Linux

**Learning Goals**

* Understand the difference between a shell and a terminal
* Learn how to navigate and use the file system using the command line
* Learn how to install software using the command line
* Understand how to manage your PATH and environment variables
* Learn how to manage permissions and execute programs

CLI = command line interface

**What's a CLI?**

You'll often hear the terms "terminal", "shell", "command line", "CLI", and "command prompt" used interchangeably, but often they all refer to the same thing: a program that allows you to interact with your computer in a text-based way.

1. echo "Hello world”
   * prints: “Hello world”

GUI = graphical user interface

Linux setup

1. Make sure you're on Windows 10 or 11. If you are on an older version, **please upgrade**. Your life as a developer will not be fun if you're on an older version of Windows.
2. Run Windows Update
   * Click on the start menu and begin typing "Windows update". You should see a program called "Windows Update Settings", open that.
   * Click "check for updates", and if there are any updates, install them and restart your computer as instructed by the updater.
3. Open the Windows Command Prompt and install WSL
   * Click on the start menu and begin typing "cmd.exe". You should see a program called "Command Prompt", *right-click* on it and select "Run as administrator".
   * Type wsl --install in the prompt and press enter. If that comes up as invalid, use wsl --install Ubuntu
   * Restart your computer
   * Confirm wsl is installed by running wsl -l -v in Command Prompt.
4. Set up the Ubuntu distro. [Ubuntu](https://ubuntu.com/about) is a very popular distribution (or distro) of Linux, and it was installed automatically alongside WSL.
   * After restarting your computer in step 3, you should see an "Ubuntu" Window open automatically once you log back in. If you don't, search for the "Ubuntu" program in the start menu and launch it.
   * The Ubuntu window will prompt you to enter a username and password ([which may not appear when typed](https://learn.microsoft.com/en-us/windows/wsl/setup/environment#set-up-your-linux-username-and-password)). Make sure you remember these! These are the credentials for your Linux user. Later when you need to enter your password for certain commands, you'll need to re-enter this password. *Note: by default Ubuntu only accepts usernames in lowercase.*
5. Once you're logged in, you should see a command prompt! Go ahead and type:

echo "Hello world"