



version control with **git**





Sukhbir Singh
@sukhbir-singh



GitHub
Campus Experts



why **git**?





history:

Know exactly which files changed, who made those changes, and when those changes occurred.



backup:

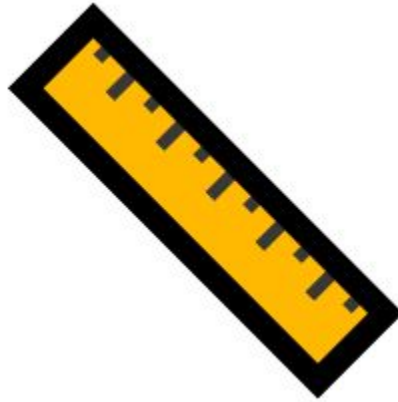
Ability to have different versions of the code in different places.



collaboration:

Collaborate easily with other people on the same codebase





workshop outline





my first git: repositories, staging, committing



git good: branching, jumping around, merging



git world: enter in the repository world



git ideas: cool stuff to do with git



open sourcing: the idea that it's a changing.



before we begin...

`$ terminal commands are typed
with this font and color.`

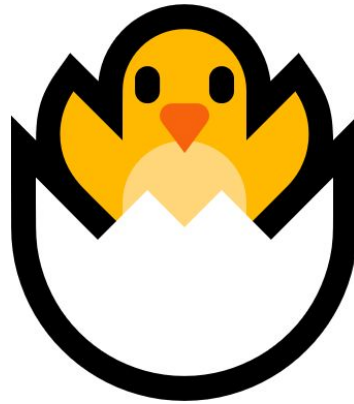




don't worry!

there is always a cheat [sheet](#)!





my first **git**

Create your shiny repo and your first commit.



what is a **repository**?

A repository is like any other folder on your computer, it can contain any type of file and works in exactly the same way...

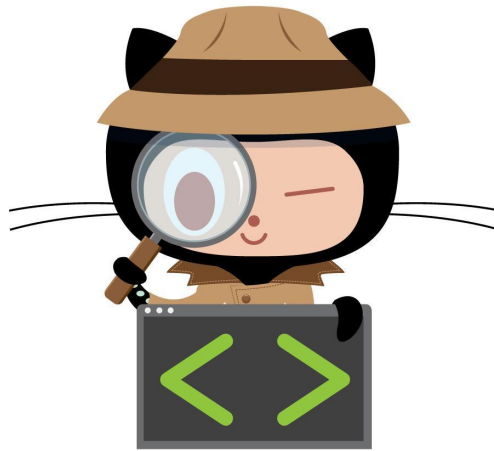
Except:

It has a hidden file named **".git"** that stores the history of that folder



Let's take a look at **GitHub**





first, install **git**



second, start a new **repository** by

```
$ git init <repository name>
```





what are **commits**?

snapshots of the state (**e.g. code**) of your
repository



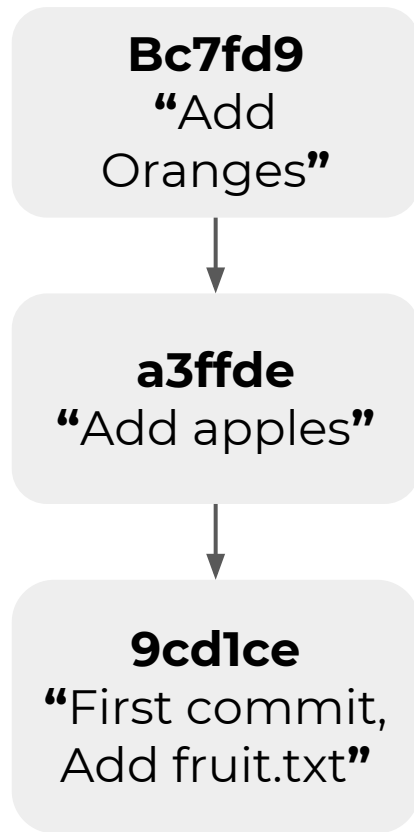
commit your work by using

```
$ git add .
```

```
$ git commit -m "<details>"
```



more about **commits**

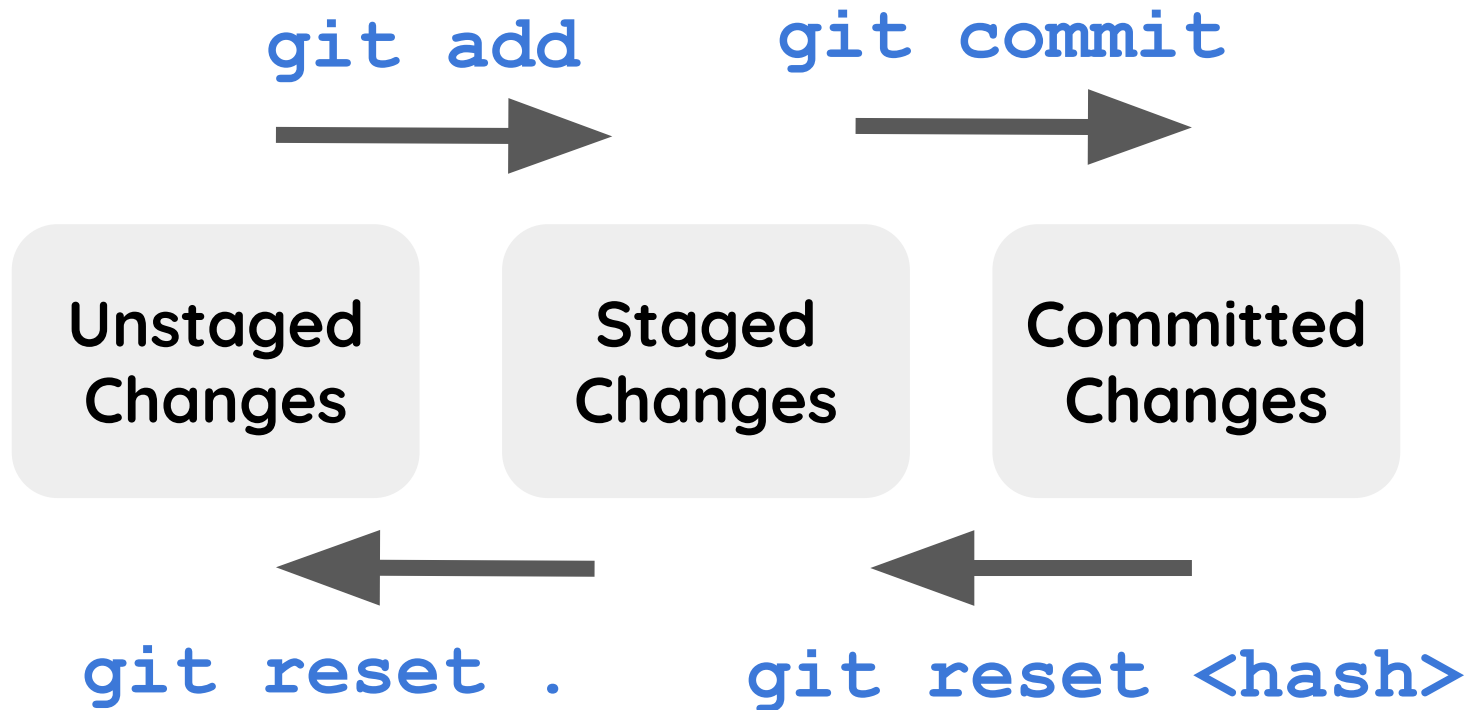


Commits form a **linked list structure** which shows what you have done over time.

Use **git log** to see your commit history.



staging changes



my first git: recap

\$ git init - converts a folder to a super smart git repository.

\$ git add - adds the files you want to be tracked to the staging area.

\$ git commit - creates a new snapshot of your repository at that point in time.

\$ git reset - Undo your commit or unstage your files.

\$ git log - View your commit history.

\$ git status - See the current status of your repository



Let's take a look at **GitHub**



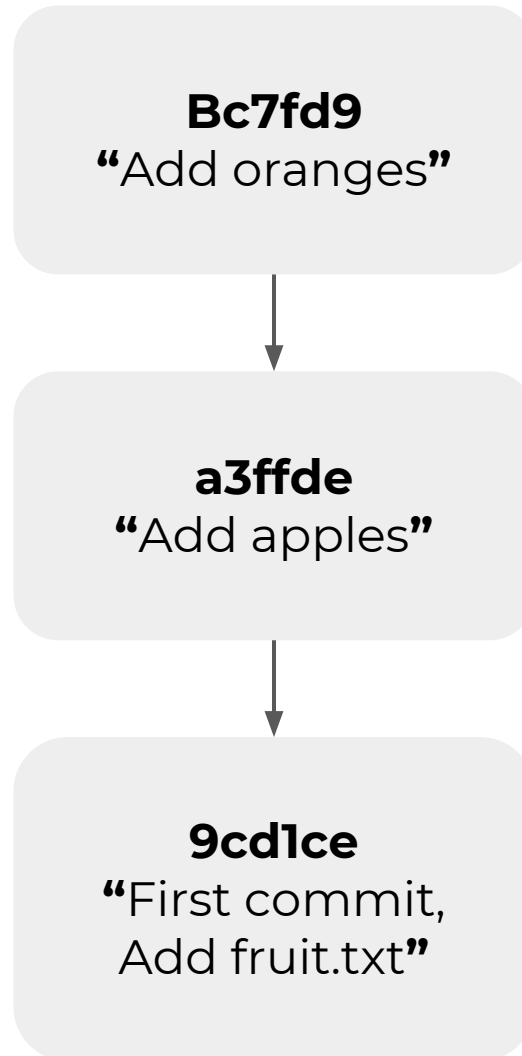


git good

branching, context switching, merging



commits





working with **branches**

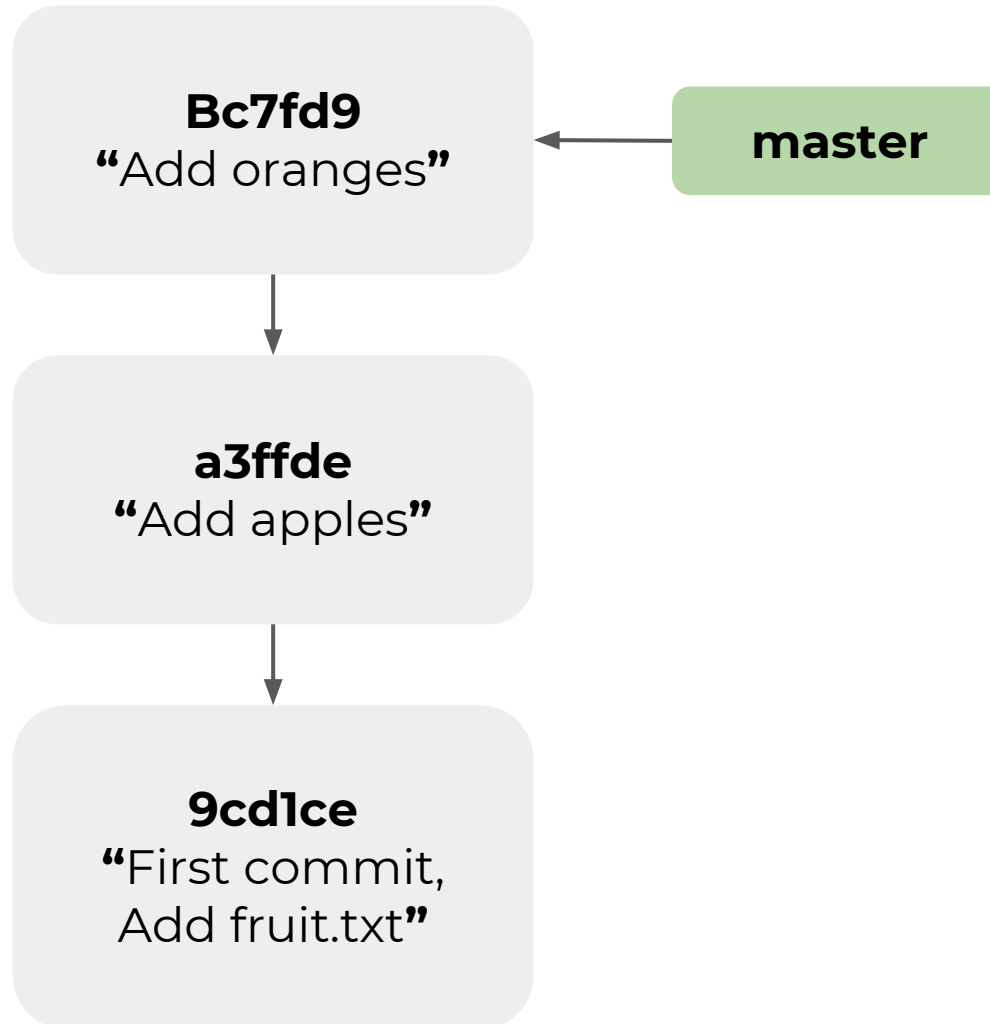
`$ git branch` - see a list of all available branches.

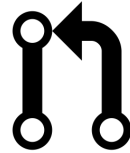
`$ git branch <branchname>` - create a new branch with the desired name, based on the current branch.



commits

branches





working with **HEAD**

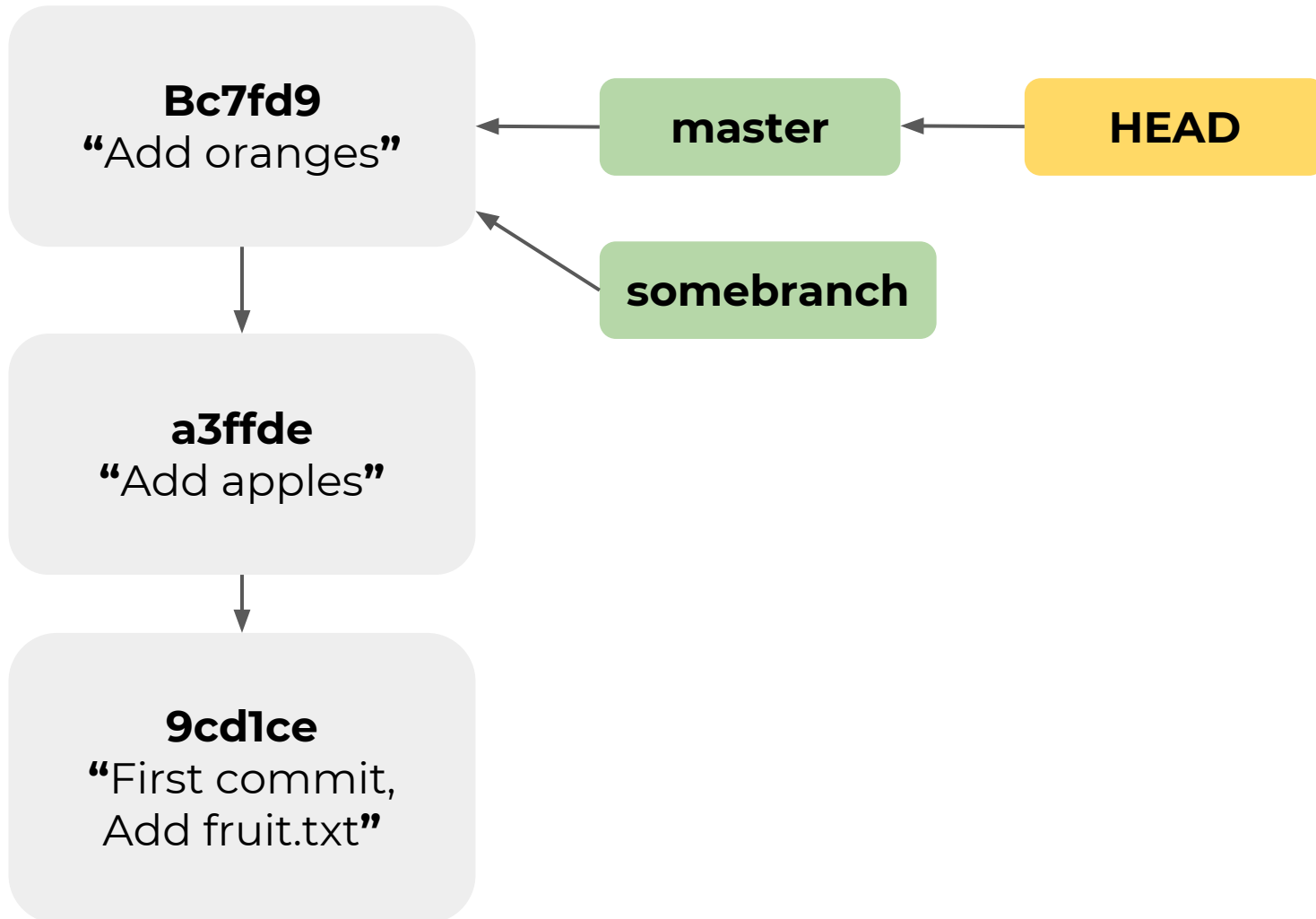
`$ git checkout <branch name>` – Redirect HEAD to the desired branch



commits

branches

HEAD





merging = combining commits

`$ git merge <branch name>` – creates a new **commit** that combines the last commit of the current **HEAD** branch with the **last commit** of the desired **branch**.



git good: recap...

`$ git branch` - List all branches

`$ git branch <name>` - creates a branch with that name

`$ git checkout <name>` - jump to the branch with this name

`$ git merge --no-ff <name>` - merge the branch with this name into the current one.





git world

publishing, updating and downloading



Let's take a look at **GitHub**



downloading / **updating** Repos

\$ git clone <url> - downloads a copy of a remote git repository.

\$ git pull - performs a merge of what you have on your computer with what's on the server.

\$ git push - sends your version to the server.





git ideas

a quick look at what **other** folks
are doing on **GitHub**



GitHub Education

programs and **technology leadership** at **your school**



GitHub
Student Developer Pack



GitHub Campus Advisors



GitHub
Campus Experts

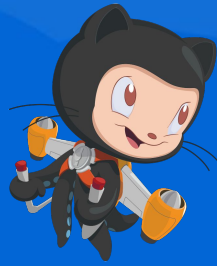
and much more...



GitHub for X



GitHub for Education



GitHub for Science



GitHub for Government

and much more...

GitHub Campus Expert



GitHub Pages



Host your **personal page** for free on **GitHub**



Collections on **Git**Hub

open **Git**Hub and explore the vast world of repositories that exist. I'm sure you'll be surprised!



Social Impact



Learn to Code



Organizations



Open Journalism

and much more...





#OpenSourcing

Understand more about the movement that is
changing the way you collaborate.



Communities on **GitHub**

open **GitHub** and explore communities that do a change in the open source world.



and much more...



Events on GitHub

open **GitHub** and participate in events that happens around the world in prol of the open source.



24 Pull Requests



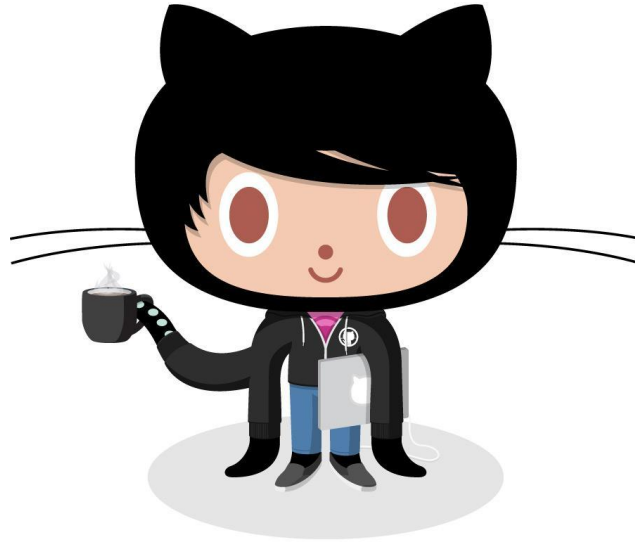
Hacktoberfest



GitHub Field Day

and much more...





Let's Practise





Doubts? Suggestions? **Feedback?**

Your opinion is worth ~~gold~~ stickers!

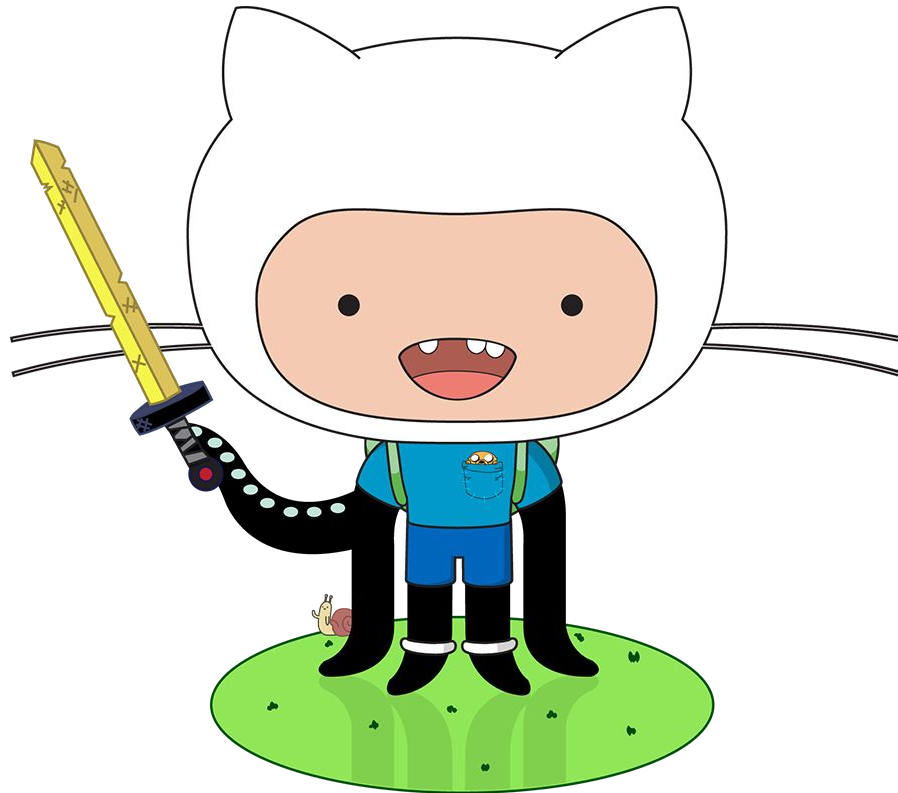




Let's take a picture?

Share on social networks and check @appteam-nith
#githubeducation #githubcampusexperts





Thank you!



@sukhbir-singh



/in/sukhbir-singh



