Tuesday, 17 October 2023

wxWidgets static; macOS build; Intel 64bit; gcc;

HowTo compile static wxWidgets library for macOS using 64bit gcc compiler

1. Download and install Xcode from App Store or download and install Command line tools from https://developer.apple.com
2. Open terminal and find where macOSX SDK is located.
   In terminal you can execute command: **find / -name "*.sdk" -print 2>/dev/null**
   It will search you entire hard drive looking for files with extension .sdk
3. My macOS version was 12.7. SDK was located in /Library/Developer/CommandLineTools/SDKs/MacOSX12.3.sdk. SDK version was 12.3.
4. Download macOS wxWidgets source code from https://www.wxwidgets.org/downloads/
5. I used wxWidgets 3.2.3
6. Unzip wxWidgets to #ThisProject/dep/mac.
7. In terminal navigate yourself to #ThisProject/dep/mac
8. In terminal create new folder using this command: **mkdir mac_lib**
9. In terminal navigate yourself to newly created folder: **cd mac_lib**
10. Now you need to configure the library. You need to specify SDK location and minimum macOS version. You got SDK location in step 2 of this how-to.
11. My library configuration looked like this:
    ../configure --disable-shared --enable-unicode --prefix="$(pwd)" --with-macosx-sdk=/Library/Developer/CommandLineTools/SDKs/MacOSX12.3.sdk --with-macosx-version-min=12.3
12. In same terminal execute configure command. Same or similar as in step 11.
13. Configuration has to succeed
14. In same terminal execute this command: **make**
15. This take time. If it succeed then libraries will be located in #ThisProject/dep/mac/mac_lib/lib

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If build failing for you or you have any issues with compiling wxWidgets then check this official page for macOS build:

https://wiki.wxwidgets.org/Compiling_wxWidgets_using_the_command-line_(Terminal)

HowTo compile this project for macOS using 64bit gcc compiler

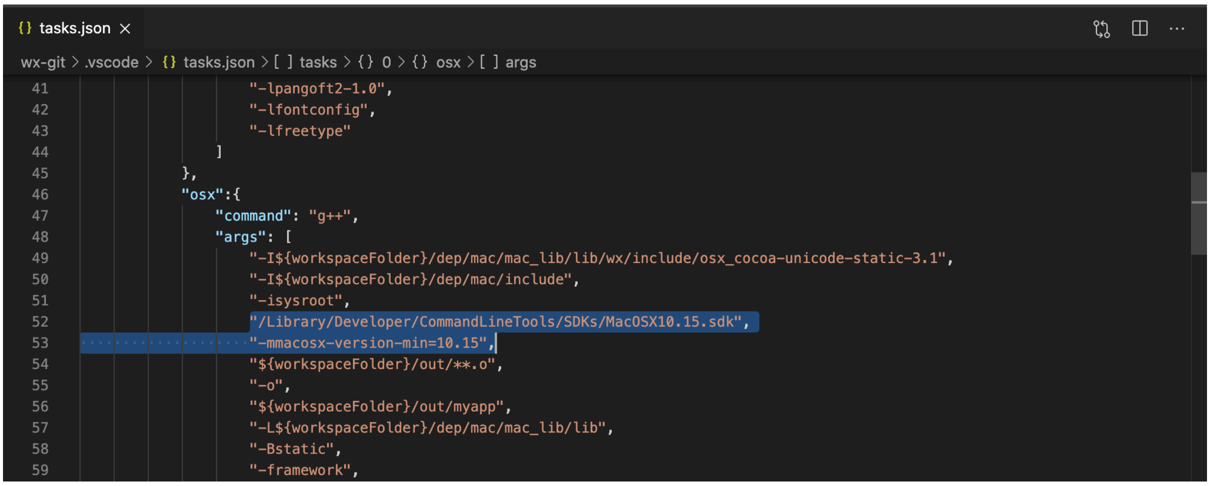
Some changes in this project are required to be able to compile it on your macOS machine.

1. Open terminal and find where macOSX SDK is located.
   In terminal you can execute command: **find / -name "*.sdk"**
   It will search you entire hard drive looking for files with extension .sdk

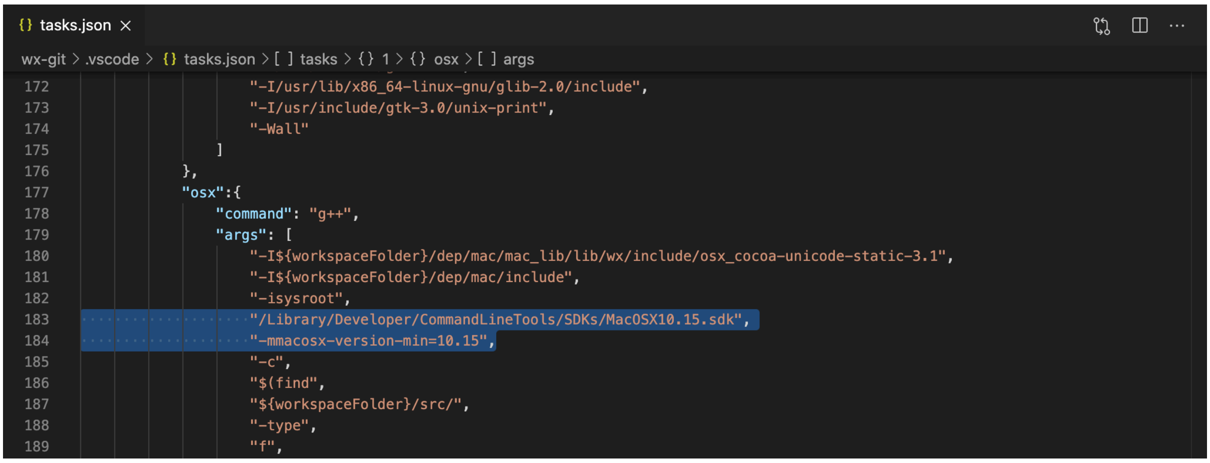
2. My macOS version was 12.7. SDK was located in /Library/Developer/CommandLineTools/SDKs/MacOSX12.3.sdk. SDK version was 12.3.

3. In Visual Studio Code open file tasks.json located in #ThisProject/.vscode/ folder

4. Change SDK location and minimum macOS version inside tasks.json file. You got SDK location in step 2 of this how-to.
   Locate lines which needs to be changed according below two screenshots.


{} tasks.json ×
wx-git > .vscode > {} tasks.json > [ ] tasks > {} 0 > {} osx > [ ] args

```
                    "-lpangoft2-1.0",
                    "-lfontconfig",
                    "-lfreetype"
                ]
            },
            "osx":{
                "command": "g++",
                "args": [
                    "-I${workspaceFolder}/dep/mac/mac_lib/lib/wx/include/osx_cocoa-unicode-static-3.1",
                    "-I${workspaceFolder}/dep/mac/include",
                    "-isysroot",
                    "/Library/Developer/CommandLineTools/SDKs/MacOSX10.15.sdk",
                    "-mmacosx-version-min=10.15",
                    "${workspaceFolder}/out/**.o",
                    "-o",
                    "${workspaceFolder}/out/myapp",
                    "-L${workspaceFolder}/dep/mac/mac_lib/lib",
                    "-Bstatic",
                    "-framework",
```


{} tasks.json ×
wx-git > .vscode > {} tasks.json > [ ] tasks > { } 1 > { } osx > [ ] args

```
                    "-I/usr/lib/x86_64-linux-gnu/glib-2.0/include",
                    "-I/usr/include/gtk-3.0/unix-print",
                    "-Wall"
                ]
            },
            "osx":{
                "command": "g++",
                "args": [
                    "-I${workspaceFolder}/dep/mac/mac_lib/lib/wx/include/osx_cocoa-unicode-static-3.1",
                    "-I${workspaceFolder}/dep/mac/include",
                    "-isysroot",
                    "/Library/Developer/CommandLineTools/SDKs/MacOSX10.15.sdk",
                    "-mmacosx-version-min=10.15",
                    "-c",
                    "$(find",
                    "${workspaceFolder}/src/",
                    "-type",
                    "f",
```

5. Save tasks.json file

6. You are ready to compile this project