

Poking Git

Advanced Git Techniques

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 **sh4na** (not a typo)

 **shana**



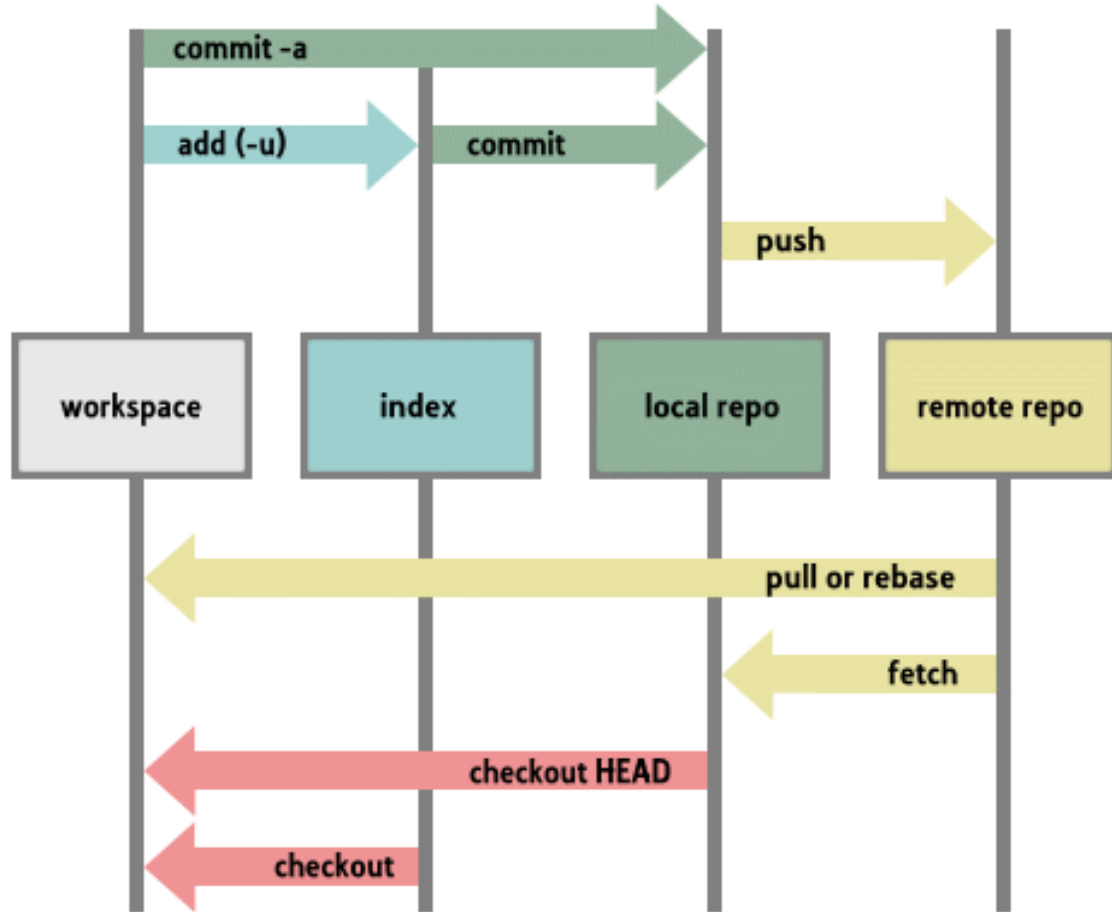
Editor Tools team lead at GitHub

<https://shana.github.io/talks/>

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The Index

4 levels



Index or Staging Area

- `git add`
- `git add -p`
- `git mv`
- `git rm`
- `git rm --cached`

Navigating History

History as a tree

Branches == labels

There's a HEAD

Reset

Moving around

- `git reset --hard`
 - Changes the HEAD
 - Updates files on disk

- `git reset --soft`
 - Changes the HEAD
 - Does not update files on disk

But move where?

- `commit_hash`
- `HEAD~n`
 - where `n` is a number (go back `n` commits)
- `HEAD@{n}`
 - where `n` is a number (go back `n` commits)

Stashing

A stack of changes

Stashing

- `git stash`
- `git stash list [-u]`
- `git stash show [-u]`
- `git stash apply`
- `git stash pop`
- `git stash branch [name]`

Rebase

git rebase [commit or branch]

1. finds the common commit of the two trees – point1
2. "saves" all the commits from point1 to the current HEAD
3. resets HEAD to commit or branch passed to the rebase command
4. applies all the commits from step 2, one by one

When to rebase

- **Single person branch**
 - i.e., there's no PR for it (yet)
- **Avoid force-push on branches with more than 1 contributor**

Merge vs Rebase

Why rebase

- Backing up work in progress
- Cleaning history before a PR review

Why merge

- Branch is being reviewed
- Multiple contributors
- force-push will cause conflicts for other people

Reflog

Bisect

Moving around again

- git bisect automates history navigation
- Binary search on a range of commits

Large Files

git lfs install
git lfs track '*.jpg'

Submodules

For dependencies

Branch filtering

Oops you
committed a
password

git filter-branch

Questions anyone?



THANK YOU!



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