

Comparing Two Branches in Git and GitHub: A Complete Guide



Arif Haidari

Follow

3 min read · Apr 11, 2025



5



When working in teams or collaborating on large-scale projects, it's essential to keep track of code changes across branches. Git and GitHub provide powerful tools to compare branches, review code, and ensure smooth integration. In this article, we will explore different ways to compare two branches using both the Git command line and the GitHub interface. We will also touch on comparing individual files and summarizing differences for efficient collaboration.

📁 Why Compare Branches?

Comparing branches helps developers:

- Understand what changes have been made
- Identify conflicts before merging
- Perform code reviews

- Track progress on features or bug fixes

Using Git CLI to Compare Branches

1. Compare Code Differences

To see the actual line-by-line changes between two branches:

```
git diff branch1..branch2
```

This shows what is in `branch2` but not in `branch1`. For example:

```
git diff development..bug-fixes/PD-899-gray-color-button
```

2. Compare Commits Between Branches

To list commits present in one branch but not in another:

```
git log branch1..branch2
```

Example:

```
git log development..bug-fixes/PD-899-gray-color-button
```

To reverse the comparison:

```
git log bug-fixes/PD-899-gray-color-button..development
```

3. Show Changed Files Only

If you only want to see the list of files that have changed:

```
git diff --name-only branch1..branch2
```

Or with statistics:

```
git diff --stat branch1..branch2
```

4. Compare Individual Files Between Branches

You can also compare specific files:

```
git diff branch1..branch2 -- path/to/file
```

Example:

```
git diff development..bug-fixes/PD-899-gray-color-button -- src/components/Button
```



🔍 Comparing Branches on GitHub

If your repository is hosted on GitHub, you can easily compare branches visually in the browser.

1. GitHub Compare URL Pattern

Use this URL format:

```
https://github.com/<user>/<repo>/compare/<base>...<compare>
```

- <base> is the branch you want to compare *from*
- <compare> is the branch you want to compare *to*

Example:

If you're working in the repo:

```
https://github.com/your-github/repo-name
```

And want to compare your branch `bug-fixes/PD-899-gray-color-button` with the default development branch:

Compare development with bug-fixes/PD-899-gray-color-button

This link shows what your branch introduces over the base branch `development`. You'll also see the option to create a Pull Request.

2. Reverse Comparison (to see what development has that your branch lacks)

Reverse the URL:

```
https://github.com/ITEversion/evr_mobile/compare/bug-fixes/PD-899-gray-color-but
```



This shows what's in `development` but not in your branch.

Summary Table

Task	Git Command	GitHub Option	View code	diff	git diff branch1..branch2
GitHub	compare URL	View changed files	git diff	--name-only	branch1..branch2
GitHub	file list in compare	View	View commit log	git log	branch1..branch2
GitHub	Shown in GitHub compare UI	Compare specific file	git diff	branch1..branch2 -- path/to/file	Not directly supported on GitHub

Bonus: Creating a Pull Request After Comparison

Once you verify your changes through the comparison view, you can click “Create pull request” in GitHub to initiate a code review and merge your

branch into the base branch.

🚀 Final Thoughts

Whether you're debugging a problem, reviewing code, or just checking what your teammate pushed, Git and GitHub offer powerful ways to compare branches and changes. Mastering these tools not only boosts your productivity but also ensures clean, conflict-free collaborations.

Have a specific scenario you'd like help comparing? Drop it in the comments below!

Git

Github

Version Control

Programming

Vscode



Written by Arif Haidari

0 followers · 1 following

Follow

$2 + 2 = 5 | 2 + 2 = 3 | 2 + 2 != 4$

No responses yet



Write a response

What are your thoughts?

More from Arif Haidari

Why Flutter Logs Might Not Show Up for iOS Devices

 Arif Haidari

 **Why Flutter Logs Might Not Show Up for iOS Devices—And...**

TL;DR

Apr 9



Apr 9



 Arif Haidari

 **Managing Flutter Branching & Merging Like a Pro: Real-World...**

 Introduction



 Arif Haidari

 **Solving the Dreaded “Error type 3: Activity class does not exist” in...**

While working on my Flutter project recently, I encountered a frustrating issue when trying...

Apr 8



See all from Arif Haidari

Open in app ↗

Sign up

Sign in

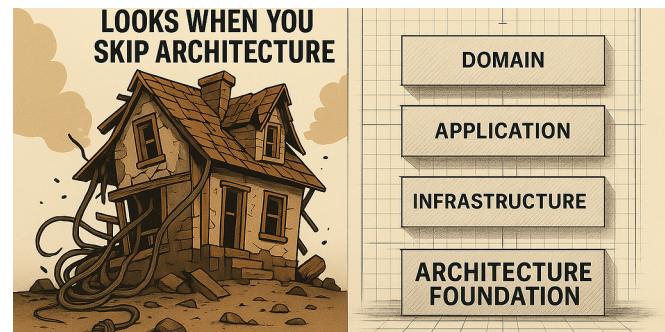
Medium



Search



Write



Prateek Jain

7 Open Source Diagram-as-Code Tools You Should Try

A hands-on guide to 7 open-source tools that let you draw cloud or application architectur...

5d ago 877 16



In Level Up Coding by Nikolay Nikolov

Stop Wasting Money With the Wrong Software Architecture

I have been working in software development for a long time.

4d ago 48 4





 In Python in Plain English by Umar Manzoor

Replacing Awk, Sed, and Grep with Python: Was It Worth It?

How I Rebuilt Grep, Sed, and Awk in Python
(So You Don't Have To)

 Jun 3  17

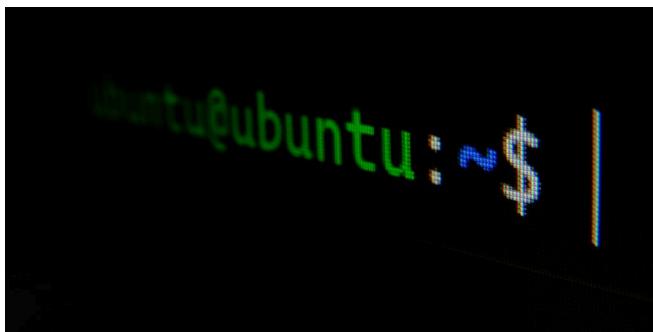


 Devlink Tips

Your laptop can run a full devops stack here's how I set mine up

No cloud credits, no AWS bills just pure localhost engineering

 Jun 3  241  3



 Skilled Coder

Customizing Your Zsh/Bash Prompt for Peak Productivity

Simple Shell Tweaks to Speed Up Daily Dev Work

 6d ago  23  1



 In Let's Code Future by TheMindShift

These 40 Open-source Tools Will Replace Half Your Tech Stack (An...

I curated 40 powerful, production-ready open-source tools that every serious...

 Jun 2  1.5K  27



See more recommendations