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use OpenCV with Clion IDE on Windows

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5

I'm actually looking for a way to create apps with OpenCV with Clion from JetBrains.

I've installed OpenCV with Choco, so I have all the stuff in C:\opencv

this is my projet with Clion

CMakeLists.txt:

```
cmake_minimum_required(VERSION 3.3)
project(test)

set(CMAKE_CXX_FLAGS "${CMAKE_CXX_FLAGS} -std=c++11")
include_directories("C:\\opencv\\build\\include\\")

FIND_PACKAGE( OpenCV REQUIRED core highgui imgproc)
set(OpenCV_FOUND TRUE)

set(SOURCE_FILES main.cpp)
add_executable(prog ${SOURCE_FILES})
```

and the main.cpp:

```
#include <opencv2/opencv.hpp>

int main() {

    cv::Mat img = cv::imread("./test.jpg", -1);
    cv::imshow("Mon image", img);
    cv::waitKey(0);
    return 0;
}
```

and the response to build is :

```
undefined reference to `cv::imread(cv::String const&, int)'
```

and undefined errors for all OpenCV functions

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edited Apr 1 '16 at 17:12 isvforall 6,206 ●3 ●17 ●37

asked Mar 14 '16 at 10:12 miton18 63 ●1 ●1 ●6

have you set your environmental variables? What compiler are you using? You're not linking your executeable against the OpenCV_LIBS – daB0bby Apr 1 '16 at 16:37

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1 Answer

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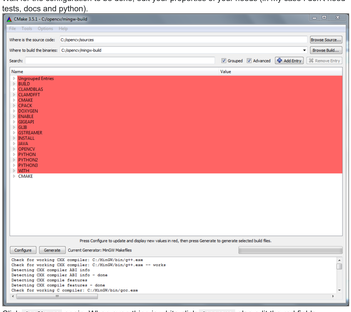
I can tell you, how I did this on Windows.

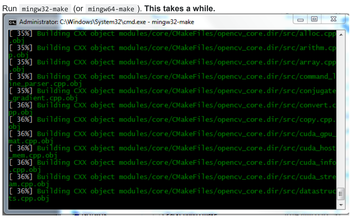
First of all, you need MinGW and CMake.

1. Download the OpenCV source files. Link
2. Unpack to `C:\opencv` (or a folder of your choice)
3. Open `CMake` and select source (directory of **2.**) and build for example `C:\opencv\mingw-build`
4. Click `Configure` and select `MinGW Makefiles`. (If you experience problems, ensure that the minGW/bin directory is added to the evironment path labelled, 'PATH')
5. Wait for the configuration to be done, edit your properties of your needs (in my case I don't need tests, docs and python).



Click `Configure` again. When everything is white click `Generate` else edit the red fields.

6. open `cmd` and dir to build directory of **3.**
7. Run `mingw32-make` (or `mingw64-make`). **This takes a while.**



8. Once it is done, run `mingw32-make install` (or `mingw64-make install`).
   This creates an install folder, where everything you need for building your own OpenCV apps is included.
9. To system `PATH` add `C:\opencv\mingw-build\install\x86\mingw\bin`
   Restart your PC.
10. Set up CLion:
    - You need to download FindOpenCV.cmake and add it to `project-root/cmake/`.

CMakeLists.txt:

```
project(test)
set(CMAKE_CXX_FLAGS "${CMAKE_CXX_FLAGS} -std=c++11")

# where to find CMake modules and OpenCV
set(OpenCV_DIR "C:\\opencv\\mingw-build\\install")
set(CMAKE_MODULE_PATH ${CMAKE_MODULE_PATH} "${CMAKE_SOURCE_DIR}/cmake/")

find_package(OpenCV REQUIRED)
include_directories(${OpenCV_INCLUDE_DIRS})

add_executable(test_cv main.cpp)

# add libs you need
set(OpenCV_LIBS opencv_core opencv_imgproc opencv_highgui opencv_imgcodecs)

# linking
target_link_libraries(test_cv ${OpenCV_LIBS})
```

main.cpp:

```
#include <opencv2/core/core.hpp>
#include <opencv2/highgui/highgui.hpp>
#include <iostream>

int main(int argc, char** argv)
{
    if(argc != 2)
    {
        std::cout << "Usage: display_image ImageToLoadAndDisplay" << std::endl;
        return -1;
    }

    cv::Mat frame;
    frame = cv::imread(argv[1], IMREAD_COLOR); // Read the file

    if(!frame) // Check for invalid input
    {
        std::cout << "Could not open or find the frame" << std::endl;
        return -1;
    }

    cv::namedWindow("Window", WINDOW_AUTOSIZE); // Create a window for display.
    cv::imshow("Window", frame); // Show our image inside it.

    cv::waitKey(0); // Wait for a keystroke in the window
    return 0;
}
```

Build and run `main.cpp`.

All Paths depends on the setup you make in **2.** and **3.** You can change them if you like.

I hope this helps.

share edit

edited Apr 13 '17 at 14:03 Sergei Basharov 17.4k ●41 ●133 ●240

answered Apr 5 '16 at 9:43 daB0bby 540 ●11 ●24

4 Above you state, "You need to download FindOpenCV.cmake and add it to project-root/cmake/." In my case, I needed to add FindOpenCV.cmake to CLion's CMake installation directory, which in my case was at `C:\Program Files (x86)\JetBrains\CLion 2016.2.1\bin\cmake\share\cmake-3.6\Modules`. In this location I find many other `Find*.cmake` files. – CODE-REaD Aug 29 '16 at 16:55

Can I use this with Cygwin in CLion instead of MinGW while building opencv with MinGW, as in CMake-gui there isn't Cygwin – Michal Ziobro Nov 22 '16 at 15:36

@MichalZiobro Yes you can. – daB0bby Nov 22 '16 at 17:01

Why i am getting continuosly errors about undefined references to cvRound() founction? I tried prebuild libraries in opencv extracted packege and also other cygjwn precompiled packege from some website. I have also tried to compile it with CMake gui but it continuously fails to compile with some errors like invocations of some thread realated functions. It seems very hard to get it working on windows :/ i am porting app from macOS and don't think it will be so hard to make it working correctly. – Michal Ziobro Nov 22 '16 at 17:16

I tried to run it with Cygwin, but constantly saw multiple errors, then installed MiniGW and all worked like a charm. – Sergei Basharov Apr 13 '17 at 14:53

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