



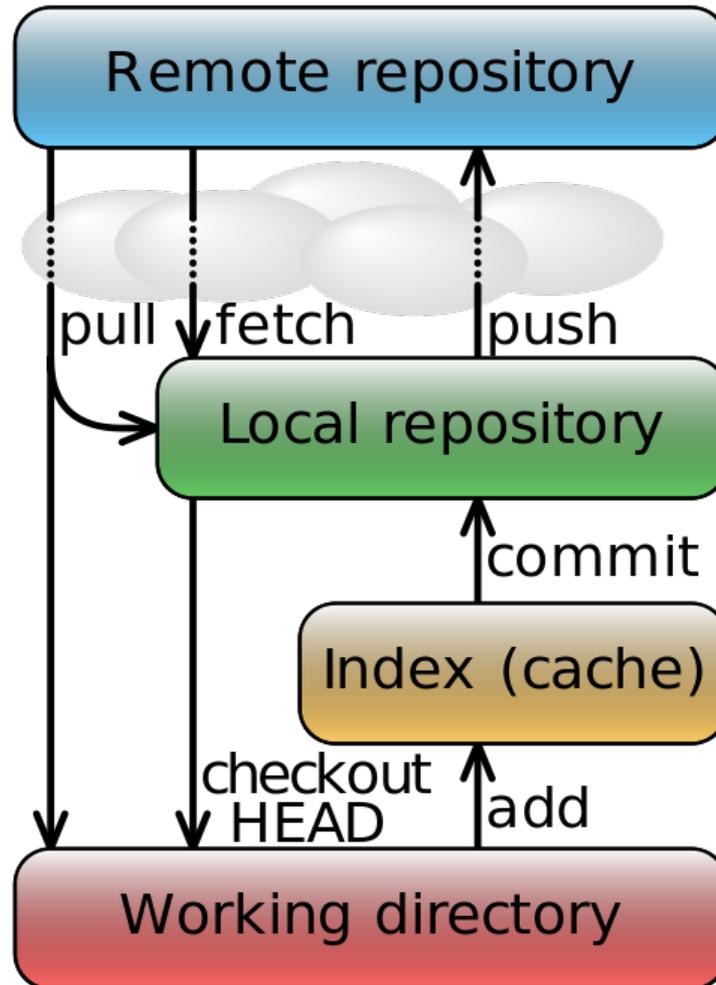
Git & GitHub

Przemek (Pshemek) Lach
SEng 371

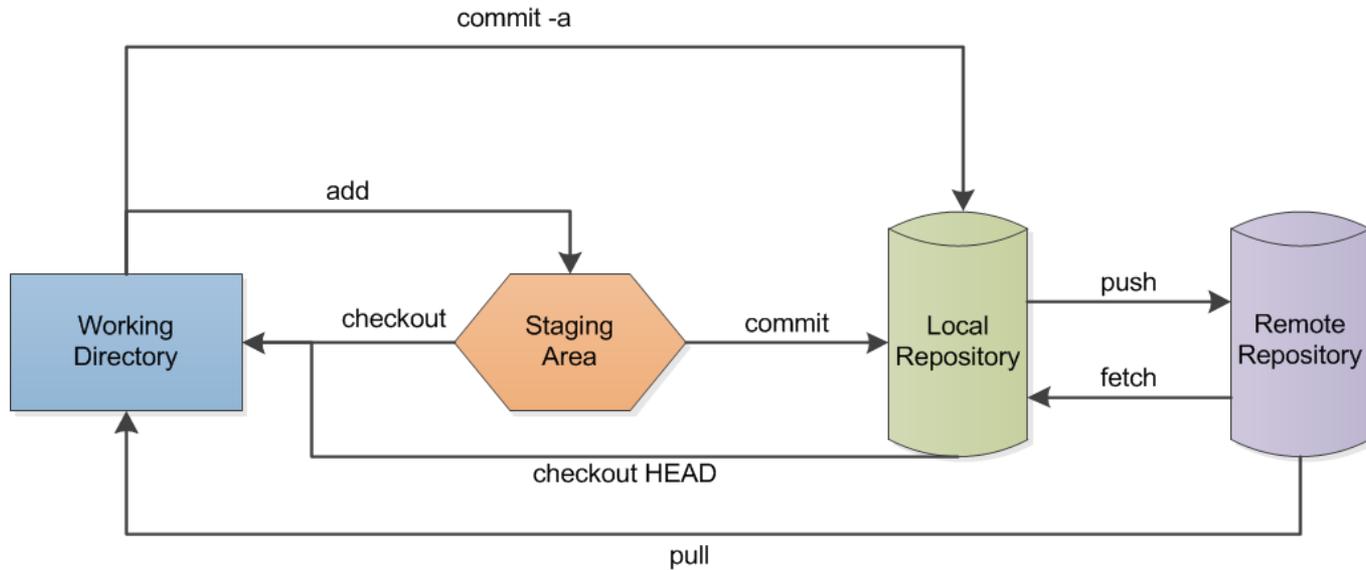
What are we doing?

- Sign-up & quick tour of GitHub.
- Create local project & connect to GitHub
 - Bash
 - GUI (A better GUI client)

Git Workflow



Git Workflow



commit -a: Directly commit modified and deleted files into the local repository (*no new files!*)
add: Add a file to the staging area.
checkout: Get a file from the staging area.
checkout HEAD: Get a file from the local repository
commit: Commit files from the staging area to the local repository
push: Send files to the remote repository
fetch: Get files from the remote repository
pull: Get files from the remote repository and put a copy in the working directory

Create Account (<https://github.com/>)

github [Explore GitHub](#) [Search](#) [Features](#) [Blog](#) [Sign in](#)

Build software better, together.

Powerful collaboration, review, and code management for open source and private development projects.

Pick a username

Your email

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Tip: use at least one number and at least 7 characters.

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- Remote repository
- Free if you don't mind sharing your code.



Great collaboration starts with communication.

Review changes, comment on lines of code, report issues, and plan the future of your project with flexible discussion tools.



Manage and contribute from all your devices.

Native clients for Mac, Windows, and mobile devices allow you to stay involved with your projects from anywhere.



The world's largest open source community.

Share your code with the world and contribute to the millions of public repositories hosted on GitHub.



Collaborate on private repositories when you [sign up for a paid individual or organization plan](#).

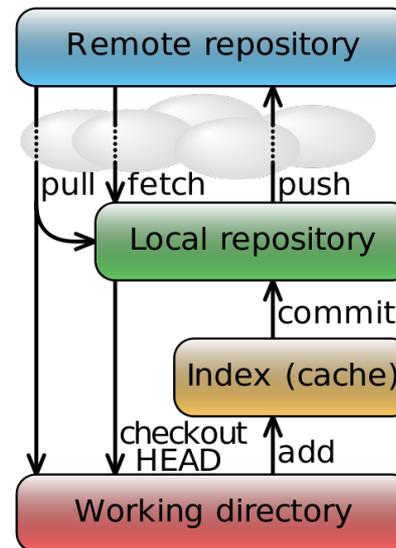
Lets Create an Account!

GitHub & Git Bash

- In order to push/pull to/from GitHub we need to create a SSH key: RSA public/private cryptography.
- Upload the public key to GitHub.
- `ssh-keygen -t rsa -C "<e-mail address>"`
 - -t allows us to specify the type of key we want to create.
 - -C allows us to specify a comment.
 - **NOTE:** backup your local .ssh folder if you have once since creating this new key may mess things up.

GitHub & Git Bash

- `git init`
- `git add .`
- `git commit -m "A comment."`
- **`git remote add origin <remote_name>`**
- **`git push origin master`**
- **`git pull origin master`**



**Lets Create Project &
Upload to GitHub**

GitHub & Git Gui Client

- The idea is the same except the Gui client hides some of the work we had to do using Git Bash
 - SSH keys are auto-generated and uploaded to GitHub
 - The process of 'staging' is invisible.
 - Nicer UI for seeing diff.
 - and much more..!
- We're going to have to install this tool since it's not on your computers.

Lets Install Git GUI Client

GitHub and Branching

- You can push/pull to other branches in addition to 'master'.
 - `git push origin develop`
 - This will create a new branch called 'develop' on GitHub or simply add to it if it already exists.