

You Can you give me an example hello\_world.c code and hello\_world.h and compile them to hello\_world.dll file and use it inside of a main.c file. Do that for windows 10 Os and vs code mingw gcc compiler.

ChatGPT Certainly! Below are the example files and the steps to compile them into a shared library (DLL) on Windows 10 using VS Code and the MinGW GCC compiler.

First, let's create the "hello\_world.c" file:

```
// hello_world.c

#include <stdio.h>
#include "hello_world.h"

void hello_world() {
    printf("Hello, World!\n");
}
```

Next, let's create the corresponding "hello\_world.h" header file:

```
// hello_world.h

#ifndef HELLO_WORLD_H
#define HELLO_WORLD_H

void hello_world();

#endif // HELLO_WORLD_H
```

Now, we'll compile these files into a DLL using the MinGW GCC compiler.

1. Open VS Code and create a new folder for your project.
2. Place "hello\_world.c" and "hello\_world.h" inside this folder.
3. Create a new file named "main.c" for your main program:

```
// main.c

#include <stdio.h>
#include "hello_world.h"

int main() {
    hello_world();
    return 0;
}
```

Open the VS Code terminal and navigate to your project folder.  
Run the following command to compile "hello\_world.c" into a DLL:

```
bash
gcc -shared -o hello_world.dll hello_world.c -Wl,-out-implib,libhello_world.a
```

This command creates "hello\_world.dll" and "libhello\_world.a" in your project folder.

Now, compile "main.c" and link it with the DLL:

```
bash
gcc main.c -o main.exe -L. -lhello_world
```

This command links "main.exe" with "libhello\_world.a", which in turn links to "hello\_world.dll".

You can now run "main.exe":

```
bash
main.exe
```

This should output "Hello, World!" to the console.

That's it! You've successfully compiled a shared library ("hello\_world.dll") and used it inside a main program ("main.exe") on Windows 10 using VS Code and the MinGW GCC compiler.

// main.c

```
#include <stdio.h>
#include "hello_world.h"
```

```
int main() {
    hello_world();
    return 0;
}
```

gcc -shared -o hello\_world.dll hello\_world.c "-Wl,-out-implib,libhello\_world.a"  
gcc main.c -o main.exe -L. -lhello\_world

tasks.json

```
{
  "version": "2.0.0",
  "tasks": [
    {
      "label": "Build DLL",
      "type": "shell",
      "command": "cmd.exe",
      "args": [
        "/C",
        "gcc -shared -o hello_world.dll hello_world.c -Wl,-out-implib,libhello_world.a"
      ],
      "group": "build",
    },
    {
      "label": "Build Main",
      "type": "shell",
      "command": "cmd.exe",
      "args": [
        "/C",
        "gcc",
        "main.c",
        "-o",
        "main.exe",
        "-L.",
        "-lhello_world"
      ],
      "group": {
        "name": "Build",
        "isDefault": true //you can uncomment this line after dll compilation
      }
    }
  ]
}
```

// hello\_world.c

```
#include <stdio.h>
#include "hello_world.h"
```

```
void hello_world() {
    printf("Hello, World!\n");
}
```

// hello\_world.h

```
#ifndef HELLO_WORLD_H
#define HELLO_WORLD_H
```

```
void hello_world();

#endif // HELLO_WORLD_H
```

launch.json

```
{
  "version": "0.2.0",
  "configurations": [
    {
      "name": "Launch",
      "type": "cppdbg",
      "request": "launch",
      "program": "${workspaceFolder}/main",
      "preLaunchTask": "Build Main",
      "internalConsoleOptions": "openOnSessionStart",
      "cwd": "${workspaceFolder}",
    }
  ]
}
```

Select the build task to run

Build Main  
Build DLL  
C/C++: CMake build active file  
compiler: cmake

**CTRL + SHIFT + B**  
first select "Build DLL" and it will create .dll and .a files  
After we can "Build Main"

hello\_world.dll  
libhello\_world.a  
main.c  
ReadMe.pdf  
ReadMe.txt  
tempCodeRunnerFile.c

Select a debug configuration

Debug C/C++ File  
Run Code  
Run C/C++ file

Select a debug configuration

Launch pre-launch task: Build Main  
Recently Used Task

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GIT LENS

Warning: Debuggee TargetArchitecture not detected, assuming x86\_64.  
cmd-param-changed,param="pagination,value="off"  
cmd-param-changed,param="args,value="2>CON 1>CON <CON"  
[New Thread 20764.0x413c]  
[New Thread 20764.0x64d0]  
[New Thread 20764.0x6344]  
Loaded 'C:\Windows\System64\kernel32.dll'. Symbols loaded.  
Loaded 'C:\Windows\System64\KernelBase.dll'. Symbols loaded.  
Loaded 'C:\Windows\System64\msvcrt.dll'. Symbols loaded.  
Loaded 'C:\Users\m.bayram\Desktop\PROJELER\Small\_Projects\Draft\_proj  
✓ Hello, World This Hello Comes From My newly created DLL File!  
The program 'C:\Users\m.bayram\Desktop\PROJELER\Small\_Projects\Draft