# **Git Cheat Sheet**



# 01 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"

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.

# 02 Starting A Project

\$ 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.

# 03 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 diff --staged [file]

Shows any changes between the staging area and the repository.

#### \$ git checkout -- [file]

Discard changes in **working directory**. This operation is **unrecoverable**.

# \$ 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!

# \$ git rm [file]

Remove file from working directory and staging area.

# \$ git stash

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

## \$ git stash pop

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

#### \$ git stash drop

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

# 04 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**.

## \$ 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.

# 05 Review your work

## \$ git log [-n count]

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

# \$ git log --oneline --graph --decorate

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.

# 06 Tagging known commits

## \$ git tag

List all tags.

## \$ git tag [name] [commit sha]

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.

# \$ git tag -d [name]

Remove a tag from local repository.

# **07 Reverting changes**

# \$ 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.

## \$ git revert [commit sha]

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

# 08 Synchronizing repositories

#### \$ git fetch [remote]

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

#### \$ git fetch --prune [remote]

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 push [--tags] [remote]

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.

Commit an objectBranch a reference to a commit; can have a tracked upstreamTag a reference (standard) or an object (annotated)

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

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# 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**:

## \$ sudo apt-get install git

If you need to install Git from source, you can get it from git-scm.com/downloads.

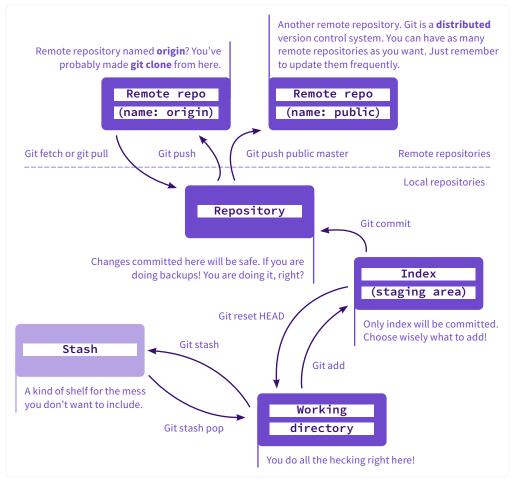
An excellent Git course can be found in the great **Pro Git** book by Scott Chacon and Ben Straub. The book is available online for free at <a href="mailto:git-scm.com/book">git-scm.com/book</a>.

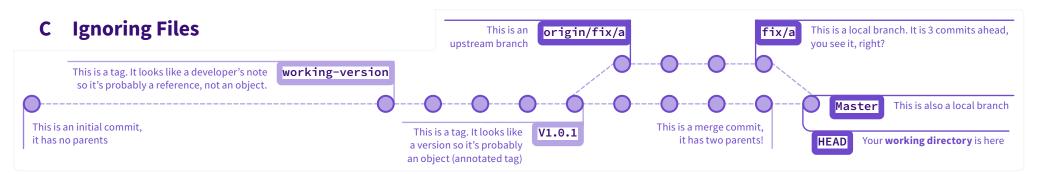
# **B** Ignoring Files

# \$ 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.

# D The zoo of working areas





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