GitFourchette
User’s Guide

September 2025 (GitFourchette version 1.5.0)

https://gitfourchette.org

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Welcome to GitFourchette!

Welcome to GitFourchette, the comfortable Git UI for Linux!

Explore your repositories easily. Craft commits intuitively. With its comfortable Qt interface, GitFourchette will become your sidekick to navigate and get work done in your Git repositories.

This document is part user's guide, part reference. It will get you up to speed on common use cases so you can feel at home in GitFourchette. Interspersed throughout the guide are command tables detailing more advanced features.

This guide assumes you're familiar with the basic tenets of Git, especially commits, branches, and remotes. If you need a refresher on those, I recommend skimming chapters 2 and 3 of the "Pro Git" book—or, for a more relaxed read, "How Git Works". These books will teach you some Git commands, but the very same concepts apply in GitFourchette.

About the project

I started out writing GitFourchette in my spare time to scratch my itch for a Git UI I'd feel cozy in. After plenty of "dogfooding it" to develop my other projects, I'm finally taking the plunge and releasing it publicly—maybe it'll become your favorite Git client too.

GitFourchette is free—both as in beer and as in freedom. But if it helped you get work done, feel free to buy me a coffee! Any contribution will encourage the continuation of the project. Thank you!

Cloning or Creating a Repository

First things first—we need a repository to work on! Of course, GitFourchette can open any repository you already have on your disk: go to File ‣ Open Repository or press Ctrl O.

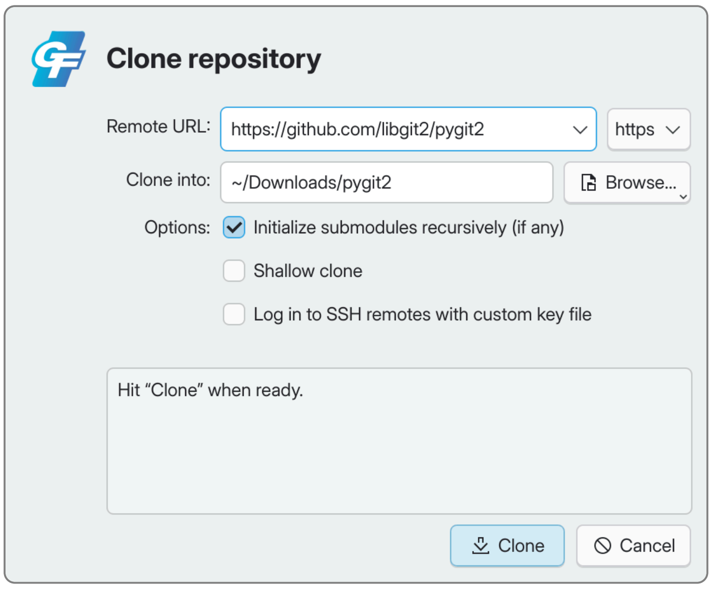
But beyond opening an existing repo, you can also **clone** a repository from a remote, or **initialize** a new repository on your machine.

If you're dipping your toes in Git, I recommend **cloning** a repository so that you see what GitFourchette is like in a "real" repo that already has some history. Here's a URL you can try to clone: *https://github.com/libgit2/pygit2*

Cloning a repository from a remote host

In Git parlance, *cloning* means to download a repository, typically from a remote host.

Go to File ‣ Clone Repository or press Ctrl Shift N. The "Clone" dialog appears:



Remote URL: https://github.com/libgit2/pygit2 https
Clone into: ~/Downloads/pygit2
Options: [✓] Initialize submodules recursively (if any)
[ ] Shallow clone
[ ] Log in to SSH remotes with custom key file

Hit "Clone" when ready.

The Clone dialog.

Let's review the fields and options in this dialog:

Fields and options in the Clone dialog

Choice	Description
URL	GitFourchette automatically fills in the URL from your clipboard if possible. You can use the ssh/https button to convert the URL to another protocol.
Clone into	Where to save the repository on your machine. This must be an empty directory; it will be created if it doesn’t exist. GitFourchette automatically suggests a path when you enter an URL, but you can click Browse to set your own empty directory. You can also type in a path manually; the “~” character will expand to your home directory.
Recurse into submodules	Tick this to clone the submodules recursively, if the repository has any. If you’re unsure, just keep this ticked—it doesn’t hurt even if there are no submodules.
Shallow clone	Tick this if you don’t need the repository’s full commit history. This may speed up the download and save some disk space, but you won’t be able to look up old commits. Shallow cloning only fetches the most recent commits on each branch (you can specify how many).
Log in to SSH remotes with custom key file	By default, OpenSSH automatically looks for a matching key in your ~/.ssh directory if an SSH remote requires authentication. Tick this to bypass automatic key detection and specify a key file to connect to remotes in this repo. After cloning, you can change or remove the custom key file in Repo ‣ Repository Settings.
Status	This box will display download progress information.

When you’re satisfied with your settings, click the Clone button and wait for the download to complete.

NOTE

Log in to SSH remotes with custom key file is particularly useful if you have multiple repos requiring different credentials—for example, if you juggle between two accounts for personal and work projects.

After cloning the repo, you can change or remove the custom key file via Repo ‣ Repository Settings.

NOTE

By default, Clone into automatically suggests your *Downloads* folder, but you can change the default location to something else. After filling in a path for Clone into, long-click the Browse button and choose Set as default clone location.

Creating a blank repository from scratch

Go to File ‣ New Repository or press Ctrl N. A folder picker appears.

In the folder picker, create an **empty** folder for your repo. It's important that the folder be **empty** to start a blank repository from scratch! (GitFourchette will ask you to confirm if you give it a non-empty folder.)

Click Create repo here when you're ready. Welcome to your new repository! Some operations, such as creating branches, require that you create an **initial commit** (see Making a Commit).

Initializing a repository from existing sources on your machine

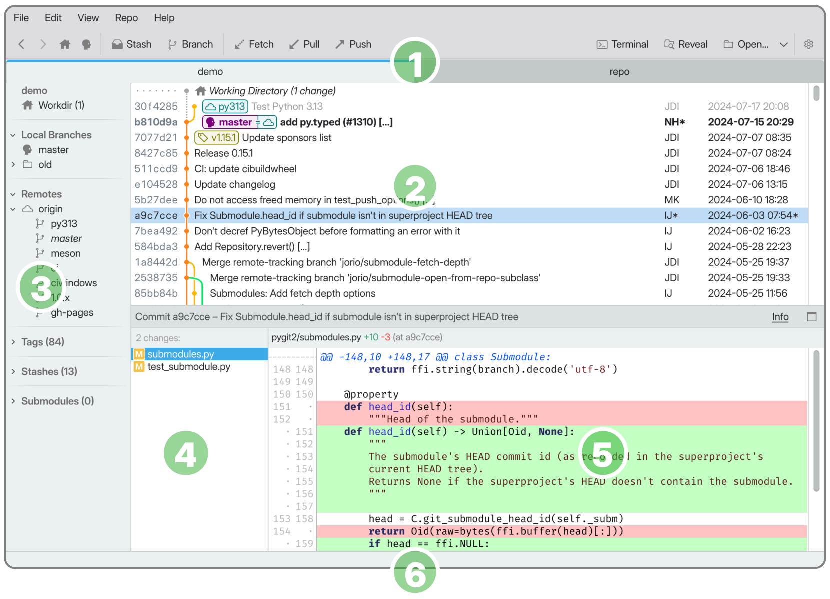
Go to File ‣ New Repository or press Ctrl N. A folder picker appears.

Navigate to the root folder of your source code, then click Create repo here. GitFourchette will ask you to confirm to initialize a repository in a non-empty folder.

The entire contents of your source tree will now appear as **unstaged files** in the Working Directory. At this point, you should **stage** all relevant files and create the **initial commit** (see Making a Commit).

A Tour of the Main Window

Once you've created or opened a repository in GitFourchette, the main window presents you with these elements:



·······	Working Directory (1 change)		
30f4285	py313 Test Python 3.13	JDI	2024-07-17 20:08
b810d9a	master add py.typed (#1310) [...]	NH*	2024-07-15 20:29
7077d21	v1.15.1 Update sponsors list	JDI	2024-07-07 08:35
8427c85	Release 0.15.1	JDI	2024-07-07 08:24
511ccd9	CI: update cibuildwheel	JDI	2024-07-06 18:46
e104528	Update changelog	JDI	2024-07-06 13:15
5b27dee	Do not access freed memory in test_push_opt[illegible]	MK	2024-06-10 18:28
a9c7cce	Fix Submodule.head_id if submodule isn't in superproject HEAD tree	IJ*	2024-06-03 07:54*
7bea492	Don't decref PyBytesObject before formatting an error with it	IJ	2024-06-02 16:23
584bda3	Add Repository.revert() [...]	IJ	2024-05-28 22:23
1a8442d	Merge remote-tracking branch 'jorio/submodule-fetch-depth'	JDI	2024-05-25 19:37
2538735	Merge remote-tracking branch 'jorio/submodule-open-from-repo-subclass'	JDI	2024-05-25 19:33
85bb84b	Submodules: Add fetch depth options	IJ	2024-05-25 11:56

Commit a9c7cce – Fix Submodule.head_id if submodule isn't in superproject HEAD tree

pygit2/submodules.py +10 -3 (at a9c7cce)

```
@@ -148,10 +148,17 @@ class Submodule:
            return ffi.string(branch).decode('utf-8')

    @property
    def head_id(self):
        """Head of the submodule."""
    def head_id(self) -> Union[Oid, None]:
        """
        The submodule's HEAD commit id (as [illegible] in the superproject's
        current HEAD tree).
        Returns None if the superproject's HEAD doesn't contain the submodule.
        """

        head = C.git_submodule_head_id(self._subm)
        return Oid(raw=bytes(ffi.buffer(head)[:]))
        if head == ffi.NULL:
```

1. Tab Bar: Lets you switch between the open repositories in your session.
2. Commit History: A list of commits in the repository.
3. Sidebar: Lets you jump to various facets of your repository.
4. File List: Files modified by a commit; or list of files with uncommitted changes.
5. Diff View: Shows what's changed in the selected file.
6. Status bar: Tells you if GitFourchette is busy with a long operation, otherwise displays helpful contextual hints.

Tab Bar

Use the tab bar to switch between multiple repositories.

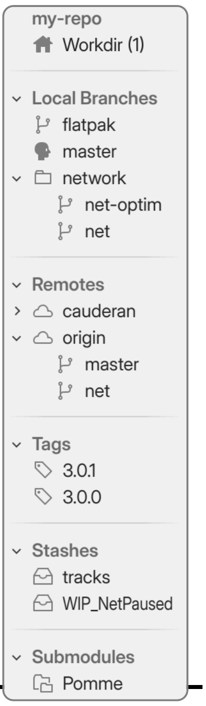
GitFourchette remembers open tabs when you quit. It will automatically restore your tabs next time you launch it.

🖱2 Double-click a tab to open the repo's root directory in your file manager.

Sidebar

The sidebar exposes various facets of your repository:

- your working directory, where you can review the uncommitted changes and prepare a commit;
- local branches (including the "HEAD");
- remote servers and remote-tracking branches;
- tags;
- stashes;
- submodules.



The Sidebar.

From the sidebar, you can:

- **Left-click** on any item to jump to it.
- **Right-click** on any item to reveal contextual actions.

File List

The File List shows a list of modified files in the working directory or in a past commit. In the File List, you can:

- **Left-click** on a file to show its changes in the Diff View.
- **Right-click** on a file to perform actions on it. Those depend on whether you're exploring a past commit or preparing a new commit.
- Hover over a file to reveal a tooltip with more details about it.

Each file is adorned by a little icon describing its status:

A Added	R Renamed/moved (and possibly modified)
D Deleted	T Type changed (e.g. regular file became a symlink)
M Modified	? Merge conflict (only in the Working Directory)

Commit History & Diff View

Those elements warrant dedicated chapters:

- Exploring the Commit History
- Reading and Editing Diffs

Handy shortcuts

TIP

Press Alt 1 to get keyboard focus on the Sidebar.
Press Alt 2 to get keyboard focus on the Commit History.
Press Alt 3 to get keyboard focus on the File List.
Press Alt 4 to get keyboard focus on the Diff View.
Press Ctrl [to select the previous file in the list.
Press Ctrl] to select the next file in the list.

Exploring the Commit History

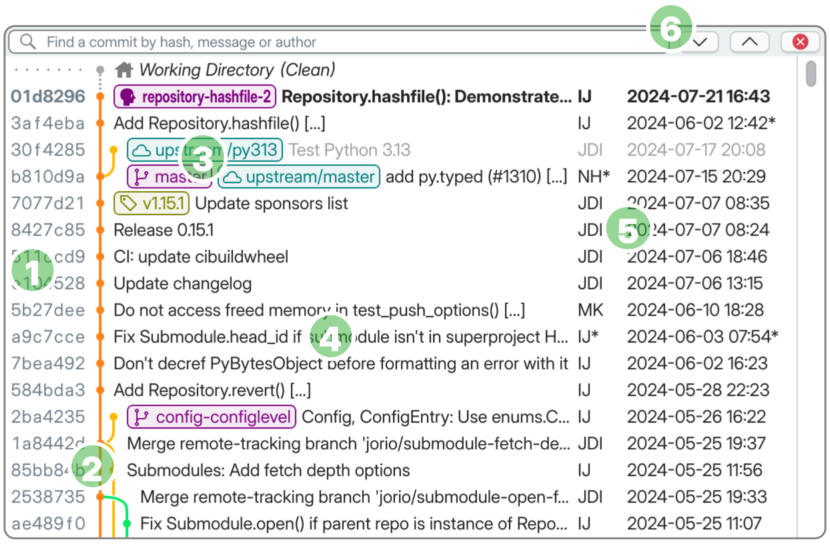
The Commit History displays a list of commits in the repository, along with a graph to visualize how the branches evolve.

You can left-click on any commit to explore its contents, or right-click to perform an action with the commit.

TIP

Press Alt 2 to get keyboard focus on the Commit History.

Overview of the Commit History



· · · · · · ·	Working Directory (Clean)		
01d8296	repository-hashfile-2 **Repository.hashfile(): Demonstrate...**	**IJ**	**2024-07-21 16:43**
3af4eba	Add Repository.hashfile() [...]	IJ	2024-06-02 12:42*
30f4285	upstream/py313 Test Python 3.13	JDI	2024-07-17 20:08
b810d9a	master upstream/master add py.typed (#1310) [...]	NH*	2024-07-15 20:29
7077d21	v1.15.1 Update sponsors list	JDI	2024-07-07 08:35
8427c85	Release 0.15.1	JDI	2024-07-07 08:24
511ccd9	CI: update cibuildwheel	JDI	2024-07-06 18:46
e104528	Update changelog	JDI	2024-07-06 13:15
5b27dee	Do not access freed memory in test_push_options() [...]	MK	2024-06-10 18:28
a9c7cce	Fix Submodule.head_id if submodule isn't in superproject H...	IJ*	2024-06-03 07:54*
7bea492	Don't decref PyBytesObject before formatting an error with it	IJ	2024-06-02 16:23
584bda3	Add Repository.revert() [...]	IJ	2024-05-28 22:23
2ba4235	config-configlevel Config, ConfigEntry: Use enums.C...	IJ	2024-05-26 16:22
1a8442d	Merge remote-tracking branch 'jorio/submodule-fetch-de...	JDI	2024-05-25 19:37
85bb84b	Submodules: Add fetch depth options	IJ	2024-05-25 11:56
2538735	Merge remote-tracking branch 'jorio/submodule-open-f...	JDI	2024-05-25 19:33
ae489f0	Fix Submodule.open() if parent repo is instance of Repo...	IJ	2024-05-25 11:07

1. **Hash:** The first few characters of the commit's SHA-1 hash. It uniquely identifies the commit.
2. **Graph:** A visualization of the branches at this point in history. The dot represents the commit itself.
3. **Ref Boxes:** Colored boxes shown for each **reference** to this commit by:
   - The tip of a local branch, in purple, e.g. master
   - The tip of a remote branch, in teal, e.g. upstream/master
   - Tags, in yellow, e.g. v1.15.1
4. **Commit Summary:** The first line of the commit message. An ellipsis (…) indicates that the message is truncated; hover over it to reveal the full message in a tooltip.
5. **Author Name/Date:** Who created the commit and when. See Author vs. Committer.
6. **Search Bar:** Bring it up with Ctrl F when the Commit History has keyboard focus. See Finding a commit.

NOTE

You can customize the appearance of some of these items in Settings ‣ Commit History. For example, you can tweak:

- Author column: full name, last name only, initials, email, etc.;
- Date/time formats: ISO, U.S., European, etc.;
- Row spacing and alternating background color…

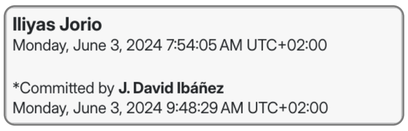
Author vs. Committer

The Commit History displays information about a commit's **author:** their name and the date at which they made the commit. But in some cases, a commit might have been revised by someone else than the original author—this person is called the **committer**.

An **asterisk (*)** appears after the author's name and/or date if they differ from the committer's for any given commit.

NOTE

You can always hover over the author's name or date to reveal a tooltip with details about the people involved in making the commit.



Iliyas Jorio
Monday, June 3, 2024 7:54:05 AM UTC+02:00

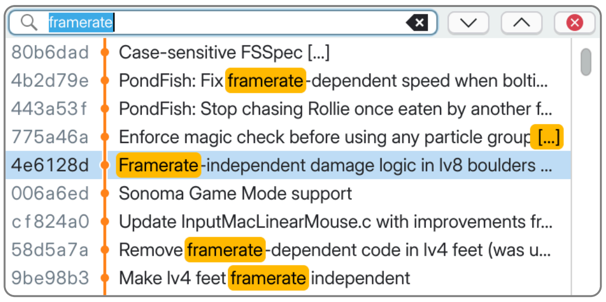
*Committed by **J. David Ibáñez**
Monday, June 3, 2024 9:48:29 AM UTC+02:00

Sample tooltip where the author (top) and committer (bottom) are distinct people.

Timestamps displayed in the Commit History are relative to your **local time**. The author/committer tooltip (see above) shows the original **timezones**.

Finding a commit

The Commit History has a **Search Bar**. Press Ctrl F to invoke it (the Commit History must have keyboard focus). Start typing, and a yellow highlight will appear in matching commits.



```
framerate
80b6dad  Case-sensitive FSSpec [...]
4b2d79e  PondFish: Fix framerate-dependent speed when bolti...
443a53f  PondFish: Stop chasing Rollie once eaten by another f...
775a46a  Enforce magic check before using any particle group [...]
4e6128d  Framerate-independent damage logic in lv8 boulders ...
006a6ed  Sonoma Game Mode support
cf824a0  Update InputMacLinearMouse.c with improvements fr...
58d5a7a  Remove framerate-dependent code in lv4 feet (was u...
9be98b3  Make lv4 feet framerate independent
```

Searching for a word in the Commit History.

You can search for:

- The first couple characters of a commit's **SHA-1 hash**.
- Any part of a **commit message**. If the search term is found beyond the first line of the message, the ellipsis (...) will be highlighted in yellow.
- A commit's **author name**.

TIP

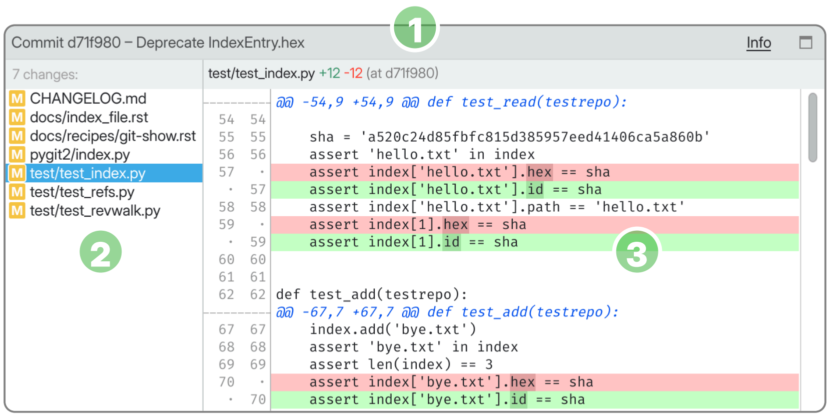
The / key also works for bringing up the Search Bar.
Press F3 or Shift F3 to find the next or previous occurrence of the search term.
Press Esc to close the Search Bar.

NOTE

Search is limited to the commits loaded in memory. To find an old commit in a long-lived repository, you may want to review Settings ▸ Commit History ▸ Load up to # commits.

Exploring the changes in a commit

Once you've selected a commit in the Commit History, the lower half of the main window is dedicated to exploring the contents of the commit.



Commit d71f980 – Deprecate IndexEntry.hex

7 changes:
- M CHANGELOG.md
- M docs/index_file.rst
- M docs/recipes/git-show.rst
- M pygit2/index.py
- M test/test_index.py
- M test/test_refs.py
- M test/test_revwalk.py

test/test_index.py +12 -12 (at d71f980)

```
@@ -54,9 +54,9 @@ def test_read(testrepo):

    sha = 'a520c24d85fbfc815d385957eed41406ca5a860b'
    assert 'hello.txt' in index
    assert index['hello.txt'].hex == sha
    assert index['hello.txt'].id == sha
    assert index['hello.txt'].path == 'hello.txt'
    assert index[1].hex == sha
    assert index[1].id == sha


def test_add(testrepo):
@@ -67,7 +67,7 @@ def test_add(testrepo):
    index.add('bye.txt')
    assert 'bye.txt' in index
    assert len(index) == 3
    assert index['bye.txt'].hex == sha
    assert index['bye.txt'].id == sha
```

1. **Header:** The first line in the commit message.
   Click Info to view detailed metadata about the commit.
   Click the maximize button to expand the Commit Explorer.

2. **File List:** All files modified by this commit in relation to its parents.
   Left-click on a file and the Diff View will show what's changed in it.
   Right-click on a file to open a context menu with advanced operations.

3. **Diff View:** Displays the changes introduced by the commit in the selected file.
   The Diff View is covered in detail in its own chapter: Reading and Editing Diffs.

Returning to an item you've previously visited

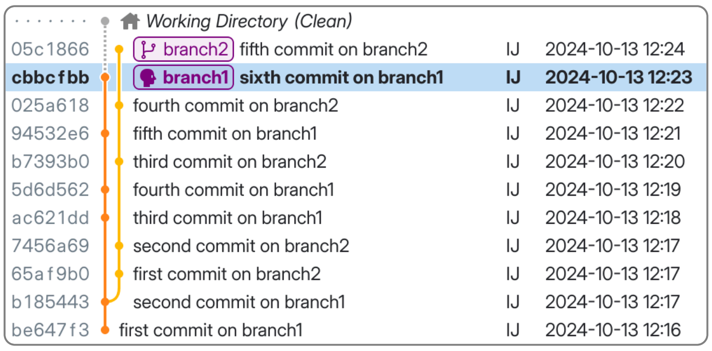
As you navigate your repository, GitFourchette keeps track of where you've been. Much like a Web browser, you can go "back" and "forward" among the items you've viewed recently.

To return to an item you've previously visited, use the ‹ Back and › Forward buttons in the Tool Bar, or press Ctrl ← and Ctrl →. You can also use your mouse's back/forward buttons.

Advanced: Chronological vs. Topological sorting

Out of the box, the Commit History displays commits in **chronological** order. You can switch to **topological** sorting in Settings ‣ Commit History ‣ Sort commits.

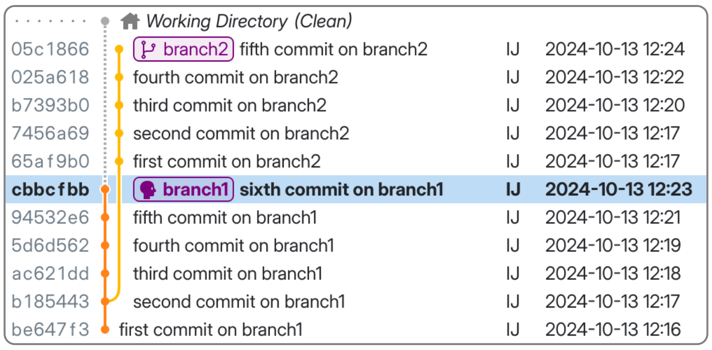
Chronological mode lets you stay on top of the latest activity in the repository. The most recent commits always show up at the top of the graph. However, the graph can get messy when multiple branches receive commits in the same time frame.



· · · · · · ·	*Working Directory (Clean)*		
05c1866	branch2 fifth commit on branch2	IJ	2024-10-13 12:24
cbbcfbb	**branch1 sixth commit on branch1**	**IJ**	**2024-10-13 12:23**
025a618	fourth commit on branch2	IJ	2024-10-13 12:22
94532e6	fifth commit on branch1	IJ	2024-10-13 12:21
b7393b0	third commit on branch2	IJ	2024-10-13 12:20
5d6d562	fourth commit on branch1	IJ	2024-10-13 12:19
ac621dd	third commit on branch1	IJ	2024-10-13 12:18
7456a69	second commit on branch2	IJ	2024-10-13 12:17
65af9b0	first commit on branch2	IJ	2024-10-13 12:17
b185443	second commit on branch1	IJ	2024-10-13 12:17
be647f3	first commit on branch1	IJ	2024-10-13 12:16

Chronological mode. New commits trickle into the graph in the exact order they are being made, but the intertwining of branches can get messy.

Topological mode makes the graph easier to read. It attempts to present sequences of commits within a branch in a linear fashion. Since this is not a strictly chronological mode, you may have to do more scrolling to see the latest changes in various branches.



```
          Working Directory (Clean)
05c1866   branch2 fifth commit on branch2      IJ   2024-10-13 12:24
025a618   fourth commit on branch2             IJ   2024-10-13 12:22
b7393b0   third commit on branch2              IJ   2024-10-13 12:20
7456a69   second commit on branch2             IJ   2024-10-13 12:17
65af9b0   first commit on branch2              IJ   2024-10-13 12:17
cbbcfbb   branch1 sixth commit on branch1      IJ   2024-10-13 12:23
94532e6   fifth commit on branch1              IJ   2024-10-13 12:21
5d6d562   fourth commit on branch1             IJ   2024-10-13 12:19
ac621dd   third commit on branch1              IJ   2024-10-13 12:18
b185443   second commit on branch1             IJ   2024-10-13 12:17
be647f3   first commit on branch1              IJ   2024-10-13 12:16
```

Topological mode. Commits are neatly grouped according to the branch they belong to, but chronology isn't respected across different branches.

Context menu reference

Commit History context menu

Right-click on any commit in the Commit History to reveal a context menu with the following actions:

Actions in the Commit History context menu

Action	Description
New Branch Here	Create a new branch that will point to this commit. See Creating a new branch.
Tag This Commit	Create a tag on this commit.
Check Out	Enter "Detached HEAD" mode on this commit, or switch to a branch pointing here (if any).
Reset HEAD Here	Make the current HEAD point to the selected commit.
Cherry Pick	Apply the changes from this commit to your working directory. See Cherry-picking a commit from another branch.
Revert	Undo the changes in this commit. Reversal applied to your working directory.
Export As Patch	Format the changes in this commit as a "unified diff" patch file.
Copy Commit Hash	Copy this commit's full SHA-1 hash to the clipboard.
Verify Signature	Validate the commit's GPG signature. Only available for signed commits. See Verifying signed commits in the Commit History.
Get Info	Display the commit's full message, authors, and other details.

TIP

Double-click on a commit to **check out** that commit.

File List context menu (when exploring a commit)

Right-click on a file while exploring a commit to reveal a context menu with the following actions:

Actions in the File List context menu (while exploring a commit from the History)

Action	Description
Open Diff in New Window	Open this diff in a detached window within GitFourchette. The window will be closed when you close this repository.
Open Diff In…	Open this diff in an external program. Set up the external diff tool in ⚙ Settings ‣ External Tools.
Export Diff As Patch	Save this change as a “unified diff” patch file.
Revert This Change	Undo the changes in this file only. Reversal applied to your working copy.
Restore File Revision	Overwrite your working copy of this file with a past revision (As Of/Before the commit). **Warning: your copy will be overwritten—make sure you’ve backed up any pending changes!**
Open File In…	View this revision of the file in an external program. Set up the external editor in ⚙ Settings ‣ External Tools.
Save A Copy	Save a copy of a past revision of the file to the location of your choice.
Open Folder	Reveal your working copy of this file in your system’s file manager if the file still exists in your working directory (if it doesn’t, it may have been deleted or moved by an ulterior commit).
Copy Path	Copy the absolute path to this file to the clipboard.

Making a Commit

This chapter will teach you to create your own commits with GitFourchette.

Crash course: What’s in a commit?

The contents of a Git repository evolve through a series of **commits**. A commit is a record of the **state of the files** in the repo.

More practically, you can think of a commit as a **small milestone** in your work on the repository: do some work, then *commit* your work when you’re ready to move on to another task.

In practice, creating a commit entails:

1. Making some modifications to files in the repository (outside GitFourchette);
2. Vetting which file modifications to include in the commit (this is called *staging* the files);
3. Composing a short message that describes the changes since the previous commit.

When you’ve just finished making the commit, it becomes the **HEAD commit**—meaning that it’s at the tip of the current branch.

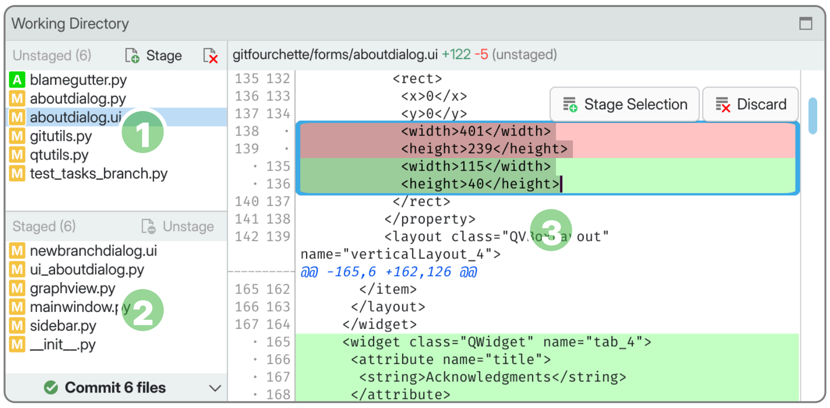
Each commit is identified by a unique SHA-1 **hash** of its contents and metadata (parents, message, author). Because of this unique hash, commits are **immutable**: the slightest modification to an existing commit would result in a different hash, and thereby a different commit.

Jumping to the Working Directory

In GitFourchette, you can prepare commits from the **Working Directory**. You can get there:

- **From the Sidebar:** Click 🏠 Working Directory.
- **From the Commit History:** Click 🏠 Working Directory at the top of the history.
- **From anywhere:** Press Ctrl G (think “Go” to workdir).

The Working Directory displays any files that have changed since the *HEAD* commit:



gitfourchette/forms/aboutdialog.ui +122 -5 (unstaged)

```
          <rect>
           <x>0</x>
           <y>0</y>
           <width>401</width>
           <height>239</height>
           <width>115</width>
           <height>40</height>
          </rect>
         </property>
         <layout class="QVBoxLayout"
name="verticalLayout_4">
@@ -165,6 +162,126 @@
       </item>
      </layout>
     </widget>
     <widget class="QWidget" name="tab_4">
      <attribute name="title">
       <string>Acknowledgments</string>
      </attribute>
```

1. **Unstaged Changes:** List of files that have changed since the *HEAD* commit, but that you haven't *staged* for commit yet.
2. **Staged Changes:** List of changed files that are ready to be committed.
3. **Diff View:** Displays the differences in the selected file between your working version and the state of this file at the HEAD commit.

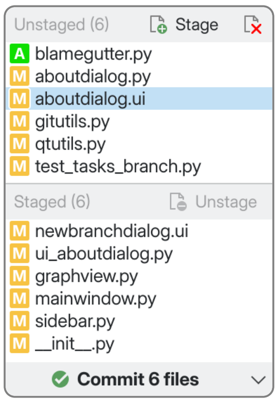
NOTE

The number of uncommitted changes is shown next to Working Directory in the Sidebar.

Staging and unstaging files

After you've made some changes to files in the repository (outside of GitFourchette), the modified files show up in the Unstaged box.

To prepare a commit, you must decide which of these files to include in the commit—this is called **staging** the files. Select some files, then press the Stage button. Notice that the files you've staged have moved to the Staged box.



The staging area, with some files ready to be committed.

If you change your mind about staging a file, select it in the Staged box, then click Unstage. The file will move back to the Unstaged box.

To get rid of an unwanted modification in the Unstaged box, select the unstaged file and click Discard. (You can rescue changes that you've discarded by mistake.)

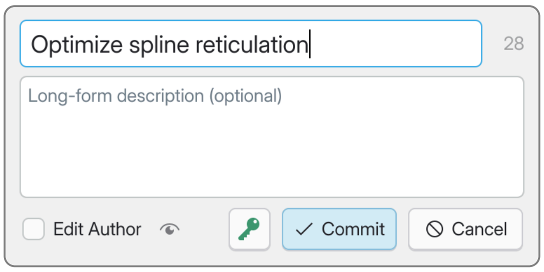
When you're satisfied with your selection of **staged** files, click the large Commit files button. This brings up the Commit dialog where you can describe your commit and finalize it.

TIP

Press Alt 3 to get keyboard focus on the file lists.
Press Enter to move the selected files to the other box (unstaged // staged).
Press Del to discard changes to the selected unstaged files.
Press Ctrl S to finalize the commit.
Middle-click on a file to stage or unstage it (this behavior must be enabled in Settings ‣ Advanced ‣ Middle-click file name to stage).

Finalizing the commit (the Commit dialog)

Clicking the Commit files button in the main window brings up the Commit dialog, where you'll be able to type up a commit message then confirm the commit.


Optimize spline reticulation
28
Long-form description (optional)
Edit Author
Commit
Cancel

The Commit dialog.

A commit message consists of:

- A mandatory **summary line**. Describe your changes in a few words so other people—including future you—can learn what your commit is about at a glance. Keep it concise: proper Git etiquette mandates to keep the summary under 50 characters and to avoid going over 72. (The character counter beside this field can help you stick to this guideline.)
- An optional **long-form description**. Feel free to provide as much context for your changes as necessary in this field.

When you're ready, click Commit—and you're done! Notice your new commit in the Commit History: the HEAD branch now points to it, e.g. master.

Your commits are local until you push them

So, you’ve created a commit. But it’s just sitting on your machine, for now—GitFourchette doesn’t send it to any remote servers automatically.

Notice that right after creating a commit, your HEAD branch has moved to your new commit (**master**) but the remote server hasn’t budged (upstream/master).

This is nice, because it gives you a chance to amend your commit before anyone knows you’ve made a mistake in it.

Once you’re satisfied with your work, push your branch to a remote so the world can see what you’ve been working on.

Managing Changes in the Working Directory

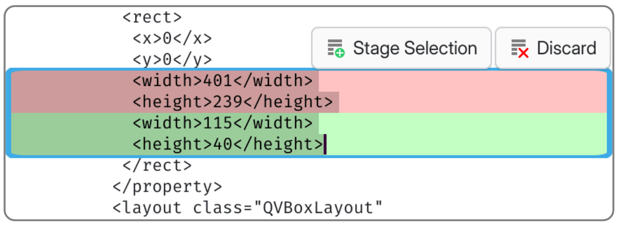
This chapter will teach you some techniques to manage and edit your uncommitted changes so you can prepare commits with more precision. We'll assume you're already familiar with staging and unstaging files (see Making a Commit).

Staging and discarding individual hunks or lines

Sometimes, you might be ready to commit specific parts of a file—but you might still be working on other parts of that file.

Fortunately, you don't have to stage the entire file every time you want to make a commit. The Diff View lets you stage small pieces of code in a file:

- You can stage a single hunk without staging the full file.
- You can even stage individual lines if a hunk isn't granular enough.



```
    <rect>
     <x>0</x>
     <y>0</y>
     <width>401</width>
     <height>239</height>
     <width>115</width>
     <height>40</height>
    </rect>
   </property>
   <layout class="QVBoxLayout"
```

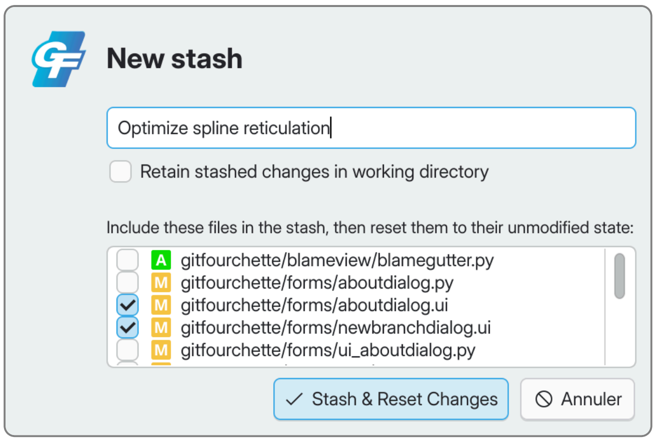
Hand-picked lines ready to be staged in the Diff View.

Stashing changes

If your working directory contains changes that you're not ready to commit yet, you can **stash** them. *Stashing* safely tucks away your changes to a *stash*, then it restores the affected files to their unchanged state. When you're ready to resume working on the stashed changes, you can *apply the stash* back to your working directory.

This is handy when you want to reset your working directory to a clean slate without losing work in progress.

To create a stash, go to Repo ‣ Stash Changes; or, select some files in the File List, right-click and choose Stash Changes. This opens the "New Stash" dialog where you can customize the contents of the stash before confirming:



Optimize spline reticulation

☐ Retain stashed changes in working directory

Include these files in the stash, then reset them to their unmodified state:

☐	A	gitfourchette/blameview/blamegutter.py
☐	M	gitfourchette/forms/aboutdialog.py
✓	M	gitfourchette/forms/aboutdialog.ui
✓	M	gitfourchette/forms/newbranchdialog.ui
☐	M	gitfourchette/forms/ui_aboutdialog.py

The New Stash dialog.

Fields in the New Stash dialog

Item	Description
Optional stash message	Describe the contents of your stash here. Or not—it's up to you. Stashes are meant to be temporary, so this message is optional.
Retain stashed changes in working directory	Unticked by default, since the most common use case for stashes is to set aside some work in progress and clean up your working directory. Tick this if you want to stash the changes and keep them in your working directory anyway.
Files to stash	Select the files to include in the stash. Unticked files will not be part of the stash and will remain in your working directory.

Your new stash appears in the Sidebar's Stashes section. To restore a stash to your working directory, right-click on it in the Sidebar and choose Apply.

WARNING

If you stash a file that contains **both staged and unstaged** changes, those will be "flattened" in the stash.

NOTE

Stashes are only saved locally on your machine. They cannot be shared with others (unlike "shelves" in Perforce).

TIP

Press Ctrl Alt S to create a new stash.

Rescuing changes that you discarded by mistake

Did you mistakenly Discard some change that you actually meant to keep?

Don't panic—GitFourchette backs up the last 250 discarded changes by default. Go to Help ▸ Open Trash and your system's file manager will reveal the trash folder.

In the trash, discarded changes are stored as *.patch* files that you can apply to your working directory. To do so, drag-and-drop a patch file from your file manager to GitFourchette's main window.

Applying the patch might fail if your working directory has evolved too much. In this case, try applying the patch with *git apply* (unfortunately, GitFourchette's patcher is a bit brittle for now and vanilla *git apply* is more robust).

> **NOTE**
> You can customize how many files to keep in the trash in ⚙ Settings ‣ Trash.

File List context menu (in the Working Directory)

The Stage/Unstage/Discard buttons around the file lists should cover most of your basic staging needs.

🖱 Right-click on a file in one of the File Lists to open a context menu with advanced operations:

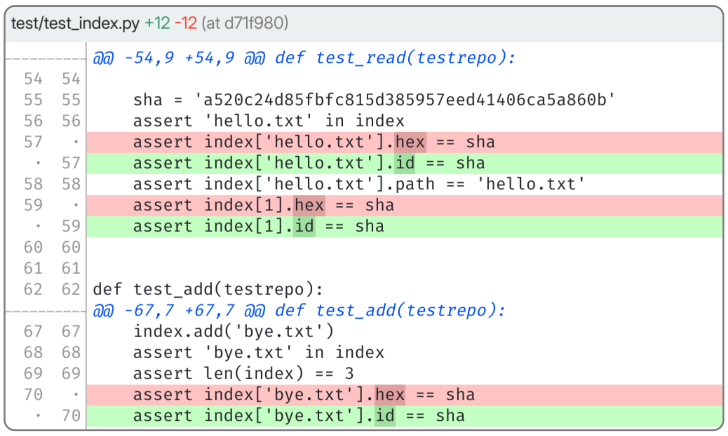
Actions in the File List context menu (in the Working Directory)

Action	Description
Stage File	Stage all changes in the selected file.
Unstage File	Unstage all changes in the selected file.
Discard Changes	Discard the changes in the selected files. Your working copy of the file will be identical to the state of the file on the HEAD commit.
Stash Changes	Save the changes in the selected file to a "stash", then (optionally) revert the file to its unmodified state. See Stashing changes.
Revert Mode Change	If this file's mode has changed (most commonly, the executable bit "+x"), you can use this command to restore the previous mode.
Ignore Untracked File	*New in v1.3.0:* Add this file to .gitignore or .git/info/exclude. You will be able to customize the path pattern to your liking.
Open Diff In...	Open this diff in an external program. Set up the external diff tool in ⚙ Settings ‣ External Tools.
Export Diff As Patch	Save this change as a "unified diff" patch file.
Edit In...	Edit the working copy of this file in an external program. Set up the external editor in ⚙ Settings ‣ External Tools.
Edit HEAD Version In...	View the "unmodified" revision of this file (as of the HEAD commit) in an external program. Set up the external editor in ⚙ Settings ‣ External Tools.
Open Folder	Reveal this file in your system's file manager.
Copy Path	Copy the absolute path to this file to the clipboard.

Reading and Editing Diffs

The Diff View shows the evolution of a file between two revisions.

It also gives you powerful tools to help you prepare commits with more precision. You can use it to stage or discard pieces of code at finer levels than the entire file.



test/test_index.py +12 -12 (at d71f980)

```
@@ -54,9 +54,9 @@ def test_read(testrepo):

    sha = 'a520c24d85fbfc815d385957eed41406ca5a860b'
    assert 'hello.txt' in index
    assert index['hello.txt'].hex == sha
    assert index['hello.txt'].id == sha
    assert index['hello.txt'].path == 'hello.txt'
    assert index[1].hex == sha
    assert index[1].id == sha


def test_add(testrepo):
@@ -67,7 +67,7 @@ def test_add(testrepo):
    index.add('bye.txt')
    assert 'bye.txt' in index
    assert len(index) == 3
    assert index['bye.txt'].hex == sha
    assert index['bye.txt'].id == sha
```

The Diff View.

TIP

Press Alt 4 to get keyboard focus on the Diff View.

Old and new revisions

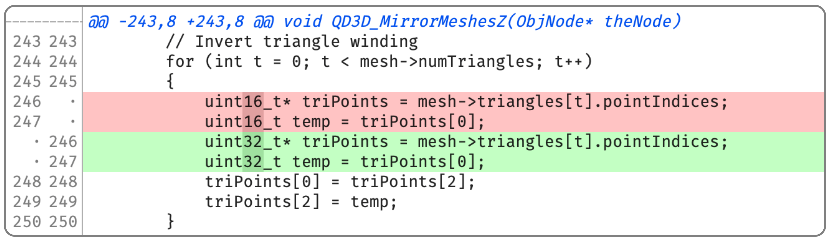
The Diff View compares an **old revision** of a file to a **new revision** of the same file.

Depending on where you're diffing the file, the old and new revisions being compared vary:

Diffing a file in:	"Old" revision is:	"New" revision is:
An **unstaged** change	From the index	From your working copy
A **staged** change	At the HEAD commit	From the index
A commit from the history	Before the commit	At the commit

What's in a hunk?

The Diff View only displays the sections of the file that have been modified. These sections are called **hunks**.



```
------- ------ @@ -243,8 +243,8 @@ void QD3D_MirrorMeshesZ(ObjNode* theNode)
243 243         // Invert triangle winding
244 244         for (int t = 0; t < mesh->numTriangles; t++)
245 245         {
246   ·             uint16_t* triPoints = mesh->triangles[t].pointIndices;
247   ·             uint16_t temp = triPoints[0];
  · 246             uint32_t* triPoints = mesh->triangles[t].pointIndices;
  · 247             uint32_t temp = triPoints[0];
248 248             triPoints[0] = triPoints[2];
249 249             triPoints[2] = temp;
250 250         }
```

A sample hunk.

Each *hunk* consists of:

- A **header line** starting with @@, detailing the line numbers affected by the hunk. It's shown in blue.
- A couple of **context lines**, which don't change in either revision of the file. They're a visual aid to help you situate the hunk in the file. These are shown in black and white.
- In between the context lines, the meat of the hunk—a block of **modified lines**:
  Red lines represent deletions. (They're gone from the new revision.)
  Green lines represent additions. (They appeared in the new revision.)

NOTE

Are you red/green colorblind? Switch to a yellow/blue color scheme in ⚙ Settings ▸ Code ▸ "-/+" colors.

Manipulating hunks

The power of the Diff View is that you can stage and unstage individual hunks without staging or unstaging the entire file.

Right-click on a hunk to reveal these actions:

Item	Available in	Description
Stage Hunk	Unstaged change	Stage just this hunk; leave other changes alone
Discard Hunk	Unstaged change	Discard just this hunk; leave other changes alone
Unstage Hunk	Staged change	Unstage just this hunk; leave other changes alone
Revert Hunk	Past commits	Undo the changes in this hunk (reversal applied to your working copy)
Export Hunk As Patch	Anywhere	Save a patch file containing only this hunk in "unified diff" format

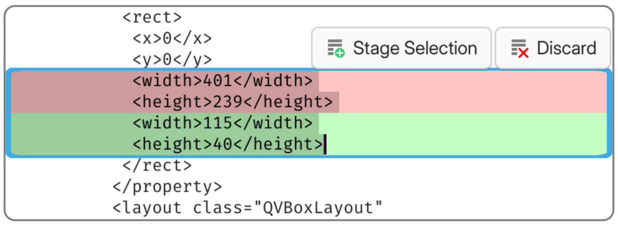
NOTE

If you're not seeing hunk-related actions, make sure your text selection is empty.

Manipulating individual lines

If hunks aren't granular enough for you, you can even manipulate diffs **line-by-line**.

Select a piece of code with your mouse in the Diff View. Notice the blue outline surrounding the actionable lines:



```
    <rect>
     <x>0</x>
     <y>0</y>
     <width>401</width>
     <height>239</height>
     <width>115</width>
     <height>40</height>
    </rect>
   </property>
   <layout class="QVBoxLayout"
```

Blue outline around selected lines in the Diff View. (Color may vary on your system.)

Right-click on a line selection to reveal similar actions as the hunk context menu, only these will just apply to your picked lines:

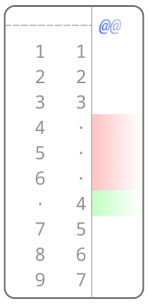
Item	Available in	Description
Stage Lines	Unstaged change	Stage just these lines; leave other changes alone
Discard Lines	Unstaged change	Discard just these lines; leave other changes alone
Unstage Lines	Staged change	Unstage just these lines; leave other changes alone
Revert Lines	Past commits	Undo the changes in these lines (reversal applied to your working copy)
Export Lines As Patch	Anywhere	Save a patch file containing only these lines (plus a couple context lines) in "unified diff" format

TIP

With a selection of **unstaged** lines: press Enter to stage them or Del to discard them.
With a selection of **staged** lines: press Del to unstage them.

The gutter

Attached to the left side of the code, the **gutter** displays line numbers in the old and new revisions (left and right columns, respectively).



The gutter beside a code hunk. This hunk covers old lines #1-9 (left) and new lines #1-7 (right). Old lines #4-6 were deleted, and new line #4 was added in their place.

As you hover over a line in the gutter, notice that your cursor flips over (). This indicates that left-clicking there will select the entire corresponding line in the diff.

To select multiple lines, click on the gutter and drag your mouse to expand the selection. You can also just click on one line, then Shift-click on another line to select all the lines in between.

Some special lines can be double-clicked to select blocks of code effortlessly:

- Double-click the dashed line next to a hunk header to select the entire hunk.
- Double-click the line number for a red or green line to select adjacent red/green lines around it.

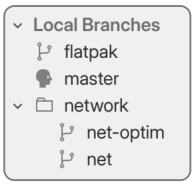
Once you've selected lines from the gutter, you can right-click to access the usual line selection actions (stage, discard, etc.).

Managing Your Branches

All of the **local branches** in your repository are listed under Local Branches in the sidebar (or just Branches if the sidebar is narrow).

A little head is shown next to your current *HEAD* branch, i.e. the currently checked-out branch.

> **TIP**
>
> Press Ctrl H to jump to the *HEAD*.



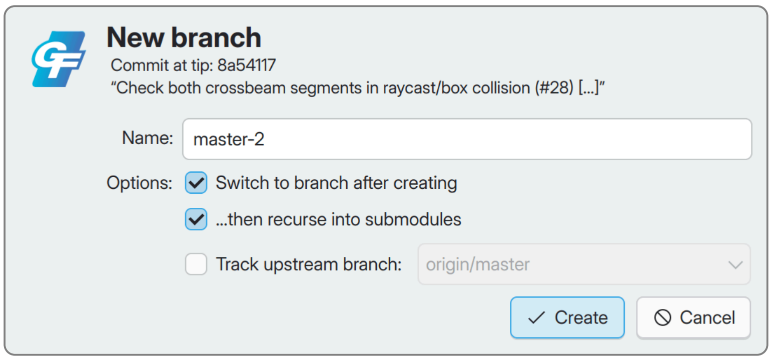
Local branches in the Sidebar. "master" is checked out.

Creating a new branch

You can start a new branch from several places:

- **From the Commit History:** Right-click on any **commit**, then select New Branch Here.
- **From the Sidebar:** Right-click on any **local or remote branch**, then select New Branch Here.
- **From the Tool Bar:** Click the Branch button to start a branch off the HEAD commit.

After you've triggered one of the actions above, the "New Branch" dialog will let you set up the branch:



New branch
Commit at tip: 8a54117
"Check both crossbeam segments in raycast/box collision (#28) [...]"

Name: master-2

Options: [✓] Switch to branch after creating
[✓] ...then recurse into submodules
[ ] Track upstream branch: origin/master

The New Branch dialog.

Fields in the New Branch dialog

Item	Description
Name	You can name your branch however you want, bar some restrictions. GitFourchette will let you know if the name you've entered isn't compliant.
Switch to branch after creating	Tick this to switch to the new branch after creating it. Otherwise, the repository will remain on the current branch.
...then recurse into submodules	Tick this to update the submodules after switching to the new branch. (Only available if your repository uses submodules.)
Track upstream branch	If a remote branch points to the target commit for the new branch, you can make it the upstream for the new branch. (You can always change the upstream later.)

> **TIP**
>
> Press Ctrl B to create a new branch on the current HEAD commit.

Switching to another branch

You can switch to another branch from the Sidebar, or from the Commit History.

- From the Sidebar, double-click any **local branch**. You will be asked to confirm the switch. If your repository has any submodules, you will also be asked whether to update them.
- From the Commit History, double-click a **commit** that is the tip of a local branch (these commits are adorned with a purple box – e.g. master). This brings up the "Check out Commit" dialog, which lets you confirm the switch.

After switching to another branch, notice that the HEAD branch has changed in the Sidebar, as well as in the Commit History (e.g. **master**).

> **NOTE**
>
> You can't switch to a remote branch. To achieve something similar, you can create a local branch that tracks the remote branch, then switch to it: right-click on the remote branch in the Sidebar then select New Local Branch Here.

Merging another branch into yours

You can merge any **local or remote branch** into your current branch:

- **From the Sidebar:** Right-click on the branch you'd like to merge from, then select Merge into (current branch).
- **From the Commit History:** Right-click on the tip of the branch you'd like to merge from, then select Merge into (current branch).

GitFourchette will attempt to **fast-forward** your current branch to the branch you're merging from. This avoids creating a merge commit.

If fast-forwarding isn't possible, GitFourchette will ask you to resolve the merge conflicts. hen, conclude the merge by creating a merge commit. Read Resolving Merge Conflicts for more details.

Organizing your branches in folders

Your local branches can be organized in 🗀 folders. Just like paths in a file system, GitFourchette treats the slash character / in a branch name as a "folder separator".

For example, if your repository contains branches foo/branch1, foo/branch2 and foo/branch3, then GitFourchette will group all three of these under the folder 🗀 foo.

NOTE

Folders are automatically inferred from the names of your branches; you can't "create" folders per se. To conjure up a new folder, rename one of your branches, and insert a slash / in its name: e.g. rename *mybranch* to *newfolder/mybranch*.

Folders can be nested. The sidebar will combine chains of nested folders when possible.

🖱 **Right-click** on a folder to open a context menu that will let you act on all branches within it. You can:

Actions in the Branch Folder context menu (from the Sidebar)

Action	Description
Rename Folder	Rename the part preceding "/" for all branches in the folder.
Delete Folder	Delete all local branches in the folder.
Hide Folder	Hide all branches in the folder from the commit history.

Sorting branches in the Sidebar

To select the sorting mode for your local branches in the Sidebar, right-click on Local Branches and pick an option under Sort Branches.

Branches can be sorted:

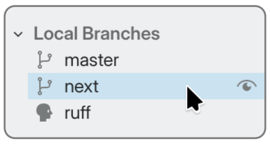
- by their name, or
- by the date of the latest commit at the tip of each branch.

Note that this will only change the order of the branches in the Sidebar, not in the Commit History.

Hiding branches in the Commit History

You can hide any branch from the Commit History.

Move your mouse pointer over one of the branches in the Sidebar and an eye icon (👁) will appear. Click it, and the branch will be hidden from the graph, as indicated by a crossed-out eye icon (). To unhide the branch, click the eye icon again.

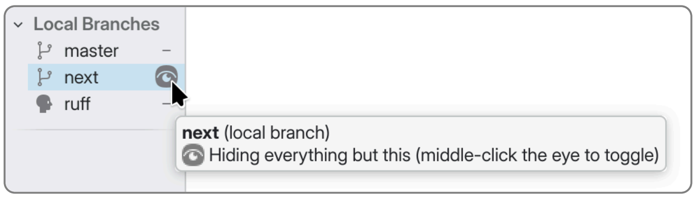


Hovering over a branch in the Sidebar.

NOTE

Even if you hide a branch, it may still be shown in the Commit History if another visible branch points to the same commit.

New in v1.3.0: You can also show a single branch and hide all others. Move your mouse cursor over the eye icon in the sidebar, then **middle-click** it. An inverted eye icon () will appear, indicating that the graph only displays this one branch.



next (local branch)
Hiding everything but this (middle-click the eye to toggle)

Hiding all but one branch.

Sidebar context menu for local branches

Right-click on a local branch in the Sidebar to bring up a context menu with the following actions:

Actions in the Local Branch context menu (from the Sidebar)

Actions	Description
Switch to (branch)	Switch to the branch (also known as “checking out” the branch).
Merge Into (current branch)	Merge the branch into your current branch. See also: Resolving Merge Conflicts.
Fetch (upstream)	Download new commits from the upstream branch, but don’t bring them into the local branch. (You can look at the new commits in the Commit History and decide to merge later on.) See Fetching new commits on a branch.
Pull From (upstream)	Download new commits from the upstream, then bring them into the local branch, via a merge commit if necessary. See Pulling new commits into your branch.
Fast-forward to (upstream)	Move the tip of the branch to the tip of the upstream branch (only if that’s possible without merging).
Push to (upstream)	Publish your new commits to the upstream branch (on the remote). See Pushing a branch to a remote.
Upstream branch	Select which remote branch the local branch should track. See Setting an upstream branch.
Rename	Rename the branch locally (won’t affect the upstream branch).
Delete	Delete the branch locally (won’t affect the upstream branch).
New Branch Here	Create a new branch on the same target commit. See Creating a new branch.
Hide in Graph	Toggle the visibility of this branch in the graph.
Hide All But This	Toggle the exclusive visibility of this branch in the graph.

TIP

Double-click on a local branch in the Sidebar to **switch** to it.
When a local branch has keyboard focus in the Sidebar, hit Enter to **switch** to it, F2 to **rename** it, or Del to **delete** it.

Fetch, Pull & Push: Syncing Branches With Remotes

Setting an upstream branch

Fetch and Pull are operations that synchronize a local branch with a remote branch.

Before you can Fetch or Pull a local branch, you must bind it to a remote branch. That remote branch is then said to be the **upstream** for the local branch.

You can change a local branch's upstream at any time, even after the branch has been created. To do so, right-click on the local branch in the Sidebar and select Upstream Branch; a submenu appears, revealing all known remote branches. Pick the desired remote branch to set as the new upstream.

You can also clear the upstream reference with Stop tracking upstream branch under the same submenu; Fetch and Pull will stop working on this branch.

> NOTE
>
> If the remote branch you're looking for is missing from the Upstream Branch submenu, your remote-tracking branches might be out of date. Right-click on the ☁ remote in the Sidebar and select Fetch All Remote Branches, then see if the expected remote branch comes up.

> NOTE
>
> Unlike Fetch and Pull, Push doesn't require the local branch to have an upstream.

Fetching new commits on a branch

The "fetch" operation downloads new commits from the remote server. It updates remote-tracking branches only; your local branches are left intact. After a fetch, you can look at the new commits in the Commit History and decide whether you want to merge them into your local branch.

You can fetch any **local branch** that has an upstream. Right-click on the local branch in the Sidebar, then pick Fetch (upstream name). (If Fetch is grayed out, select an upstream first.)

You can also fetch a **remote-tracking branch** directly: right-click on it the Sidebar, then pick Fetch New Commits.

You can update all remote-tracking branches at once for any given remote: right-click on the remote in the Sidebar, then pick Fetch All Remote Branches.

Pulling new commits into your branch

The "pull" operation fetches the latest commits from a remote branch, then it integrates them into your local branch, via a merge commit if necessary.

Pulling is only possible on the **currently checked-out branch**, and it must have an upstream.

To pull the current branch, click Pull in the Tool Bar.

Pulling has one of three outcomes:

- **Remote branch has no new commits:** GitFourchette will tell you that your branch is already up-to-date.
- **Remote branch has new commits:** GitFourchette will fast-forward your branch to the remote branch.
- **Remote branch has diverged from your local branch:** A merge is necessary to reconcile your branch with the remote. You will be asked to resolve the merge conflicts, and conclude the merge by creating a merge commit. (See Resolving Merge Conflicts for more information.)

In any case, GitFourchette will tell you what needs to be done to complete the pull, and you'll have a chance to confirm or cancel.

> TIP
>
> Press Ctrl Shift P to pull the current branch.

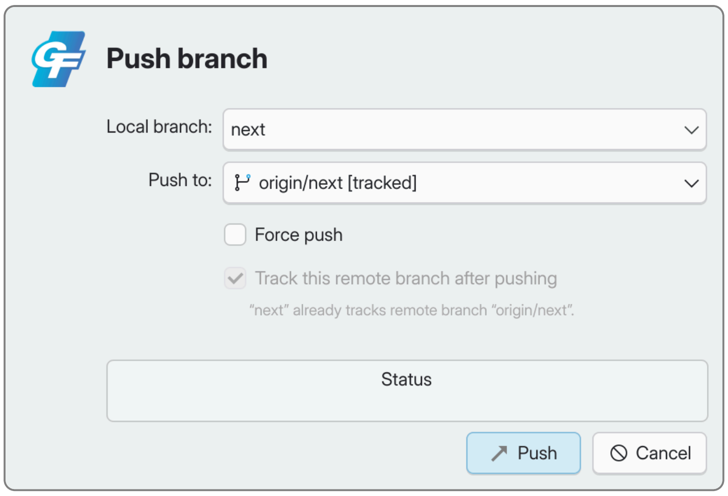
Pushing a branch to a remote

The "push" operation uploads your commits on a branch to the remote repository.

You can push any **local branch**, even if it's not assigned an upstream:

- **From the Sidebar:** Right-click the local branch you'd like to push, then select Push.
- **From the Tool Bar:** Click ↗ Push to push the currently checked-out branch.

The "Push Branch" dialog appears, where you can review the parameters before proceeding:


Push branch
Local branch:
next
Push to:
origin/next [tracked]
Force push
Track this remote branch after pushing
"next" already tracks remote branch "origin/next".
Status
Push
Cancel

The Push Branch dialog.

Fields in the Push Branch dialog

Item	Description
Local branch	Select which branch to push among all the local branches in your repository. By default, your current branch is selected.
Push to	By default, the local branch's upstream is automatically selected. But you don't *have* to push to the upstream: you can select any remote branch to upload to. You can even create a whole new branch on the remote.
Force push	**USE WITH EXTREME CAUTION—May cause data loss!** If your local branch has diverged from the remote branch, the remote server will reject the push. Force push lets you bypass this restriction and overwrite the remote branch with the contents of your local branch.
Track this remote branch after pushing	Tick this to set the local branch's upstream to the remote branch you selected for Push to. (Grayed out if the selected remote branch is already the upstream.)
Status	This box displays network information during the push.

After a successful push, notice that the remote branch now points to the same commit as your local branch. The Commit History displays the tip of a remote branch with a teal box, which you should now see next to the purple box for your local branch. (e.g. master).

WARNING

Don't tick "Force Push" unless you really know what you are doing! Force-pushing is generally frowned upon because it rewrites history for other users of the remote. This might mess up your teammates' workflow and/or cause data loss!

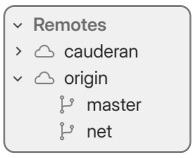
TIP

Press Ctrl P to push the current branch.

Managing Remote Servers and Remote-Tracking Branches

All of the **remote servers** added to your repository are listed under Remotes in the sidebar.

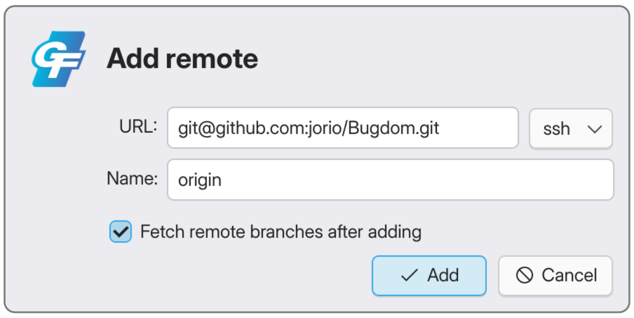
In turn, **remote-tracking branches** are listed under their respective remotes.



Remotes in the Sidebar

Adding a new remote

Right-click on Remotes in the sidebar and select Add Remote (or just double-click on Remotes) to bring up the "Add Remote" dialog:



URL: git@github.com:jorio/Bugdom.git

Name: origin

☑ Fetch remote branches after adding

The Add Remote dialog.

Fields in the Add Remote dialog

Item	Description
URL	The URL will be used to fetch from, and push to, this remote. GitFourchette automatically fills in the URL from your clipboard if possible. You can use the ssh/https button to convert the URL to another protocol.
Name	You can name the remote however you want, bar some restrictions. GitFourchette will let you know if the name you've entered isn't compliant.

Sidebar context menu for remotes

Right-click on a **remote** in the sidebar to bring up a context menu with the following actions:

Actions in the Remote context menu (from the Sidebar)

Action	Description
Edit Remote	Edit the remote's name and URL. This is essentially the same dialog as Add Remote.
Fetch All Remote Branches	Fetch all remote-tracking branches from this remote. After this operation, remote-tracking branches may appear or disappear depending on activity on the remote. Won't touch your local branches.
Remove Remote	Delete this remote from your local repository. Won't have any effect on the server itself.
Visit Web Page	Open your web browser to the home page for this repository (e.g. on github.com if that's where your repo is hosted).
Copy Remote URL	Copies the remote's URL to the clipboard.
Hide in Graph	Toggle the visibility of this remote's branches in the graph.
Hide All But This	Toggle the exclusive visibility of this remote's branches in the graph.

TIP

Double-click on a remote to **edit** it.
When a remote has keyboard focus in the sidebar, hit Enter to **edit** it, or Del to **remove** it.

Sidebar context menu for remote-tracking branches

Right-click on a **remote-tracking branch** in the sidebar to bring up a context menu with the following actions:

Actions in the Remote-Tracking Branch context menu (from the Sidebar)

Action	Description
Start Local Branch From Here	Create a new local branch that targets the tip of the remote-tracking branch.
Fetch New Commits	Fetch new commits from the remote on this specific remote-tracking branch only.
Merge Into (current branch)	Merge the remote-tracking branch into your current local branch. This will attempt a fast-forward if possible. See also: Resolving Merge Conflicts.
Rename Branch on Remote	Instruct the remote server to rename this branch. (This will rename the branch **for all users** of the remote!)
Delete Branch on Remote	Instruct the remote server to delete this branch. (Make sure this branch **isn't needed by anybody else** that uses this remote!)
Visit Web Page	Open your web browser to the page for this branch on the host's web site (e.g. github.com).
Hide in Graph	Toggle the visibility of this branch in the graph.
Hide All But This	Toggle the exclusive visibility of this branch in the graph.

TIP

Double-click on a remote-tracking branch to **start a local branch** from it.
When a remote-tracking branch has keyboard focus in the sidebar, hit Enter to **start a local branch** from it, or Del to **delete** it from the remote.

Sorting remote-tracking branches in the Sidebar

Like local branches, remote-tracking branches can be sorted in the sidebar:

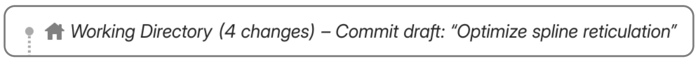
- by their name, or
- by the date of the latest commit at the tip of each branch.

To select a sorting mode, right-click on Remotes in the sidebar and pick an option under Sort Remote Branches By.

Advanced Commit Techniques

Setting aside your commit message for later

If you back out of the Commit dialog by clicking Cancel, GitFourchette will save your message as a draft. The draft message is shown in the *Working Directory* row at the top of the Commit History.


Working Directory (4 changes) – Commit draft: "Optimize spline reticulation"

A commit message draft as shown in the Commit History.

Next time you press the Commit files button, the Commit dialog will fill in the commit message with your draft.

To clear the draft message, right-click *Working Directory* in the Commit History, then choose *Clear Draft Message*.

Amending a commit

If you've just made a commit and you realize you've made a mistake in it, you can **amend** the commit. *Amending* updates the contents and/or metadata of the HEAD commit.

WARNING

Attention Beginners! Use "amend" ONLY on a commit that you haven't pushed yet! If you've already pushed a commit to a remote, **DON'T AMEND IT** and fix your mistake in a new commit instead.

GitFourchette won't stop you from amending a commit that has already been pushed, because this is a legitimate use case if you **really** know what you're doing. However, you run the risk of the remote rejecting your amended commit next time you push. And while force-pushing is an option, it's extremely dangerous because it may cause data loss in your repo or for your teammates.

If you're at all unsure, steer clear of the Amend feature until you're more confident with Git.

To amend the HEAD commit:

1. First, **stage** any additional changes you'd like to roll into the HEAD commit. (If you simply want to edit the HEAD commit's message, you can actually leave the Staged box empty here.)
2. Click the pulldown arrow attached to the right of the Commit files button. In the menu that appears, choose Amend latest commit. (Or just press Ctrl Shift S.)

The "Amend Commit" window appears. It's very similar to the "Commit" dialog we've walked through earlier. One key difference is that "Amend Commit" fills in the message of the HEAD commit for you. You can leave it be, or you can edit it.

By default, the original commit's author information will be left intact, but the amended commit will automatically record *you* as the committer. You can customize this via Edit Author and preview the result with the eye button (👁, see Editing a commit's author or committer).

> NOTE
>
> To be exact, amending doesn't really *modify* the existing commit. Remember, commits are *immutable*: each commit is identified by a unique hash of its contents and metadata (message, author, etc.). So, amending actually produces a new commit, then rewrites history to "replace" the HEAD commit.

Cherry-picking a commit from another branch

Cherry-picking lets you bring a single commit from another branch into your current branch. This is useful to obtain changes from another branch without merging it in (when you're not interested in the rest of the branch).

To cherry-pick a commit, locate it in the Commit History, right-click it and choose Cherry-Pick in the context menu. GitFourchette will apply the changes from the commit to your working directory.

Your repository will enter the special "cherry-picking" state, as shown by a banner below the Sidebar. In this state, some operations are restricted, so you should conclude the cherry-pick as soon as possible. To conclude the cherry-pick:

- If cherry-picking was successful (as indicated by a green banner below the Sidebar), you should **conclude the cherry-pick by committing** the cherry-picked changes. GitFourchette encourages you to do so immediately after a successful cherry-pick.
- If cherry-picking caused merge conflicts (as indicated by a yellow banner below the Sidebar), you will have to **resolve the conflicts first**. Read Resolving Merge Conflicts for more information.

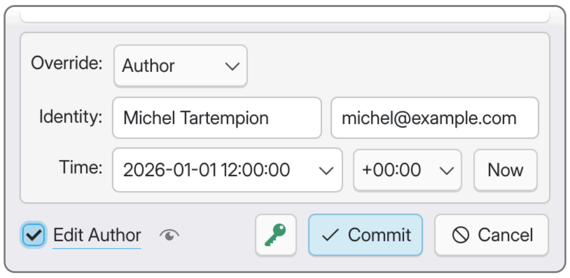
> NOTE
>
> You're free to stage additional changes before concluding the cherry-pick, for example if you need to adjust some code to the incoming changes.

If you change your mind, you can get your repository out of the "cherry-picking" state by clicking Abort Cherry-Pick in the *Cherry-Picking* banner.

> WARNING
>
> Aborting a cherry-pick will discard all **staged** changes—whether they originate from the cherry-picked commit or not!

Editing a commit's author or committer

In the Commit dialog, notice the Edit Author checkbox. Tick it to edit the author/committer's identity and timestamp that will be associated with the commit.


Override: Author

Identity: Michel Tartempion michel@example.com

Time: 2026-01-01 12:00:00 +00:00 Now

In the Commit dialog, ticking "Edit Author" reveals the author editor.

Click the eye button (👁) to preview the authorship information that will be embedded into the commit.

NOTE

Edit Author is meant for one-off adjustments. If you need to set up your default identity, you can do so elsewhere:

- **System-wide identity:** Go to File ‣ Git Identity to set up your default identity for new commits in all repositories on your system going forward. (Mac: App menu ‣ Git Identity)
- **Repo-specific identity:** Go to Repo ‣ Repository Settings and tick Create commits under a custom identity in this repo. This identity will only apply to the current repo.

Signing Commits

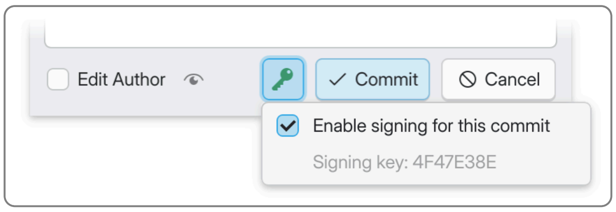
Creating a signed commit

New in v1.5.0: The key icon at the bottom of the Commit Dialog indicates whether your commit will be GPG-signed.

A green key means your commit **will** be signed.

A gray key means your commit will **not** be signed.

You can click the key icon to enable or disable signing for the commit you're about to make.



The signing key button in the Commit Dialog.

After making a signed commit, you should see a green seal icon next to your name in the Commit History.

What to do if signing isn't available

NOTE
To be able to sign commits, you must first set up user.signingKey in your Git configuration. See Pro Git – Signing Your Work to get started.

- Check that you've set user.signingKey in your Git configuration. This is required to specify what key to sign your commits with.
- If you've set up your signing key and you want *all* commits to be signed, check that you've enabled commit.gpgSign in your Git configuration.

Verifying signed commits in the Commit History

New in v1.5.0: To enable automatic verification of signed commits in the Commit History, go to Settings ‣ Commit History and tick Verify signed commits on the fly.

As commits scroll into view, GitFourchette will then call git verify-commit automatically to verify their signatures. The verification status is materialized by a seal icon next to the author's name:

⚙	Verification pending
?	Verification failed (e.g. missing key)
▨	Good signature; Key not fully trusted
✓	Good signature; Key trusted
⌛	Key or signature expired
✗	Key revoked or signature invalid
	(No seal icon: Commit isn't signed.)

Troubleshooting failed verifications ("question mark" seal icons)

Your GPG keychain must contain the signer's public key to be able to verify their commits.

Frequently, verification will fail (?) because GPG can't find the signer's public key in your keychain. You can import their public key from a trusted source, then force GitFourchette to verify the commit again (right-click on the commit and select Verify Signature).

TIP

You can try gpg --search-keys to import a key from your keyserver. For example, the following command lets you import a key owned by GitHub that is commonly used to sign commits made with their web interface:

```
gpg --search-keys B5690EEEBB952194
```

Resolving Merge Conflicts

What's a merge conflict?

You may sometimes run into **merge conflicts** as you merge another branch into your current branch.

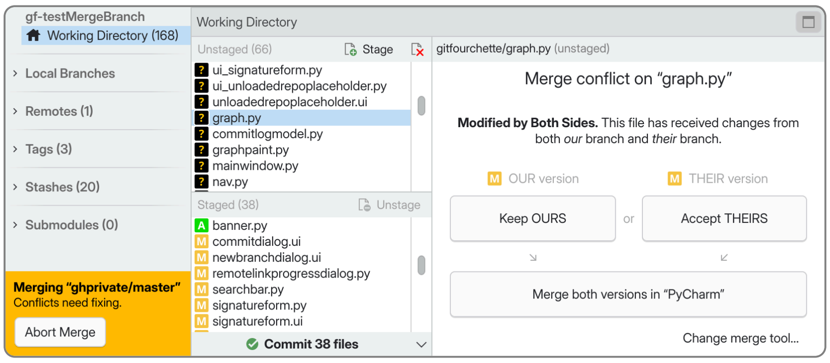
When a file has been modified on your branch, and you're merging another branch that has made different changes to the same file, a merge conflict occurs. In this case, GitFourchette isn't sure which version of the file to keep, so it's up to you to **resolve the conflict**.

Once you've resolved all conflicts, you should conclude the merge by creating a so-called **merge commit** with the affected files (along with additional changes if necessary, for example to adjust the rest of your code to the incoming changes). You prepare that commit by staging files as usual, but the commit will have two parents instead of one.

In practice

When there's a merge conflict, some operations in your repository will be restricted, such as making a commit or switching branches. So, it's best to resolve the conflict as soon as you can.

As long as your working directory contains conflicted files, a **yellow "Merging" banner** appears below the Sidebar, and the file lists in the Working Directory show pending conflicts with a question-mark icon (?). Select one of the conflicting files, and a Conflict View appears in lieu of the usual Diff View.



Modified by Both Sides. This file has received changes from both *our* branch and *their* branch.

Sample merge conflict.

In a merge conflict, the current version of the file is referred to as **"ours"**, and the incoming version (from the branch being merged) is **"theirs"**.

From the Conflict View, you can resolve the conflict in one of three ways:

Alternatives in the Conflict View

Choice	Description
Keep OURS	Reject incoming changes. The file won’t be modified from its current state in HEAD.
Accept THEIRS	Accept incoming changes. The file will be replaced with the incoming version.
Merge both versions	See Merging a file with an external tool.

NOTE

The alternatives above apply to most merge conflicts. In some unusual cases, you may be offered more specialized options.

TIP

To batch resolve conflicts, you can select them together in the File List, right-click, and choose Resolve By Accepting Theirs or Resolve By Keeping Ours in the context menu.

Merging a file with an external tool

Sometimes, accepting or rejecting the entire file is inadequate. There might be changes to combine in both “our” and “their” revision—this calls for more granular merging. GitFourchette doesn’t offer a line-by-line merge tool (yet?), but it can leverage an external merging program.

NOTE

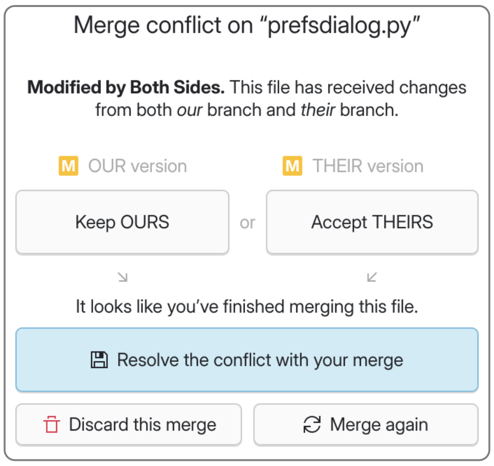
GitFourchette supports standalone merge tools such as KDiff3, Meld, P4Merge, etc.; as well as the “merge” mode in several code editors, including JetBrains IDEs (PyCharm, IntelliJ), VS Code, GVim, etc.

To select a merge tool, go to Settings ‣ External Tools ‣ Merge Tool. Chances are your favorite tool is available among the predefined commands. Otherwise, you can enter your own command (feel free to open an issue to suggest it).

Flatpak users: To use a Flatpak merge tool, be sure to pick one of the flatpak run commands available at the bottom of the presets in Settings ‣ External Tools. In addition, note that the Flatpak version of GitFourchette itself automatically wraps all external commands in a flatpak-spawn call.

In the Conflict View, the last option for fixing a conflict is a large Merge both versions in (External Tool) button. Click it, and GitFourchette will launch the merge program and wait for you to complete the merge in it.

When you’re done merging, save the file in your merge tool and return to GitFourchette (you may have to quit the tool). GitFourchette will pick up that the merge is complete and will prompt you to confirm or discard your merge.

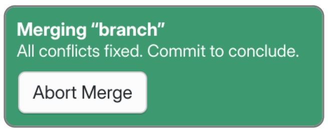

Merge conflict on "prefsdialog.py"
Modified by Both Sides. This file has received changes from both *our* branch and *their* branch.
M OUR version
M THEIR version
Keep OURS
or
Accept THEIRS
It looks like you've finished merging this file.
Resolve the conflict with your merge
Discard this merge
Merge again

After finishing a merge in an external tool, return to the Conflict View to resolve the conflict with your merge.

If you **discard** the merge, the conflict will remain and you'll have to resolve it again. If you **confirm**, the conflict will vanish and, in most cases, turn into a modification (M), ready to stage and commit.

Concluding the merge

Once all conflicts are resolved in your working directory, the yellow *Merging* banner in the sidebar will turn green to inform you that no conflicts remain.

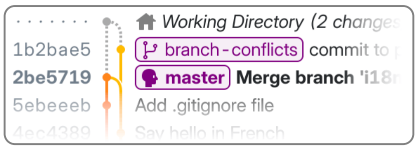


The Merging banner (below the Sidebar) turns green after resolving all merge conflicts.

When you see this, you should stage the conflict resolutions and **commit your work to conclude the merge**. Once you've made the merge commit, the banner will vanish and you can resume working in your repository as usual.

NOTE

A merge commit typically has two parent commits. As you prepare the merge, the graph displays the links to the parents that your future merge commit will have, once created.



Working Directory (2 change
1b2bae5 branch-conflicts commit to
2be5719 master Merge branch 'i18
5ebeeeb Add .gitignore file
4ec4389 Say hello in French

Preview of the future merge commit's parents in the graph. Note the two dashed lines linking the Working Directory to the branches being merged.

Aborting a merge

If you change your mind about a merge, you can get your repository out of the "merging" state at any time.

To do so, click the Abort Merge button in the *Merging* banner below the sidebar. Aborting the merge will clear all unresolved conflicts, and **all staged files will be reset**.

WARNING

Make sure there are no staged changes you want to keep before aborting a merge—**all staged changes will be lost, even if they aren't conflicting!**

Blame & File History

New in v1.4.0.

The **Blame Window** lets you retrace the history of a specific file. It gives you access to:

- A filtered commit history with only the relevant commits that made changes to this file;
- A line-by-line breakdown of the last commit that is responsible for each part of the file.

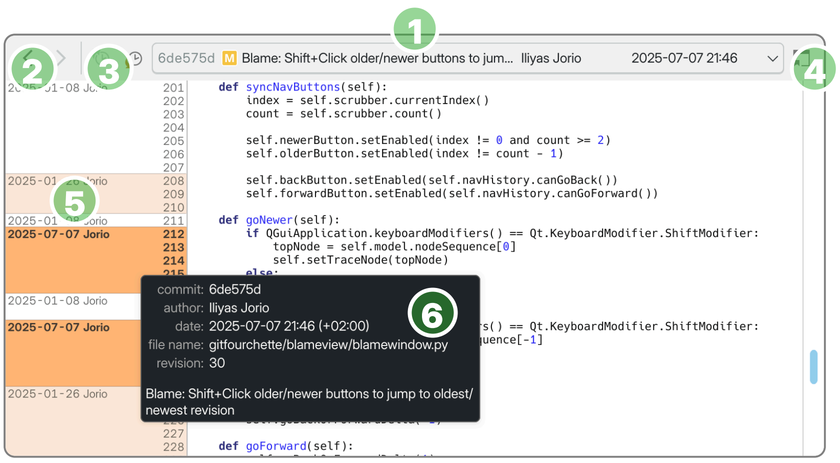
To open the Blame Window, right-click on any file in the File List, then select Blame File. This is available both in the Working Directory and while exploring commits.

TIP

After selecting a file, you can press Ctrl L to open the Blame Window.

You can also drag a file from your system's file manager and drop it on GitFourchette's main window. If the file belongs to the current repository, GitFourchette will open a Blame Window for you.

Overview of Blame Window controls



```
def syncNavButtons(self):
    index = self.scrubber.currentIndex()
    count = self.scrubber.count()

    self.newerButton.setEnabled(index != 0 and count >= 2)
    self.olderButton.setEnabled(index != count - 1)

    self.backButton.setEnabled(self.navHistory.canGoBack())
    self.forwardButton.setEnabled(self.navHistory.canGoForward())

def goNewer(self):
    if QGuiApplication.keyboardModifiers() == Qt.KeyboardModifier.ShiftModifier:
        topNode = self.model.nodeSequence[0]
        self.setTraceNode(topNode)
    else:
```

```
commit: 6de575d
author: Iliyas Jorio
date: 2025-07-07 21:46 (+02:00)
file name: gitfourchette/blameview/blamewindow.py
revision: 30

Blame: Shift+Click older/newer buttons to jump to oldest/
newest revision
```

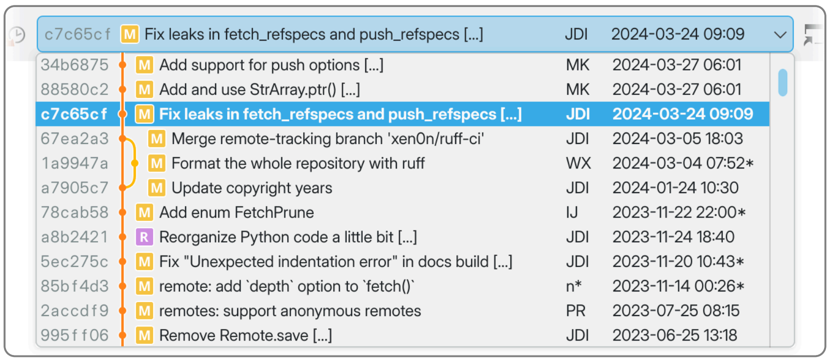
1. **File History Menu:** Displays the relevant commits that contributed to this file. Pull down this menu to examine an older or newer revision of the file (more details below).
2. < > **Back/Forward Buttons:** Use these to return to a revision that you've looked at previously. You can also use your mouse's back/forward buttons.
3. **Newer/Older Buttons:** Use these to navigate to a newer or older revision in the file's history.
4. **Reveal Full Commit:** Click this to reveal the current commit in the main window.
5. **Blame Gutter:** Line-by-line revision history (more details below).
6. **Commit Information Tooltip:** Hover over the Gutter to bring up a tooltip with detailed information about a revision.

TIP

Hold Shift while clicking the newer/older buttons to jump to the top/bottom revisions in the history.

The file history menu

Pull down the File History menu to reveal a list of commits that directly contributed to the file (including any uncommitted changes). To explore the contents of the file at another point of its history, select any commit in the list.



c7c65cf	M	Fix leaks in fetch_refspecs and push_refspecs [...]	JDI	2024-03-24 09:09
34b6875	M	Add support for push options [...]	MK	2024-03-27 06:01
88580c2	M	Add and use StrArray.ptr() [...]	MK	2024-03-27 06:01
c7c65cf	M	Fix leaks in fetch_refspecs and push_refspecs [...]	JDI	2024-03-24 09:09
67ea2a3	M	Merge remote-tracking branch 'xen0n/ruff-ci'	JDI	2024-03-05 18:03
1a9947a	M	Format the whole repository with ruff	WX	2024-03-04 07:52*
a7905c7	M	Update copyright years	JDI	2024-01-24 10:30
78cab58	M	Add enum FetchPrune	IJ	2023-11-22 22:00*
a8b2421	R	Reorganize Python code a little bit [...]	JDI	2023-11-24 18:40
5ec275c	M	Fix "Unexpected indentation error" in docs build [...]	JDI	2023-11-20 10:43*
85bf4d3	M	remote: add `depth` option to `fetch()`	n*	2023-11-14 00:26*
2accdf9	M	remotes: support anonymous remotes	PR	2023-07-25 08:15
995ff06	M	Remove Remote.save [...]	JDI	2023-06-25 13:18

The File History menu in the Blame Window.

NOTE

This list only shows commits that share ancestry with the commit from which you initiated the blame. Changes to this file in unmerged (i.e. unrelated) branches aren't shown.

The graph shown in the file history menu is a **simplified** representation of commit ancestry chains. That is, a link between two commits in the file history graph does not always represent a *direct* parent-child link, because any commits that don't contribute to the file are omitted.

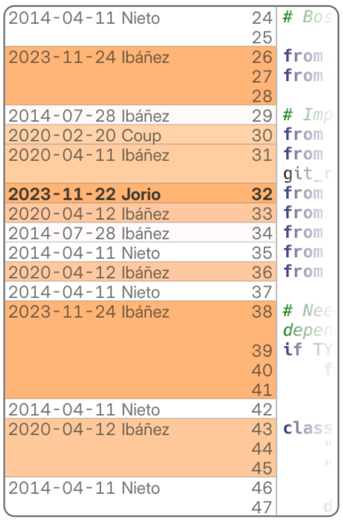
The blame gutter

Attached to the left side of the code, the Blame Gutter shows which commit is responsible for each line in the file. In other words, it tells you “who is to blame” for each piece of text in the file.

The background colors in the Blame Gutter give you an overview of the age of each line in the file. Think of these colors as a “heatmap” for recentness: the deeper the shade of orange, the more recent the line.

Any lines that were directly modified by the exact commit that you’ve selected in the File History menu are shown in **bold** in the gutter.

> NOTE
>
> In the gutter’s color scheme, the “age” of a line is relative to the revision you’re viewing. A deep orange means that the line is recent *relative to* the revision that is currently selected in the file history menu.



```
2014-04-11 Nieto     # Bos

2023-11-24 Ibáñez    from
                     from

2014-07-28 Ibáñez    # Imp
2020-02-20 Coup      from
2020-04-11 Ibáñez    from
                     git_r
2023-11-22 Jorio     from
2020-04-12 Ibáñez    from
2014-07-28 Ibáñez    from
2014-04-11 Nieto     from
2020-04-12 Ibáñez    from
2014-04-11 Nieto
2023-11-24 Ibáñez    # Nee
                     depen
                     if TY
                       f

2014-04-11 Nieto
2020-04-12 Ibáñez    class


2014-04-11 Nieto
                       d
```

The Blame Gutter.

Hover over any part of the Blame Gutter to reveal a tooltip with more details about the commit that is to blame for the attached text.

Right-click on any section of the Blame Gutter for additional actions:

- Blame File at Commit – Explore the contents of the file as of the given commit.
- Show Commit in Repo – Select the given commit in the Main Window so you can explore this commit in the broader context of the repository.
- Get Commit Info – Shows essentially the same information as the Blame Gutter tooltips, in copy/pastable form.

Custom Commands

New in v1.3.0.

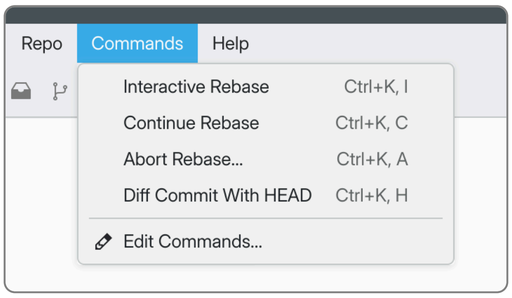
You can augment GitFourchette's capabilities with **custom commands** tailored to your workflow. These let you launch commands in a terminal directly from GitFourchette.

You can even send items that you manipulate in the UI as **arguments** to the commands. These include the selected commit, file, branch, etc.

To define custom commands, go to ⚙ Settings ‣ Custom Commands and simply enter some commands (one per line). Here is a useful sample to get you started:

```
# Feel free to copy/paste this sample into Custom Commands.
git rebase -i $COMMIT   # &Interactive Rebase
git rebase --continue   # &Continue Rebase
? git rebase --abort    # &Abort Rebase
git diff $COMMIT HEAD   # Diff Commit With &HEAD
```

After you click OK in the Settings, notice the *Commands* menu that appears in the main menu bar. You're now ready to invoke your commands from this menu.



Repo
Commands
Help
Interactive Rebase Ctrl+K, I
Continue Rebase Ctrl+K, C
Abort Rebase... Ctrl+K, A
Diff Commit With HEAD Ctrl+K, H
Edit Commands...

The Commands menu that appears once you've defined at least one Custom Command.

TIP

If you've chosen to hide the menu bar, you can also access your commands via a pulldown menu attached to the ⊡ Terminal button in the toolbar.

TIP

To select which terminal program to use, go to Settings ‣ External Tools ‣ Terminal.

Argument placeholders

You may use the following placeholders in your commands:

Token	Description
$COMMIT	SHA-1 hash of the selected commit in the history
$FILE	Path to the selected file (relative)
$FILEABS	Path to the selected file (absolute)
$FILEDIR	Path to rthe selected file’s parent directory (relative)
$FILEDIRABS	Path to the selected file’s parent directory (absolute)
$HEAD	SHA-1 hash of the HEAD commit
$HEADBRANCH	Ref name of the HEAD branch
$HEADUPSTREAM	Ref name of the HEAD branch’s upstream
$REF	Name of the selected ref in the sidebar (local branches, remote branches, tags)
$REMOTE	Name of the selected remote in the sidebar
$WORKDIR	Path to the repository’s working directory (absolute)

Titles and separators

The # character starts a **comment** until the end of the line.

If you add a comment after a command (on the same line), then the comment will serve as the **title** of the command in the menu.

To create a **separator** in the menu, insert a comment line of dashes (#---) in between two commands.

```
echo 'hello world 1'

# The command above had no custom title.
# Let's define a custom title for the next one.

echo 'hello world 2'  # Say Hello (this is a custom title)

# Let's add a separator in the menu.
# -----------------

echo 'hello world 3'
```

Keyboard shortcuts

When you set a custom title for a command, you can define an **accelerator key** for this command by inserting & before some letter in the command title.

For example, titling a command &Rebase would assign accelerator key R to the command.

You can trigger accelerator keys in one of two ways:

- Press Ctrl K, then your command's accelerator key (e.g. Ctrl K then R).

  > NOTE
  >
  > Let go of Ctrl K before pressing the accelerator key.

- Or, pull down the Commands menu with Alt C, then press your accelerator key (e.g. Alt C then R).

Confirmation prompt

By default, when you trigger any custom command, GitFourchette will give you a chance to review the prepared command before it's sent to the terminal (with the proper substitutions).

You can turn off this behavior by unticking the checkbox at ⚙ Settings ‣ Custom Commands ‣ Ask for confirmation before running any command.

If you've turned off the confirmation dialog for all commands, you can still force it to appear before specific commands. To do so, prepend the commands of your choice with the `?` character. We strongly recommend doing this for commands that may have destructive effects!

For example, `? git rebase --abort` will *always* ask you to confirm, *even* if you've unticked *Ask for confirmation*.

Limitations

Supported operating systems

GitFourchette is built primarily for Linux and it fits in great with KDE Plasma. It also runs fine on macOS, but Linux remains the primary target and there's no official Mac support (yet).

I don't have time to support Windows. GitFourchette does start from source on Windows, but some important features will not work.

Tentative feature roadmap

Support for these features may be implemented eventually, depending on demand, funding, and how much free time I can carve out for the project:

- Rebase
- Improved LFS support

Improved compatibility with vanilla Git since v1.5.0

New in v1.5.0. Starting with v1.5.0, GitFourchette now uses Git itself to edit repositories and communicate with remotes. This improves compatibility with workflows that depend on OpenSSH, hooks, etc.

For performance, GitFourchette still uses libgit2 to build its model of the repository, but all operations that write to the repo or use the network now use Git directly.

The Flatpak version uses an embedded Git distribution by default. You can switch to another Git instance via ⚙ Settings ▸ Git Integration.