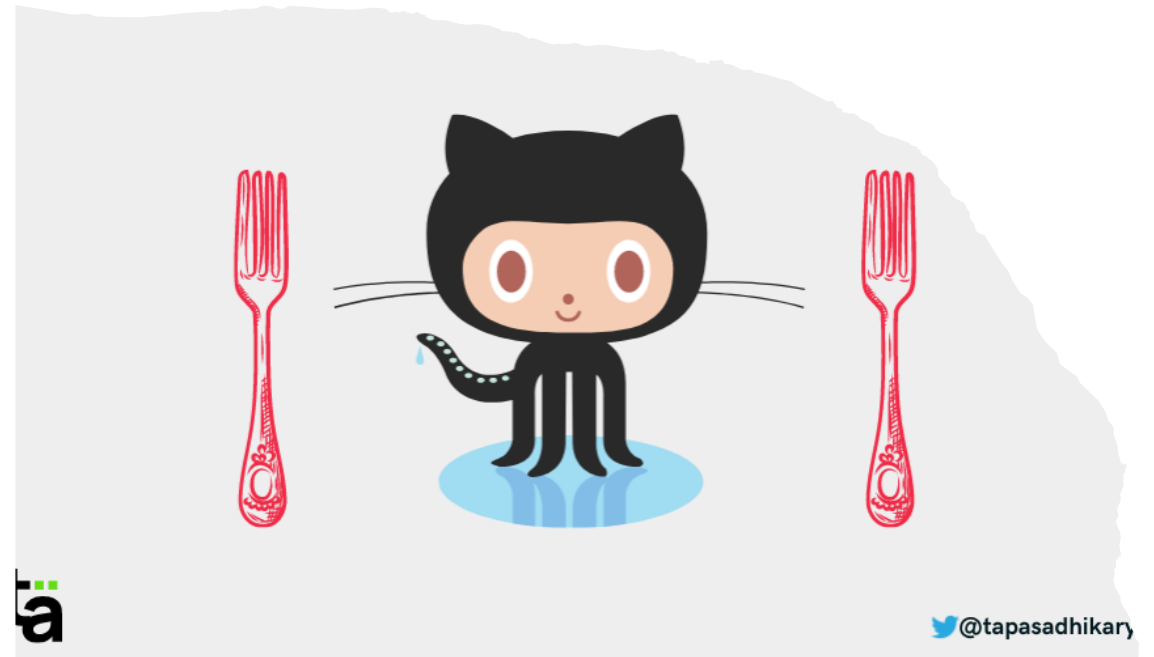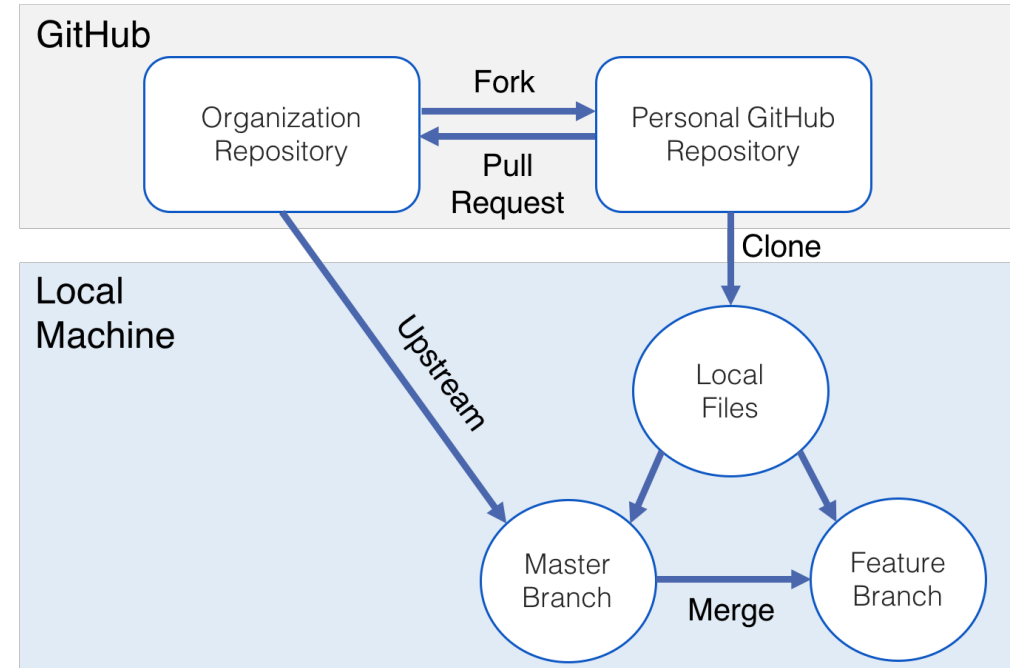# Tutorial 2

Outline

- Forking on GitHub
  - What is fork?
  - Why fork?
  - How to fork?
  - Exercises!

@tapasadhikary

What is Fork

A fork (Personal Github Repository) is a new repository that shares code and visibility settings with the original "**upstream**" repository (Organization Repository).
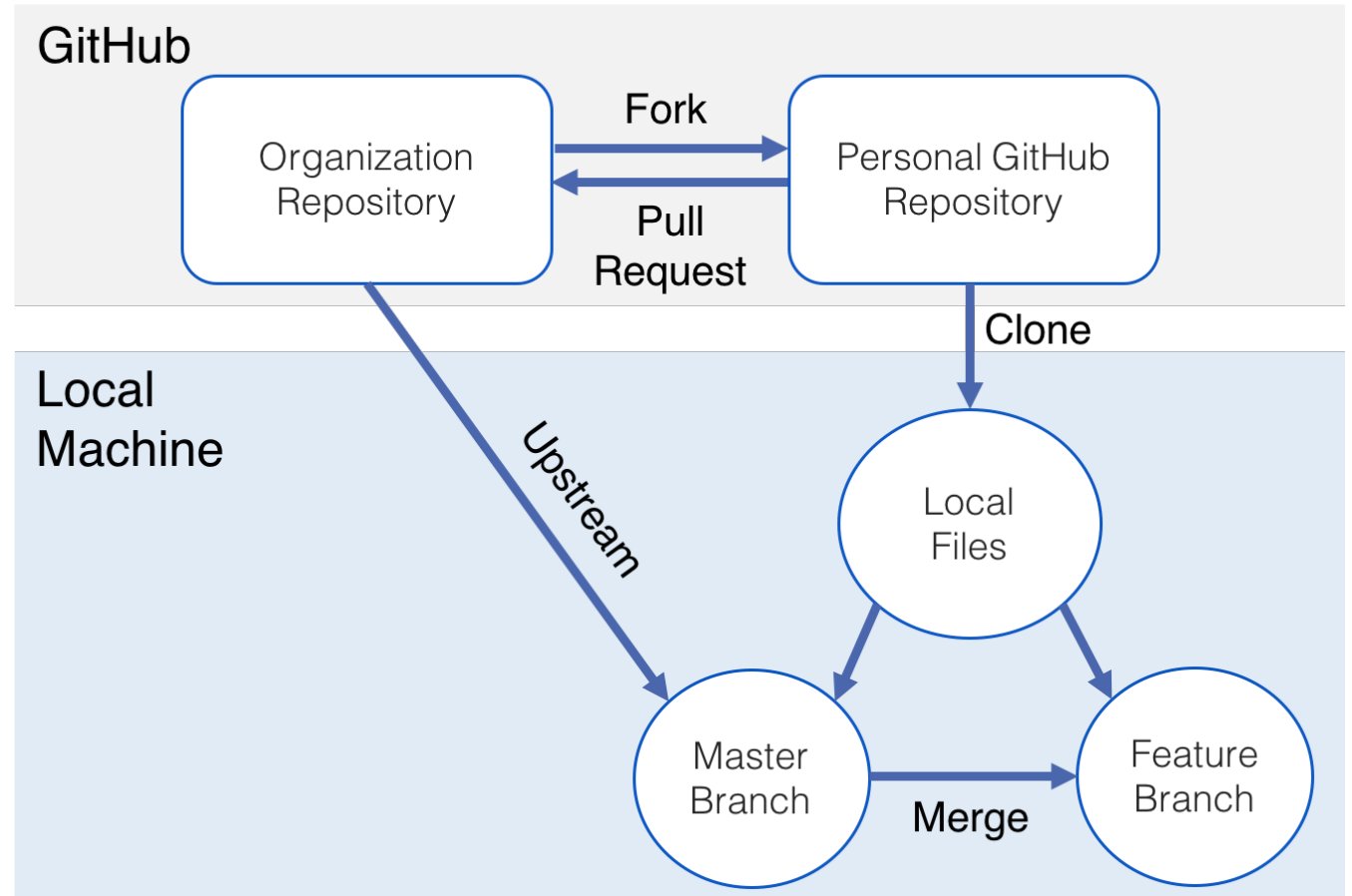
Why Fork

- Contribute to repositories that you don't have access to
  - Example: Open source repositories
- Create your own version of a repository and implement your requirements
  - Example: In-house version of an open source repository
- Use another repository as a starting point to your new repository
  - Example: Copy and modify an analysis

How to Fork

- Fork
- Clone
- Create a branch
- Create and edit files
- Commit
- Push
- Open a PR
  - Remember to follow the repository guidelines
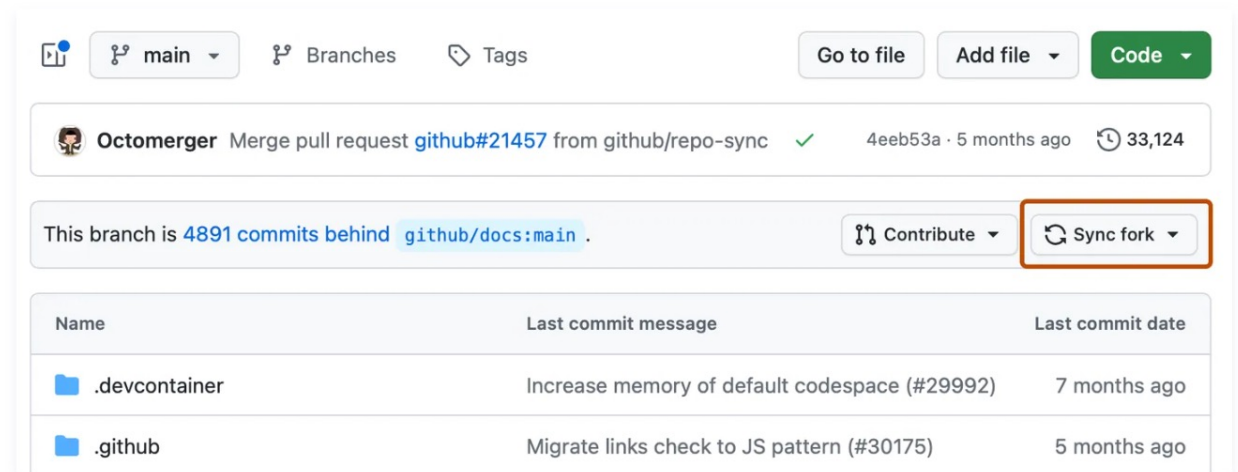
Problem: Forked Repository Outdated

- Ideally, we want our repository to be as much as up to date as possible before opening a PR

- But some open source projects are very fast paced

- In this case, it's ok to be a few commits behind

- Worst case scenario, the reviewer will ask you to update your PR

Solution?

- Web UI
  - We need to Sync the Fork

Syncing a fork branch from the web UI 🔗

1 On GitHub, navigate to the main page of the forked repository that you want to sync with the upstream repository.

2 Above the list of files, select the **Sync fork** dropdown menu.

3 Review the details about the commits from the upstream repository, then click **Update branch**.

Or in command line

I am assuming you have already forked a repository on GitHub, cloned to your
machine and accessed its folder
Check the list of remotes and add the original repository as "upstream"
git remote -v
git remote add upstream <ORIGINAL REPO LINK>
git remote -v
Fetch the branches and their respective commits from the original repository
git fetch upstream
Switch to "main" and merge the original repository commits to it
git checkout main
git merge upstream/main

Exercises

- Repeat the workflow with an open source repository
  - Suggestions: https://github.com/numpy/numpy