Git Cheat Sheet

REBELLABS by ZEROTURNAROUND

Create a Repository

From scratch -- Create a new local repository

```
$ git init [project name]
```

Download from an existing repository

```
$ git clone my_url
```

Observe your Repository

List new or modified files not yet committed

```
$ git status
```

Show the changes to files not yet staged

```
$ git diff
```

Show the changes to staged files

```
$ git diff --cached
```

Show all staged and unstaged file changes

```
$ git diff HEAD
```

Show the changes between two commit ids

```
$ git diff commit1 commit2
```

List the change dates and authors for a file

```
$ git blame [file]
```

Show the file changes for a commit id and/or file

```
$ git show [commit]:[file]
```

Show full change history

```
$ git log
```

Show change history for file/directory including diffs

```
$ git log -p [file/directory]
```

Working with Branches

List all local branches

```
$ git branch
```

List all branches, local and remote

```
$ git branch -av
```

Switch to a branch, my_branch, and update working directory

```
$ git checkout my_branch
```

Create a new branch called new_branch

```
$ git branch new_branch
```

Delete the branch called my_branch

```
$ git branch -d my_branch
```

Merge branch_a into branch_b

```
$ git checkout branch_b
$ git merge branch_a
```

Tag the current commit

```
$ git tag my_tag
```

Make a change

Stages the file, ready for commit

```
$ git add [file]
```

Stage all changed files, ready for commit

```
$ git add .
```

Commit all staged files to versioned history

```
$ git commit -m "commit message"
```

Commit all your tracked files to versioned history

```
$git commit -am "commit message"
```

Unstages file, keeping the file changes

```
$ git reset [file]
```

Revert everything to the last commit

```
$ git reset --hard
```

Synchronize

Get the latest changes from origin (no merge)

```
$ git fetch
```

Fetch the latest changes from origin and merge

```
$ git pull
```

Fetch the latest changes from origin and rebase

```
$ git pull --rebase
```

Push local changes to the origin

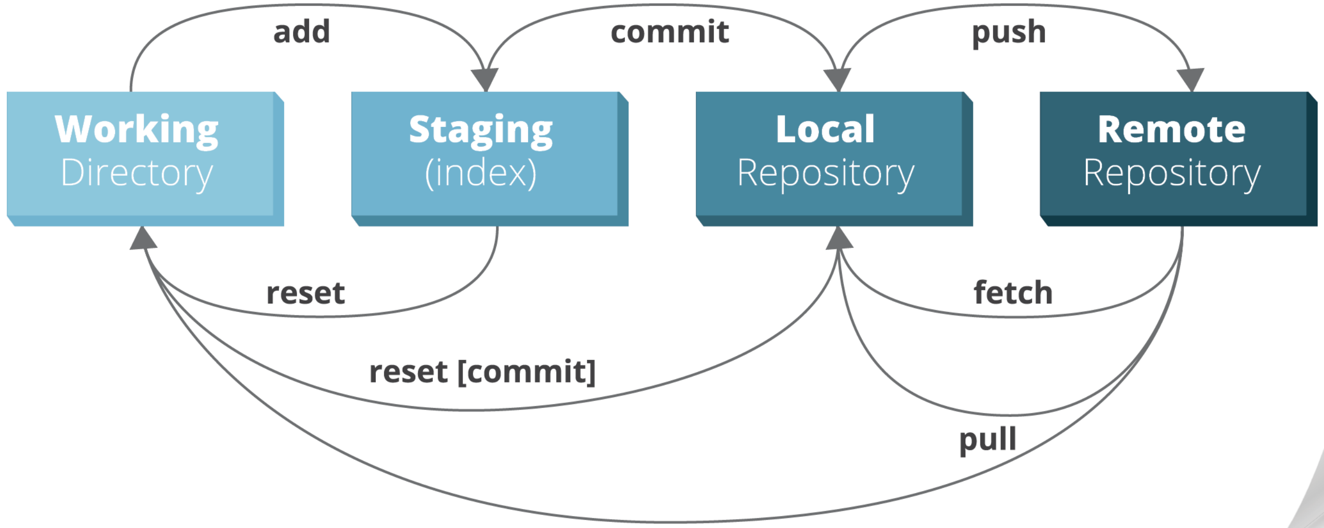
```
$ git push
```

Finally!

When in doubt, use git help

```
$ git command --help
```

Or visit https://training.github.com/ for official GitHub training.



BROUGHT TO YOU BY JRebel

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COMMAND LINE CHEAT SHEET

presented by **TOWER** › Version control with Git - made easy

DIRECTORIES

```
$ pwd
```
Display path of current working directory

```
$ cd <directory>
```
Change directory to <directory>

```
$ cd ..
```
Navigate to parent directory

```
$ ls
```
List directory contents

```
$ ls -la
```
List detailed directory contents, including hidden files

```
$ mkdir <directory>
```
Create new directory named <directory>

OUTPUT

```
$ cat <file>
```
Output the contents of <file>

```
$ less <file>
```
Output the contents of <file> using the less command (which supports pagination etc.)

```
$ head <file>
```
Output the first 10 lines of <file>

```
$ <cmd> > <file>
```
Direct the output of <cmd> into <file>

```
$ <cmd> >> <file>
```
Append the output of <cmd> to <file>

```
$ <cmd1> | <cmd2>
```
Direct the output of <cmd1> to <cmd2>

```
$ clear
```
Clear the command line window

FILES

```
$ rm <file>
```
Delete <file>

```
$ rm -r <directory>
```
Delete <directory>

```
$ rm -f <file>
```
Force-delete <file> (add -r to force-delete a directory)

```
$ mv <file-old> <file-new>
```
Rename <file-old> to <file-new>

```
$ mv <file> <directory>
```
Move <file> to <directory> (possibly overwriting an existing file)

```
$ cp <file> <directory>
```
Copy <file> to <directory> (possibly overwriting an existing file)

```
$ cp -r <directory1>
  <directory2>
```
Copy <directory1> and its contents to <directory2> (possibly overwriting files in an existing directory)

```
$ touch <file>
```
Update file access & modification time (and create <file> if it doesn't exist)

PERMISSIONS

```
$ chmod 755 <file>
```
Change permissions of <file> to 755

```
$ chmod -R 600 <directory>
```
Change permissions of <directory> (and its contents) to 600

```
$ chown <user>:<group> <file>
```
Change ownership of <file> to <user> and <group> (add -R to include a directory's contents)

SEARCH

```
$ find <dir> -name "<file>"
```
Find all files named <file> inside <dir> (use wildcards [*] to search for parts of filenames, e.g. "file.*")

```
$ grep "<text>" <file>
```
Output all occurrences of <text> inside <file> (add -i for case-insensitivity)

```
$ grep -rl "<text>" <dir>
```
Search for all files containing <text> inside <dir>

NETWORK

```
$ ping <host>
```
Ping <host> and display status

```
$ whois <domain>
```
Output whois information for <domain>

```
$ curl -O <url/to/file>
```
Download <file> (via HTTP[S] or FTP)

```
$ ssh <username>@<host>
```
Establish an SSH connection to <host> with user <username>

```
$ scp <file>
  <user>@<host>:/remote/path
```
Copy <file> to a remote <host>

PROCESSES

```
$ ps ax
```
Output currently running processes

```
$ top
```
Display live information about currently running processes

```
$ kill <pid>
```
Quit process with ID <pid>

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COMMAND LINE TIPS & TRICKS

presented by **TOWER** › Version control with Git - made easy

GETTING HELP

On the command line, help is always at hand: you can either type `man <command>` or `<command> --help` to receive detailed documentation about the command in question.

FILE PERMISSIONS

On Unix systems, file permissions are set using three digits: the first one representing the permissions for the owning user, the second one for its group, and the third one for anyone else.

Add up the desired access rights for each digit as following:

`4` – access/read (r)
`2` – modify/write (w)
`1` – execute (x)

For example, `755` means "rwx" for owner and "rx" for both group and anyone. `740` represents "rwx" for owner, "r" for group and no rights for other users.

COMBINING COMMANDS

If you plan to run a series of commands after another, it might be useful to combine them instead of waiting for each command to finish before typing the next one. To do so, simply separate the commands with a semicolon (`;`) on the same line.

Additionally, it is possble to execute a command only if its predecessor produces a certain result. Code placed after the `&&` operator will only be run if the previous command completes successfully, while the opposite `||` operator only continues if the previous command fails. The following command will create the folder "videos" only if the `cd` command fails (and the folder therefore doesn't exist):

```
$ cd ~/videos || mkdir ~/videos
```

THE "CTRL" KEY

Various keyboard shortcuts can assist you when entering text: Hitting `CTRL+A` moves the caret to the beginning and `CTRL+E` to the end of the line.

In a similar fashion, `CTRL+K` deletes all characters after and `CTRL+U` all characters in front of the caret.

Pressing `CTRL+L` clears the screen (similarly to the `clear` command). If you should ever want to abort a running command, `CTRL+C` will cancel it.

THE "TAB" KEY

Whenever entering paths and file names, the `TAB` key comes in very handy. It autocompletes what you've written, reducing typos quite efficiently. E.g. when you want to switch to a different directory, you can either type every component of the path by hand:

```
$ cd ~/projects/acmedesign/docs/
```

...or use the `TAB` key (try this yourself):

```
$ cd ~/pr[TAB]ojects/
  ac[TAB]medesign/d[TAB]ocs/
```

In case your typed characters are ambiguous (because "ac" could point to the "acmedesign" or the "actionscript" folder), the command line won't be able to autocomplete. In that case, you can hit `TAB` twice to view all possible matches and then type a few more characters.

THE ARROW KEYS

The command line keeps a history of the most recent commands you executed. By pressing the `ARROW UP` key, you can step through the last called commands (starting with the most recent). `ARROW DOWN` will move forward in history towards the most recent call.

Bonus tip: Calling the `history` command prints a list of all recent commands.

HOME FOLDER

File and directory paths can get long and awkward. If you're addressing a path inside of your home folder though, you can make things easier by using the `~` character. So instead of writing `cd /Users/your-username/projects/`, a simple `cd ~/projects/` will do.

And in case you should forget your user name, `whoami` will remind you.

OUTPUT WITH "LESS"

The `less` command can display *and paginate* output. This means that it only displays one page full of content and then waits for your explicit instructions. You'll know you have `less` in front of you if the last line of your screen either shows the file's name or just a colon (`:`).

Apart from the arrow keys, hitting `SPACE` will scroll one page forward, `b` will scroll one page backward, and `q` will quit the `less` program.

DIRECTING OUTPUT

The output of a command does not necessarily have to be printed to the command line. Instead, you can decide to direct it to somewhere else.

Using the `>` operator, for example, output can be directed to a file. The following command will save the running processes to a text file in your home folder:

```
$ ps ax > ~/processes.txt
```

It is also possible to pass output to another command using the `|` (pipe) operator, which makes it very easy to create complex operations. E.g., this chain of commands will list the current directory's contents, search the list for PDF files and display the results with the `less` command:

```
$ ls | grep ".pdf" | less
```

git cheat sheet

learn more about git the simple way at *rogerdudler.github.com/git-guide/*
cheat sheet created by Nina Jaeschke of *ninagrafik.com*

create & clone

create new repository	*git init*
clone local repository	*git clone /path/to/repository*
clone remote repository	*git clone username@host:/path/to/repository*

add & remove

add changes to INDEX	*git add <filename>*
add all changes to INDEX	*git add **
remove/delete	*git rm <filename>*

commit & synchronize

commit changes	*git commit -m "Commit message"*
push changes to remote repository	*git push origin master*
connect local repository to remote repository	*git remote add origin <server>*
update local repository with remote changes	*git pull*

branches

create new branch	*git checkout -b <branch>* *e.g. git checkout -b feature_x*
switch to master branch	*git checkout master*
delete branch	*git branch -d <branch>*
push branch to remote repository	*git push origin <branch>*

merge

merge changes from another branch	*git merge <branch>*
view changes between two branches	*git diff <source_branch> <target_branch>* *e.g. git diff feature_x feature_y*

tagging

create tag	*git tag <tag> <commit ID>* *e.g. git tag 1.0.0 1b2e1d63ff*
get commit IDs	*git log*

restore

replace working copy with latest from HEAD	*git checkout -- <filename>*

Tip
Want a simple but powerful git-client for your mac?
Try Tower: www.git-tower.com/

MARKDOWN SYNTAX

Markdown is a way to style text on the web. You control the display of the document; formatting words as bold or italic, adding images, and creating lists are just a few of the things we can do with Markdown. Mostly, Markdown is just regular text with a few non-alphabetic characters thrown in, like # or *.

HEADERS

```
# This is an <h1> tag
## This is an <h2> tag
###### This is an <h6> tag
```

EMPHASIS

```
*This text will be italic*
_This will also be italic_

**This text will be bold**
__This will also be bold__

*You **can** combine them*
```

BLOCKQUOTES

```
As Grace Hopper said:

> I've always been more interested
> in the future than in the past.
```

As Grace Hopper said:

> I've always been more interested
> in the future than in the past.

LISTS

Unordered

```
* Item 1
* Item 2
  * Item 2a
  * Item 2b
```

Ordered

```
1. Item 1
2. Item 2
3. Item 3
   * Item 3a
   * Item 3b
```

IMAGES

```
![GitHub Logo](/images/logo.png)

Format: ![Alt Text](url)
```

LINKS

```
http://github.com - automatic!

[GitHub](http://github.com)
```

BACKSLASH ESCAPES

Markdown allows you to use backslash escapes to generate literal characters which would otherwise have special meaning in Markdown's formatting syntax.

```
\*literal asterisks\*
```

literal asterisks

Markdown provides backslash escapes for the following characters:

\	backslash	()	parentheses
`	backtick	#	hash mark
*	asterisk	+	plus sign
_	underscore	-	minus sign (hyphen)
{}	curly braces	.	dot
[]	square brackets	!	exclamation mark

GITHUB FLAVORED MARKDOWN

GitHub.com uses its own version of the Markdown syntax that provides an additional set of useful features, many of which make it easier to work with content on GitHub.com.

USERNAME @MENTIONS

Typing an `@` symbol, followed by a username, will notify that person to come and view the comment. This is called an "@mention", because you're mentioning the individual. You can also @mention teams within an organization.

ISSUE REFERENCES

Any number that refers to an Issue or Pull Request will be automatically converted into a link.

```
#1
github-flavored-markdown#1
defunkt/github-flavored-markdown#1
```

EMOJI

To see a list of every image we support, check out **www.emoji-cheat-sheet.com**

```
GitHub supports emoji!
:+1: :sparkles: :camel: :tada:
:rocket: :metal: :octocat:
```

GitHub supports emoji!
👍✨🐫🎉🚀🤘🐙

FENCED CODE BLOCKS

Markdown coverts text with four leading spaces into a code block; with GFM you can wrap your code with ` ``` ` to create a code block without the leading spaces. Add an optional language identifier and your code with get syntax highlighting.

~~~
```javascript
function test() {
 console.log("look ma', no spaces");
}
```
~~~

```javascript
function test() {
  console.log("look ma', no spaces");
}
```

TASK LISTS

```
- [x] this is a complete item
- [ ] this is an incomplete item
- [x] @mentions, #refs, [links](),
**formatting**, and <del>tags</del>
supported
- [x] list syntax required (any
unordered or ordered list
supported)
```

- [x] this is a complete item
- [ ] this is an incomplete item
- [x] @mentions, #refs, links, **formatting**, and ~~tags~~ supported
- [x] list syntax required (any unordered or ordered list supported)

TABLES

You can create tables by assembling a list of words and dividing them with hyphens `-` (for the first row), and then separating each column with a pipe `|`:

```
First Header | Second Header
------------ | -------------
Content cell 1 | Content cell 2
Content column 1 | Content column 2
```

First Header	Second Header
Content cell 1	Content cell 2
Content column 1	Content column 2