

git GitHub  
\$ Git Init



Hi!  
I'm Chamod.

- GitHub Field Expert
- Software Engineer at ISG
- CNCF Ambassador && GDG Community Leader

Connect with me @chamodshehanka OR  
[chamodshehanka.com](http://chamodshehanka.com)



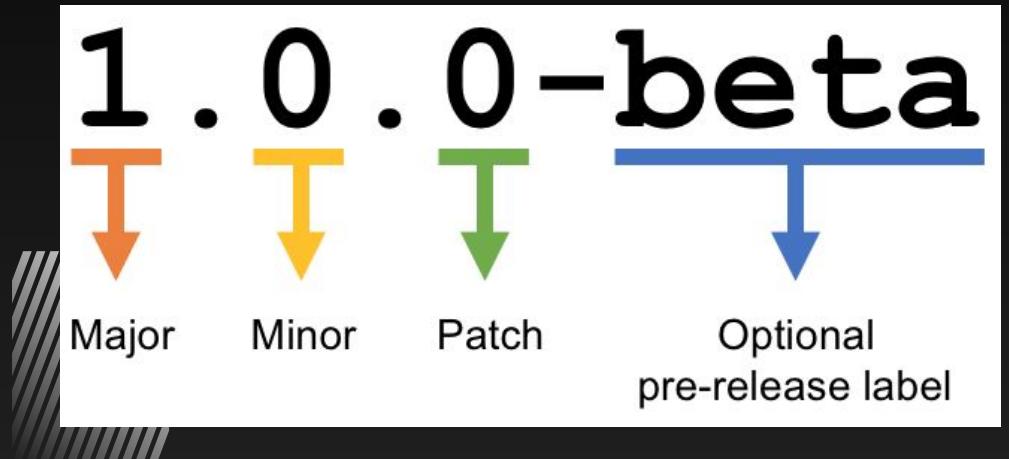
But first, let's discuss about...

# Version Controlling

# Version Controlling

Version control is the practice of tracking and managing changes to software code.

Helps manage changes to source code over time.



# Version Controlling back in the day...

Name
 Super Cool Report v1.xlsx
 Super Cool Report v2.xlsx
 Super Cool Report v3.1.xlsx
 Super Cool Report v3.xlsx
 Super Cool Report v4.xlsx
 Super Cool Report v4a.xlsx
 Super Cool Report v4b.xlsx
 Super Cool Report v5.xlsx
 Super Cool Report vFinal.xlsx
 Super Cool Report vFinal_1.xlsx
 Super Cool Report vFinal_2.xlsx
 Super Cool Report vFinal_Final.xlsx
 Super Cool Report vFinal_Final-UPDATED.xlsx
 Super Cool Report vFinal_Final-UPDATED_UPDATED.xlsx
 Super Cool Report vFinal_Final-UPDATED_UPDATED_NEW.xlsx

<b>Google Drive</b>	
Uploading the code to an external hard drive via USB	
Mailing the code	
Printing the code	

We need a better system that provides...

Better  
Security  
  
Integrity

Open  
Source :wink  
  
Collaboration

Clean  
History

Faster  
speeds  
Scalability

Branching

Introducing...



# Git

## /git/ or /jɪt/

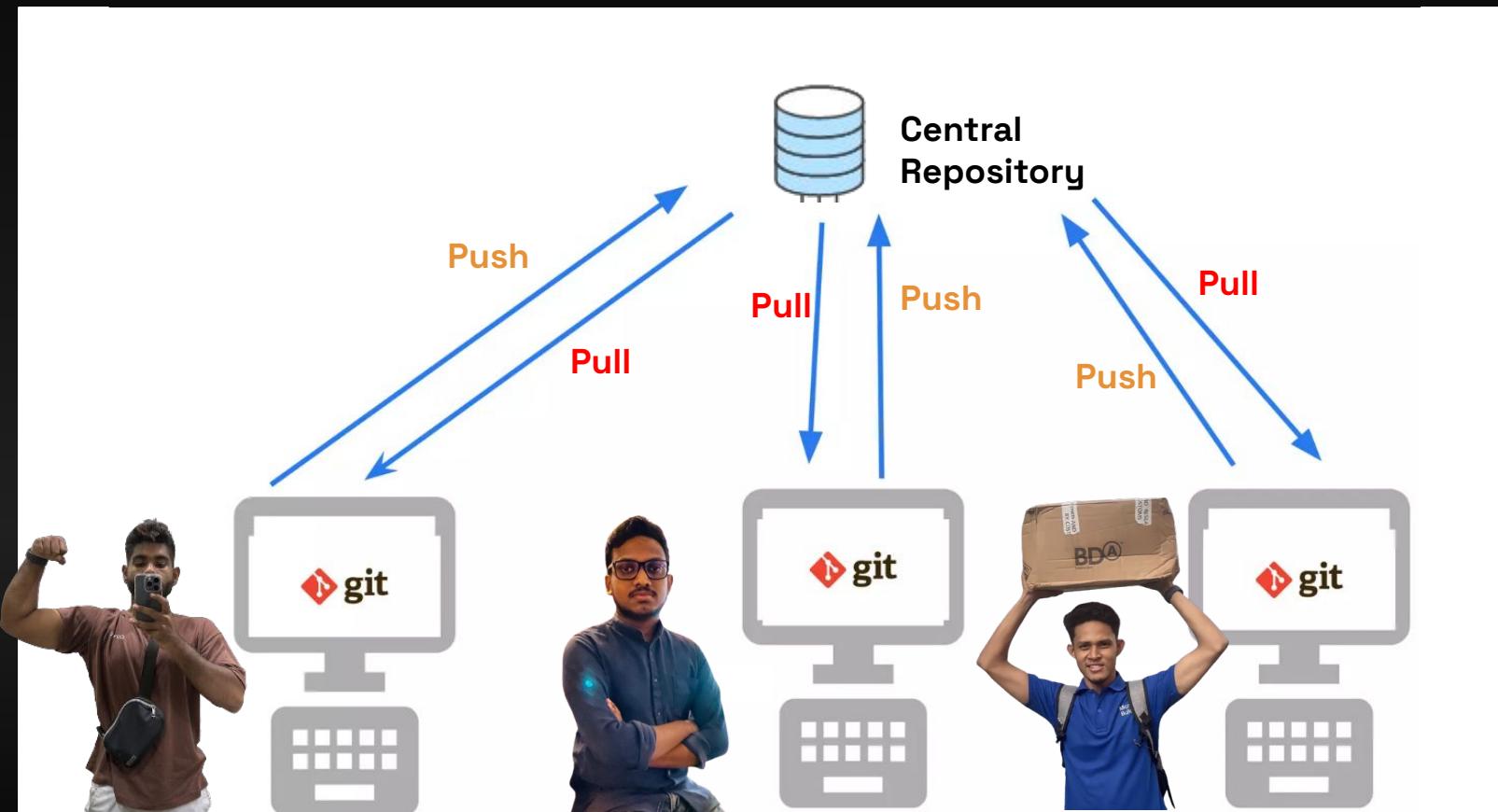
- Git is a distributed Version Control System.
- Free and open source
- Small footprint
- Allows Collaboration
- Lightning Fast



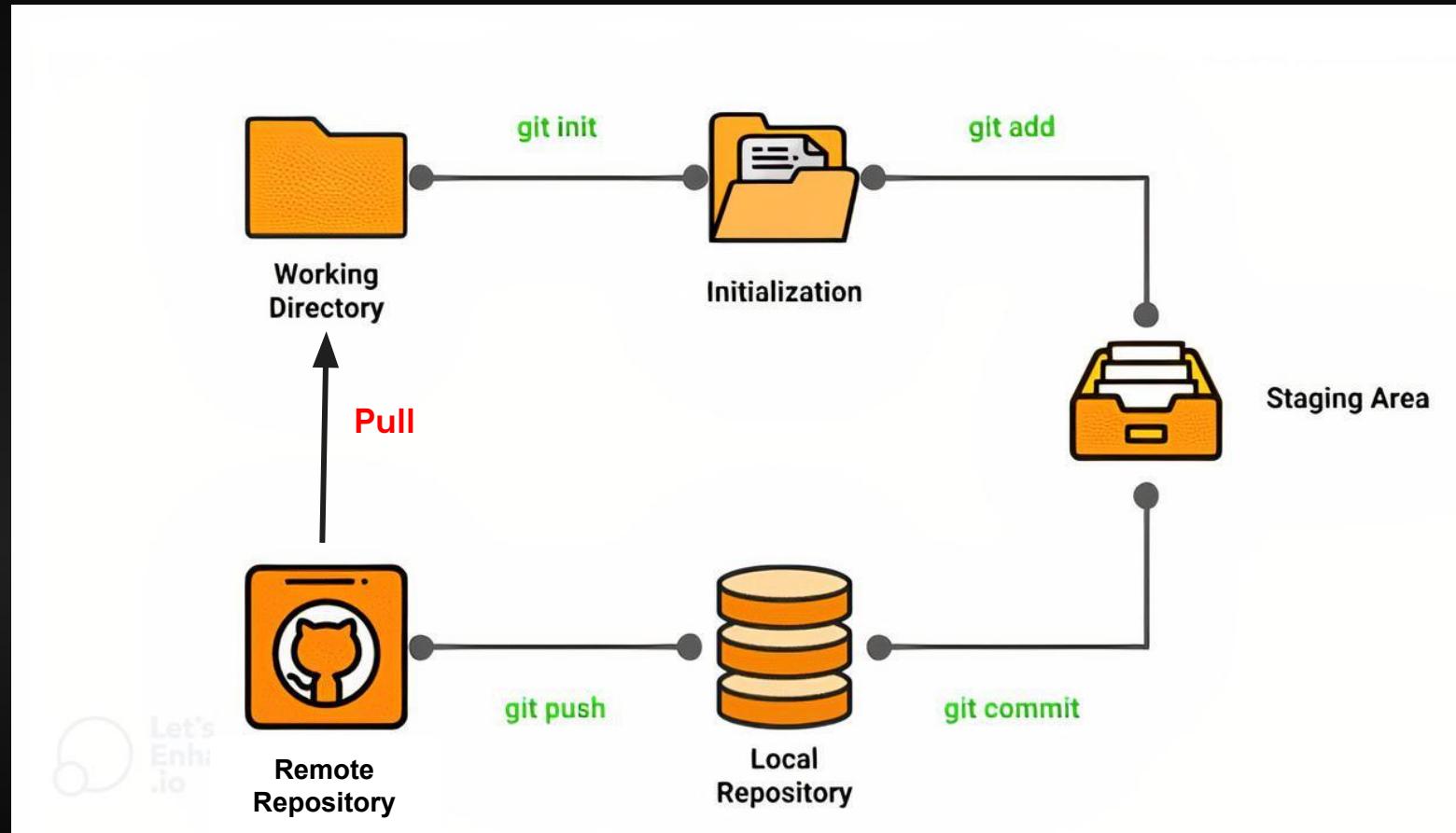
# Git Alternatives

1. Fossil
2. Mercurial
3. Subversion

# How git works.



# How git works cont.





Wait, What is

# GitHub?

( It's Capital H people! )



# GitHub

## /gɪthʌb/ or /jɪthʌb/

- GitHub is a cloud-based service that helps developers store and manage their code, as well as track and control changes to their code.
- Provides a user friendly UI.
- Provides a complete ecosystem for developers to write and ship code.



Keep in mind that,

# Git != GitHub



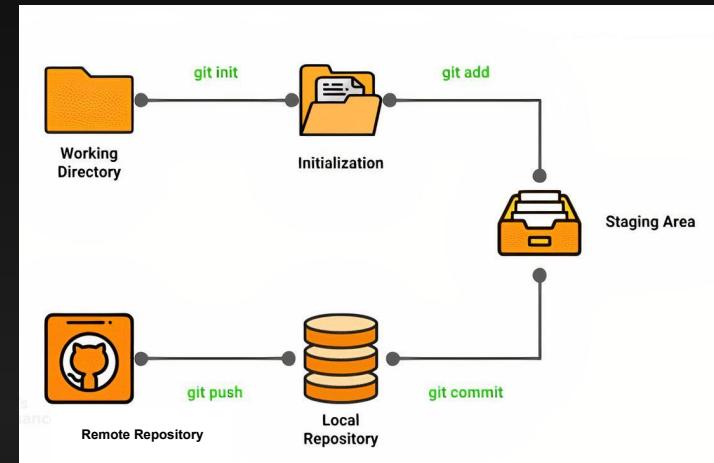
# GitHub Alternatives

1. GitLab
2. Bitbucket
3. AWS Code Commit
4. Google Cloud Code Repository
5. Azure Repos

Let's see some  
action!

# The Git Flow

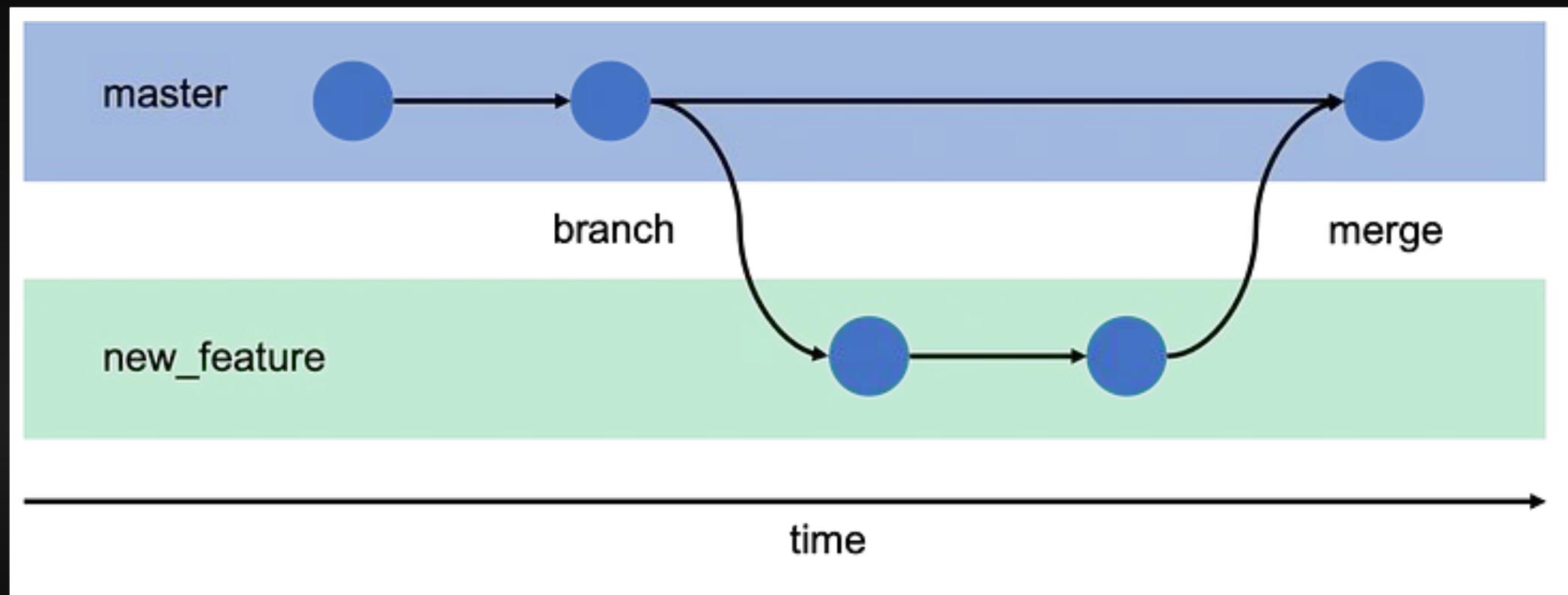
1. Create a folder (active directory)
2. Initialize Git and create the local repo
3. Create the remote repo
4. Link the local repo to remote repo
5. Create a new file in the active directory
6. Add the file to the staging area
7. Commit to the local repo
8. Send to the remote repo



With that being said, let's move onto..

# Branching

# How git branching works



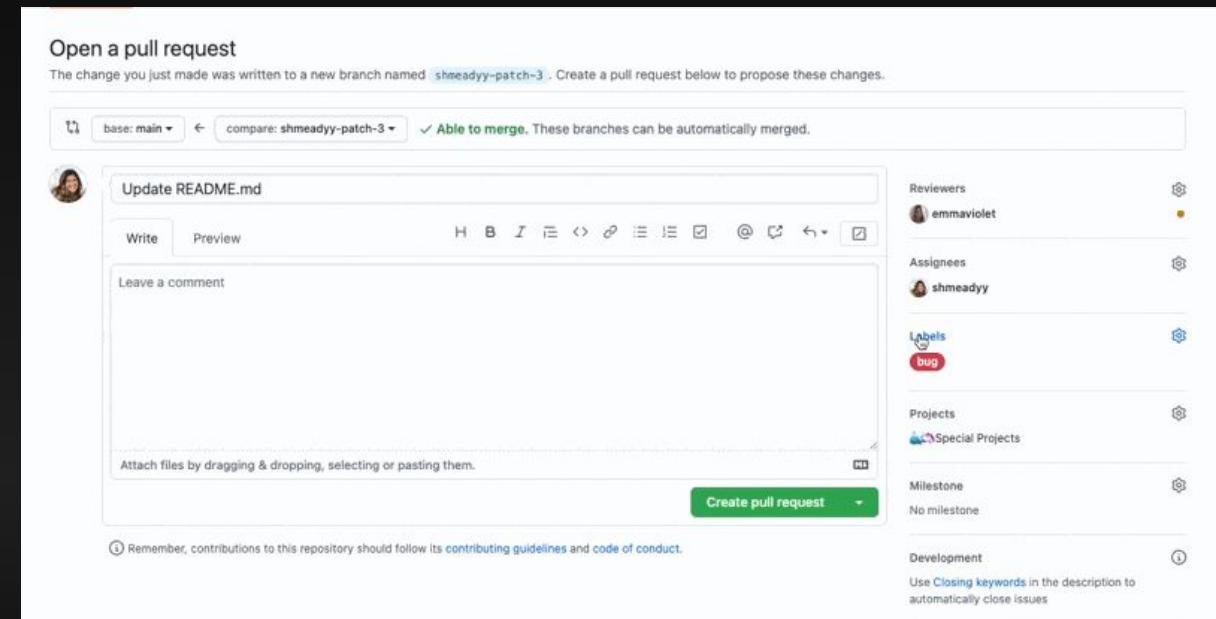
# Let's Branch!

You saw it!

# Pull Requests

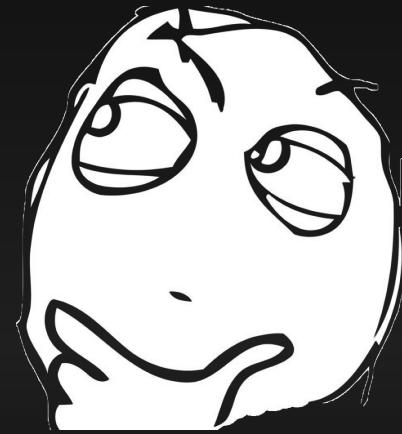
# What is a Pull Request (PR)

A pull request is a request to merge changes from a developer's branch into the main codebase of a project.

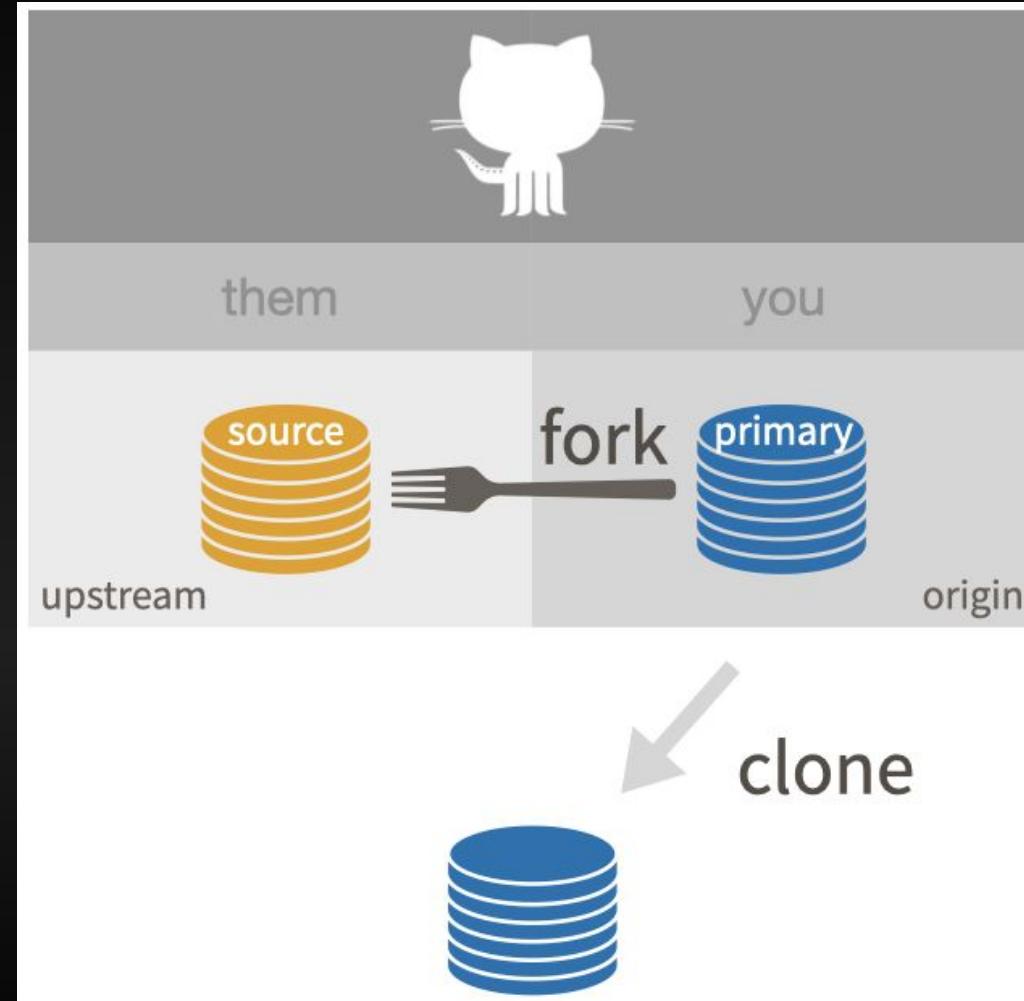


Let's create a  
PR

# What if you are using someone else's Repo?



There's more...



# Now, we build something!

- We will build a joke collection.
- Goto my demo repository.
- Take a fork
- Clone it to your laptops
- Create a file in you name – Chamod.txt
- Add a joke (Yes just Google it :D )
- Push it to your fork
- Send a PR



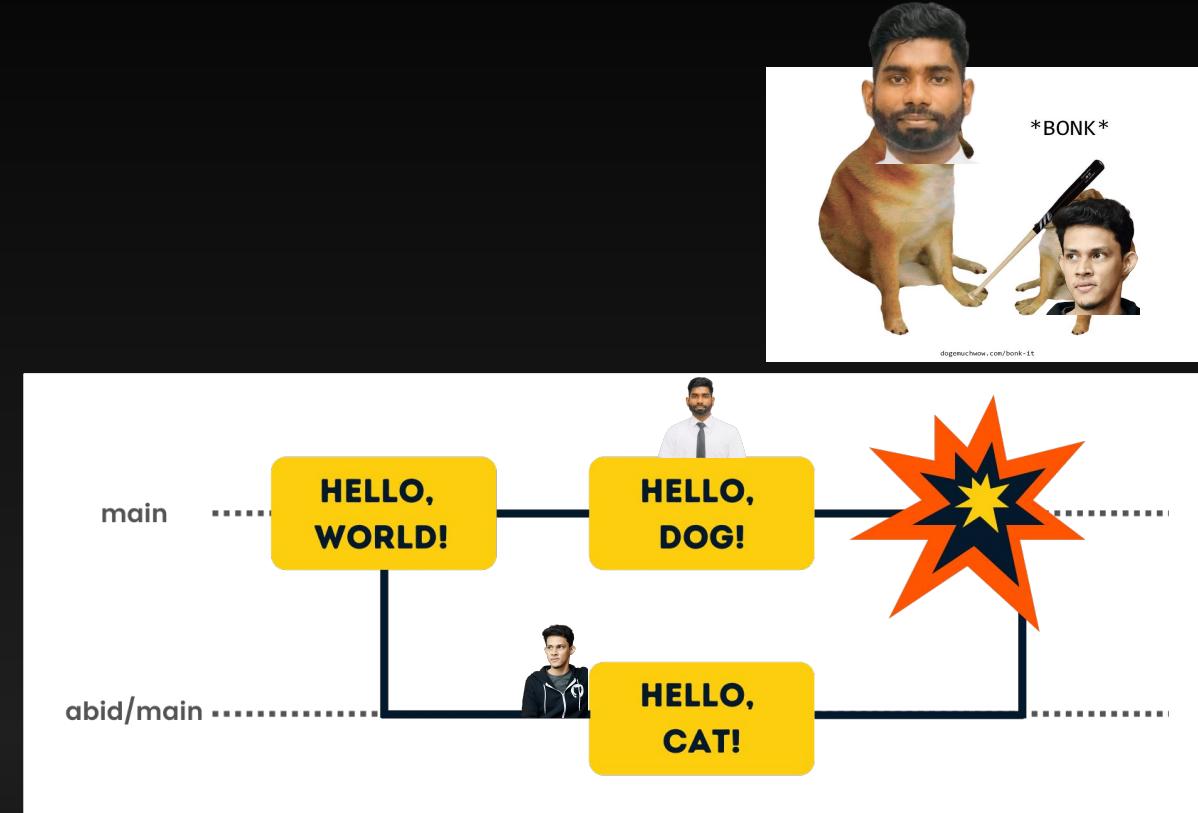


# Merge Conflicts!

# What is a merge conflict?

A merge conflict occurs when there are conflicting changes made to the same file in a code repository.

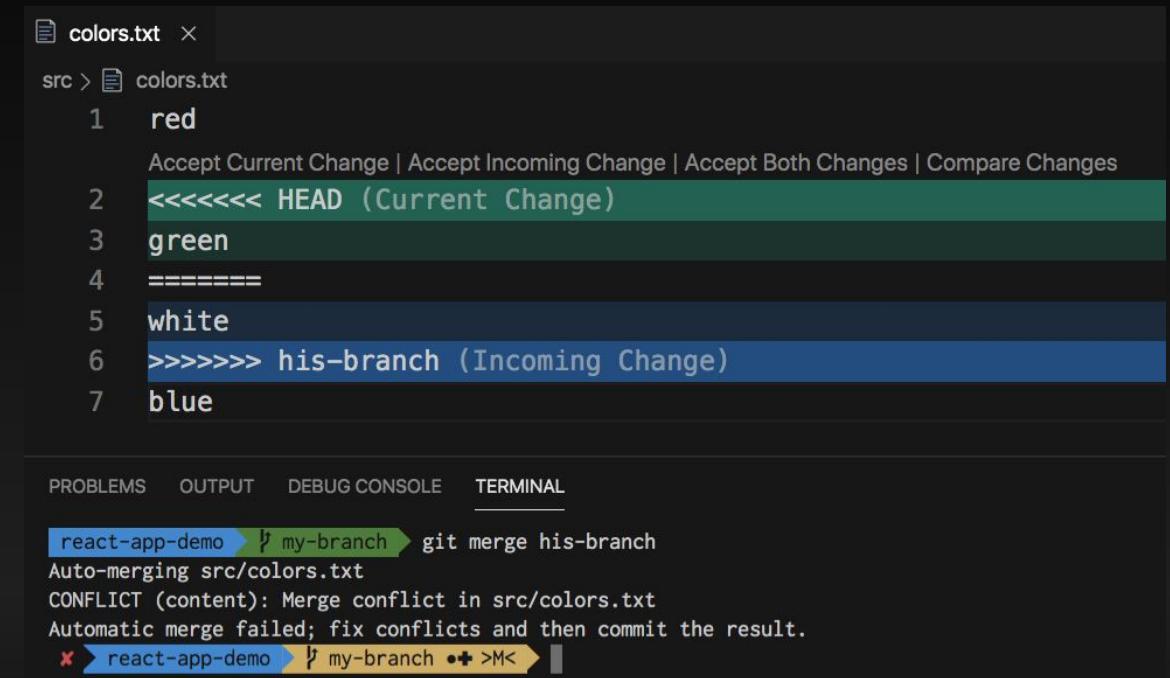
This typically happens when multiple developers are working on the same file at the same time, and they make changes that conflict with each other.



# How can I resolve them?

VS Code has built-in support for merge conflict resolving.

You can either accept current change, accept incoming change or accept both.



colors.txt

src > colors.txt

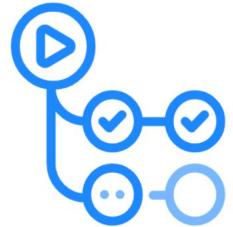
1 red  
Accept Current Change | Accept Incoming Change | Accept Both Changes | Compare Changes  
2 <<<<< HEAD (Current Change)  
3 green  
4 =====  
5 white  
6 >>>>> his-branch (Incoming Change)  
7 blue

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
react-app-demo my-branch git merge his-branch
Auto-merging src/colors.txt
CONFLICT (content): Merge conflict in src/colors.txt
Automatic merge failed; fix conflicts and then commit the result.
x react-app-demo my-branch M& >M<
```

# Best practices

- Meaningful commit messages
- Don't commit/push sensitive data
- Use gitignore
- Always update and get latest changes from remote repo
- CI, protected branch, commit hooks, Code Owners (my ITP story)
- Setup CI/CD Pipelines



GitHub Actions



Jenkins



# GitHub Student Developer Pack

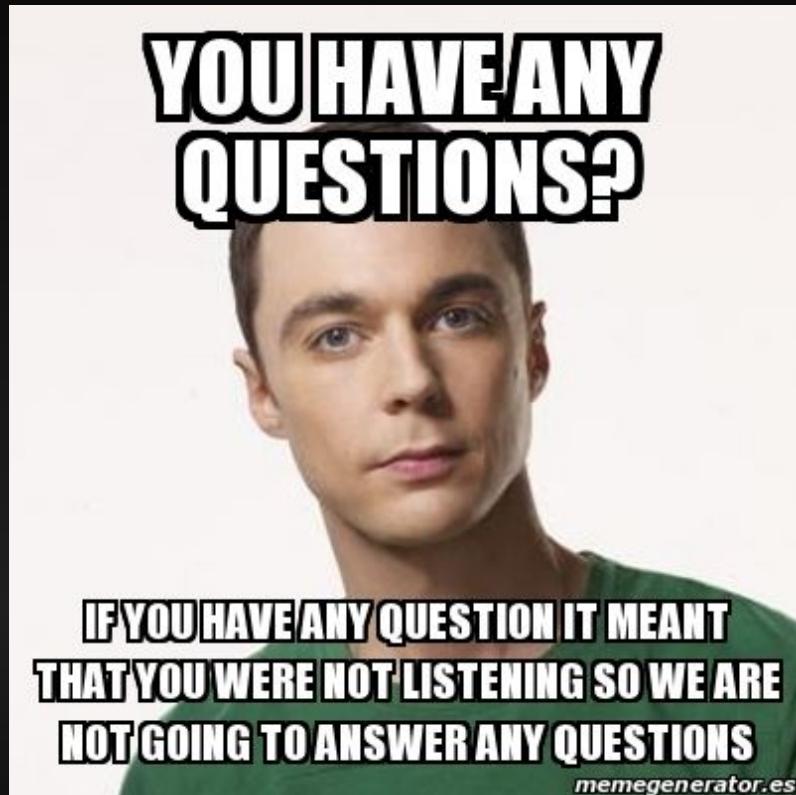


## GITHUB STUDENT DEVELOPER PACK

A grid of logos for various tech companies and tools:

- Storyscript
- stripe
- ech DOMAINS
- SymfonyCasts
- unity
- Typeform
- Wisej
- Github Campus Experts
- SENTRY
- SendGrid
- sider
- Simple Analytics
- SOFY
- SqlSmash
- SQLGATE
- Canva
- PomoDone
- POPSQL
- PushBots
- replit
- RAYGUN
- scrapinghub
- netwise.
- next.tech
- One Month
- pageclip
- POEditor
- Phrase
- Polypane
- Interview Cake
- Jaamly
- JETBRAINS
- KALTURA
- LAMBDATEST
- LingoHub
- Gitpod
- HazeOver  
Distraction Dimmer
- HEROKU
- Honeybadger.io
- ICONS8
- IMGBOT
- Microsoft Azure
- Frontend Masters
- Desktop
- GitKraken
- ATOM
- GO RAILS
- educative
- Education Host
- EverSQL
- FLATIRON SCHOOL
- Freshpaint
- iconscout
- kodika.io





JKS!

Questions?



# GitHub Community Sri Lanka



# Thank You For Being Awesome!

