

## Programming Assignment 1

### Hello World!

**Goals:** This assignment forces you to experiment with several components routinely used in software development, including: GNU compilers, SecureShell, CMake, package managers, external libraries, and Git.

**Assignment:** compile a Git repository using the Tuxedo server hosted by our department. Take a screenshot of the graphical output and submit it to Canvas as an image. That's it.

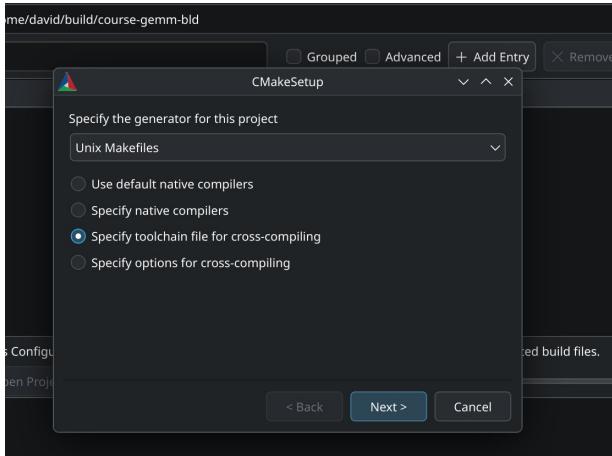
**Git repository:** <https://github.com/STIM-Lab/helloworld>

**Server:** tuxedo.egr.e.uh.edu

### Recommendations

You can test this out on any system you prefer, but make sure to do it once on Tuxedo since I'll test all assignments using that platform.

1. Install Git if you haven't already (<https://git-scm.com/>)
2. Install CMake if you haven't already (<https://cmake.org/>)
3. Install vcpkg (<https://vcpkg.io>). This will involve pulling a Git repository and running a script to build the vcpkg executable. You can get the basic instructions here: [https://learn.microsoft.com/en-us/vcpkg/get\\_started/get-started](https://learn.microsoft.com/en-us/vcpkg/get_started/get-started) (you'll only really need Step 1).
4. Open CMake (or you can use the command-line tool as described in the slides). Point it to the **source** director and your desired **build** directory.
5. Tell CMake where your vcpkg libraries will be. You can do that through the command line with the option:  
  `-DCMAKE_TOOLCHAIN_FILE="path/to/vcpkg/scripts/buildsystems/vcpkg.cmake"`  
or you can use the GUI by selecting this option when you click "Configure":



6. Click "Configure" and select the type of project you want to generate (ex. Visual Studio).
7. Your configuration will likely produce some errors because libraries are missing. Read the error to see which required library is missing and install it using vcpkg. You'll probably need the following libraries:  
`glfw3`  
`glm`  
`glew`  
`imgui[core,glfw-binding,opengl3-binding]`
8. Click "Generate".
9. Build the project and run the executable. On Tuxedo, you'll build the project by going to the **build** directory and typing "make". For other systems it'll depend on the "generator" you select.