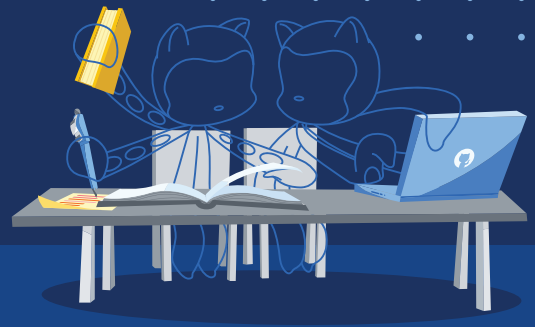


GitHub

Git Cheat Sheet



Git is the open source distributed version control system that facilitates GitHub activities on your laptop or desktop. This cheat sheet summarizes commonly used Git command line instructions for quick reference.

Install

GitHub for Windows

<https://windows.github.com>

GitHub for Mac

<https://mac.github.com>

Git for All Platforms

<http://git-scm.com>

Git distributions for Linux and POSIX systems are available on the official Git SCM web site.

Configure tooling

Configure user information for all local repositories

```
$ git config --global user.name "[name]"  
Sets the name you want attached to your commit transactions
```

```
$ git config --global user.email "[email address]"  
Sets the email you want attached to your commit transactions
```

```
$ git config --global color.ui auto  
Enables helpful colorization of command line output
```

Branches

Branches are an important part of working with Git. Any commits you make will be made on the branch you're currently "checked out" to. Use `git status` to see which branch that is.

```
$ git branch [branch-name]  
Creates a new branch
```

```
$ git checkout [branch-name]  
Switches to the specified branch and updates the  
working directory
```

```
$ git merge [branch]  
Combines the specified branch's history into the  
current branch. This is usually done in pull requests,  
but is an important Git operation.
```

```
$ git branch -d [branch-name]  
Deletes the specified branch
```

Create repositories

When starting out with a new repository, you only need to do it once; either locally, then push to GitHub, or by cloning an existing repository.

```
$ git init  
Turn an existing directory into a git repository
```

```
$ git clone [url]  
Clone (download) a repository that already exists on  
GitHub, including all of the files, branches, and commits
```

The .gitignore file

Sometimes it may be a good idea to exclude files from being tracked with Git. This is typically done in a special file named `.gitignore`. You can find helpful templates for `.gitignore` files at github.com/github/gitignore.

Synchronize changes

Synchronize your local repository with the remote repository on GitHub.com

```
$ git fetch  
Downloads all history from the remote tracking branches
```

```
$ git merge  
Combines remote tracking branch into current local branch
```

```
$ git push  
Uploads all local branch commits to GitHub
```

```
$ git pull  
Updates your current local working branch with all new  
commits from the corresponding remote branch on GitHub.  
git pull is a combination of git fetch and git merge
```

GitHub Git Cheat Sheet

Make changes

Browse and inspect the evolution of project files

<code>\$ git log</code>	Lists version history for the current branch
<code>\$ git log --follow [file]</code>	Lists version history for a file, including renames
<code>\$ git diff [first-branch]...[second-branch]</code>	Shows content differences between two branches
<code>\$ git show [commit]</code>	Outputs metadata and content changes of the specified commit
<code>\$ git add [file]</code>	Snapshots the file in preparation for versioning
<code>\$ git commit -m "[descriptive message]"</code>	Records file snapshots permanently in version history

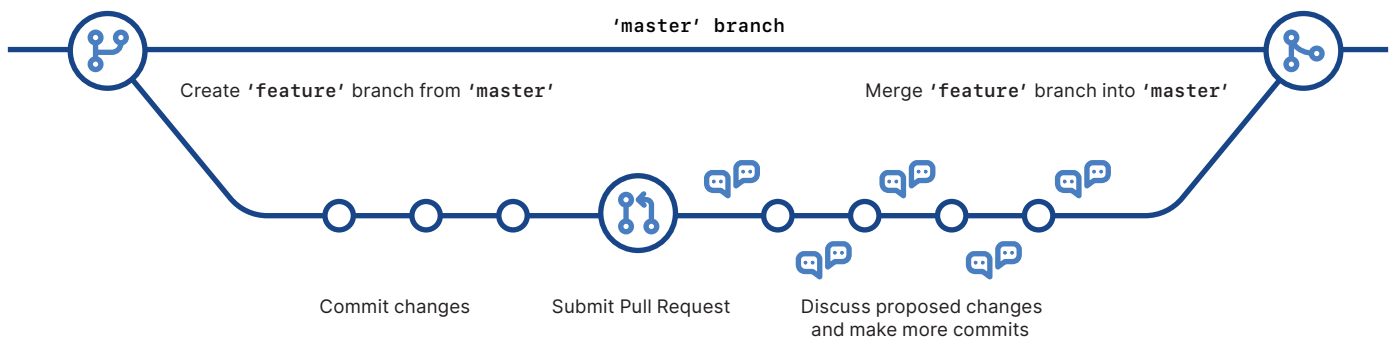
Redo commits

Erase mistakes and craft replacement history

<code>\$ git reset [commit]</code>	Undoes all commits after [commit], preserving changes locally
<code>\$ git reset --hard [commit]</code>	Discards all history and changes back to the specified commit

CAUTION! Changing history can have nasty side effects. If you need to change commits that exist on GitHub (the remote), proceed with caution. If you need help, reach out at [github.community](https://github.com/community) or contact support.

GitHub Flow



Glossary

git: an open source, distributed version-control system

GitHub: a platform for hosting and collaborating on Git repositories

commit: a Git object, a snapshot of your entire repository compressed into a SHA

branch: a lightweight movable pointer to a commit

clone: a local version of a repository, including all commits and branches

remote: a common repository on GitHub that all team member use to exchange their changes

fork: a copy of a repository on GitHub owned by a different user

pull request: a place to compare and discuss the differences introduced on a branch with reviews, comments, integrated tests, and more

HEAD: representing your current working directory, the HEAD pointer can be moved to different branches, tags, or commits when using `git checkout`

GitHub Training

Want to learn more about using GitHub and Git?
Email the Training Team or visit our web site for learning
event schedules and private class availability.

✉ services@github.com
📄 services.github.com

Git Cheat Sheet

Saturday, September 5, 2020
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Advanced Git Cheat Sheet

Command	Explanation & Link
git commit -a	Stages files automatically
git log -p	Produces patch text
git show	Shows various objects
git diff	Is similar to the Linux `diff` command, and can show the differences in various commits
git diff --staged	An alias to --cached, this will show all staged files compared to the named commit
git add -p	Allows a user to interactively review patches to add to the current commit
git mv	Similar to the Linux `mv` command, this moves a file
git rm	Similar to the Linux `rm` command, this deletes, or removes a file

Git Branches and Merging Cheat Sheet

Command	Explanation & Link
git branch	Used to manage branches
git branch <name>	Creates the branch
git branch -d <name>	Deletes the branch
git branch -D <name>	Forcibly deletes the branch
git checkout <branch>	Switches to a branch.
git checkout -b <branch>	Creates a new branch and switches to it.
git merge <branch>	Merge joins branches together.
git merge --abort	If there are merge conflicts (meaning files are incompatible), --abort can be used to abort the merge action.
git log --graph --oneline	This shows a summarized view of the commit history for a repo.

Basic Interaction with GitHub Cheat-Sheet

Command	Explanation & Link
git clone URL	Git clone is used to clone a remote repository into a local workspace
git push	Git push is used to push commits from your local repo to a remote repo
git pull	Git pull is used to fetch the newest updates from a remote repository

Git Remotes Cheat-Sheet

Command	Explanation & Links
git remote	Lists remote repos
git remote -v	List remote repos verbosely
git remote show <name>	Describes a single remote repo
git remote update	Fetches the most up-to-date objects
git fetch	Downloads specific objects
git branch -r	Lists remote branches ; can be combined with other branch arguments to manage remote branches