Beginner’s Guide to Git &
Interactive Workshop

Git Gud

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Assuming you have Git installed:

> Open Git Bash
> Run following commands

```
$ ls –al ~/.ssh
$ ssh-keygen –t ed25519 –C “Your GitHub e-mail”

$ clip                              # Windows
$ pbcopy <~.ssh/id_ed25519.pub      # MacOS
$ cat                               # Linux
```

> GitHub -> Settings -> SSH keys -> New SSH key

SSH

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VCS, Git Features,
Git v. GitHub

Git What?

> Version Control System

> Saves changes to files in repository

> Clear development history

> Easier to locate bugs, roll back

> Alternatives to VCS?

VCS

> Most Popular VCS

> Thought up in 2005 by Linus Torvalds

> Alternatives to Git?

> Mercurial (Facebook, Mozilla)
> SVN (LinkedIn)

> Centralized v. Distributed

> Repositories; Local and Remote

Git

SUBVERSION

Git v. GitHub

> GitHub; Git as a service

> Alternatives?
  > Bitbucket
  > GitLab
  > SourceForge
  > Host your own

> GitHub most popular

> But.. Microsoft

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Why specifically Git?

IDE v. GUI v. CLI

Git Why?

> Industry Standard

> Git; Free, Open Source, Fast, Scalable
> 	> Alternatives.. not so much

> IDE v. GUI v. CLI

Yeah, why?

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Git Basics

- Interactive portion

Git How?

- > Few ways..
  - > Easiest is starting on GitHub
  - > README, .gitignore, license
- > Local new repo
  - > git init
  - > Sync with remote (optional)

Making a Repository

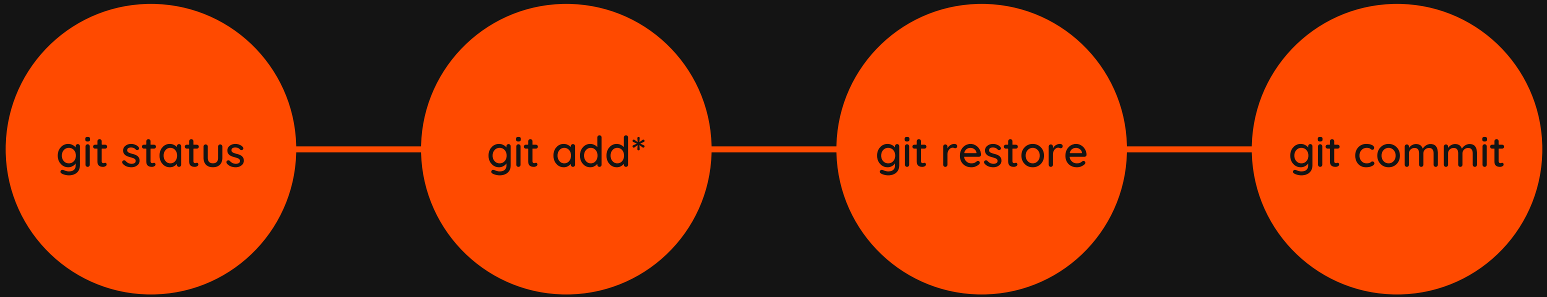
Cloning

> Linked copy from remote to local

Forking

> Independent copy from remote to remote

Clone v. Fork



Status

Shows unstaged and untracked files

Add

Adds an unstaged and/or untracked file to staging area

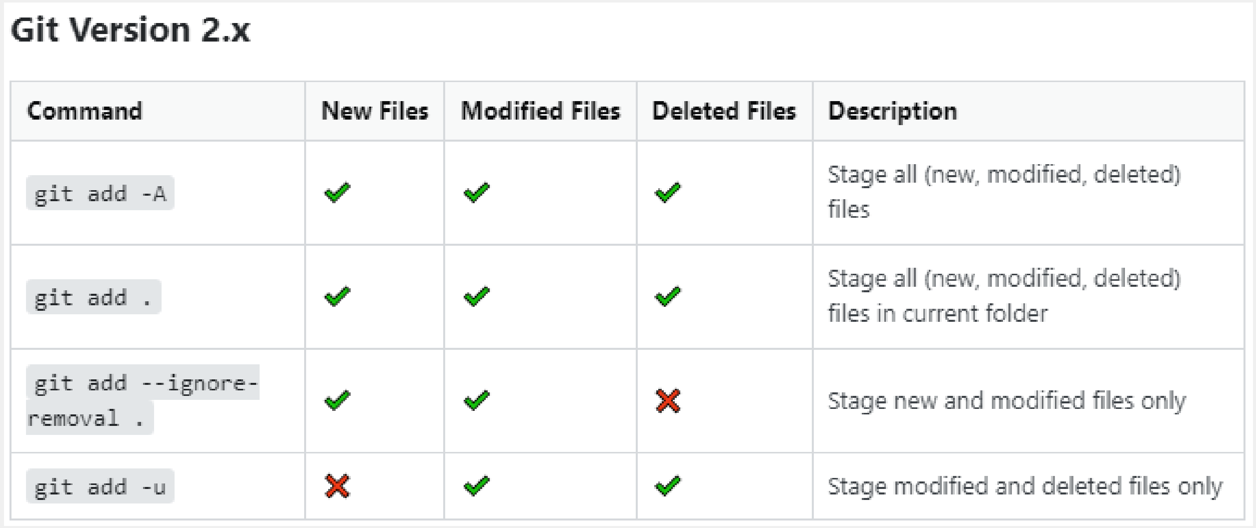
Restore

Removes files from the staging area

Commit

‘Saves’ the staging area to local repository

Basic Workflow



Git Version 2.x

Command	New Files	Modified Files	Deleted Files	Description
`git add -A`	✓	✓	✓	Stage all (new, modified, deleted) files
`git add .`	✓	✓	✓	Stage all (new, modified, deleted) files in current folder
`git add --ignore-removal .`	✓	✓	✗	Stage new and modified files only
`git add -u`	✗	✓	✓	Stage modified and deleted files only

Git add

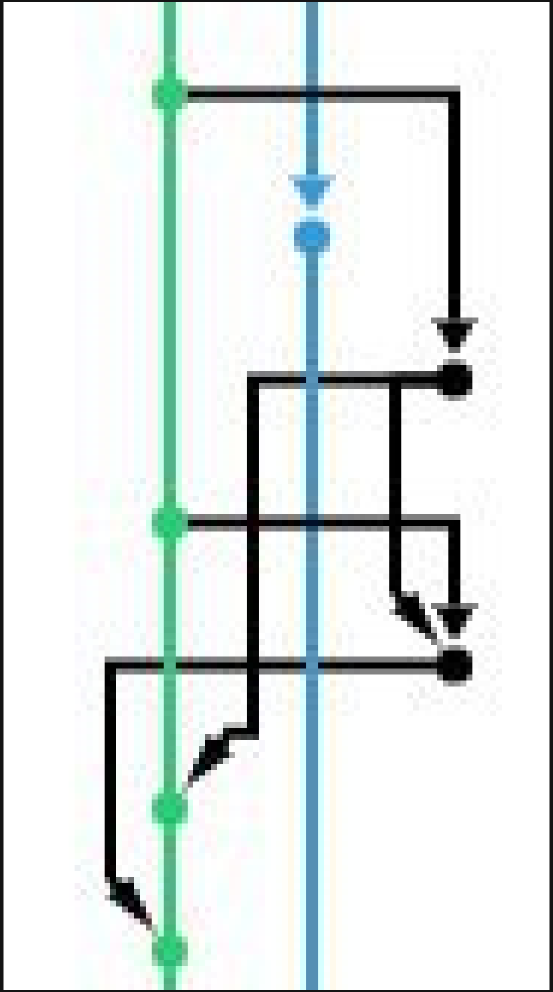
> Branch what?

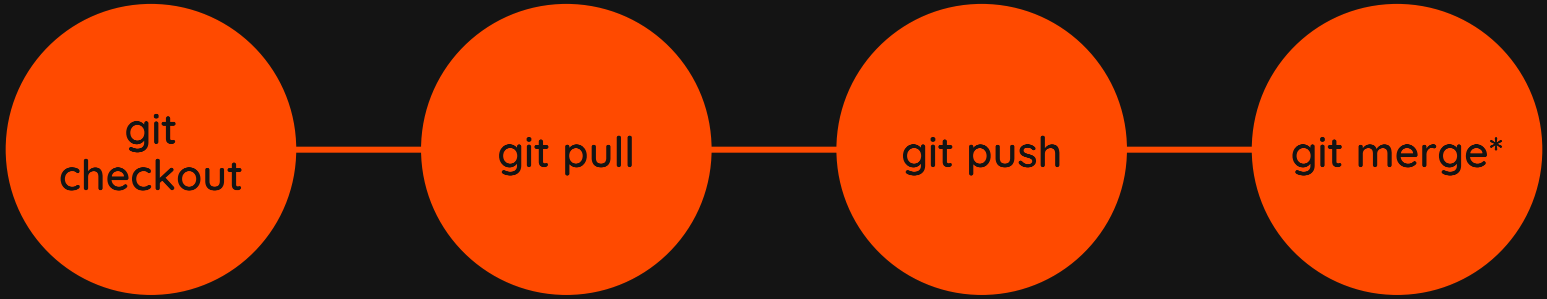
> Branch why?

> Branching strategies
> > Features
> > Personal

> Branch how?

Branching





Checkout	Pull	Push	Merge
Moves to a given branch, or creates it if it doesn't exist	Adds changes from remote into your local repo	Pushes changes to local repo to remote repo	Combines two branches

Branch 'Workflow'

Make sure dest is up to date — Merge dest into your feature branch — Push changes — Merge feature branch into dest

1/

Checkout to destination repo and pull

2/

Checkout to feature, merge dest into feature

3/

Fix merge conflicts, repeat step 2 if conflicts occurred

4/

Checkout to dest, merge feature into dest*

Branch ‘Workflow’

> GitHub feature, not Git

> Merging into dev/main

> Code reviews

Pull requests

Next time; more advanced Git features!

Find this presentation at:
github.com/Druyv/GitGud

That's all!

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Thanks!