Git Cheat Sheet

Remember!
`git <COMMAND> --help`

Global configuration is stored in ~/.gitconfig.
`git config --help`

master is the default development branch.
origin is the default upstream repository.

Create

From existing data
```
cd ~/my_project_directory
git init
git add .
```

From existing repository
```
git clone ~/existing_repo ~/new/repo
git clone git://host.org/project.git
git clone ssh://user@host.org/project.git
```

Show

Files changed in working directory
`git status`

Changes made to tracked files
`git diff`

What changed between ID1 and ID2
`git diff <ID1> <ID2>`

History of changes
`git log`

History of changes for file with diffs
`git log -p <FILE> <DIRECTORY>`

Who changed what and when in a file
`git blame <FILE>`

A commit identified by ID
`git show <ID>`

A specific file from a specific ID
`git show <ID>:<FILE>`

All local branches
`git branch`
star (*) marks the current branch

Revert

Return to the last commited state
`git reset --hard`
This cannot be undone!

Revert the last commit
`git revert HEAD`
Creates a new commit

Revert specific commit
`git revert <ID>`
Creates a new commit

Fix the last commit
`git commit -a --amend`
(after editing the broken files)

Checkout the ID version of a file
`git checkout <ID> <FILE>`

Update

Fetch latest changes from origin
`git fetch`
(this does not merge them)

Pull latest changes from origin
`git pull`
(does a fetch followed by a merge)

Apply a patch that someone sent you
`git am -3 patch.mbox`
In case of conflict, resolve the conflict and
`git am --resolved`

Publish

Commit all your local changes
`git commit -a`

Prepare a patch for other developers
`git format-patch origin`

Push changes to origin
`git push`

Make a version or milstone
`git tag v1.0`

Branch

Switch to a branch
`git checkout <BRANCH>`

Merge BRANCH1 into BRANCH2
```
git checkout <BRANCH2>
git merge <BRANCH1>
```

Create branch BRANCH based on HEAD
`git branch <BRANCH>`

Create branche BRANCH based on OTHER and switch to it
`git checkout -b <BRANCH> <OTHER>`

Delete branch BRANCH
`git branche -d <BRANCH>`

Resolve merge conflicts

View merge conflicts
`git diff`

View merge conflicts against base file
`git diff --base <FILE>`

View merge conflicts against your changes
`git diff --ours <FILE>`

View merge conflicts against other changes
`git diff --theirs <FILE>`

Discard a conflicting patch
```
git reset --hard
git rebase --skip
```

After resolving conflicts, merge with
```
git add <CONFLICTING_FILE>
git rebase --continue
```

Workflow