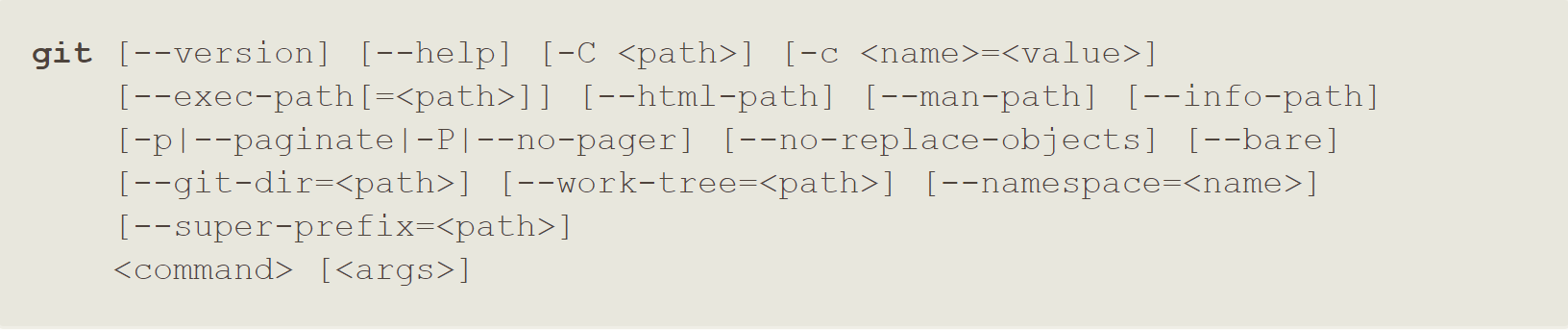
Git

Agenda:

1. Setup and Config
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   2. config
   3. help
2. Getting and Creating Projects
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   2. clone
3. Basic Snapshotting
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   2. status
   3. diff
   4. commit
   5. notes
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   7. reset
   8. rm
   9. mv
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   3. switch
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   5. mergetool
   6. log
   7. stash
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   9. worktree
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   6. shortlog
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8. Patching
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9. Debugging
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10. Email
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    4. send-email
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11. External Systems
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12. Administration
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    2. gc
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    5. filter-branch
    6. instaweb
    7. archive
    8. bundle
13. Server Admin
    1. daemon
    2. update-server-info
14. Plumbing Commands
    1. cat-file
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    3. checkout-index
    4. commit-tree
    5. count-objects
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    10. ls-tree
    11. merge-base
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    15. show-ref
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    17. update-index
    18. update-ref
    19. verify-pack
    20. write-tree
15. Setup and Config
    1. Git



**Prints the Git suite version that the git program came from.**

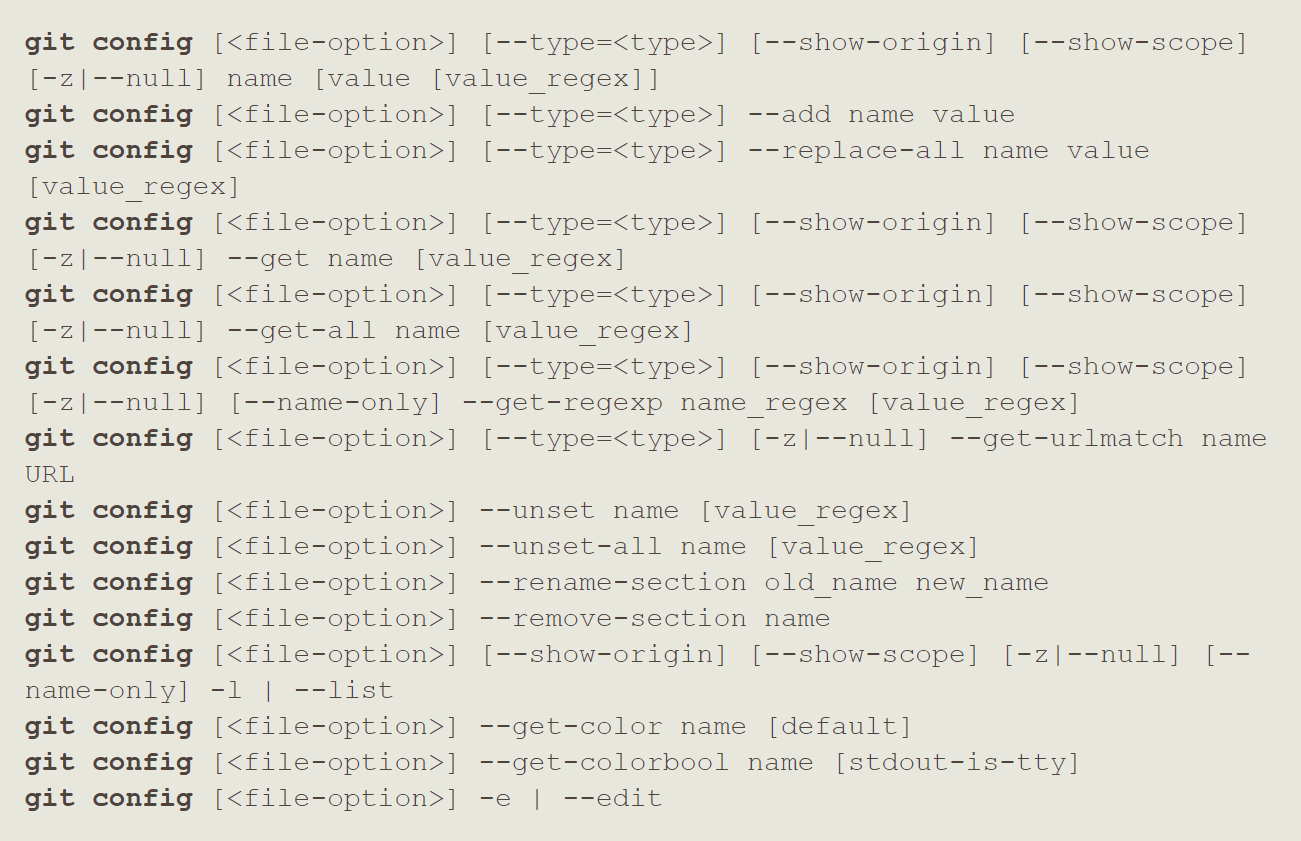
**$ git --version**

**Prints the synopsis and a list of the most commonly used commands.**

**$ git --help**

**$ git --help --all | -a**

* 1. Config



**Checking configuration settings:**

**$ git config --list**

**You can view all of your settings and where they are coming from using:**

**$ git config –-list --show-origin**

**Set your user name and email address globally:**

**$ git config --global user.name "<username>"**

**$ git config --global user.email <email>**

**Set your user name and email address for a specific project:**

**$ git config user.name "<username>"**

**$ git config user.email <email>**

**Set up text editor for git:**

**$ git config --global core.editor <editor-name>**

**You can also check what Git thinks a specific key’s value is by typing:**

**$ git config <key>**

**Git aliases:**

**$ git config --global alias.<p> “<r>”**

**~ p: placeholder string**

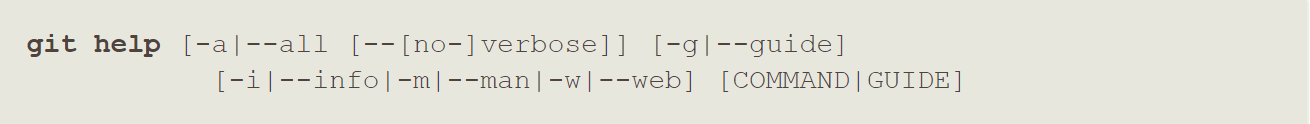
**~ r: replacement string**

**Git aliases remove:**

**$ git config --global --unset alias.<p>**

**~ p: placeholder string**

* 1. Help



**If you ever need help while using Git, there are three equivalent ways to get the comprehensive manual**

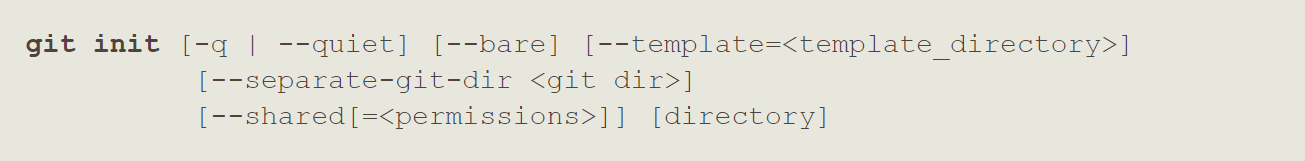
**page (manpage) help for any of the Git commands:**

**$ git help <verb>**

**$ git <verb> --help**

**$ man git-<verb>**

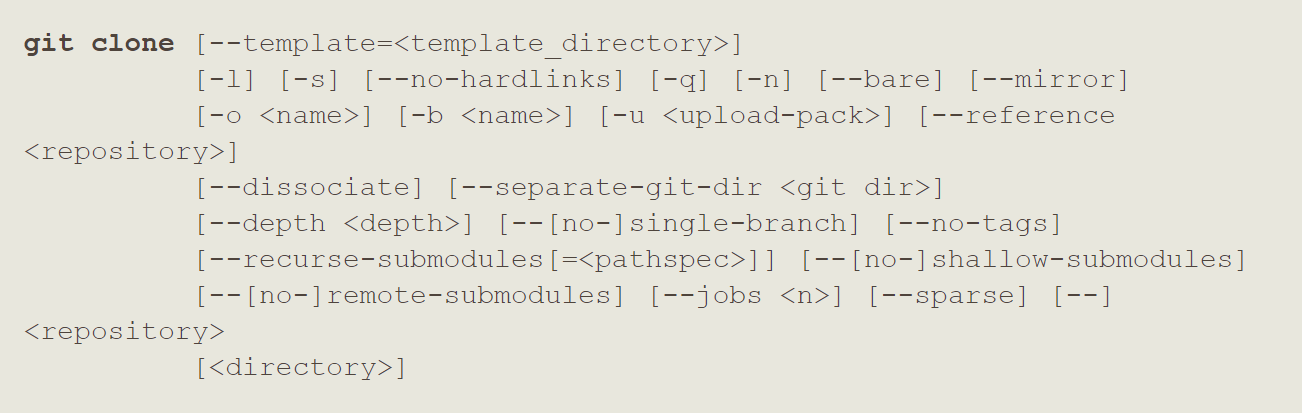
1. Getting and Creating Projects
   1. Init



**Creating a git repository:**

**$ git init**

* 1. Clone

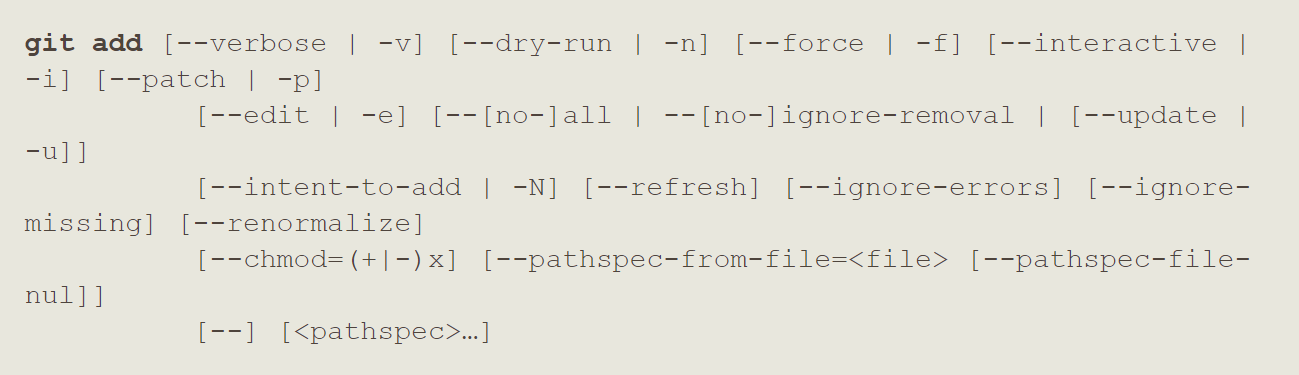


**Cloning an existing repository:**

**$ git clone <url>**

**$ git clone <url> <filename>**

1. Basic Snapshotting
   1. Add



**Tracking new files:**

**$ git add <filename>**

**$ git add . ~track all files**

* 1. Status



**Checking status of files:**

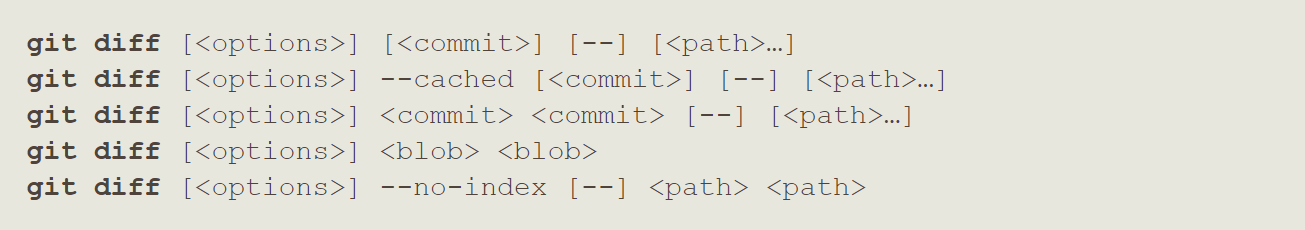
**$ git status**

**Short status:**

**$ git status -s**

**$ git status --short**

* 1. Diff



**See changes between modified & unstaged file:**

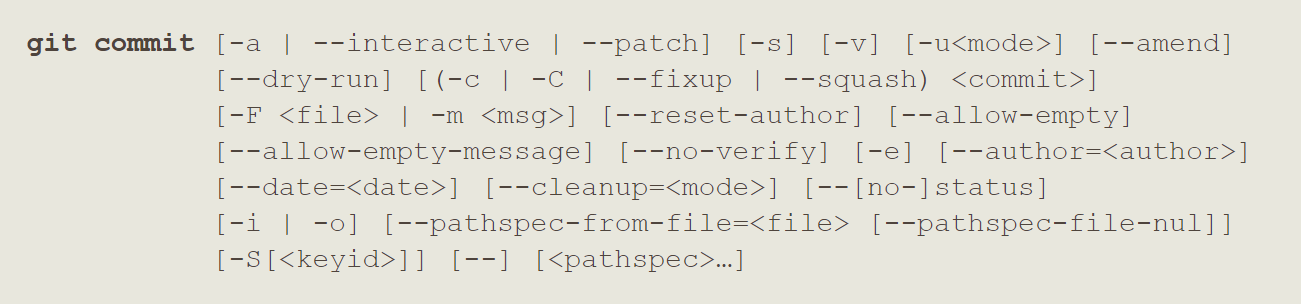
**$ git diff**

**See changes between staged & last commit:**

**$ git diff –-staged**

**$ git diff --cached**

* 1. Commit



**Simple commit:**

**$ git commit**

**Put the diffs in the commit:**

**$ git commit -v**

**Commit with message inline:**

**$ git commit -m “<message>”**

**Skip the staging area and direct commit:**

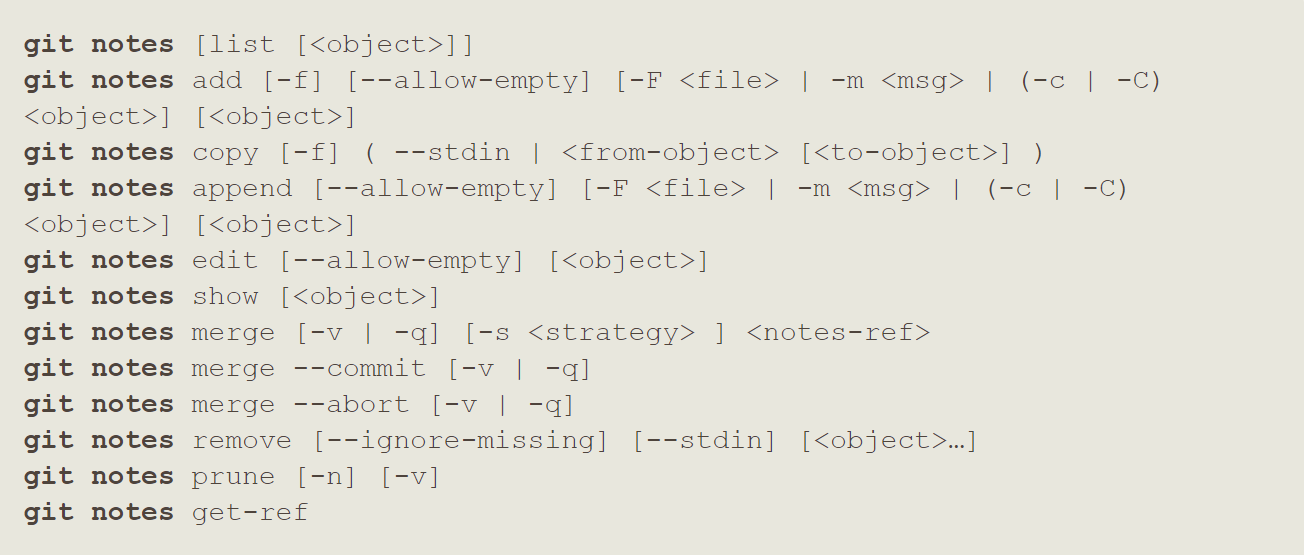
**$ git commit -a -m “<message>”**

**$ git commit -am “<message>”**

**If you want to redo that commit, make the additional changes you forgot, stage them, and commit again:**

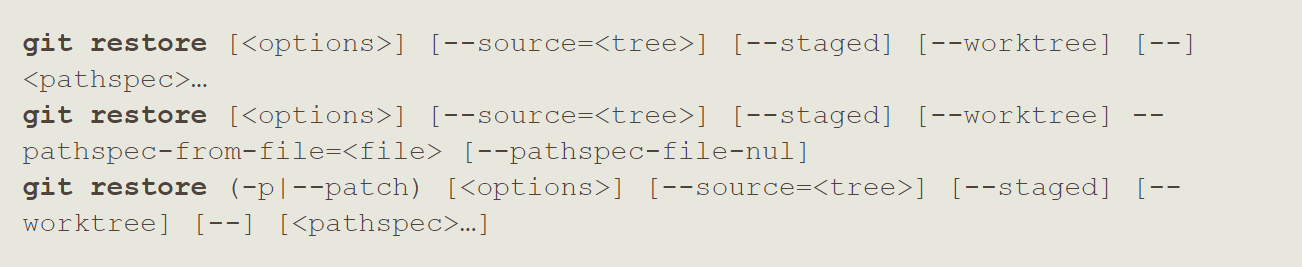
**$ git commit --amend**

* 1. Notes



**$**

* 1. Restore



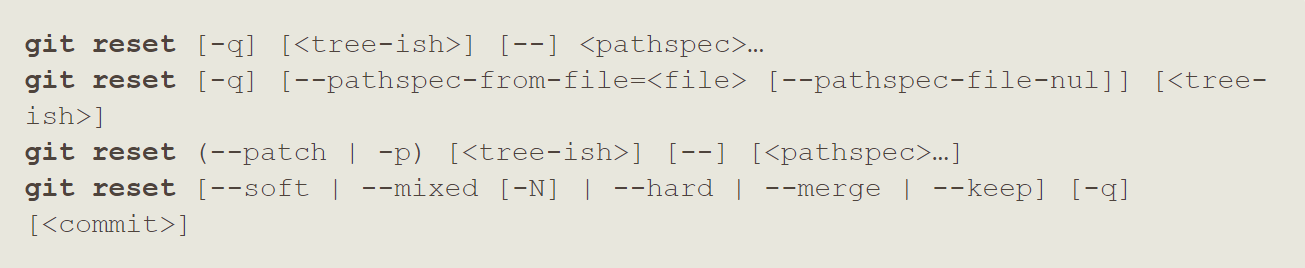
**Unstaging a Staged File:**

**$ git restore --staged <filename>**

**Unmodifying a Modified File:**

**$ git restore <filename>**

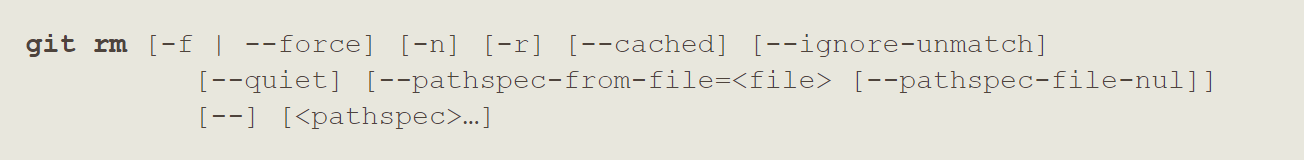
* 1. Reset



**Unstaging a Staged File:**

**$ git reset HEAD <filename>**

* 1. Rm



**Removing files:**

**$ git rm <filename>**

**$ git rm <directories> | <file-globe-patterns>**

**Force removal:**

**$ git rm -f <filename>**

**Untrack a file:**

**$ git rm –-cached <filename>**

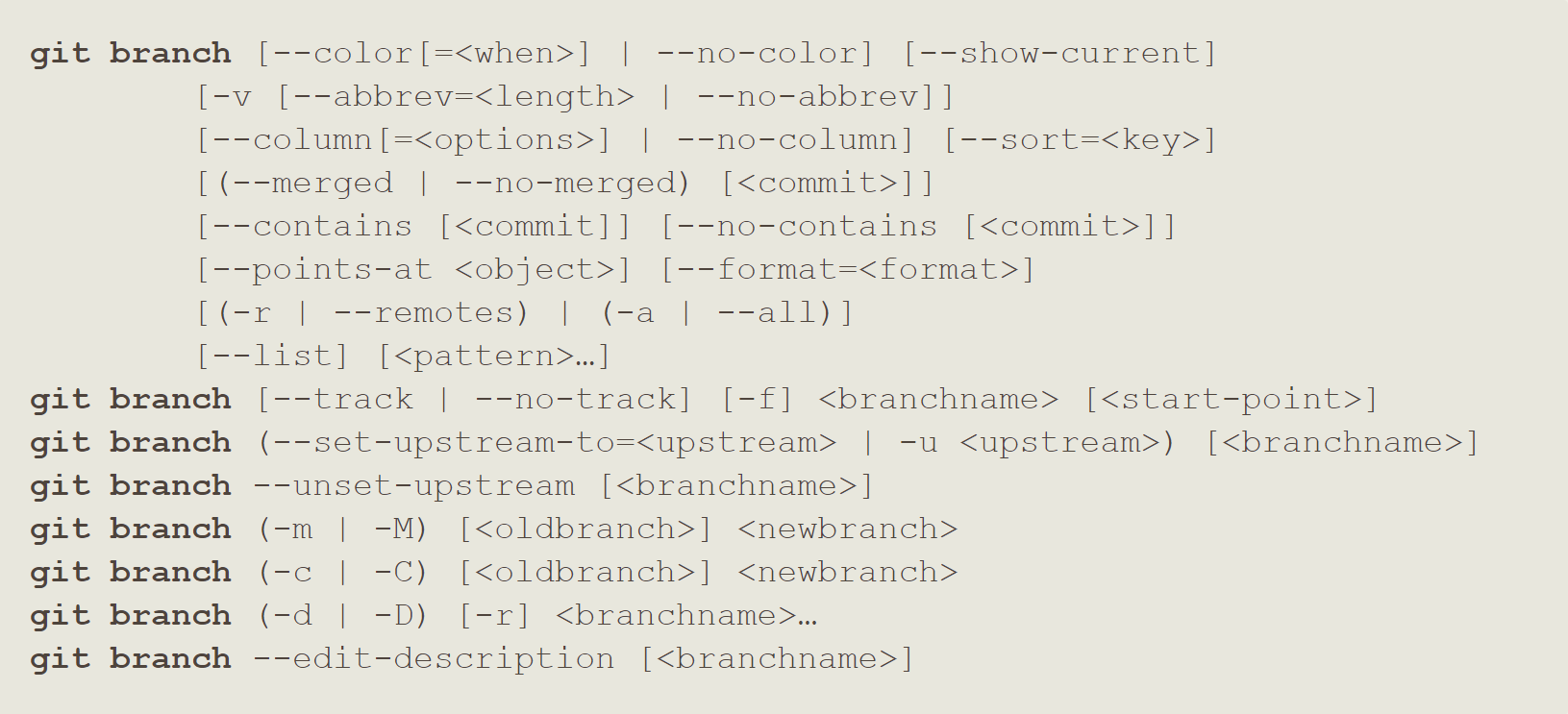
* 1. Mv



**Renaming a file:**

**$ git mv <old-filename> <new-filename>**

1. Branching and Merging
   1. Branch



**Create new branch:**

**$ git branch <branch-name>**

**Track remote branch:**

**$ git branch --set-upstream-to=<rb> <lb>**

**~ rb: remote branch**

**~ lb: local branch**

**$ git branch -u <remote>/<branch>**

**List all branches:**

**$ git branch**

**Delete branch:**

**$ git branch -d <branch-name>**

**See the last commit of each branch:**

**$ git branch -v**

**Show branched merged or not merged:**

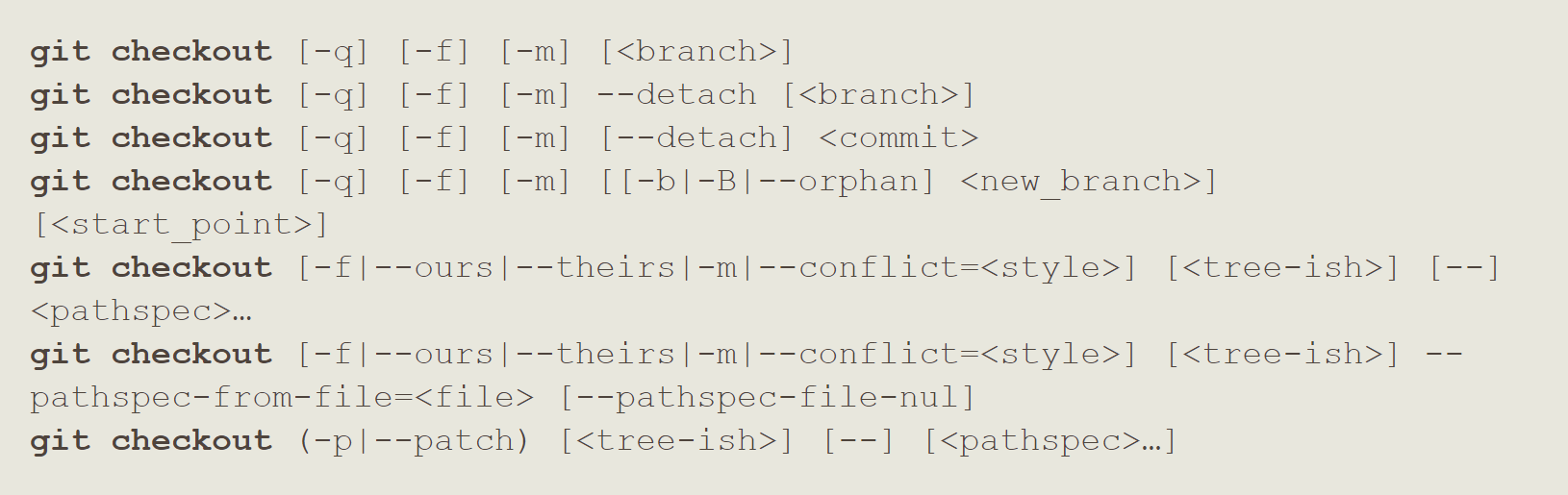
**$ git branch --merged**

**$ git branch --no-merged**

**List branch with their remotes:**

**$ git branch -vv**

* 1. Checkout



**Unmodifying a Modified File:**

**$ git checkout -- <filename>**

**Checking out tags:**

**$ git checkout <tagname>**

**Switch new branch:**

**$ git checkout <branch-name>**

**Create and Switch to new branch:**

**$ git checkout -b <branch-name>**

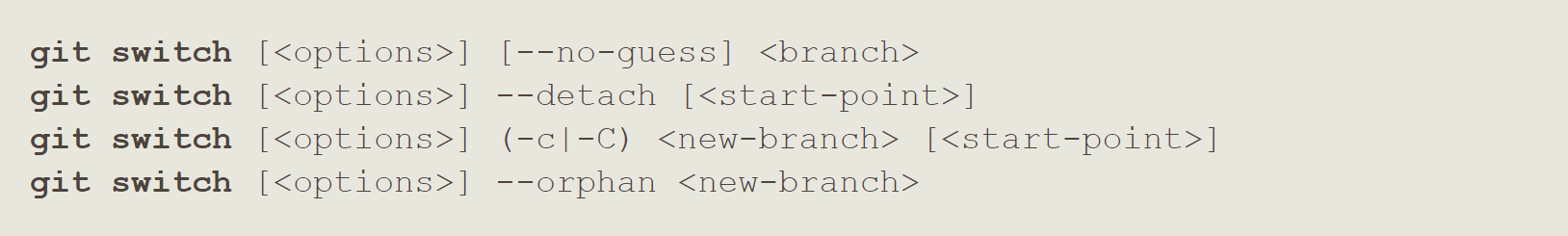
**Pull remote branch to local branch:**

**$ git checkout -b <branch> <remote>/<branch>**

**$ git checkout –track <remote>/<branch>**

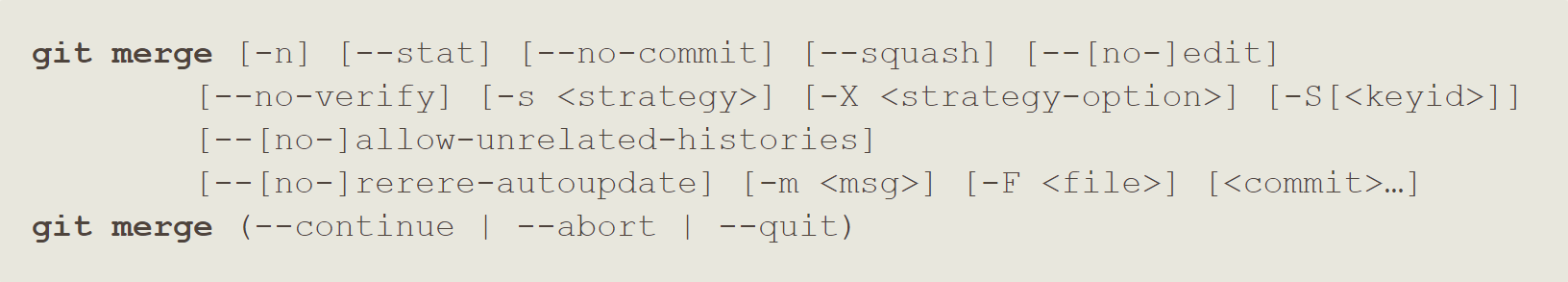
**$ git checkout <branch> ~ if not in local and only in remote**

* 1. Switch



**$**

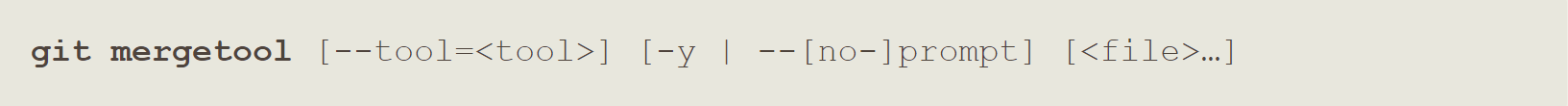
* 1. Merge



**Merging branch:**

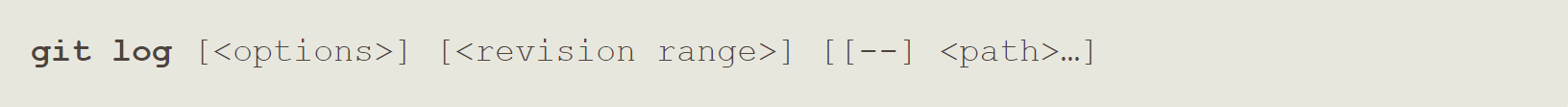
**$ git merge <branch-name>**

* 1. Mergetool



**$**

* 1. Log



**Viewing commit history:**

**$ git log**

**History with difference:**

**$ git log -p**

**$ git log –-patch**

**History with difference and limit:**

**$ git log -p -<n> ~ n: positive integer**

**History with stats & shortstats:**

**$ git log --stat**

**$ git log –-shortstat**

**Formatted History:**

**$ git log --pretty=<option>**

**~ option: oneline, short, full, fuller, format**

**$ git log --pretty=format:”format-options”**

**Formatted History with graph:**

**$ git log --pretty=<option> --graph**

**Show the list of files modified after the commit information:**

**$ git log --name-only**

**Show the list of files affected with added/ modified / deleted information as well:**

**$ git log --name-status**

**Show only the first few characters of the SHA-1 checksum instead of all 40:**

**$ git log --abbrev-commit**

**Display the date in a relative format (for example, “2 weeks ago”) instead of using the full date format:**

**$ git log --relative-date**

**Limiting log output:**

**$ git log --since=<n>.<days-weeks-years>**

**$ git log --until=<n>.<days-weeks-years>**

**$ git log --before=<n>.<days-weeks-years>**

**$ git log --after=<n>.<days-weeks-years>**

**$ git log --since=”<specific-date , relative date>”**

**Only show commits in which the author entry matches the specified string:**

**$ git log –author <author-name>**

**Only show commits in which the committer entry matches the specified string:**

**$ git log --committer <committer-name>**

**Only show commits with a commit message containing the string:**

**$ git log --grep “<string>”**

**Only show commits adding or removing code matching the string:**

**$ git log -S “<string>”**

**Prevent the display of merge commits:**

**$ git log --no-merges**

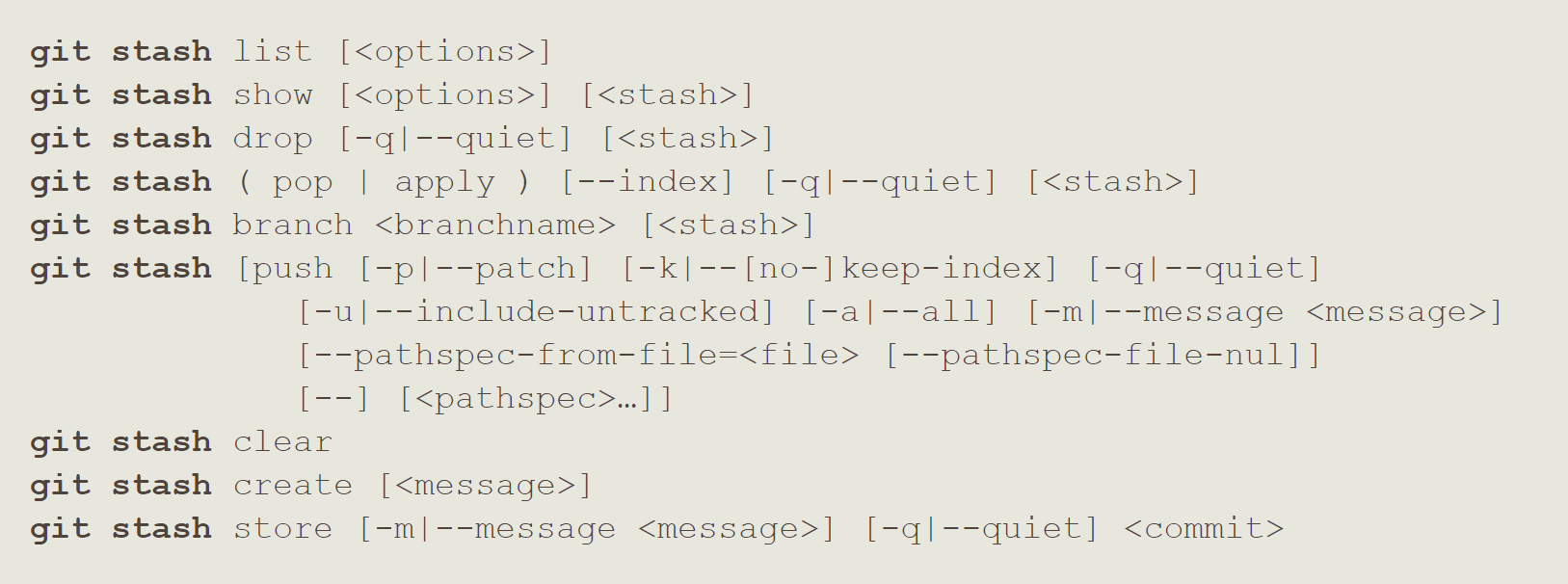
**Show all branch and their commit:**

**$ git log –-all**

**Divergent history:**

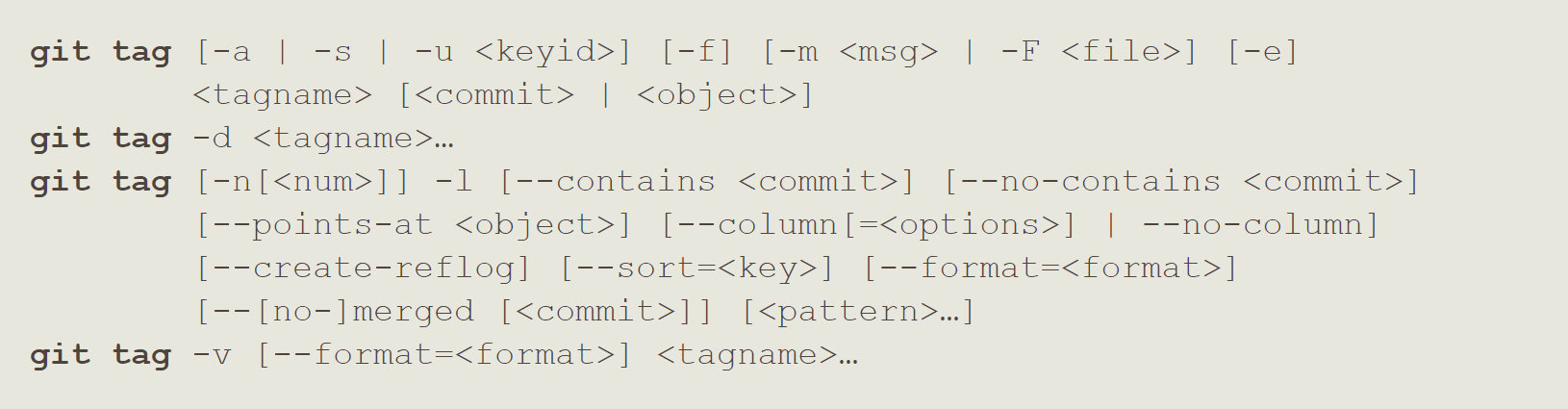
**$ git log --oneline --graph –-all**

* 1. Stash



**$**

* 1. Tag



**Listing all your tags:**

**$ git tag**

**Search for tags that match a particular pattern:**

**$ git tag –-list “<wildcard-pattern>”**

**$ git tag -l “<wildcard-pattern>”**

**Creating an annotated tag:**

**$ git tag -a <version> -m “<tagging-message>”**

**Deleting tags:**

**$ git tag -d <tagname>**

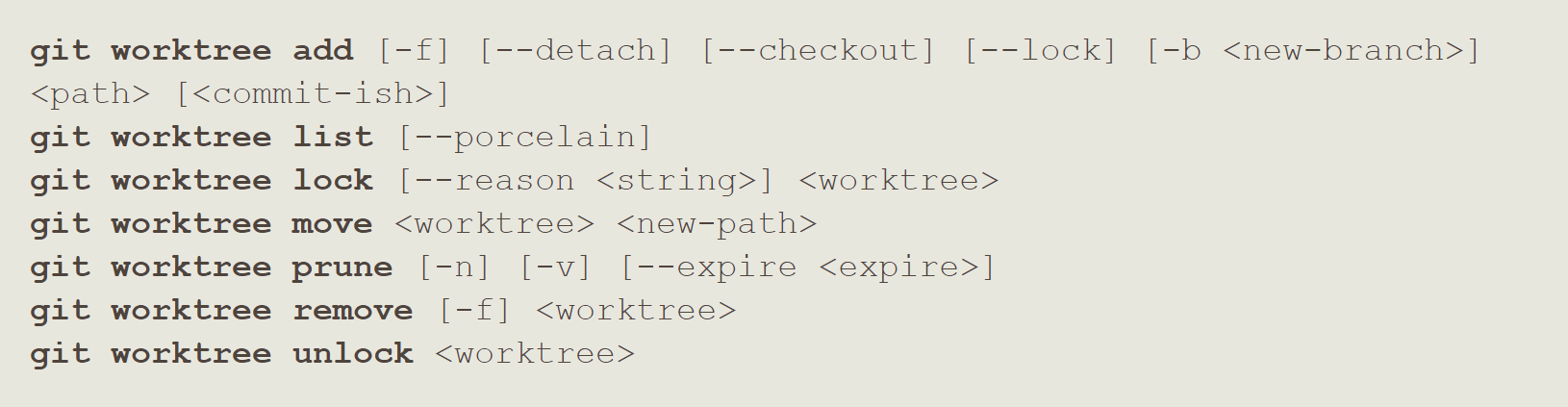
**Creating an lightweight tag:**

**$ git tag <version>**

**Tag a specific commit:**

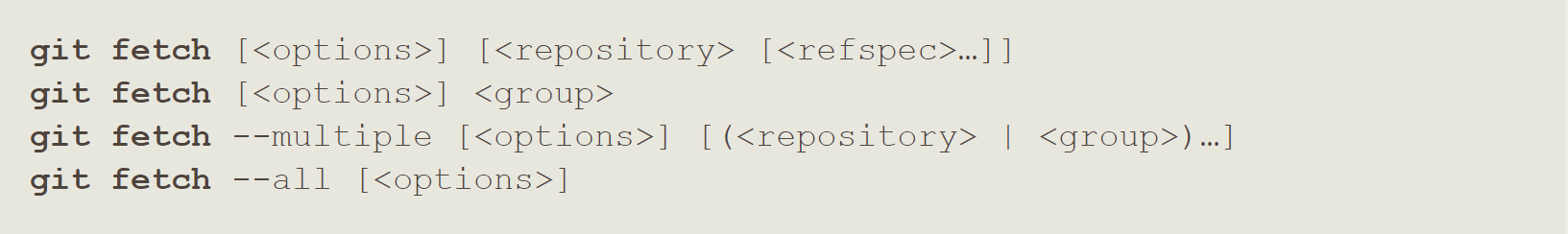
**$ git tag -a <version> <commit-checksum>**

* 1. Worktree



**$**

1. Sharing and Updating Projects
   1. Fetch



**Fetching remote repository:**

**$ git fetch <remote>**

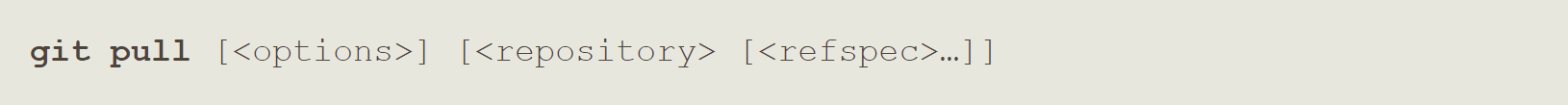
**Fetch everything:**

**$ git fetch –-all**

**Fetch all deleted branch from remote:**

**$ git fetch -p**

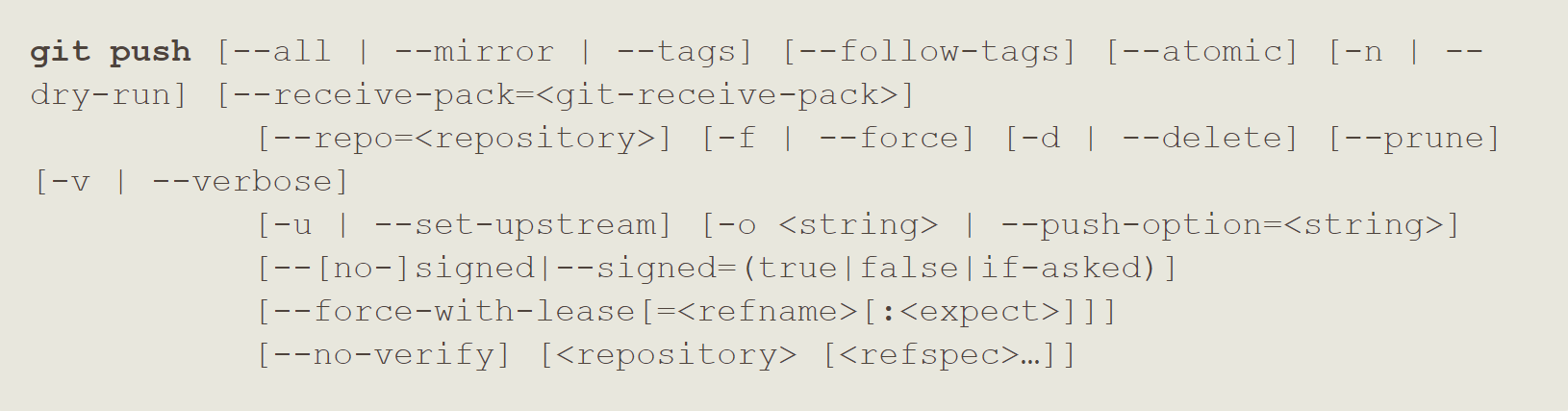
* 1. Pull



**Pulling remote repository:**

**$ git pull <remote>**

* 1. Push



**Pushing remote repository:**

**$ git push <remote> <branch>**

**Transferring tags to remotes:**

**$ git push <remote> <tagname>**

**Transferring all the tags:**

**$ git push <remote> --tags**

**Deleting tags from remotes:**

**$ git push <remote> :refs/tags/<tagname>**

**$ git push <remote> --delete <tagname>**

**Push local branch to remote:**

**$ git push <remote> <branch>**

**Push local branch to remote with different name:**

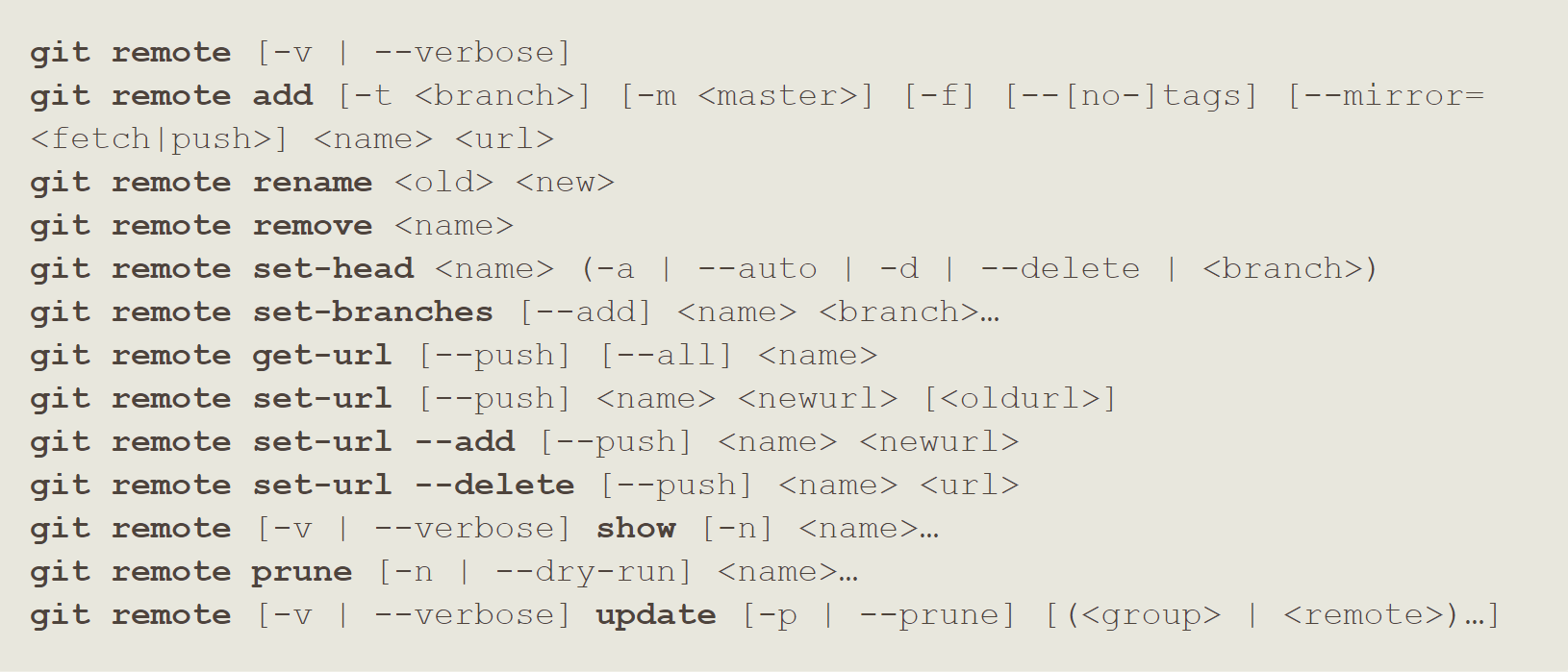
**$ git push <remote> <branch>:<diffbranch>**

**Delete remote branch:**

**$ git push <remote> --delete <branch>**

**$ git push <remote> -d <branch>**

* 1. Remote



**Showing Your Remotes:**

**$ git remote**

**Showing the URLs that git has stored for the shortname to be used when reading and writing to that remote:**

**$ git remote -v**

**Adding Remote Repositories:**

**$ git remote add <shortname> <url>**

**Inspecting a remote:**

**$ git remote show <remote>**

**Renaming a remote:**

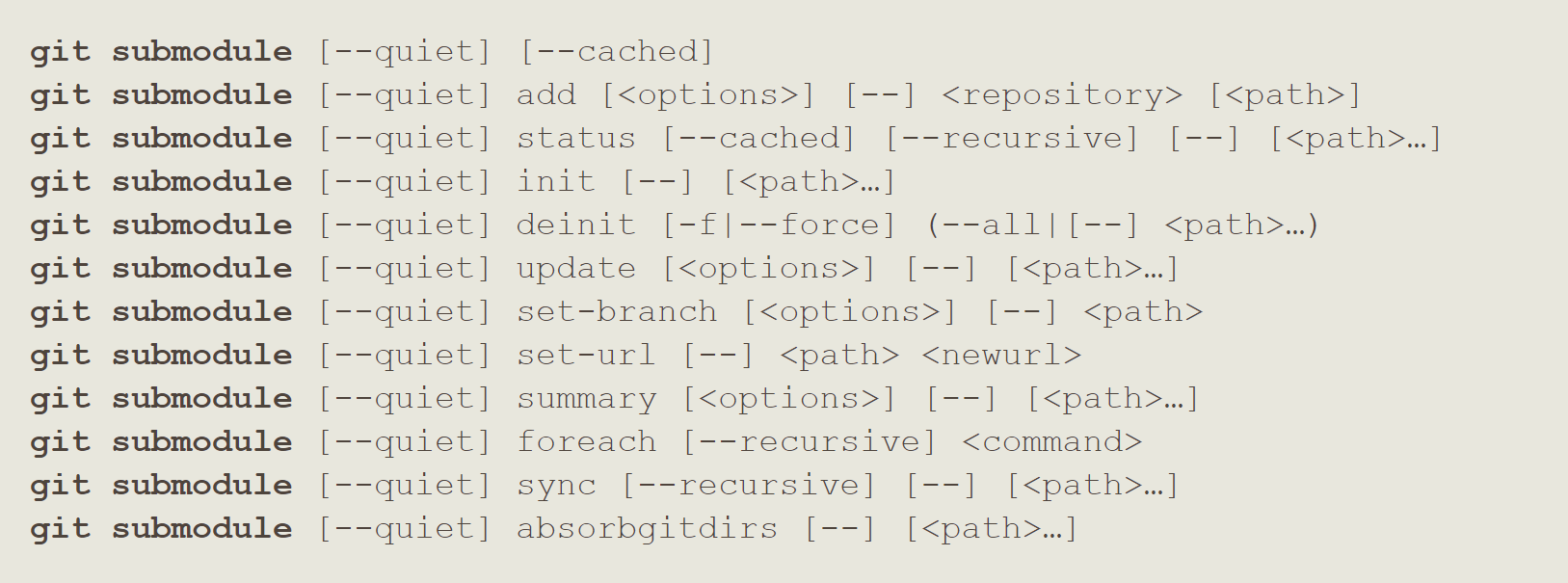
**$ git remote remove <remote>**

**List of remote references and their info:**

**$ git ls-remote <remote>**

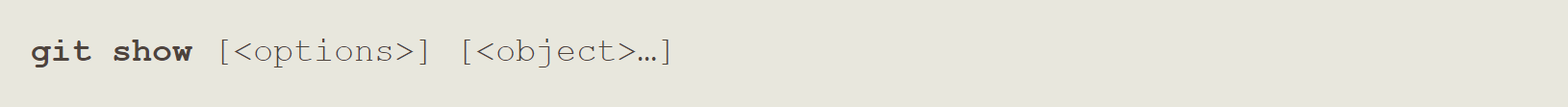
**$ git remote show <remote>**

* 1. Submodule



**$**

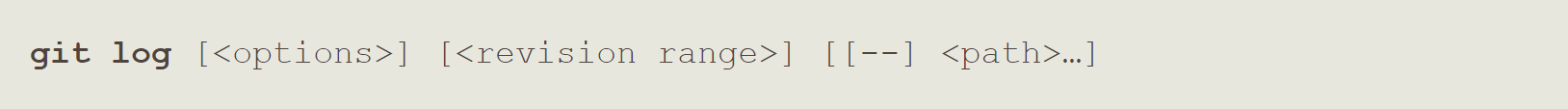
1. Inspection and Comparison
   1. Show



**See the tag data:**

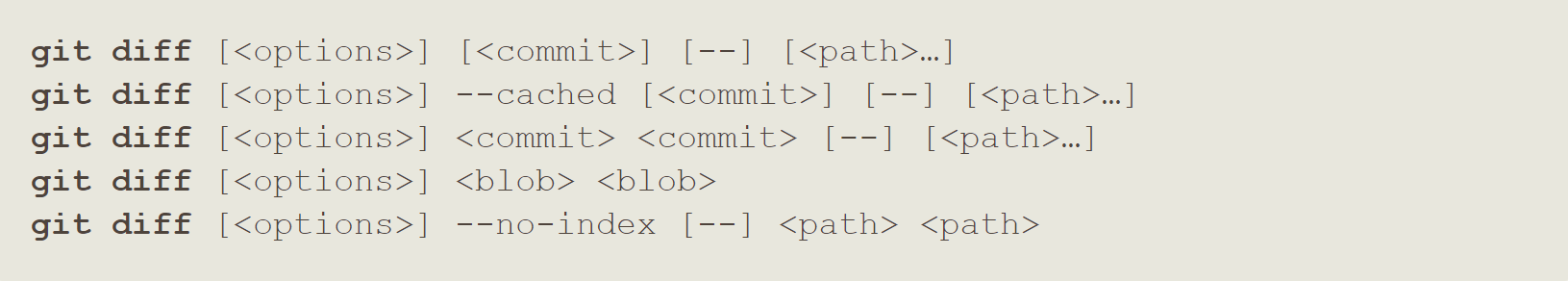
**$ git show <tag>**

* 1. Log



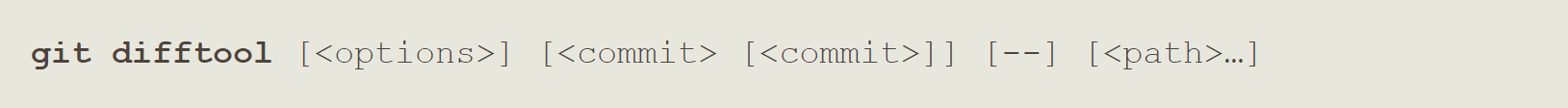
**$**

* 1. Diff



**$**

* 1. Difftool



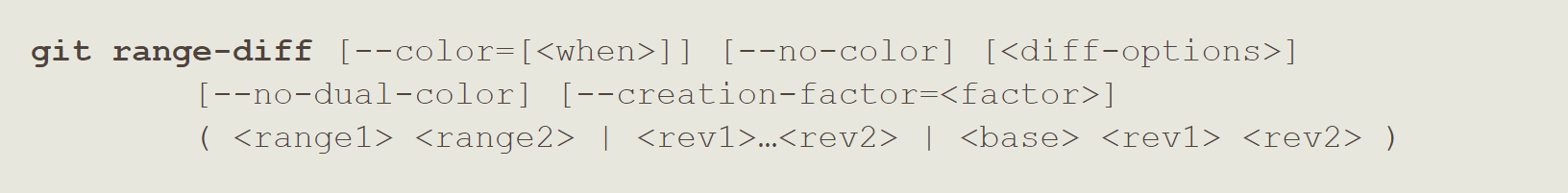
**See difference in an external diff showing program:**

**$ git difftool --tool=<tool>**

**To list the available diff showing programs:**

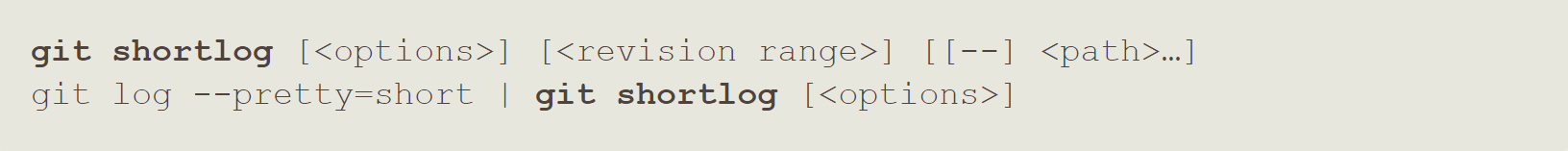
**$ git difftool --tool-help**

* 1. range-diff



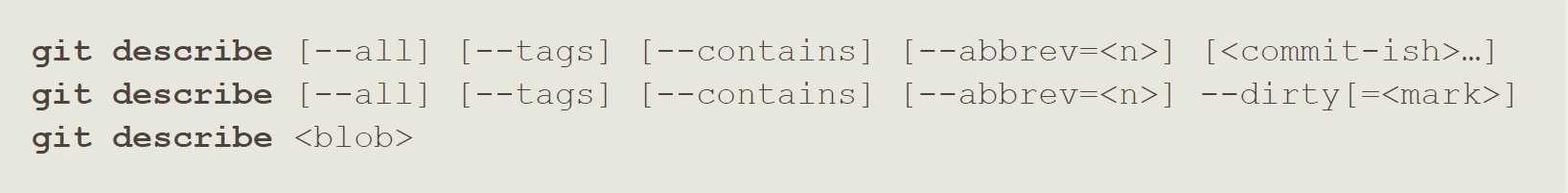
**$**

* 1. shortlog



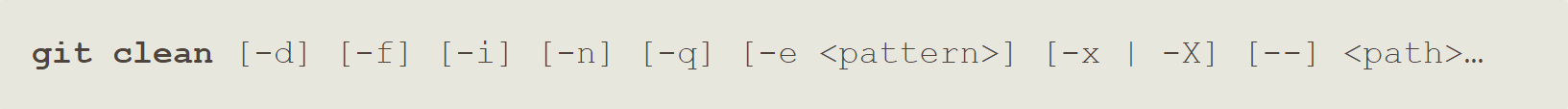
**$**

* 1. describe



**$**

1. Gitignore
2. Patching
   1. apply
   2. cherry-pick
   3. diff
   4. rebase
   5. revert
3. Debugging
   1. bisect
   2. blame
   3. grep
4. Email
   1. am
   2. apply
   3. format-patch
   4. send-email
   5. request-pull
5. External Systems
   1. svn
   2. fast-import
6. Administration
   1. Clean



**Remove untracked files:**

**$ git clean -d -f**

* 1. gc
  2. fsck
  3. reflog
  4. filter-branch
  5. instaweb
  6. archive
  7. bundle

1. Server Admin
   1. daemon
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   14. rev-parse
   15. show-ref
   16. symbolic-ref
   17. update-index
   18. update-ref
   19. verify-pack
   20. write-tree