# **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 GIT**

GitHub provides desktop clients that include a graphical user interface for the most common repository actions and an automatically updating command line edition of Git for advanced scenarios.

### **GitHub for Windows**

https://windows.github.com

### **GitHub for Mac**

https://mac.github.com

Git distributions for Linux and POSIX systems are available on the official  $\operatorname{Git}\operatorname{SCM}\operatorname{web}\operatorname{site}.$ 

#### Git for All Platforms

http://git-scm.com

### **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

### **CREATE REPOSITORIES**

Start a new repository or obtain one from an existing URL

\$ git init [project-name]

Creates a new local repository with the specified name

\$ git clone [url]

Downloads a project and its entire version history

### **MAKE CHANGES**

Review edits and craft a commit transaction

\$ git status

Lists all new or modified files to be committed

\$ git diff

Shows file differences not yet staged

\$ git add [file]

Snapshots the file in preparation for versioning

\$ git diff --staged

Shows file differences between staging and the last file version

\$ git reset [file]

Unstages the file, but preserve its contents

\$ git commit -m "[descriptive message]"

Records file snapshots permanently in version history

### **GROUP CHANGES**

Name a series of commits and combine completed efforts

\$ git branch

Lists all local branches in the current repository

\$ 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

\$ git branch -d [branch-name]

Deletes the specified branch

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### **REFACTOR FILENAMES**

Relocate and remove versioned files

\$ git rm [file]

Deletes the file from the working directory and stages the deletion

\$ git rm --cached [file]

Removes the file from version control but preserves the file locally

\$ git mv [file-original] [file-renamed]

Changes the file name and prepares it for commit

### **SUPPRESS TRACKING**

Exclude temporary files and paths

\*.log build/ temp-\*

A text file named .gitignore suppresses accidental versioning of files and paths matching the specified patterns

\$ git ls-files --other --ignored --exclude-standard

Lists all ignored files in this project

### **REVIEW HISTORY**

Browse and inspect the evolution of project files

\$ git log

Lists version history for the current branch

\$ git log --follow [file]

Lists version history for a file, including renames

\$ git diff [first-branch]...[second-branch]

Shows content differences between two branches

\$ git show [commit]

Outputs metadata and content changes of the specified commit

### **REDO COMMITS**

Erase mistakes and craft replacement history

\$ git reset [commit]

Undoes all commits after [commit], preserving changes locally

\$ git reset --hard [commit]

Discards all history and changes back to the specified commit

### SAVE FRAGMENTS

Shelve and restore incomplete changes

\$ git stash

Temporarily stores all modified tracked files

\$ git stash pop

Restores the most recently stashed files

\$ git stash list

Lists all stashed changesets

\$ git stash drop

Discards the most recently stashed changeset

### SYNCHRONIZE CHANGES

Register a repository bookmark and exchange version history

\$ git fetch [bookmark]

Downloads all history from the repository bookmark

\$ git merge [bookmark]/[branch]

Combines bookmark's branch into current local branch

\$ git push [alias] [branch]

Uploads all local branch commits to GitHub

\$ git pull

Downloads bookmark history and incorporates changes

### **GitHub** Education

Teach and learn better, together. GitHub is free for students and teachers. Discounts available for other educational uses.

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