

# Git Workflow

Enterprise Artificial Intelligence (AI)



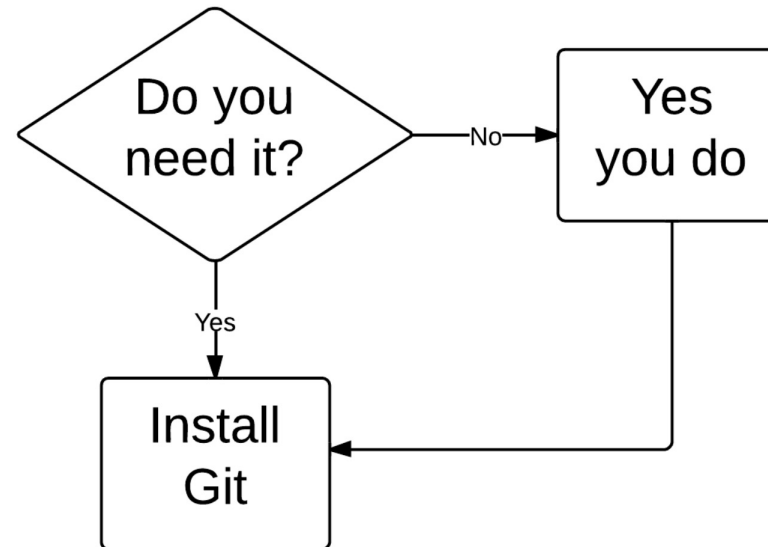
1. **What is version control?**
2. Setting up git
3. Create your first repository
4. EntAI workflow

# Why do we need version control?



**\*\*footnote:** Thanks to Matt from UCLA for this comic idea!

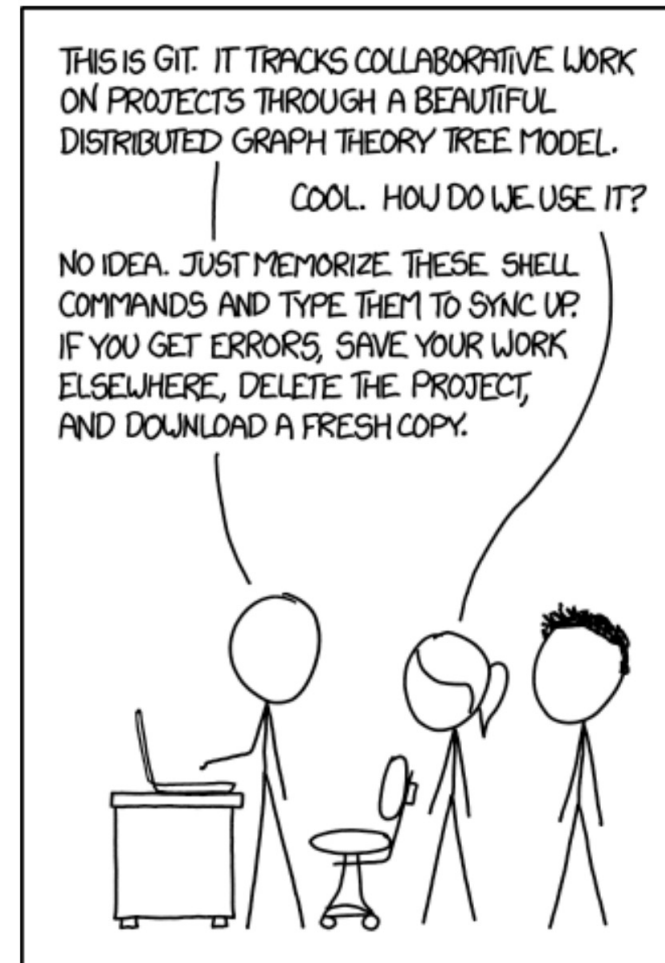
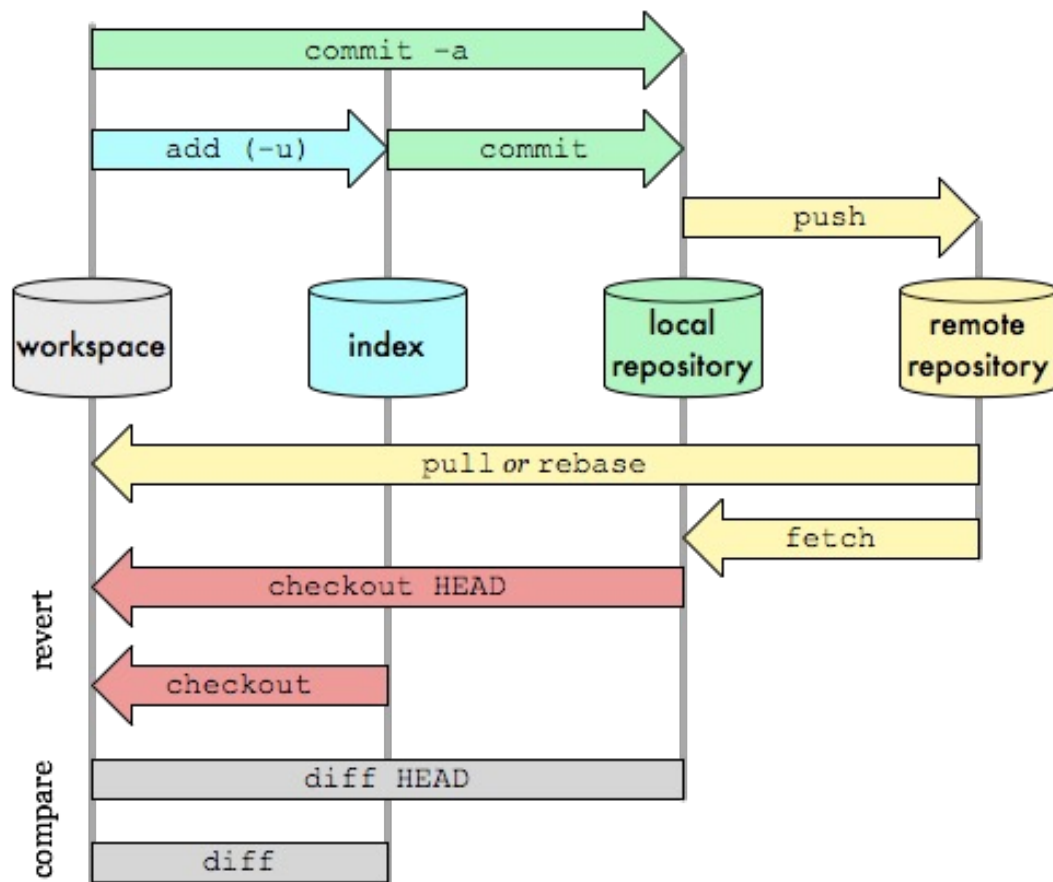
## Version Control Flowchart



# How does it work?

## Git Data Transport Commands

<http://osteele.com>



1. What is version control?
- 2. Setting up git**
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## Install git

A very good tutorial:

- <https://happygitwithr.com/install-git.html>

### Install Git for Windows:

<https://gitforwindows.org>

**NOTE:** When asked about “Adjusting your PATH environment”, make sure to select “Git from the command line and also from 3rd-party software”. Otherwise, we believe it is good to accept the defaults.

The same very good tutorial:

- <https://happygitwithr.com/install-git.html>

### Install Git for Mac:

Go to the Terminal and install the Xcode command line tools (which include git) by entering:

“xcode-select –install”

Or if you use Homebrew:

“brew install git”

# Configure Git

- On Windows:
  - Enter the Git Bash shell
- On Mac and Linux:
  - Enter the shell
- Configure your git:
  - *git config --global user.name "Max Mustermann"*
  - *git config --global user.email "max.mustermann@mail.com"*

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## Create your first repository

- Go to <https://github.com/> and create an account (make sure to use the email address from your git config)
- Click green “New repository” button
- How to fill this in:
  - Repository name: myrepo (or whatever you wish, we’ll delete this soon anyway).
  - Description: “testing my setup” (or whatever, but some text is good for the README).
  - Public
  - YES Initialize this repository with a README

## Clone the repo to your local computer

- Go to the shell
- Make a new directory and move into it
  - *mkdir test*
  - *cd test*
- Clone your repository (copy the link from github.com)
  - *git clone https://github.com/YOUR-USERNAME/YOUR-REPOSITORY.git*

## Make a local change, commit, and push

- Add some text to the README with the editor of your choice
- Navigate to your repository
  - *cd myrepo*
- Verify that git notices the change:
  - *git status*
- Stage and commit this change and push it to your remote repo on github
  - *git add -A*
  - *git commit -m "My first commit"*
  - *git push origin master*

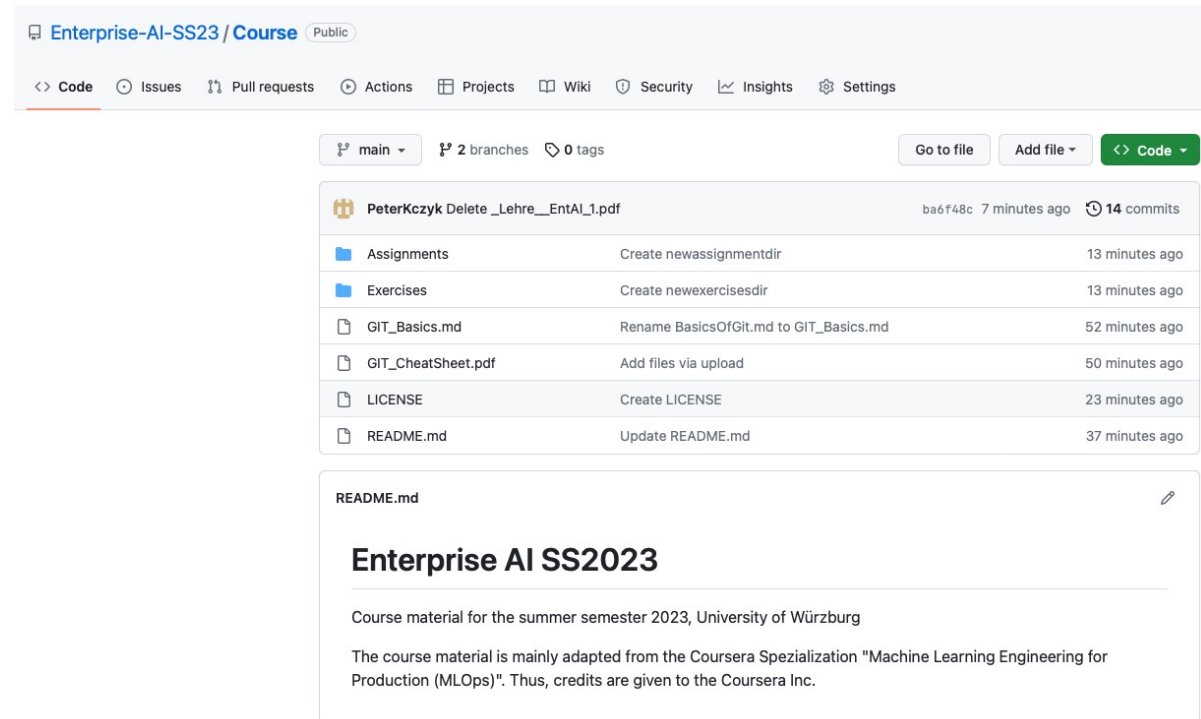
## Clean up

- Delete the local test folder
- Delete the repository on github.com

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# The EntAI repository

- We provide a repository for our class at:  
<https://github.com/Enterprise-AI-SS23/Course.git>
- We will use this repository to upload:
  - Jupyter Notebooks from the exercises
  - Solutions for the assignments
  - Interesting and helpful stuff



# Assignment Submission Workflow

- You will have to work on assignments to qualify for the (graded) final project
- Assignments are submitted via GitHub pull requests
- To work on your assignment, you have to create your own fork on GitHub:
  1. Click on the assignment in WueCampus classroom
  2. Login using GitHub Account
  3. Join the GitHub classroom by clicking on your name
  4. Accept the assignment
  5. Wait for GitHub classroom to configure your repository and click on the link
  6. Create a new branch named assignment\_n

<https://youtu.be/HsDSfbtCtx4>

# Assignment Submission Workflow (Google Colab)

- We recommend that you work on your assignments using Google Colab
- To modify and submit your assignments via Google Colab:
  1. Click on the Google Colab link in your GitHub repository
  2. Click on “File/Open Notebook”
  3. Click on GitHub
  4. Search for “tds2122”
  5. Select your repository and Branch and open the notebook
  6. Make changes
  7. Click on “File/Save to github”
  8. Select your repository and Branch and add a commit message
  9. Create a pull request **(DON'T MERGE IT)**

[https://youtu.be/dHj5jKAi6\\_8](https://youtu.be/dHj5jKAi6_8)



## Assignment Submission Workflow (Local)

- Of course, you don't have to use Google Colab for your submissions. Follow these steps to submit your assignments if you prefer working local:
  1. Clone your repository
  2. Move into the repository's folder
  3. Fetch all branches and checkout assignment\_n
  4. Work on the assignment and push changes to branch
  5. Create a pull request **(DON'T MERGE IT)**

<https://youtu.be/oS40aHcwEel>