



PACE Suite User Manual

Version 3.4.2



Table of Contents

1	INTRODUCTION	3
1.1	ABOUT THIS USER MANUAL.....	3
1.2	GLOSSARY	3
2	OVERVIEW	4
2.1	PACE SUITE OVERVIEW	4
2.2	INSTALLATION & SYSTEM REQUIREMENTS.....	5
2.2.1	Prerequisites.....	5
2.2.2	Installing PACE Suite (MSI package).....	5
2.2.3	Using portable distributive (ZIP archive)	11
3	TUTORIALS	12
3.1	CREATE AN MSI FROM SCRATCH	12
3.2	CREATE APP-V 4.6 OR 5.0 FROM SCRATCH	13
3.3	REPACKAGE EXE TO MSI.....	15
3.4	REPACKAGE EXE TO APP-V 4.6 OR 5.0	19
3.5	CREATE AN MST FOR AN EXISTENT MSI.....	20
3.6	CAPTURE CHANGES INTO AN MST.....	23
3.7	EDIT A PROJECT (MGP).....	29
3.7.1	Open a project	29
3.7.2	Files and folders.....	30
3.7.2.1	Exclude captured files and folders.....	32
3.7.2.2	Include captured files and folders	33
3.7.2.3	Create a new empty folder	33
3.7.2.4	Import files or folders	34
3.7.3	Registry entries	37
3.7.3.1	Exclude captured registry entries	38
3.7.3.2	Include captured registry entries.....	40
3.7.3.3	Import REG file.....	41
3.7.3.4	Export captured registry to REG file	42
3.7.4	Shortcuts.....	44
3.7.4.1	Import a shortcut.....	45
3.8	EDIT AN MSI PACKAGE	48
3.8.1	Open an MSI	48
3.8.2	Add a Standard Folder	50
3.8.3	Create a new folder	51
3.8.4	Import files.....	52
3.8.5	Extract COM information from files	56
3.8.6	Create a new registry key	57
3.8.7	Create a new registry value	58
3.8.8	Import a REG file.....	59
3.8.9	Import Merge Module (MSM)	62

3.8.10	Import upgrade info from older MSIs.....	65
3.8.11	Change ARP icon	67
3.8.12	Import shortcuts	70
3.8.13	Create a new shortcut	71
3.8.14	Toggle non-advertised/advertised shortcut	73
3.9	EDIT AN APP-V 4.6 PACKAGE	74
3.9.1	Open an App-V 4.6 package.....	74
3.9.2	Package options.....	75
3.9.3	Files and Registry	76
3.9.4	Virtual Services	77
3.9.5	OSD Files	78
3.9.6	Properties Inspector	80
3.9.7	Actions Pool	81
3.9.8	Saving a Package	82
3.10	USING DOCU GENERATOR	84
3.10.1	Launch Docu Generator and Start Recording	84
3.10.2	Control Recording	84
3.10.3	Take Screenshots	85
3.10.4	Manage Screenshots	85
3.10.5	Add Annotations	85
3.10.6	Save results.....	86
3.10.7	Use Document Templates	87
4	REFERENCES	88
4.1	MORE INFORMATION AND CONTACT.....	88
4.2	PACE SUITE IN SOCIAL AND PROFESSIONAL NETWORKS	88

1 Introduction

1.1 About this User Manual

This is a Getting Started document describing how to use Infopulse PACE Suite to perform common tasks related to application packaging.

Please visit the [Support Portal](http://pacesuite.com/support) (<http://pacesuite.com/support>) for more documentation.

1.2 Glossary

MSI

MSI is an installer package file format used by Windows. Its name comes from the program's original title, Microsoft Installer, which has since changed to Windows Installer. MSI files are used for installation, storage, and removal of programs.

MST

MST is a settings file used by the Microsoft Windows Installer, a component of the Windows operating system that enables software installations. It contains software configuration options, allows custom parameters to be used for the installation.

App-V

Microsoft Application Virtualization (also known as App-V; formerly Softgrid SoftGrid) is an application virtualization and application streaming solution from Microsoft.

2 Overview

2.1 PACE Suite overview

PACE Suite consists of the following tools:



MSI GENERATOR

- Repackage any installation or manual configuration into **MSI**, **App-V 4.6**, **App-V 5.0** packages, or **MST** for an existent MSI.
- Create a single project from scratch and build it into **MSI**, **App-V 4.6**, **App-V 5.0** packages.
- Create and compare snapshots of system state (file system, registry and permissions).



MSI EDITOR

- Create a new **MSI** from scratch.
- Edit an **MSI** or **MST** via rich interface or a table editor.



APP-V GENERATOR

- Create an **App-V 4.6** package from scratch.
- Build an **App-V 4.6** package from MSI Generator project.
- Directly edit any **App-V 4.6** package (open SFT or OSD file).



DOCU GENERATOR

- Automatically record a consequence of actions into a document with screenshots and annotations.

2.2 Installation & System requirements

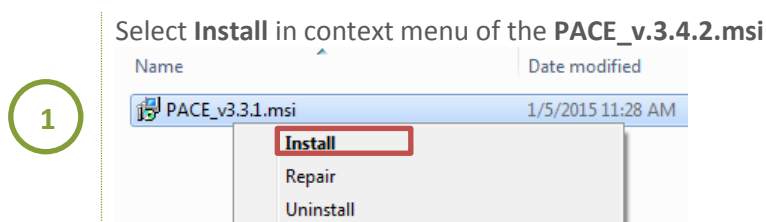
2.2.1 Prerequisites

Be sure that a target system contains necessary software and hardware prerequisites:

Processor	32-bit (x86) or 64-bit (x64) processor at 2 GHz or greater Note: To repackage 64-bit applications or create 64-bit App-V packages, use PACE Suite on a 64-bit Windows operating system.
RAM	2 Gb
Required free space on drive	1 Gb Note: Additional storage is required for your projects and packages and depends on their size and quantity.
Display	1024 x 768 resolution or higher
Operating System	Windows 8.1, Windows 8, Windows 7, Windows XP SP3, Windows Server 2012, Windows Server 2008, Windows Server 2003.
Middleware	Microsoft .NET Framework 4.0 or higher.
Privileges	Administrative privileges on the system

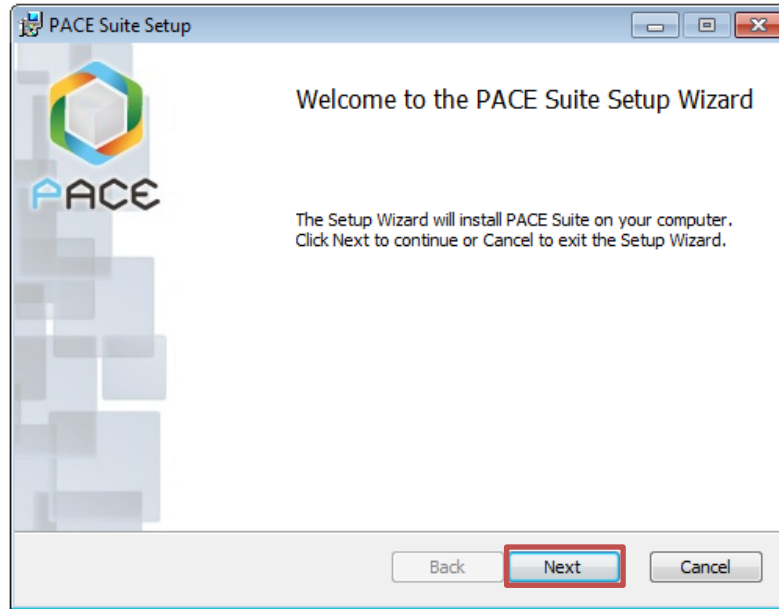
2.2.2 Installing PACE Suite (MSI package)

This type of installation is recommended because it checks for prerequisites, but it requires administrator privileges to be installed.



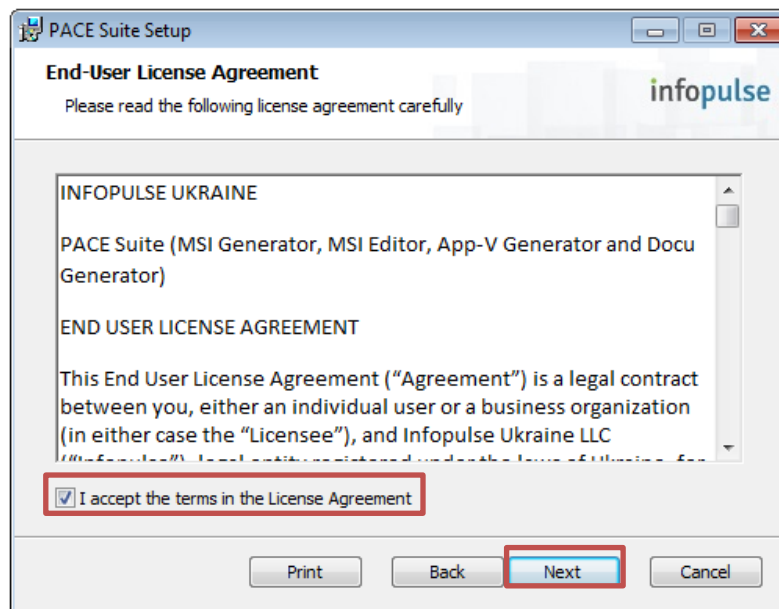
Click **Next**

2



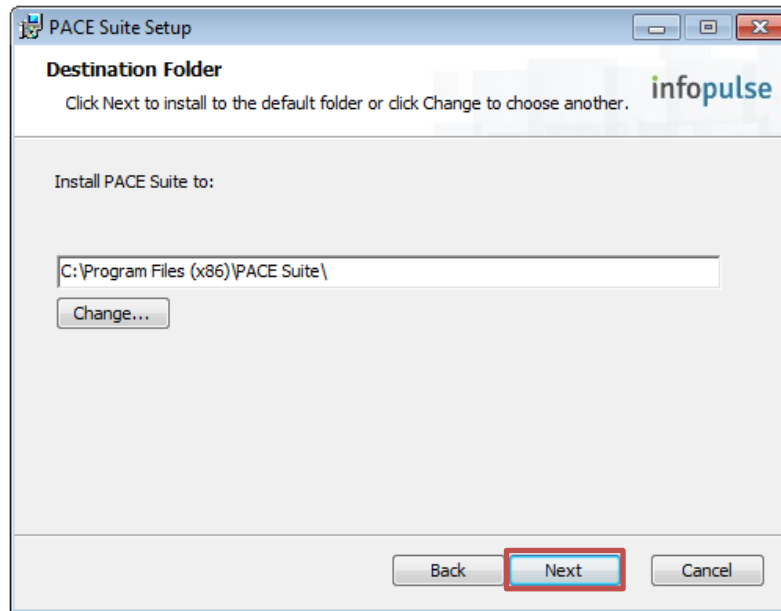
Read and accept License Agreement and click **Next**

3



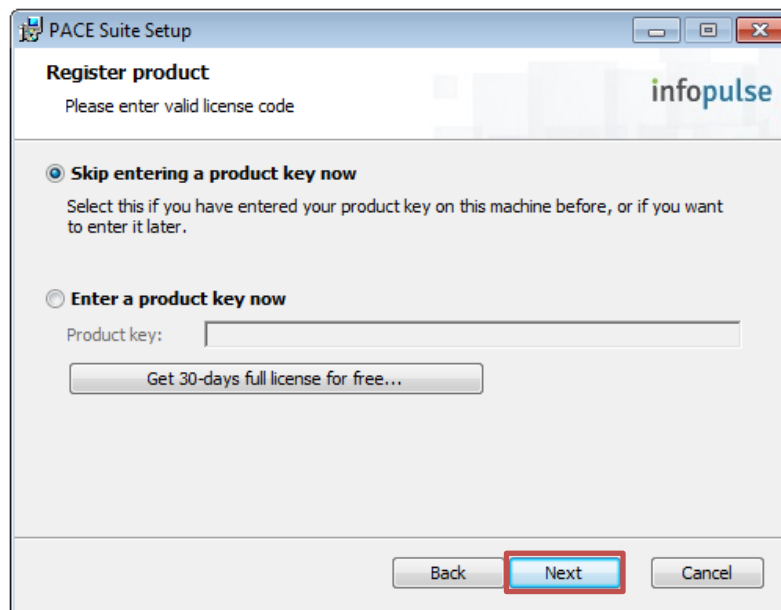
Change default installation location if needed and click **Next**

4



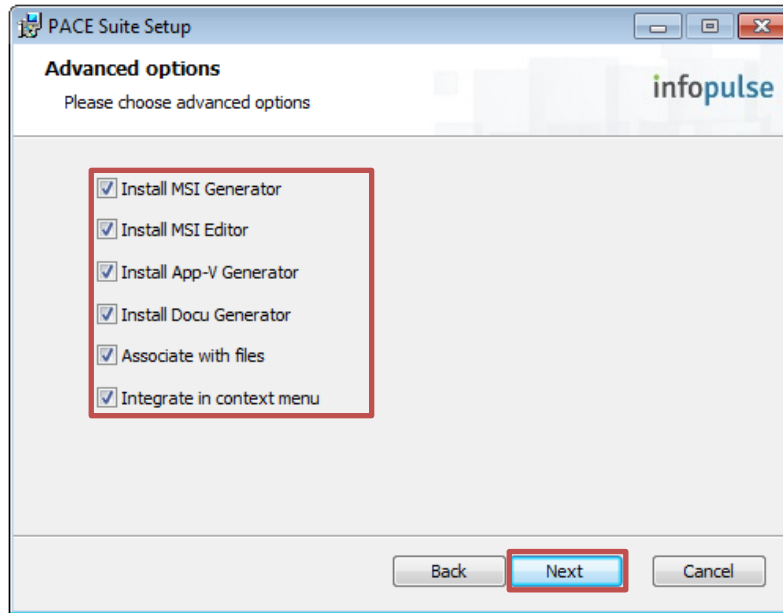
Enter a product key or select **Skip entering a product key now** to install evaluation version and click **Next**

5



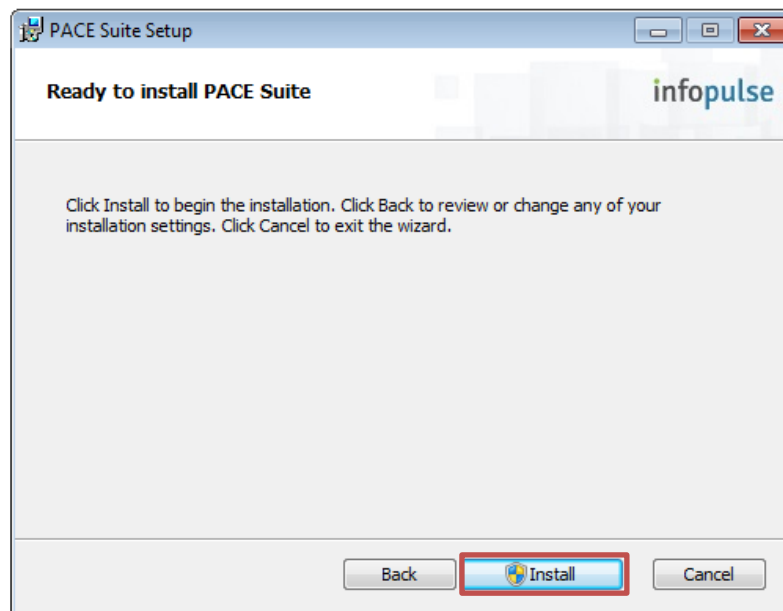
Select which of PACE products will be installed on the target system

6



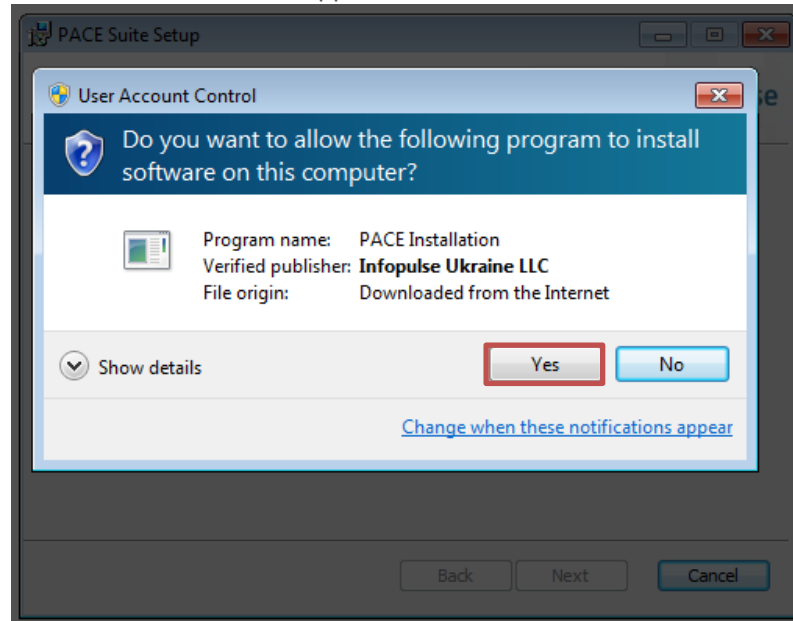
Click the **Install** button

7



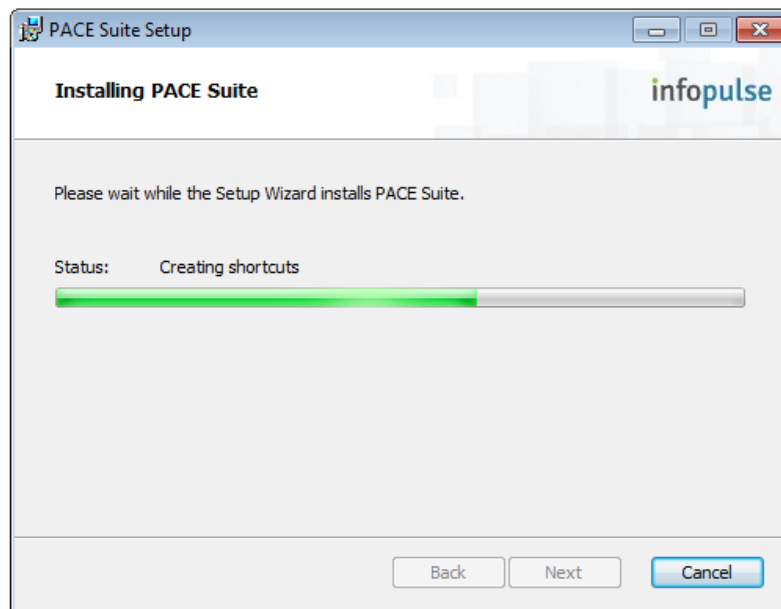
Click **Yes** if UAC window appeared

8



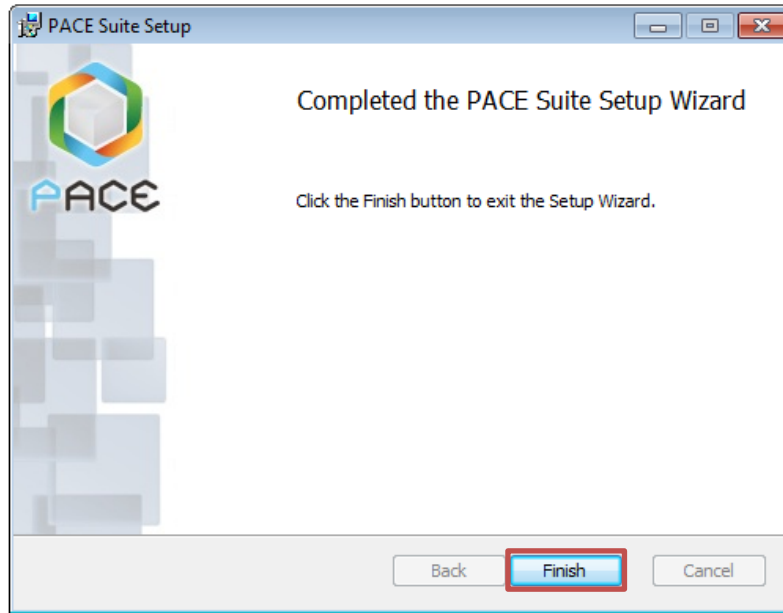
Wait for installation finish

9



Click **Finish** to complete the installation

10

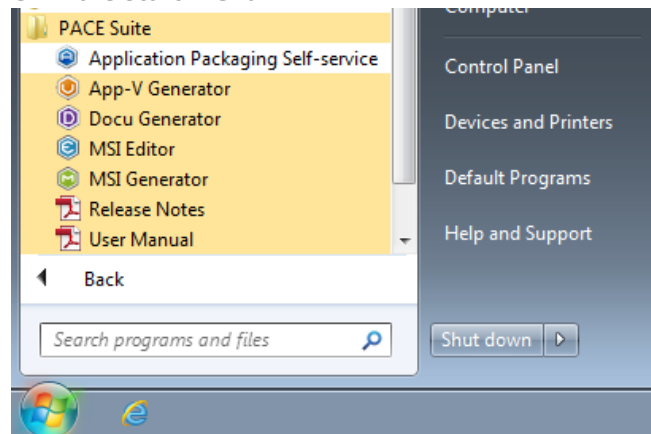


Find the PACE Suite's shortcuts at **Desktop**:



Or in the **Start Menu**:

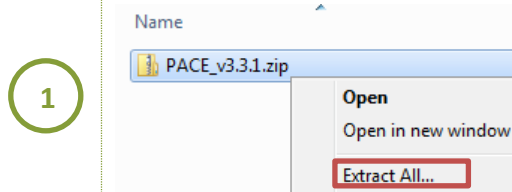
11



2.2.3 Using portable distributive (ZIP archive)

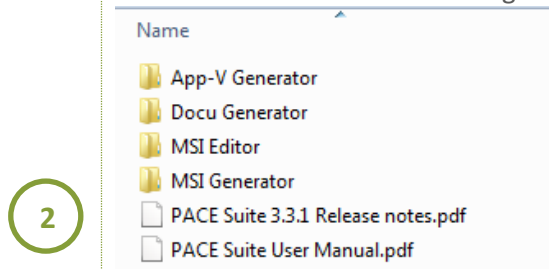
Portable distributive does not perform any checks for prerequisites.

Select **Extract All...** in context menu of the **PACE_v3.4.2.zip**



Then select a location where files from archive will be extracted.

ZIP archive contains the following resources:



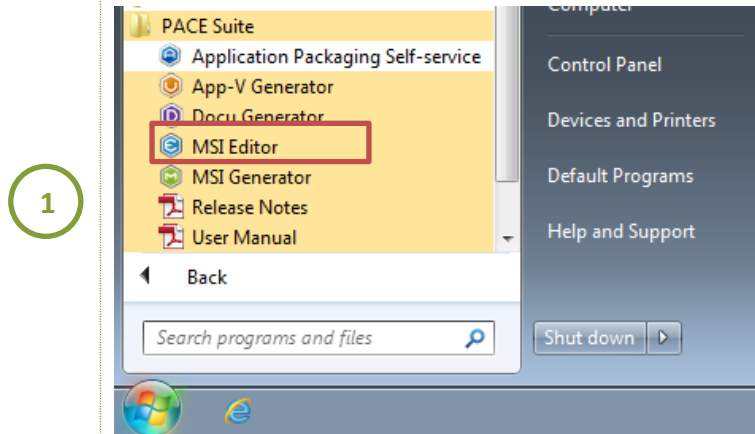
- To launch **MSI Generator** use  **MSIGenerator.exe** in the MSI Generator folder
- To launch **MSI Editor** use  **MsiEditor.exe** in the MSI Editor folder
- To launch **App-V Generator** use  **App-V Generator.exe** in the App-V Generator folder
- To launch **Docu Generator** use  **Docu Generator.exe** in the Docu Generator folder

3 Tutorials

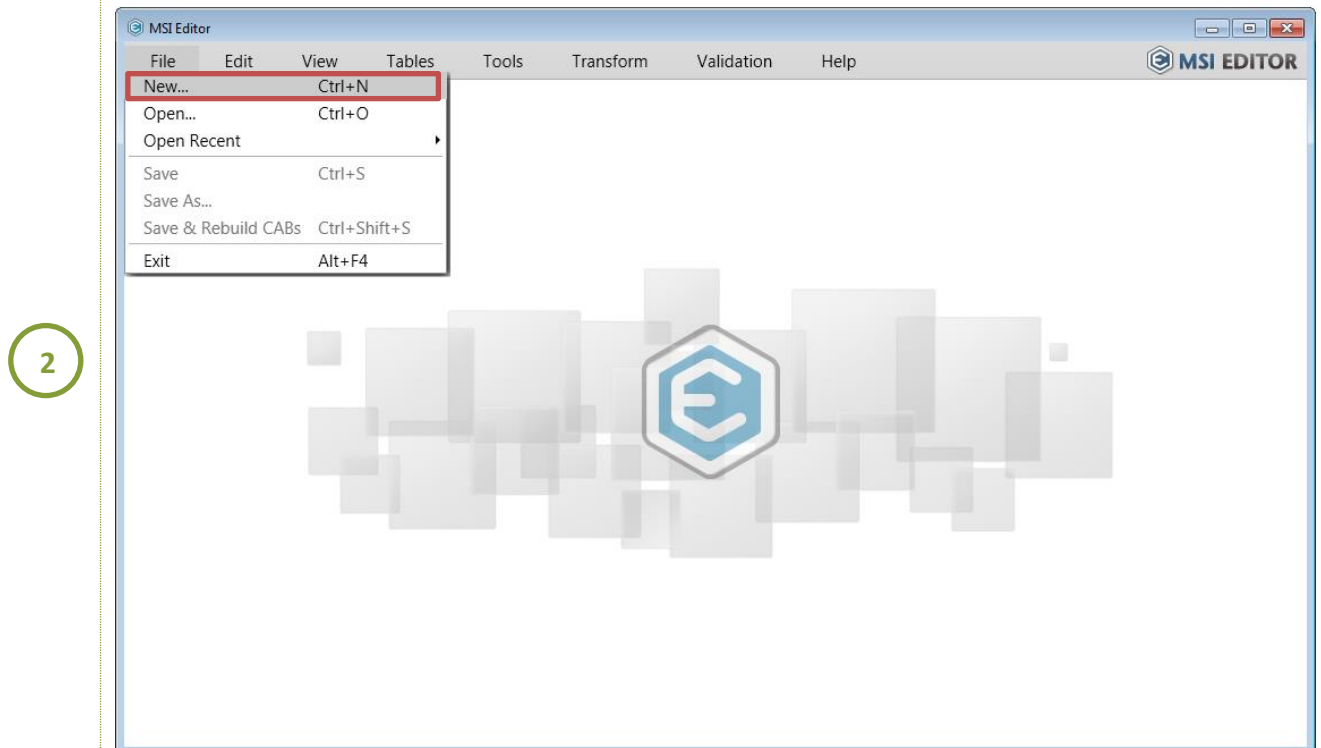
This section contains step-by-step instructions for completing the most common operations with PACE Suite. To find out more, please visit [Support Portal](http://pacesuite.com/support) (<http://pacesuite.com/support>).

3.1 Create an MSI from scratch

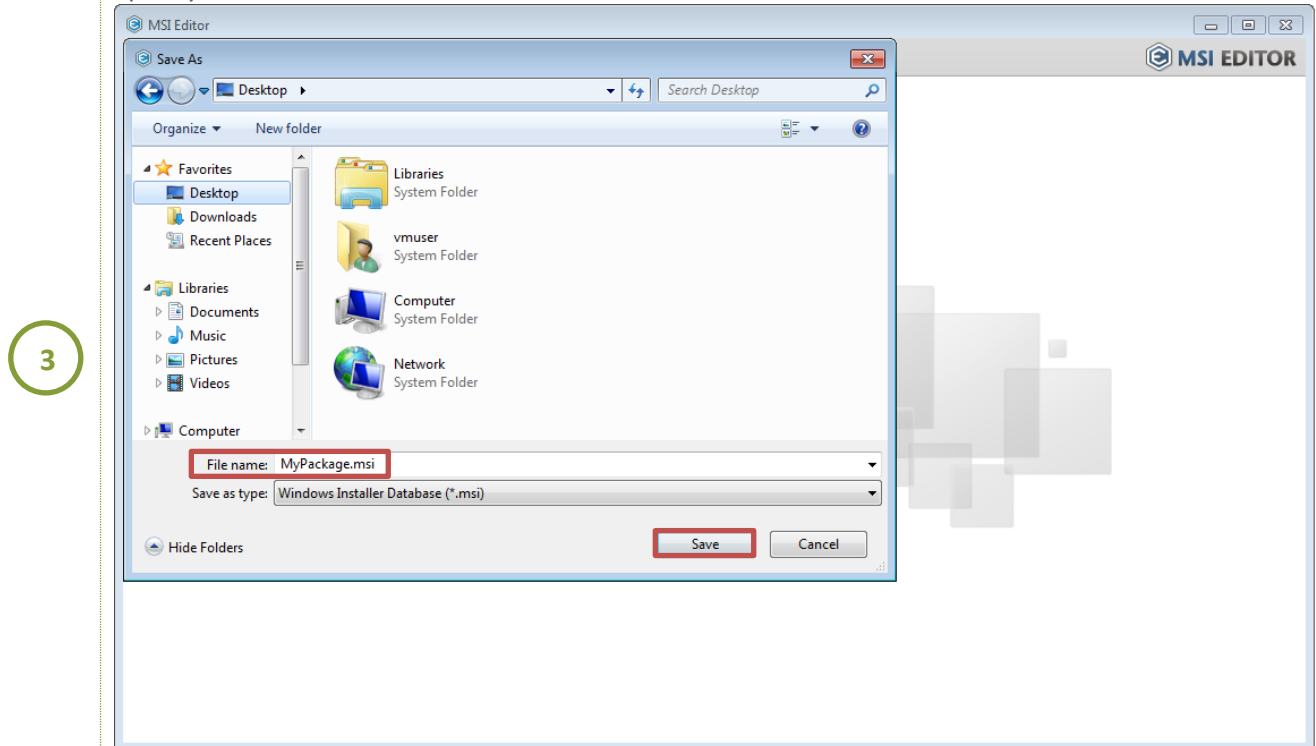
Launch **MSI Editor**



Select **New...** from File menu

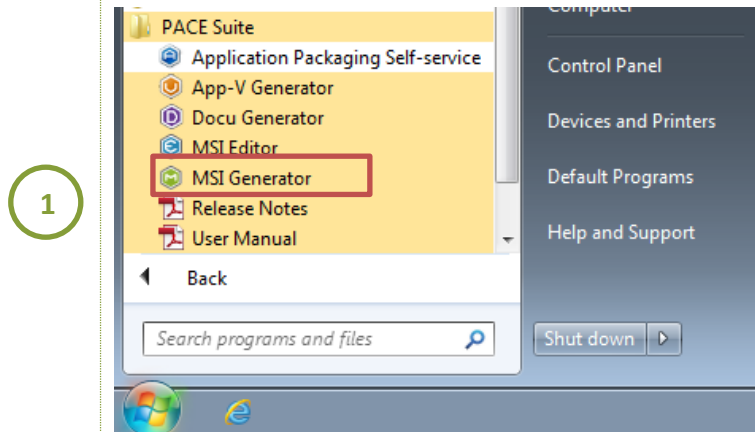


Specify name and destination location for new MSI and click **Save**

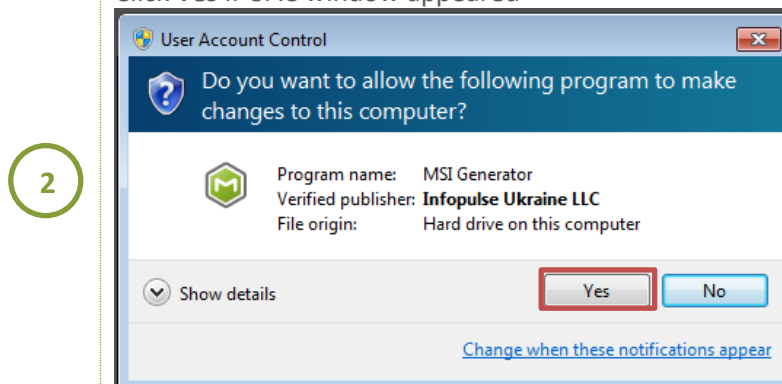


3.2 Create App-V 4.6 or 5.0 from scratch

Launch **MSI Generator**



Click **Yes** if UAC window appeared



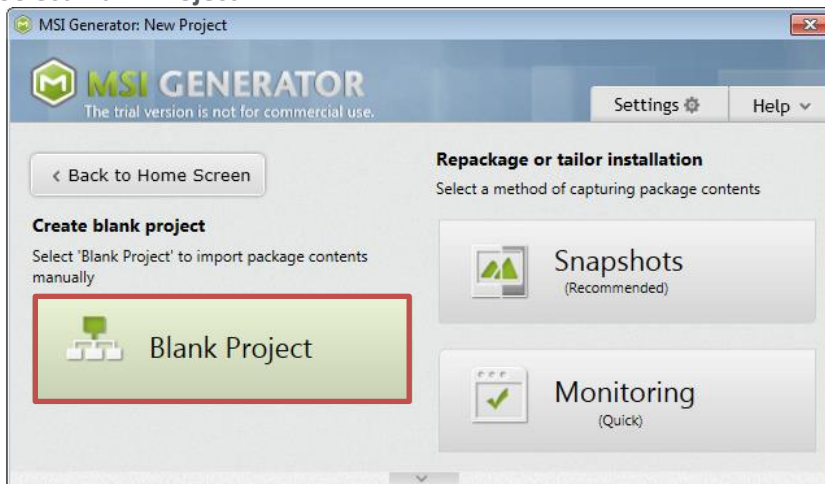
Select Create Package

3



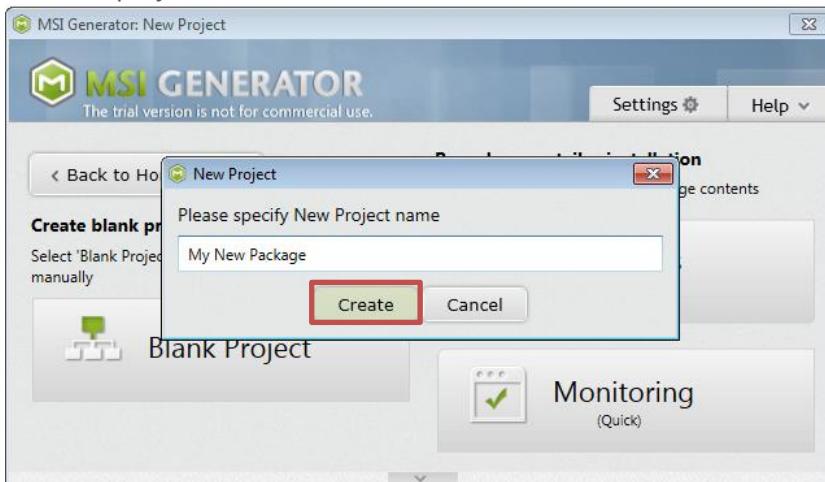
Select Blank Project

4



Enter the project name and click Create

5



The newly created blank project will be opened automatically.

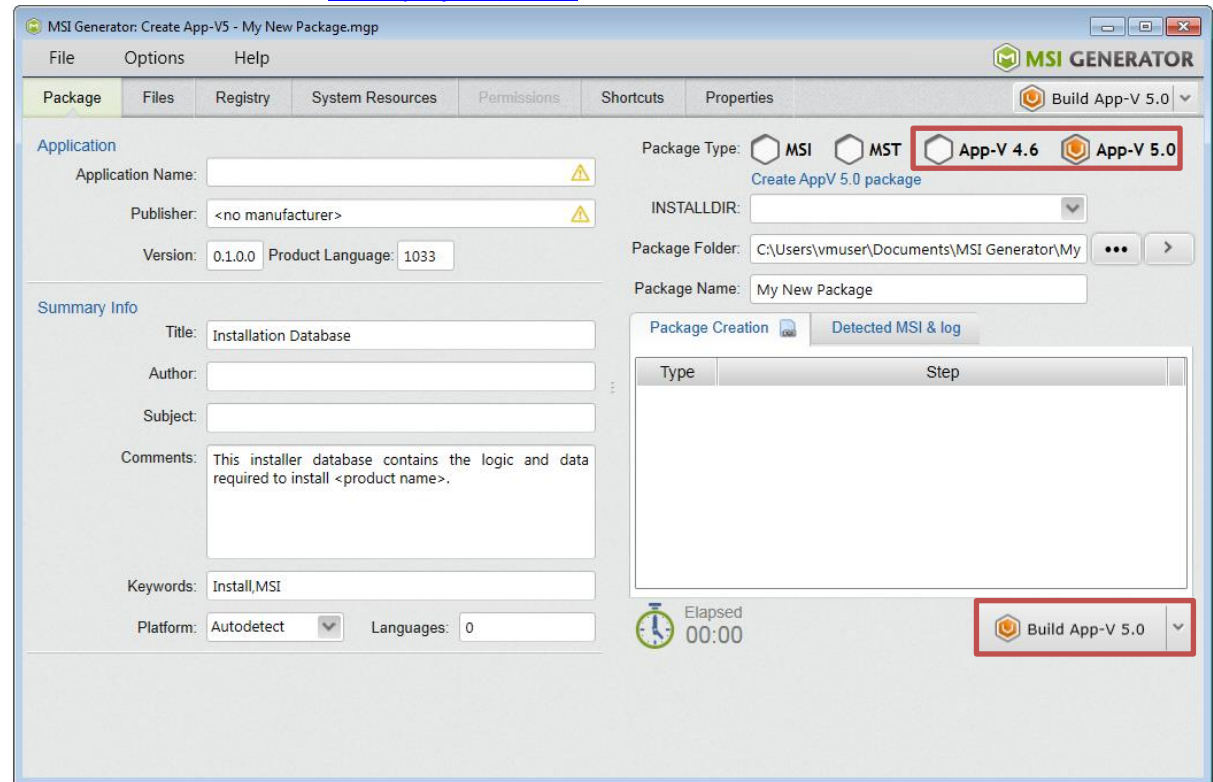
Set Package Type to **App-V 4.6** or **App-V 5.0**.

To build a package, click the **Build App-V 5.0 (4.6)** button.

To find that package that was built package click the > button and containing folder will be opened in Windows Explorer.

See instruction for how to [Edit a project \(.MGP\)](#)

6



3.3 Repackage EXE to MSI

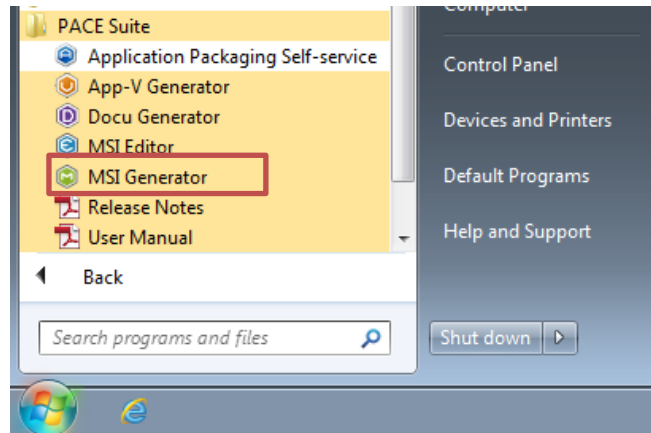
MSI Generator records any type of installation (EXE, MSI or Script) or any manual changes made to a system and reproduces them in an MSI package. There are two methods of recording:

- **Snapshots (Recommended)**
MSI Generator scans the system before and after the installation and creates a package based on the difference between 1st and 2nd scans (snapshots).
- **Monitoring (Quick)**
This method watches the installation and records changes to a package.

Note Despite the differences between these two approaches, they have a very similar workflow and the following instruction covers only recommended record method – **Snapshots**.

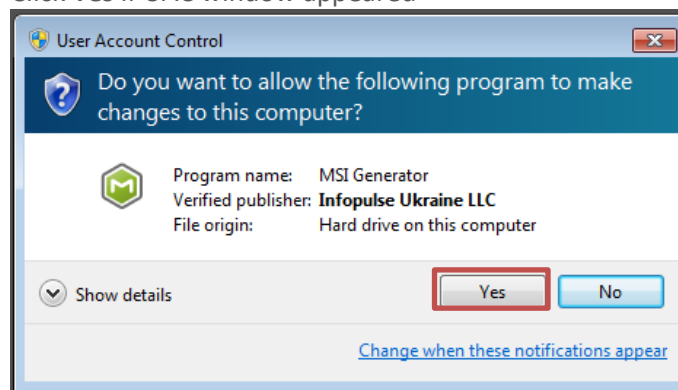
Launch MSI Generator

1



Click **Yes** if UAC window appeared

2



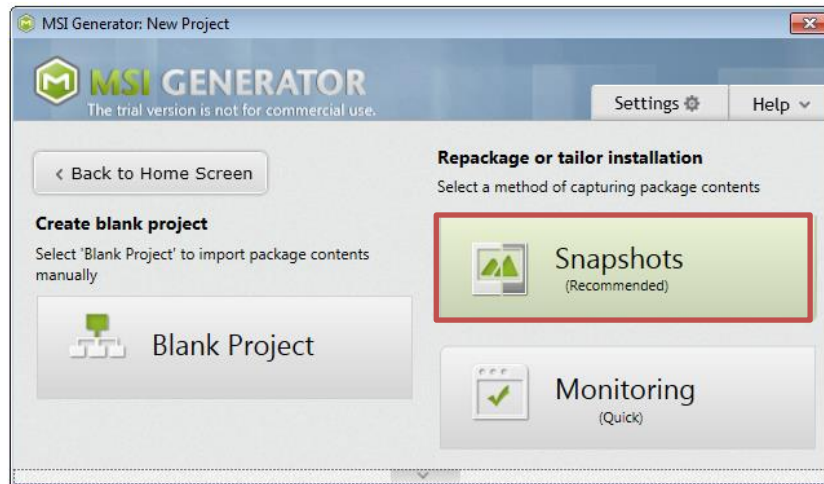
Select **Create Package**

3



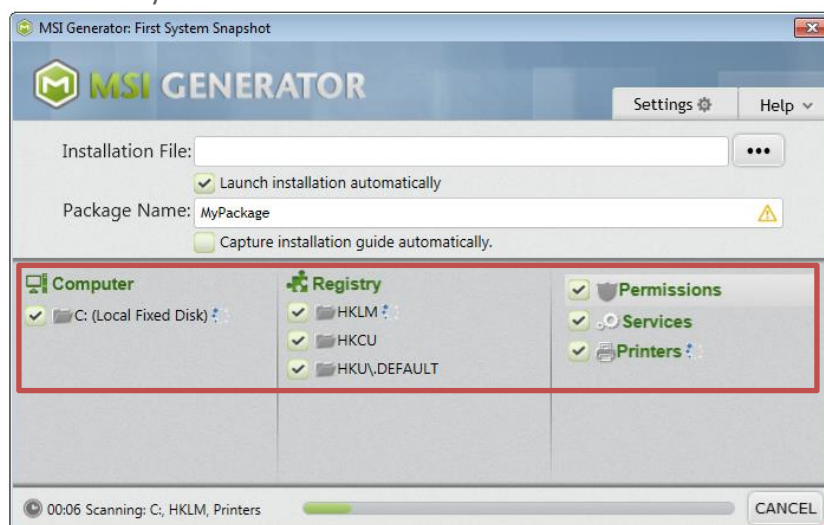
Select Snapshots

4



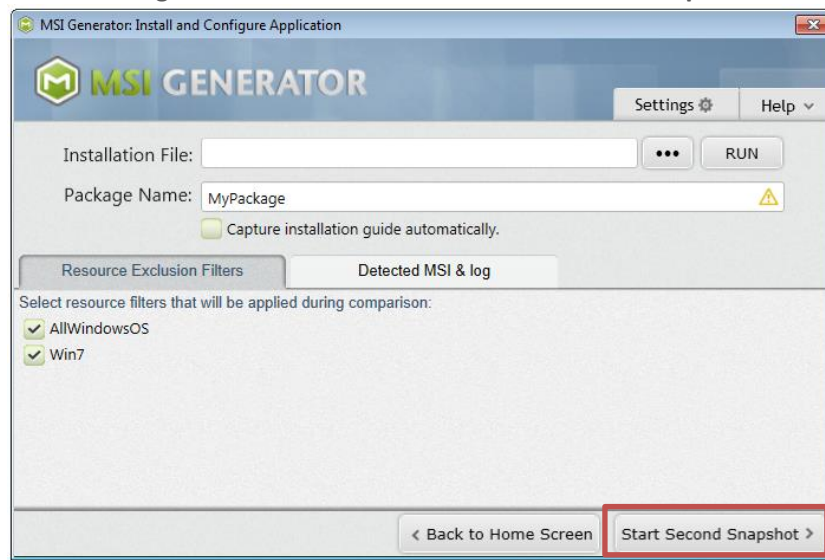
While the 1st snapshot is being taken, you can change the scanning areas if needed. If unsure, leave as is. Wait until the 1st snapshot is done and MSI Generator will switch to the next step automatically

5



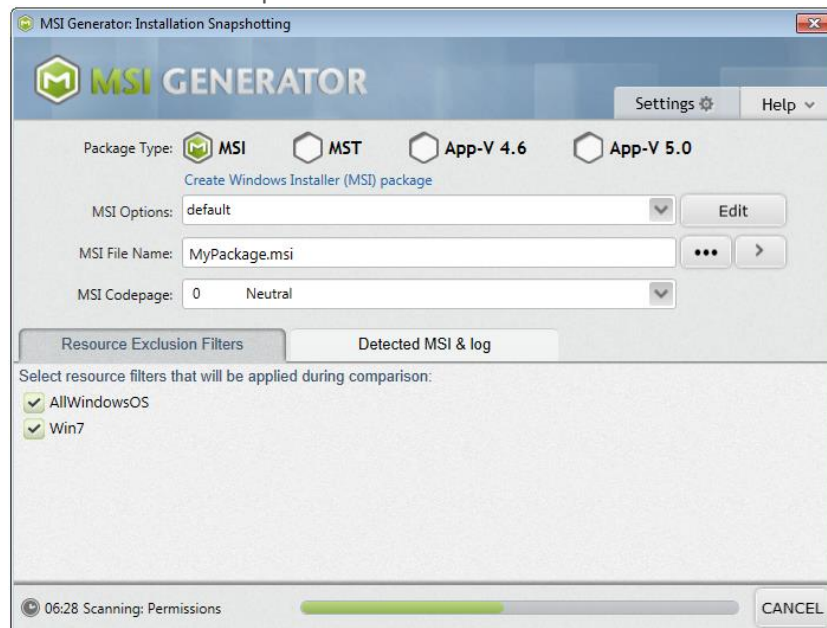
On this step run an installation and follow the installation steps of your software or perform any manual configuration and then click the **Start Second Snapshot** button

6



Wait until the 2nd snapshot is done and MSI Generator will switch to the next step automatically

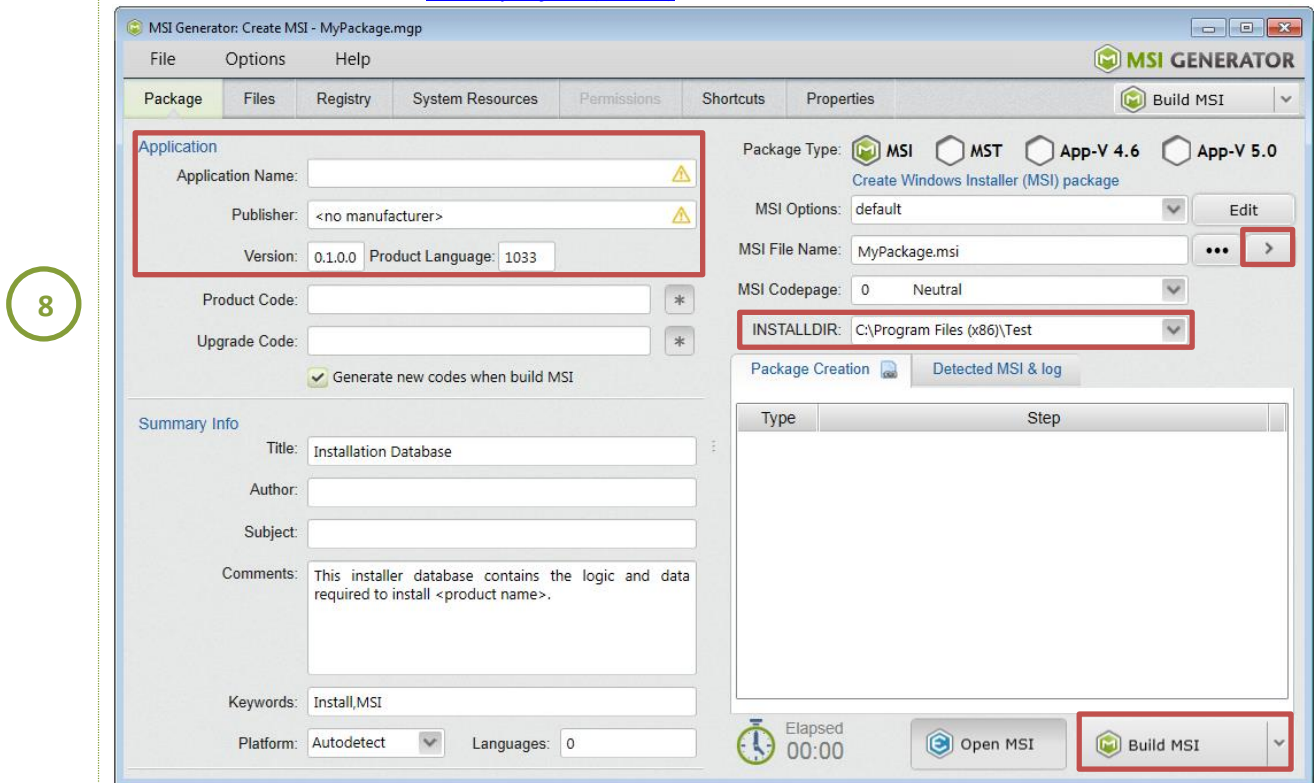
7



Specify *Application Name*, *Publisher* and application *Version*. Change *INSTALLDIR* property if needed and click the **Build MSI** button to generate an MSI package.

To find the MSI that was built click the > button and containing folder will be opened in Windows Explorer.

See instruction on how to [Edit a project \(.MGP\)](#)



3.4 Repackage EXE to App-V 4.6 or 5.0

MSI Generator records any type of installation (EXE, MSI and Script) or any manual changes made to a system and re-creates it in **App-V 4.6** or **App-V 5.0** package.

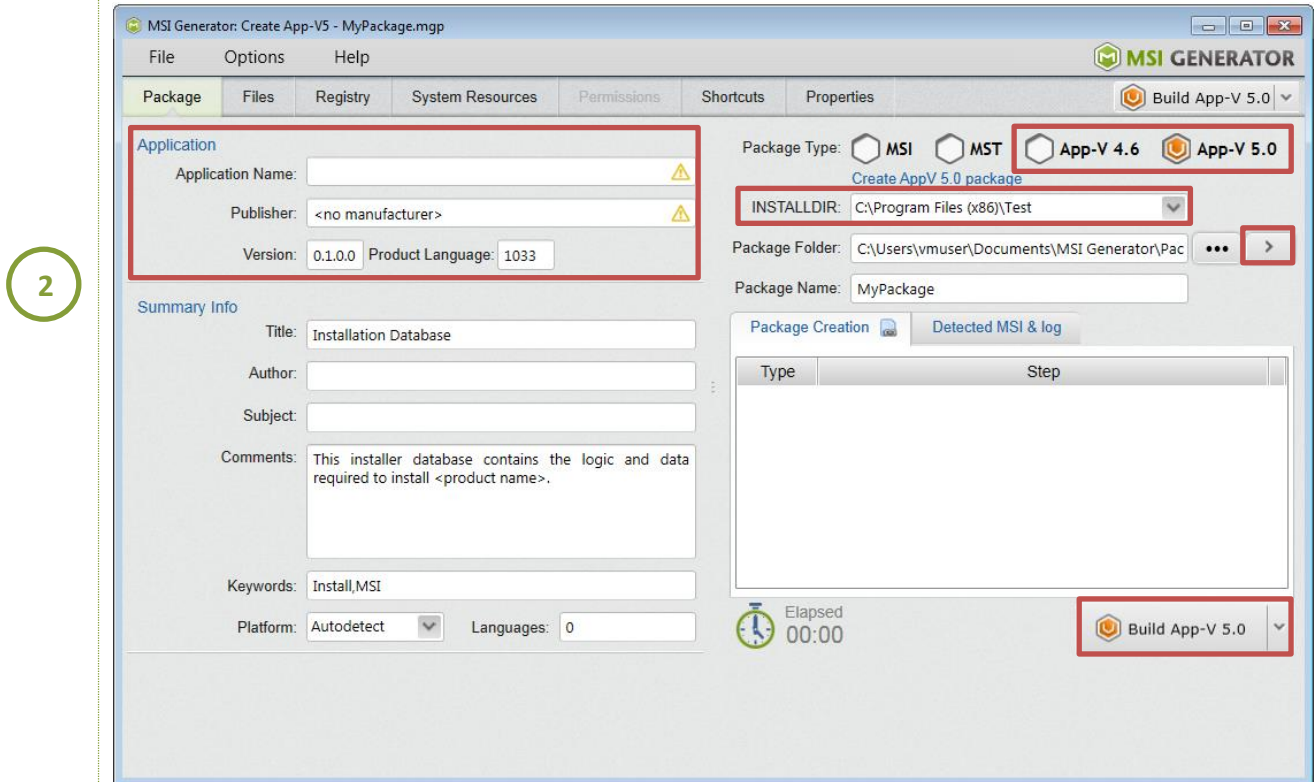
1 Use instruction on [Repackage EXE to MSI](#) from step 1 to 7

Set Package Type to **App-V 4.6** or **App-V 5.0**.

Specify *Application Name*, *Publisher* and application *Version*. Change *INSTALLDIR* (*Asset Dir*) if needed and click the **Build App-V 5.0 (4.6)** button to generate an App-V package.

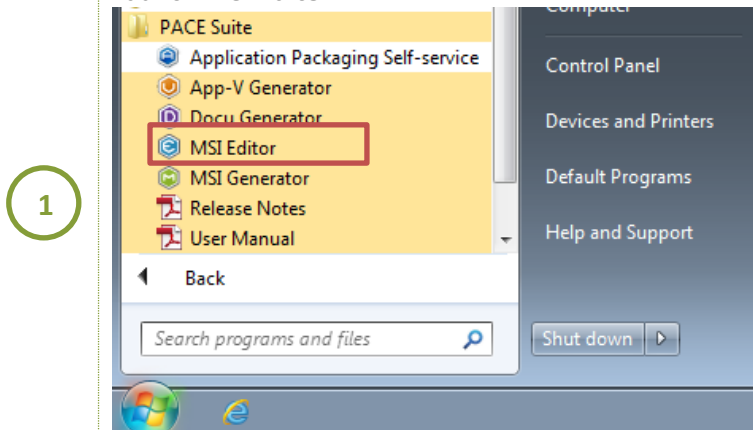
To find the package that was built click the > button and containing folder will be opened in Windows Explorer.

See instruction on how to [Edit a project \(.MGP\)](#)



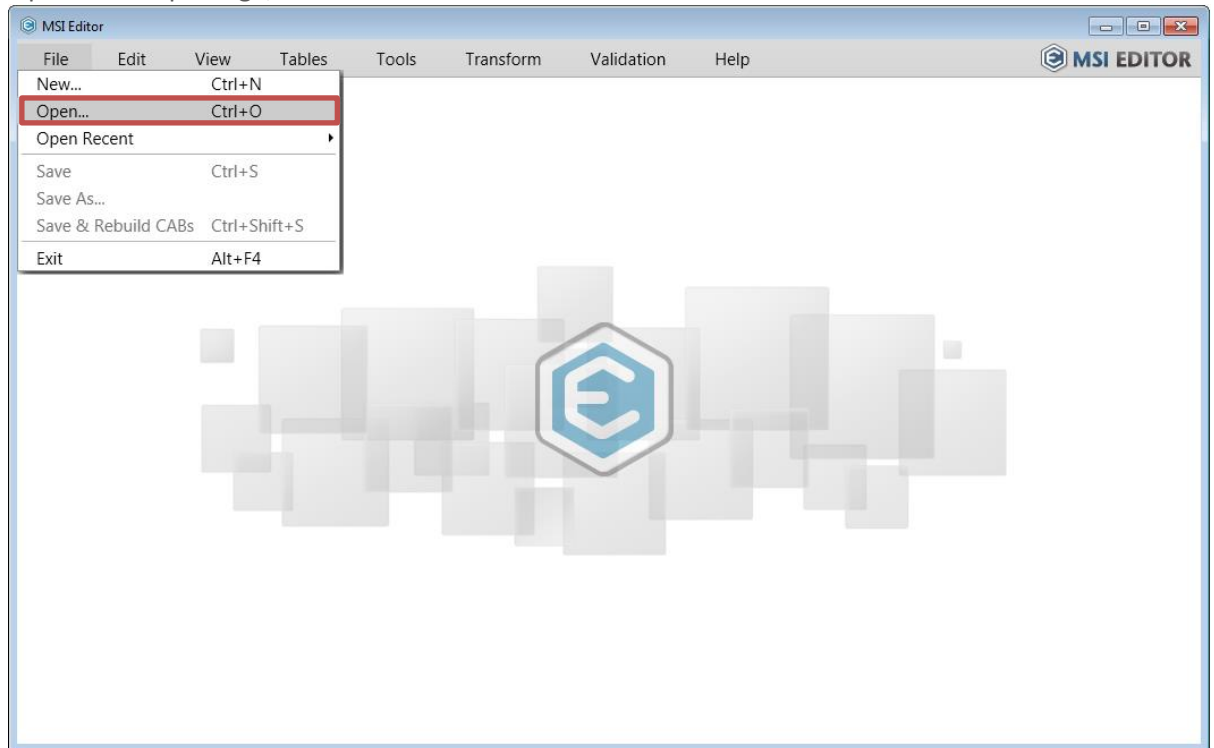
3.5 Create an MST for an existent MSI

Launch **MSI Editor**

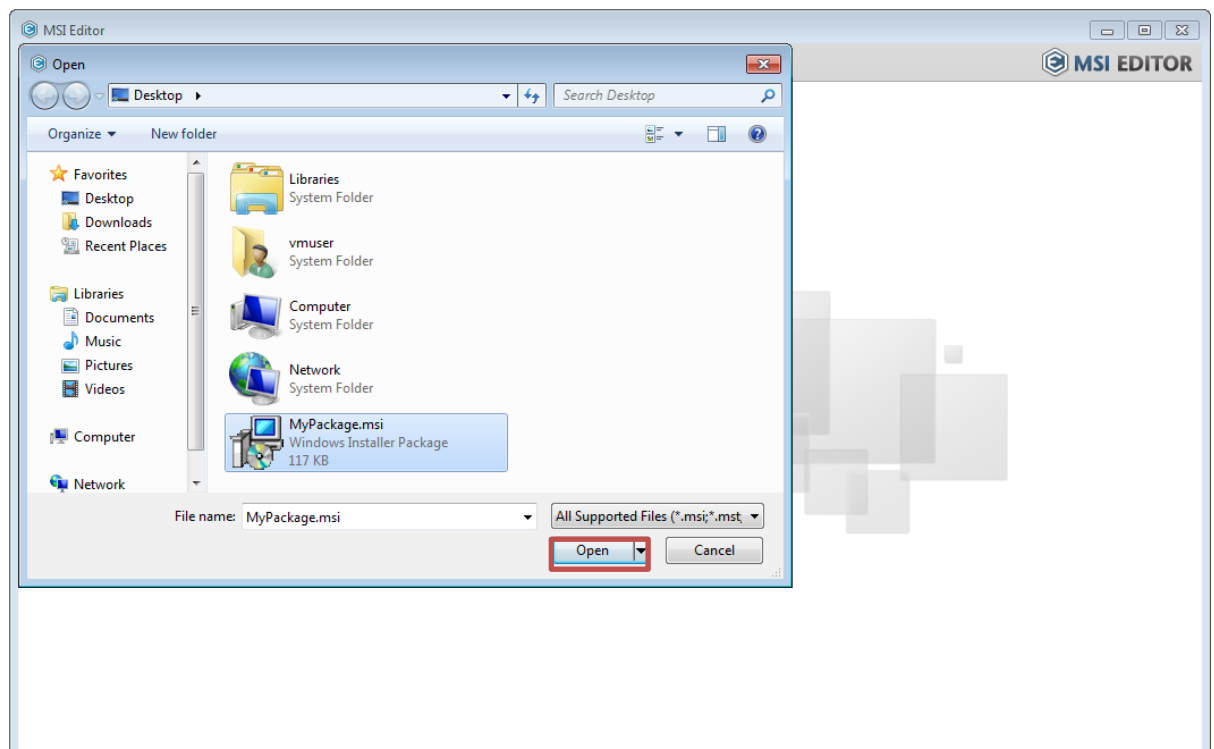


Open an MSI package, for which the new MST will be created

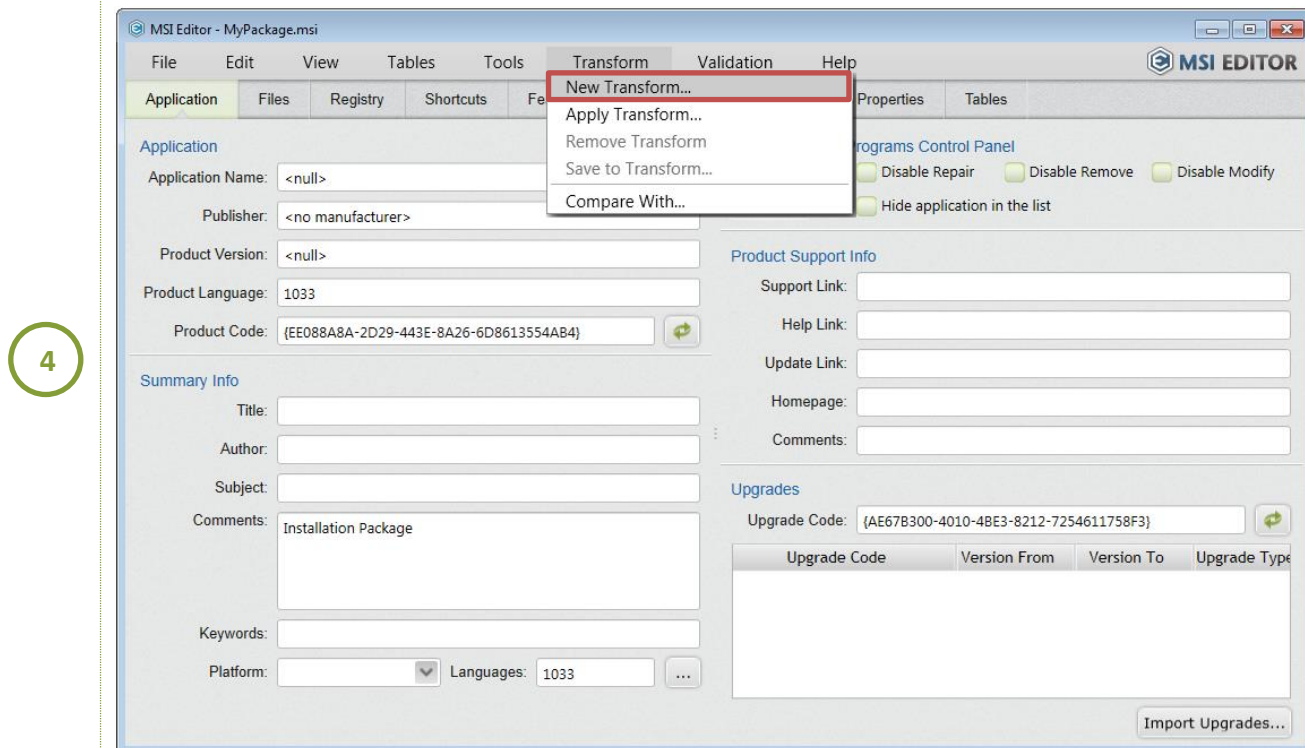
2



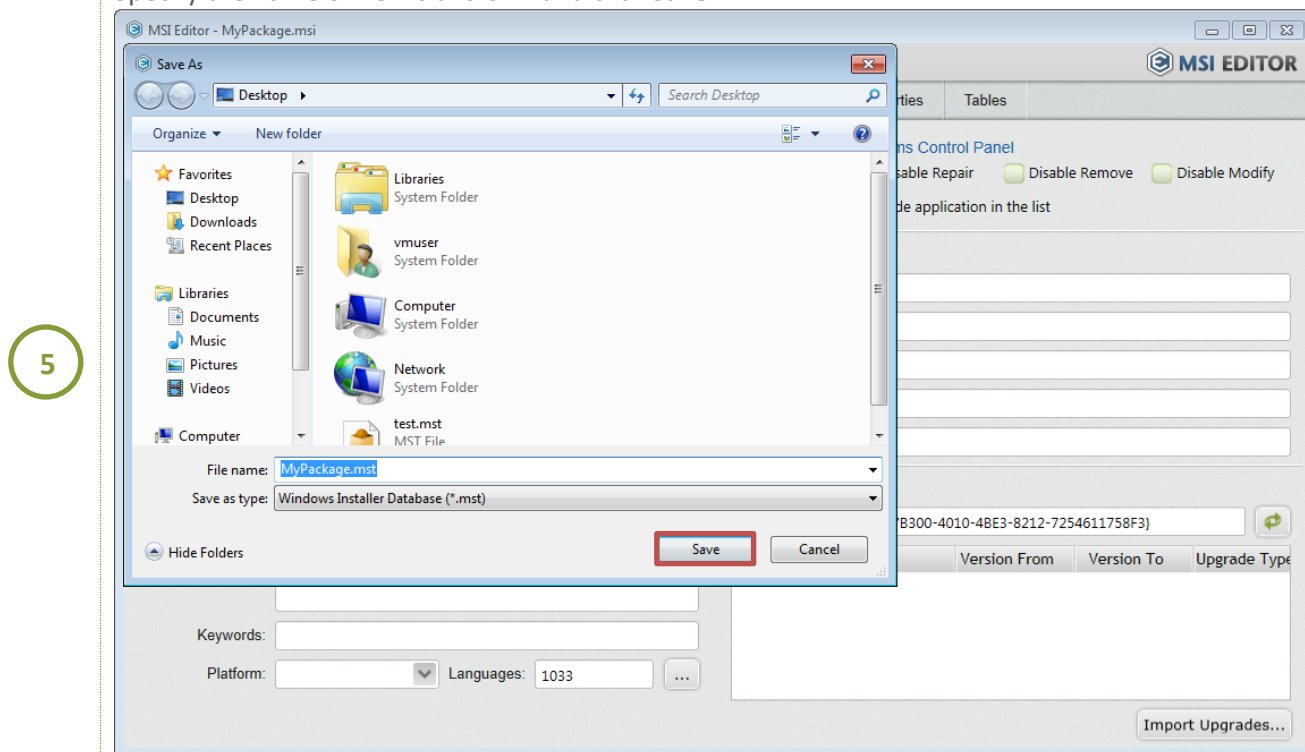
3



Select **Transform** -> **New Transform...** in the main menu



Specify the name of new transform and click **Save**



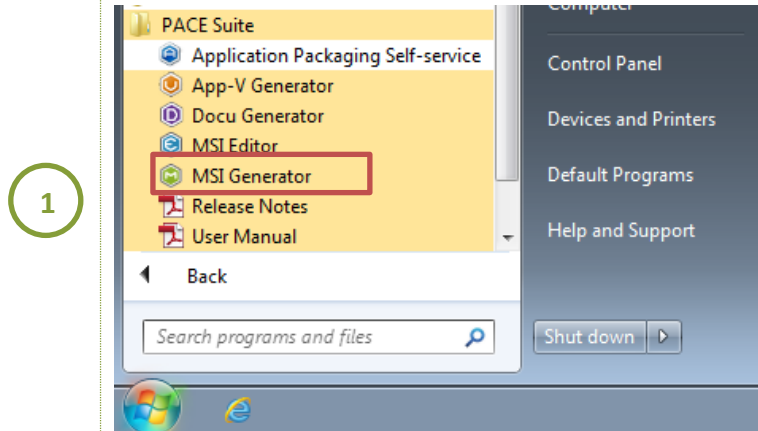
6

Make the changes, that need to be saved into the MST. Please refer to [3.10 Edit an MSI package](#).

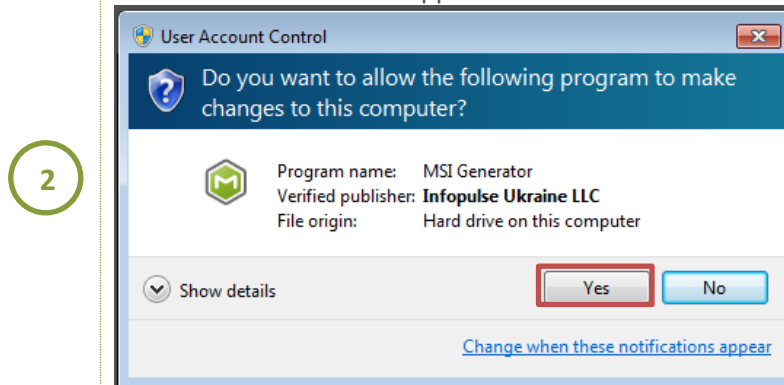
3.6 Capture changes into an MST

MSI Generator allows capturing any changes made to system and to original MSI during its installation, and reproducing them in MST. This is useful e.g. if you need to record changes made in UI dialogs during installation of an MSI.

Launch MSI Generator



Click Yes if UAC window appeared

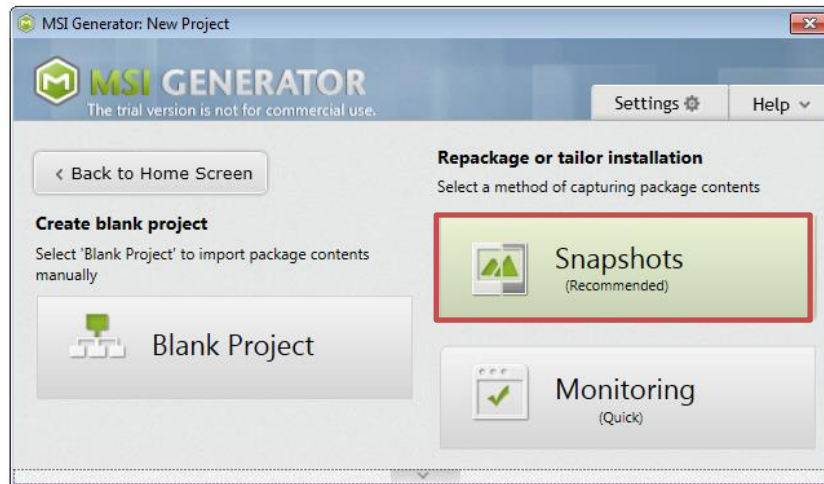


Select Create Package



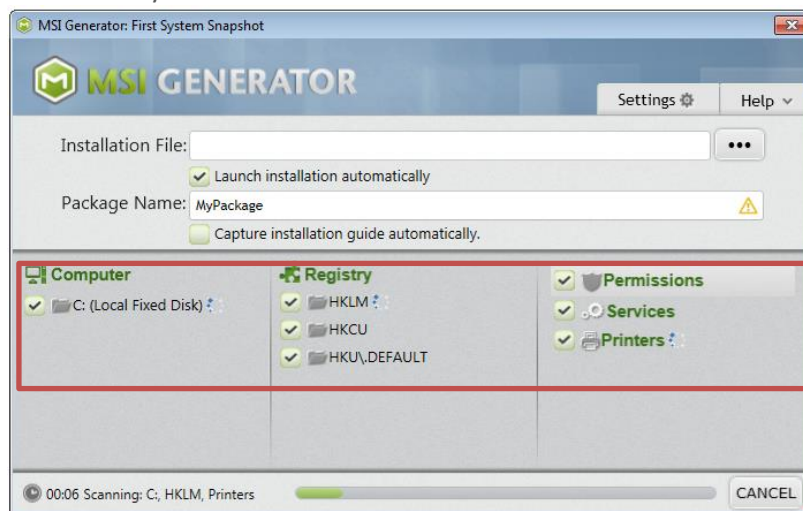
Select Snapshots

4



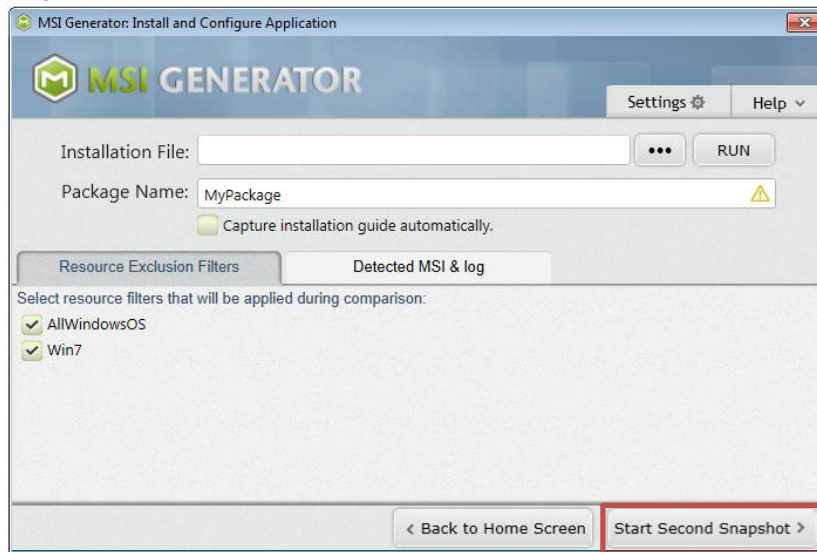
5

While the 1st snapshot is being taken, you can change the scanning areas if needed. If unsure, leave as is. Wait until the 1st snapshot is done and MSI Generator will switch to the next step automatically



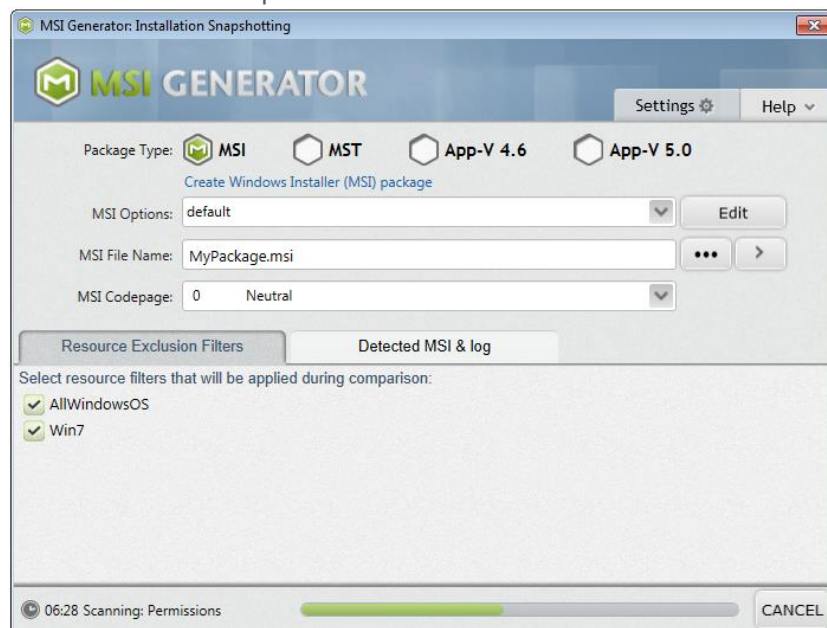
On this step run an installation and follow the installation steps of your software or perform any manual configuration that should be saved to a transform (MST) and then click the **Start Second Snapshot**

6



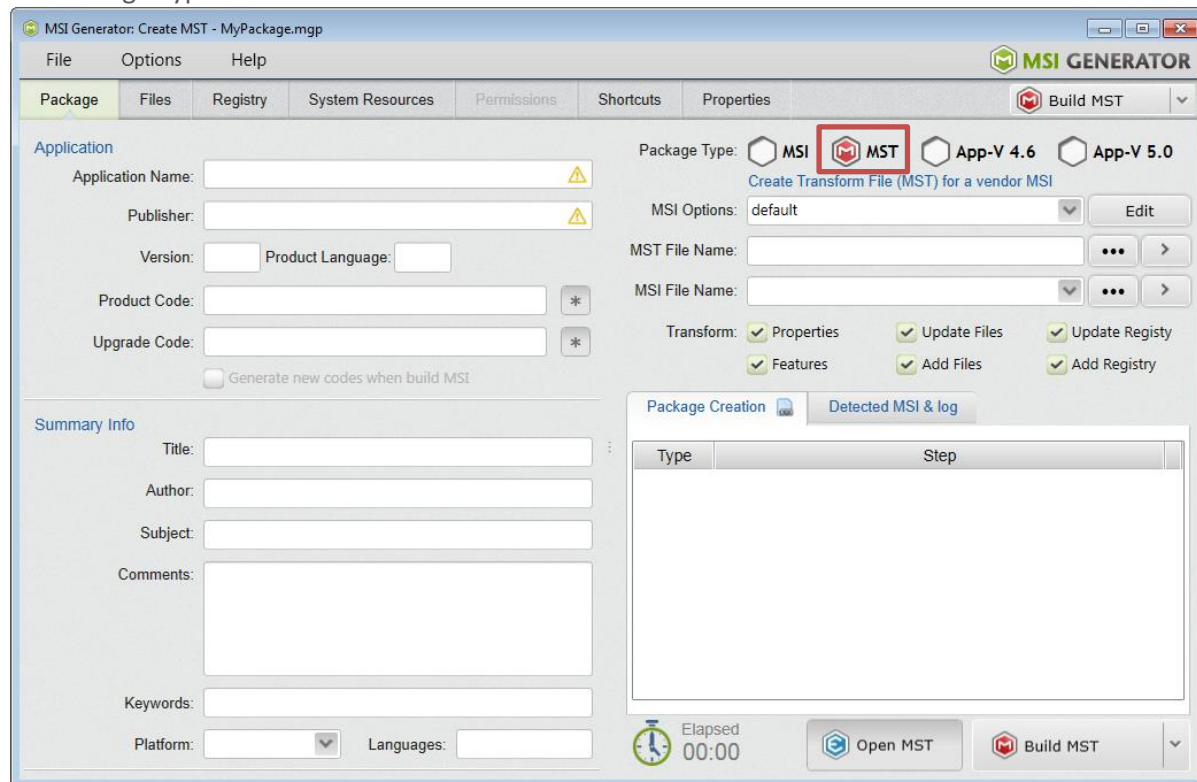
Wait until the 2nd snapshot is done and MSI Generator will switch to the next step automatically

7



Set Package Type to **MST**

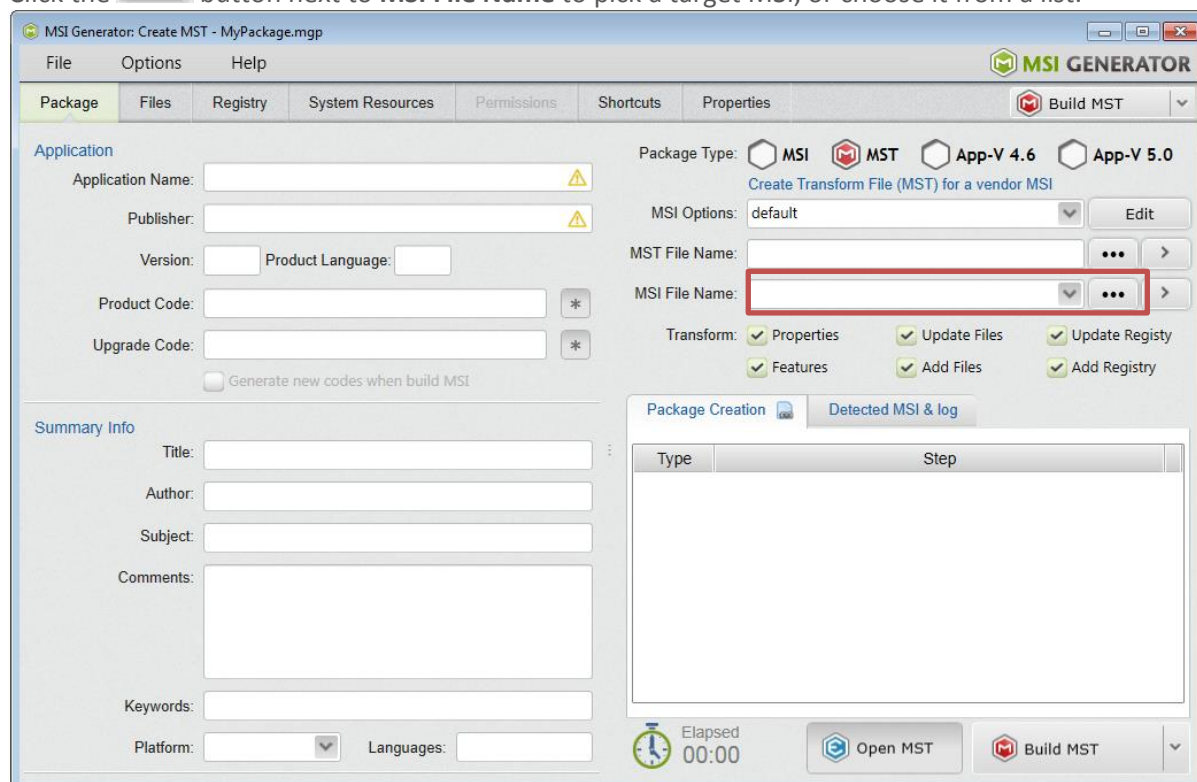
8



The screenshot shows the MSI Generator application window titled "MSI Generator: Create MST - MyPackage.mgp". The "Package" tab is selected. In the "Application" section, fields for Application Name, Publisher, Version, Product Language, Product Code, and Upgrade Code are visible. The "Package Type" section shows "MST" selected with a red box around it. Below it, "MSI Options" is set to "default". The "MST File Name" and "MSI File Name" fields have ellipsis buttons. The "Transform" section has checkboxes for Properties, Update Files, Update Registry, Features, Add Files, and Add Registry, all of which are checked. The "Summary Info" section has fields for Title, Author, Subject, Comments, Keywords, Platform, and Languages. The bottom status bar shows "Elapsed 00:00" and buttons for "Open MST" and "Build MST".

Click the  button next to **MSI File Name** to pick a target MSI, or choose it from a list.

9



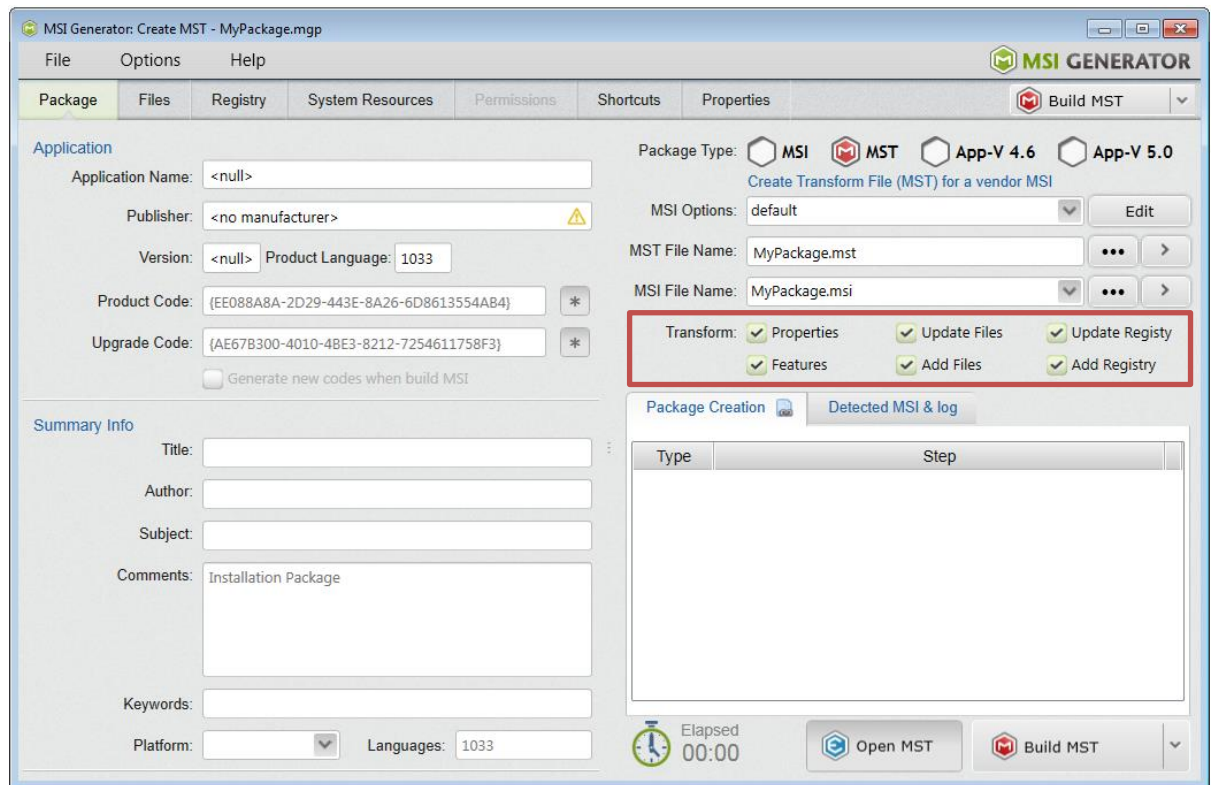
This screenshot is similar to the previous one, but the "MSI File Name" field is highlighted with a red box, and the ellipsis button next to it is also highlighted with a red box. The rest of the interface remains the same.

Choose which type of resources to be included to an MST:

Properties	MSI properties that were changed or added during the installation of an MSI, including those modified via UI dialogs
Features	MSI feature states and levels that were changed during the installation of an MSI
Update Files	Files which are present in MSI but were updated outside MSI (e.g. a config file which was populated during application launch)
Add Files	Captured files that do NOT exist in MSI (e.g. those installed via an EXE wrapper outside an MSI)
Update Registry	Files which are present in MSI but were updated outside MSI (e.g. if default value was overwritten during application launch)
Add Registry	Captured registry entries that do NOT exist in MSI (e.g. those installed via an EXE wrapper outside an MSI)

Note To get a “response MST” (“InstallTailor”) leave checked only **Properties** and **Featured** checked.

11



MSI Generator: Create MST - MyPackage.mgp

File Options Help

Package Files Registry System Resources Permissions Shortcuts Properties Build MST

Application

Application Name: <null>

Publisher: <no manufacturer>

Version: <null> Product Language: 1033

Product Code: {EE088A8A-2D29-443E-8A26-6D8613554AB4}

Upgrade Code: {AE67B300-4010-4BE3-8212-7254611758F3}

Generate new codes when build MSI

Package Type: MSI MST App-V 4.6 App-V 5.0

Create Transform File (MST) for a vendor MSI

MSI Options: default Edit

MST File Name: MyPackage.mst

MSI File Name: MyPackage.msi

Transform: ☒ Properties ☒ Update Files ☒ Update Registry ☒ Features ☒ Add Files ☒ Add Registry

Package Creation Detected MSI & log

Type	Step

Elapsed 00:00

Open MST Build MST

Summary Info

Title:

Author:

Subject:

Comments: Installation Package

Keywords:

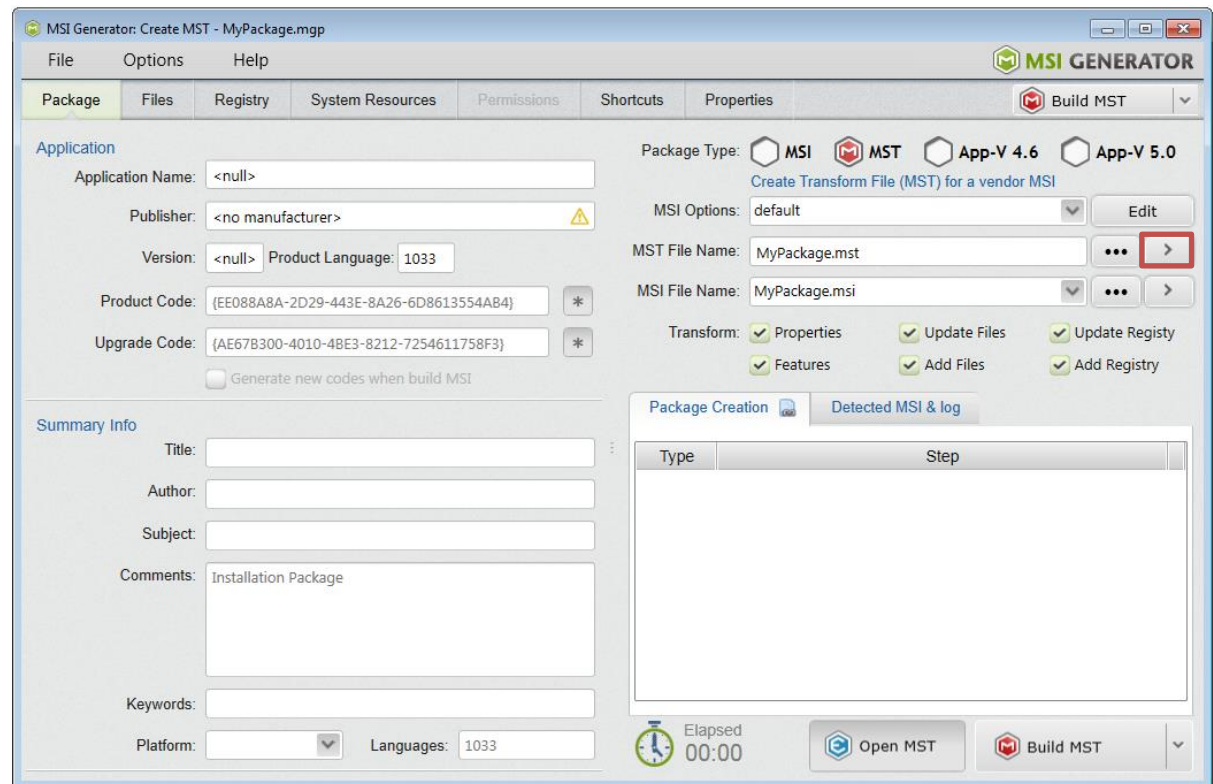
Platform: Languages: 1033

Change *Application Name*, *Publisher* and application *Version*, *INSTALLDIR* if needed and click the **Build MST** button to generate an **MST** for the selected MSI package.

To find the **MST** that was generated click the > button next to **MST File Name** and a containing folder will be opened in Windows Explorer.

Also see the instruction on how to [Edit a project \(MGP\)](#).

12



MSI Generator: Create MST - MyPackage.mgp

File Options Help

Package Files Registry System Resources Permissions Shortcuts Properties Build MST

Application

Application Name: <null>

Publisher: <no manufacturer>

Version: <null> Product Language: 1033

Product Code: {EE088A8A-2D29-443E-8A26-6D8613554AB4}

Upgrade Code: {AE67B300-4010-4BE3-8212-7254611758F3}

Generate new codes when build MSI

Package Type: MSI MST App-V 4.6 App-V 5.0

Create Transform File (MST) for a vendor MSI

MSI Options: default Edit

MST File Name: MyPackage.mst

MSI File Name: MyPackage.msi

Transform: Properties Update Files Update Registry Features Add Files Add Registry

Summary Info

Title:

Author:

Subject:

Comments: Installation Package

Keywords:

Platform: Languages: 1033

Package Creation Detected MSI & log

Type	Step

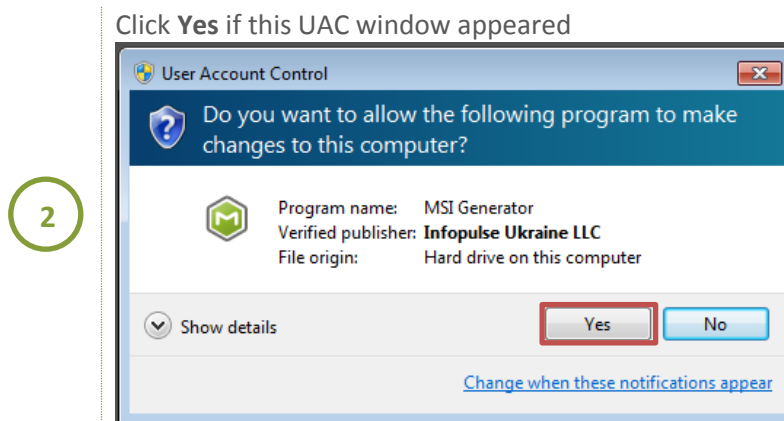
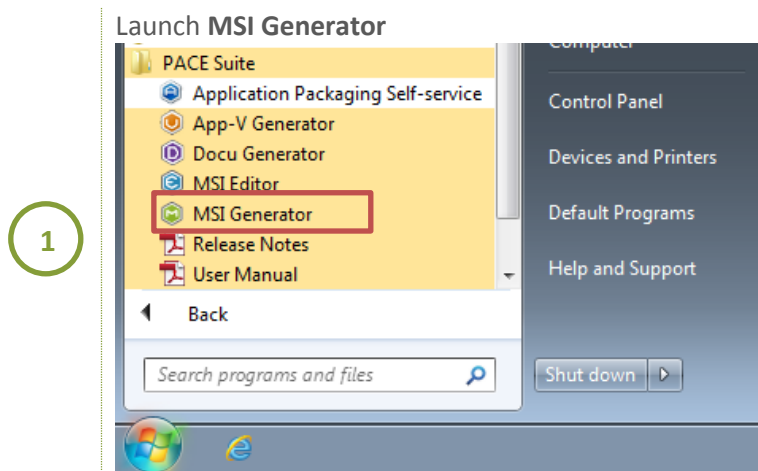
Elapsed 00:00

Open MST Build MST

3.7 Edit a project (MGP)

3.7.1 Open a project

To open an MSI Generator's project file (.MGP), launch it via Windows Explorer, or follow the instruction below:



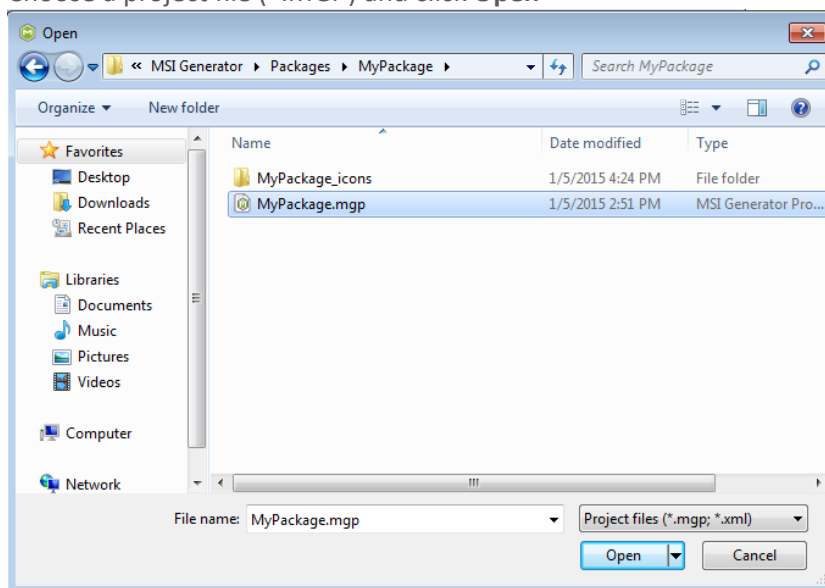
Select **Open Project**

3



Choose a project file (*.MGP) and click **Open**

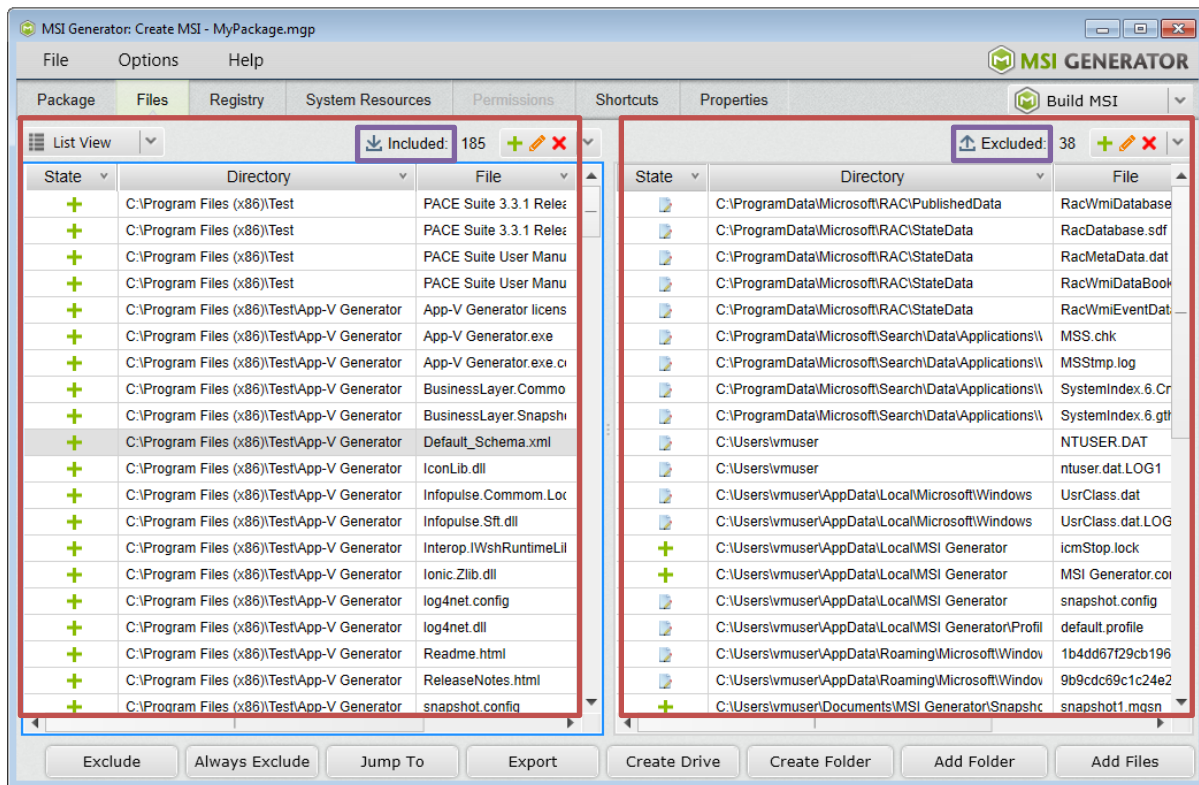
4



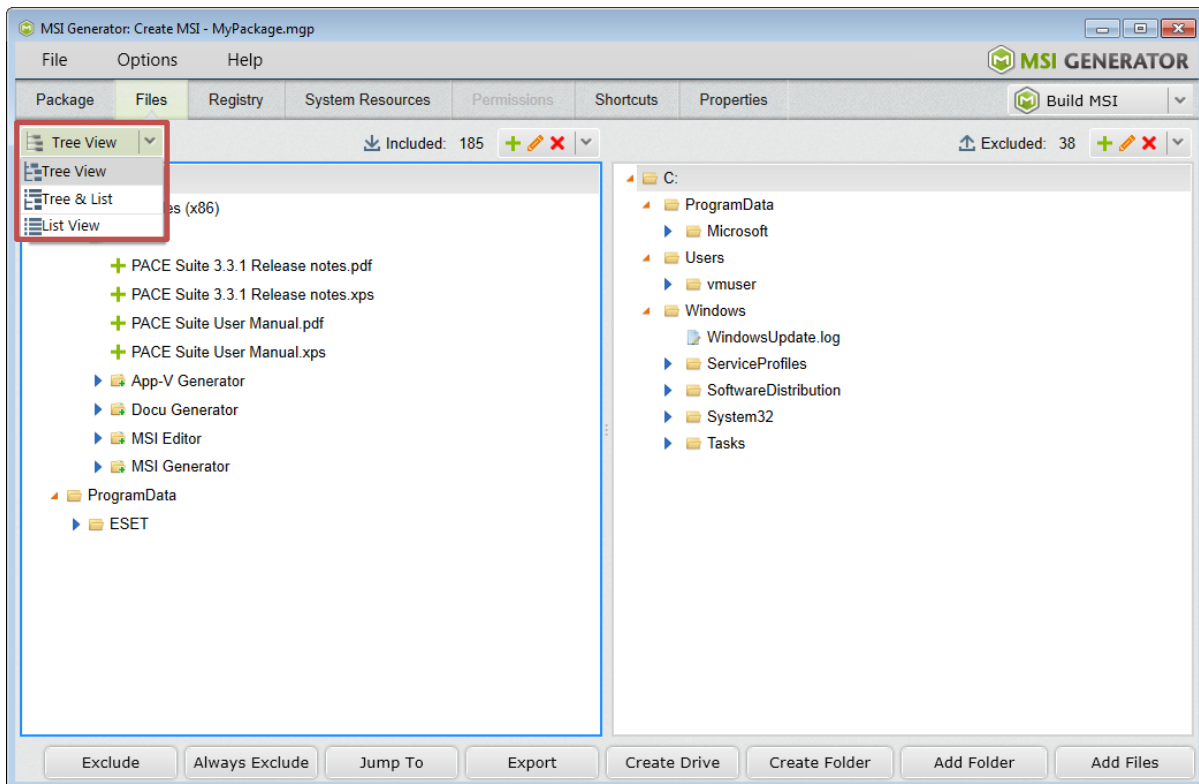
3.7.2 Files and folders

Pre-condition: Open a project file (MGP) (see [Open a project](#)) and navigate to the **Files** tab.

This tab is designed to show all files and folders which were added, modified or removed during the repackaging process. MSI Generator uses exclusion lists for detecting which of captured files are system temporary files and should not be included to a package. Such unnecessary files will be marked as Excluded resources and they are shown in the right panel of the File tab. The rest of files, which will be Included to a package are shown in the left panel.



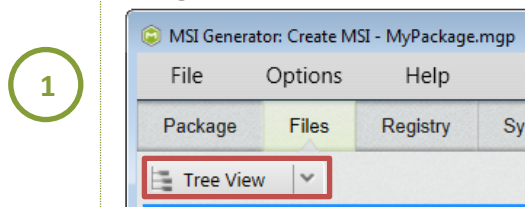
Use **Tree View** (left top corner) to get structured view of resources and have ability to perform Include and Exclude operations on folders, not only files.



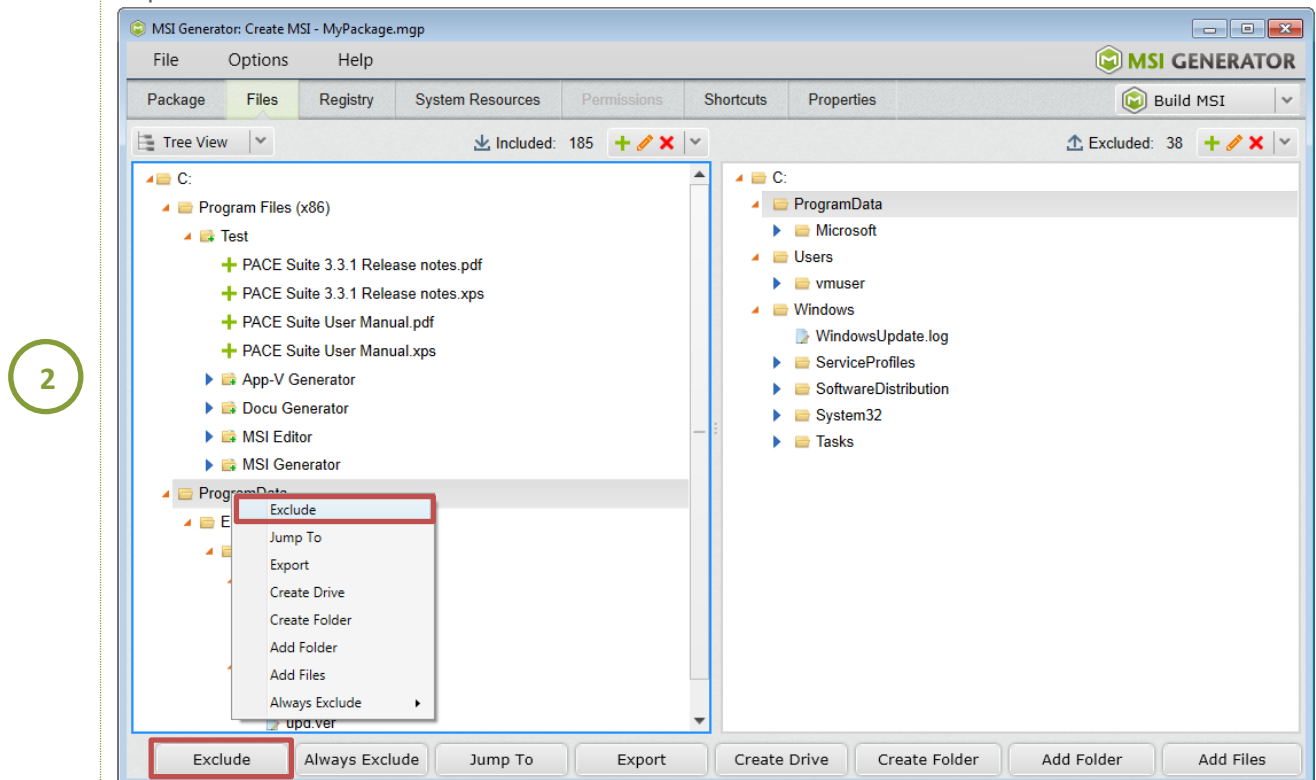
3.7.2.1 Exclude captured files and folders

Pre-condition: Open a project file (MGP) (see [Open a project](#)) and navigate to the **Files** tab.

Change view to **Tree View**



Select unnecessary resources and choose **Exclude** from the context menu, click the **Exclude** button, or press **Del**.

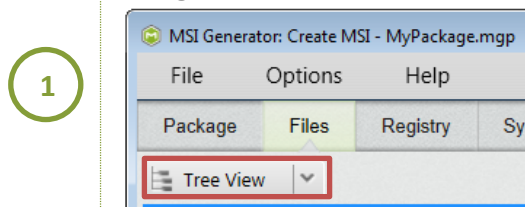


When a resource is excluded, it is moved to the right panel.

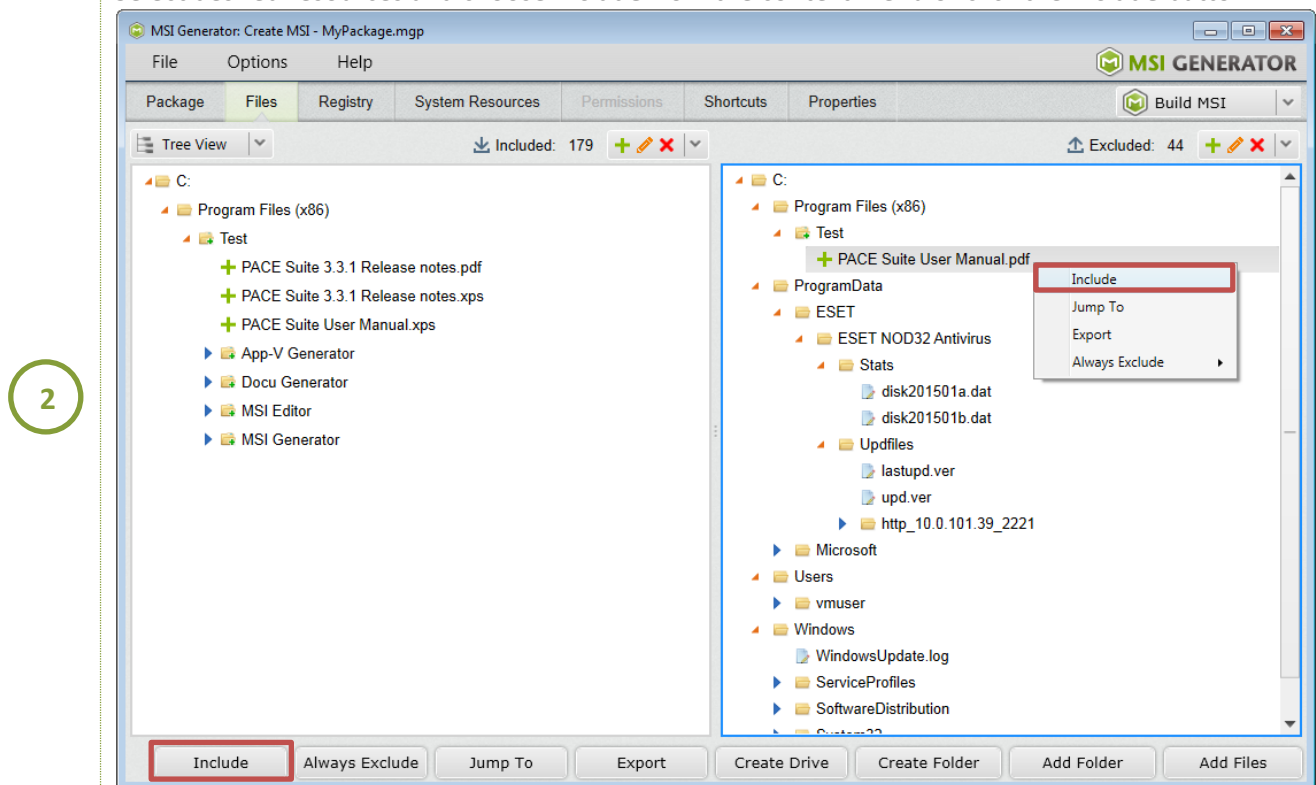
3.7.2.2 Include captured files and folders

Pre-condition: Open a project file (MGP) (see [Open a project](#)) and navigate to the **Files** tab.

Change view to **Tree View**



Select desired resources and choose **Include** from the context menu or click the **Include** button.

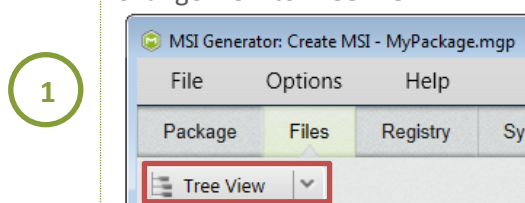


When a resource is excluded, it is moved to the left panel.

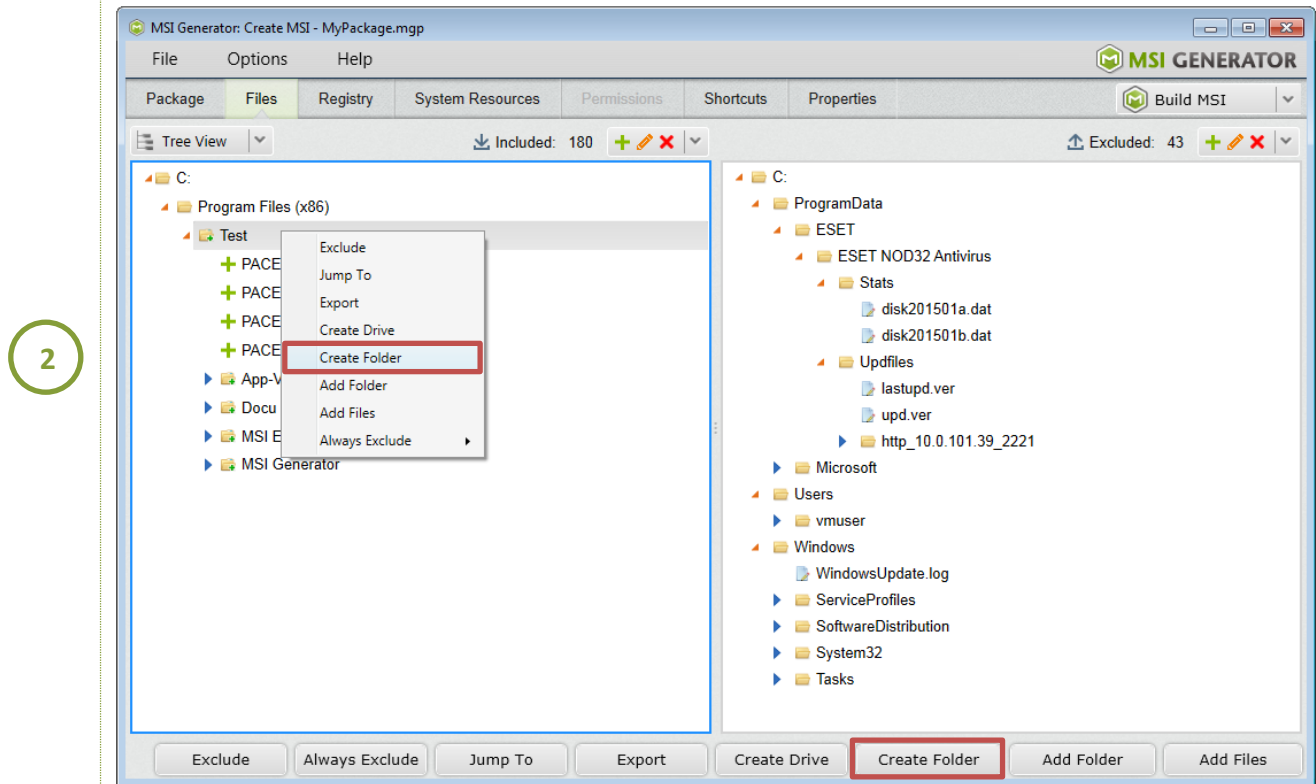
3.7.2.3 Create a new empty folder

Pre-condition: Open a project file (MGP) (see [Open a project](#)) and navigate to the **Files** tab.

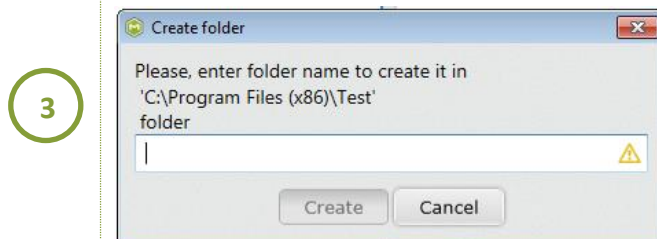
Change view to **Tree View**



Select a parent folder in which new folder will be created and choose **Create Folder** in the context menu or click the **Create Folder** button



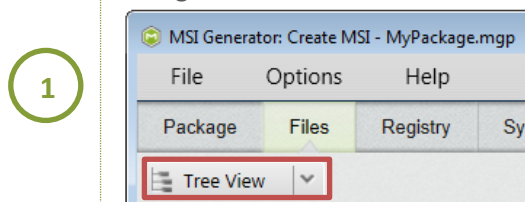
Enter the name of a new folder and click **Create**



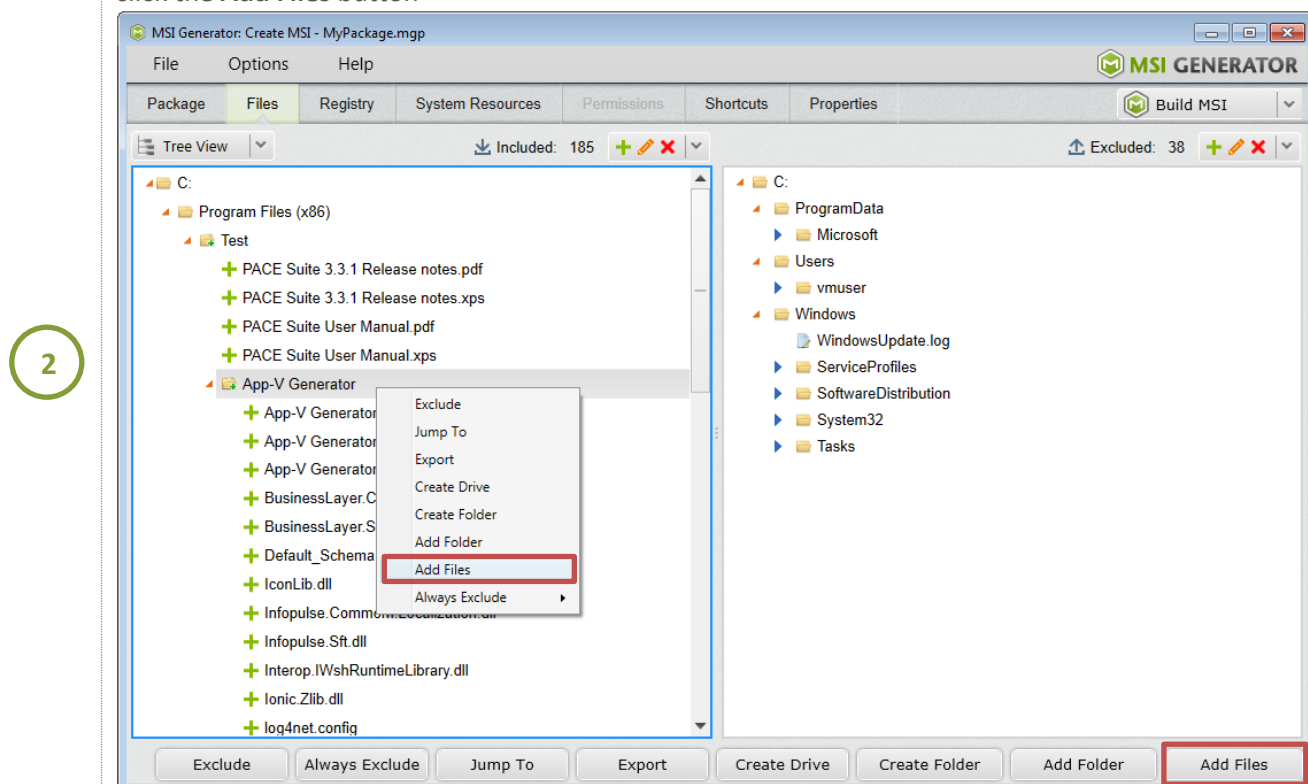
3.7.2.4 Import files or folders

Pre-condition: Open a project file (MGP) (see [Open a project](#)) and navigate to the **Files** tab.

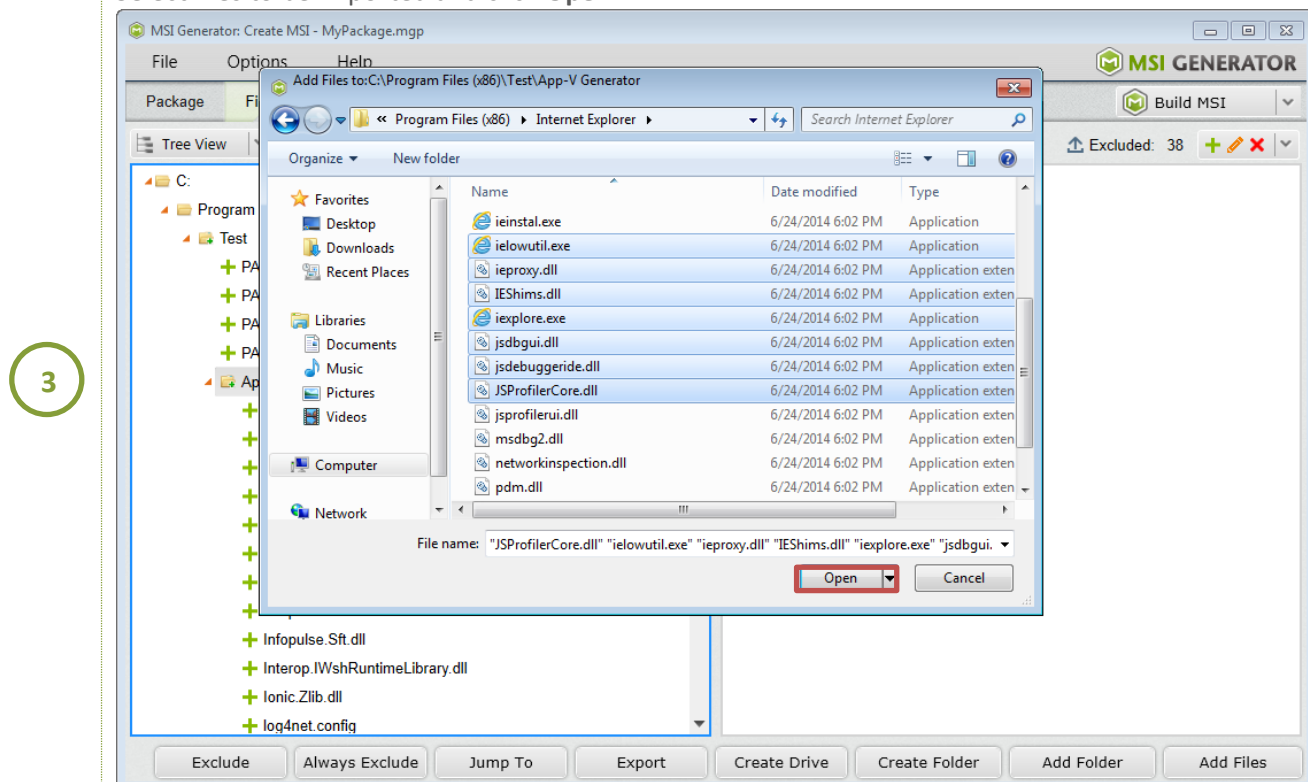
Change view to **Tree View**



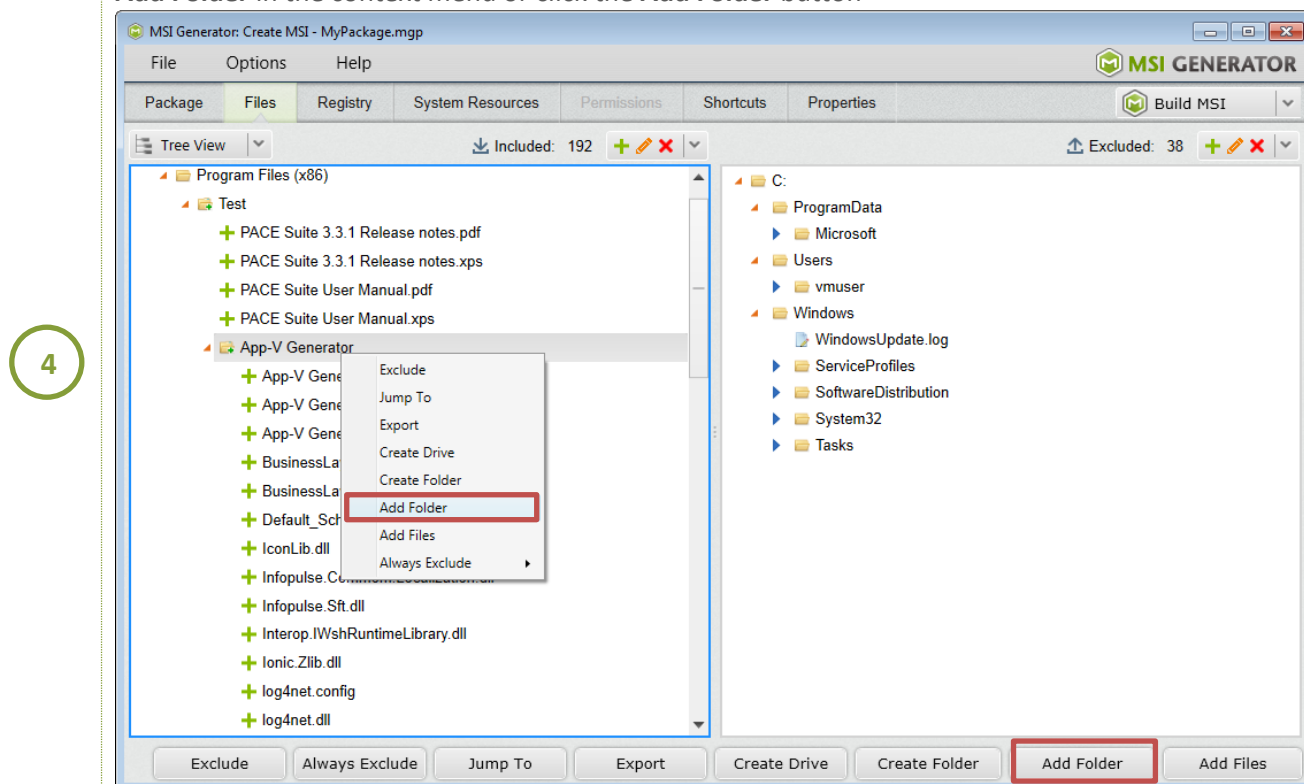
To import files, select a desired destination directory and choose **Add Files** in the context menu or click the **Add Files** button



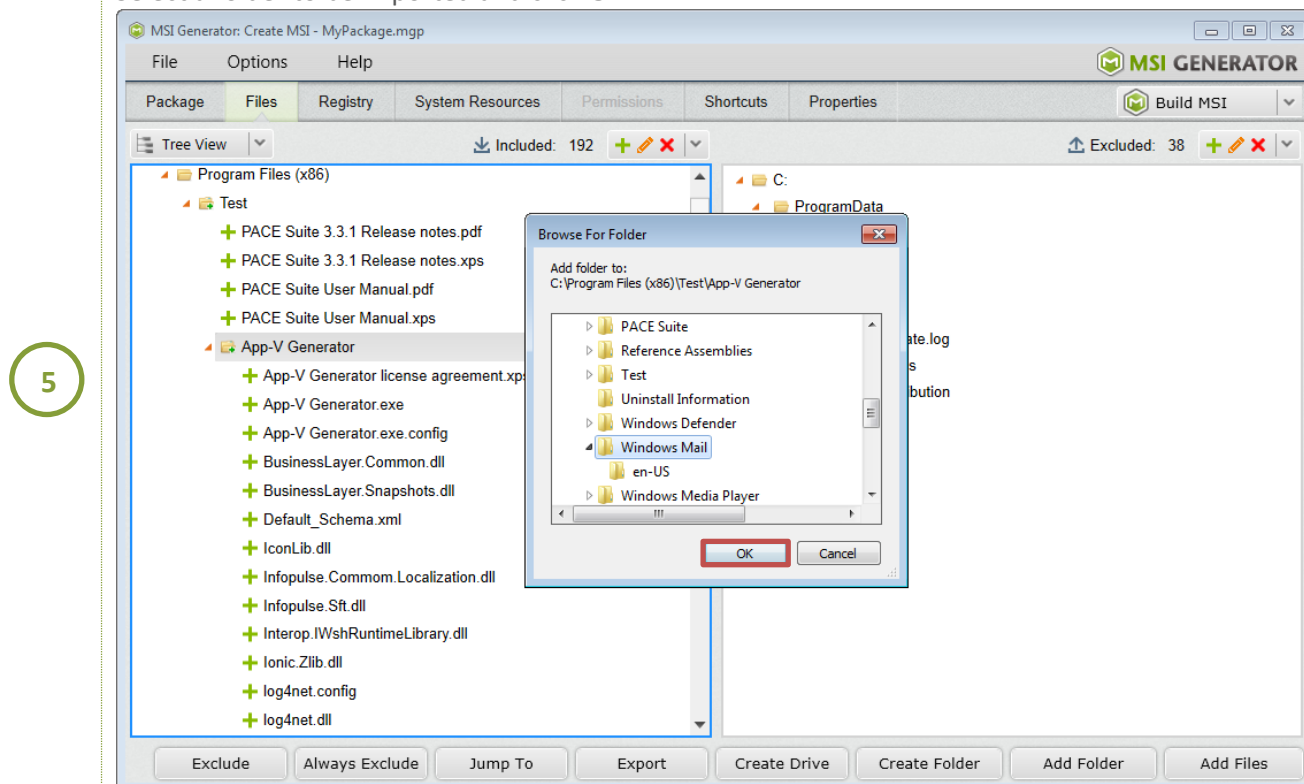
Select files to be imported and click **Open**



To import folder with all its files and subfolders, select a desired destination directory and choose **Add Folder** in the context menu or click the **Add Folder** button



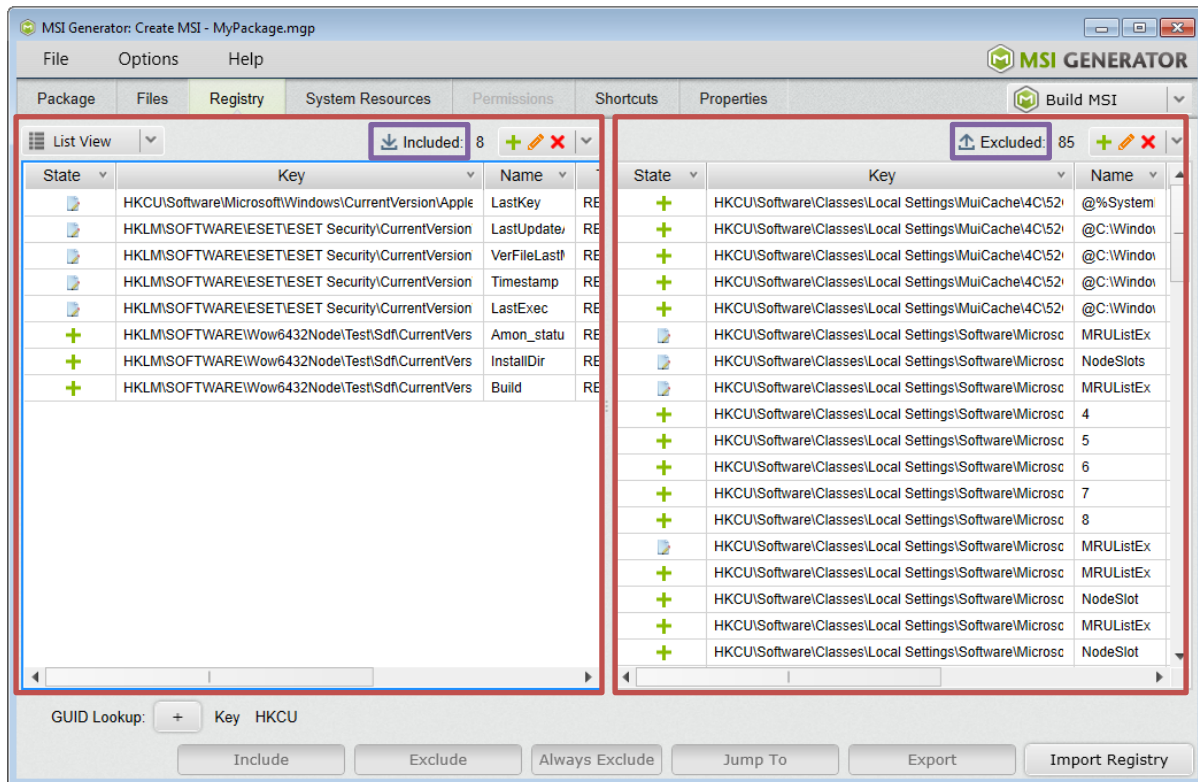
Select a folder to be imported and click **OK**



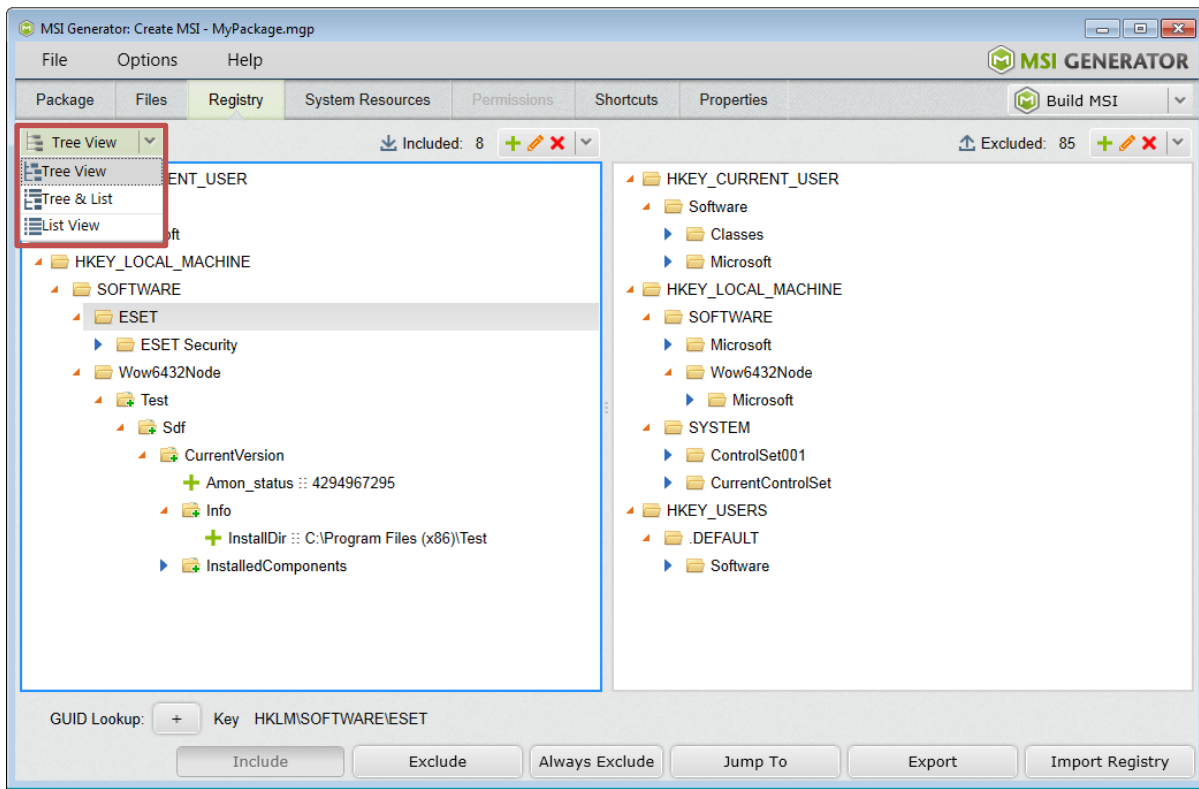
3.7.3 Registry entries

Pre-condition: Open a project file (MGP) (see [Open a project](#)) and navigate to the **Registry** tab.

This tab is designed to show all registry entries which were added, modified or removed during the repackaging process. MSI Generator uses its exclusion lists for detecting which of captured registry entries are system temporary and should not be included to a package. Such unnecessary registry entries will be marked as Excluded resources and they are shown in the right panel of the Registry tab. The rest of registry entries, which will be Included to a package are shown in the left panel.

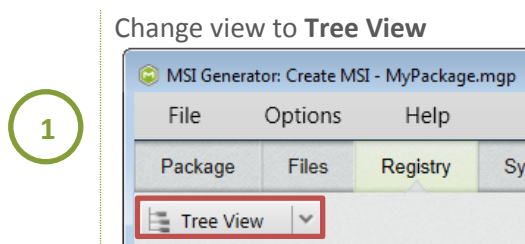


Use **Tree View** (left top corner) to get structured view of resources and have ability to perform Include and Exclude operations on whole registry key.

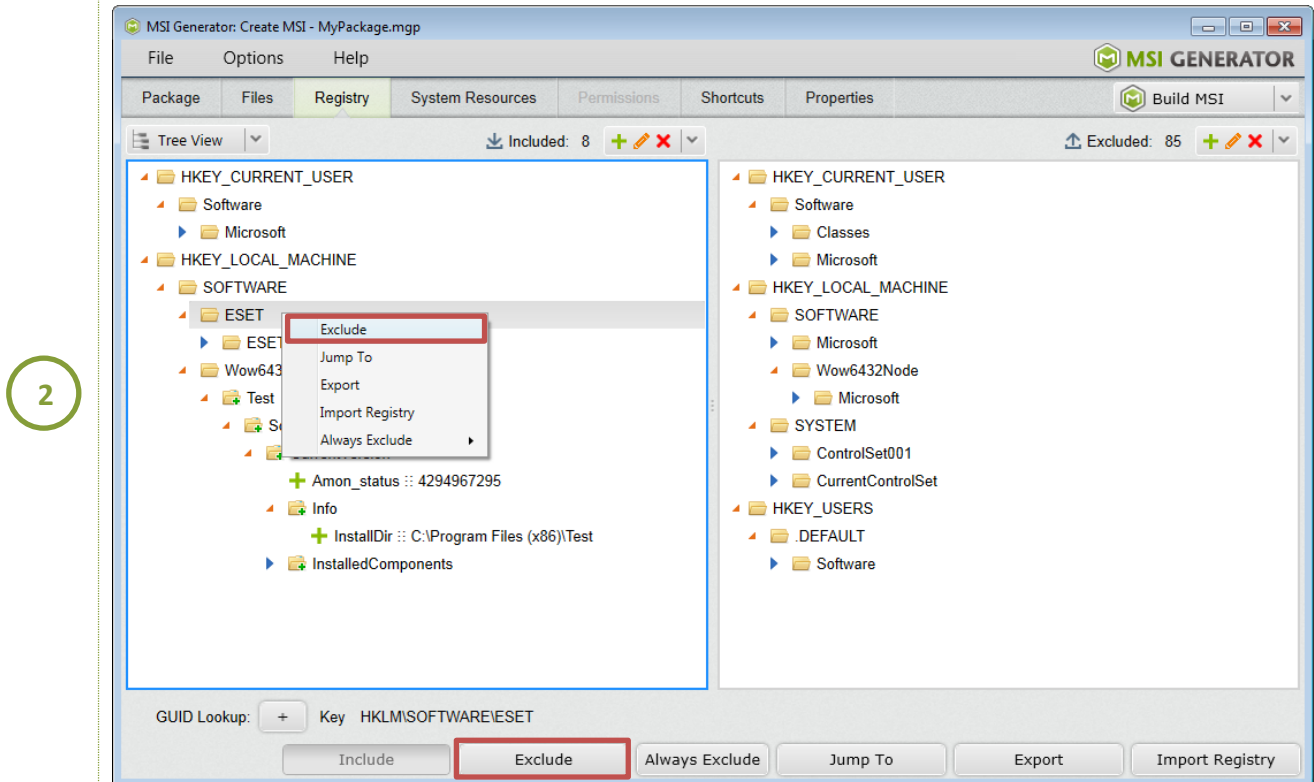


3.7.3.1 Exclude captured registry entries

Pre-condition: Open a project file (MGP) (see [Open a project](#)) and navigate to the **Registry** tab.



Select unnecessary resources and choose **Exclude** from the context menu or click the **Exclude** button.

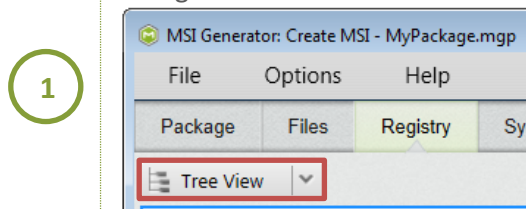


Moving selected registry entries to the right panel means that resources were excluded successfully.

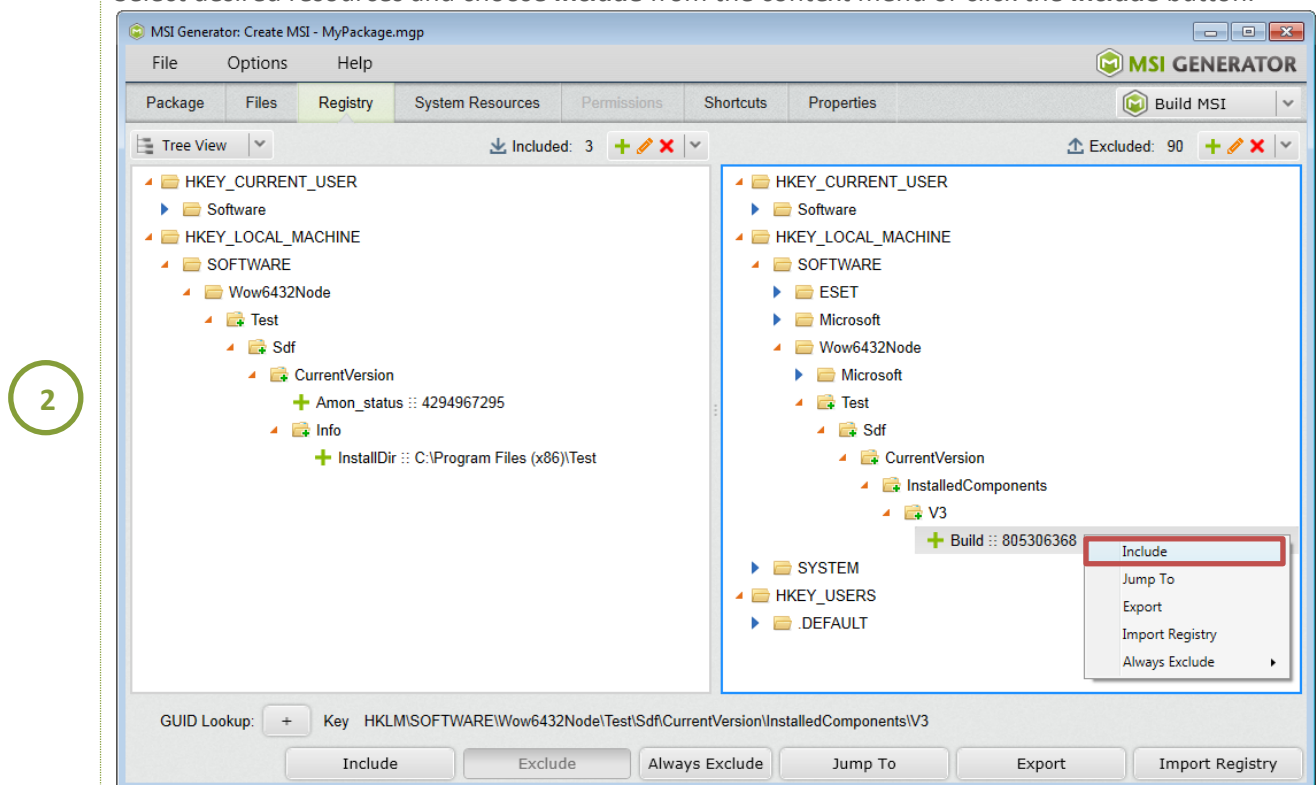
3.7.3.2 Include captured registry entries

Pre-condition: Open a project file (MGP) (see [Open a project](#)) and navigate to the **Registry** tab.

Change view to **Tree View**



Select desired resources and choose **Include** from the context menu or click the **Include** button.

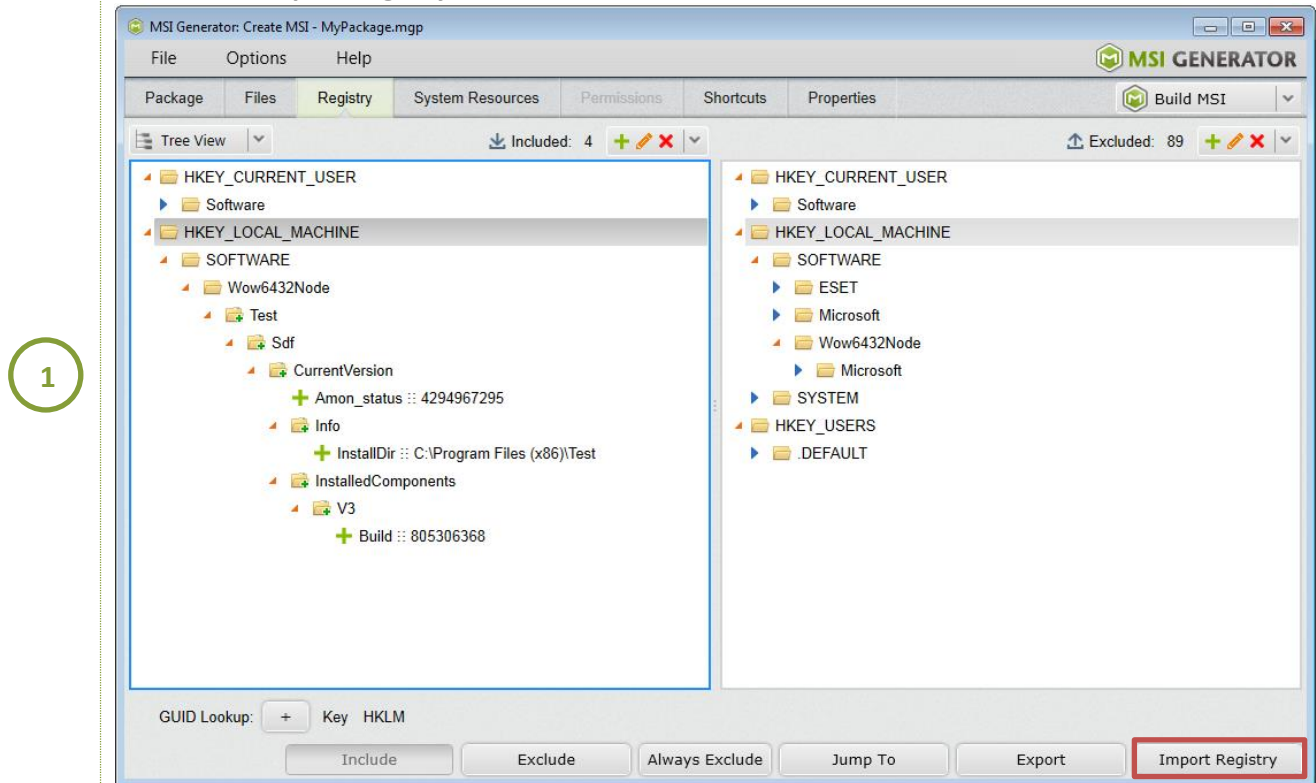


Moving selected registry entries to the left panel means that resources were included successfully.

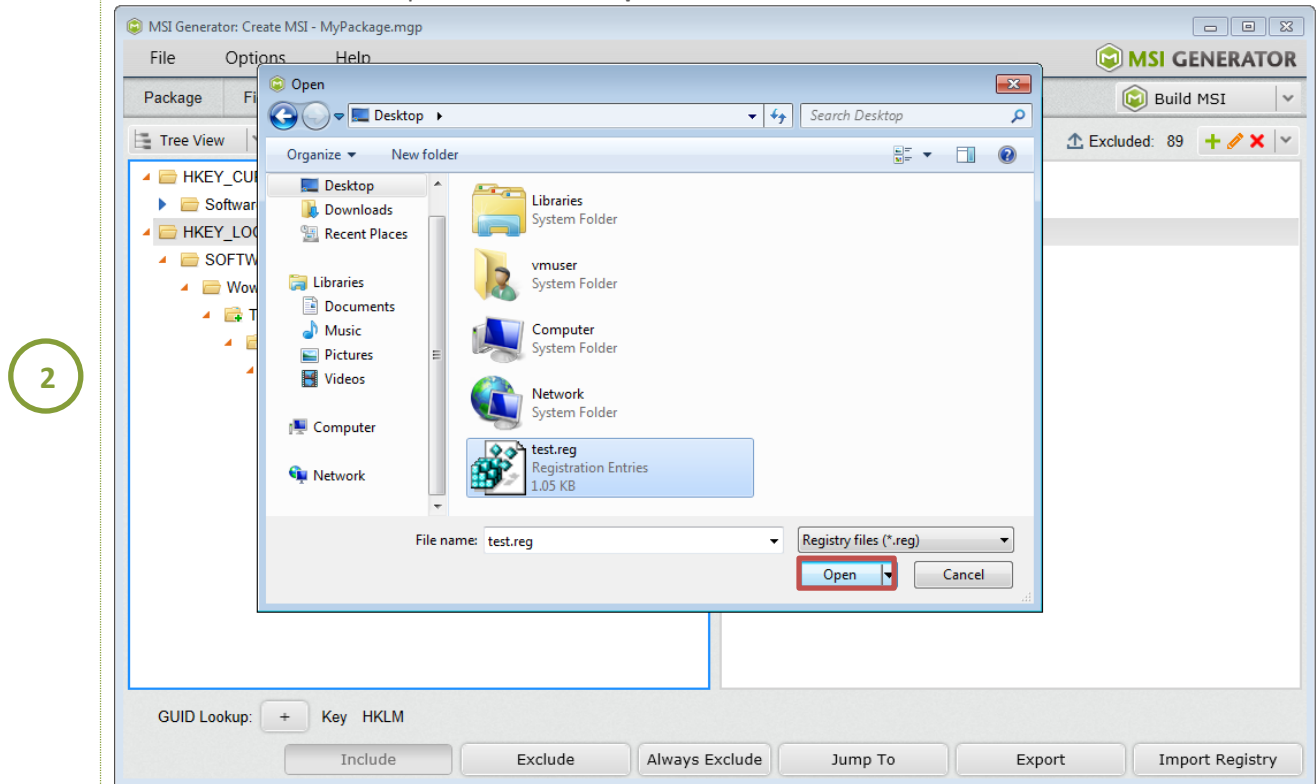
3.7.3.3 Import REG file

Pre-condition: Open a project file (MGP) (see [Open a project](#)) and navigate to the **Registry** tab.

Click on the **Import Registry** button



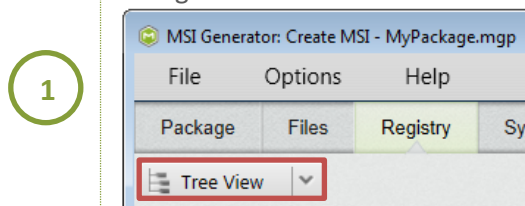
Choose REG file to be imported and click **Open**



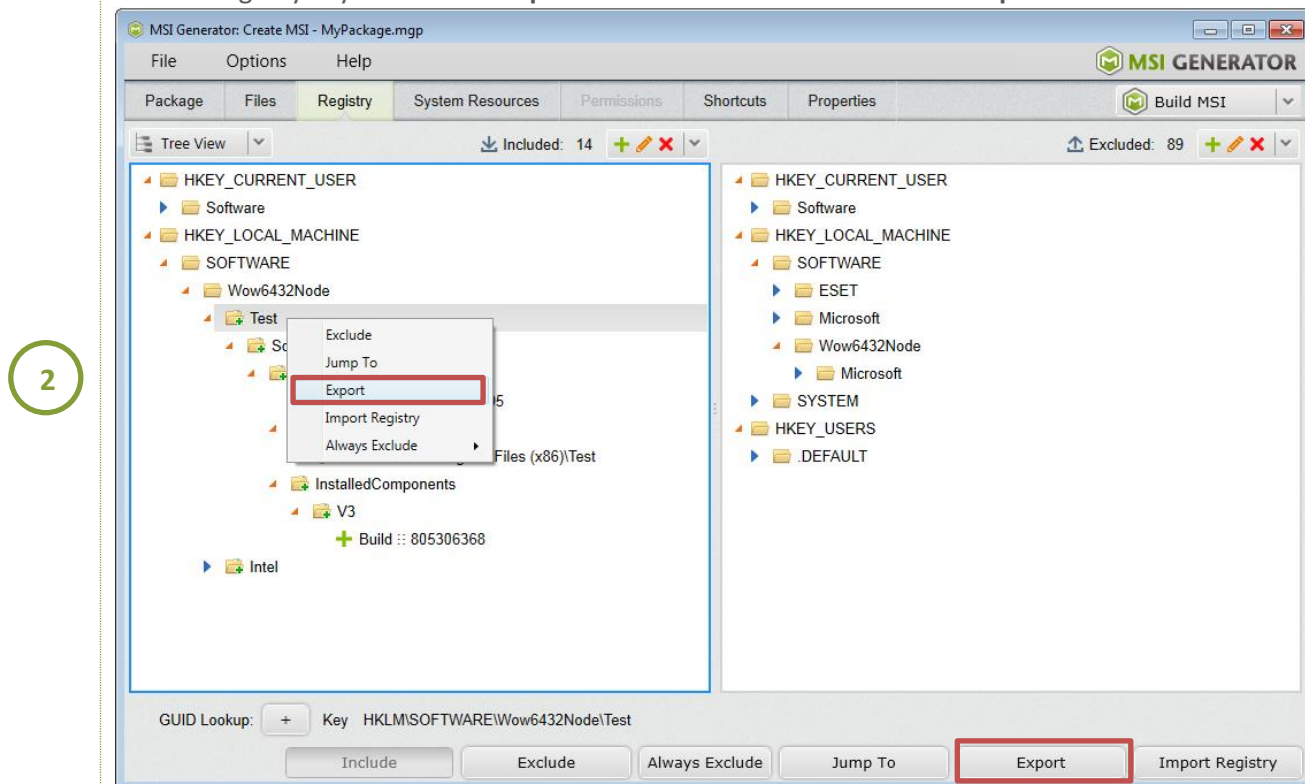
3.7.3.4 Export captured registry to REG file

Pre-condition: Open a project file (MGP) (see [Open a project](#)) and navigate to the **Registry** tab.

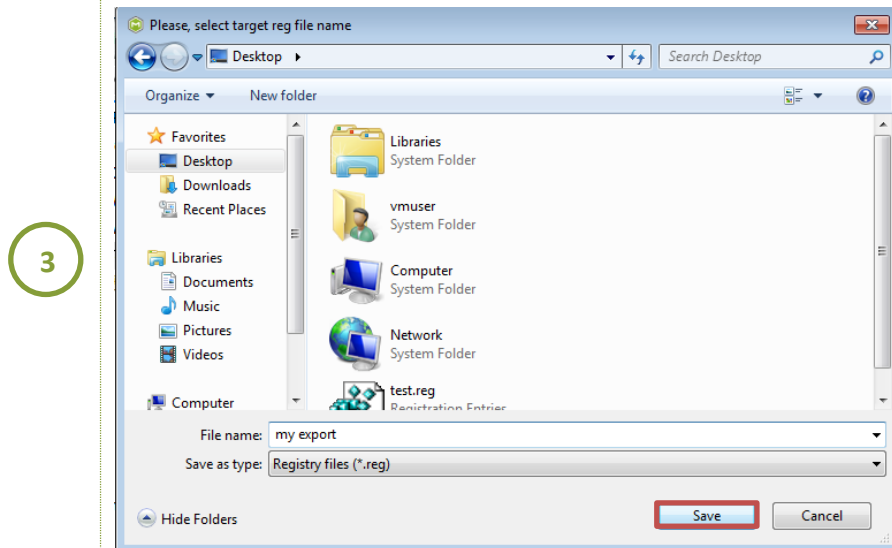
Change view to **Tree View**



Select a registry key and choose **Export** in the context menu or click the **Export** button



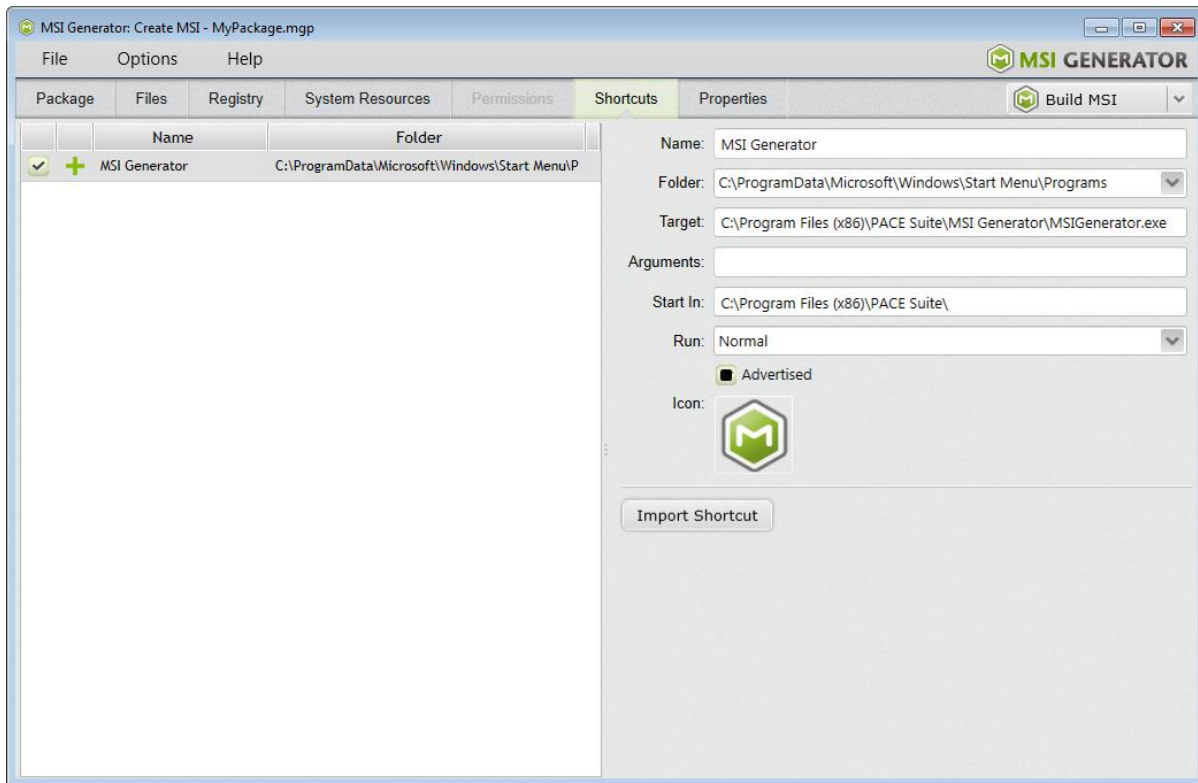
Select the name and destination location of a new REG file and click **Save**



3.7.4 Shortcuts

Pre-condition: Open a project file (MGP) (see [Open a project](#)) and navigate to the **Shortcuts** tab.

This tab is designed to show all shortcuts which were added or modified during the repackaging process. MSI Generator allows editing captured shortcuts, such as changing name, target folder, shortcut's target path, working directory, import new icon, convert shortcut to advertised and non-advertised.



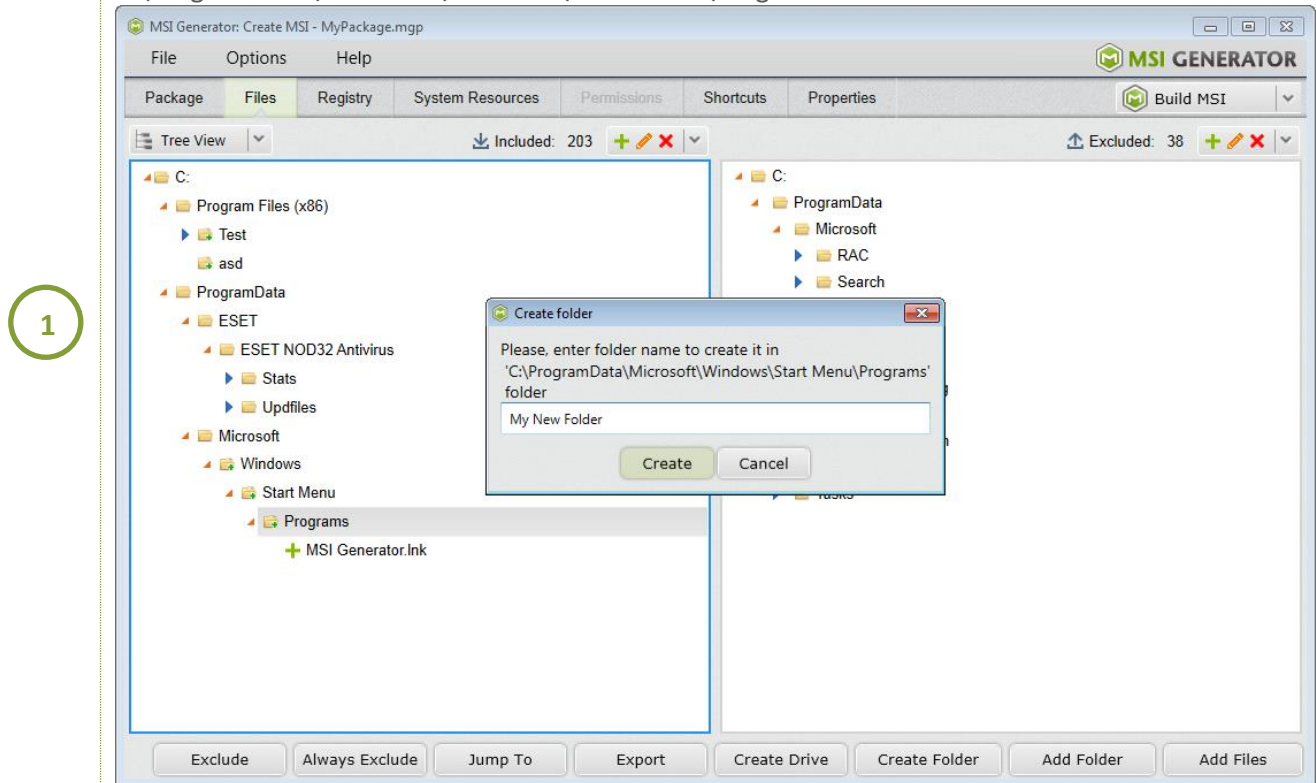
3.7.4.1 Import a shortcut

Pre-condition: Open a project file (MGP) (see [Open a project](#)) and navigate to the **Shortcuts** tab.

First, please ensure that the project contains a desired destination folder path for a new shortcut. To do so, navigate to the **Files** tab and create new folders if needed (refer to [Create a new folder](#)).

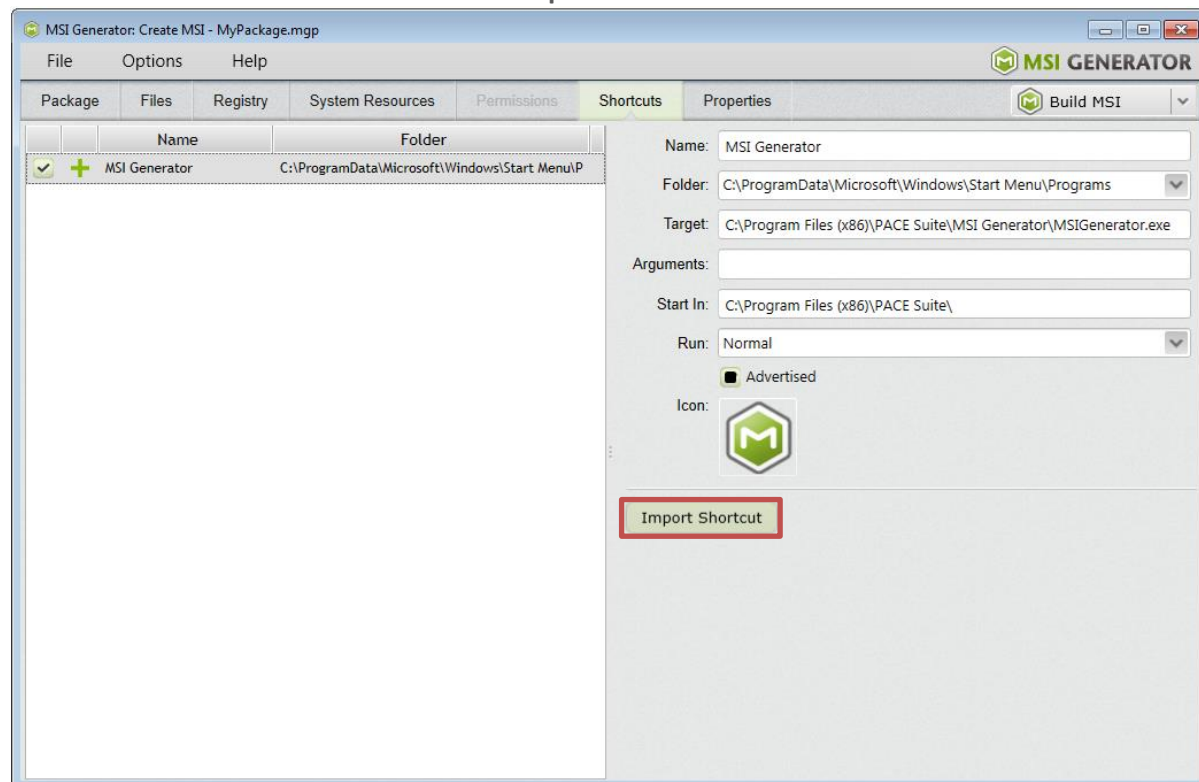
Note, that standard location of Start Menu shortcuts is the following:

C:\ProgramData\Microsoft\Windows\Start Menu\Programs



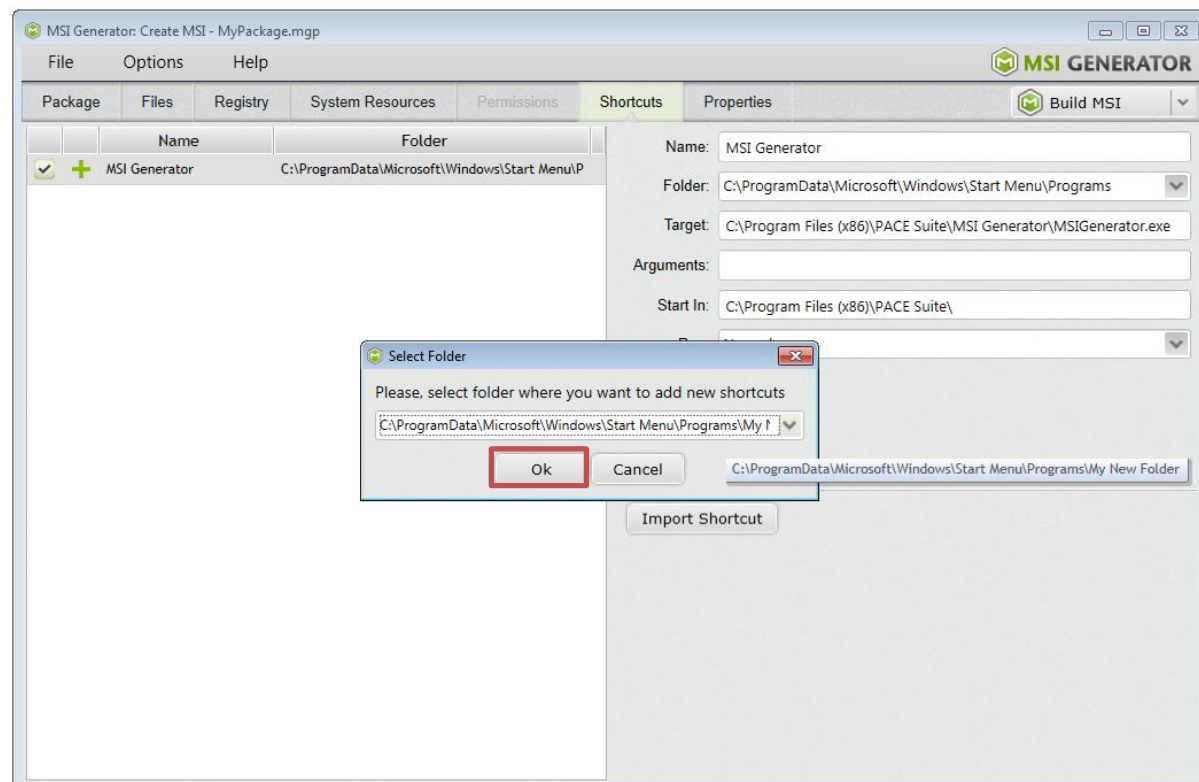
Go back to the **Shortcuts** tab and click the **Import Shortcuts** button

2



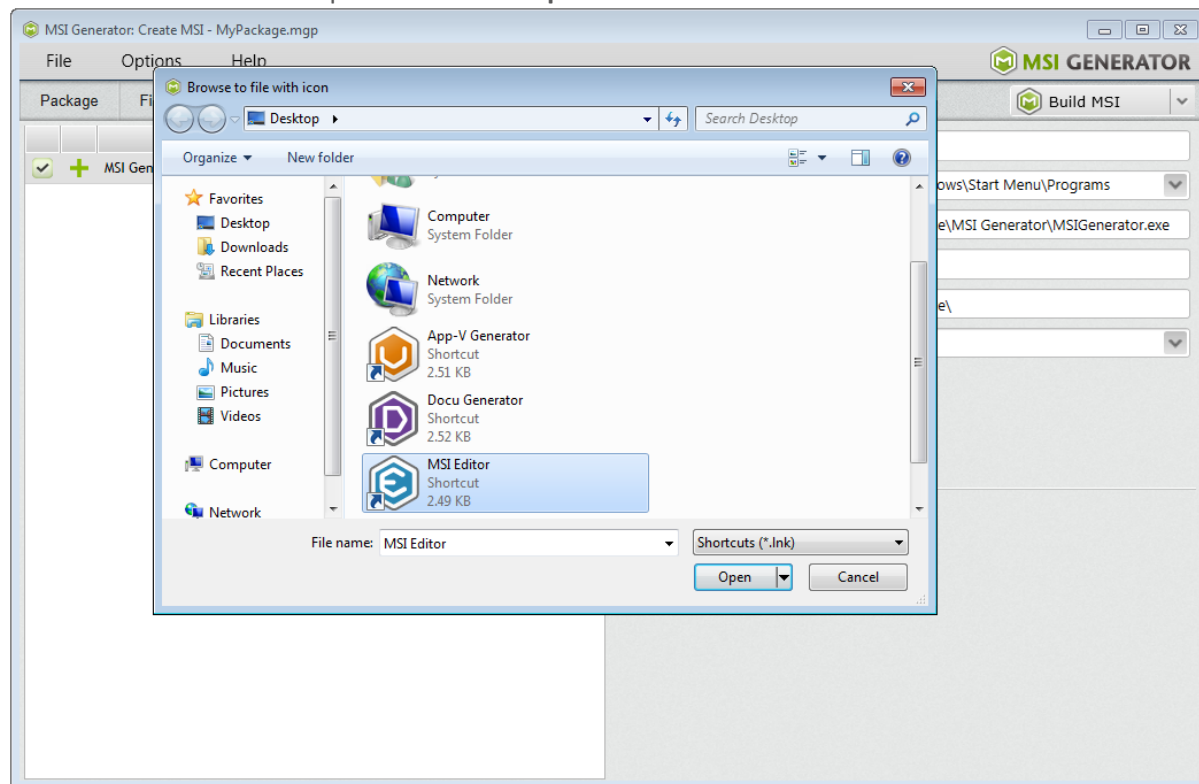
Select a desired destination location folder for new shortcut and click **OK**

3



Choose a shortcut to be imported and click **Open**

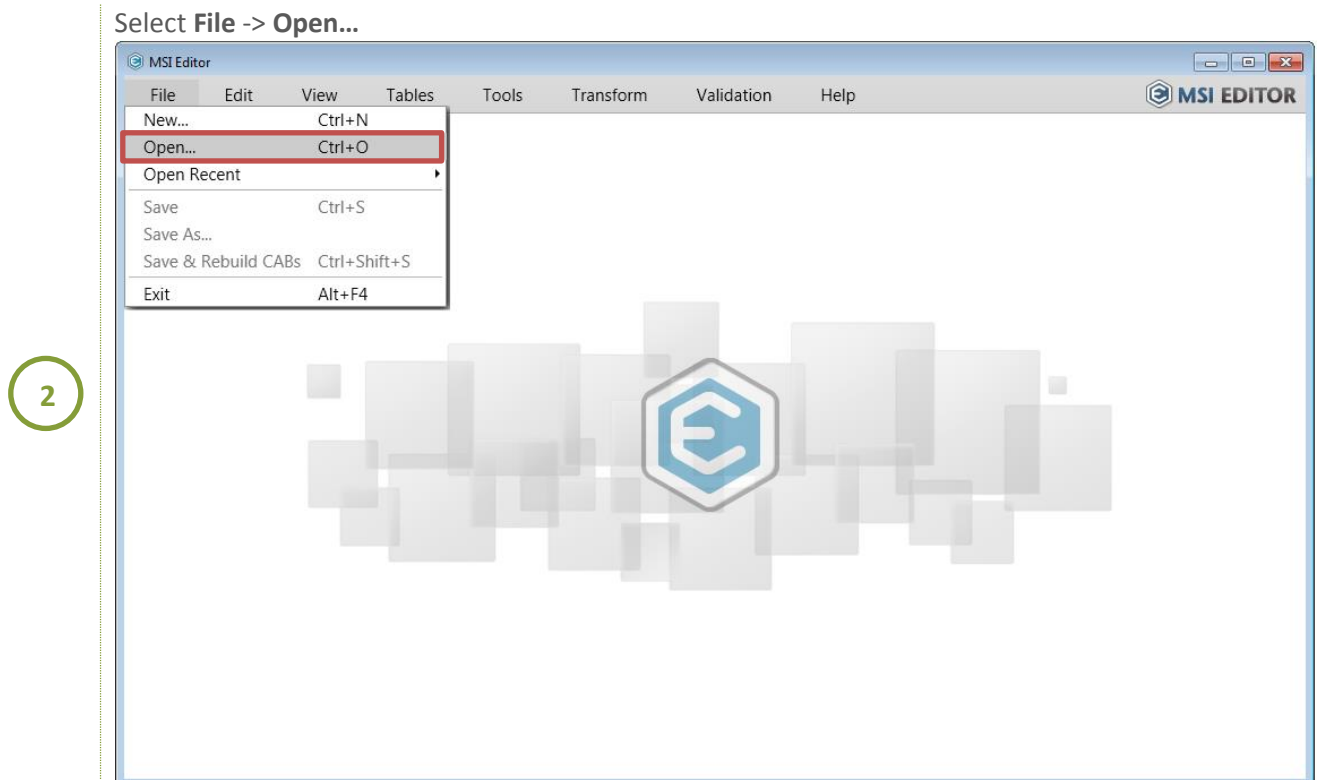
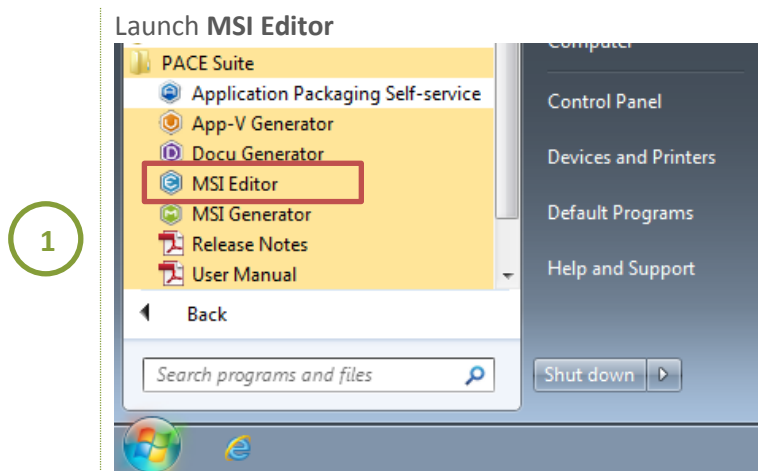
4



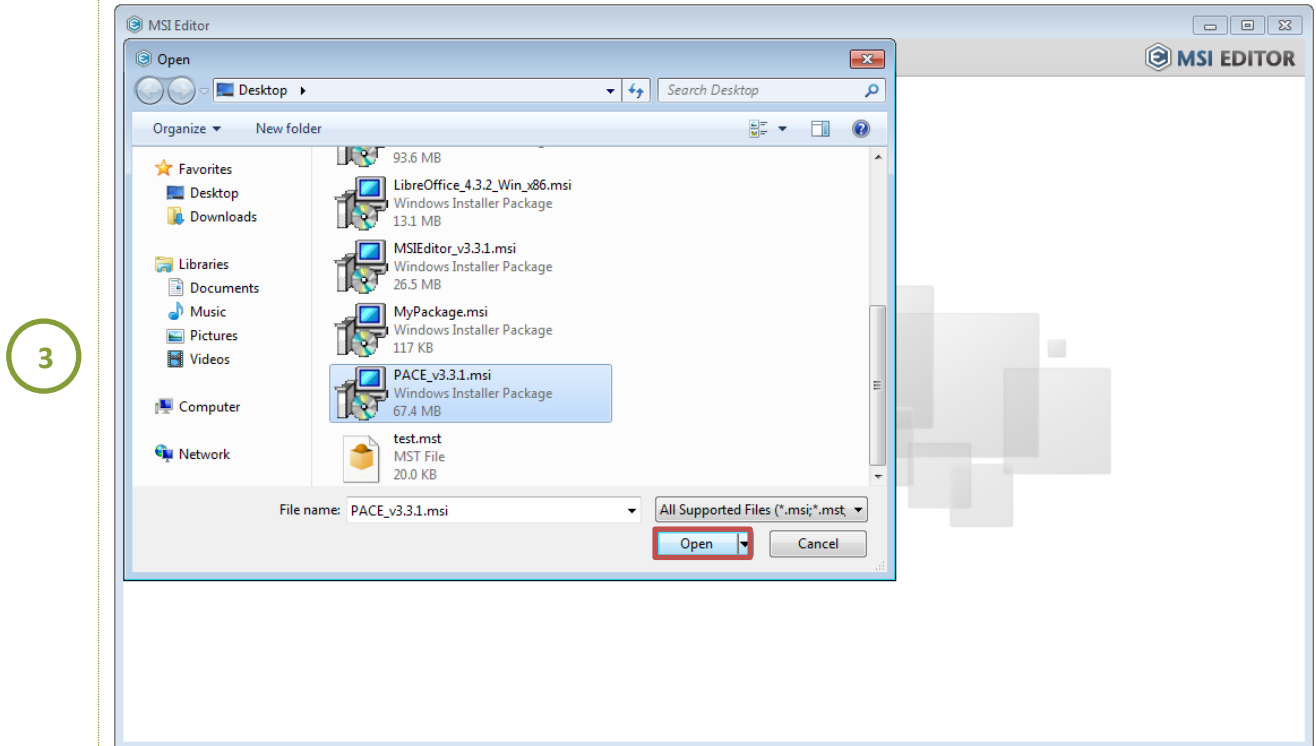
3.8 Edit an MSI package

3.8.1 Open an MSI

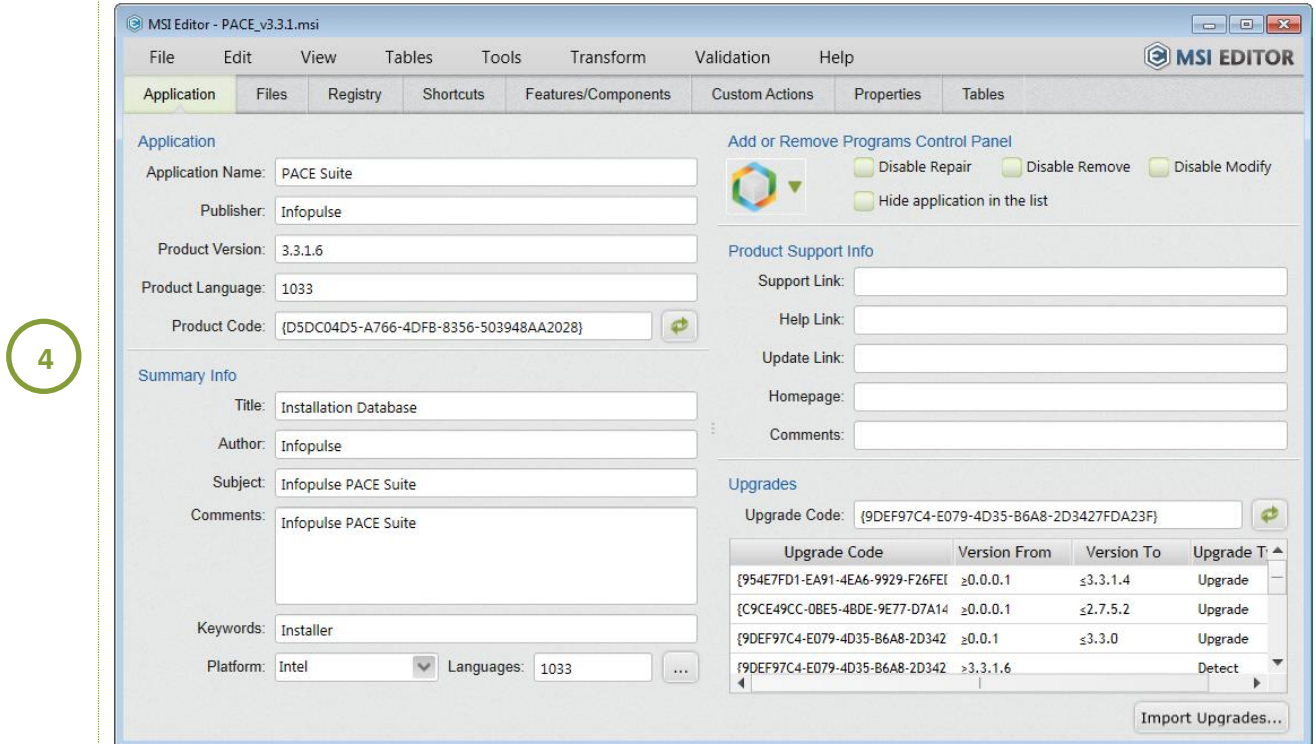
To edit an MSI package select **Edit with MSI Editor** from context menu of a file or follow the instruction below:



Choose an MSI or MST file and click **Open**



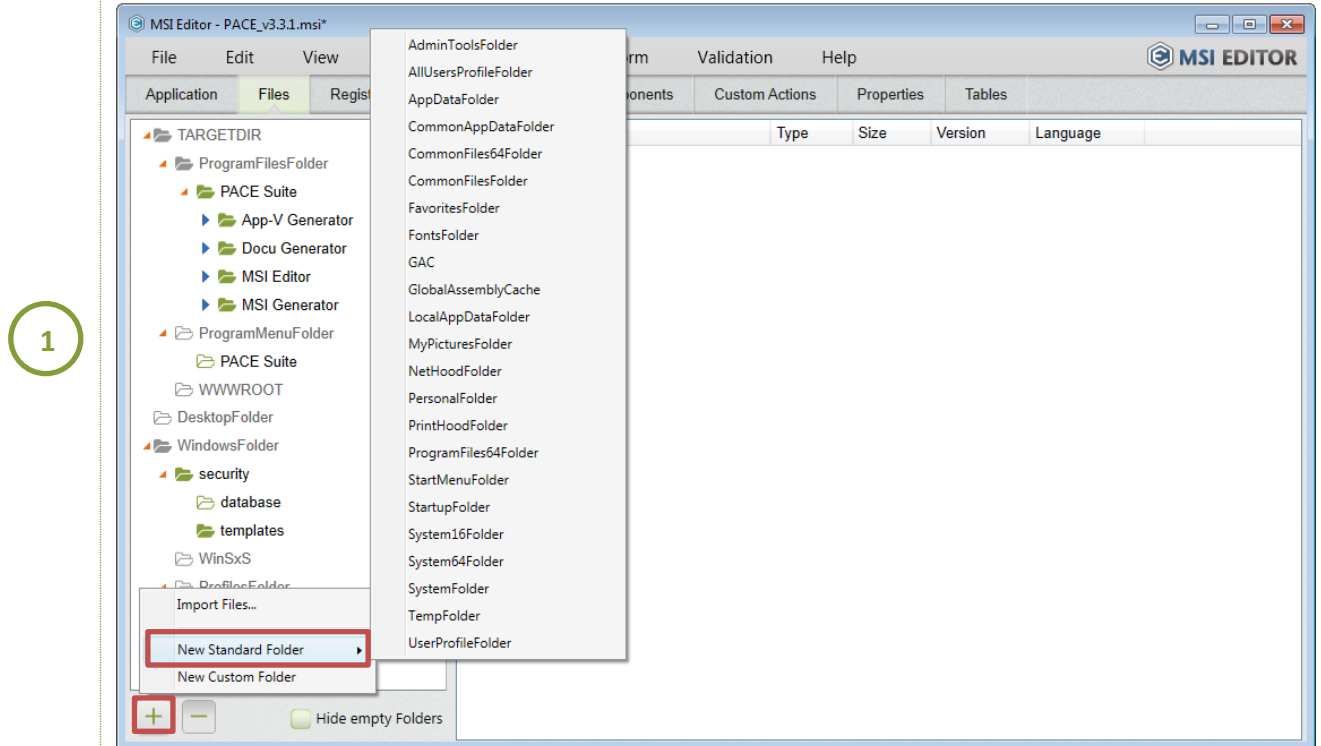
If MSI file is not locked and not “read-only”, MSI Editor window will look like this:



3.8.2 Add a Standard Folder

Pre-condition: Open an MSI package (see [Open an MSI](#)) and then navigate to the **Files** tab

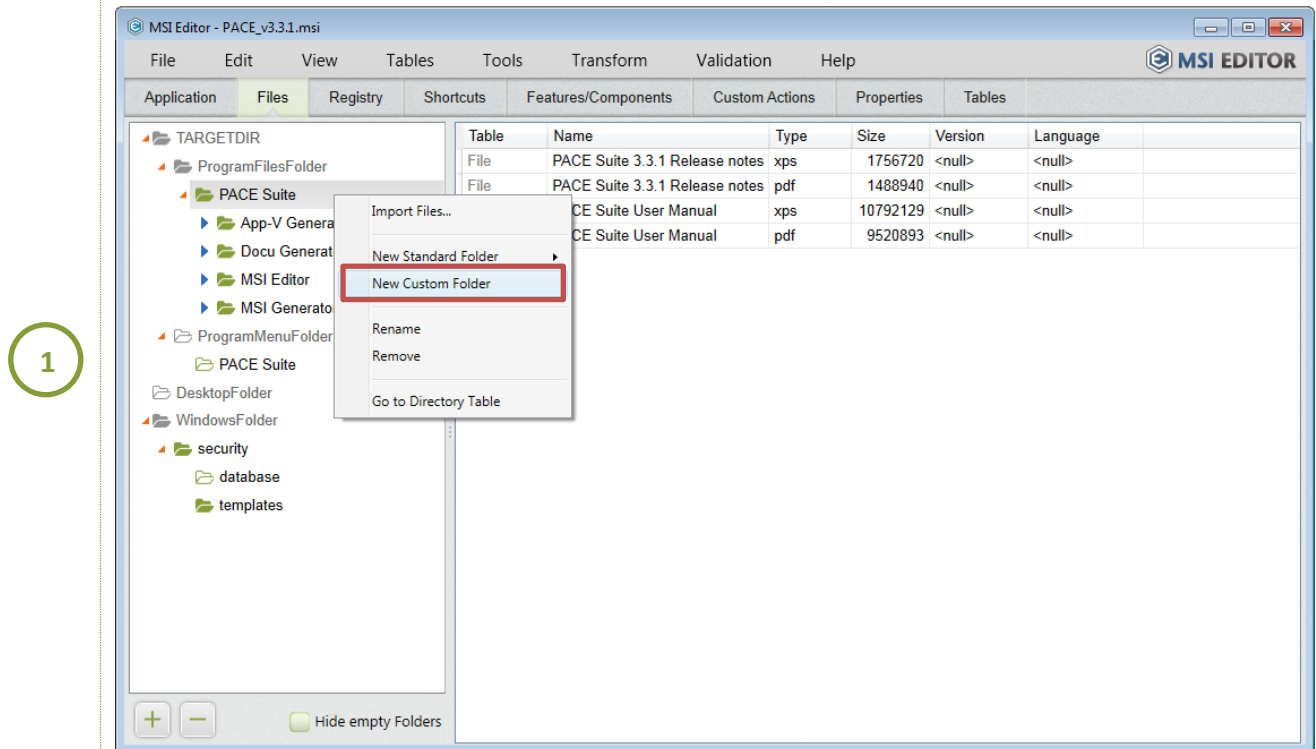
Click “+” -> **New Standard Folder** and select desired standard MSI folder from list. This list contains only those folders that do not exist in the opened MSI.



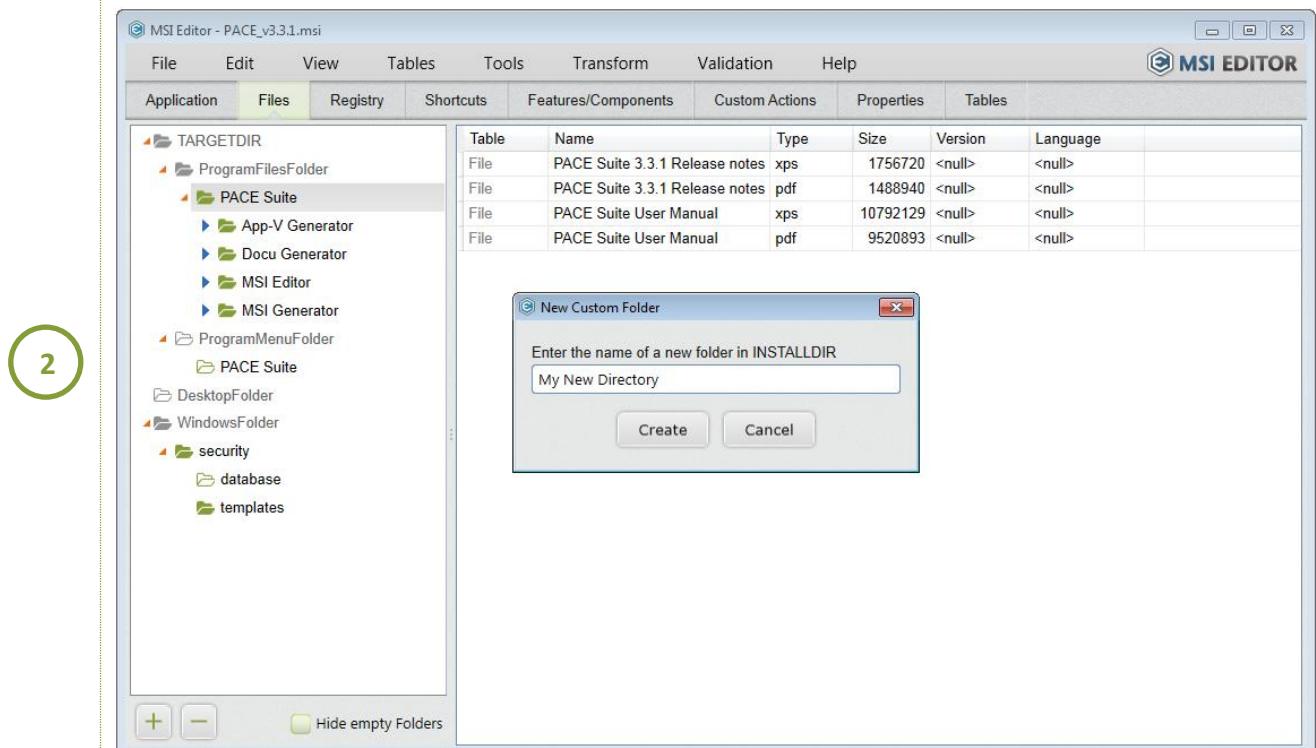
3.8.3 Create a new folder

Pre-condition: Open an MSI package (see [Open an MSI](#)) and then navigate to the **Files** tab.

Select **New Custom Folder** from context menu of the folder, in which a new folder will be created.



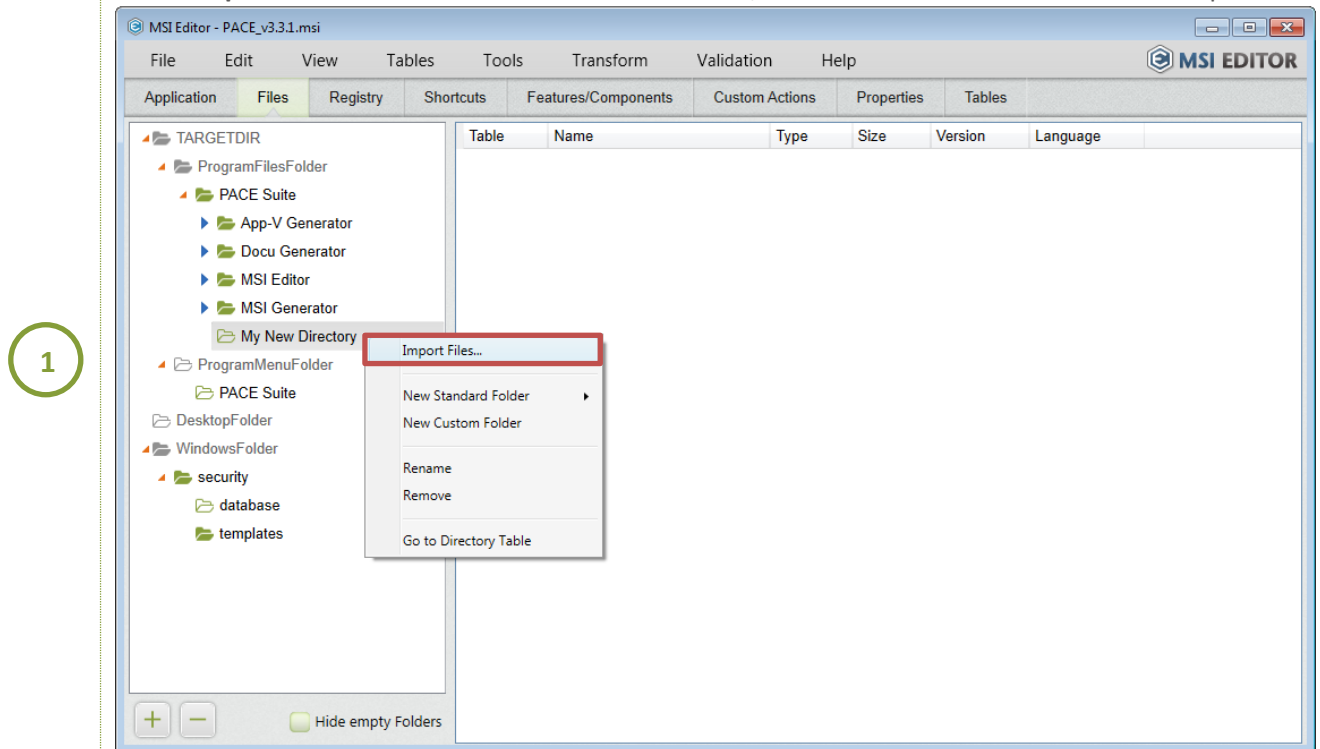
Enter the name of a new folder and click **Create**



3.8.4 Import files

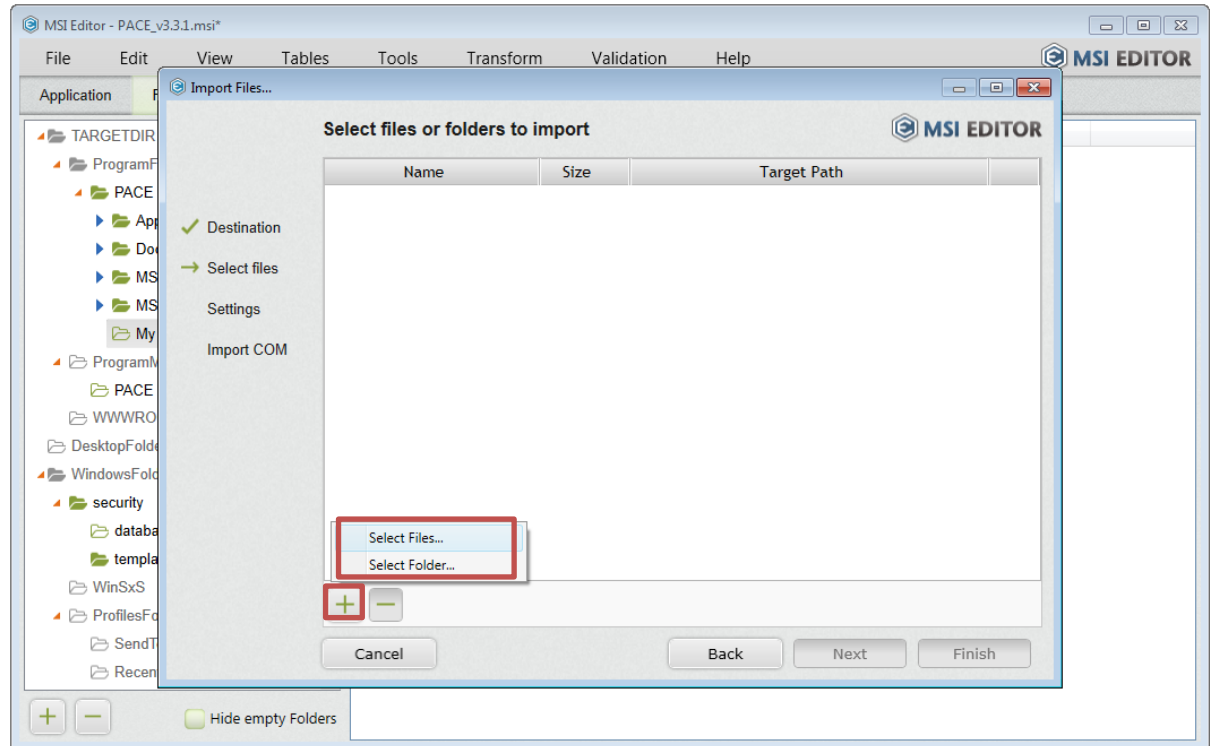
Pre-condition: Open an MSI package (see [Open an MSI](#)) and then navigate to the **Files** tab.

Select **Import Files...** from the context menu of folder, in which new files or folder will be imported.



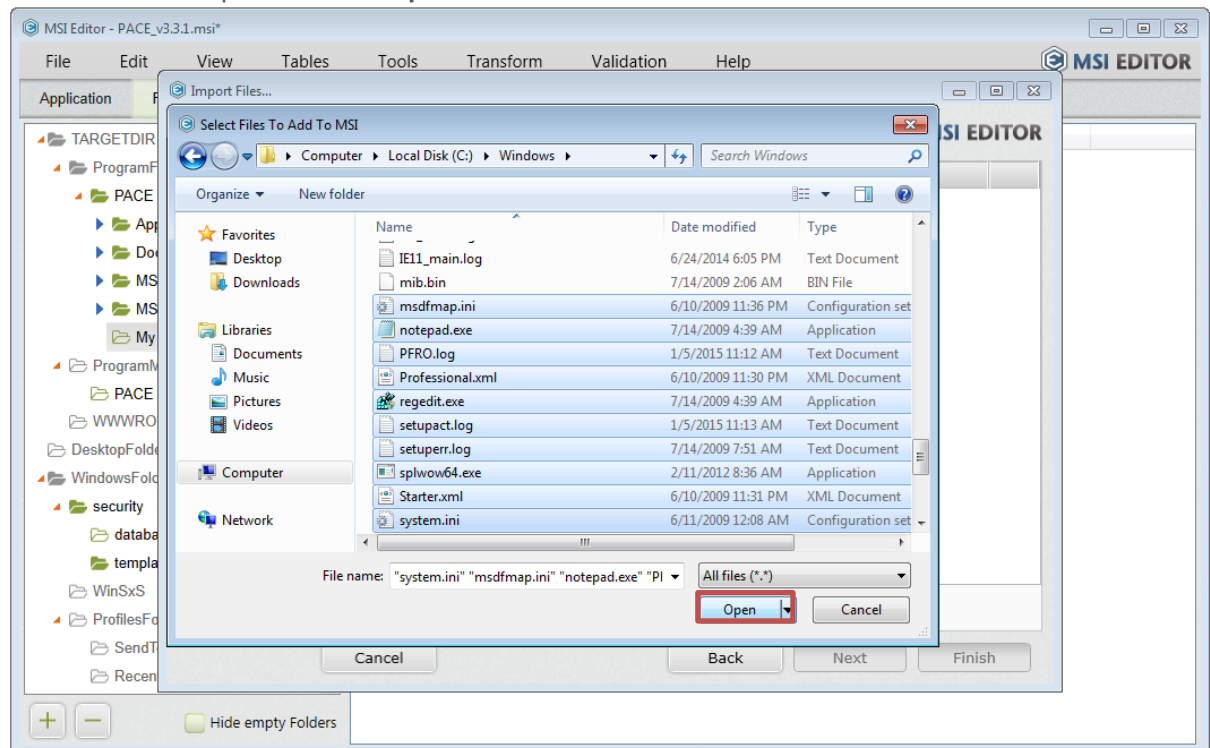
Select “+” -> **Select Files...** to import one or more files, or “+” -> **Select Folder...** to import a folder with its complete content

2



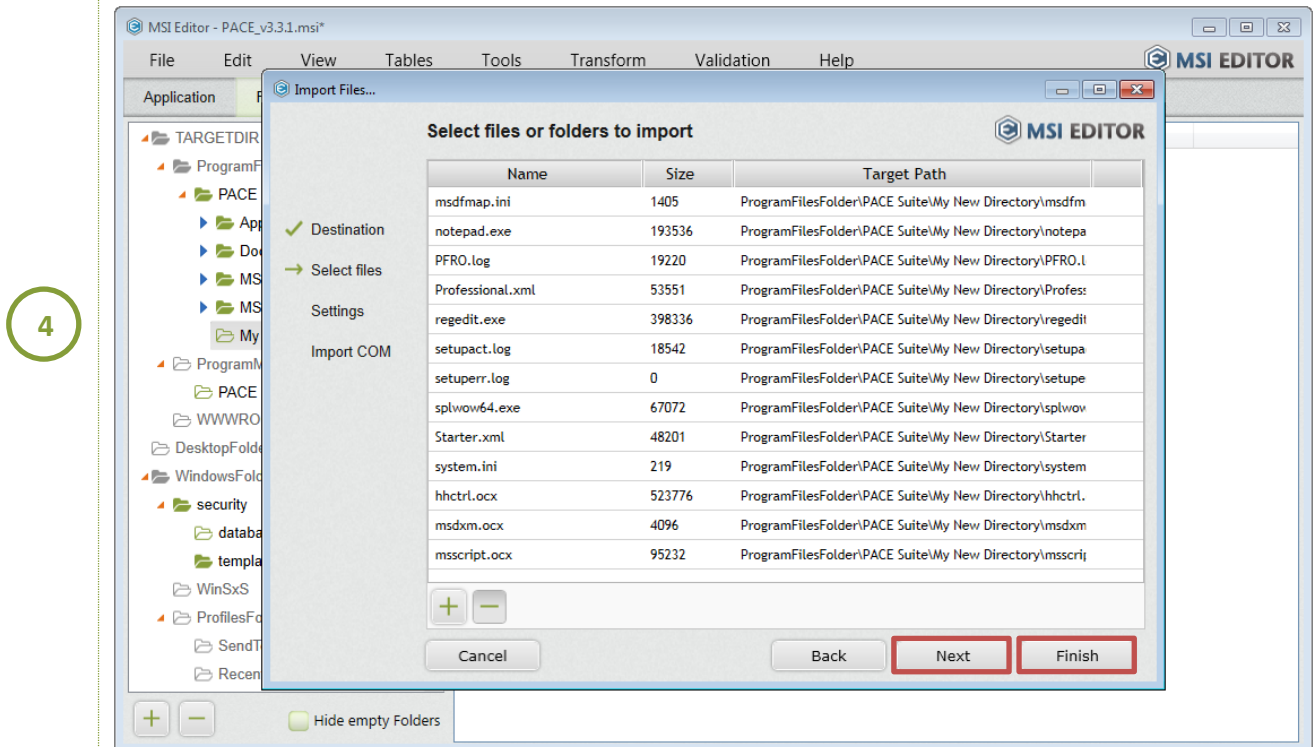
Choose files to import and click **Open**

3



Click **Finish** to complete the file import with default settings.

Click **Next** to go the **Settings** step and select additional option such as target feature, media type and how to treat INI files.



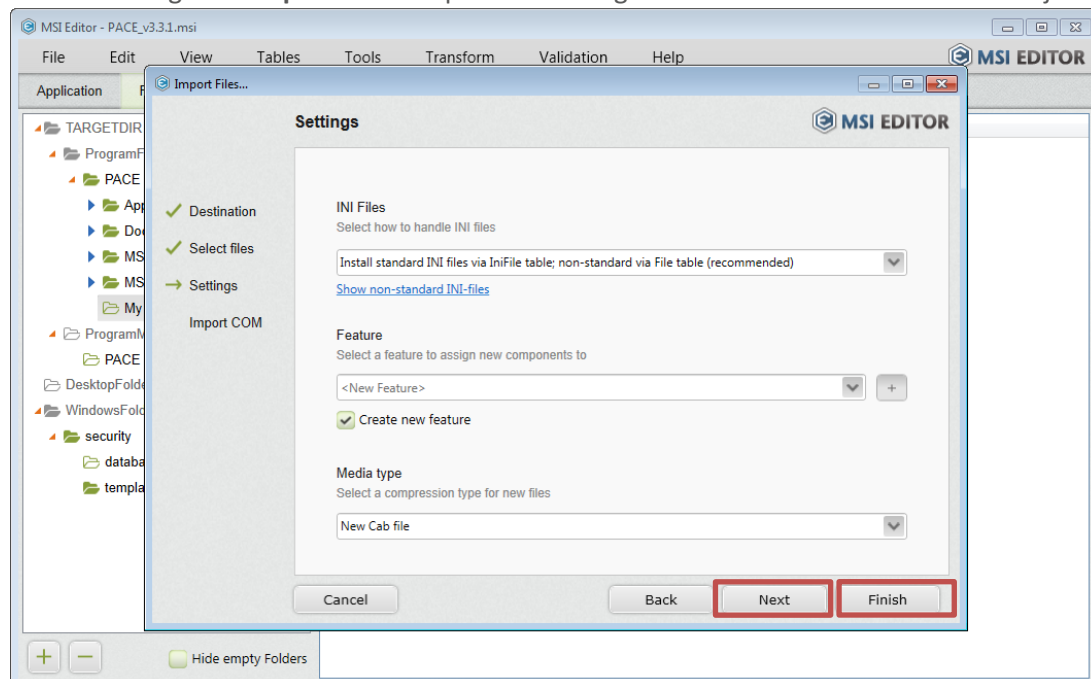
Settings step allows controlling how to install INI files, what feature will be used for new components and how to save imported files. The following settings are available (see screenshot below):

Install standard INI files via IniFile table; non-standard via Files table (recommended)	INI files that do not contain comments or duplicates will be saved to the IniFile table. All other INI files will be saved to the File table as regular files.
Install all INI files via File table	All INI files will be saved only to the File table as regular files.
Install all INI files via File table and duplicate to IniFile table	All INI files will be saved to the File table as regular files and additionally all these INI files will be duplicated to the IniFile table (comments won't be saved to IniFile table; duplicated sections or keys will be merged). It allows update INI file values keeping initial order of the INI sections and file structure.
Feature	An MSI feature where new components will be assigned to
Create new feature	New feature <i>PACE_Complete</i> for per-machine files and feature <i>PACE_UserPart</i> for per-user files will be created. <i>PACE_UserPart</i> will be parent feature for <i>PACE_Complete</i> feature.
Media type	<i>New Cab file</i> – compress imported files into external CAB file <i>Uncompressed</i> – copy imported files to the folder of MSI package <i>Existing</i> – compress imported files into existing external CAB file

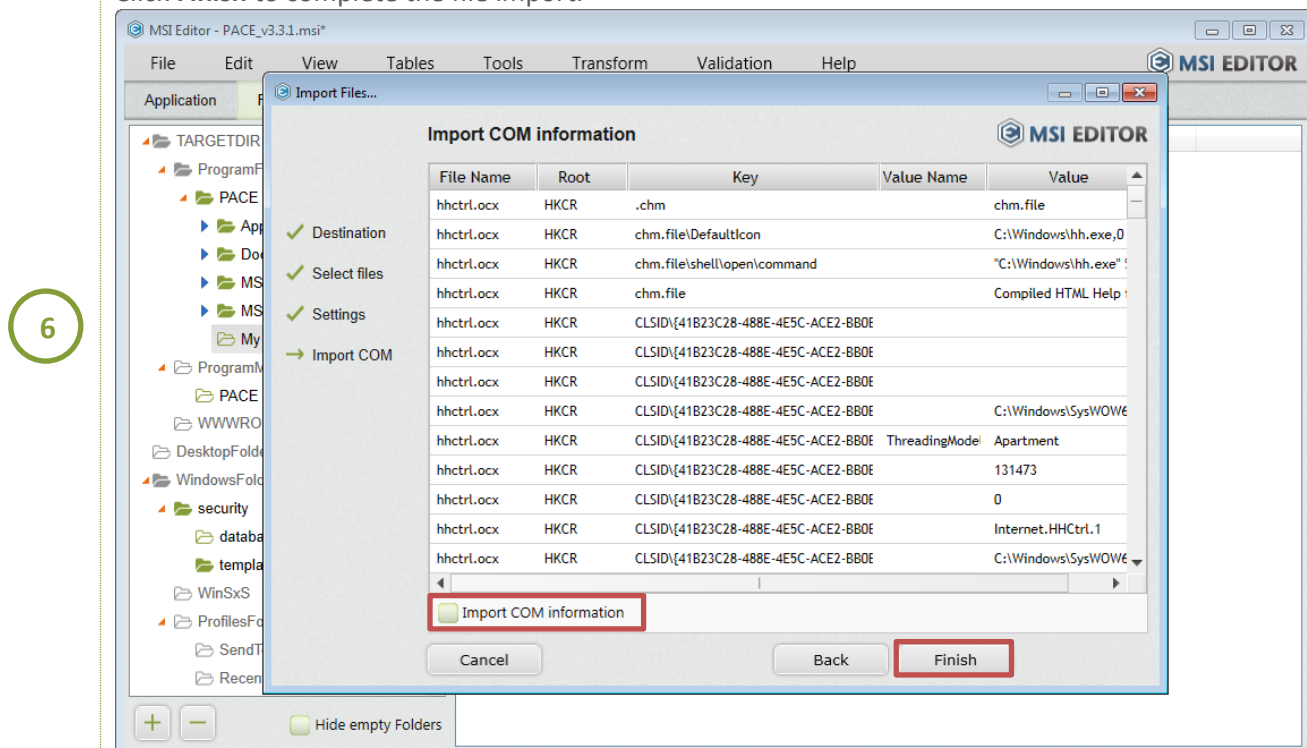
5

Click **Finish** to complete the file import with selected settings.

Click **Next** to go to the **Import COM** step to extract registration information from COM objects.



MSI Editor extracts registration information of imported COM objects (.dll, ocx, .tlb) and shows it in the table. Check the **Import COM information** checkbox to import extracted information to MSI. Click **Finish** to complete the file import.



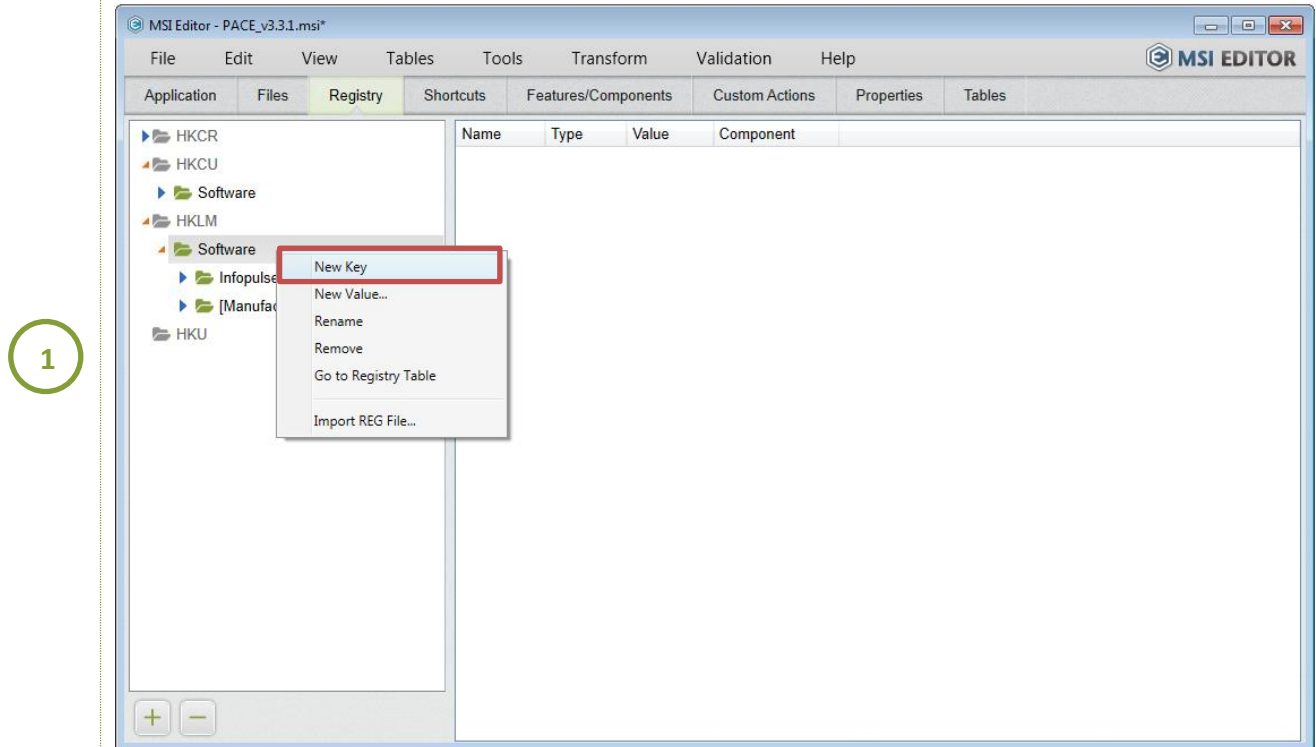
3.8.5 Extract COM information from files

MSI Editor allows extracting registration information of COM objects from imported files (*.DLL, *.OCX, *.LTB). This feature is available via **Import Files**, please refer to [Import files](#) (pay attention to the last step).

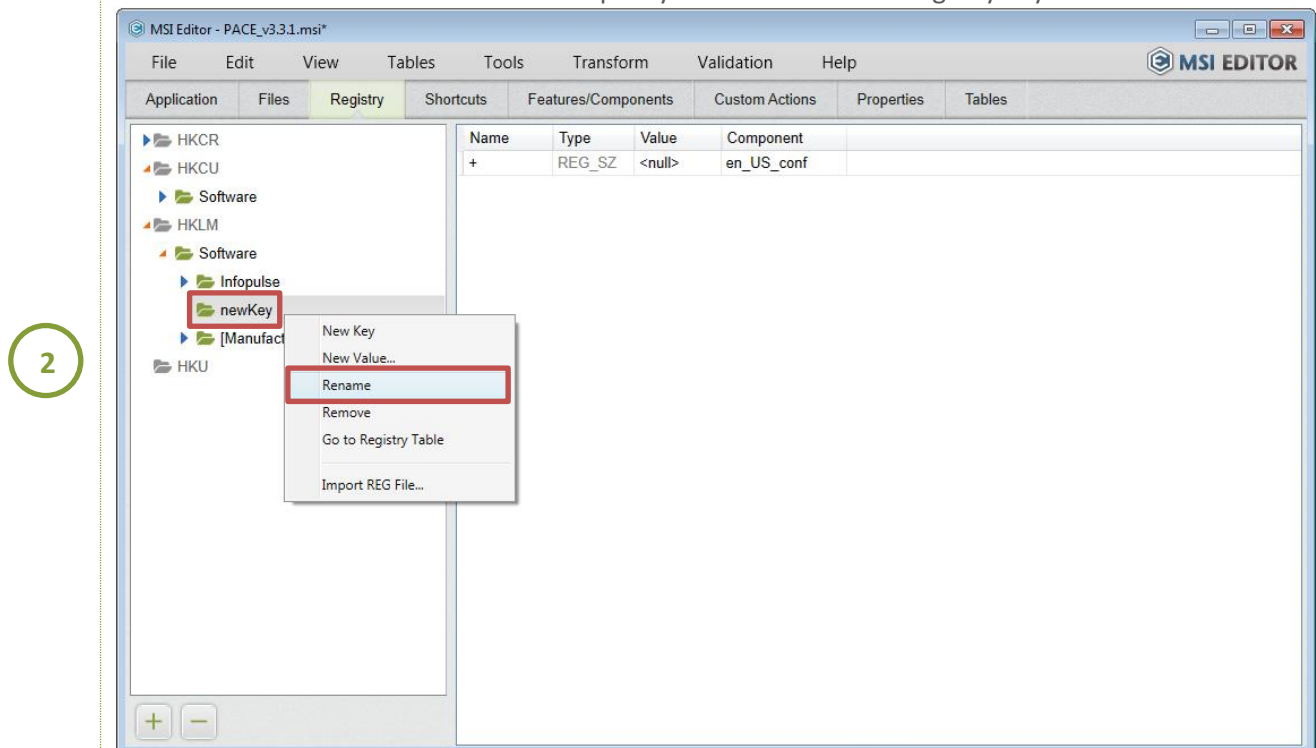
3.8.6 Create a new registry key

Pre-condition: Open an MSI package (see [Open an MSI](#)) and then navigate to the **Registry** tab.

Select **New Key** from the context menu of a registry key, in which a new key will be created.



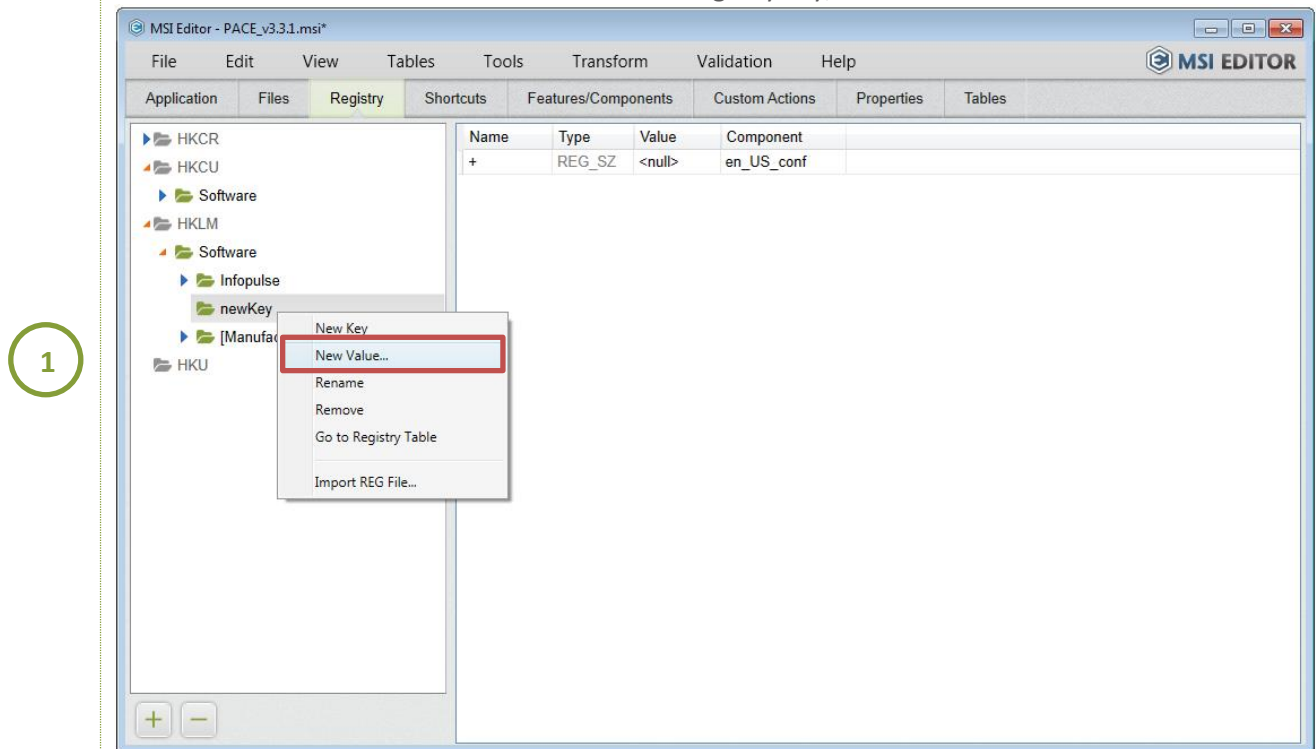
Use **Rename** from the context menu to specify a new name of the registry key



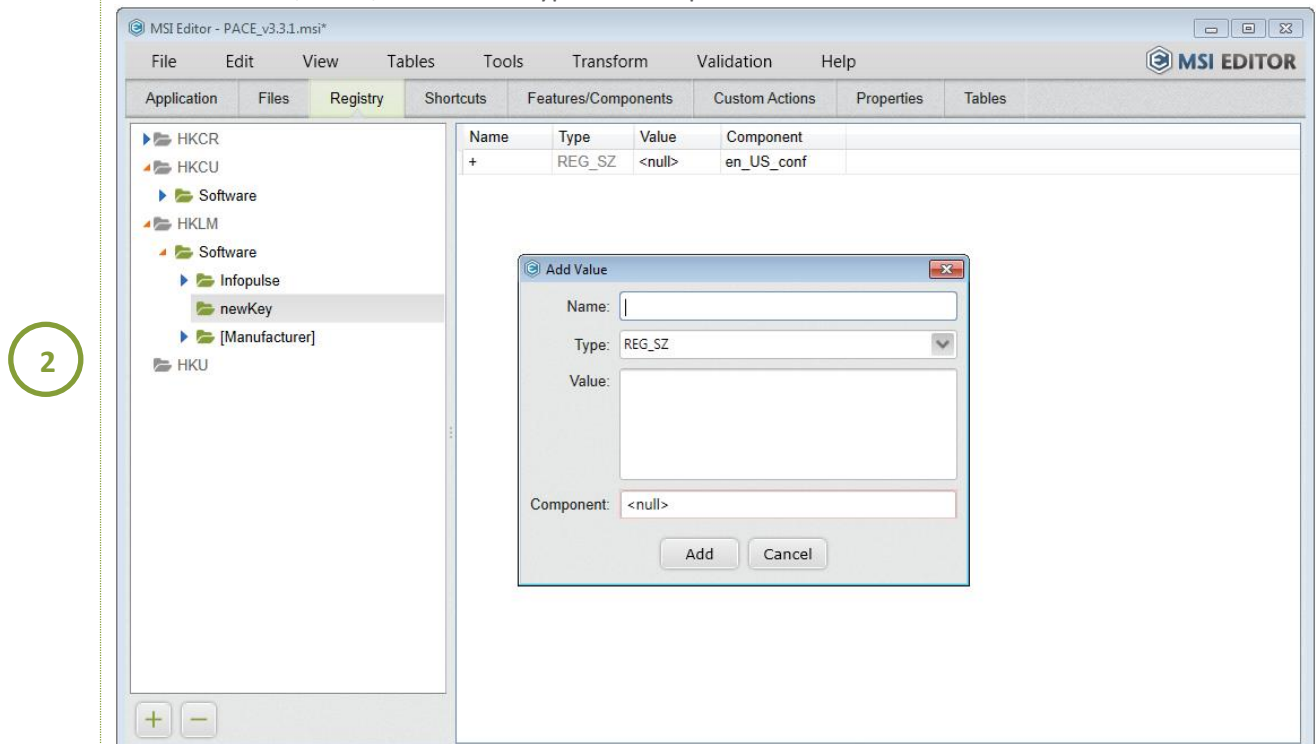
3.8.7 Create a new registry value

Pre-condition: Open an MSI package (see [Open an MSI](#)) and then navigate to the **Registry** tab.

Select **New Value...** from the context menu of a registry key, in which a new value will be created.



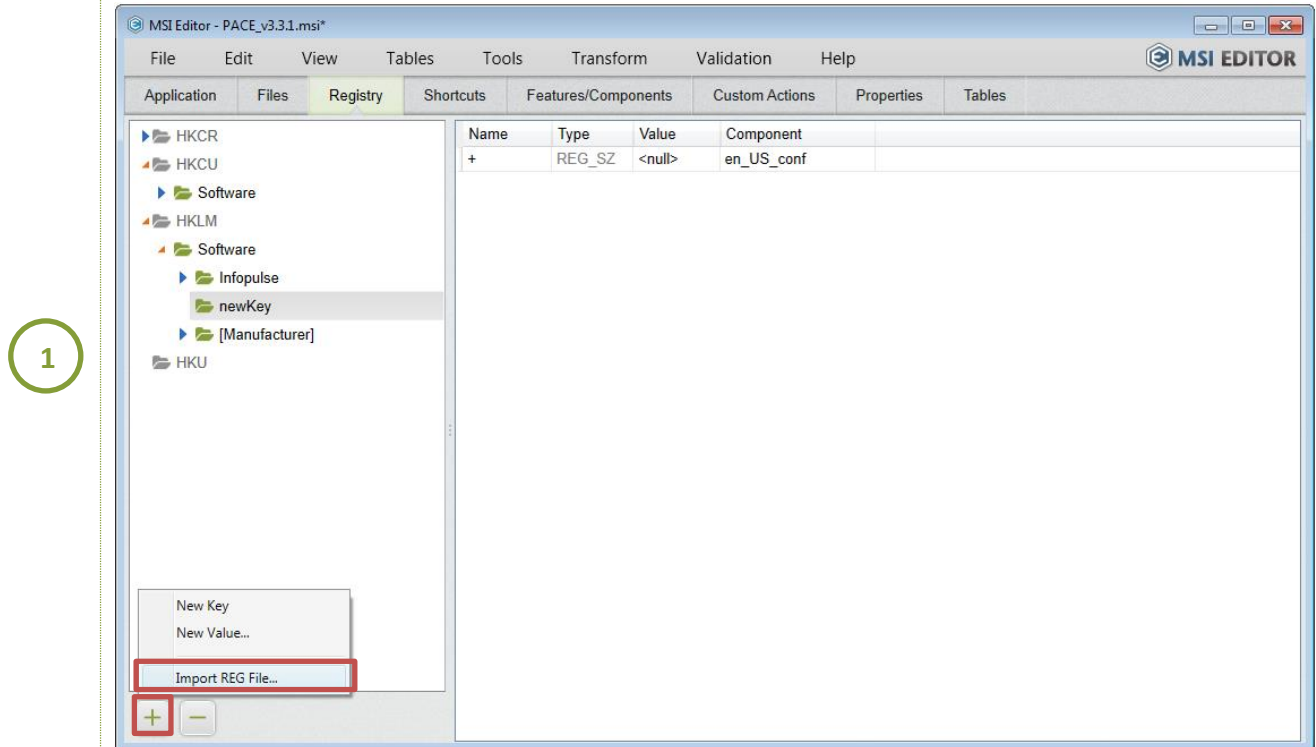
Enter the name, value, select value type and component from the list. Click **Add** to create the value.



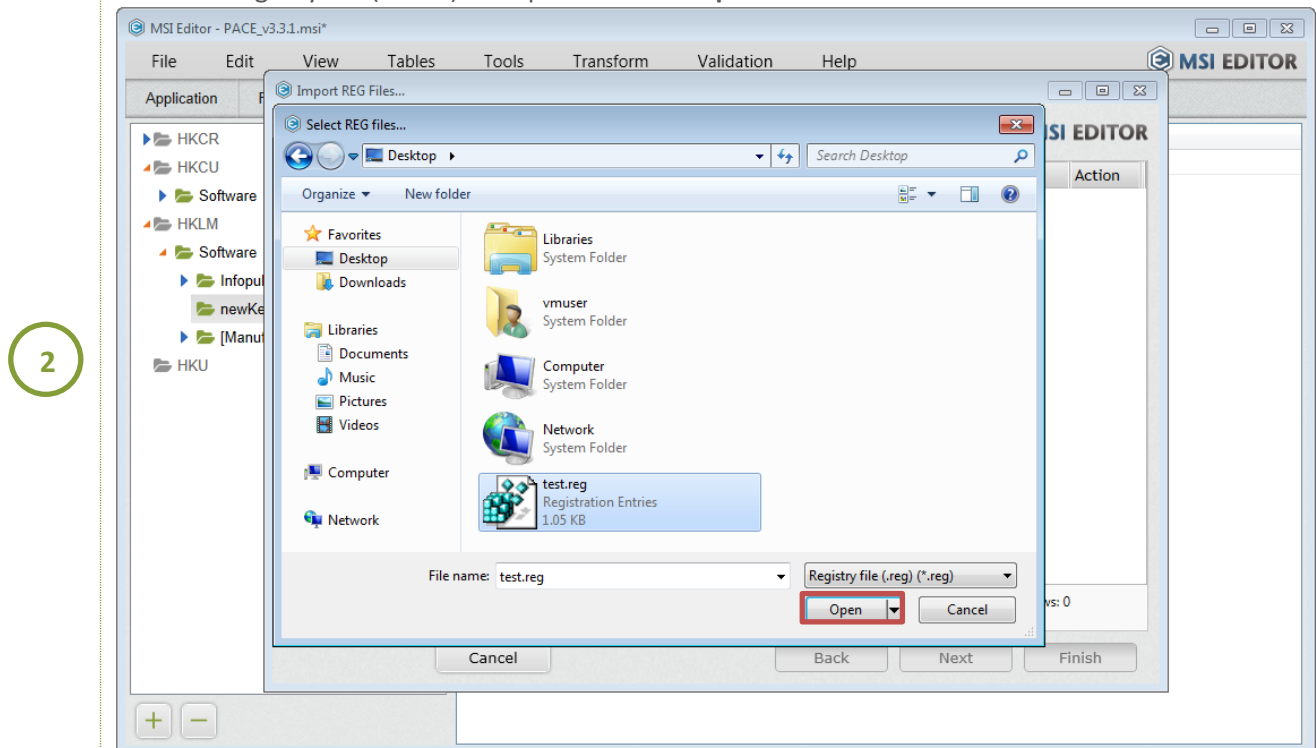
3.8.8 Import a REG file

Pre-condition: Open an MSI package (see [Open an MSI](#)) and then navigate to the **Registry** tab.

Click “+” -> **Import REG File...**



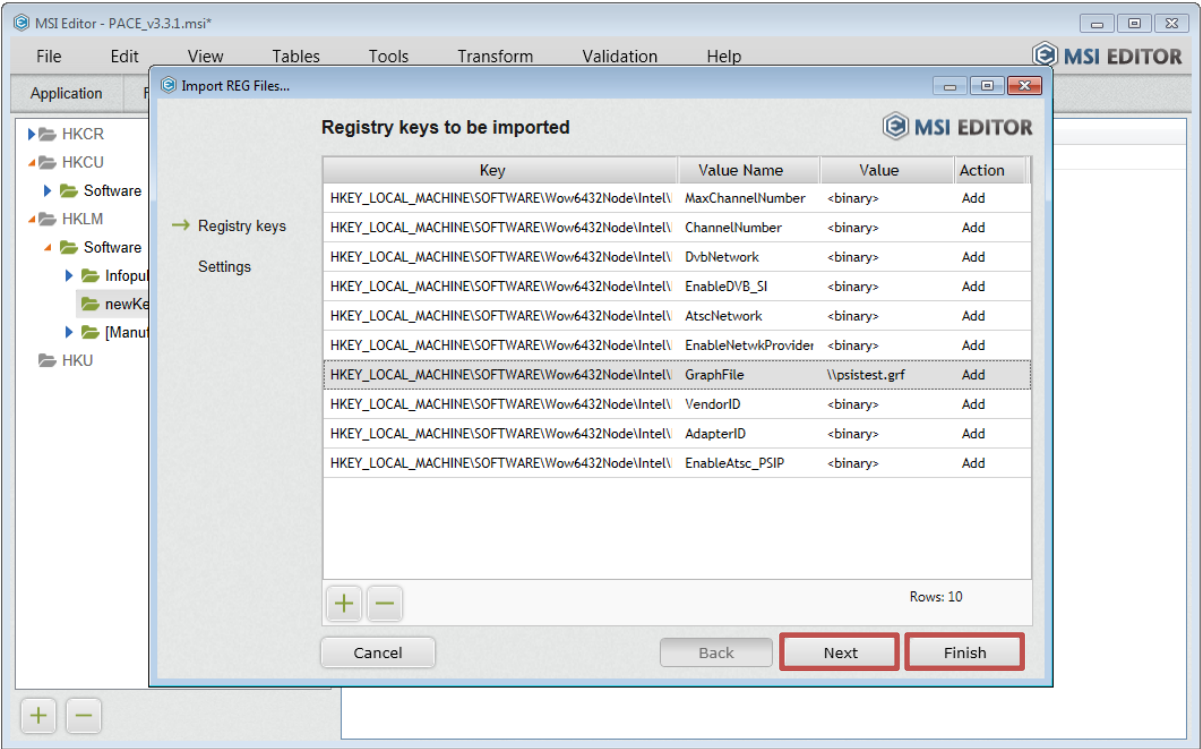
Choose a registry file (*.REG) to import and click **Open**



Click “+” to select more REG files.
To remove any entry from the list, select it and click “-”.

Click **Finish** to complete the import or **Next** to go to the Settings step.

3



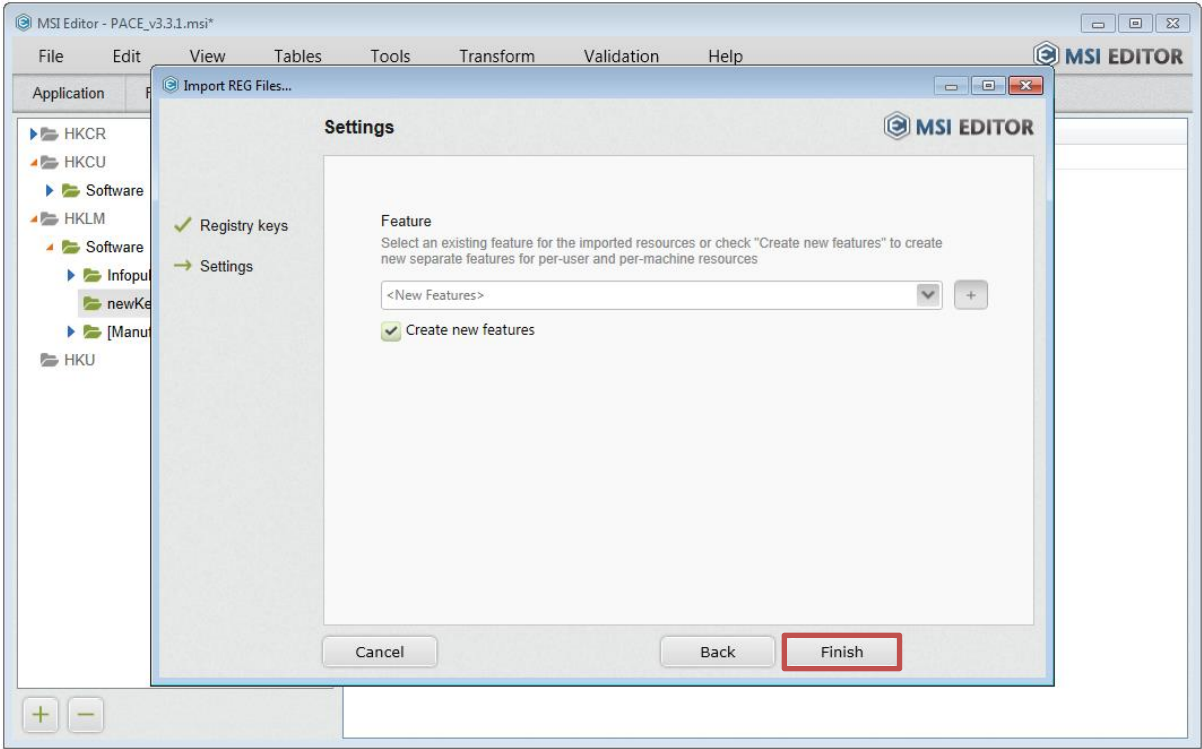
Settings step allows controlling what feature will be used for new components:

Feature	Feature where the newly created components will be assigned to
Create new feature	New feature <i>PACE_Complete</i> for per-machine registry entries and feature <i>PACE_UserPart</i> for per-user registry entries will be created. <i>PACE_UserPart</i> will be parent for <i>PACE_Complete</i> .

If unsure, check the **Create new feature** checkbox.

Click **Finish** to complete the import.

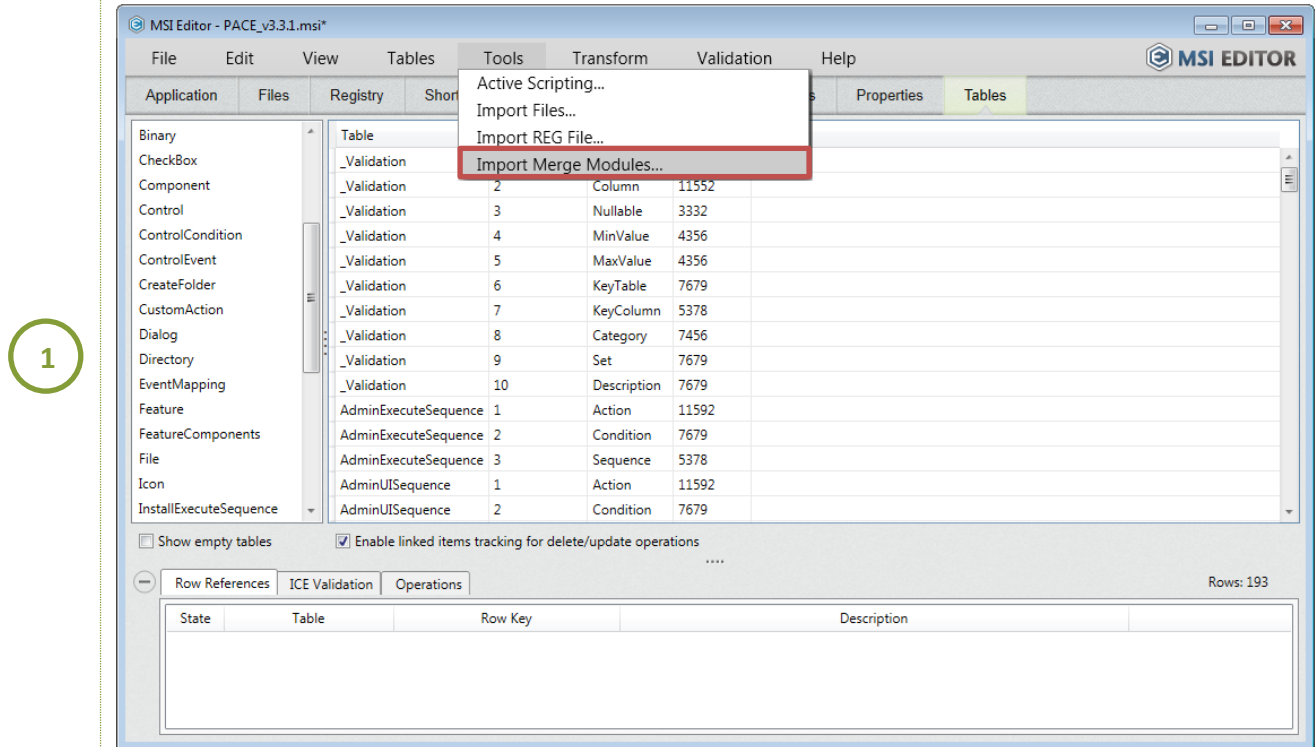
4



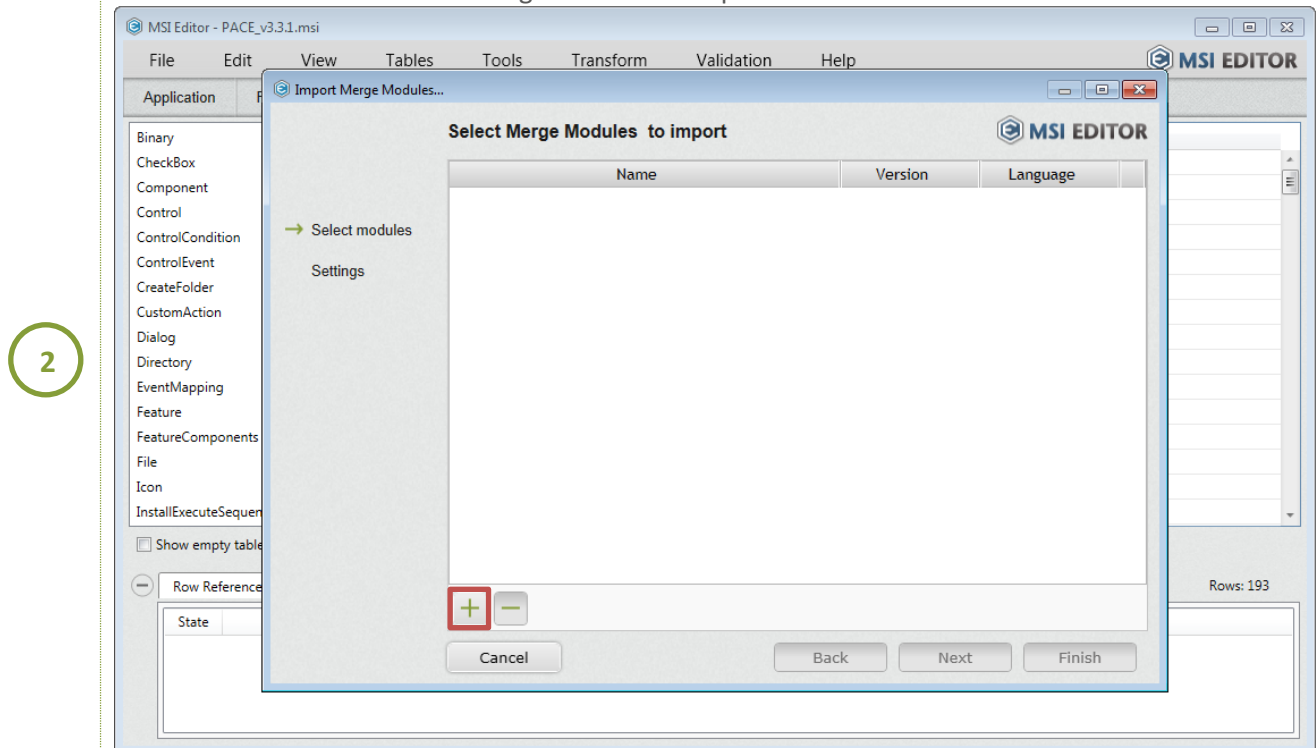
3.8.9 Import Merge Module (MSM)

Pre-condition: Open an MSI package (see [Open an MSI](#)).

Select **Tools** -> **Import Merge Modules...** in the main menu.

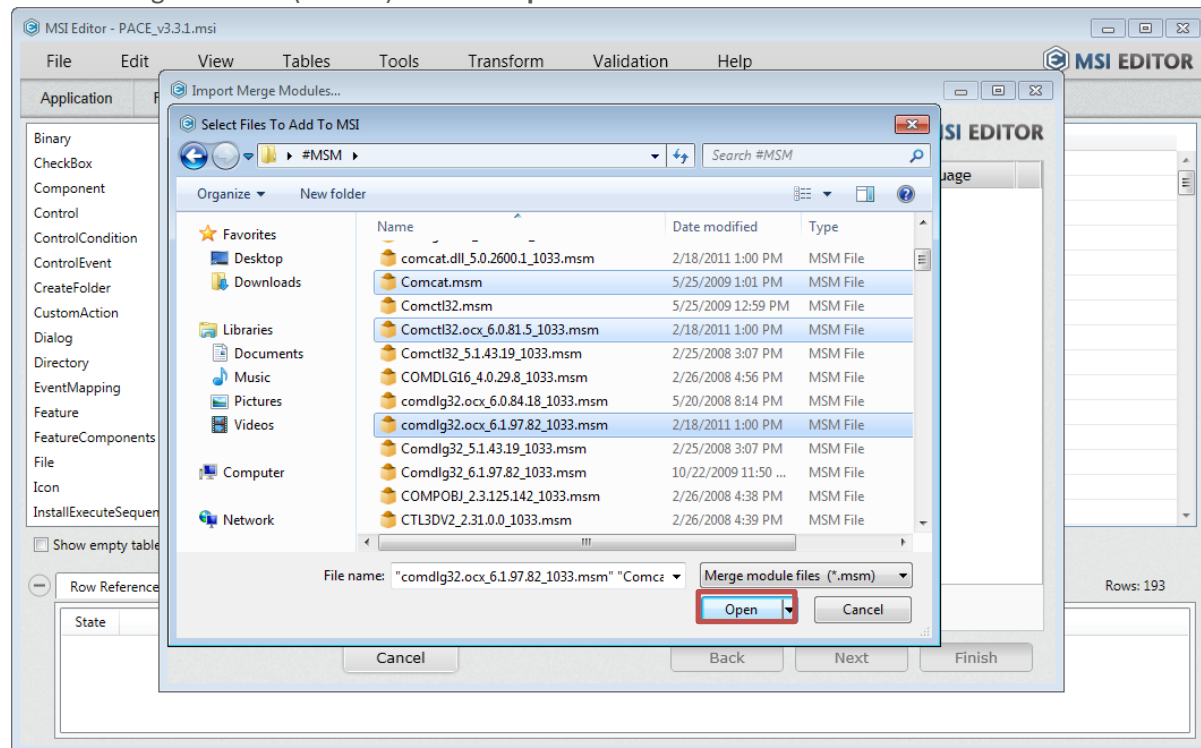


Click the “+” button to choose merge modules to import.



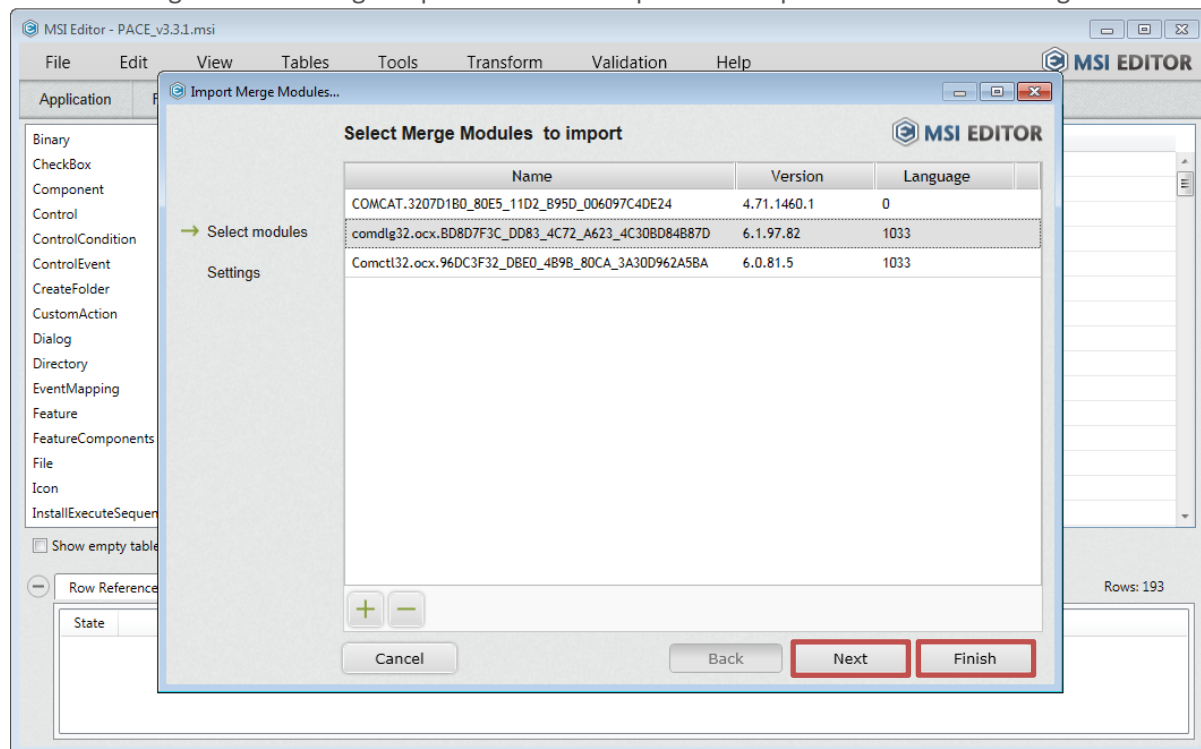
Choose merge modules (*.MSM) and click **Open**

3



Use the "+" and "-" buttons to add more merge modules or remove selected ones.
Click **Next** to go to the Settings step or **Finish** to complete the import with default settings.

4



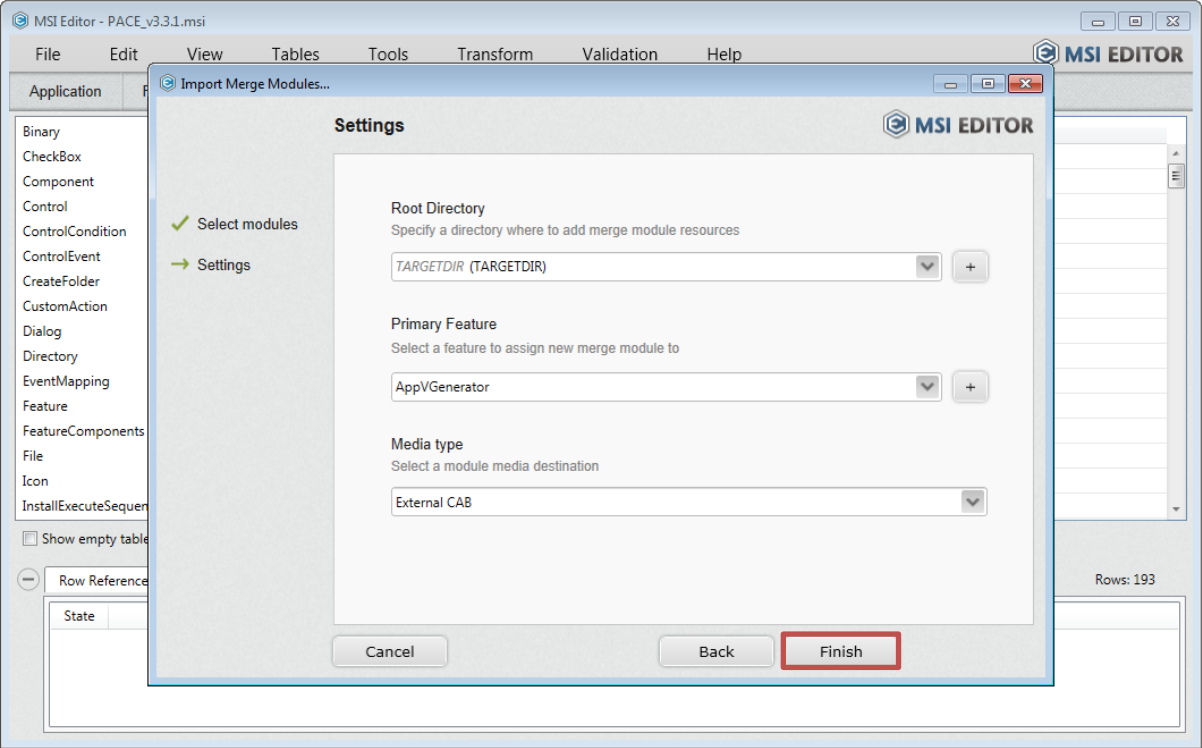
Settings step allows controlling what feature will be used for merge modules, directory for merge modules' resources and media type:

Root Directory	A target directory for merge modules' resources
Primary Feature	Feature to which merge modules' components will be assigned. External Cab – compress merge modules' resources into external CAB file.
Media type	Uncompressed – copy merge modules' resources to the folder of MSI package

If unsure, leave default settings.

Click **Finish** to complete the Merge Module import.

5

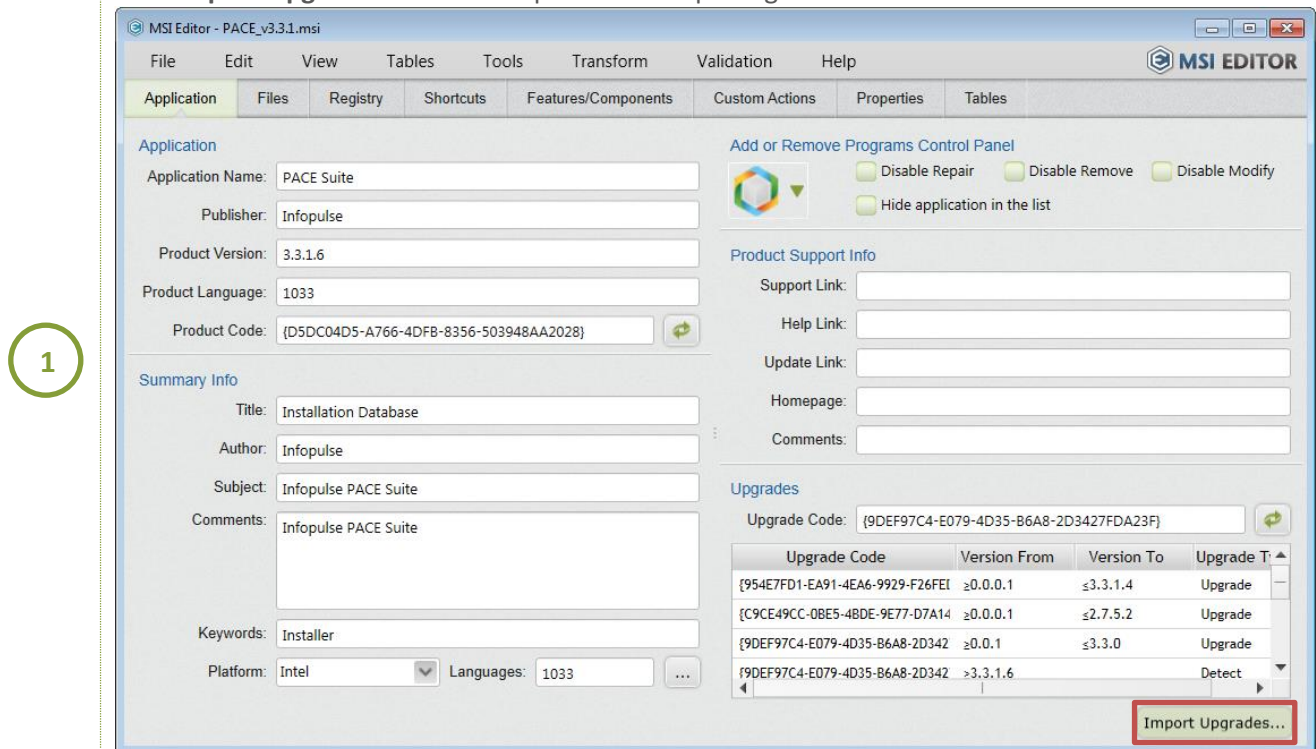


3.8.10 Import upgrade info from older MSIs

MSI Editor allows adding upgrade information to your MSI by selecting the MSI files that have to be upgraded by your MSI.

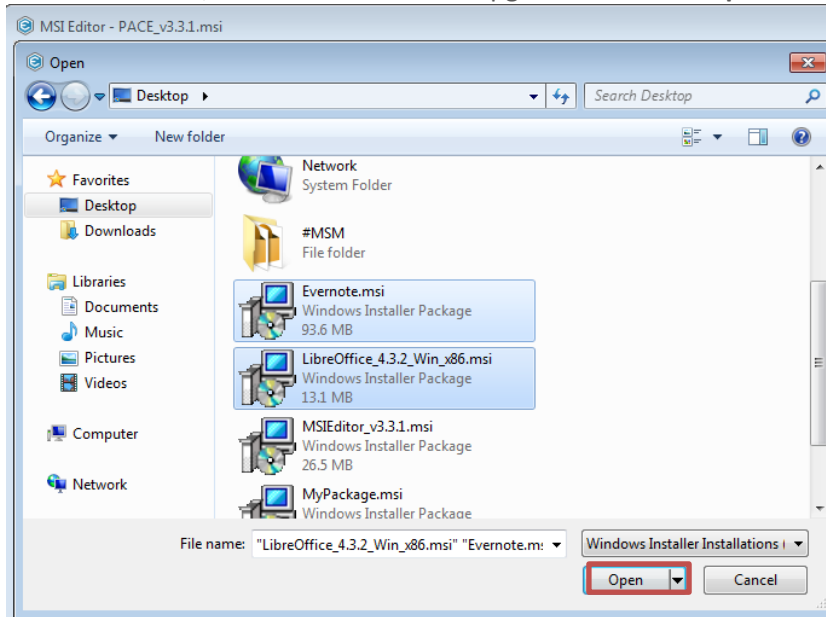
Pre-condition: Open an MSI package (see [Open an MSI](#)) and then navigate to the **Application** tab.

Click **Import Upgrades...** to choose previous MSI packages.



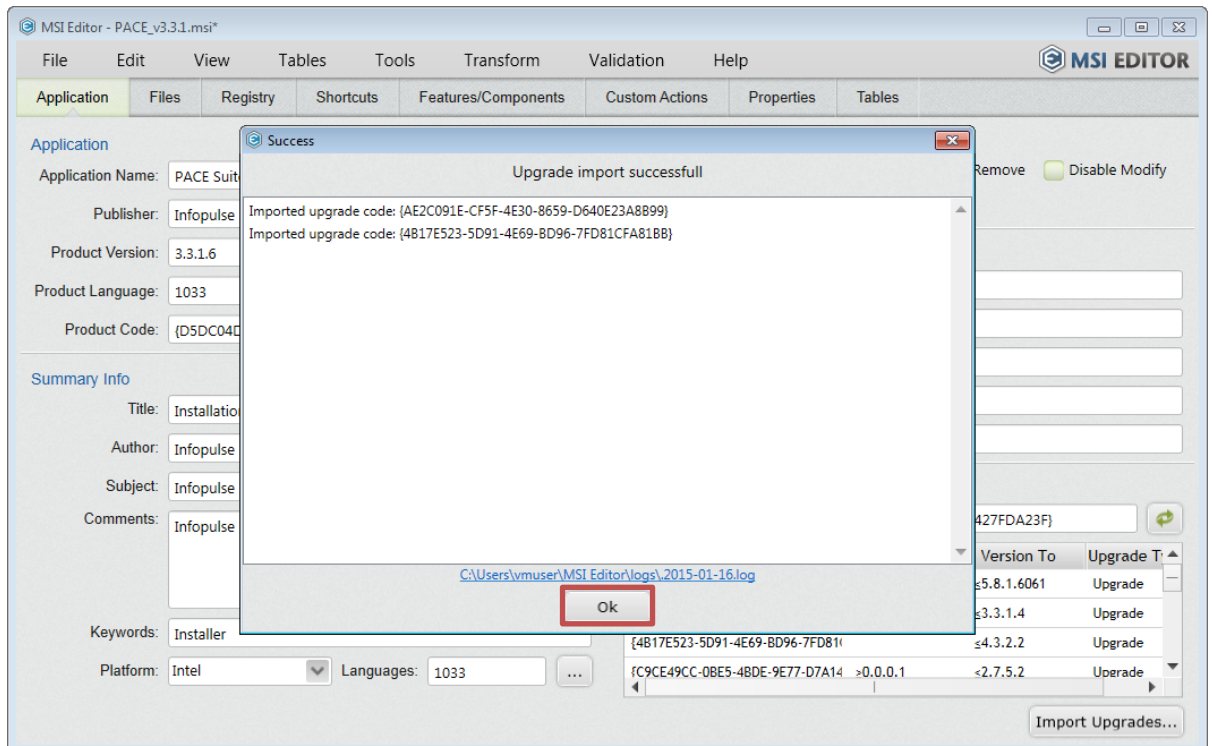
Choose MSI files, which are need to be upgraded and click **Open**

2



Successfully imported upgrade codes will be shown in the pop-up window. Click **Ok** to close the window.

3

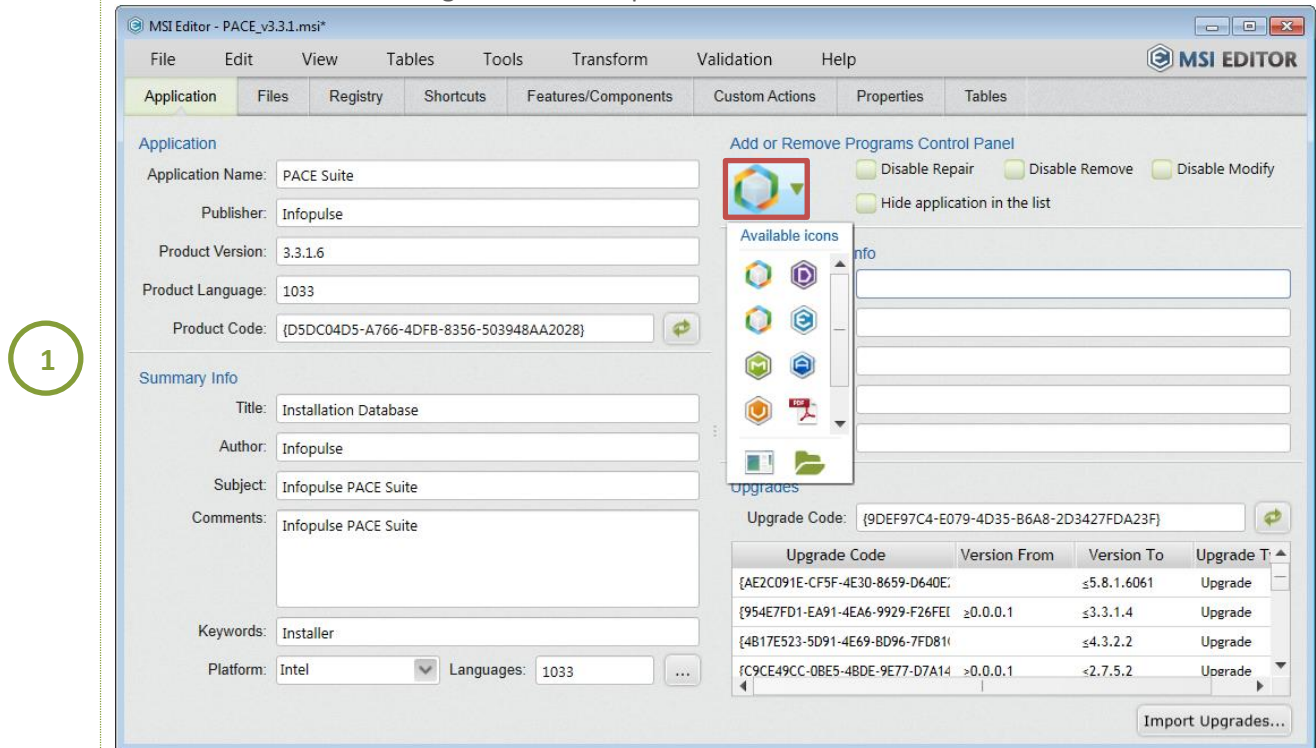


3.8.11 Change ARP icon

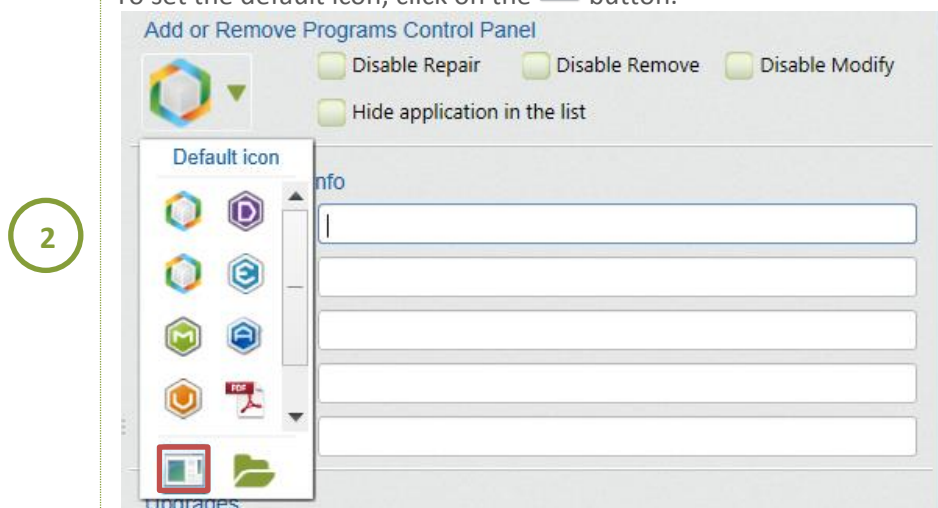
ARP icon is used to show an application's icon in the **Programs and Features** in Control Panel.

Pre-condition: Open an MSI package (see [Open an MSI](#)) and then navigate to the **Application** tab.

Click on icon to view existing elements and pick one of icons from the list.

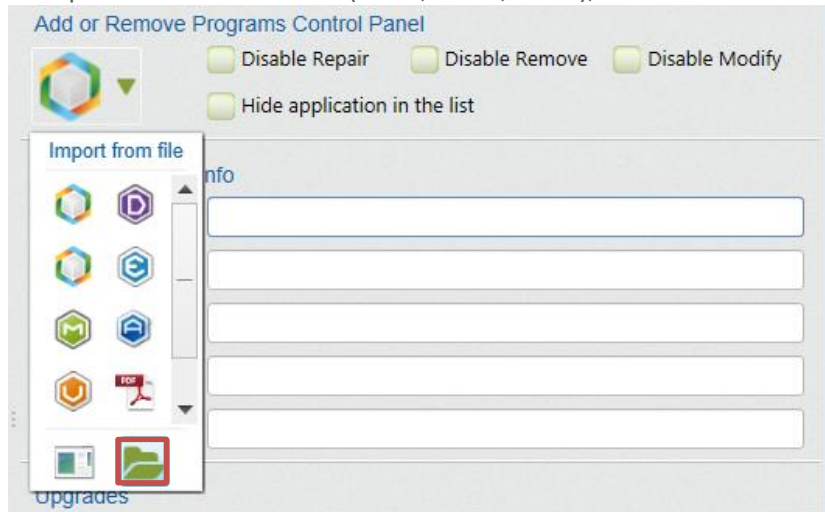


To set the default icon, click on the  button.



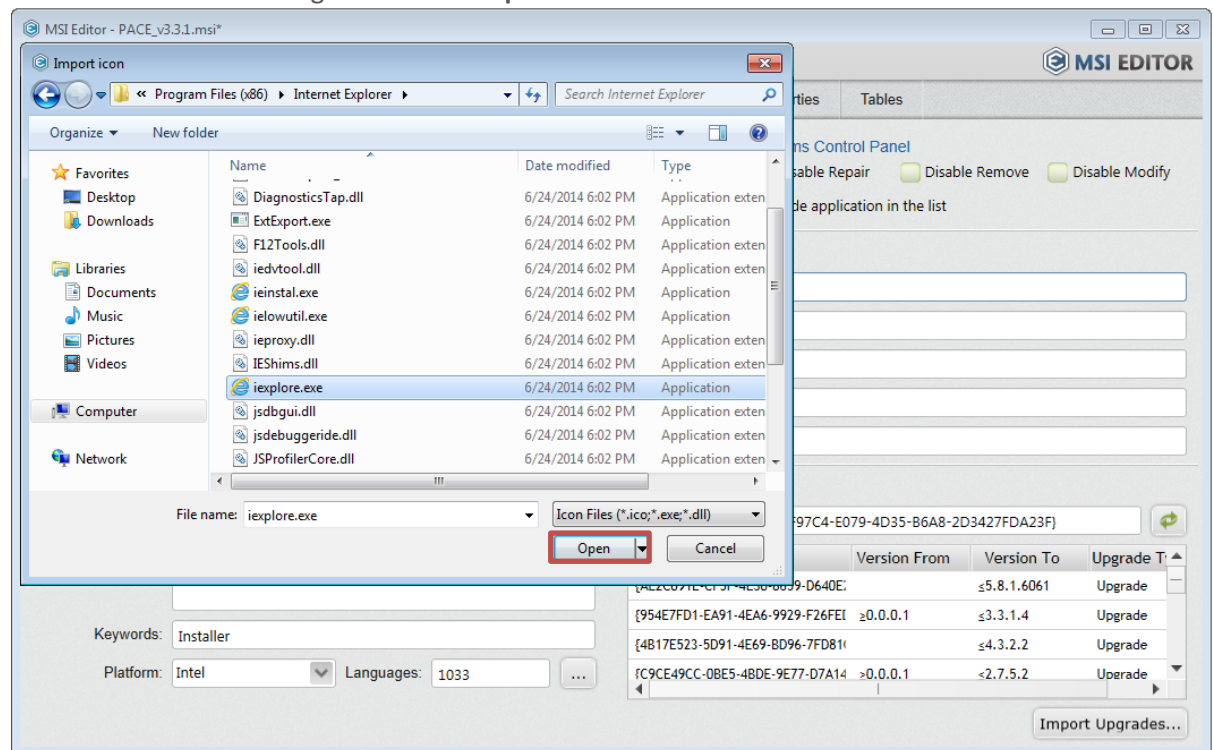
To import an icon from a file (*.DLL, *.EXE, *.ICO), click on the  button.

3



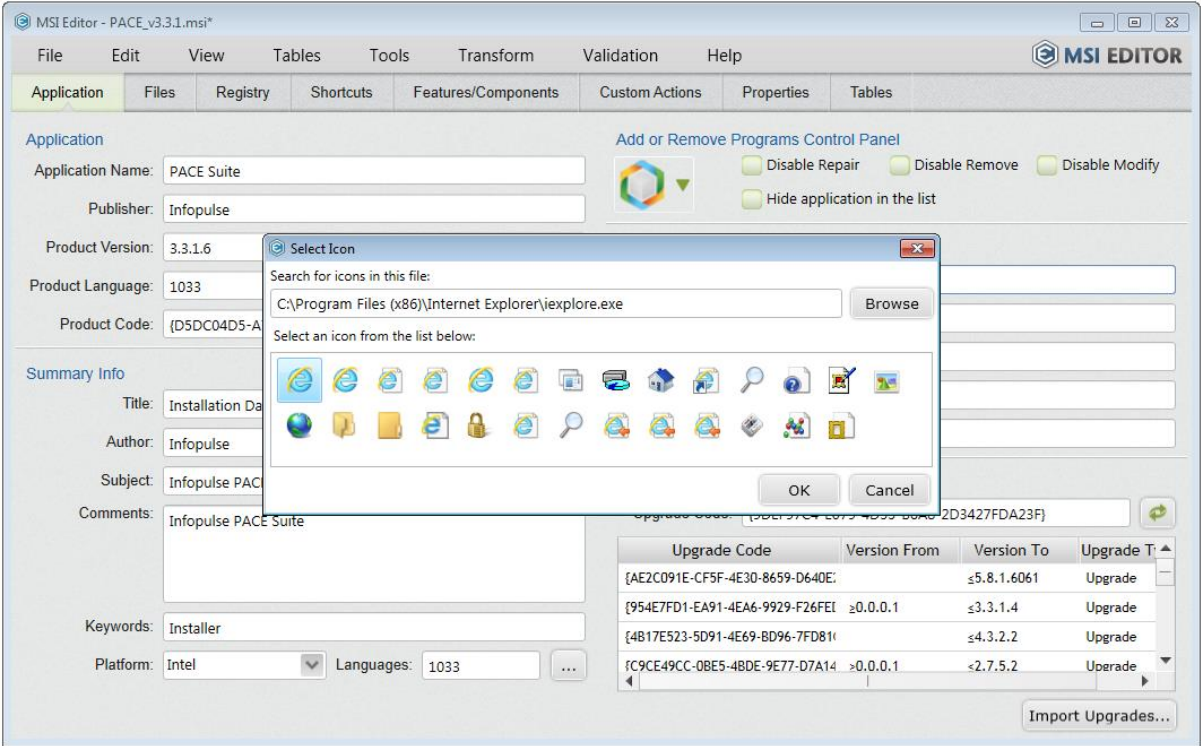
Choose an icon containing file and click **Open**

4



Select a desired icon from the list and click **OK** to import it to the opened MSI package.

5

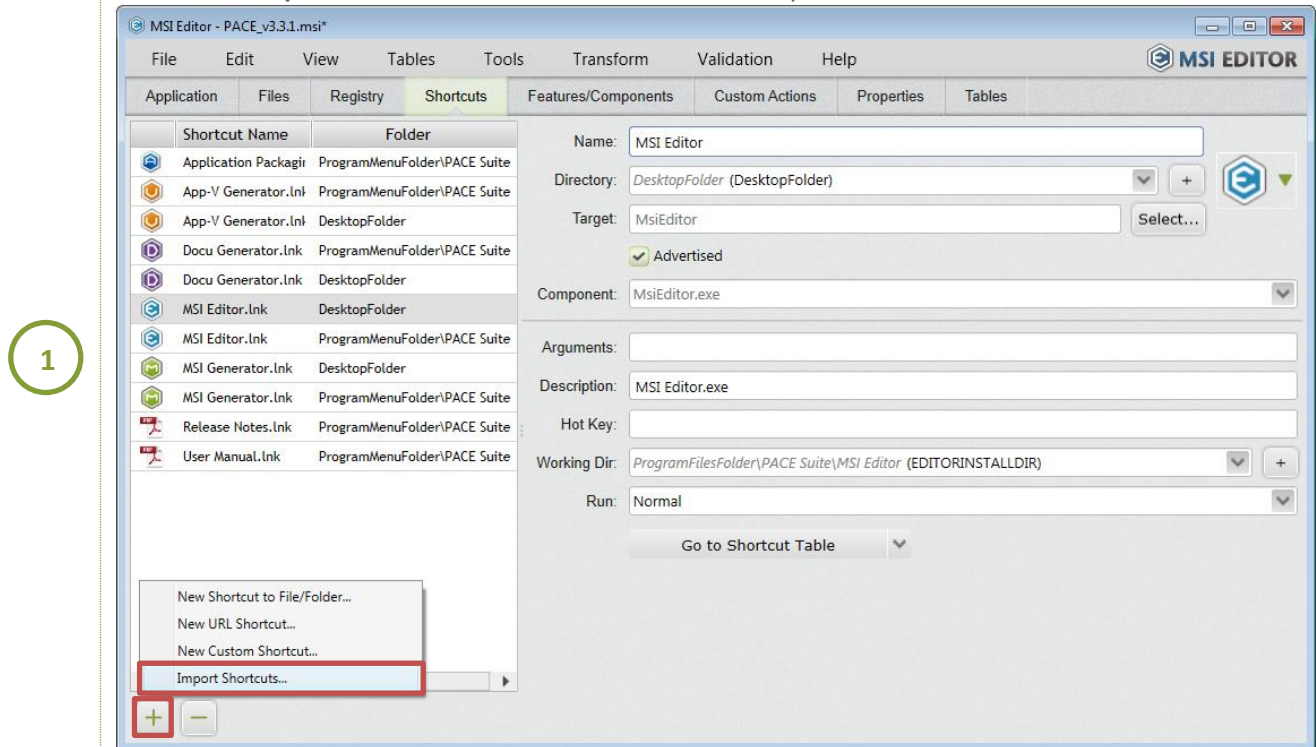


3.8.12 Import shortcuts

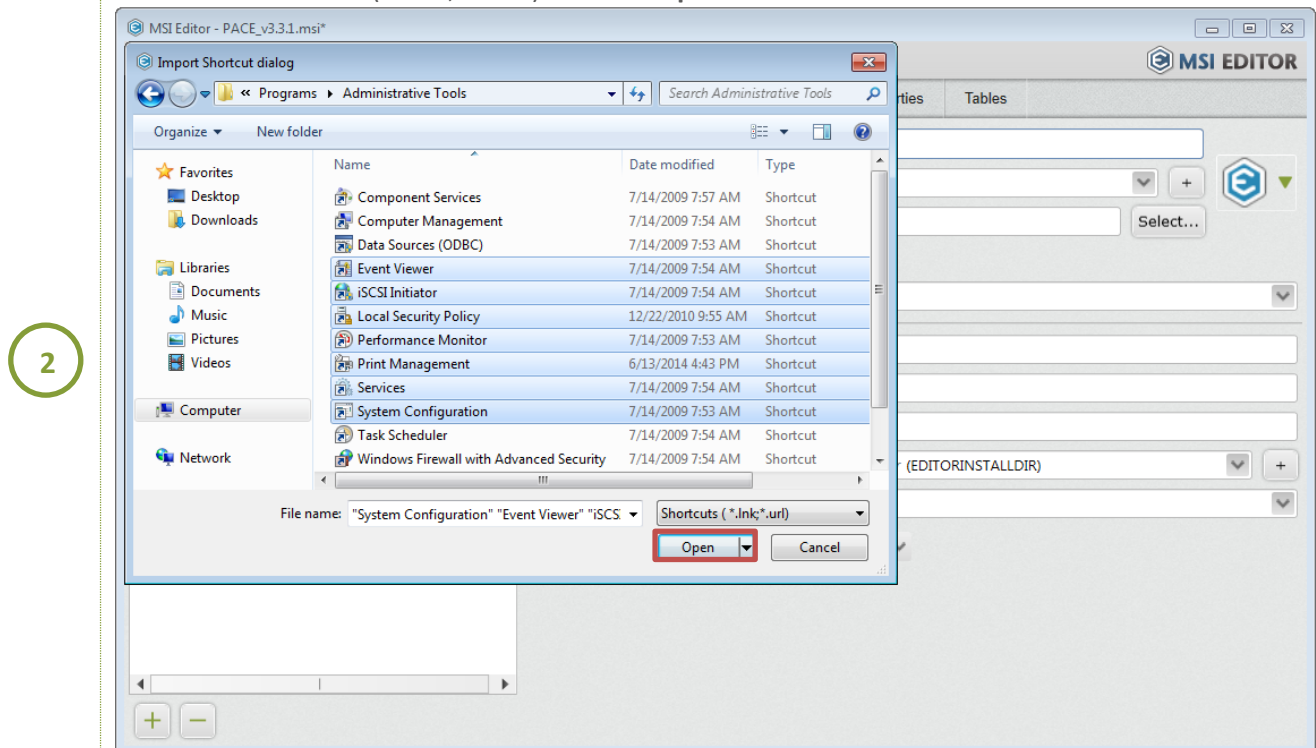
Shortcuts which were installed on a system could be easily imported to a package.

Pre-condition: Open an MSI package (see [Open an MSI](#)) and then navigate to the **Shortcuts** tab.

Click “+” -> **Import Shortcuts...** to choose shortcuts to import.



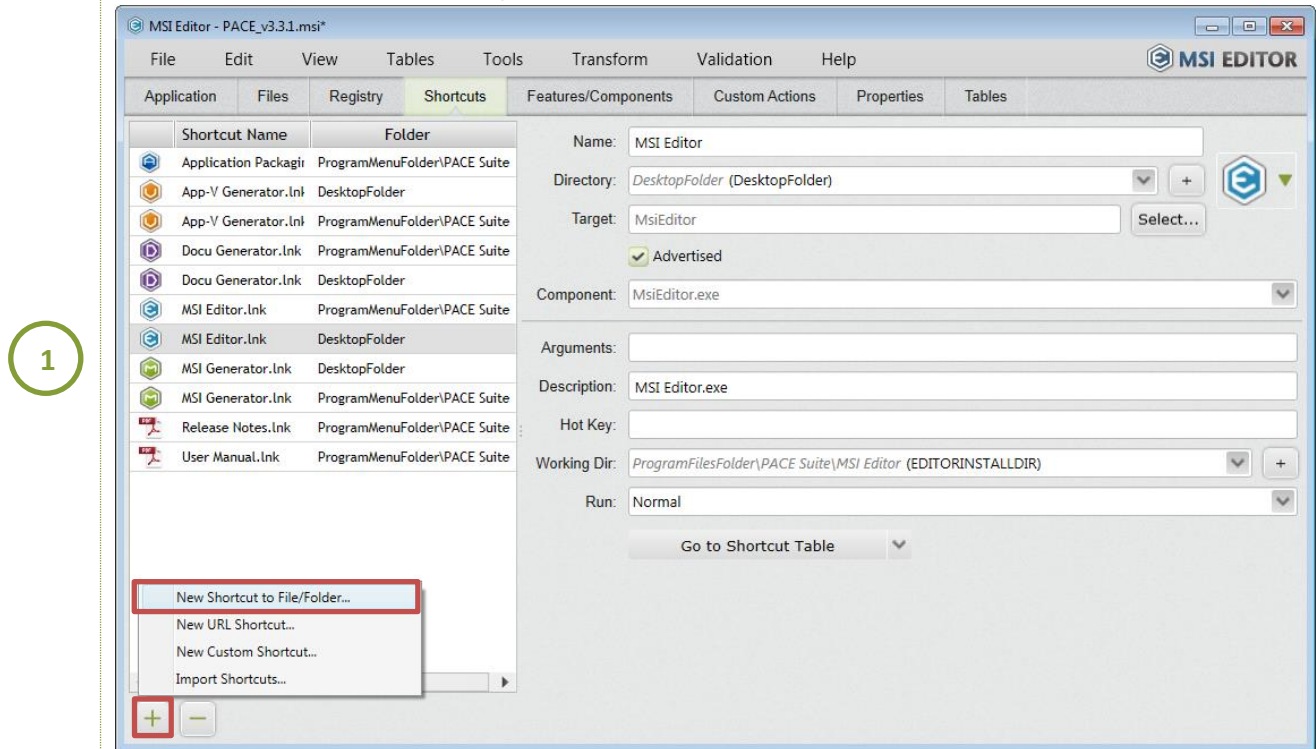
Choose shortcut files (*.LNK, *.URL) and click **Open**



3.8.13 Create a new shortcut

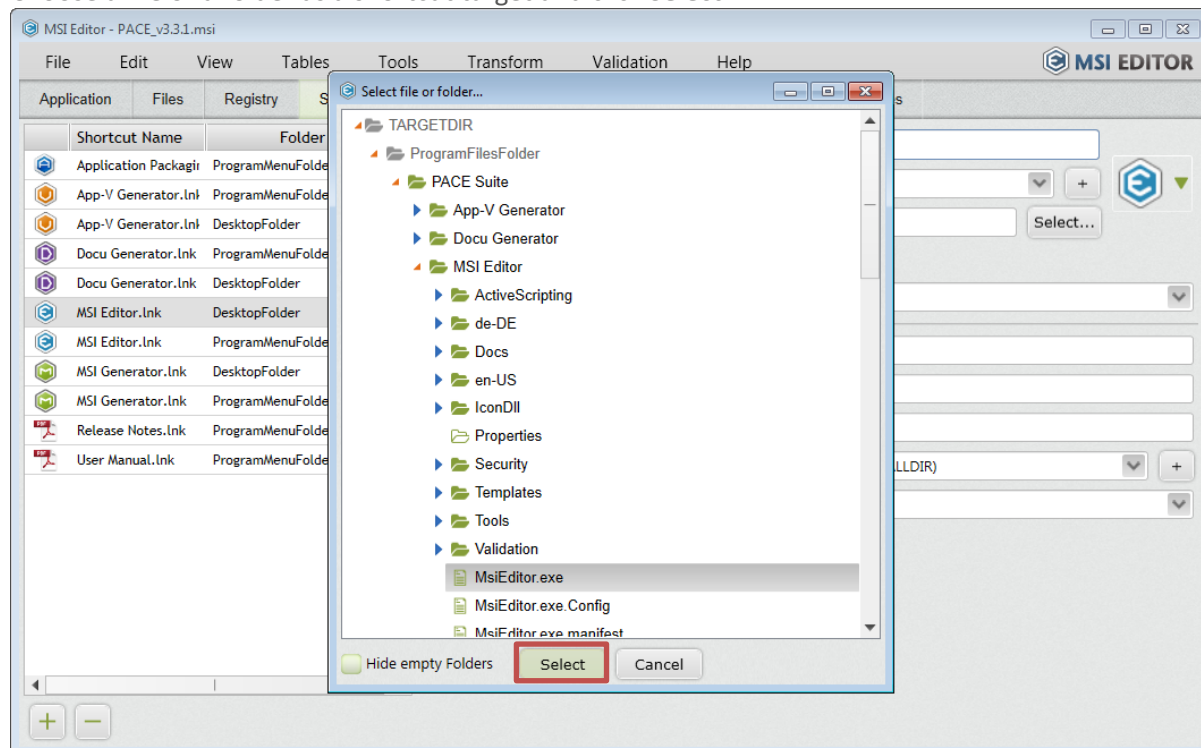
Pre-condition: Open an MSI package (see [Open an MSI](#)) and then navigate to the **Shortcuts** tab.

Click “+” -> **New Shortcut to File/Folder...** to create a new shortcut to a file or folder inside the MSI.



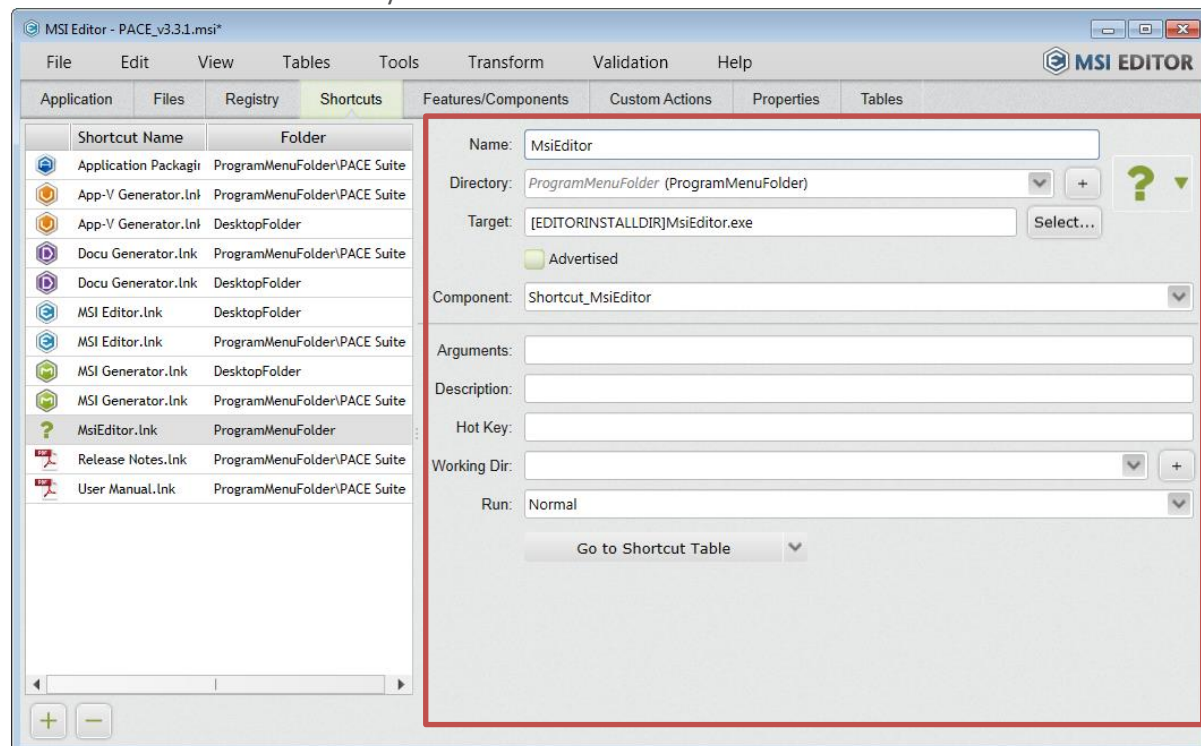
Choose a file or a folder as a shortcut target and click **Select**

2



Edit attributes and icon of newly created shortcut if needed

3

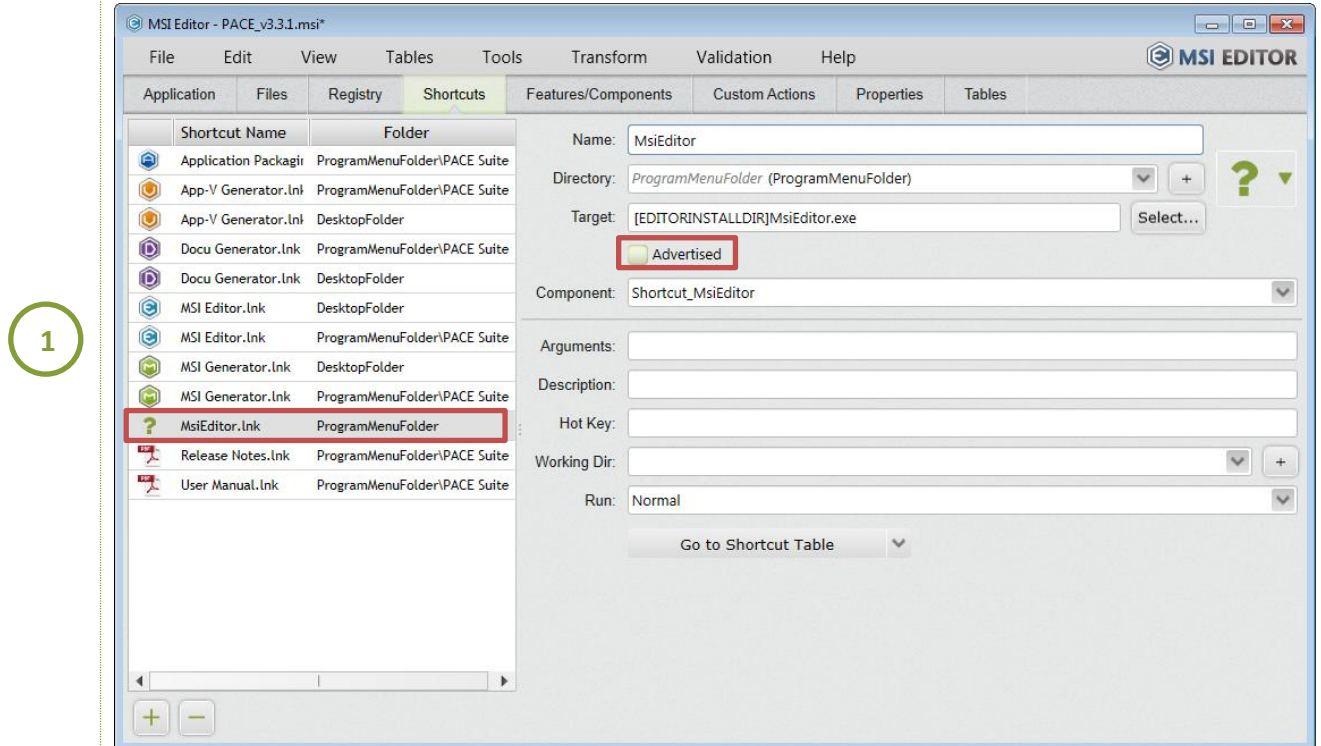


3.8.14 Toggle non-advertised/advertised shortcut

An advertised shortcut is a special shortcut which triggers Windows Installer to validate (and “self-heal”, if missing or broken) the key resources associated with it, every time a shortcut is launched by a user. For more details, please refer to [MSDN](https://msdn.microsoft.com/en-us/library/aa367548(v=vs.85).aspx) ([https://msdn.microsoft.com/en-us/library/aa367548\(v=vs.85\).aspx](https://msdn.microsoft.com/en-us/library/aa367548(v=vs.85).aspx))

Pre-condition: Open an MSI package (see [Open an MSI](#)) and then navigate to the **Shortcuts** tab.

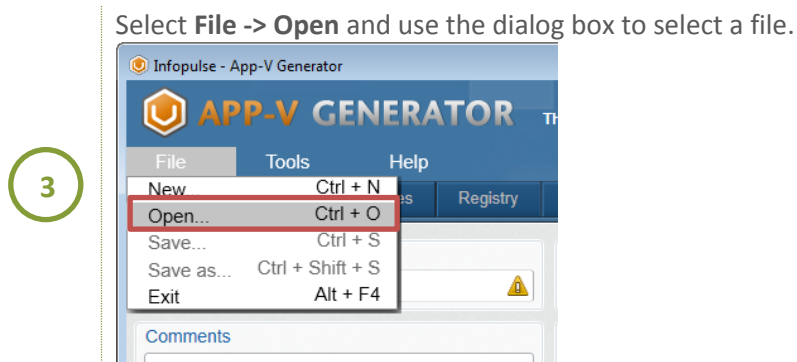
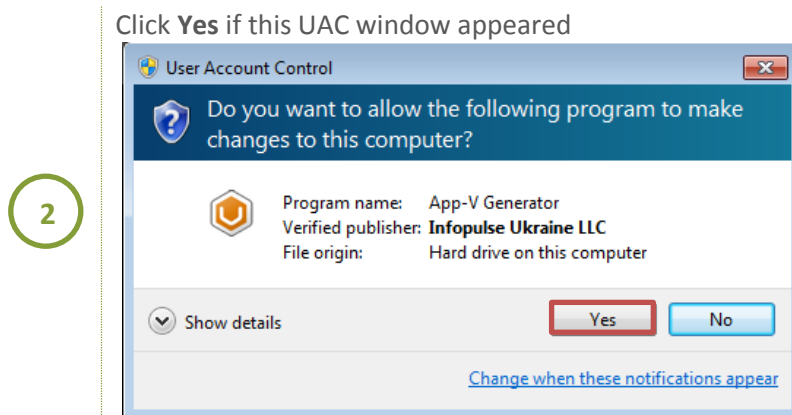
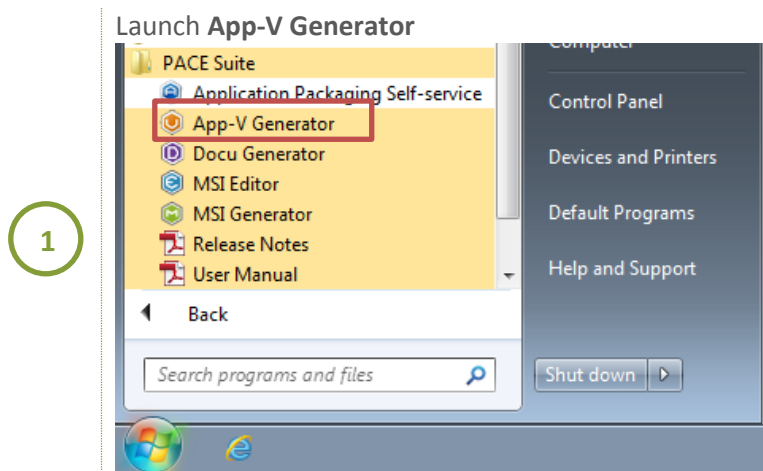
Select a shortcut in the shortcut list and check the **Advertised** checkbox to convert it to an advertised one.



3.9 Edit an App-V 4.6 package

3.9.1 Open an App-V 4.6 package

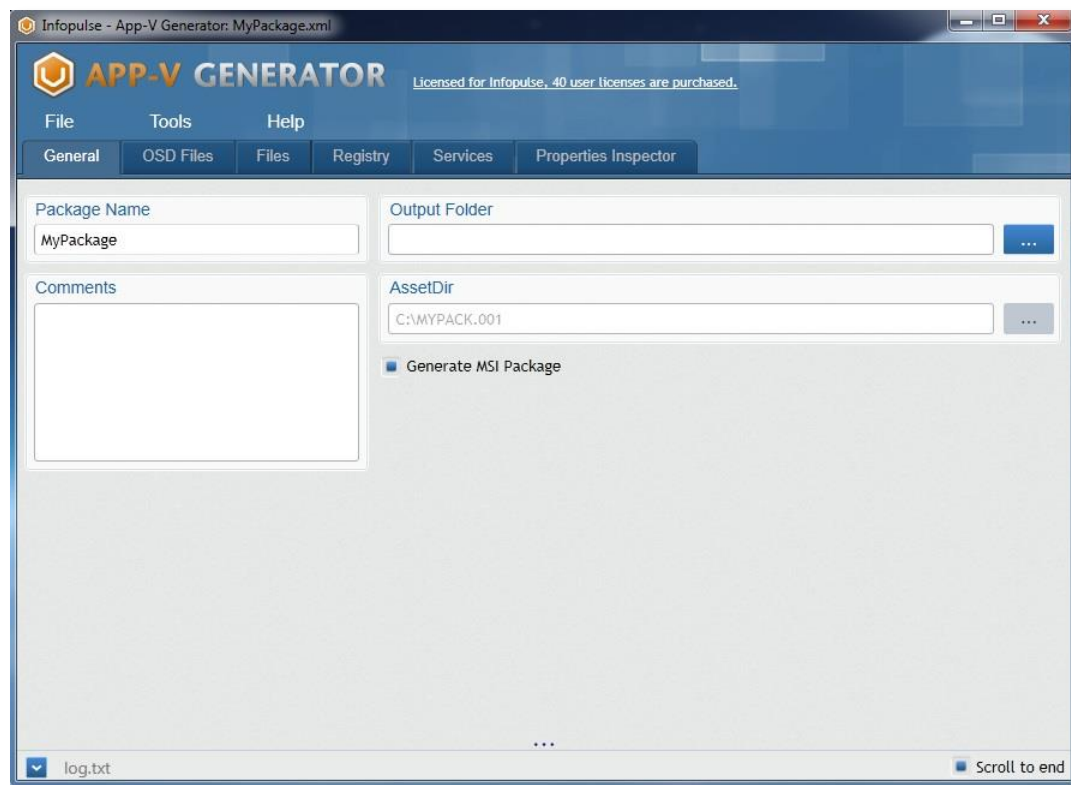
To edit an App-V 4.6 package, navigate to an SFT file and select “Open with App-V Generator” in its context menu, or follow the instruction below:



3.9.2 Package options

The following options are available under the **General** tab:

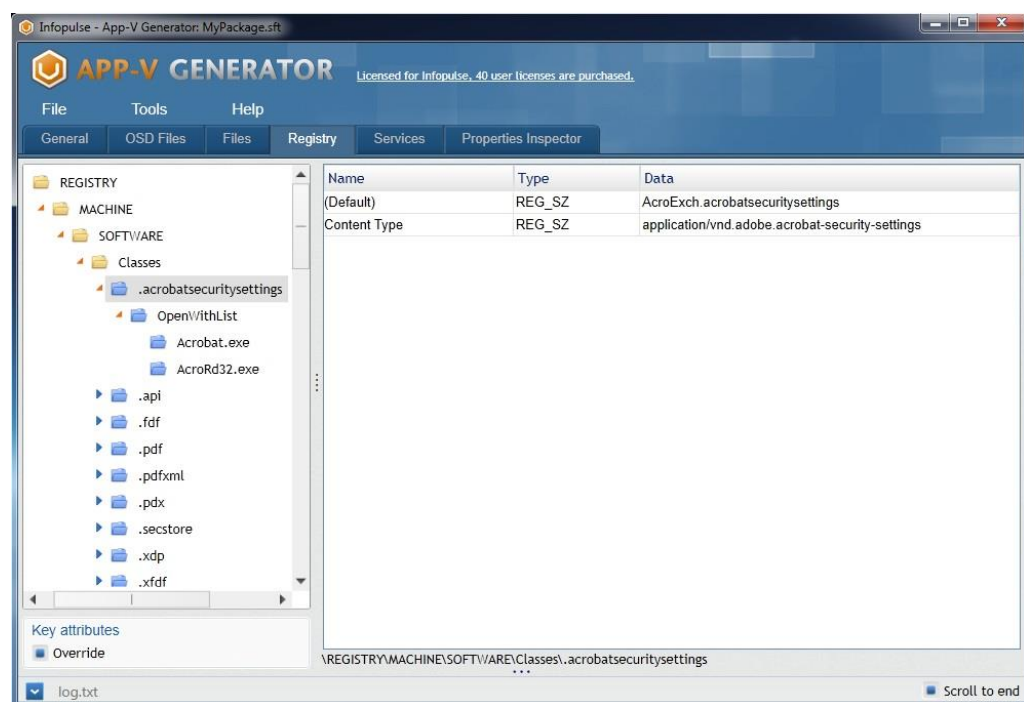
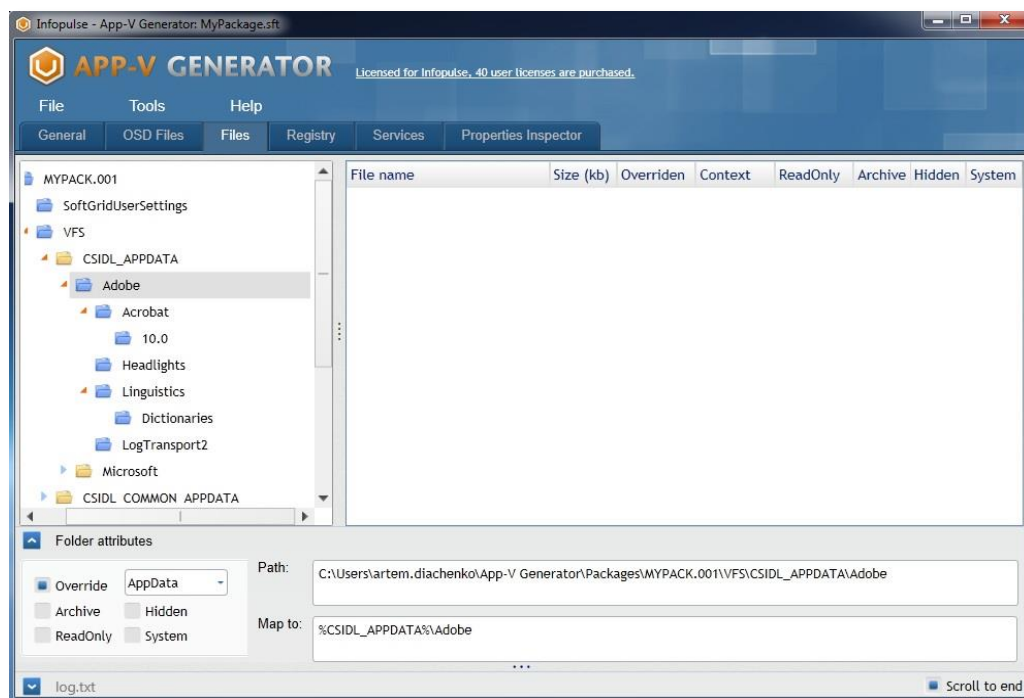
- **Package Name** – the name of a target App-V package;
- **Comments** – optional field containing any information valuable for further reference when deploying or editing a package;
- **Output Folder** – a directory where the target package will be saved upon selecting **File → Save...**
- **Generate MSI Package** – whether to generate an MSI installation package for a standalone package deployment. Please see “The Opening and Saving Packages” section below for more info.



3.9.3 Files and Registry

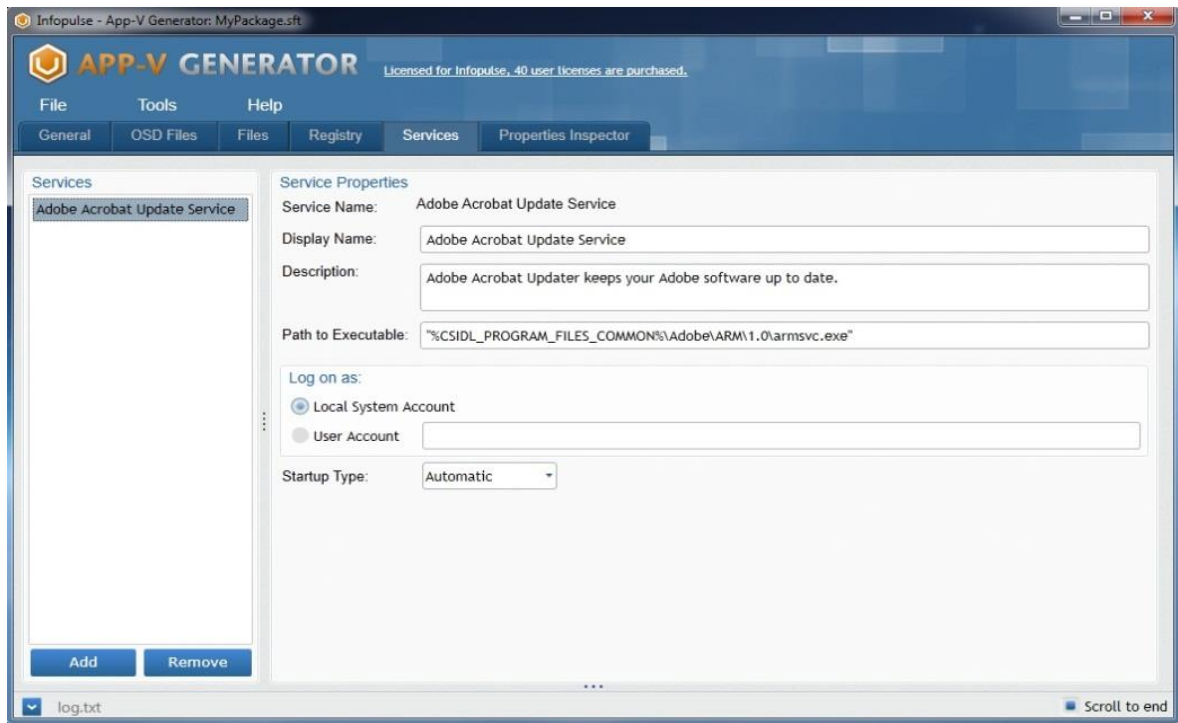
Using the **Files** tab you can view, add, change, delete and import/export virtual files and folders and set App-V specific attributes for directories.

The Registry tab gives you an ability to add, delete, modify or import registry keys and values and manage attributes of a virtual registry. Use the context menu options to perform operations upon any resource.



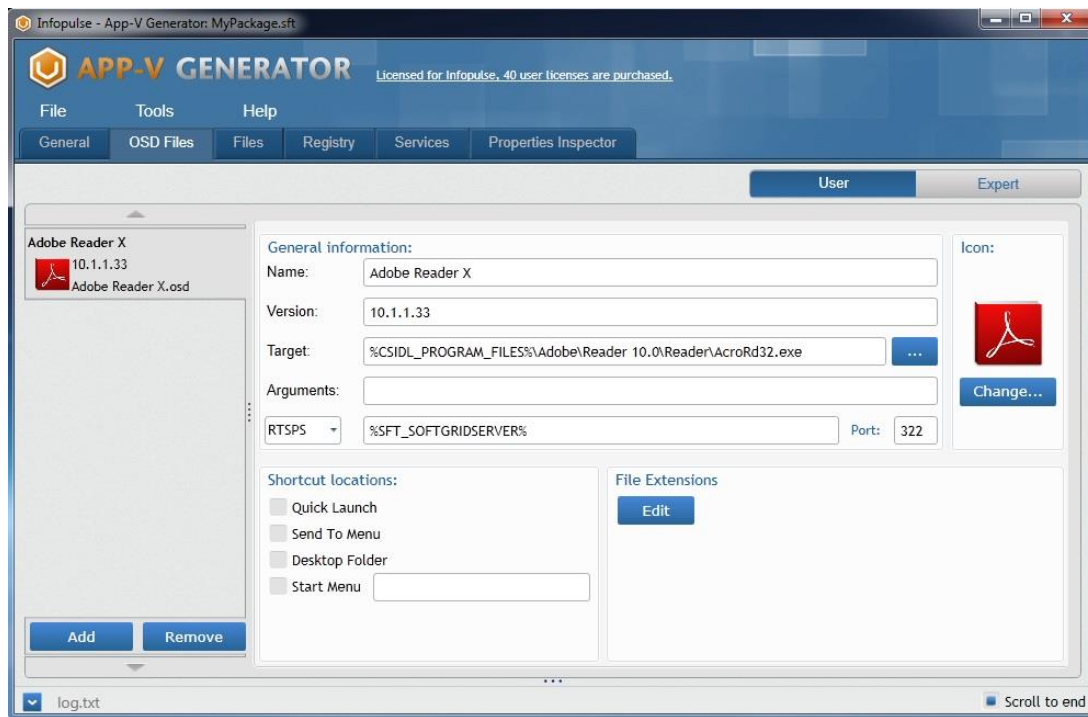
3.9.4 Virtual Services

The **Services** tab enables you to manage virtual services included into the package. Manage services on the left pane (You can add existing services from current machine by clicking the **Add** button or remove unnecessary ones from the package by clicking **Remove**) and edit selected service properties on the right pane.

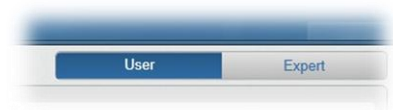


3.9.5 OSD Files

An OSD file ([Open Software Descriptor](http://msdn.microsoft.com/en-us/library/aa740951%28v=vs.85%29.aspx)) (<http://msdn.microsoft.com/en-us/library/aa740951%28v=vs.85%29.aspx>) contains all the data required to publish and run a single application sequenced into virtual package. There may be several OSD files (shortcuts to applications) in a single App-V package. When virtual application is deployed to desktop, OSD files are visible for user as shortcuts.



The **OSD Files** tab allows you to add/remove the OSD files in your package (Use the **Add** and **Remove** buttons in the bottom of the left pane) as well as set up options and contents of each one. When selecting an OSD file in the left pane, the right pane gets populated with its data and options.



The tab has two display modes, toggled with a special switch:

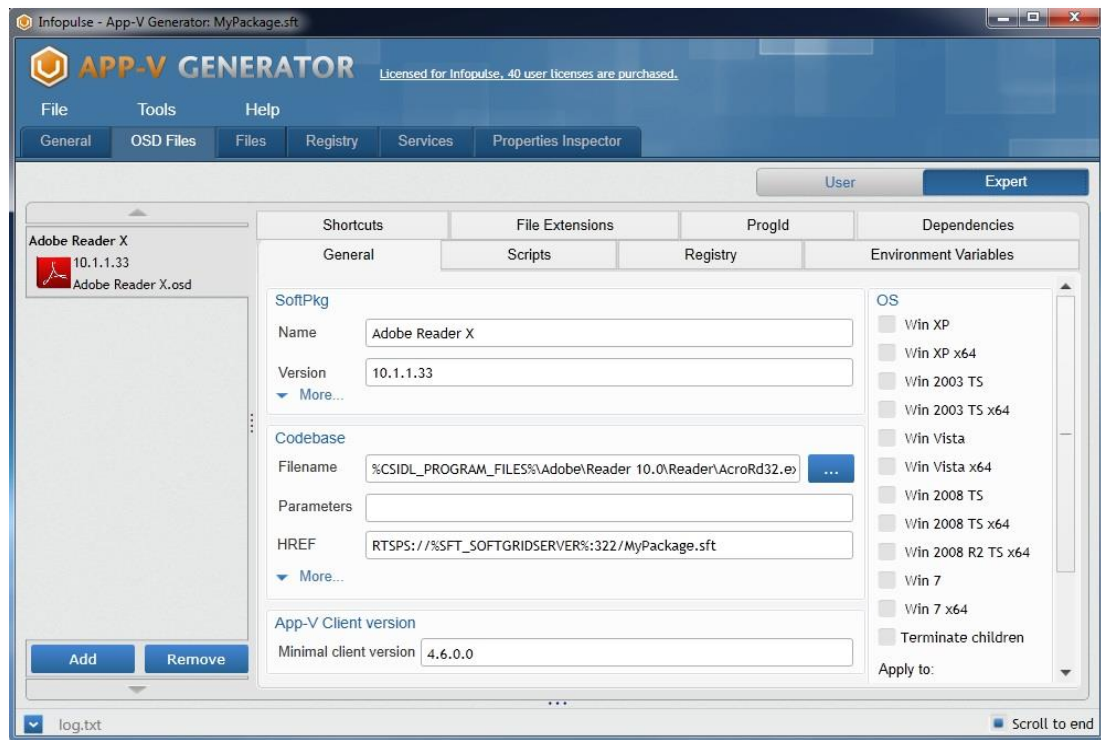
- User;
- Expert.

User display mode gives you a quick access to the most commonly used options, such as:

- Application/shortcut **Name**, **Version** and **Icon**;
- Shortcut **Target** and **Arguments**;
- **App-V Streaming options** – protocol, hostname and port of an App-V streaming server;
- **Shortcut locations** – the standard location a shortcut to be placed to;
- **File extensions** – file associations with a virtualized application to be published on a client machine.

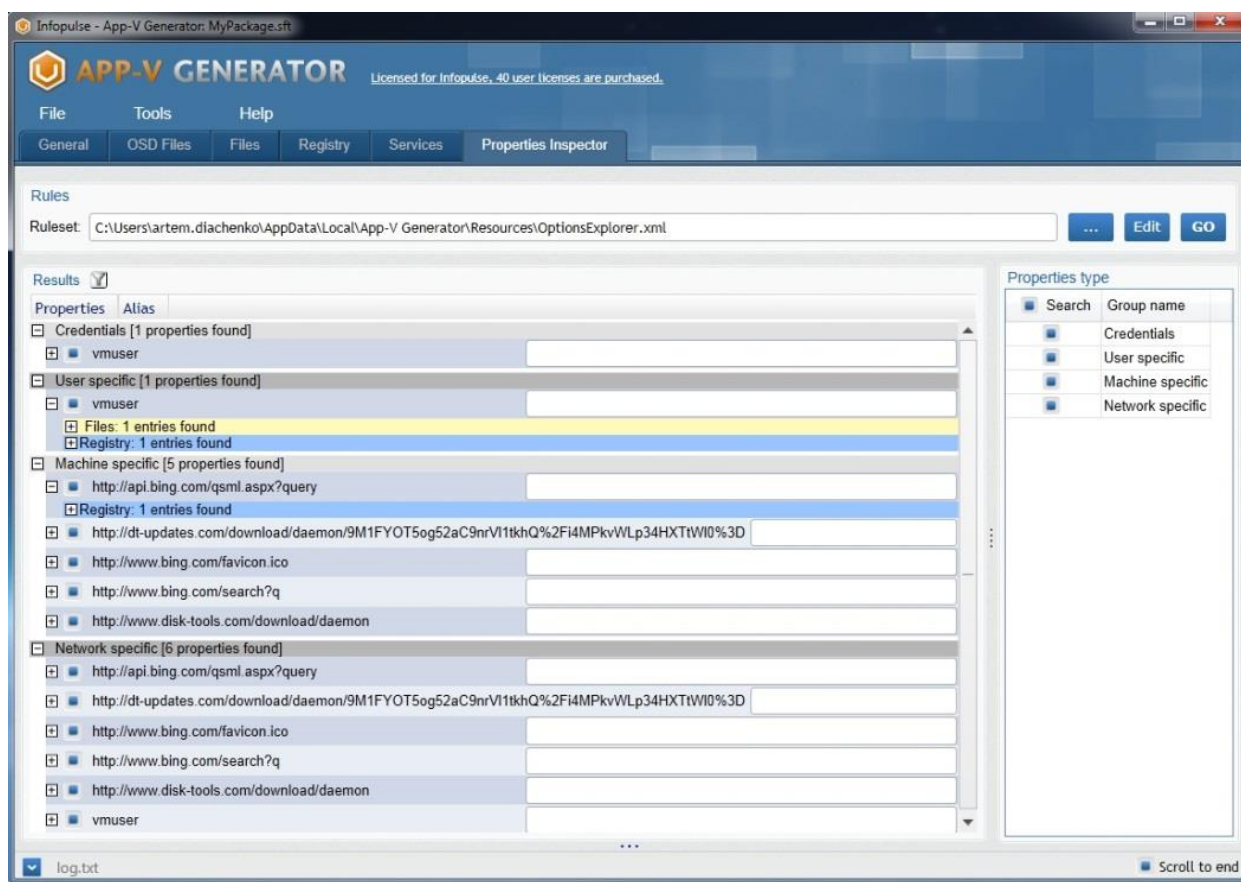
Switching to **Expert** mode provides you with a full control of all extensive options and contents of an OSD file such as (but not limited to):

- Operating System visibility;
- Minimum required App-V client version;
- OSD scripting (see “Actions pool” section for more info);
- Advanced shortcuts management;
- Environment variables;
- ProgId's;
- DSC ([Dynamic Suite Composition](#)).



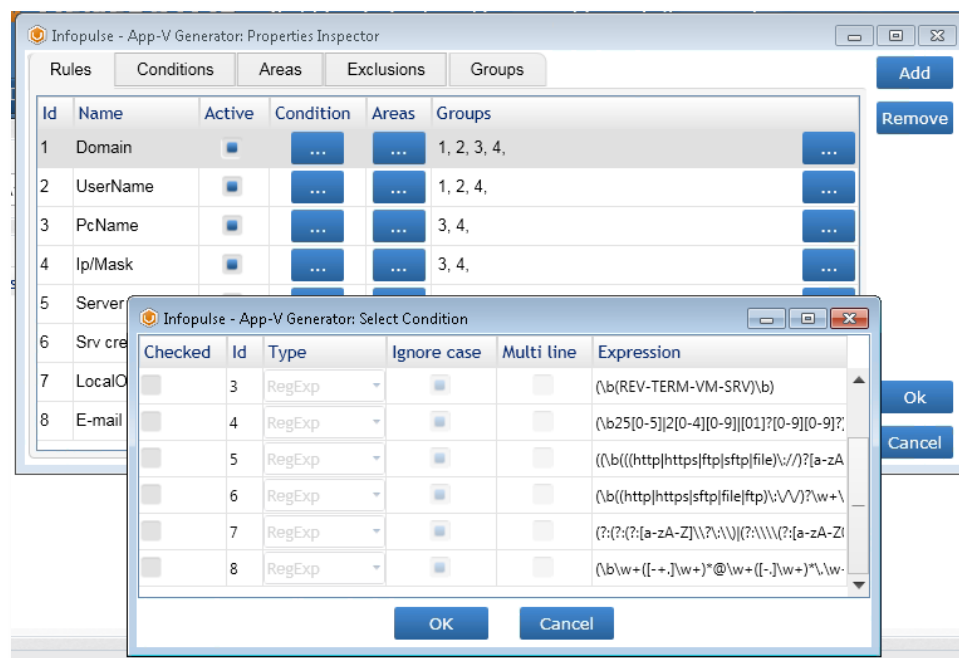
3.9.6 Properties Inspector

Hard-coded values (any specific values that are expected to be different on other machine or in different conditions and should be replaced by dynamic variables – e.g. full file path, name of a user, hostname, database credentials etc.) inside a package may cause compatibility issues or even break functionality of a virtual application. App-V Generator’s “Properties Inspector” feature (accessible on the **Properties Inspector** tab) helps to identify such values by analyzing a package using a predefined (yet fully customizable) rule set (set of search settings and regular expressions).



To do a search, press the “GO” button on the **Properties Inspector** tab, and the **Results** pane will be fed with found matches. For convenient analysis, the search results are grouped by the categories: Credentials, User Specific, Machine specific and Network specific (still categories are configurable – see below). In the **Results** pane, a context menu is available enabling you to exclude an item from the package or jump to a folder, file or registry entry to investigate and eliminate a hard-coded value.

Some hard-coded values cannot be simply replaced by variables (e.g. they are located inside a file) and need to be eliminated by means of OSD scripting. Please see the “Actions pool” section for how is it done with App-V Generator.

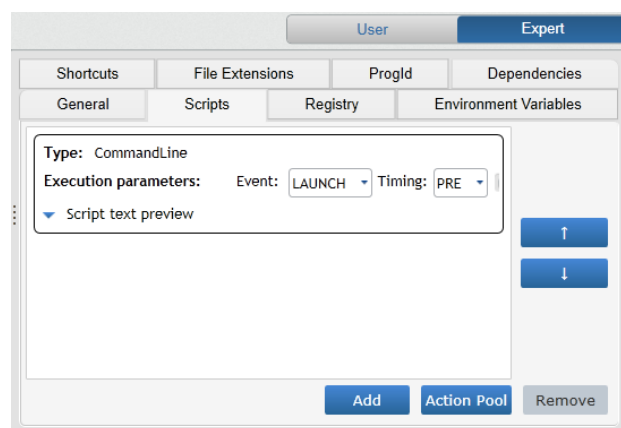


Predefined Properties Inspector rule set comes with App-V Generator, but you're able to fully customize it using the **Edit** button on the **Properties Inspector** tab. The rule set editor allows you to configure groups, search conditions (matches/regular expressions), areas to search in and exclusions.

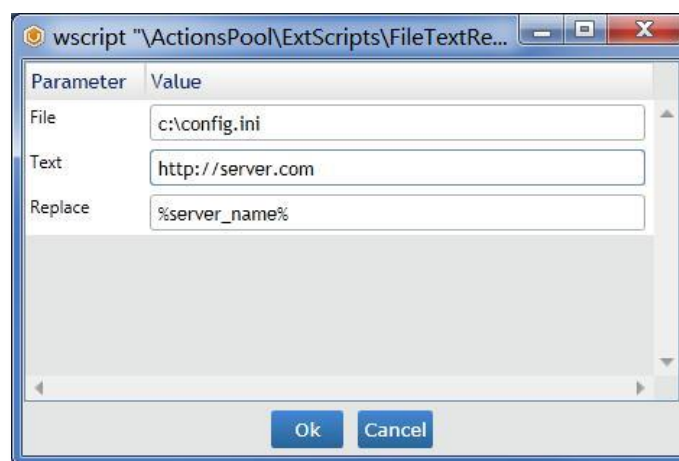
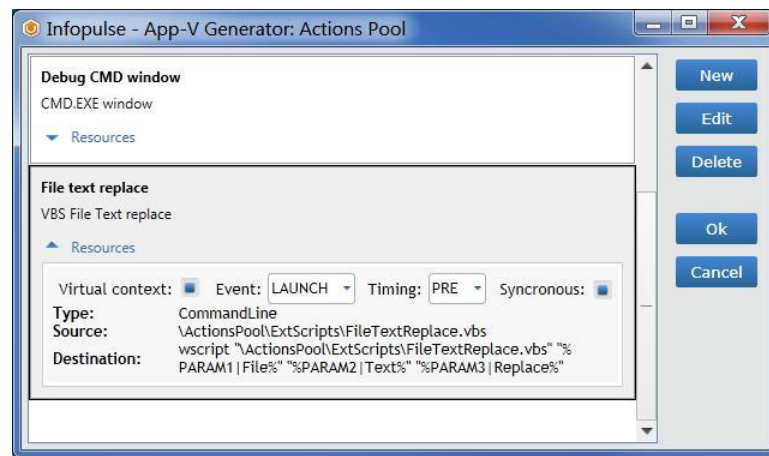
3.9.7 Actions Pool

Actions pool is kind of a library of OSD scripts enabling you to resolve issues or make your package perform specific tasks.

App-V Generator's Actions pool can contain any types of scripts supporter by App-V technology (VBS, shell, embedded OSD scripts etc.) and already comes with several pre-defined helpful scripts. To access the feature, select **Tools -> Actions Pool...** item in the Main menu or click the **Actions Pool** button on the **Scripts** pane of the **OSD Files** tab (in Expert display mode).



Having such a library right in App-V Generator, you can collect helpful things from package to package and ease your future work w/o having to reinvent solutions found before. With built-in editor, you can add your own scripts and do not need to edit OSD files each time directly.



An example pre-defined script from Actions Pool is “File texts replace”. It enables you to dynamically replace hard-coded paths in virtual files of your package (see “Properties inspector” section for how to discover such values). When a script is selected and launch options are specified, you can enter its parameters.

The “File Text Replace” script needs three parameters: Name of the file, a value that needs to be replaced, replacement value.

3.9.8 Saving a Package

To save a package, select **File → Save...** from the main menu. The package will be saved in the **Output folder** specified on the **General** tab. If left empty then it is set to the default output folder, configurable in **Tools → Options** menu.

After a package is saved, App-V Generator will open its folder in Windows Explorer.

To save a package with a different name or to a different location, select **File → Save SFT as...** from the main menu.

Note. If a separate OSD has been opened then **File → Save...** and **File → Save OSD as...** menu commands serve to save a single OSD file, not a complete package.

Output files

When you save a package both the full and deployment-ready set of App-V package files is being generated. See table below for the output files listing.

Output File	Description
<Package Name> Icons	A folder containing icons for applications being published by the package
<App Name>.OSD	OSD files you've set up on the OSD Files tab.
<Package Name>.MSI	An MSI installer file used for standalone deployment of an App-V package. Running this installer leads to streaming your virtual application on a single machine. This file is generated only if the Generate MSI Package checkbox is checked on the General tab.
<Package Name>.SFT	Binary file containing all assets and state organized into stream able feature blocks.
<Package Name>.SPRJ	Sequencing project with references to OSD, default package settings, list of all parser items, classifications and exclusions.
<Package Name>_manifest.xml	Publishing parameters for all applications in a package.

3.10 Using Docu Generator

To create an application package that fulfills the requirements and expectations, you need to know clearly how the application has to be installed and configured step-by-step. This includes (but is not limited to):

- Installer files to be launched and features to be installed
- Options to be specified in installation dialogs
- License keys to be used
- Application settings (e.g. startup screen disabled, connection settings specified) to be pre-configured by the package
- Desired shortcuts and their location.

While this information may be obvious for some installations (e.g. a simple next...next one without a choice), its description is essential for another complicated ones.

It is recommended to agree on a standard form of an Installation and configuration instruction and make it available along with original software installations.

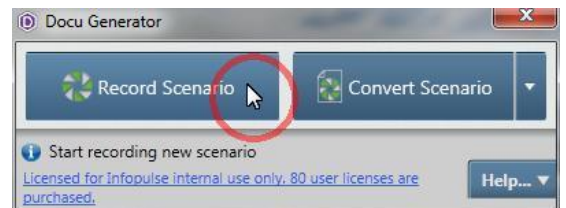
Docu Generator helps to automate the creation of such documentation.

Follow the steps below to create an installation and configuration instruction with Docu Generator. Provide these steps to your requester if you wish to ask them to create such documents.

3.10.1 Launch Docu Generator and Start Recording

Launch Docu Generator. On the Home screen, click **Record Scenario**.

Scenario is user actions recorded by Docu Generator as a series of screenshots and annotations. A scenario can be saved in internal Docu Generator format (DSCN file) or as a document (DOC, HTML, MHT).



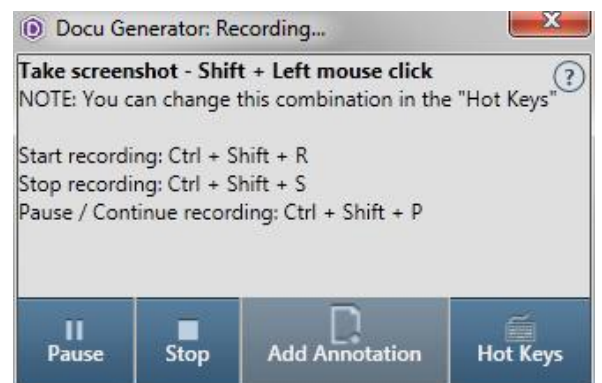
3.10.2 Control Recording

The recording window will appear in the lower right corner of your desktop providing you the following controls:

Pause/Continue – Click to pause recording. Click again to resume;

Stop – stop recording and proceed to saving results;

Hot Keys – Hover to see a hint of Hot Keys. Click to edit Hot Keys



3.10.3 Take Screenshots

Now, do the actions you want to record into the document. Launch executables, go through dialogs, select options and enter values just telling Docu Generator when to take another screenshot, as described below.

To take a screenshot:

Window/Smart area screenshot

Hold **left Shift** key when clicking. This will make Docu Generator grab a window or dialog/message box you've clicked on. If you've clicked outside any window (e.g. on desktop shortcut), then a smartly chosen rectangular area around mouse pointer will be grabbed.

Executable path, a window title, names of clicked buttons or other controls, contents of text fields from a captured window are automatically grabbed into textual annotations. Yet inclusion of this information into a target document can be controlled when saving.

Custom area screenshot

Press **Ctrl+Shift+PrintScreen**, then click and drag the mouse pointer to select a rectangular area you want to grab. A screenshot is done when you release the mouse button.

A preview of each new screenshot immediately appears in the Recording window.

3.10.4 Manage Screenshots

Hover the mouse pointer over a preview of a screenshot in the Recording Window to access its options

Edit annotation... – Edit an annotation for the screenshot;

Copy to clipboard – Copy the screenshot to clipboard for immediate use;

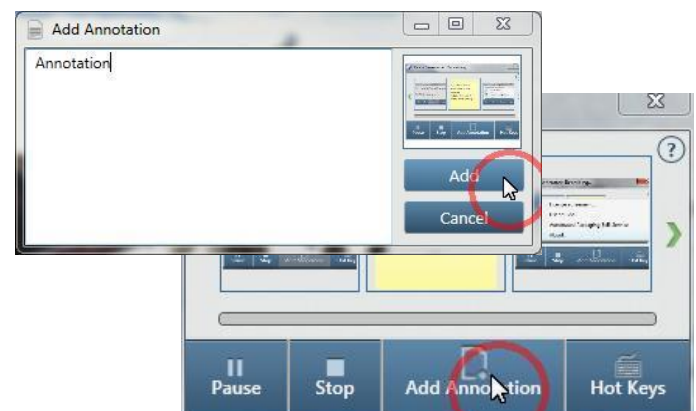
Remove – Delete the screenshot (preceded by a prompt).

Hover the mouse pointer over a preview for another moment to view the screenshot enlarged.



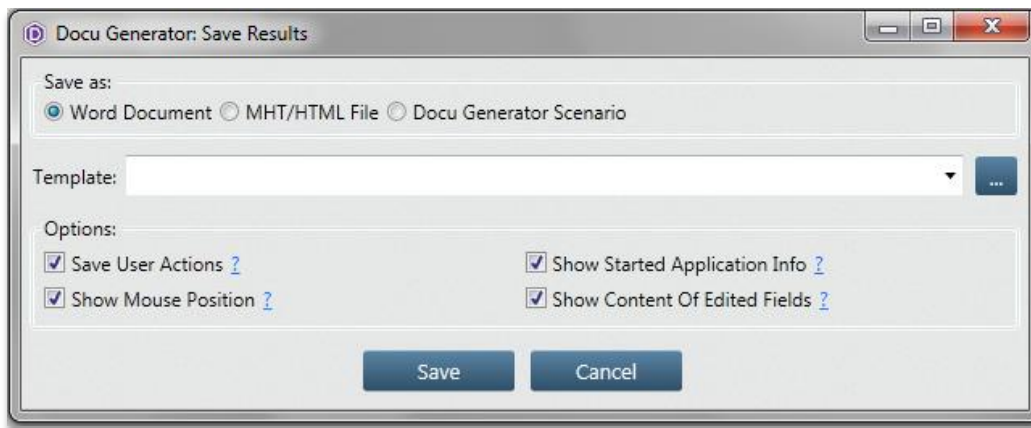
3.10.5 Add Annotations

To add a text annotation to the latest screenshot, click the **Add Annotation** button in Recording window or use the **Ctrl+Alt+X** hotkey. Enter annotation text in the "Add Annotation" window and click the **Add** button.



3.10.6 Save results

When done, click **Stop** in the Recording window. The Save Results window will appear:



Use the **Save as** switch to select the output format. The following output formats are supported:

Word Document – the scenario will be saved as a series of screenshots and annotations into a DOC file;

MHT/HTML File – the scenario will be saved as a series of screenshots and annotations into a HTML (Web page) or MHT (Web archive) file. A file type can be selected in a dialog box after clicking Save;

Docu Generator Scenario – the scenario will be saved in internal Docu Generator format (DSCN file) which can be opened with Docu Generator and converted to an output document later.

Note. To let you return to your scenario later, Docu Generator always creates DSCN file along with the output file in an output folder.

Note. If Microsoft Word is unavailable on the machine, the option of saving DOC file is inactive, but you still can save a DSCN file and convert it on a machine with MS Office installed later.

Use the **Template** field to point Docu Generator to a template to be used for the output document. Please see the next step for details.

The **Options** pane allows controlling the following information inclusion to the output document:

Save user actions – populate annotations with names of windows and controls clicked on;

Show mouse position – show mouse pointer and highlight it with a red circle on screenshots;

Show started application info – populate annotations with paths and command line arguments of applications run during recording;

Show contents of edited fields – populate annotations with the contents of editable fields from captured windows and dialog boxes.

Click the **Save** button to save the document. The document will be automatically opened in a default viewer, and Docu Generator will be closed.

3.10.7 Use Document Templates

Docu Generator supports Microsoft Word (DOT/DOTX) and HTML/MHT templates to be used for document creation. To use a template, specify its file path in the “Save Results” window (see previous step).

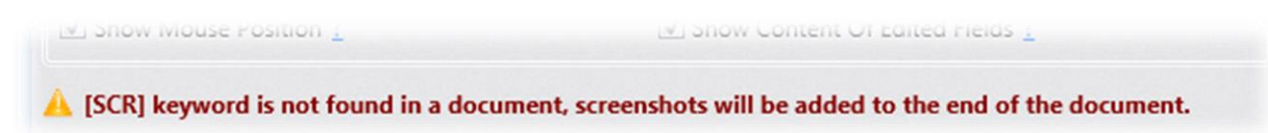
In order to mark a position where screenshots and comments are to be placed to, add the following textual placeholder into a template:

[SCR]

You can specify placeholder [SCR] in the existing table in a template. In this case the placeholder points to a cell where screenshots should start, while a column to the right of it will be populated with comments.

If the placeholder is located outside a table, then a new table for screenshots and comments will be created. A Docu Generator-default table style will be used.

If a placeholder is not found, screenshots and comments will be appended to the end of the template. You'll be warned about this in the Save Results window:



4 References

4.1 More information and contact

Product website | <http://pacesuite.com>

Support email | pace-support@infopulse.com

Support Portal | <http://pacesuite.com/support>

4.2 PACE Suite in social and professional networks



| itninja.com/pace



| [@pacesuite](https://twitter.com/pacesuite)



| fb.com/pacesuite



| <https://www.linkedin.com/groups/PACE-Suite-APS-community-4765703>