## diff

# head / working dir

$ git diff

$ git difftool

# commit / working dir

$ git difftool master

# commit1 / commit2

$ git difftool master dev

# commit1 / commit2 for file.txt

$ git difftool master dev dir/file.txt

$ git difftool master dev -- "dir/file.txt"

# commit1:file1 / commit2:file2

$ git difftool dev:README.md master:rm.Extensions/Heap.cs

# diff of last 2 commits combined w/ head

$ git difftool head~2 head

# diff of last 2 commits combined w/ working dir

$ git difftool head~2

# diff of last 2 commits combined w/ staged working dir

$ git difftool head~2 --staged

# char level diff

$ git diff --color-words=.

## ancestry (parent) refs

# ^ parent by breadth

# ~ parent by depth

# ^ 1st parent (same as ^1)

# ~ 1st parent (same as ~1)

# ^2 2nd parent

# ~2 grandparent (1st parent's 1st parent)

# ^! no parents (roughly, ^ for parent, ! for no)

# How to see a diff of a commit?

$ git diff 4a5b6c7~ 4a5b6c7

$ git diff 4a5b6c7^!

## commit ranges

# What's new on origin/master?

(master)

$ git log ..origin/master

# double dot, triple dot

# dev..master = { d }

#

# a---b---c---d master

# \ dev...master = { d, e }

# --e dev

#

# master..dev = { e }

#

# dev master = { a, b, c, d, e }

# .. in e, but not in d

$ git log d..e

# ... in d or in e but not both

$ git log d...e

# ... in d or e or both

$ git log d e

## commit --amend

$ git commit

# topic

# ---o<--o<--A

#

$ git commit --amend

# ---o<--o<--A

# \

# A' topic

## stash

# -u includes untracked files

$ git stash save -u "comment"

# pop will remove if no conflicts, apply does not

$ git stash apply|pop

# v2.11+, no need to type stash@{1}

$ git stash apply|pop 1

# // this is the stashed commit

#

# \*-. WIP on dev

# |\ \

# | | |

# | | \* untracked files on dev

# | |

# | |

# | \* index on dev

# |/

# \* (dev) // point from where `git stash save -u` is ran

#

# use --index to restore index

$ git stash apply 3 --index

## commit message convention 54/\*

subject is 54 chars only

body is freeform. this can go on and on and on and on and on and on.

$ git log --oneline -1

8624263 (HEAD -> dev) subject is 54 chars only

# Please do not do this:

my subject is more than 54 chars so i decided to break

it down in this horrible, terrible, criminal way

body is freeform. this can go on and on and on and on and on and on.

$ git log --oneline -1

8624263 (HEAD -> dev) my subject is more than 54 chars so i decided to break it down in this horrible, terrible, criminal way

# There are exceptions:

# - Auto-generated messages

# - Quoted text

Merge remote-tracking branch 'origin/really-long-branch-name' into next

body is freeform. this can go on and on and on and on and on and on.

# Commits are forever, branches are not.

# - Try not to make typos in commits

# - Try not to make mistakes by putting incorrect ticket

## branch

# What branches is my branch merged into?

$ git fetch

$ git branch -r --contains origin/branch

# tracking branch info

$ git branch -v # verbose

$ git branch -vv # very verbose

# force move a branch

$ git branch -f <branch> <commit|branch>

$ git branch -f dev origin/dev

## checkout/clean

# undo all unstaged changes

$ git checkout .

# undo a file's unstaged changes

$ git checkout file.txt

# delete untracked files, dirs, build files

$ git clean -f [-d] [-x]

# delete interactive

$ git clean -i

# alias: git undo

$ git reset --hard && git clean -f

# to delete dirs also

$ git undo -d