[Become a patron](#) or [donate](#) to help me with my bucket list.

Katy's Code

Game, graphics, web and other software development topics

- [Home](#)
- [About](#)
- [Latest Articles](#)
- [Article Index](#)
- [Series](#)

- Software

- Downloads
- Contact

Type text to search here...

> How to statically link the C++ REST SDK (Casablanca)

How to statically link the C++ REST SDK (Casablanca)

April 1, 2014 Leave a comment Go to comments

7 Votes

You are trying to use the C++ REST SDK (Casablanca) in your Windows application. You have one of the following problems:

- you need Windows XP support
- when your code executes you receive a debug assertion: `_pFirstBlock == pHead`
- you get unpredictable behaviour or random crashing
- you need to build an application which links against static libraries

Install Git for Windows

Git is a source code repository management tool which you'll need to access the C++ REST SDK source tree.

Download Git SCM.

Run the installer. Leave all the options at their defaults except on the page where you select what to add to the PATH environment variable. Choose to add the Git executable to your path.

Obtain the source code

Open a command prompt (press Start+R, type cmd and press Enter).

Use cd to navigate to the directory where you want to place the code and mkdir to create a directory to store the code, eg:

```
cd C:\Users\MyUserName\Documents\Visual Studio 2013\Projects
mkdir cpprest
```

Use git to obtain the source tree:

```
git clone https://git01.codeplex.com/casablanca cpprest
```

Replace cpprest with the target directory to store the code.

Open solution in Visual Studio

There are four .sln files. Select the correct one as follows:

- **casablanca110.desktop.sln** – Windows XP / Vista / 7, Visual Studio 2012
- **casablanca110.WinRT.sln** – Windows 8 / Metro, Visual Studio 2012
- **casablanca120.desktop.sln** – Windows XP / Vista / 7, Visual Studio 2013
- **casablanca120.WinRT.sln** – Windows 8 / Metro, Visual Studio 2013

In the Source folder, you will see projects named casablanca1x0 and casablanca1x0.xp. The former is for Windows Vista and Windows 7, the latter is for Windows XP. Right-click on the project you wish to build and choose Properties.

Change from dynamic to static linking

Select *All Configurations* and *All Platforms* from the drop-downs at the top of the Properties dialog.

In *Configuration Properties -> General -> Project Defaults*, change the *Configuration Type* option to **Static library (.lib)**.

In *Configuration Properties -> C/C++ -> Code Generation*, change the *Runtime Library* option to **Multi-threaded Debug (/MTd)** for the *Debug* configuration and **Multi-threaded (/MT)** for the *Release* configuration.

In *Configuration Properties -> C/C++ -> Preprocessor* for *All Configurations*, add the text **_NO_ASYNCRTIMP;** to the *Preprocessor Definitions* option. This prevents the compiler from trying to export the functions to a DLL.

Click OK to save the changes.

Build the project

Right-click the project and choose *Build*. Make sure you do this for each configuration and platform you want to build for.

In the folder you created for the source tree, open *Binaries\Win32\Debug* and rename *cpprest120d_2_0.lib* to *cpprest120_2_0.lib* (remove the 'd'). Note that the library

n
d

P

Close and accept

Open the solution for the application you want to build, right-click on it and choose Properties.

Select *All Configurations* and *All Platforms* from the drop-downs at the top of the Properties dialog.

In *Configuration Properties -> VC++ Directories*, add a new entry in *Include Directories* as follows:

```
C:\PathToCppRESTSDK\Release\include
```

In *Configuration Properties -> VC++ Directories*, add a new entry in *Library Directories* as follows:

```
C:\PathToCppRESTSDK\Binaries\Win32\$(Configuration)
```

In *Configuration Properties -> C/C++ -> Preprocessor*, add the text **_NO_ASYNCRTIMP;** to the *Preprocessor Definitions* option. This prevents the compiler from trying to find the C++ REST SDK functions from a DLL.

In *Configuration Properties -> Linker -> Input*, add *winhttp.lib* and *cpprest120_2_0.lib* (replacing the numbers with the correct Visual Studio and C++ REST SDK version numbers) to the *Additional Dependencies* option.

Build your project.

If all goes well, you should now have a statically linked version of the SDK which is linked in your application with no linker errors.
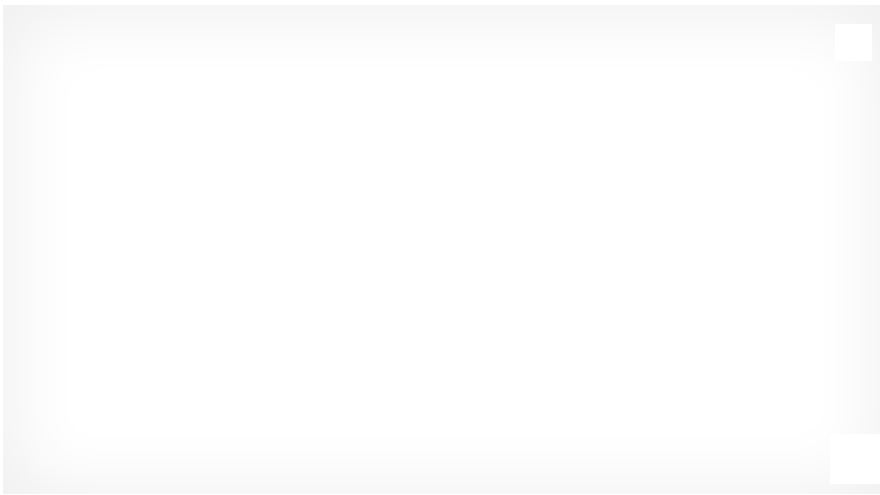
I hope you found this guide useful!

References

[C++ REST SDK – Statically Linked Runtime](#)

[C++ REST SDK – How to setup, build and run tests on Windows](#)

[Git for Windows](#)

Share this:

| Facebook | Twitter | Google | Reddit | Pinterest | More |

Like

Be the first to like this.

Related

LightSwitch for Games Part 4: OData Access from C++ Client Code with the C++ REST SDK
In "LightSwitch"

Installing Simple2D and Compiling your first application
In "Simple2D"

Direct2D 1.1 Migration Guide for Windows 7 Developers
In "DirectX"

Categories: C++, Web Programming, Windows Development Tags: c++ rest sdk, casablanca, rest, static linkage, _pFirstBlock == pHead
Comments (12) Trackbacks (5) Leave a comment Trackback

1.
   fruler
   December 17, 2014 at 19:27
   Reply
           0   0   Rate This

   what about 3-rd parties of casablanca?
   libeay32.dll

Reply
   0   0   Rate This

Use the nt.mak file instead of ntdll.mak.

2.

Homer J. Simpson
December 18, 2014 at 22:12
Reply
   0   0   Rate This

Was having trouble with unresolved errors until I found this article Thanks a bunch.

3.

savita
February 16, 2015 at 15:06
Reply
   0   0   Rate This

Hi,

I followed all the steps.. But while compiling my application i get below errors
around 100 :

Error 1 error LNK2038: mismatch detected for 'RuntimeLibrary': value
'MTd_StaticDebug' doesn't match value 'MDd_DynamicDebug' in
HttpClient_Staticrest.obj

Error 2 error LNK2038: mismatch detected for 'RuntimeLibrary': value
'MTd_StaticDebug' doesn't match value 'MDd_DynamicDebug' in
HttpClient_Staticrest.obj
c:\Users\maplelabs\Desktop\HttpClient_Staticrest\HttpClient_Staticrest\cpprest120_2_4.lib(uri_builder.obj)
HttpClient_Staticrest

Anybody got any idea?

4.

savita
February 16, 2015 at 15:13
Reply
   2   0   Rate This

Hi,
Able to resolve that issue. But i am getting linker error like below:

Error 1 error LNK2019: unresolved external symbol _CryptProtectMemory@12
referenced in function "public: __thiscall
web::details::win32_encryption::win32_encryption(class
std::basic_string<wchar_t,struct std::char_traits,class std::allocator > const &)" (??
0win32_encryption@details@web@@QAE@ABV?$basic_string@_WU?
$char_traits@_W@std@@V?$allocator@_W@2@@std@@@Z)
c:\Users\maplelabs\Desktop\HttpClient_Staticrest\HttpClient_Staticrest\cpprest120_2_4.lib(web_utilities.obj)
HttpClient_Staticrest

Error 2 error LNK2019: unresolved external symbol _CryptUnprotectMemory@12
referenced in function "public: class std::unique_ptr<class
std::basic_string<wchar_t,struct std::char_traits,class std::allocator >,class
web::details::zero_memory_deleter> __thiscall
web::details::win32_encryption::decrypt(void)const " (?
decrypt@win32_encryption@details@web@@QBE?AV?$unique_ptr@V?
$basic_string@_WU?$char_traits@_W@std@@V?
$allocator@_W@2@@std@@Vzero_memory_deleter@details@web@@@std@@XZ)
c:\Users\maplelabs\Desktop\HttpClient_Staticrest\HttpClient_Staticrest\cpprest120_2_4.lib(web_utilities.obj)

Privacy & Cookies: This site uses cookies. By continuing to use this website, you agree to their use.
To find out more, including how to control cookies, see here: Cookie Policy

Close and accept

o

Béla Gyuricza
April 16, 2015 at 15:15
Reply
   4   0   Rate This

You have to add Crypt32.lib, Bcrypt.lib too.

5.

freyatsao
October 6, 2015 at 11:42
Reply
   0   0   Rate This

Hi,
I build cpprestsdk 2.5.0 library under VS2012 with Static library (.lib), Multi-
threaded (/MT) and add the text _NO_ASYNCRTIMP. And I use the library in my
MFC project which adds Crypt32.lib and Bcrypt.lib too. But still had errors like
below:

error LNK2001: unresolved external symbol "public: class
std::basic_string<wchar_t,struct std::char_traits,class std::allocator > __thiscall
web::http::details::http_msg_base::_extract_string(void)" (?
_extract_string@http_msg_base@details@http@web@@QAE?AV?
$basic_string@_WU?$char_traits@_W@std@@V?
$allocator@_W@2@@std@@XZ)

error LNK2001: unresolved external symbol "public: class web::json::value
__thiscall web::http::details::http_msg_base::_extract_json(void)" (?
_extract_json@http_msg_base@details@http@web@@QAE?
AVvalue@json@4@XZ)

error LNK2001: unresolved external symbol "public: virtual void __thiscall
web::http::details::http_msg_base::_complete(unsigned __int64,class
std::exception_ptr)" (?
_complete@http_msg_base@details@http@web@@UAEX_KVexception_ptr@std@@@Z)
error LNK2019: unresolved external symbol "public: __thiscall
web::http::client::http_client::http_client(class web::uri)" (??
0http_client@client@http@web@@QAE@Vuri@3@@Z) referenced in function
__catch$?DoWork@BaseAPI@@QAEXXZ$0

error LNK2019: unresolved external symbol "public: class pplx::task __thiscall
web::http::client::http_client::request(class web::http::http_request,class
pplx::cancellation_token)" (?request@http_client@client@http@web@@QAE?
AV?
$task@Vhttp_response@http@web@@@pplx@@Vhttp_request@34@Vcancellation_token@6@@Z)
referenced in function "public: class pplx::task __thiscall
web::http::client::http_client::request(class std::basic_string<wchar_t,struct
std::char_traits,class std::allocator >,class std::basic_string<wchar_t,struct
std::char_traits,class std::allocator > const &,class std::basic_string<wchar_t,struct
std::char_traits,class std::allocator > const &,class std::basic_string<wchar_t,struct
std::char_traits,class std::allocator >,class pplx::cancellation_token)" (?
request@http_client@client@http@web@@QAE?AV?
$task@Vhttp_response@http@web@@@pplx@@V?$basic_string@_WU?
$char_traits@_W@std@@V?
$allocator@_W@2@@std@@ABV78@10Vcancellation_token@6@@Z)

Does anyone has any ideas? Or what I need to include?
Please give me some suggestions. Thanks a lot!

6.

John Joseph
January 31, 2016 at 19:42

7.

Pedram
January 6, 2017 at 07:00
Reply
0   0   Rate This

Severity Code Description Project File Line Suppression State
Error LNK2019 unresolved external symbol _inflateInit2_ referenced in function
"public: __thiscall
web::http::details::compression::stream_decompressor::stream_decompressor_impl::stream_decompressor_impl(enum
web::http::details::compression::compression_algorithm)" (??
0stream_decompressor_impl@stream_decompressor@compression@details@http@web@@QAE@W4compression_algorithm@2345@@Z)
update_service C:\Users\myname\documents\visual studio
2015\Projects\my_project\my_project\cpprest140_2_9.lib(http_helpers.obj) 1

8.

Alexey
February 5, 2017 at 12:31
Reply
0   0   Rate This

Hello,

Getting these errors:

unresolved external symbol "public: __cdecl
web::details::win32_encryption::~win32_encryption(void)" (??
1win32_encryption@details@web@@QEAA@XZ)

unresolved external symbol "public: __cdecl web::uri::uri(wchar_t const *)" (??
0uri@web@@QEAA@PEB_W@Z)

unresolved external symbol "public: __cdecl
web::websockets::client::details::websocket_client_task_impl::websocket_client_task_impl(class
web::websockets::client::websocket_client_config)" (??
0websocket_client_task_impl@details@client@websockets@web@@QEAA@Vwebsocket_client_config@234@@Z)

Can anyone help?
Thanks.

9.

Oleg Shirokikh
April 7, 2017 at 06:03
Reply
2   0   Rate This

to resolve the linking errors related to "compression" define
CPPREST_EXCLUDE_COMPRESSION when building

10.

www.evernote.com
December 7, 2017 at 23:08
Reply
0   0   Rate This

Greetinmgs from Ohio! I'm bored to death
at work so I decided to chwck out your blog on my iphone
dhring lunch break. I lovee thee information you provide here and can't wait to take
a look when I get home.
I'm amazed at how fast your blog loaded on my
phine .. I'm nnot even uusing WIFI, just 3G .. Anyways, superb blog!

assert) | It's compiling

3. June 10, 2017 at 19:47
   [Using cpprest as a static linked library | richards technotes](#)
4. June 10, 2017 at 19:56
   [Using C++ REST SDK as a static library | richards technotes](#)
5. August 6, 2017 at 08:39
   [Statically linking Casablanca/CPPREST SDK - Blog Xclusive News](#)

Share your thoughts! Note: to post source code, enclose it in [code lang=...] [/code] tags. Valid values for 'lang' are cpp, csharp, xml, javascript, php etc. To post compiler errors or other text that is best read monospaced, use 'text' as the value for lang.

Enter your comment here...

[LightSwitch for Games Part 4: OData Access from C++ Client Code with the C++ REST SDK](#) [Simple2D 1.13 now available](#)
[RSS feed](#)

[Twitter](#)

Katy got her first computer at age 3 and learned to read, write and code at the same time. She still can't read a map, though.

I'm a software developer with very limited work capacity due to having the debilitating illness M.E. - please read my article [Dying with M.E. as a Software Developer](#) and [become a site patron](#) or [donate](#) if you'd like to help me out.
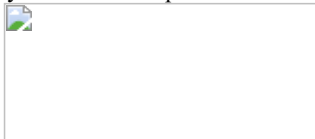
Recent Posts

- [Change to Twitter account](#)
- [The Future of my Blog: I'm Still Alive](#)
- [LightSwitch for Games Part 4: OData Access from C++ Client Code with the C++ REST SDK](#)
- How to statically link the C++ REST

- [2D Platform Games Part 12: A Framework for Interactive Game Objects](#)

Top Posts & Pages

- [C++11: Using std::unique_ptr as a class member: initialization, move semantics and custom deleters](#)
- [Printing numbers in binary format in C++](#)
- [Tutorial: How To Fix WMI Corruption](#)
- [2D Platform Games Part 1: Collision Detection for Dummies](#)
- [Coding Challenge: Write Asteroids in 10 hours or less](#)
- [C++ Explained: Object initialization and assignment, lvalues and rvalues, copy and move semantics and the copy-and-swap idiom](#)
- [Introduction to Multi-Threaded, Multi-Core and Parallel Programming concepts](#)
- [C# DirectX API Face-off: SlimDX vs SharpDX - Which should you choose?](#)
- [XInput Tutorial Part 1: Adding gamepad support to your Windows game](#)
- [How to statically link the C++ REST SDK (Casablanca)](#)

Categories

- [Blog Updates](#) (10)
- [Bluetooth](#) (2)
- [Filesystems](#) (3)
  - [NTFS](#) (3)
- [IT Industry](#) (3)
- [Learning To Code](#) (2)
- [Media](#) (5)
- [Operating Systems](#) (15)
  - [Linux](#) (1)
  - [Symbian OS](#) (1)
  - [Windows](#) (9)
  - [Windows Azure](#) (4)
- [Programming](#) (67)
  - [AJAX](#) (1)
  - [Audio](#) (8)
    - [FMOD](#) (6)
    - [Winamp](#) (2)
  - [C#](#) (1)
  - [C++](#) (8)
  - [DirectX](#) (4)
  - [Excel](#) (1)
  - [Game Development Walkthroughs](#) (23)
  - [JavaScript](#) (1)
  - [LightSwitch](#) (4)
  - [Parallel Programming](#) (3)
  - [PHP](#) (4)
  - [Visual Basic](#) (1)
  - [Web Programming](#) (7)
  - [Windows Development](#) (6)
  - [XSL](#) (5)
- [Science](#) (5)
  - [About The Universe](#) (3)
  - [Particle Physics](#) (2)
- [Software](#) (18)
  - [Blog & Opinion](#) (9)

- Game Reviews (25)
- Satire (Mature Content) (23)

Archives

Top
Blog at WordPress.com.