

# Git Cheat Sheet

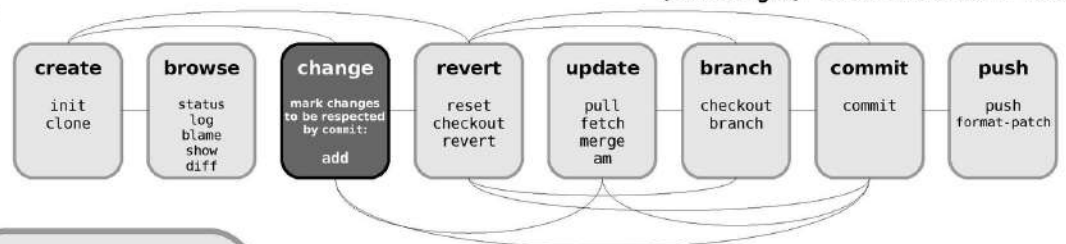
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Based on work by Zack Rusin

## Basics

Use `git help [command]` if you're stuck.

master	default devel branch
origin	default upstream branch
HEAD	current branch
HEAD^	parent of HEAD
HEAD~4	great-great grandparent of HEAD
foo..bar	from branch <code>foo</code> to branch <code>bar</code>

## (left to right) Command Flow



## Create

### From existing files

```
git init
git add .
```

### From existing repository

```
git clone ~/old ~/new
git clone git://...
git clone ssh://...
```

## Publish

In Git, `commit` only respects changes that have been marked explicitly with `add`.

```
git commit [-a]
```

(-a: add changed files automatically)

```
git format-patch origin
```

(create set of diffs)

```
git push remote
```

(push to origin or remote)

```
git tag foo
```

(mark current version)

## Useful Tools

```
git archive
```

Create release tarball

```
git bisect
```

Binary search for defects

```
git cherry-pick
```

Take single commit from elsewhere

```
git fsck
```

Check tree

```
git gc
```

Compress metadata (performance)

```
git rebase
```

Forward-port local changes to remote branch

```
git remote add URL
```

Register a new remote repository for this tree

```
git stash
```

Temporarily set aside changes

```
git tag
```

(there's more to it)

```
gitk
```

Tk GUI for Git

## Tracking Files

```
git add files
```

```
git mv old new
```

```
git rm files
```

```
git rm --cached files
```

(stop tracking but keep files in working dir)

## View

```
git status
git diff [oldid newid]
git log [-p] [file|dir]
git blame file
git show id (meta data + diff)
git show id:file
git branch (shows list, * = current)
git tag -l (shows list)
```

## Update

```
git fetch (from def. upstream)
```

```
git fetch remote
```

```
git pull (= fetch & merge)
```

```
git am -3 patch.mbox
```

```
git apply patch.diff
```

## Revert

In Git, `revert` usually describes a new commit that undoes previous commits.

```
git reset --hard (NO UNDO)
```

(reset to last commit)

```
git revert branch
```

```
git commit -a --amend
```

(replaces prev. commit)

```
git checkout id file
```

## Branch

```
git checkout branch
```

(switch working dir to branch)

```
git merge branch
```

(merge into current)

```
git branch branch
```

(branch current)

```
git checkout -b new other
```

(branch new from other and switch to it)

## Conflicts

Use `add` to mark files as resolved.

```
git diff [--base]
```

```
git diff --ours
```

```
git diff --theirs
```

```
git log --merge
```

```
gitk --merge
```

## Structure Overview

