after failures

pre-commit run --hook-stage *<stage>*
Run hooks of one stage

SKIPPING

SKIP=*<id>*,*<id>* **git commit**
Skip hooks by id

git commit --no-verify
Skip all git hooks

Prefer SKIP over --no-verify: the other checks still protect you.

UPDATING & CACHE

pre-commit autoupdate
Bump every rev to the latest tag

pre-commit autoupdate --repo *<url>*
Update one repo only

pre-commit autoupdate --freeze
Pin commit SHAs, keep tag as comment

CONFIG FILE

Top-level keys

Key	Meaning
`repos`	list of hook sources (required)
`default_stages`	stages hooks use by default
`default_install_hook_types`	what install sets up
`default_language_version`	e.g. python: python3.12
`files / exclude`	global regex filters
`fail_fast`	stop after first failing hook
`minimum_pre_commit_version`	refuse older versions

CONFIG FILE (cont.)

Repo entry

Key	Meaning
`repo`	git URL, local or meta
`rev`	tag or SHA to use, not a branch
`hooks`	list of hook mappings

Hook keys

Key	Meaning
`id`	which hook (required)
`args`	extra arguments before filenames
`files / exclude`	regex on file paths
`types / types_or`	filter by file type
`stages`	git stages it runs on
`additional_dependencies`	extra packages for the env
`always_run`	run even without matching files
`pass_filenames`	local hooks: pass files or not
`language_version`	override the runtime version

files and exclude are regexes matched against the path, not globs. Use ^docs/ rather than docs/*.

Always pin rev to a tag or SHA. A moving branch name is rejected.

LOCAL & META HOOKS

repo: local
Hooks defined in your own repo

language: unsupported
Run a tool already on the PATH

CI

pre-commit run --all-files --show-diff-on-failure
Typical CI step

pre-commit run --from-ref origin/main --to-ref HEAD
Check only the changed files