NAME

git-mergetool - Run merge conflict resolution tools to resolve merge conflicts

SYNOPSIS

git mergetool [--tool=<tool>] [-y | --[no-]prompt] [<file>...]

DESCRIPTION

Use **git mergetool** to run one of several merge utilities to resolve merge conflicts. It is typically run after *git merge*.

If one or more <file> parameters are given, the merge tool program will be run to resolve differences on each file (skipping those without conflicts). Specifying a directory will include all unresolved files in that path. If no <file> names are specified, *git mergetool* will run the merge tool program on every file with merge conflicts.

OPTIONS

-t <tool>, --tool=<tool>

Use the merge resolution program specified by <tool>. Valid values include emerge, gvimdiff, kdiff3, meld, vimdiff, and tortoisemerge. Run **git mergetool --tool-help** for the list of valid <tool> settings.

If a merge resolution program is not specified, *git mergetool* will use the configuration variable **merge.tool**. If the configuration variable **merge.tool** is not set, *git mergetool* will pick a suitable default.

You can explicitly provide a full path to the tool by setting the configuration variable **mergetool.<tool>.path**. For example, you can configure the absolute path to kdiff3 by setting **mergetool.kdiff3.path**. Otherwise, *git mergetool* assumes the tool is available in PATH.

Instead of running one of the known merge tool programs, *git mergetool* can be customized to run an alternative program by specifying the command line to invoke in a configuration variable **mergetool.<tool>.cmd**.

When *git mergetool* is invoked with this tool (either through the **-t** or **--tool** option or the **merge.tool** configuration variable) the configured command line will be invoked with **$BASE** set to the name of a temporary file containing the common base for the merge, if available; **$LOCAL** set to the name of a temporary file containing the contents of the file on the current branch; **$REMOTE** set to the name of a temporary file containing the contents of the file to be merged, and **$MERGED** set to the name of the file to which the merge tool should write the result of the

merge resolution.

If the custom merge tool correctly indicates the success of a merge resolution with its exit code, then the configuration variable **mergetool.<tool>.trustExitCode** can be set to **true**. Otherwise, *git mergetool* will prompt the user to indicate the success of the resolution after the custom tool has exited.

--tool-help
Print a list of merge tools that may be used with **--tool**.

-y, --no-prompt
Don't prompt before each invocation of the merge resolution program. This is the default if the merge resolution program is explicitly specified with the **--tool** option or with the **merge.tool** configuration variable.

--prompt
Prompt before each invocation of the merge resolution program to give the user a chance to skip the path.

-g, --gui
When *git-mergetool* is invoked with the **-g** or **--gui** option the default merge tool will be read from the configured **merge.guitool** variable instead of **merge.tool**. If **merge.guitool** is not set, we will fallback to the tool configured under **merge.tool**. This may be autoselected using the configuration variable **mergetool.guiDefault**.

--no-gui
This overrides a previous **-g** or **--gui** setting or **mergetool.guiDefault** configuration and reads the default merge tool from the configured **merge.tool** variable.

-O<orderfile>
Process files in the order specified in the <orderfile>, which has one shell glob pattern per line. This overrides the **diff.orderFile** configuration variable (see **git-config**(1)). To cancel **diff.orderFile**, use **-O/dev/null**.

CONFIGURATION

Everything below this line in this section is selectively included from the **git-config**(1) documentation. The content is the same as what's found there:

mergetool.<tool>.path
Override the path for the given tool. This is useful in case your tool is not in the PATH.

mergetool.<tool>.cmd

Specify the command to invoke the specified merge tool. The specified command is evaluated in shell with the following variables available: *BASE* is the name of a temporary file containing the common base of the files to be merged, if available; *LOCAL* is the name of a temporary file containing the contents of the file on the current branch; *REMOTE* is the name of a temporary file containing the contents of the file from the branch being merged; *MERGED* contains the name of the file to which the merge tool should write the results of a successful merge.

mergetool.<tool>.hideResolved

Allows the user to override the global **mergetool.hideResolved** value for a specific tool. See **mergetool.hideResolved** for the full description.

mergetool.<tool>.trustExitCode

For a custom merge command, specify whether the exit code of the merge command can be used to determine whether the merge was successful. If this is not set to true then the merge target file timestamp is checked and the merge assumed to have been successful if the file has been updated, otherwise the user is prompted to indicate the success of the merge.

mergetool.meld.hasOutput

Older versions of **meld** do not support the **--output** option. Git will attempt to detect whether **meld** supports **--output** by inspecting the output of **meld --help**. Configuring **mergetool.meld.hasOutput** will make Git skip these checks and use the configured value instead. Setting **mergetool.meld.hasOutput** to **true** tells Git to unconditionally use the **--output** option, and **false** avoids using **--output**.

mergetool.meld.useAutoMerge

When the **--auto-merge** is given, meld will merge all non-conflicting parts automatically, highlight the conflicting parts and wait for user decision. Setting **mergetool.meld.useAutoMerge** to **true** tells Git to unconditionally use the **--auto-merge** option with **meld**. Setting this value to **auto** makes git detect whether **--auto-merge** is supported and will only use **--auto-merge** when available. A value of **false** avoids using **--auto-merge** altogether, and is the default value.

mergetool.vimdiff.layout

The vimdiff backend uses this variable to control how its split windows look like. Applies even if you are using Neovim (**nvim**) or gVim (**gvim**) as the merge tool. See BACKEND SPECIFIC HINTS section for details.

mergetool.hideResolved

During a merge Git will automatically resolve as many conflicts as possible and write the *MERGED* file containing conflict markers around any conflicts that it cannot resolve; *LOCAL*

and *REMOTE* normally represent the versions of the file from before Git's conflict resolution. This flag causes *LOCAL* and *REMOTE* to be overwritten so that only the unresolved conflicts are presented to the merge tool. Can be configured per-tool via the **mergetool.<tool>.hideResolved** configuration variable. Defaults to **false**.

mergetool.keepBackup
: After performing a merge, the original file with conflict markers can be saved as a file with a **.orig** extension. If this variable is set to **false** then this file is not preserved. Defaults to **true** (i.e. keep the backup files).

mergetool.keepTemporaries
: When invoking a custom merge tool, Git uses a set of temporary files to pass to the tool. If the tool returns an error and this variable is set to **true**, then these temporary files will be preserved, otherwise they will be removed after the tool has exited. Defaults to **false**.

mergetool.writeToTemp
: Git writes temporary *BASE*, *LOCAL*, and *REMOTE* versions of conflicting files in the worktree by default. Git will attempt to use a temporary directory for these files when set **true**. Defaults to **false**.

mergetool.prompt
: Prompt before each invocation of the merge resolution program.

mergetool.guiDefault
: Set **true** to use the **merge.guitool** by default (equivalent to specifying the **--gui** argument), or **auto** to select **merge.guitool** or **merge.tool** depending on the presence of a **DISPLAY** environment variable value. The default is **false**, where the **--gui** argument must be provided explicitly for the **merge.guitool** to be used.

TEMPORARY FILES

git mergetool creates ***.orig** backup files while resolving merges. These are safe to remove once a file has been merged and its **git mergetool** session has completed.

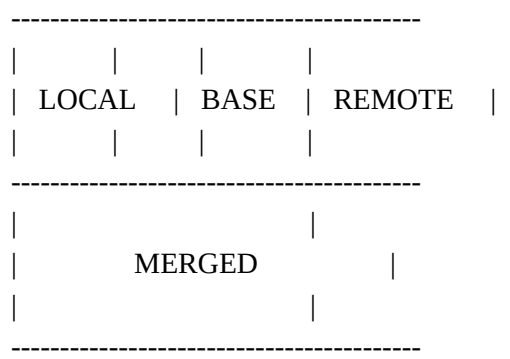
Setting the **mergetool.keepBackup** configuration variable to **false** causes **git mergetool** to automatically remove the backup as files are successfully merged.

BACKEND SPECIFIC HINTS

vimdiff

Description

When specifying **--tool=vimdiff** in **git mergetool** Git will open Vim with a 4 windows layout distributed in the following way:



LOCAL, **BASE** and **REMOTE** are read-only buffers showing the contents of the conflicting file in specific commits ("commit you are merging into", "common ancestor commit" and "commit you are merging from" respectively)

MERGED is a writable buffer where you have to resolve the conflicts (using the other read-only buffers as a reference). Once you are done, save and exit Vim as usual (**:wq**) or, if you want to abort, exit using **:cq**.

Layout configuration

You can change the windows layout used by Vim by setting configuration variable **mergetool.vimdiff.layout** which accepts a string where the following separators have special meaning:

- is used to "open a new tab"
- is used to "open a new vertical split"
- is used to "open a new horizontal split"
- is used to indicate which is the file containing the final version after solving the conflicts. If not present, **MERGED** will be used by default.

The precedence of the operators is this one (you can use parentheses to change it):

‘@‘ > ‘+‘ > ‘/‘ > ‘,‘

Let’s see some examples to understand how it works:

o
= "(LOCAL,BASE,REMOTE)/MERGED"

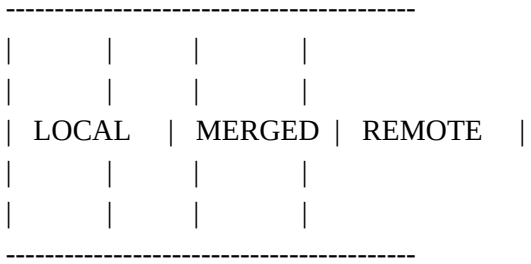
This is exactly the same as the default layout we have already seen.

Note that **/** has precedence over **,** and thus the parenthesis are not needed in this case. The next layout definition is equivalent:

layout = "LOCAL,BASE,REMOTE / MERGED"

o
= "LOCAL,MERGED,REMOTE"

If, for some reason, we are not interested in the **BASE** buffer.

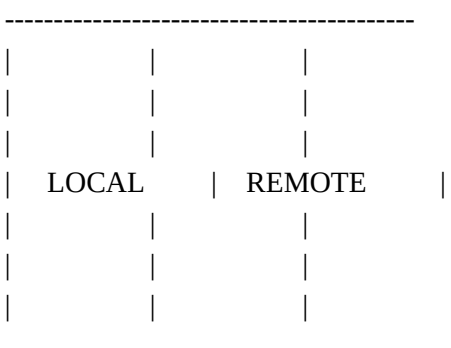


o
= "MERGED"

Only the **MERGED** buffer will be shown. Note, however, that all the other ones are still loaded in vim, and you can access them with the "buffers" command.

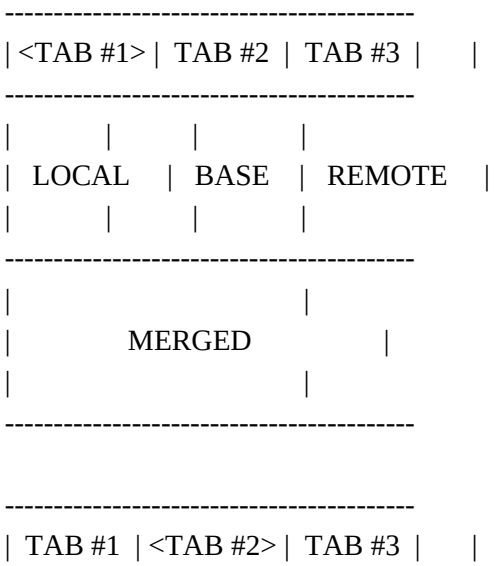
- **= "@LOCAL,REMOTE"**

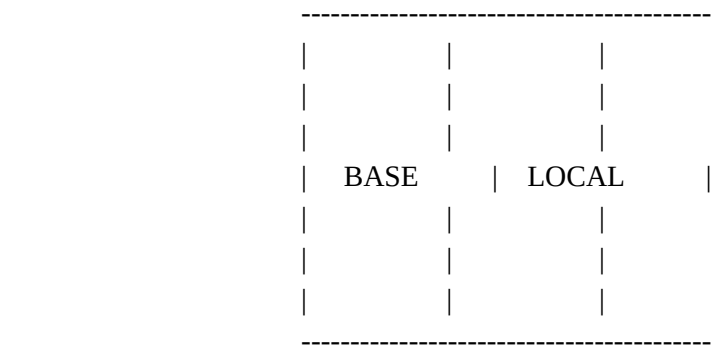
When **MERGED** is not present in the layout, you must "mark" one of the buffers with an asterisk. That will become the buffer you need to edit and save after resolving the conflicts.

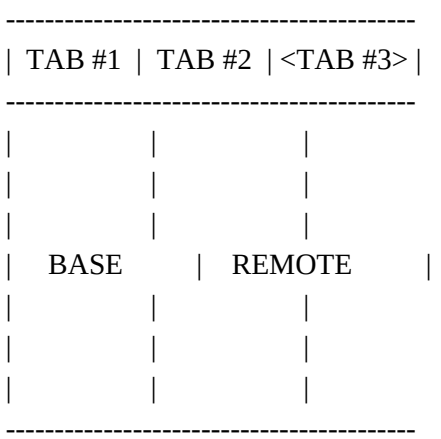


- **= "LOCAL,BASE,REMOTE / MERGED + BASE,LOCAL + BASE,REMOTE"**

Three tabs will open: the first one is a copy of the default layout, while the other two only show the differences between (**BASE** and **LOCAL**) and (**BASE** and **REMOTE**) respectively.



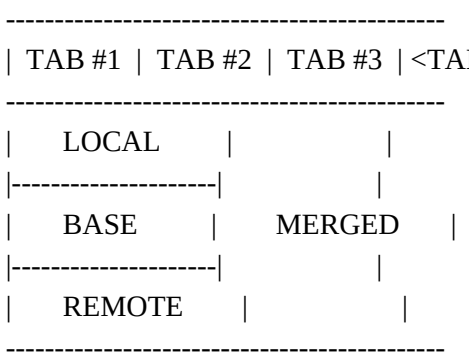




o

= "LOCAL,BASE,REMOTE / MERGED + BASE,LOCAL + BASE,REMOTE + (LOCAL/BASE/REMOTE),MERGED"

Same as the previous example, but adds a fourth tab with the same information as the first tab, with a different layout.



Note how in the third tab definition we need to use parenthesis to make **,** have precedence

over /.

Variants

Instead of **--tool=vimdiff**, you can also use one of these other variants:

- to open gVim instead of Vim.

- to open Neovim instead of Vim.

When using these variants, in order to specify a custom layout you will have to set configuration variables **mergetool.gvimdiff.layout** and **mergetool.nvimdiff.layout** instead of **mergetool.vimdiff.layout**

In addition, for backwards compatibility with previous Git versions, you can also append **1**, **2** or **3** to either **vimdiff** or any of the variants (ex: **vimdiff3**, **nvimdiff1**, etc...) to use a predefined layout. In other words, using **--tool=[g,n,]vimdiffx** is the same as using **--tool=[g,n,]vimdiff** and setting configuration variable **mergetool.[g,n,]vimdiff.layout** to...

- **"@LOCAL, REMOTE"**

- **"LOCAL, MERGED, REMOTE"**

- **"MERGED"**

Example: using **--tool=gvimdiff2** will open **gvim** with three columns (LOCAL, MERGED and REMOTE).

GIT

Part of the **git**(1) suite