Installation Program (Setup) for Open ModelSphere

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Abstract: T*his document describes how to use open-source installer generators in order to create a setup program for Open ModelSphere.*

If you follow the instructions of this document, you should be able to generate a ModelSphere 3.0 Setup.exe in one hour or two. A Setup.exe program is an executable that extract itself and install a new application. Windows end-users will then just have to click the .exe to install ModelSphere on their machines. A Setup program does not replace the .zip solution (this solution is preferred for Java developers, especially those who want to stay independant from Windows-specific solutions), it's just a user-frienly alternative solution for Windows users who are not familiar with the Java technology.

Name	Size	Type
resources		File Folder
targets		File Folder
plugins		File Folder
drivers		File Folder
examples		File Folder
classes		File Folder
doc		File Folder
lib		File Folder
resources.zip	1,286 KB	WinRAR ZIP archive
LICENSE.TXT	35 KB	Text Document
modelsphere.args	1 KB	ARGS File
modelsphere.jar	3,602 KB	Executable Jar File
OpenModelSphere.ico	3 KB	Icon
README.TXT	2 KB	Text Document
DÉMARREZ.TXT	1 KB	Text Document
GETSTARTED.TXT	1 KB	Text Document
modelsphere.bat	1 KB	MS-DOS Batch File
locale.properties	1 KB	PROPERTIES File

Before: A bunch of files including a .bat file that users must open and edit manually according their settings.

ModelSphere 3.0 Setup.exe

After: A single auto-extract executable that installs Open ModelSphere on the user's machine.

Step 1: Download the Installer Programs

Download the following open-source installer generators.

- JSmooth, http://jsmooth.sourceforge.net/
- Inno Setup: http://www.innosetup.com/isinfo.php

JSmooth is a programs that converts a .jar (Java Archive) into a .exe (an executable). Inno Setup generates a setup program. A setup program is a program that extracts itself and create entries in the programs files, desktop shortcut, and uninstall program. Download and install these two applications.
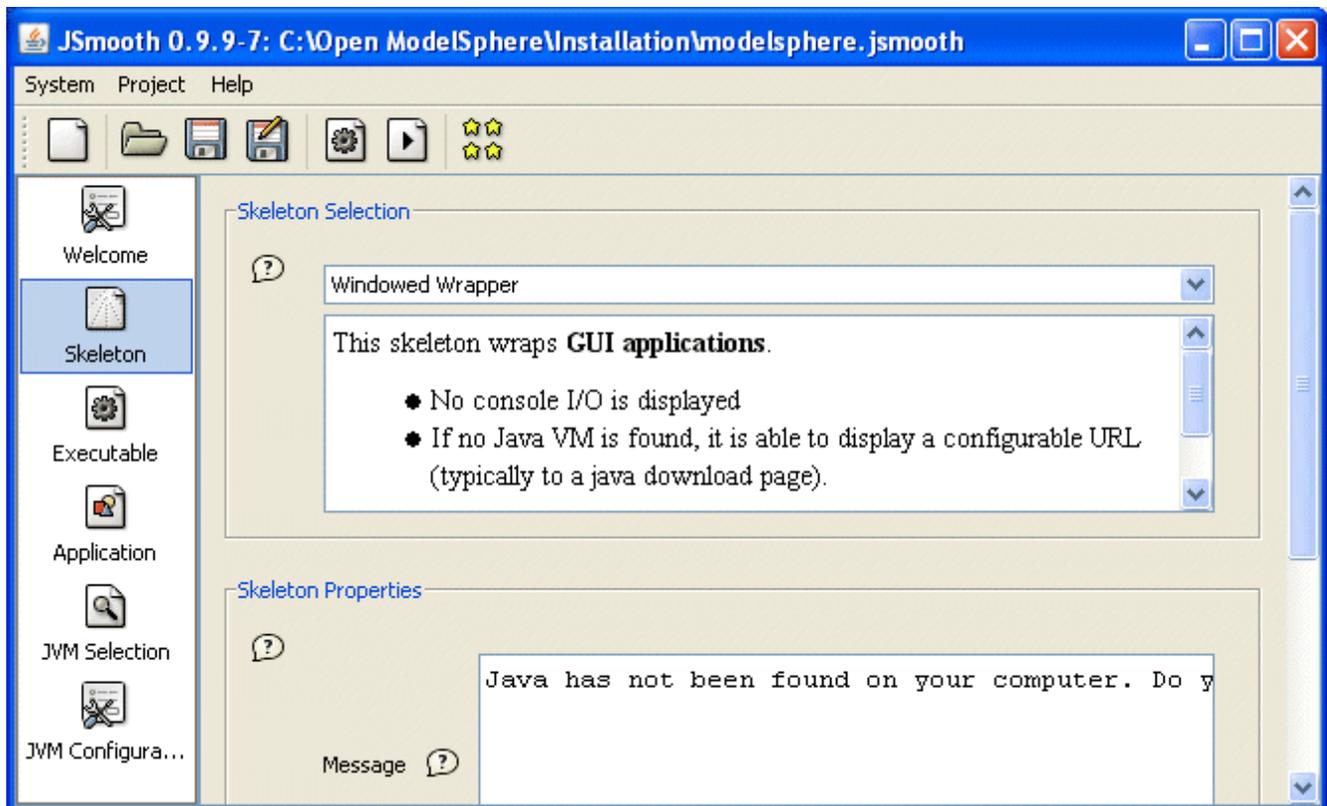
Step 2 : Start JSmooth

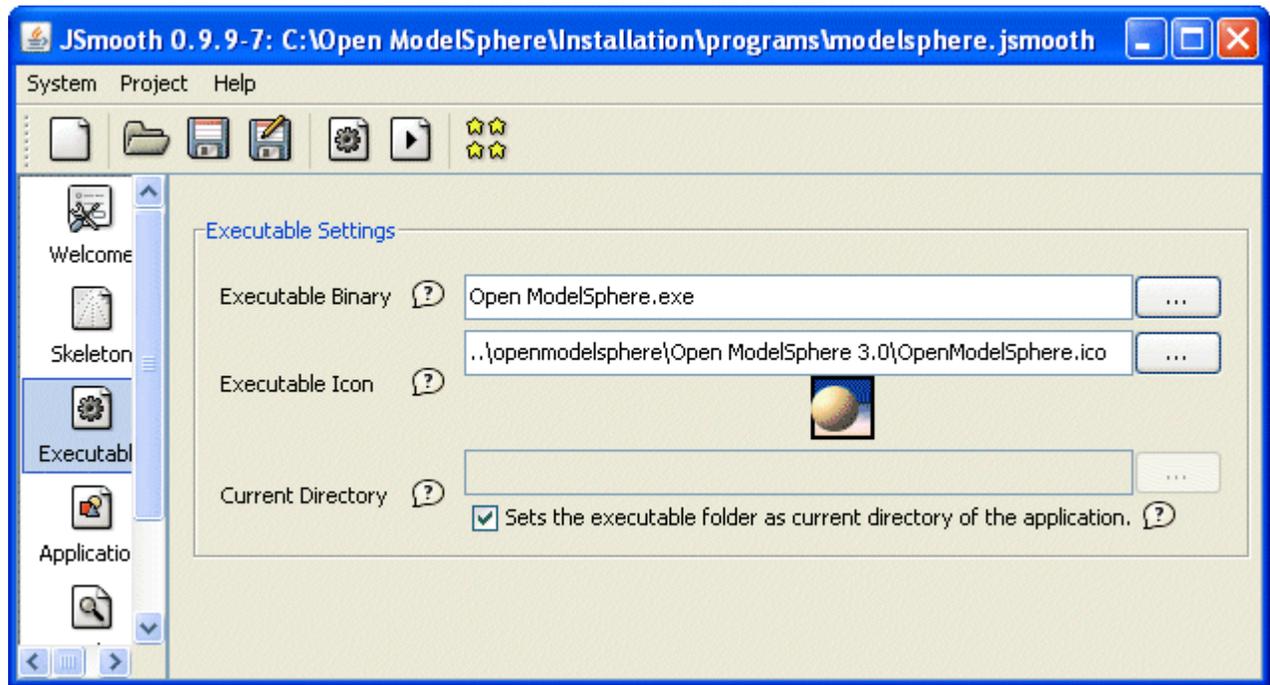Once installed, launch JSmooth from the Start Menu


Step 3 : Use the Wizard

In the second page of the wizard (the Skeleton page), select "Windowed Wrapper".

In the third page, enter the name of the application and associate an icon.


In the fourth page, enter the main class (org.modelsphere.sms.Application) and add all the .jar, .zip and folders of the classpath. Open the .bat file for the complete list of required archives and folders.
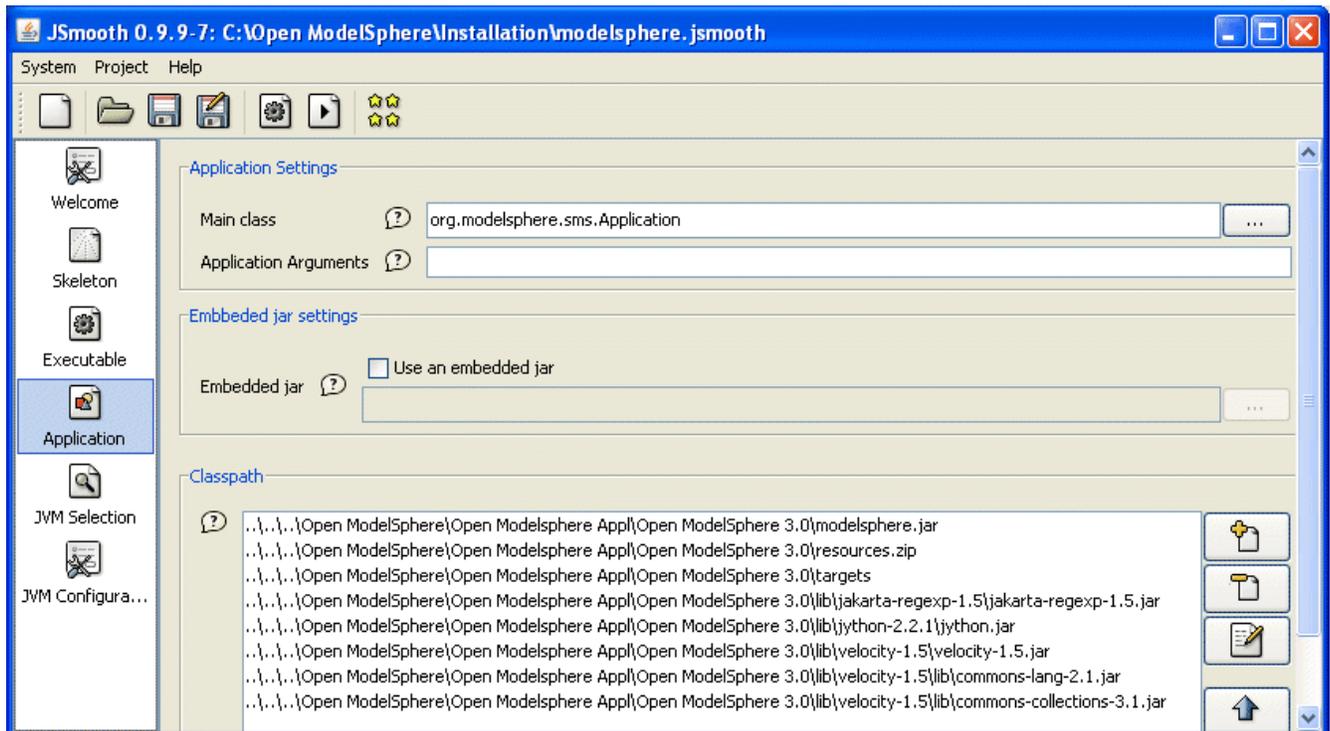
In the 'JVM Selection' page, enter 1.5.0 as the minimum JVM version required to run ModelSphere.
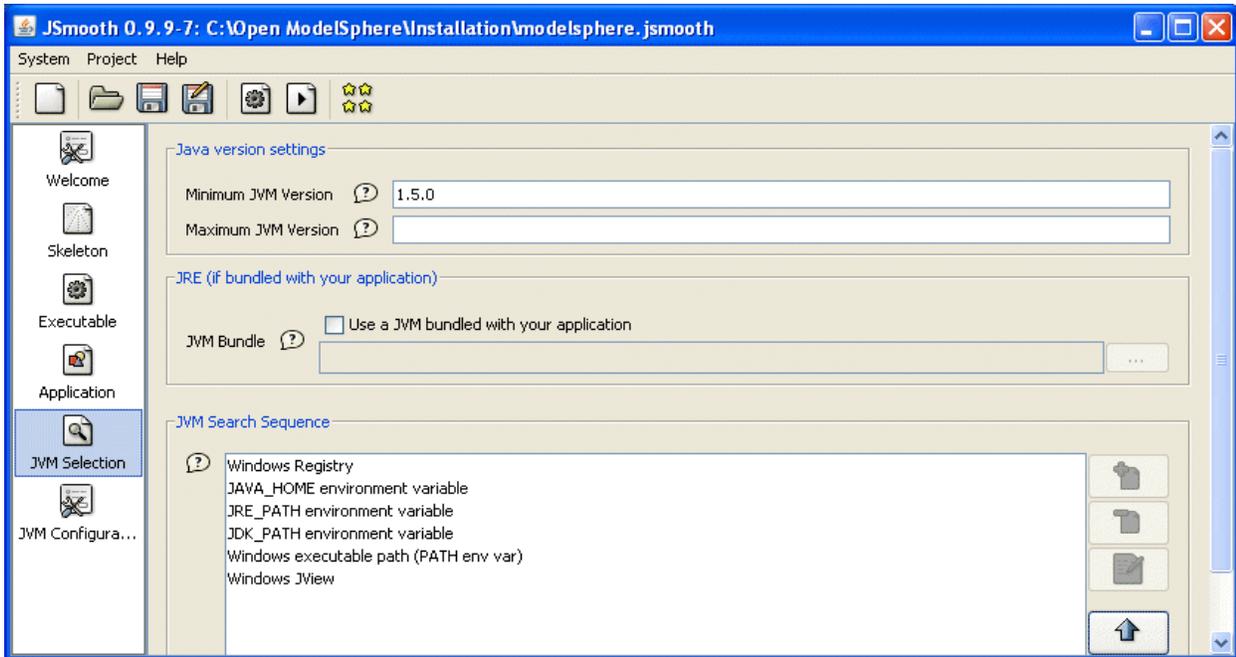
In the 'JVM Configuration' page, enter the initial and the maximum momery required to ModelSphere. These values come from the .bat file.
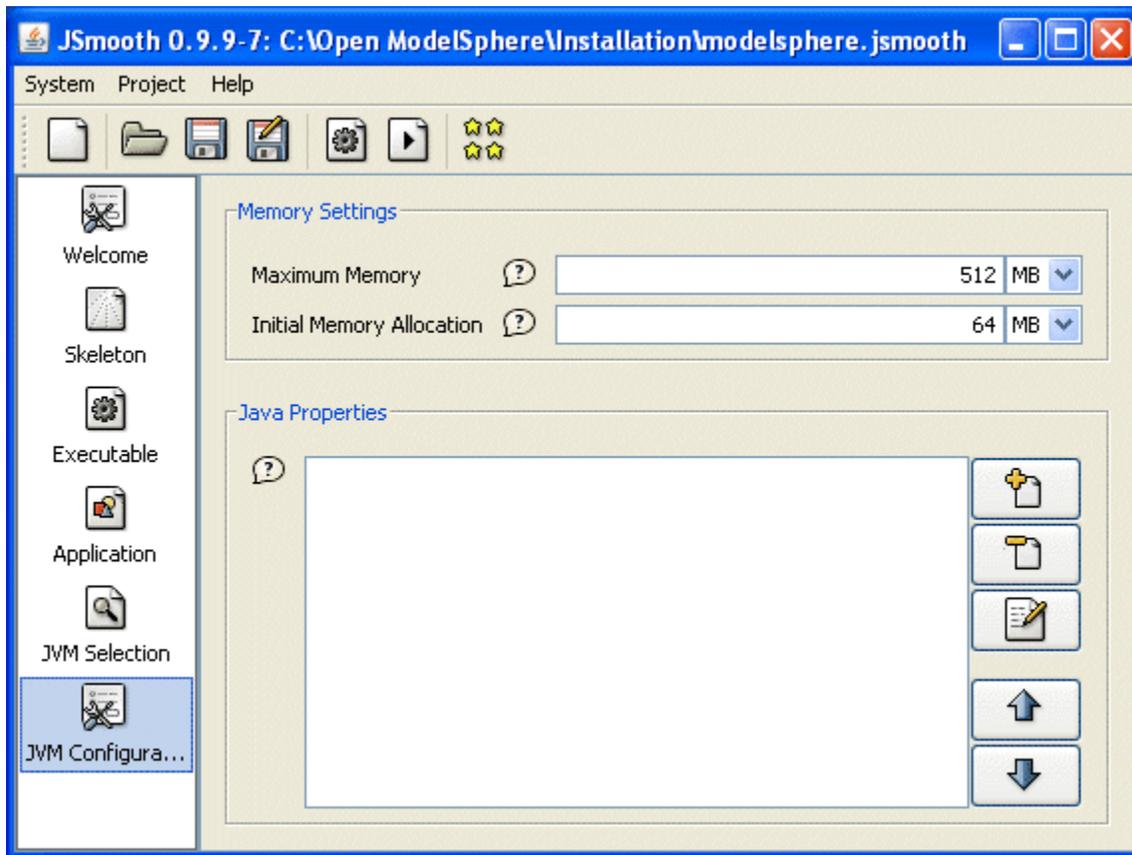
In the tool bar, press the Save icon (the floppy disk icon) to save the values entered in the wizard; this creates a .jsmooth file, as shown below.
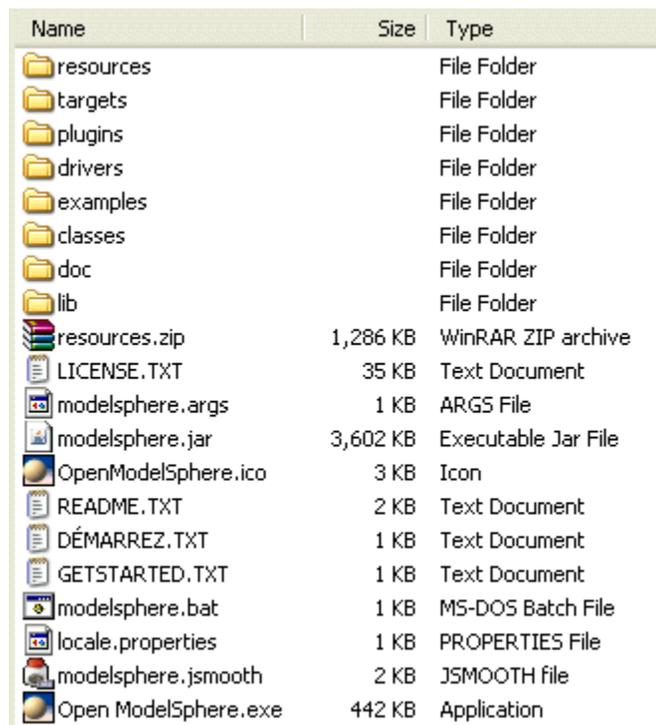
Name	Size	Type
resources		File Folder
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plugins		File Folder
drivers		File Folder
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GETSTARTED.TXT	1 KB	Text Document
modelsphere.bat	1 KB	MS-DOS Batch File
locale.properties	1 KB	PROPERTIES File
modelsphere.jsmooth	2 KB	JSMOOTH file

Step 4 : Create the executable

Press the Compile button (the wheel icon) in order to generate the executable.
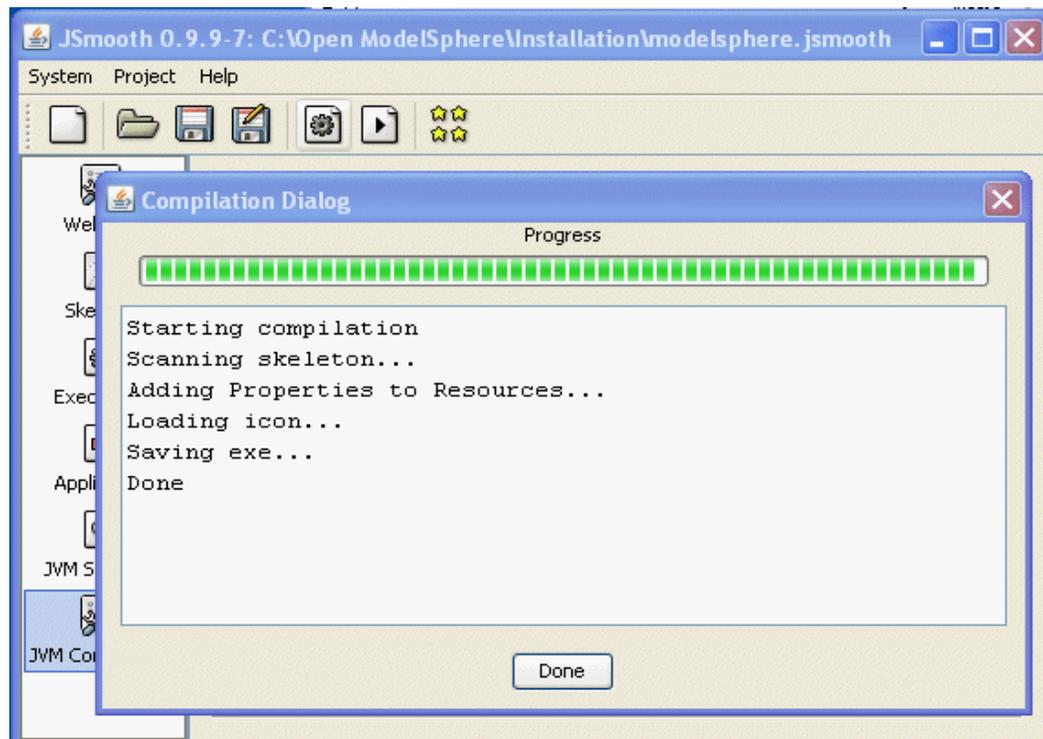
Compiling the executable should generate the .exe file, as shown below:

| Name	Size	Type
resources		File Folder
targets		File Folder
plugins		File Folder
drivers		File Folder
examples		File Folder
classes		File Folder
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modelsphere.bat	1 KB	MS-DOS Batch File
locale.properties	1 KB	PROPERTIES File
modelsphere.jsmooth	2 KB	JSMOOTH file
Open ModelSphere.exe	442 KB	Application

You can click the .exe file in order to verify if the generated executable is correct, but in this case ModelSphere will create a .plugins file. Do not forget to delete this file before continuing.

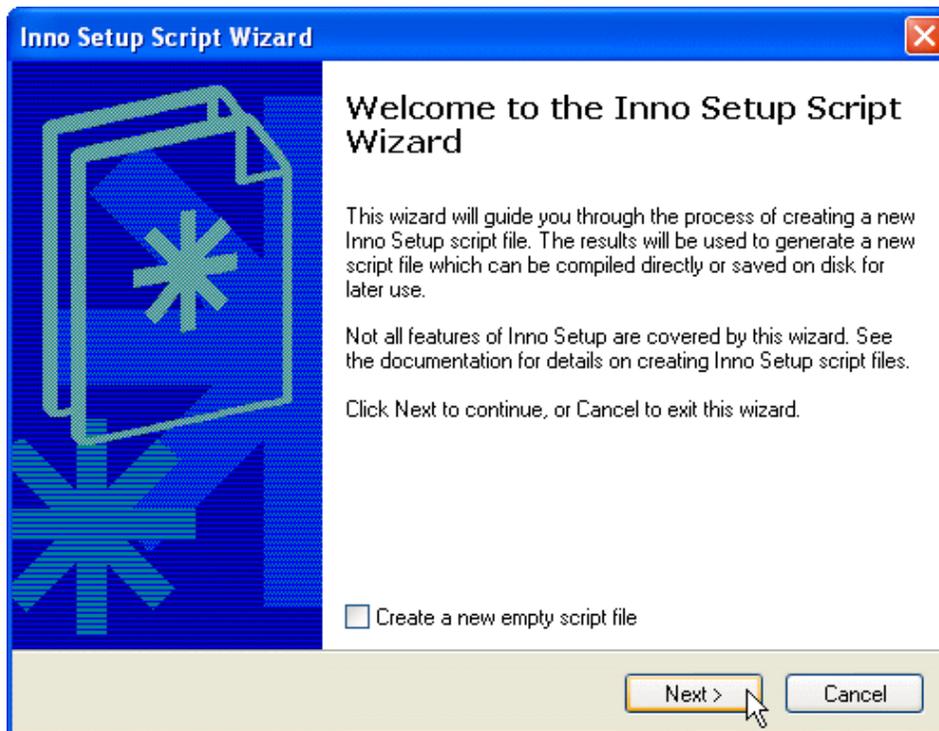## Step 5 : Start the Inno Setup

Install Inno Setup if it was not already done. Click the Inno Setup Compiler icon to launch Inno Setup.
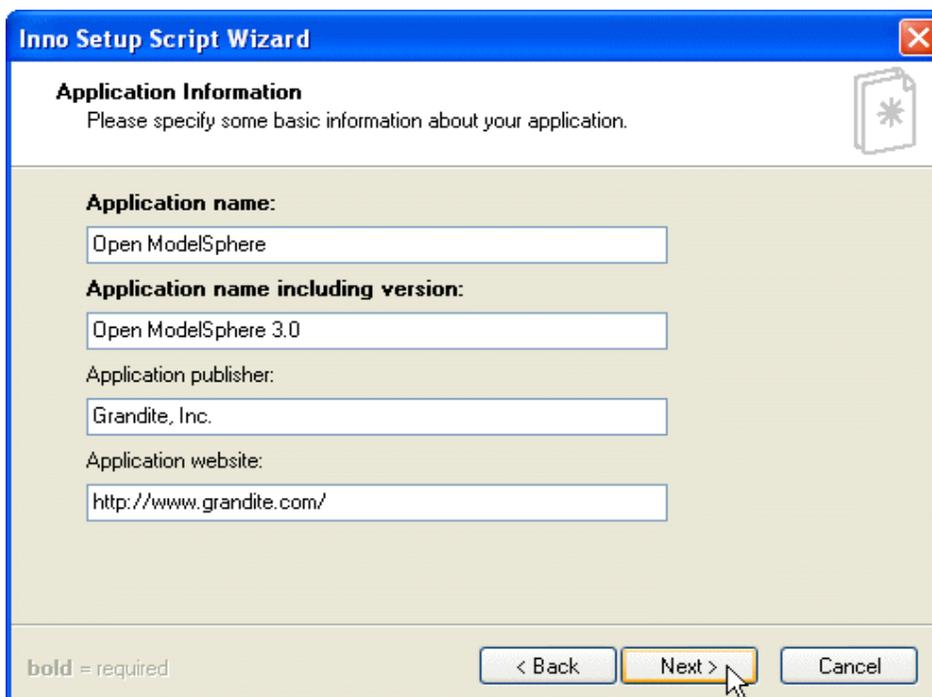

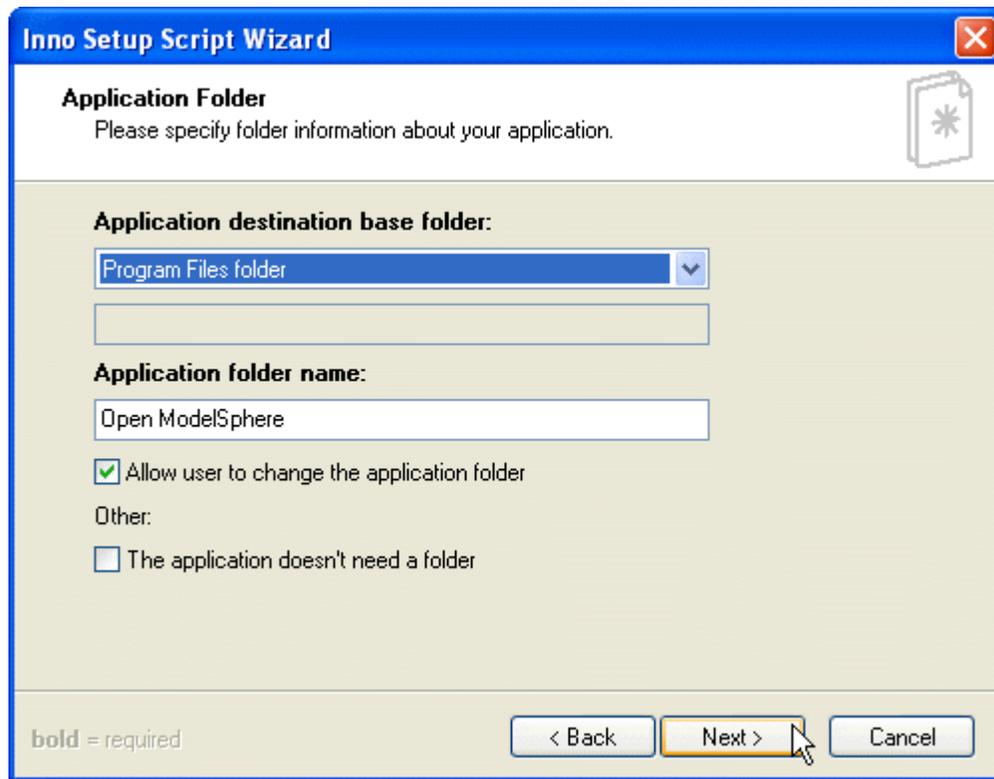Create a new script using the wizard, and continue.
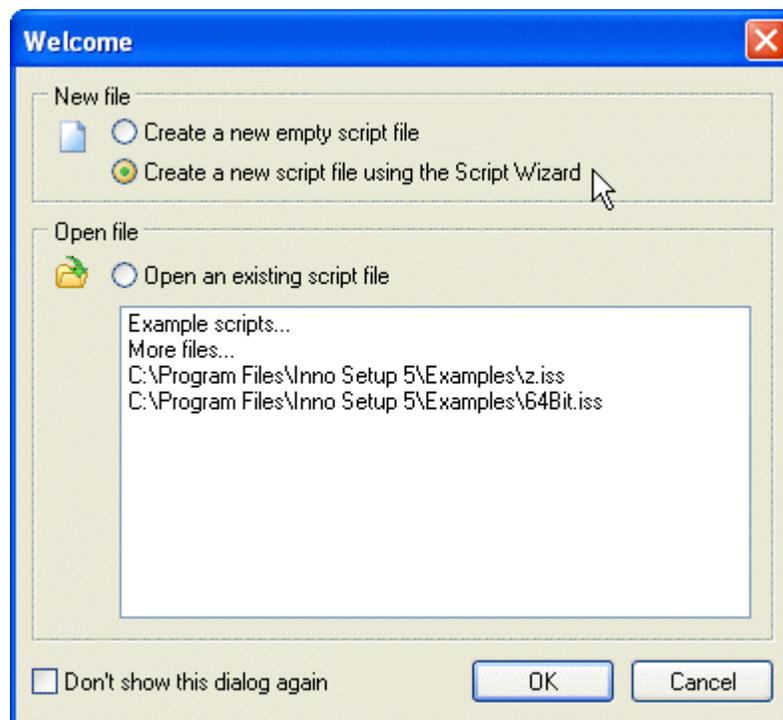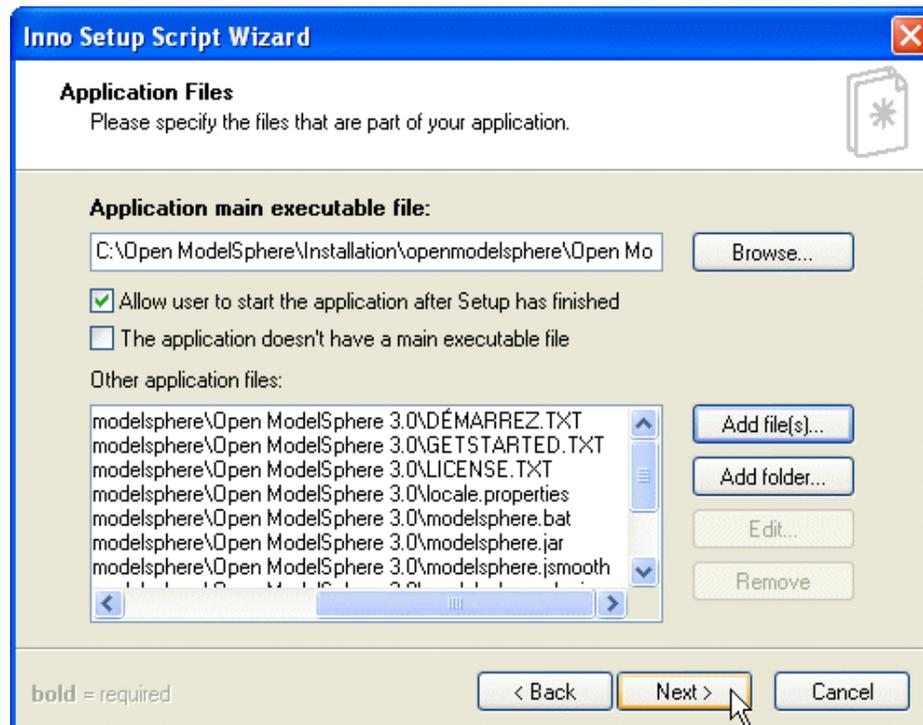
Press the Next button.

Enter the application's name and version. In the application website, enter "www.modelsphere.org".
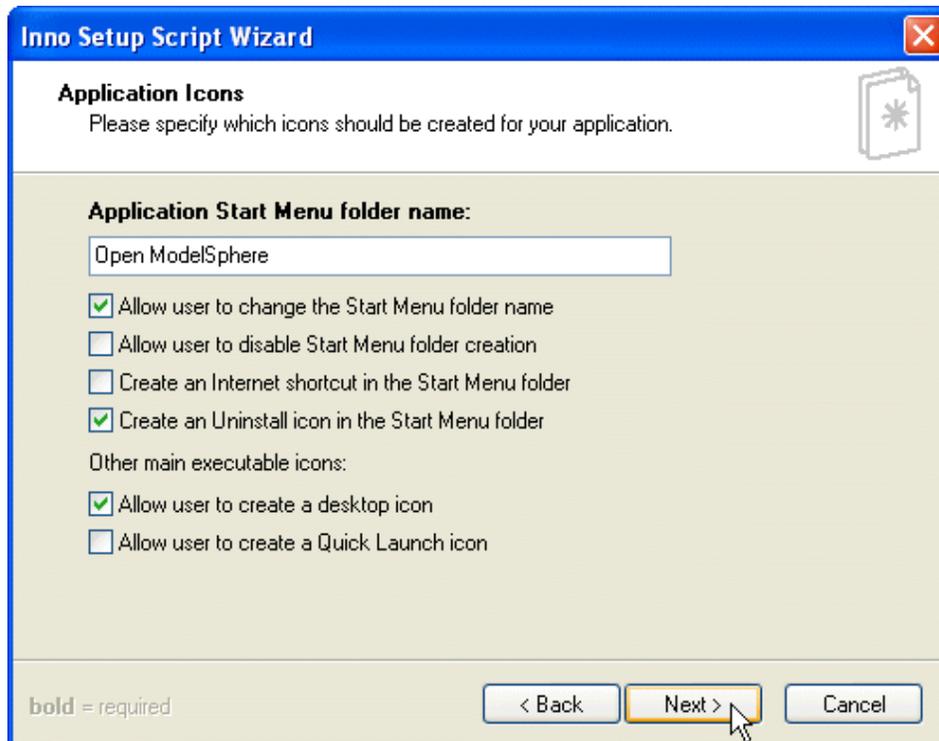
Enter the folder name and press Next.

Add all the files (.jar, .zip) and the folders required by ModelSphere. **If you forget to include a folder at this step** (for instance the /plugins folder), **the application may not work properly.**

Once you pressed the "Add Files", select all the files in the folder that contains Open ModelSphere.exe. Do not inlude "modelsphere.plugins", because this file will be created the first time ModelSphere starts.
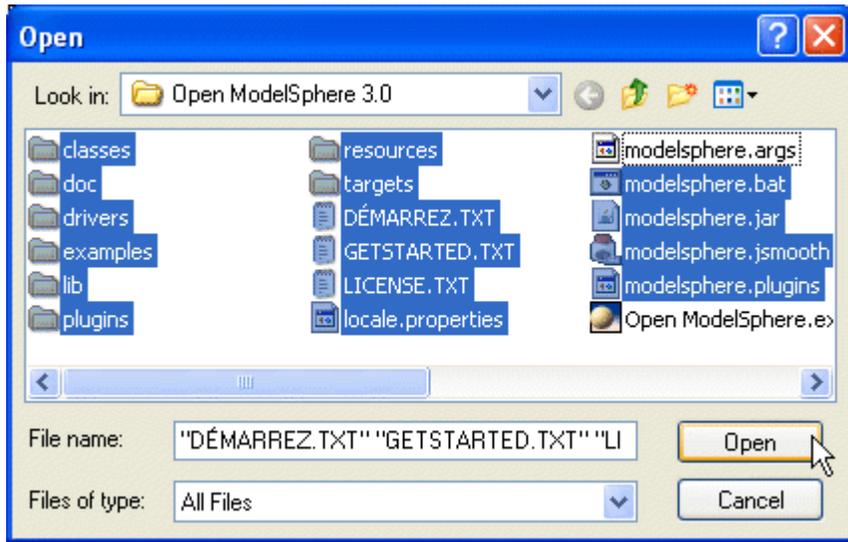
Enter the folder name of the application ("Open ModelSphere 3.0") and select the desired options. Check the "Internet Shortcut" and the "Uninstall icon" options.
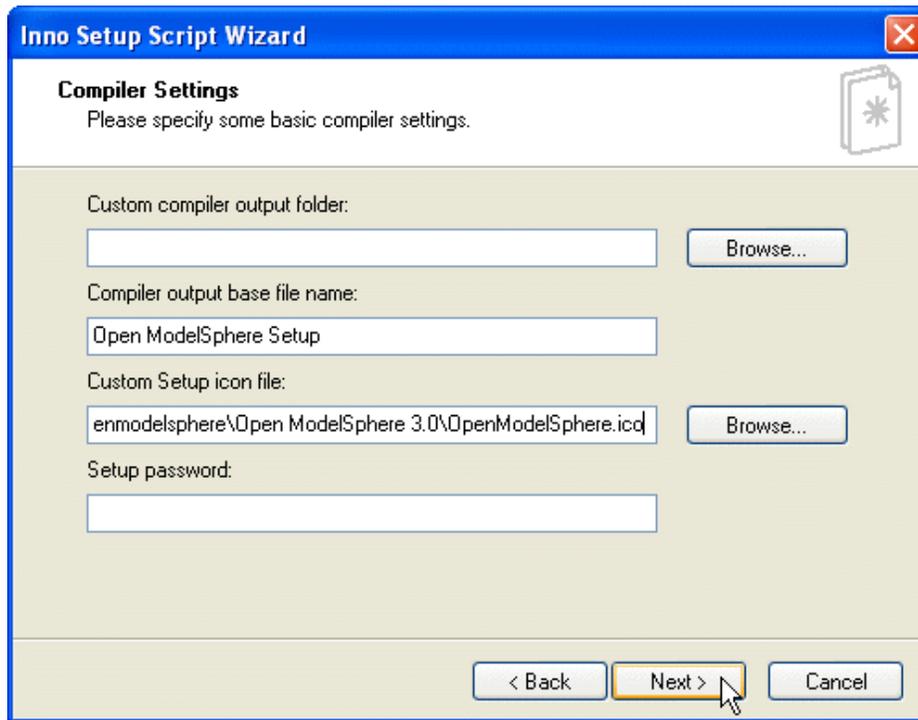
Enter the text files of the licence and the readme.
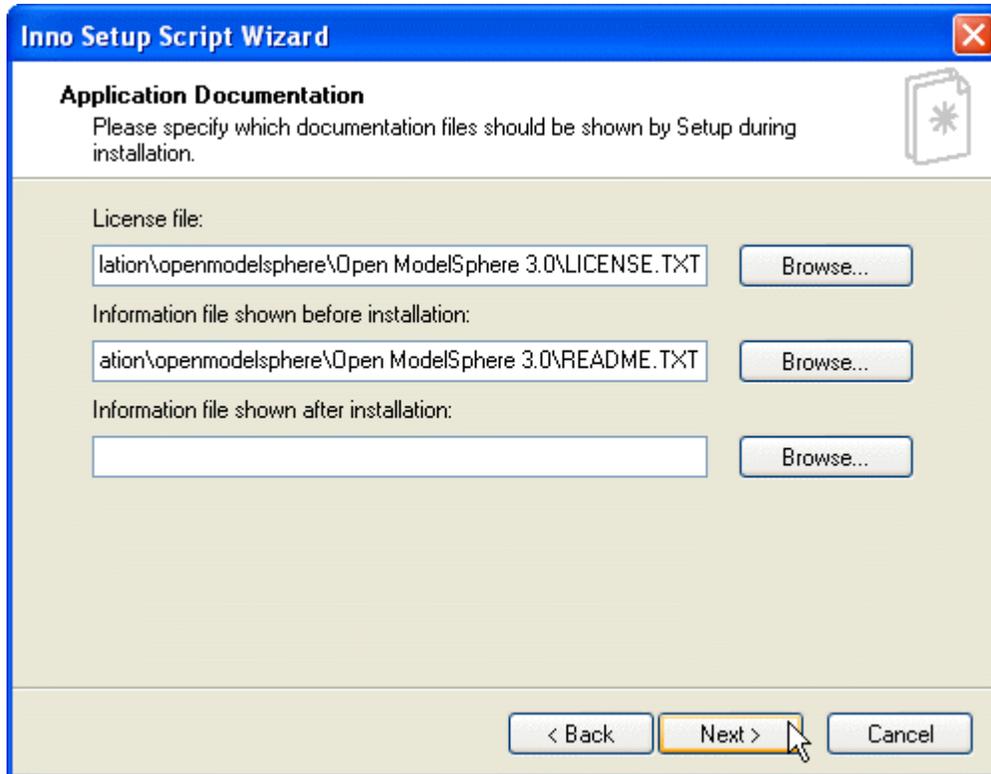
Check the English and French checkboxes, and press Next.

Fill the Custom compiler output folder (it's the folder where Setup.exe will be generated). Enter the Compiler base file name (the .exe extension will be appended to the base file name).
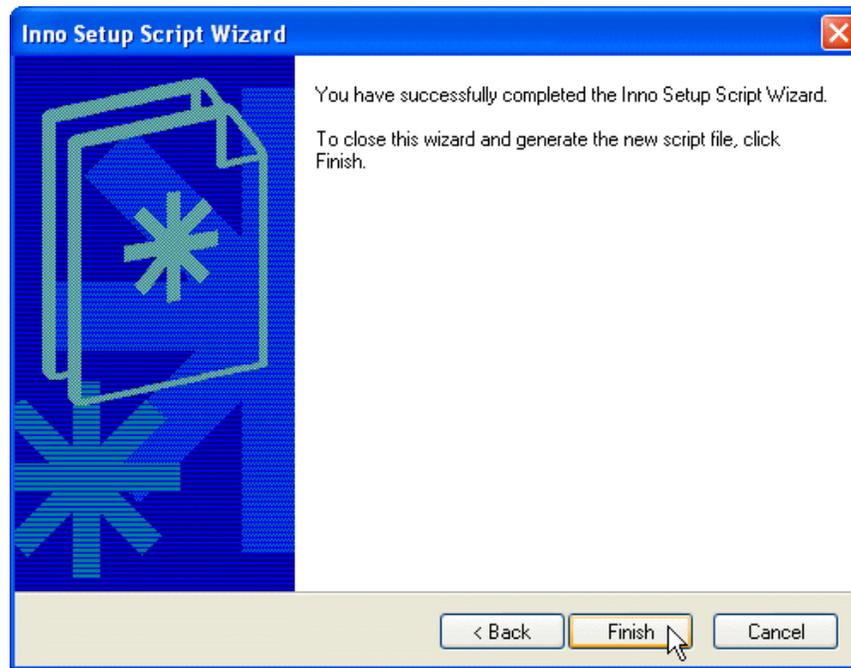

Select an icon file (use an Installer icon shown below, not the OpenModelSphere.ico).
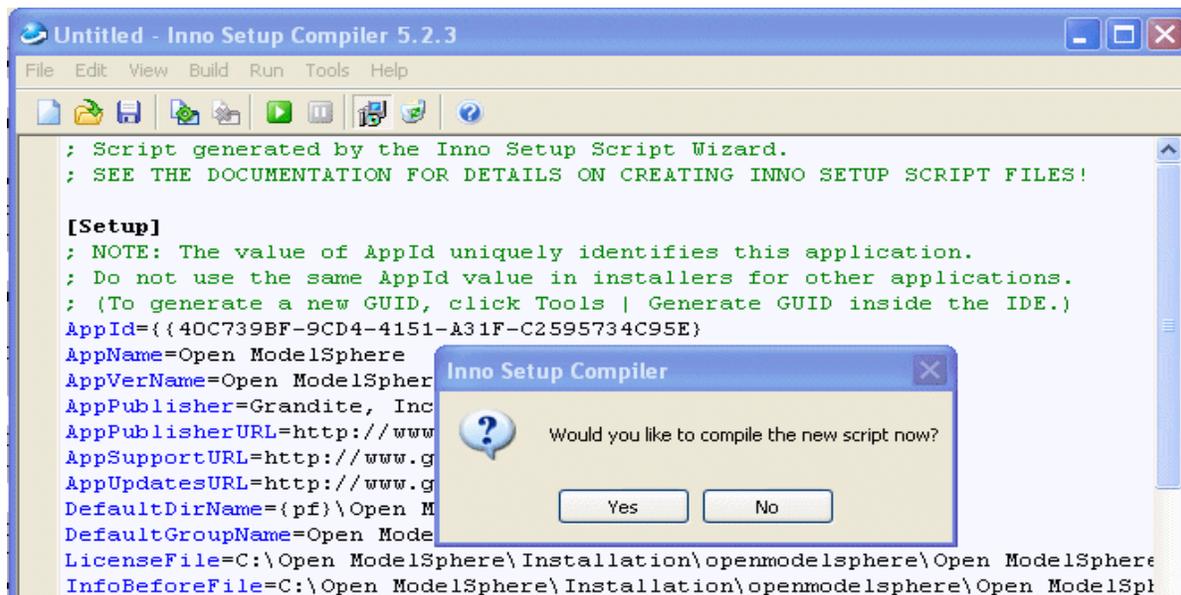

Figure: the Installer Icon.

Then, terminate the wizard.

Step 6 : Compile the Script

Verify if the generated script is correct. Press the Compile tool button (the fourth button in the tool bar, at the right of the Save button). It will generate the Setup.exe.

Once completed, you should get a newly created "Open ModelSphere Setup.exe" file in the folder you have selected (here ../Installation/Output). Check the size of the .exe (if less than 20 Megs, you've probably forgot some folders).
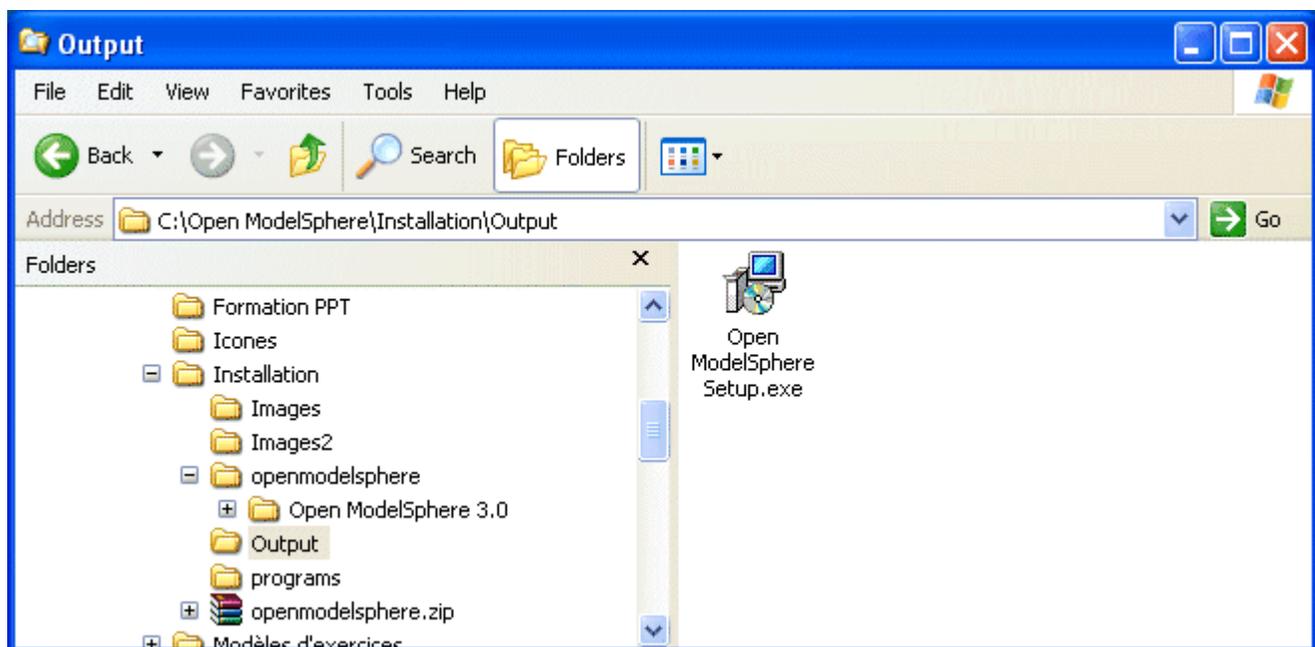
Step 7 : Execute the Setup.exe

The last thing to do is to execute the generated Setup.exe. You can call it from Inno Setup (by pressing the Play button – the green button with a white arrow), but it is recommended to test it outside Inno Setup (it's the way the users will install it).

Check if the Open ModelSphere program has been added in "Program Files". Perform the following tests:
- Invoke ModelSphere from the Start->Program Files menu.
- Invoke ModelSphere from the desktop shortcut.
- Uninstall ModelSphere
- Open "Control Panel->Add or Remove Programs" and check if "Open ModelSphere" is present in the list.
- Copy and run "ModelSphere Setup.exe" on a different machine.

Alternatives

An auto-extract executable program facilitates substantially the task of installing ModelSphere, giving of good impression of the product for newcomers. An other solution would be to create a .msi (Microsoft Intaller) program, but this option does not provide a major advantage compared to a .exe program, and open-source msi generators are rare at this time.

I have tried the following alternatives to generate an auto-extract installer. These solutions are harder to use than the proposed Jsmooth/Inno solution.
- NSIS (http://nsis.sourceforge.net/Main_Page)
- Launch4J (http://launch4j.sourceforge.net/)
- IzPack (http://izpack.org/)
- InstallJammer (http://www.installjammer.com/)

Conclusion

Jsmooth and Inno Setup are two open source products that are easy to use (simpler to use than Install Anywhere). It should take less than two hours to follow the procedure described here and create a Setup program for Open ModelSphere.

These products lack some features that commercial products have. I didn't find how to associate .sms files to Open ModelSphere (but should be possible). Also, the Inno's wizard seems to work only for new project, and changing parameters of an existing project have to be done manually (by editing the script). Even with their imperfections, these tools generate correctly the Setup program and simplify substantially the users' task of installing ModelSphere.