Git Workshop

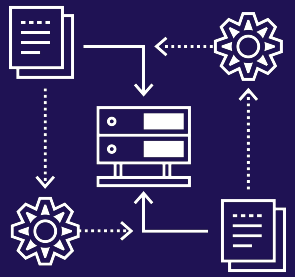
dyvenia

Agenda

Hello 👋

1. What's Git even? 🤔
2. Basics 🏫
3. Pull Request how-to 🔲
4. Practice! 😱

dyvenia



What's Git even?

dyvenia

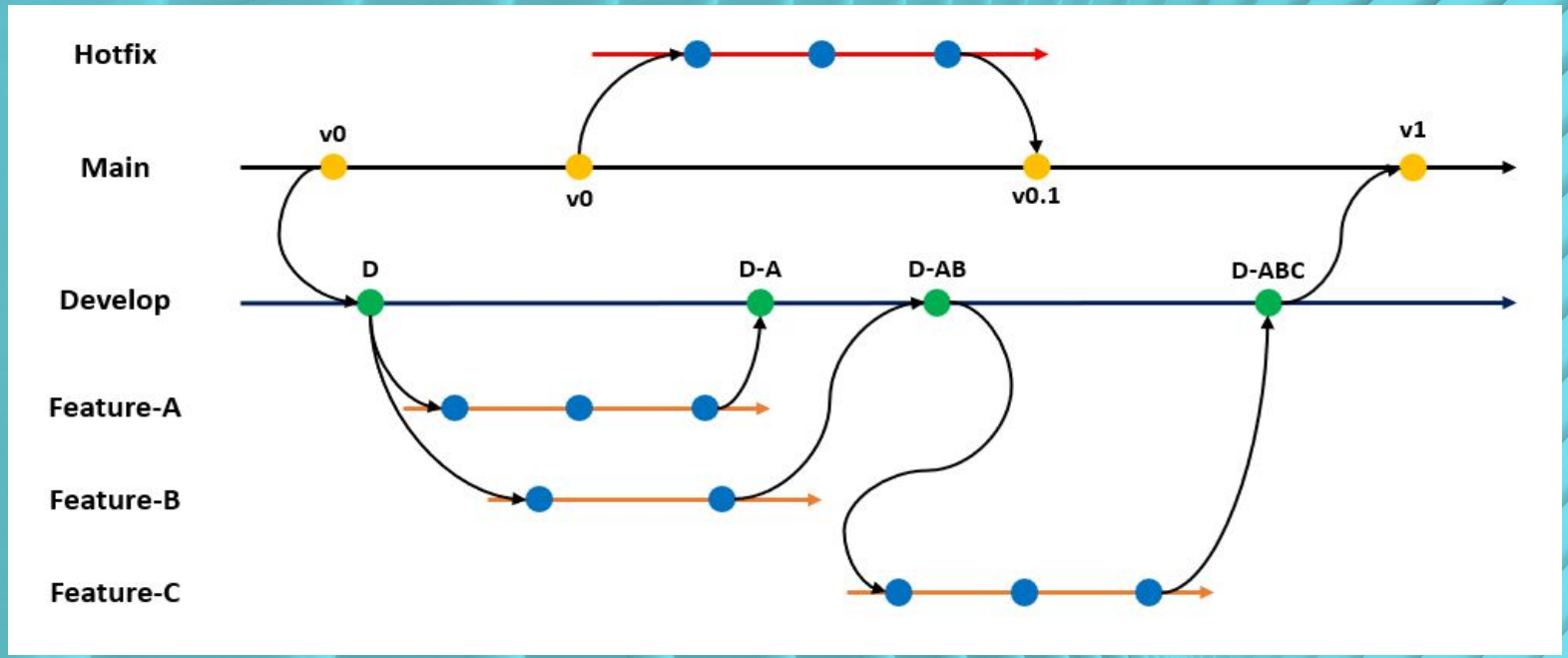
How does git work?

Collaborations on trees

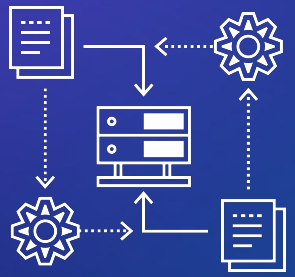
- has a tree-like structure
- every developer has a local copy on their machine
- you can change your local history

Branches

git log --all --decorate --oneline --graph



dyvenia

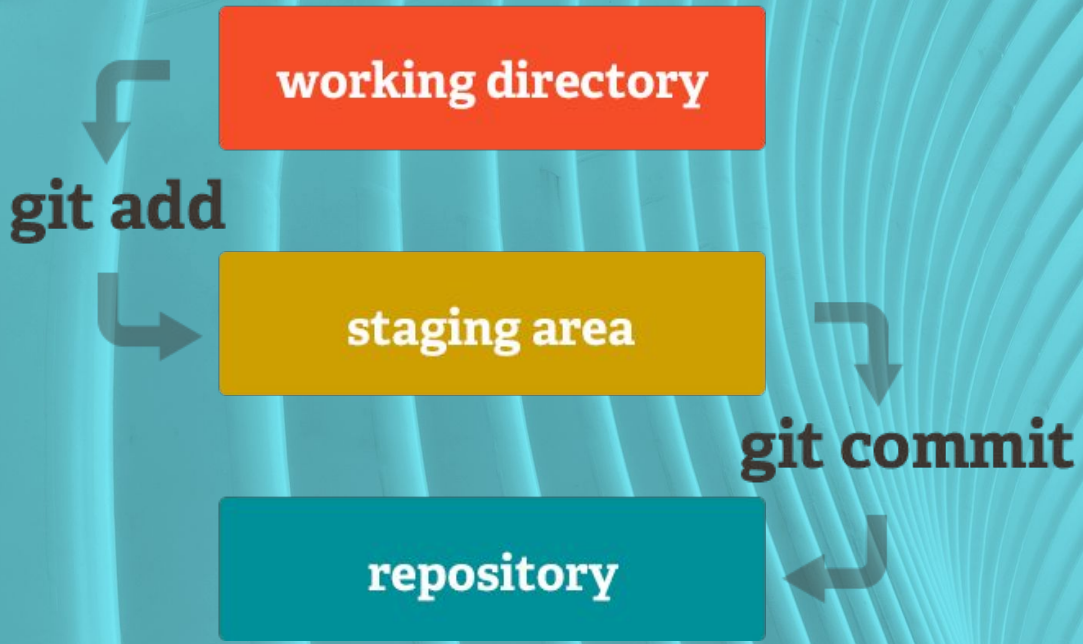


Basics

dyvenia

Getting started with git

What is working directory and staging area



dyvenia

Basic commands

add

git add [file/directory]

Stage files for commit.

Good practice:
Don't use *git add .*

status

git status

Show current list of files with changes.

commit

git commit -m [message]

Commit changes with message.

checkout

git checkout [branch]

Add -b to create a new branch.

Add -d to delete a branch.

dyvenia

Push & Pull

push

git push [from] [to]

Push changes to a branch.

pull

git pull [to] [from]

Pull changes from a branch.

dyvenia

Useful commands

stash

git stash show - show latest stash
git stash list - show list of stashes
git stash - save changes into stash (removes from workspace!)
git stash apply/pop - apply stashed changes (pop removes from stash list)

fetch

git fetch [to][branch] - saves a remote work in your local repo (without making actual changes, so you have to git checkout)

restore

git restore [file] - reverse the changes made on a file

Process summary

Clone the repository with:

git clone <repository>

No need to add to remote list

Always pull changes from dev before working!

Create a new branch
git checkout -b <name>

~do stuff~

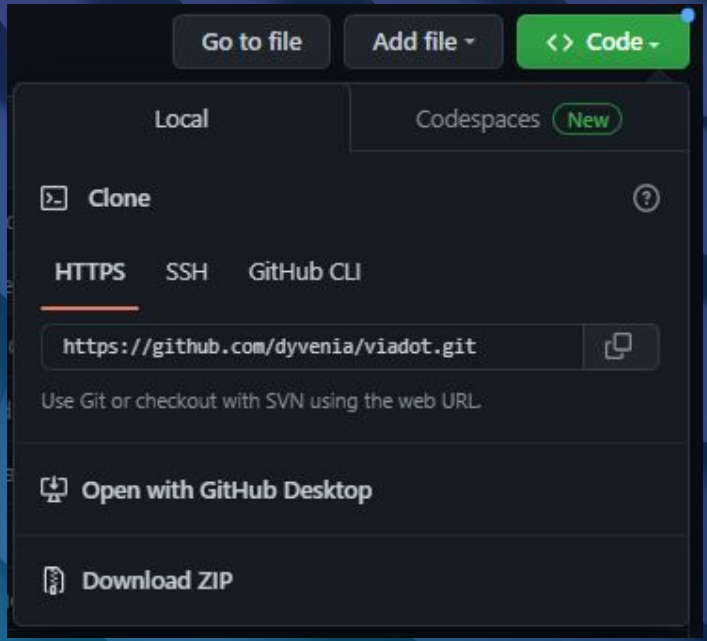
Add and commit
git add <things>
git commit -m “message”

Push changes and merge
git push <origin> <branch>

Connecting to the repository HTTPS

Scheme for downloading the repository

1. Next to the repository you want to download there is a green "Code" button, click this button
2. Copy HTTPS URL
3. On your local computer, go to the directory where you want to download the repository.
4. Use the command git clone <URL>

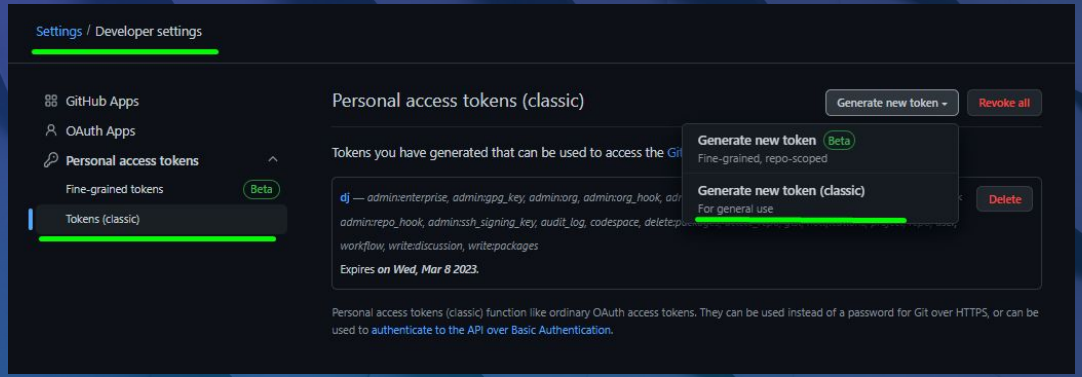


Git token generation

Every time you want to "push" or "pull" you will be asked by git for a Personal access token

Token generation:

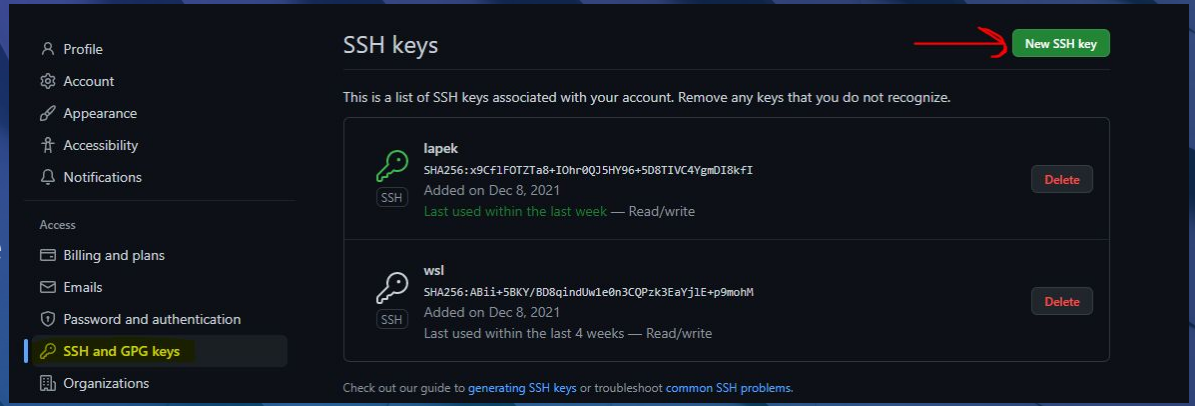
1. Go to account settings
2. Select Developer settings
3. Choose Personal Access Tokens
4. Generate token



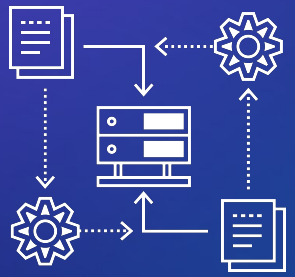
Connecting to the repository SSH

ssh-keygen -t rsa -b 4096 -C "tag-of-your-ssh"

1. Create an SSH key
2. Save it to a file
3. Write passphrase
4. ssh-add -K /path/to/your/file
5. Add SSH on git



dyvenia



Fork

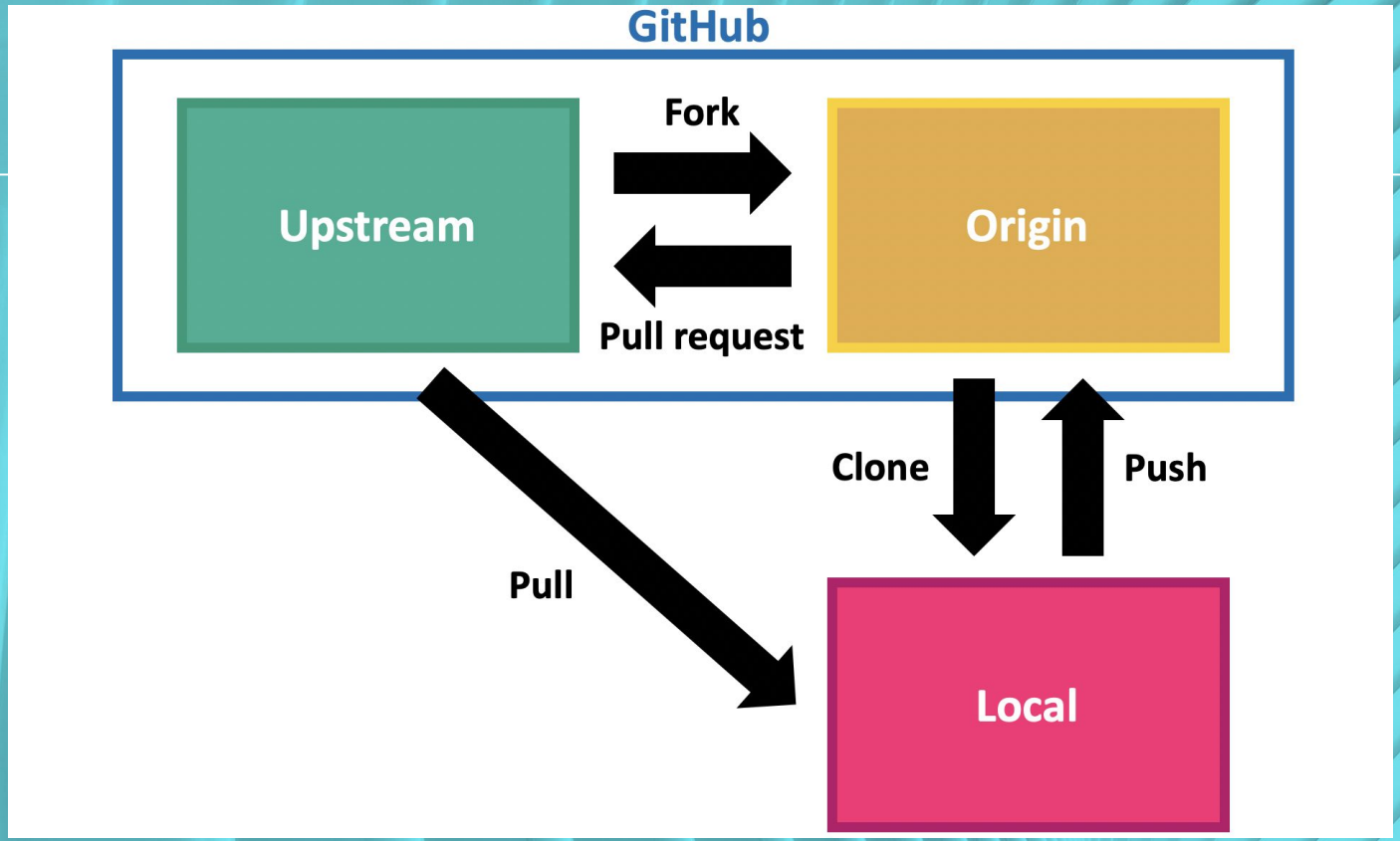
dyvenia

About forks

A fork is a copy of a repository that you manage. Forks let you make changes to a project without affecting the original repository. You can fetch updates from or submit changes to the original repository with pull requests. Forking a repository is similar to copying a repository, with two major differences:

- You can use a pull request to suggest changes from your user-owned fork to the original repository in its GitHub instance, also known as the upstream repository.
- You can bring changes from the upstream repository to your local fork by synchronizing your fork with the upstream repository.

Fork workflow



Forking

On github repository page, click ‘fork’. Clone the forked repository with:

git clone <repository>

Add the original repository to your remote list

git remote add <name> <url>

Always pull changes from dev before working!

Create a new branch
git checkout -b <name>

~do stuff~

Add and commit
git add <things>
git commit -m “message”

Push changes and merge
git push origin <name>

dyvenia

Conflicts

dyvenia

Basic commands

rebase

git rebase [branch]

Update branch based on changes made.

Switches your branch's base to the other branch's position and walks through your commits one by one to apply them again.

merge

git merge [branch]

Update branch based on changes made.

Creating a new commit that incorporates the changes of both branches.

checkout

git checkout [branch]

Change branch.

Add -b to create a new branch.

Add -d to delete a branch.

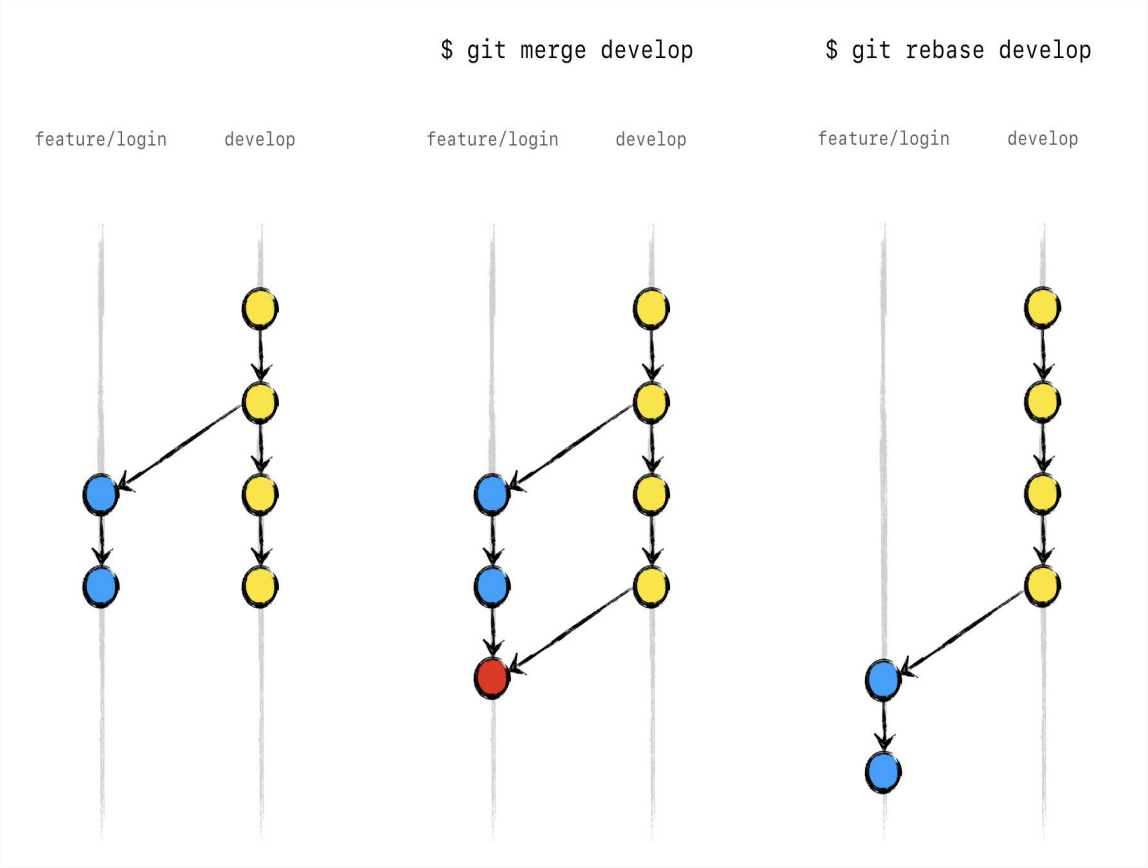
status

git status

Show current list of files with changes.

Difference between rebase and marge

dyvenia



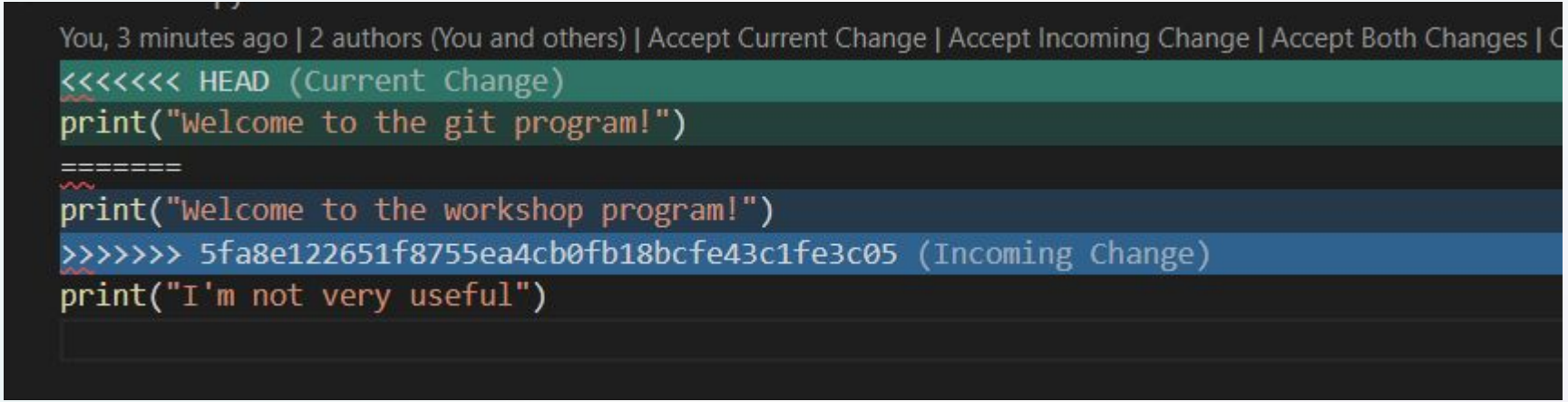
Git's rebase command reapplies your changes onto another branch. As opposed to merging, which pulls the differences from the other branch into yours, rebasing switches your branch's base to the other branch's position and walks through your commits one by one to apply them again.

Remember to do a rebase if changes have been made to the main/dev branch

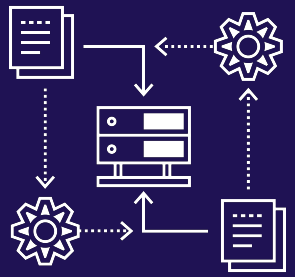
dyvenia

Merge conflicts

Open your VSCode



dyvenia



Pull Request how-to

Keep it simple

dyvenia

One PR should implement one functionality

Don’t try to push as much as possible - if you notice a bug, have an idea for a new component get a sudden urge to write a test for something not directly connected to what you’re working on - leave it for next PR. Open an issue about it.

Keep the amount of commits per PR as low as possible. Reading through 100 commits is not the most pleasurable thing to do. But so is reading one commit with 20.000 lines of code. It’s all about the balance in the universe.

Code Review

It relies on the fact that the code we write, before it goes to the main branch, is reviewed by a second developer called a reviewer in the process.

dyvenia

Naming conventions

:emoji: Verb + functionality

Always begin with a gitmoji (VSCode extension, each emoji specifies a function).

Use verbs such as “Added” or “Fixed”, capitalized.

Specify the functionality, try to keep it short.

If you get lost - naming conventions are usually written down in the documentation.

dyvenia

Examples

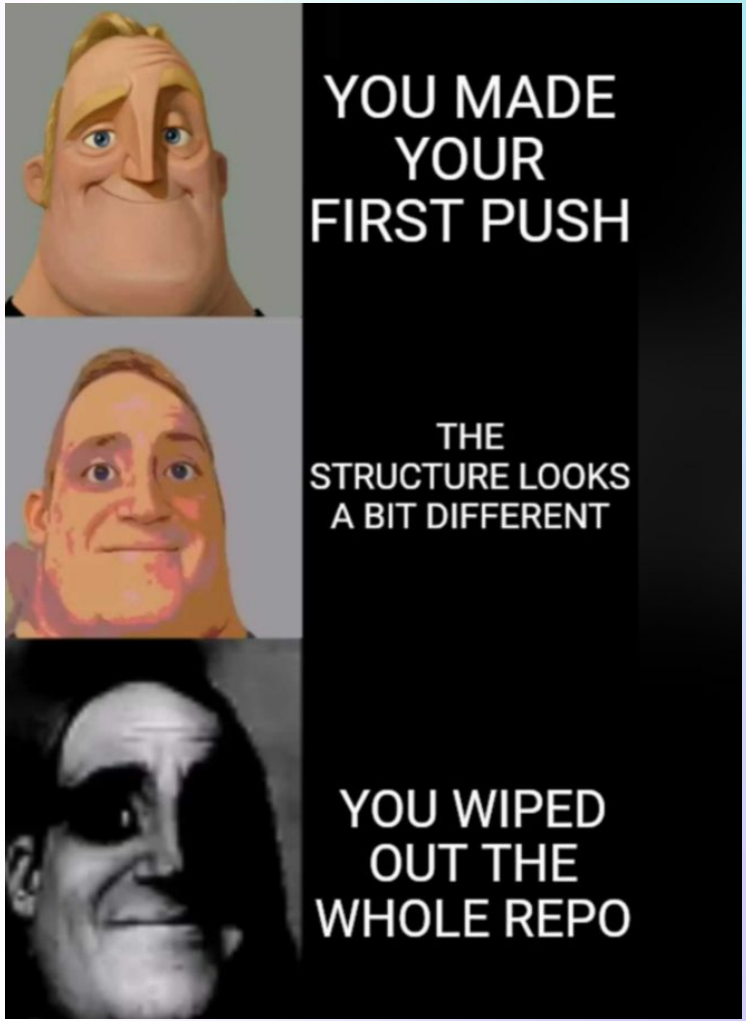
Bad

- Fixed a bug
- 💩 Added a test for *my-thing*
- anna_commit
- ✨ Added the possibility to parse a letter from a non-latin alphabet - a mandarin Chinese symbol for ‘data’, I’ve discovered those by reading a book once mentioned from my father whom...

Better

- 🐛 Fixed a bug in *name* for empty df
- ✅ Added a test for my thing
- 🎨 Updated code structure for *name*
- ✨ Added the possibility to parse a letter from a non-latin alphabet

PRACTICE TIME



Thanks!

Contact us:

ul. Czyżówka 14/0.3,
30-526 Kraków
Poland

hello@dyvenia.com
www.dyvenia.com