



HCI 571X

Augmented Reality

Notes OSG_Example_01

Rafael Radkowski
rafael@iastate.edu

Content



- Some additional steps are necessary to run an OpenSceneGraph (OSG) example on Windows using Microsoft Visual Studio 2013; applications change their “behavior” over time.
- To do:
 - Add the OSG_ROOT environment variable
 - Add or edit a PATH variable
 - Install Redistributable Packages for Visual Studio
 - Change StartUp Project
 - Change Working Directory

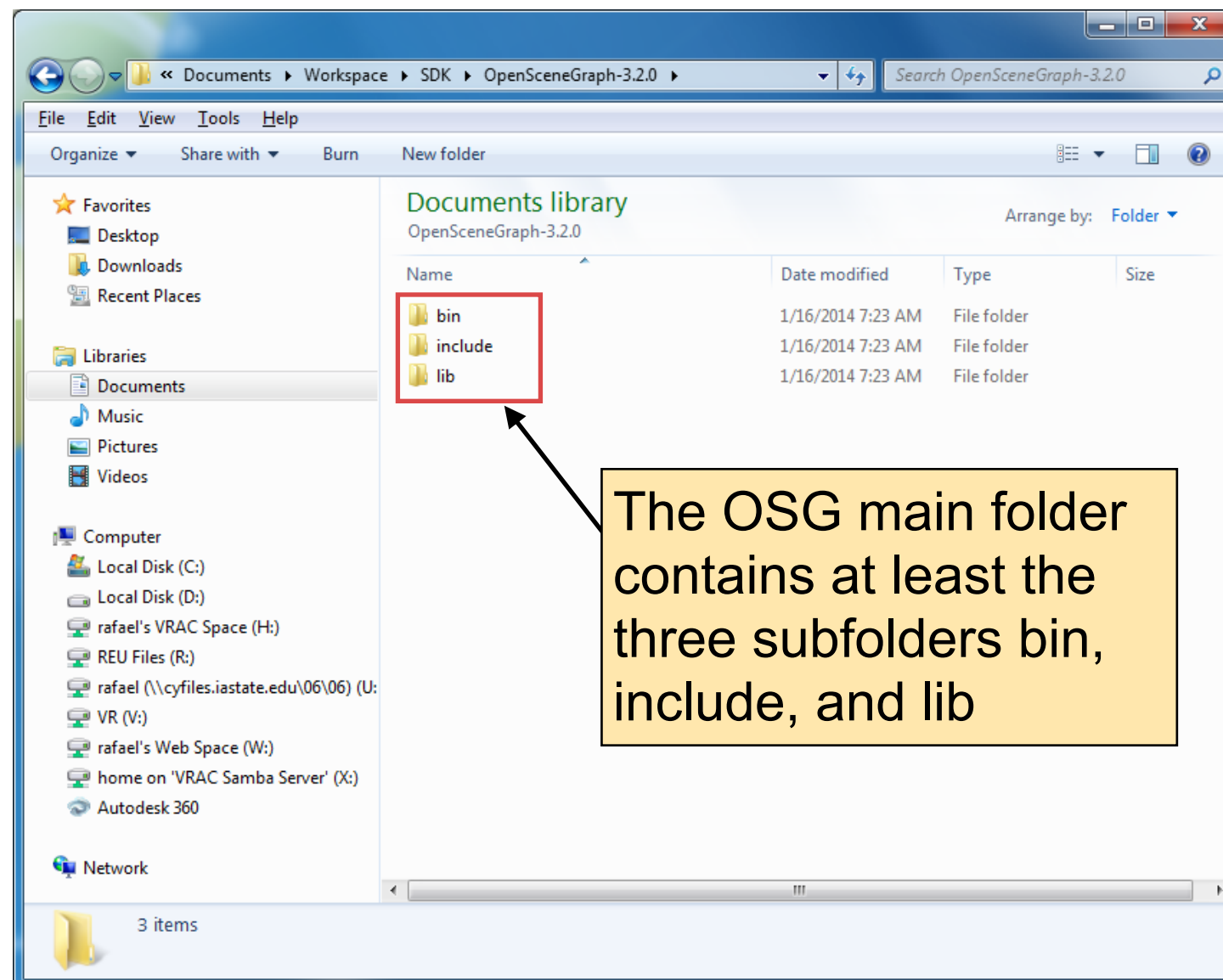
Add OSG_PATH variable (1/4)



CMake needs an additional environment variable to find the OpenSceneGraph (OSG) package on your computer: **OSG_ROOT**

OSG_ROOT must point to the OSG *main folder*.

Step 1: locate the OSG *main folder* on your disc. It contains the subfolders bin, lib, and include; perhaps you will see some additional folders and files.



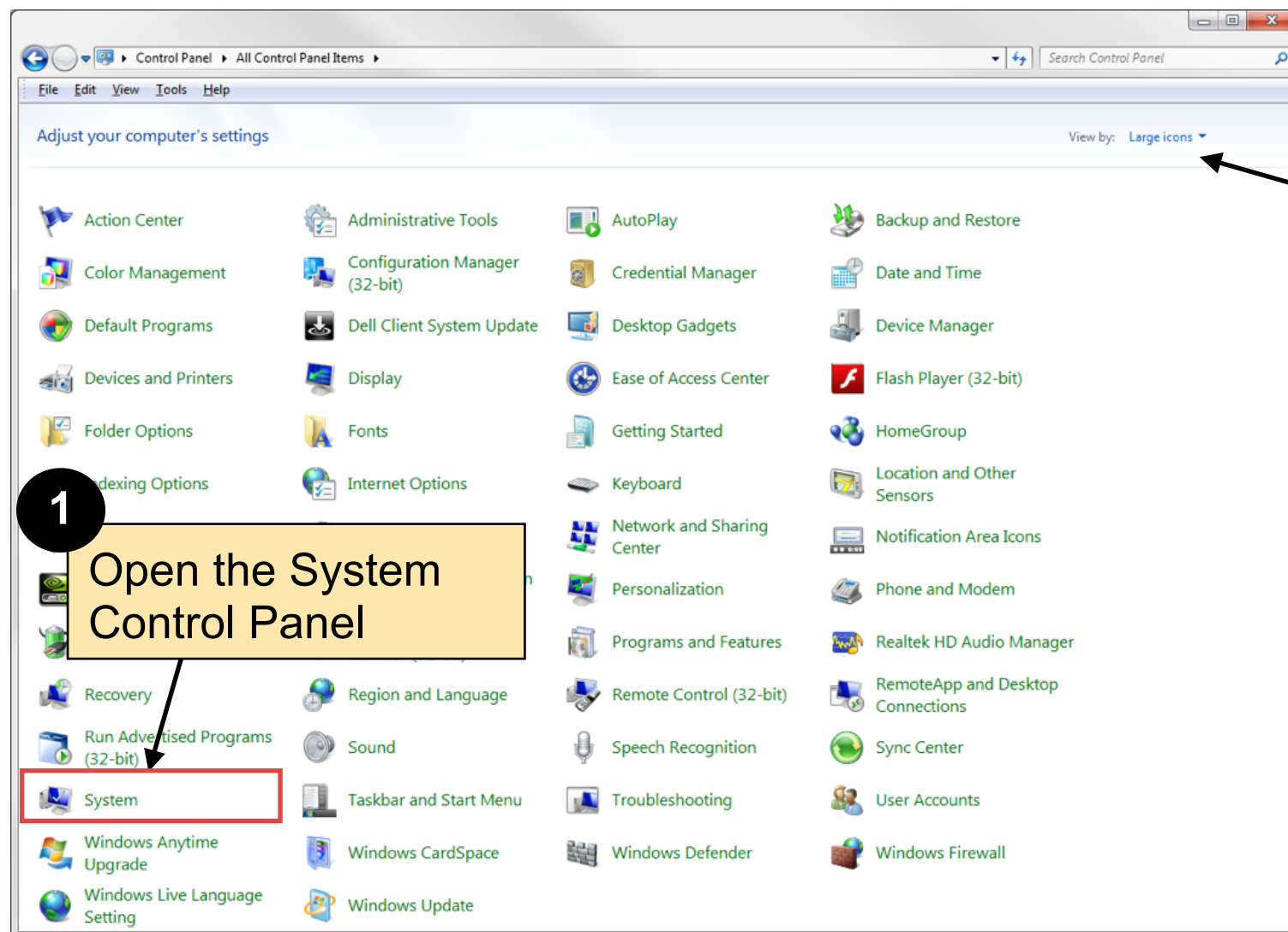
The OSG main folder contains at least the three subfolders bin, include, and lib

*The OSG
main folder*

Add OSG_PATH variable (2/4)

Step 2: Open the environments variable menu

Control Panel -> System -> Advanced System Setting -> Tab “Advanced” -> Environment Variables



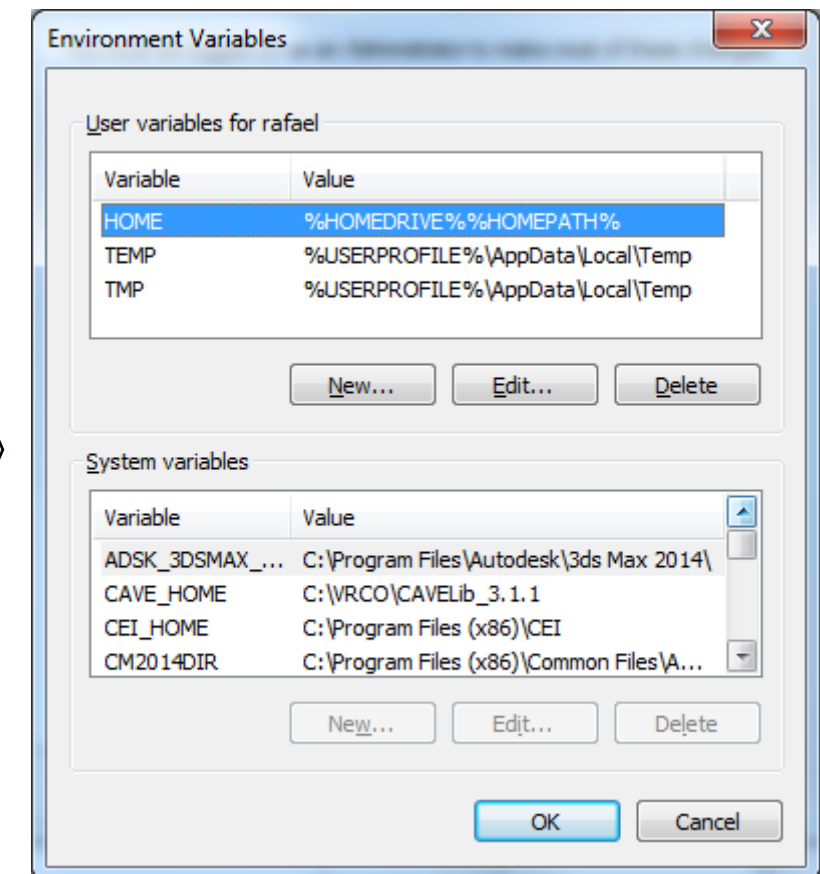
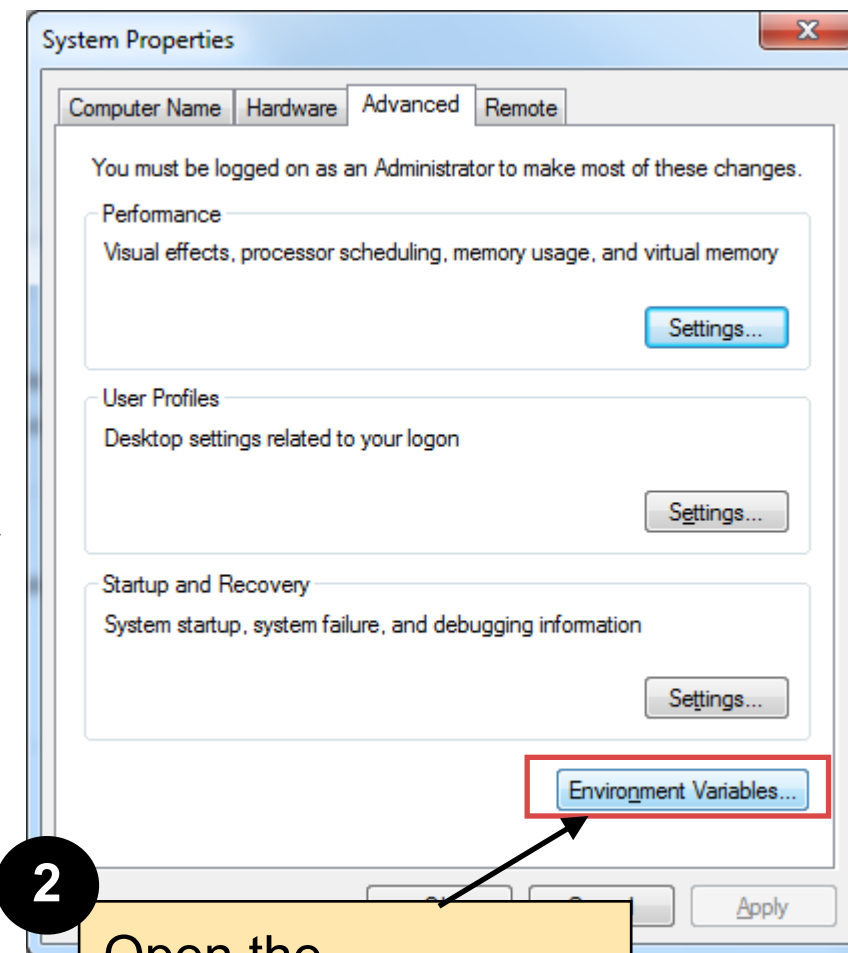
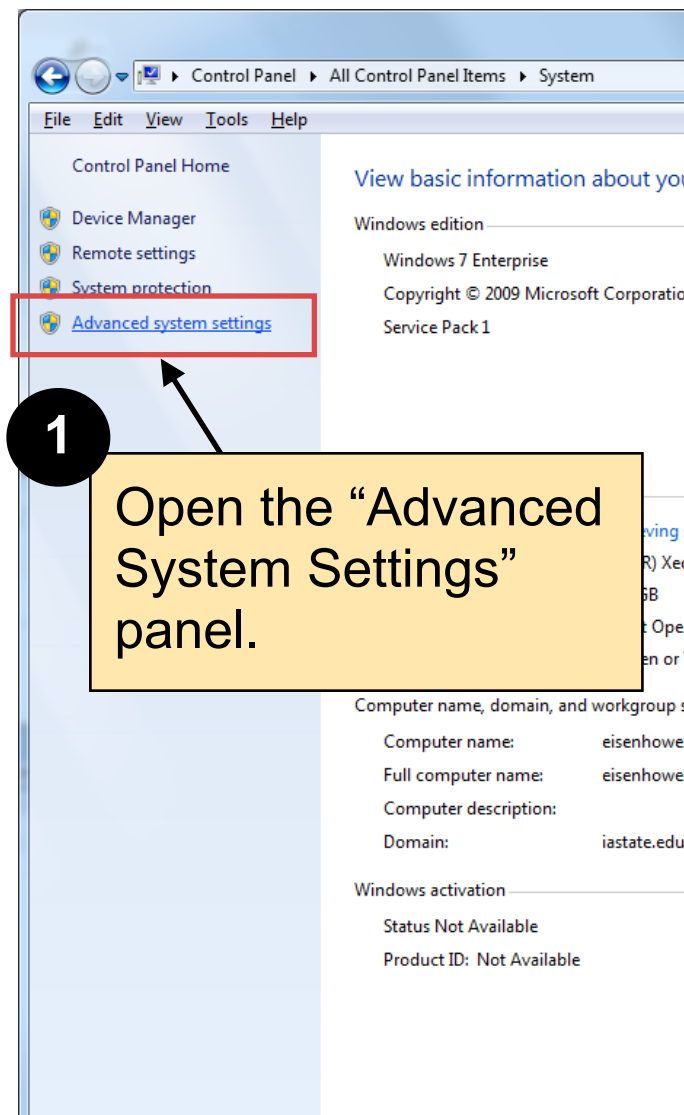
If you do not see this view, change the *View by* setting to “Large icons”

The Windows Control Panel

Add OSG_PATH variable (3/4)

Step 2: Open the environments variable menu

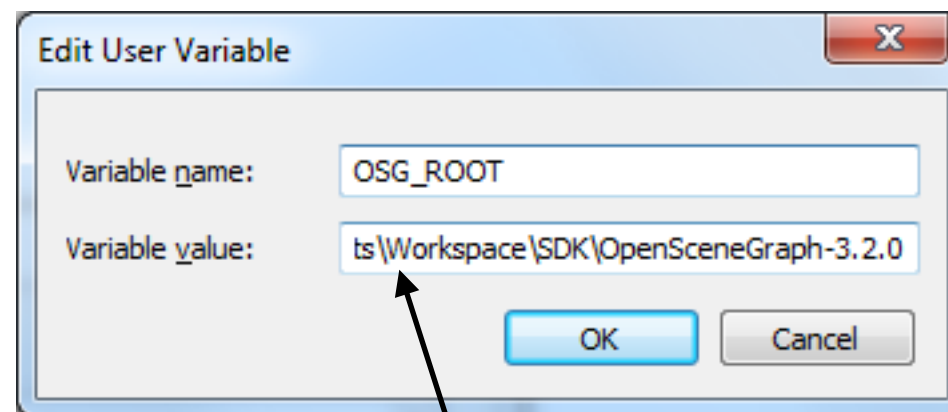
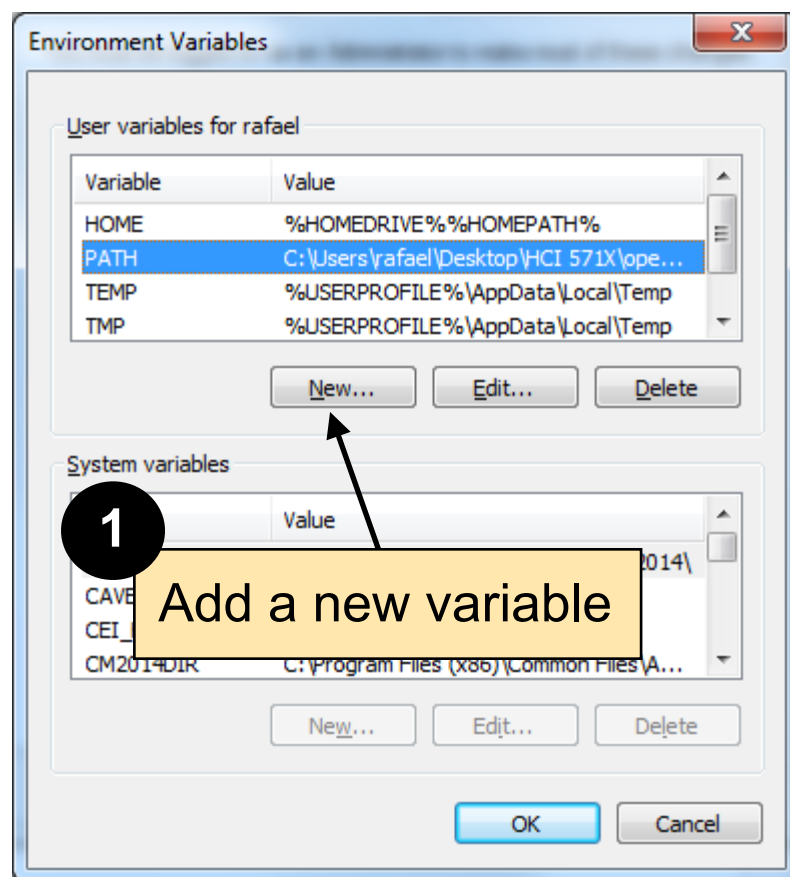
Control Panel -> System -> Advanced System Setting -> Tab “Advanced” -> Environment Variables



This window will pop up.

Add OSG_PATH variable (4/4)

Step 3: add the OSG_ROOT environment variable



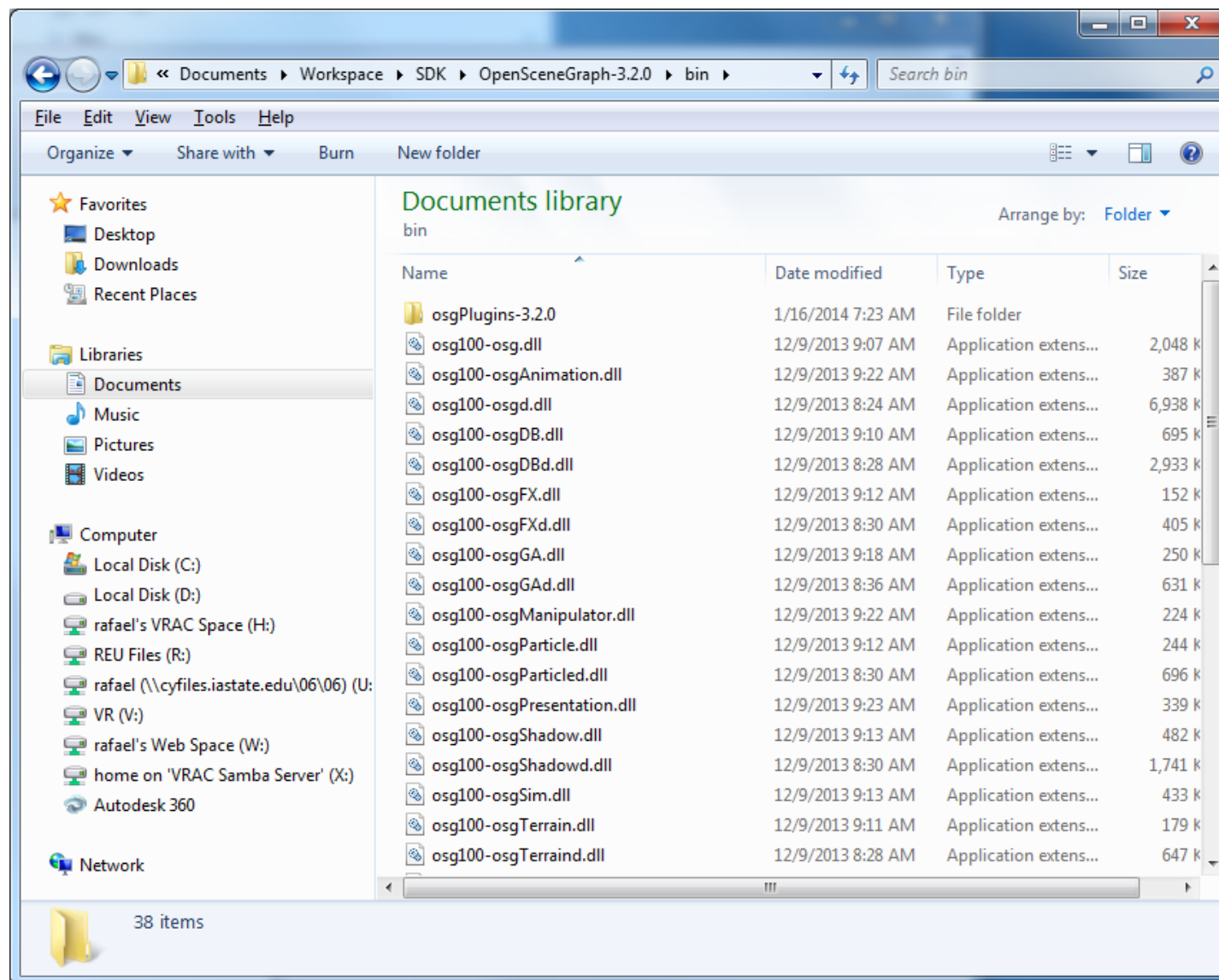
2 Enter
variable name: OSG_ROOT
variable value: the folder path that refers to your
OSG main folder on your disc.

Add or edit a PATH variable (1/2)



All your applications must know where to find the OSG dll files, which contain the OSG code. All applications have access to the environment variable PATH and seek for dlls inside the referred folders.

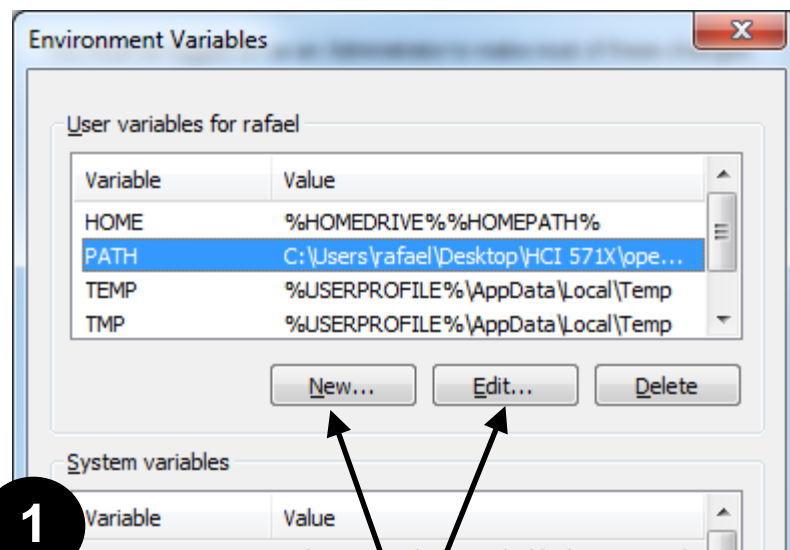
Step 1: locate the OSG *bin* folder on you disc. It contains all the dll files of OSG



The OSG bin folder

Add or edit a PATH variable (2/2)

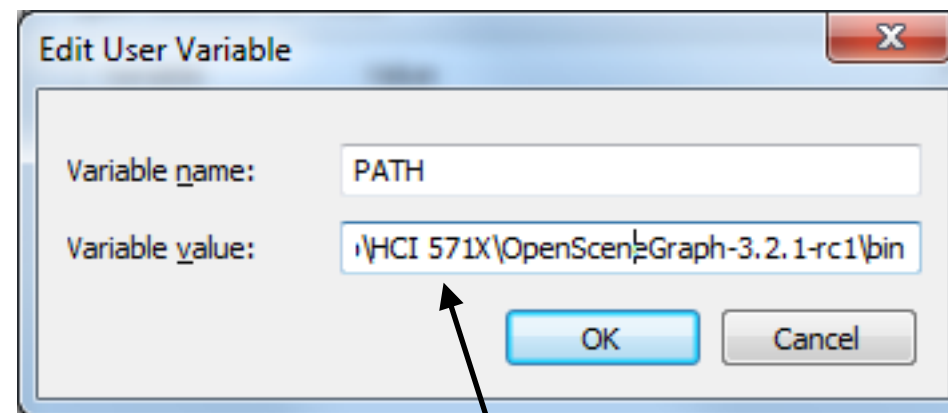
Step 2: add or edit the PATH environment variable. Add a the path that points to your OSG bin folder.



1

You need the variable "PATH".

- If you already have one, click on "Edit"
- If no, click on "New"



2

Enter

- variable name "PATH" (you do not have to do this if the variable already exists).
- The variable value must refer to the bin folder of OpenCV and OpenSceneGraph, divided by a semicolon: *path;path*

Note



- Windows 7 applications (MS Visual Studio, CMake) only load new environment variables when they get started. They do not notice any changes or new environment variables when the programs are open.
- If you change something: exit the applications and open them again.
- Windows 8 users might log off and log on again.

Install Redistributable Packages



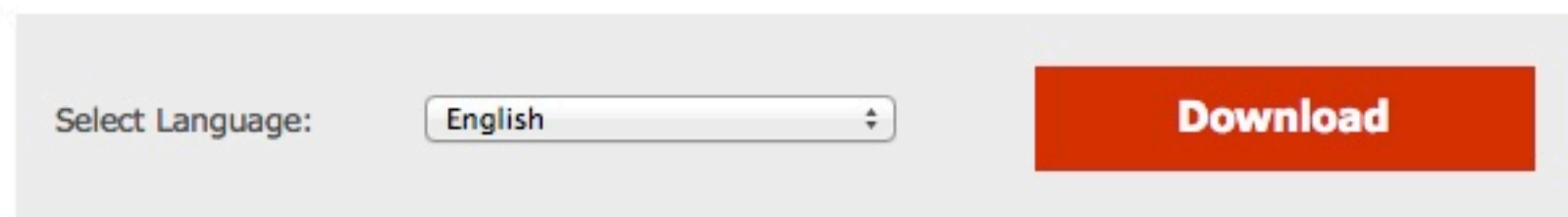
If you downloaded and installed Visual Studio 2013, you may run into the following error message when starting an application:

"The program can't start because MSVCP120.dll is missing from your computer"

Install the Redistributable Packages for Visual Studio:

<http://www.microsoft.com/en-us/download/details.aspx?id=40784>

Usually, they come with the Visual Studio installation and only need to be installed on computers without Visual Studio, but...

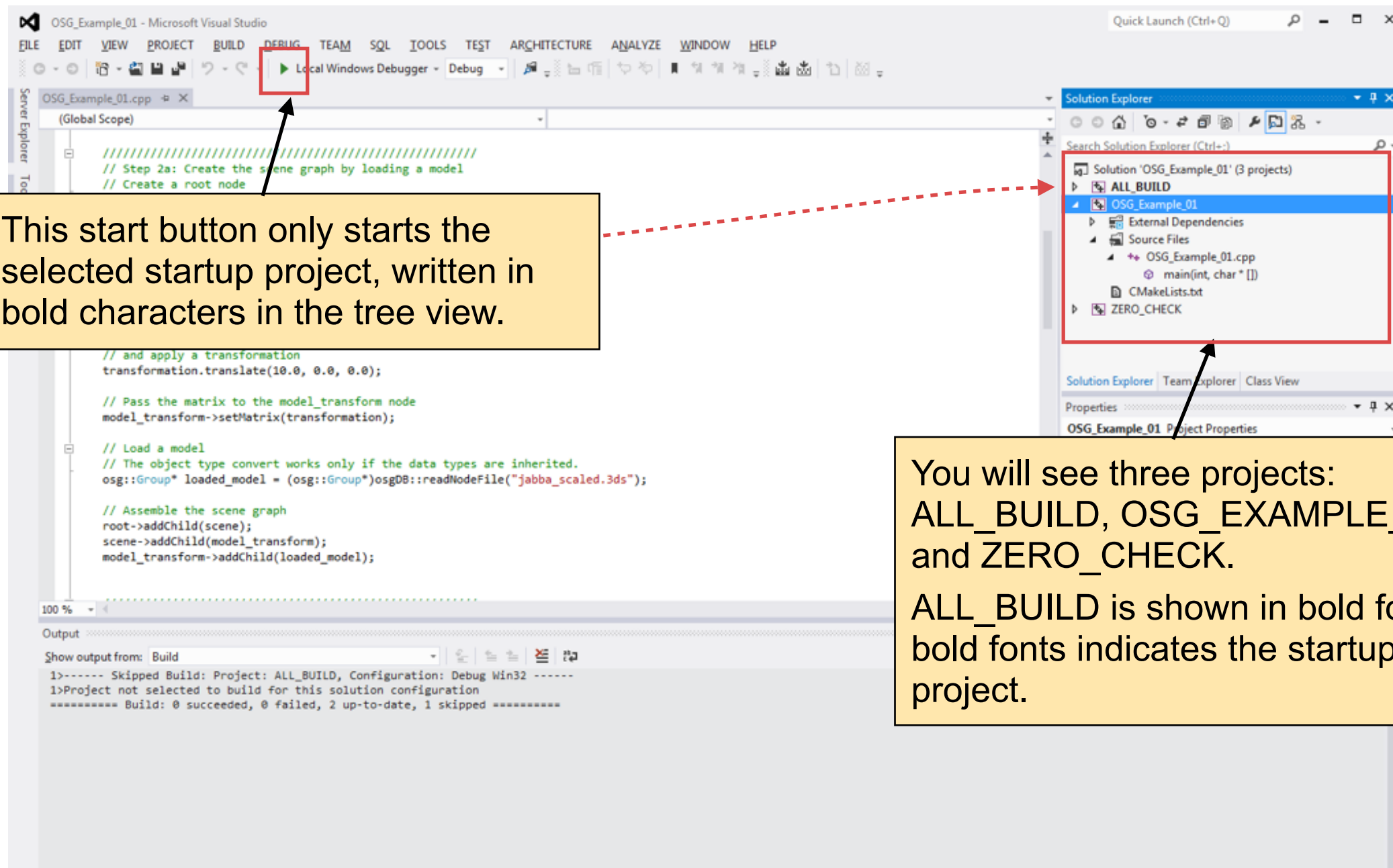


The Visual C++ Redistributable Packages install run-time components that are required to run C++ applications that are built by using Visual Studio 2013.

Visual Studio



If you successfully create the project files for the application with CMake, you can see the solution file .sln and several project files in the folder. Open the solution file .sln.



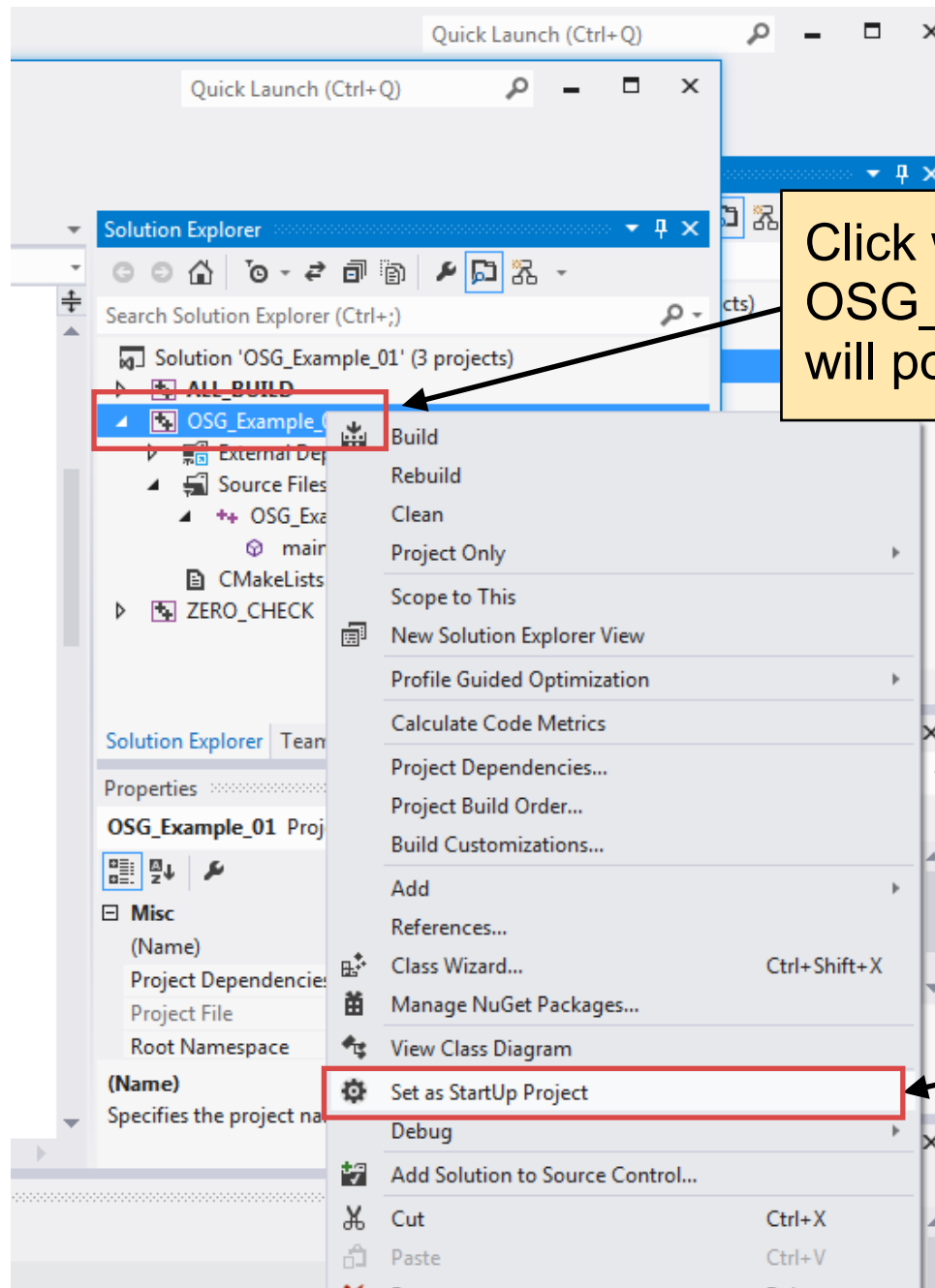
This start button only starts the selected startup project, written in bold characters in the tree view.

You will see three projects: **ALL_BUILD**, **OSG_EXAMPLE_01**, and **ZERO_CHECK**. **ALL_BUILD** is shown in bold fonts. bold fonts indicates the startup project.

Change StartUp Project

The StartUp Project is the project that gets started when you press the run-button icon in the top menu bar of Visual Studio.

Task: change the StartUp project



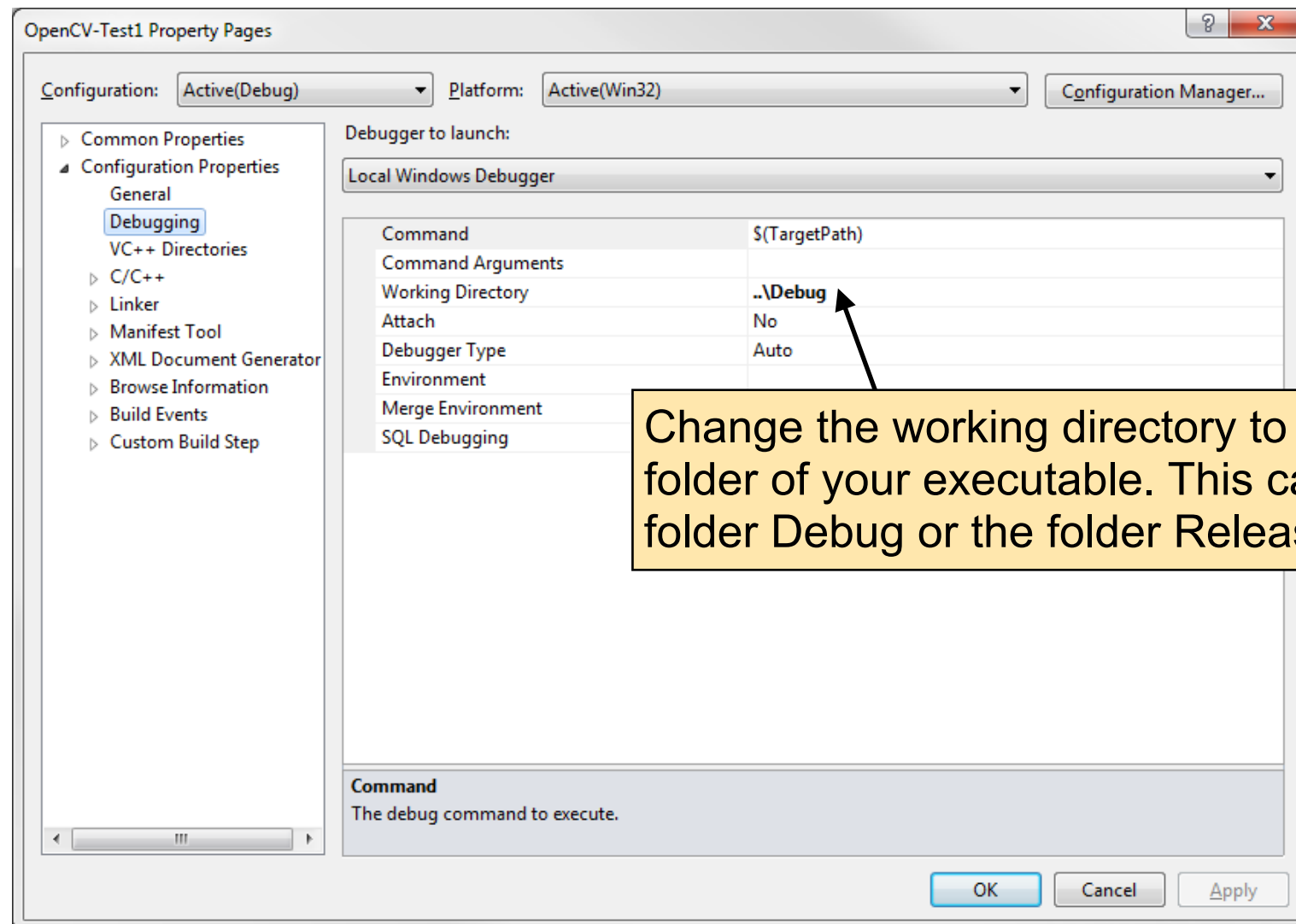
Click with the right mouse button on OSG_Example_01. A context menu will pop up.

Click on “Set as StartUp Project”. The project OSG_Example_01 should appear in bold fonts.

The screenshot shows the Visual Studio interface with the Solution Explorer on the left. The project 'OSG_Example_01' is selected and highlighted with a red box. A context menu is open over it, listing various actions. The 'Set as StartUp Project' option is highlighted with a red box. The project name 'OSG_Example_01' in the Solution Explorer is also bolded.

Change Working Directory

The working directory defines the path from which your application is started. Specify the executable output directory as working path. By default, MS Visual Studio uses the solution path. This is not helpful because the working path is the executable path when starting a program from the window explorer. Changing the path restores the usual Windows behavior when starting a program.



Microsoft Visual Studio - Project Property Window