Git Cheat Sheet



# Git configuration

$ git config --global user.name “Your Name”

Set the name that will be attached to your commits and tags.

$ git config --global user.email “[you@example.com](mailto:you@example.com)”

Set the e-mail address that will be attached to your commits and tags.

$ git config --global color.ui auto

Enable some colorization of Git output.

# Starting A Project

$ git diff --staged [file]

1. **Day-To-Day Work**

$ git status

Displays the status of your working directory. Options include new, staged, and modified files. It will retrieve branch name, current commit identifier, and changes pending commit.

$ git add [file]

Add a file to the **staging** area. Use in place of the full file path to add all changed files from the **current directory** down into the **directory tree**.

$ git diff [file]

Show changes between **working directory** and **staging area**.

$ git init [project name]

Create a new local repository. If **[project name]** is provided, Git will create a new directory name **[project name]** and will initialize a repository inside it. If **[project name]** is not provided, then a new repository is initialized in the current directory.

$ git clone [project url]

Downloads a project with the entire history from the remote repository.

Shows any changes between the **staging area** and the **repository**.

$ git checkout -- [file]

Discard changes in **working directory**. This operation is **unrecovera- ble**.

$ git reset [file]

Revert your **repository** to a previous known working state.

$ git commit

Create a new **commit** from changes added to the **staging area**. The **commit** must have a message!

Remove file from **working directory** and **staging area**.

Put current changes in your **working directory** into **stash** for later use.

# 05 Review your work

$ git log [-n count]

List commit history of current branch. **-n count** limits list to last **n**

commits.

$ git rm [file]

$ git stash

$ git stash pop

$ git log --oneline --graph --decorate

Apply stored **stash** content into **working directory**, and clear **stash**.

$ git stash drop

Delete a specific **stash** from all your previous **stashes**.

# Git branching model

$ git branch [-a]

List all local branches in repository. With **-a**: show all branches (with remote).

$ git branch [branch\_name]

Create new branch, referencing the current **HEAD**.

An overview with reference labels and history graph. One commit

per line.

$ git log ref..

List commits that are present on the current branch and not merged into **ref**. A **ref** can be a branch name or a tag name.

$ git log ..ref

List commit that are present on **ref** and not merged into current branch.

$ git reflog

List operations (e.g. checkouts or commits) made on local repository.

$ git checkout [-b][branch\_name]

Switch **working directory** to the specified branch. With **-b**: Git will create the specified branch if it does not exist.

$ git merge [from name]

Join specified **[from name]** branch into your current branch (the one you are on currently).

$ git branch -d [name]

Remove selected branch, if it is already merged into any other.

**-D** instead of **-d** forces deletion.

# Tagging known commits 08 Synchronizing repositories

$ git tag

$ git fetch [remote]

List all tags. Fetch changes from the **remote**, but not update tracking branches.

$ git tag [name] [commit sha]

$ git fetch --prune [remote]

Create a tag reference named **name** for current commit. Add **commit sha** to tag a specific commit instead of current one.

$ git tag -a [name] [commit sha]

Create a tag object named **name** for current commit.

Delete remote Refs that were removed from the **remote** repository.

$ git pull [remote]

Fetch changes from the **remote** and merge current branch with its upstream.

$ git tag -d [name]

$ git push [--tags] [remote]

Remove a tag from local repository.

# Reverting changes

Push local changes to the **remote**. Use **--tags** to push tags.

$ git push -u [remote] [branch]

Push local branch to **remote** repository. Set its copy as an upstream.

$ git reset [--hard] [target reference]

Switches the current branch to the **target reference**, leaving a difference as an uncommitted change. When **--hard** is used, all changes are discarded.

**Commit** an object

**Branch** a reference to a commit; can have a **tracked upstream Tag** a reference (standard) or an object (annotated)

**Head** a place where your **working directory** is now

$ git revert [commit sha]

Create a new commit, reverting changes from the specified commit. It generates an **inversion** of changes.

# A Git installation

For GNU/Linux distributions, Git should be available in the standard system repository. For example, in Debian/Ubuntu please type in the **terminal**:

# D The zoo of working areas

$ sudo apt-get install git

If you need to install Git from source, you can get it from



Remote repository named **origin**? You’ve probably made **git clone** from here.

Another remote repository. Git is a **distributed** version control system. You can have as many remote repositories as you want. Just remember to update them frequently.

Remote repo

(name: origin)

Remote repo

(name: public)

Local repositories

Git fetch or git pull

Git push

Git push public master

Remote repositories

Git commit

Changes committed here will be safe. If you are doing backups! You are doing it, right?

Git reset HEAD

Git stash

Index (staging area)

Only index will be committed. Choose wisely what to add!

Git add

A kind of shelf for the mess you don’t want to include.

Git stash pop

Working

directory

You do all the hecking right here!

Stash

Repository

[git-scm.com/downloads](https://git-scm.com/downloads).

An excellent Git course can be found in the great **Pro Git** book by Scott Chacon and Ben Straub. The book is available online for free at [git-scm.com/book](https://git-scm.com/book).

# B Ignoring Files

|  |
| --- |
| $ cat .gitignore |
| /logs/\* |
| !logs/.gitkeep |
| /tmp |
| \*.swp |

Verify the .gitignore file exists in your project and ignore certain type of files, such as all files in **logs** directory (excluding the **.gitkeep** file), whole **tmp** directory and all files **\*.swp**. File ignoring will work for the directory (and children directories) where **.gitignore** file is placed.



Your **working directory** is here

This is a merge commit, it has two parents!

This is a tag. It looks like a version so it’s probably an object (annotated tag)

This is an initial commit, it has no parents

This is also a local branch

This is a tag. It looks like a developer’s note so it’s probably a reference, not an object.

This is a local branch. It is 3 commits ahead, you see it, right?

This is an upstream branch

**C Ignoring Files**

HEAD

Master

V1.0.1

working-version

fix/a

origin/fix/a