

Building OpenCV for RTX64

README

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README for Building OpenCV for RTX64

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Building OpenCV under RTX64

IntervalZero provides the latest modified OpenCV version for RTX64 Vision on GitHub at <https://github.com/IntervalZero/opencv> in the *3.4-Rtx64Vision* branch.

For information on OpenCV usage, visit <https://opencv.org/license/>.

NOTE: You only need to rebuild OpenCV if you wish to make changes to the source code provided.

TO ACCESS THE RTX64 VISION OPENCV BRANCH:

IntervalZero provides the latest modified OpenCV version for RTX64 Vision on GitHub.

1. Open a Web browser and go to <https://github.com/IntervalZero/opencv>
2. Download the **3.4 RTX64Vision** branch
3. Extract the zipped files to the desired location.

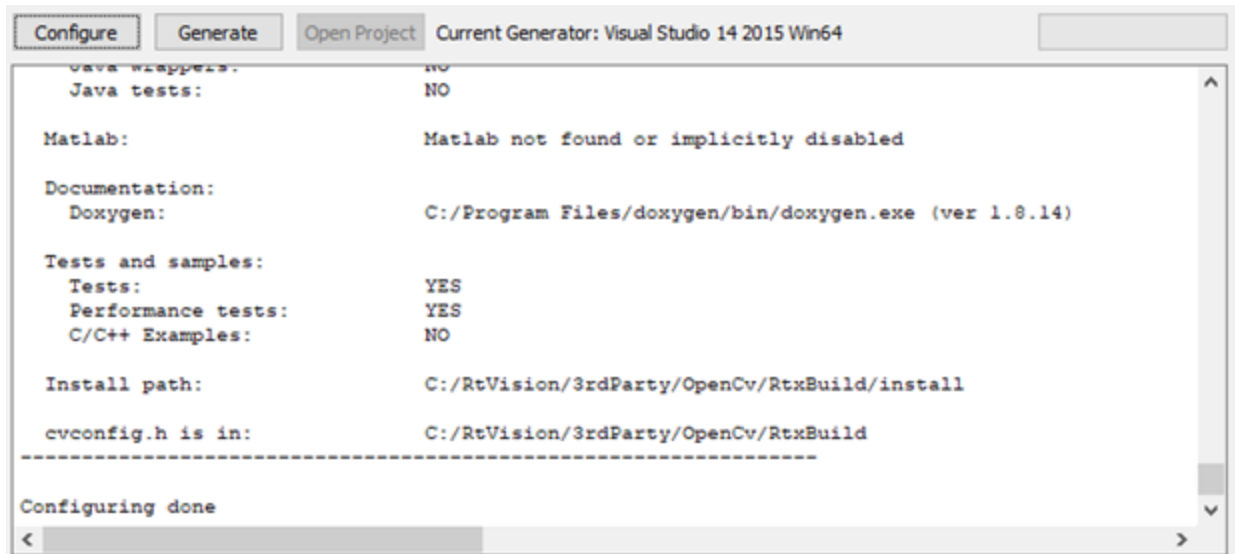
For information on OpenCV usage, visit <https://opencv.org/license/>.

TO BUILD OPENCV UNDER RTX64:

1. Open the CMake user interface.
2. Set **Source Directory** to the location of the extracted OpenCV files from above (`\<opencv-3.4-Rtx64Vision>\`).
3. Set **Destination Directory** to the `RtxBuild` folder in the location of the extracted OpenCV files from above (`\<opencv-3.4-Rtx64Vision>\`).
4. Click **Configure**. You should end up with output similar to what is shown below:
5. Select the CMake compiler to use:
 - Visual Studio 15 2017 (Win64 or x64)
 - Visual Studio 14 2015 (Win64 or x64)
6. Do the following:
 - a. Select *Specify toolchain file for cross-compiling* and then click **Next**.

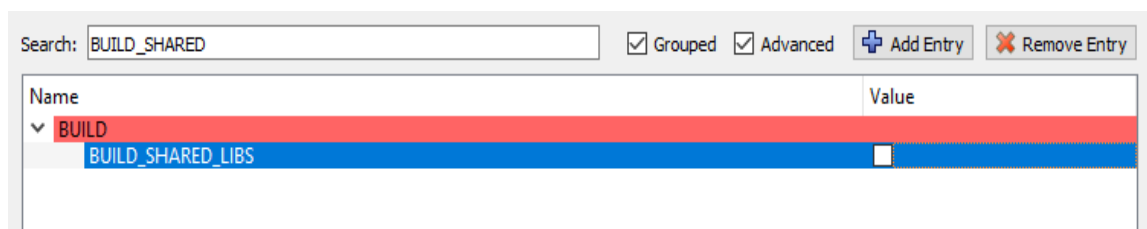
- b. Click **Browse** (...) and navigate to `\RtVision\3rdParty\OpenCV_3.4.6\platforms\rtx64\rtx64.toolchain.cmake`.
- c. Click **Finish**.

You should end up with output similar to what is shown below:

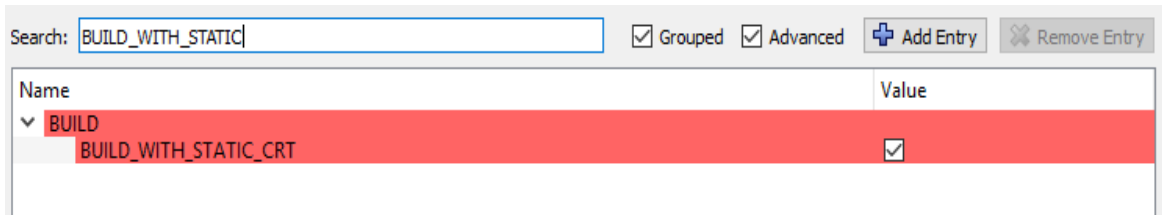


NOTE: An error will appear if one of the tools required to build OpenCV is not found. If the RtxBuild directory does not yet exist, you will be asked to create one.

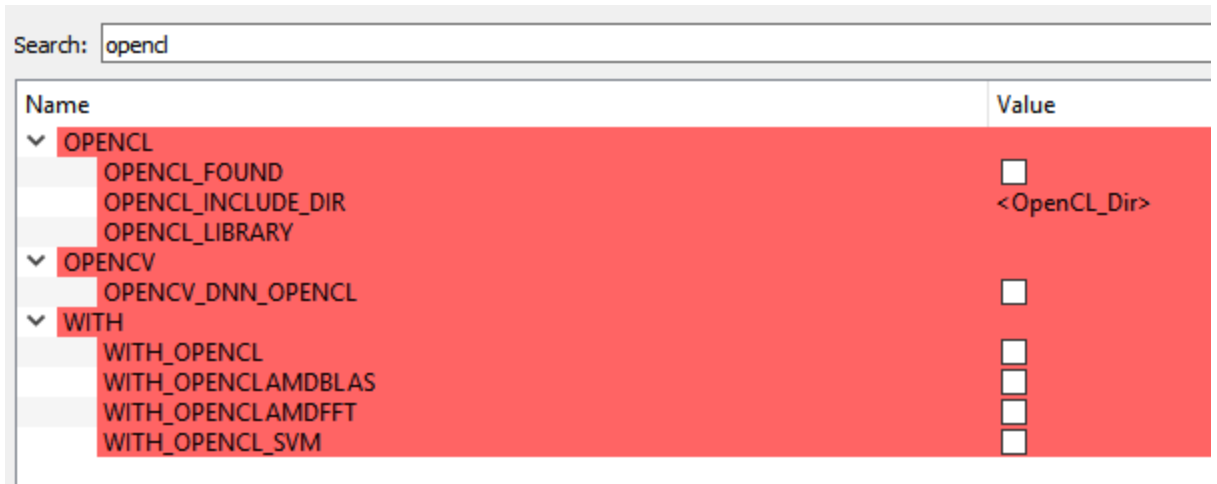
7. Do the following:
 - a. Select both the **Grouped** and **Advanced** checkboxes.
 - b. Search for `RTX64` and then enable **WITH_RTX64_GIGE**.
 - c. Search for `BUILD_SHARED` and disable **BUILD_SHARED_LIBS**. The resulting output should appear as shown below:



- d. Search for `BUILD_WITH_STATIC` and make sure **BUILD_WITH_STATIC_CRT** is enabled. The resulting output should appear as shown below:



- e. Search for *OPENCL* and make sure all **OPENCL** settings are disabled. The resulting output should appear as shown below:



- f. Open the **WITH** section, and disable all settings except for:

- WITH_IPP
- WITH_PROTOBUF
- WITH_RTX64_GIGE

- g. Search for and disable BUILD_IPP_IW

- h. Search for *CMAKE_C* and then add */DUNDER_RTSS* to **CMAKE_CXX_FLAGS** and **CMAKE_C_FLAGS**.

- i. Remove */DWIN32 /D_WINDOWS* for **CMAKE_CXX_FLAGS** and **CMAKE_C_FLAGS**. The resulting output should appear as shown below:

Search: cmake_c

Name	Value
▼ CMAKE	
CMAKE_CONFIGURATION_TYPES	Debug;Release
CMAKE_CXX_FLAGS	/DUNDER_RTSS /W3 /GR /EHsc
CMAKE_CXX_FLAGS_DEBUG	/MDd /Zi /Ob0 /Od /RTC1
CMAKE_CXX_FLAGS_MINSIZEREL	/MD /O1 /Ob1 /DNDEBUG
CMAKE_CXX_FLAGS_RELEASE	/MD /O2 /Ob2 /DNDEBUG
CMAKE_CXX_FLAGS_RELWITHDEBINFO	/MD /Zi /O2 /Ob1 /DNDEBUG
CMAKE_CXX_STANDARD_LIBRARIES	
CMAKE_C_FLAGS	/DUNDER_RTSS /W3
CMAKE_C_FLAGS_DEBUG	/MDd /Zi /Ob0 /Od /RTC1
CMAKE_C_FLAGS_MINSIZEREL	/MD /O1 /Ob1 /DNDEBUG
CMAKE_C_FLAGS_RELEASE	/MD /O2 /Ob2 /DNDEBUG
CMAKE_C_FLAGS_RELWITHDEBINFO	/MD /Zi /O2 /Ob1 /DNDEBUG
CMAKE_C_STANDARD_LIBRARIES	

j. Search for and disable **CV_TRACE**. The resulting output should appear as shown below:

Search: CV_TRACE Grouped Advanced

Name	Value
▼ CV	
CV_TRACE	<input type="checkbox"/>

8. Close Visual Studio if it is open.

9. Click **Generate**. The output should appear as shown below.

```

Configure  Generate  Open Project  Current Generator: Visual Studio 14 2015 Win64
-----
Matlab: NO
Documentation:
Doxygen: C:/Program Files/doxygen/bin/doxygen.exe (ver 1.8.14)
Tests and samples:
Tests: YES
Performance tests: YES
C/C++ Examples: NO
Install path: C:/RtVision/3rdParty/OpenCv/RtxBuild/install
cvconfig.h is in: C:/RtVision/3rdParty/OpenCv/RtxBuild
-----
Configuring done
Generating done

```

10. Click **Open Project** to open the OpenCV project in Visual Studio.

Getting Support

IntervalZero offers a number of support options for RTX64 users, including technical support and the IntervalZero Website.

Third-Party Support

If you are a customer who purchased an IntervalZero product through a third-party reseller, contact the reseller for support.

Contacting Technical Support by Phone

Location	Number	Hours
United States	1-781-996-4481 At the prompt, press 3 for Support.	Monday - Friday, 8:30 a.m. – 5:30 p.m. US Eastern Time (GMT-500), excluding holidays.
R.O.C. Taiwan	+ 886-2-2556-8117	Monday - Friday, 9:00 a.m. – 5:00 p.m. Taipei Standard Time (GMT+8), excluding holidays.

Before Calling Technical Support

Your Support ID

Customers who purchase direct support receive an e-mail address and password for use when accessing the IntervalZero support Website.

The Version Number of Your RTX64 Software

Before calling technical support, determine the version of RTX64 Vision installed on your system.

IntervalZero Website

The IntervalZero Customer Support Web page is located at:

<http://www.intervalzero.com/technical-support/>

With a valid e-mail address and password, you can access the online problem report database to submit new issues or to obtain the status of previously reported issues.