Creating Repositories and Collaborating with Git

// FLATIRON SCHOOL

Learning Objectives
(You Will Be Able To)

- **Initialize** a new repository
    - Connect that new repo to GitHub
- Create and switch between git **branches**
- Implement a **branching workflow**
- Avoid **merge conflicts**

Where We Left Off

Covered in ‘Introducing Git and GitHub’

- Starting from an existing repository
- Forking workflow
- Pushing changes

What haven’t we covered?

- Creating your own repo from scratch
- Branching workflow
- Merging changes

Initialize a New Repository

Initializing turns any local directory/folder into a local git repository.

```
git init
```

This creates a repository using ONLY Git, without involving GitHub at all.

Do not create a Git repository inside of another Git repository!

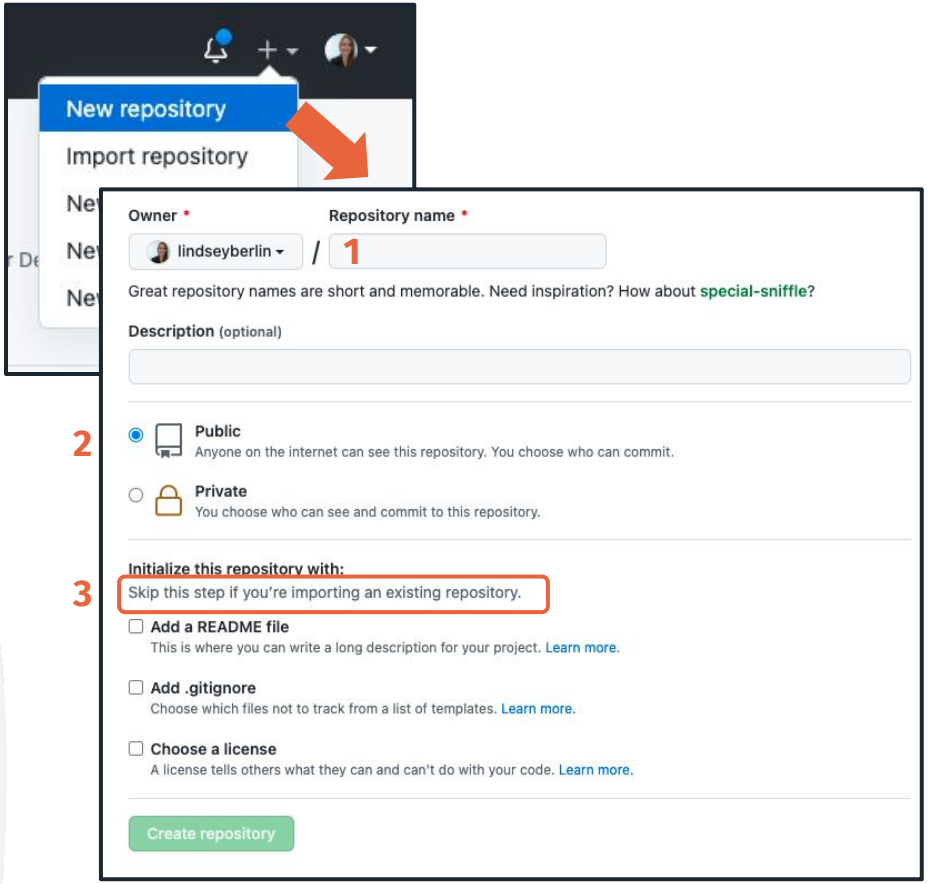
- Use `git status` to check!

Connect a Local Repository to GitHub

Easy to create a new repository on GitHub.

Then:

1. Name your new repository (will become the URL)
2. Set permissions
3. **READ CAREFULLY!** If you already have an existing repository on your local computer (already ran `git init` in a folder with contents in it), make sure you DO NOT click any of the options!



Git Branches

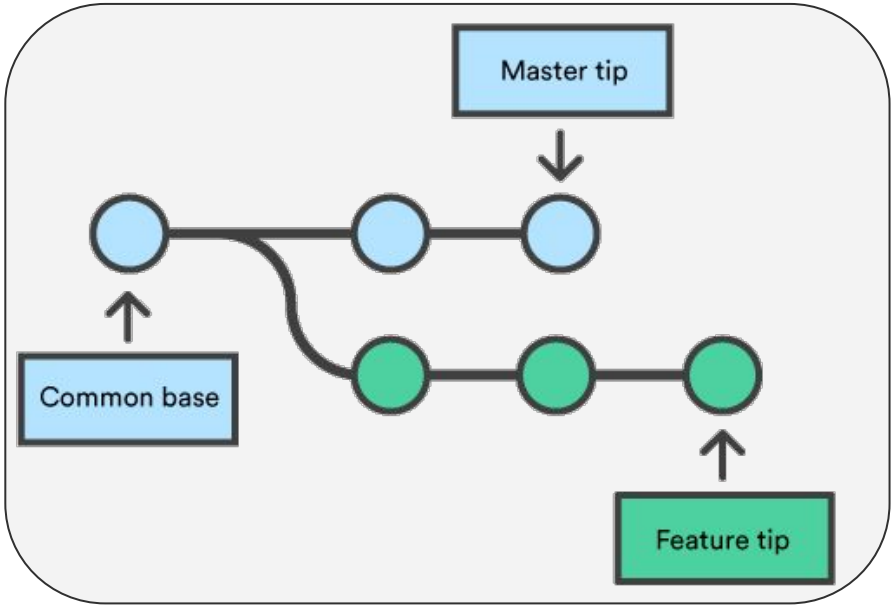
Branches allow you to do your own work based off a main ‘trunk’ of code, without disrupting other people working off that ‘trunk’.

Default branch name: `main` (or `master`)

`git branch`
Check your branches

`git branch [BRANCH]`
Create a new branch, named `[BRANCH]` - but won’t move you to that branch!

`git checkout [BRANCH]`
Move to the branch named `[BRANCH]`



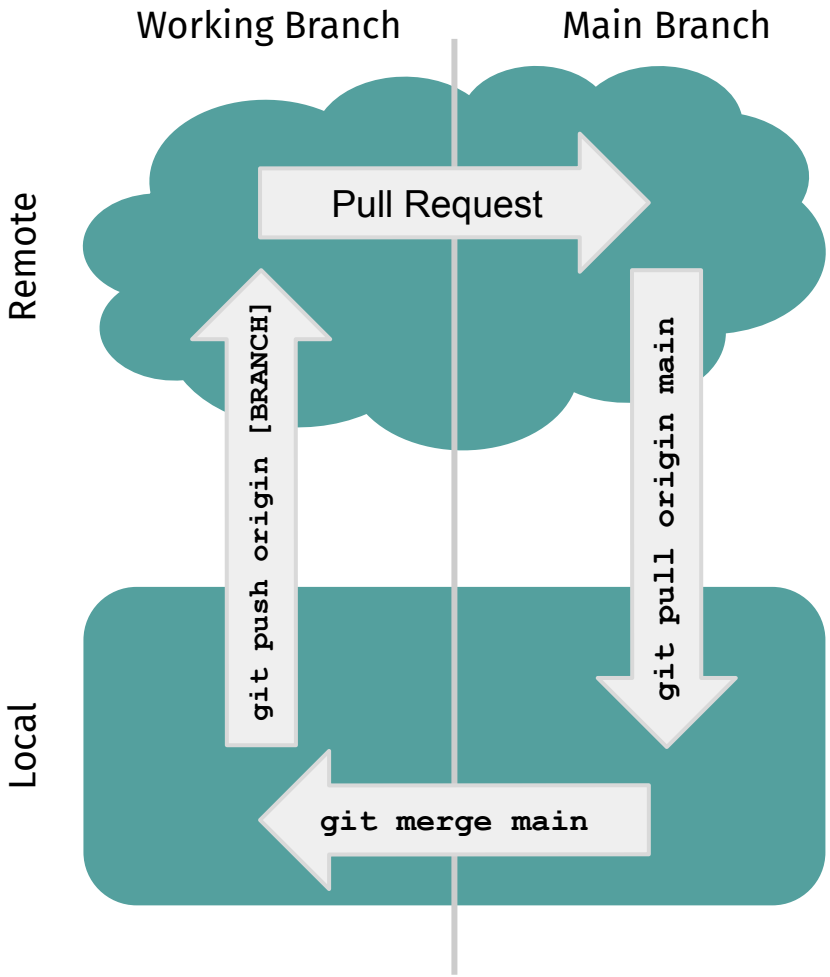
Branching Workflow

A **branching workflow** is one common way to collaborate with others using GitHub.

One repository - many branches.

The Idea: code is written on a feature branch, then merged into the main branch via a **pull request** (a request to pull the content into main).

You will use this workflow for your projects!



Merge Branches

Merging allows you to bring changes together into one harmonious project . . .

HOW TO AVOID MERGE CONFLICTS:

- Plan ahead and communicate
- Work on different Jupyter notebooks
- Use your own branch

Time to Put It All Together!

Any Questions?