

Pre-defined C/C++ Compiler Macros

Standard Predefined Macros

Macro	Description
__FILE__	name of the current input file
__LINE__	current input line number
__DATE__	the date on which the preprocessor is being run
__TIME__	the time at which the preprocessor is being run

Language Standards

Name	Macro	Standard
C90	__STDC__	ISO/IEC 9899:1990
C99	__STDC_VERSION__ = 199901L	ISO/IEC 9899:1999
C11	__STDC_VERSION__ = 201112L	ISO/IEC 9899:2011
C++98	__cplusplus = 199711L	ISO/IEC 14882:1998
C++11	__cplusplus = 201103L	ISO/IEC 14882:2011

Compiler

- GCC C/C++

Type	Macro	Description
Identification	__GNUC__	
Version	__GNUC__	Version
Version	__GNUC_MINOR__	Revision

Type	Macro	Description
Version	__GNUC_PATCHLEVEL__	Patch (introduced in version 3.0)

- Clang

Type	Macro	Description
Identification	__clang__	
Version	__clang_major__	Major version
Version	__clang_minor__	Minor version
Version	__clang_patchlevel__	Patch leve
Version	__clang_version__	
LLVM	__llvm__	

- Microsoft Visual C++

Type	Macro	Description
Identification	_MSC_VER	
Version	_MSC_VER	
Version	_MSC_FULL_VER	
Version	_MSC_BUILD	

- MinGW and MinGW-w64

Type	Macro	Description
Identification	__MINGW32__	
Version	__MINGW32_MAJOR_VERSION	
Version	__MINGW32_MINOR_VERSION	
Identification	__MINGW64__	
Version	__MINGW64_VERSION_MAJOR	

Type	Macro	Description
Version	__MINGW64_VERSION_MINOR	

- Intel C/C++

Type	Macro	Description
Identification	__INTEL_COMPILER	
Identification	__ICC	
Version	__INTEL_COMPILER	
Version	__INTEL_COMPILER_BUILD_DATE	

Libraries

Library	Identification	Version
GNU glibc	__GLIBC__	__GLIBC_MINOR__
GNU libstdc++	__GLIBCPP__, __GLIBCXX__	__GLIBCPP__, __GLIBCXX__

Operating systems

System	Identification
GNU/Linux	__gnu_linux__
Linux kernel	__linux__ , linux, __linux
MacOS	macintosh, Macintosh, __APPLE__
Windows	_WIN32, _WIN64, __WIN32__, __WINDOWS__
FreeBSD	__FreeBSD__, BSD

Architectures

Architecture	Identification	Description
AMD64	__amd64__, __amd64, __x86_64__, __x86_64	Defined by GNU C and Sun Studio
ARM	__arm__	Defined by GNU C and RealView
ARM64	__aarch64__	Defined by GNU C 1

Reference

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