

Git & GitHub

What you need before class

- Have git installed on your computer
- Have a GitHub account
- If you don't have git installed or a git account, you will not be able to follow

You installed git, where is it?

Git is not an application you will open and use. There isn't any icon you open

To check if your git is installed open:

Terminal: mac

PowerShell or command prompt: windows

- And type `git --version`

What is Git

Git is a Version Control System. It is local software installed on your computer for keeping track of changes for files and folders.



What is GitHub

[Github.com](https://github.com) is an online hosting platform for git repositories with lots of collaboration features



How are we going to use Git

Git can be used in many ways. We will use it in IntelliJ

There is other tools to open you use git and it can be used via command line as well, but we will learn with the UI tools from IntelliJ

Other tools: github desktop

Other platforms: Bitbucket, Azure Repos

Git terms – Repository

Repository : It's just a folder that git keeps track of changes

- Local Repository:
The repository on your computer (hidden .git folder)
- Remote Repository
The repository in [GitHub.com](http://github.com)

Git terms – Commit

Commit : List of changes you saved into your local git repository

- the changes you made
- the author of this commit
- the comment to describe what has changed : `commit message`

Flow of a new project

- Create a local repository
The hidden .git folder would be made to keep track of changes
- Create a file / Update file
Make a file with some information
Or Update an existing file
- Commit the changes
Commit to the local repository with a proper commit message
- Link / Push to remote repository
Connect to a github repository and push the changes

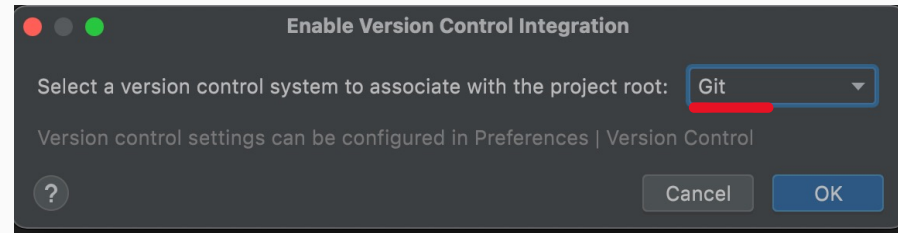
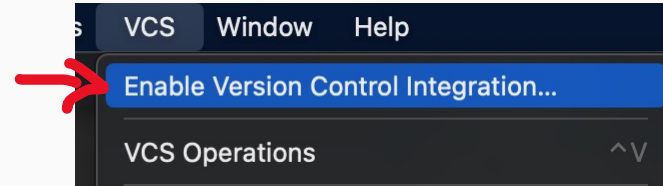
Git in IntelliJ

- Create a new Java project called Book_Git_Practice
- Add a package under the source folder called chapter_1
- Add a text file called page1 and add some text

? Is there any git yet?

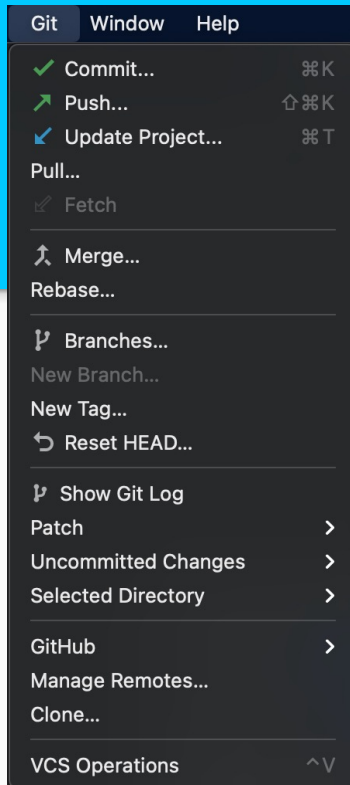
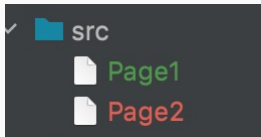
Git in IntelliJ

- From the top menu find the **VCS** option
 - Click **Enable Version Control Integration**
 - Select the **git** option from the pop-up window
- * It will create a git repository for your project
- ? Which kind of repository ?



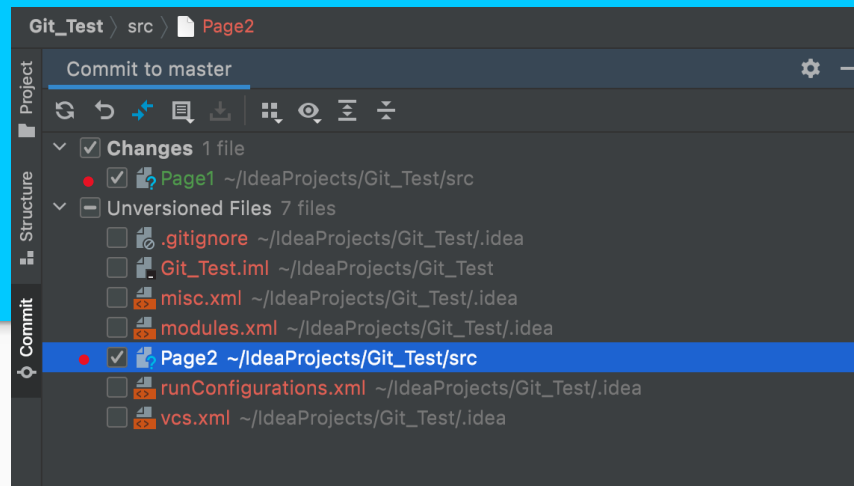
Git in IntelliJ

- Where it said **VSC** before should now say **Git** and have some new options
- Your files will get some coloring, this is normal
 - Red: file is un-versioned
 - Green: actively changed and ready to be part of a repository



Git in IntelliJ

- Add another text file called page2 and add some random text
- Go up to the **Git** menu and click **commit**
- Select the page1 and page2 files
 - The files may be located under the **un-versioned** files section



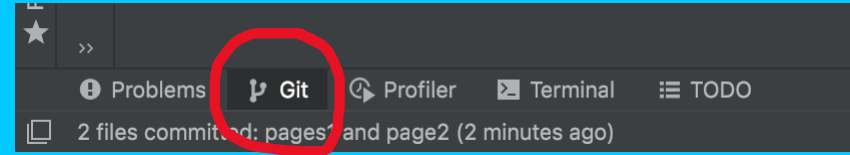
- Write a meaningful message in the commit message area



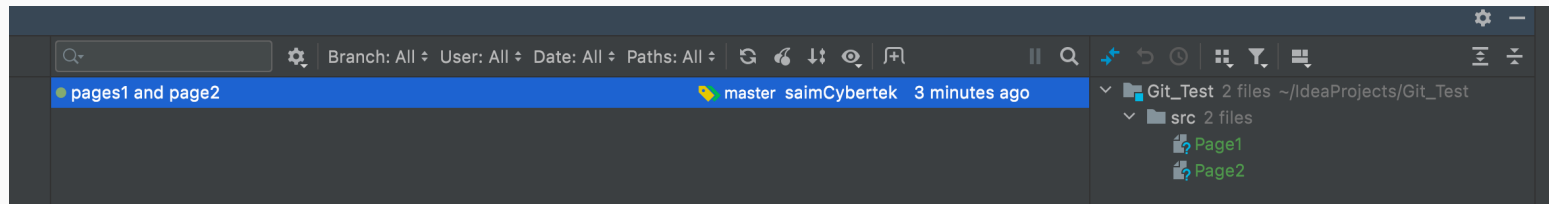
- Click commit



Git in IntelliJ

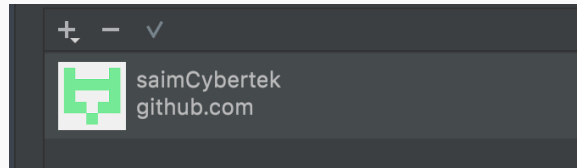


- ? Where are the files now ?
- Check the history by clicking the git tab from the bottom left
 - Can also be opening from Git menu -> Show git log
- From here we can see the history of our repository



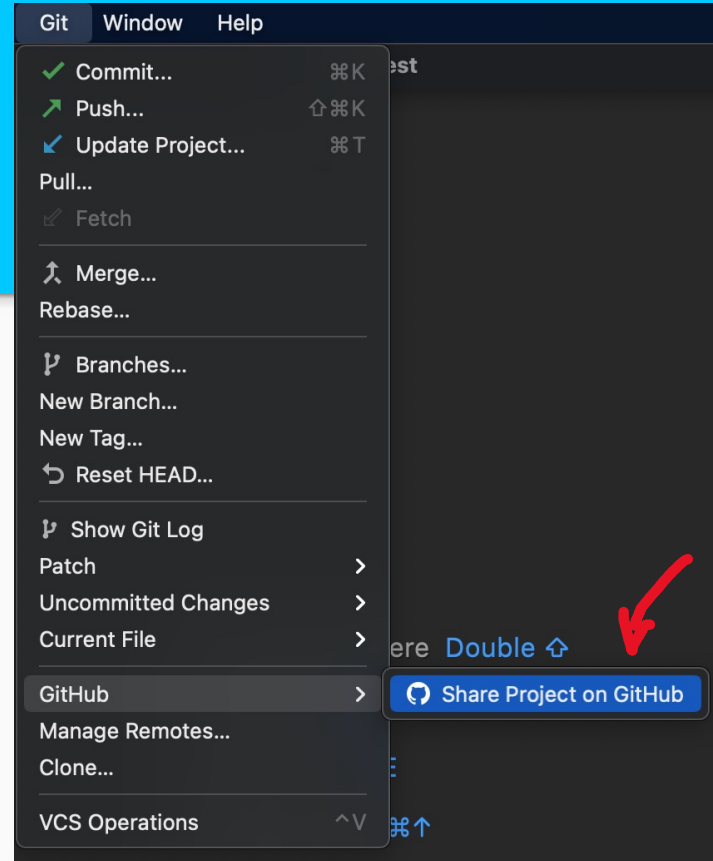
Git in IntelliJ – Link GitHub account

- Go to **IntelliJ -> Preference** on mac or **File -> Settings** on windows
- Select **Version Control** from left tab, **expand** the tab and select **GitHub**
- Click on **Add Account**, it will prompt to login from browser, Go ahead and login and say yes to any pop-ups until it says successful from browser and check if the account is displayed in the IntelliJ settings



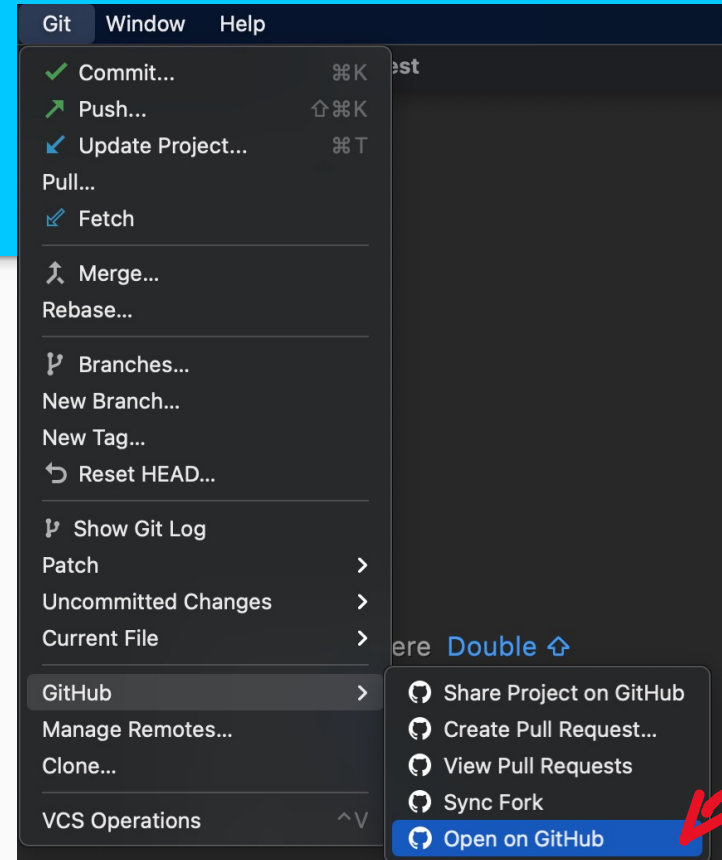
Git in IntelliJ

- Share the project (This is one time/first time)
- Click on the **Git** menu, hover the GitHub option and select **Share Project on GitHub**
- In the popup window click **share**



Git in IntelliJ

- To view the remote repository: **Git** menu -> **GitHub** -> and select **Open on GitHub**



Sharing Project Breakdown

- What did Sharing the project to GitHub do?

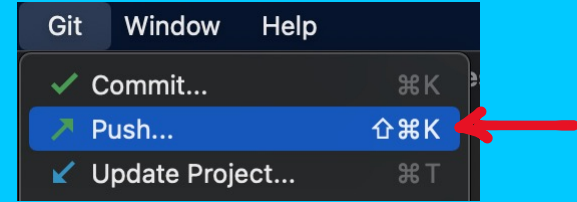
Create new Github.com remote repository under your account

Connect your local repository to remote repository created above

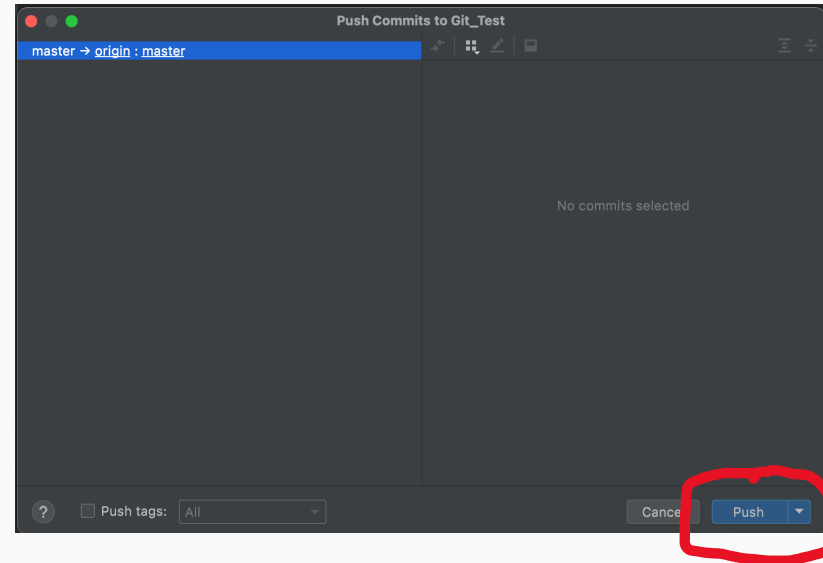
Push your local repository commits to remote repository

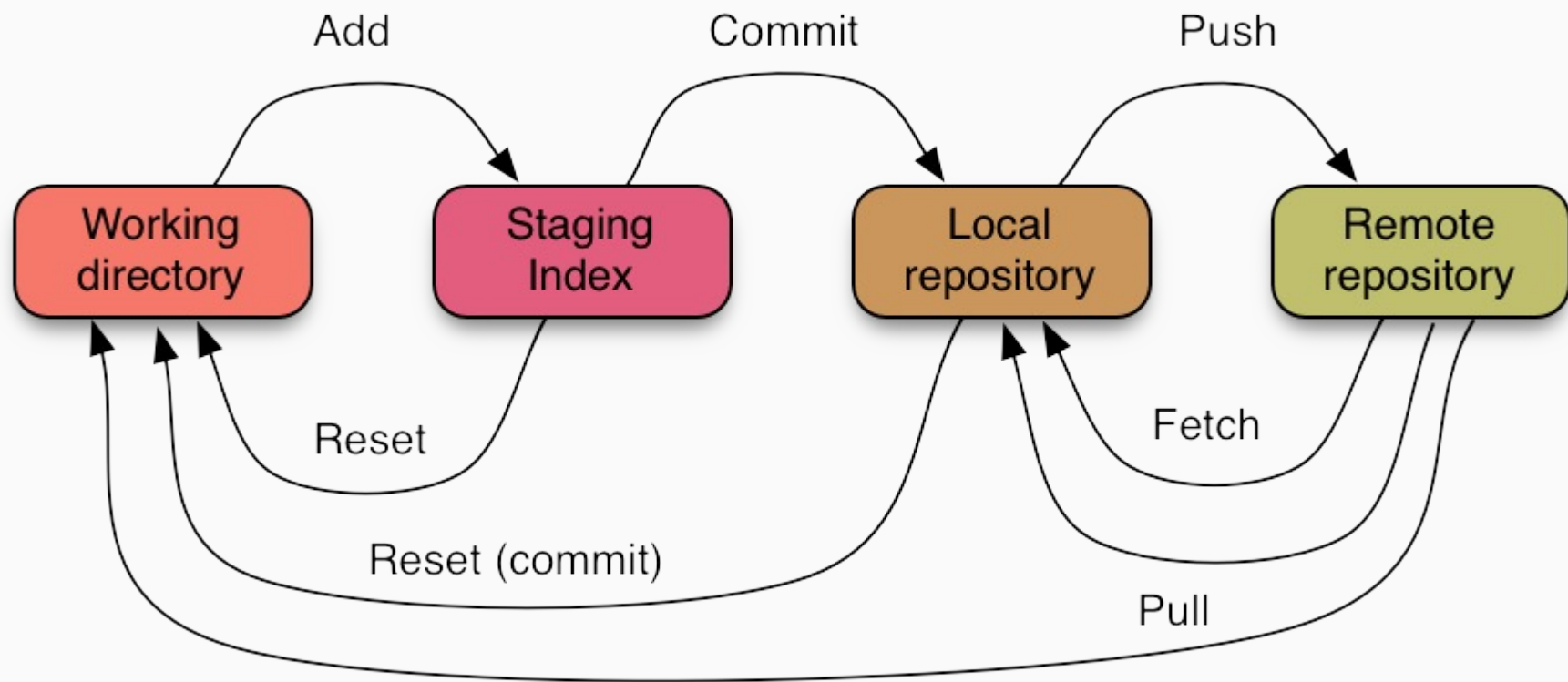
After sharing: Since the connection between local repository and remote repository already been established, all you must do from this point on is make more commits locally and push it to the remote repository.

Git in IntelliJ



- Add another file
- Commit the file
- Now push the file
- To push a file go to the **Git** menu -> **Push**
- In the next popup click **push**





Work on

- Practice committing and pushing
- Revert commits
- Making changes to remote and updating local
- Making a new repository on github.com and connecting to local GitHub - remotes

- Upcoming: branching, pull requests, cloning, collaboration, ignoring files