



```
root@jelin-virtual-machine:~/Download/temp/boost_1_81_0# aarch64-linux-gnu-gcc --version
aarch64-linux-gnu-gcc (Ubuntu 9.4.0-1ubuntu1~20.04.1) 9.4.0
Copyright (C) 2019 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

root@jelin-virtual-machine:~/Download/temp/boost_1_81_0#
```

1. Boost 库简介

Boost 库是由一些 C++ 标准委员会成员创建和维护的

智能指针

多线程库

泛型编程库

正则表达式库

数学库

文件系统库

2. Boost 库下载

□

□



“...one of the most highly regarded and expertly designed C++ library projects in the world.”
— Herb Sutter and Andrei Alexandrescu, C++ Coding Standards

WELCOME TO BOOST.ORG!

Boost provides free peer-reviewed portable C++ source libraries.

We emphasize libraries that work well with the C++ Standard Library. Boost libraries are intended to be widely useful, and usable across a broad spectrum of applications. The [Boost license](#) encourages the use of Boost libraries for all users with minimal restrictions.

We aim to establish “existing practice” and provide reference implementations so that Boost libraries are suitable for eventual standardization. Beginning with the ten Boost Libraries included in the Library Technical Report (TR1) and continuing with every release of the ISO standard for C++ since 2011, the C++ Standards Committee has continued to rely on Boost as a valuable source for additions to the Standard C++ Library.

BOOST AS AN ORGANIZATION

The Boost organization and wider Boost community supports research and education into the best possible uses of C++ and libraries developed for it, particularly, but not exclusively those contained in the Boost Library.

The organization and community support mailing lists and chat rooms to educate about best practices and cutting edge techniques for the user of Boost Libraries and C++ in general.

Since 2006 an intimate week long annual conference related to Boost called C++ Now has been held in Aspen, Colorado each May. The conference is an educational opportunity focused on cutting-edge C++. Boost has been a participant in the annual Google Summer of Code since 2007, in which students develop their skills by working on Boost Library development.

GETTING STARTED

Boost works on almost any modern operating system, including UNIX and Windows variants. Follow the [Getting Started Guide](#) to download and install Boost. Popular Linux and Unix distributions such as [Fedora](#), [Debian](#), and [NetBSD](#) include pre-built Boost packages. Boost may also already be available on your organization’s internal web server.

If you want to develop Boost, there’s a [getting started guide](#) on the wiki.

BACKGROUND

Read on with the [introductory material](#) to help you understand what Boost is about and to help in educating your organization about Boost.

DOWNLOADS

CURRENT RELEASE

- Version 1.81.0
[Release Notes](#) | [Download](#) | [Documentation](#)
December 14th, 2022 17:44 GMT

BETA RELEASE

- Version 1.82.0 beta 1
[Release Notes](#) | [Download](#) | [Documentation](#)
March 15th, 2023 15:05 GMT

[More Downloads...](#) (RSS)

NEWS

- Version 1.81.0
New Libraries: URL, Updated Libraries: Beast, ContainerHash, Core, Describe, DLL, Filesystem, Fusion, Geometry, Histogram, Iterator, JSON, LexicalCast, Locale, Nowide, Stacktrace, PFR, STLInterfaces, System, Unordered, Variant, Variant2.
December 14th, 2022 17:44 GMT
- Version 1.80.0
Updated Libraries: Asio, Atomic, Filesystem, GIL, Histogram, Iterator, JSON, LEAF, Locale, Log, Math, Multiprecision, Multi-index Containers, Nowide, Optional, STLInterfaces, System, Unordered, Utility, Wave.
August 10th, 2022 21:25 GMT
- Version 1.79.0
Updated Libraries: Asio, Assert, Atomic, Beast, Core, Describe, Filesystem, Geometry, Integer, IO, Iterator, JSON, Log, Multi-index Containers, Nowide, Optional, Prefex, Smart Pointers, System, ThrowException, Unordered, Variant2, Wave, LEAF, QVM.



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WELCOME

Getting Started

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Libraries

Mailing Lists

Reporting and Fixing Bugs

Wiki

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COMMUNITY

DEVELOPMENT

DOCUMENTATION

1.81.0



“...one of the most highly regarded and expertly designed C++ library projects in the world.”
— Herb Sutter and Andrei Alexandrescu, C++ Coding Standards

BOOST DOWNLOADS

Current Release
Beta Release
Old Boost Releases
Git Repositories

CURRENT RELEASE

Version 1.81.0
December 14th, 2022 17:44 GMT

New Libraries: URL, Updated Libraries: Beast, ContainerHash, Core, Describe, DLL, Filesystem, Fusion, Geometry, Histogram, Iterator, JSON, LexicalCast, Locale, Nowide, Stacktrace, PFR, STLInterfaces, System, Unordered, Variant, Variant2.

Release Notes | Download | Documentation

DOWNLOADS

Platform	File	SHA256 Hash
unix	boost_1_81_0.tar.bz2	71feed900fbccca04a3b4f2f84a7c217186f28a940ed8b7ed4725986baf99fa
	boost_1_81_0.tar.gz	205666dea9f6a7cfed87c7a6dfbeb52a2c1b9de55712c9c1a87735d7181452b6
windows	boost_1_81_0.7z	d7bc4e2a2aee374a8c24832cacfed1265680c1e824d09fab3e00f87508155353
	boost_1_81_0.zip	6e689b266b27d4db57f648b1e5c905c8acd6716b46716a12f6fc73fc80af842e

BETA RELEASE

Version 1.82.0 BETA 1
March 15th, 2023 15:05 GMT

New Libraries: Updated Libraries:

Release Notes | Download | Documentation



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FAQ

How Boost Started

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DOCUMENTATION

□

nix/Linux Windows unix windows

3. Boost 库编译

不同架构、不同系统

□

□

□

□

3.1 在 Windows 下使用 MSVC 编译 Boost 库

最新版 VisualStudio

□

□

3.1.1 生成 b2.exe

□

[PowerShell 文档 - PowerShell | Microsoft Learn](#)

□□

```
管理员: Windows PowerShell
Windows PowerShell
版权所有 (C) Microsoft Corporation。保留所有权利。

安装最新的 PowerShell，了解新功能和改进！https://aka.ms/PSWindows

PS C:\Users\Administrator> |
```

00

0

注意，如果你的目录中有空格，需要加双引号

```
管理员: Windows PowerShell
PS C:\Users\Administrator> cd 'D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0\'
PS D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0> ls

目录: D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0

Mode                LastWriteTime         Length Name
----                -
d-----          2022/12/8      9:33         boost
d-----          2022/12/8      9:11         doc
d-----          2022/12/8      9:33         libs
d-----          2022/12/8      9:02         more
d-----          2022/12/8      9:00         status
d-----          2022/12/8      9:00         tools
-a-----          2022/12/8      9:00           850 boost-build.jam
-a-----          2022/12/8      9:00           989 boost.css
-a-----          2022/12/8      9:00        6308 boost.png
-a-----          2022/12/8      9:00       20013 boostcpp.jam
-a-----          2022/12/8      9:00        2486 bootstrap.bat
-a-----          2022/12/8      9:00       10811 bootstrap.sh
-a-----          2022/12/8      9:00         769 index.htm
-a-----          2022/12/8      9:32        5418 index.html
-a-----          2022/12/8      9:00         291 INSTALL
-a-----          2022/12/8      9:00       11947 Jamroot
-a-----          2022/12/8      9:00        1338 LICENSE_1_0.txt
-a-----          2022/12/8      9:00         542 README.md
-a-----          2022/12/8      9:00        2608 rst.css

PS D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0> |
```

0

0

0

0

```
管理员: Windows PowerShell
PS D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0> .\bootstrap.bat
Building Boost.Build engine
LOCALAPPDATA=C:\Users\Administrator\AppData\Local
Found with vswhere E:\Design_Software\Microsoft Visual Studio\2022\Professional
Found with vswhere E:\Design_Software\Microsoft Visual Studio\2022\Professional
Call_If_Exists "E:\Design_Software\Microsoft Visual Studio\2022\Professional\Common7\Tools\..\VC\Auxiliary\Build\vcvarsall.bat" AMD64
*****
** Visual Studio 2022 Developer Command Prompt v17.3.6
** Copyright (c) 2022 Microsoft Corporation
*****
[vcvarsall.bat] Environment initialized for: 'x64'
###
### Using 'vc143' toolset.
###

D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0\tools\build\src\engine>"cl" /nologo -TP /wd4996 /wd4675 /EH
s /GR /Zc:throwingNew /O2 /Ob2 /W3 /MD /Zc:forScope /Zc:wchar_t /Zc:inline /GW /favor:blend /Feb2 -DNDEBUG builtin.c
pp class.cpp command.cpp compile.cpp constants.cpp cwd.cpp debug.cpp debugger.cpp execcmd.cpp execnt.cpp execunix.cpp fi
lent.cpp filesystem.cpp fileunix.cpp frames.cpp function.cpp glob.cpp hash.cpp hcache.cpp hdrmacro.cpp headers.cpp jam.cpp
jamgram.cpp lists.cpp make.cpp make1.cpp md5.cpp mem.cpp modules.cpp native.cpp object.cpp option.cpp output.cpp parse.c
pp pathnt.cpp pathsys.cpp pathunix.cpp regexp.cpp rules.cpp scan.cpp search.cpp jam_strings.cpp startup.cpp subst.cpp sy
sinfo.cpp timestamp.cpp variable.cpp w32_getreg.cpp modules/order.cpp modules/path.cpp modules/property-set.cpp modules/
regex.cpp modules/sequence.cpp modules/set.cpp /link kernel32.lib advapi32.lib user32.lib
builtin.cpp
class.cpp
command.cpp
compile.cpp
constants.cpp
cwd.cpp
debug.cpp
debugger.cpp
execcmd.cpp
```

b2.exe

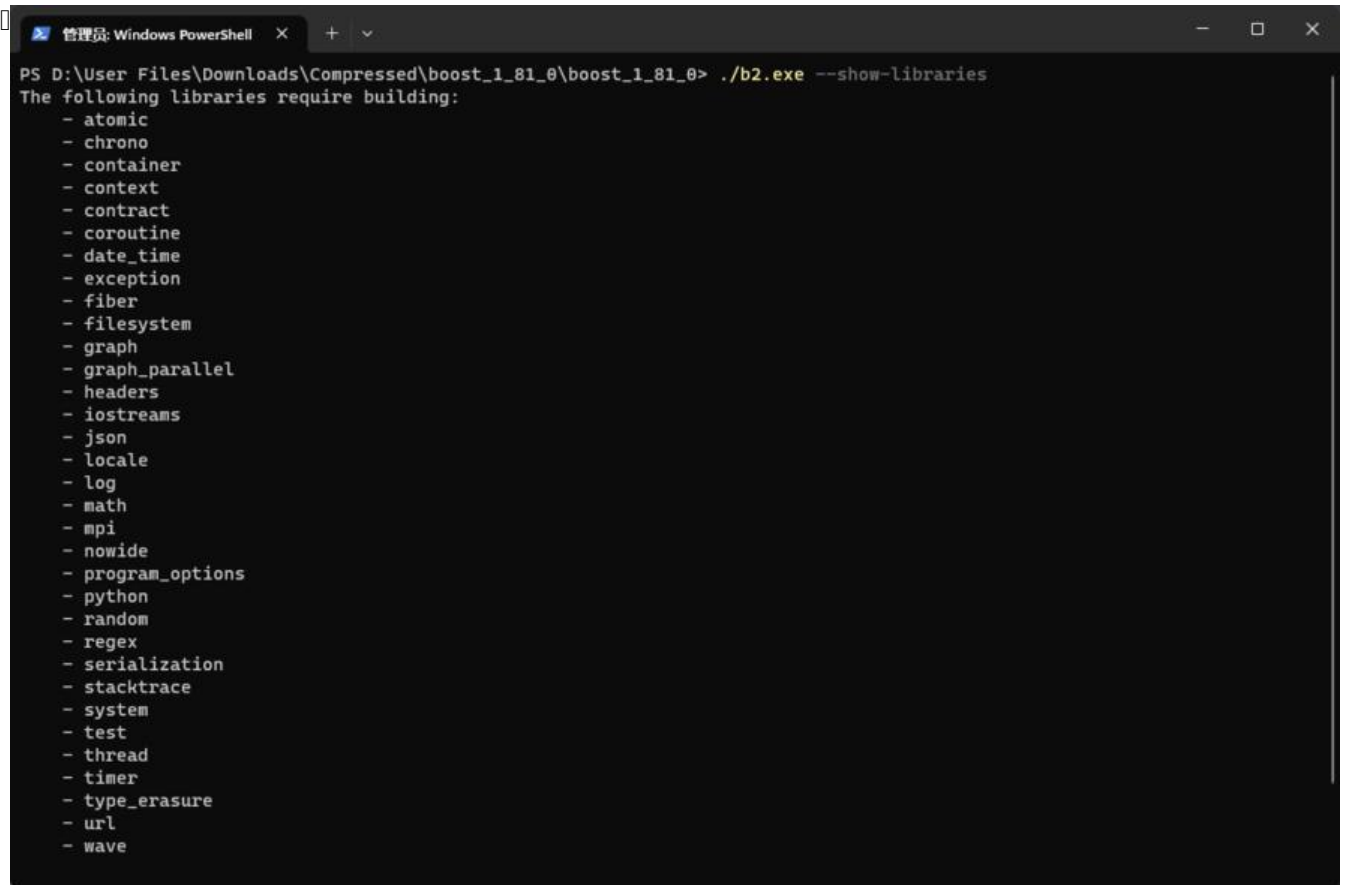
```
管理员: Windows PowerShell
PS D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0> ls

目录: D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0

Mode                LastWriteTime         Length Name
----                -
d-----          2022/12/8           9:33      boost
d-----          2022/12/8           9:11      doc
d-----          2022/12/8           9:33      libs
d-----          2022/12/8           9:02      more
d-----          2022/12/8           9:00      status
d-----          2022/12/8           9:00      tools
-a-----          2023/3/16          20:49      254464 b2.exe
-a-----          2022/12/8           9:00      858 boost-build.jam
-a-----          2022/12/8           9:00          989 boost.css
-a-----          2022/12/8           9:00          6308 boost.png
-a-----          2022/12/8           9:00          20013 boostcpp.jam
-a-----          2022/12/8           9:00          2486 bootstrap.bat
-a-----          2022/12/8           9:00          10811 bootstrap.sh
-a-----          2022/12/8           9:00          769 index.htm
-a-----          2022/12/8           9:32          5418 index.html
-a-----          2022/12/8           9:00          291 INSTALL
-a-----          2022/12/8           9:00          11947 Jamroot
-a-----          2022/12/8           9:00          1338 LICENSE_1_0.txt
-a-----          2023/3/16          20:49          154 project-config.jam
-a-----          2022/12/8           9:00          542 README.md
-a-----          2022/12/8           9:00          2608 rst.css

PS D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0> |
```

3.1.2 编译和安装



□ 生成链接库(动态库或静态库)到 **stagedir**□□□

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Downloaded from <http://ajph.org/> on November 10, 2014

1 2 3 4 5 6 7 8 9 10 11 12

☐ ☐ ☐

1 2 3 4 5 6 7 8 9 10 11 12

toolset

Toolset Name	Vendor	Notes
acc	Hewlett Packard	Only very recent versions are known to work well with Boost
borland	Borland	
como	Comeau Computing	Using this toolset may require configuring another toolset to act as its backend.
darwin	Apple Computer	Apple's version of the GCC toolchain with support for Darwin and MacOS X features such as frameworks.
gcc	The Gnu Project	Includes support for Cygwin and MinGW compilers.
hp_cxx	Hewlett Packard	Targeted at the Tru64 operating system.
intel	Intel	
msvc	Microsoft	
sun	Oracle	Only very recent versions are known to work well with Boost. Note that the Oracle/Sun compiler has a large number of options which effect binary compatibility: it is vital that the libraries are built with the same options that your appliction will use. In particular be aware that the default standard library may not work well with Boost, <i>unless you are building for C++11</i> . The particular compiler options you need can be injected with the b2 command line options <code>cxxflags=-</code> and <code>linkflags=-</code> . For example to build with the Apache standard library in C++03 mode use <code>b2 cxxflags=-library=stdcxx4 linkflags=-library=stdcxx4</code> .
vacpp	IBM	The VisualAge C++ compiler.


```
管理员: Windows PowerShell
PS D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0> ./b2.exe install --prefix="../../install/msvc" --build-dir="build/msvc" runtime-link=static
Performing configuration checks

- default address-model      : 64-bit [1]
- default architecture      : x86 [1]
- compiler supports SSE2    : yes [2]
- compiler supports SSE4.1  : yes [2]
- has synchronization.lib    : yes [2]
- has std::atomic_ref        : no [2]
- has statx                  : no [2]
- has statx syscall          : no [2]
- has BCrypt API             : yes [2]
- has init_priority attribute : no [2]
- has stat::st_blksize       : no [2]
- has stat::st_mtim          : no [2]
- has stat::st_mtimensec     : no [2]
- has stat::st_mtimespec     : no [2]
- has stat::st_birthtim      : no [2]
- has stat::st_birthtimensec : no [2]
- has stat::st_birthtimespec : no [2]
- has fdopendir(O_NOFOLLOW)  : no [2]
- has POSIX *at APIs         : no [2]
- cxx11_auto_declarations    : yes [2]
- cxx11_constexpr            : yes [2]
- cxx11_defaulted_functions  : yes [2]
- cxx11_final                : yes [2]
- cxx11_hdr_mutex            : yes [2]
- cxx11_hdr_tuple            : yes [2]
- cxx11_lambdas              : yes [2]
- cxx11_noexcept             : yes [2]
- cxx11_nullptr              : yes [2]
- cxx11_rvalue_references    : yes [2]
- cxx11_template_aliases     : yes [2]
- cxx11_thread_local         : yes [2]
- cxx11_variadic_templates   : yes [2]
```

```
管理员: Windows PowerShell
\threading-multi\thread_clock.obj
thread_clock.cpp
compile-c-c++ build\msvc\boost\bin.v2\libs\chrono\build\msvc-14.3\debug\address-model-32\link-static\runtime-link-static
\threading-multi\chrono.obj
chrono.cpp
msvc.archive build\msvc\boost\bin.v2\libs\atomic\build\msvc-14.3\debug\address-model-32\link-static\runtime-link-static\
threading-multi\libboost_atomic-vc143-mt-sgd-x32-1_81.lib
boost-install.generate-cmake-variant- build\msvc\boost\bin.v2\libs\atomic\build\msvc-14.3\debug\address-model-32\link-st
atic\runtime-link-static\threading-multi\libboost_atomic-variant-vc143-mt-sgd-x32-1_81-static.cmake
common.copy D:\User Files\Downloads\Compressed\boost_1_81_0\install\msvc\lib\libboost_atomic-vc143-mt-sgd-x32-1_81.lib
build\msvc\boost\bin.v2\libs\atomic\build\msvc-14.3\debug\address-model-32\link-static\runtime-link-static\threading-mul
ti\libboost_atomic-vc143-mt-sgd-x32-1_81.lib
已复制 1 个文件。
compile-c-c++ build\msvc\boost\bin.v2\libs\chrono\build\msvc-14.3\debug\address-model-32\link-static\runtime-link-static
\threading-multi\process_cpu_clocks.obj
process_cpu_clocks.cpp
common.copy D:\User Files\Downloads\Compressed\boost_1_81_0\install\msvc\lib\cmake\boost_atomic-1.81.0\libboost_atomic-v
ariant-vc143-mt-sgd-x32-1_81-static.cmake
build\msvc\boost\bin.v2\libs\atomic\build\msvc-14.3\debug\address-model-32\link-static\runtime-link-static\threading-mul
ti\libboost_atomic-variant-vc143-mt-sgd-x32-1_81-static.cmake
已复制 1 个文件。
msvc.archive build\msvc\boost\bin.v2\libs\chrono\build\msvc-14.3\debug\address-model-32\link-static\runtime-link-static\
threading-multi\libboost_chrono-vc143-mt-sgd-x32-1_81.lib
boost-install.generate-cmake-variant- build\msvc\boost\bin.v2\libs\chrono\build\msvc-14.3\debug\address-model-32\link-st
atic\runtime-link-static\threading-multi\libboost_chrono-variant-vc143-mt-sgd-x32-1_81-static.cmake
common.copy D:\User Files\Downloads\Compressed\boost_1_81_0\install\msvc\lib\libboost_chrono-vc143-mt-sgd-x32-1_81.lib
build\msvc\boost\bin.v2\libs\chrono\build\msvc-14.3\debug\address-model-32\link-static\runtime-link-static\threading-mul
ti\libboost_chrono-vc143-mt-sgd-x32-1_81.lib
已复制 1 个文件。
common.copy D:\User Files\Downloads\Compressed\boost_1_81_0\install\msvc\lib\cmake\boost_chrono-1.81.0\libboost_chrono-v
ariant-vc143-mt-sgd-x32-1_81-static.cmake
build\msvc\boost\bin.v2\libs\chrono\build\msvc-14.3\debug\address-model-32\link-static\runtime-link-static\threading-mul
ti\libboost_chrono-variant-vc143-mt-sgd-x32-1_81-static.cmake
已复制 1 个文件。
...updated 19879 targets...
PS D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0>
```

```
管理: Windows PowerShell
PS D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0> ls ../install/msvc\

目录: D:\User Files\Downloads\Compressed\boost_1_81_0\install\msvc

Mode                LastWriteTime         Length Name
----                -
d-----         2023/3/16      22:43             include
d-----         2023/3/16      22:45             lib

PS D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0> |
```

名称	修改日期	类型	大小
今天			
integer_fwd.hpp	2023/3/16 22:43	C++ Header 源...	6 KB
integer_traits.hpp	2023/3/16 22:43	C++ Header 源...	9 KB
intrusive_ptr.hpp	2023/3/16 22:43	C++ Header 源...	1 KB
io_fwd.hpp	2023/3/16 22:43	C++ Header 源...	2 KB
is_placeholder.hpp	2023/3/16 22:43	C++ Header 源...	1 KB
iterator.hpp	2023/3/16 22:43	C++ Header 源...	1 KB
iterator_adaptors.hpp	2023/3/16 22:43	C++ Header 源...	1 KB
json.hpp	2023/3/16 22:43	C++ Header 源...	2 KB
lambda2.hpp	2023/3/16 22:43	C++ Header 源...	1 KB
leaf.hpp	2023/3/16 22:43	C++ Header 源...	1 KB
lexical_cast.hpp	2023/3/16 22:43	C++ Header 源...	4 KB
limits.hpp	2023/3/16 22:43	C++ Header 源...	7 KB
local_function.hpp	2023/3/16 22:43	C++ Header 源...	19 KB
locale.hpp	2023/3/16 22:43	C++ Header 源...	1 KB
make_default.hpp	2023/3/16 22:43	C++ Header 源...	2 KB
make_shared.hpp	2023/3/16 22:43	C++ Header 源...	1 KB

名称	修改日期	类型	大小
今天			
cmake	2023/3/16 22:45	文件夹	
libboost_atomic-vc143-mt-sgd-x32-1_81.lib	2023/3/16 22:45	LIB 文件	273 KB
libboost_atomic-vc143-mt-sgd-x64-1_81.lib	2023/3/16 22:43	LIB 文件	305 KB
libboost_atomic-vc143-mt-s-x32-1_81.lib	2023/3/16 22:43	LIB 文件	24 KB
libboost_atomic-vc143-mt-s-x64-1_81.lib	2023/3/16 22:44	LIB 文件	30 KB
libboost_chrono-vc143-mt-sgd-x32-1_81.lib	2023/3/16 22:45	LIB 文件	2,357 KB
libboost_chrono-vc143-mt-sgd-x64-1_81.lib	2023/3/16 22:43	LIB 文件	2,574 KB
libboost_chrono-vc143-mt-s-x32-1_81.lib	2023/3/16 22:43	LIB 文件	260 KB
libboost_chrono-vc143-mt-s-x64-1_81.lib	2023/3/16 22:44	LIB 文件	366 KB
libboost_container-vc143-mt-sgd-x32-1_81.lib	2023/3/16 22:43	LIB 文件	678 KB
libboost_container-vc143-mt-sgd-x64-1_81.lib	2023/3/16 22:43	LIB 文件	777 KB
libboost_container-vc143-mt-s-x32-1_81.lib	2023/3/16 22:43	LIB 文件	199 KB
libboost_container-vc143-mt-s-x64-1_81.lib	2023/3/16 22:44	LIB 文件	260 KB
libboost_context-vc143-mt-sgd-x32-1_81.lib	2023/3/16 22:43	LIB 文件	179 KB
libboost_context-vc143-mt-sgd-x64-1_81.lib	2023/3/16 22:43	LIB 文件	180 KB
libboost_context-vc143-mt-s-x32-1_81.lib	2023/3/16 22:43	LIB 文件	9 KB

libboost_wave
vc143
mt
s
x64
1_81

6.3 Library Naming

Note

If, like Visual C++, your compiler supports auto-linking, you can probably *skip to the next step*.

In order to choose the right binary for your build configuration you need to know how Boost binaries are named. Each library filename is composed of a common sequence of elements that describe how it was built. For example, `libboost_regex-vc71-mt-d-x86-1_34.lib` can be broken down into the following elements:

`lib`

Prefix: except on Microsoft Windows, every Boost library name begins with this string. On Windows, only ordinary static libraries use the `lib` prefix; import libraries and DLLs do not.⁵

`boost_regex`

Library name: all boost library filenames begin with `boost_`.

`-vc71`

Toolset tag: identifies the [toolset](#) and version used to build the binary.

`-mt`

Threading tag: indicates that the library was built with multithreading support enabled. Libraries built without multithreading support can be identified by the absence of `-mt`.

`-d`

ABI tag: encodes details that affect the library's interoperability with other compiled code. For each such feature, a single letter is added to the tag:

Key	Use this library when:	Boost.Build option
s	linking statically to the C++ standard library and compiler runtime support libraries.	runtime-link=static
g	using debug versions of the standard and runtime support libraries.	runtime-debugging=on
y	using a special debug build of Python .	python-debugging=on
d	building a debug version of your code. ⁶	variant=debug
p	using the STLPort standard library rather than the default one supplied with your compiler.	stdlib=stlport

For example, if you build a debug version of your code for use with debug versions of the static runtime library and the STLPort standard library, the tag would be: `-sgdp`. If none of the above apply, the ABI tag is omitted.

`-x86`

Architecture and address model tag: in the first letter, encodes the architecture as follows:

Key	Architecture	Boost.Build option
x	x86-32, x86-64	architecture=x86
a	ARM	architecture=arm
i	IA-64	architecture=ia64
s	Sparc	architecture=sparc
m	MIPS/SGI	architecture=mips*
p	RS/6000 & PowerPC	architecture=power

The two digits following the letter encode the address model as follows:

Key	Address model	Boost.Build option
32	32 bit	address-model=32
64	64 bit	address-model=64

`-1_34`

Version tag: the full Boost release number, with periods replaced by underscores. For example, version 1.31.1 would be tagged as `-1_31_1`.

`.lib`

Extension: determined according to the operating system's usual convention. On most unix-style platforms the extensions are `.a` and `.so` for static libraries (archives) and shared libraries, respectively. On Windows, `.dll` indicates a shared library and `.lib` indicates a static or import library. Where supported by toolsets on unix variants, a full version extension is added (e.g. `.so.1.34`) and a symbolic link to the library file, named without the trailing version number, will also be created.

□

3.2 在 Windows 下使用 MinGW 编译 Boost 库

安装步骤如下:

w64devkit 下载

二、添加环境变量

```
管理员: Windows PowerShell
PS F:\SP_JELIN\gRPC_Test\tools> gcc --version
gcc.exe (GCC) 12.2.0
Copyright (C) 2022 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

PS F:\SP_JELIN\gRPC_Test\tools> which gcc
E:/Design_ProgramEnv/GNU/w64devkit-1.16.1/w64devkit/bin/gcc.exe
PS F:\SP_JELIN\gRPC_Test\tools> |
```

3.2.1 生成 b2.exe

3.2.2 编译和安装

□

```
管理員: Windows PowerShell X + v
PS D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0> ./b2.exe install --prefix="../install/mingw" -
-build-dir="build/mingw" runtime-link=static toolset=gcc --with-system --with-filesystem
Performing configuration checks

- default address-model      : 64-bit [1]
- default architecture      : x86 [1]
- has std::atomic_ref        : no [2]
- has statx                  : no [2]
- has statx syscall          : no [2]
- has BCrypt API             : no [2]
- is Windows CE              : no [2]
- has init_priority attribute : yes [2]
- has stat::st_blksize       : no [2]
- has stat::st_mtim           : no [2]
- has stat::st_mtimensec     : no [2]
- has stat::st_mtimespec     : no [2]
- has stat::st_birthtim      : no [2]
- has stat::st_birthtimensec : no [2]
- has stat::st_birthtimespec : no [2]
- has fdopendir(O_NOFOLLOW) : no [2]
- has POSIX *at APIs         : no [2]
- compiler supports SSE2     : yes [2]
- compiler supports SSE4.1   : yes [2]
- has synchronization.lib    : no [2]
```

□

□□

名称	修改日期	类型	大小
今天			
cmake	2023/3/16 23:15	文件夹	
libboost_atomic-mgw12-mt-sd-x32-1_81.a	2023/3/16 23:15	A 文件	75 KB
libboost_atomic-mgw12-mt-sd-x64-1_81.a	2023/3/16 23:15	A 文件	104 KB
libboost_atomic-mgw12-mt-s-x32-1_81.a	2023/3/16 23:15	A 文件	11 KB
libboost_atomic-mgw12-mt-s-x64-1_81.a	2023/3/16 23:15	A 文件	13 KB
libboost_filesystem-mgw12-mt-sd-x32-1_81.a	2023/3/16 23:16	A 文件	5,519 KB
libboost_filesystem-mgw12-mt-sd-x64-1_81.a	2023/3/16 23:16	A 文件	6,027 KB
libboost_filesystem-mgw12-mt-s-x32-1_81.a	2023/3/16 23:16	A 文件	437 KB
libboost_filesystem-mgw12-mt-s-x64-1_81.a	2023/3/16 23:16	A 文件	497 KB
libboost_system-mgw12-mt-sd-x32-1_81.a	2023/3/16 23:15	A 文件	4 KB
libboost_system-mgw12-mt-sd-x64-1_81.a	2023/3/16 23:15	A 文件	4 KB
libboost_system-mgw12-mt-s-x32-1_81.a	2023/3/16 23:15	A 文件	1 KB
libboost_system-mgw12-mt-s-x64-1_81.a	2023/3/16 23:15	A 文件	1 KB

名称	修改日期	类型	大小
今天			
weak_ptr.hpp	2023/3/16 23:15	C++ Header 源...	1 KB
wave.hpp	2023/3/16 23:15	C++ Header 源...	1 KB
visit_each.hpp	2023/3/16 23:15	C++ Header 源...	1 KB
version.hpp	2023/3/16 23:15	C++ Header 源...	2 KB
variant2.hpp	2023/3/16 23:15	C++ Header 源...	1 KB
variant.hpp	2023/3/16 23:15	C++ Header 源...	1 KB
utility.hpp	2023/3/16 23:15	C++ Header 源...	1 KB
url.hpp	2023/3/16 23:15	C++ Header 源...	3 KB
unordered_set.hpp	2023/3/16 23:15	C++ Header 源...	1 KB
unordered_map.hpp	2023/3/16 23:15	C++ Header 源...	1 KB
type_traits.hpp	2023/3/16 23:15	C++ Header 源...	8 KB
type_index.hpp	2023/3/16 23:15	C++ Header 源...	11 KB
type.hpp	2023/3/16 23:15	C++ Header 源...	1 KB
tokenizer.hpp	2023/3/16 23:15	C++ Header 源...	3 KB
token_iterator.hpp	2023/3/16 23:15	C++ Header 源...	4 KB
token_functions.hpp	2023/3/16 23:15	C++ Header 源...	19 KB

3.3 在 Windows 下交叉编译 Boost 库

gcc-aarch64-linux-gnu

□

Name	Last modified	Size	License
Parent Directory			
gcc-linaro-7.2.1-2017.11-i686-mingw32_aarch64-linux-gnu.tar.xz	27-Feb-2018 00:52	342.8M	open
gcc-linaro-7.2.1-2017.11-i686-mingw32_aarch64-linux-gnu.tar.xz.asc	13-Jan-2018 08:28	97	open
gcc-linaro-7.2.1-2017.11-i686_aarch64-linux-gnu.tar.xz	27-Feb-2018 00:52	111.7M	open
gcc-linaro-7.2.1-2017.11-i686_aarch64-linux-gnu.tar.xz.asc	13-Jan-2018 08:29	89	open
gcc-linaro-7.2.1-2017.11-linux-manifest.txt	13-Jan-2018 08:29	9.8K	open
gcc-linaro-7.2.1-2017.11-win32-manifest.txt	13-Jan-2018 08:29	9.8K	open
gcc-linaro-7.2.1-2017.11-x86_64_aarch64-linux-gnu.tar.xz	27-Feb-2018 00:52	113.2M	open
gcc-linaro-7.2.1-2017.11-x86_64_aarch64-linux-gnu.tar.xz.asc	13-Jan-2018 08:29	91	open
runtime-gcc-linaro-7.2.1-2017.11-aarch64-linux-gnu.tar.xz	13-Jan-2018 08:29	6.5M	open
runtime-gcc-linaro-7.2.1-2017.11-aarch64-linux-gnu.tar.xz.asc	13-Jan-2018 08:29	92	open
sysroot-glibc-linaro-2.25-2017.11-aarch64-linux-gnu.tar.xz	27-Feb-2018 00:53	44.6M	open
sysroot-glibc-linaro-2.25-2017.11-aarch64-linux-gnu.tar.xz.asc	13-Jan-2018 08:29	221	open

Running linaro-license-protection 7f962b7.

3.3.1 生成 b2.exe

3.3.2 编译和安装

```
threading-multi\visibility-hidden\utf8_codecvt_facet.o
gcc.compile.c++ build\aaarch64\boost\bin.v2\libs\filesystem\build\gcc-aaarch64\debug\link-static\target-os-linux\
threading-multi\visibility-hidden\portability.o
gcc.compile.c++ build\aaarch64\boost\bin.v2\libs\filesystem\build\gcc-aaarch64\debug\link-static\target-os-linux\
threading-multi\visibility-hidden\path_traits.o
gcc.compile.c++ build\aaarch64\boost\bin.v2\libs\filesystem\build\gcc-aaarch64\debug\link-static\target-os-linux\
threading-multi\visibility-hidden\unique_path.o
gcc.compile.c++ build\aaarch64\boost\bin.v2\libs\filesystem\build\gcc-aaarch64\debug\link-static\target-os-linux\
threading-multi\visibility-hidden\path.o
gcc.archive build\aaarch64\boost\bin.v2\libs\filesystem\build\gcc-aaarch64\debug\link-static\target-os-linux\thre
ading-multi\visibility-hidden\libboost_filesystem-gcc-mt-sd-a64-1_81.a
boost-install.generate-cmake-variant- build\aaarch64\boost\bin.v2\libs\filesystem\build\gcc-aaarch64\debug\link-s
tatic\target-os-linux\threading-multi\visibility-hidden\libboost_filesystem-variant-gcc-mt-sd-a64-1_81-static.c
make
common.copy D:\User Files\Downloads\Compressed\boost_1_81_0\install\aaarch64\lib\libboost_filesystem-gcc-mt-sd-a
64-1_81.a
build\aaarch64\boost\bin.v2\libs\filesystem\build\gcc-aaarch64\debug\link-static\target-os-linux\threading-multi\
visibility-hidden\libboost_filesystem-gcc-mt-sd-a64-1_81.a
已复制      1 个文件。
common.copy D:\User Files\Downloads\Compressed\boost_1_81_0\install\aaarch64\lib\cmake\boost_filesystem-1.81.0\l
ibboost_filesystem-variant-gcc-mt-sd-a64-1_81-static.cmake
build\aaarch64\boost\bin.v2\libs\filesystem\build\gcc-aaarch64\debug\link-static\target-os-linux\threading-multi\
visibility-hidden\libboost_filesystem-variant-gcc-mt-sd-a64-1_81-static.cmake
已复制      1 个文件。
...updated 16926 targets...
PS D:\User Files\Downloads\Compressed\boost_1_81_0\boost_1_81_0> |
```

名称	修改日期	类型	大小
今天			
libboost_filesystem-gcc-mt-sd-a64-1_...	2023/3/16 23:57	A 文件	2,931 KB
libboost_filesystem-gcc-mt-s-a64-1_8...	2023/3/16 23:57	A 文件	406 KB
libboost_atomic-gcc-mt-s-a32-1_81.a	2023/3/16 23:56	A 文件	10 KB
libboost_atomic-gcc-mt-sd-a32-1_81.a	2023/3/16 23:56	A 文件	96 KB
libboost_filesystem-gcc-mt-s-a32-1_8...	2023/3/16 23:56	A 文件	406 KB
libboost_filesystem-gcc-mt-sd-a32-1_...	2023/3/16 23:55	A 文件	2,931 KB
libboost_atomic-gcc-mt-s-a64-1_81.a	2023/3/16 23:55	A 文件	10 KB
libboost_system-gcc-mt-s-a64-1_81.a	2023/3/16 23:55	A 文件	2 KB
libboost_system-gcc-mt-sd-a32-1_81.a	2023/3/16 23:55	A 文件	8 KB
libboost_system-gcc-mt-sd-a64-1_81.a	2023/3/16 23:55	A 文件	8 KB
libboost_atomic-gcc-mt-sd-a64-1_81.a	2023/3/16 23:55	A 文件	96 KB
libboost_system-gcc-mt-s-a32-1_81.a	2023/3/16 23:55	A 文件	2 KB
cmake	2023/3/16 23:55	文件夹	

□

3.4 在 Ubuntu 20.04 下使用 GCC 编译 Boost 库

□

□

□

```

root@jelin-virtual-machine:~/Download/temp# ls
boost_1_81_0.tar.gz
root@jelin-virtual-machine:~/Download/temp# tar -zxvf ./boost_1_81_0.tar.gz
boost_1_81_0/
boost_1_81_0/boost/
boost_1_81_0/boost/multiprecision/
boost_1_81_0/boost/multiprecision/complex128.hpp
boost_1_81_0/boost/multiprecision/complex_adaptor.hpp
boost_1_81_0/boost/multiprecision/concepts/
boost_1_81_0/boost/multiprecision/concepts/mp_number_archetypes.hpp
boost_1_81_0/boost/multiprecision/cpp_bin_float.hpp
boost_1_81_0/boost/multiprecision/cpp_bin_float/
boost_1_81_0/boost/multiprecision/cpp_bin_float/io.hpp
boost_1_81_0/boost/multiprecision/cpp_bin_float/transcendental.hpp
boost_1_81_0/boost/multiprecision/cpp_complex.hpp
boost_1_81_0/boost/multiprecision/cpp_dec_float.hpp
boost_1_81_0/boost/multiprecision/cpp_int.hpp
boost_1_81_0/boost/multiprecision/cpp_int/
boost_1_81_0/boost/multiprecision/cpp_int/add.hpp
boost_1_81_0/boost/multiprecision/cpp_int/add_unsigned.hpp
boost_1_81_0/boost/multiprecision/cpp_int/bitwise.hpp
boost_1_81_0/boost/multiprecision/cpp_int/checked.hpp
boost_1_81_0/boost/multiprecision/cpp_int/comparison.hpp
boost_1_81_0/boost/multiprecision/cpp_int/cpp_int_config.hpp
boost_1_81_0/boost/multiprecision/cpp_int/divide.hpp
boost_1_81_0/boost/multiprecision/cpp_int/import_export.hpp
boost_1_81_0/boost/multiprecision/cpp_int/intel_intrinsics.hpp
boost_1_81_0/boost/multiprecision/cpp_int/limits.hpp
boost_1_81_0/boost/multiprecision/cpp_int/literals.hpp
boost_1_81_0/boost/multiprecision/cpp_int/misc.hpp
boost_1_81_0/boost/multiprecision/cpp_int/multiply.hpp

root@jelin-virtual-machine:~/Download/temp# ls
boost_1_81_0  boost_1_81_0.tar.gz
root@jelin-virtual-machine:~/Download/temp# cd boost_1_81_0/
root@jelin-virtual-machine:~/Download/temp/boost_1_81_0# ls
boost      boost.css  bootstrap.sh  index.html  libs      README.md  tools
boost-build.jam  boost.png  doc          INSTALL    LICENSE_1_0.txt  rst.css
boostcpp.jam    bootstrap.bat  index.htm   Jamroot    more       status
root@jelin-virtual-machine:~/Download/temp/boost_1_81_0#

```

3.4.1 编译 b2


```
root@jelin-virtual-machine:~/Download/temp# ls
boost_1_81_0  boost_1_81_0.tar.gz
root@jelin-virtual-machine:~/Download/temp# cd boost_1_81_0/
root@jelin-virtual-machine:~/Download/temp/boost_1_81_0# ls
boost          boost.css      bootstrap.sh   index.html    libs          README.md     tools
boost-build.jam boost.png      doc           INSTALL      LICENSE_1_0.txt rst.css
boostcpp.jam   bootstrap.bat index.htm     Jamroot      more          status
root@jelin-virtual-machine:~/Download/temp/boost_1_81_0# ./bootstrap.sh
Building B2 engine..

###
###
### Using 'gcc' toolset.
###
###

g++ (Ubuntu 9.4.0-1ubuntu1~20.04.1) 9.4.0
Copyright (C) 2019 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

###
###

> g++ -x c++ -std=c++11 -O2 -s -DNDEBUG builtins.cpp class.cpp command.cpp compile.cpp constants.cp
p cwd.cpp debug.cpp debugger.cpp execcmd.cpp execnt.cpp execunix.cpp filesys.cpp filent.cpp fileuni
x.cpp frames.cpp function.cpp glob.cpp hash.cpp hcache.cpp hdrmacro.cpp headers.cpp jam_strings.cpp
jam.cpp jamgram.cpp lists.cpp make.cpp makel.cpp md5.cpp mem.cpp modules.cpp native.cpp object.cpp
option.cpp output.cpp parse.cpp pathnt.cpp pathsys.cpp pathunix.cpp regexp.cpp rules.cpp scan.cpp
search.cpp startup.cpp subst.cpp sysinfo.cpp timestamp.cpp variable.cpp w32_getreg.cpp modules/orde
```

```
root@jelin-virtual-machine:~/Download/temp/boost_1_81_0# ll
total 416
drwxr-xr-x  8 root root  4096 Mar 17 00:25 ./
drwxr-xr-x  3 root root  4096 Mar 17 00:22 ../
-rwxr-xr-x  1 root root 282792 Mar 17 00:25 b2*
drwxr-xr-x 136 root root 12288 Dec  8 09:33 boost/
-rw-r--r--  1 root root   850 Dec  8 09:00 boost-build.jam
-rw-r--r--  1 root root  20013 Dec  8 09:00 boostcpp.jam
-rw-r--r--  1 root root   989 Dec  8 09:00 boost.css
-rw-r--r--  1 root root  6308 Dec  8 09:00 boost.png
-rw-r--r--  1 root root  2486 Dec  8 09:00 bootstrap.bat
-rwxr-xr-x  1 root root 10811 Dec  8 09:00 bootstrap.sh*
drwxr-xr-x  7 root root  4096 Dec  8 09:12 doc/
-rw-r--r--  1 root root   769 Dec  8 09:00 index.htm
-rw-r--r--  1 root root  5418 Dec  8 09:33 index.html
-rw-r--r--  1 root root   291 Dec  8 09:00 INSTALL
-rw-r--r--  1 root root 11947 Dec  8 09:00 Jamroot
drwxr-xr-x 146 root root  4096 Dec  8 09:33 libs/
-rw-r--r--  1 root root  1338 Dec  8 09:00 LICENSE_1_0.txt
drwxr-xr-x  4 root root  4096 Dec  8 09:02 more/
-rw-r--r--  1 root root   953 Mar 17 00:25 project-config.jam
-rw-r--r--  1 root root   542 Dec  8 09:00 README.md
-rw-r--r--  1 root root  2608 Dec  8 09:00 rst.css
drwxr-xr-x  2 root root  4096 Dec  8 09:00 status/
drwxr-xr-x 14 root root  4096 Dec  8 09:00 tools/
root@jelin-virtual-machine:~/Download/temp/boost_1_81_0#
```

3.4.2 编译和安装


```
root@jelin-virtual-machine:~/Download/temp/boost_1_81_0# ./b2 install --prefix="../../install/amd64" -
-build-dir="build/amd64" runtime-link=static
Performing configuration checks
```

```
- default address-model      : 64-bit [1]
- default architecture      : x86 [1]
- compiler supports SSE2    : yes [2]
- compiler supports SSE4.1  : yes [2]
- has std::atomic_ref       : no [2]
- has statx                 : yes [2]
- has init_priority attribute : yes [2]
- has stat::st_blksize      : yes [2]
- has stat::st_mtim         : yes [2]
- has stat::st_mtimensec    : no [2]
- has stat::st_mtimespec    : no [2]
- has stat::st_birthtim     : no [2]
- has stat::st_birthtimensec : no [2]
- has stat::st_birthtimespec : no [2]
- has fdopendir(O_NOFOLLOW) : yes [2]
- has POSIX *at APIs        : yes [2]
- cxx11_auto_declarations   : yes [2]
- cxx11_constexpr           : yes [2]
- cxx11_defaulted_functions : yes [2]
- cxx11_final               : yes [2]
- cxx11_hdr_mutex           : yes [2]
- cxx11_hdr_tuple           : yes [2]
- cxx11_lambdas             : yes [2]
- cxx11_noexcept            : yes [2]
- cxx11_nullptr             : yes [2]
- cxx11_rvalue_references   : yes [2]
- cxx11_template_aliases    : yes [2]
```

```
gcc.archive build/amd64/boost/bin.v2/libs/chrono/build/gcc-9/release/link-static/threading-multi/vi
sibility-hidden/libboost_chrono.a
boost-install.generate-cmake-variant- build/amd64/boost/bin.v2/libs/chrono/build/gcc-9/release/link
-static/threading-multi/visibility-hidden/libboost_chrono-variant-static.cmake
common.copy /root/Download/temp/install/amd64/lib/libboost_chrono.a
common.copy /root/Download/temp/install/amd64/lib/cmake/boost_chrono-1.81.0/libboost_chrono-variant
-static.cmake
gcc.compile.c++ build/amd64/boost/bin.v2/libs/url/build/gcc-9/release/link-static/threading-multi/v
isibility-hidden/src.o
gcc.archive build/amd64/boost/bin.v2/libs/url/build/gcc-9/release/link-static/threading-multi/visib
ility-hidden/libboost_url.a
boost-install.generate-cmake-variant- build/amd64/boost/bin.v2/libs/url/build/gcc-9/release/link-st
atic/threading-multi/visibility-hidden/libboost_url-variant-static.cmake
common.copy /root/Download/temp/install/amd64/lib/libboost_url.a
common.copy /root/Download/temp/install/amd64/lib/cmake/boost_url-1.81.0/libboost_url-variant-stati
c.cmake
gcc.compile.c++ build/amd64/boost/bin.v2/libs/wave/build/gcc-9/release/link-static/threading-multi/
visibility-hidden/instantiate_re2c_lexer.o
gcc.compile.c++ build/amd64/boost/bin.v2/libs/wave/build/gcc-9/release/link-static/threading-multi/
visibility-hidden/instantiate_re2c_lexer_str.o
gcc.archive build/amd64/boost/bin.v2/libs/wave/build/gcc-9/release/link-static/threadapi-pthread/th
reading-multi/visibility-hidden/libboost_wave.a
boost-install.generate-cmake-variant- build/amd64/boost/bin.v2/libs/wave/build/gcc-9/release/link-s
tatic/threadapi-pthread/threading-multi/visibility-hidden/libboost_wave-variant-static.cmake
common.copy /root/Download/temp/install/amd64/lib/cmake/boost_wave-1.81.0/libboost_wave-variant-sta
tic.cmake
common.copy /root/Download/temp/install/amd64/lib/libboost_wave.a
... failed updating 27 targets ...
... skipped 5 targets ...
... updated 17752 targets ...
root@jelin-virtual-machine:~/Download/temp/boost_1_81_0#
```



```

root@jelin-virtual-machine:~/Download/temp/boost_1_81_0# pushd ../install/amd64/lib/
~/Download/temp/install/amd64/lib ~/Download/temp/boost_1_81_0
root@jelin-virtual-machine:~/Download/temp/install/amd64/lib# ls
cmake                libboost_locale.a      libboost_serialization.a
libboost_atomic.a    libboost_log.a          libboost_stacktrace_addr2line.a
libboost_chrono.a     libboost_log_setup.a    libboost_stacktrace_backtrace.a
libboost_container.a  libboost_math_c99.a     libboost_stacktrace_basic.a
libboost_context.a    libboost_math_c99f.a    libboost_stacktrace_noop.a
libboost_contract.a   libboost_math_c99l.a    libboost_system.a
libboost_coroutine.a  libboost_math_tr1.a     libboost_test_exec_monitor.a
libboost_date_time.a  libboost_math_tr1f.a    libboost_thread.a
libboost_exception.a  libboost_math_tr1l.a    libboost_timer.a
libboost_fiber.a      libboost_nowide.a       libboost_type_eraser.a
libboost_filesystem.a libboost_prgr_exec_monitor.a libboost_unit_test_framework.a
libboost_graph.a      libboost_program_options.a libboost_url.a
libboost_iostreams.a  libboost_random.a       libboost_wave.a
libboost_json.a       libboost_regex.a        libboost_wserialization.a
root@jelin-virtual-machine:~/Download/temp/install/amd64/lib#

```

```

root@jelin-virtual-machine:~/Download/temp/install/amd64/lib# ls
cmake                libboost_math_tr1l-mt-s-x64.a
libboost_atomic-mt-s-x64.a libboost_math_tr1-mt-s-x64.a
libboost_chrono-mt-s-x64.a libboost_nowide-mt-s-x64.a
libboost_container-mt-s-x64.a libboost_prgr_exec_monitor-mt-s-x64.a
libboost_context-mt-s-x64.a libboost_program_options-mt-s-x64.a
libboost_contract-mt-s-x64.a libboost_random-mt-s-x64.a
libboost_coroutine-mt-s-x64.a libboost_regex-mt-s-x64.a
libboost_date_time-mt-s-x64.a libboost_serialization-mt-s-x64.a
libboost_exception-mt-s-x64.a libboost_stacktrace_addr2line-mt-s-x64.a
libboost_fiber-mt-s-x64.a libboost_stacktrace_backtrace-mt-s-x64.a
libboost_filesystem-mt-s-x64.a libboost_stacktrace_basic-mt-s-x64.a
libboost_graph-mt-s-x64.a libboost_stacktrace_noop-mt-s-x64.a
libboost_iostreams-mt-s-x64.a libboost_system-mt-s-x64.a
libboost_json-mt-s-x64.a libboost_test_exec_monitor-mt-s-x64.a
libboost_locale-mt-s-x64.a libboost_thread-mt-s-x64.a
libboost_log-mt-s-x64.a libboost_timer-mt-s-x64.a
libboost_log_setup-mt-s-x64.a libboost_type_eraser-mt-s-x64.a
libboost_math_c99f-mt-s-x64.a libboost_unit_test_framework-mt-s-x64.a
libboost_math_c99l-mt-s-x64.a libboost_url-mt-s-x64.a
libboost_math_c99-mt-s-x64.a libboost_wave-mt-s-x64.a
libboost_math_tr1f-mt-s-x64.a libboost_wserialization-mt-s-x64.a
root@jelin-virtual-machine:~/Download/temp/install/amd64/lib#

```

```

root@jelin-virtual-machine:~/Download/temp/install/amd64/lib# ls
cmake                                libboost_math_tr1l-mt-s-x64.a
libboost_atomic-mt-sd-x64.a         libboost_math_tr1-mt-sd-x64.a
libboost_atomic-mt-s-x64.a          libboost_math_tr1-mt-s-x64.a
libboost_chrono-mt-sd-x64.a         libboost_nowide-mt-sd-x64.a
libboost_chrono-mt-s-x64.a          libboost_nowide-mt-s-x64.a
libboost_container-mt-sd-x64.a      libboost_prg_exec_monitor-mt-sd-x64.a
libboost_container-mt-s-x64.a        libboost_prg_exec_monitor-mt-s-x64.a
libboost_context-mt-sd-x64.a        libboost_program_options-mt-sd-x64.a
libboost_context-mt-s-x64.a         libboost_program_options-mt-s-x64.a
libboost_contract-mt-sd-x64.a       libboost_random-mt-sd-x64.a
libboost_contract-mt-s-x64.a        libboost_random-mt-s-x64.a
libboost_coroutine-mt-sd-x64.a      libboost_regex-mt-sd-x64.a
libboost_coroutine-mt-s-x64.a       libboost_regex-mt-s-x64.a
libboost_date_time-mt-sd-x64.a      libboost_serialization-mt-sd-x64.a
libboost_date_time-mt-s-x64.a       libboost_serialization-mt-s-x64.a
libboost_exception-mt-sd-x64.a      libboost_stacktrace_addr2line-mt-sd-x64.a
libboost_exception-mt-s-x64.a       libboost_stacktrace_addr2line-mt-s-x64.a
libboost_fiber-mt-sd-x64.a          libboost_stacktrace_backtrace-mt-sd-x64.a
libboost_fiber-mt-s-x64.a           libboost_stacktrace_backtrace-mt-s-x64.a
libboost_filesystem-mt-sd-x64.a     libboost_stacktrace_basic-mt-sd-x64.a
libboost_filesystem-mt-s-x64.a      libboost_stacktrace_basic-mt-s-x64.a
libboost_graph-mt-sd-x64.a          libboost_stacktrace_noop-mt-sd-x64.a
libboost_graph-mt-s-x64.a           libboost_stacktrace_noop-mt-s-x64.a
libboost_iostreams-mt-sd-x64.a      libboost_system-mt-sd-x64.a
libboost_iostreams-mt-s-x64.a       libboost_system-mt-s-x64.a
libboost_test_exec_monitor-mt-sd-x64.a

```

3.5 在 Ubuntu 20.04 下交叉编译 Boost 库

```

root@jelin-virtual-machine:~/Download/temp/boost_1_81_0# aarch64-linux-gnu-gcc --version
aarch64-linux-gnu-gcc (Ubuntu 9.4.0-1ubuntu1~20.04.1) 9.4.0
Copyright (C) 2019 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

root@jelin-virtual-machine:~/Download/temp/boost_1_81_0#

```

□

3.5.1 编译 b2

□

□

3.5.2 编译和安装

□

□

```
# Compiler configuration. This definition will be used unless
# you already have defined some toolsets in your user-config.jam
# file.
if ! gcc in [ feature.values <toolset> ]
{
    using gcc ;
    using gcc : aarch64 : aarch64-linux-gnu-g++ ;
}

project : default-build <toolset>gcc ;

# Python configuration
import python ;
if ! [ python.configured ]
```

□

□


```
root@jelin-virtual-machine:~/Download/temp/install/aarch64/lib# ll
total 3632
drwxr-xr-x 3 root root 4096 Mar 17 01:18 ./
drwxr-xr-x 4 root root 4096 Mar 17 01:18 ../
drwxr-xr-x 7 root root 4096 Mar 17 01:18 cmake/
-rw-r--r-- 1 root root 9864 Mar 17 01:18 libboost_atomic-mt-s-a64.a
-rw-r--r-- 1 root root 97858 Mar 17 01:18 libboost_atomic-mt-sd-a64.a
-rw-r--r-- 1 root root 419366 Mar 17 01:18 libboost_filesystem-mt-s-a64.a
-rw-r--r-- 1 root root 3159268 Mar 17 01:18 libboost_filesystem-mt-sd-a64.a
-rw-r--r-- 1 root root 1484 Mar 17 01:18 libboost_system-mt-s-a64.a
-rw-r--r-- 1 root root 7916 Mar 17 01:18 libboost_system-mt-sd-a64.a
root@jelin-virtual-machine:~/Download/temp/install/aarch64/lib#
```

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4. 总结

□

5. 参考资料

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