# Difftastic Structural diff tool

**START HERE**

`difft <old> <new>`
Compare two files

`difft <dir1> <dir2>`
Compare two directories

**`git -c diff.external=difft diff`**
Structural git diff once

**`git config --global diff.external difft`**
Make it the default

**`git log -p --ext-diff`**
History with difftastic

`difft --display inline <a> <b>`
One column output

`difft --skip-unchanged <d1> <d2>`
Hide identical files

`difft --list-languages`
Supported languages

**Two inputs** files, dirs, stdin → `detect language` → **Parse** tree-sitter syntax tree → `graph search` → **Structural diff** nodes added / removed → `too big or parse error` → **Line diff fallback** or plain text

## CONCEPTS

difftastic compares syntax trees, not lines: reformatting and re-wrapping show up as no change, and moved code stays aligned.

If a file cannot be parsed, is over the byte or graph limit, or has no known language, difft falls back to a line-based diff.

difft is a viewer, not a patch tool: its output cannot be applied with patch or git apply.

## BASICS

`difft <old> <new>`
Diff two files

`difft <dir1> <dir2>`
Diff two directories recursively

`difft - <file>`
Read one side from stdin

`difft <conflicted-file>`
Diff the two sides of conflict markers
*Needs a file containing <<<<<<< markers; added in 0.50.*

**`difft --help`**
List every option

**`difft --version`**
Print installed version

**`difft --list-languages`**
Show languages and extensions

**`difft --skip-unchanged <d1> <d2>`**
Show only files that differ

**`difft --sort-paths <d1> <d2>`**
Sort directory output by path

**`difft --exit-code <a> <b>`**
Exit 1 when there are changes
*Without it the exit code is 0 even when files differ. 2 means bad arguments or unreadable paths.*

**`difft --check-only <a> <b>`**
Only report whether they differ

## DISPLAY

**`difft --display side-by-side <a> <b>`**
Two columns (default)

## DISPLAY (cont.)

**`difft --display side-by-side-show-both <a> <b>`**
Two columns even for pure adds

**`difft --display inline <a> <b>`**
Single column, diff style

**`difft --display json <a> <b>`**
Machine-readable output
*Unstable: also needs DFT_UNSTABLE set.*

**`difft --context <n> <a> <b>`**
Lines of context around changes

**`difft --width <cols> <a> <b>`**
Force the wrapping width

**`difft --tab-width <n> <a> <b>`**
Spaces per tab

**`difft --color always <a> <b>`**
Force colour (also never / auto)

**`difft --background light <a> <b>`**
Colours for a light terminal

**`difft --syntax-highlight off <a> <b>`**
Plain colours, no highlighting

Use --color always when piping into a pager: less -R keeps the colours.

## LANGUAGES AND LIMITS

**`difft --override '<glob>:<lang>' <a> <b>`**
Force a language by file glob
*Repeatable; first match wins. Language 'text' forces plain text.*

**`difft --override '*.conf:text' <a> <b>`**
Treat matching files as text

**`difft --override-binary '<glob>' <a> <b>`**
Always treat matching files as binary

**`difft --ignore-comments <a> <b>`**
Ignore comment changes

**`difft --strip-cr off <a> <b>`**
Keep carriage returns in the diff

## LANGUAGES AND LIMITS (cont.)

**`difft --byte-limit <n> <a> <b>`**
Size above which it uses a line diff
*Default 1000000 bytes.*

**`difft --graph-limit <n> <a> <b>`**
Cap work on huge diffs
*Default 3000000 graph vertices; raise it if you hit the fallback.*

**`difft --parse-error-limit <n> <a> <b>`**
Parse errors tolerated before line diff

## GIT

**`git -c diff.external=difft diff`**
Use difft for one command

**`git config --global diff.external difft`**
Use difft for every git diff

**`git show --ext-diff <commit>`**
Show a commit with difft
*show and log -p only use the external diff with --ext-diff.*

**`git log -p --ext-diff`**
History with structural diffs

**`git diff --no-ext-diff`**
Back to the normal diff

**`git diff --ext-diff --staged`**
Staged changes with difft

**`git difftool -t difftastic`**
Run via difftool

**`git config --global difftool.prompt false`**
No prompt per file

**`git config --global diff.tool difftastic`**
Make difftastic the difftool

**`git config --global pager.difftool true`**
Page difftool output

**`GIT_EXTERNAL_DIFF=difft git diff`**
Select it by environment

diff.external is preferred over difftool: git passes it extra information such as renames and mode changes. Git 2.43.1 and older can crash on mode changes; use difftool there.

## CONFIGURATION

**`DFT_BACKGROUND=light`**
Environment form of --background

**`DFT_DISPLAY=inline`**
Default display mode

**`DFT_CONTEXT=<n>`**
Default context lines

**`DFT_COLOR=always`**
Default colour policy

**`DFT_SKIP_UNCHANGED=1`**
Always skip identical files

**`DFT_OVERRIDE='<glob>:<lang>'`**
Language override from the environment

Every option has a DFT_<NAME> environment variable, which is the way to set defaults when a VCS invokes difft for you.

## RECIPES

### Git aliases

```
[alias]
    dft = -c diff.external=difft diff
    dl  = -c diff.external=difft log -p --ext-diff
    ds  = -c diff.external=difft show --ext-diff
```

### Difftool config

```
[diff]
    tool = difftastic
[difftool]
    prompt = false
[difftool "difftastic"]
    cmd = difft "$LOCAL" "$REMOTE"
[pager]
    difftool = true
```

### Quick review of two trees

```
difft --skip-unchanged --display inline old/ new/
# exit status for scripts
difft --exit-code --check-only a.py b.py
```

### Keep difft colours in a pager

```
GIT_EXTERNAL_DIFF=difft git -c core.pager='less -R' diff --color=always
# or one-off
DFT_COLOR=always git diff | less -R
```