

Git Cheat Sheet

Git Configuration

| <i>command</i> | <i>description</i> |
|---|------------------------------|
| <code>git config --global user.name "Katia Oleinik"</code> | |
| <code>git config --global user.email "koleinik@bu.edu"</code> | |
| <code>git config --global cor.editor "nano"</code> | |
| | |
| <code>git config --list [--global / --local]</code> | list current settings |
| <code>git config --list --show-origin</code> | display path to config files |

Getting help

| <i>command</i> | <i>description</i> |
|----------------------------|------------------------------|
| <code>git help verb</code> | full manpage for <i>verb</i> |
| <code>man git-verb</code> | full manpage for <i>verb</i> |
| <code>git verb -h</code> | concise help for <i>verb</i> |

Creating Local Repository

| <i>command</i> | <i>description</i> |
|--|--------------------------------------|
| <code>git init dirname</code> | create a new empty repository |
| <code>git init</code> | a new git repo in an existing folder |
| <code>git clone /project/scv/dirname</code> | clone local repository |
| <code>git clone https://github.com/bu-rcls/newpkg.git</code> | clone remote repository |

Exploring git repository

| <i>command</i> | <i>description</i> |
|---|--|
| <code>tree .git</code> | list content of <i>.git</i> directory |
| <code>git ls-tree master .</code> | list content of a git tree object |
| | |
| <code>git status</code> | check status of your repository |
| <code>git status -sb</code> | show status concisely |
| | |
| <code>git log</code> | show commit log |
| <code>git log --3</code> | show last 3 commits |
| <code>git log --graph</code> | draw branch graph on the left |
| <code>git log --oneline</code> | compact log |
| <code>git log -- file1</code> | list commits with specific file modified |
| <code>git log --author="Katia Oleinik"</code> | filter by author |
| <code>git log --after="2019-1-30"</code> | filter by date |
| <code>git log --grep="fix"</code> | search commit messages |
| | |
| <code>git config --global alias.lg "log --oneline"</code> | create an alias |
| | |
| <code>git show ae12375</code> | show info about specific commit |

Git Commit Workflow

| <i>command</i> | <i>description</i> |
|---|--|
| <code>git add file1 file2</code> | add files to staging area |
| <code>git add .</code> | add all changes in directory (no deleted files) |
| <code>git add -A</code> | add all new, modified and delete files to staging area |
| | |
| <code>git commit -m "Initial commit"</code> | create commit with short message |
| <code>git commit</code> | create a commit (editor will open) |
| | |
| <code>git tag -a v2.15 ae12375</code> | Add a tag to a specific commit |

View file source in a commit

| <i>command</i> | <i>description</i> |
|--|--|
| <code>git show HEAD:filename</code> | view source of the file in the last commit |
| <code>git show 0721696:filename</code> | view source in a specific commit |
| <code>git annotate filename</code> | show who made changes to the file |

Travelling in time

| <i>command</i> | <i>description</i> |
|-----------------------------------|-----------------------------------|
| <code>git checkout 0721696</code> | change state to a specific commit |
| <code>git checkout master</code> | go back to the present time |

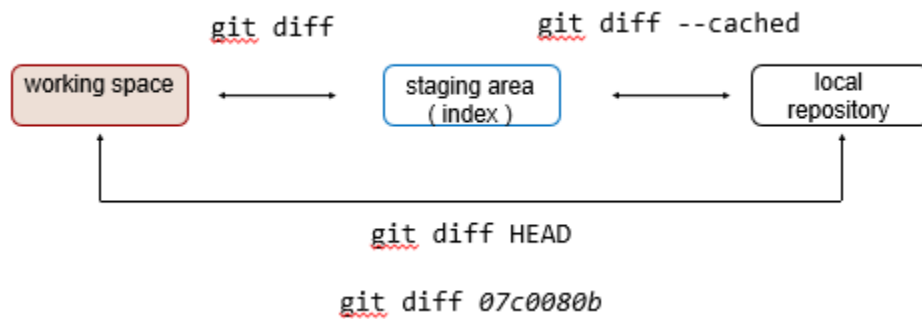
Remote repository workflow

| <i>command</i> | <i>description</i> |
|--|---------------------------------------|
| <code>git remote add origin url</code> | connect local and remote repositories |
| <code>git push origin master</code> | push changes to remote repository |
| <code>git pull origin master</code> | pull changes to remote repository |

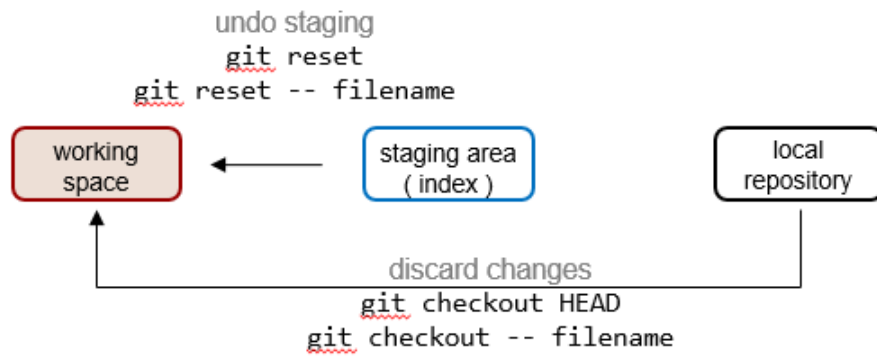
Resolving conflicts

1. Make commit
2. `git push origin master` (results in error)
3. `git pull origin master`
4. If editor is opened edit merge commit message. Otherwise edit a file, add and commit it
5. `git push origin master`

Exploring differences/changes



Discard changes



remove file from staging area
`git reset HEAD -- /path/to/file`

unstage all files
`git reset`