Git, a version control system, tracks changes in files and coordinates work on those files among multiple people. Other VCS are *Subversion* or *Mercurial*.

Initialisation

git clone

git clone <url> clones an existing repository into new directory.

git init

git init creates an empty Git repository.

Introducing changes

git add

git add <file> stages a file.

git add -p <file> stages a file interactively.

git commit

git commit -m commits staged files with a message.

git commit --amend modifies a commit (and rewrites history!)

Branches

git branch

git branch lists all local branches.

git branch -av lists all local and remote branches.

git branch <branch> creates a new branch.

git branch -d <branch> deletes a branch.

git branch --contains <commit> lists branches with given commit.

git checkout

git checkout <branch> switches to an existing branch and updates working directory.

git checkout -b <branch> creates a new branch and switches to it.

git checkout --orphan <branch> ?.

git chery-pick

git cherry-pick <commit> adds a commit on top of current branch.

git merge

git merge <branch> merges all changes into current branch. Combined with **fetch** almost equals **pull**.

git merge --abort ?.

git rebase

git rebase <branch> rebases: reapplies commits on top of another base tip.

git rebase -i HEAD~<number> rebases interactively.

git rebase abort

git remote

git remote -v lists tracked remote repositories.

git remote show <remote> shows information about remote repository.

git remote add <name> <url> adds a new remote repository.

Observing changes

git blame

git blame <file> shows what revision and author last modified each line of a file.

git diff

git diff lists unstaged changes.

git diff <commit> lists changes between workspace and the commit. **git diff <commit> <commit>** shows changes between two commits. Above commands work with **<branch>** in place of **<commit>** too.

git diff --cached shows changes to staged files.

git log

git log shows full version history.

git log -p <file> shows file's change history.

git log --follow <file> includes renames.

git log --oneline shows compact history.

git log --all --decorate --oneline --graph

git show

git show <commit>:<file> shows contents of a file.

git status

git status lists new and modified files.

Undoing changes

git reset

git reset <file> unstages file but keeps the changes.

git reset --hard <file> throws away all local changes.

git revert

git revert <commit> undoes a commit.

(Re)moving

git mv moves.

git rm removes.

Syncronising

git fetch

git fetch <remote> gets the latest changes from origin without merge.

git pull

git pull <remote> <branch> fetches latest changes and merges

git pull —rebase fetches latest changes and rebases.

git push

git push <remote> <branch> pushes local changes to origin

Various

git tag

git tag <tagname> tags the current commit.