

Compiling C and C++ files together using GCC

Asked 12 years, 11 months ago Modified 3 years, 1 month ago Viewed 64k times



I'm trying to compile C and C++ sources together using GCC.

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```
gcc -std=c++0x test.cpp -std=c99 test.c -lstdc++
```



Now, this works fine, except that I get two warnings.



```
cc1plus: warning: command line option "-std=c99" is valid for C/ObjC but not for C++
```



```
cc1: warning: command line option "-std=c++0x" is valid for C++/ObjC++ but not for C
```

Therefore I can't use `-werror` with this setup. Can these warnings be suppressed somehow?

[c++](#) [c](#) [gcc](#)

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asked Mar 25, 2011 at 9:34



[Šimon Tóth](#)

35.8k 20 107 152

- 1 What you *think* you're doing is very different from *what you're doing*. You are first setting the language standard to C++0x and then setting it to C99, which is equivalent to just using C99 for *both* files. However, compiling C++ in C99 mode is impossible, so for the `.cpp` file, the compiler will fall back to its default, which is C++98. You're therefore compiling the C file in C99, and the C++ file in C++98. While parsing options, GCC sees that you have incompatible files for either language version option, thus it outputs warnings for each option. – [Damon](#) Oct 1, 2013 at 15:17

7 Answers

Sorted by: Highest score (default)



Compile the files separately, link with g++




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Yeah, sure, but I need to compile it in one GCC call. I'm using an API for calling GCC and I can only add flags. – [Šimon Tóth](#) Mar 25, 2011 at 9:46 

@Let_Me_Be: Then you'll need to either write a script/wrapper and call that, or compile your c as c++ without specifying C99 – [Erik](#) Mar 25, 2011 at 9:55

Hmm, I could actually precompile the C++ part (since that won't change) :-)
– [Šimon Tóth](#) Mar 26, 2011 at 13:27

- 1 If you are afraid to link together .o from different compilers, you can use `g++ -x c` instead of `gcc .` – [Gabriel Devillers](#) Dec 17, 2017 at 12:17



if anyone else is wondering the best way to do this in Android, it's this:

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```
LOCAL_CFLAGS := -Werror
LOCAL_ONLYFLAGS := -std=gnu99
LOCAL_CPPFLAGS := -std=c++0x
```



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answered Oct 1, 2013 at 13:07



[afrojer](#)

161 1 3



`gcc` is the C compiler and `g++` is the C++ compiler. You are mixing the two languages with different styles. Compile apart and then link:

8

```
gcc -std=c99 -c -o test.c.o test.c
g++ -std=c++0x -c -o test.cpp.o test.cpp
g++ -o executable test.cpp.o test.c.o
```



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[edited Mar 25, 2011 at 9:45](#)

answered Mar 25, 2011 at 9:39

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[orlp](#)

114k 37 221 316



This solves my confusion. Could you explain briefly why `g++` isn't designed to compile `c` too?
– [NeoZoom.lua](#) May 12, 2023 at 7:32

@VimNing Why should it? C is a different language than C++. – [orlp](#) May 12, 2023 at 10:41



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2

I ran into this problem too. I didn't find a way to compile c and c++ with a one liner but using autotools autoconf it will generate the proper configuration and Makefile for each .c and .cpp or .cc to compile them individually and then link them. https://www.gnu.org/software/automake/manual/html_node/Autotools-Introduction.html



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answered Oct 3, 2016 at 20:38



Adam Mendoza

5,613 2 26 32



2

Instead of using gcc ,use g++.

That is for both type of files, .cpp and .c files.



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edited Dec 30, 2019 at 6:09

answered Mar 25, 2011 at 9:35

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abunickabhi

568 2 9 32



Chaithra

1,140 3 15 23

4 But won't g++ compile the c files as c++ ? – [Šimon Tóth](#) Mar 25, 2011 at 9:36

While giving the compilation instruction, if you specify explicitly as .c, then as per my knowledge, it may not take as .cpp. But please confirm this with someone whose knows correctly. – [Chaithra](#) Mar 25, 2011 at 9:50

9 C source files compiled with g++ will be compiled as C++ code. – [Martin York](#) Mar 25, 2011 at 10:24

1 @LokiAstari yes I have just tested with gcc 6.3.0. But g++ can be forced to compile as C code with the -x c option. – [Gabriel Devillers](#) Dec 17, 2017 at 12:23

2 @GabrielDevillers You can force the compiler to do anything if you know the correct arguments. You can compile files ending in ".fart" as C files if you want. But the point here is that the default behavior (with no flags) is slightly un-expected. Normally you would expect the compiler to respect the file name suffix (or warn you about it). But g++ does not; it treats both *.c and *.cpp as C++ source files. This can drastically change their meaning (as you know C and C++ are completely different languages). – [Martin York](#) Dec 17, 2017 at 18:05



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**1**

This is very relevant for Android NDK. Luckily, there is an ugly workaround. To make all C files compiled as `c99`, and all CPP files as `c++0x`, add the following lines to `Android.mk` file:



```
LOCAL_CPPFLAGS += -std=c++0x
LOCAL_C99_FILES := $(filter %.c, $(LOCAL_SRC_FILES))
TARGET-process-src-files-tags += $(call add-src-files-target-cflags, $(LOCAL_C99_FILES), -std=c99)
```

This works in the latest NDK r8b with `arm-linux-androideabi-4.6` toolchain, but I cannot guarantee that it will work in future versions, and I didn't test it with earlier versions.

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answered Aug 29, 2012 at 9:55



[Alex Cohn](#)

56.6k 10 116 316

**0**

Try including the `cpp` in the `c` or vice versa and then use `g++` to compile, I think `gnu` will automatically compile it as a header file.

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answered Jan 14, 2021 at 18:22

[user14801738](#)



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