



# Installing and Compiling OpenFresco

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OpenFresco

# Outline

- ★ Resources on NEESforge
- ★ Install OpenFresco on Windows using the Installer
  - Install Tcl/Tk
  - Install OpenSSL
  - Download and Compile OpenSees Source Code
- ★ Compile OpenFresco on MS Visual C++ 2005/2008

# OpenFresco on NEESforge

- ★ Resource on NEESforge (<http://openfresco.neesforge.nees.org>)
- ★ Go over to the **Docs** on NEESforge
- ★ Command Language Manual
- ★ Installation and Getting Started Manual
- ★ Examples
- ★ Everything covered in this presentation is in the Installation Guide

# OpenFresco on NEESforge

<http://openfresco.neesforge.nees.org/>

**NEESforge**

**Welcome to OpenFresco project!**

Local and distributed hybrid simulations enabled through an object oriented software framework for experimentation and control.

**OpenFresco 2.5 & Manuals have been released**  
Andreas Schellenberg - 2008-01-14 18:04  
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**OpenFresco 2.0 & Manual have been released**  
Andreas Schellenberg - 2007-01-03 08:40  
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**Manual for OpenFresco 1.0-beta**  
Andreas Schellenberg - 2006-11-30 08:24  
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**OpenFresco 1.0-beta Release**  
Andreas Schellenberg - 2006-10-02 01:58  
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**Project Summary**

- Tracker**
  - **Bugs** ( 0 open / 1total )  
Bug Tracking System
  - **Support** ( 0 open / 0total )  
Tech Support Tracking System
  - **Patches** ( 0 open / 0total )  
Patch Tracking System
  - **Feature Requests** ( 0 open / 0total )  
Feature Request Tracking System
- Forums** ( 11 messages in 2 forums )
- Doc Manager**
- Mailing Lists** ( 1 public lists )
- Task Manager**
  - Next Release
  - To Do
- Surveys** ( 0 surveys )
- SCM Tree** ( 57 commits, 116 adds )
- Released Files**

**Manual**  
**Subversion Repository**  
**Downloads**

# Documentation

- ★ Click on "Doc Manager" on <http://openfresco.neesforge.nees.org/>
- ★ Click on "Manual & FAQ" and then click on "Version 2.6"

NEESforge Search the entire project Search Advanced search Log In New Account

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- OpenSSL [Add document here]
- Version 1.0 [Add document here]
- Version 2.0 [Add document here]
- Version 2.5 [Add document here]
- Version 2.6 [Add document here]
- OpenFresco Command Language Manual 2.6
- OpenFresco Example Manual 2.6 - LabVIEW
- OpenFresco Example Manual 2.6 - LS-DYNA
- OpenFresco Example Manual 2.6 - Matlab
- OpenFresco Example Manual 2.6 - OpenSSL
- OpenFresco Example Manual 2.6 - PortalFrame
- OpenFresco Example Manual 2.6 - SignalFilter
- OpenFresco Example Manual 2.6 - SimDomain
- OpenFresco Example Manual 2.6 - SimFEAdapter
- OpenFresco Example Manual 2.6 - UI-SimCor
- OpenFresco Example Manual 2.6 - xPCTarget
- OpenFresco Installation & Getting Started Manual 2.6
- Workshops [Add document here]

Manual & FAQ

Version 2.6

Workshop Documents

# Developer Installation - Outline

- ★ MS Visual Studio 2005/2008 is used
- ★ Download OpenSees source code
- ★ Install Tcl/Tk
- ★ Install OpenSSL
- ★ Modify and compile OpenSees source code (TCP\_SocketSSL in Actor project)
- ★ Download OpenFresco Window Installer
- ★ Developer's Installation
- ★ Compiling OpenFresco

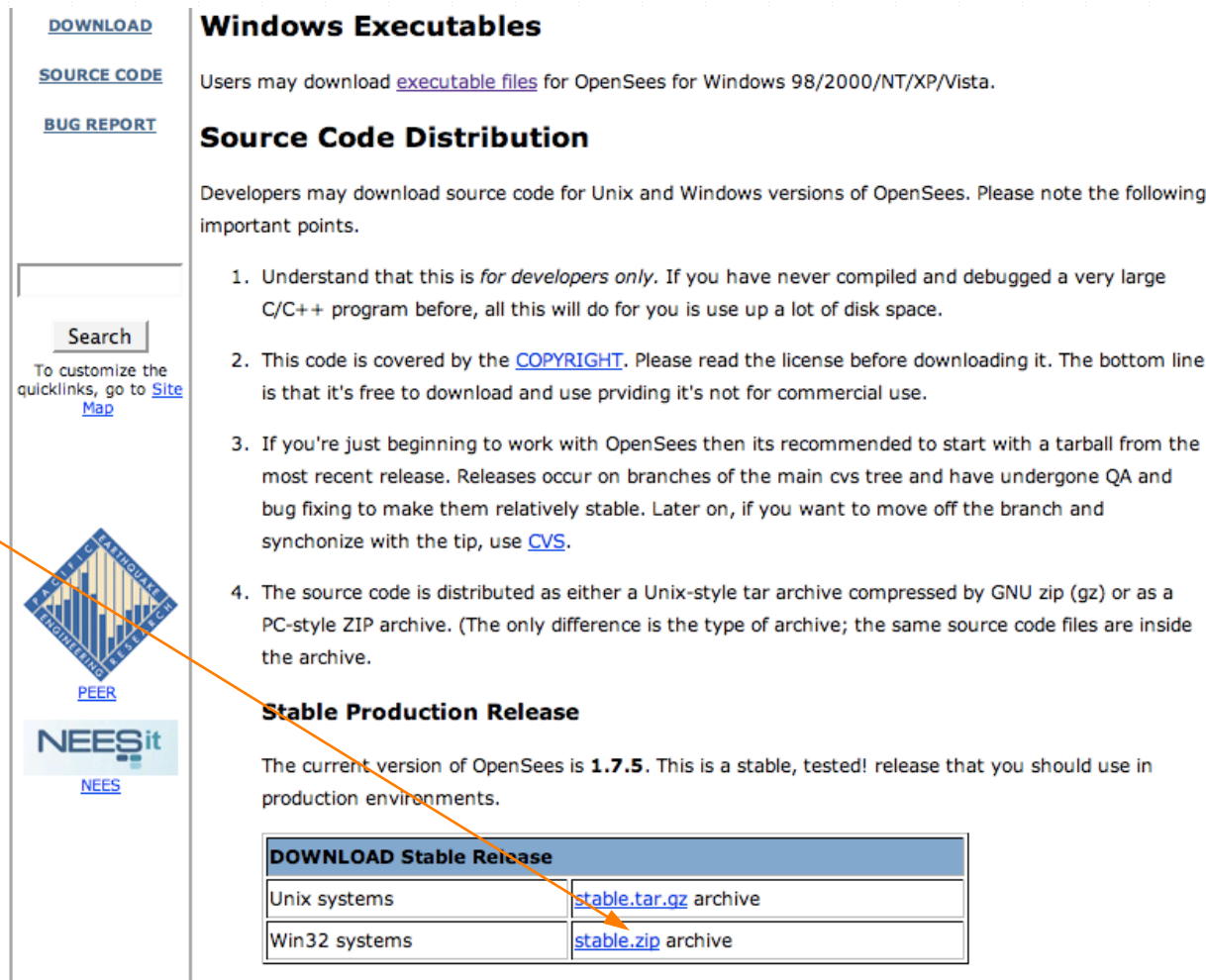


## Developer Installation - OpenSees (1)

- ★ First, register at the OpenSees website  
<http://opensees.berkeley.edu/community/profile.php?mode=register&agreed=true?reg=register>
- ★ Then enter email address to get to the download screen  
<http://opensees.berkeley.edu/OpenSees/developer/download.php>


# Developer Installation - OpenSees (2)

## ★ Download OpenSees Source Code and unzip file



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[BUG REPORT](#)

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### Windows Executables

Users may download [executable files](#) for OpenSees for Windows 98/2000/NT/XP/Vista.

### Source Code Distribution

Developers may download source code for Unix and Windows versions of OpenSees. Please note the following important points.

1. Understand that this is *for developers only*. If you have never compiled and debugged a very large C/C++ program before, all this will do for you is use up a lot of disk space.
2. This code is covered by the [COPYRIGHT](#). Please read the license before downloading it. The bottom line is that it's free to download and use providing it's not for commercial use.
3. If you're just beginning to work with OpenSees then its recommended to start with a tarball from the most recent release. Releases occur on branches of the main cvs tree and have undergone QA and bug fixing to make them relatively stable. Later on, if you want to move off the branch and synchronize with the tip, use [CVS](#).
4. The source code is distributed as either a Unix-style tar archive compressed by GNU zip (gz) or as a PC-style ZIP archive. (The only difference is the type of archive; the same source code files are inside the archive.

### Stable Production Release

The current version of OpenSees is **1.7.5**. This is a stable, tested! release that you should use in production environments.

DOWNLOAD Stable Release	
Unix systems	<a href="#">stable.tar.gz</a> archive
Win32 systems	<a href="#">stable.zip</a> archive

Click Here



# Developer Installation – Tcl/Tk (1)

- ★ Install compiled Tcl/Tk 8.5 (<http://www.activestate.com/store/productdetail.aspx?prdGuid=f0cd6399-feb-466e-ba17-220dcd6f4078>)

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## ActiveTcl

The complete, ready-to-install Tcl distribution for Windows, Mac OS X, Linux, Solaris, AIX, and HP-UX. ActiveTcl is available on DVD or by free download. If you require support for or plan to redistribute ActiveTcl, you should learn more about our ActiveTcl Enterprise and OEM Licensing options below.

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## Developer Installation – Tcl/Tk (2)

- ★ Must install Tcl header and library files – it may not be part of the default installation
- ★ Change the default installation location to C:\Program Files\Tcl

# Developer Installation - OpenSSL

- ★ Install OpenSSL (<http://www.slproweb.com/products/Win32OpenSSL.html>)
- ★ Make sure the installation location is C:\Program Files\OpenSSL

Download Win32 OpenSSL today using the links below!

File	Type	Description
<a href="#">Win32 OpenSSL v0.9.8k Light</a>	1MB Installer	Installs the most commonly used essentials of Win32 OpenSSL v0.9.8k (Recommended for most users by the creators of <a href="#">OpenSSL</a> ). Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
<a href="#">Visual C++ 2008 Redistributables</a>	1.7MB Installer	Having problems with error messages when trying to run OpenSSL? This will likely fix the problem. Only works with Windows 2000 and later. Although there is a "newer version" of this installer, this is the <b>correct</b> version to install.
<a href="#">Visual C++ 2008 Redistributables for Windows 9x/NT4</a>	4.6MB ZIP file	Having problems with error messages when trying to run OpenSSL? This will likely fix the problem. Only use under Windows 95, 98, Me, and NT4. Install this, then install "OpenSSL Light" using the '/bin' option, and then run FixSSL_9xNT4.bat contained within the /bin directory.
<a href="#">Win32 OpenSSL v0.9.8k</a>	7MB Installer	Installs Win32 OpenSSL v0.9.8k (Recommended for software developers by the creators of <a href="#">OpenSSL</a> ). Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in the legal agreement of the installation.
<a href="#">Win64 OpenSSL v0.9.8k Light</a>	1MB Installer	Installs the most commonly used essentials of Win64 OpenSSL v0.9.8k (Only install this if you need 64-bit OpenSSL for Windows. Only installs on 64-bit versions of Windows. Note that this is a default build of OpenSSL and is subject to local and state laws. More information can be found in

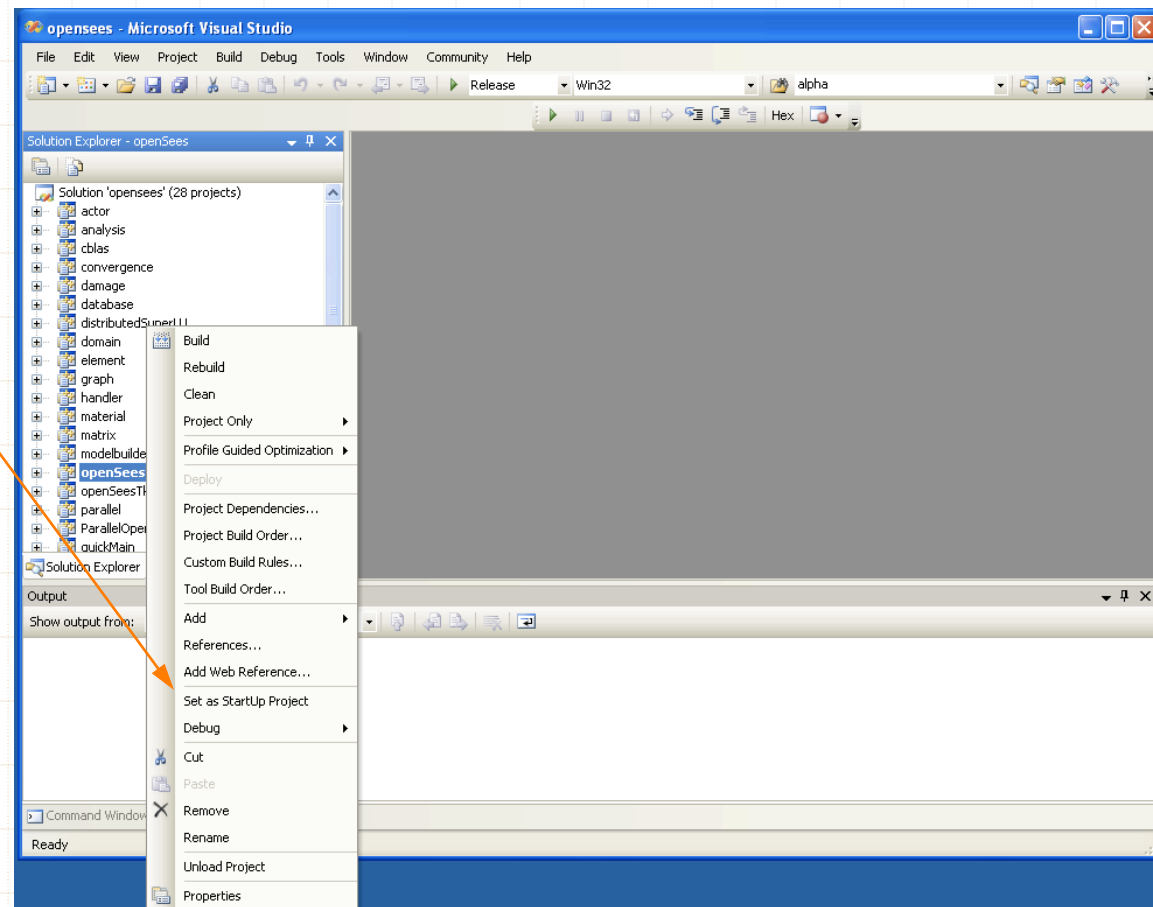
Click Here



# Developer Installation – Compile OpenSees (1)

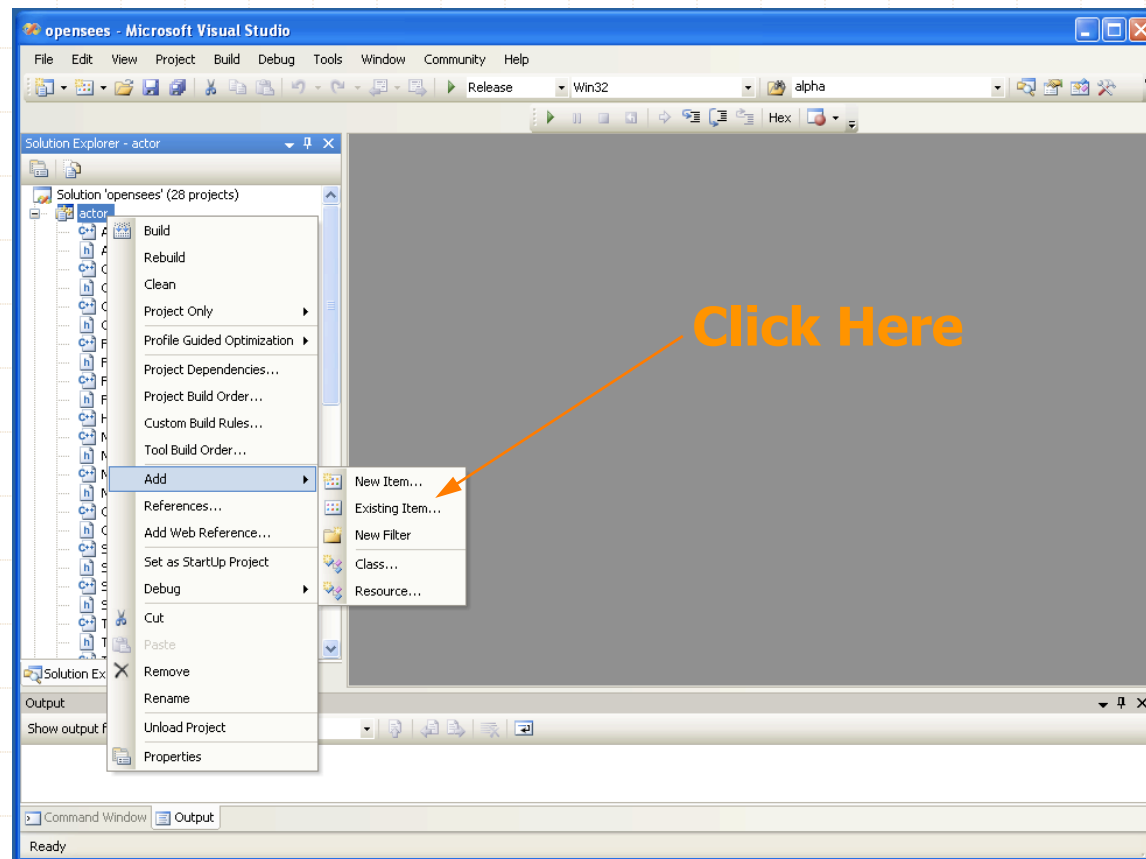
- ✦ Open OpenSees2005.sln in ..\OpenSees Directory\Win32
- ✦ Set openSees as StartUp Project by right clicking on openSees project and selecting "Set as StartUp Project"

Click Here



# Developer Installation – Compile OpenSees (2)

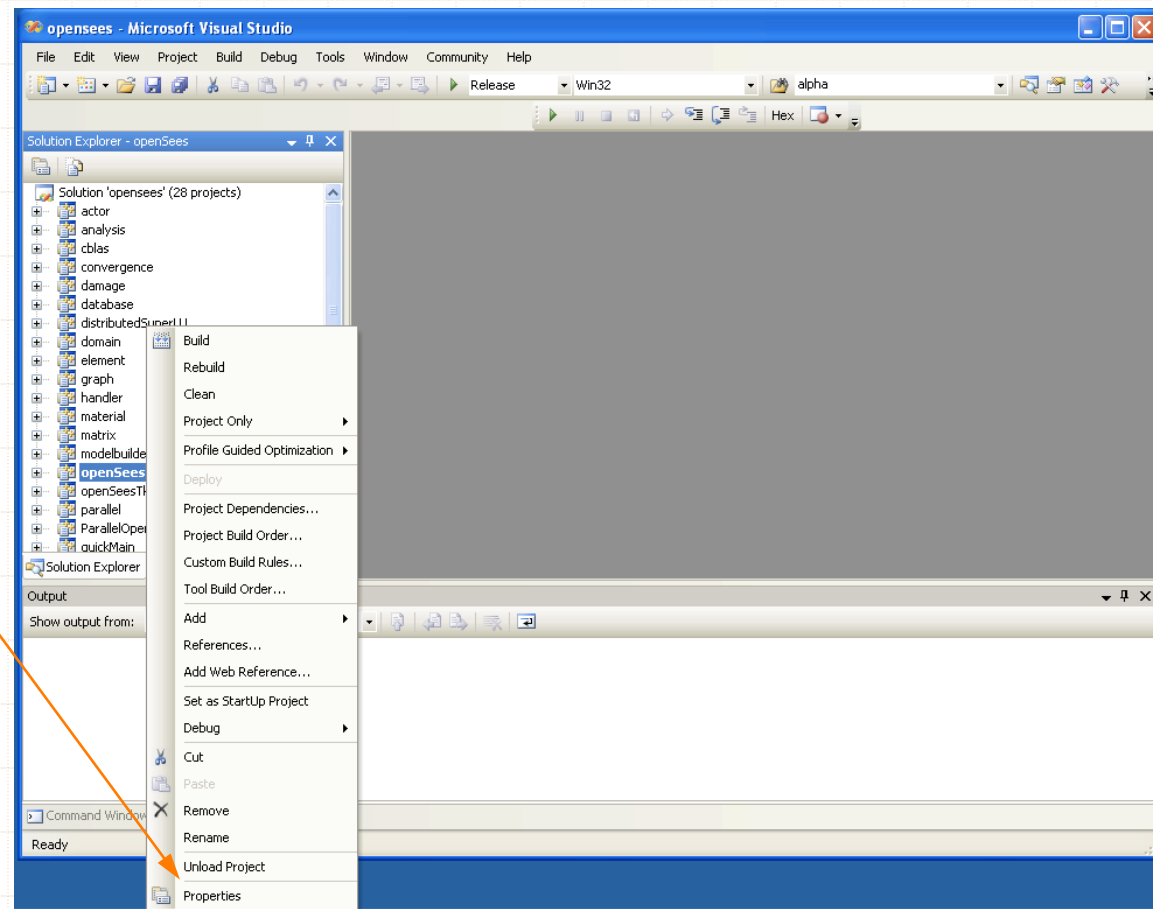
- ✦ Add TCP\_SocketSSL.ccp and TCP\_SocketSSL.h to the actor project
- ✦ Right click on the "actor" project and click on "Existing Item..."
- ✦ These files are in ..\OpenSees Directory\SRC\actor\channel



# Developer Installation – Compile OpenSees (3)

- ★ Add OpenSSL include
- ★ Start by clicking on “Properties” after right clicking on **actor** project.

Click Here



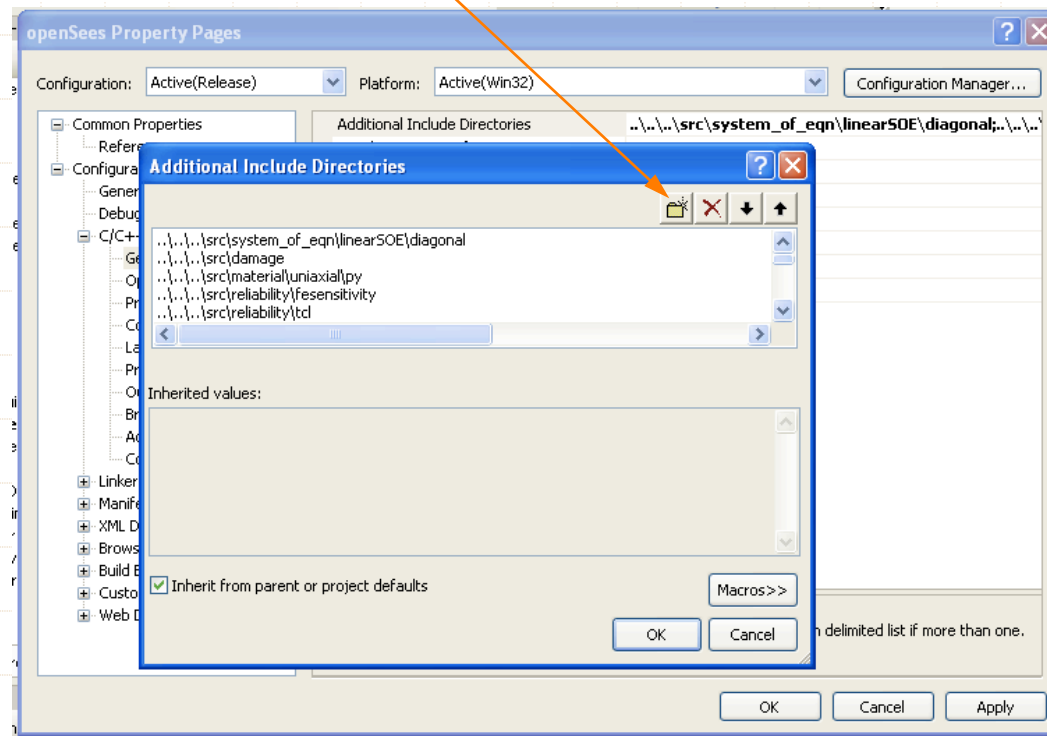




# Developer Installation – Compile OpenSees (5)

- ✦ Click new directory icon.
- ✦ Enter "C:Program Files\OpenSSL\include"
- ✦ Click "OK"

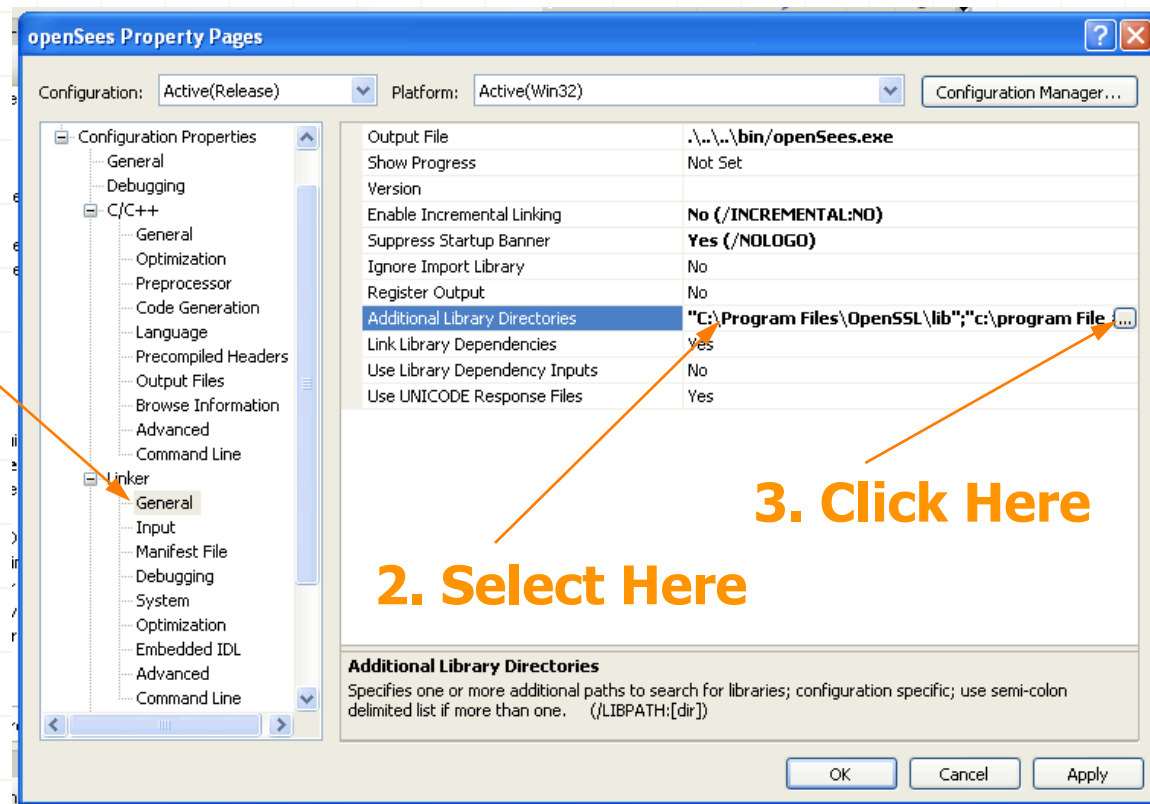
Click Here



# Developer Installation – Compile OpenSees (6)

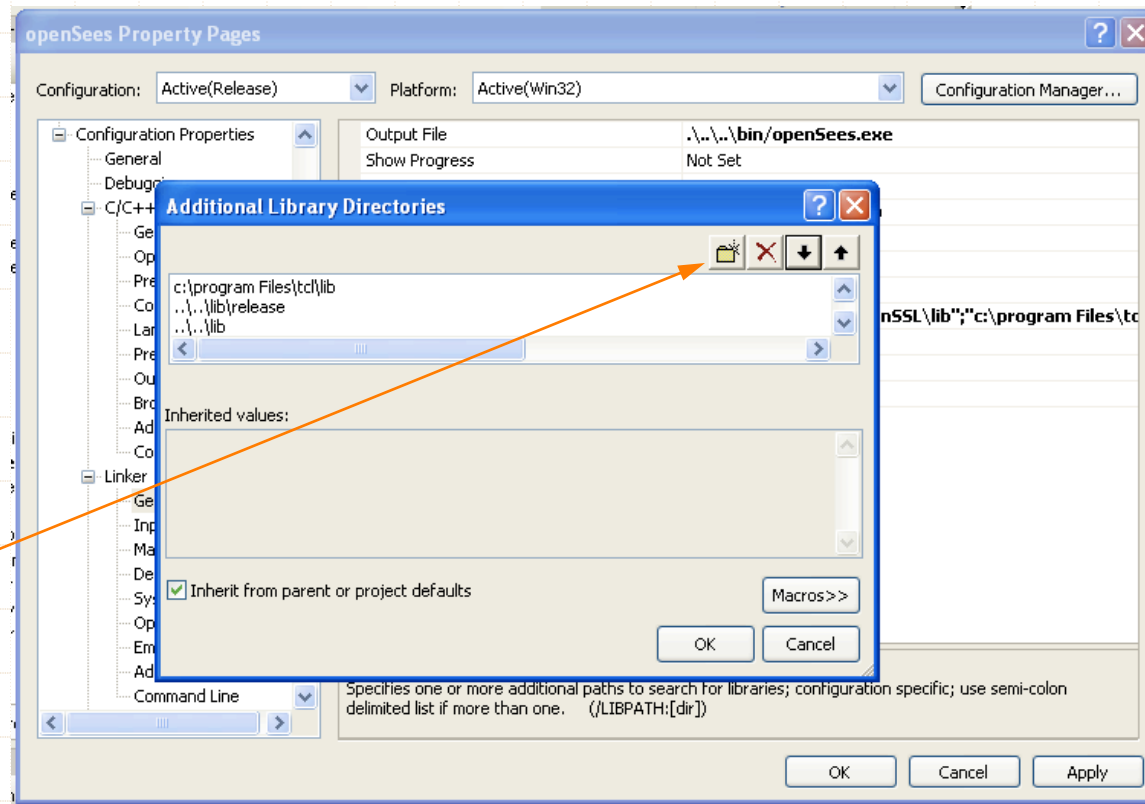
- ✦ Add OpenSSL library by first expanding the “Linker” Section and selecting “General”
- ✦ Then select “Additional Library Directories”

1. Select Here



# Developer Installation – Compile OpenSees (7)

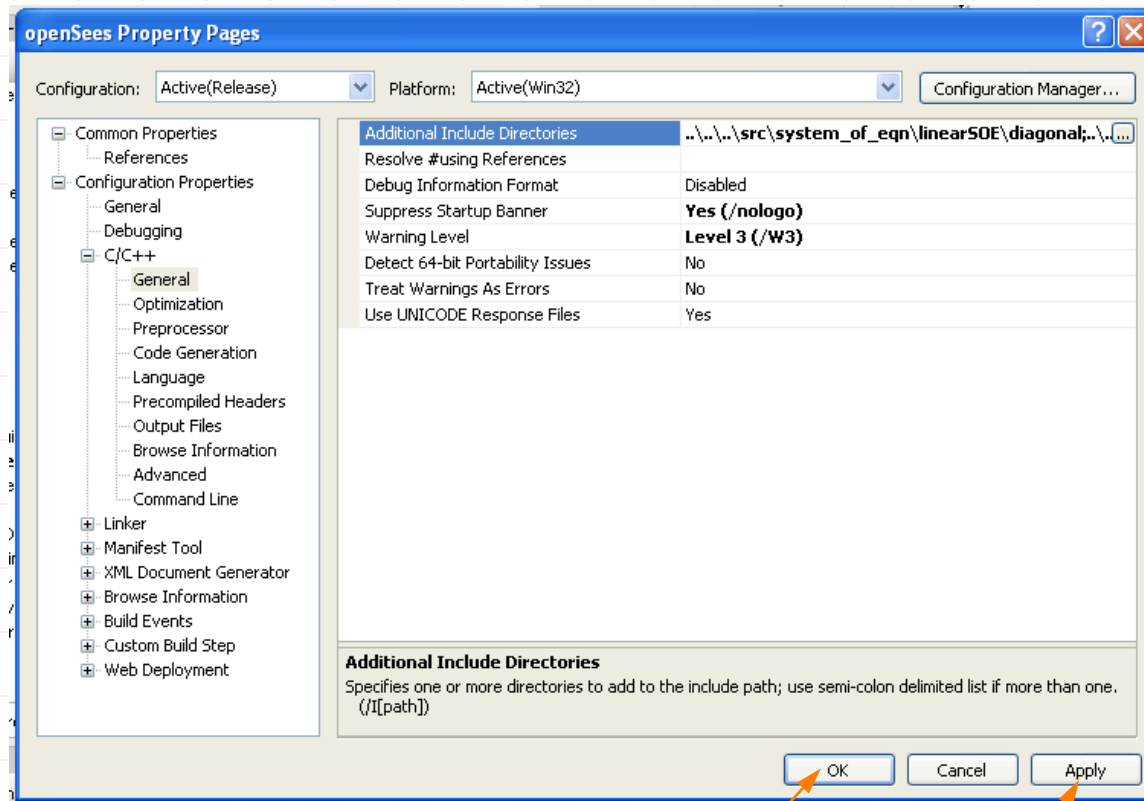
- ★ Click new directory icon.
- ★ Enter “\User’s Directory\OpenSSL\lib” where User’s Directory is where you installed OpenSSL on your computer
- ★ Click “OK”



Click Here

# Developer Installation – Compile OpenSees (8)

- ★ Click “Apply” and “OK” to apply the changes



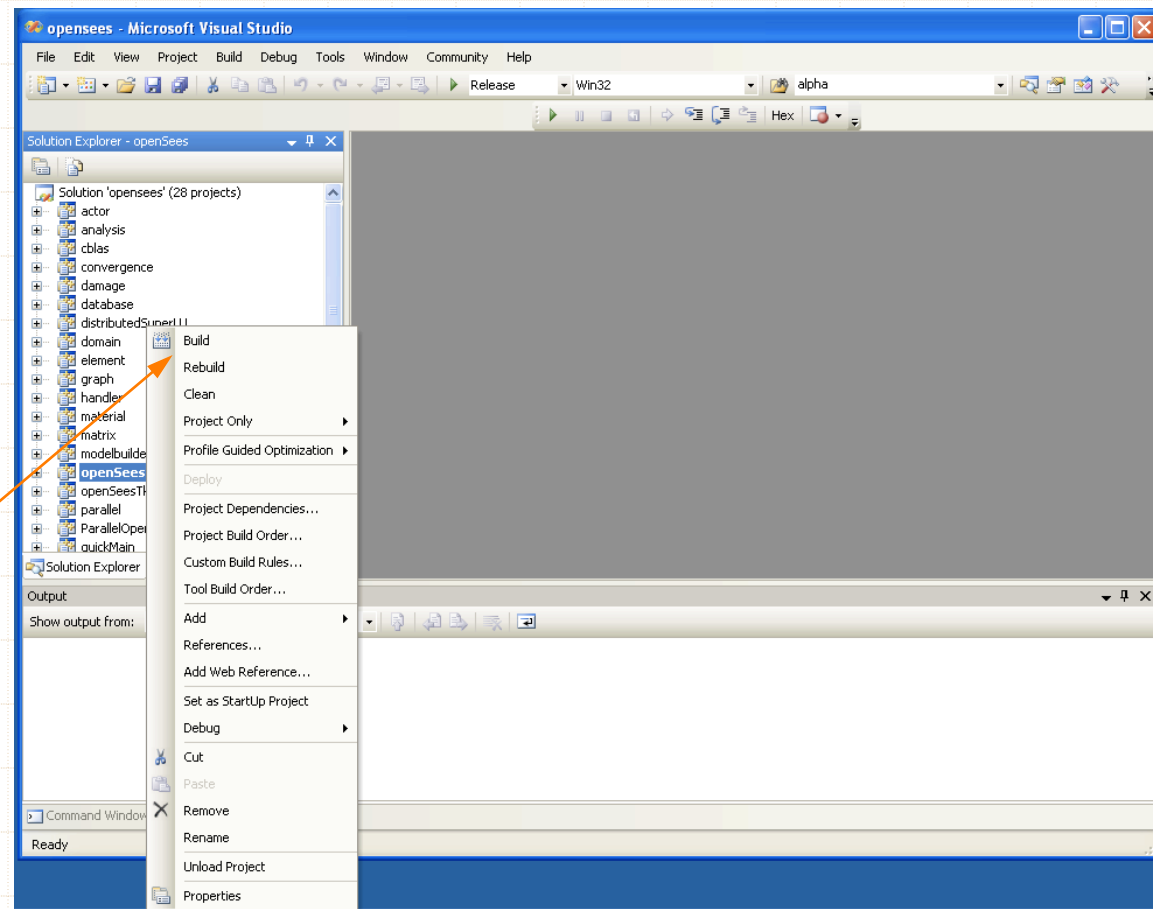
2. Click Here

1. Click Here

# Developer Installation – Compile OpenSees (9)

- ★ Now you're ready to Build!
- ★ Right click on openSees project and click "Build"

Click Here



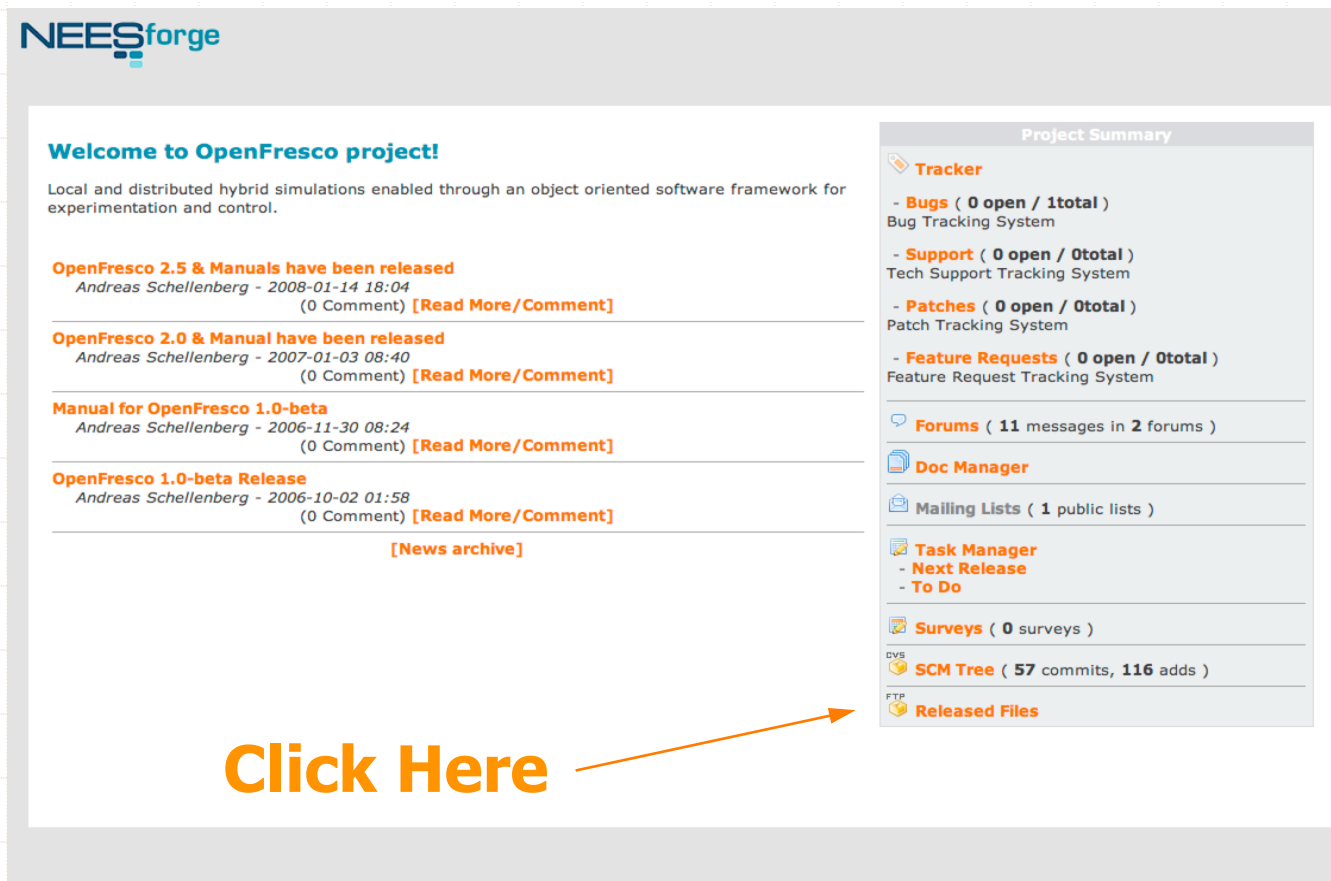


## Developer Installation – Compile OpenSees (10)

- ★ Building OpenSees can sometimes be tricky
- ★ The best resource is the OpenSees Forum (<http://opensees.berkeley.edu/community/index.php>)
- ★ OpenFresco will not compile without first compiling OpenSees

# Developer Installation – OpenFresco (1)

- ★ Click on “Released Files” (<http://openfresco.neesforge.nees.org>)



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  - **Patches** ( 0 open / 0total )  
Patch Tracking System
  - **Feature Requests** ( 0 open / 0total )  
Feature Request Tracking System
- Forums** ( 11 messages in 2 forums )
- Doc Manager**
- Mailing Lists** ( 1 public lists )
- Task Manager**
  - Next Release
  - To Do
- Surveys** ( 0 surveys )
- SCM Tree** ( 57 commits, 116 adds )
- Released Files**

Click Here



# Developer Installation – OpenFresco (2)

- ★ Download OpenFresco Windows Installer ([http://neesforge.nees.org/frs/?group\\_id=36](http://neesforge.nees.org/frs/?group_id=36))

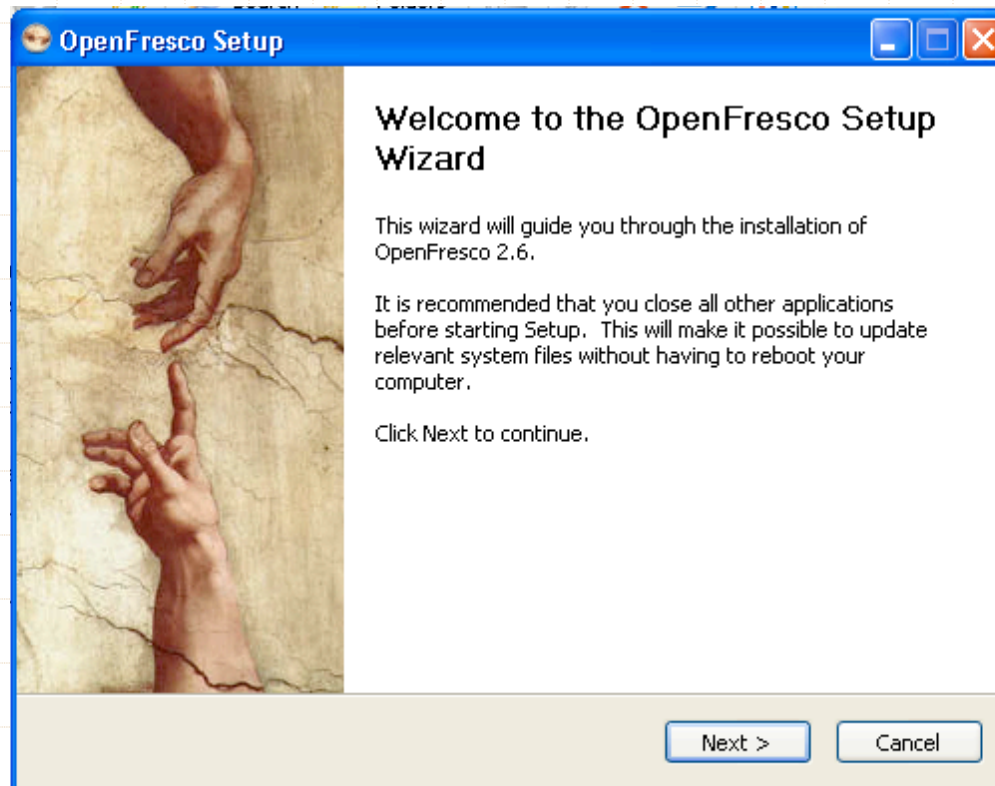
Package	Release & Notes	Filename	Date			
			Size	D/L	Arch	Type
<b>Examples</b>						
2.5				2008-01-01 18:00		
	EXAMPLES.zip		645 KB	357	i386	.zip
2.0				2006-12-20 03:12		
	EXAMPLES.zip		474 KB	341	i386	.zip
1.0-beta				2006-10-02 19:24		
	ThreeSpanBridge_Tcl.zip		59 KB	99	Any	.zip
	TwoDOFModel_Tcl.zip		13 KB	74	Any	.zip
<b>OpenFresco-sourceCode</b>						
2.5				2008-01-01 18:00		
	OpenFresco2.5.zip		13.08 MB	157	i386	.zip
2.0				2006-12-20 03:10		
	OpenFresco2.0.zip		2.38 MB	178	i386	.zip
1.0-beta				2006-10-04 01:56		
	OpenFresco1.0-beta.zip		6.06 MB	46	Any	.zip
<b>OpenFresco-win32</b>						
2.6				2009-08-21 00:57		
	OPF2.6_Installer_win32.zip		11.19 MB	0	i386	.zip
2.5				2008-01-01 18:00		
	OPF2.5_Installer_win32.zip		12.1 MB	166	i386	.zip
2.0				2006-12-20 01:25		
	OpenFresco2.0_win32.zip		2.62 MB	165	i386	.zip
1.0-beta				2006-10-03 05:24		
	OpenFresco1.0-beta_win32.zip		1.07 MB	47	i386	.zip

Click Here



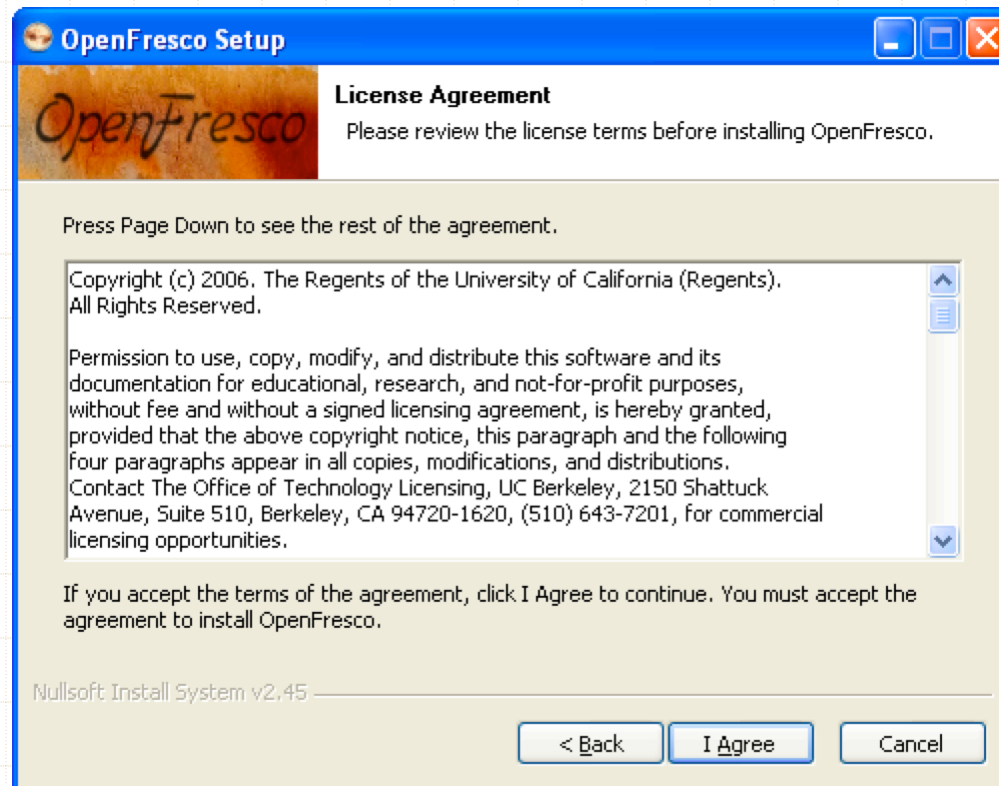
# Developer Installation – OpenFresco (3)

- ✦ Start OpenFrescon Windows Installer by double clicking on OPF2.6\_Installer\_win32.zip
- ✦ Click "Next"



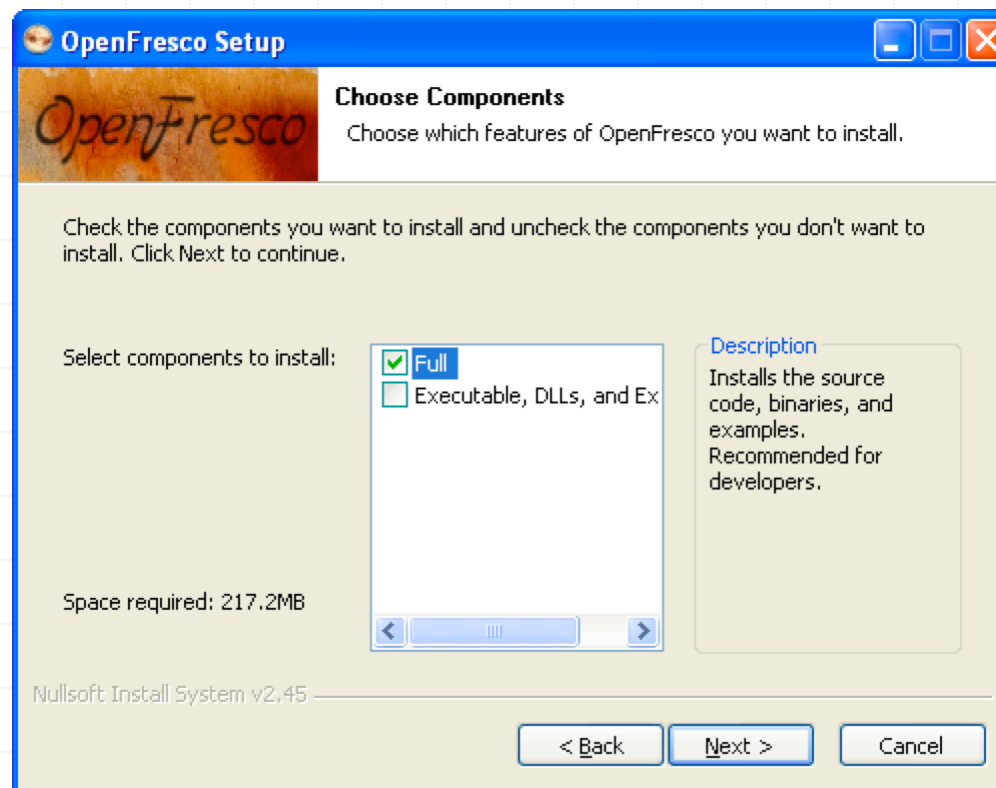
# Developer Installation – OpenFresco (4)

- ★ Use scroll bar to read License Agreement
- ★ Click “I Agree”



# Developer Installation – OpenFresco (5)

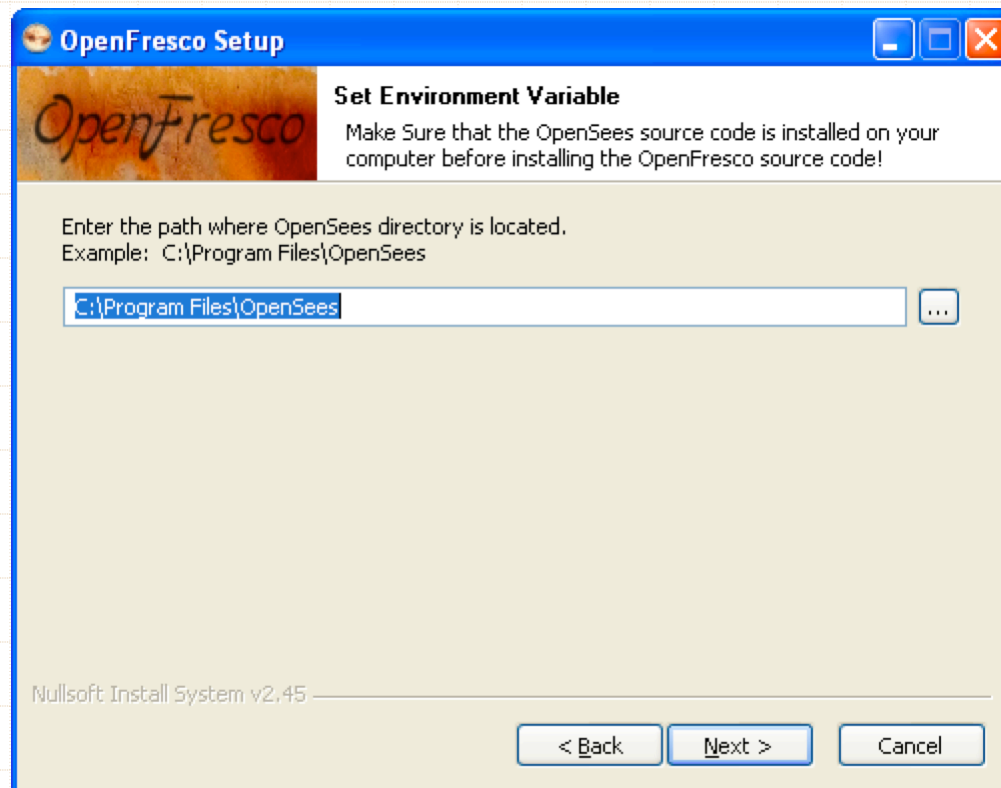
- ★ Check the Full installation option
- ★ Click "Next"





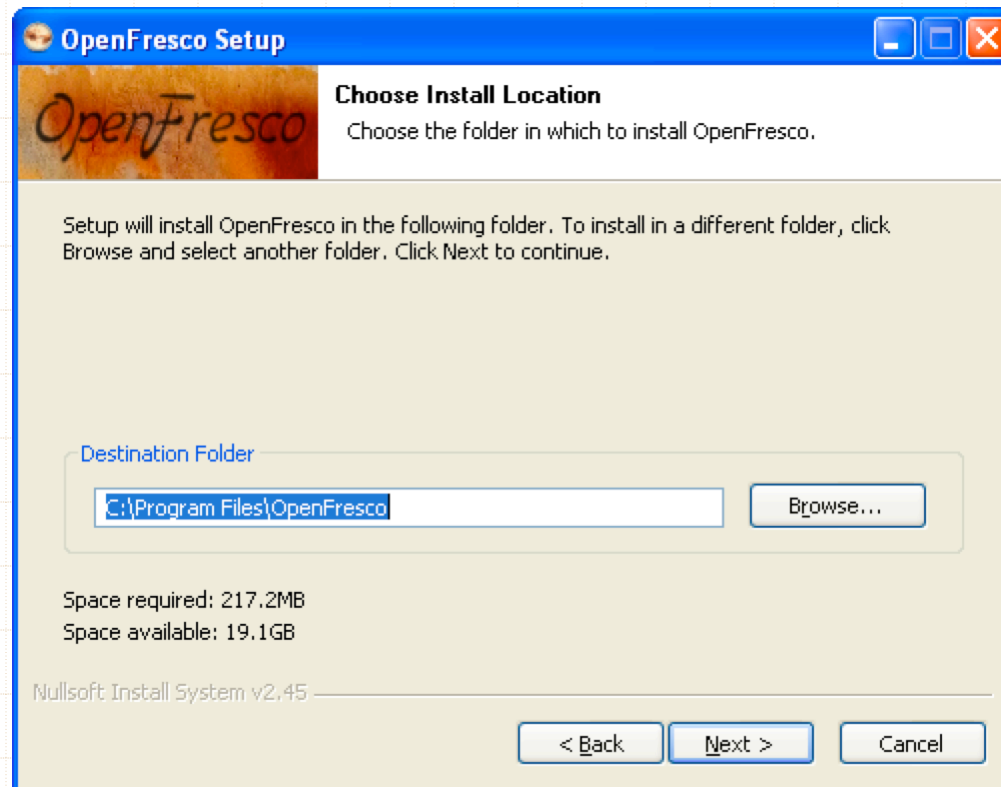
# Developer Installation – OpenFresco (6)

- ✦ Enter the path of OpenSees source code
- ✦ Click "Next"



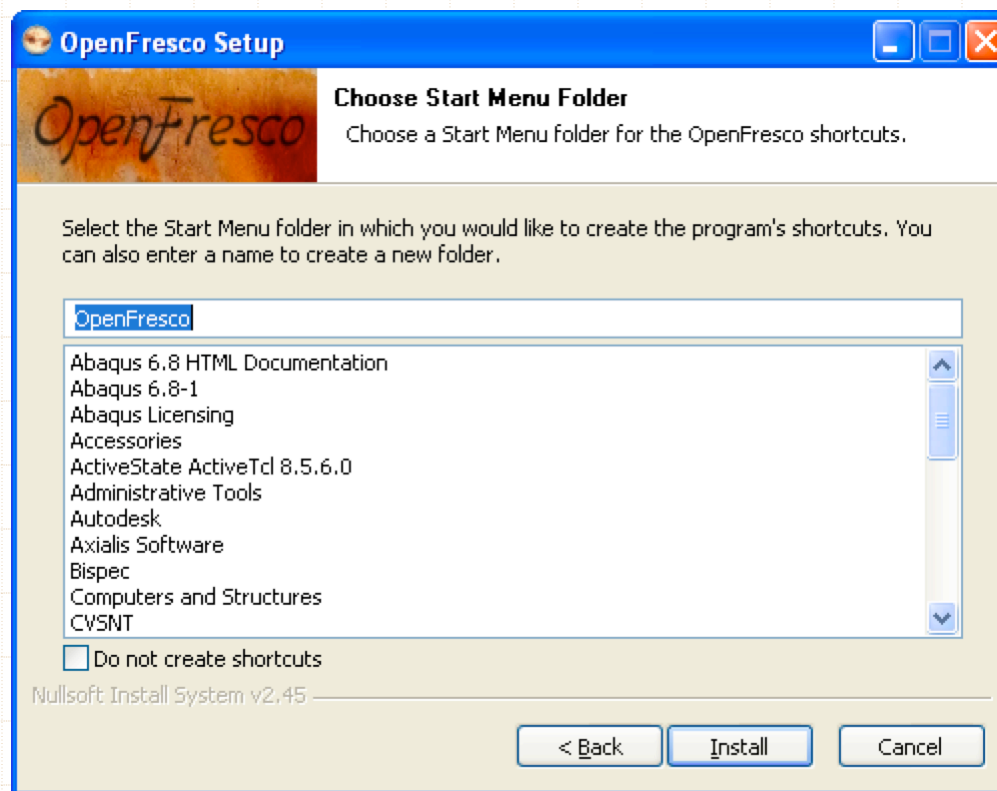
# Developer Installation – OpenFresco (7)

- ★ Choose the installation location by clicking on “Browse”
- ★ Click “Next”



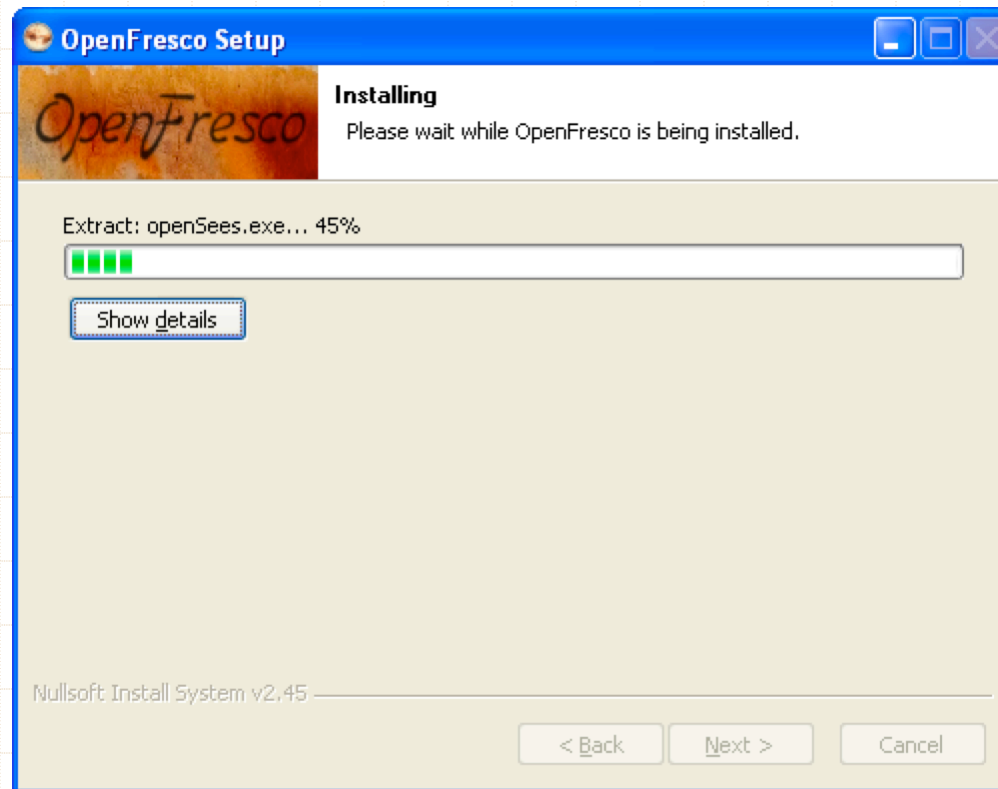
# Developer Installation – OpenFresco (8)

- ✦ Clicking on “Install” to create a shortcut on the Start Menu
- ✦ Check “Do not create shortcuts” to bypass this step
- ✦ Click “Install”



# Developer Installation – OpenFresco (9)

- ★ Following status screen appears



# Developer Installation – OpenFresco (10)

- ★ Click “Yes” to complete installation – Adds a path to OpenFresco exe and DLLs to the execution path



# Developer Installation – OpenFresco (11)

- ★ Click “Finish” to complete installation

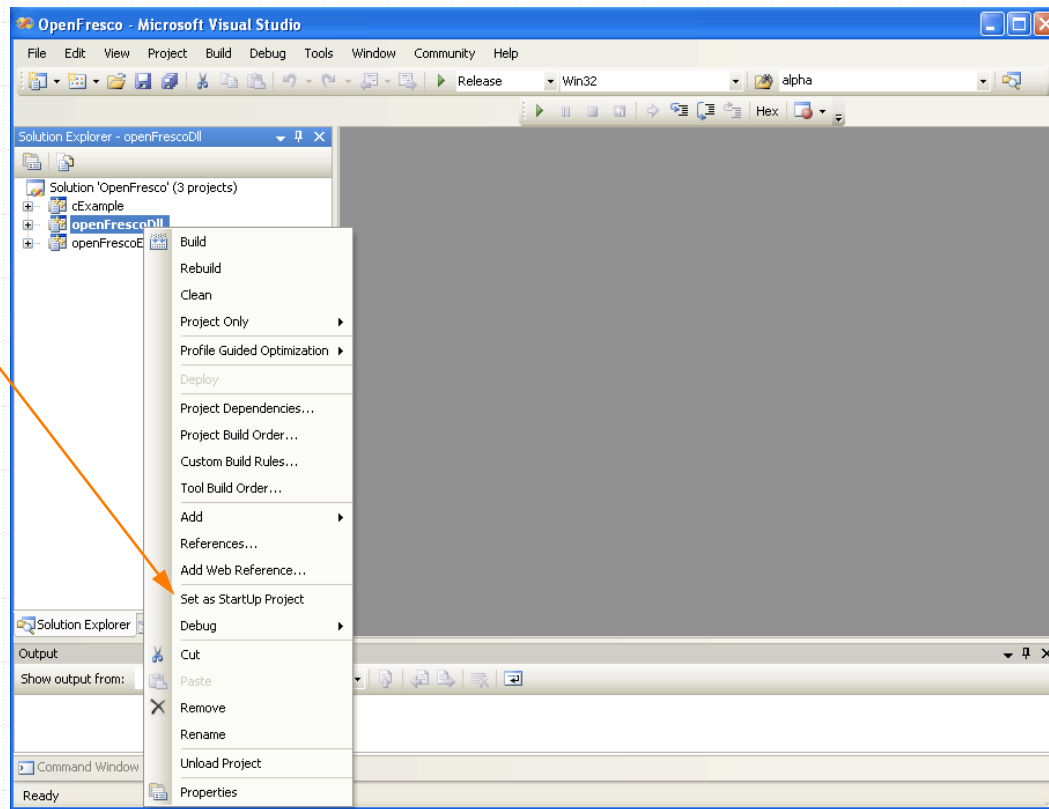




# Developer Installation – Compile OpenFresco (1)

- ✦ Open OpenFresco MS Visual Studio Solution file in \User's Directory\OpenFresco 2.5\trunk\WIN32
- ✦ Set openFrescDLL as StartUp Project by right clicking on openFrescoDLL project and selecting "Set as StartUp Project"

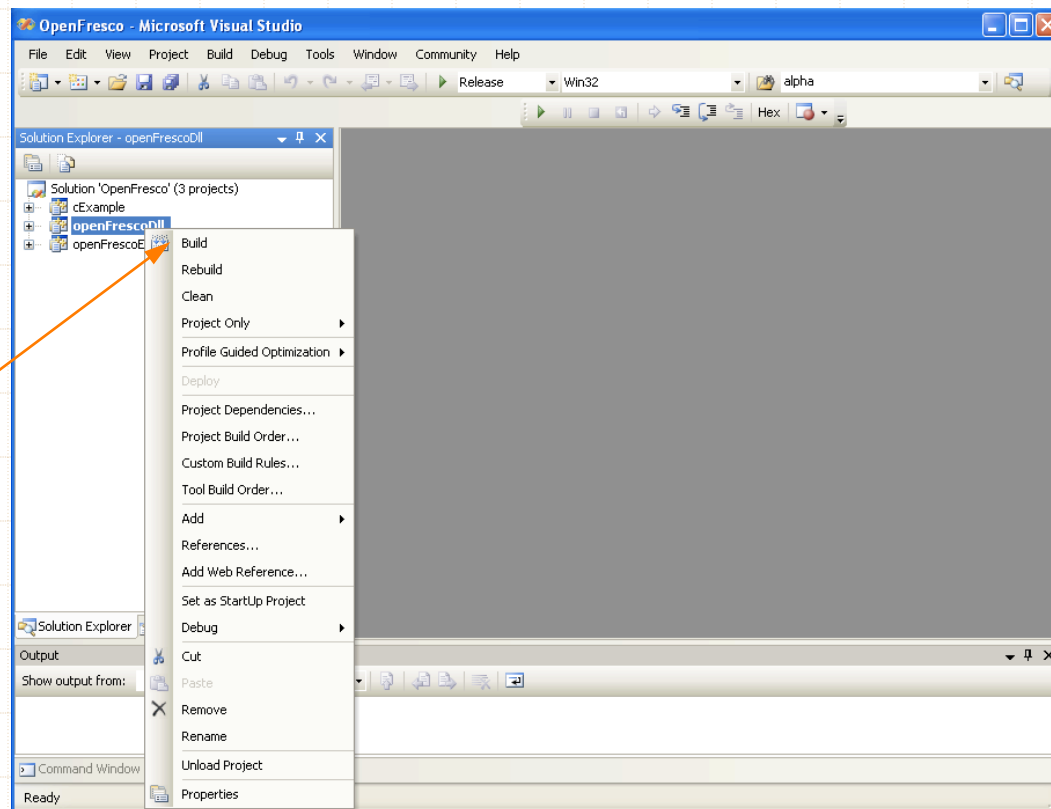
Click Here



## Developer Installation – Compile OpenFresco (2)

- ✦ To Build openFrescoDLL to create DLL to be used with OpenSees, right click on openFrescoDLL project and selecting “Build”
- ✦ DLL is created in \User’s Directory\OpenFresco 2.5\trunk \WIN32\bin

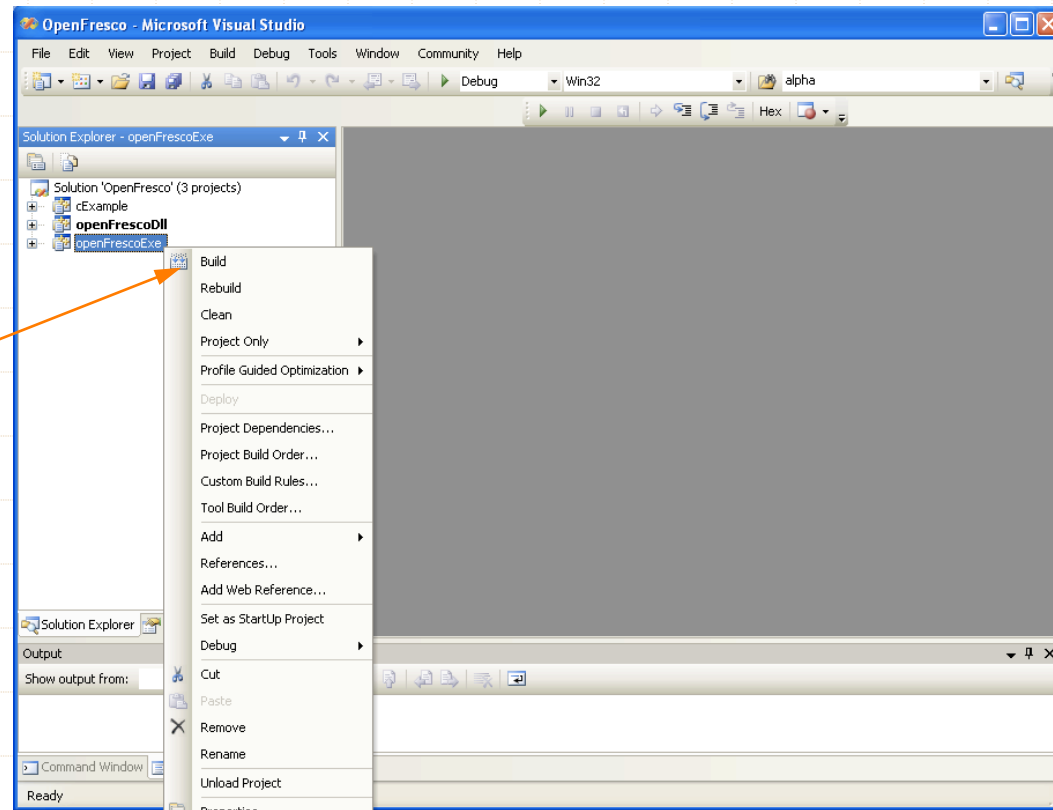
Click Here



## Developer Installation – Compile OpenFresco (3)

- ✦ To Build openFrescoExe to create the executable, right click on openFrescoExe project and selecting “Build”
- ✦ Executable is created in \User’s Directory\OpenFresco 2.5\trunk\WIN32\bin

Click Here



# Conclusion

- ★ Instruction for Uninstalling OpenFresco is in Installation and Getting Started Manual
- ★ Installation and Getting Started Manual contains a simple example using OpenSees as the computational Driver
- ★ Please contact me with any questions or suggestions ([hongkim@berkeley.edu](mailto:hongkim@berkeley.edu))



# Thank you!

<http://openfresco.neesforge.nees.org>

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*Department of Civil and Environmental Engineering  
University of California, Berkeley*



OpenFresco