# **Environment setup for C++**

## 

## 1) Install MSYS2

## Install to the default path: C:\msys64.

1. Open the Start menu, run MSYS2 UCRT64
2. Update the package database and core system:

pacman -Syu

If it tells you to close the window, do so, then reopen MSYS2 UCRT64 and run once again:

pacman -Syu

1. Install the tool chain and useful tools:

pacman -S --needed base-devel mingw-w64-ucrt-x86\_64-toolchain

1. Verify

g++ --version

gdb –version

which g++

# the output should be /ucrt64/bin/g++

Close the terminal

1. Add MSYS2 to the path

* Click the start menu and start typing the words “environment variables”. Click the first suggestion
* System properties window will open up, click the button “Environment Variables”
* Under “User variables, click “Path” from the list and click “Edit…”.
* Click “New”, then copy-paste the path “C:\msys64\ucrt64\bin”
* Click “OK”, then “OK” again, and then a final “OK” to close all windows.

## 2) Install VS Code and extensions

1. Install Visual Studio Code (stable).
2. Launch VS Code, go to extensions, and install the following:

* C/C++ (Microsoft) – IntelliSense and debugging
* Code Runner

## 3) Run and compile a hello world program

* Create a folder named “hello”
* Create a new file, name it “hello.cpp”, save it in the “hello” folder
* Write a basic hello world program

#include <iostream>

int main ()

{

std::cout << "hello world" << std::endl;

}

* In the top-right corner, there is a play button. Click the down arrow next to the play button to get a list of options. Select “Run C/C++ File”
* In the menu that opens up in the top bar, select “C/C++: g++.exe….” from the C:\msys64\ucrt64\bin folder.
* In the bottom part of the IDE, open the terminal. If all configuration is okay, “hello world” will be displayed.