Quantitative Research in Political Science

GitHub workflow

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As said before…

There is an additional software that can make your life easier

Git: version control system that tracks versions of files

Pros

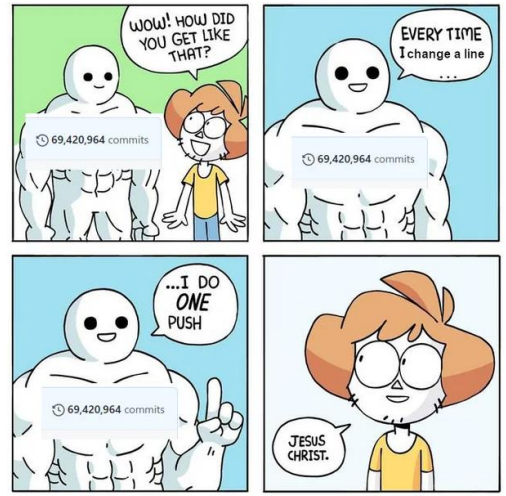
- Very useful backup of your code

Cons

- You cannot backup files >~ 20mb
- The basic version needs to be programmed using the OS console – e.g., cmd in Windows **painful**

But there's GitHub

A (proprietary) developer platform that allows users to create, store, manage, and share their code.



Setup GitHub

1. **Download GitHub Desktop:**

   Visit the official GitHub Desktop download page and download the installer for your operating system (Windows or macOS).

2. **Install** the **Desktop Application**

3. **Open GitHub Desktop** and **sign in**

4. **Fork** the **seminar repositor on the GitHub website:** https://github.com/giucarny/qrps_sose25/

5. **Clone** *your fork* on your local machine

Setup

Upstream

The online repository of the maintainer(s) – i.e., Alex & I

Forking

Creates an online copy of the upstream - the fork/origin

Fork/Origin

Your online copy of the upstream

Cloning

Creates an offline copy of the fork/origin

Your local repo

offline copy of the fork/origin, on your machine

Workflow #0

GitHub

UNIVERSITÄT DES SAARLANDES

Upstream

Fork/Origin

Our local repos

offline copy of the upstream, on our machines

We change something in the folder - .e.g. new slides/code - and then create a **commit**

Commits are records of changes to one or more files in a repository

Your local repo

Workflow #1

GitHub

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Upstream

Fork/Origin

Push

We update the upstream with the commit

Our local repos

offline copy of the upstream, on our machines

Your local repo

Workflow #2

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Upstream

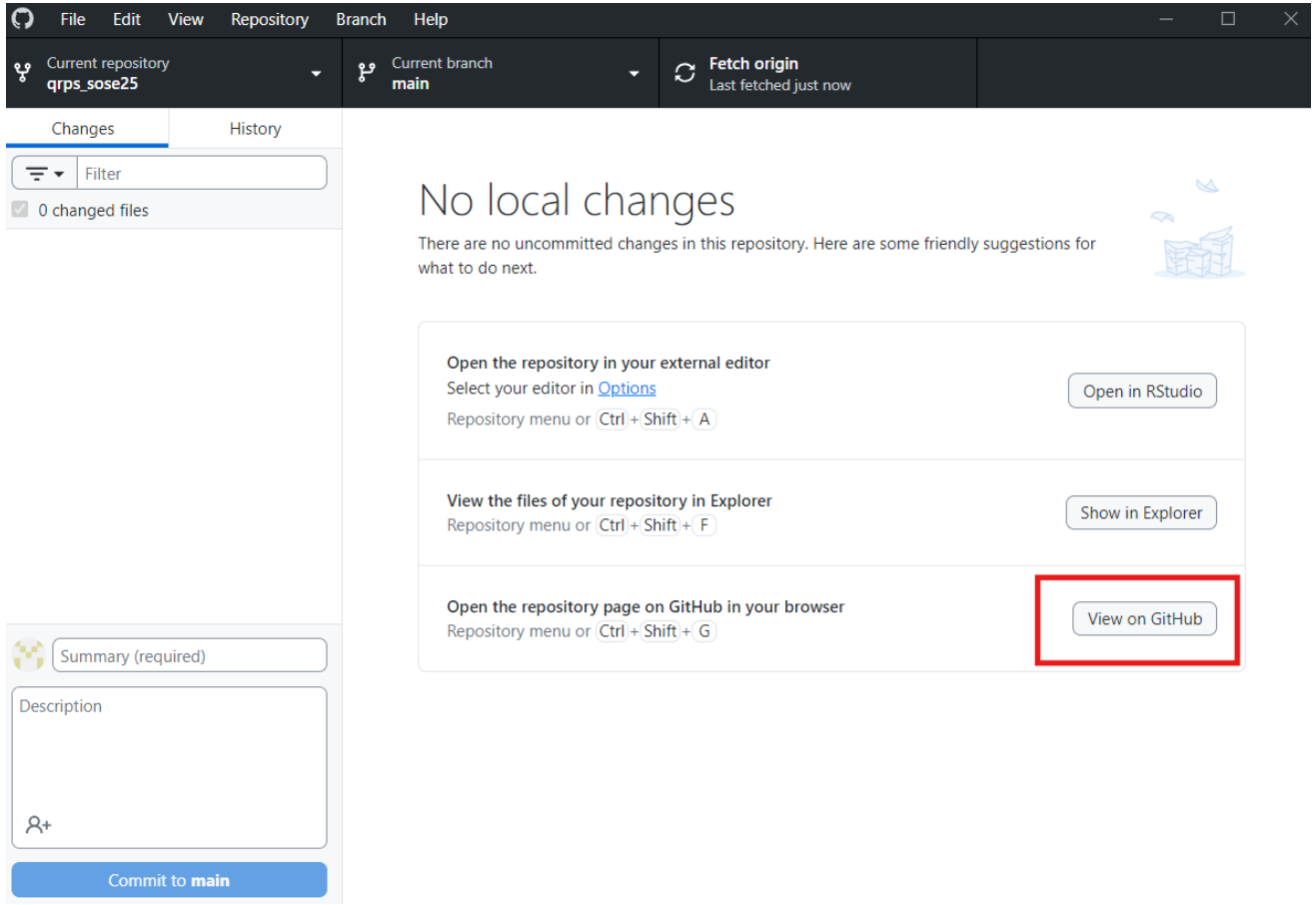
You sync your fork
On the GitHub website
(see the next slides)

Fork/Origin

Our local repos

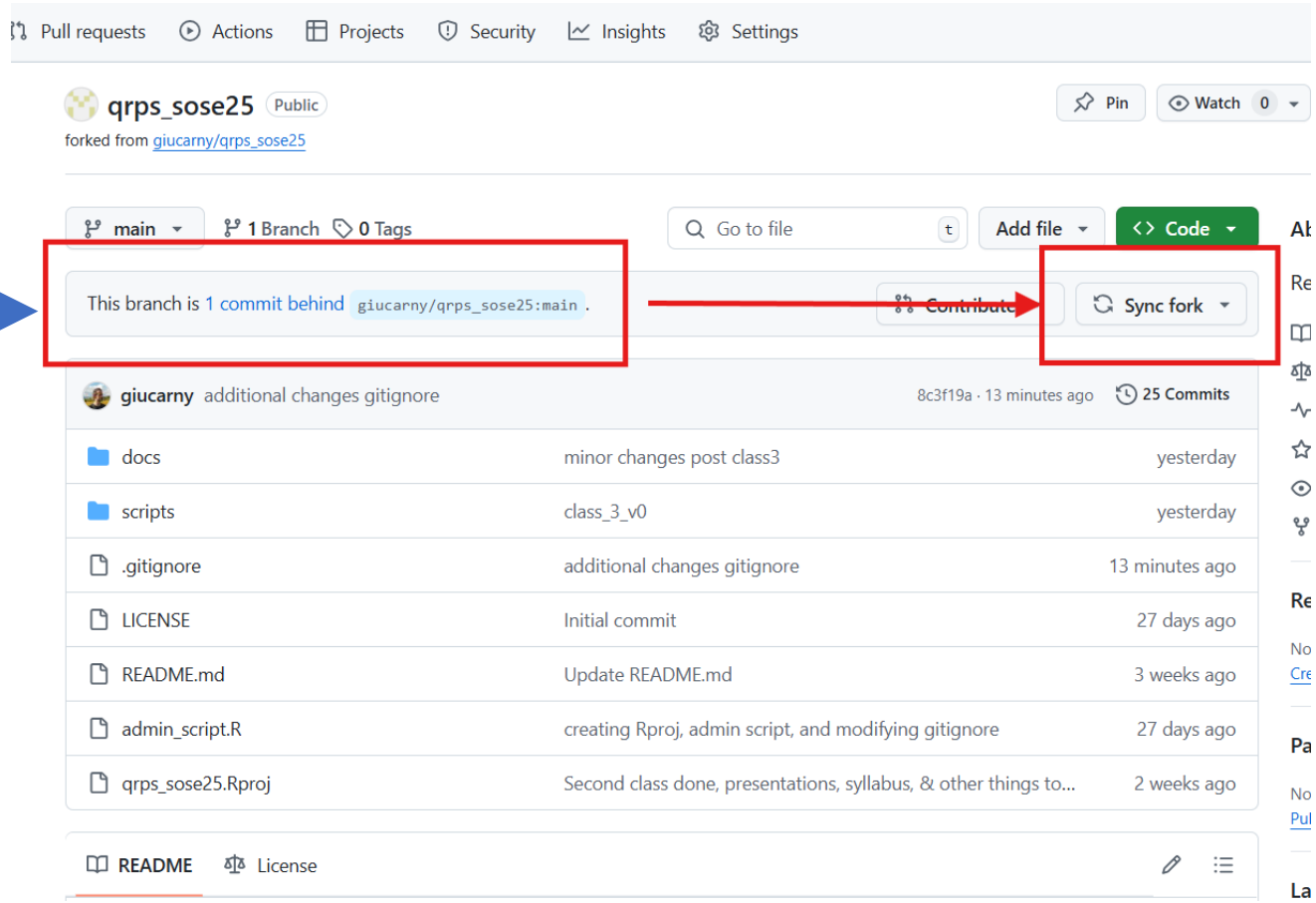
Your local repo

Workflow #2


File
Edit
View
Repository
Branch
Help
Current repository
qrps_sose25
Current branch
main
Fetch origin
Last fetched just now
Changes
History
Filter
0 changed files
No local changes
There are no uncommitted changes in this repository. Here are some friendly suggestions for what to do next.
Open the repository in your external editor
Select your editor in Options
Repository menu or Ctrl + Shift + A
Open in RStudio
View the files of your repository in Explorer
Repository menu or Ctrl + Shift + F
Show in Explorer
Open the repository page on GitHub in your browser
Repository menu or Ctrl + Shift + G
View on GitHub
Summary (required)
Description
Commit to main

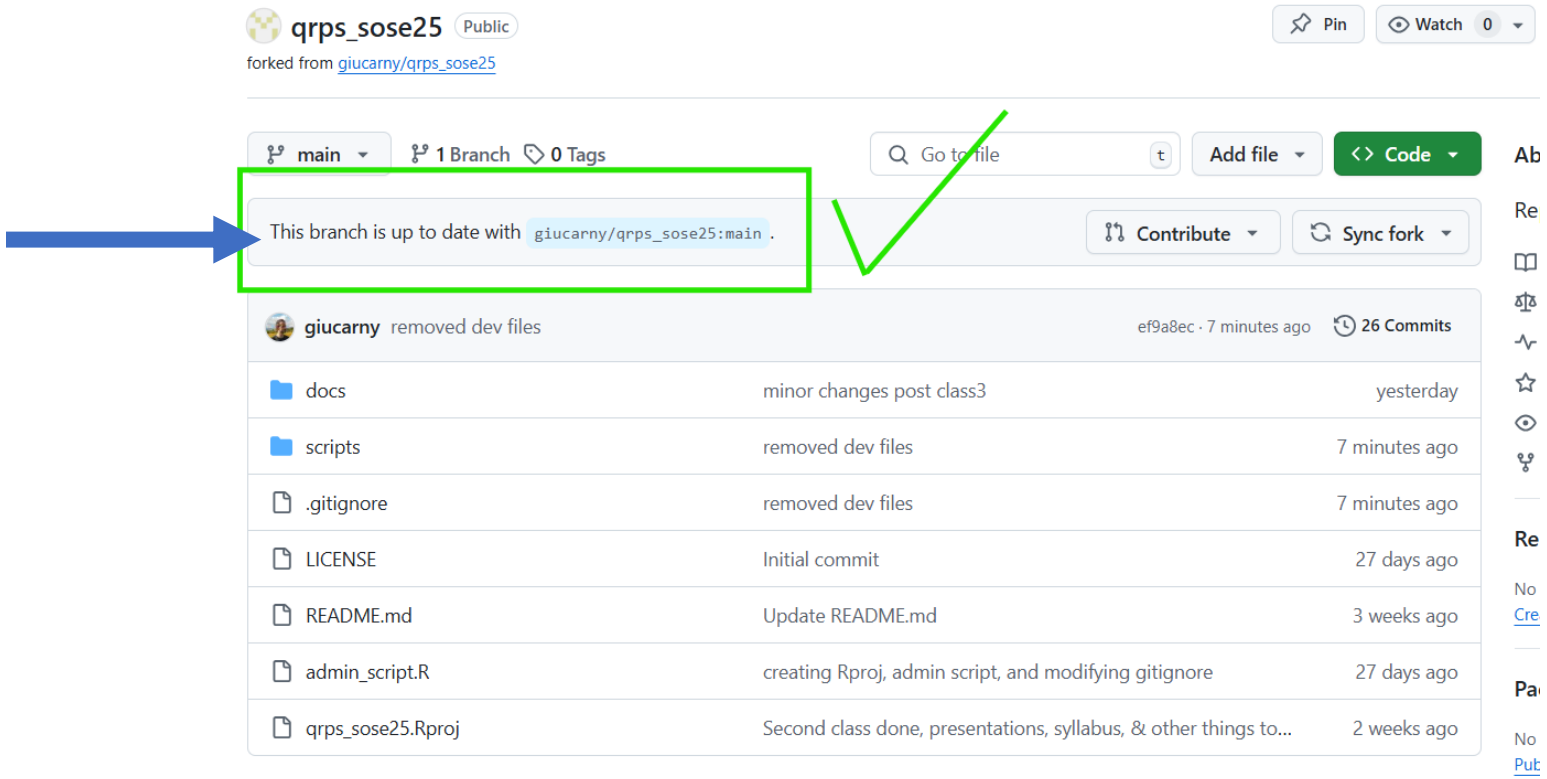
Workflow #2

This indicates that your fork is one commit behind



Workflow #2

Now your fork is synced



Workflow #3

Upstream

Fork/Origin

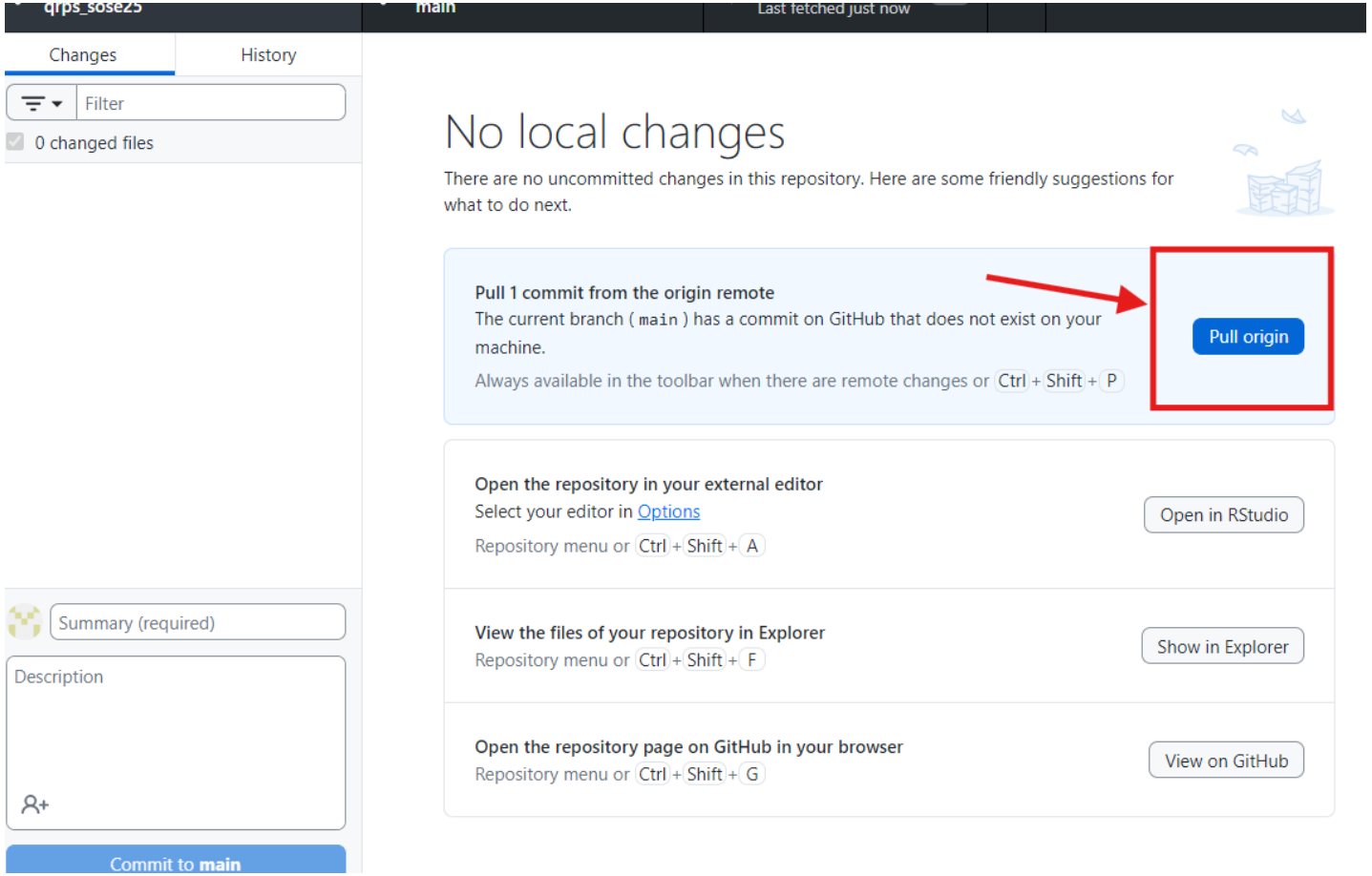
Pull

You update your local repository with the updates in the fork/origin

Our local repos

Your local repo

Workflow #3


qrps_sose25
main
Last fetched just now
Changes
History
Filter
0 changed files
Summary (required)
Description
Commit to main
No local changes
There are no uncommitted changes in this repository. Here are some friendly suggestions for what to do next.
Pull 1 commit from the origin remote
The current branch (main) has a commit on GitHub that does not exist on your machine.
Always available in the toolbar when there are remote changes or Ctrl + Shift + P
Pull origin
Open the repository in your external editor
Select your editor in Options
Repository menu or Ctrl + Shift + A
Open in RStudio
View the files of your repository in Explorer
Repository menu or Ctrl + Shift + F
Show in Explorer
Open the repository page on GitHub in your browser
Repository menu or Ctrl + Shift + G
View on GitHub

Workflow #4

Upstream

Fork/Origin

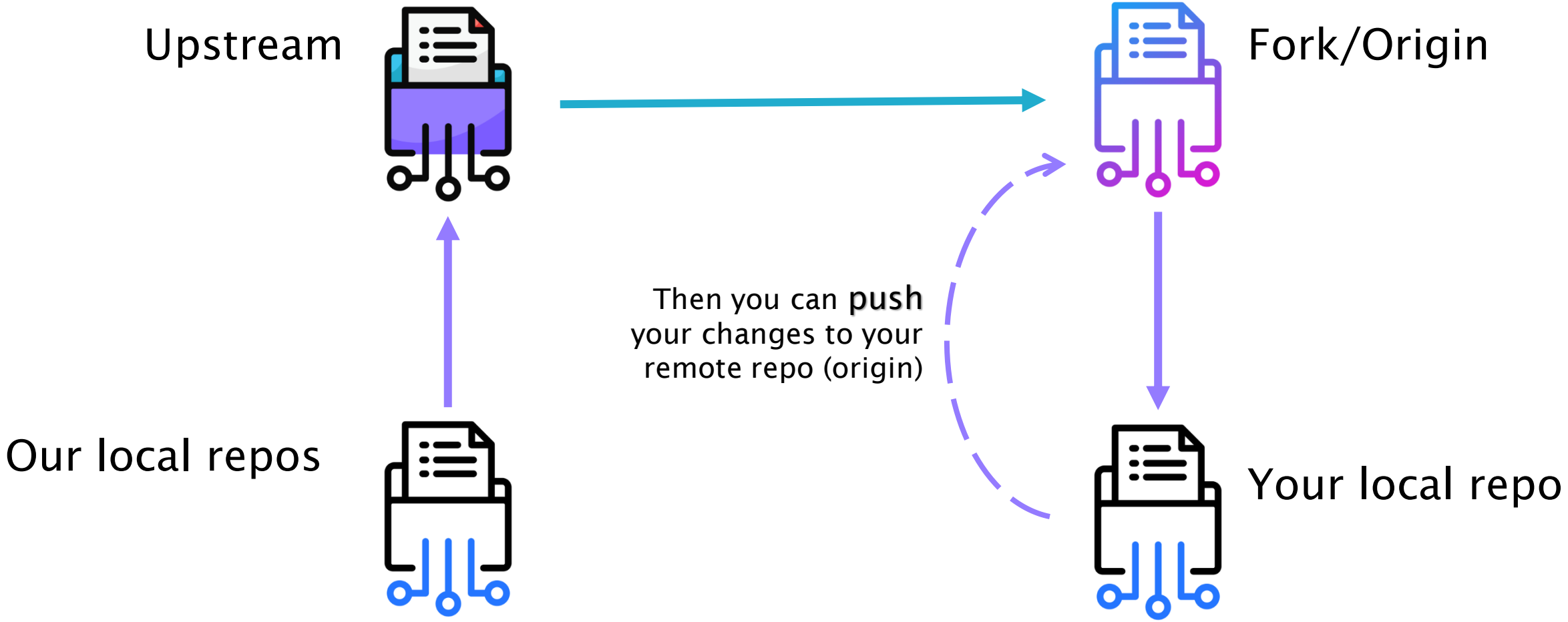
Our local repos

Every time you change your local repository, Git will record these changes.

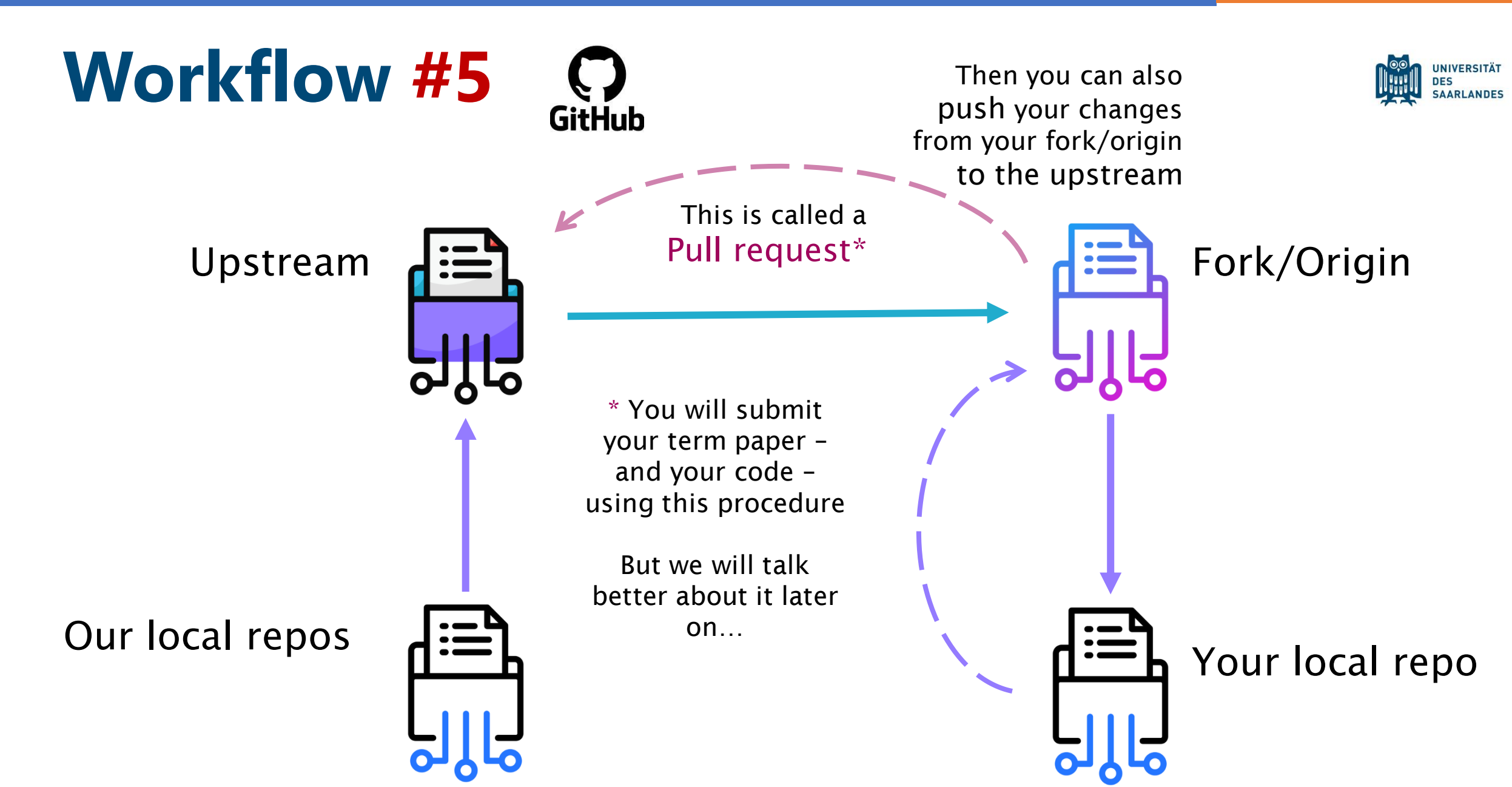
But to “save” these changes you need to create a **commit**

Your local repo

Workflow #4


Upstream
Fork/Origin
Then you can push your changes to your remote repo (origin)
Our local repos
Your local repo

Workflow #5


Then you can also push your changes from your fork/origin to the upstream
This is called a Pull request*
Upstream
Fork/Origin
* You will submit your term paper – and your code – using this procedure
But we will talk better about it later on…
Our local repos
Your local repo

Warning!

The workflow that we will be using is mostly the one from #1 to #3

Feel free to change the files in your fork/origin, , but… if you modify the files you pulled from our repository (for instance, the slides, or the scripts) this will create errors and inconsistencies

This is because git pulls a file, notice that the two files are different, and it will force you to make a choice – in the best case scenario

Therefore, if you want to modify the slides or the code we provide via the upstream, please create a copy and modify the copy, **don't** work on the original files

Fork/Origin

Your local repo