

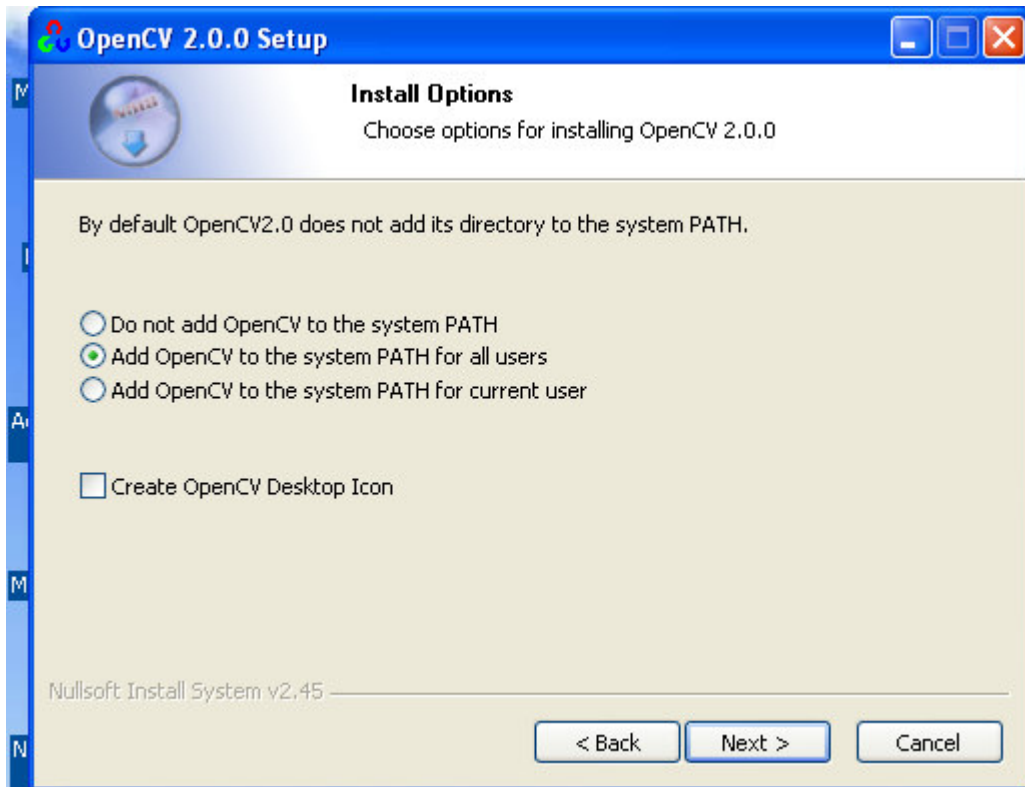
# Preface

Many of us thought of doing project in computer vision using OpenCV library. But beginners find it difficult to use the OpenCV library because of the installation problem. So here is an attempt to solve the problem of installation of the same. I assume os: **windows XP and visual studio 2008 Express Edition.**

## Step by Step Installation of OpenCV 2.0

1. Get the OpenCV 2.0 from <http://sourceforge.net/projects/opencvlibrary/> and download OpenCV2.0.0a –win.exe.
2. Get the Cmake2.8.0 from <http://www.cmake.org/cmake/resources/software.html>
3. Get the Microsoft Visual Studio 2008 Express Edition.

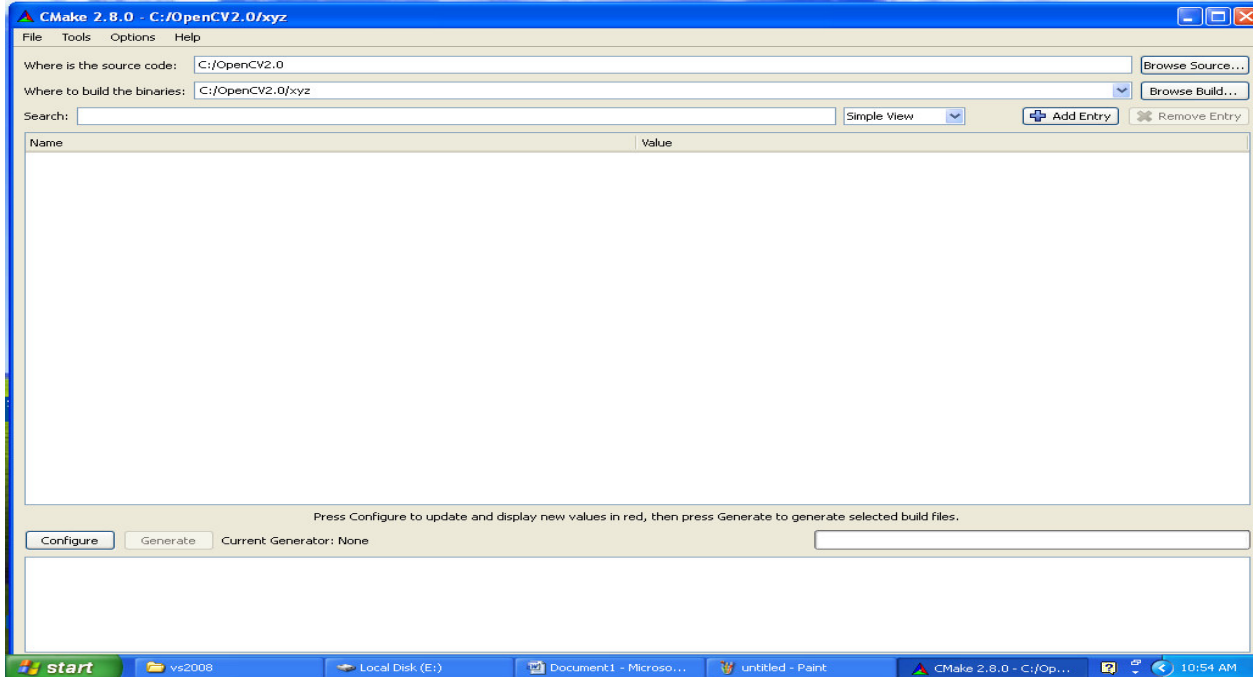
And it is easy to install cmake and vs2008. After installing them install OpenCV (order does not matter) in C:\OpenCV2.0 (recommended) and make sure that you choose the option as shown in the fig below (**do not choose the first one**).



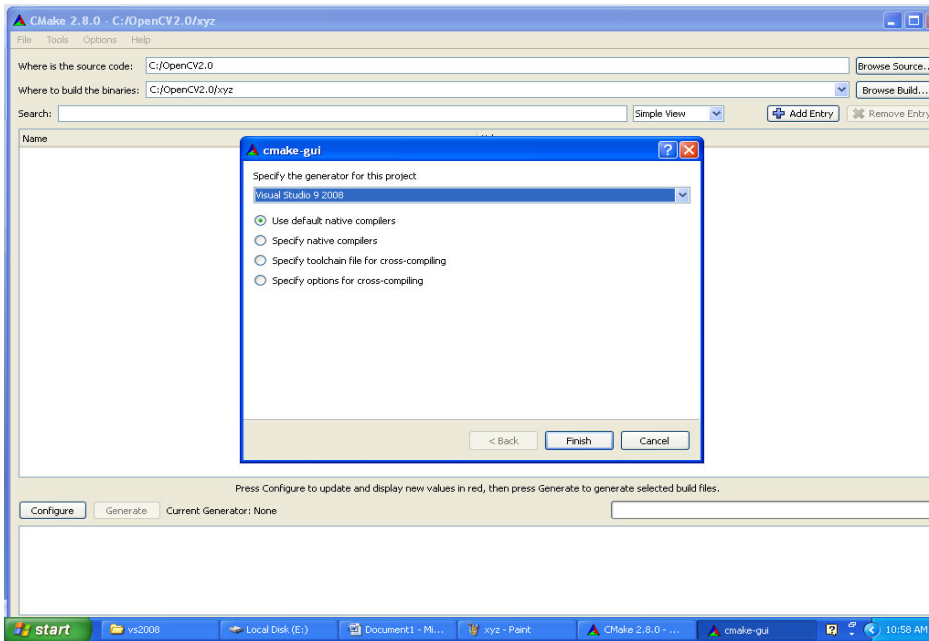
Then press next and don't change any configuration. And finish the installation.

Now it is time to configure the: CMake ( it has to be done with little care so that the rest configuration is easy .

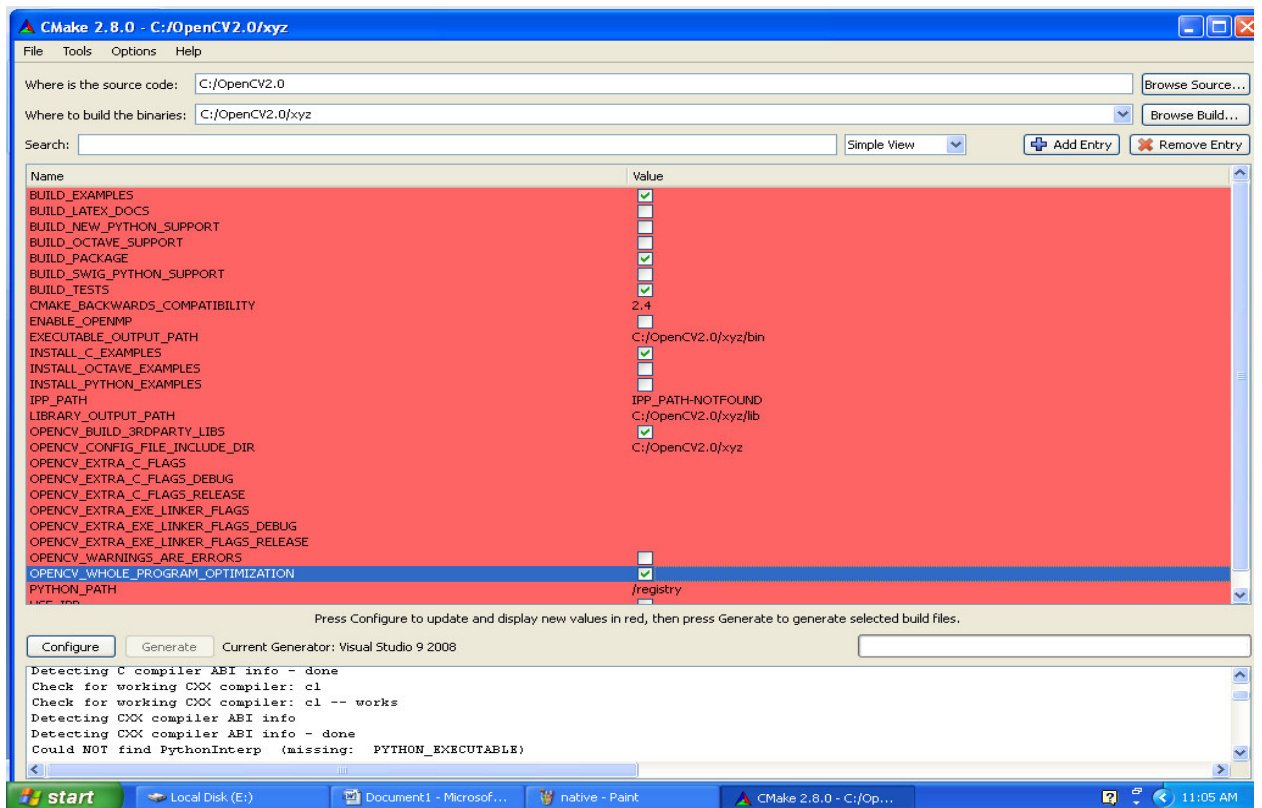
1. Go to **Start-> all programs-> cmake-gui** and configure as shown in the fig below. Each entry explained.



1. For the first option (**where is the source code**) choose the installation directory of OpenCV2.0 using **Browse Source** button )
2. For the option (**where to build binaries**) choose the folder **vs2008**( but any name can be given in the C:/OpenCV2.0/xyz). it is better to give vs2008 for generic but you can specify any folder you want. (no need to create the folder vs2008 or xyz in c:/OpenCV2.0 explicitly the cmake will ask and it will create for you ).
3. Then press the **Configure** button (left bottom corner). Then the cmake will show you lots of option as shown in the figure below.

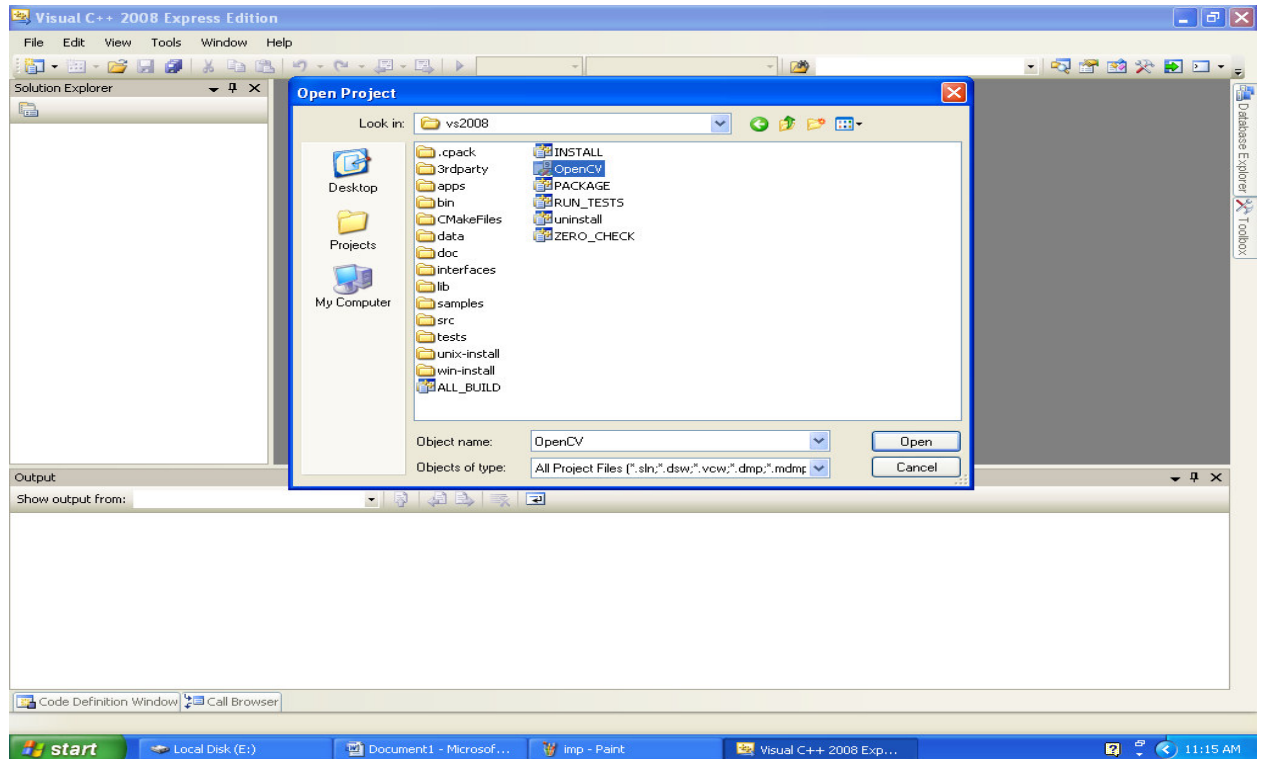


4. Now choose the **visual studio 9 2008** as shown in the figure above and click finish and the cmake will display the fig shown below. This is important step for the success.
5. Choose the option as shown in the figure.

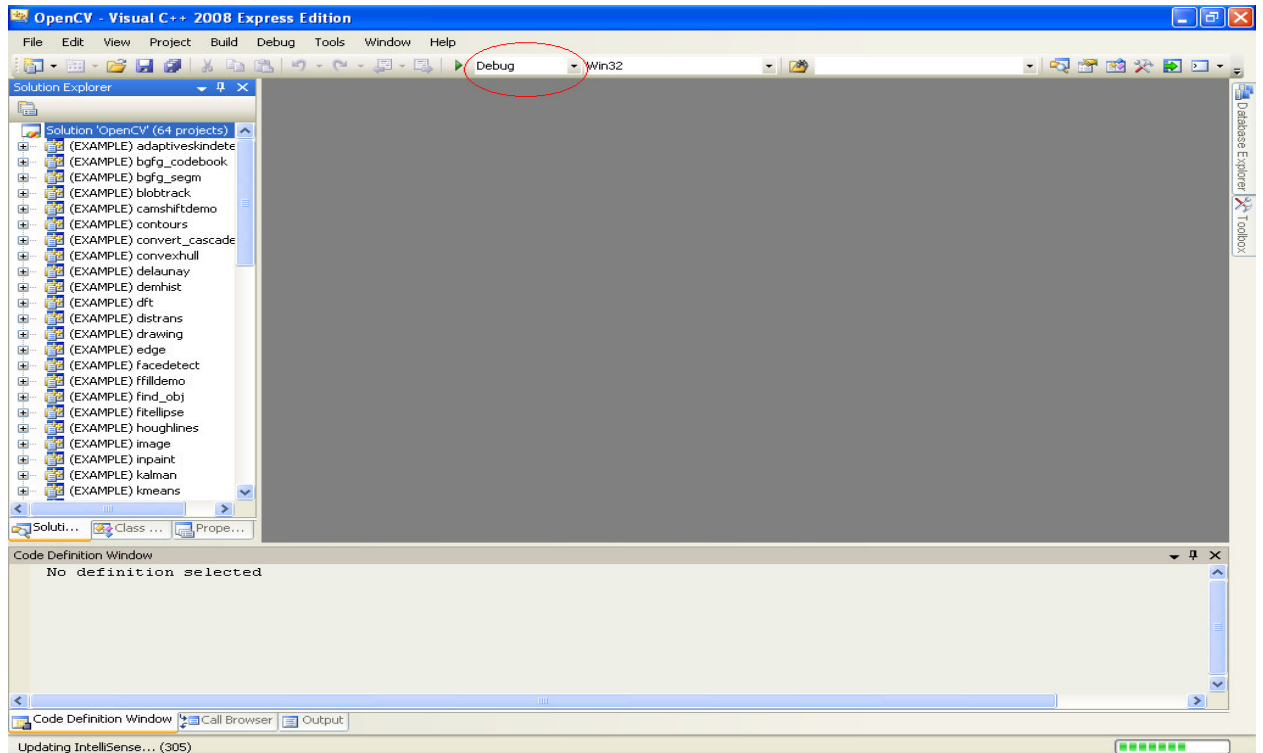


The option chosen: **BUILD\_EXAMPLES, BUILD\_PACKAGES, BUILD\_TEST, INSTALL\_C\_EXAMPLES, OPENCV\_BUILD\_3RDPARTY\_LIBS, OPENCV\_WHOLE\_PROGRAM\_OPTIMIZATION.**

6. Now press Configure and the red color will disappear.
7. Then, press Generate button (next to the Configure button) to complete the process. close the cmake gui .
8. Now come to **Start->visual studio** IDE and open the project where you have stored the binaries (remember the second option of cmake). In this case I chosen C:/OpenCV2.0/vs2008/OpenCV, as shown in the figure.

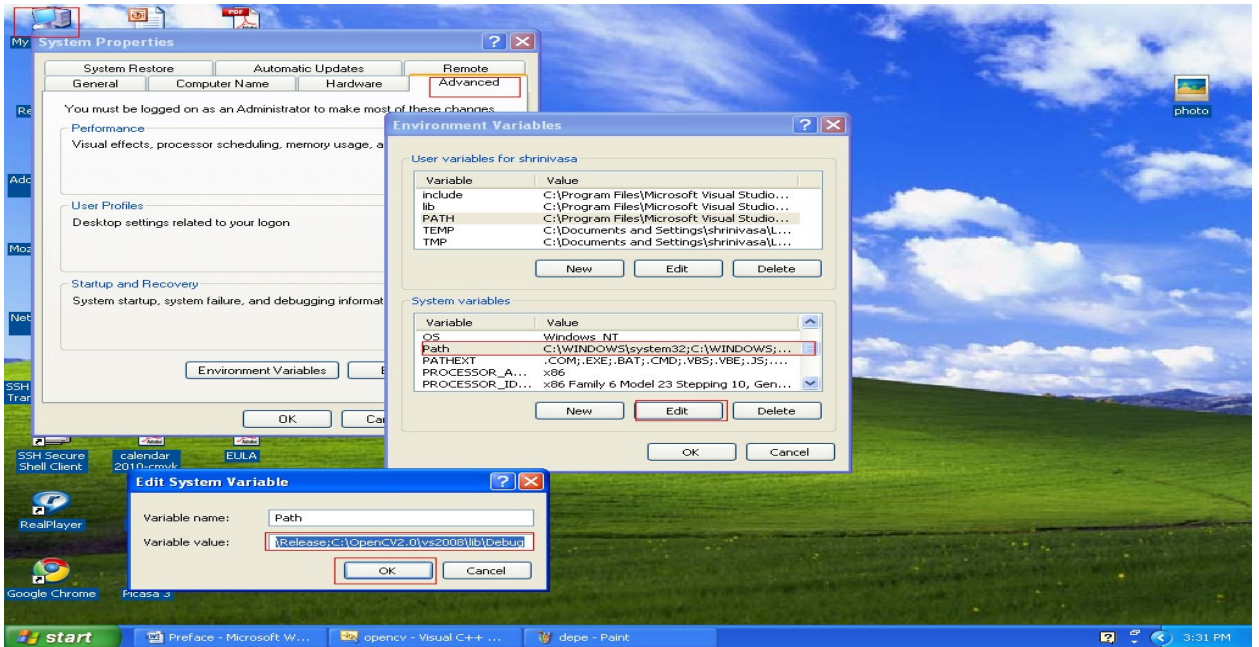


9. Now press open to view all files related to opencv left side as shown in the fig below. Then build the project by choosing **Build-> Build** option ( **important to build in both Debug and Release** ). Make sure that option debug is chosen (red circle).



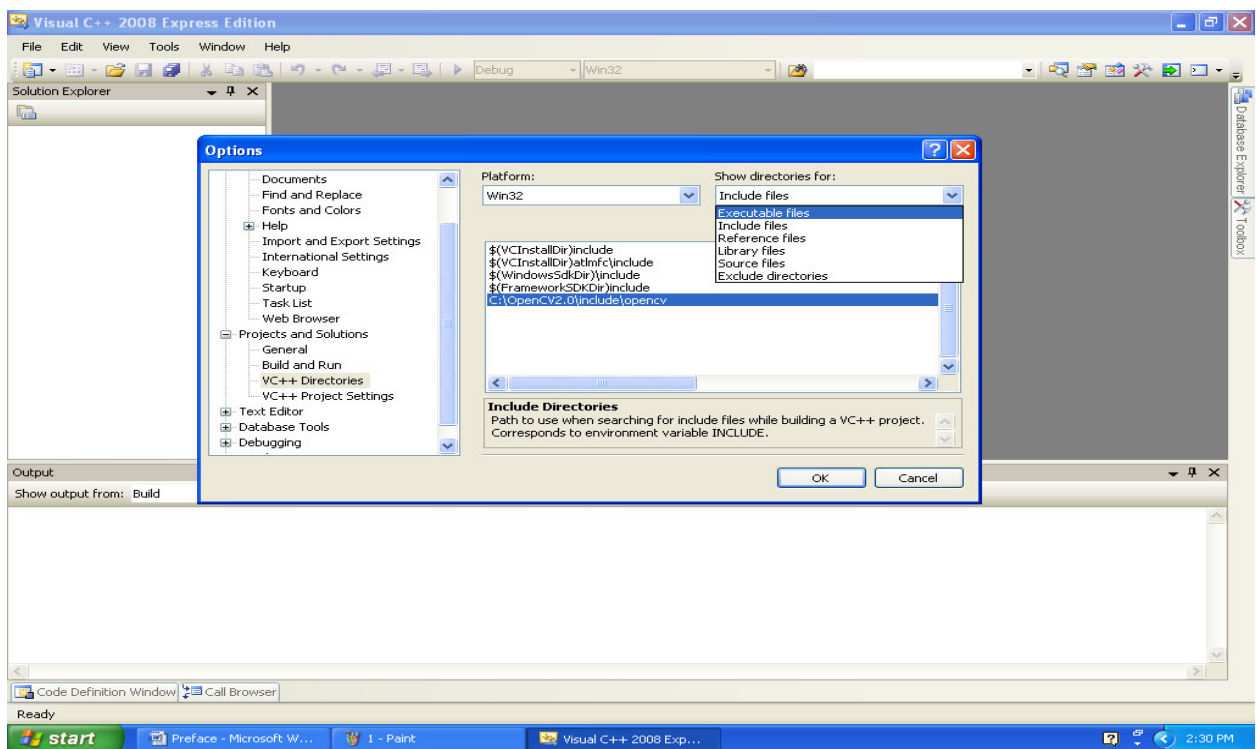
Ensure that message in **output message window** will display WARNING MEASSAGES (ignore them) , 0 errors, Number of build , Number of up-to-date, and number of skipped. The point is you **should not get any errors (if you get the errors means the cmake options are not selected properly)**, in that case delete the vs2008 folder and repeat the cmake part through all over.

10. Next repeat the build process ( in case of success in the previous step) for Release option. make sure that you don't get the errors.
11. Now after the success full build, close the project (not the IDE).
12. Verify the required files (cv200d.lib, cvaux200d.lib etc is created by going C:/OpenCV2.0/vs2008/lib/Debug and in ../Release (cv200.lib, cvaux200.lib etc)). If you find them then your build process is correct otherwise the build process is not correct. If you see the required lib file then proceed with the next step.
13. Add **C:/OpenCV2.0/vs2008/lib/Debug; C:/OpenCV2.0/vs2008/lib/Release** to your system path by, **Mycomputer->properties->Advanced-> Environment variable->PATH->edit** as circled and press ok as shown in the figure below ( this step is not required but for the safer side I do it )



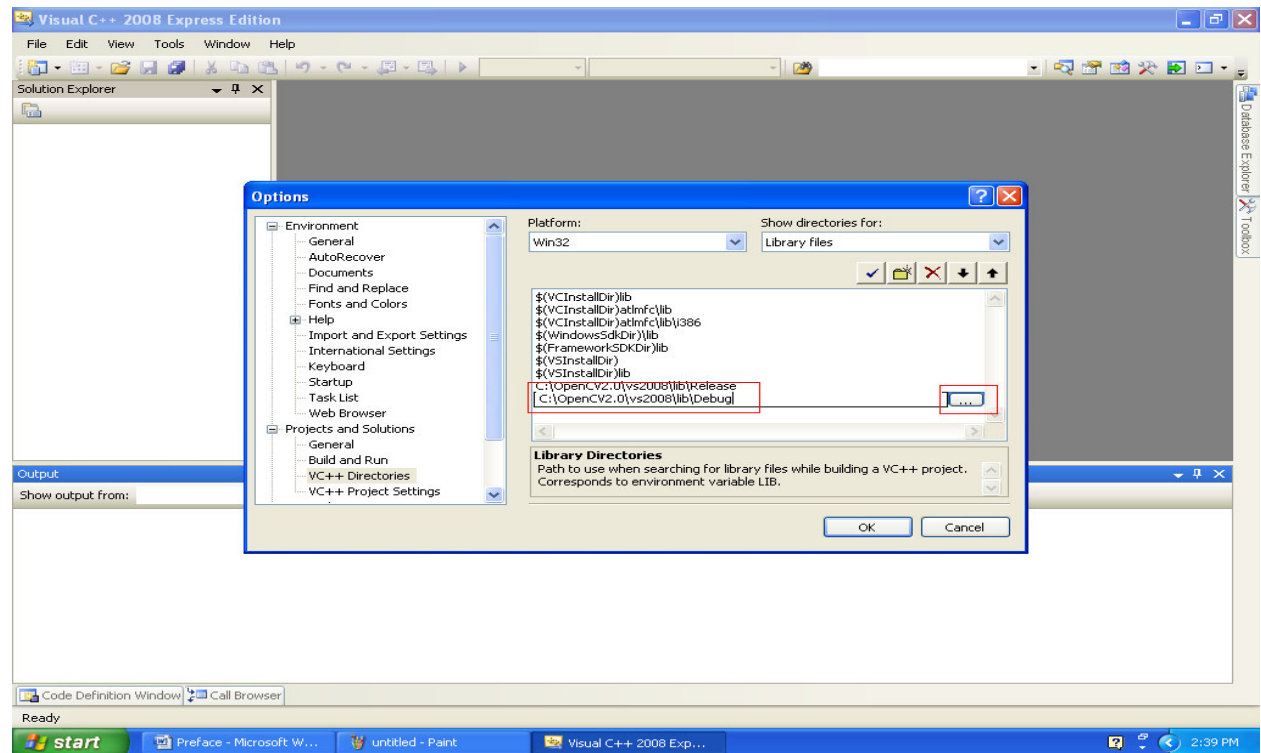
14. In vc++ IDE go to **Tool->Options->project and solution->vc++directories**, as shown in the fig below.

For the option **Show directories for:** select **Include files** : after that click in the box below and include `C:\OpenCV2.0\include\opencv` (using the browse button which appears when you click in the lost entry) don't delete any previous entries of vc++,



Then select **Library files option** : then include the files as shown in the figure below .

**C:\OpenCV2.0\vs2008\lib\Release, C:\OpenCV2.0\vs2008\lib\Debug**



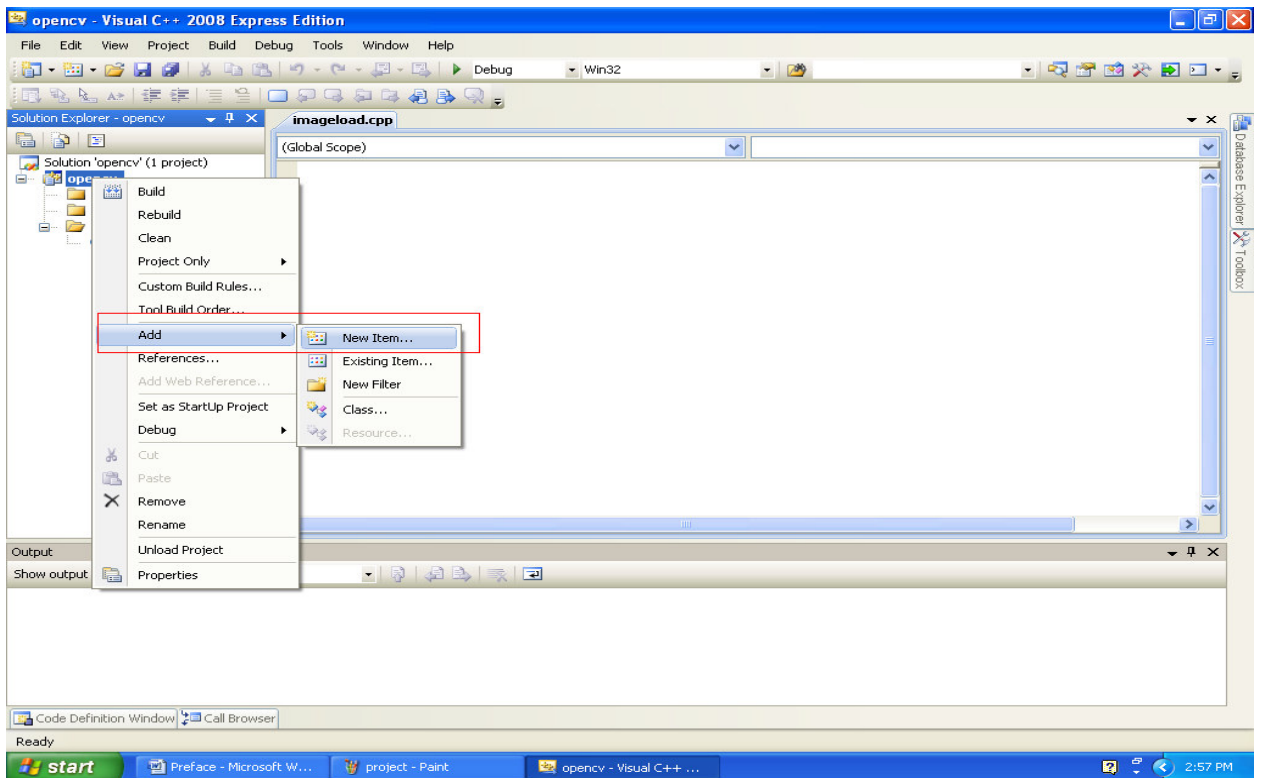
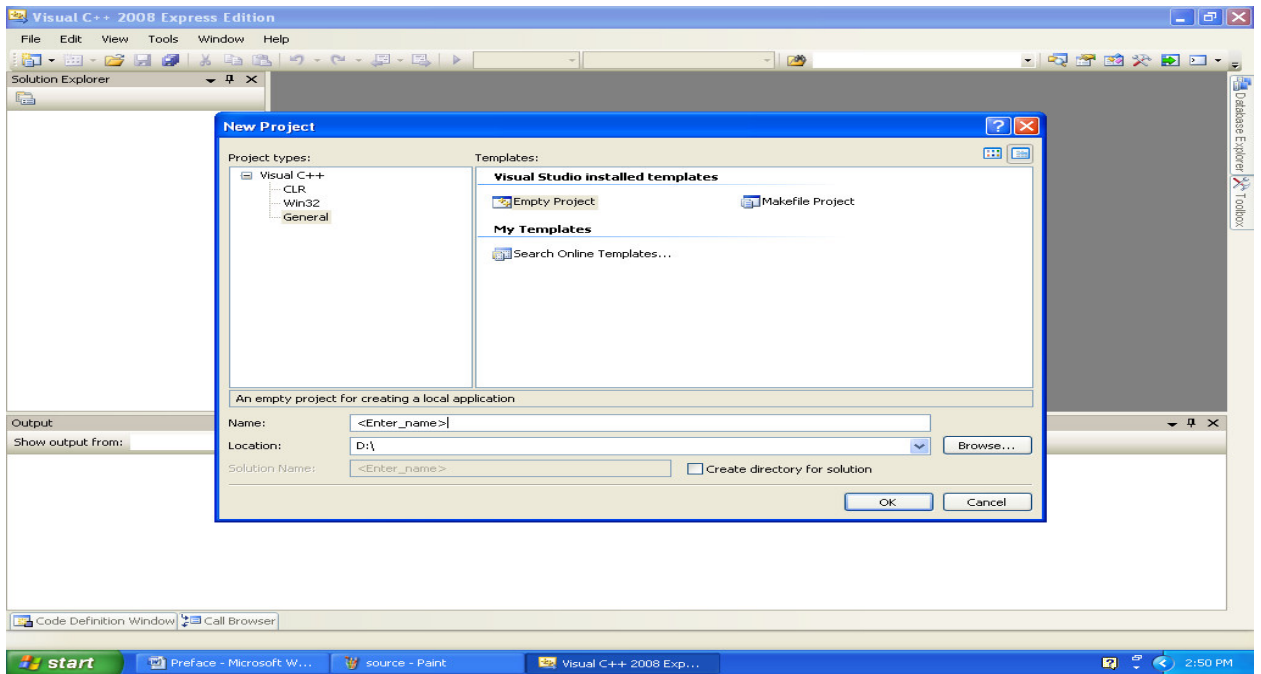
( circled in RED rectangle and the browse button circled)

Then repeat the process by choosing **source files options** : and include

**C:\OpenCV2.0\vs2008\src , C:\OpenCV2.0\vs2008\src\cv\cv.dir\Debug,  
C:\OpenCV2.0\vs2008\src\cv\cv.dir\Release,  
C:\OpenCV2.0\vs2008\src\cv\cv.dir\Debug,**

And for ml, highgui etc..... as shown circled in the fig below.





17. After that write any opencv program for example , which load and image from disk

```
#include "highgui.h"
```

```

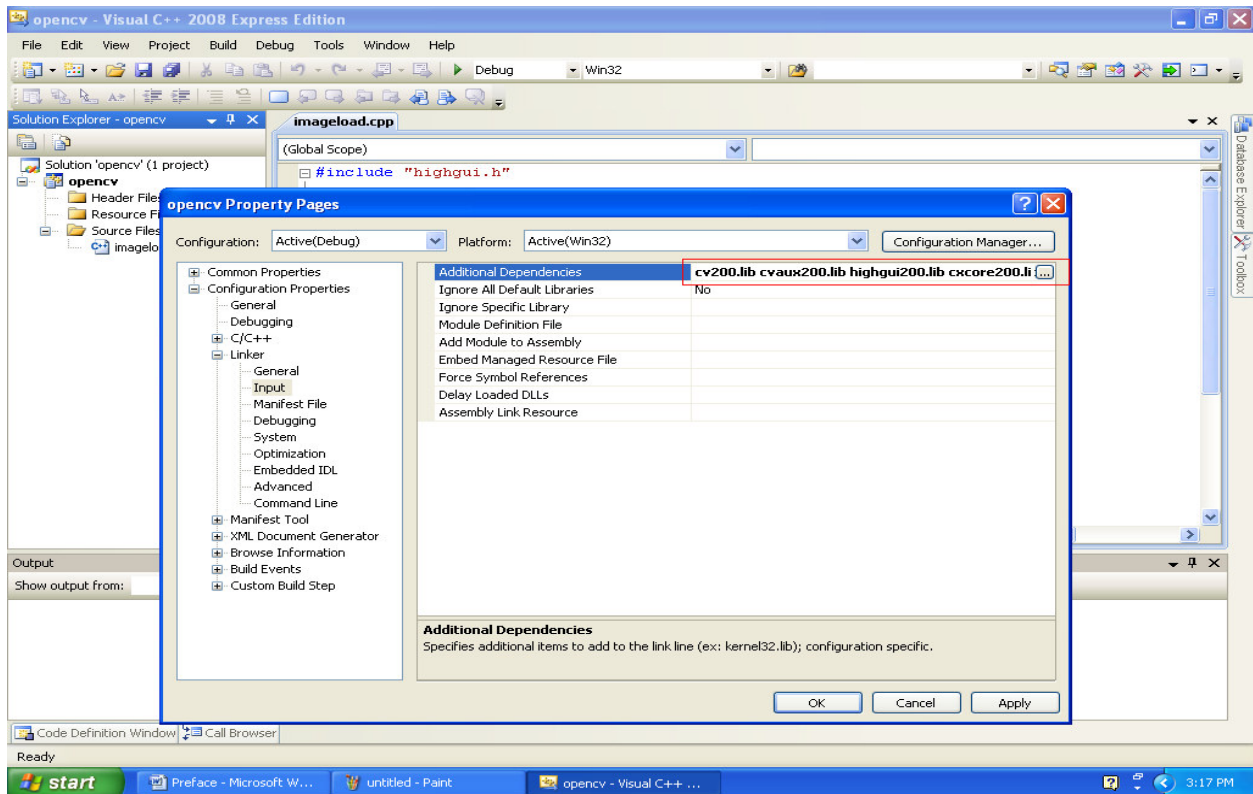
int main (int argc, char** argv)
{
    IplImage* img= cvLoadImage(argv[1]);
    cvNamedWindow("e", CV_WINDOW_AUTOSIZE);
    cvShowImage("e", img);
    cvWaitKey(0);
    cvReleaseImage(&img);
    cvDestroyWindow("e");
}

```

**18.If you build you will get surely errors. Don't worry another last important configuration need to be done.**

**19.Go to Project->Properties ( in this case opencv properties) and select Configuration properties->Linker->Input and goto additional Dependencies and copy these file name their : cv200.lib cvaux200.lib highgui200.lib cxcore200.lib ml200.lib opencv\_ffmpeg200.lib cxts200.lib**

(observe no commas, and has to do this step for each new project) as shown in the fig below



and press **ok /apply** .

20.Then build no errors will be displayed.

21.Then open command prompt by Start->Run->cmd,

22. Change dir to the project debug folder and execute the .exe file by giving the image file as the argument ( make sure that the file is in debug folder for simplicity )

Welcome to OpenCV. Looking forward to share further OpenCV knowledge and contribute to its development.

Any question about installation please contact me : [shrinivas@iitg.ernet.in](mailto:shrinivas@iitg.ernet.in)