

CMB Modelbuilder Install Instructions for Windows

The CMB modelbuilder application can be used to create ACE3P input files from data entered in form-style attribute panels.

Install

The Windows version of modelbuilder is distributed as a zip file. There is no installer program; you only unzip the file to a convenient location in your user area. The modelbuilder.exe program is in the "bin" subfolder. You can create a shortcut to it on your desktop, if desired.

Before running modelbuilder, it is recommended that you also create a projects root folder for modelbuilder projects that you will create.

Run

The first time you run modelbuilder.exe, your system might display a blue popup with the title "Windows protected your PC". This is because our packages are not signed with Microsoft. You can proceed to run modelbuilder by clicking the "More Info" link, which brings up a "Run anyway" button.

Plugin Setup

The first time you run modelbuilder, the plugins used for ACE3P might not be loaded. Use these steps to update the application to auto-load three plugins: SLACTools, smtkProjectManagerPlugin, and smtkACE3PPlugin.

- In the "Tools" menu, select "Manager Plugins...", which brings up a dialog with two panels labeled "Remote Plugins" (which should be empty) and "Local PLugins".
- In the "Local Plugins" panel, look in the list for "SLACTools" and expand it by clicking the arrow to its left. In the expanded section, check the box labeled "Auto Load".
- In the "Local Plugins" panel, look in the list for "smtkACE3PPlugin" and expand it by clicking the arrow to its left. In the expanded section, check the box labeled "Auto Load".
- In the "Local Plugins" panel, look in the list for "smtkProjectManagerPlugin" and expand it by clicking the arrow to its left. In the expanded section, check the box labeled "Auto Load".
- Close the panel, then close the application and restart. On restart, the "Project" menu should now be visible.

If any of the three plugins are not shown in the panel, you might have to use the "Load New..." button to navigate to the plugin dll file in the package. The dll files can be found under the install "bin" directory, at the path bin/smtk-3.3.0/*.

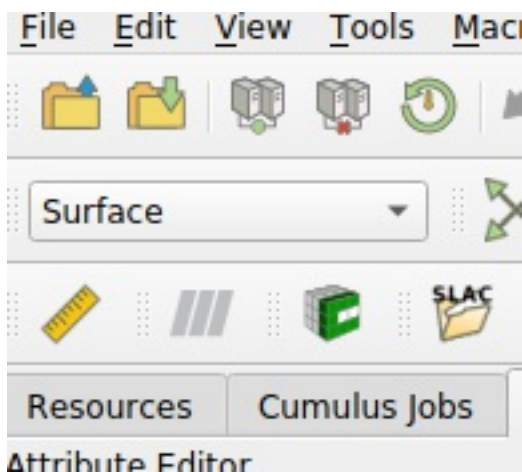
Also be aware that the Cumulus Jobs panel is not visible by default. To change that, open the "View" menu and check the "Cumulus Jobs" box.

Settings Setup

Before using modelbuilder to create and use ACE3P projects, you also need to set two items in the application settings that specify the locations of the workflows and project-root folders:

- From the application's "Edit" menu, select the "Settings..." item to open the "Settings" dialog.
- In the dialog, select the tab labeled "Sim Pre-processing".
- Near the bottom of the tab is an item labeled "Workflows Folder". Set this to the "Workflows/ACE3P" folder in the unzipped modelbuilder package.
- Below that item is an item labeled "Projects Root Folder". Set this to a folder on your file system to use as the default parent for all "projects" you create with modelbuilder.

Modelbuilder includes a toolbar icon that can be used to launch the CUBIT Geometry and Mesh Generation Toolkit, if installed on the same machine.



To configure the icon, open the Settings dialog and find the "ACE3P" tab. Set the path to the CUBIT executable on your file system using the browse button next to the CUBIT field.

"SSL support is required" Error

When using the Cumulus Jobs panel and clicking the "NERSC Login" button, the system may respond with a popup error message "SSL support is required, you must rebuild Qt with SSL support." The message is not accurate -- instead the problem is that the machine does not have OpenSSL installed or has a version of OpenSSL that is too old for modelbuilder.

As of January 2020, you can get the latest OpenSSL installer at <https://slproweb.com/products/Win32OpenSSL.html>. For standard Windows 10 systems, you can use the first download, which is 3MB and labeled "Win64 OpenSSL v1.1.1d Light". The direct link is https://slproweb.com/download/Win64OpenSSL_Light-1_1_1d.exe. After installing OpenSSL, the "NERSC Login" should respond with a dialog for entering your NERSC account name, password, and MFA token.

Known Issues

Using SLACTools to display simulation results, there is a known problem on systems with Intel HD graphics. At present, the only workaround for this is to install and use ParaView 5.6 and its SLACTools plugin.