# Version control – Git

## Terminology

* Commit = snapshot of files of your project
* Repo = directory containing your project
* Working directory = files in your local
* Checkout = content in repo has been copied to Working directory
* Stagging area = area where files will be added to the repo
  + Git add .
* SHA = unique identifier number of commit
* A close-up of a sign

  Description automatically generated

## Git commands

### Create a repo

* Git init = create a local repo
* Git clone httpsAdresse = copy remote repo on your local

### Useful

* Git status = check status of a repo
  + Show the branch
  + If copied from remote repo, it will tell you the synchronization
  + Stagging area

### History

* Git log = show all commits
  + q = to quit
  + arrows up and down = move
  + git log --oneline = display shorter version
  + git log --stat = display more precise version with files modified
  + git log --p = display changes
  + if you add SHA after the command => will begin at the corresponding commit
  + git log --oneline --decorate --graph --all = show all commits on all branches
* Git show SHA = show a given commit
  + --p
  + --stat

### Delete a repo

* rm -fr .git = go in the working directory and simply delete the .git file
* git status = to check if good, should display an error

### From Working directory to stagging area

* git add . = add all files or a specific to stagging area
* git status = check all files ready to be committed
* git rm --cached <file> = remove files from stagging area

### From stagging area to local repo

* git commit -m “msg”

### Tagging

* git tag = add tag to a specific commit
  + git tag -a V1.0 = add a tag named V1.0
  + git tag = display all tags in the repo
  + git tag -d V1.0 = delete tag named V1.0
  + git tag -a V0.9 SHA = add a tag to an older commit

### Branching

* HEAD pointer = active branch
* git branch NameOfBranch = create a new branch
* git branch = list all branches
* git branch -d NameOfBranch = delete this branch
* git checkout = switch between branch and tags

### Merging

* git merge BranchToMergeIn = combine change on different branches

### Undo

* git commit --amend = atler the most recent commit
* git revert SHA = revert to specific commit
* git reset = delete commits

### Pull from remote repo

* git pull

### Setup remote repo

* either create an online on github and github or
  + init one local and create a new repo on github
  + git remote add origin httpsAdress
  + git push -u origin master
  + origin = name of the remote repo

## Gitignore

* as we will git add . => add all element we can use a .gitignore file where we will specify all file that we don’t want to add
* if there is many files you can use [globbing](https://en.wikipedia.org/wiki/Glob_(programming))