Git Cheat Sheet

http://git.or.cz/

Remember: `git command --help`

Global Git configuration is stored in $HOME/.gitconfig (`git config --help`)

Create

From existing data

```
cd ~/projects/myproject
git init
git add .
```

From existing repo

```
git clone ~/existing/repo ~/new/repo
git clone git://host.org/project.git
git clone ssh://you@host.org/proj.git
```

Show

Files changed in working directory

```
git status
```

Changes 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 $dir/ec/tory/
```

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)

Cheat Sheet Notation

Concepts

Git Basics

Revert

Return to the last committed state

```
git reset --hard
```

⚠ you cannot undo a hard reset

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
```

Branch

Switch to the $id branch

```
git checkout $id
```

Merge branch1 into branch2

```
git checkout $branch2
git merge branch1
```

Create branch named $branch based on the HEAD

```
git branch $branch
```

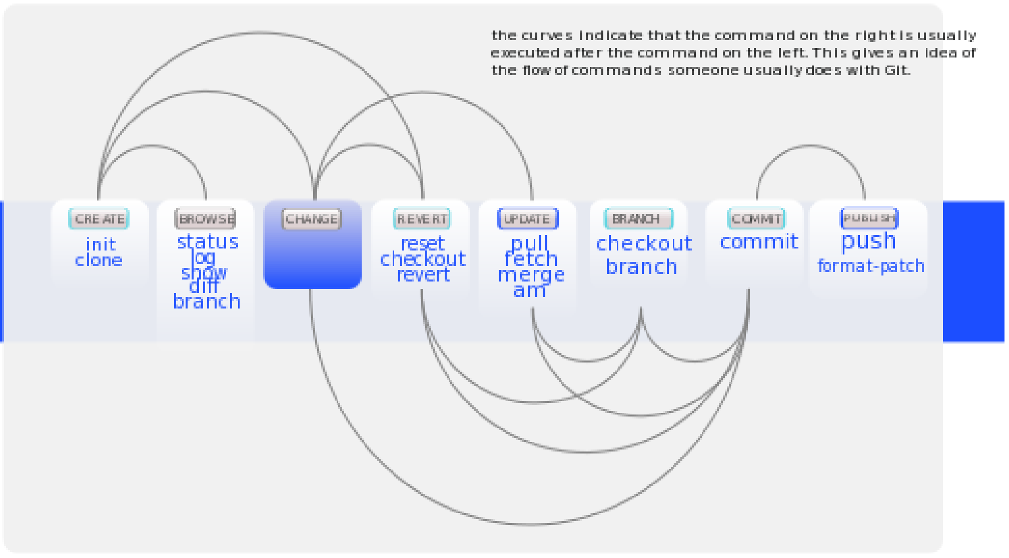
Create branch $new_branch based on branch $other and switch to it

```
git checkout -b $new_branch $other
```

Delete branch $branch

```
git branch -d $branch
```

Commands Sequence



the curves indicate that the command on the right is usually executed after the command on the left. This gives an idea of the flow of commands someone usually does with Git.
CREATE
init
clone
BROWSE
status
log
show
diff
branch
CHANGE
REVERT
reset
checkout
revert
UPDATE
pull
fetch
merge
am
BRANCH
checkout
branch
COMMIT
commit
PUBLISH
push
format-patch

Update

Fetch latest changes from origin

```
git fetch
```

(but this does not merge them).

Pull latest changes from origin

```
git pull
```

(does a fetch followed by a merge)

Apply a patch that some sent you

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

(in case of a conflict, resolve and use `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
```

Mark a version / milestone

```
git tag v1.0
```

Useful Commands

Finding regressions

```
git bisect start          (to start)
git bisect good $id       ($id is the last working version)
git bisect bad $id        ($id is a broken version)

git bisect bad/good       (to mark it as bad or good)
git bisect visualize      (to launch gitk and mark it)
git bisect reset          (once you're done)
```

Check for errors and cleanup repository

```
git fsck
git gc --prune
```

Search working directory for foo()

```
git grep "foo()"
```

Resolve Merge Conflicts

To view the merge conclicts

```
git diff                  (complete conflict diff)
git diff --base $file     (against base file)
git diff --ours $file     (against your changes)
git diff --theirs $file   (against other changes)
```

To discard conflicting patch

```
git reset --hard
git rebase --skip
```

After resolving conflicts, merge with

```
git add $conflicting_file     (do for all resolved files)
git rebase --continue
```

Zack Rusin
Based on the work of
Sebastien Pierre
Xprima Corp.