Windows 10 SDL Installation

Applications Development with C++

1. Download and install MinGW compiler on Windows 10
   1. Link with **detailed** instructions: <https://www.osradar.com/how-to-install-mingw-on-windows-10/>
   2. Note: you don’t need a FORTRAN and ADA compiler (they are installed in the above link)
   3. Remember that the MinGW compiler location should be added to the environmental PATH variables (explained in the article)
      1. This way it will be discoverable by all programs in the environment
2. Download CMake tool
   1. Download Link: <https://cmake.org/download/>
   2. Choose Windows x64 ZIP - cmake-3.21.3-windows-x86\_64.zip
   3. Uncompress the archive and copy its content to a convenient destination on your drive
      1. For example C:\cmake\
   4. Add the cmake\bin folder to your PATH environmental variables
   5. If you are using MinGW compiler you need to generate Makefiles for MinGW
   6. This is done by invoking (cmake .. -G “MinGW Makefiles”)
   7. The cross-platform make command is then (cmake --build .)
3. Download SDL2 headers, libraries, and binaries (executables)
4. Download Link: <http://libsdl.org/download-2.0.php>
5. Under the Development Libraries, Under the Windows section download “SDL2-devel-2.0.16-mingw.tar.gz (MinGW 32/64-bit)”
6. The file is compressed in .tar.gz format
   1. To decompress it - use third-party apps such as 7-Zip
   2. or use the windows terminal (command prompt) to do so
   3. open the command prompt and execute
   4. tar -xvzf C:\PATH\TO\FILE\FILE-NAME.tar.gz -C C:\PATH\TO\FOLDER\EXTRACTION
   5. For example: if you are already in the Downloads folder and the file is called “SDL2-devel-2.0.16-mingw.tar.gz”
   6. Your command should look like this:
   7. tar -xvzf SDL2-devel-2.0.16-mingw.tar.gz -C .
   8. the dot translates to “current directory”
   9. files should be extracted in your current directory (Downloads)
7. After the decompression, there should be a folder called SDL2-2.something.something.
   1. Inside of that folder, there should be a bunch of folders and files, most importantly **i686-w64-mingw32,** which contains **the 32bit library,** and  
      **x86\_64-w64-mingw32** which contains the **64bit library**.
8. **This is important:**   
   most compilers still compile 32bit binaries by default to maximize compatibility. We will be using the 32bit binaries for this tutorial set.  
   **It doesn't matter if you have a 64bit operating system, since we are compiling 32bit binaries we will be using the 32bit library.**
9. Inside of i686-w64-mingw32 are the include, lib, and bin folders which contain everything we need compile and run SDL applications
10. Copy the **contents** of **i686-w64-mingw32** to any directory you want.
    1. I recommend putting it in a folder that you dedicate to holding all your development libraries for MinGW.
    2. For these tutorials I'm putting the content of **i686-w64-mingw32** in a directory I created C:\mingw\_dev\_libs
    3. Inside you should have the “bin”, “include”, “lib” and “share” folders
    4. The “C:\mingw\_dev\_libs\bin” folder should be added to the environmental variables as well. The same thing that was done for the MinGw\bin folder
    5. This enables the SDL header to be accessed from all applications on this PC
11. The same procedure should be done for the rest of the SDL libraries
    1. SDL-image - <http://www.libsdl.org/projects/SDL_image/>
    2. SDL-ttf - <https://www.libsdl.org/projects/SDL_ttf/>
    3. SDL-mixer - <https://www.libsdl.org/projects/SDL_mixer/>
12. **Important note**: again choose the 32bit variant of the libraries
13. Copy the content of the SDL-image/ttf/mixer “bin”, “include”, “lib” and “share” folders and paste it in the content of the “bin”, “include”, “lib” and “share” that your created on your drive (C:\mingw\_dev\_libs in this example)