

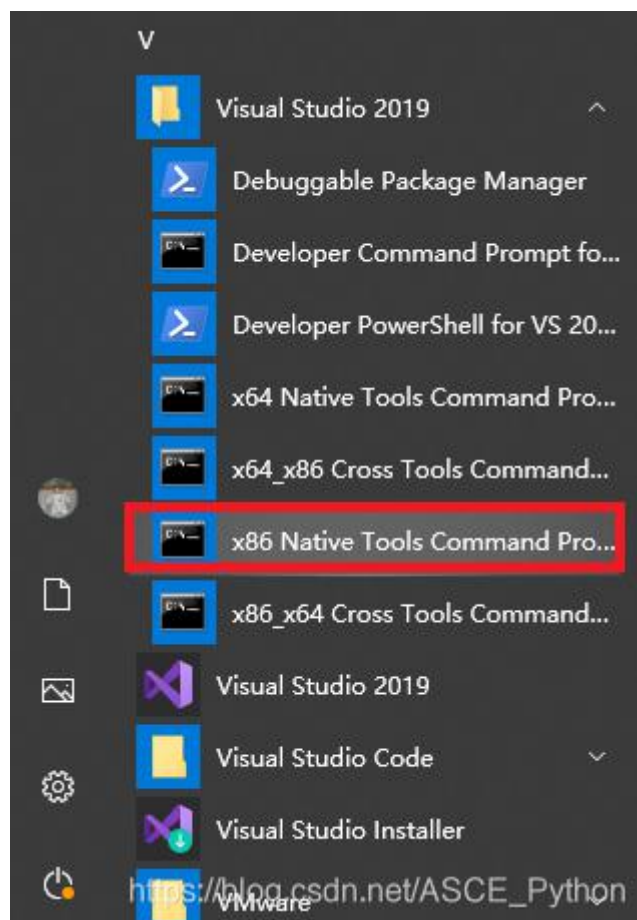
搭建 VS2019+MongoDB 的运行环境

涉及：编译 boost 库，编译 mongo-c-driver，编译 mongo-cxx-driver，
配置 VS.

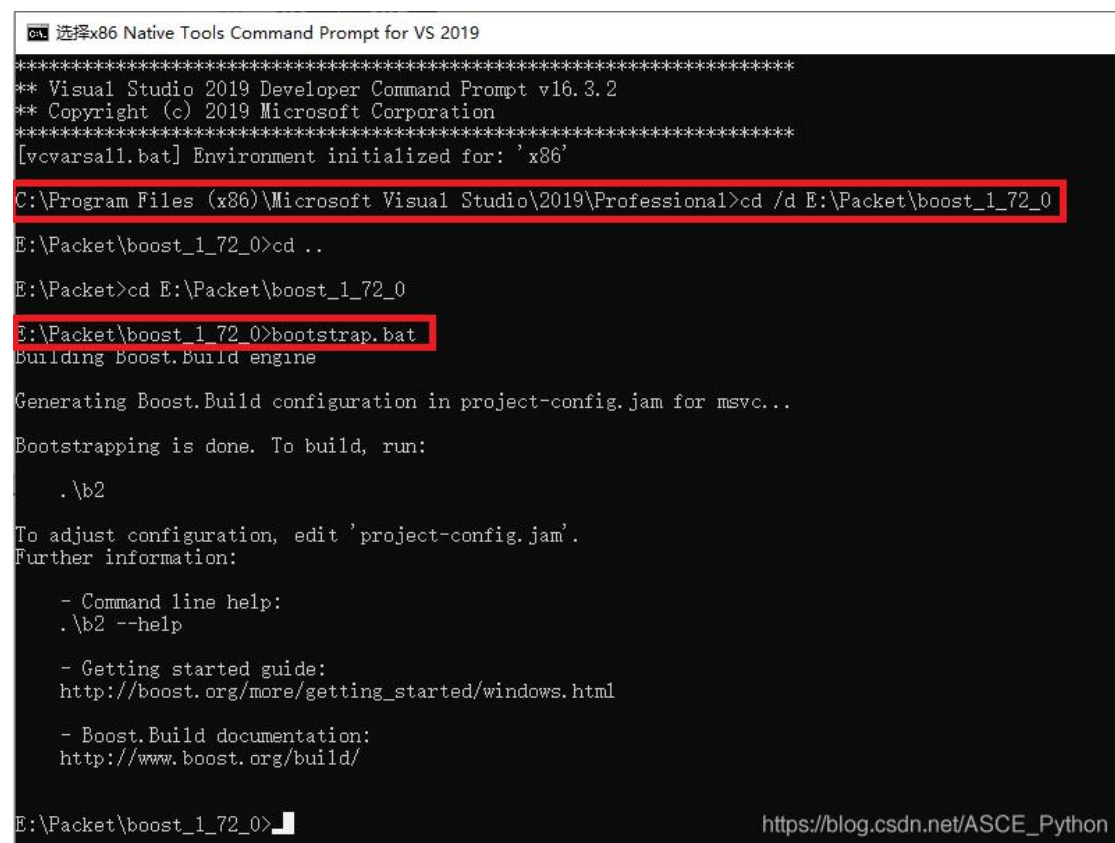
Windows VS2019 编译 Boost 库学习记录

1.下载 boost 库,本人下载的是 boost_1_72_0 版本,
下载完后解压到当前文件夹;

2.打开开始菜单，找到 Visual Studio 2019 文件夹
里 x86 Native Tools Command Prompt 并打开。



3.先切换到 boost 解压后的目录，我这里路径是 E:\Packet\boost_1_72_0，然后再执行 bootstrap.bat，执行完后会在当前目录生成 b2.exe 可执行文件，如下图红色部分。



```
选择x86 Native Tools Command Prompt for VS 2019
*****
** Visual Studio 2019 Developer Command Prompt v16.3.2
** Copyright (c) 2019 Microsoft Corporation
*****
[vcvarsall.bat] Environment initialized for: 'x86'
C:\Program Files (x86)\Microsoft Visual Studio\2019\Professional>cd /d E:\Packet\boost_1_72_0
E:\Packet\boost_1_72_0>cd ..
E:\Packet>cd E:\Packet\boost_1_72_0
E:\Packet\boost_1_72_0>bootstrap.bat
Building Boost.Build engine

Generating Boost.Build configuration in project-config.jam for msvc...
Bootstrapping is done. To build, run:

    .\b2

To adjust configuration, edit 'project-config.jam'.
Further information:

    - Command line help:
      .\b2 --help

    - Getting started guide:
      http://boost.org/more/getting_started/windows.html

    - Boost.Build documentation:
      http://www.boost.org/build/

E:\Packet\boost_1_72_0>
```

4.在命令框继续输入以下内容，开始编译：b2 install --toolset=msvc-14.2 --build-type=complete --prefix= "E:\Packet\boost_1_72_0\compile" link=shared runtime-link=static threading=multi debug release

备注：本人上述编译是编译整个 boost 库，如果只需要编译某个库或者不需要某个库可通过参数 with/without 库名称去实现。

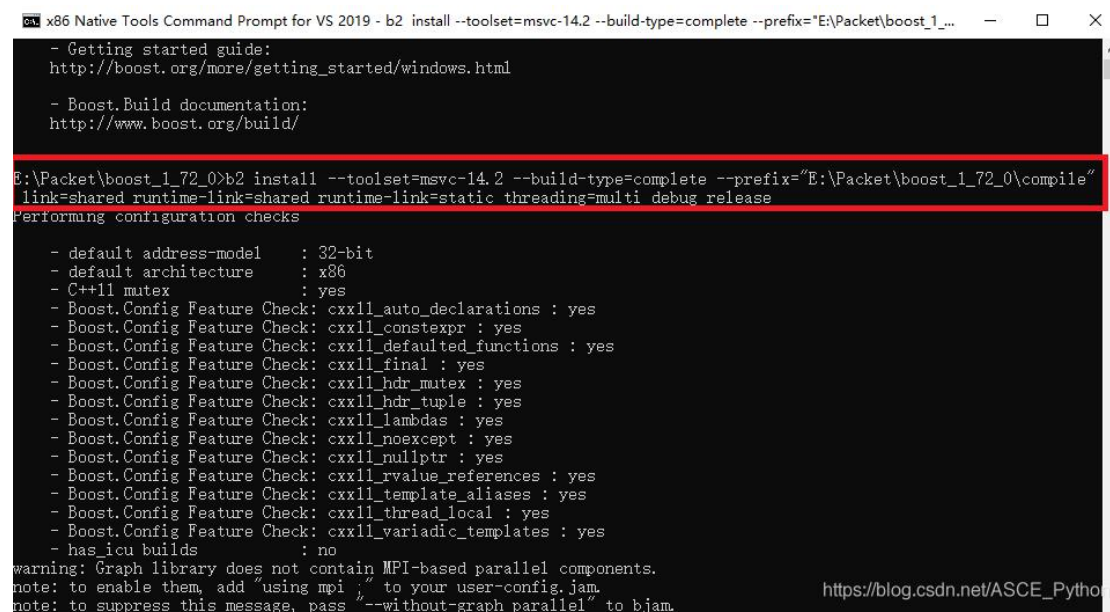
大概介绍下上述编译条件：

install 是安装头文件和库文件，后面的

prefix="E:\Packet\boost_1_72_0\compile" 也是配合 install 参数使用，设定生成的 include 和 lib 路径；include 也可以换 stage，那么只生成 lib 文件。

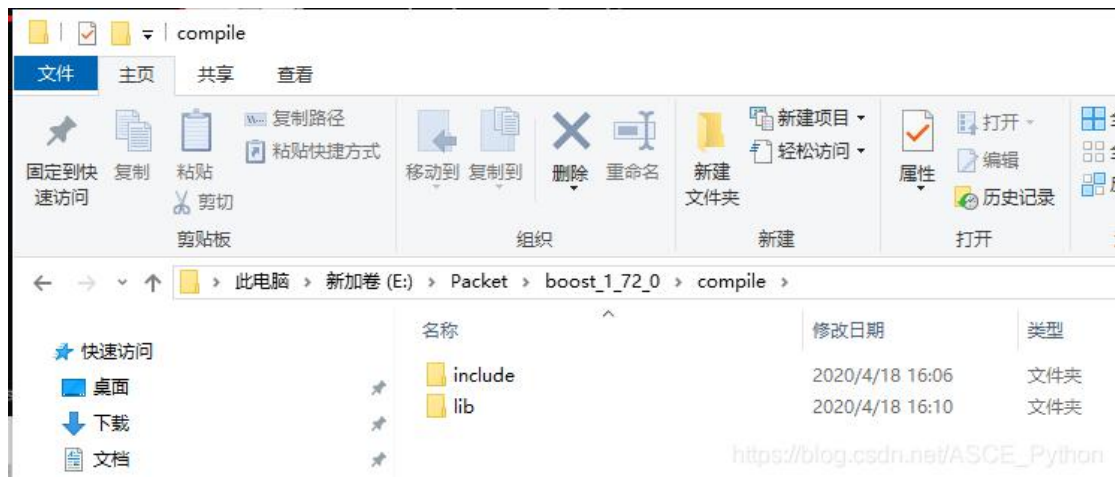
toolset=msvc-14.2 vs2019 对应 msvc 版本为 14.2，不是 16 开头；

上述参数可选也可不设，直接运行 b2.exe；



```
x86 Native Tools Command Prompt for VS 2019 - b2 install --toolset=msvc-14.2 --build-type=complete --prefix='E:\Packet\boost_1_72_0\compile' link=shared runtime-link=shared runtime-link=static threading=multi debug release
- Getting started guide:
  http://boost.org/more/getting_started/windows.html
- Boost.Build documentation:
  http://www.boost.org/build/
E:\Packet\boost_1_72_0>b2 install --toolset=msvc-14.2 --build-type=complete --prefix='E:\Packet\boost_1_72_0\compile' link=shared runtime-link=shared runtime-link=static threading=multi debug release
Performing configuration checks
- default address-model      : 32-bit
- default architecture      : x86
- C++11 mutex                : yes
- Boost.Config Feature Check: cxx11_auto_declarations : yes
- Boost.Config Feature Check: cxx11_constexpr         : yes
- Boost.Config Feature Check: cxx11_defaulted_functions : yes
- Boost.Config Feature Check: cxx11_final             : yes
- Boost.Config Feature Check: cxx11_hdr_mutex         : yes
- Boost.Config Feature Check: cxx11_hdr_tuple         : yes
- Boost.Config Feature Check: cxx11_lambdas           : yes
- Boost.Config Feature Check: cxx11_noexcept          : yes
- Boost.Config Feature Check: cxx11_nullptr           : yes
- Boost.Config Feature Check: cxx11_rvalue_references : yes
- Boost.Config Feature Check: cxx11_template_aliases  : yes
- Boost.Config Feature Check: cxx11_thread_local      : yes
- Boost.Config Feature Check: cxx11_variadic_templates : yes
- has_icu builds             : no
warning: Graph library does not contain MPI-based parallel components.
note: to enable them, add "using mpi" to your user-config.jam.
note: to suppress this message, pass "--without-graph-parallel" to bjam.
```

5.编译完成后在设定的路径下生成 include 和 lib 文件夹，这样只要在使用 boost 库时候只要包含对应的文件即可。








以上，就是整个编译 boost 库过程。

Windows 下 VS2019 编译 MongoDB C++ 驱动

Windows 下 VS2019 编译 MongoDB C++ 驱动

- 编译所需的库和依赖
- 编译成 C++ 驱动

编译所需的库和依赖

 boost_1_74_0	2020/11/9 15:31	WinRAR 压缩文件	91,203 KB
 cmake-3.19.0-rc3-win64-x64	2020/11/9 15:43	Windows Install...	26,632 KB
 mongo-c-driver-1.17.2.tar	2020/11/9 14:58	WinRAR 压缩文件	6,923 KB
 mongo-cxx-driver-r3.6.1.tar	2020/11/9 15:13	WinRAR 压缩文件	1,273 KB
 mongodb-windows-x86_64-4.4.1-signed	2020/11/9 15:05	Windows Install...	221,548 KB

官网手册: <http://mongocxx.org/mongocxx-v3/installation/windows/>

cmake 下载网址: <https://cmake.org/download/>

二进制分布:

平台	档案
Windows win64-x64安装程序: 安装程序工具已更改。首先卸载CMake 3.4或更低版本!	cmake-3.19.0-rc3-win64-x64.msi
Windows Win64-x64 ZIP	cmake-3.19.0-rc3-win64-x64.zip
Windows win32-x86安装程序: 安装程序工具已更改。首先卸载CMake 3.4或更低版本!	cmake-3.19.0-rc3-win32-x86.msi
Windows Win32-x86 ZIP	cmake-3.19.0-rc3-win32-x86.zip
Mac OS X 10.7或更高版本	cmake-3.19.0-rc3-达尔文-x86_64.dmg
	cmake-3.19.0-rc3-达尔文-x86_64.tar.gz
Linux x86_64	cmake-3.19.0-rc3-Linux-x86_64.sh
	cmake-3.19.0-rc3-Linux-x86_64.tar.gz

mongo-c-driver 下载网址:<https://github.com/mongodb/mongo-c-driver/releases>

Links:

- [mongo-c-driver-1.17.2.tar.gz](#)
- [All the issues resolved in 1.17.2](#)
- [Documentation](#)

Thanks to everyone who contributed to this release.

- Roberto C. Sánchez
- Kevin Albertson

Assets 3	
 mongo-c-driver-1.17.2.tar.gz	6.76 MB
 Source code (zip)	
 Source code (tar.gz)	

<https://blog.csdn.net/Python1996>

mongo-cxx-driver 下载网址:

<https://github.com/mongodb/mongo-cxx-driver/releases>

Release Notes - C++ Driver - Version 3.6.1

Bug


- [CXX-2121] - Compilation error with libc++ and C++ 17

Assets 3

 mongo-cxx-driver-r3.6.1.tar.gz	1.24 MB
 Source code (zip)	
 Source code (tar.gz)	

<https://blog.csdn.net/Python1996>

boost 下载网址: <https://www.boost.org/>



...one of the most highly regarded

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 (LTR) 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.

DOWNLOADS

CURRENT RELEASE

- Version 1.74.0
 - [Release Notes](#) | [Download](#) | [Documentation](#)
 - August 14th, 2020 05:02 GMT

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

NEWS

- Version 1.74.0
 - New Libraries: STInterfaces, Updated Libraries: Asio, Atomic, Beast, Bimap, Config, Core, DLL, Endian, Filesystem, Flyweight, Format, Geometry, GIL, Heap, Integer, Iterator, LexicalCast, Log, Mp11, MultiIndex, Nowide, Outcome, PolyCollection, Polygon, SmartPtr, Stacktrace, System, TypeTraits, Variant, Variant2, Wave, YAP.
 - August 14th, 2020 05:02 GMT
- Version 1.73.0
 - New Libraries: Nowide, StaticString, Updated Libraries: Align, Any, Asio, Assert, Atomic, Beast, Context, Conversion, DateTime, DLL, DynamicBitset, Flyweight,

[Release Notes](#) | [Download](#) | [Documentation](#)

<https://blog.csdn.net/Python1996>

DOWNLOADS

Platform	File	SHA256 Hash
unix	boost_1_74_0.tar.bz2	83bfc1507731a0906e387fc28b7ef5417d591429e51e788417fe9ff025e116b1
	boost_1_74_0.tar.gz	aaff36d392885120bcac079148c177d1f6f7730ec3d47233aa51b0afa4db94a5
windows	boost_1_74_0.7z	903fd40074de8dc733d2f0b6b0642e43b714653eae79289b12161b9567fae97
	boost_1_74_0.zip	a0e7ce67c52d816708fdeccdd8c9725626ba61254c13c18770498cacc514710a

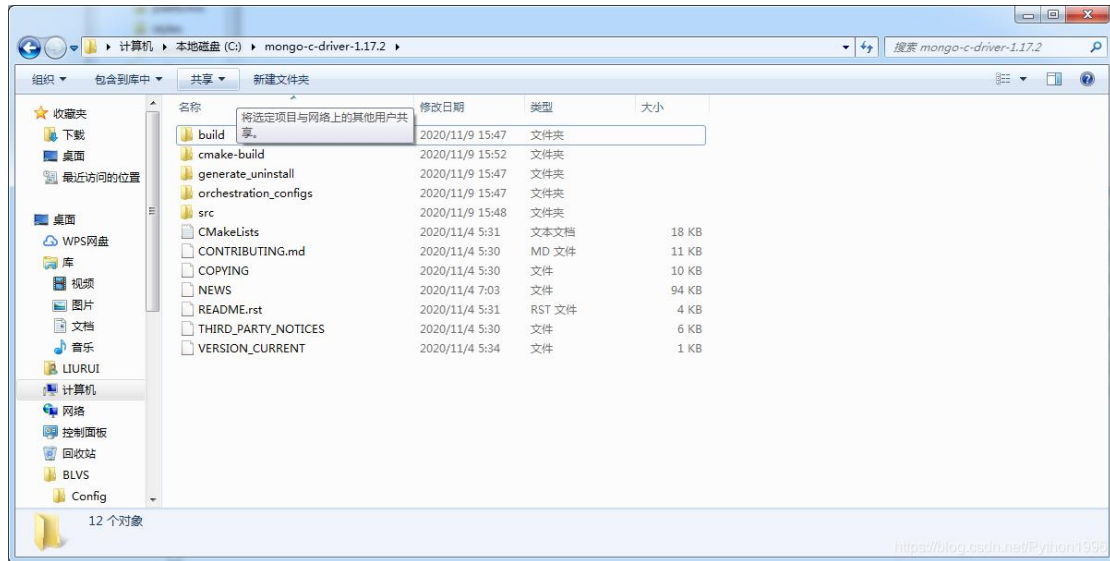
OTHER DOWNLOADS

<https://blog.csdn.net/Python1996>

安装 cmake, 编译 boost (具体步骤请百度), 解压 mongo-cxx-driver、mongo-c-driver

编译成 C++ 驱动

第一步: 编译 mongo-c-driver



点击空白处，然后按住 shift 点击右键，选择“在此处打开命令窗”

然后执行以下命令（创建 **cmake-build** 文件夹，生成的工程文件就在这里面）：

```
Windows PowerShell

PS I:\mongo-c-driver-1.17.2> cd mongo-c-driver-1.17.2\cmake-build
PS I:\mongo-c-driver-1.17.2\cmake-build> cmake -G "Visual Studio 16 2019" "-DCMAKE_INSTALL_PREFIX=I:\mongo-c-driver-1.17.2" ..
-- Selecting Windows SDK version 10.0.18362.0 to target Windows 10.0.17134.
-- The C compiler identification is MSVC 19.28.29333.0
-- Detecting C compiler ABI info
-- Detecting C compiler ABI info - done
-- Check for working C compiler: C:/Program Files (x86)/Microsoft Visual Studio/2019/Community/VC/Tools/MSVC/14.28.29333/bin/Hostx64/x64/cl.exe - skipped
-- Detecting C compile features
-- Detecting C compile features - done
-- No CMAKE_BUILD_TYPE selected, defaulting to RelWithDebInfo
file VERSION_CURRENT contained BUILD_VERSION 1.17.2
-- Build and install static libraries
-- Using bundled libbson
libbson version (from VERSION_CURRENT file): 1.17.2
-- Check if the system is big endian
-- Searching 16 bit integer
-- Looking for sys/types.h
-- Looking for sys/types.h - found
-- Looking for stdint.h
-- Looking for stdint.h - found
-- Looking for stddef.h
-- Looking for stddef.h - found
-- Check size of unsigned short
-- Check size of unsigned short - done
-- Searching 16 bit integer - Using unsigned short
-- Check if the system is big endian - little endian
-- Looking for snprintf
-- Looking for snprintf - found
-- Looking for reallocf
-- Looking for reallocf - not found
-- Performing Test BSON_HAVE_TIMESPEC
-- Performing Test BSON_HAVE_TIMESPEC - Success
-- struct timespec found
-- Looking for gmtime_r
-- Looking for gmtime_r - not found
-- Looking for rand_r
-- Looking for rand_r - not found
-- Looking for strings.h
-- Looking for strings.h - not found
-- Looking for strcpy
-- Looking for strcpy - not found
```

```
mkdir cmake-build
```

```
cd cmake-build
```

配置编译:

```
cmake -G "Visual Studio 16 2019"
```

```
"-DCMAKE_INSTALL_PREFIX=I:\mongo-c-driver-1.17.2"
```

```
"-DCMAKE_PREFIX_PATH=I:\mongo-c-driver-1.17.2"
```

```
-DCMAKE_BUILD_TYPE=Release ...
```

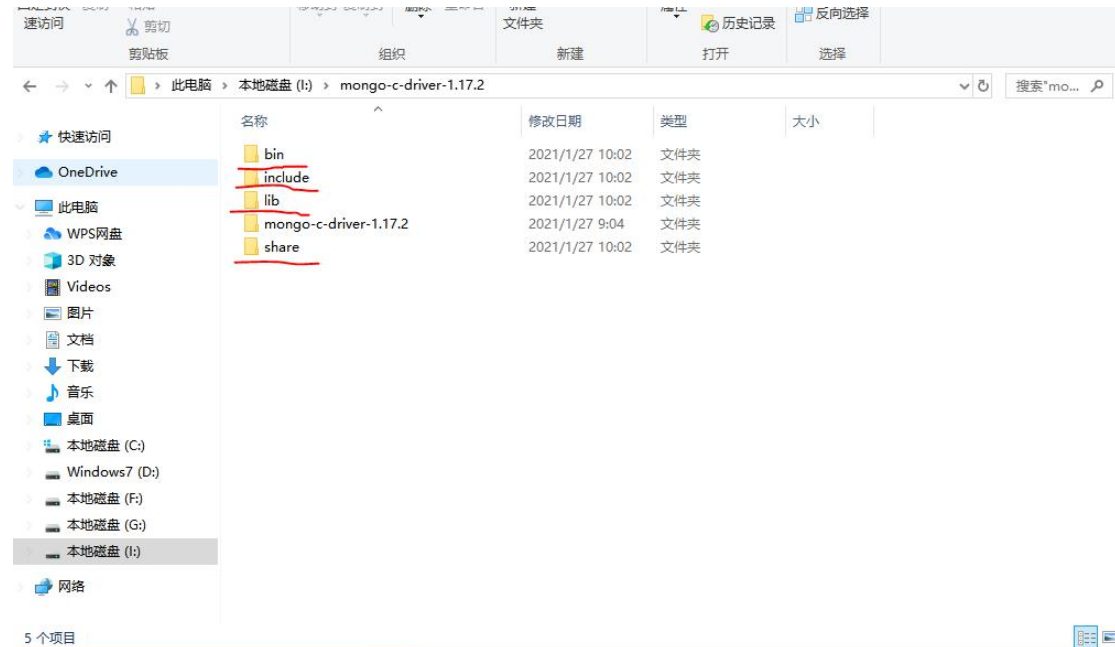
使用 Visual Studio 在 Windows 上构建:

```
cmake --build . --config Release
```

组件将安装到指定的路径 CMAKE_INSTALL_PREFIX:

```
cmake --build . --config Release --target install
```

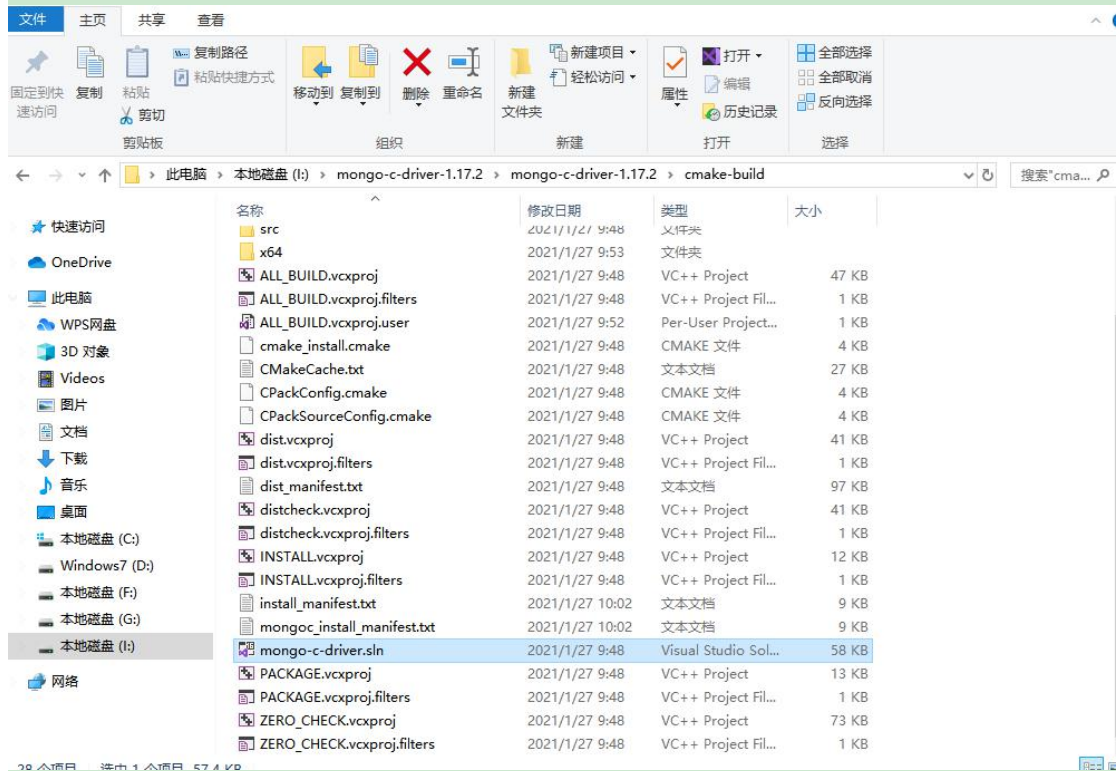
至此, 你在 I:\mongo-c-driver 应该可以看到如下目录:



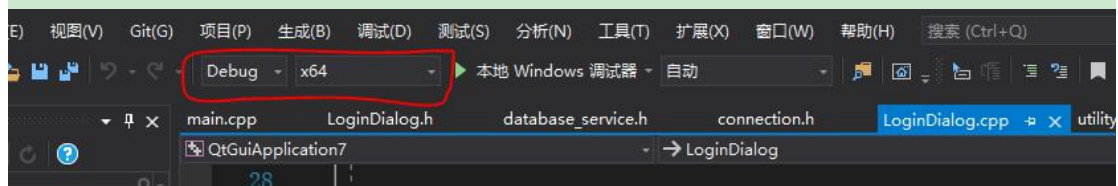
编译:

1) 用 VS2019 打开:

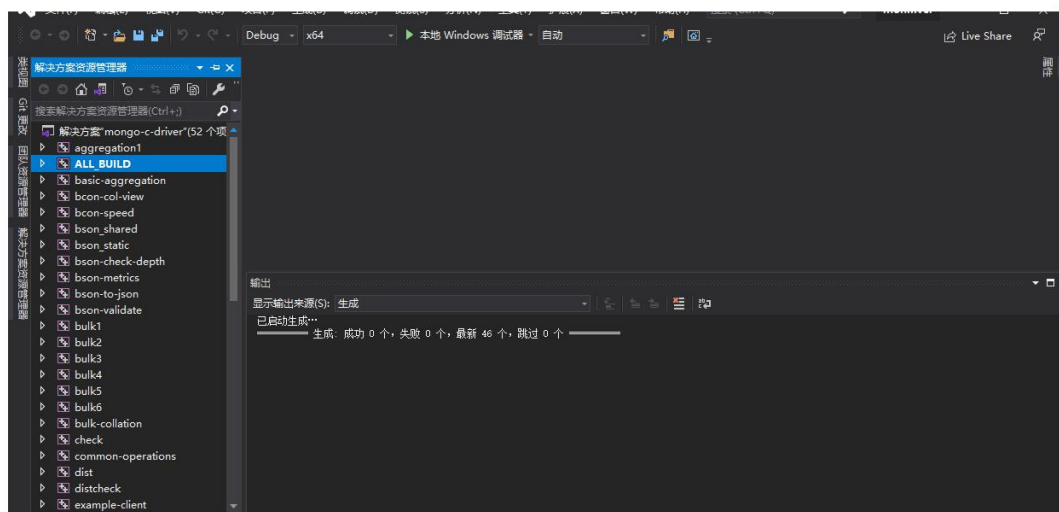
I:\mongo-c-driver-1.17.2\mongo-c-driver-1.17.2\cmake-build\mongo-c-driver.sln



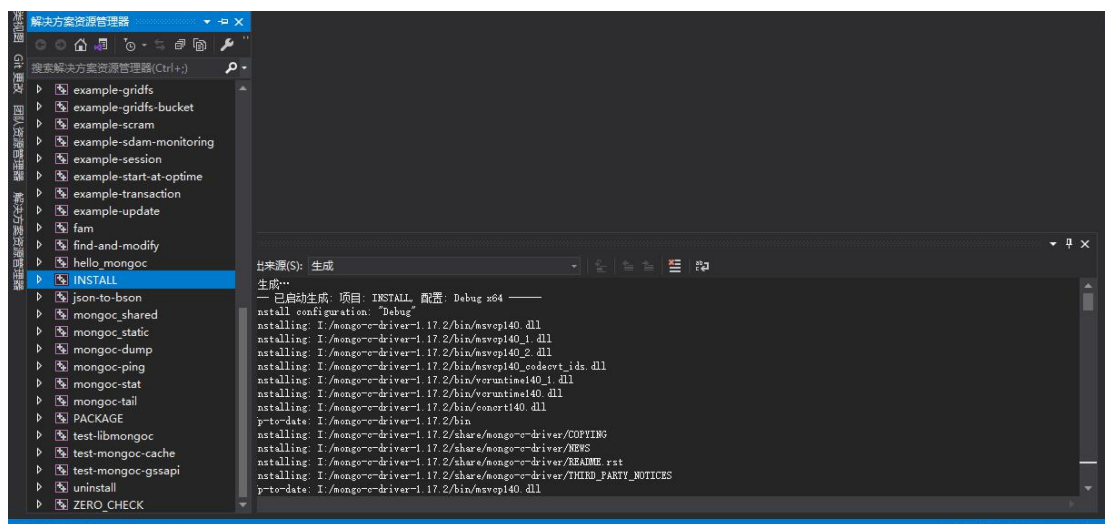
2) 选择 Debug、x64



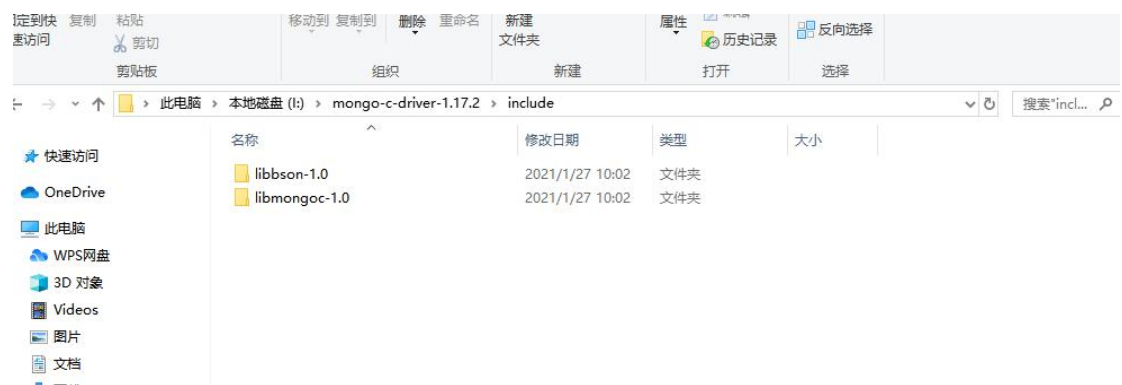
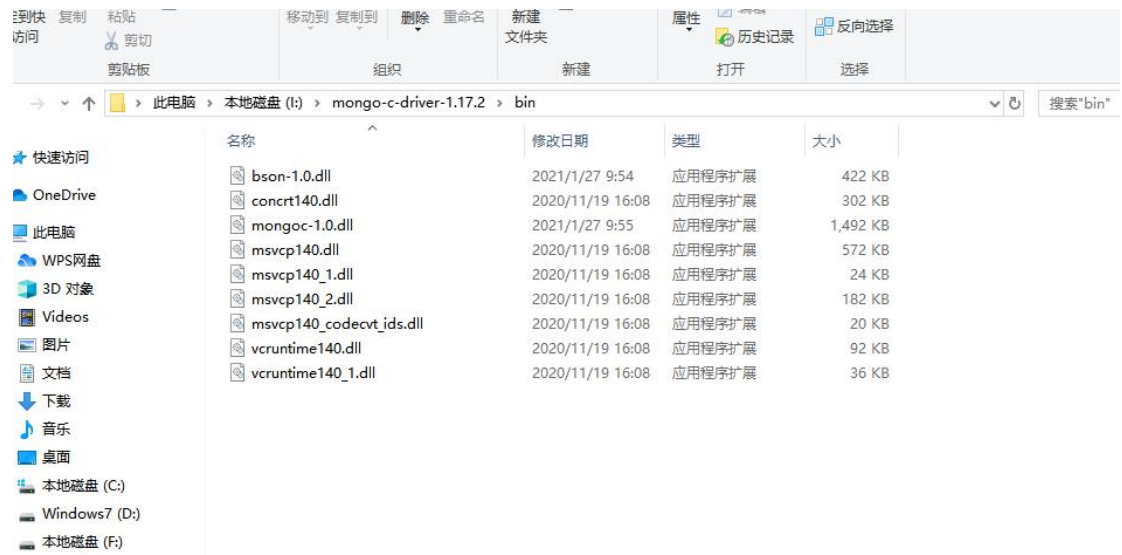
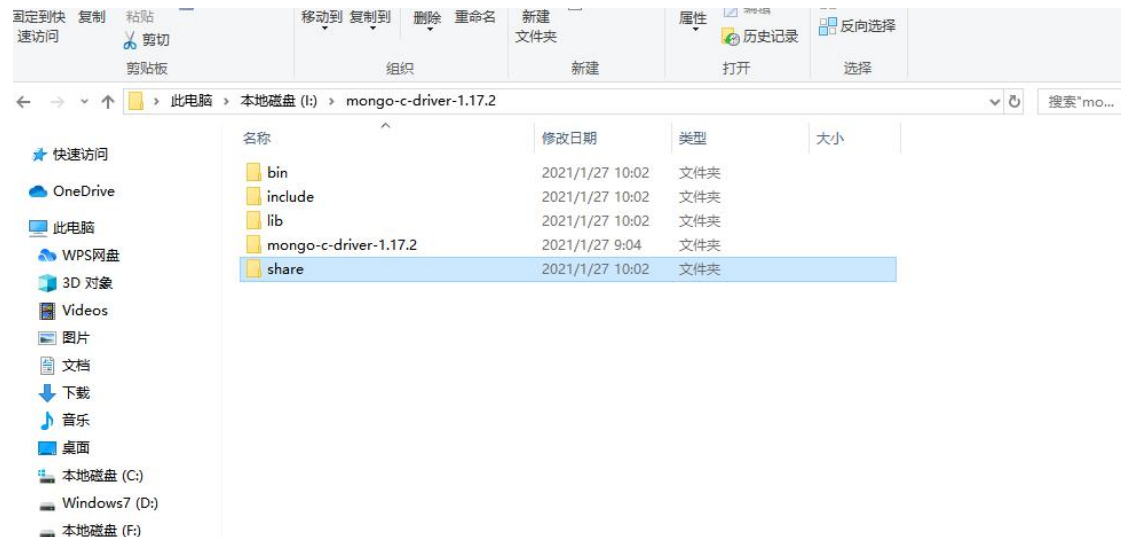
3) 选中工程: ALL_BUILD 点击编译菜单开始编译 ALL_BUILD

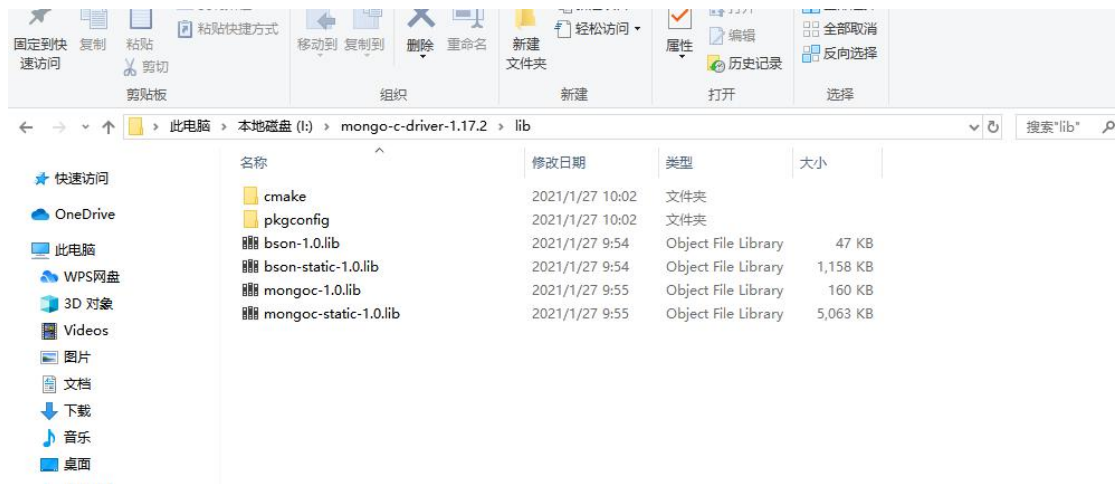


选中工程：INSTALL 点击编译菜单开始编译 INSTALL



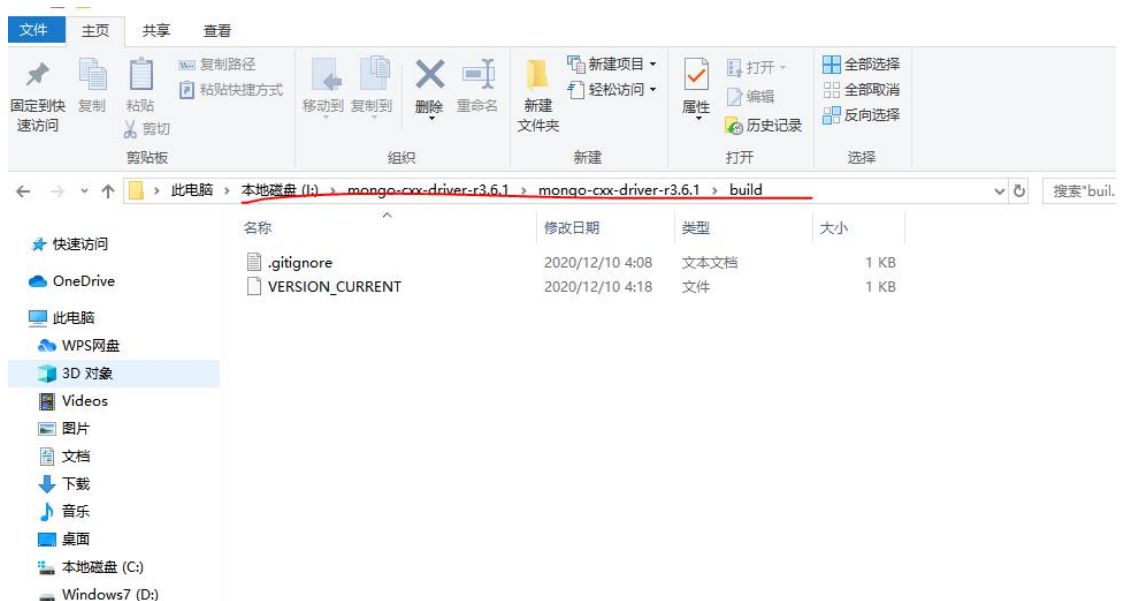
编译完成，生成在 i:\mongo-c-driver-1.17.2 目录下





第二步：编译 mongo-cxx-driver

进入对应的文件



点击空白处，然后按住 shift 点击右键，选择“在此处打开命令窗”

配置编译：

```
Windows PowerShell
PS I:\mongo-cxx-driver-r3.6.1\mongo-cxx-driver-r3.6.1\cmake-build> cmake -G "Visual Studio 16 2019" -DCMAKE_INSTALL_PREFIX=I:\mongo-cxx-driver-r3.6.1 -DCMAKE_PREFIX_PATH=I:\mongo-c-driver-1.17.2 -DBoost_ROOT=I:\boost_1_74_0 ..
-- Selecting Windows SDK version 10.0.18362.0 to target Windows 10.0.17134.
-- The CXX compiler identification is MSVC 19.28.29333.0
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Check for working CXX compiler: C:/Program Files (x86)/Microsoft Visual Studio/2019/Community/VC/Tools/MSVC/14.28.29333/bin/Hostx64/x64/cl.exe - skipped
-- Detecting CXX compile features
-- Detecting CXX compile features - done
-- No build type selected, default is Release
-- The C compiler identification is MSVC 19.28.29333.0
-- Detecting C compiler ABI info
-- Detecting C compiler ABI info - done
-- Check for working C compiler: C:/Program Files (x86)/Microsoft Visual Studio/2019/Community/VC/Tools/MSVC/14.28.29333/bin/Hostx64/x64/cl.exe - skipped
-- Detecting C compile features
-- Detecting C compile features - done
-- Auto-configuring bsoncxx to use boost std library polyfills since C++17 is inactive and compiler is MSVC
bsoncxx version: 3.6.1
found libbson version 1.17.2
-- Found Boost: I:/boost_1_74_0 (found suitable version "1.74.0", minimum required is "1.56.0")
-- Performing Test COMPILER_HAS_DEPRECATED_ATTR
-- Performing Test COMPILER_HAS_DEPRECATED_ATTR - Failed
mongocxx version: 3.6.1
found libmongoc version 1.17.2
-- Looking for C++ include pthread.h
-- Looking for C++ include pthread.h - not found
-- Found Threads: TRUE
-- Build files generated for:
--   build system: Visual Studio 16 2019
--   instance: C:/Program Files (x86)/Microsoft Visual Studio/2019/Community
-- Configuring done
-- Generating done
-- Build files have been written to: I:/mongo-cxx-driver-r3.6.1/mongo-cxx-driver-r3.6.1/cmake-build
PS I:\mongo-cxx-driver-r3.6.1\mongo-cxx-driver-r3.6.1\cmake-build>
```

cmake ... -G "Visual Studio 16 2019" -DBoost_ROOT=I:\boost_1_74_0
-DCMAKE_PREFIX_PATH=I:\mongo-c-driver-1.17.2
-DCMAKE_INSTALL_PREFIX=I:\mongo-cxx-driver-r3.6.1
-DCMAKE_BUILD_TYPE=Release

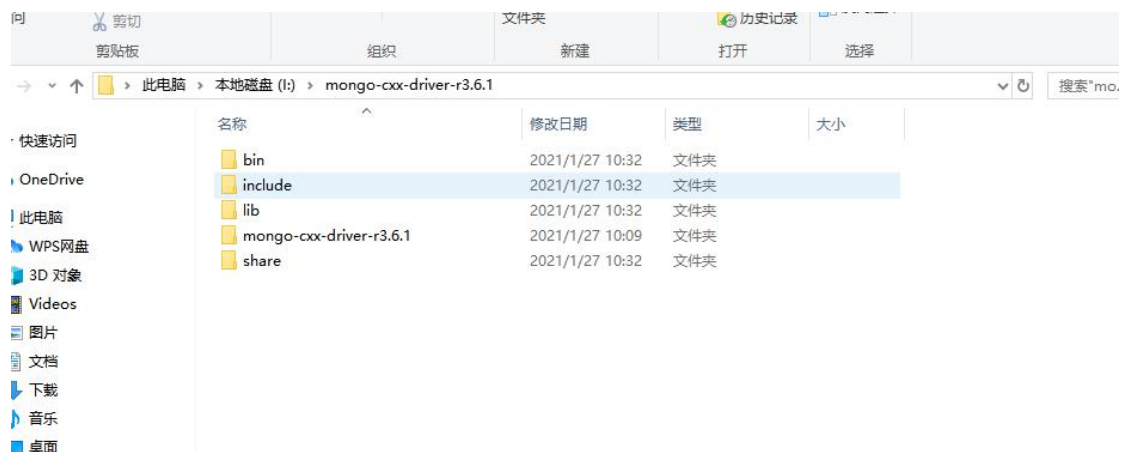
构建并安装驱动程序:

cmake --build . --config Release

组件将安装到指定的路径 CMAKE_INSTALL_PREFIX:

cmake --build . --config Release --target install

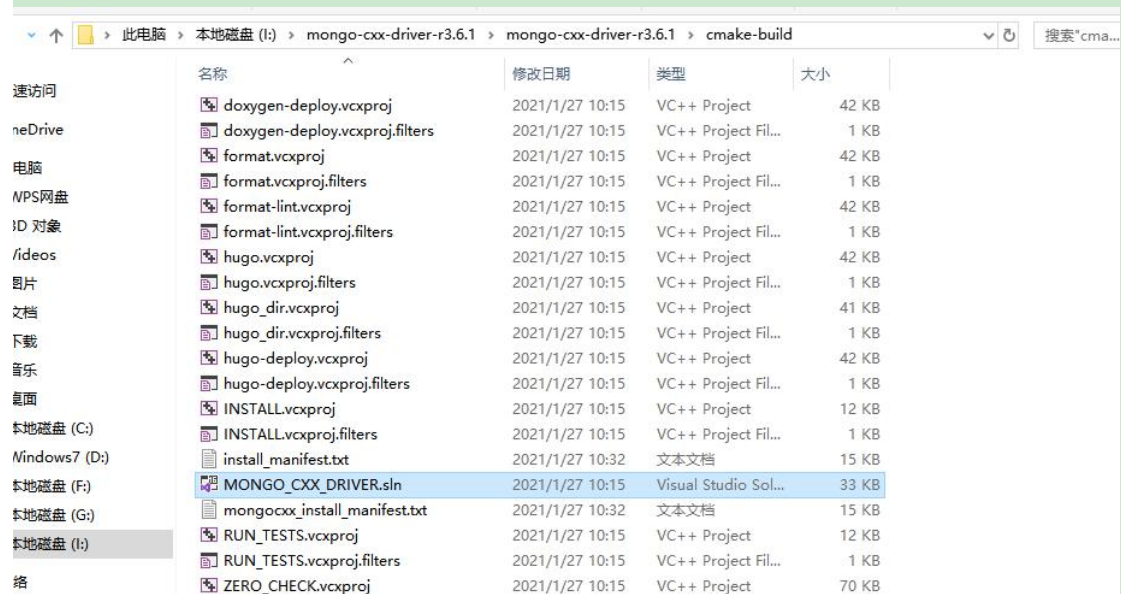
完成后如下图:



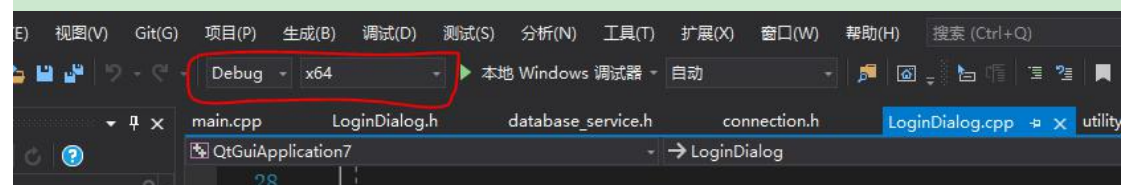
编译：

2) 用 VS2019 打开：

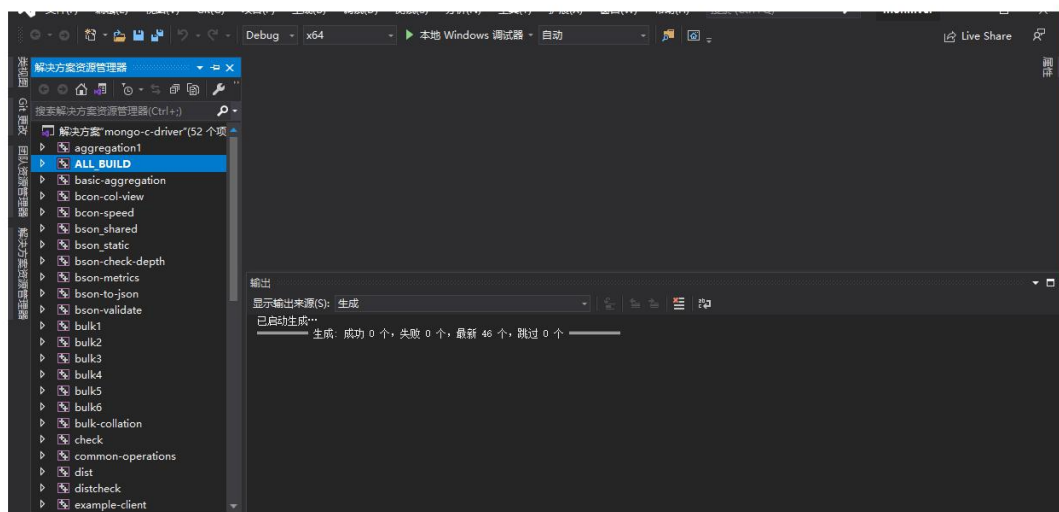
I:\mongo-cxx-driver-r3.6.1\mongo-cxx-driver-r3.6.1\cmake-build\mongo-cxx-driver.sln



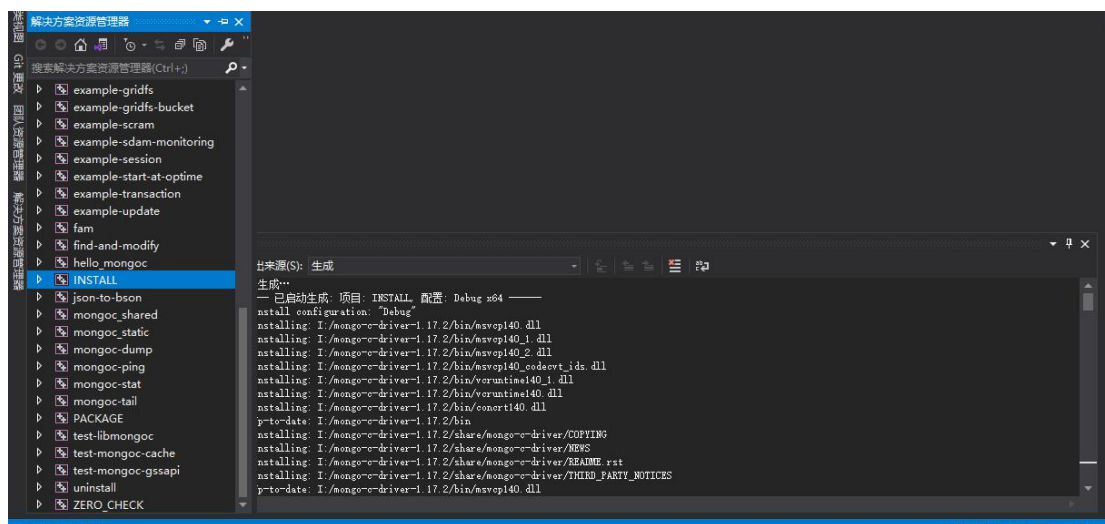
2) 选择 Debug、x64



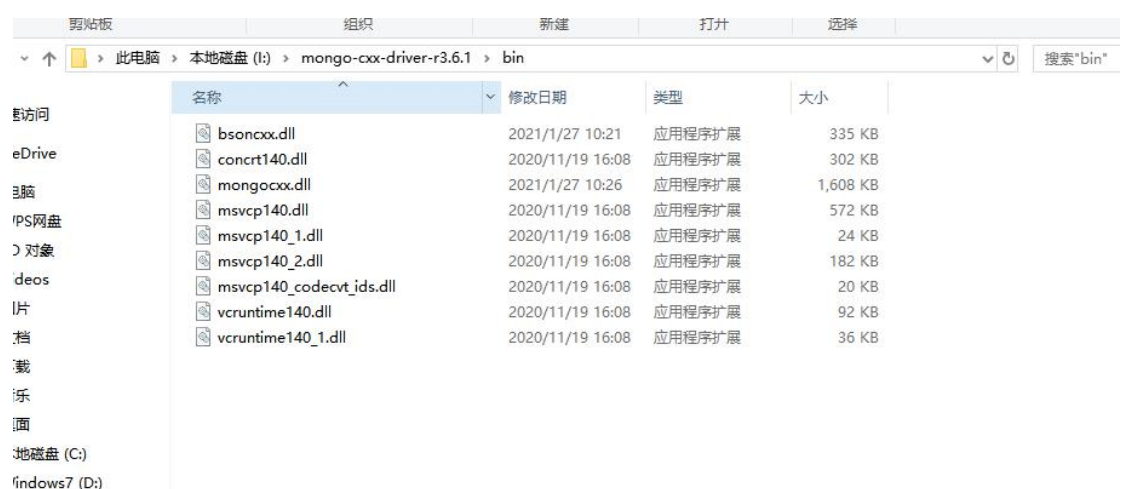
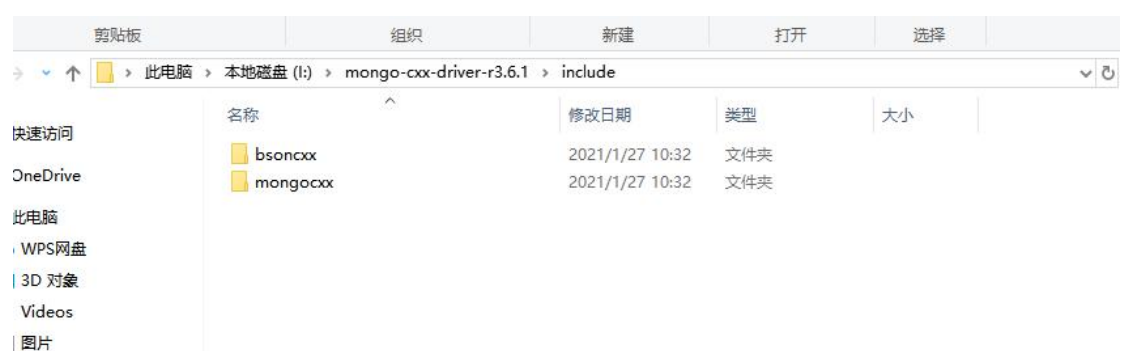
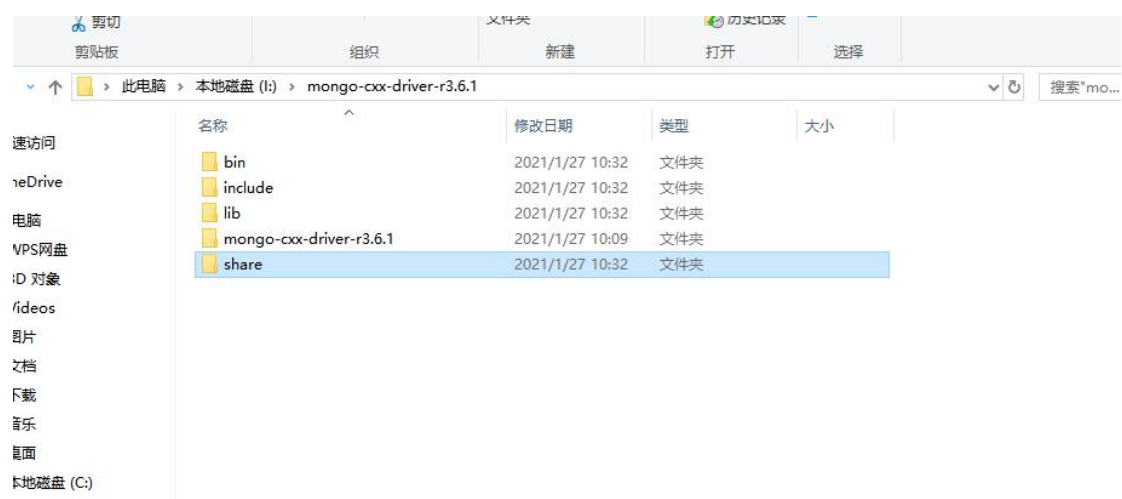
4) 选中工程：ALL_BUILD 点击编译菜单开始编译 ALL_BUILD

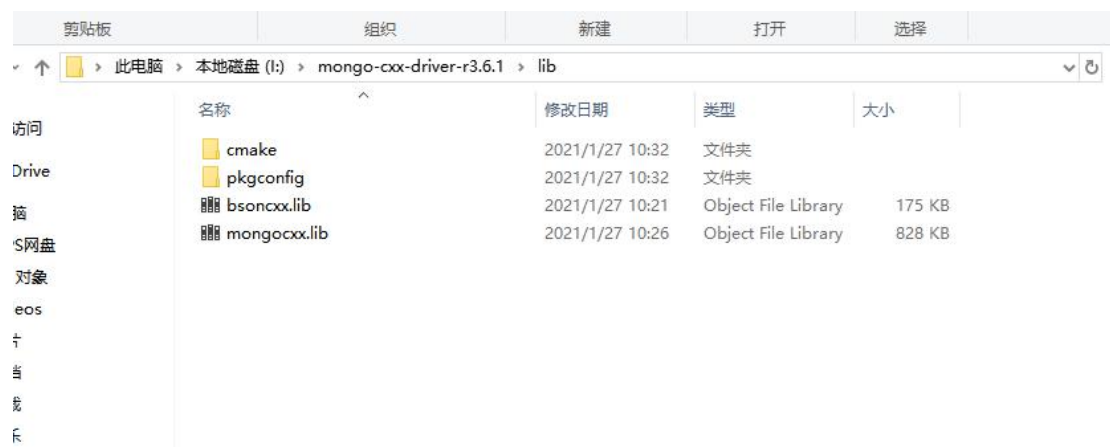


选中工程：INSTALL 点击编译菜单开始编译 INSTALL



编译完成，生成在 i:\mongo-cxx-driver-r3.6.1 目录下

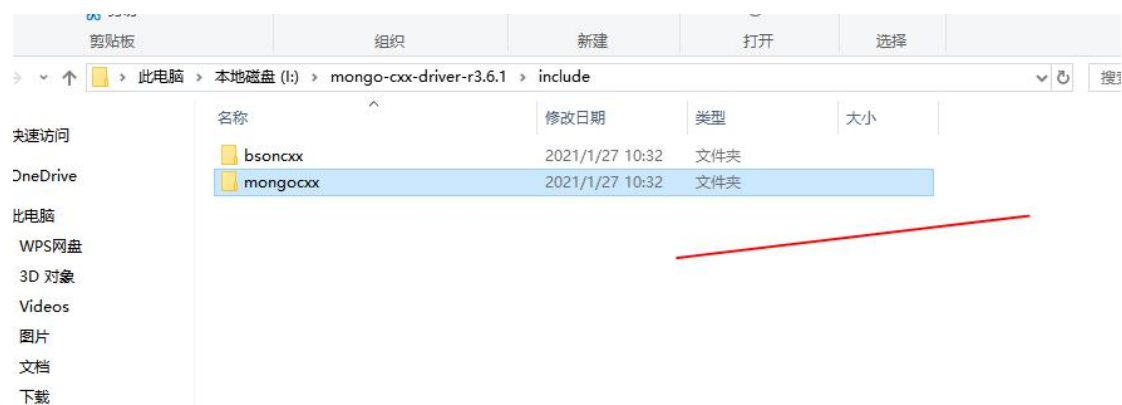


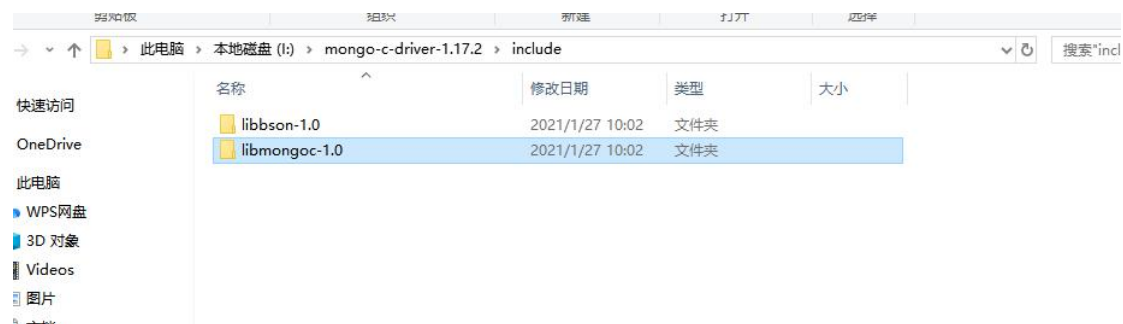


编译完成！VS2019 的配置，后面在写

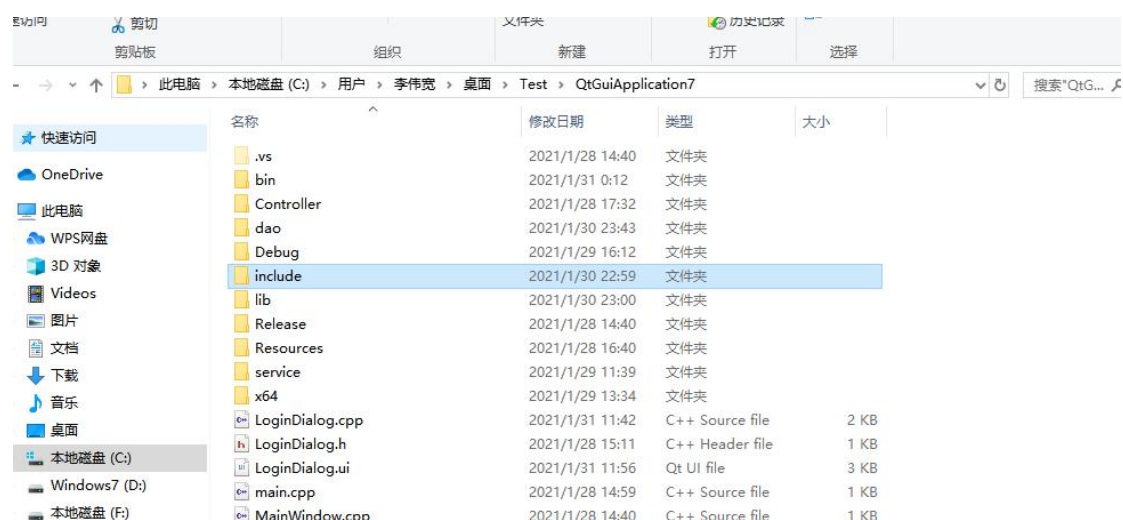
VS2019 的配置

1. 将 mongo-c-driver 和 mongo-cxx-driver 下的 include 合并到一个 include 目录下，并将合并后的 include 放到项目目录下。

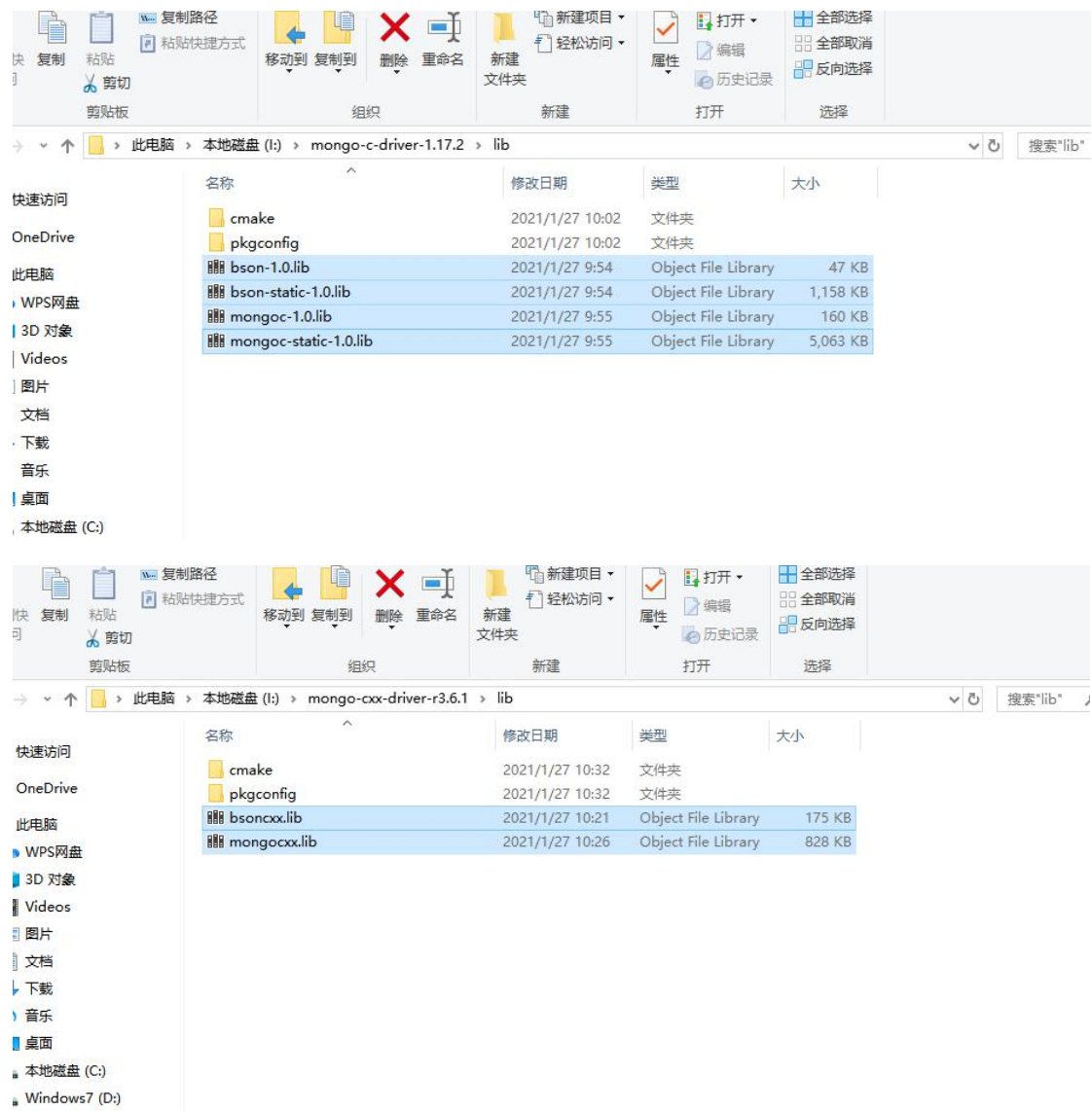




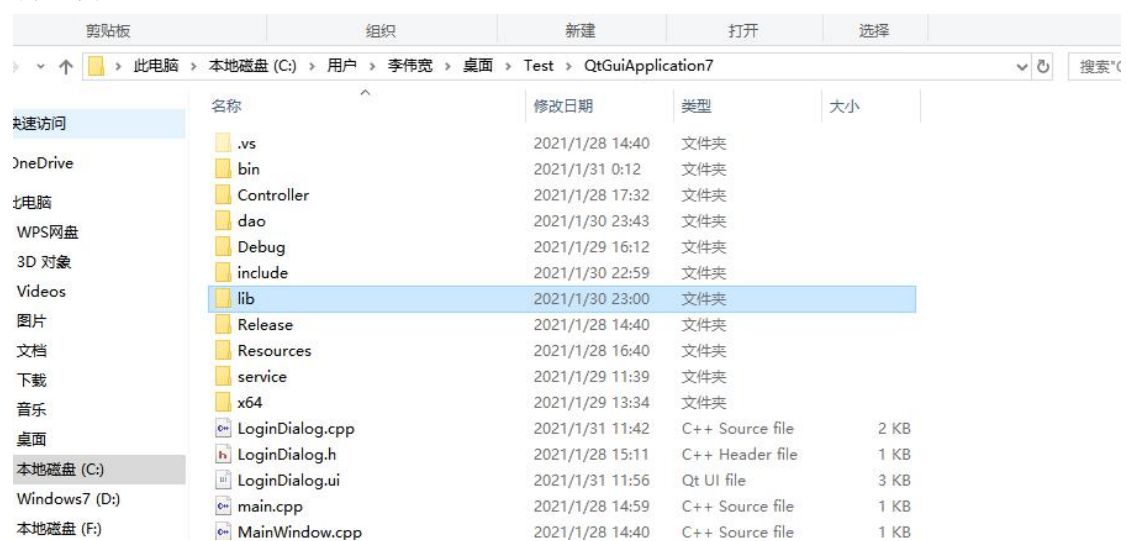
将合并后的 include 放到项目目录下

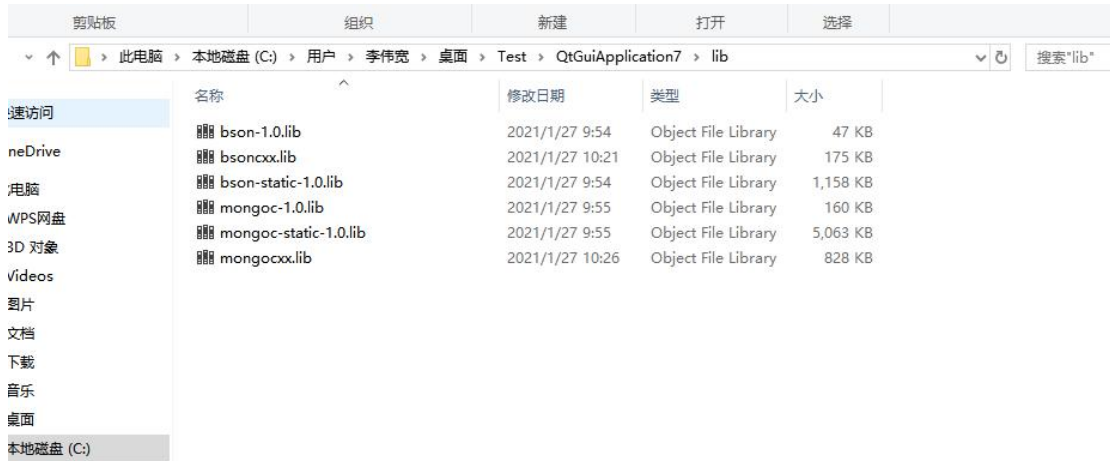


2. 将 mongo-c-driver 和 mongo-cxx-driver 下的 lib 目录下的 lib 静态库文件合并到一个 lib 目录下，并将合并后的 lib 放到项目目录下。



将合并后的 lib 放到项目目录下

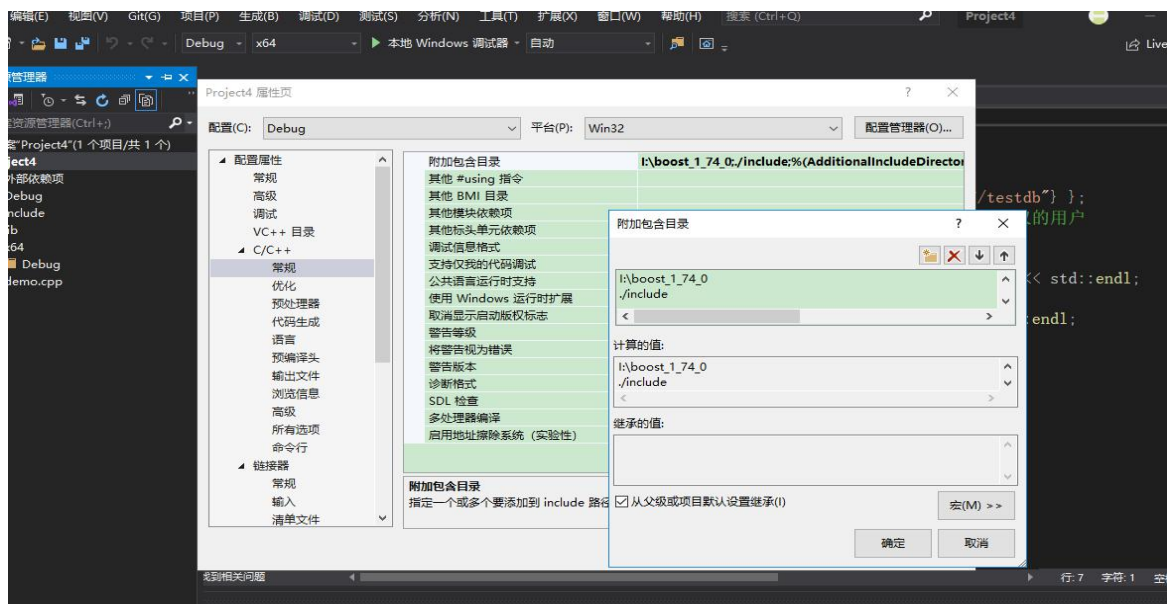




2. 在 VS 中配置项目属性：配置附加包含目录，配置附加库目录，配置附加依赖。

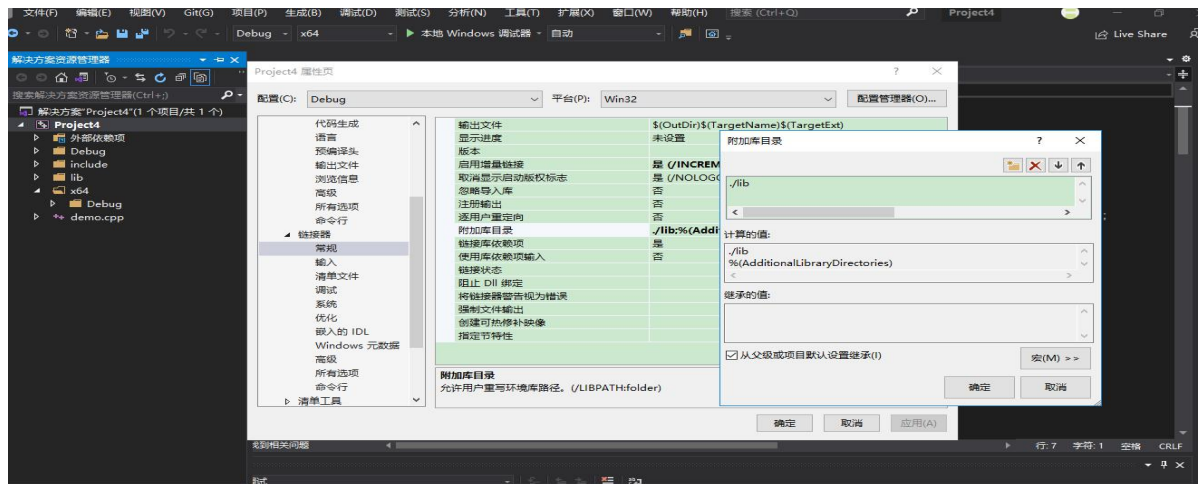
配置附加包含目录：

项目->属性->C/C++->常规->附加包含目录
将 boost 目录和 ./include 包含进去。



配置附加库目录：

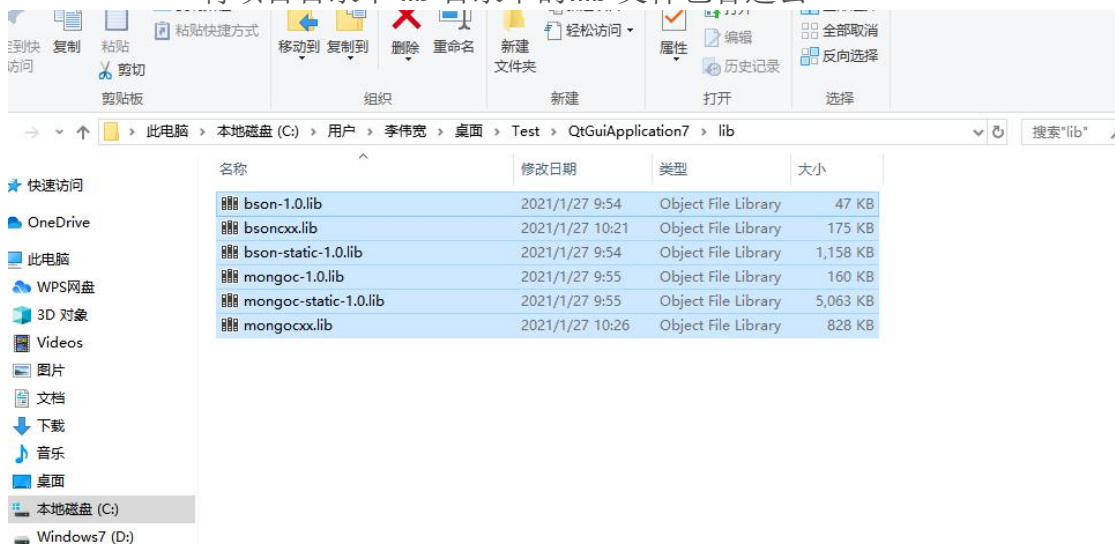
项目->属性->链接器->常规->附加库目录
将 ./lib 包含进去

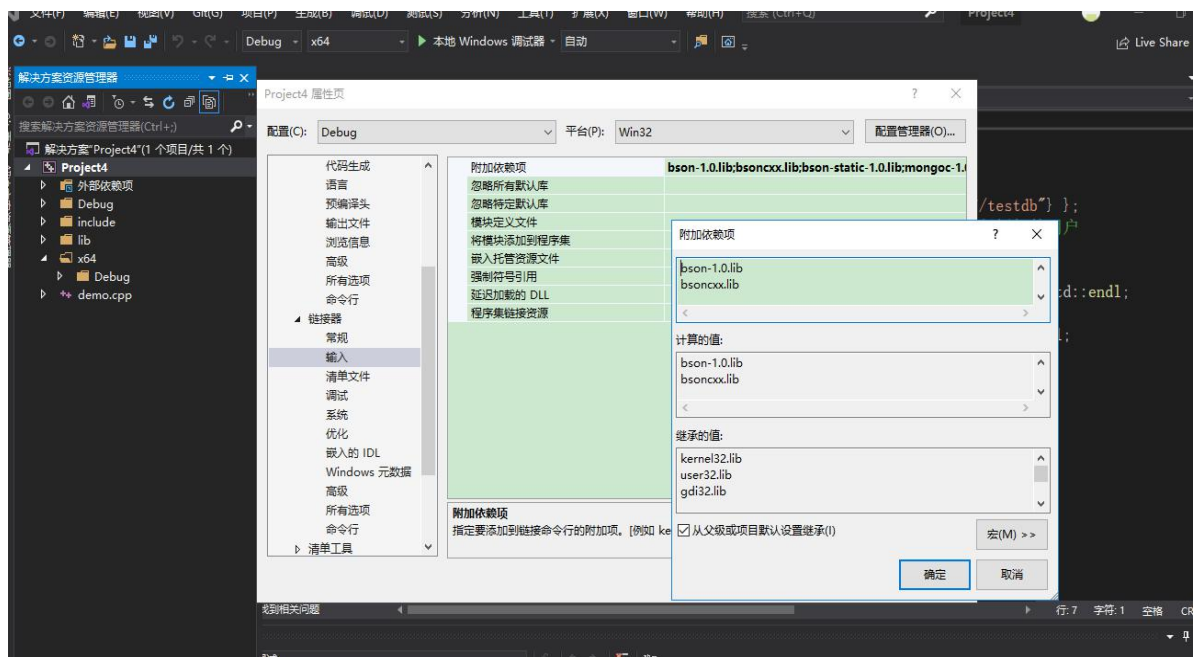


配置附加依赖:

项目->属性->链接器->输入->附加依赖项

将项目目录下 lib 目录下的 .lib 文件包含进去





VS2019+MongoDB 的配置完成！！