Week 02 - Development Environment

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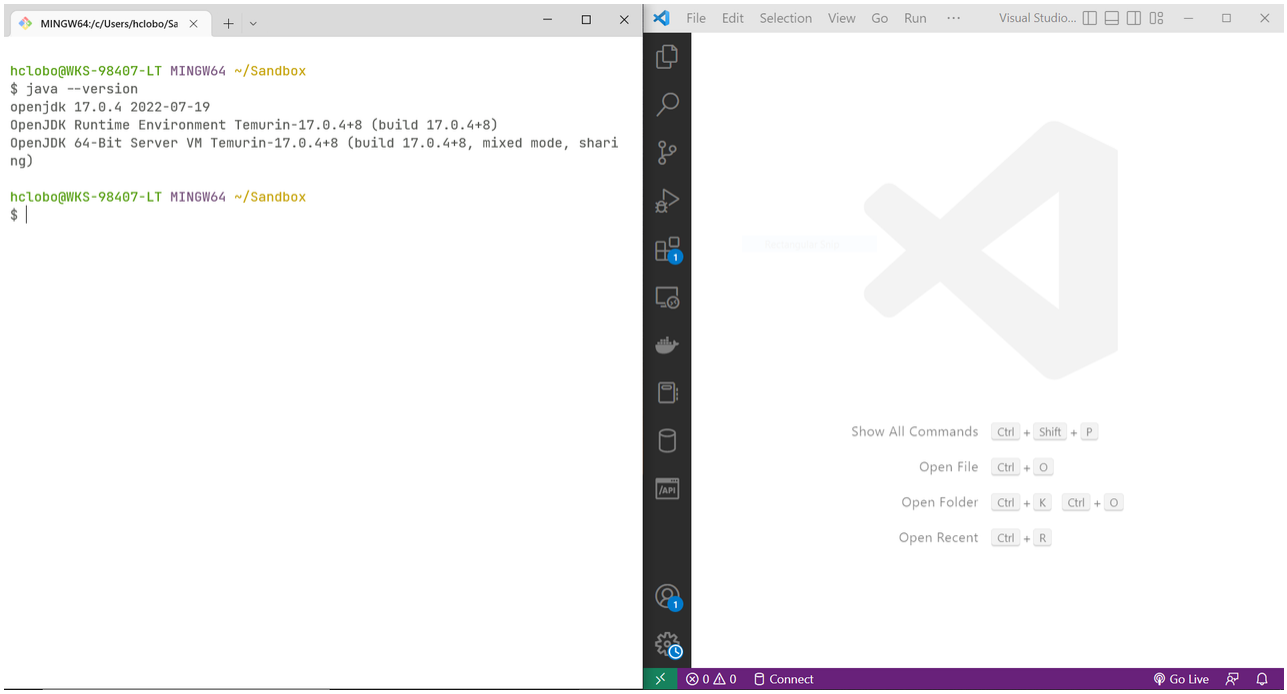


This is a guide for installing and setting up the tools that are needed for this course. At the end of the document is an assignment related to the setting up of the development environment.

TL;DR

The 4 main tools that are needed for the course is:

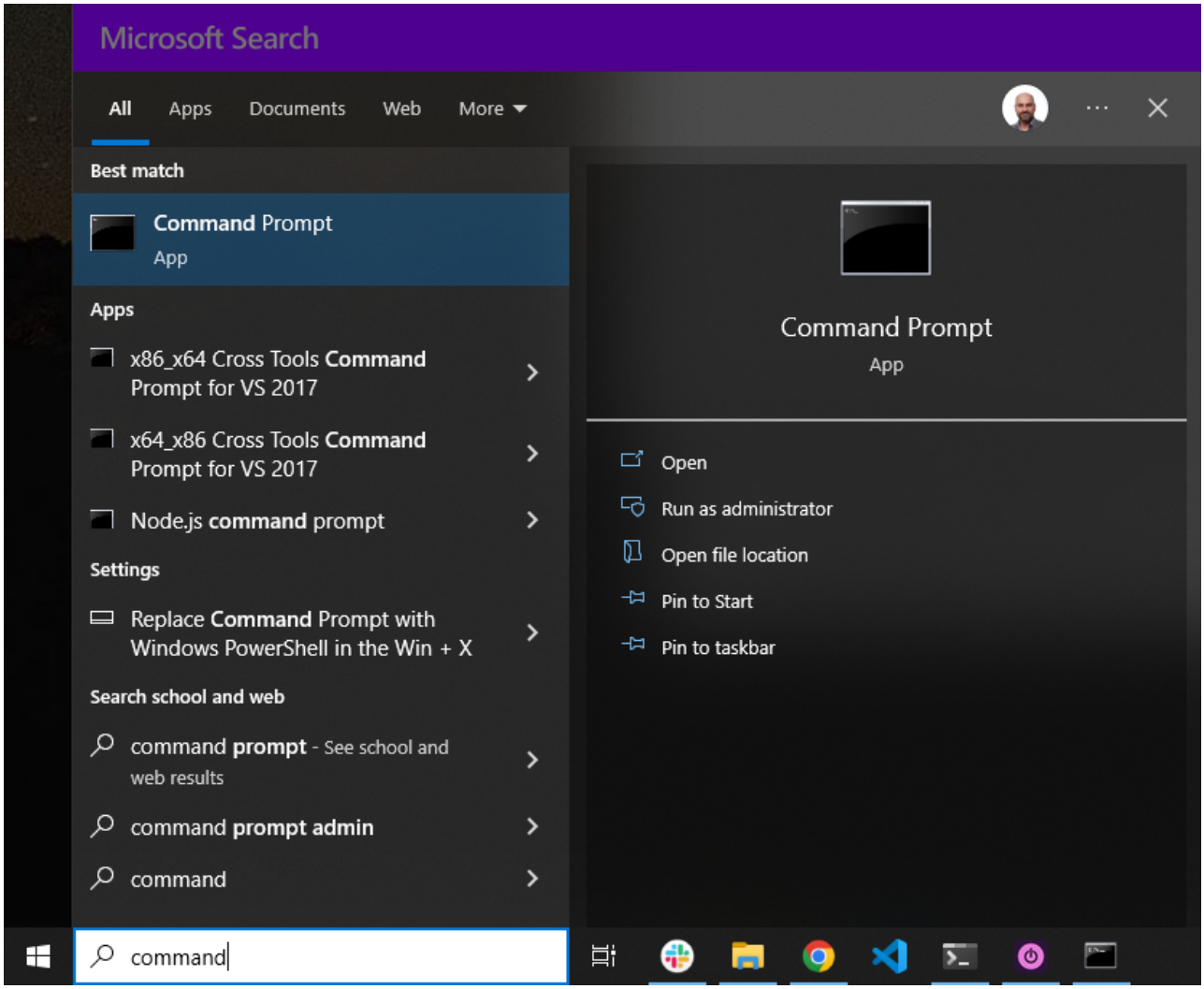
- Command line
- Java Development Kit (JDK)
- Visual Studio Code
- Git

Programming Environment - Dilbert by Scott Adams

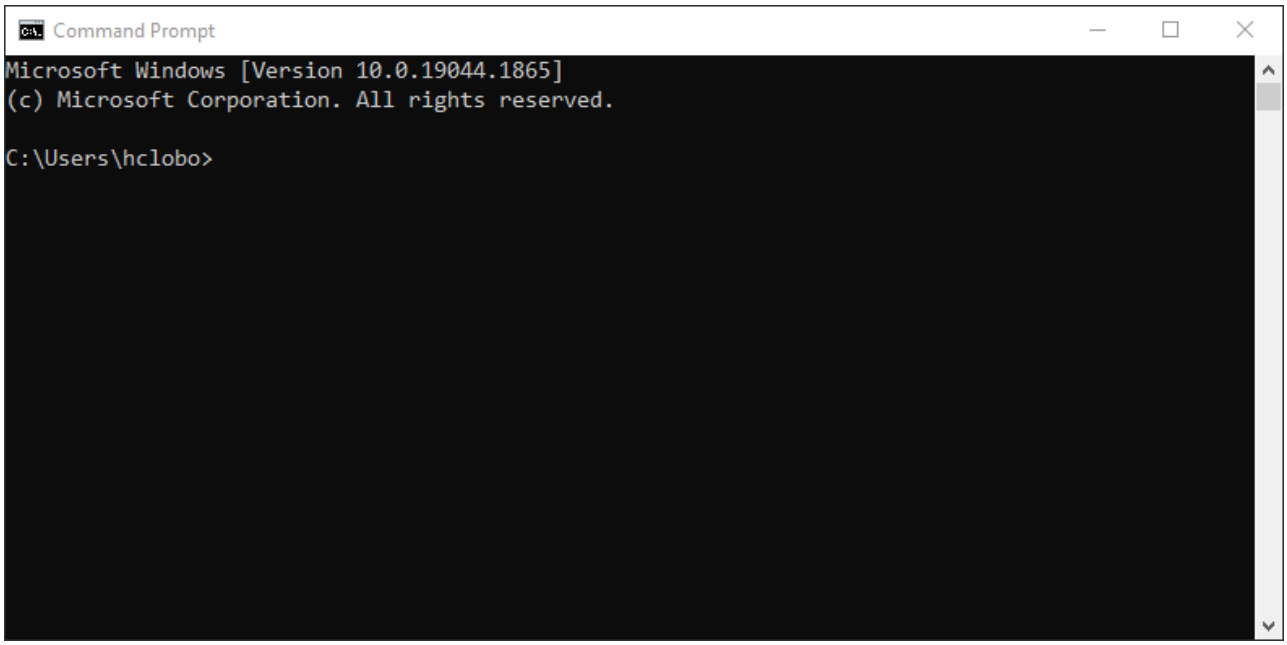
1. The Command Line

Your operating system comes with a command line, console, terminal application installed.

In the Windows Start Menu, search for **Command Prompt.**



The command prompt is one of the original ways to interact with personal computers before the uses interfaces became the standard. On some servers, it is still the only way to interact with the operating system.



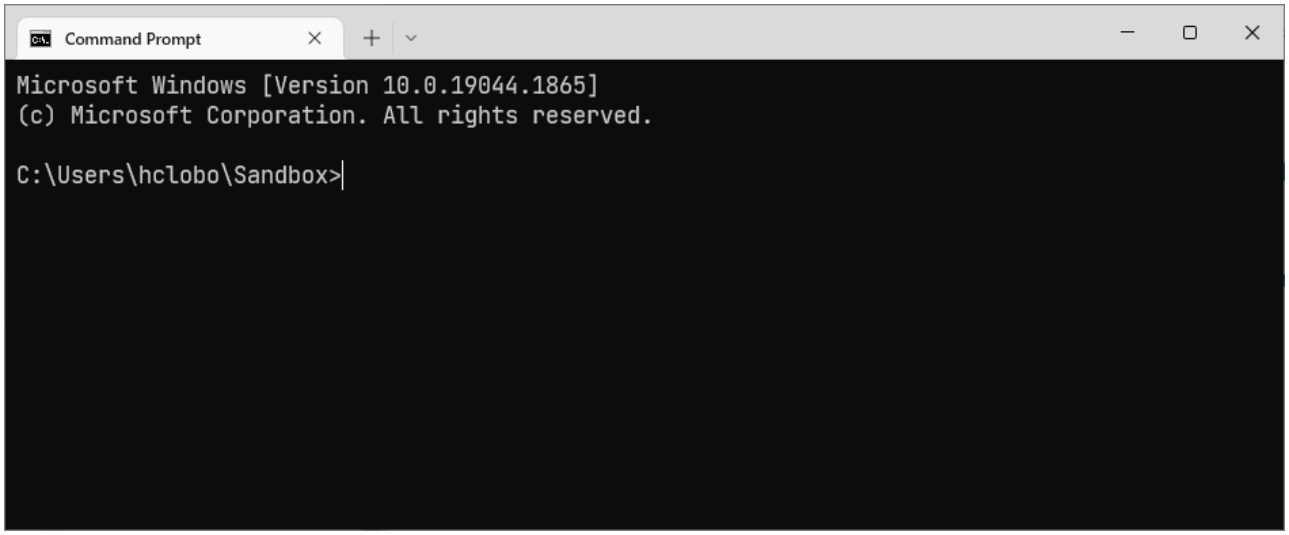
Installing Windows Terminal and iTerm2 are for getting some features for the command line tool/s that was installed on your operating system.

1.a Windows Terminal

The Windows Terminal is a modern, fast, efficient, powerful, and productive terminal application for users of command-line tools and shells like Command Prompt, PowerShell, and WSL. Its main features include multiple tabs, panes, Unicode and UTF-8 character support, a GPU accelerated text rendering engine, and custom themes, styles, and configurations.

This is not a must but highly recommended.

Install from Windows Apps Store



It is called Pääte on Finnish machines.

1.b iTerm2 (Mac)

iTerm2 is a replacement for Terminal and the successor to iTerm. It works on Macs with macOS 10.14 or newer. iTerm2 brings the terminal into the modern age with features you never knew you always wanted.

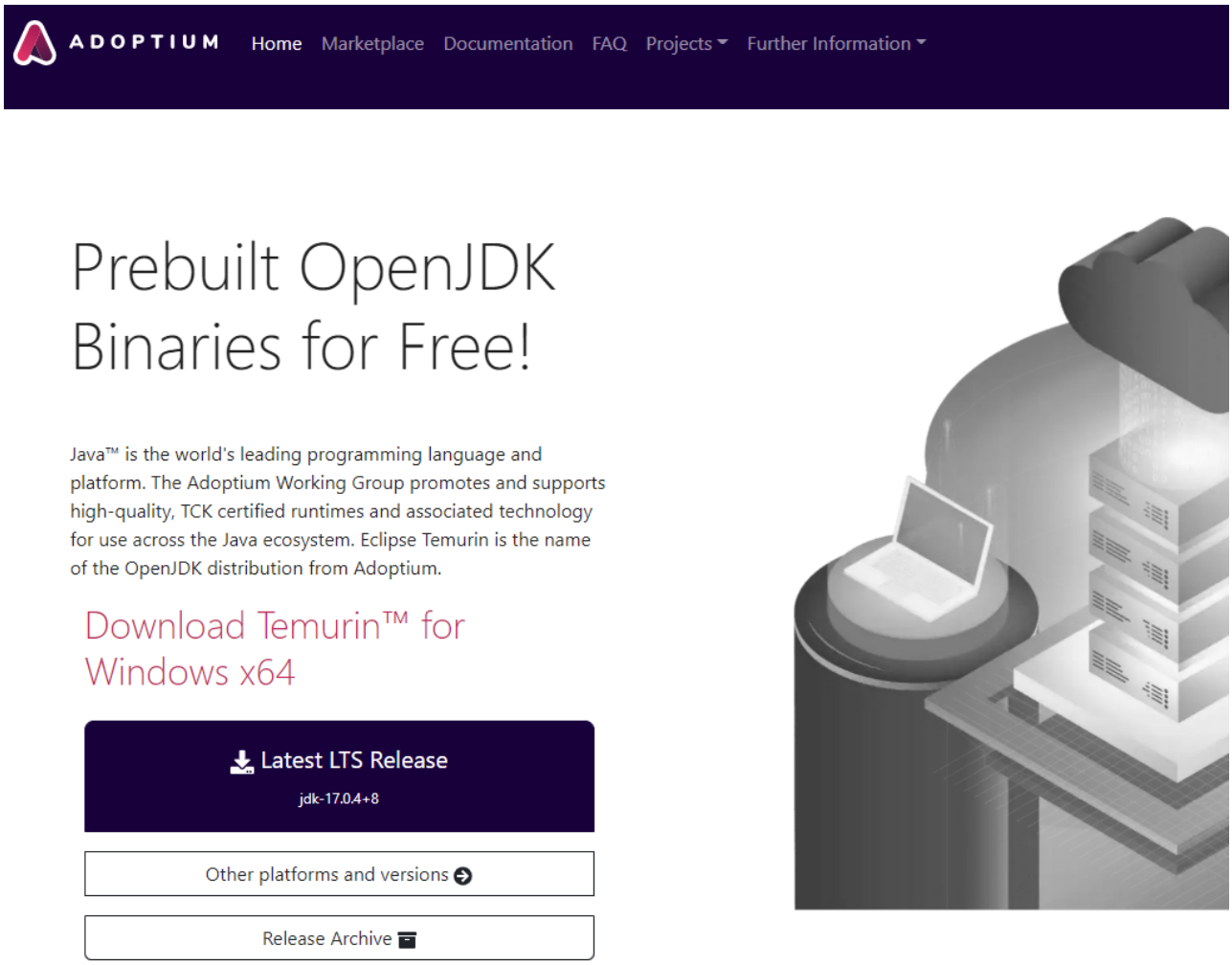
This is not a must but highly recommended.

Easiest is to install with brew `brew install iterm2`

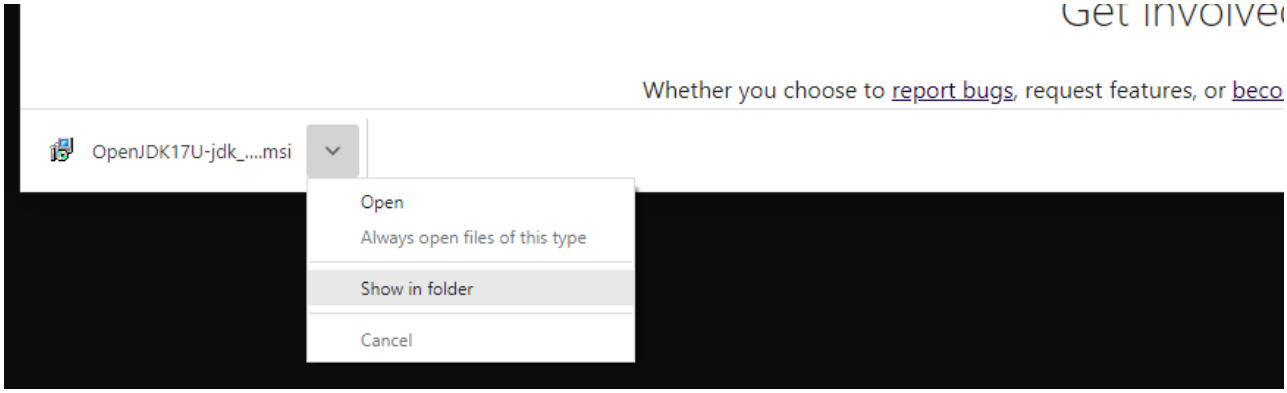
2. Java Development Kit

To be able to develop Java programs we need to install a Java Development Kit (JDK). Follow the link top Adoptium to download the correct prebuilt binaries for your operating system.

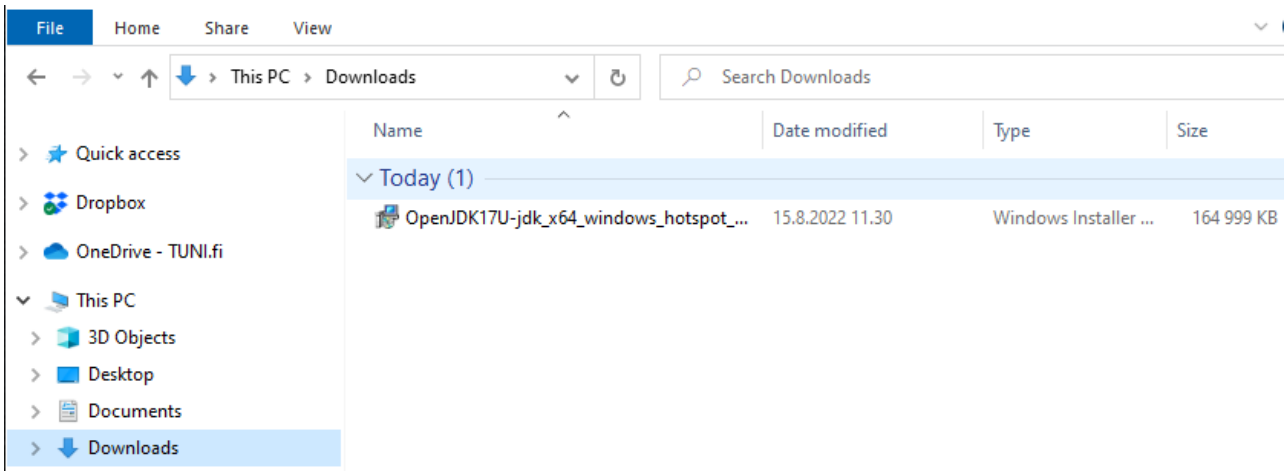
Start downloading the latest LTS release by clicking on the **Latest LTS release** button.



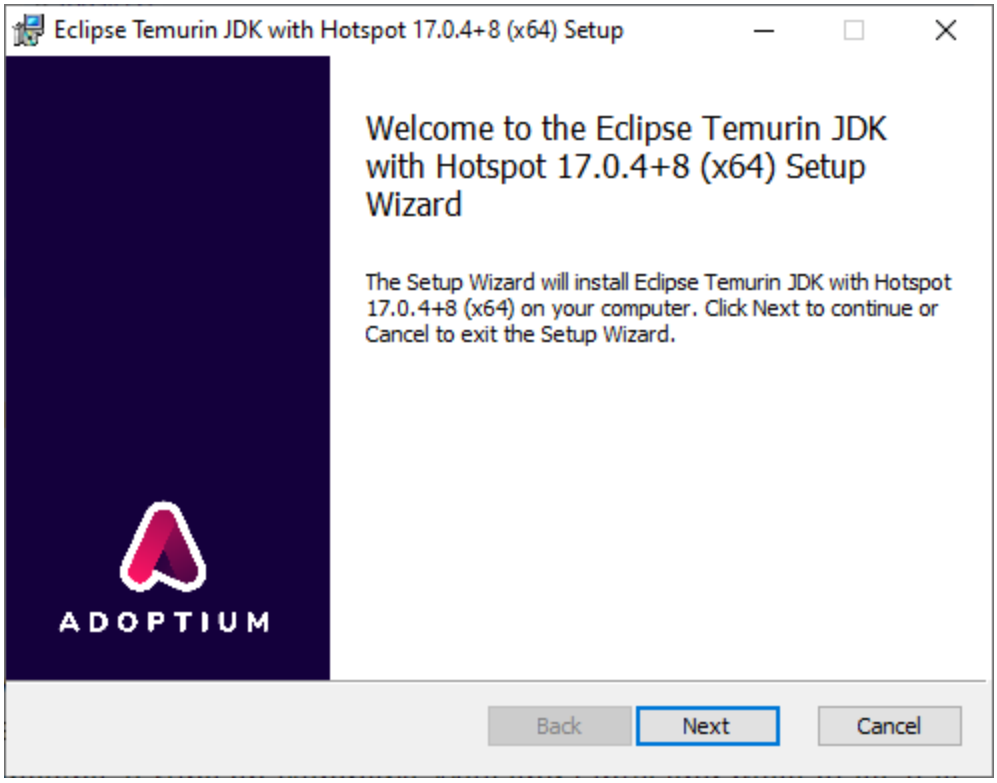
Next open the directory where it was downloaded.



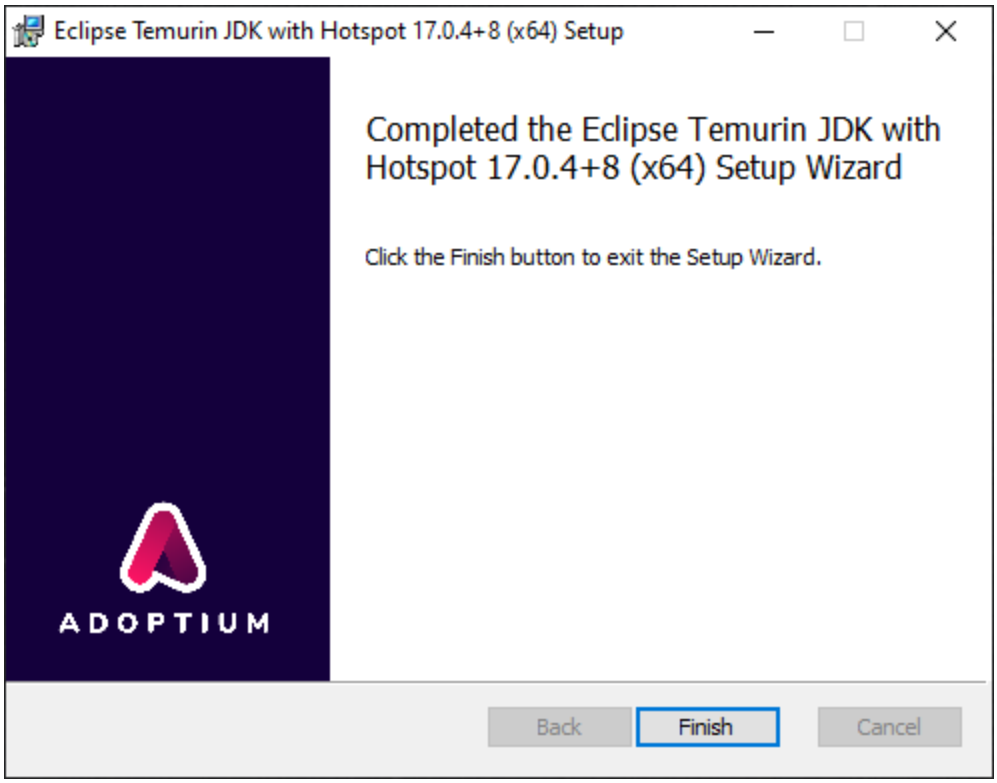
On my computer is was downloaded to the Downloads directory.



Double Click on the file to start the installation.



Accept the defaults options and complete the installation.

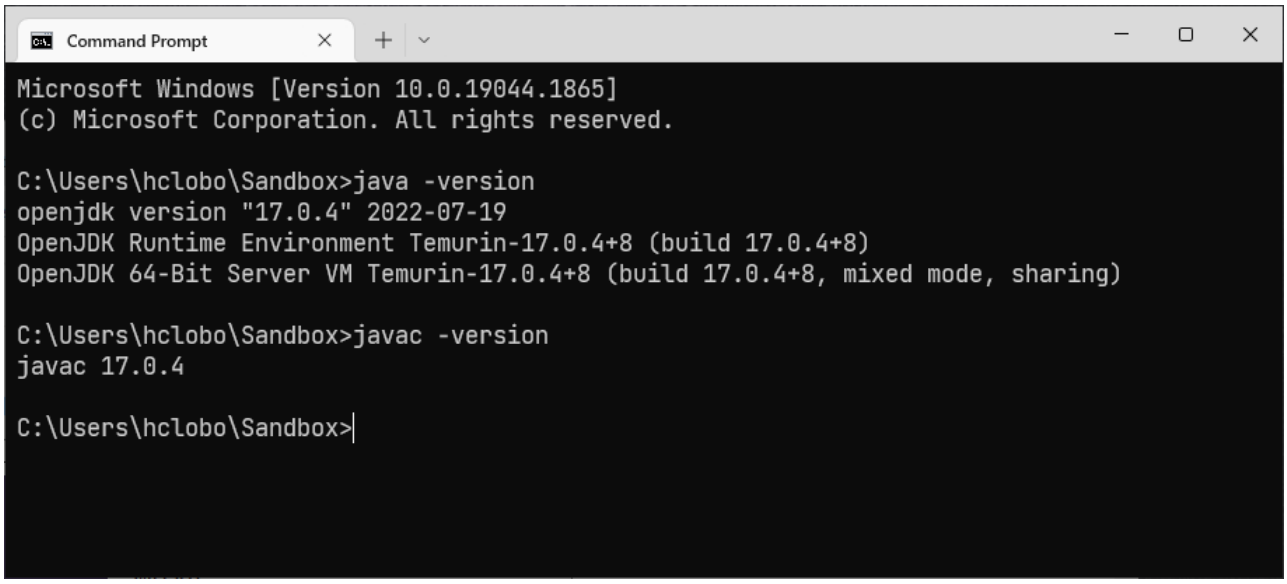


You can verify that the JDK was correctly installed on the command line. You might need to close and open the command line application to have the changes recognized.

```
> java -version
openjdk version "17.0.4" 2022-07-19
OpenJDK Runtime Environment Temurin-17.0.4+8 (build 17.0.4+8)
OpenJDK 64-Bit Server VM Temurin-17.0.4+8 (build 17.0.4+8, mixed mode, sharing)

> javac -version
javac 17.0.4
```

In the Windows Terminal it should look like this.



3. Visual Studio Code

Visual Studio Code by Microsoft, or VSCode for short, is the nowadays one of the preferred code editors for all kinds of programming. VSCode is simple clean support git and has many extensions. It runs on Windows, Mac and Linux and most of all, it is free.

Download Visual Studio Code

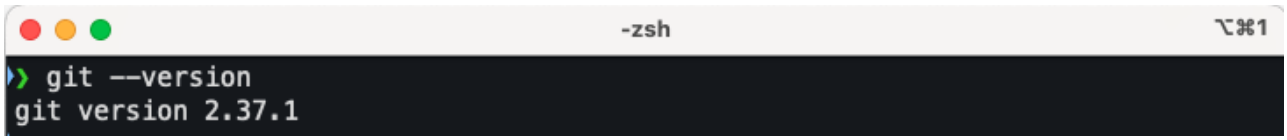
If you are prompted by Visual Studio Code to install the Remote Explorer Extension then allow it.

Note: There is Java Development IDE (integrated development environment) tools available. We will not use that in this course.

4. Installing Git

MacOS

You can check if you have git installed by `git --version` on the command line.



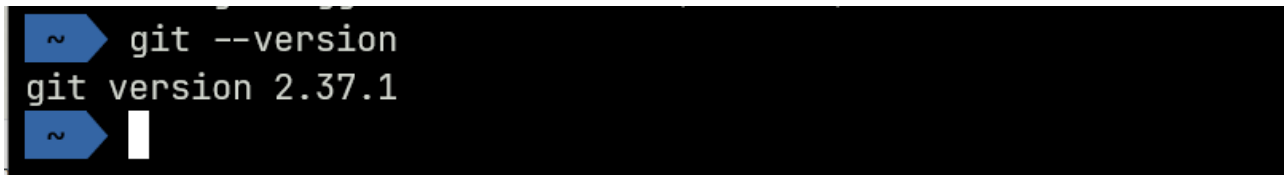
On a Mac, the easiest is to install git with homebrew, `brew install git`

WSL and Linux

On WSL, the easiest way is to use the Linux distribution package manager, eg. Ubuntu and Debian
`sudo apt install git`

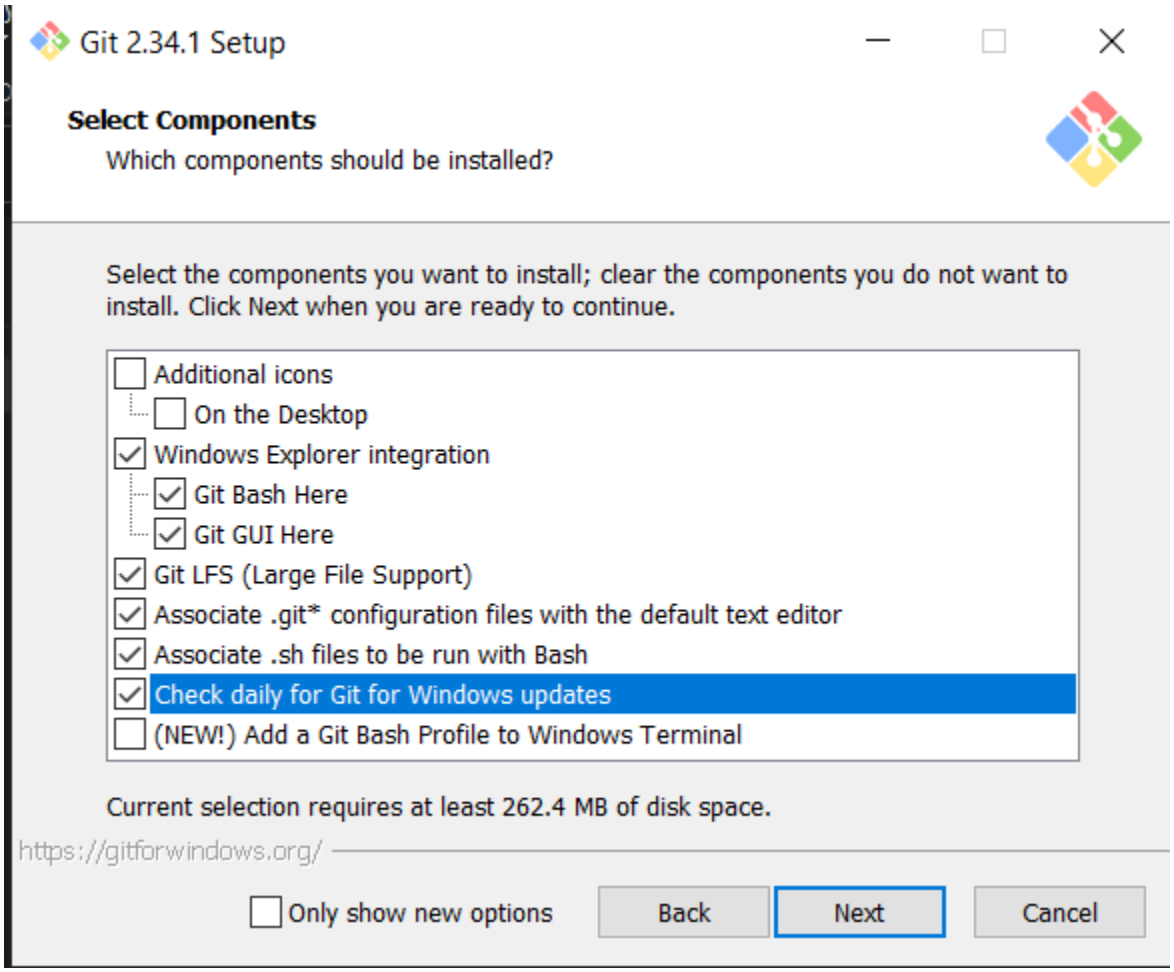
Sometimes the git version in the Ubuntu distributions can be old. You can add the following to an Ubuntu distribution to get the latest stable git version.

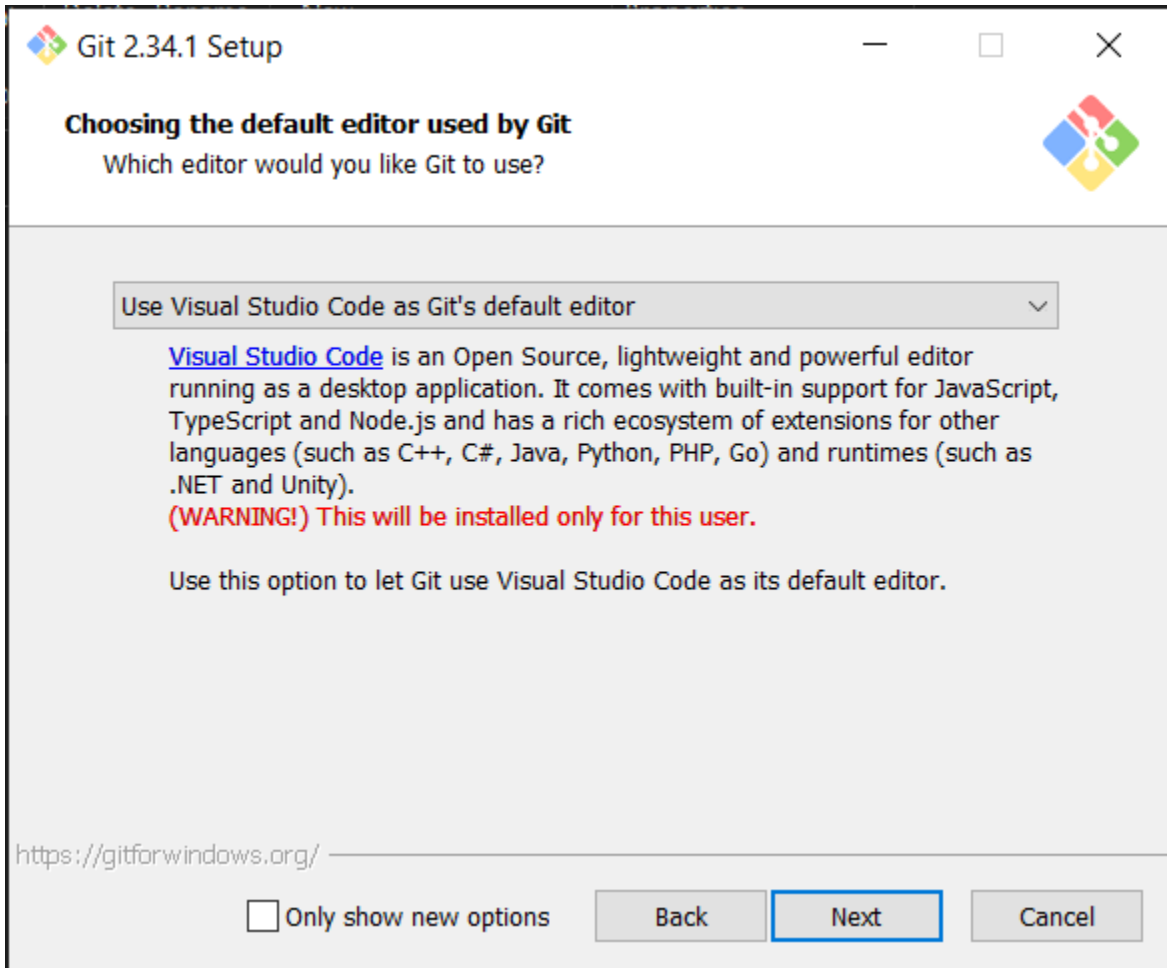
```
sudo add-apt-repository ppa:git-core/ppa
sudo apt update
sudo apt install git
```

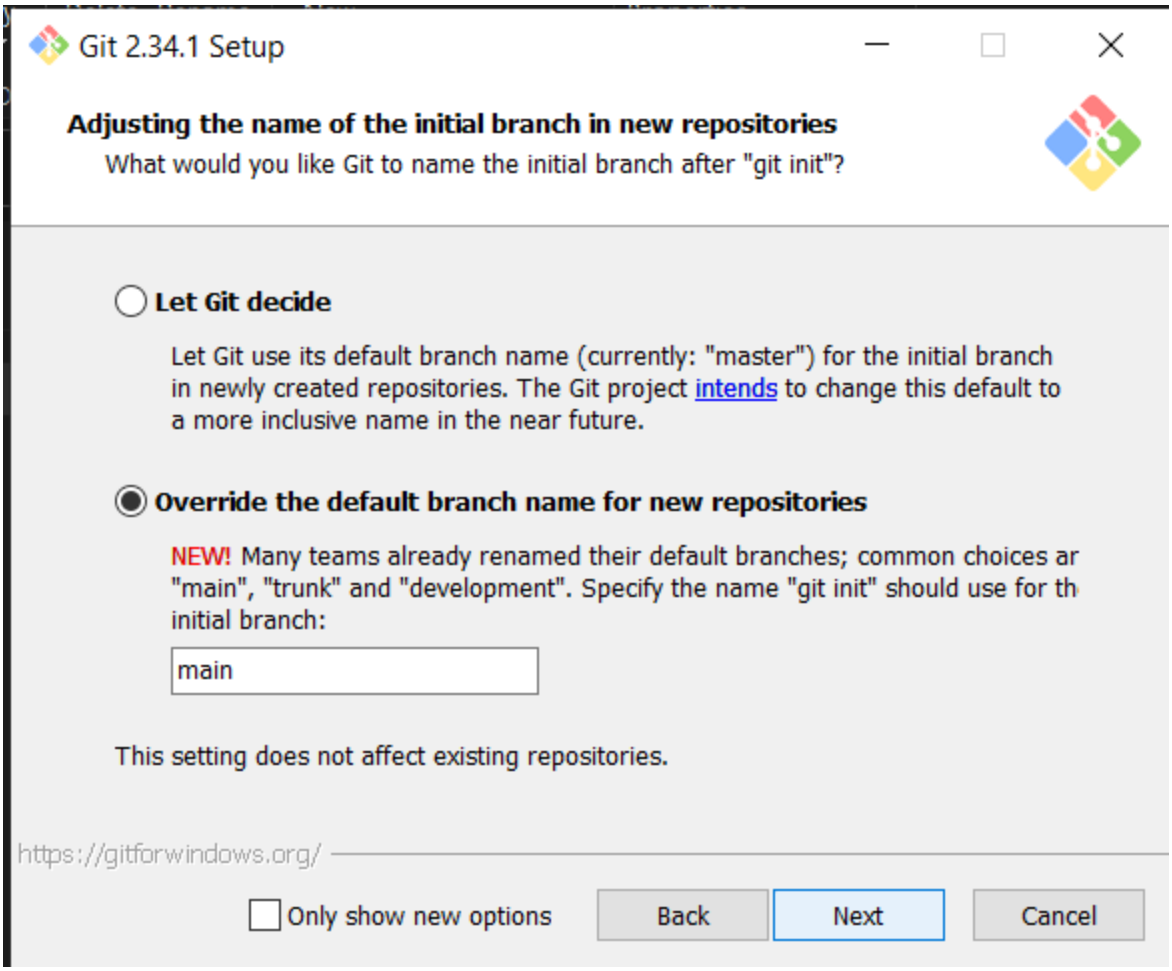


Windows

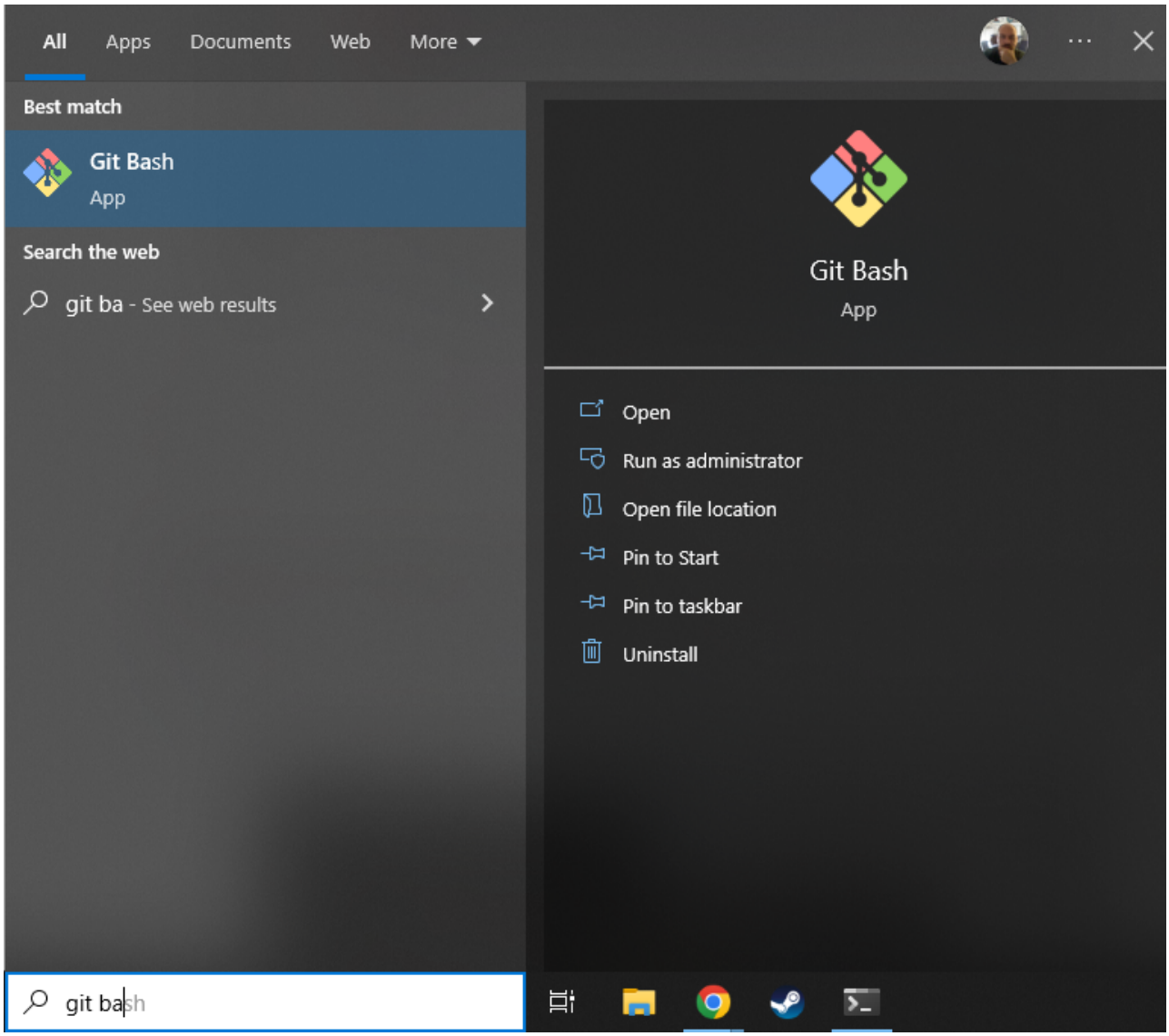
On Windows, the easiest way is to use the Git Bash installer. Go through the installation and setup process. Make sure to select the following components:


Git 2.34.1 Setup
Select Components
Which components should be installed?
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.
Additional icons
On the Desktop
Windows Explorer integration
Git Bash Here
Git GUI Here
Git LFS (Large File Support)
Associate .git* configuration files with the default text editor
Associate .sh files to be run with Bash
Check daily for Git for Windows updates
(NEW!) Add a Git Bash Profile to Windows Terminal
Current selection requires at least 262.4 MB of disk space.
https://gitforwindows.org/
Only show new options
Back
Next
Cancel

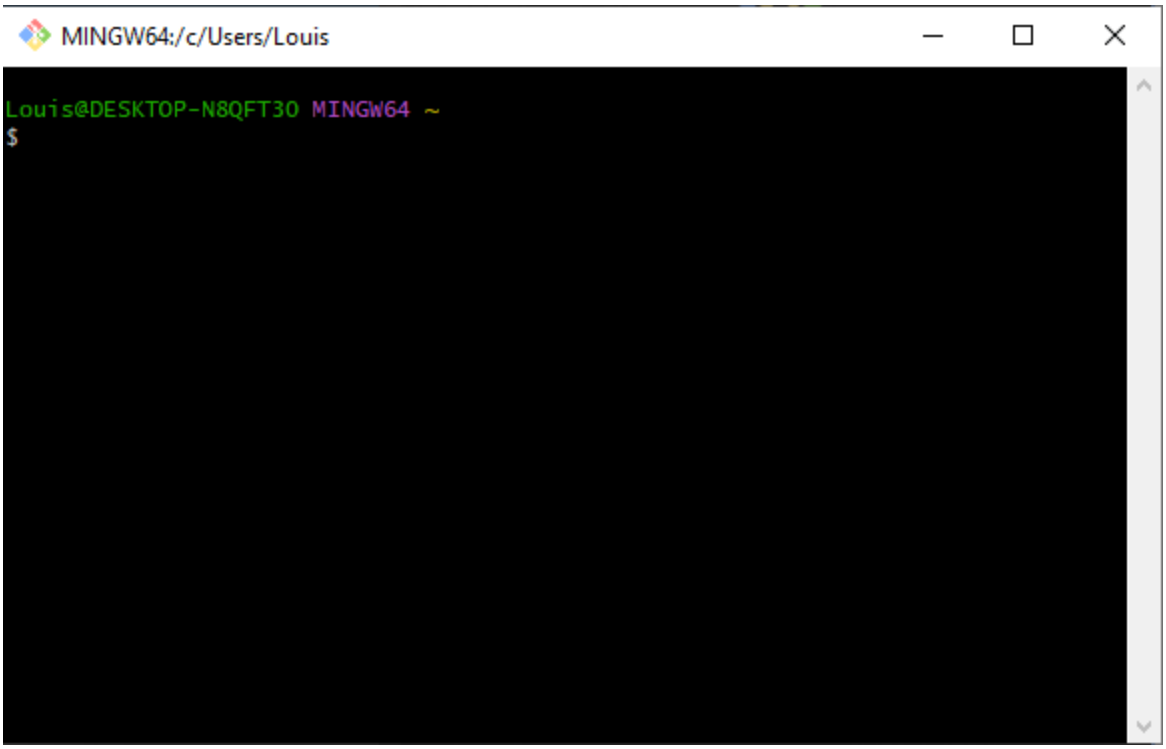

Git 2.34.1 Setup
Choosing the default editor used by Git
Which editor would you like Git to use?
Use Visual Studio Code as Git's default editor
Visual Studio Code is an Open Source, lightweight and powerful editor running as a desktop application. It comes with built-in support for JavaScript, TypeScript and Node.js and has a rich ecosystem of extensions for other languages (such as C++, C#, Java, Python, PHP, Go) and runtimes (such as .NET and Unity).
(WARNING!) This will be installed only for this user.
Use this option to let Git use Visual Studio Code as its default editor.
https://gitforwindows.org/
Only show new options
Back
Next
Cancel



Git Bash can be now opened from start menu.



Opening Git Bash will show the following window



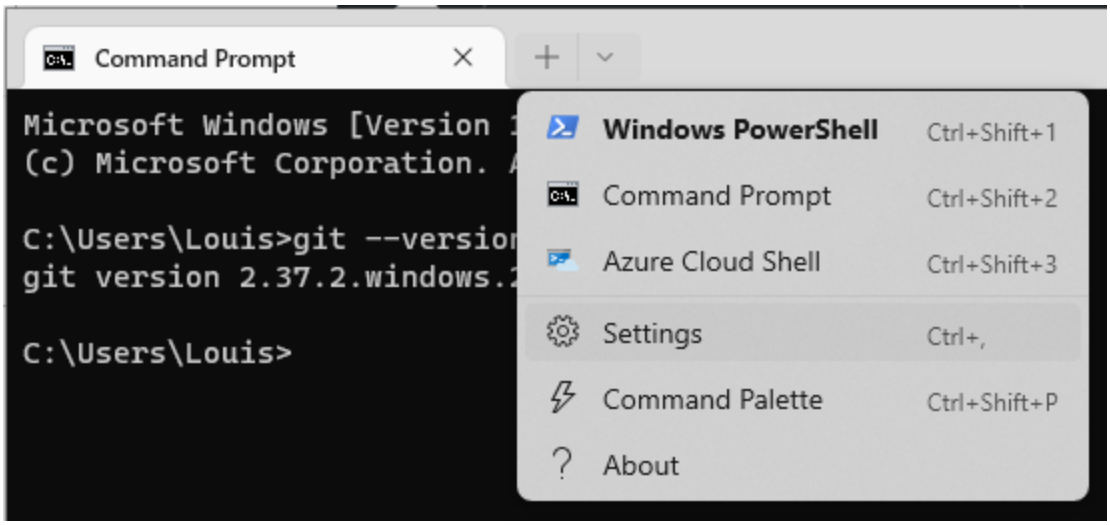
In the terminal type the following `git --version`, if the you see a version number for git then git bash was installed successfully.

```
$ git --version
git version 2.37.2.windows.2
```

Git Bash and Windows Terminal

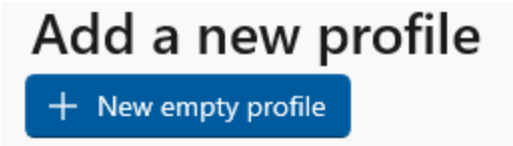
Follow these steps if Git Bash wasn't added to the dropdown menu of Windows Terminal.

Open Windows Terminal and open the settings.



Select add a new Profile.

Click on Add a new empty profile



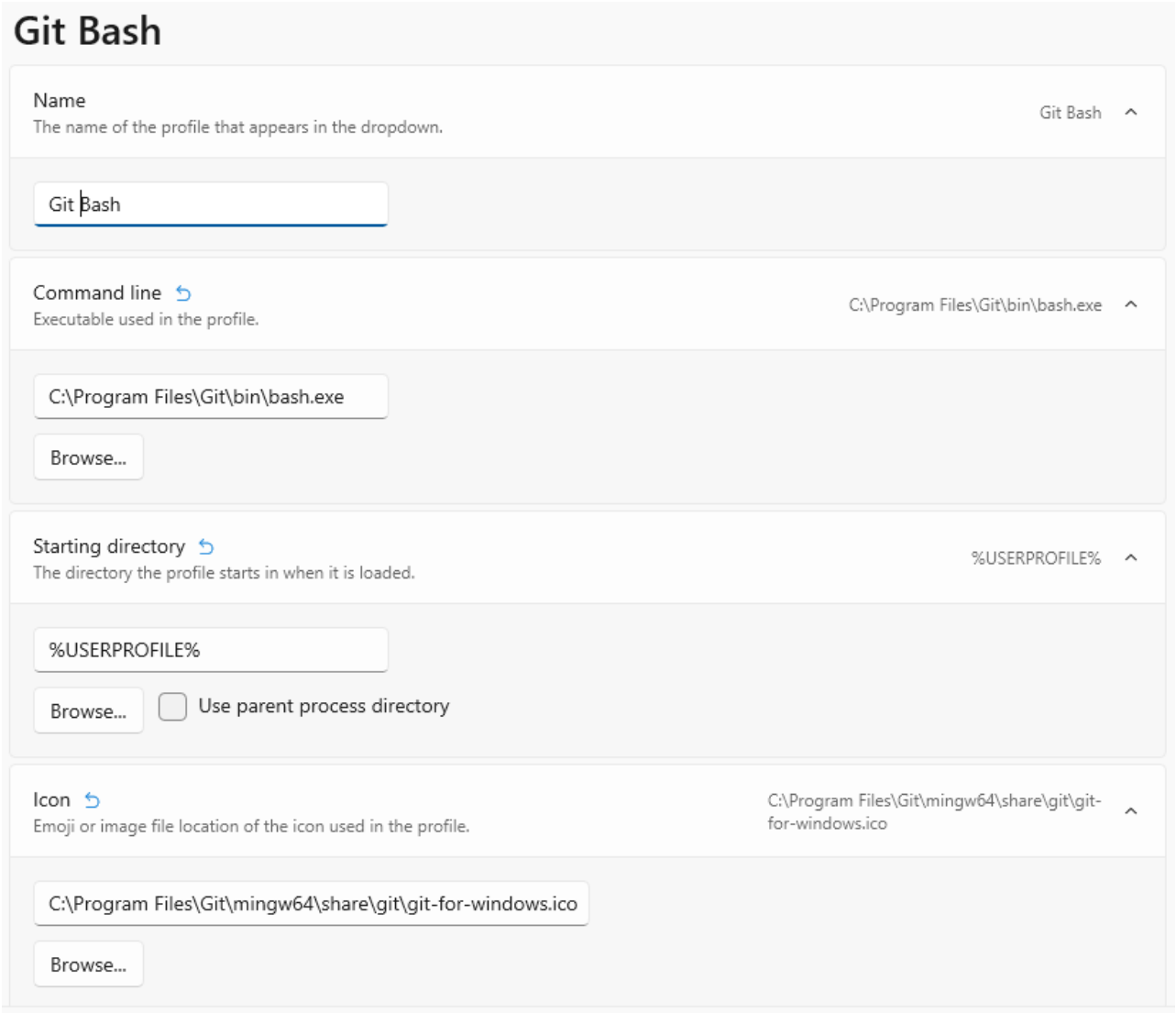
Fill in the fields with the correct values.
Name: `Git Bash`

These are default locations, these should work if you stick to the default install.

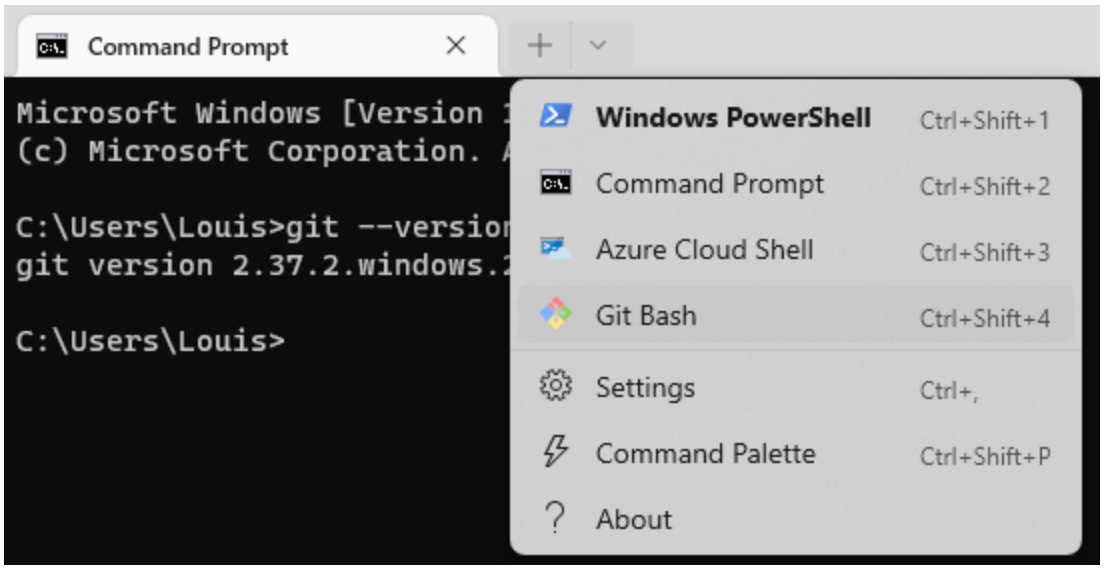
Command Line: `C:\Program Files\Git\bin\bash.exe`
Icon: `C:\Program Files\Git\mingw64\share\git\git-for-windows.ico`

At the Starting directory part, uncheck the checkbox.

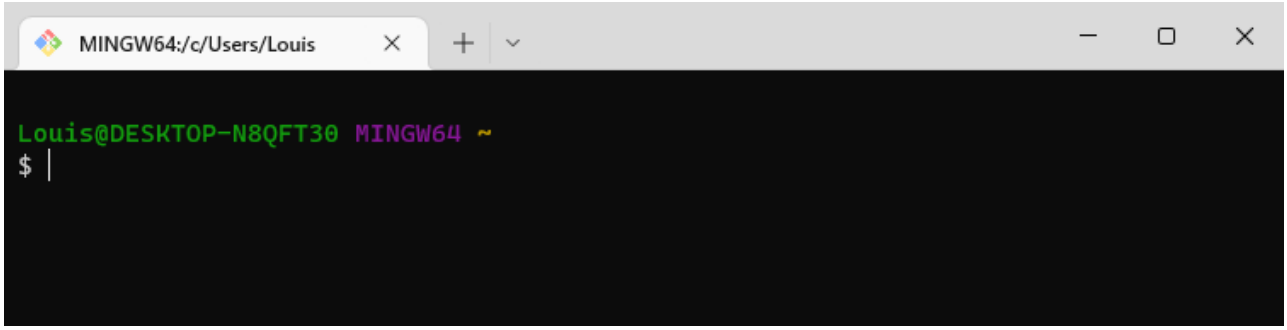
The details of the Git Bash entry should look similar to this:



There should now be an option for Git Bash. In Settings you can also set that the default terminal is Git Bash.



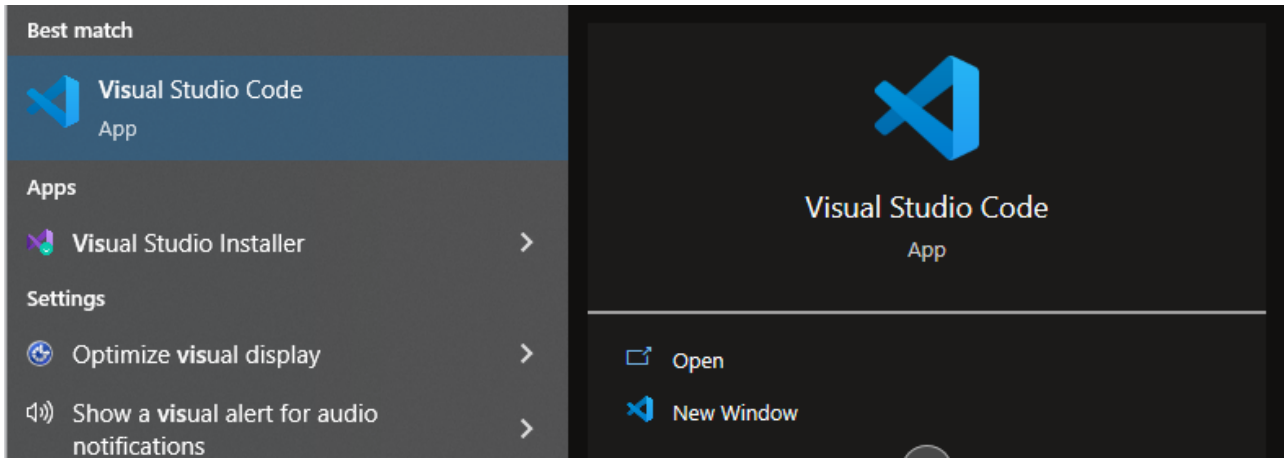
Selecting Git Bash should open a terminal looking similar to this.



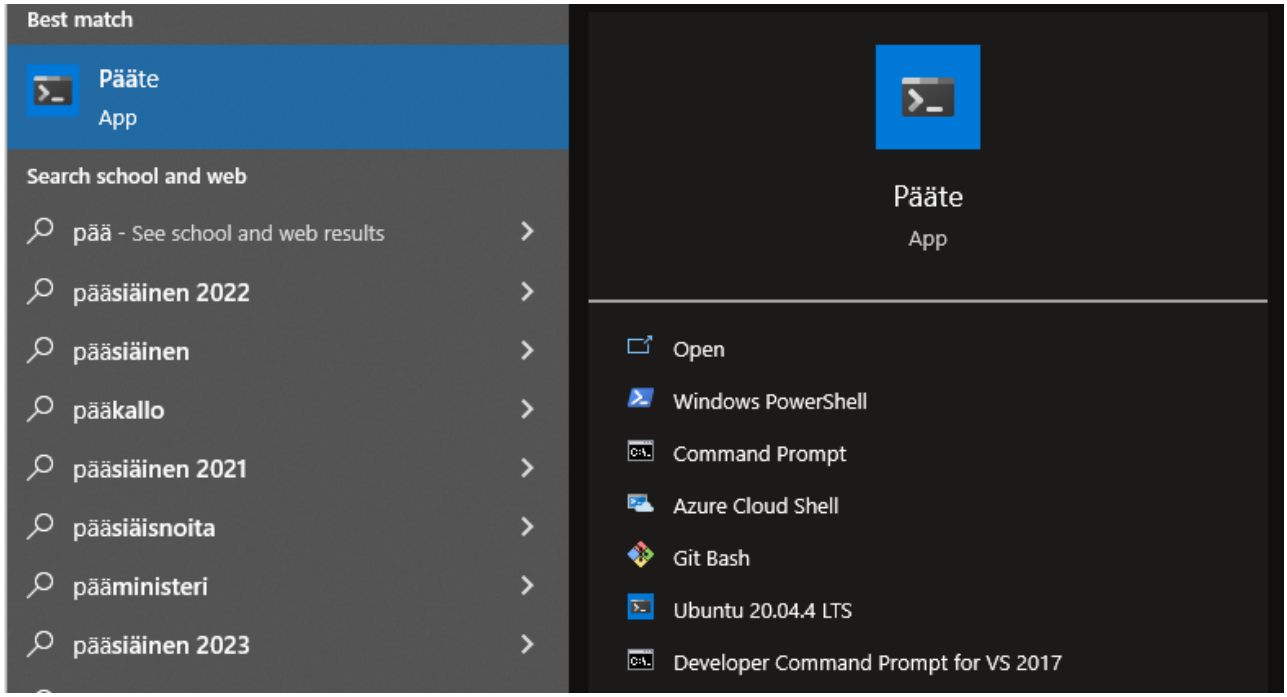
> *:attention: I would recommend having Git Bash installed on Windows*

5. Verify Installations

Check that all of the tools installed by opening it from the Start Menu.



Visual Studio Code



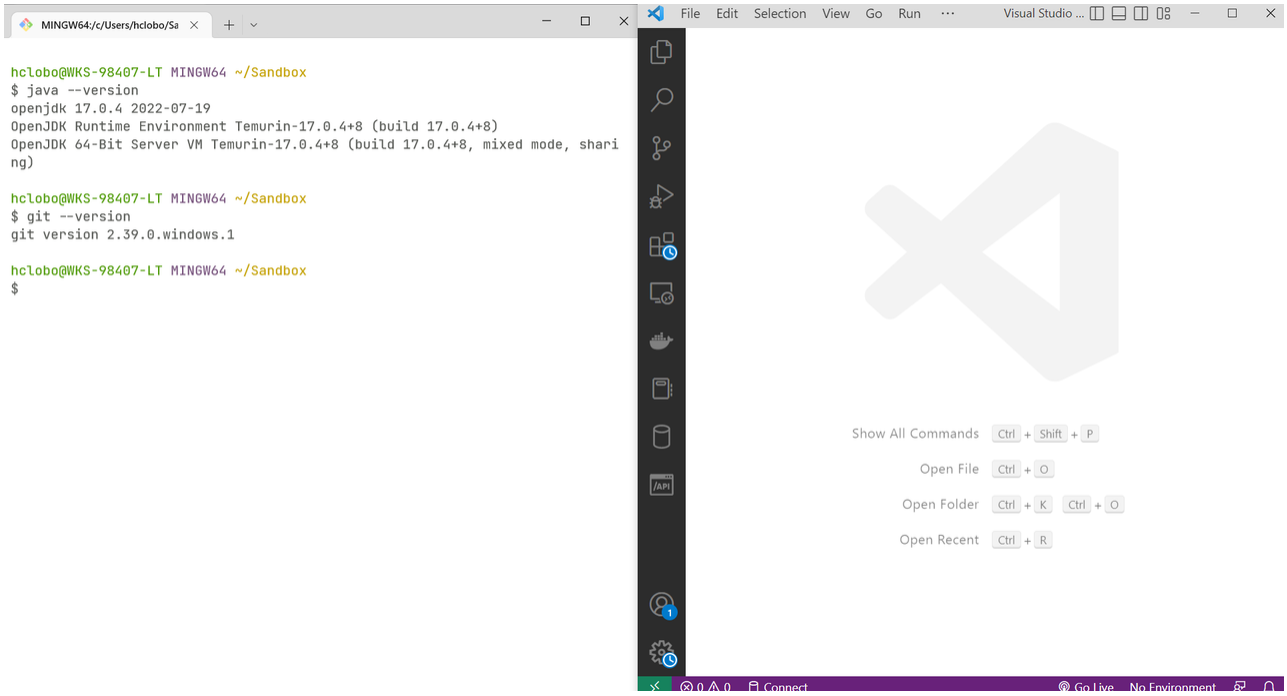
Windows Terminal/Pääte

Exercise

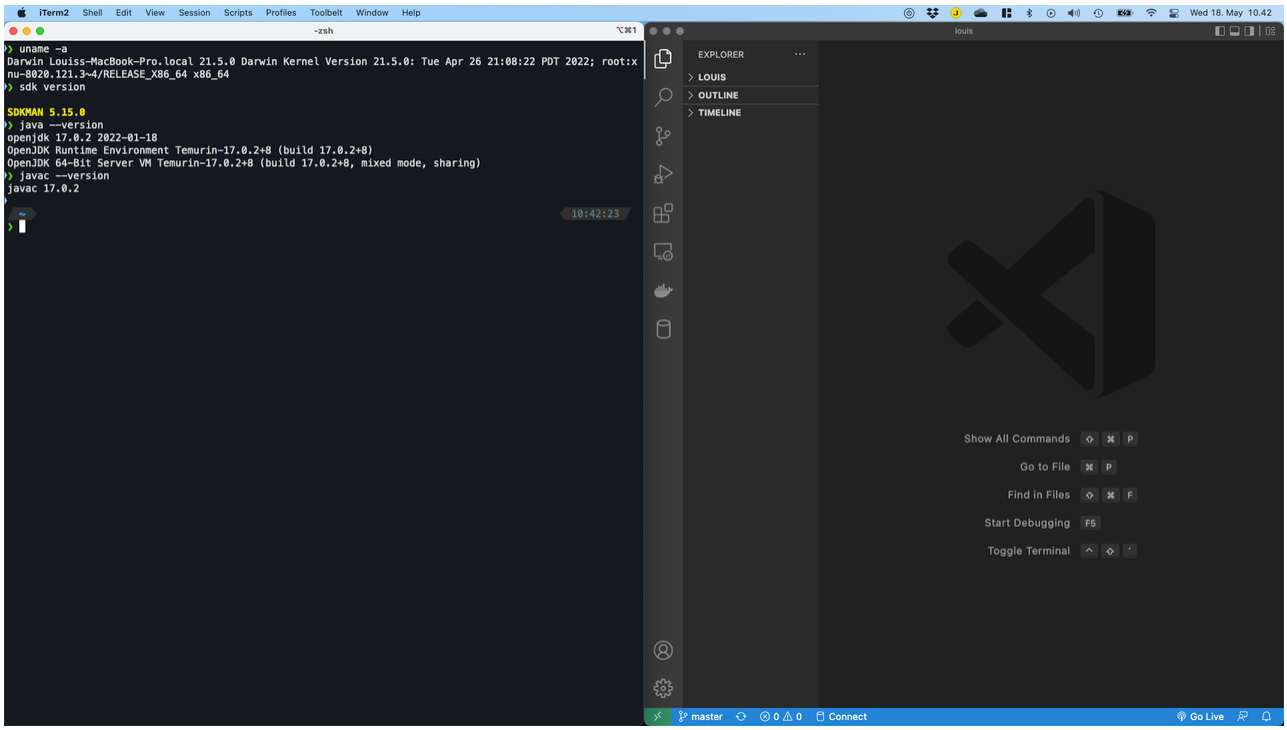
Take a screenshot of your desktop where you have all the installed tools visible and post it in the ::slack: #general channel in the 🧵 Development Environment ✓ thread.

Mark week 02 - 2 as done on the exercise and attendance :google_sheets: sheet

Windows Example



macOS example


iTerm2 Shell Edit View Session Scripts Profiles Toolbelt Window Help
Wed 18. May 10.42
-zsh
⌥⌘1
❯ uname -a
Darwin Louiss-MacBook-Pro.local 21.5.0 Darwin Kernel Version 21.5.0: Tue Apr 26 21:08:22 PDT 2022; root:x
nu-8020.121.3~4/RELEASE_X86_64 x86_64
❯ sdk version
SDKMAN 5.15.0
❯ java --version
openjdk 17.0.2 2022-01-18
OpenJDK Runtime Environment Temurin-17.0.2+8 (build 17.0.2+8)
OpenJDK 64-Bit Server VM Temurin-17.0.2+8 (build 17.0.2+8, mixed mode, sharing)
❯ javac --version
javac 17.0.2
10:42:23
louis
EXPLORER
LOUIS
OUTLINE
TIMELINE
Show All Commands ⇧ ⌘ P
Go to File ⌘ P
Find in Files ⇧ ⌘ F
Start Debugging F5
Toggle Terminal ^ ⇧ `
master
0 0
Connect
Go Live