# Common Git Commands

## Git Crash Course

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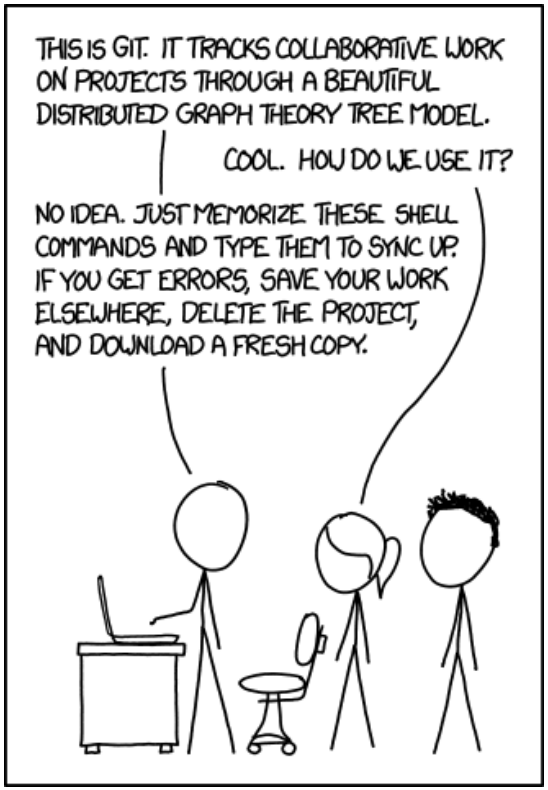
# Outline

# What is Git?

## The stupid content tracker.



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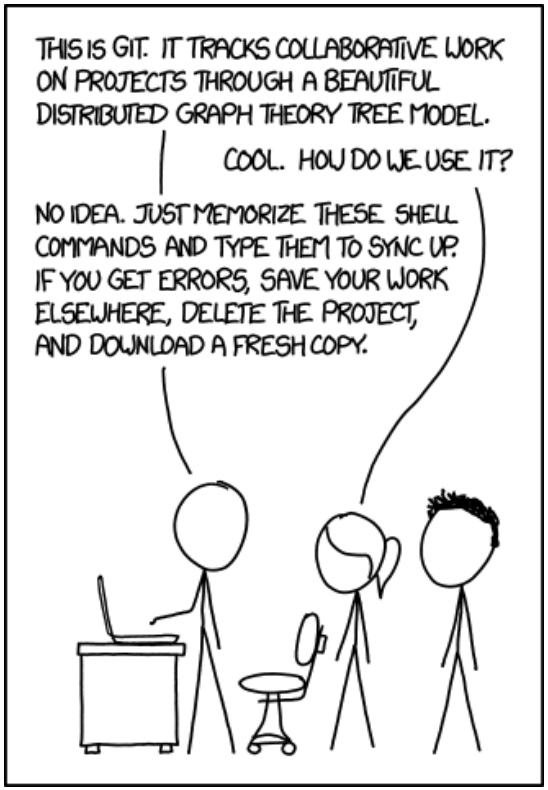


*If that doesn't fix it, git.txt contains the phone number of a friend of mine who understands git. Just wait through a few minutes of 'It's really pretty simple, just think of branches as...' and eventually you'll learn the commands that will fix everything.*

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  - Emacs – Magit; best Git integration in any editor.
  - Vim – Fugitive; it's great.
  - IDEs – Most have integration, usually terrible, prefer command line.

# Playground Setup

- Git User Setup

```
git config --global user.name "John Doe"
git config --global user.email "user@domain"
git config --global core.editor "/path/to/my/editor"
```

- Directory Setup

```
mkdir git-playground
cd git-playground
git init local
git init --bare server.git
cd local
```

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- Clone a repository.
  - `git clone <url> <directory>`

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- Create and switch to branch.
  - `git checkout -b <name>`
- Differences between branches.
  - `git diff <src>..<dst>`

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- Forcing non fast forward merges.
  - `git merge --no-ff`

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- `git reflog` to the rescue
  - `--grep=<pattern>` – search by log messages.
  - `-S<string>` – search by source code changes.
- Show and apply a commit
  - `git show` – show the reference object.
  - `git cherry-pick` – apply the referenced commit.

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- Regular pull will also not work.
- `git fetch`
- `git rebase`
  - Applies your changes after the remote branch.

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- `git stash`
  - Store work in progress changes.
  - Useful for when you need to pause what ever you are doing.
  - `pop`, `show`, `list`

# Finding Bugs

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  - `start`, `reset`
  - `good`, `bad`, `skip`,
- `git blame <file>`
  - Find the culprit.
  - Easier to use from other tools, like tig and gitk.

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- `git filter-branch --force --index-filter 'git rm --cached --ignore-unmatch <file>' --prune-empty --tag-name-filter cat -- --all`
  - `--index-filter` – rewrite the index.
  - `git rm` – remove the `<file>` from commits *and your local disk*.
  - `--prune-empty` – don't leave empty commits.
  - `--tag-name-filter cat` – update tags.
  - `-- --all` – filter all branches.
  - All of history is rewritten, which means you will need to perform a force push.

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  - `git reflog expire --expire=now --all`
  - `git gc --prune=now`

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- If you are not sure about something, contact your nearest git expert.
- Git is not the silver bullet, if you don't like it you can try:
  - Mercurial
  - Darcs
  - Fossil
  - Subversion

# Questions?

- Thank you for your attention!