OpenCV Tutorial:Build an OpenCV Project with Visual Studio

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Step 1: download openCV 2.4.6 and Visual Studio 2010

Downloaded openCV 2.4.6 shall include both source files and pre-built libraries

Step 2: Build a new project

Open Visual Studio -> New Project -> Visual C++ -> Win32 Console Application, give a name to the project, click **OK.**Then click **Next ->**check **Console application** and **Empty project** -> click **Finish.**

Add an existing openCV file to the project. It will make a local copy of the C++ file.

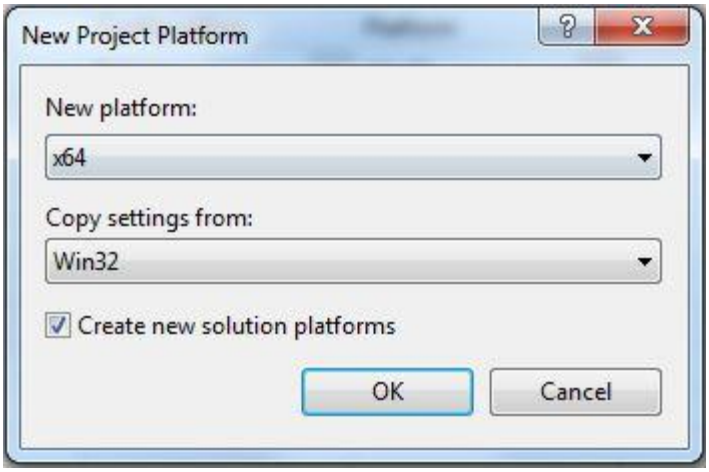
Try the object detection example in openCV.

Step 3: Set project properties

Set platform appropriately: win32 or x86

By default, the platform is win32. If you have 64 bit windows, change the build configuration by going to **Build** menu ->**Configuration Manager.**

Change the **Platform.** Click on**Win32,** Select **New.** Use the settings as shown in the figure.



Choose build mode: debug or release

Specify the directory of pre-built headers

Launch **property page**: C++ ->general -> include: **Opencv ->build ->include**

Add openCV lib directories

Linker ->general ->additional library directories: **opencv->build->x64->vc10 ->lib**

(Assume you have 64 bit system. If not, choose the right directory)

Specify the libraries in which the linker should look into

Linker ->input->additional dependencies:
opencv_core246d.lib
opencv_imgproc246d.lib
opencv_highgui246d.lib
opencv_ml246d.lib
opencv_video246d.lib
Note: these are the libs needed for object detection.

lib name format: opencv_modulenameversionnumberd.lib

The letter *d* at the end just indicates that these are the libraries required for the debug. The lib names are the same for release mode, without letter *d*. 246 represent opencv version 2.4.6. If you have different version of openCV, change the number based on your openCV version. Double check the lib names in the directory *opencv->build->x64->vc10 ->lib*

A full list would contain:

```
opencv_core231d.lib
opencv_imgproc231d.lib
opencv_highgui231d.lib
opencv_ml231d.lib
opencv_video231d.lib
opencv_features2d231d.lib
opencv_calib3d231d.lib
opencv_objdetect231d.lib
opencv_contrib231d.lib
opencv_legacy231d.lib
opencv_flann231d.lib
```

In summery, to build an application with OpenCV you need to do two things:

- *Tell* the compiler how the OpenCV library *looks*. You do this by *showing* it the header files.

- *Tell* the linker from where to get the functions or data structures of OpenCV, when they are needed. If you use the *lib* system you must set the path where the library files are and specify in which one of them to look. During the build the linker will look into these libraries and add the definitions and implementation of all *used* functions and data structures to the executable file.

Build the project to generate exe file.

Double click the exe file to test it.

If it is object detection example, make sure to copy two xmls needed for eyes and face classifiers from data to current working directory.