

GETTING STARTED

PACE Suite 4.2



Table of Contents

1	Introduction.....	5
1.1	About This Document.....	5
1.2	Glossary.....	5
2	PACE Overview.....	6
2.1	Installation & System Requirements.....	7
2.1.1	Software Prerequisites.....	7
2.1.2	Hardware Prerequisites.....	7
2.1.3	How to Install PACE Suite.....	8
2.1.4	Using Portable Distributive	12
3	How-To Manuals	13
3.1	New MSI.....	13
3.1.1	Create Blank MSI.....	13
3.1.2	Create MSI from Scratch	15
3.1.3	Repackage EXE to MSI.....	18
3.1.4	Capture System Changes to MSI	25
3.2	New MST.....	29
3.2.1	Create Blank MST	29
3.2.2	Create Response MST	32
3.2.3	Capture System Changes to MST	40
3.3	New MSP	46
3.3.1	Create MSP Based On Difference	46
3.3.2	Save Changes to MSP	54
3.4	New App-V	61
3.4.1	Create App-V from Scratch.....	61
3.4.2	Repackage EXE to App-V 5.x	64
3.5	New ThinApp.....	70
3.5.1	Create ThinApp from Scratch	70
3.5.2	Repackage EXE to ThinApp.....	73
3.6	Edit MSI/MST	79
3.6.1	Pre-Condition	79
3.6.2	Files and Folders	81

3.6.2.1	Add Standard MSI Folder.....	81
3.6.2.2	Add Custom Folder.....	82
3.6.2.3	Import Files and COM Information.....	83
3.6.3	Registry.....	89
3.6.3.1	Add Registry Key.....	89
3.6.3.2	Add Registry Value.....	90
3.6.3.3	Import Registry.....	92
3.6.4	Shortcuts.....	95
3.6.4.1	Add Shortcut to File or Folder.....	95
3.6.4.2	Add URL Shortcut.....	97
3.6.4.3	Import Shortcuts.....	99
3.7	Edit Project.....	101
3.7.1	Pre-Condition.....	101
3.7.2	File and Folders.....	103
3.7.2.1	Exclude Files and Folders.....	103
3.7.2.2	Include Files and Folders.....	104
3.7.2.3	Add Custom Folder.....	105
3.7.2.4	Import Files.....	107
3.7.3	Registry.....	109
3.7.3.1	Exclude Registry Entries.....	109
3.7.3.2	Include Registry Entries.....	110
3.7.3.3	Import Registry.....	111
3.7.3.4	Export Registry.....	113
3.7.4	Shortcuts.....	114
3.7.4.1	Import Shortcut.....	114
3.8	Edit App-V.....	117
3.9	Publish Package to SCCM.....	120
3.10	Generate Package Report.....	127
3.11	Validate Package.....	130
3.12	Calculate Package Complexity.....	133
3.13	Create Discovery Documentation.....	137
4	References.....	141



4.1 More information and contact141

4.2 PACE Suite in social and professional networks141





1 Introduction

1.1 About This Document

This is a Getting Started document describing how to perform common application packaging tasks with help of PACE Suite.

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 changed to Windows Installer. MSI files are used for installation, storage, and removal of programs.
MST	MST is a settings file used by Microsoft Windows Installer, a component of the Windows operating system that enables software installations. It contains software configuration options, allows custom parameters for the installation.
App-V	Microsoft Application Virtualization (also known as App-V; formerly Softricity SoftGrid) is an application virtualization and application streaming solution from Microsoft.



2 PACE Overview

PACE Suite consists of the following components:



MSI GENERATOR

- Repackage any existing installation into Windows Installer or a virtual format (Microsoft App-V 5.x, and VMware ThinApp).
- Auto-detection of embedded installers.
- Create a response transform
- Tune any existing Windows Installer package by applying your settings and saving them as a Windows Installer transform (MST).
- Include the excluded files/registry back to a package.



MSI EDITOR

- Manage the contents of an MSI in a tree view
- Import the desired resources
- Edit and manage Custom Actions
- Integrate scripts into your package
- Use a smart and advanced MSI database editor, with formatted string autocompleting, Excel-like formula bar, row reference tracking, and more.
- Create patches (MSP)
- Manage permission settings for file system and registry
- Handle upgrades easily – just let MSI Editor know which MSI you want to be upgraded at runtime.
- Publish your applications to Microsoft SCCM 2007, 2012, 2016.
- See the estimated complexity of an app right away.
- Generate package documentation containing the details about your package and configuration.
- Undo-redo any manipulation and see the changes highlighted in the MSI tables



DOCU GENERATOR

- Automatically record your on-screen actions into a nice-looking document with screenshots and annotations

2.1 Installation & System Requirements

2.1.1 Software Prerequisites

Ensure that a target system contains necessary software prerequisites:

OS	Windows 10/8.1/8/7 SP1, Windows Server 2012/2008 R2 SP1
Middleware	Microsoft .NET Framework 4.6.1 (https://www.microsoft.com/en-us/download/details.aspx?id=49981) or higher.
Privileges	Administrative privileges on the system.

2.1.2 Hardware Prerequisites

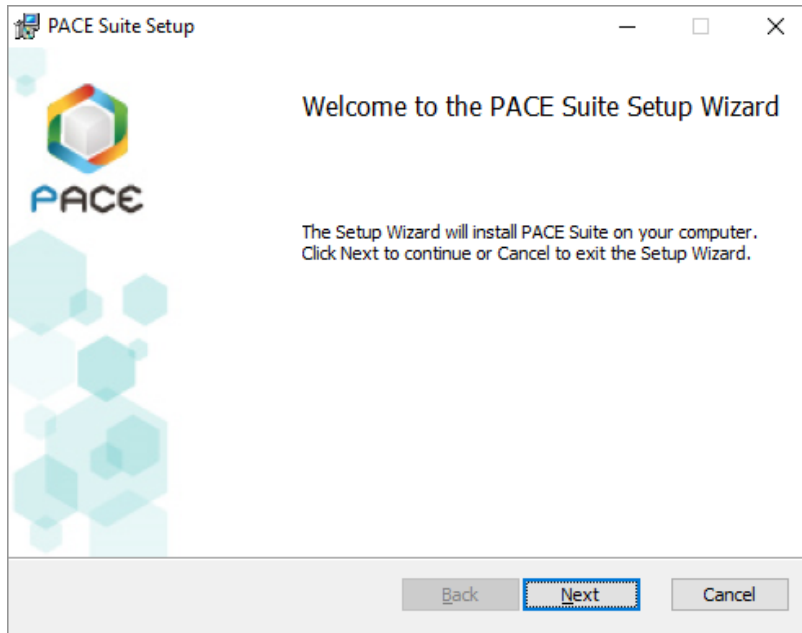
Ensure that a target system fulfils the minimum hardware conditions:

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
Hard drive free space	1 GB NOTE Additional storage is required for your projects and packages and depends on their size and quantity.
Display	1280 x 768 resolution or higher.

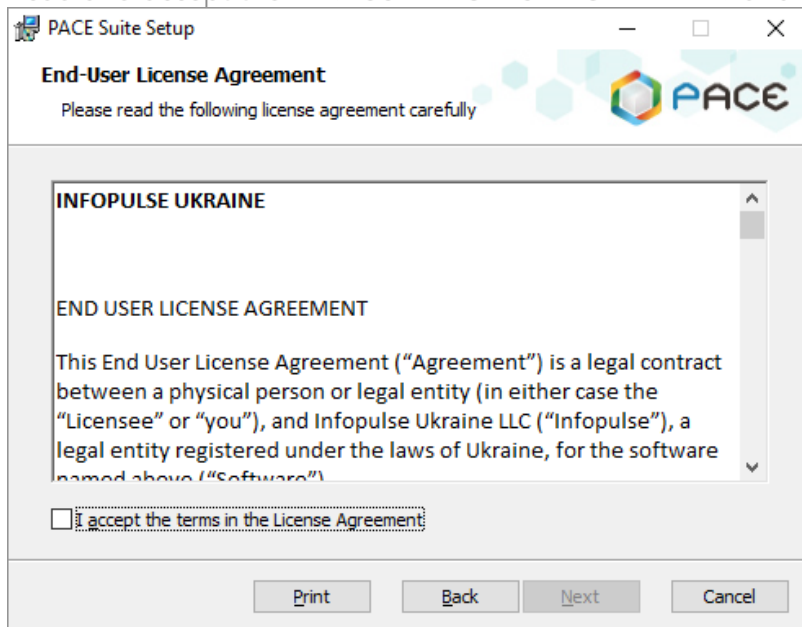
2.1.3 How to Install PACE Suite

We strongly recommend using PACE installation, because it checks whether your license is suitable with the current PACE Suite version and whether your system meets minimum software requirements. Note that the installation requires the administrator privileges.

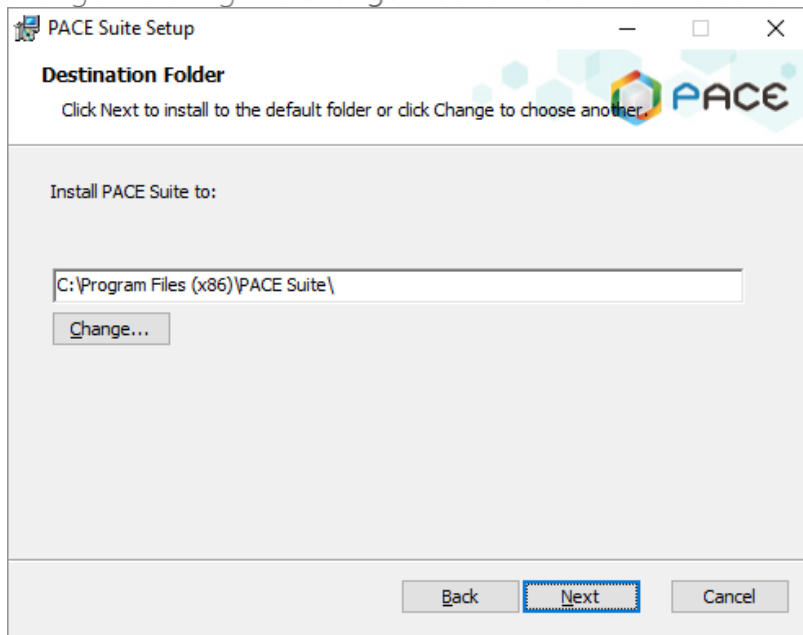
- [1]. Run the downloaded PACE Suite installation (MSI package).
- [2]. Click Next.



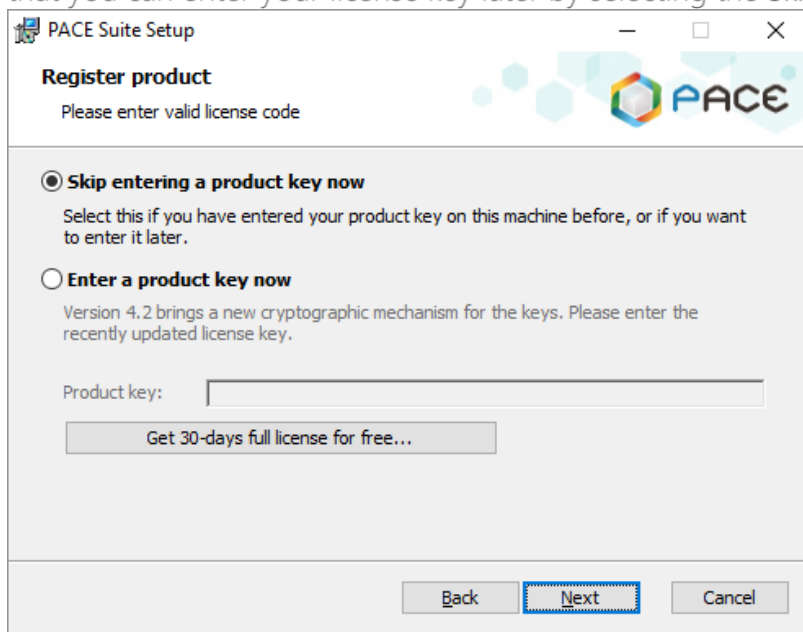
- [3]. Read and accept the END USER LICENSE AGREEMENT and click Next.



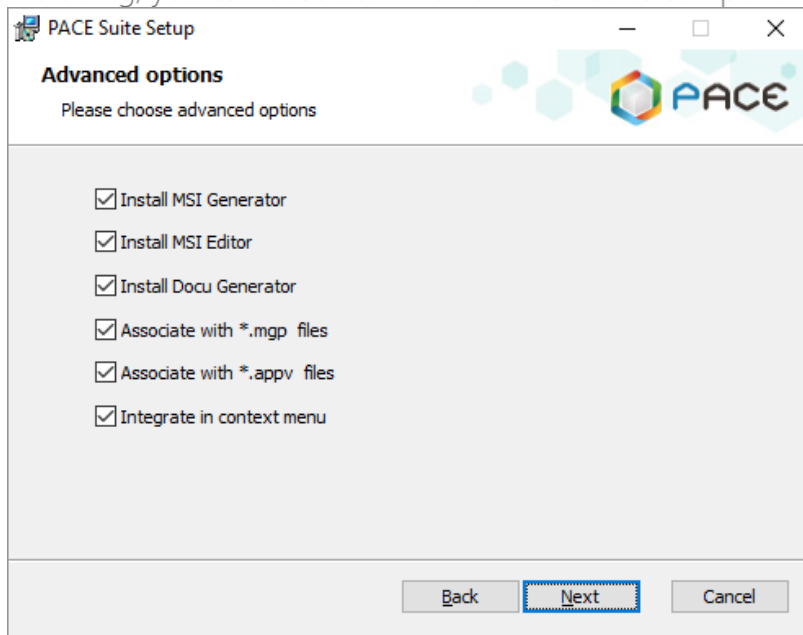
- [4]. We recommend using default PACE Suite installation location, but if needed you can change it clicking the Change... button. Click Next to continue the installation.



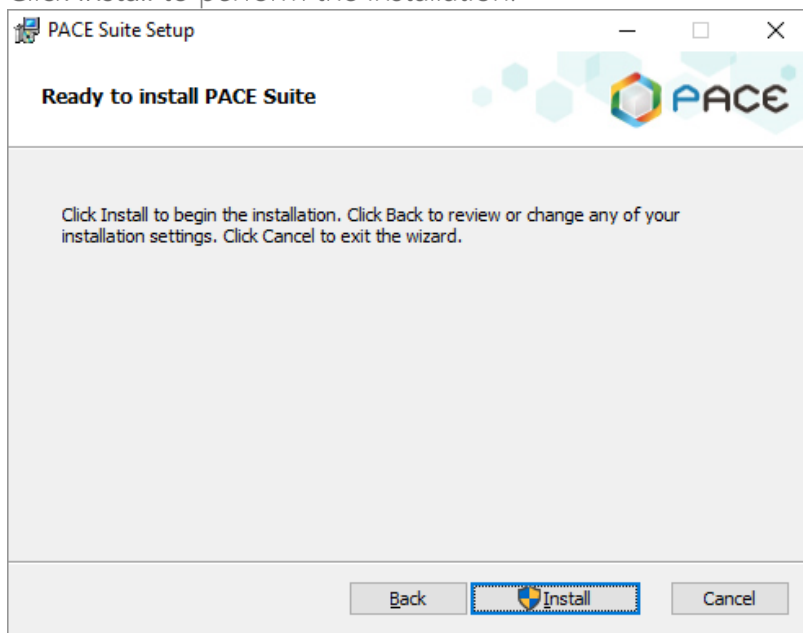
- [5]. Select the Enter a product key now option, enter your License Key and click Next. Note that you can enter your license key later by selecting the Skip entering a product key now.



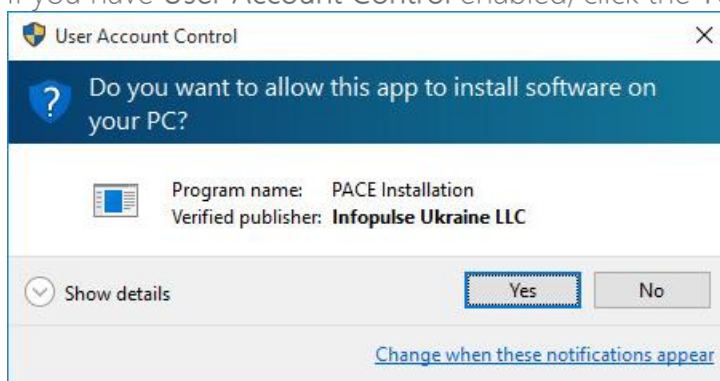
- [6]. Leave all advanced options selected by default and click **Next**. Only if you know what you are doing, you can deselect which of PACE Suite components will not be installed.



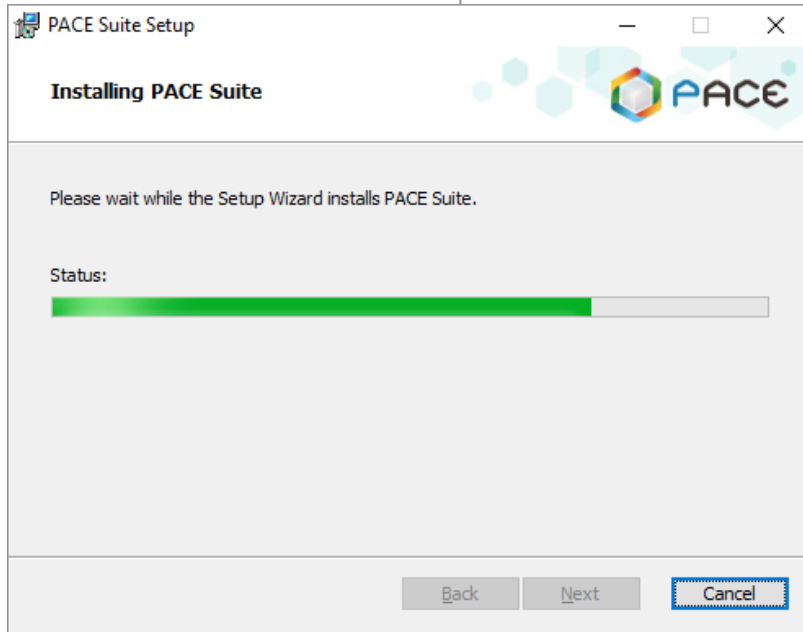
- [7]. Click **Install** to perform the installation.



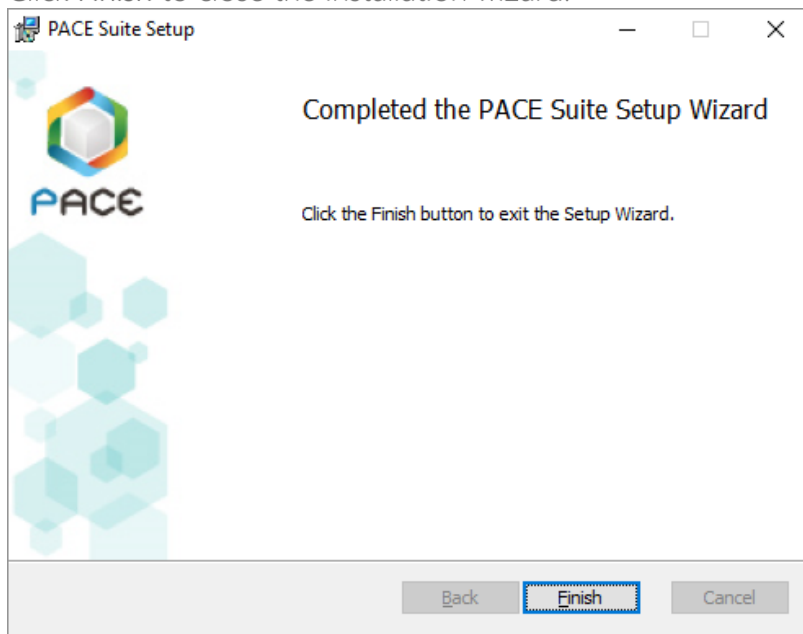
- [8]. If you have User Account Control enabled, click the **Yes**.



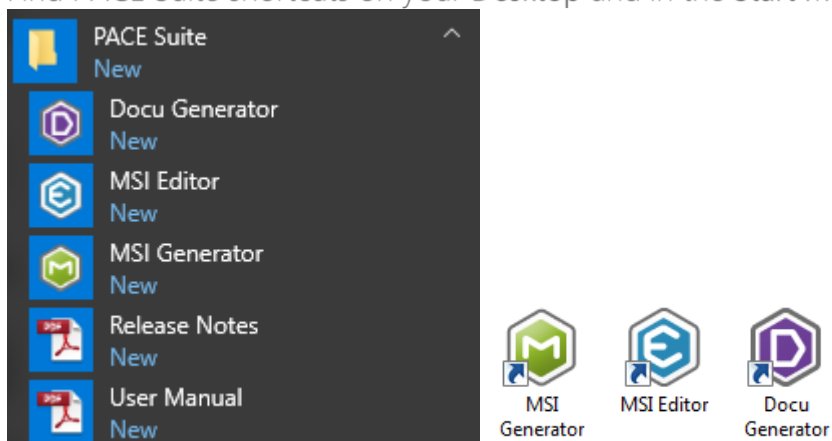
[9]. Wait until the installation has completed.



[10]. Click Finish to close the installation wizard.



[11]. Find PACE Suite shortcuts on your Desktop and in the Start Menu.










2.1.4 Using Portable Distributive

Before using portable version of PACE Suite, please ensure that your system fulfils the [necessary conditions](#).

- [1]. Unpack downloaded portable distributive (ZIP archive) of PACE Suite to
- [2]. Find main executable files of PACE Suite components:
 - a. MSI Generator - MSI Generator\MSIGenerator.exe
 - b. MSI Editor - MSI Editor\MsiEditor.exe
 - c. Docu Generator - Docu Generator\Docu Generator.exe

Name

-  Docu Generator
-  MSI Editor
-  MSI Generator
-  Prerequisites
-  Release notes.pdf
-  EULA.rtf
-  Release notes.xps

3 How-To Manuals

3.1 New MSI

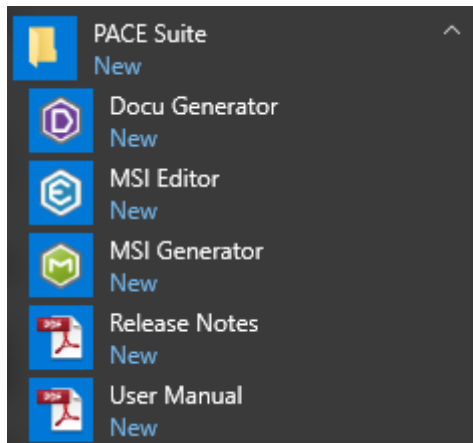
Choose a scenario that better suits your needs:

- Create Blank MSI, described in section 3.1.1
Create a new empty MSI package in MSI Editor and add necessary resources directly to MSI tables.
- Create MSI from Scratch, described in section 3.1.2
Create a project file in MSI Generator, import necessary resources to the project and generate ready to install MSI package.
- Repackage EXE to MSI, described in section 3.1.3
Recapture your source installation (EXE, MSI, VBS, CMD, etc.) into MSI package using MSI Generator.
- Capture System Changes to MSI, described in section 3.1.4
Capture any changes, made to the file system or registry into MSI package using MSI Generator.

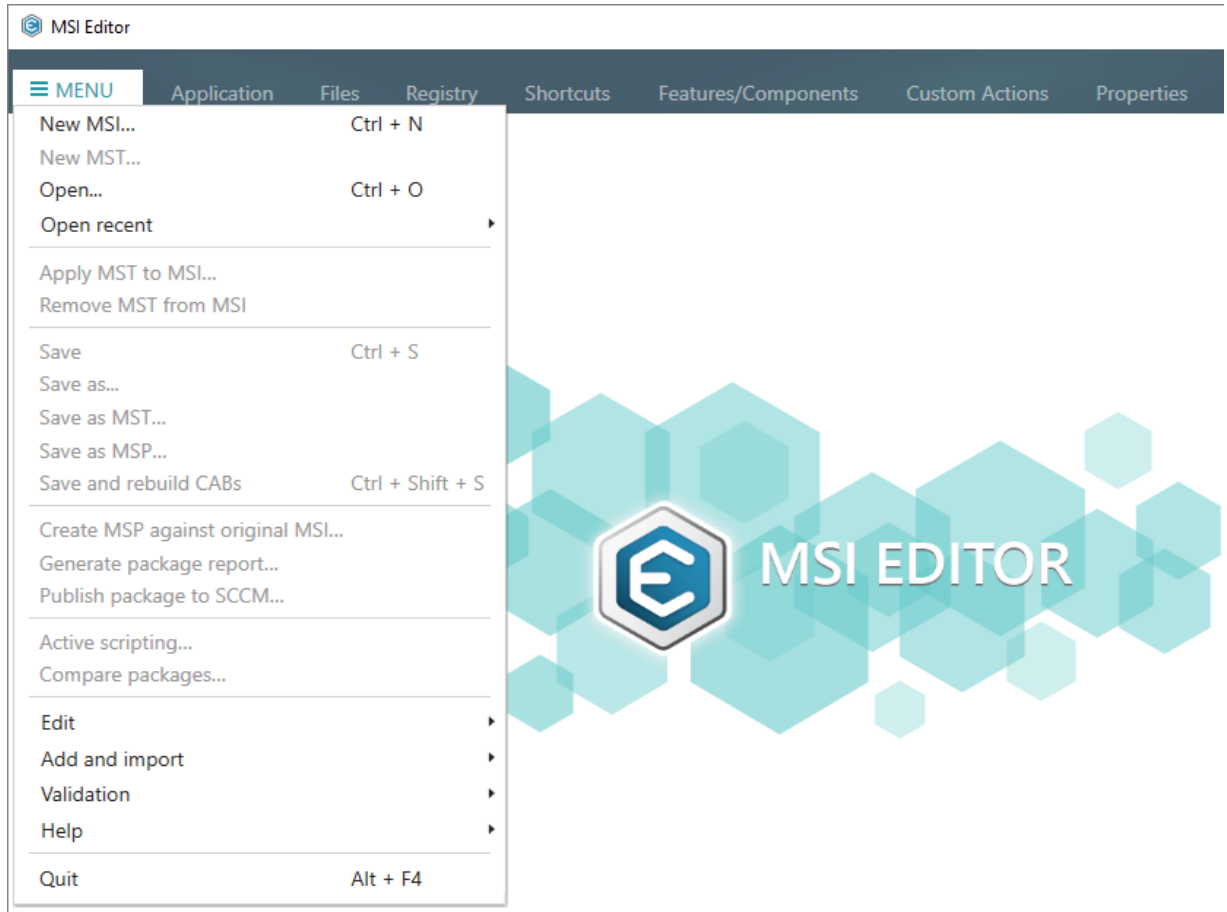
3.1.1 Create Blank MSI

Create a new empty MSI package in MSI Editor and add necessary resources directly to MSI tables.

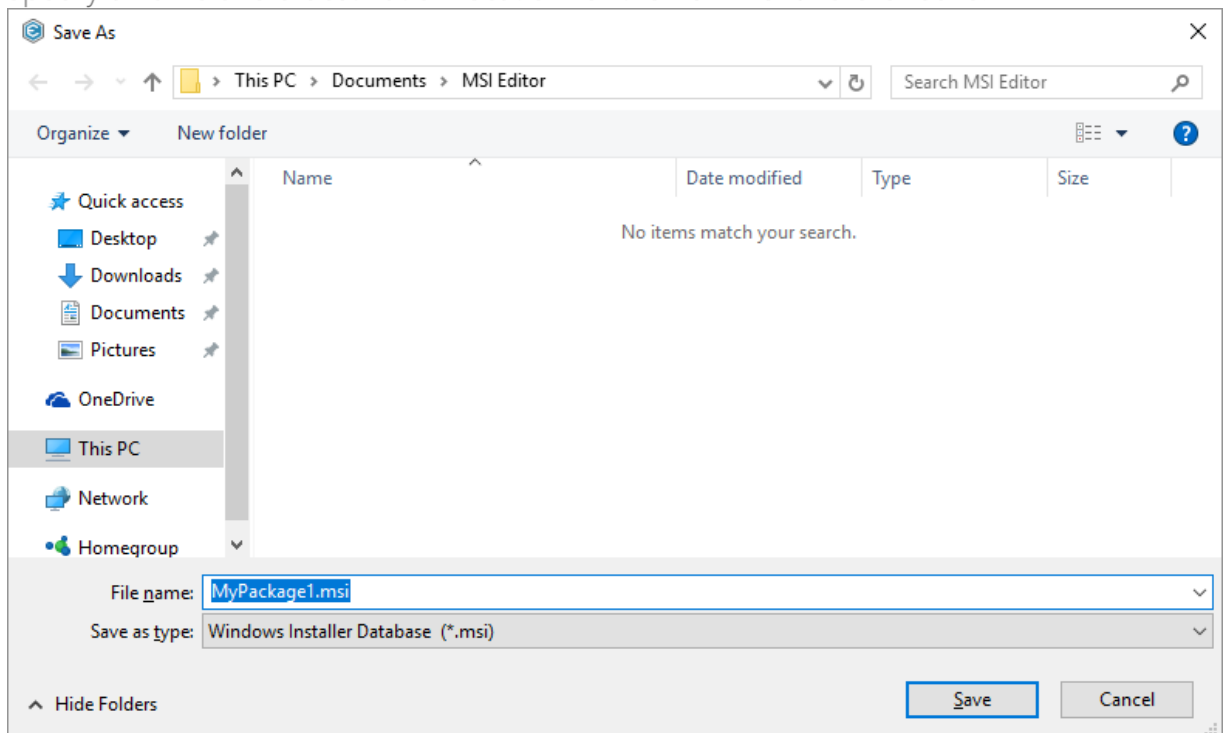
[1]. Launch MSI Editor.



- [2]. Select New MSI... from the MENU.

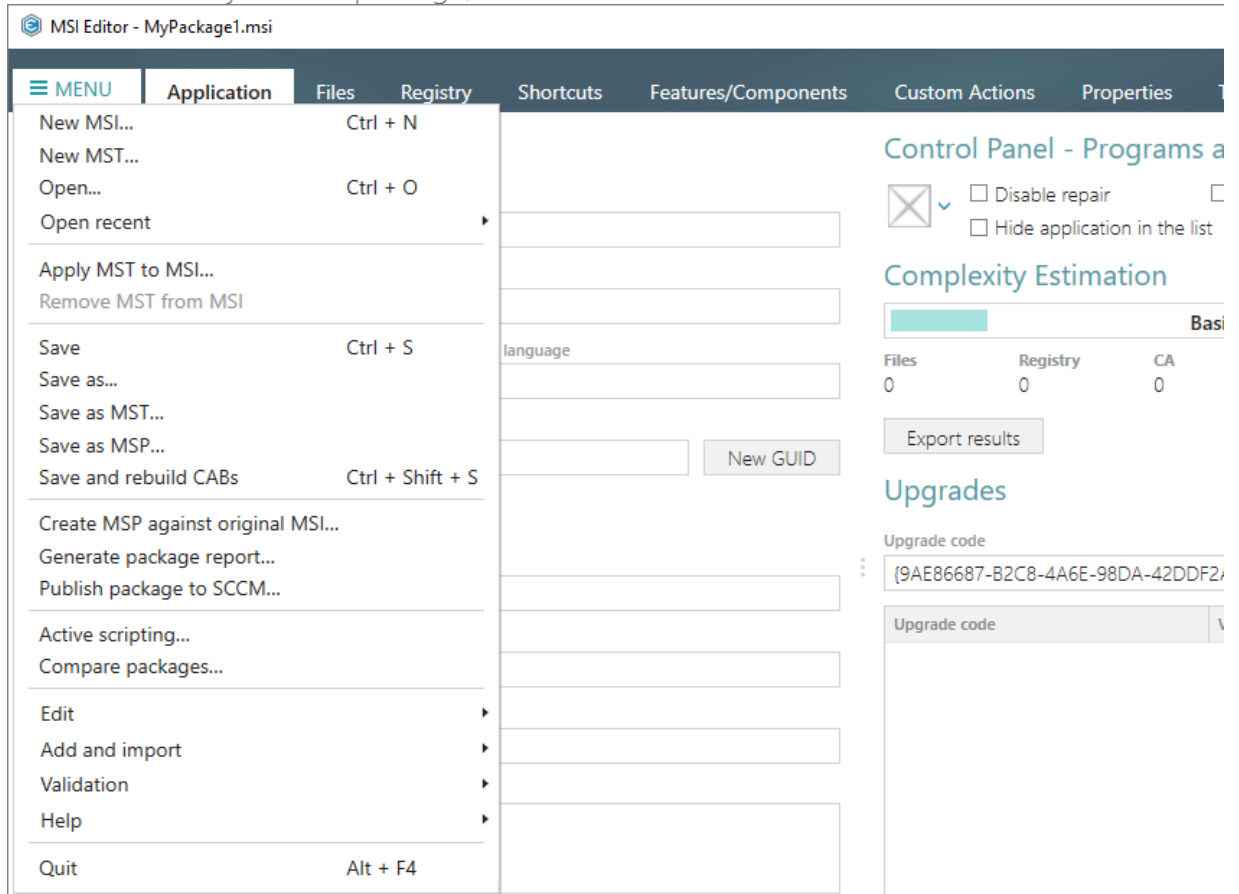


- [3]. Specify a name and a destination location for the new MSI and click Save.



- [4]. Add necessary resources (like files, registry, shortcuts, etc.) to your package. Find instructions on how to [edit MSI](#) package in section 3.6

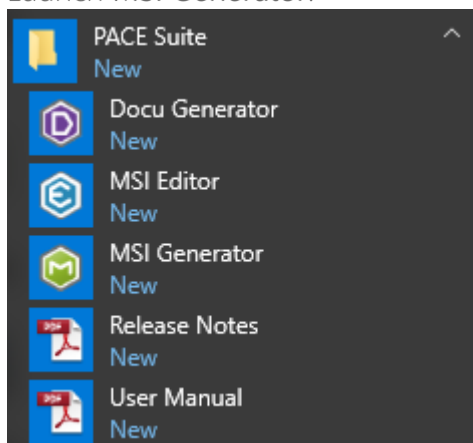
- [5]. In order to save your MSI package, select **Save** from the **MENU**.



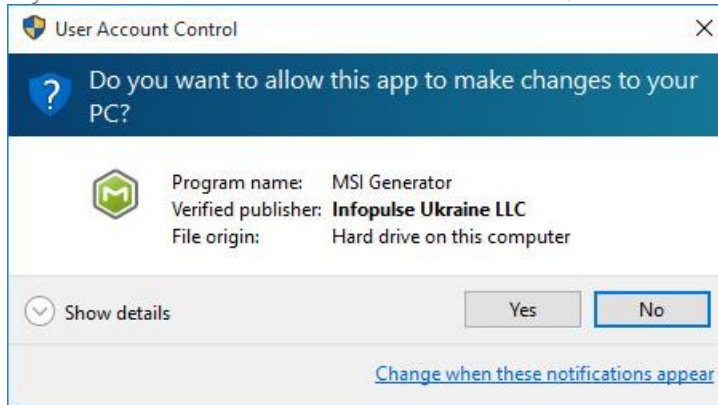
3.1.2 Create MSI from Scratch

Create a project file in MSI Generator, import necessary resources to the project and generate ready to install MSI package.

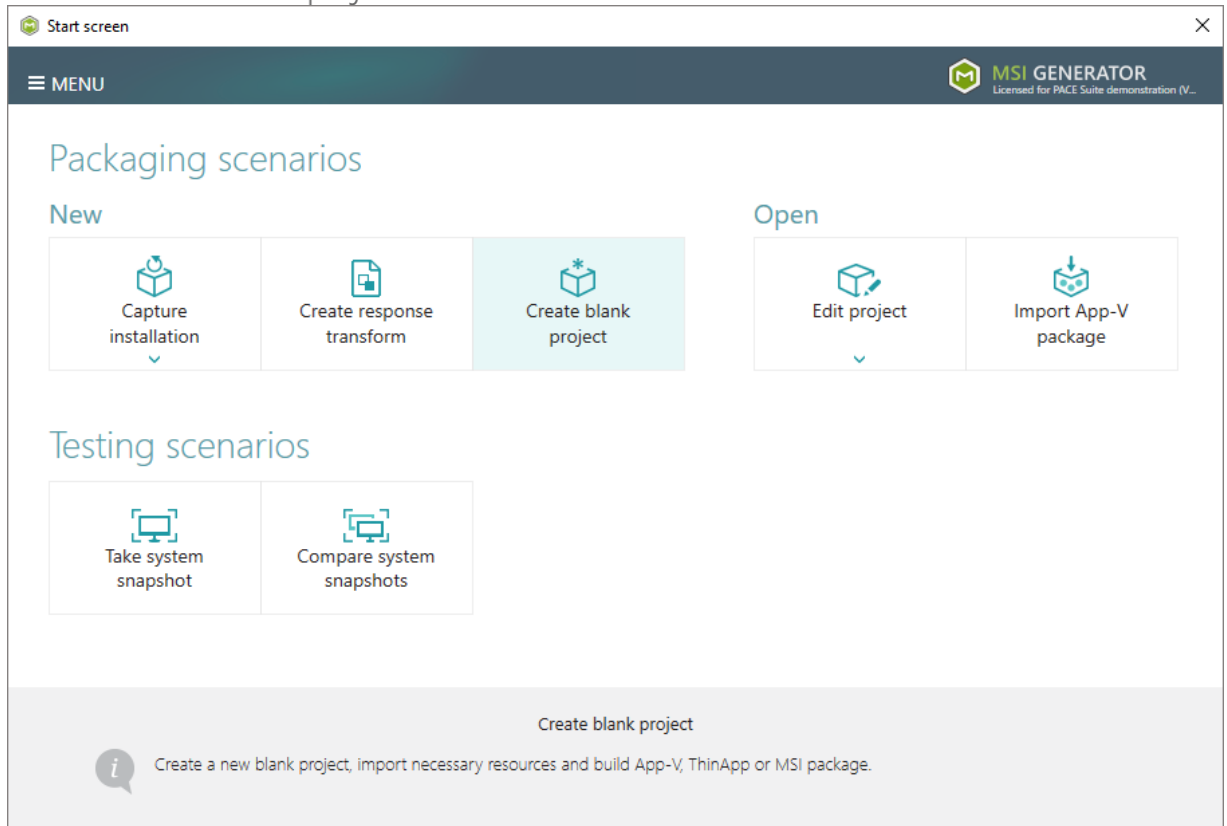
- [1]. Launch MSI Generator.



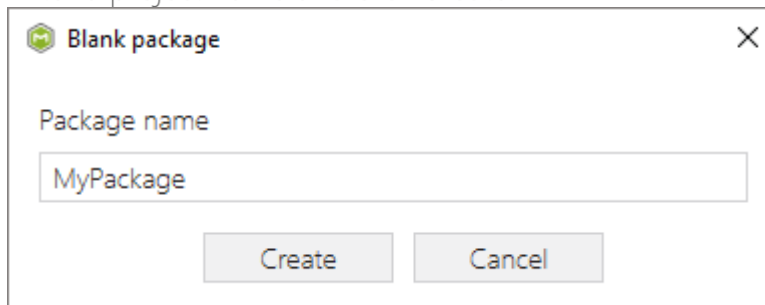
- [2]. If you have User Account Control enabled, click the Yes in the opened window.



- [3]. Click the Create blank project.



- [4]. Enter a project name and click Create.



- [5]. Add necessary resources (like files, registry, shortcuts, etc.) to your project file, which later will be saved to your package. Find instructions on how to [edit project](#) in section 3.7

- [6]. In order to build MSI package from your project, navigate to the Package -> MSI tab, update Application Details like name, publisher, version and click Build MSI.

Edit package - MyPackage.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts and FTAs | Properties

MSI | MST | App-V | Thin App

Application Details

Application name: My application

Publisher: My publisher

Version: 1.0.0 | Product language: 1033

Product code: (B13573B2-7C5E-417C-ACD2-29F59D4ED9C7) | New GUID...

Upgrade code: (D4D71440-2485-4370-8B98-D0A7CABADD21) | New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database | Subject:

Author: | Keywords: Install, MSI

Comments: This installer database contains the logic and data required to install <product name>.

Platform: Autodetect | Languages: 0

MSI Package Options

MSI settings profile: default | Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\MyPa | Browse... | Go to...

MSI CodePage: 0 Neutral

INSTALLDIR:

Build log | Detected MSI installations | Open log

Type	Elapsed	Step
	00:00:10	Operation was completed successfully
	00:00:10	Writing data to the _Validation table
	00:00:10	Writing data to the WiseMediaOptions table
	00:00:10	Writing data to the WiseSourcePath table
	00:00:10	Writing data to the WiseReleaseMedia table
	00:00:10	Writing data to the WiseRelease table
	00:00:10	Writing data to the CreateFolder table
	00:00:10	Writing data to the AdvtExecuteSequence table
	00:00:10	Writing data to the InstallExecuteSequence table
	00:00:10	Writing data to the CustomAction table
	00:00:10	Writing data to the MsiAssemblies table

Elapsed time: 00:00

[Open MSI](#) [Build MSI](#)

- [7]. Click Go to..., located next to the MSI file name field, to open the package containing folder in Windows Explorer.

Edit package - MyPackage.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts and FTAs | Properties

MSI | MST | App-V | Thin App

Application Details

Application name: My application

Publisher: My publisher

Version: 1.0.0 | Product language: 1033

Product code: (7E8F85DD-113A-4F5A-97D9-06F9E69F8A65) | New GUID...

Upgrade code: (25295D0A-155B-4E49-8E4E-6281603A20ED) | New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database | Subject:

Author: | Keywords: Install, MSI

Comments: This installer database contains the logic and data required to install <product name>.

Platform: Autodetect | Languages: 0

MSI Package Options

MSI settings profile: default | Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\MyPa | Browse... | Go to...

MSI CodePage: 0 Neutral

INSTALLDIR:

Build log | Detected MSI installations | Open log

Type	Elapsed	Step
	00:00:10	Operation was completed successfully
	00:00:10	Writing data to the _Validation table
	00:00:10	Writing data to the WiseMediaOptions table
	00:00:10	Writing data to the WiseSourcePath table
	00:00:10	Writing data to the WiseReleaseMedia table
	00:00:10	Writing data to the WiseRelease table
	00:00:10	Writing data to the CreateFolder table
	00:00:10	Writing data to the AdvtExecuteSequence table
	00:00:10	Writing data to the InstallExecuteSequence table
	00:00:10	Writing data to the CustomAction table
	00:00:10	Writing data to the MsiAssemblies table

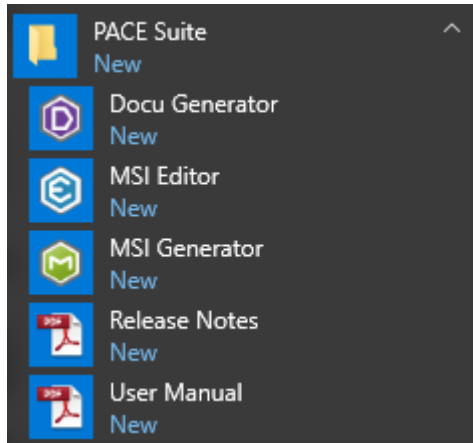
Elapsed time: 00:00:11

[Open MSI](#) [Build MSI](#)

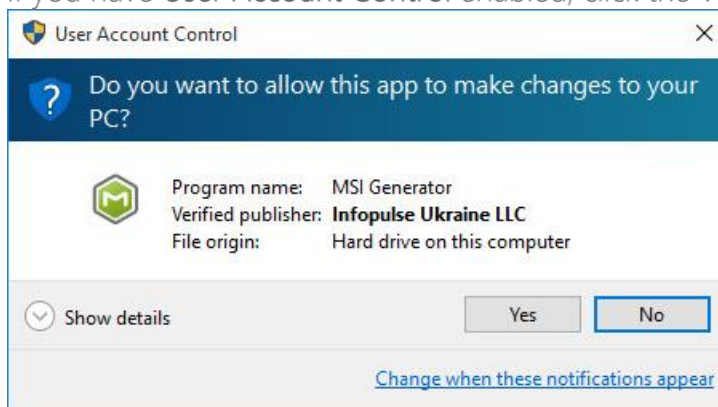
3.1.3 Repackage EXE to MSI

Recapture your source installation (EXE, MSI, VBS, CMD, etc.) into MSI package using MSI Generator.

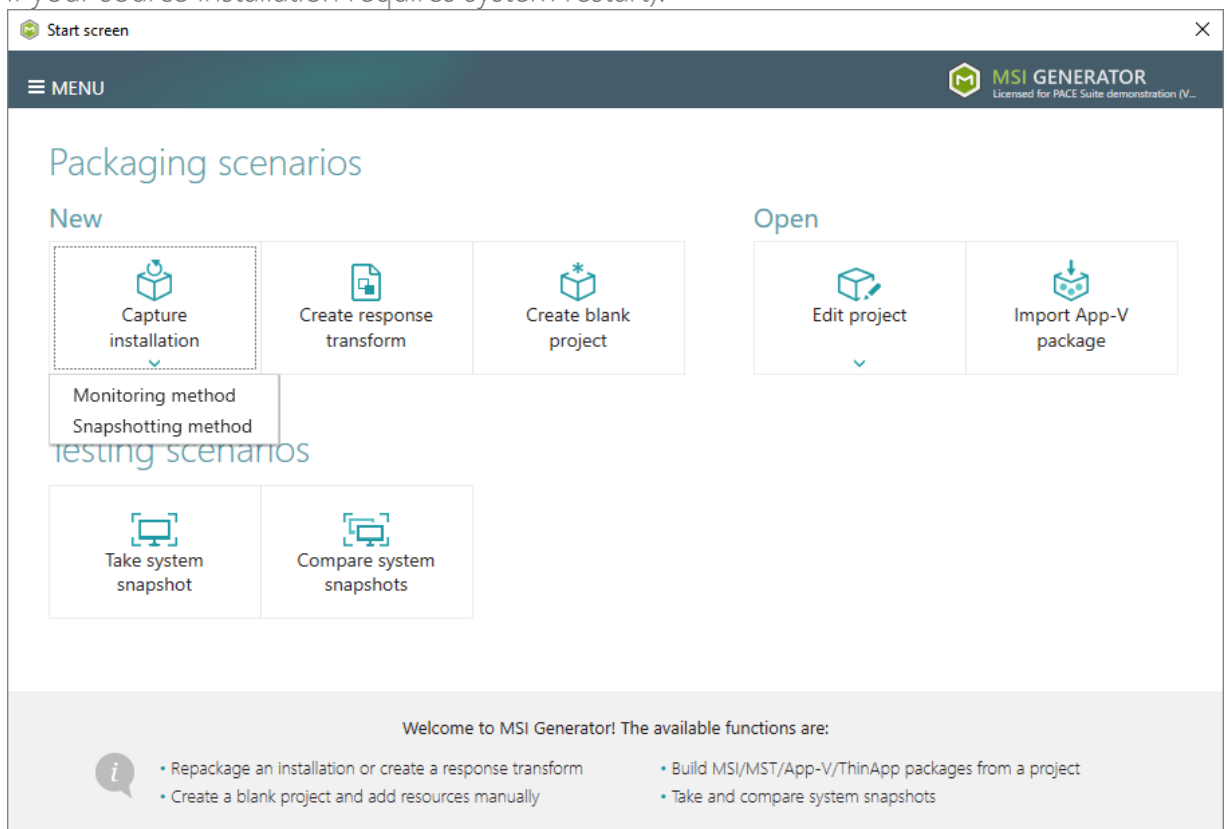
- [1]. Launch MSI Generator.



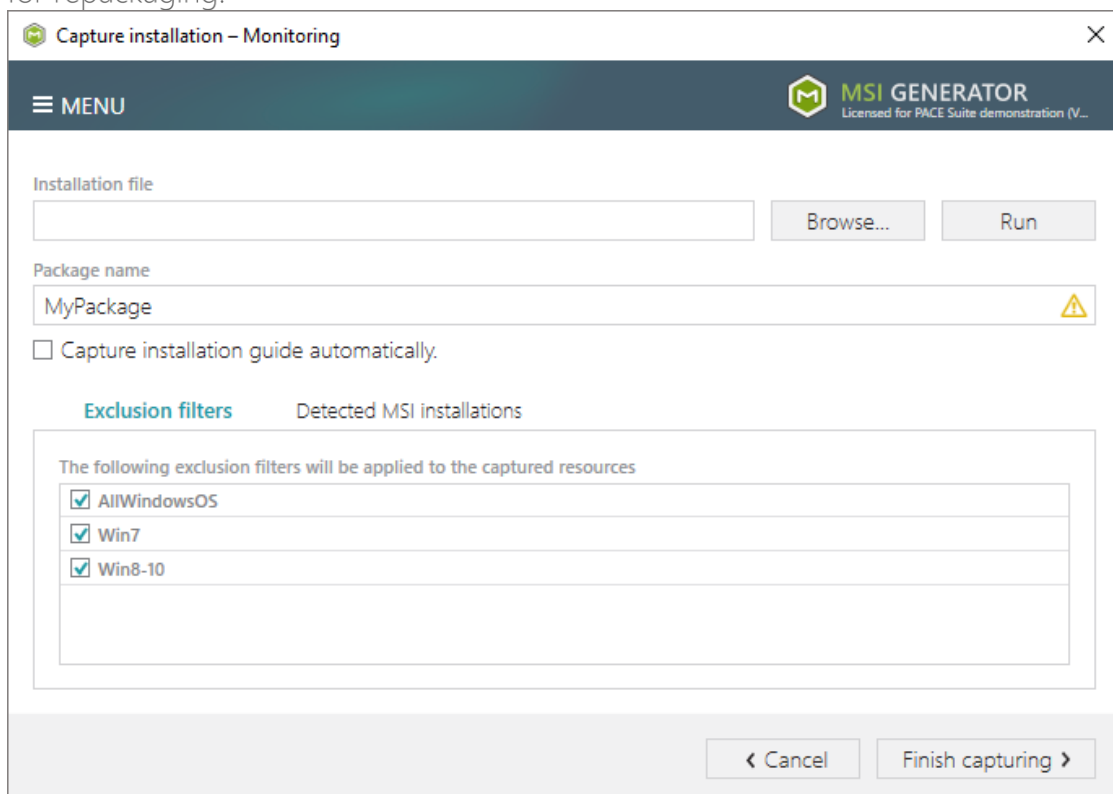
- [2]. If you have User Account Control enabled, click the Yes in the opened window.



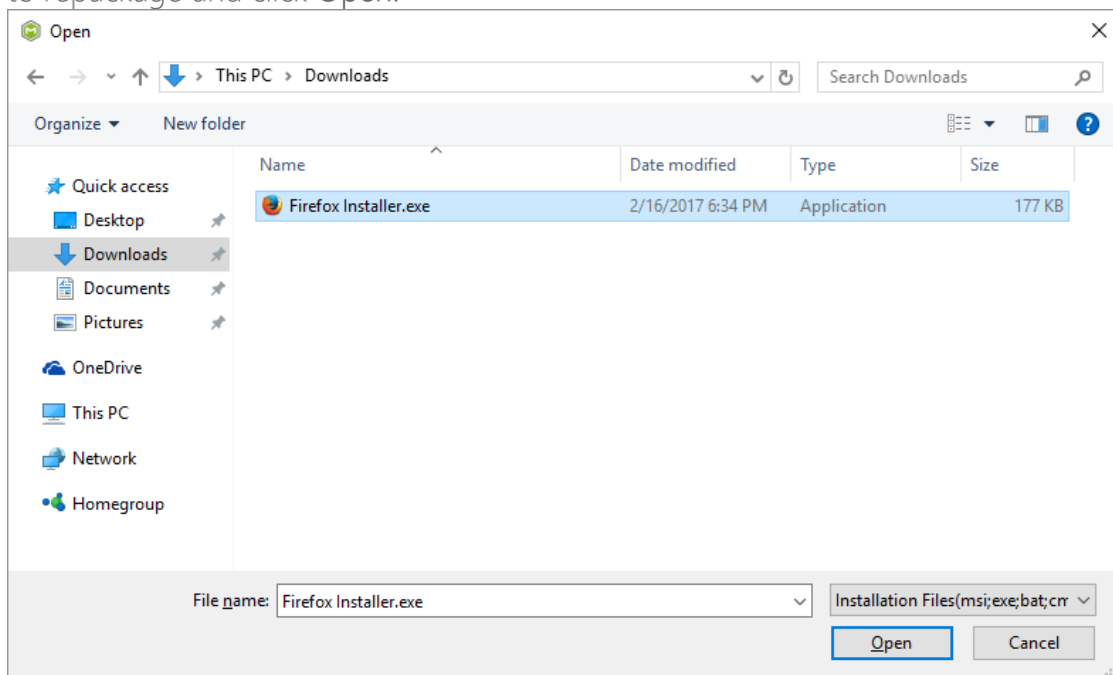
- [3]. Click Capture installation and select the Monitoring method (use the Snapshotting method if your source installation requires system restart).



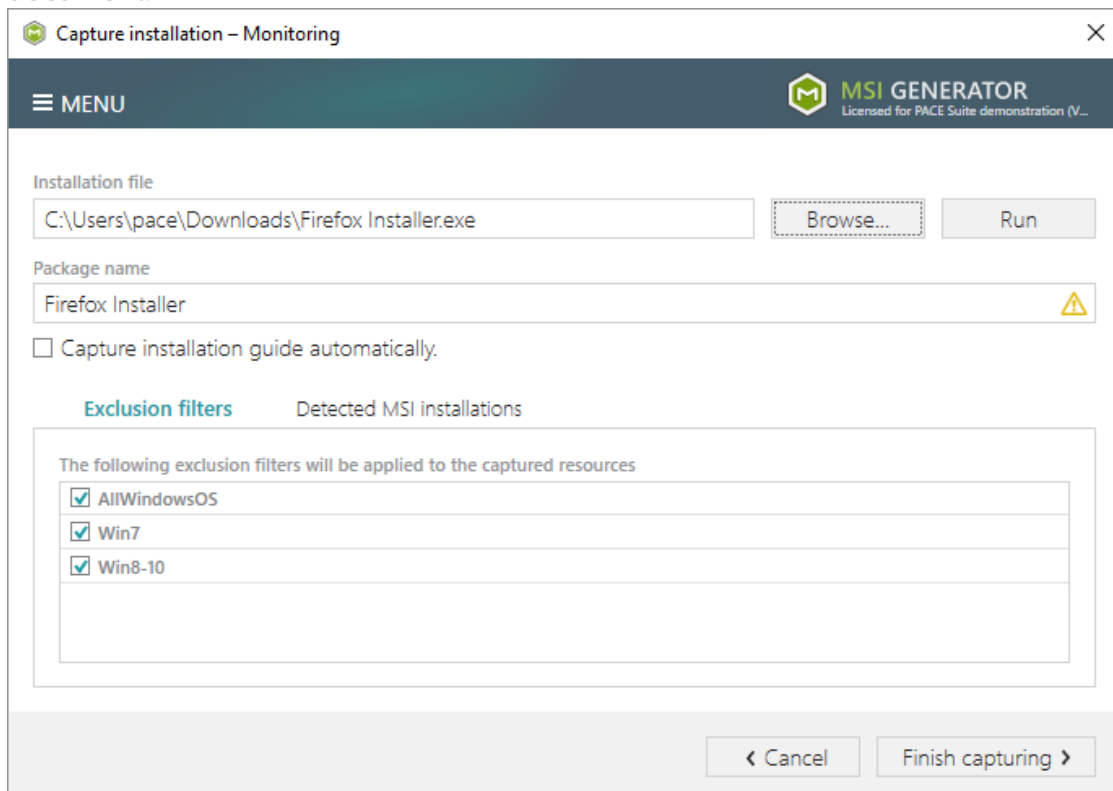
- [4]. Please wait a little, while the capturing process is starting (in case you have selected the Monitoring method on the previous step, wait while the initial system snapshot is taking).
- [5]. Once the capturing process is started, click **Browse...** to choose your source installation file for repackaging.



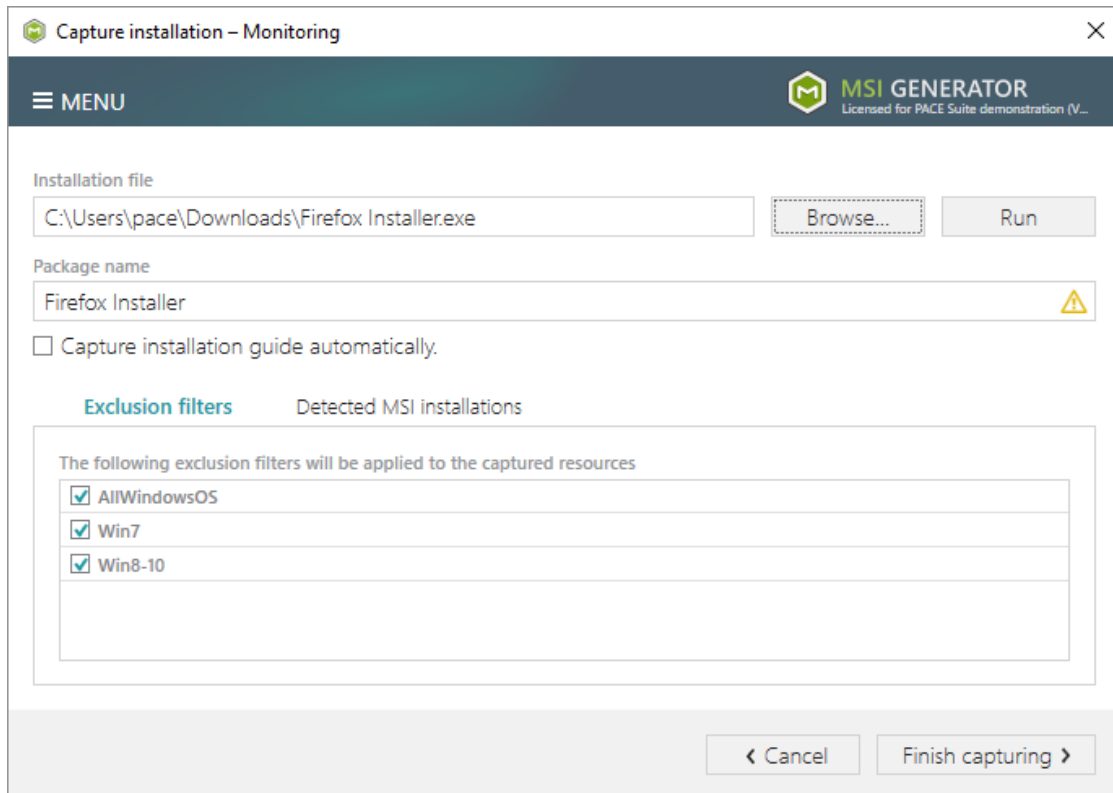
- [6]. Choose an executable file of source installation (e.g. Firefox Installer.exe), which you want to repackage and click Open.



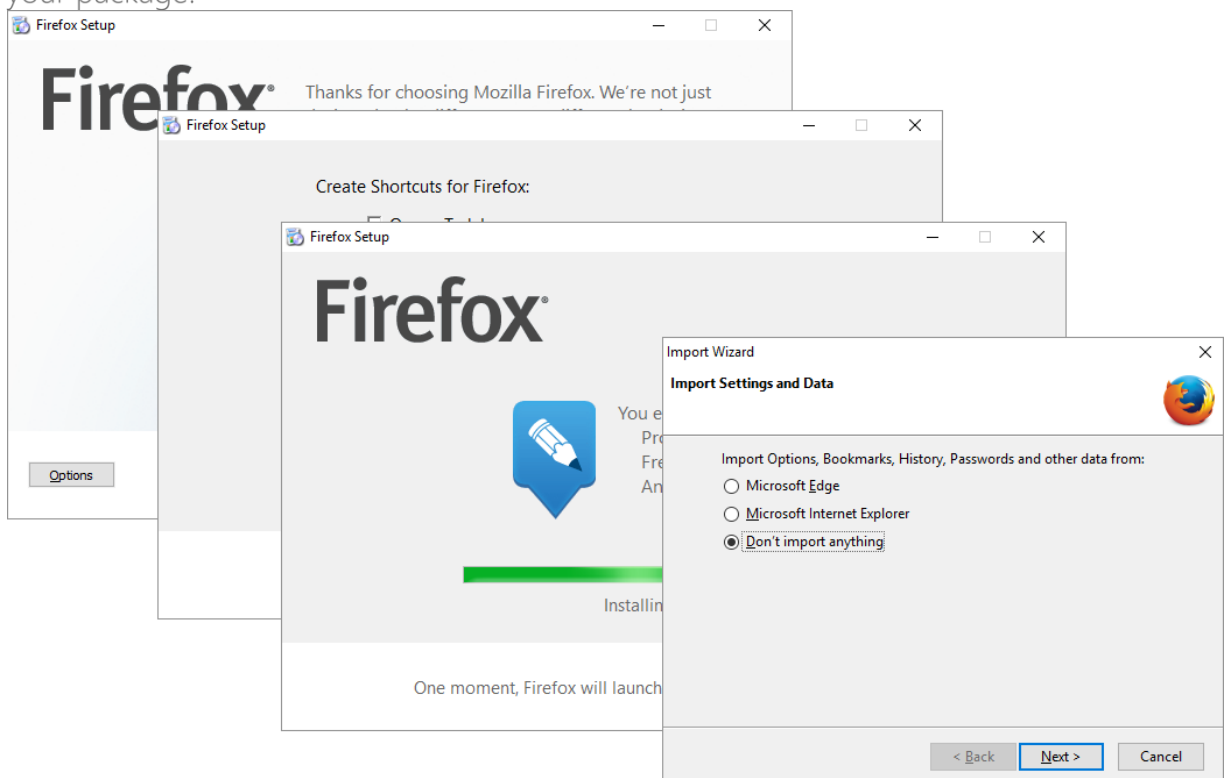
- [7]. If needed, change the package name typing new value to the Package name field, or disable exclusion filters by unchecking checkboxes next to filters in the list. Note that we do not recommend disable exclusion filters, because they detect and exclude system resources, which are not a part of your package. Such resources could be created or changed as a result of ordinary system work. The Capture installation guide automatically checkbox runs Docu Generator, which serves taking screenshots and saving them into a document.



- [8]. Click Run to launch the selected source installation file.



- [9]. Follow installation steps of the launched source installation to complete it. At this phase you can make any application configuration you need to be captured and included into your package.



- [10]. Once the source installation is completed, check if the Detected MSI installations tab contains discovered MSI installers. Your source installation (EXE) could contain embedded MSI installers, launched hiddently. As you may know, it is not recommended to recapture

vendor MSI into MSI, because they could contain custom business logic in binary Custom Actions. This custom logic could not be captured and re-created again in MSI properly. So, if you have detected MSI installation, cancel the capturing process and switch to [editing MSI](#) (described in section 3.6), which is extracted from your source installation and copied to the project folder.

Capture installation - Monitoring

MENU **MSI GENERATOR**
Licensed for PACE Suite demonstration (V...)

Installation file
C:\Users\pace\Downloads\Firefox Installer.exe **Browse...** **Run**

Project name
Firefox Installer

☐ Capture installation guide automatically.

Exclusion filters **Detected MSI installations**

State	Copied	Name
-------	--------	------

< Cancel **Finish capturing >**

In our example, 'Firefox Installer.exe' does not have embedded MSI installations, so we go next to complete the capturing process.

[11]. Click the Finish Capturing to complete the capturing process.

The screenshot shows the 'Capture installation - Monitoring' window of the MSI GENERATOR application. The window has a dark header bar with the MSI GENERATOR logo and text 'Licensed for PACE Suite demonstration (V...)'.

Below the header, there is a 'MENU' button. The main area contains the following fields and controls:

- Installation file:** A text box containing 'C:\Users\pace\Downloads\Firefox Installer.exe' and a 'Browse...' button.
- Package name:** A text box containing 'Firefox Installer' and a yellow warning icon.
- Capture installation guide automatically:** A checkbox that is currently unchecked.
- Exclusion filters:** A section titled 'The following exclusion filters will be applied to the captured resources' containing a list of filters: 'AllWindowsOS', 'Win7', and 'Win8-10', each with a checked checkbox.
- Detected MSI installations:** A section that is currently empty.
- Buttons:** 'Cancel' and 'Finish capturing' buttons at the bottom right.

[12]. Please wait a little, while the capturing process is finishing, filtering captured data and creating the project. Once the project is opened, go through the [Files](#), [Registry](#) and [Shortcuts](#) tabs in order to review captured resources and exclude unnecessary ones from the project. Unnecessary resources are files, registry entries, which are usually created or modified in result of operating system work, and such resources could not be a part of your captured application. Unfortunately, there is no universal rule to discover which of captured files or registry entries should be excluded, so exclude only those ones, which are almost 100% do not refer to your captured application (e.g. NOD32 antivirus files could be a part of Firefox application). Find instructions on how to [Exclude](#) or [Include](#) back captured resources in sections 3.7.2.1 and 3.7.2.2 respectively.

- [13]. In order to build MSI package from your project, navigate to the Package -> MSI tab and click Build MSI.

Edit package - Firefox Installer.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts and FTAs | Properties

MSI | MST | App-V | Thin App

Application Details

Application name: Mozilla Firefox 51.0.1 (x86 en-US)

Publisher: Mozilla

Version: 51.0.1 | Product language:

Product code: | New GUID...

Upgrade code: | New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database | Subject:

Author: | Keywords: Install, MSI

Comments: This installer database contains the logic and data required to install <product name>.

Platform: Autodetect | Languages: 0

MSI Package Options

MSI settings profile: default | Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\Firefo | Browse... | Go to...

MSI CodePage: 0 Neutral

INSTALDIR:

Build log | Detected MSI installations | Open log

Type	Elapsed	Step

Elapsed time: 00:00

[Open MSI](#) [Build MSI](#)

- [14]. Click Go to..., located next to the MSI file name field, to open the package containing folder in Windows Explorer.

Edit package - Firefox Installer.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts and FTAs | Properties

MSI | MST | App-V | Thin App

Application Details

Application name: Mozilla Firefox 51.0.1 (x86 en-US)

Publisher: Mozilla

Version: 51.0.1 | Product language:

Product code: {4A5CF276-D53A-4AC4-A6AC-F41A92DB5F8C} | New GUID...

Upgrade code: {3F553D24-92BF-4F12-AE98-2A235738FE34} | New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database | Subject:

Author: | Keywords: Install, MSI

Comments: This installer database contains the logic and data required to install <product name>.

Platform: Autodetect | Languages: 0

MSI Package Options

MSI settings profile: default | Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\Firefo | Browse... | **Go to...**

MSI CodePage: 0 Neutral

INSTALDIR:

Build log | Detected MSI installations | Open log

Type	Elapsed	Step
	00:00:31	Operation was completed successfully
	00:00:31	Writing data to the _Validation table
	00:00:31	Writing data to the WiseMediaOptions table
	00:00:31	Writing data to the WiseSourcePath table
	00:00:30	Writing data to the WiseReleaseMedia table
	00:00:30	Writing data to the WiseRelease table
	00:00:30	Writing data to the CreateFolder table
	00:00:30	Writing data to the AdvtExecuteSequence table
	00:00:30	Writing data to the InstallExecuteSequence table
	00:00:30	Writing data to the CustomAction table
	00:00:30	Writing data to the MsiAssemblies table

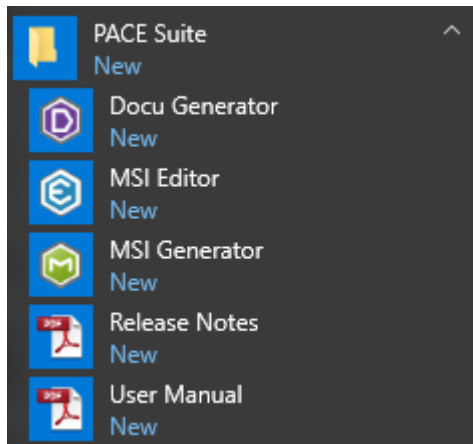
Elapsed time: 00:00:31

[Open MSI](#) [Build MSI](#)

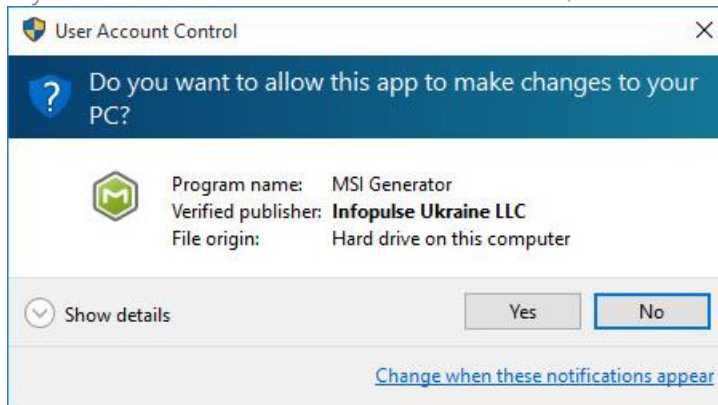
3.1.4 Capture System Changes to MSI

Capture any changes, made to the file system or registry into MSI package using MSI Generator.

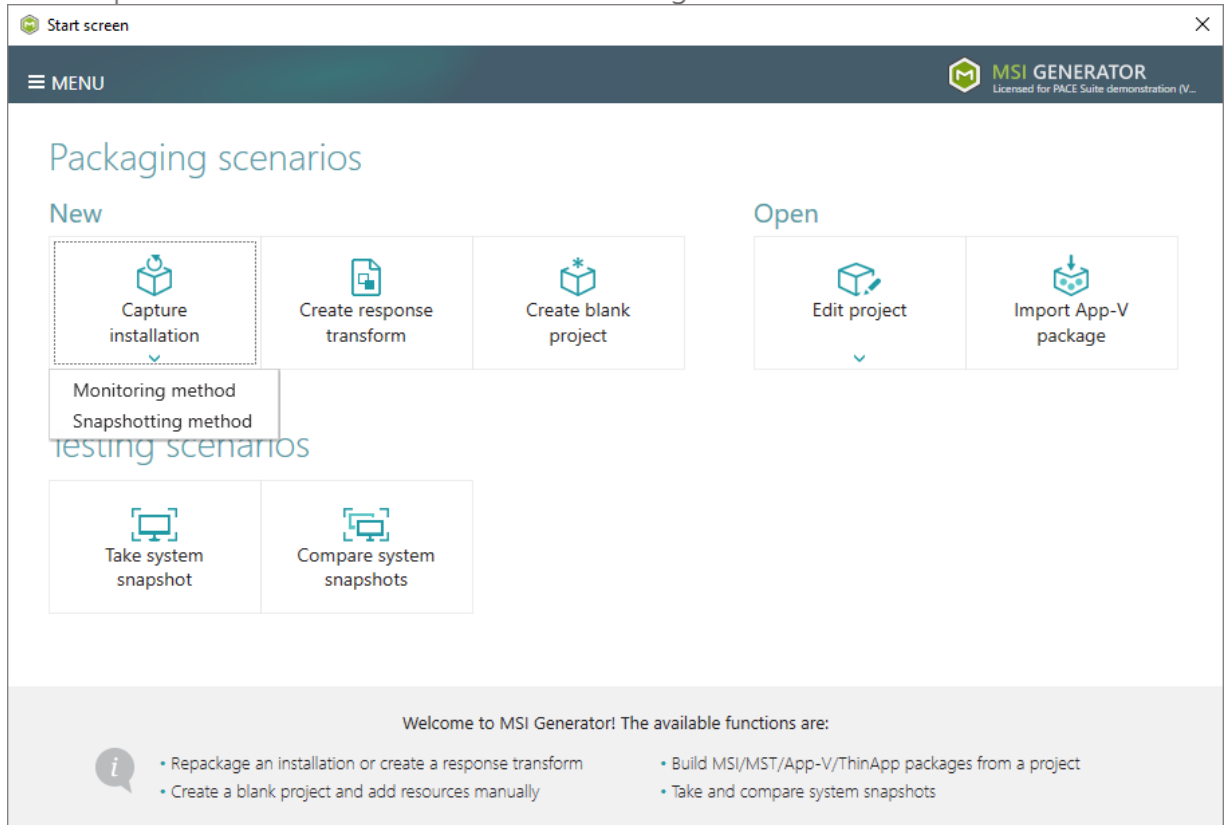
- [1]. Launch MSI Generator.



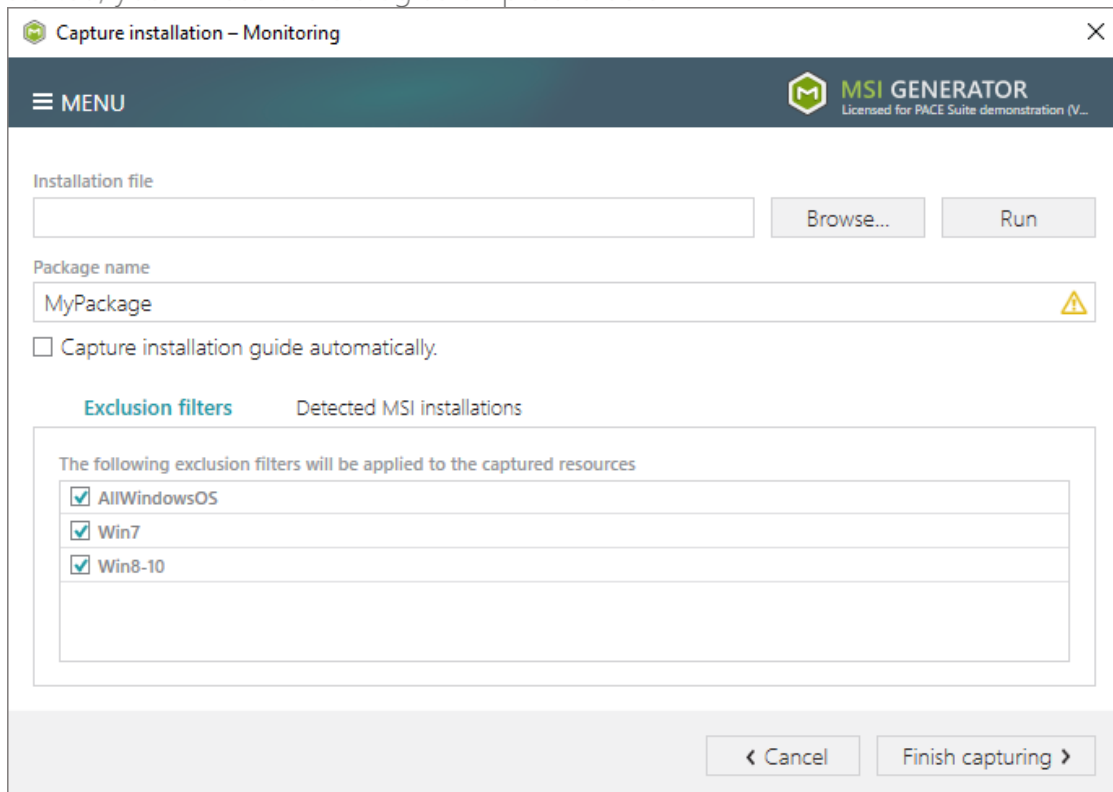
- [2]. If you have User Account Control enabled, click the Yes in the opened window.



- [3]. Click Capture installation and select the Monitoring method.



- [4]. Please wait a little, while the capturing process is starting. Once the capturing process is started, you will see the dialog as on picture below.



- [5]. Make any system changes to the file system and registry, which you want to capture and include to the MSI package. For example, create new or copy-paste files and folders,

import registry, or, as alternative option, you can launch the application in order to capture necessary application configuration like disabled updates and so on.

- [6]. Click the Finish Capturing to complete the capturing process.

MSI GENERATOR
Licensed for PACE Suite demonstration (V...)

Installation file

Browse... Run

Package name

MyPackage

☐ Capture installation guide automatically.

Exclusion filters Detected MSI installations

The following exclusion filters will be applied to the captured resources

- ☒ AllWindowsOS
- ☒ Win7
- ☒ Win8-10

Cancel Finish capturing

- [7]. Please wait a little, while the capturing process is finishing, filtering captured data and creating the project. Once the project is opened, go through the Files, Registry and Shortcuts tabs in order to review captured resources and exclude unnecessary ones from the project. Unnecessary resources are files, registry entries, which are usually created or modified in result of operating system work, and such resources could not be a part of your captured application. Unfortunately, there is no universal rule to discover which of captured files or registry entries should be excluded, so exclude only those ones, which are almost 100% do not refer to your captured application (e.g. NOD32 antivirus files could be a part of Firefox application). Find instructions on how to Exclude or Include back captured resources in sections 3.7.2.1 and 3.7.2.2 respectively.

- [8]. In order to build MSI package from your project, navigate to the Package -> MSI tab, update Application Details like name, publisher, version and click Build MSI.

Edit package - MyPackage.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts and FTAs | Properties

MSI | MST | App-V | Thin App

Application Details

Application name: My application

Publisher: My publisher

Version: 1.0.0 | Product language: 1033

Product code: (B13573B2-7C5E-417C-ACD2-29F59D4ED9C7) | New GUID...

Upgrade code: (D4D71440-2485-4370-8B98-D0A7CABADD21) | New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database | Subject:

Author: | Keywords: Install, MSI

Comments: This installer database contains the logic and data required to install <product name>.

Platform: Autodetect | Languages: 0

MSI Package Options

MSI settings profile: default | Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\MyPa | Browse... | Go to...

MSI CodePage: 0 Neutral

INSTALLDIR:

Build log | Detected MSI installations | Open log

Type	Elapsed	Step
	00:00:10	Operation was completed successfully
	00:00:10	Writing data to the _Validation table
	00:00:10	Writing data to the WiseMediaOptions table
	00:00:10	Writing data to the WiseSourcePath table
	00:00:10	Writing data to the WiseReleaseMedia table
	00:00:10	Writing data to the WiseRelease table
	00:00:10	Writing data to the CreateFolder table
	00:00:10	Writing data to the AdvtExecuteSequence table
	00:00:10	Writing data to the InstallExecuteSequence table
	00:00:10	Writing data to the CustomAction table
	00:00:10	Writing data to the MsiAssemblies table

Elapsed time: 00:00

[Open MSI](#) [Build MSI](#)

- [9]. Click Go to..., located next to the MSI file name field, to open the package containing folder in Windows Explorer.

Edit package - MyPackage.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts and FTAs | Properties

MSI | MST | App-V | Thin App

Application Details

Application name: My application

Publisher: My publisher

Version: 1.0.0 | Product language: 1033

Product code: (7E8F85DD-113A-4F5A-97D9-06F9E69F8A65) | New GUID...

Upgrade code: (25295D0A-155B-4E49-8E4E-6281603A20ED) | New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database | Subject:

Author: | Keywords: Install, MSI

Comments: This installer database contains the logic and data required to install <product name>.

Platform: Autodetect | Languages: 0

MSI Package Options

MSI settings profile: default | Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\MyPa | Browse... | Go to...

MSI CodePage: 0 Neutral

INSTALLDIR:

Build log | Detected MSI installations | Open log

Type	Elapsed	Step
	00:00:10	Operation was completed successfully
	00:00:10	Writing data to the _Validation table
	00:00:10	Writing data to the WiseMediaOptions table
	00:00:10	Writing data to the WiseSourcePath table
	00:00:10	Writing data to the WiseReleaseMedia table
	00:00:10	Writing data to the WiseRelease table
	00:00:10	Writing data to the CreateFolder table
	00:00:10	Writing data to the AdvtExecuteSequence table
	00:00:10	Writing data to the InstallExecuteSequence table
	00:00:10	Writing data to the CustomAction table
	00:00:10	Writing data to the MsiAssemblies table

Elapsed time: 00:00:11

[Open MSI](#) [Build MSI](#)

3.2 New MST

Choose a scenario that better suits your needs:

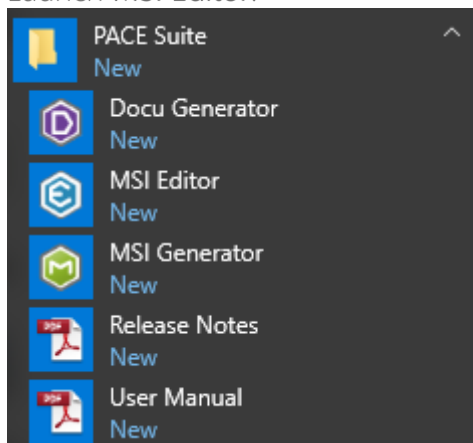
- **Create Blank MST**, described in section 3.2.1
Create a new empty transform file (MST) for your MSI package using MSI Editor. All changes, made to the opened MSI database, will be saved to the MST file.
- **Create Response MST**, described in section 3.2.2
Capture all your inputs and changes, made to the Windows Installer UI dialogs of the MSI installation, and save them to the MST file using MSI Generator. The MSI installation will be simulated, which allows capturing all necessary changes very promptly and without affecting your real system.
- **Capture System Changes to MST**, described in section 3.2.3
Capture any changes, made to the file system or registry into MST file, generated against the selected MSI package using MSI Generator.

3.2.1 Create Blank MST

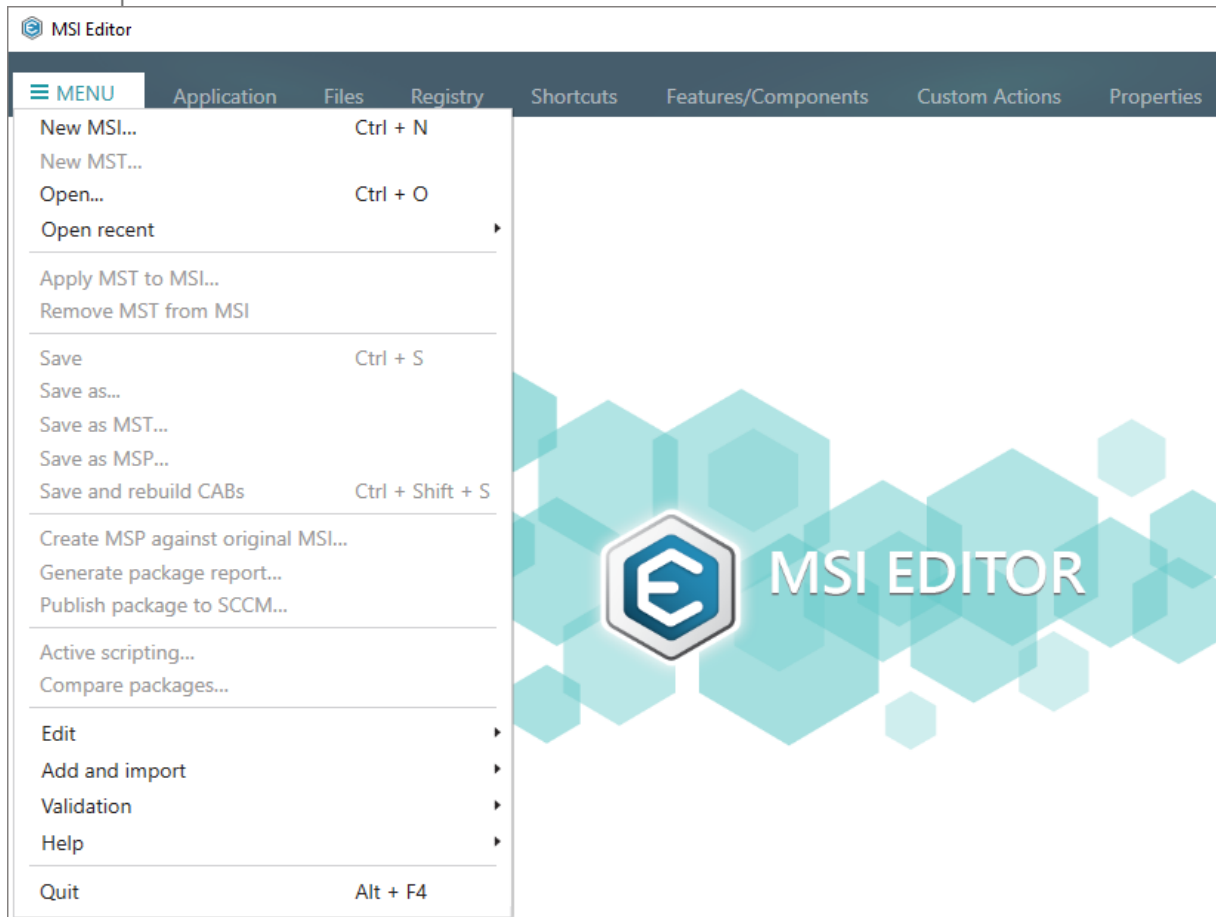
Create a new empty transform file (MST) for your MSI package using MSI Editor. All changes, made to the opened MSI database, will be saved to the MST file.

NOTE You can skip creating a blank MST at the very beginning and save all your changes, made to the opened MSI database, to the MST file at any time you need by selecting **MENU -> Save as MST**.

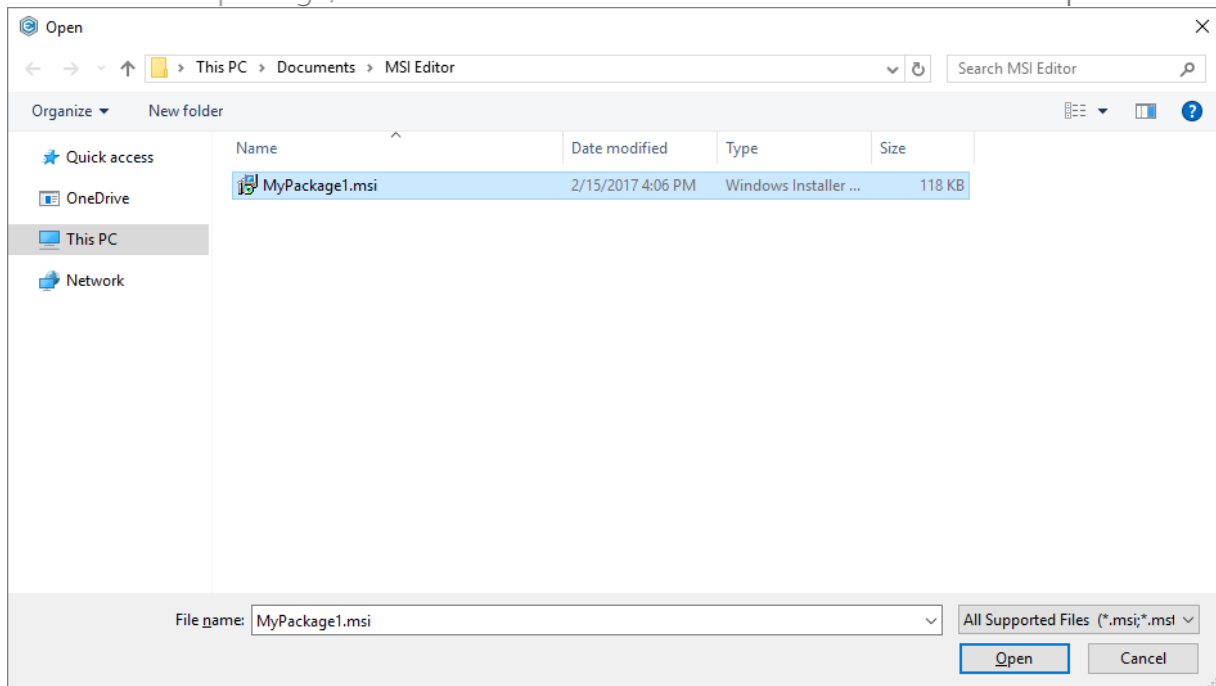
[1]. Launch MSI Editor.



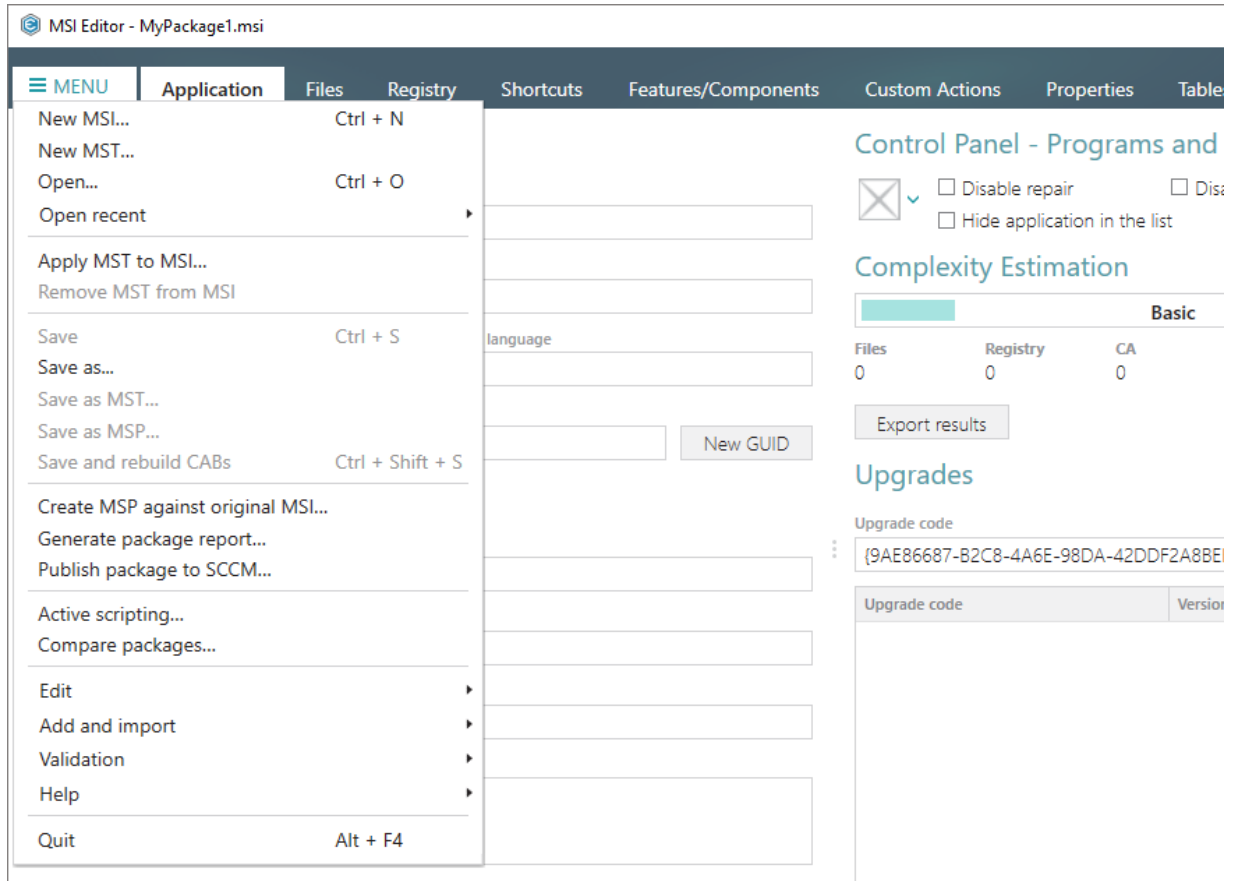
[2]. Select Open... from MENU.



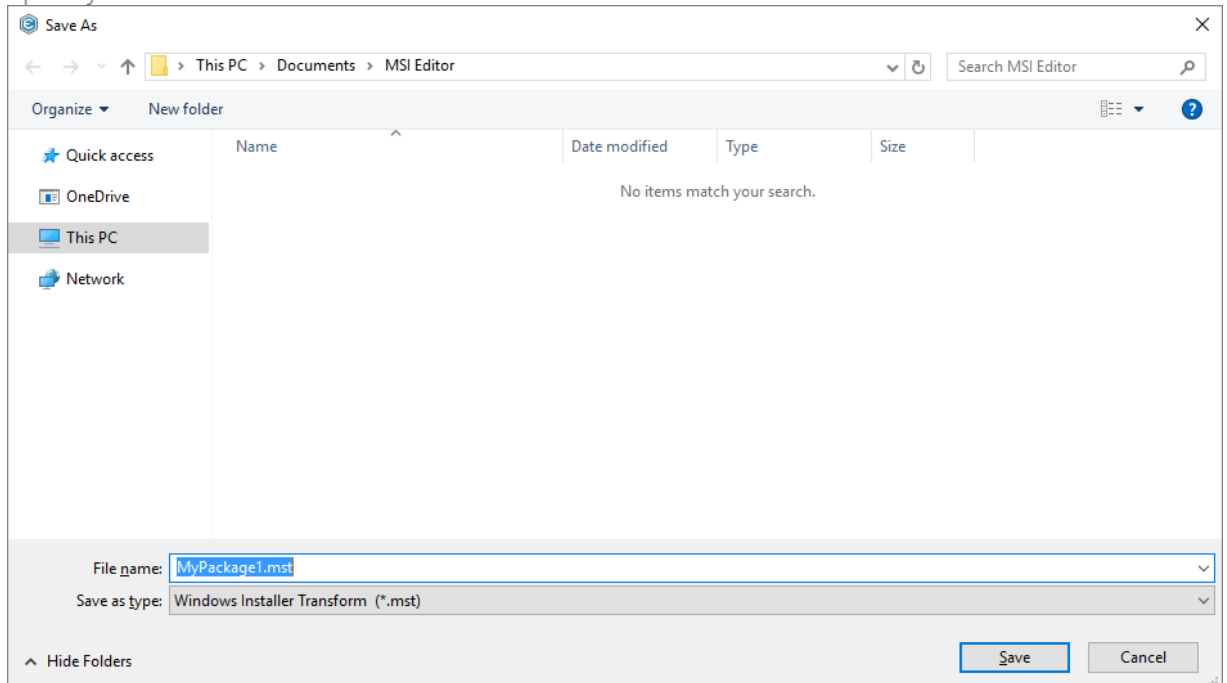
[3]. Choose an MSI package, for which a new blank MST will be created and click Open.



- [4]. Select New MST... from MENU.

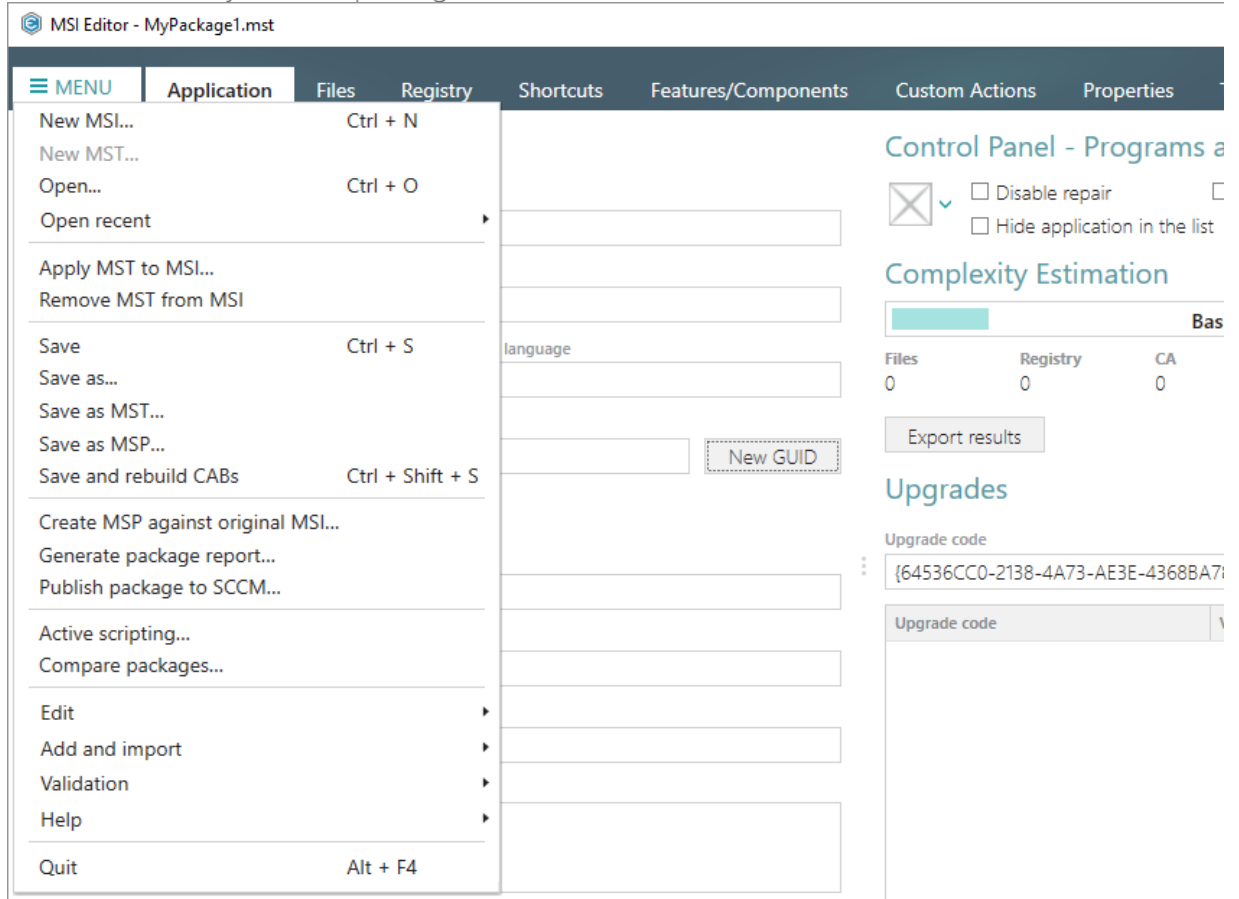


- [5]. Specify a destination location and a name of the blank MST file and click Save.



- [6]. Make necessary changes to the opened MSI database. Find instructions on how to [edit MSI](#) package in section 3.6

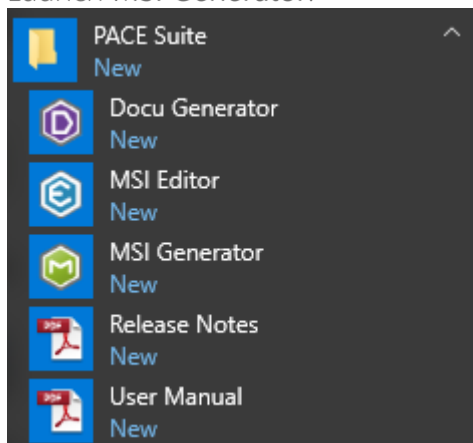
- [7]. In order to save your MSI package, select **Save** from the **MENU**.



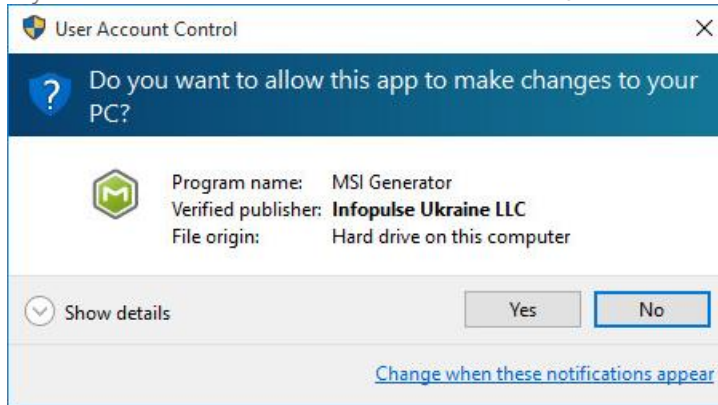
3.2.2 Create Response MST

Capture all your inputs and changes, made to the Windows Installer UI dialogs of the MSI installation, and save them to the MST file using MSI Generator. The MSI installation will be simulated, which allows capturing all necessary changes very promptly and without affecting your real system.

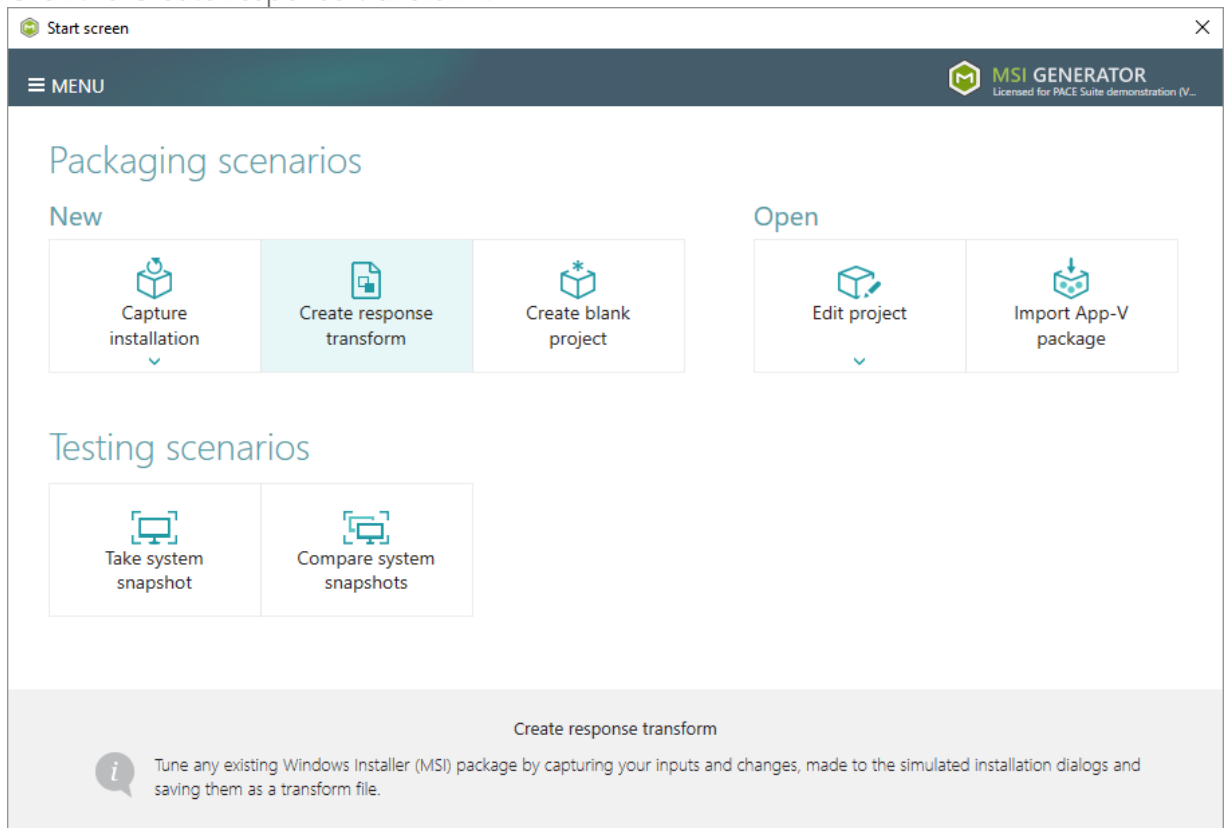
- [1]. Launch MSI Generator.



- [2]. If you have User Account Control enabled, click the Yes in the opened window.



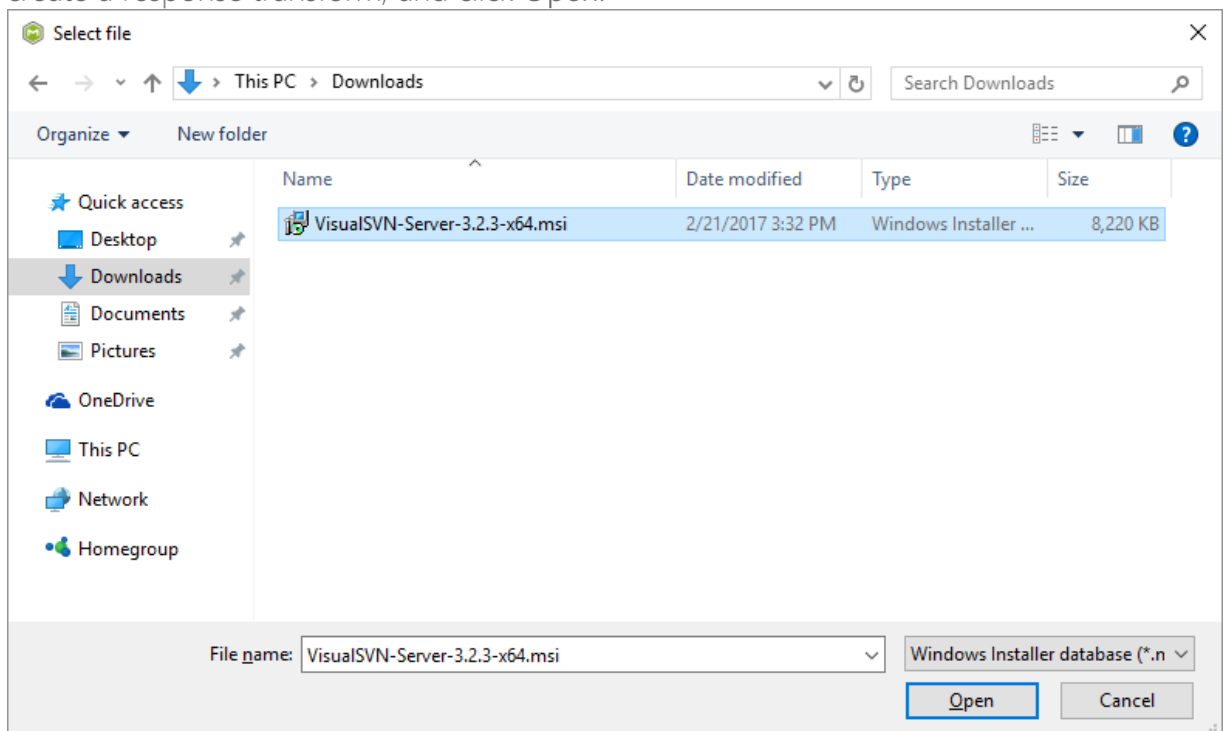
- [3]. Click the Create response transform.



- [4]. Click **Browse...**, which is located next to the MSI package for tailoring field, to select an MSI package for tailoring.

The dialog box titled "Create a response transform" features a progress bar at the top with four steps: "MSI for tailoring" (active), "Installation simulation", "Captured changes", and "Completion". Below the progress bar, the title "Select an MSI for Tailoring" is displayed. The main area contains three input fields: "MSI package for tailoring", "Apply transform (optional)", and "Command-Line options (MSI properties only)". Each of the first two fields has a "Browse..." button to its right. A checkbox labeled "Ignore MSI launch condition" is located below the third field. A note at the bottom states: "NOTE A response transform is an MST file containing all yours inputs and changes, made to the Windows Installer (UI) Dialogs of the simulated MSI installation. The simulated MSI installation will not affect your system." At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

- [5]. Choose an MSI package (e.g. VisualSVN-Server-3.2.3-x64.msi), for which you want to create a response transform, and click **Open**.



- [6]. The Apply transform (optional) and Command-Line options (MSI properties only) fields are optional and they allow applying additional MST and setting MSI properties before the MSI tailoring. Select the Ignore MSI launch condition option to skip all condition from the LaunchCondition MSI table.

Create a response transform

MSI for tailoring Installation simulation Captured changes Completion

Select an MSI for Tailoring

MSI package for tailoring
C:\Users\pace\Downloads\VisualSVN-Server-3.2.3-x64.msi Browse...

Apply transform (optional)
Browse...

Command-Line options (MSI properties only)

☐ Ignore MSI launch condition

NOTE A response transform is an MST file containing all yours inputs and changes, made to the Windows Installer (UI) Dialogs of the simulated MSI installation. The simulated MSI installation will not affect your system.

< Back Next > Cancel

[7]. Click Next to start the MSI installation simulation.

Create a response transform

MSI for tailoring Installation simulation Captured changes Completion

Select an MSI for Tailoring

MSI package for tailoring

C:\Users\pace\Downloads\VisualSVN-Server-3.2.3-x64.msi Browse...

Apply transform (optional)

Browse...

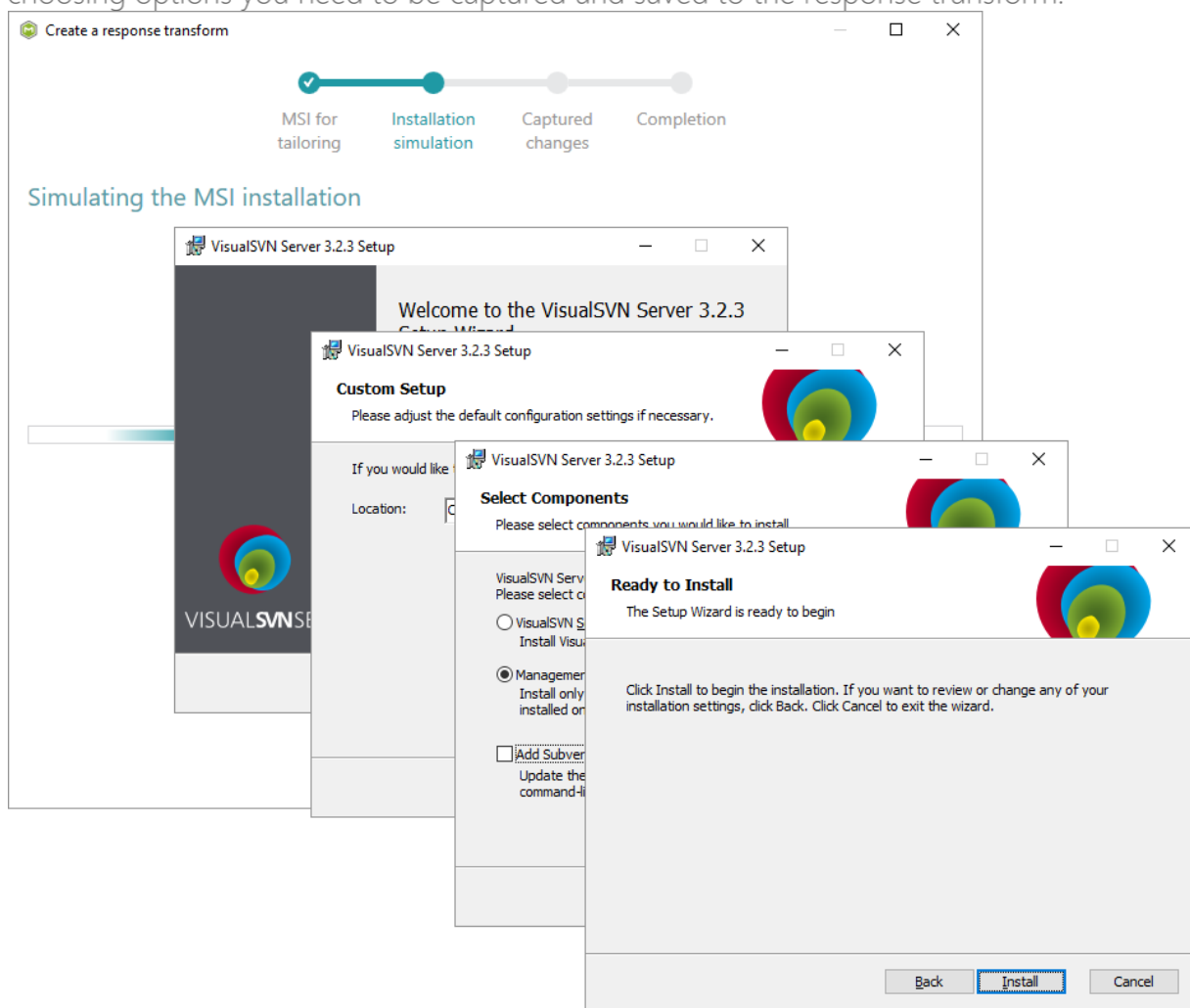
Command-Line options (MSI properties only)

☐ Ignore MSI launch condition

NOTE: A response transform is an MST file containing all your inputs and changes, made to the Windows Installer (UI) Dialogs of the simulated MSI installation. The simulated MSI installation will not affect your system.

< Back Next > Cancel

- [8]. Complete the simulated MSI installation following the Windows Installer dialogs and choosing options you need to be captured and saved to the response transform.



- [9]. Review captured changes and inputs such as Properties, Features and Directories by opening the respective tab. If needed, you can add or remove a property, a feature, and a directory by clicking the Add or Remove buttons on the respective Properties, Features

and Dircrectories tabs. Data from these tabs will be saved to the response transform.

Create a response transform

MSI for tailoring

Installation simulation

Captured changes

Completion

Captured changes

Properties

Features

Directories

Items	Old value	New value	Captured state
LicenseAccepted		1	Created
ShowMigratePermissionsReport		0	Created
Feature_AddSvnToPath		1	Created
_BrowseProperty		INSTALLDIR	Created
ManagerOnly	0	1	Updated
SideBannerBitmap	WixUI_Bmp_Side	WixUI_Png_Side	Updated
TopBannerBitmap	WixUI_Bmp_Top	WixUI_Png_Top	Updated
UpdatePathVariable	1		Removed

Add

Remove

Total rows: 8

< Back

Next >

Cancel

[10]. Click Next to to the response transform creation step.

Create a response transform

MSI for tailoring Installation simulation **Captured changes** Completion

Captured changes

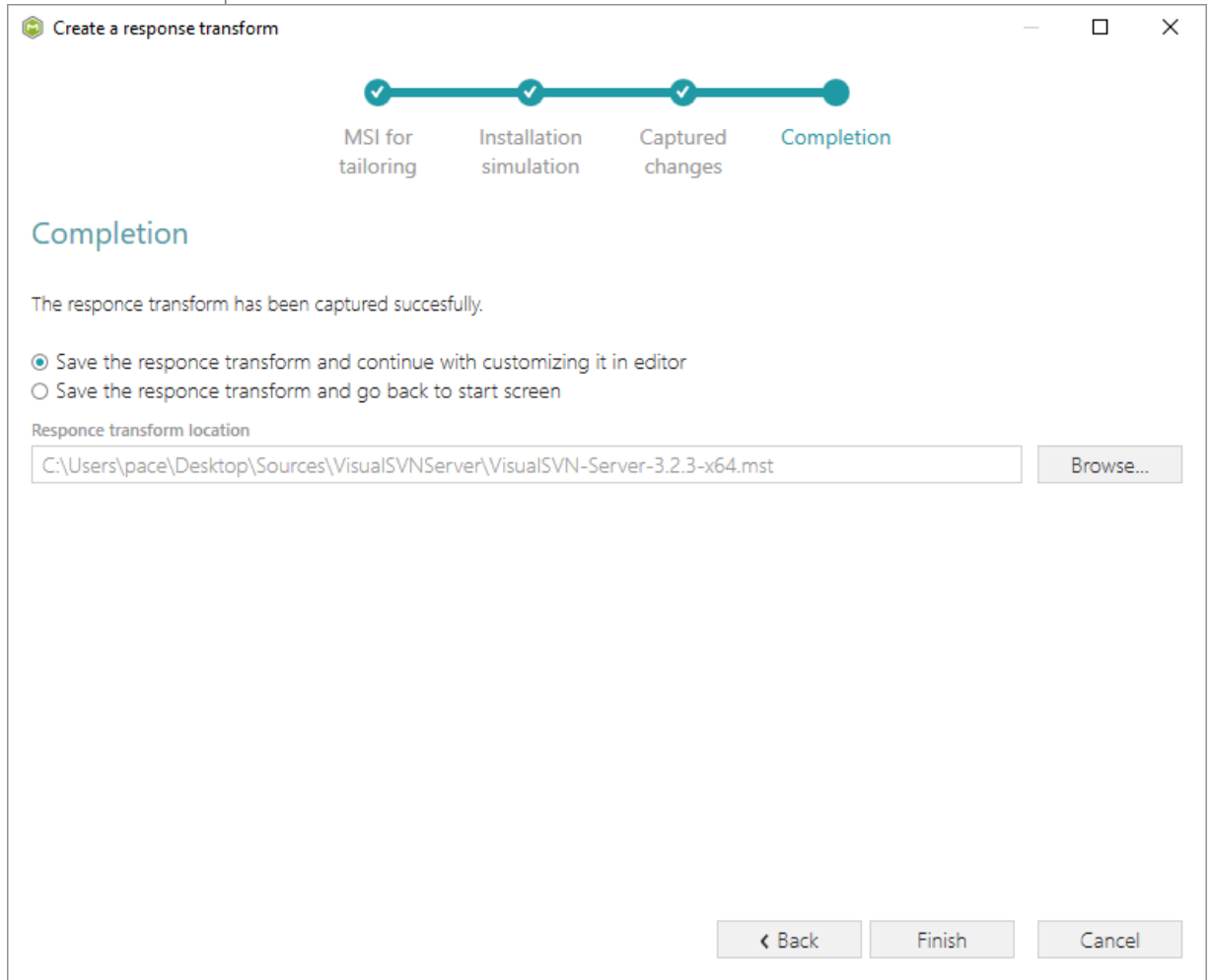
Items	Old value	New value	Captured state
LicenseAccepted		1	Created
ShowMigratePermissionsReport		0	Created
Feature_AddSvnToPath		1	Created
_BrowseProperty		INSTALLDIR	Created
ManagerOnly	0	1	Updated
SideBannerBitmap	WixUI_Bmp_Side	WixUI_Png_Side	Updated
TopBannerBitmap	WixUI_Bmp_Top	WixUI_Png_Top	Updated
UpdatePathVariable	1		Removed

Add Remove Total rows: 8

◀ Back Next ▶ Cancel

[11]. In case of necessity you can change a name and a destination location of the response transform by clicking the **Browse...** button. Select a necessary saving option and click **Finish**

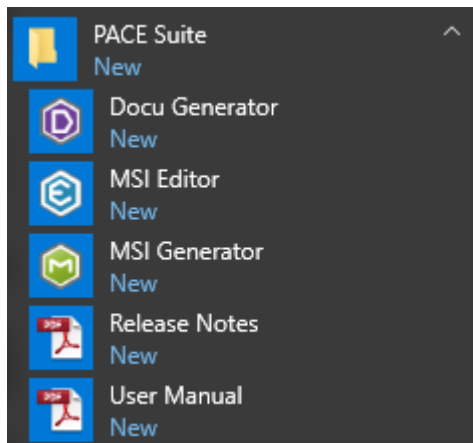
to create the response transform.



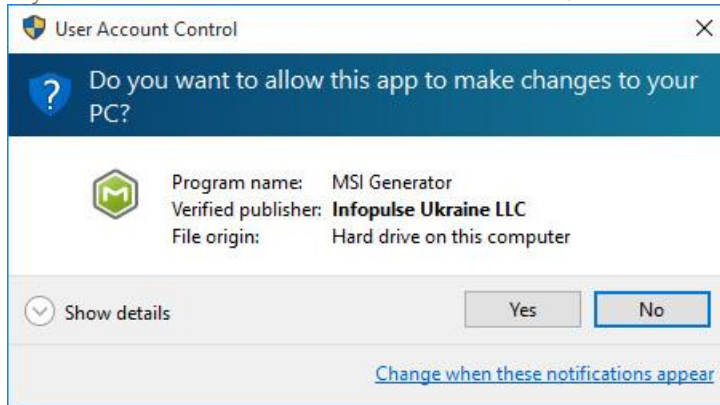
3.2.3 Capture System Changes to MST

Capture any changes, made to the file system or registry into MST file, generated against the selected MSI package using MSI Generator.

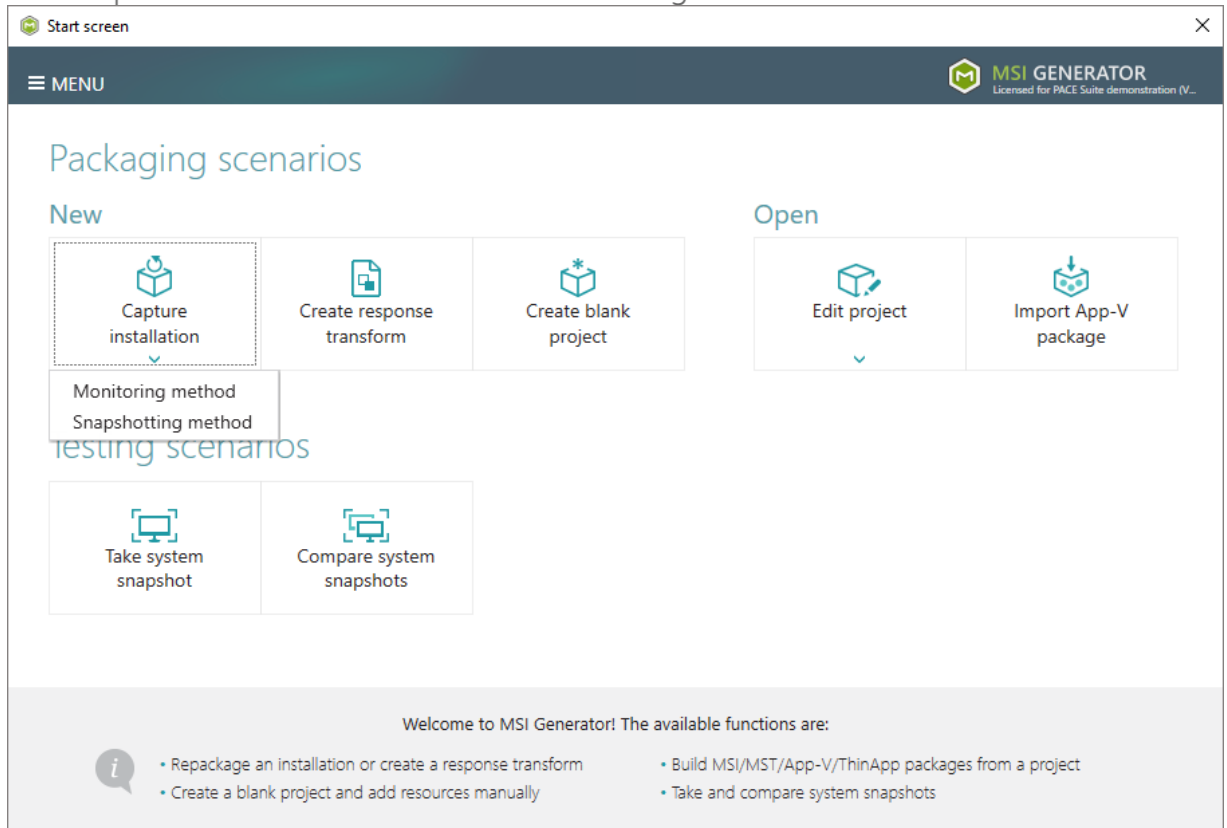
- [1]. Launch MSI Generator.



- [2]. If you have User Account Control enabled, click the Yes in the opened window.



- [3]. Click Capture installation and select the Monitoring method.



- [4]. Please wait a little, while the capturing process is starting. Once the capturing process is started, you will see the dialog as on picture below.

Capture installation - Monitoring

MENU **MSI GENERATOR**
Licensed for PACE Suite demonstration (V...)

Installation file

Package name

☐ Capture installation guide automatically.

Exclusion filters Detected MSI installations

The following exclusion filters will be applied to the captured resources

<input checked="" type="checkbox"/> AllWindowsOS
<input checked="" type="checkbox"/> Win7
<input checked="" type="checkbox"/> Win8-10

- [5]. Make any system changes to the file system and registry, which you want to capture and include to the transform (MST) file. For example, create new or copy-paste files and folders, import registry, or, as alternative option, you can launch the application in order to capture necessary application configuration like disabled updates and so on.

- [6]. Click the Finish Capturing to complete the capturing process.

Capture installation - Monitoring

MENU **MSI GENERATOR**
Licensed for PACE Suite demonstration (V...)

Installation file
 Browse... **Run**

Package name

☐ Capture installation guide automatically.

Exclusion filters Detected MSI installations

The following exclusion filters will be applied to the captured resources

<input checked="" type="checkbox"/> AllWindowsOS
<input checked="" type="checkbox"/> Win7
<input checked="" type="checkbox"/> Win8-10

< Cancel **Finish capturing >**

- [7]. Please wait a little, while the capturing process is finishing, filtering captured data and creating the project. Once the project is opened, go through the Files, Registry and Shortcuts tabs in order to review captured resources and exclude unnecessary ones from the project. Unnecessary resources are files, registry entries, which are usually created or modified in result of operating system work, and such resources could not be a part of your captured application. Unfortunately, there is no universal rule to discover which of captured files or registry entries should be excluded, so exclude only those ones, which are almost 100% do not refer to your captured application (e.g. NOD32 antivirus files could be a part of Firefox application). Find instructions on how to Exclude or Include back captured resources in sections 3.7.2.1 and 3.7.2.2 respectively.
- [8]. In order to build MST file from your project, navigate to the **Package -> MST** tab. Click **Browse...**, located next to the **MSI file name** field, to select an MSI against to which you

want to create a transform (MST) file.

Edit package - MyPackage.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts and FTAs | Properties

MSI | **MST** | App-V | Thin App

Application Details

Application name:

Publisher:

Version: Product language:

Product code:

Upgrade code:

☐ Generate new codes when build MSI

Summary Information

Title: Subject:

Author: Keywords:

Comments:

Platform: Languages:

Transform Options

MSI settings profile:

MST file name:

MSI file name:

Transform

☒ Properties ☒ Update files ☒ Update registry

☒ Features ☒ Add files ☒ Add registry

Build log Detected MSI installations

Type	Elapsed	Step

Elapsed time: 00:00

- [9]. Choose an MSI package (e.g. Firefox Installer.msi), for which you want to create a transform file and click Open.

Browse for MSI template file

« MSI Generator » Packages » Firefox Installer »

Search Firefox Installer

Organize New folder

Name	Date modified	Type	Size
Firefox Installer_files	2/27/2017 3:58 PM	File folder	
Firefox Installer_icons	2/27/2017 3:57 PM	File folder	
Firefox Installer.msi	2/27/2017 4:12 PM	Windows Installer ...	55,370 KB

File name: MSI Files (*.msi)

The screenshot shows the 'MyPackage.mgp' application window with the 'Package' tab selected. The interface is divided into several sections:

- Navigation Bar:** Includes 'MENU', 'Package' (selected), 'Files', 'Registry', 'System resources', 'Permissions', 'Shortcuts and FTAs', and 'Properties'.
- Application Details:** Contains fields for Application name ('Mozilla Firefox 51.0.1 (x86 en-US)'), Publisher ('Mozilla'), Version ('51.0.1'), Product language ('1033'), Product code ('{566CBDE9-F86C-4A4B-8079-51C207ED8736}'), and Upgrade code ('{60DDBA1A-9A64-465F-A8FD-FBD0880F70AC}'). There are also checkboxes for generating new codes during MSI build.
- Summary Information:** Fields for Title ('Installation Database'), Subject, Author, Keywords ('Install.MSI'), and Comments ('This installer database contains the logic and data required to install <product name>'). It also includes Platform ('Intel') and Languages ('0').
- Transform Options:** Shows MSI settings profile ('default'), MST file name ('Firefox Installer.mst'), and MST file name ('Firefox Installer.msi'). It lists transforms checked: Properties, Features, Update files, Add files, Update registry, and Add registry.
- Build log:** A section titled 'Build log' with a table header: Type, Elapsed, Step. Below it is a large empty box for the log output.
- Status Bar:** Displays 'Elapsed time 00:00' and two buttons: 'Open MST' and 'Build MST'.

The screenshot shows the Windows Package Manager (Winget) application window titled "Edit package - MyPackage.msp". The interface has a dark blue header bar with navigation tabs: MENU, Package (selected), Files, Registry, System resources, Permissions, Shortcuts and FTAs, and Properties. Below the header, there are three main sections. On the left, under the "Application Details" heading, fields include Application name (Mozilla Firefox 51.0.1 (x86 en-US)), Publisher (Mozilla), Version (51.0.1), Product language (1033), Product code (566CBDE9-F86C-4A4B-8079-51C207ED8736), Upgrade code (60DDBA1A-9A64-465F-A8FD-FBD0880F70AC), and a checkbox for "Generate new codes when build MSI". In the center, under the "Summary Information" heading, fields include Title (Installation Database), Subject, Author, Keywords (Install.MSI), Comments (This installer database contains the logic and data required to install <product name>.), Platform (Intel), and Languages (0). On the right, under the "Transform Options" heading, there's a dropdown for "MSI settings profile" set to "default", and fields for "MSI file name" (Firefox Installer.mst) and "MSI file name" (Firefox Installer.msi). Below these are checkboxes for Transform options: Properties, Features, Update files, Add files, Update registry, and Add registry. At the bottom right, there's a "Build log" section showing detected MSI installations with columns Type, Elapsed, and Step. The log entries show successful operations like "Operation was completed successfully" and "Writing data to the _Validation table". Buttons for "Open log", "Open MST", and "Build MST" are visible.

3.3 New MSP

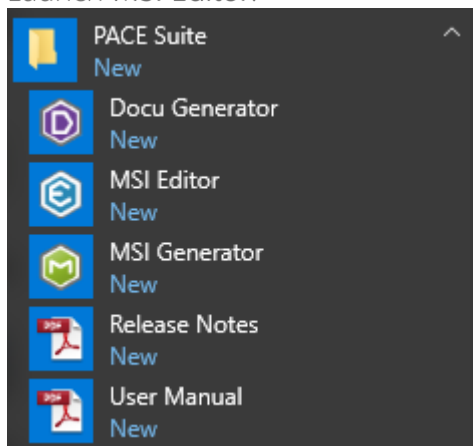
Choose a scenario that better suits your needs:

- **Create MSP Based On Difference**, described in section 3.3.1
Create a Patch (MSP) package, based on differences between two MSI packages: (1) the recent MSI, opened in MSI Editor; (2) the previous version of MSI, selected as an 'Original MSI' one in the Wizard.
- **Save Changes to MSP**, described in section 3.3.2
Save all changes, made to the opened MSI database in MSI Editor, as a Patch (MSP) package.

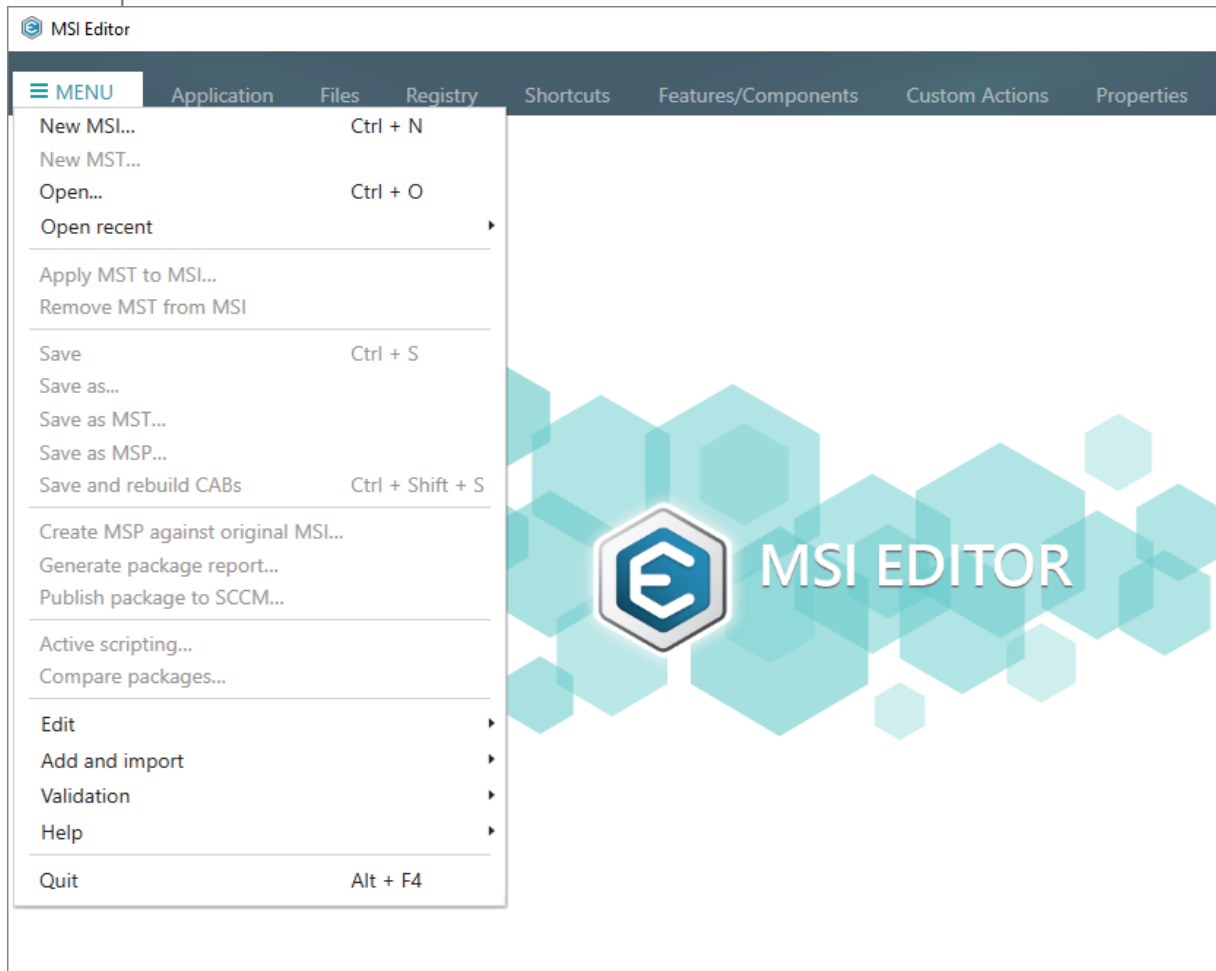
3.3.1 Create MSP Based On Difference

Create a Patch (MSP) package, based on differences between two MSI packages: (1) the recent MSI, opened in MSI Editor; (2) the previous version of MSI, selected as an 'Original MSI' one in the Wizard.

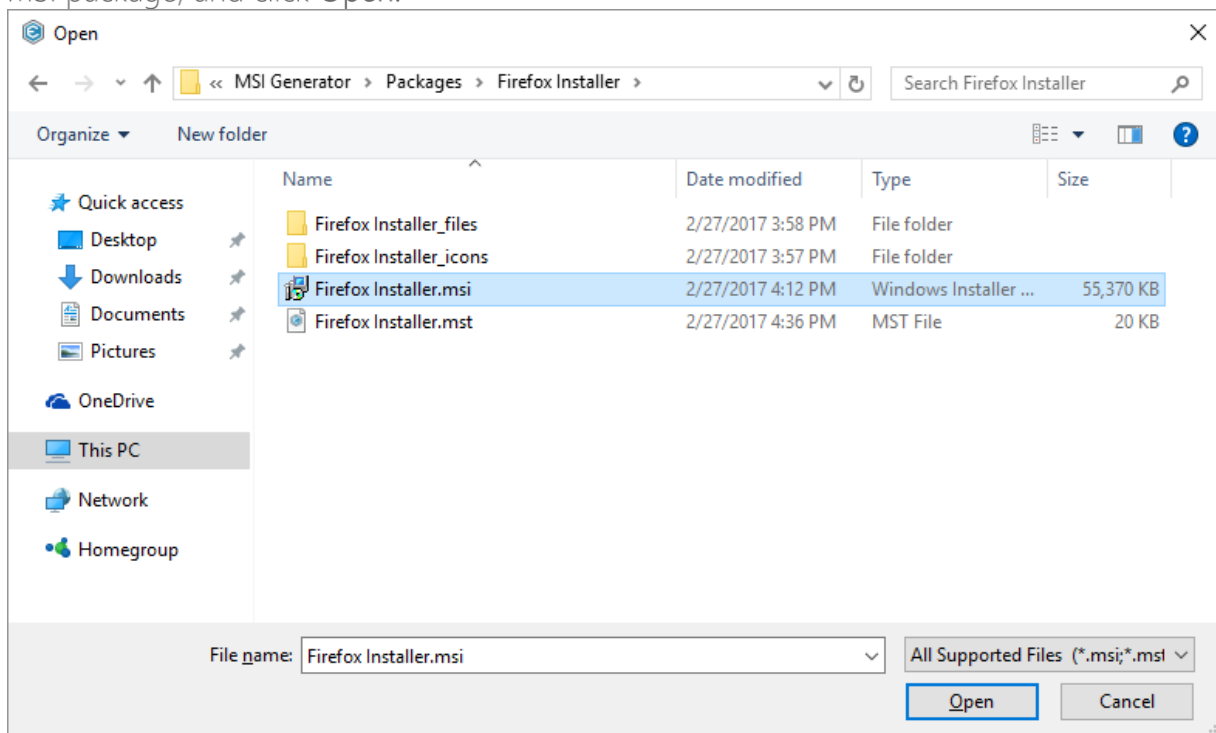
[1]. Launch MSI Editor.



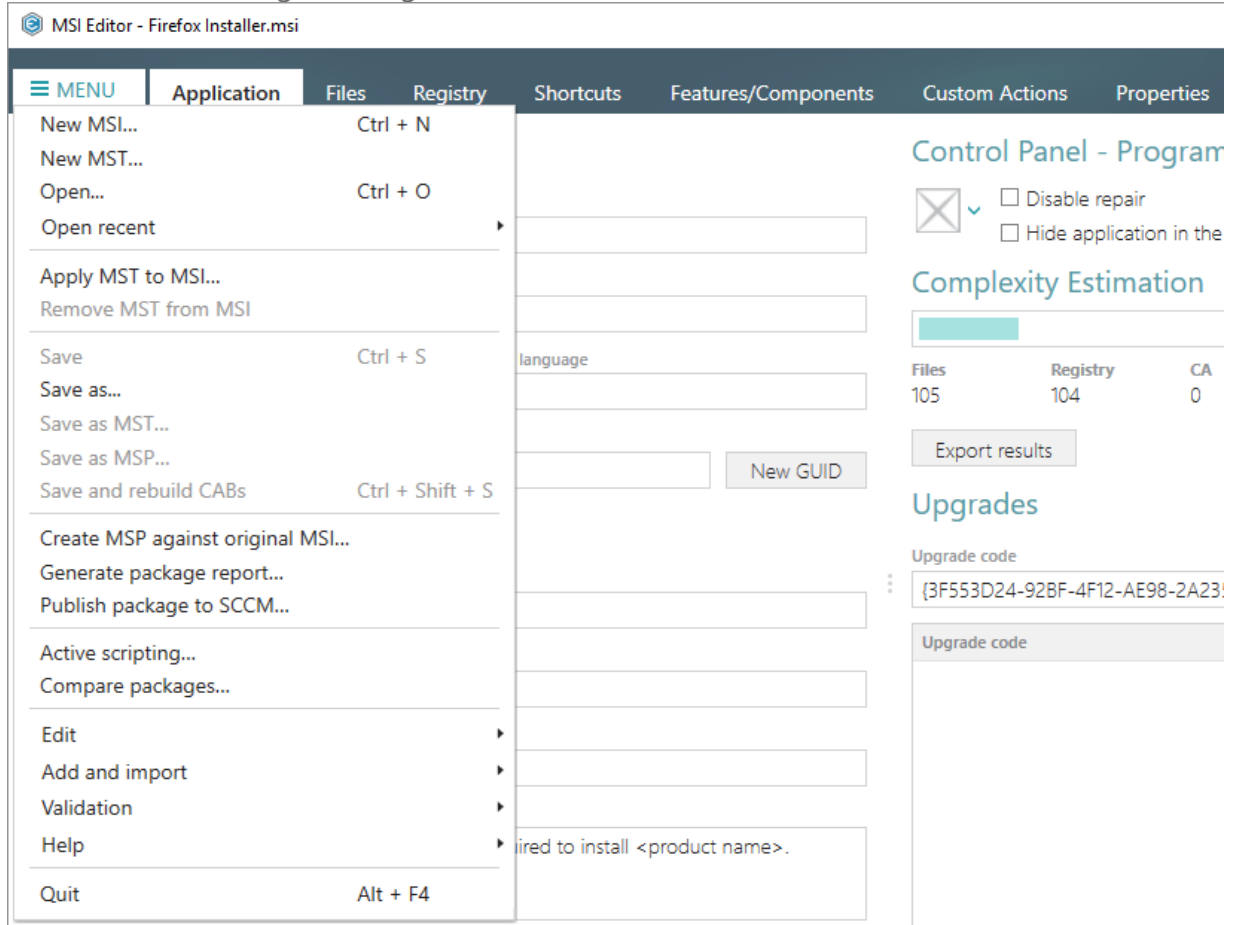
[2]. Select Open... from MENU.



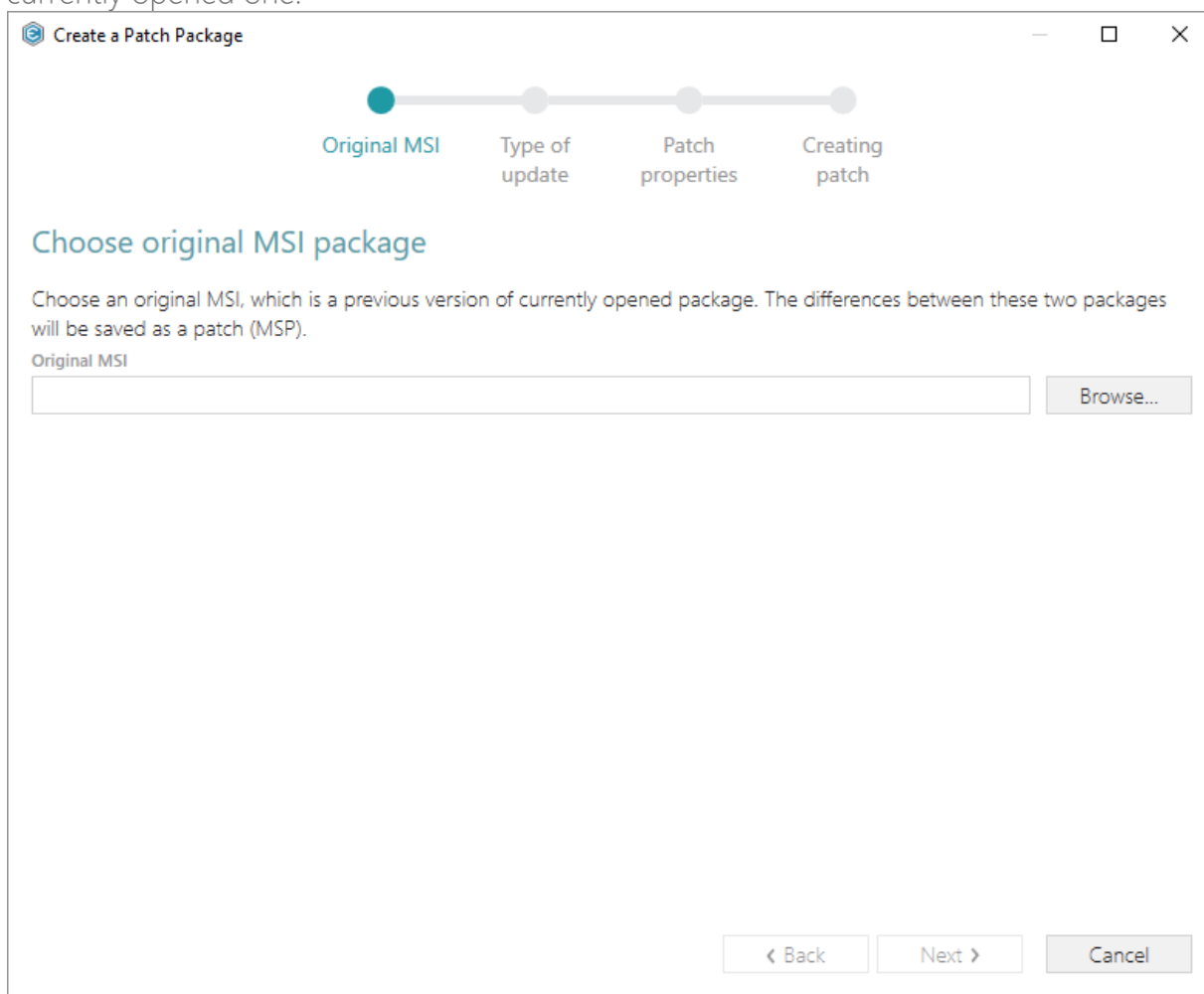
[3]. Choose a recent MSI package, containing new resources in comparison to the previous MSI package, and click Open.



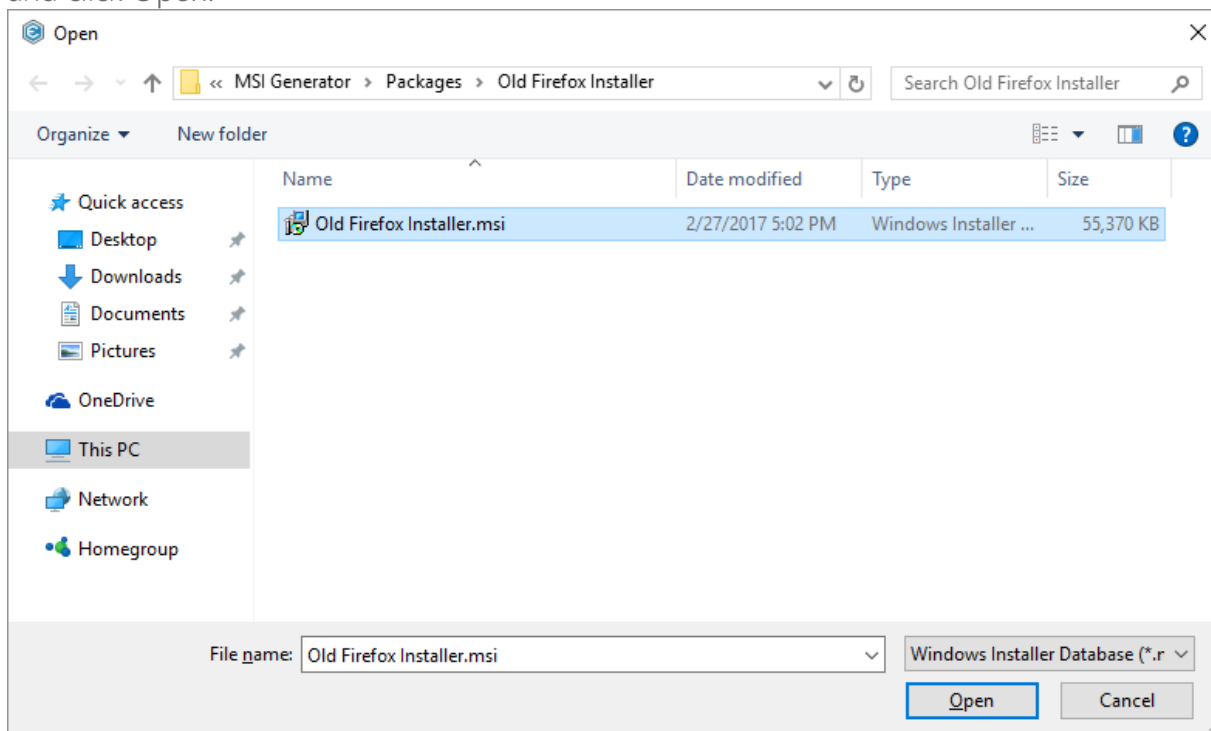
[4]. Select Create MSP against original MSI... from MENU.



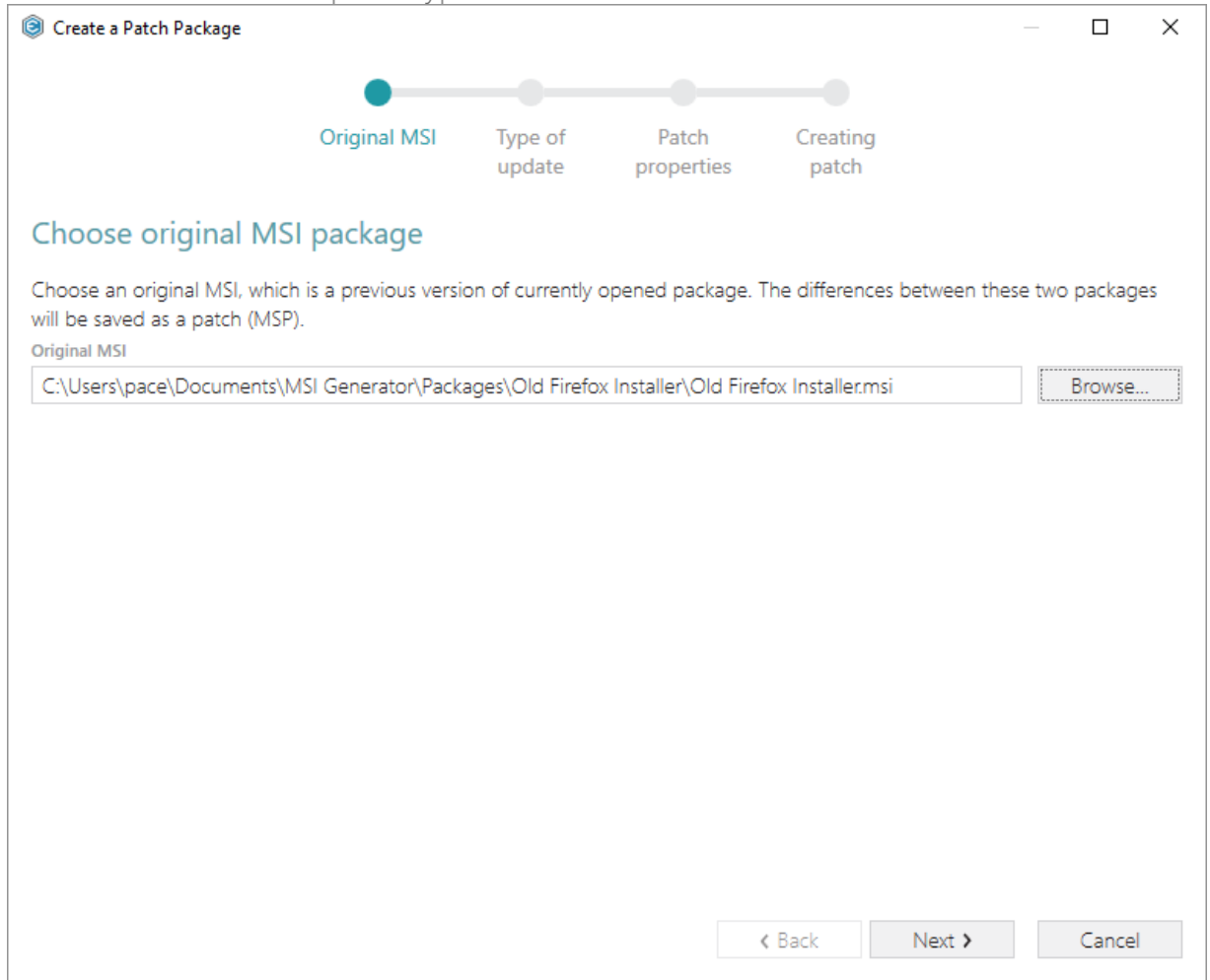
- [5]. Click **Browse...** to choose an original MSI package, which is a previous version of the currently opened one.



- [6]. Choose an original MSI package, which is a previous version of the currently opened one, and click **Open**.



- [7]. Click Next to define an update type.



The screenshot shows the 'Create a Patch Package' wizard window. At the top, there is a progress bar with four steps: 'Original MSI' (selected), 'Type of update', 'Patch properties', and 'Creating patch'. Below the progress bar, the title 'Choose original MSI package' is displayed. The main text reads: 'Choose an original MSI, which is a previous version of currently opened package. The differences between these two packages will be saved as a patch (MSP).' Below this text, there is a label 'Original MSI' and a text box containing the file path 'C:\Users\pace\Documents\MSI Generator\Packages\Old Firefox Installer\Old Firefox Installer.msi'. To the right of the text box is a 'Browse...' button. At the bottom right of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'.

- [8]. Increase a **Product version** value for the minor and major update and leave default one for the small update. Generate new **Product code** only for the major update and leave default one for the minor and small update. If needed, update a **Target product name** value in order to change the Product Name of the updated application. Click **Next** to

select a patch properties.

Create a Patch Package

Original MSI

Type of update

Patch properties

Creating patch

Type of update

Increase version for minor and major update and leave default value for small update

Product version

51.0.1

Generate new code only for major update and leave default value for minor and small update

Product code

{4A5CF276-D53A-4AC4-A6AC-F41A92DB5F8C}

New GUID

Target product name

Mozilla Firefox 51.0.1 (x86 en-US)

[Review the instructions to create a patch package successfully...](#)

< Back

Next >

Cancel

- [9]. Update Patch Display name, Description and select the necessary Patch properties. Click Create to create the Patch (MSP) package.

Create a Patch Package

Original MSI Type of update **Patch properties** Creating patch

Patch properties

Display name
Mozilla Firefox 51.0.1 (x86 en-US) 51.0.1 Patch

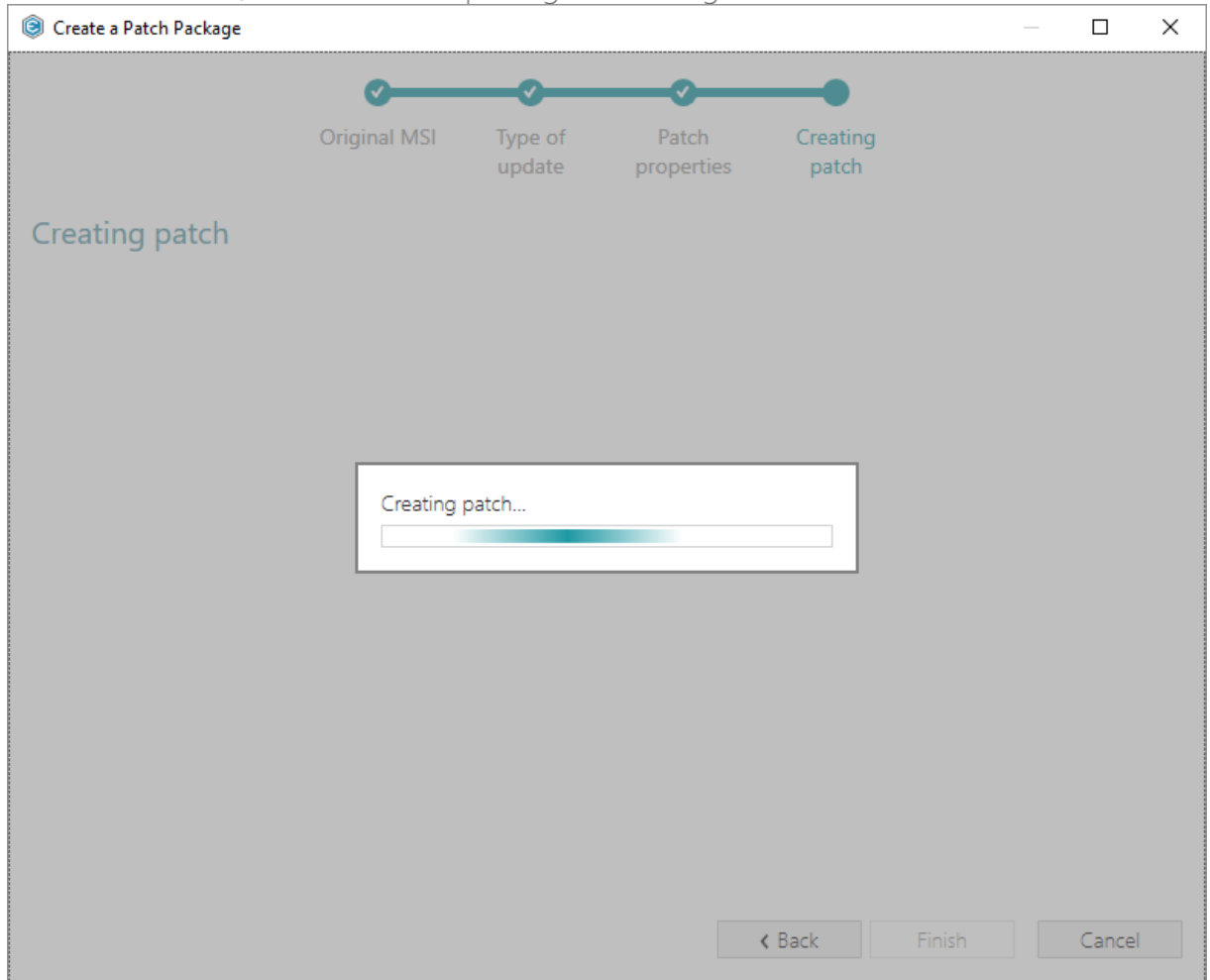
Description
Patch description

☒ Make this patch uninstallable
The only method to remove a patch that is not uninstallable is to uninstall the patched application and then reinstall the application without reapplying the patch.

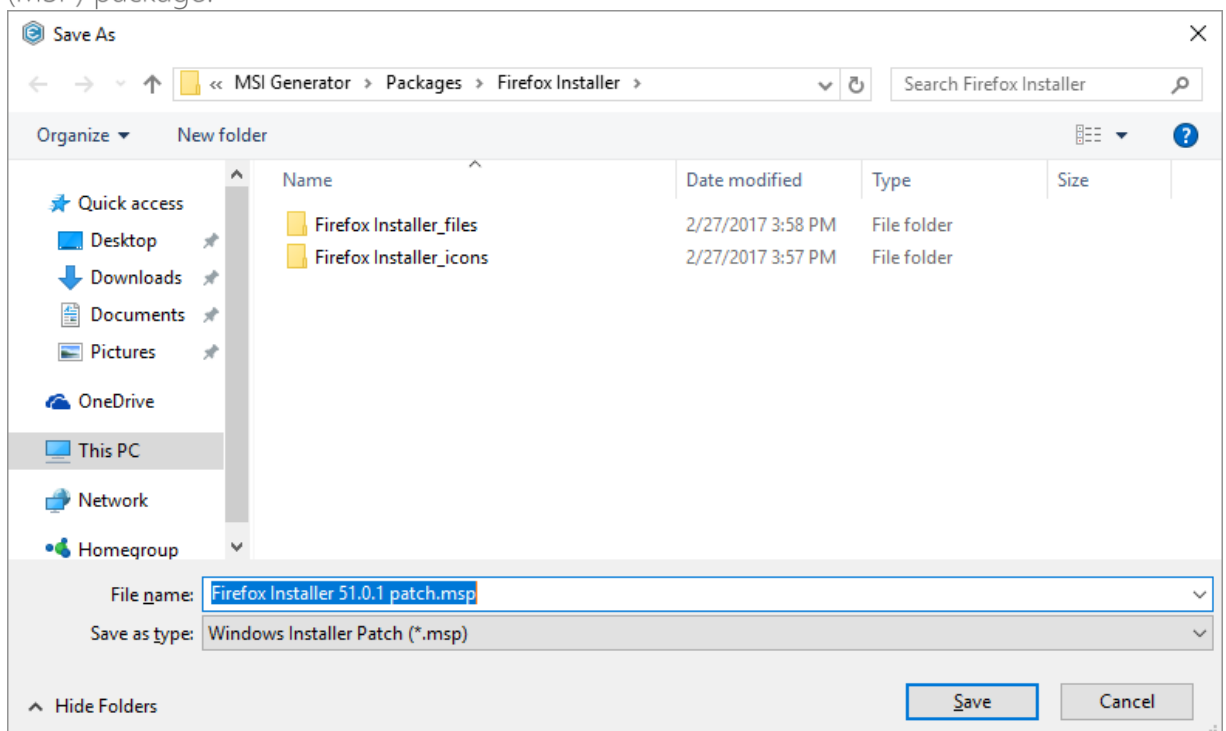
☐ Include whole files only
Changed files are to be included in their entirety when creating the patch package instead of creating a binary file patch. The patch files will be bigger in size but the API runs faster.

< Back **Create >** Cancel

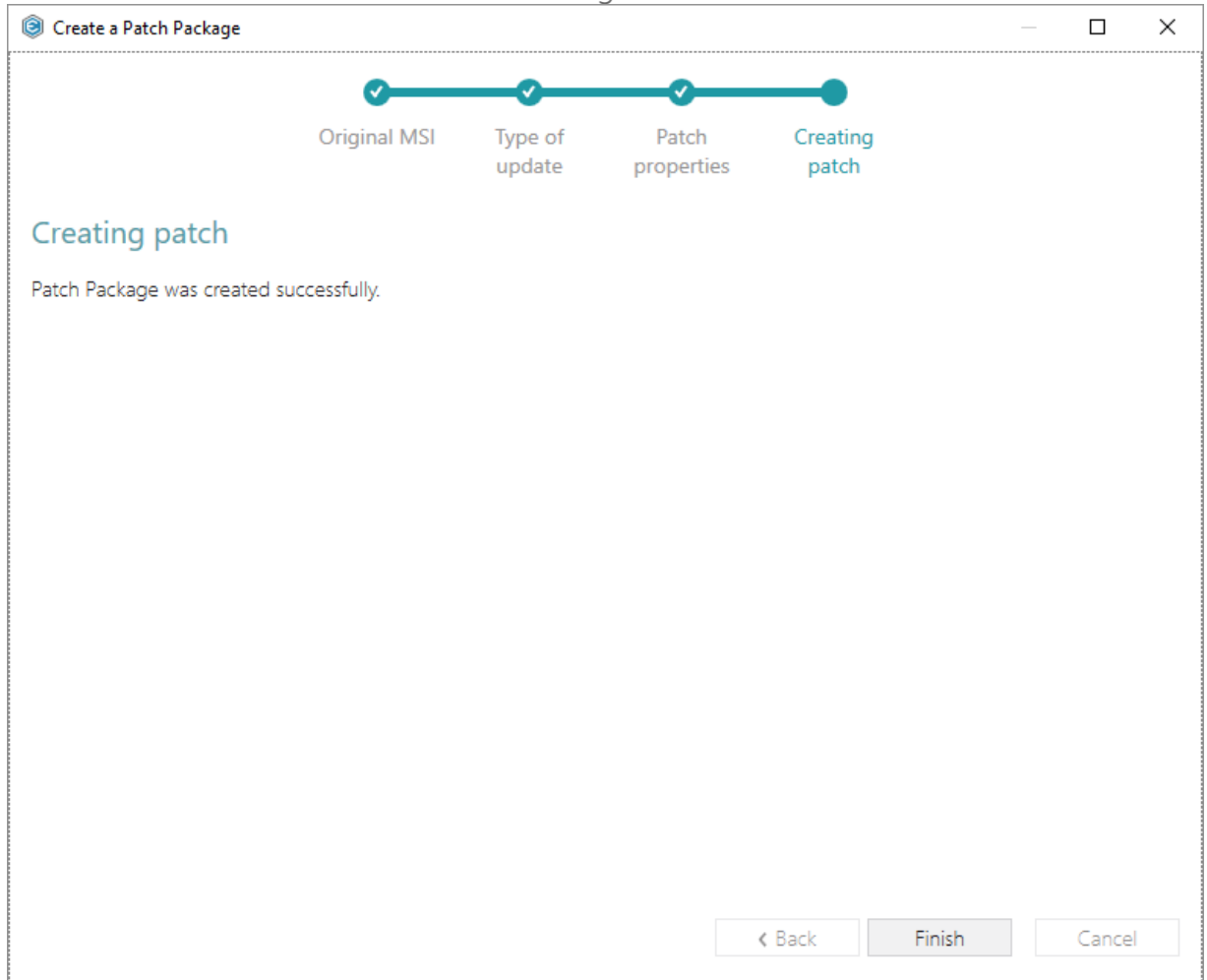
[10]. Please wait a little, while the Patch package is creating.



[11]. Choose a Patch name and a destination location and click **Save** to save the created Patch (MSP) package.



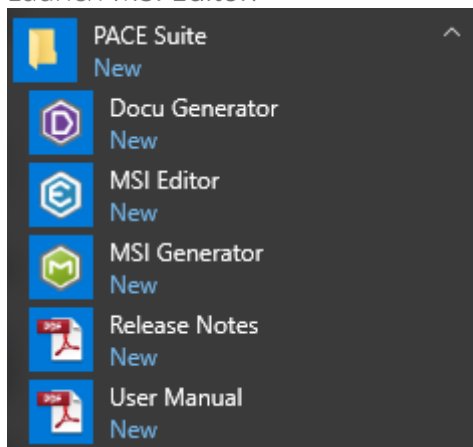
[12]. Click Finish to close the Create a Patch Package Wizard.



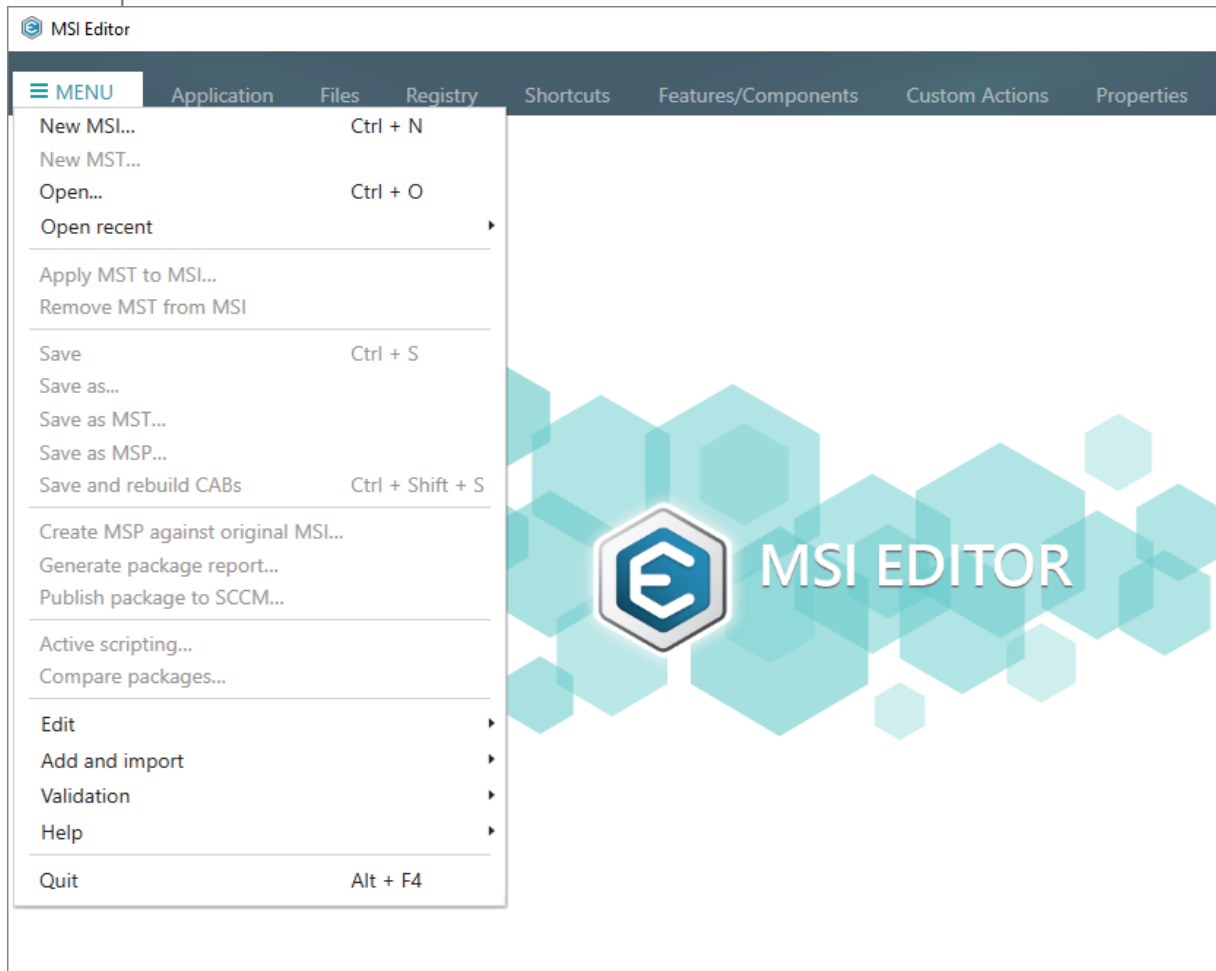
3.3.2 Save Changes to MSP

Save all changes, made to the opened MSI database in MSI Editor, as a Patch (MSP) package.

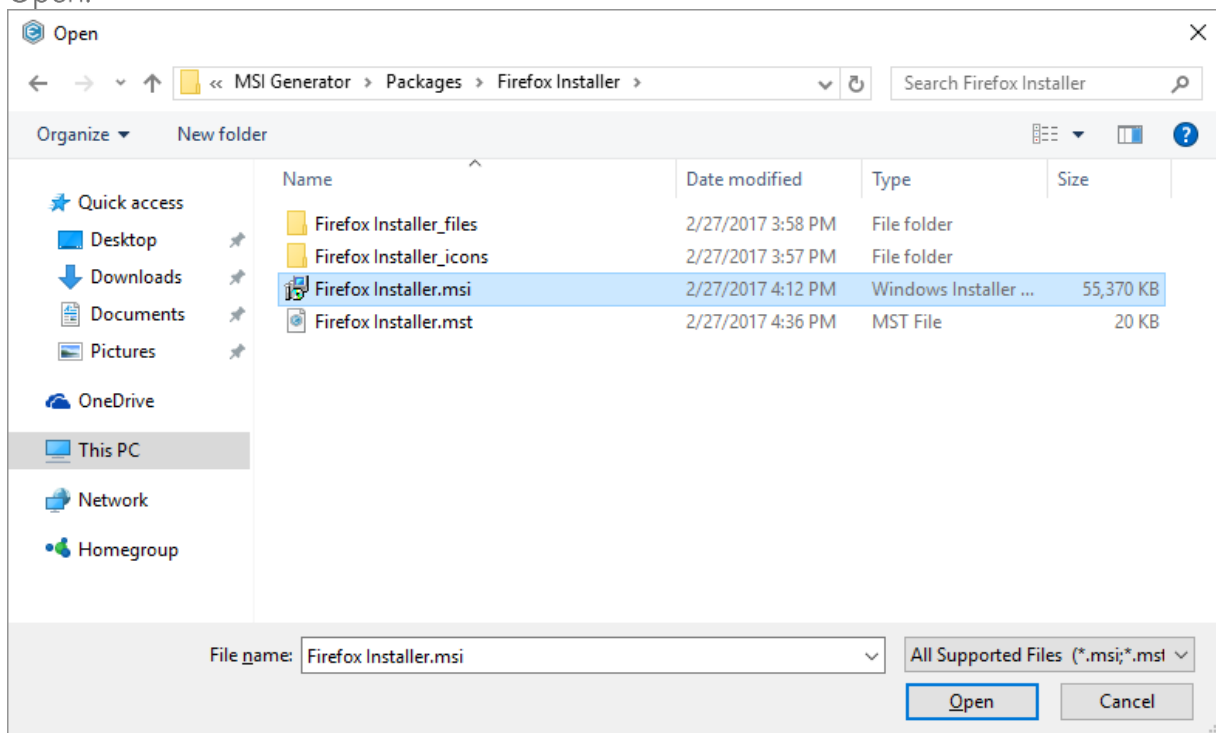
[1]. Launch MSI Editor.



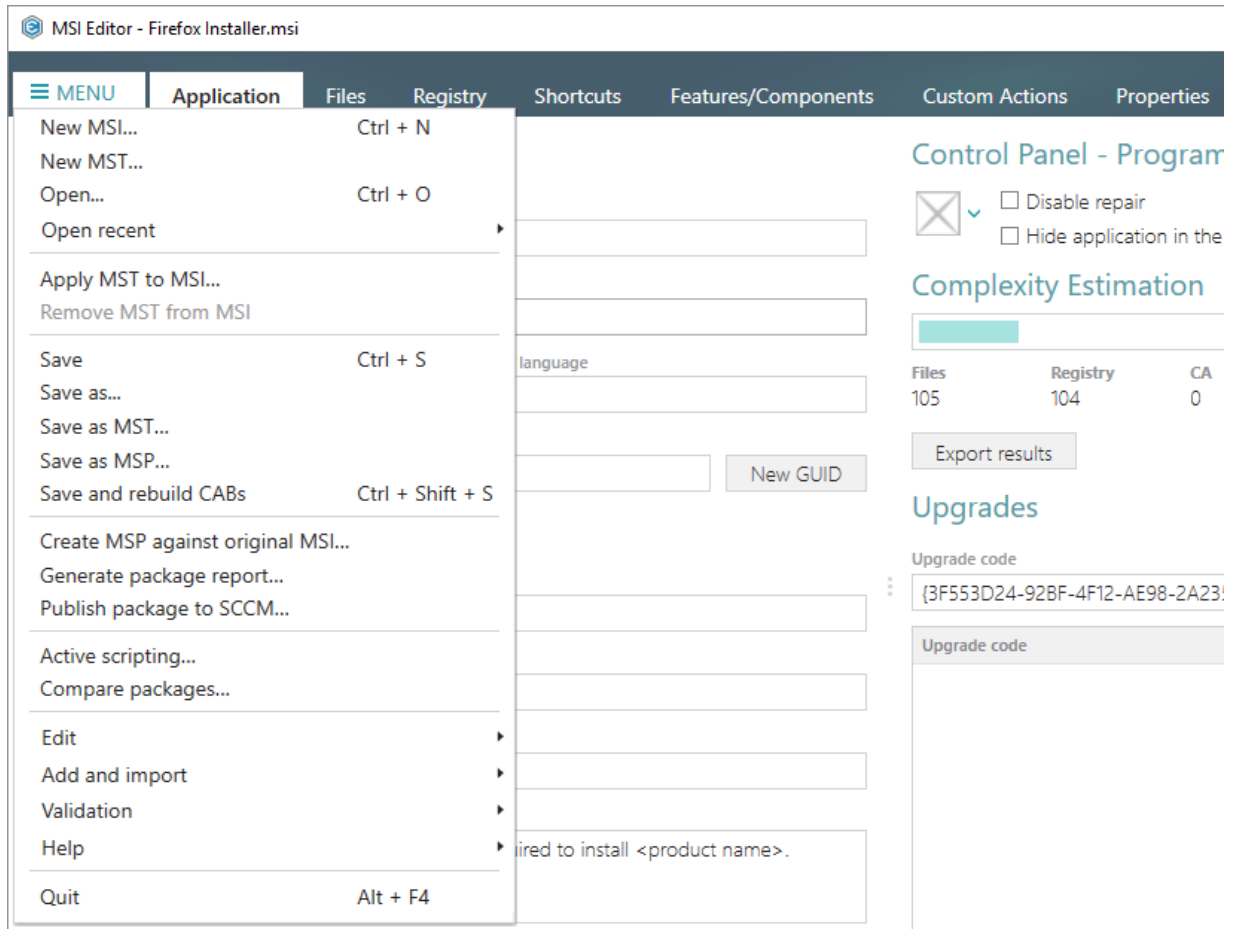
[2]. Select Open... from MENU.



[3]. Choose an MSI package, for which you want to create a Patch (MSP) package and click Open.



- [4]. Add necessary new resources (like files, registry, shortcuts, etc.) to the opened MSI database, which should be saved to the Patch (MSP) package. Find instructions on how to [edit MSI](#) package in section 3.6
- [5]. Select Save as MSP... from MENU.



- [6]. Increase a Product version value for the minor and major update and leave default one for the small update. Generate new Product code only for the major update and leave default one for the minor and small update. If needed, update a Target product name value in order to change the Product Name of the updated application. Click Next to

select a patch properties.

Create a Patch Package

Type of update

Patch properties

Creating patch

Type of update

Increase version for minor and major update and leave default value for small update

Product version

Generate new code only for major update and leave default value for minor and small update

Product code

New GUID

Target product name

[Review the instructions to create a patch package successfully...](#)

< Back

Next >

Cancel

- [7]. Update Patch Display name, Description and select the necessary Patch properties. Click Create to create the Patch (MSP) package.

Create a Patch Package

Progress bar: Type of update (✓), Patch properties (●), Creating patch (●)

Patch properties

Display name
Mozilla Firefox 51.0.1 (x86 en-US) 51.0.1 Patch

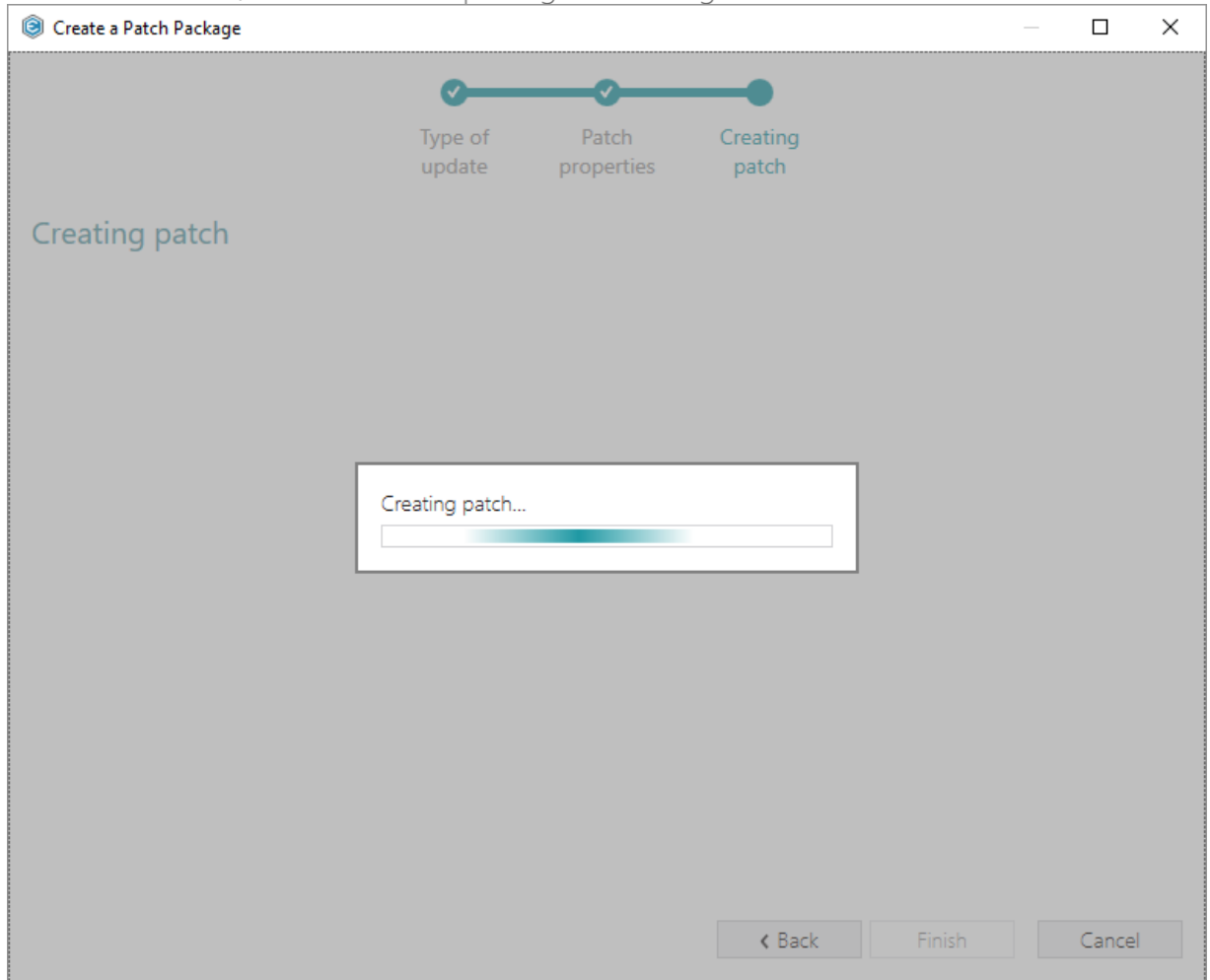
Description
Patch description

☒ Make this patch uninstallable
The only method to remove a patch that is not uninstallable is to uninstall the patched application and then reinstall the application without reapplying the patch.

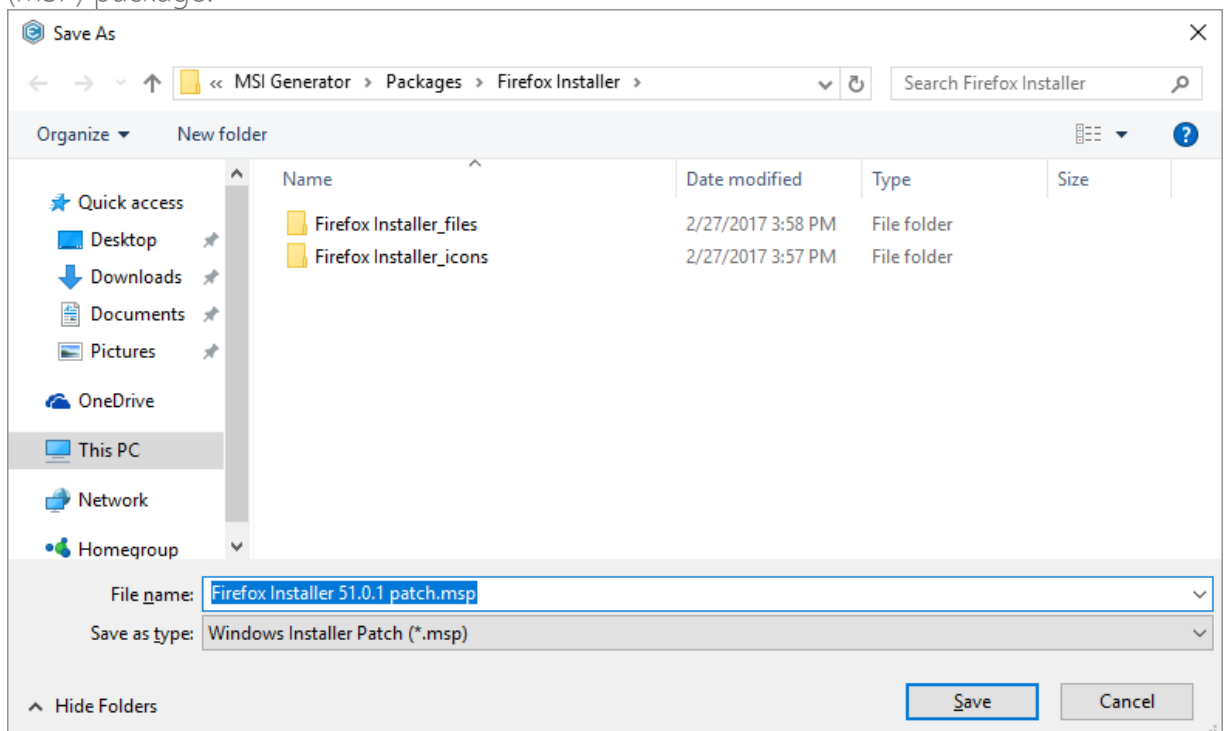
☐ Include whole files only
Changed files are to be included in their entirety when creating the patch package instead of creating a binary file patch. The patch files will be bigger in size but the API runs faster.

< Back Create > Cancel

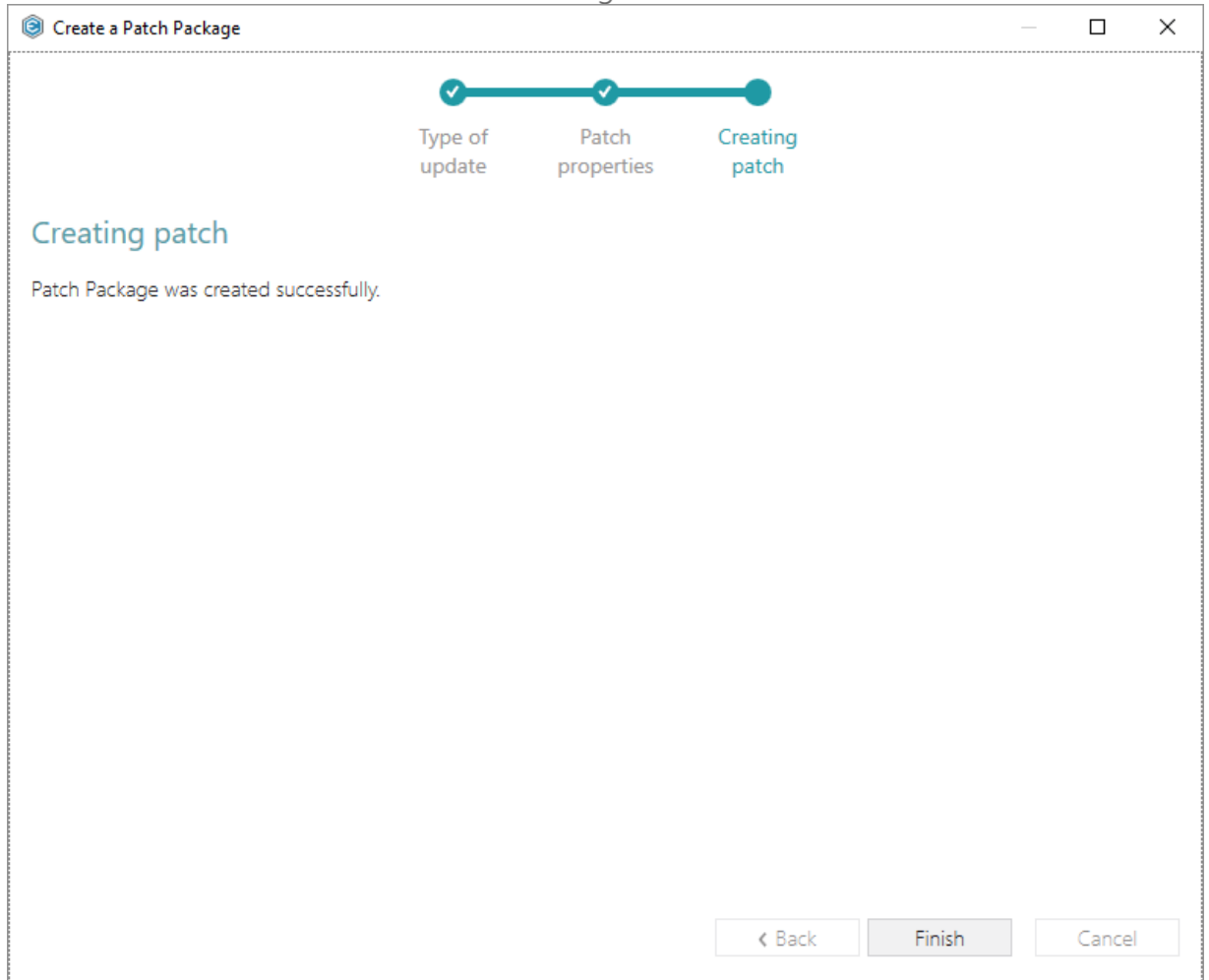
- [8]. Please wait a little, while the Patch package is creating.



- [9]. Choose a Patch name and a destination location and click **Save** to save the created Patch (MSP) package.



[10]. Click Finish to close the Create a Patch Package Wizard.



3.4 New App-V

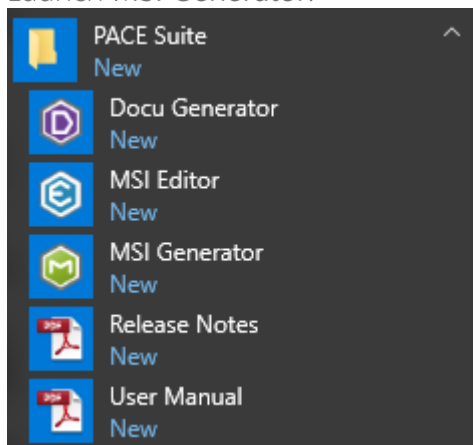
Choose a scenario that better suits your needs:

- Create App-V from Scratch, described in section 3.4.1
Create a project file in MSI Generator, import necessary resources to the project and generate ready for the deployment App-V 5.0/5.1/1607 (5.2) package.
- Repackage EXE to App-V 5.x, described in section 3.4.2
Recapture your source installation (EXE, MSI, VBS, CMD, etc.) into App-V 5.0/5.1/1607 (5.2) package using MSI Generator.

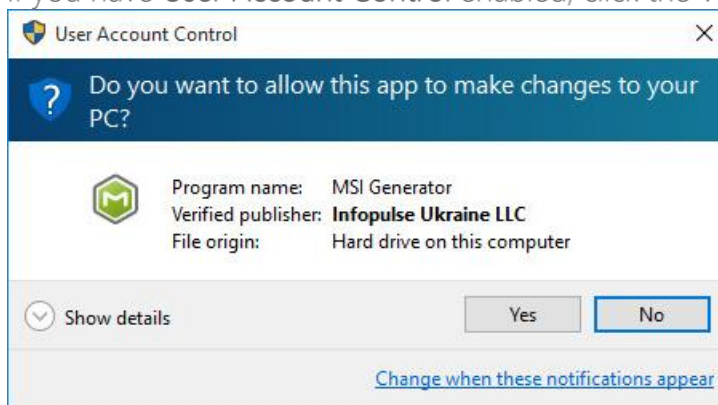
3.4.1 Create App-V from Scratch

Create a project file in MSI Generator, import necessary resources to the project and generate ready for deployment App-V 5.0/5.1/1607 (5.2) package.

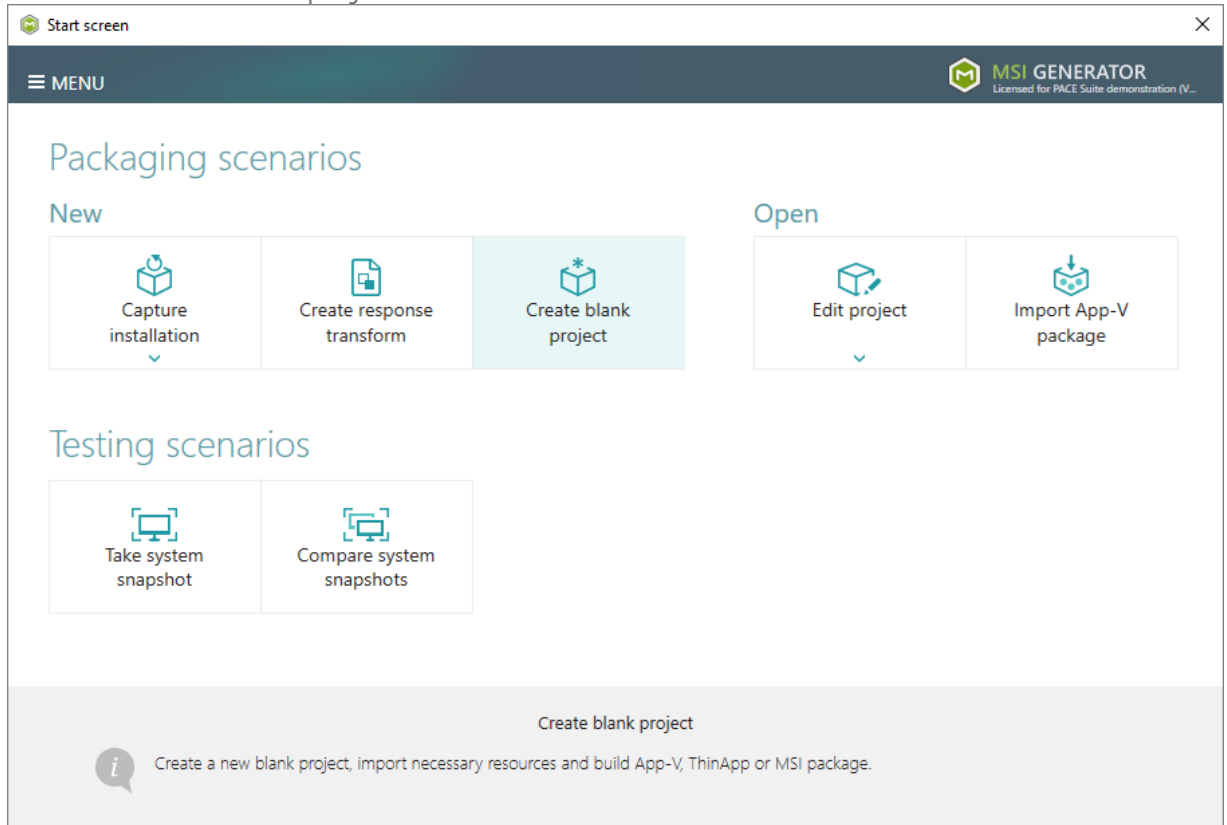
- [1]. Launch MSI Generator.



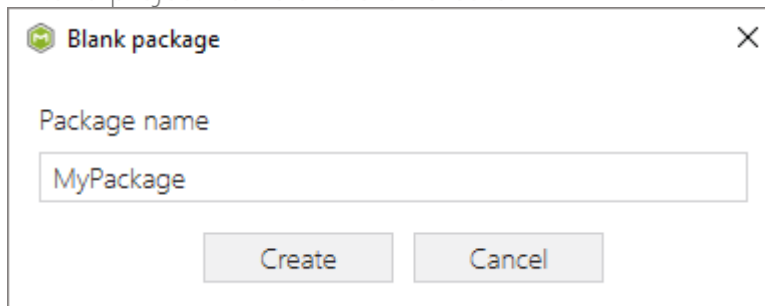
- [2]. If you have User Account Control enabled, click the Yes in the opened window.



- [3]. Click the Create blank project.



- [4]. Enter a project name and click Create.



- [5]. Add necessary resources (like files, registry, shortcuts, etc.) to your project file, which later will be saved to the App-V package. Find instructions on how to [edit project](#) in section 3.7
- [6]. In order to build App-V package from your project, navigate to the Package -> App-V tab, update Application Details like name, publisher, version, choose App-V Settings such

as PVAD, Target OS, App-V version and click Build App-V.

Edit package - MyPackage.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts and FTAs | Properties

MSI | MST | **App-V** | Thin App

Application Details

Application name: My application

Version: 1.0.0

Publisher: My publisher

App-V Settings

Primary virtual application directory (PVAD): Do not use PVAD (default)

Streaming options

- ☐ Force application to be fully downloaded before launching.

Target OS

- ☒ Allow this package to be run on any operating system
- ☐ Allow this package to be run only on the selected operating systems

Select OS...

Advanced options

- ☐ Allow all named objects to interact with the local system
- ☐ Allow all COM objects to interact with the local system
- ☐ Allow virtual application full write permissions to the virtual file system
- ☐ Enable Browser Helper Objects

App-V Package Options

App-V version: App-V 5.2 (1607) package format version

Package name: MyPackage

Package folder: C:\Users\pace\Documents\MSI Generator\Packages\MyPa | Browse... | Go to...

Description:

Build log | Open log

Type	Elapsed	Step
------	---------	------

Elapsed time: 00:00

Build App-V

- [7]. Click Go to..., located next to the Package folder field, to open the package containing folder in Windows Explorer.

Edit package - MyPackage.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts and FTAs | Properties

MSI | MST | **App-V** | Thin App

Application Details

Application name: My application

Version: 1.0.0

Publisher: My publisher

App-V Settings

Primary virtual application directory (PVAD): Do not use PVAD (default)

Streaming options

- ☐ Force application to be fully downloaded before launching.

Target OS

- ☒ Allow this package to be run on any operating system
- ☐ Allow this package to be run only on the selected operating systems

Select OS...

Advanced options

- ☐ Allow all named objects to interact with the local system
- ☐ Allow all COM objects to interact with the local system
- ☐ Allow virtual application full write permissions to the virtual file system
- ☐ Enable Browser Helper Objects

App-V Package Options

App-V version: App-V 5.2 (1607) package format version

Package name: MyPackage

Package folder: C:\Users\pace\Documents\MSI Generator\Packages\MyPa | Browse... | Go to...

Description:

Build log | Open log

Type	Elapsed	Step
	00:00:03	Operation was completed successfully
	00:00:00	Saving package
	00:00:00	Processing software clients
	00:00:00	Processing environment variables
	00:00:00	Processing URL protocols
	00:00:00	Processing application capabilities
	00:00:00	Processing FTAs
	00:00:00	Processing browser plugins
	00:00:00	Processing COM objects
	00:00:00	Processing services

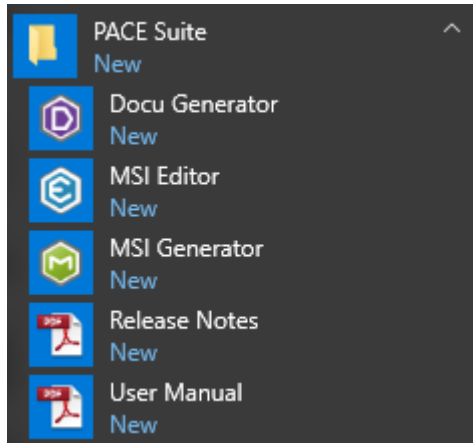
Elapsed time: 00:00:04

Build App-V

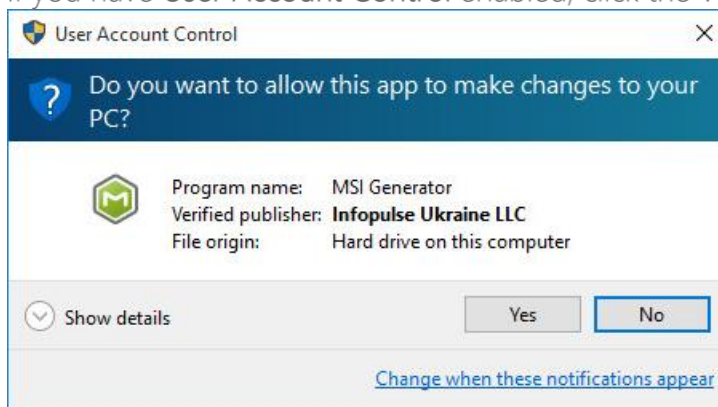
3.4.2 Repackage EXE to App-V 5.x

Recapture your source installation (EXE, MSI, VBS, CMD, etc.) into App-V 5.0/5.1/1607 (5.2) package using MSI Generator.

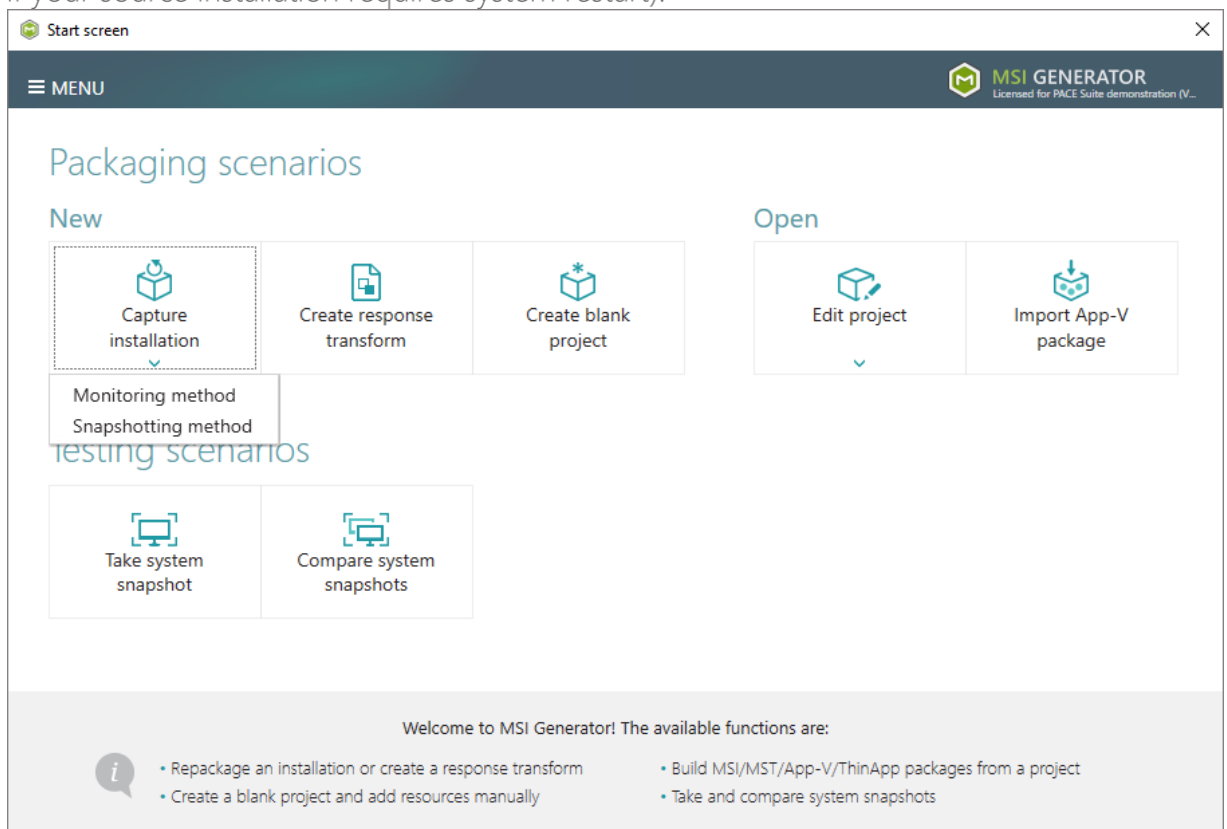
- [1]. Launch MSI Generator.



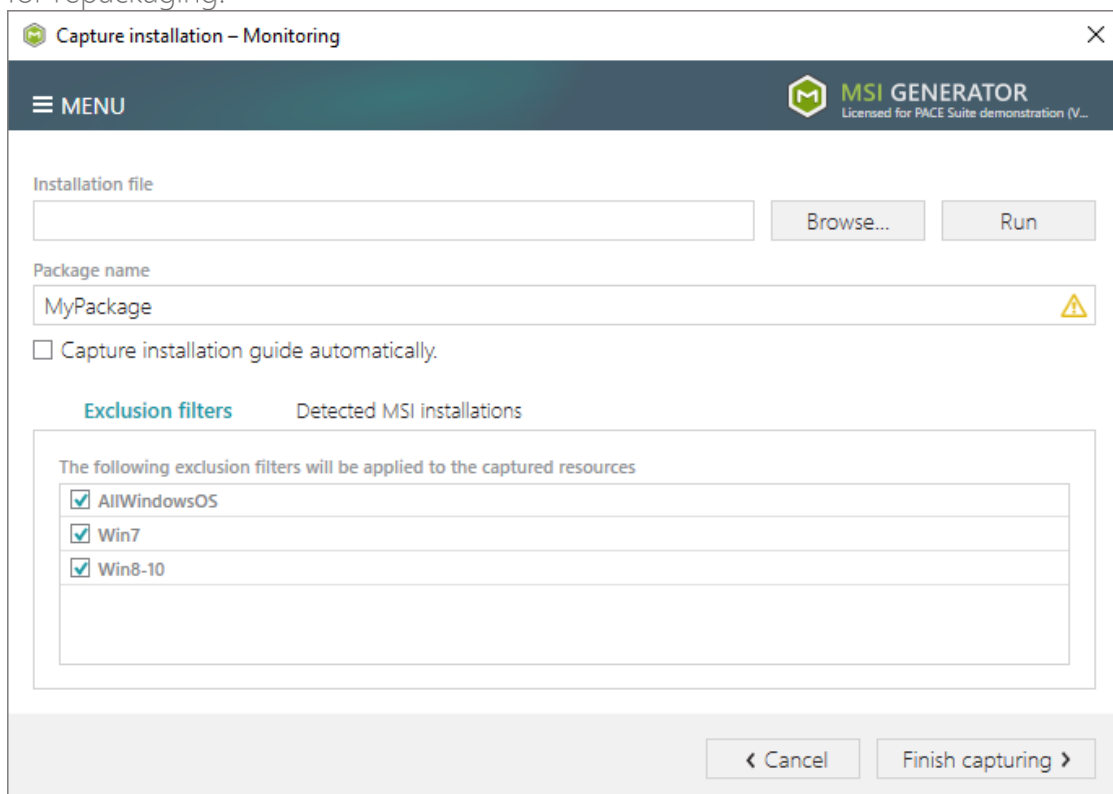
- [2]. If you have User Account Control enabled, click the Yes in the opened window.



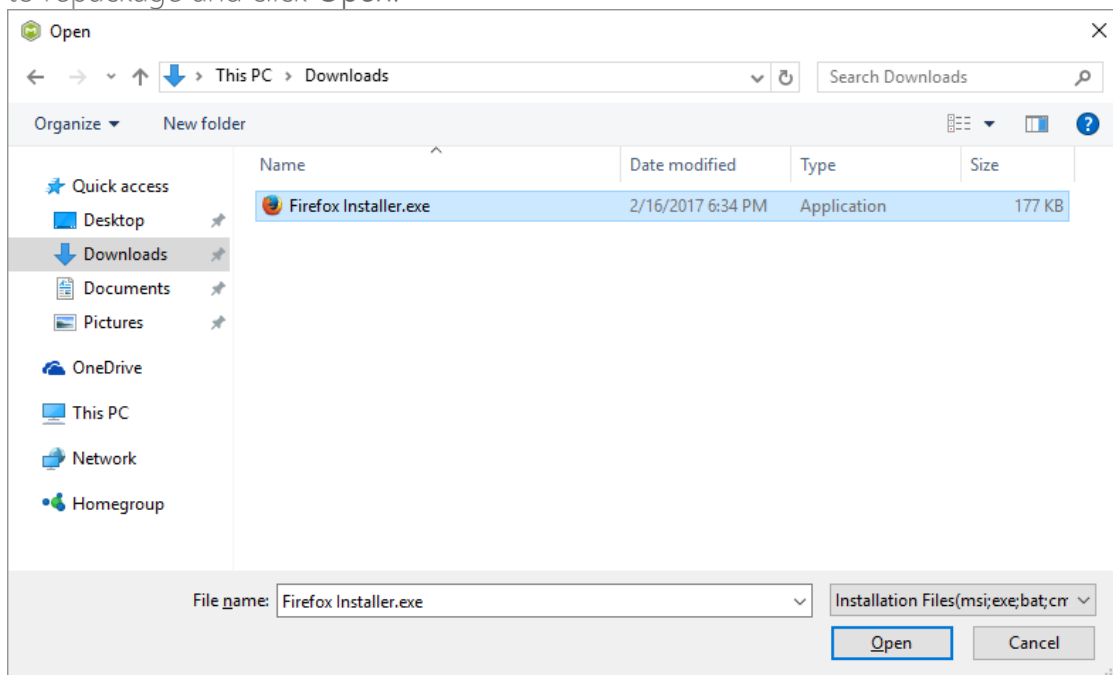
- [3]. Click Capture installation and select the Monitoring method (use the Snapshotting method if your source installation requires system restart).



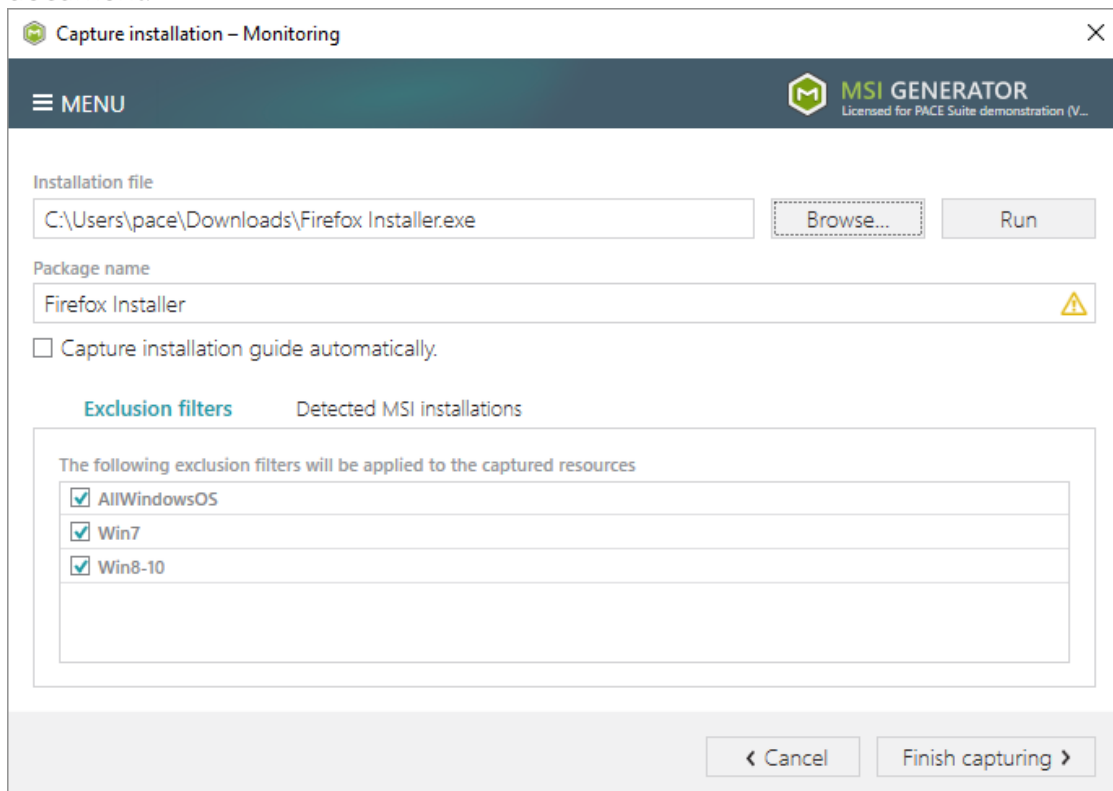
- [4]. Please wait a little, while the capturing process is starting (in case you have selected the Monitoring method on the previous step, wait while the initial system snapshot is taking).
- [5]. Once the capturing process is started, click **Browse...** to choose your source installation file for repackaging.



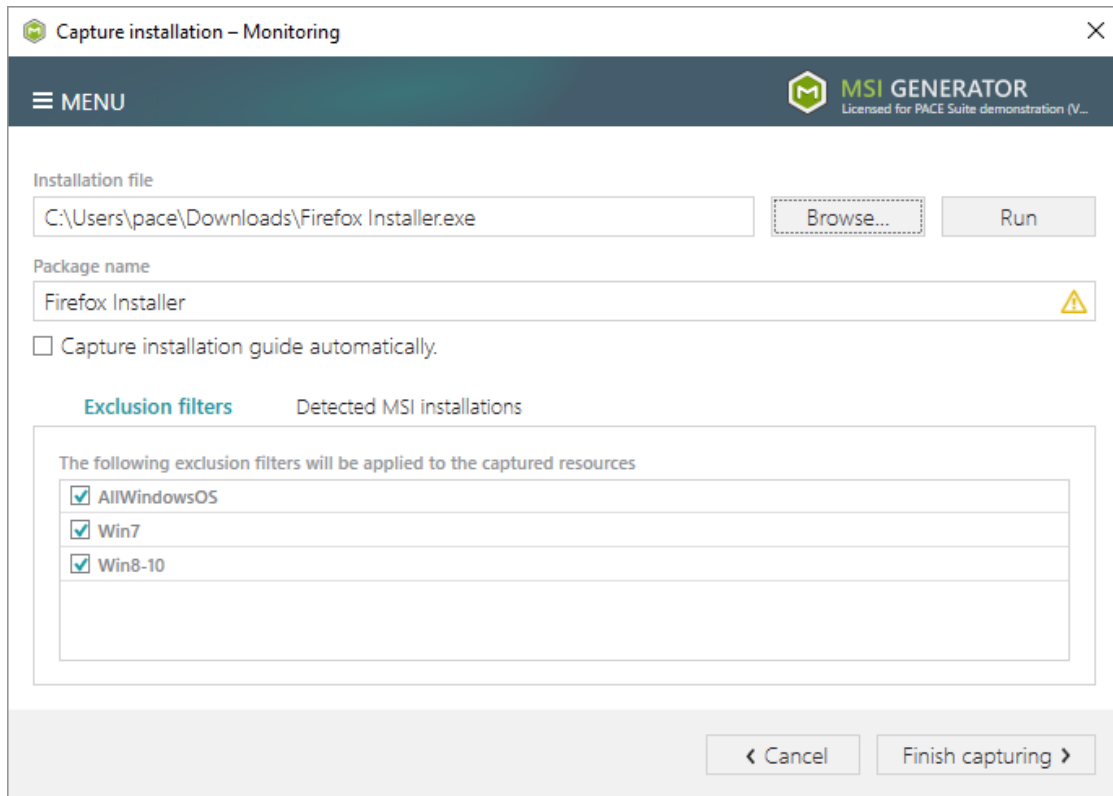
- [6]. Choose an executable file of source installation (e.g. Firefox Installer.exe), which you want to repackage and click Open.



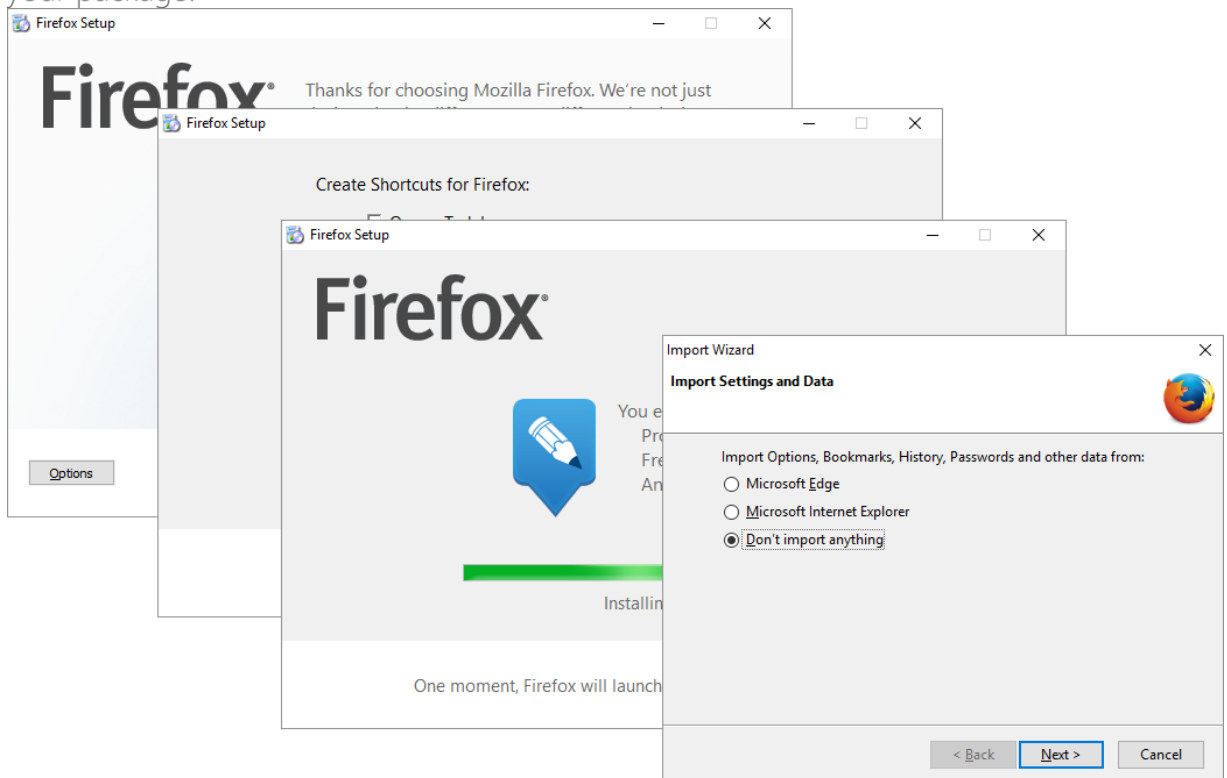
- [7]. If needed, change the package name typing new value to the Package name field, or disable exclusion filters by unchecking checkboxes next to filters in the list. Note that we do not recommend disable exclusion filters, because they detect and exclude system resources, which are not a part of your package. Such resources could be created or changed as a result of ordinary system work. The Capture installation guide automatically checkbox runs Docu Generator, which serves taking screenshots and saving them into a document.



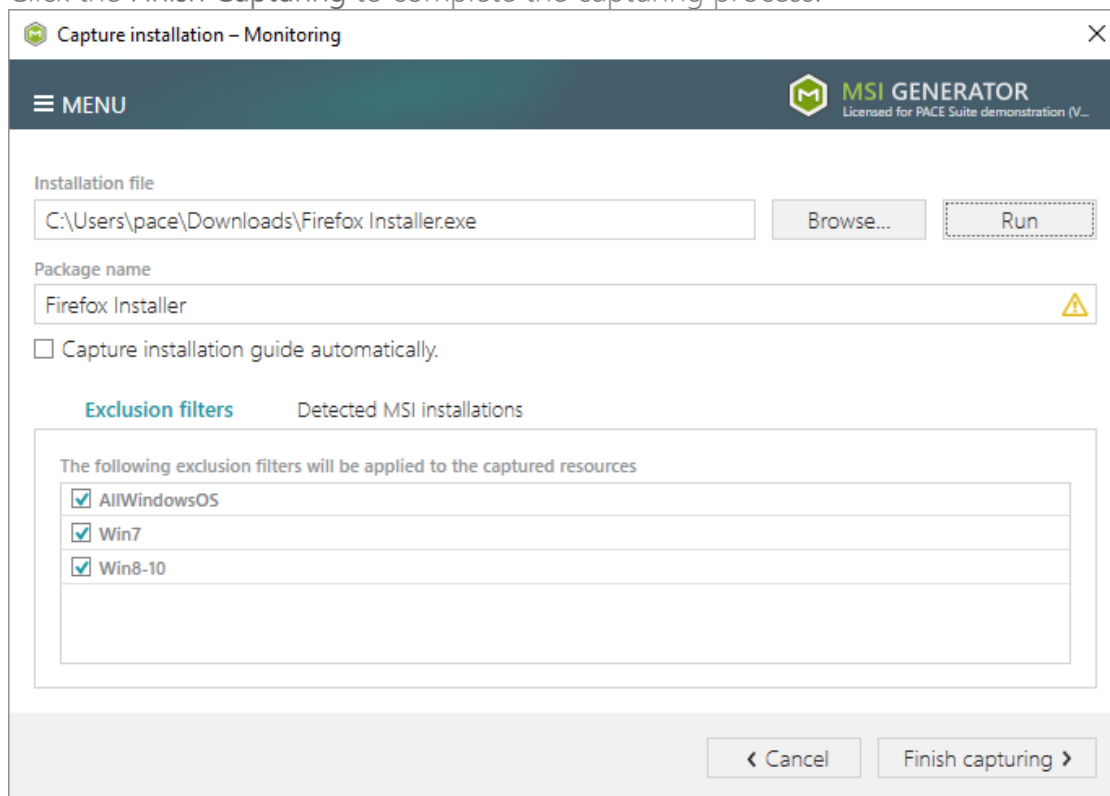
- [8]. Click Run to launch the selected source installation file.



- [9]. Follow installation steps of the launched source installation to complete it. At this phase you can make any application configuration you need to be captured and included into your package.



- [10]. Click the Finish Capturing to complete the capturing process.



- [11]. Please wait a little, while the capturing process is finishing, filtering captured data and creating the project. Once the project is opened, go through the Files, Registry and Shortcuts tabs in order to review captured resources and exclude unnecessary ones from the project. Unnecessary resources are files, registry entries, which are usually created or modified in result of operating system work, and such resources could not be a part of your captured application. Unfortunately, there is no universal rule to discover which of captured files or registry entries should be excluded, so exclude only those ones, which are almost 100% do not refer to your captured application (e.g. NOD32 antivirus files could be a part of Firefox application). Find instructions on how to Exclude or Include back captured resources in sections 3.7.2.1 and 3.7.2.2 respectively.
- [12]. In order to build App-V package from your project, navigate to the Package -> App-V tab, update Application Details like name, publisher, version, choose App-V Settings such

as PVAD, Target OS, App-V version and click Build App-V.

Edit package - Firefox Installer.mgp

MENU Package Files Registry System resources Permissions Shortcuts and FTAs Properties

MSI MST **App-V** Thin App

Application Details

Application name: Mozilla Firefox 51.0.1 (x86 en-US)

Version: 51.0.1

Publisher: Mozilla

App-V Settings

Primary virtual application directory (PVAD): Do not use PVAD (default)

Streaming options:

- ☐ Force application to be fully downloaded before launching.

Target OS:

- ☒ Allow this package to be run on any operating system
- ☐ Allow this package to be run only on the selected operating systems

Select OS...

Advanced options:

- ☐ Allow all named objects to interact with the local system
- ☐ Allow all COM objects to interact with the local system
- ☐ Allow virtual application full write permissions to the virtual file system
- ☐ Enable Browser Helper Objects

App-V Package Options

App-V version: App-V 5.2 (1607) package format version

Package name: Firefox Installer

Package folder: C:\Users\pace\Documents\MSI Generator\Packages\Firefox

Browse... Go to...

Description:

Build log: Open log

Type	Elapsed	Step
------	---------	------

Elapsed time: 00:00

Build App-V

- [13]. Click Go to..., located next to the Package folder field, to open the package containing folder in Windows Explorer.

Edit package - Firefox Installer.mgp

MENU Package Files Registry System resources Permissions Shortcuts and FTAs Properties

MSI MST **App-V** Thin App

Application Details

Application name: Mozilla Firefox 51.0.1 (x86 en-US)

Version: 51.0.1

Publisher: Mozilla

App-V Settings

Primary virtual application directory (PVAD): Do not use PVAD (default)

Streaming options:

- ☐ Force application to be fully downloaded before launching.

Target OS:

- ☒ Allow this package to be run on any operating system
- ☐ Allow this package to be run only on the selected operating systems

Select OS...

Advanced options:

- ☐ Allow all named objects to interact with the local system
- ☐ Allow all COM objects to interact with the local system
- ☐ Allow virtual application full write permissions to the virtual file system
- ☐ Enable Browser Helper Objects

App-V Package Options

App-V version: App-V 5.2 (1607) package format version

Package name: Firefox Installer

Package folder: C:\Users\pace\Documents\MSI Generator\Packages\Firefox

Browse... Go to...

Description:

Build log: Open log

Type	Elapsed	Step
	00:00:20	Operation was completed successfully
	00:00:06	Saving package
	00:00:06	Processing software clients
	00:00:06	Processing environment variables
	00:00:06	Processing URL protocols
	00:00:06	Processing application capabilities
	00:00:06	Processing FTAs
	00:00:06	Processing browser plugins
	00:00:06	Processing COM objects
	00:00:05	Processing services

Elapsed time: 00:00:20

Build App-V

3.5 New ThinApp

Choose a scenario that better suits your needs:

- Create ThinApp from Scratch, described in section 3.5.1
Create a project file in MSI Generator, import necessary resources to the project and generate ready for the deployment ThinApp package.
- Repackage EXE to ThinApp, described in section 3.5.2
Recapture your source installation (EXE, MSI, VBS, CMD, etc.) into ThinApp package using MSI Generator.

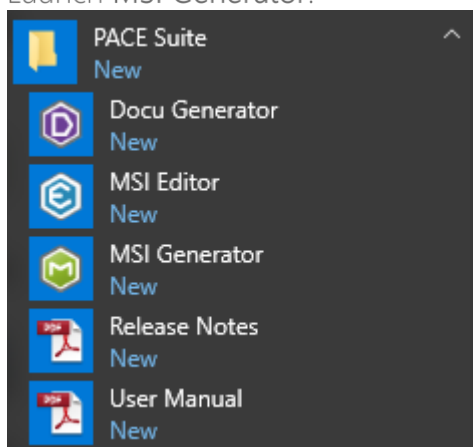
NOTE Ensure that the target system contains necessary software:

VMware ThinApp (5.0.0/5.0.1/5.1.0/5.1.1/5.2.0)

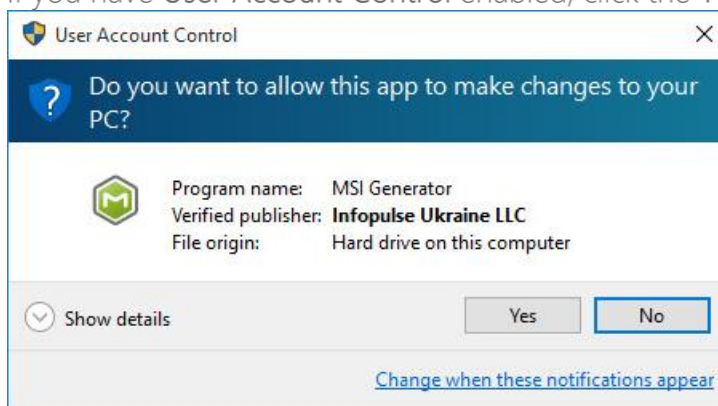
3.5.1 Create ThinApp from Scratch

Create a project file in MSI Generator, import necessary resources to the project and generate ready for the deployment ThinApp package.

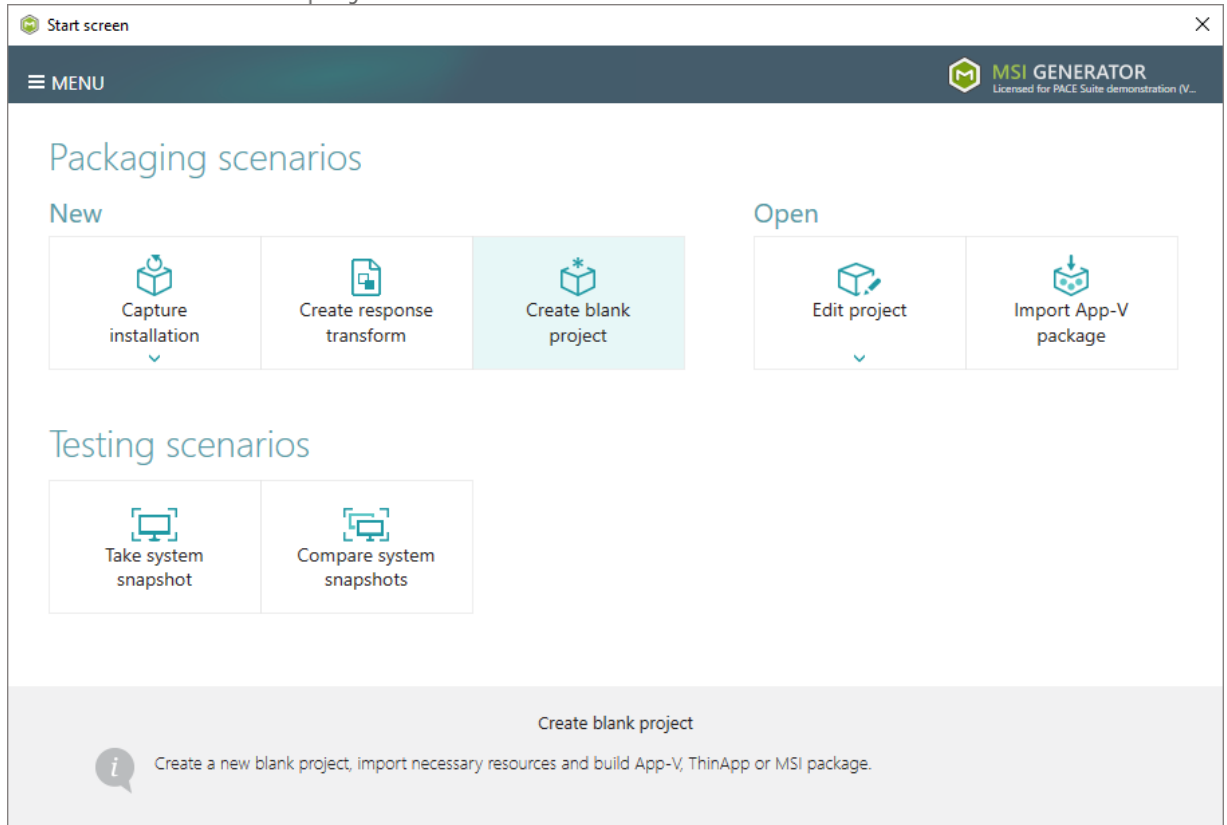
- [1]. Launch MSI Generator.



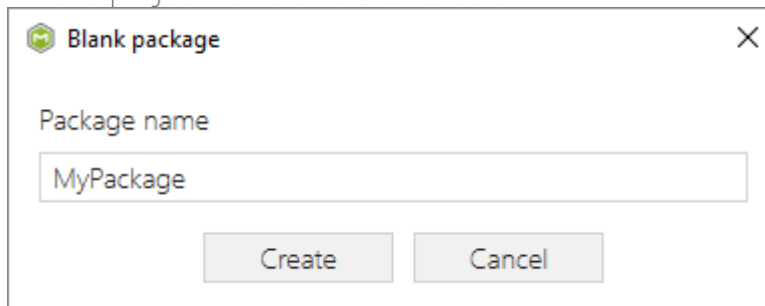
- [2]. If you have User Account Control enabled, click the Yes in the opened window.



- [3]. Click the Create blank project.



- [4]. Enter a project name and click Create.



- [5]. Add necessary resources (like files, registry, shortcuts, etc.) to your project file, which later will be saved to your package. Find instructions on how to edit project in section 3.7
- [6]. In order to build ThinApp package from your project, navigate to the Package -> ThinApp tab, update ThinApp Settings like selecting entry points, primary data container, isolation

modes, sandbox location, and click Build ThinApp.

The screenshot shows the 'Edit package - MyPackage.mgp' window with the 'Thin App' tab selected. The 'ThinApp Settings' section on the left includes 'Entry points' (a table with 'my application.exe' selected), 'Primary data container' (set to 'my application.exe'), 'Compression' (unchecked), 'File system isolation mode' (set to 'Full write access to non-system directories (Merged)'), and 'Sandbox location' (set to 'User profile (%AppData%\Thinstall)'). The 'ThinApp Package Options' section on the right includes 'Inventory name' (MyPackage), 'Generate MSI package' (unchecked), 'Project location' (C:\Users\pace\Documents\MSI Generator\Packages\MyPa), 'Build Details' (Wow64=0, AltArchitectureShortcut=1 checked, LoadDotNetFromSystem=Win7 unchecked), and 'Build log' (empty table). The 'Build ThinApp' button is visible at the bottom right.

Name	Description
<input checked="" type="checkbox"/> my application.exe	C:\Program Files (x86)\my application.exe
<input type="checkbox"/> cmd.exe	Debug entry point
<input type="checkbox"/> regedit.exe	Debug entry point

Type	Elapsed	Step
------	---------	------

- [7]. Click Go to..., located next to the Project location field, to open the package containing folder in Windows Explorer.

The screenshot shows the 'Edit package - MyPackage.mgp' window after a successful build. The 'Build log' table now contains the following entries:

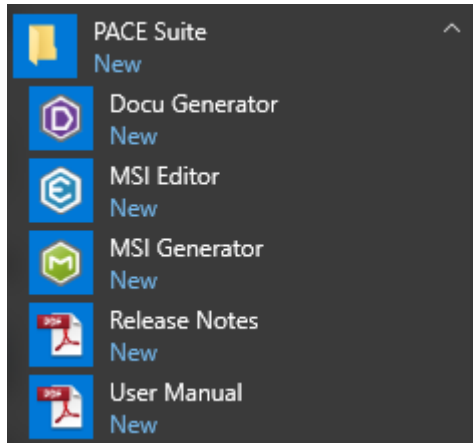
Type	Elapsed	Step
Success	00:02:49	Operation was completed successfully
Success	00:02:49	SUCCESS: my application.exe, size=57856k
Success	00:02:49	Copying file data.. 58% 32512k/55779k
Success	00:02:49	my application.exe:
Success	00:02:48	Enterprise Edition, licensed to demo

The 'Build ThinApp' button is still visible at the bottom right.

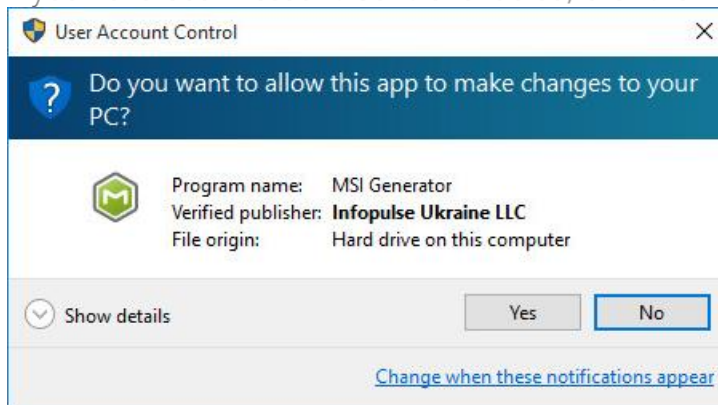
3.5.2 Repackage EXE to ThinApp

Recapture your source installation (EXE, MSI, VBS, CMD, etc.) into ThinApp package using MSI Generator.

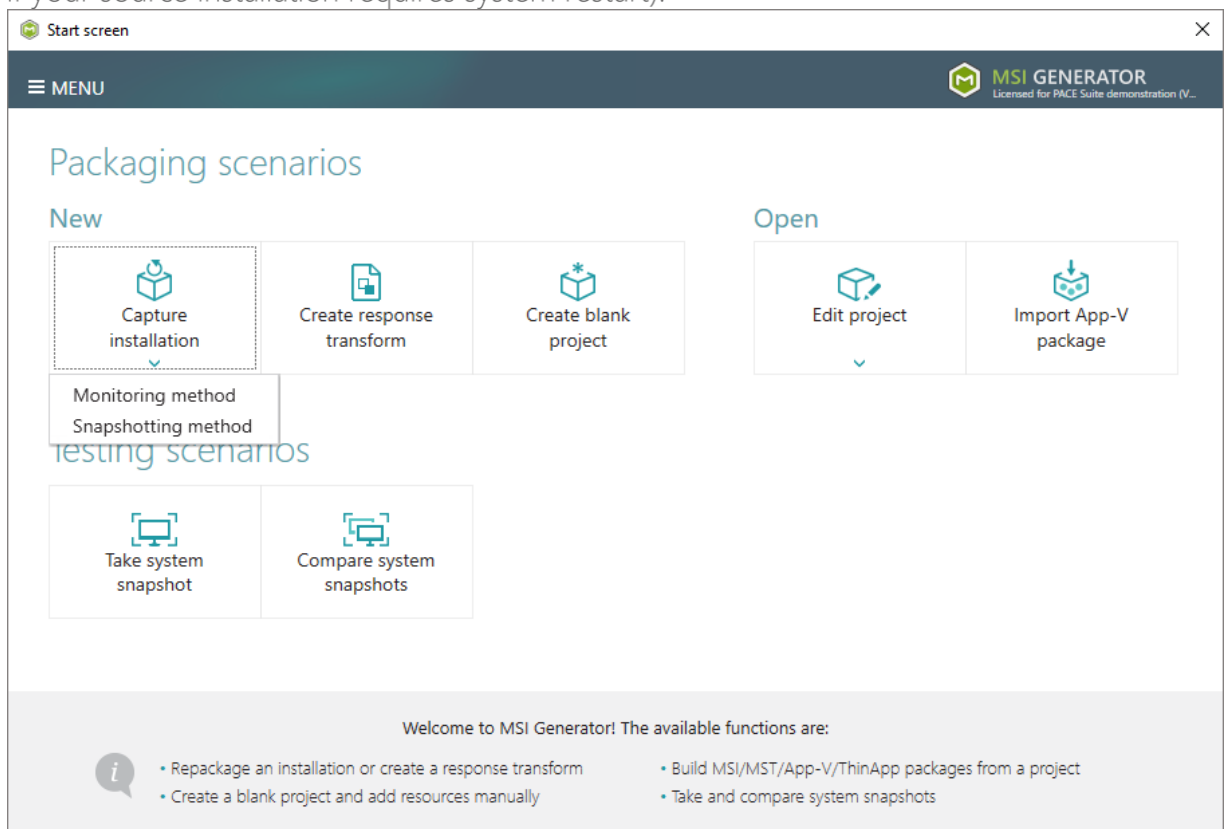
- [1]. Launch MSI Generator.



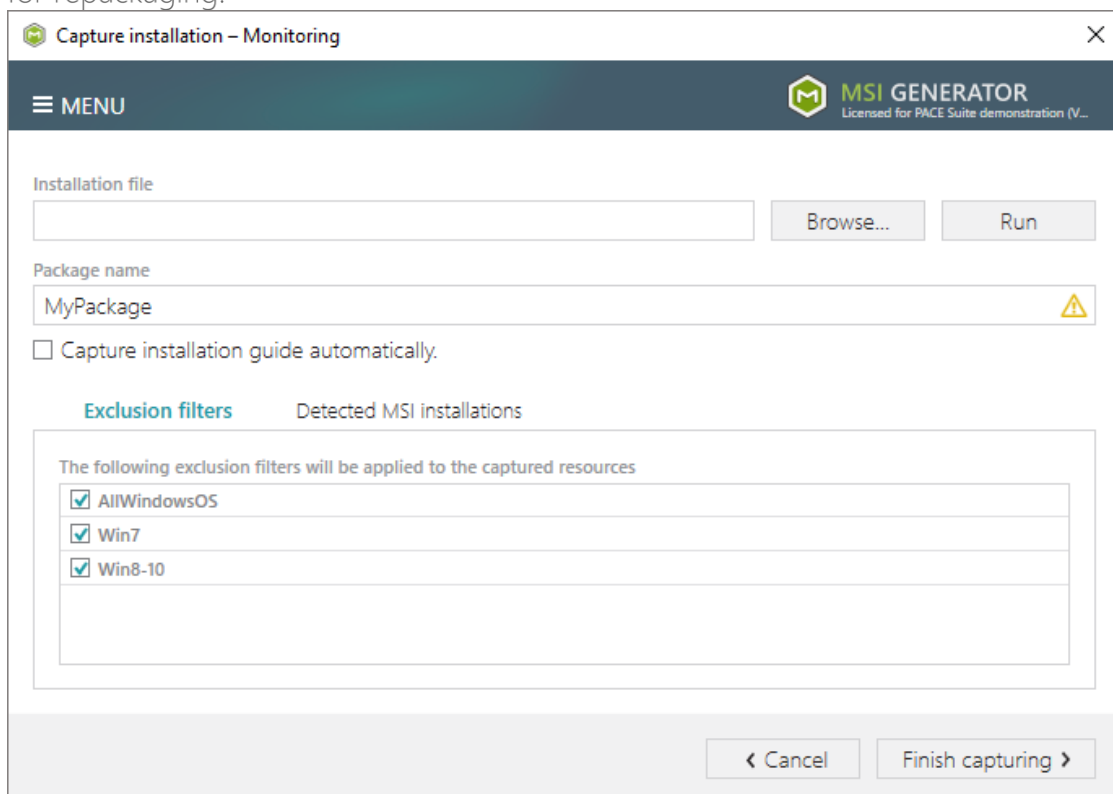
- [2]. If you have User Account Control enabled, click the Yes in the opened window.



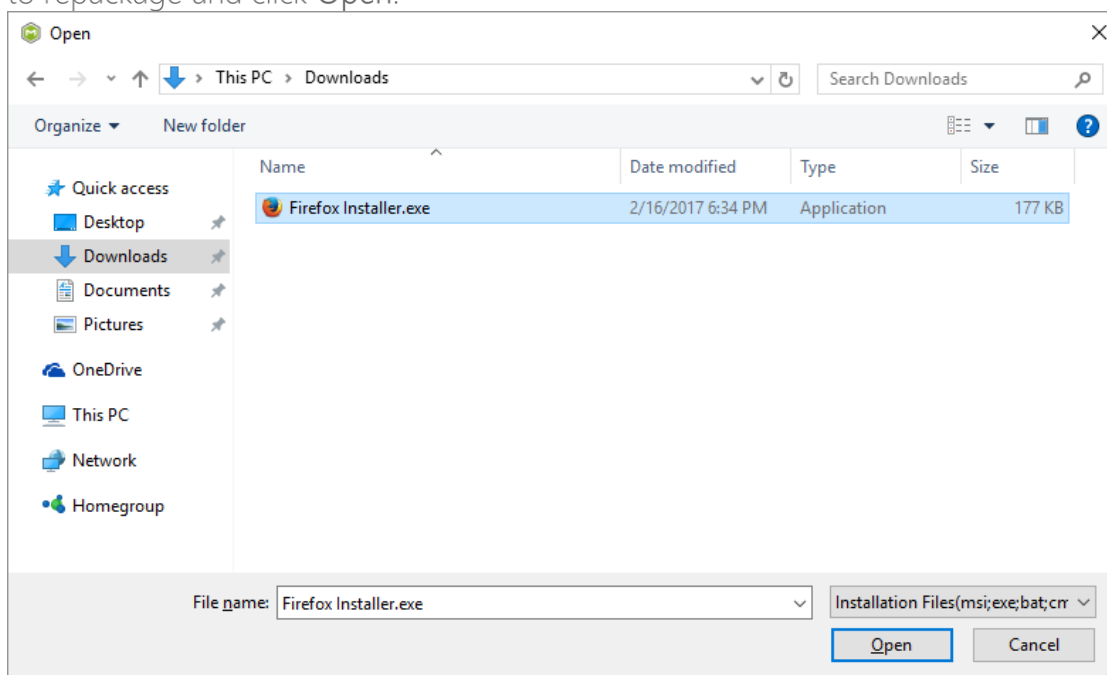
- [3]. Click Capture installation and select the Monitoring method (use the Snapshotting method if your source installation requires system restart).



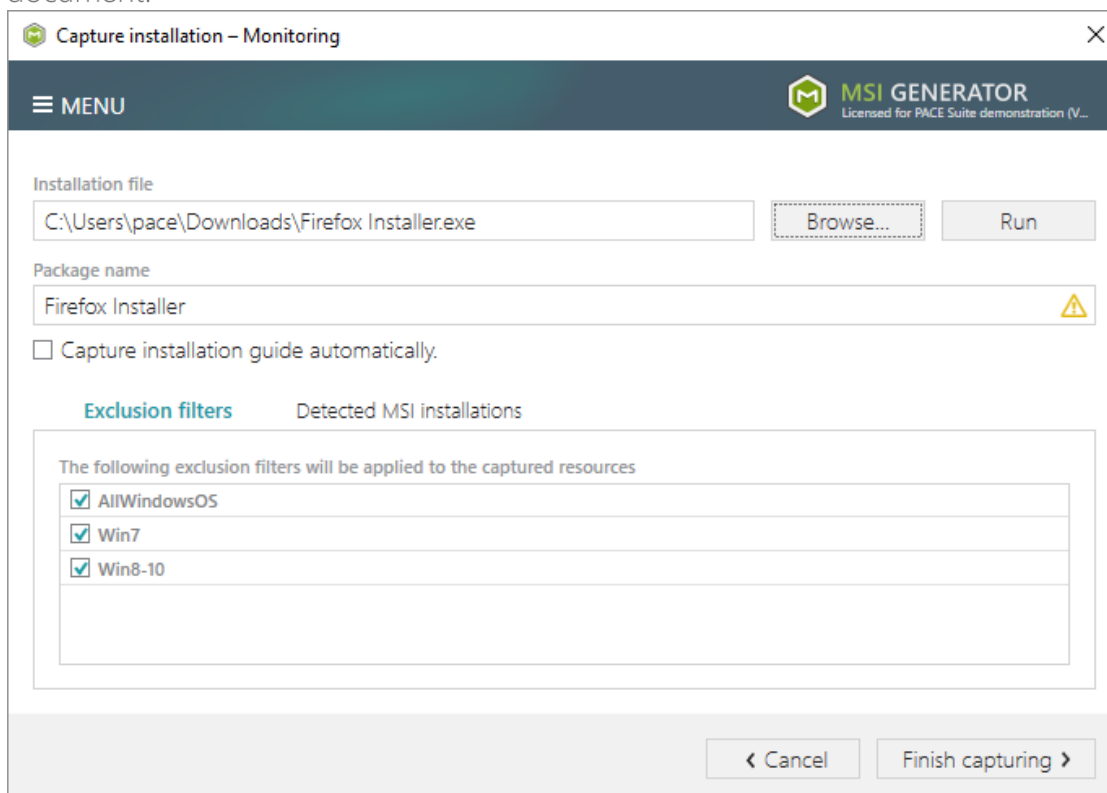
- [4]. Please wait a little, while the capturing process is starting (in case you have selected the Monitoring method on the previous step, wait while the initial system snapshot is taking).
- [5]. Once the capturing process is started, click **Browse...** to choose your source installation file for repackaging.



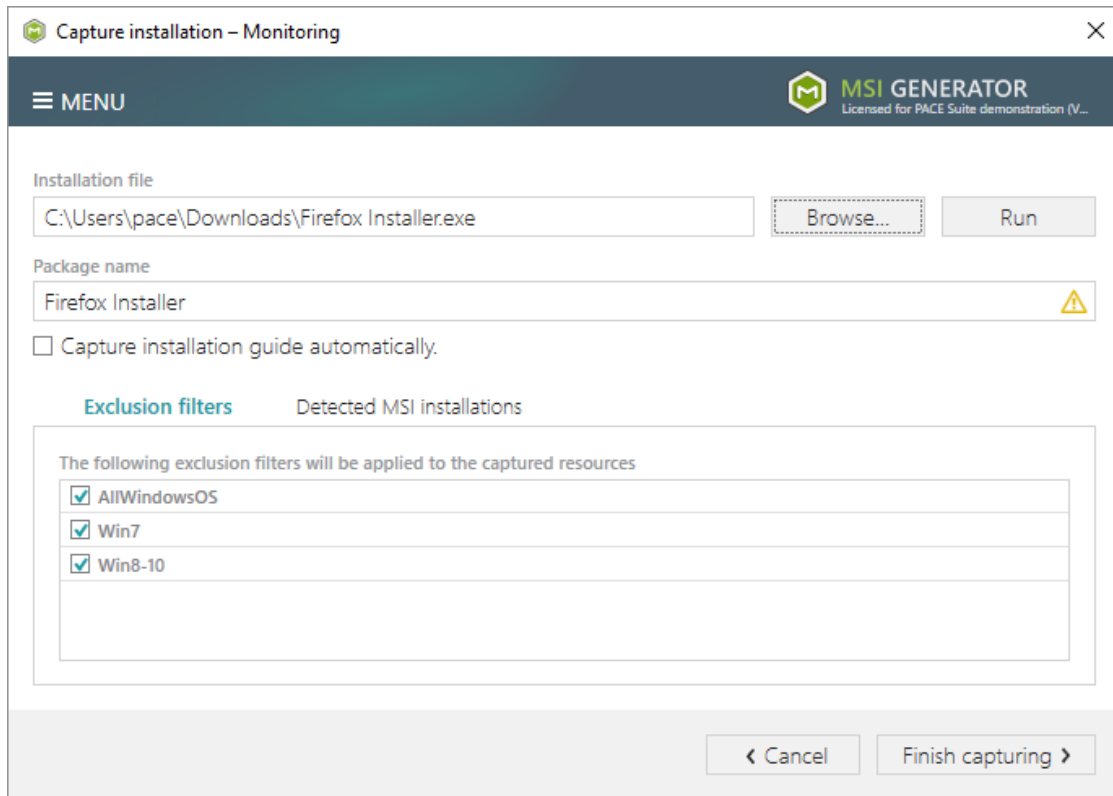
- [6]. Choose an executable file of source installation (e.g. Firefox Installer.exe), which you want to repackage and click Open.



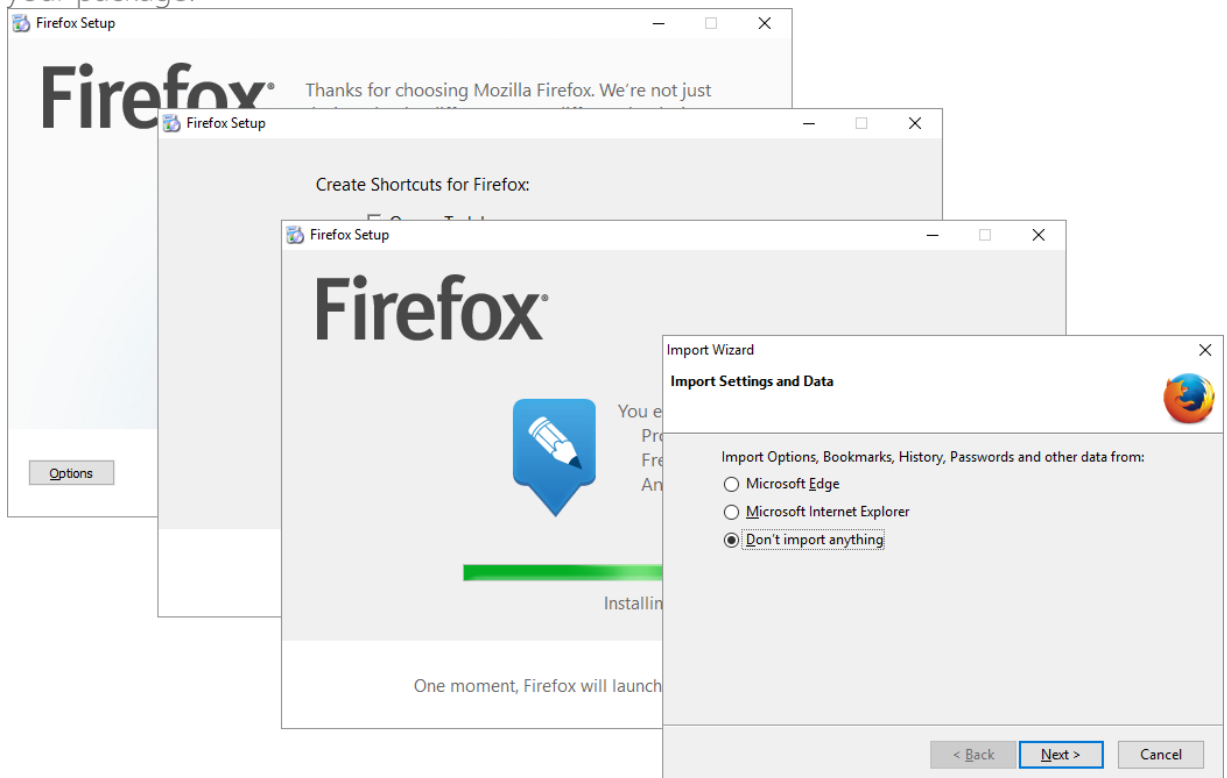
- [7]. If needed, change the package name typing new value to the Package name field, or disable exclusion filters by unchecking checkboxes next to filters in the list. Note that we do not recommend disable exclusion filters, because they detect and exclude system resources, which are not a part of your package. Such resources could be created or changed as a result of ordinary system work. The Capture installation guide automatically checkbox runs Docu Generator, which serves taking screenshots and saving them into a document.



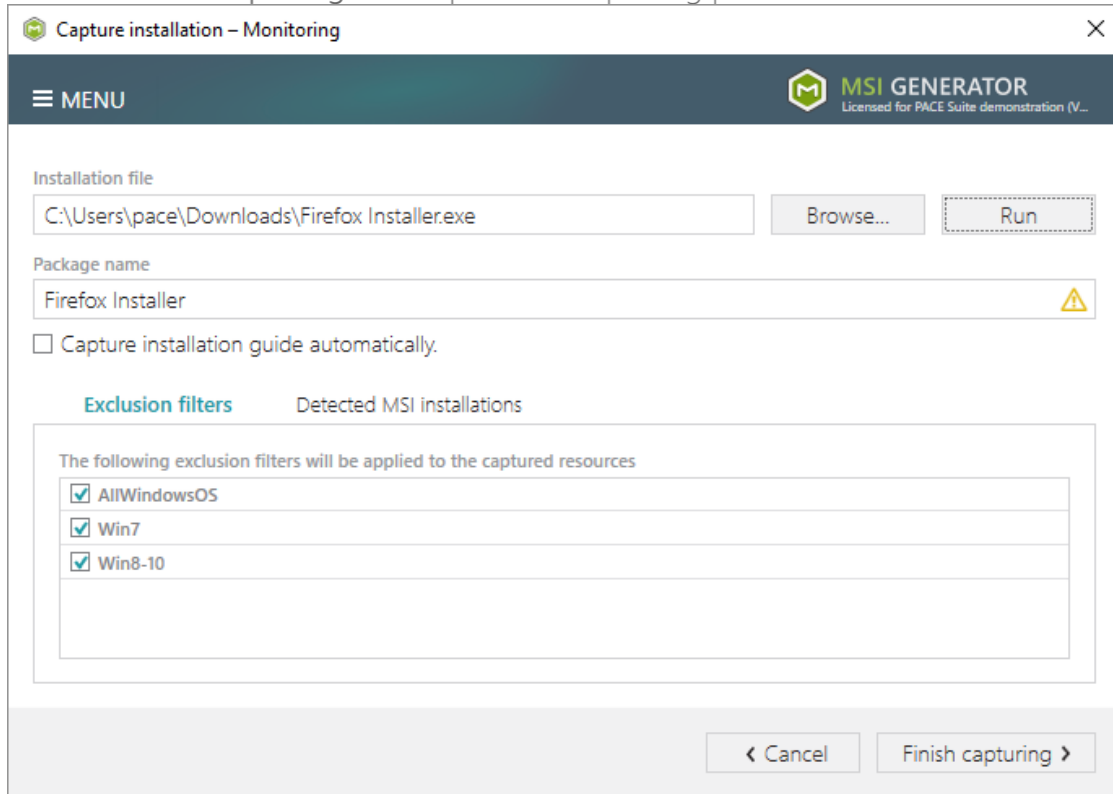
- [8]. Click Run to launch the selected source installation file.



- [9]. Follow installation steps of the launched source installation to complete it. At this phase you can make any application configuration you need to be captured and included into your package.



- [10]. Click the Finish Capturing to complete the capturing process.



- [11]. Please wait a little, while the capturing process is finishing, filtering captured data and creating the project. Once the project is opened, go through the Files, Registry and Shortcuts tabs in order to review captured resources and exclude unnecessary ones from the project. Unnecessary resources are files, registry entries, which are usually created or modified in result of operating system work, and such resources could not be a part of your captured application. Unfortunately, there is no universal rule to discover which of captured files or registry entries should be excluded, so exclude only those ones, which are almost 100% do not refer to your captured application (e.g. NOD32 antivirus files could be a part of Firefox application). Find instructions on how to Exclude or Include back captured resources in sections 3.7.2.1 and 3.7.2.2 respectively.
- [12]. In order to build ThinApp package from your project, navigate to the Package -> ThinApp tab, update ThinApp Settings like selecting entry points, primary data container, isolation

The screenshot displays the 'Edit package - ThinApp Installer.mpg' window. The 'Package' tab is selected, showing the 'ThinApp Settings' on the left and 'ThinApp Package Options' on the right.

ThinApp Settings (Left Panel):

- Entry points:** A table with columns 'Name' and 'Description'. The first entry, 'Mozilla Firefox.exe', is checked.
- Primary data container:** 'Use one of the entry points' is selected, with 'Mozilla Firefox.exe' chosen from the dropdown.
- Compression:** 'Compress virtual package' is unchecked.
- File system isolation mode:** 'Full write access to non-system directories (Merged)' is selected.
- Sandbox location:** 'User profile (%AppData%\Thinapp)' is selected.

ThinApp Package Options (Right Panel):

- Inventory name:** 'Mozilla Firefox 51.0.1 (x86 en-US)'.
- Generate MSI package:** Unchecked.
- Project location:** 'C:\Users\pace\Documents\MSI Generator\Packages\Firefox'. 'Browse...' and 'Go to...' buttons are present.
- Build Details:**
 - 'Wow64=0' is unchecked.
 - 'AltArchitectureShortcut=1' is checked.
 - 'LoadDotNetFromSystem=Win7' is unchecked.
 - 'Only prepare ThinApp package structure' is unchecked.
 - 'Prepare ThinApp package structure and build the package' is selected.
- Build log:** A table with columns 'Type', 'Elapsed', and 'Step'. An 'Open log' button is next to it.
- Elapsed time:** '00:00'.
- Bottom Right:** A 'Build ThinApp' button.

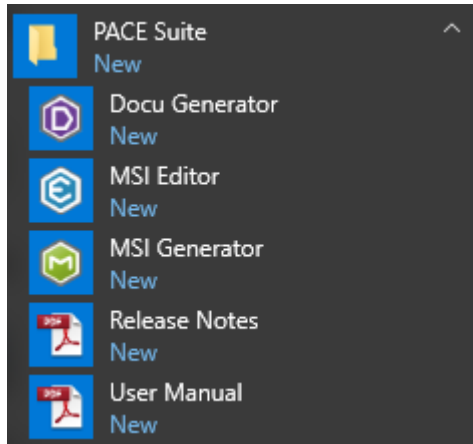
- [illegible]

3.6 Edit MSI/MST

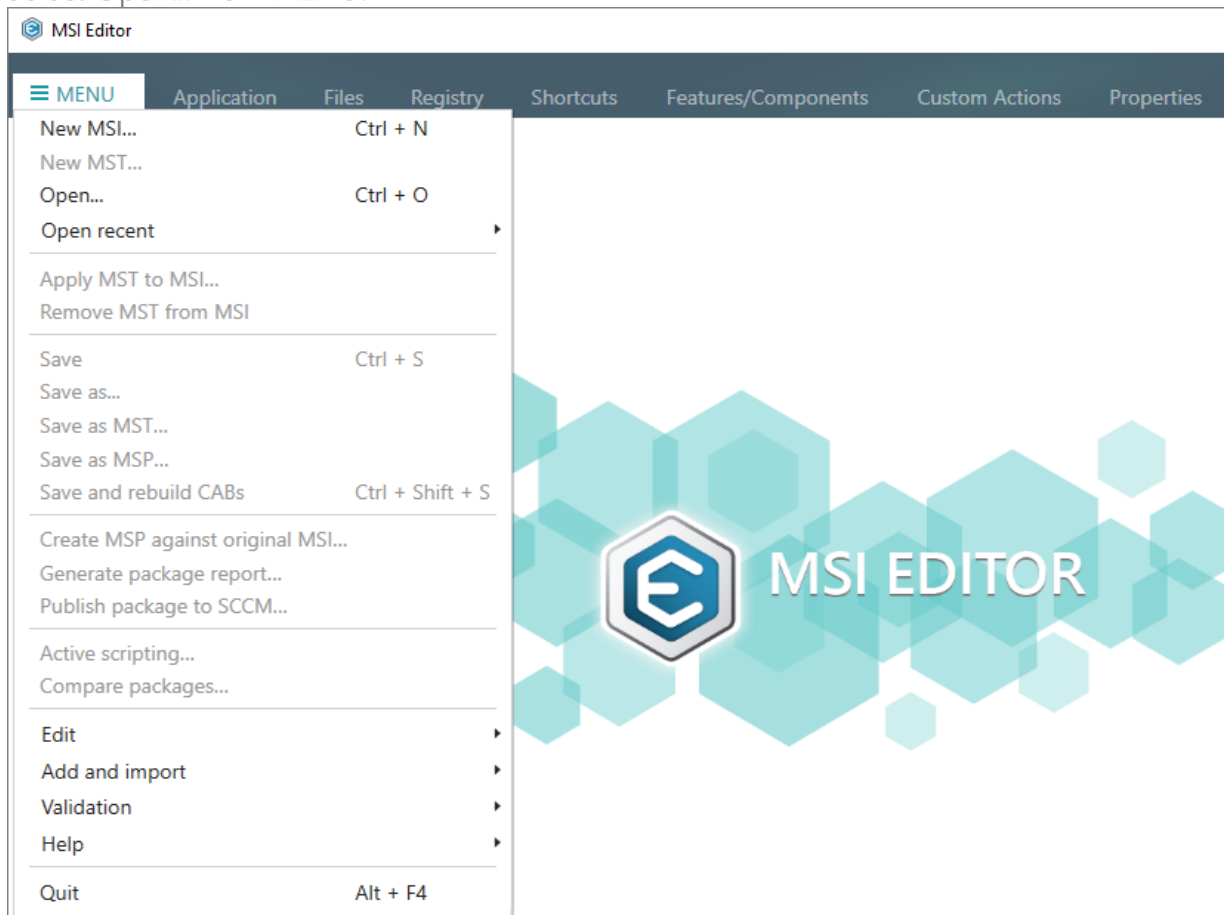
3.6.1 Pre-Condition

Open an MSI package following the instructions below:

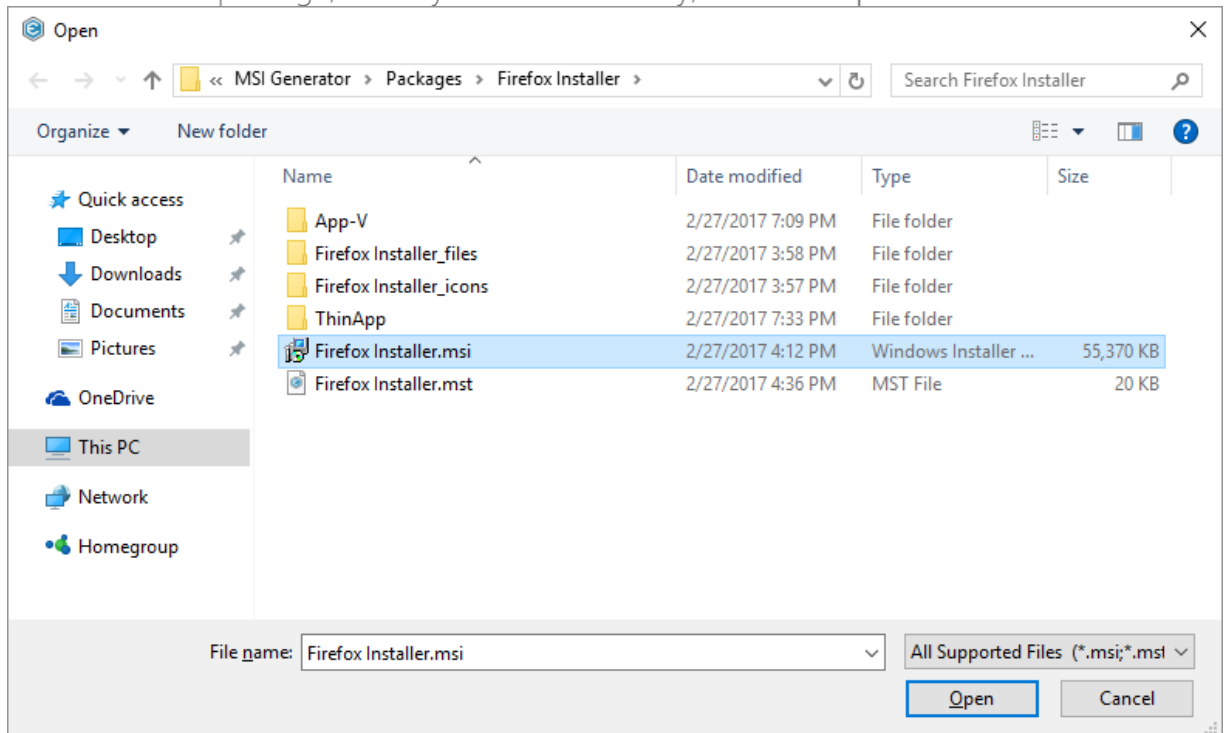
- [1]. Launch MSI Editor.



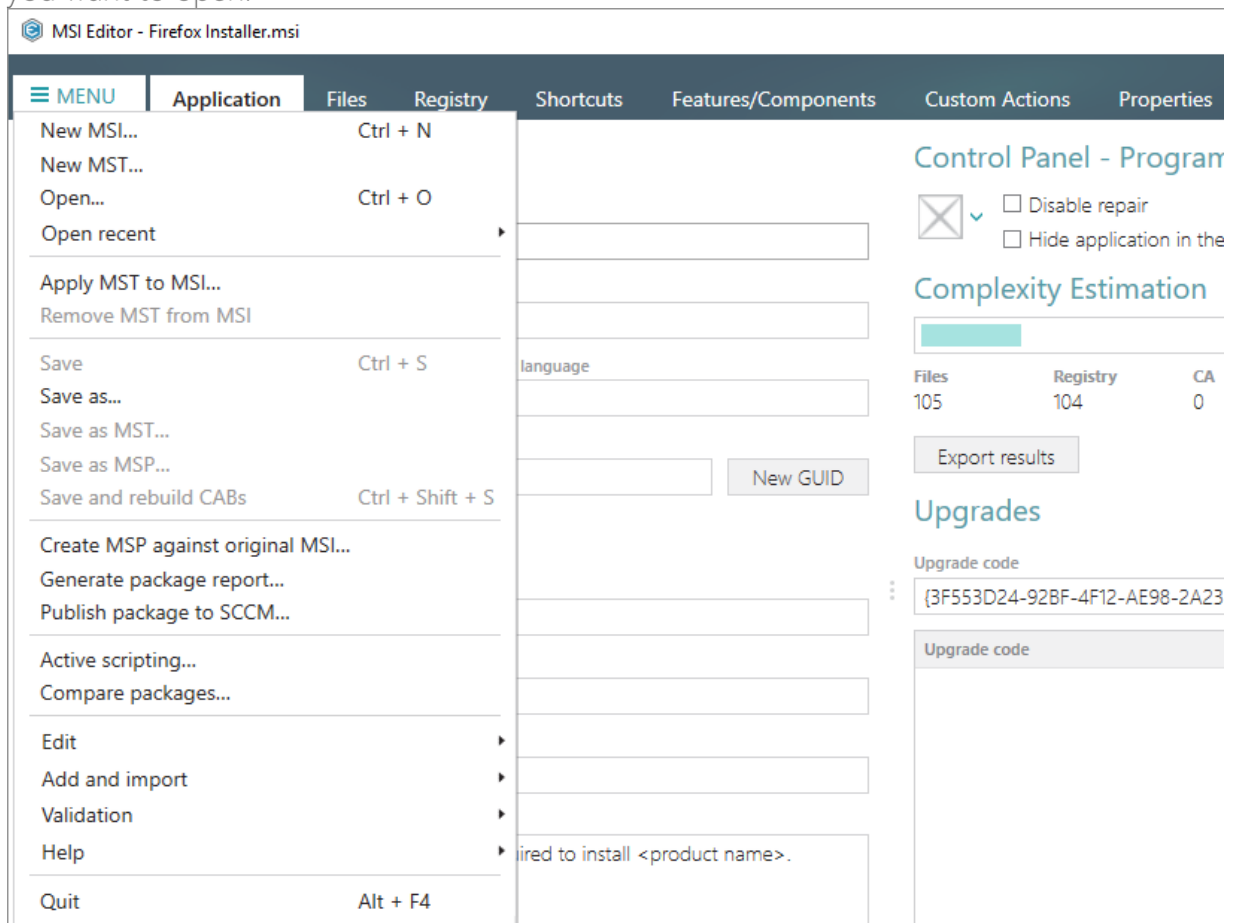
- [2]. Select Open... from MENU.



- [3]. Choose an MSI package, which you want to modify, and click **Open**.



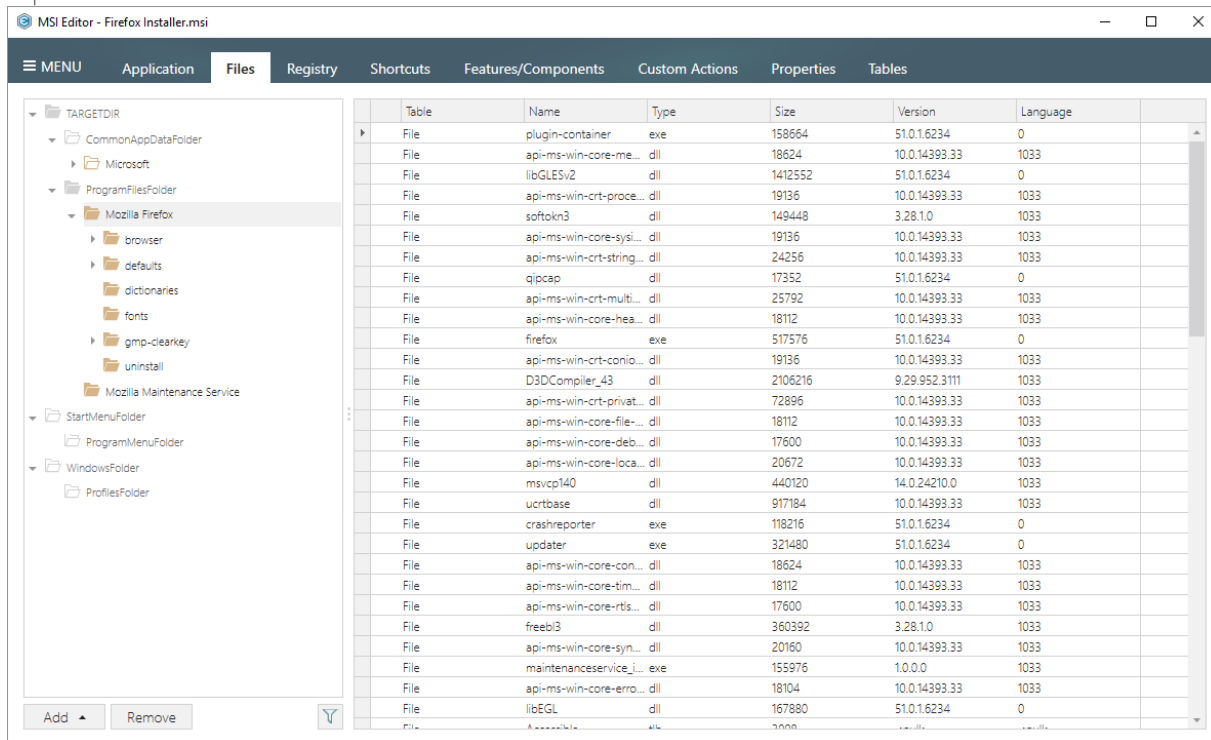
- [4]. If needed, you can apply MST by selecting **Apply MST to MSI...** and choosing an MST file you want to open.



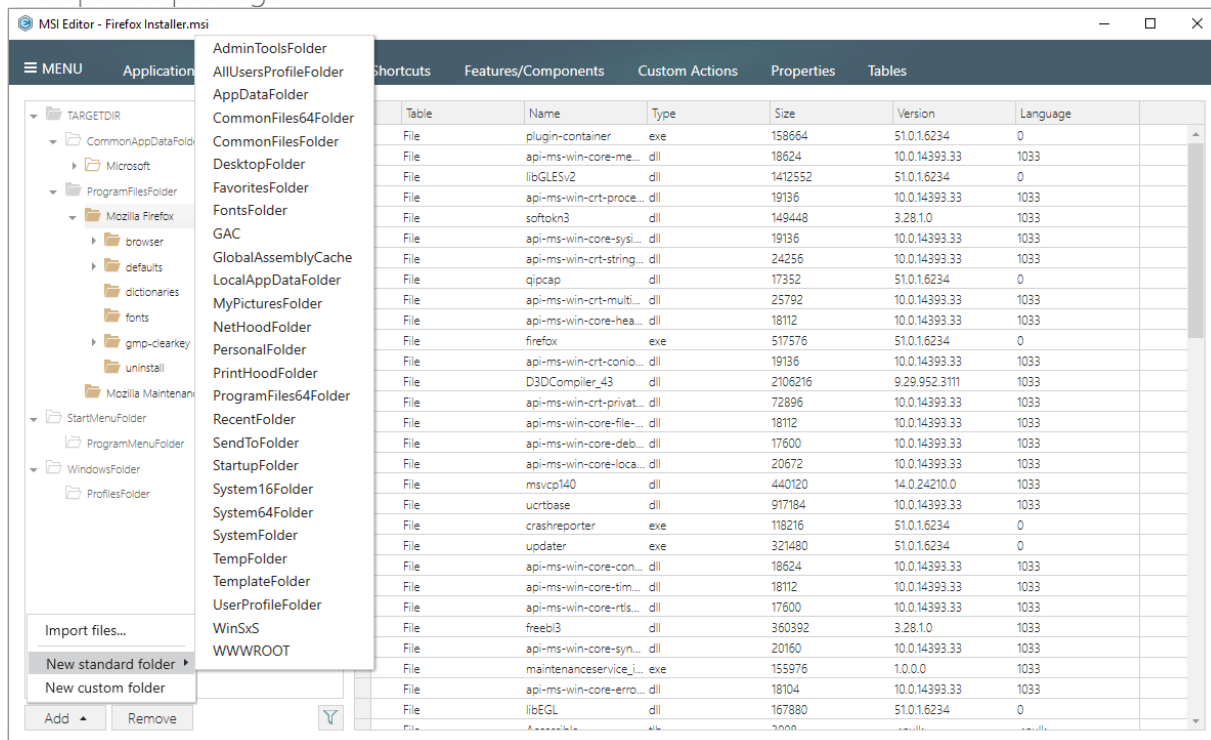
3.6.2 Files and Folders

3.6.2.1 Add Standard MSI Folder

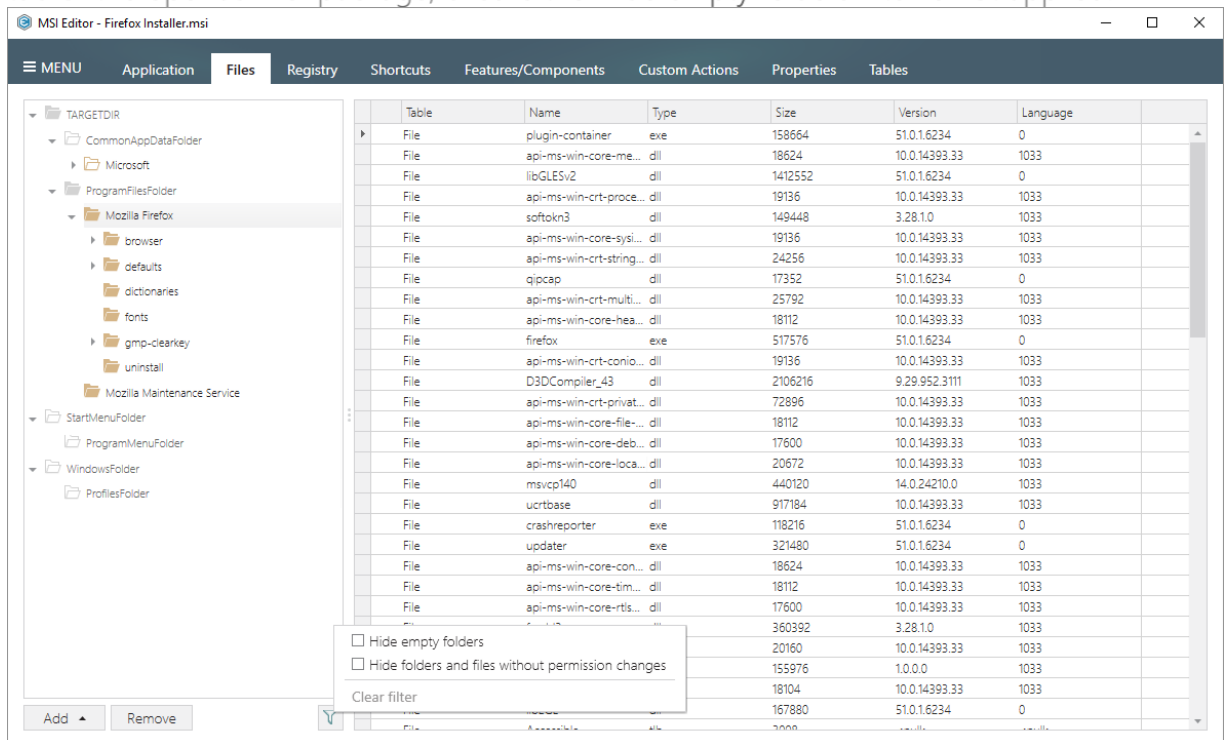
- [1]. Open the Files tab.



- [2]. Click Add -> New standard folder and choose necessary standard folder from the dropped list. The list of standard folders contains only those folders, which do not exist in the opened package.

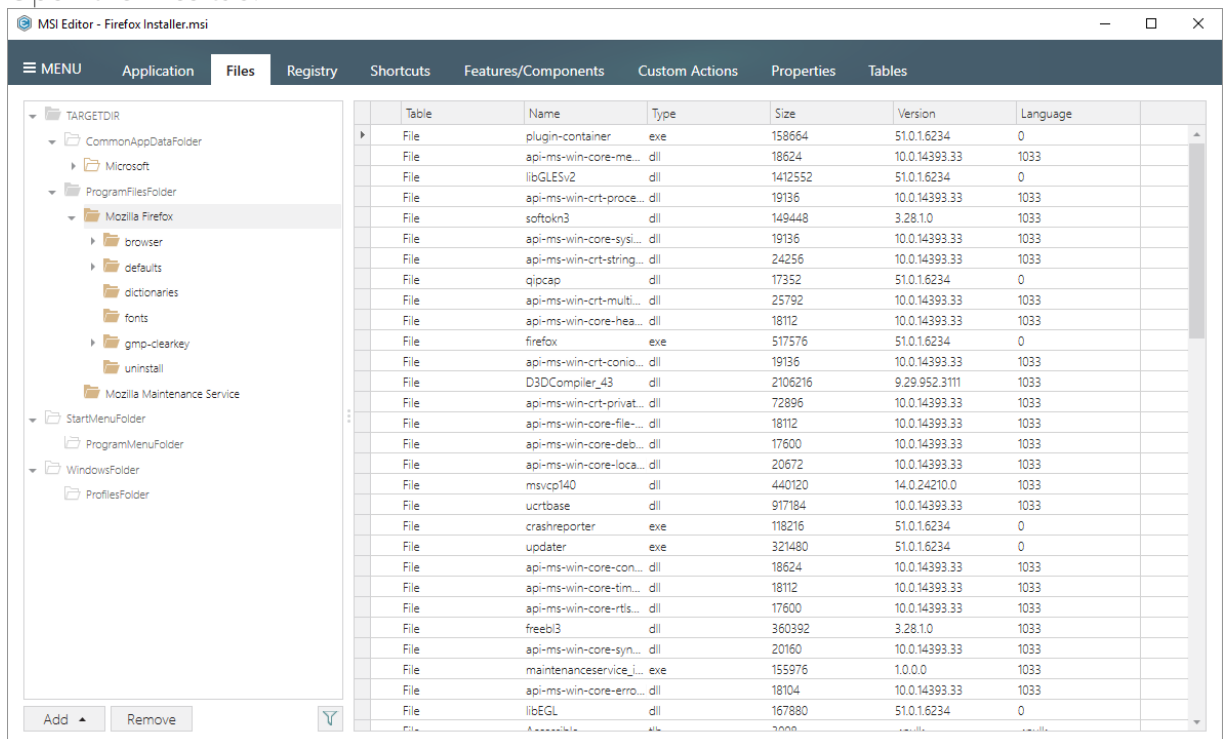


- [3]. If you cannot find standard folder in the dropped list and in the folder Tree on the Files tab of the opened MSI package, ensure the Hide empty folders filter is not applied.

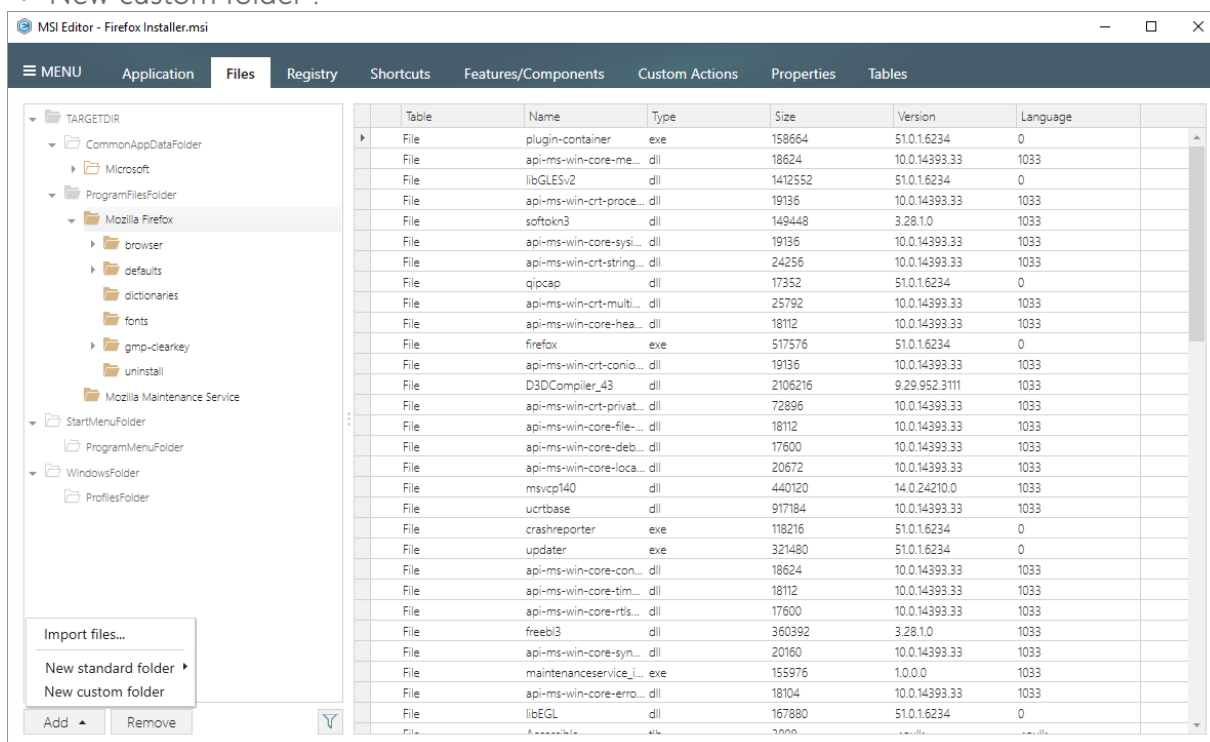


3.6.2.2 Add Custom Folder

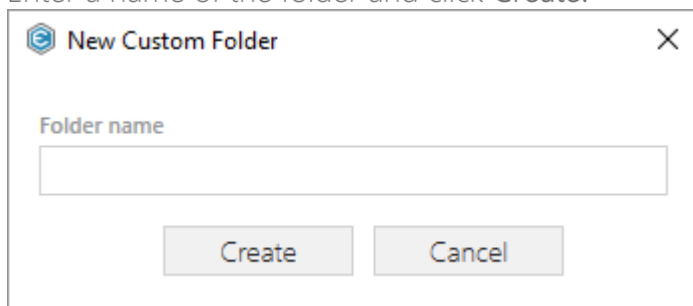
- [1]. Open the Files tab.



- [2]. Select a folder in the folder Tree, to which you want to add a custom folder, and click Add -> New custom folder .



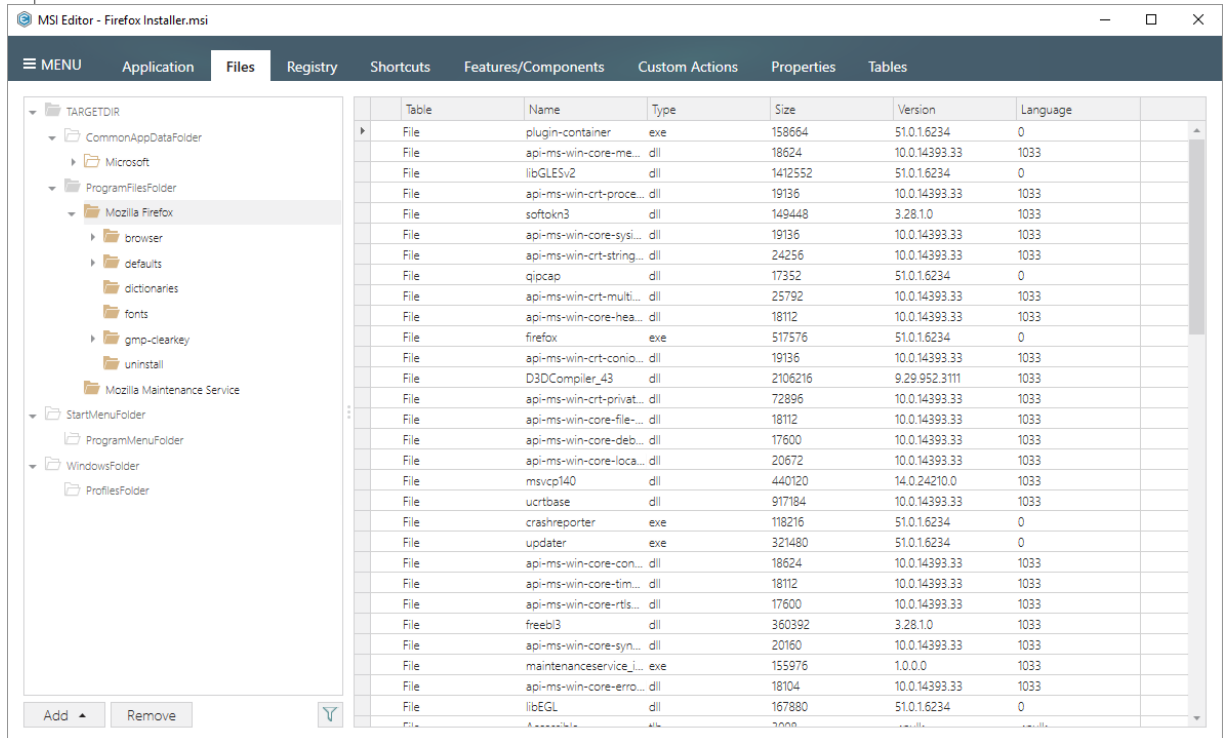
- [3]. Enter a name of the folder and click Create.



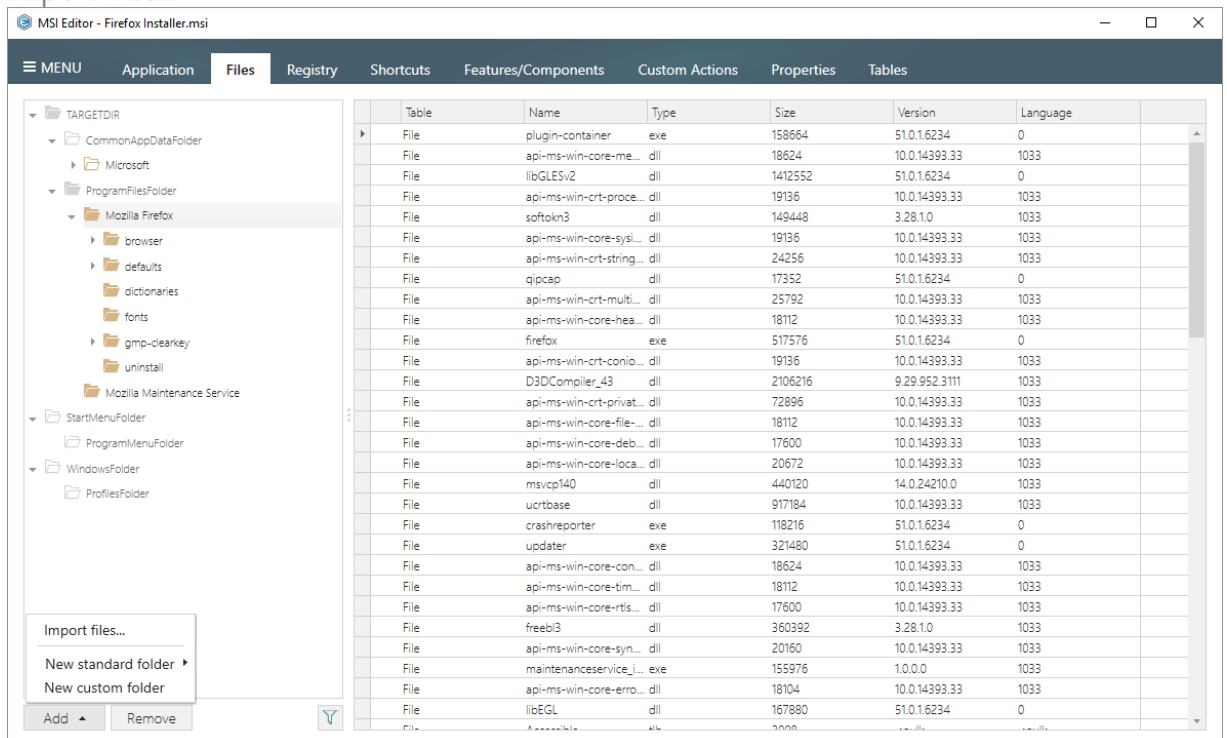
3.6.2.3 Import Files and COM Information

NOTE MSI Editor allows extracting and importing registration information of COM objects from the selected (*.DLL, *.OCX, *.LTB) files.

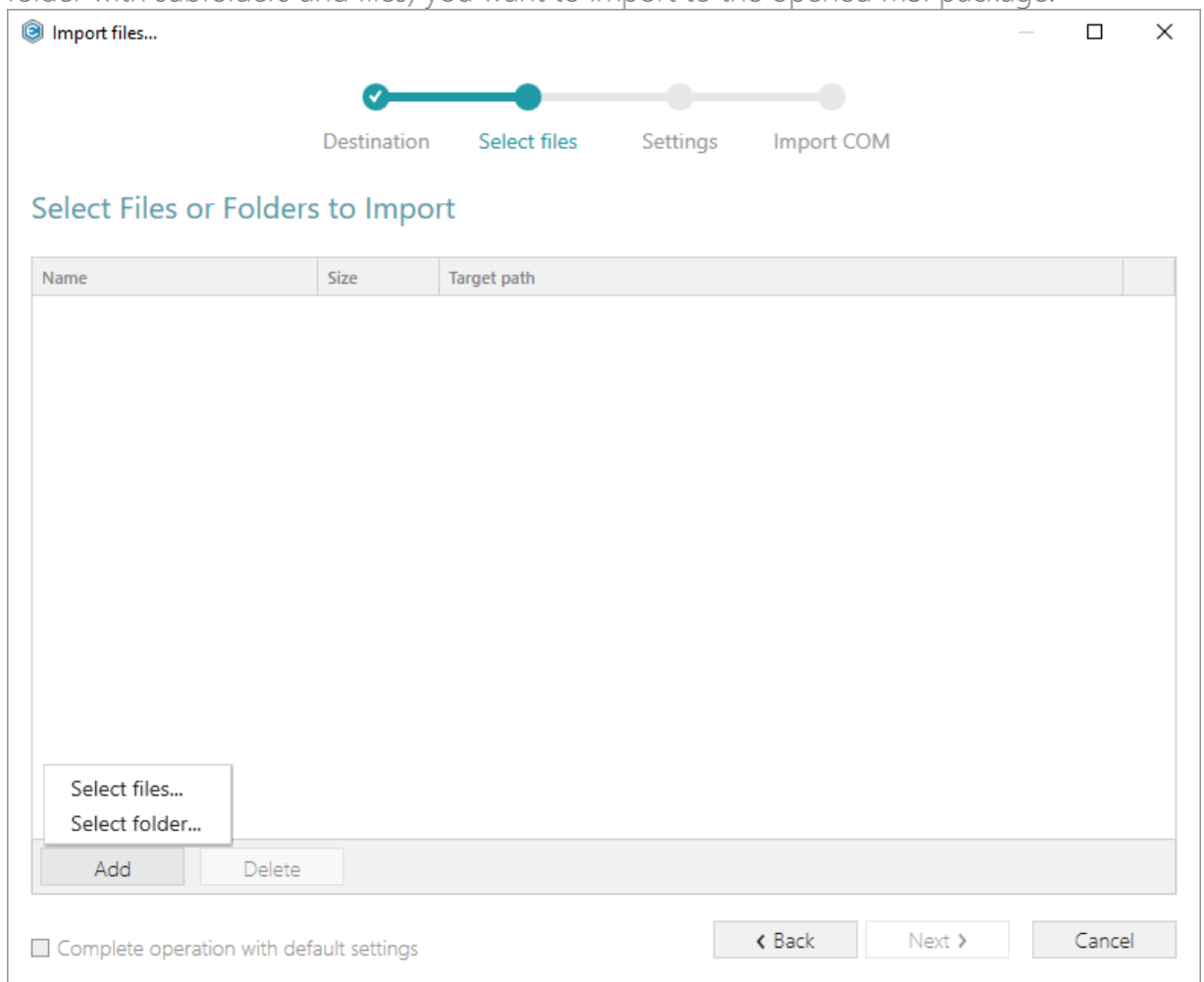
[1]. Open the Files tab.



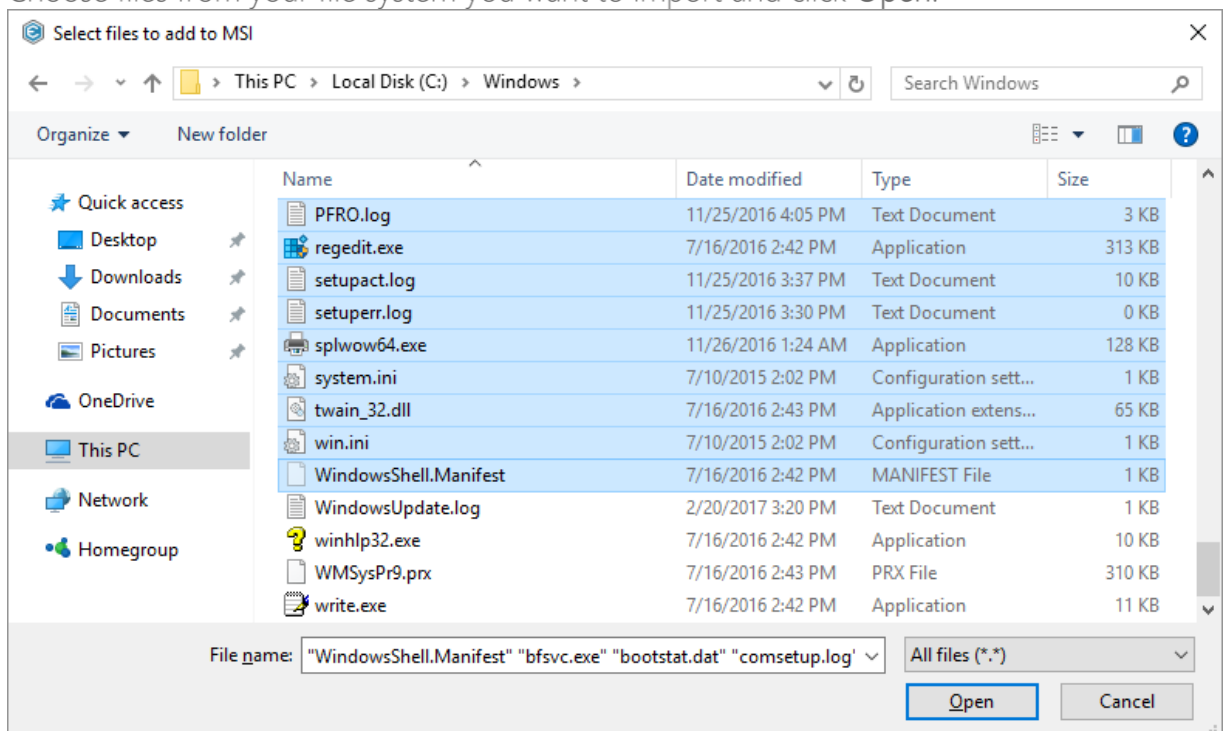
[2]. Select a folder in the folder Tree, to which you want to import files, and click Add -> Import files...



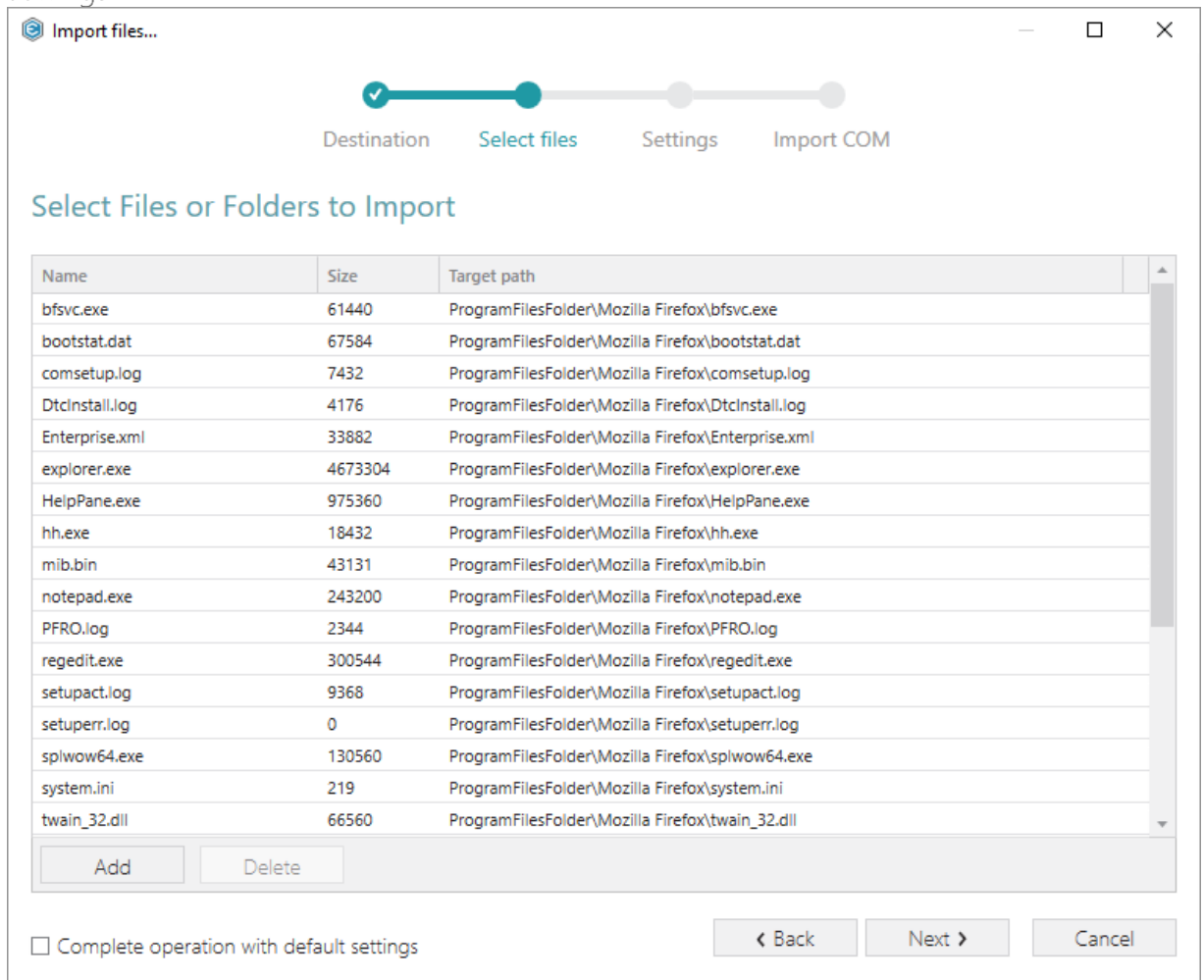
- [3]. Click Add -> Select files... to choose files in a folder (or Add -> Add folder... to choose folder with subfolders and files) you want to import to the opened MSI package.



- [4]. Choose files from your file system you want to import and click Open.



- [5]. Review, add more or remove the chosen files and click **Next** to choose the file import settings.



- [6]. Choose options for INI file handling, MSI Featur assignment and Compression type for the chosen files and click **Next**.

Import files...

✓

✓

DestinationSelect filesSettingsImport COM

Settings

Select how to handle INI files

INI files

Install standard INI files via IniFile table; non-standard via File table (recommended)

[Show non-standard INI-files](#)

Select a feature to assign new components to

Feature

<New Feature>

New feature...

☒ Create new feature

Select a compression type for new files

Media type

New CAB file

☐ Complete operation with default settings

< Back

Next >

Cancel

Find settings description below in table.

Setting group	Selected Value	Description
INI files	<ul style="list-style-type: none">Install standard INI files via IniFile table; non-standard via Files table (recommended)	INI files, which do not contain comments or other unsupported INI data, (standard) will be saved to the IniFile table. All other INI files, which contain comments or other unsupported INI data (non-standard) will be saved to the File table as regular files.
	<ul style="list-style-type: none">Install all INI files via File table	All INI files will be saved only to the File table as regular files.
	<ul style="list-style-type: none">Install all INI files via File table and duplicate to IniFile table	All INI files 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). Selecting this option allows updating INI file values keeping initial order of the INI sections and file structure.
Feature	<a selected feature>	A feature, to which new components of imported files will be assigned.
	[x] Create new feature	The "PACE_Complete" feature for the per-machine files and "PACE_UserPart" feature for the per-user files will be created and linked with components of imported files. The "PACE_UserPart" will be the parent feature for the "PACE_Complete" one.
Media type	New Cab file	Imported files will be compressed into the external CAB file.
	Uncompressed	Imported files will be copied to the folder of the opened MSI package and left uncompressed.
	Existing	Imported files will be compressed into the recently created external CAB file.

- [7]. Review the COM information, extracted from the selected files, and select the **Import COM information** option to import this registration information into the Registry table of the opened MSI package. Click **Finish** to complete the files import.

Import files...

Destination Select files Settings **Import COM**

Import COM Information

File name	Root	Key	Value name	Value
dmview.ocx	HKCR	CLSID\{AEB84C83-95DC-11D0-B7FC-B61140119C4A}		
dmview.ocx	HKCR	CLSID\{AEB84C83-95DC-11D0-B7FC-B61140119C4A}		C:\Windows\System32\dmview.o
dmview.ocx	HKCR	CLSID\{AEB84C83-95DC-11D0-B7FC-B61140119C4A}	ThreadingModel	Apartment
dmview.ocx	HKCR	CLSID\{AEB84C83-95DC-11D0-B7FC-B61140119C4A}		131473
dmview.ocx	HKCR	CLSID\{AEB84C83-95DC-11D0-B7FC-B61140119C4A}		0
dmview.ocx	HKCR	CLSID\{AEB84C83-95DC-11D0-B7FC-B61140119C4A}		DiskManagement.Control
dmview.ocx	HKCR	CLSID\{AEB84C83-95DC-11D0-B7FC-B61140119C4A}		C:\Windows\System32\dmview.o
dmview.ocx	HKCR	CLSID\{AEB84C83-95DC-11D0-B7FC-B61140119C4A}		{AEB84C80-95DC-11D0-B7FC-B61140119C4A}
dmview.ocx	HKCR	CLSID\{AEB84C83-95DC-11D0-B7FC-B61140119C4A}		1.0
dmview.ocx	HKCR	CLSID\{AEB84C83-95DC-11D0-B7FC-B61140119C4A}		DiskManagement.Control
dmview.ocx	HKCR	CLSID\{AEB84C84-95DC-11D0-B7FC-B61140119C4A}		C:\Windows\System32\dmview.o
dmview.ocx	HKCR	CLSID\{AEB84C84-95DC-11D0-B7FC-B61140119C4A}		DiskManagement.PropertyPage
dmview.ocx	HKCR	DiskManagement.Control\CLSID		{AEB84C83-95DC-11D0-B7FC-B61140119C4A}

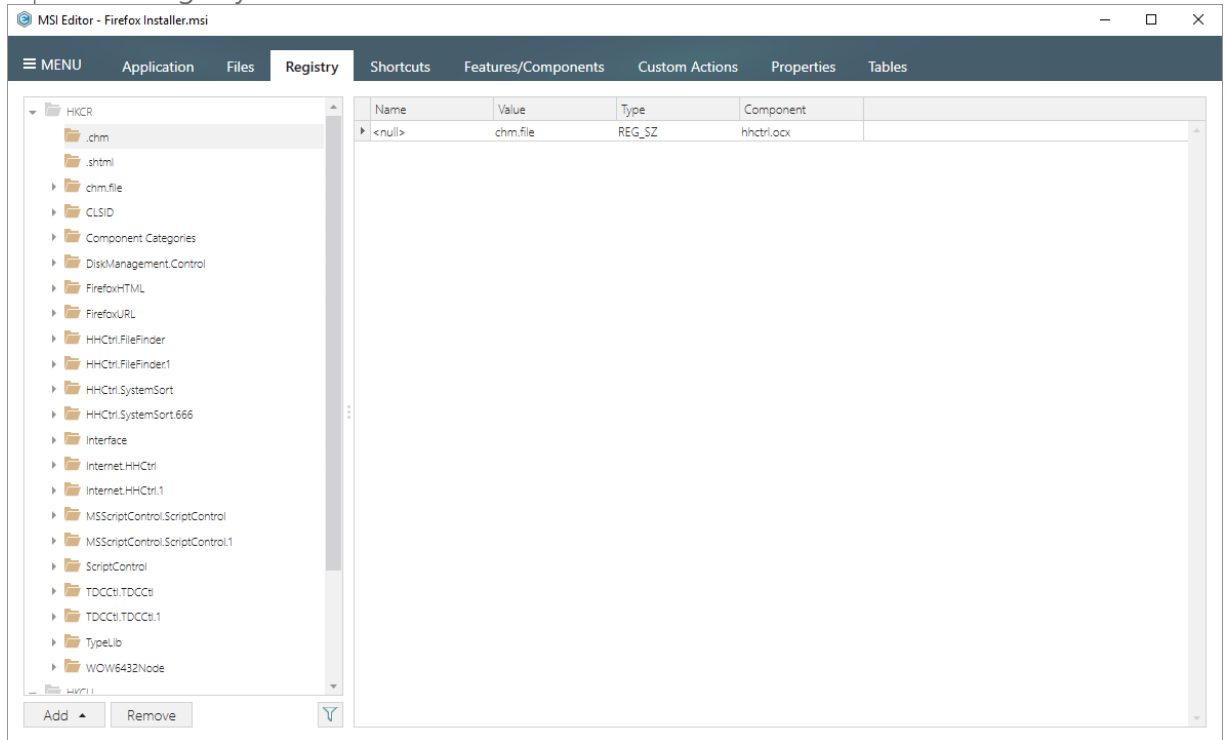
☐ Import COM information

< Back Finish Cancel

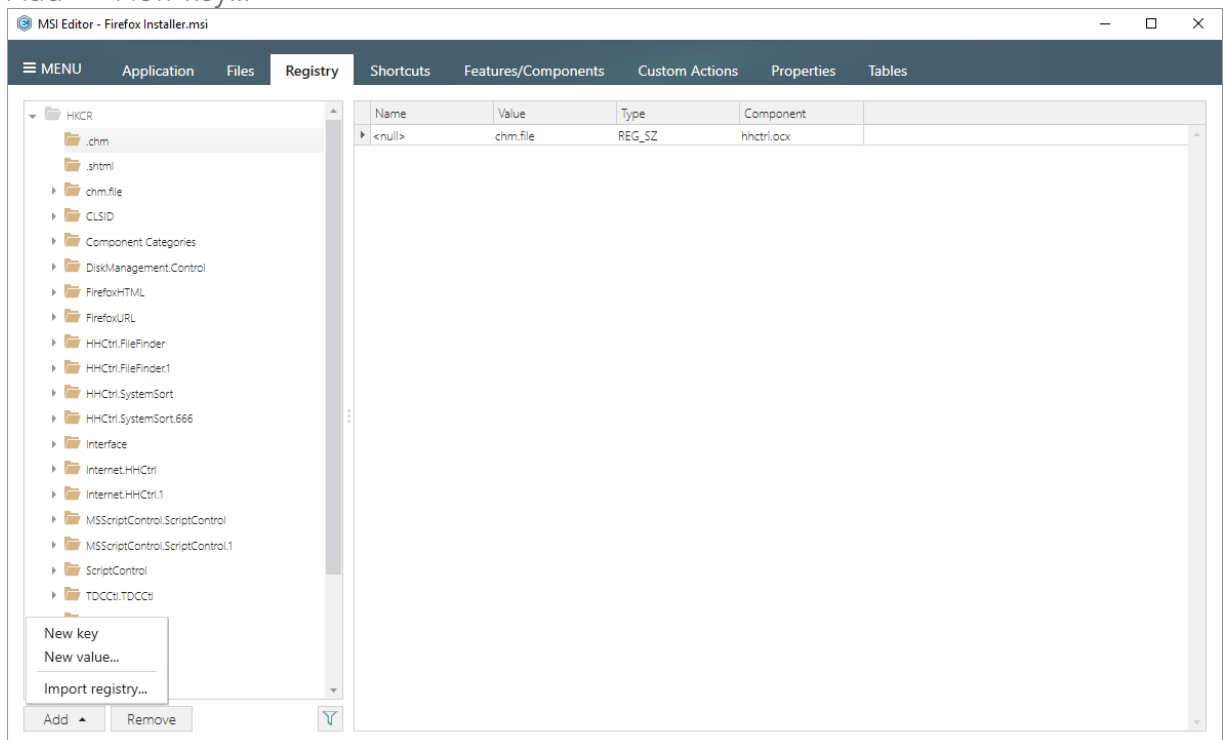
3.6.3 Registry

3.6.3.1 Add Registry Key

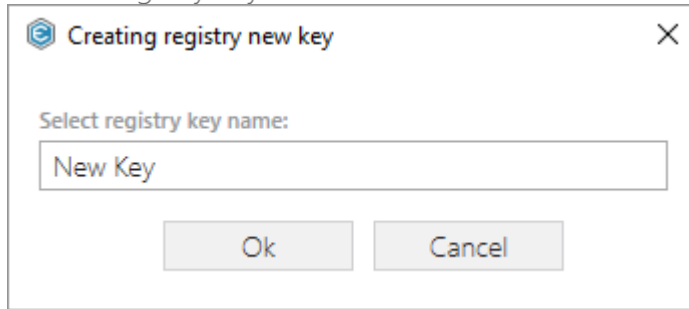
- [1]. Open the Registry tab.



- [2]. Select a key in the registry Tree, to which you want to add a new registry key, and click Add -> New key...

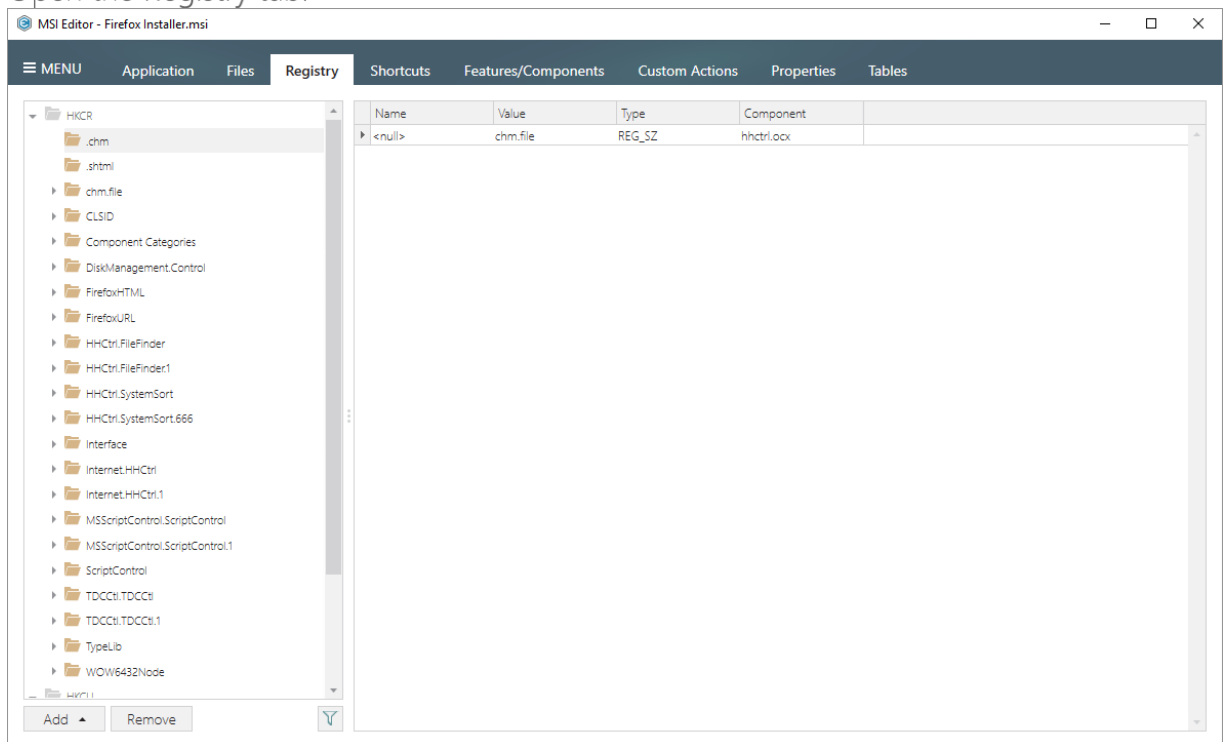


- [3]. Enter a registry key name and click Ok.

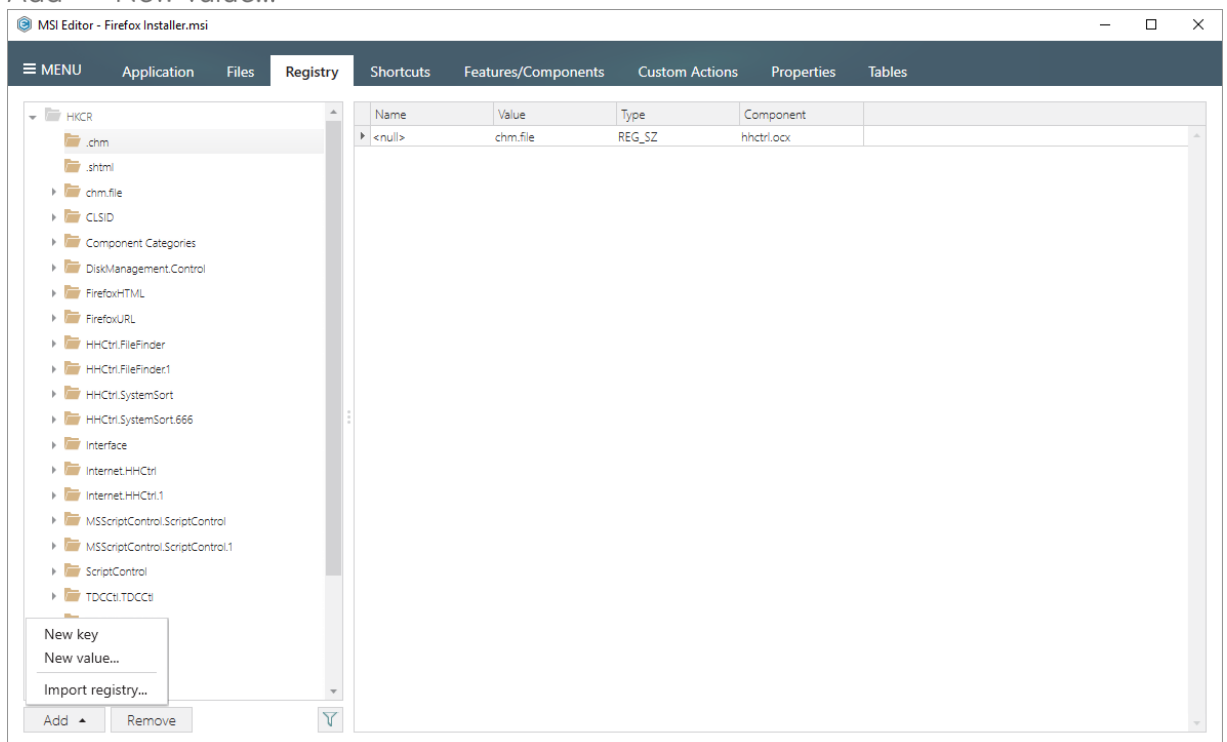


3.6.3.2 Add Registry Value

- [1]. Open the Registry tab.



- [2]. Select a key in the registry Tree, to which you want to add a new registry value, and click **Add -> New value...**



- [3]. Enter a registry value **name**, select a registry **type** and choose one of components, to which your new registry value will be assigned. Click **Add** to create the registry value.

Add value

Name:

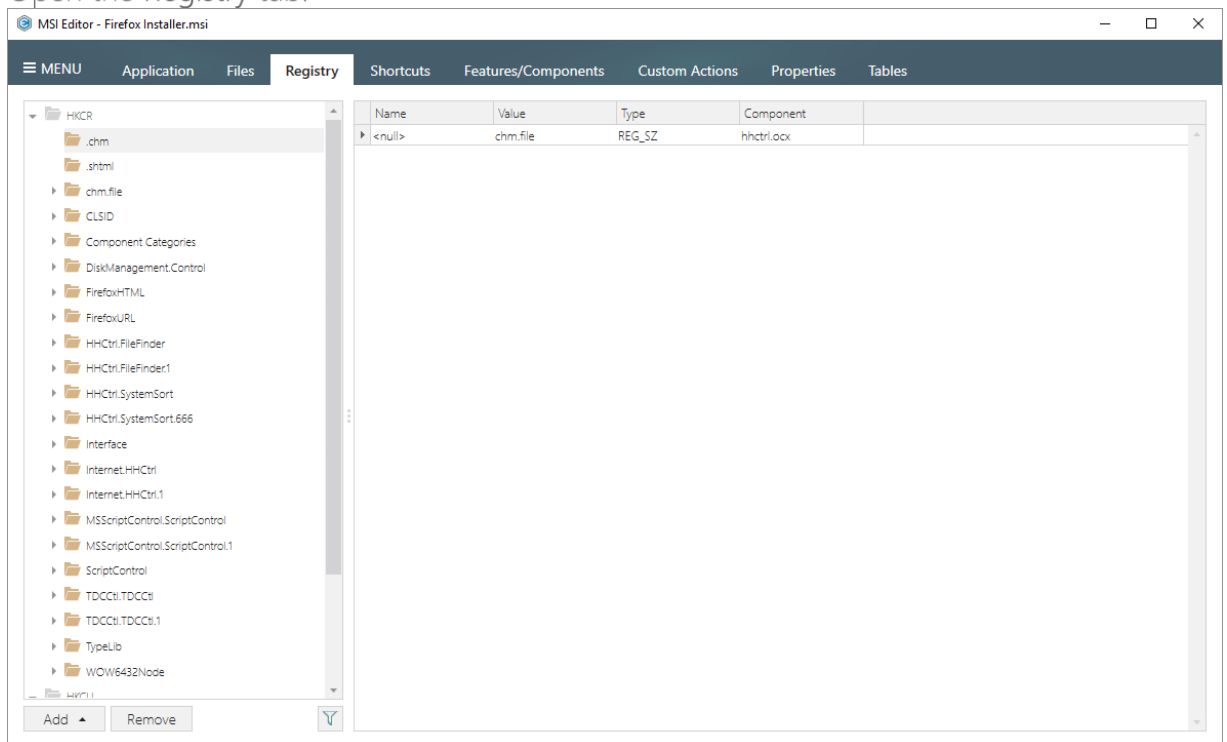
Type:

Value:

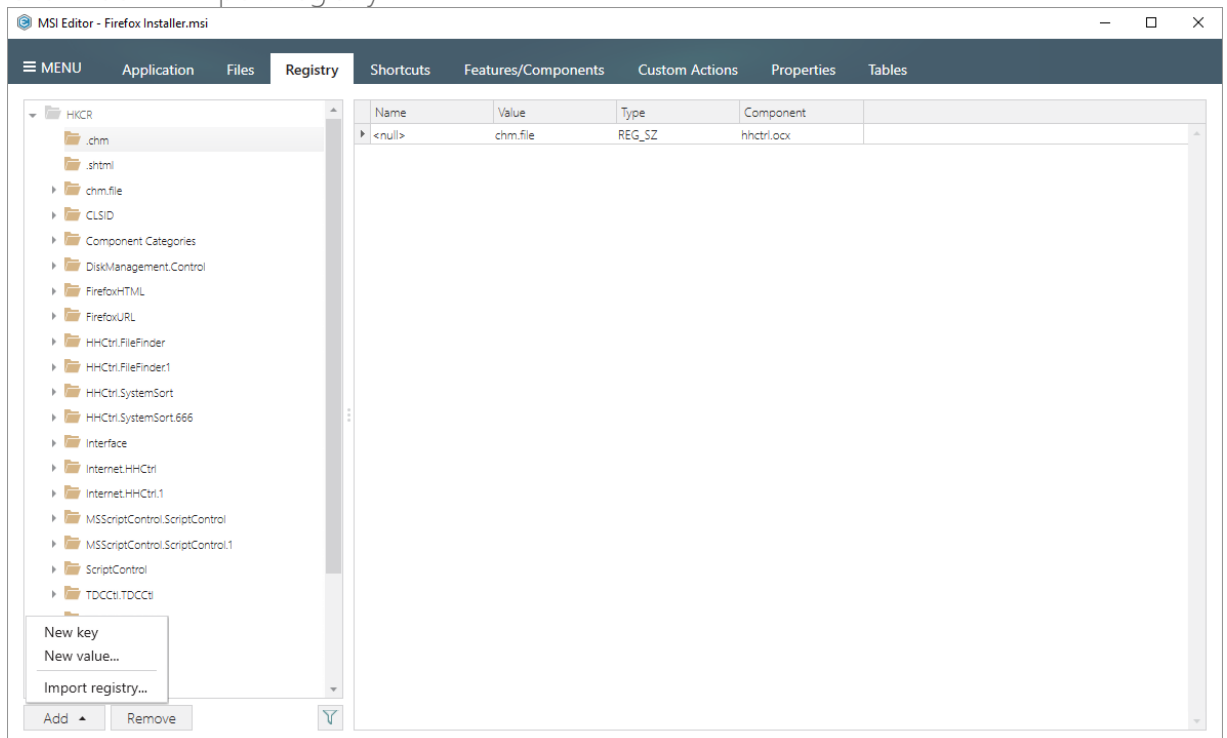
Component:

3.6.3.3 Import Registry

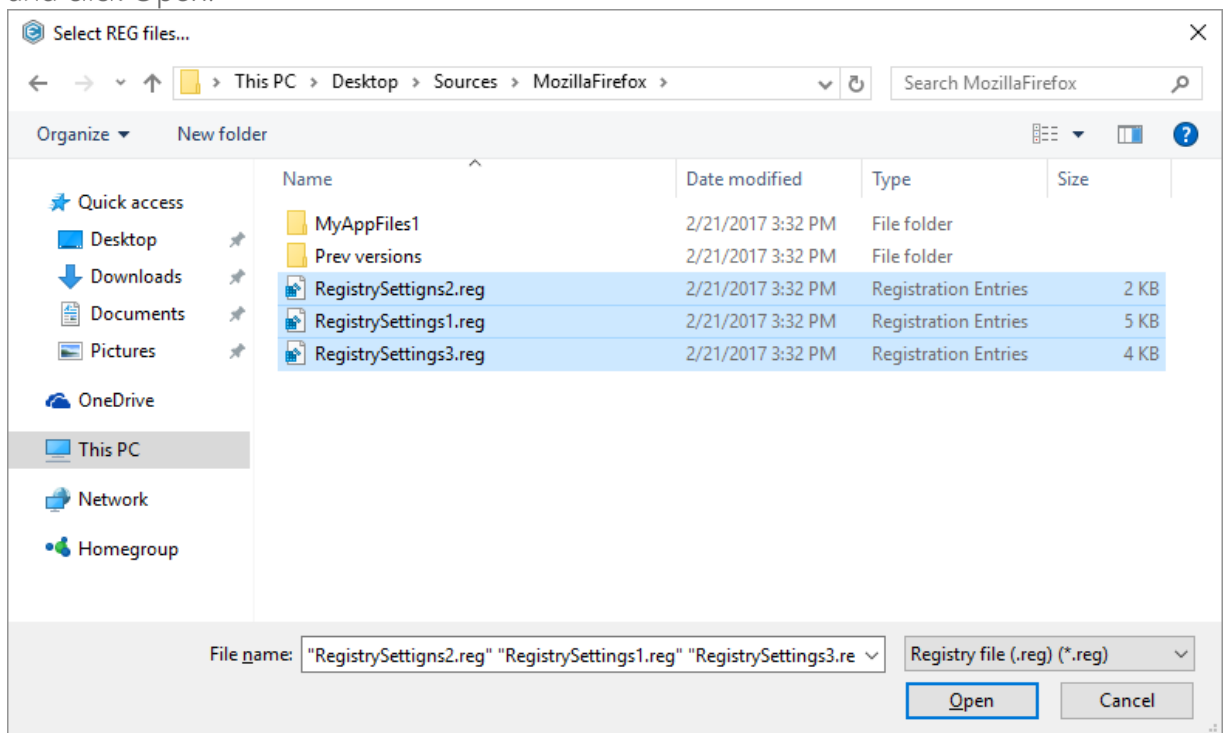
[1]. Open the Registry tab.



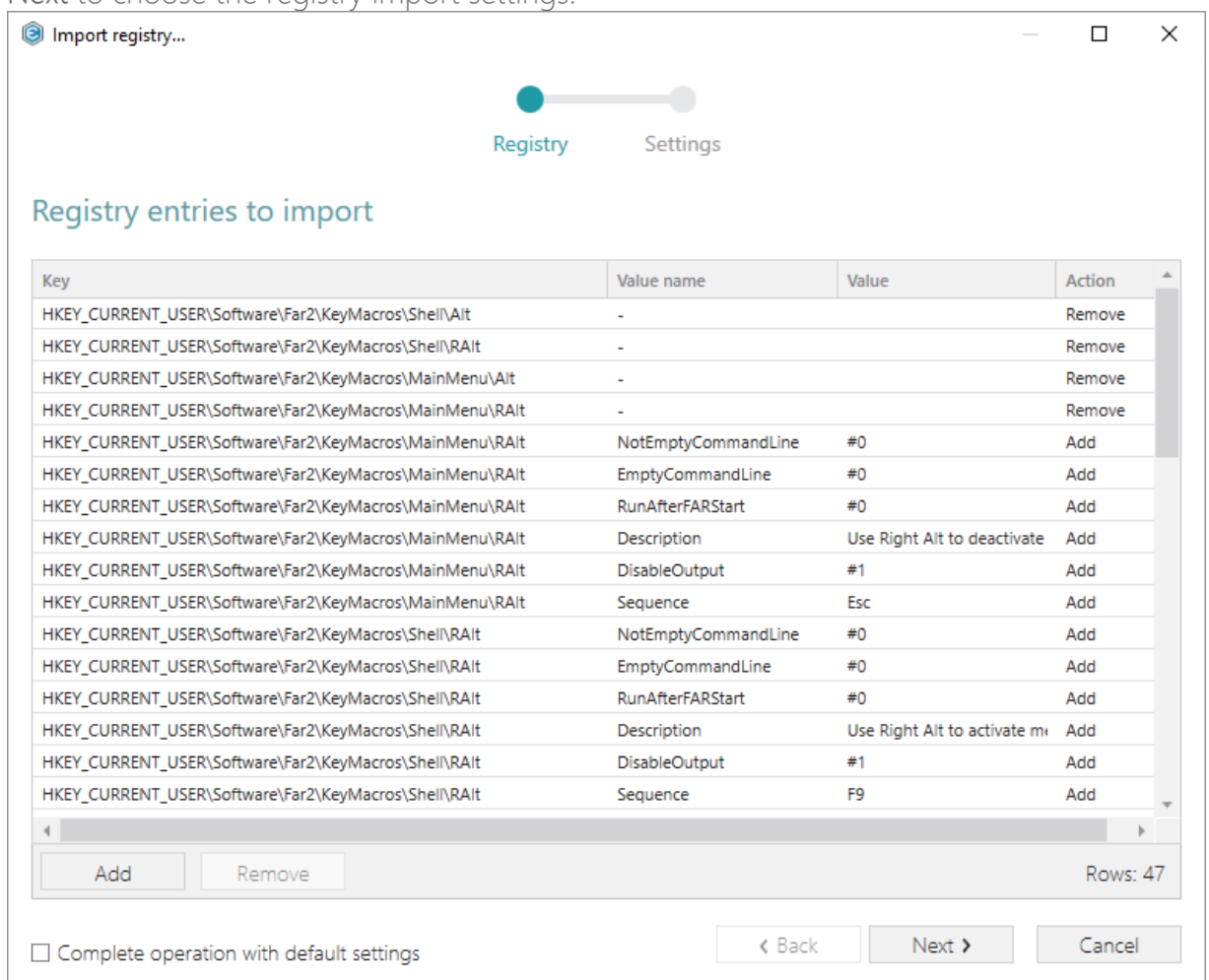
[2]. Click Add -> Import registry...



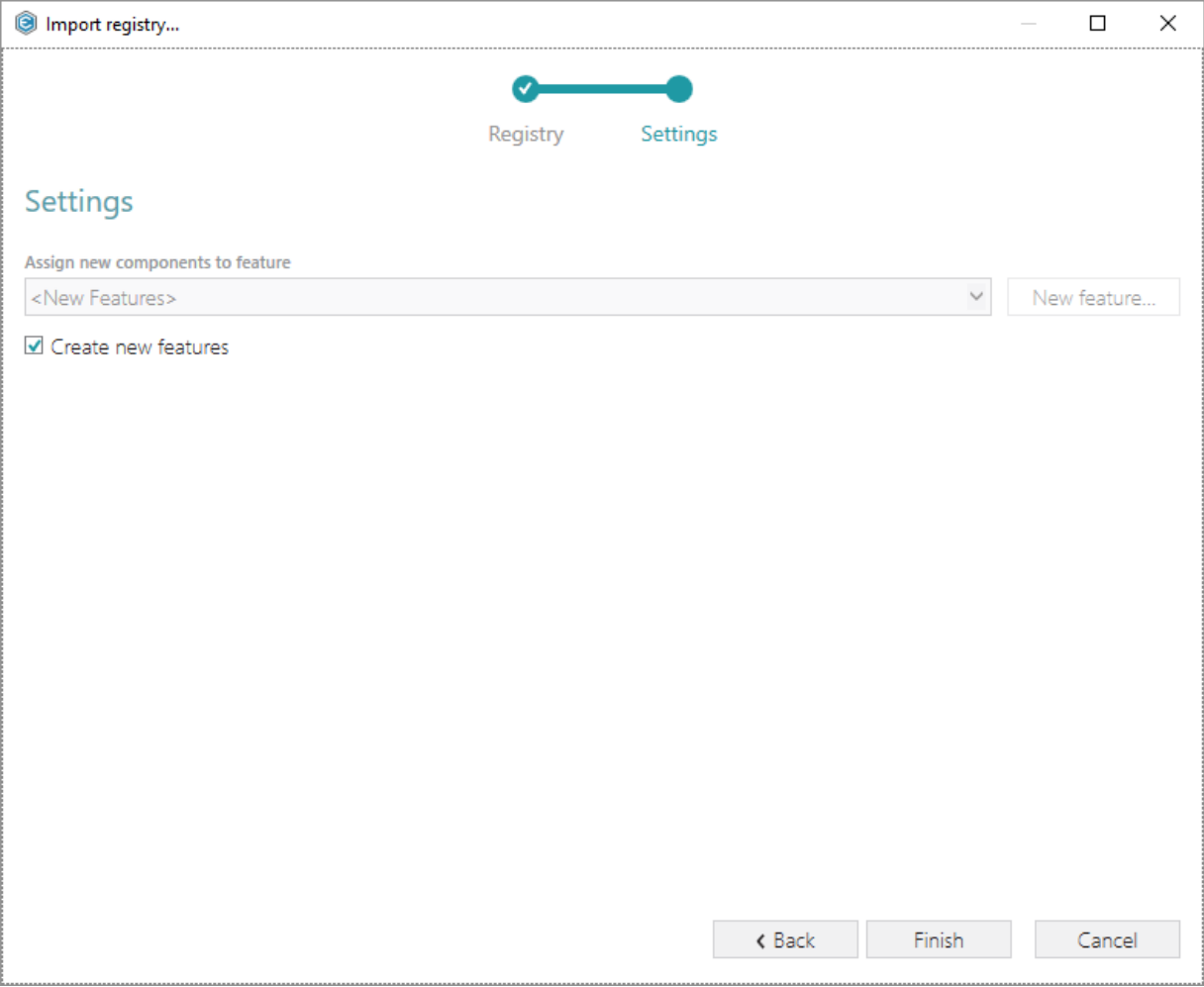
- [3]. Choose REG files from your file system you want to import to the opened MSI package and click Open.



- [4]. Review, add more or remove registry entries, read from the selected REG files and click Next to choose the registry import settings.



[5]. Choose MSI Feature assignment options and click **Finish** to complete the registry import.



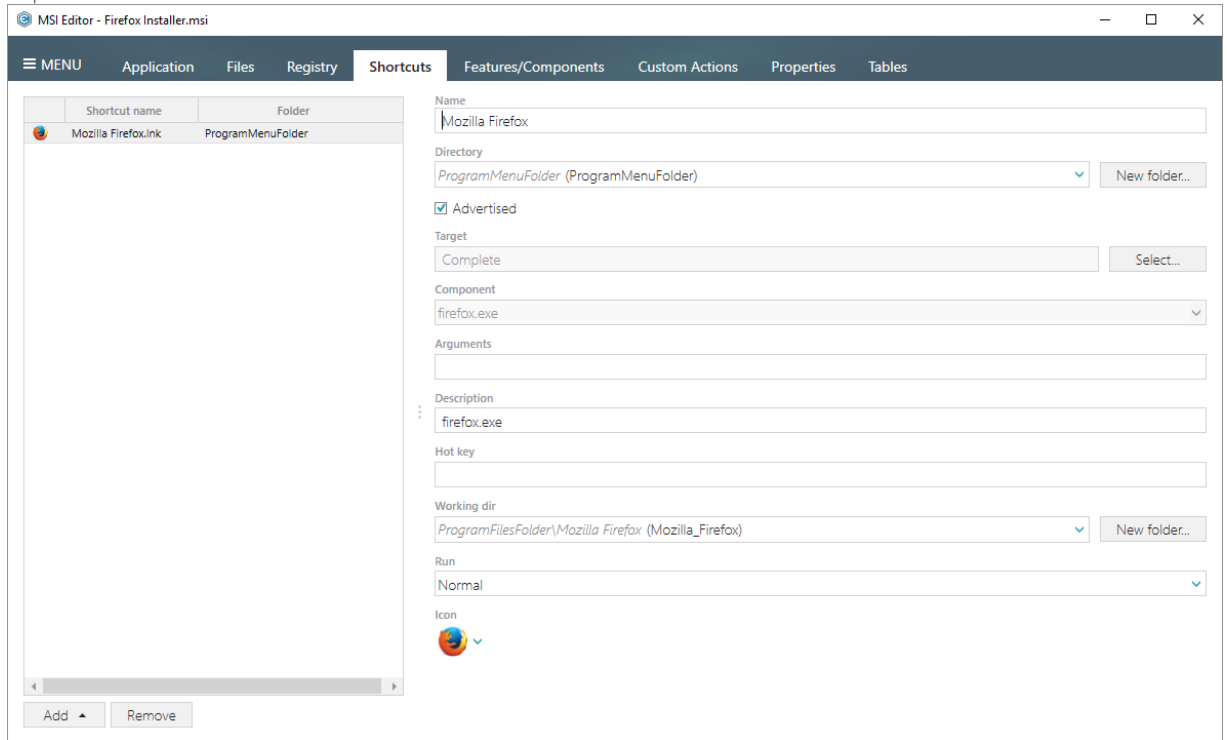
Find settings description below in table.

Setting group	Selected Value	Description
Feature	<a selected feature>	A feature, to which new components of imported registry will be assigned.
	[x] Create new feature	The "PACE_Complete" feature for the per-machine registry entries and "PACE_UserPart" feature for the per-user registry entries will be created and linked with components of imported entries. The "PACE_UserPart" will be the parent feature for the "PACE_Complete" one.

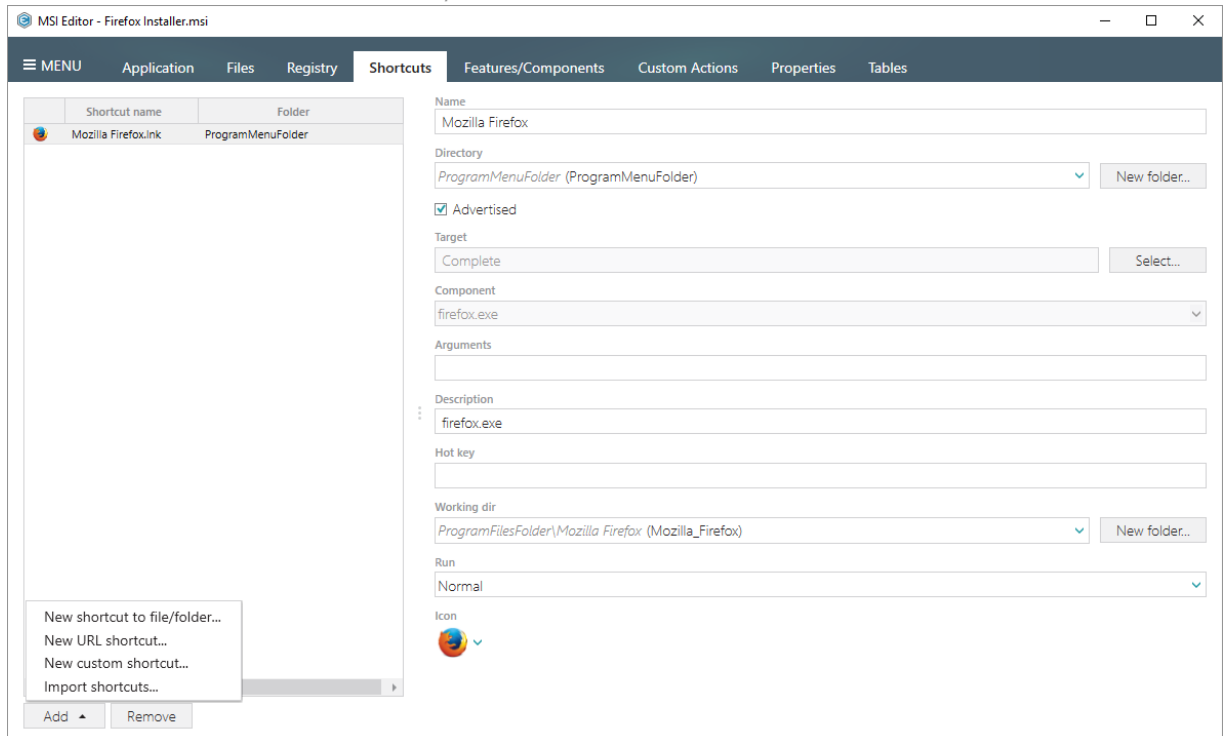
3.6.4 Shortcuts

3.6.4.1 Add Shortcut to File or Folder

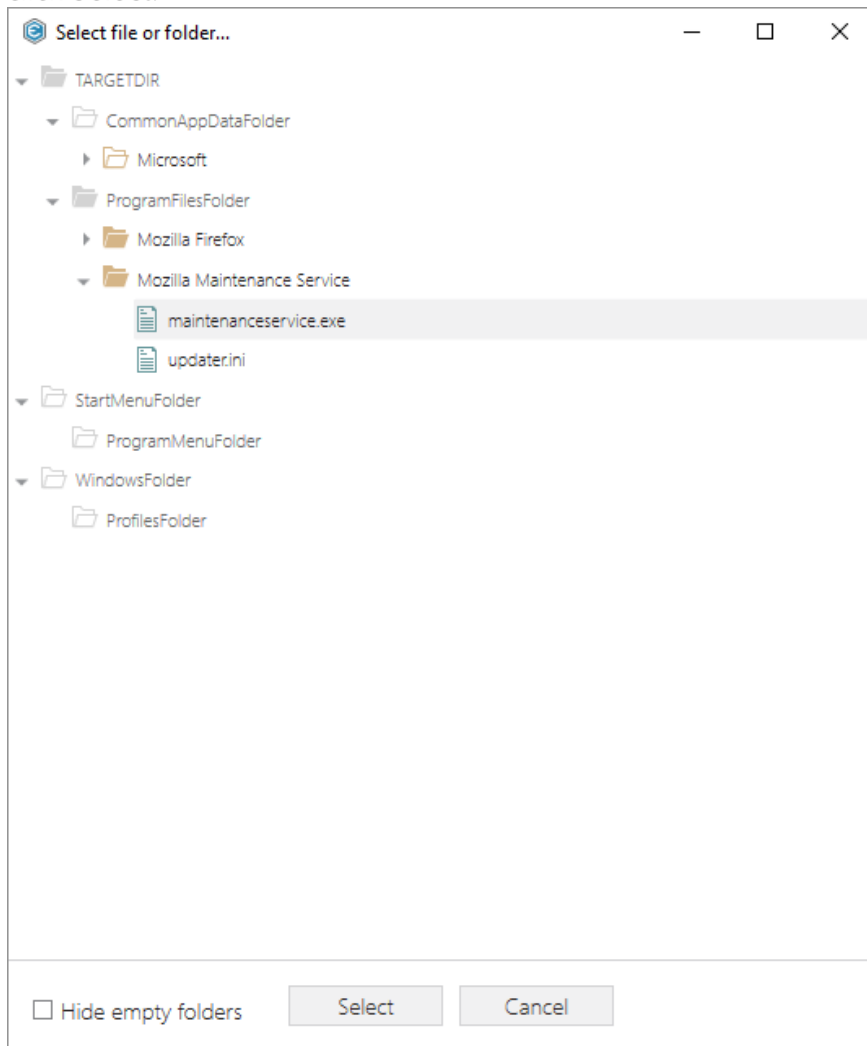
[1]. Open the Shortcuts tab.



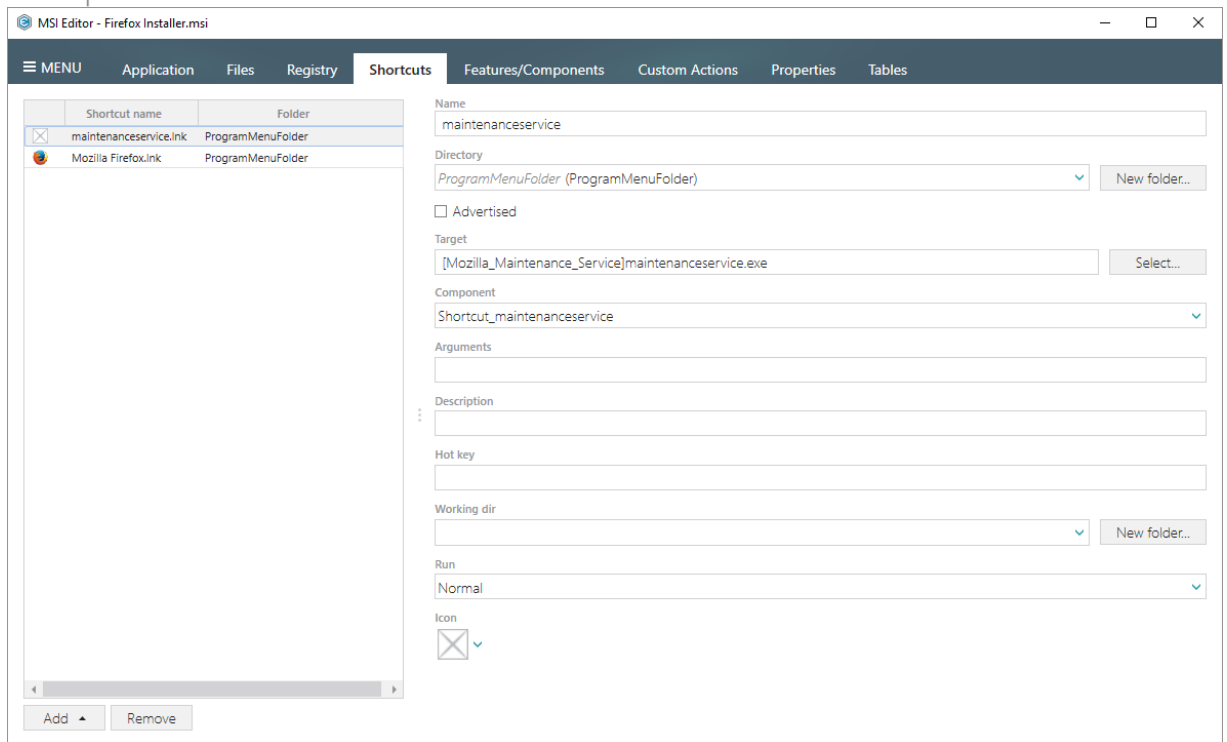
[2]. Click Add -> New shortcut to file/folder...



- [3]. Select a file or a folder from the Tree, to which you want to create an LNK shortcut and click Select.

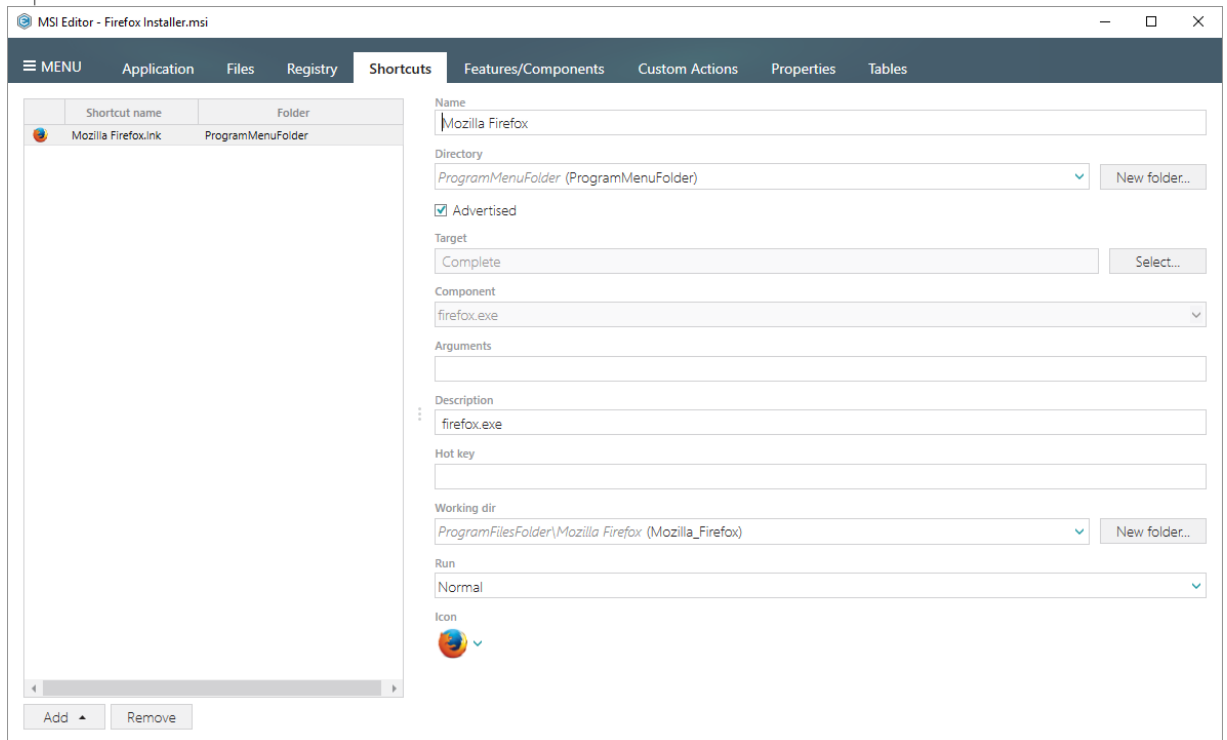


- [4]. Review and modify details of the created shortcut such as name, directory, icon, description and others.

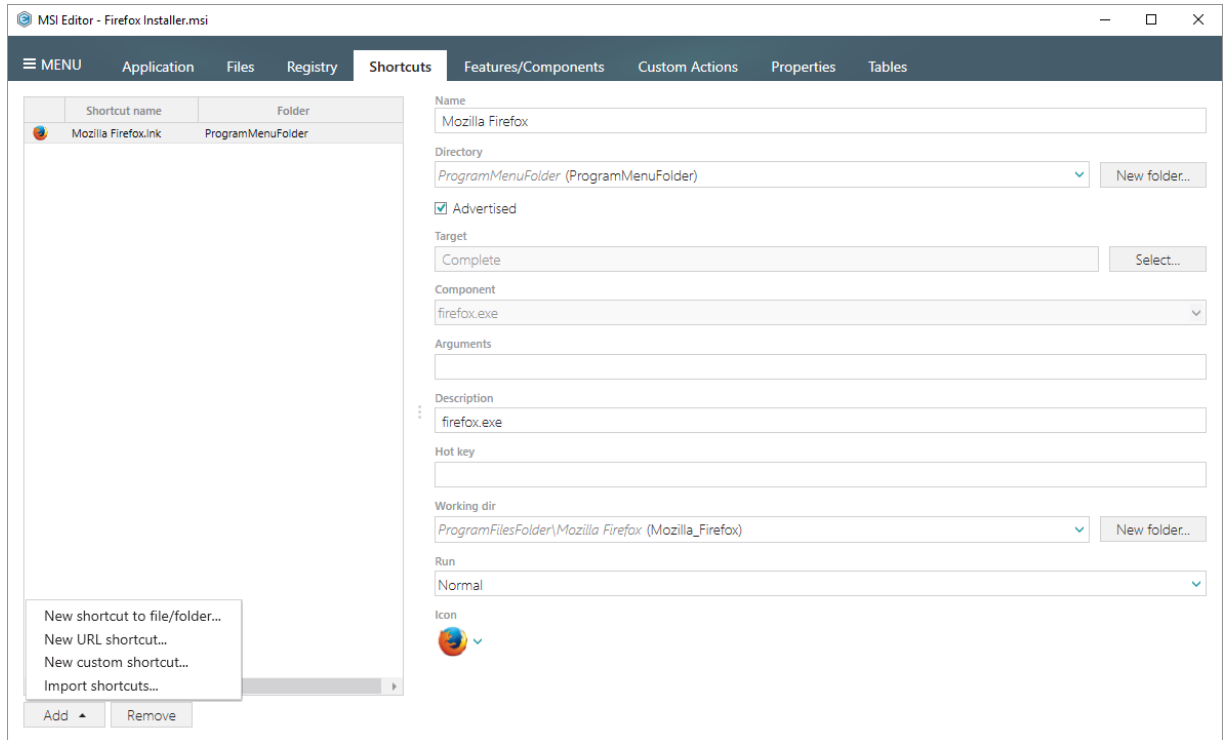


3.6.4.2 Add URL Shortcut

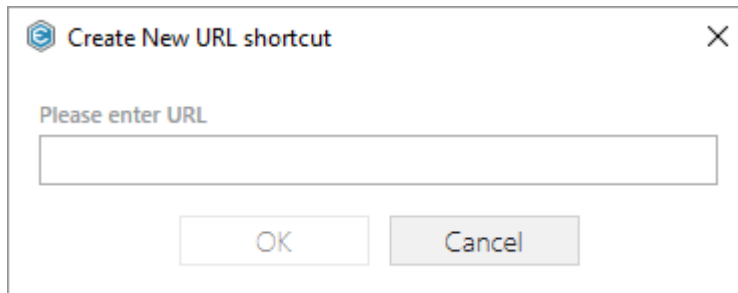
- [1]. Open the Shortcuts tab.



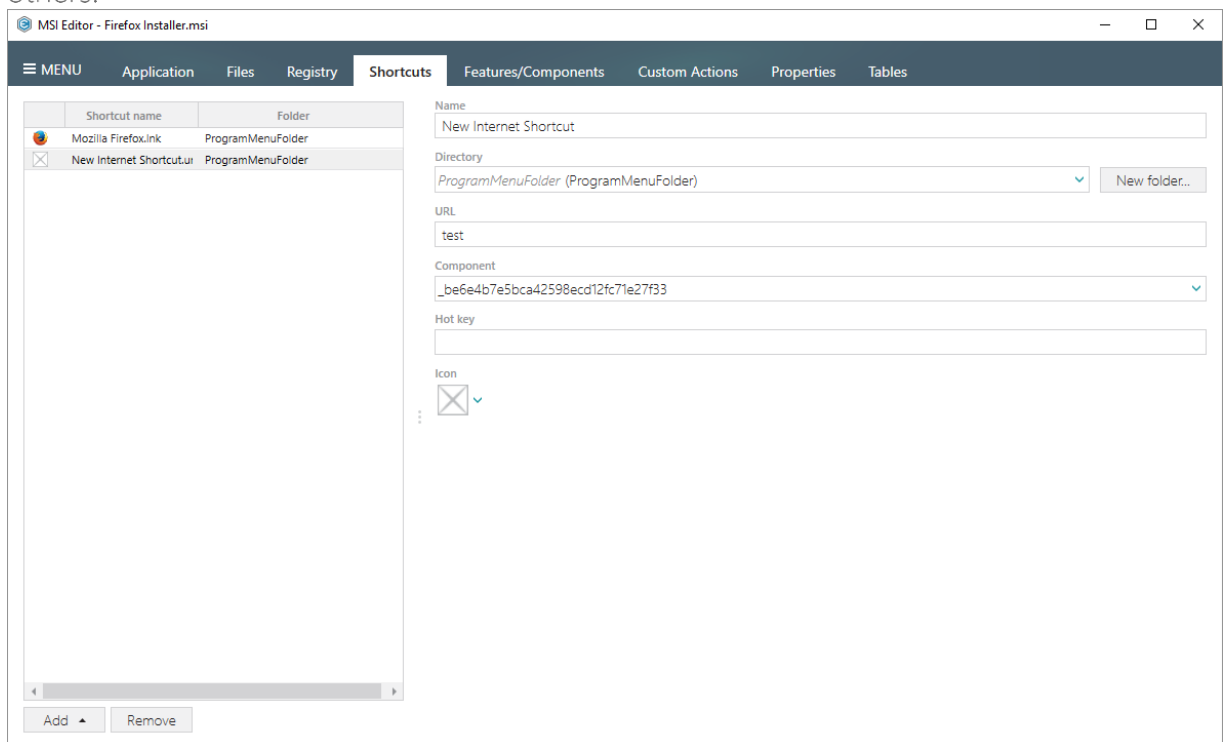
[2]. Click Add -> New URL shortcut...



[3]. Enter a shortcut URL and click OK.

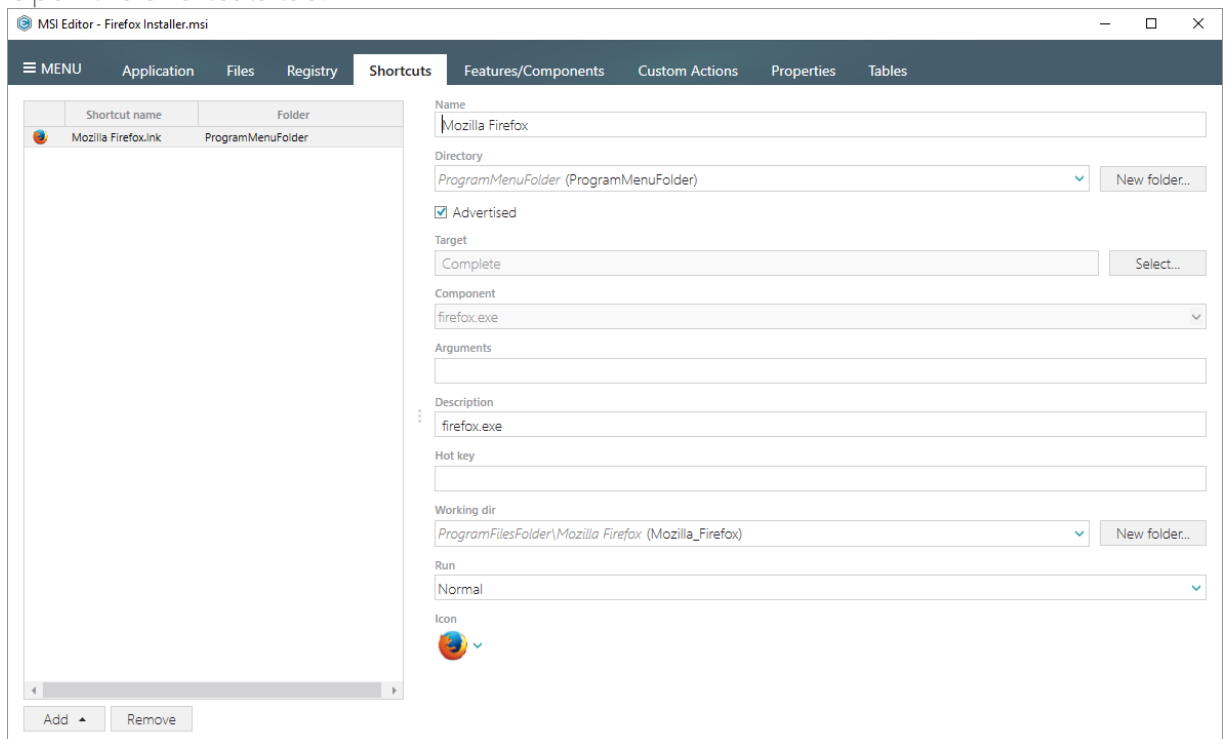


- [4]. Review and modify details of the created shortcut such as name, directory, icon, URL and others.

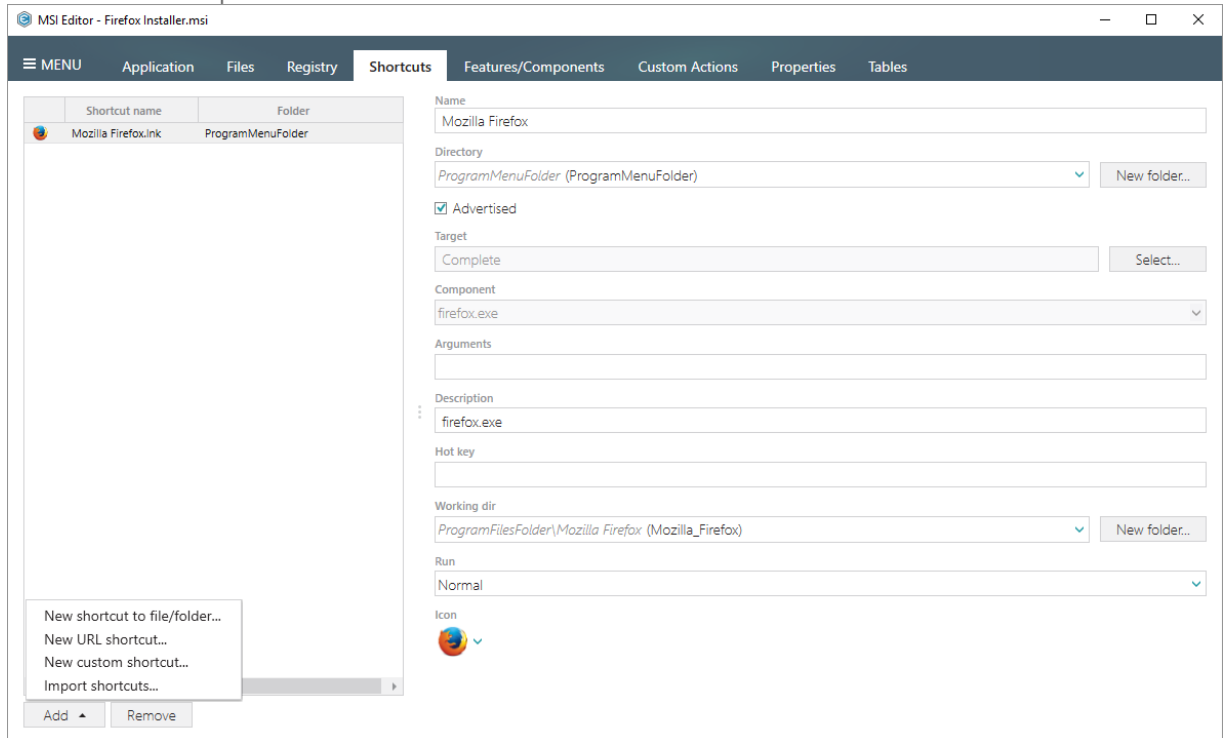


3.6.4.3 Import Shortcuts

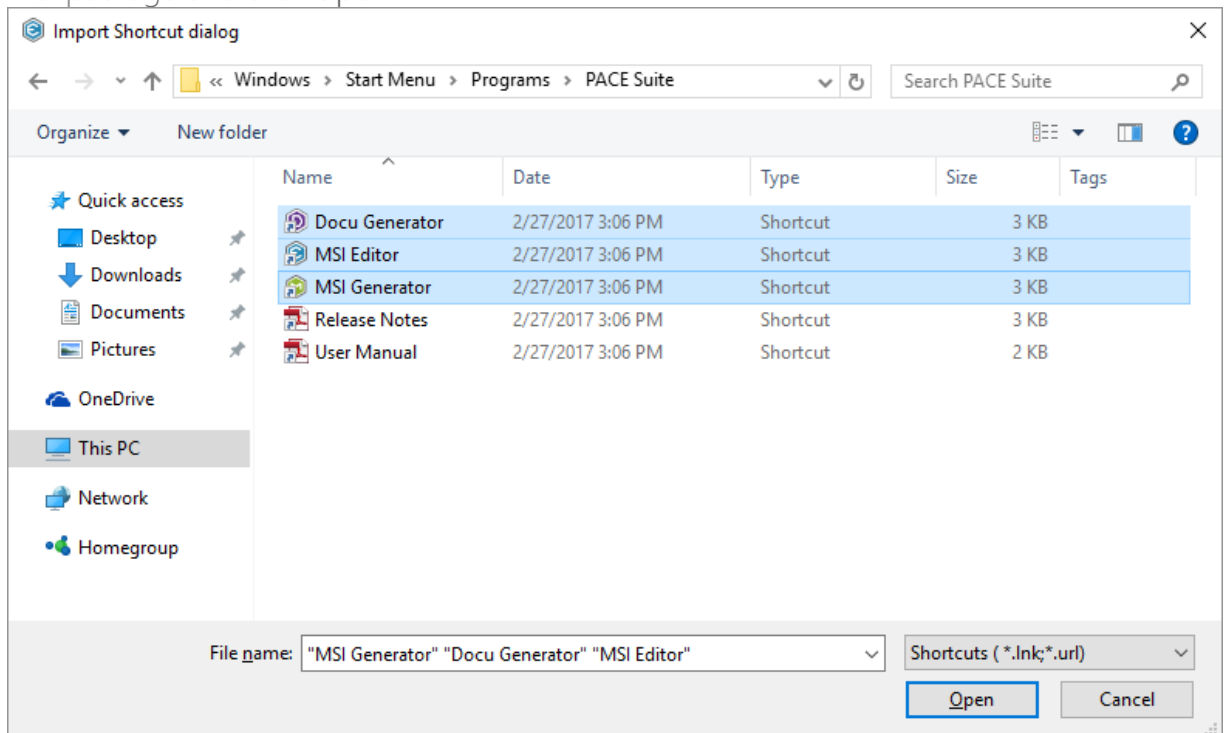
- [1]. Open the Shortcuts tab.



[2]. Click Add -> Import shortcuts...



[3]. Choose LNK and URL shortcuts from your file system you want to import to the opened MSI package and click Open.

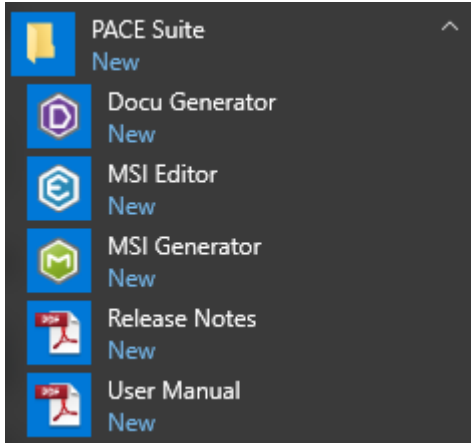


3.7 Edit Project

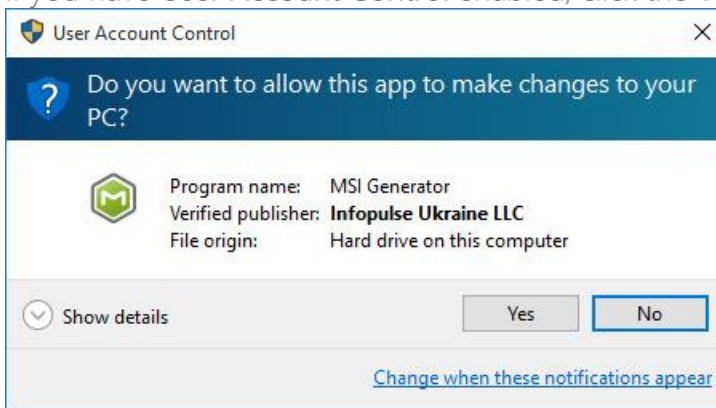
3.7.1 Pre-Condition

Open a project file following the instructions below:

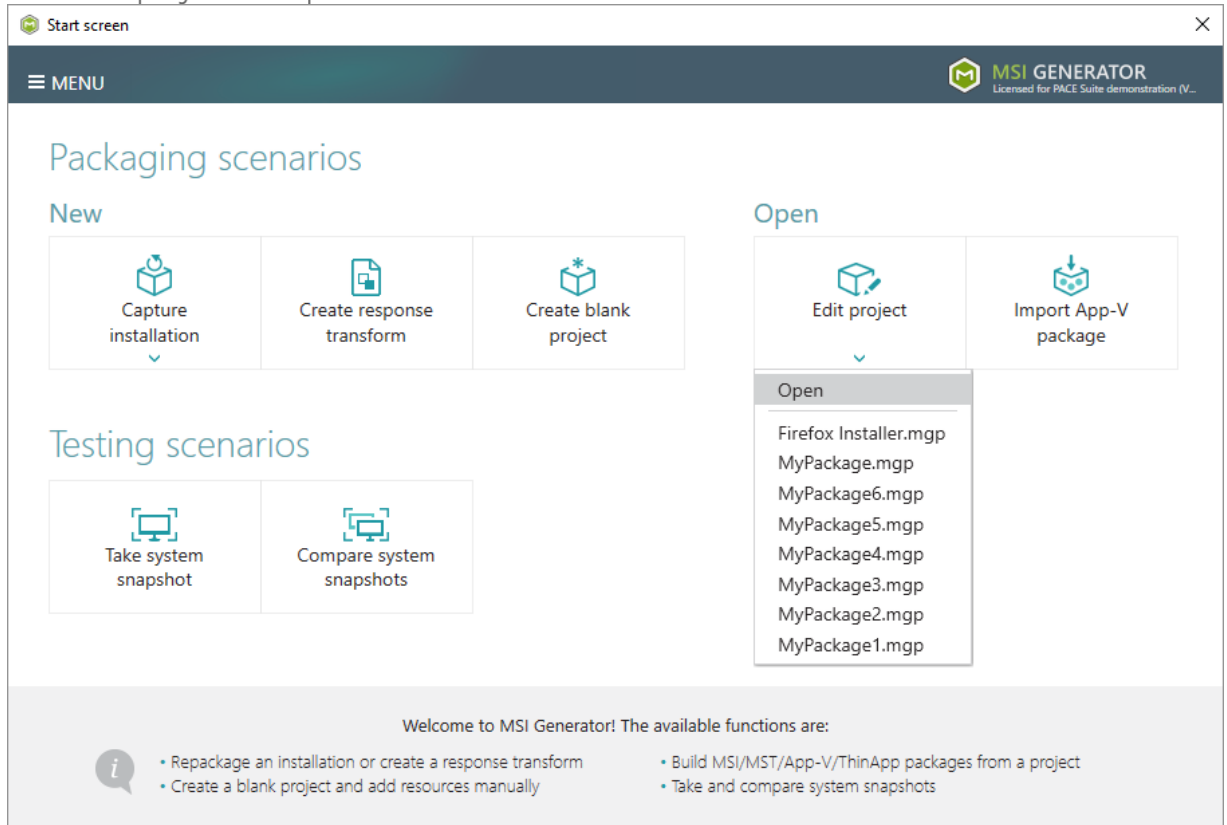
- [1]. Launch MSI Generator.



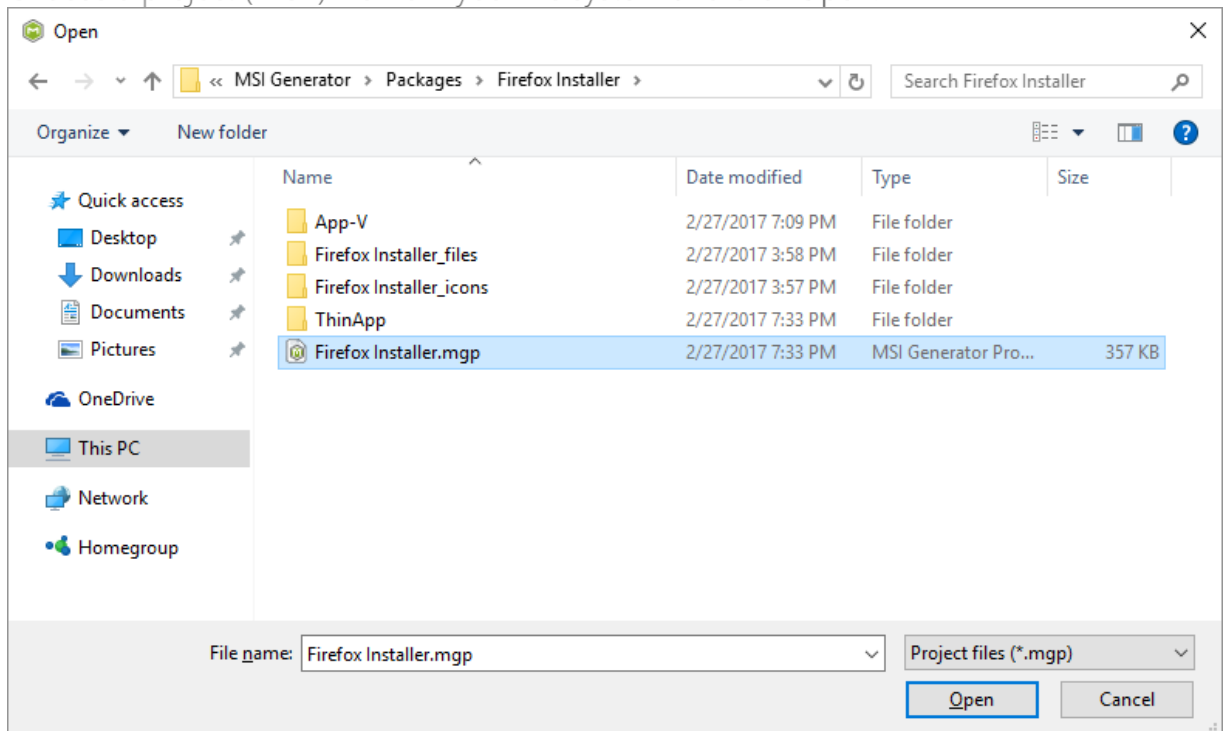
- [2]. If you have User Account Control enabled, click the Yes in the opened window.



[3]. Click Edit project -> Open.



[4]. Choose a project (MGP) file from your file system and click Open.



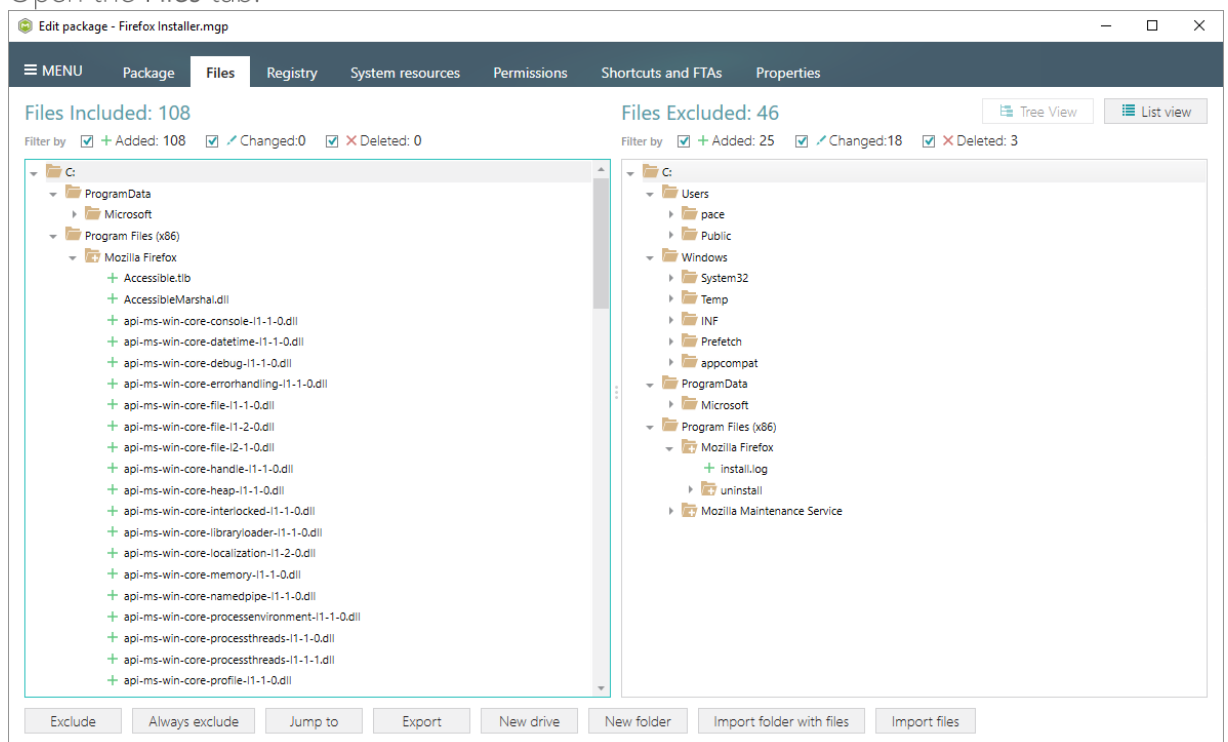
3.7.2 File and Folders

MSI Generator filters captured files and folders automatically, and puts excluded (filtered) ones to the right pane, named 'Files Excluded', and the rest of resources – to the left pane, named 'Files Included'. Resources from the 'Files Included' pane will be saved to your package, and resources from the 'Files Excluded' will not be a part of the package, it will be kept as excluded ones only in the project. Note that you can include or exclude necessary resources at any time.

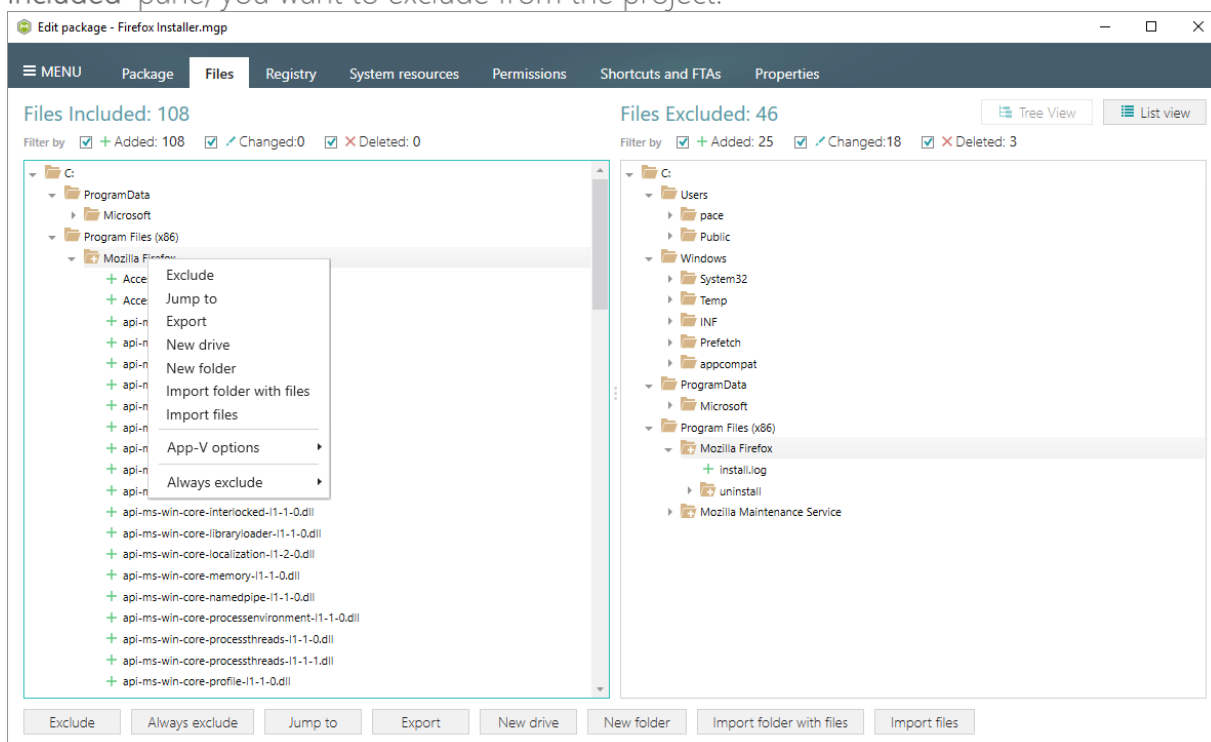
3.7.2.1 Exclude Files and Folders

Exclude unnecessary resources from the project.

[1]. Open the Files tab.



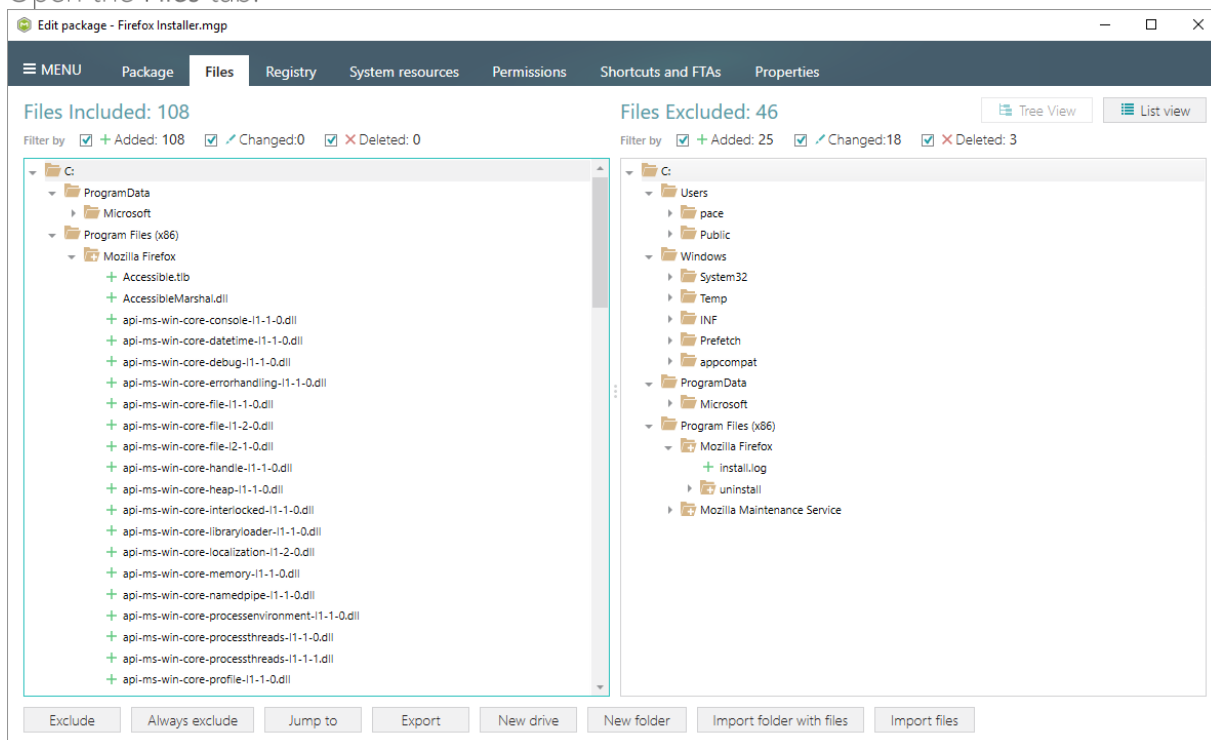
- [2]. Select Exclude from the context menu of an item, which is located in the left 'Files Included' pane, you want to exclude from the project.



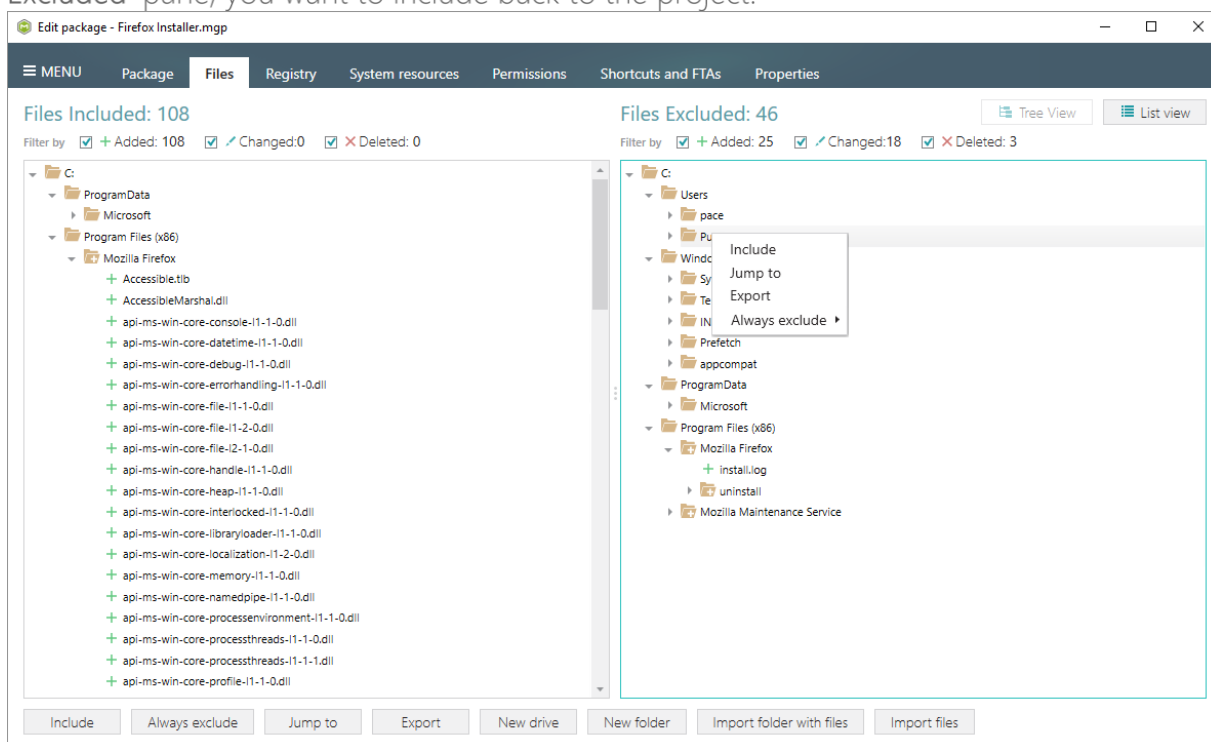
3.7.2.2 Include Files and Folders

Include necessary resources, previously excluded from the project.

- [1]. Open the Files tab.

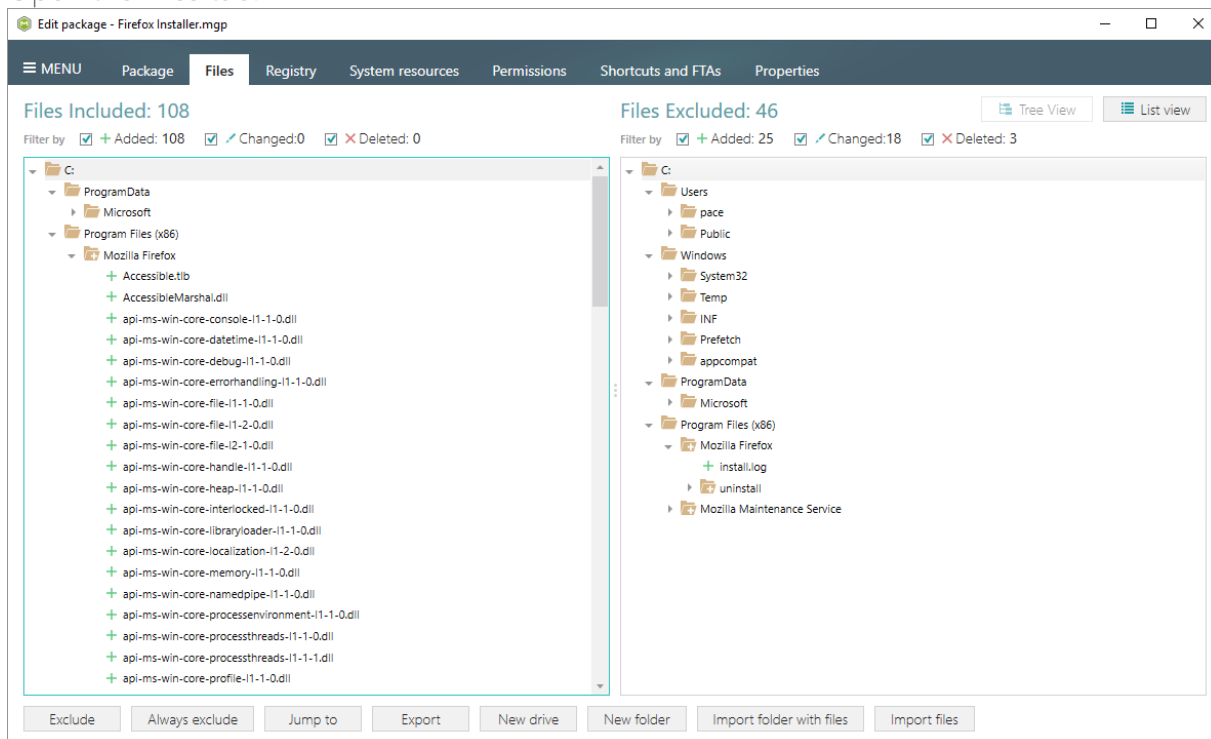


- [2]. Select Include from the context menu of an item, which is located in the right 'Files Excluded' pane, you want to include back to the project.

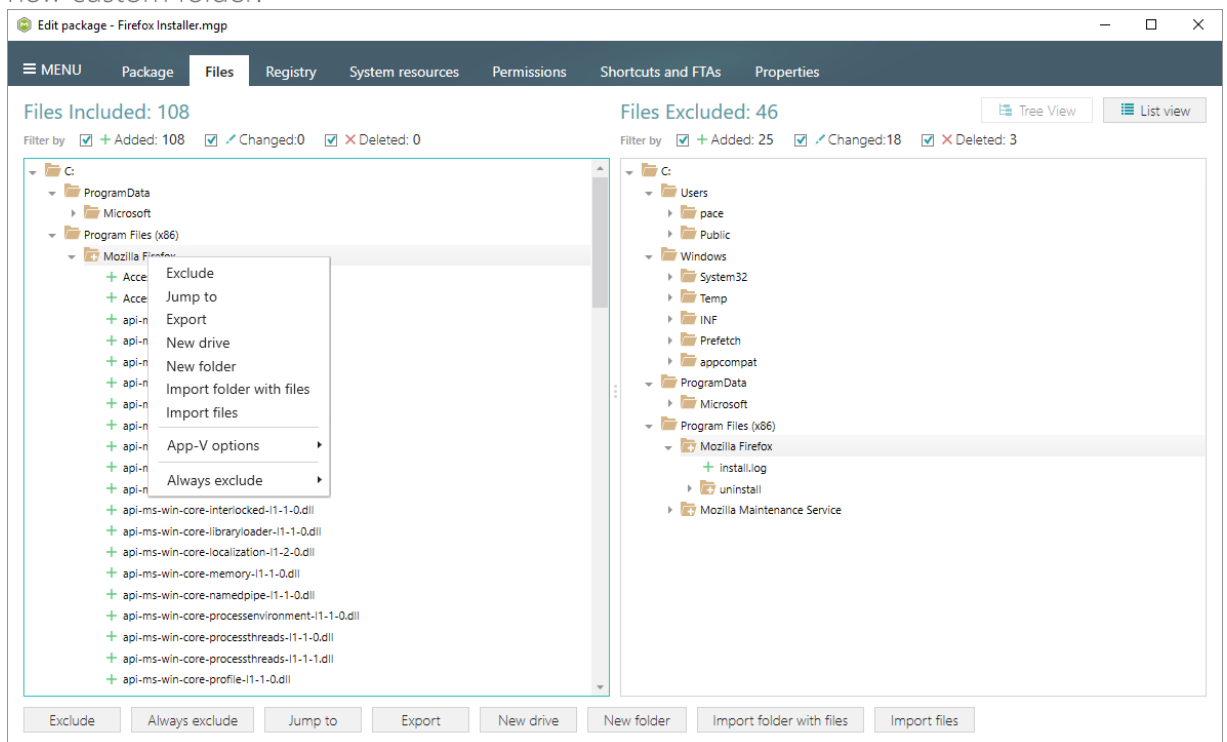


3.7.2.3 Add Custom Folder

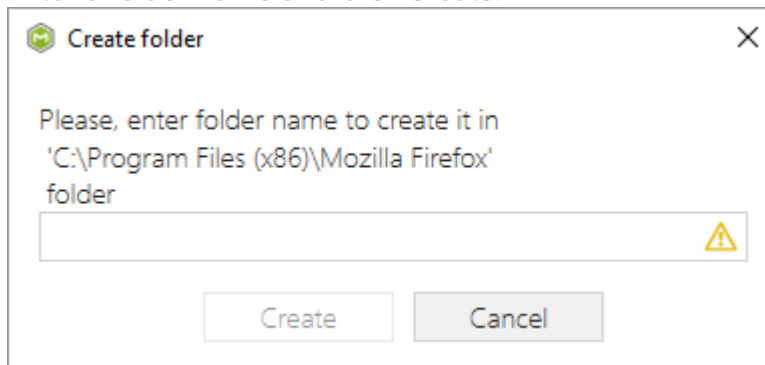
- [1]. Open the Files tab.



- [2]. Select **New folder** from the context menu of a parent folder, to which you want to add a new custom folder.

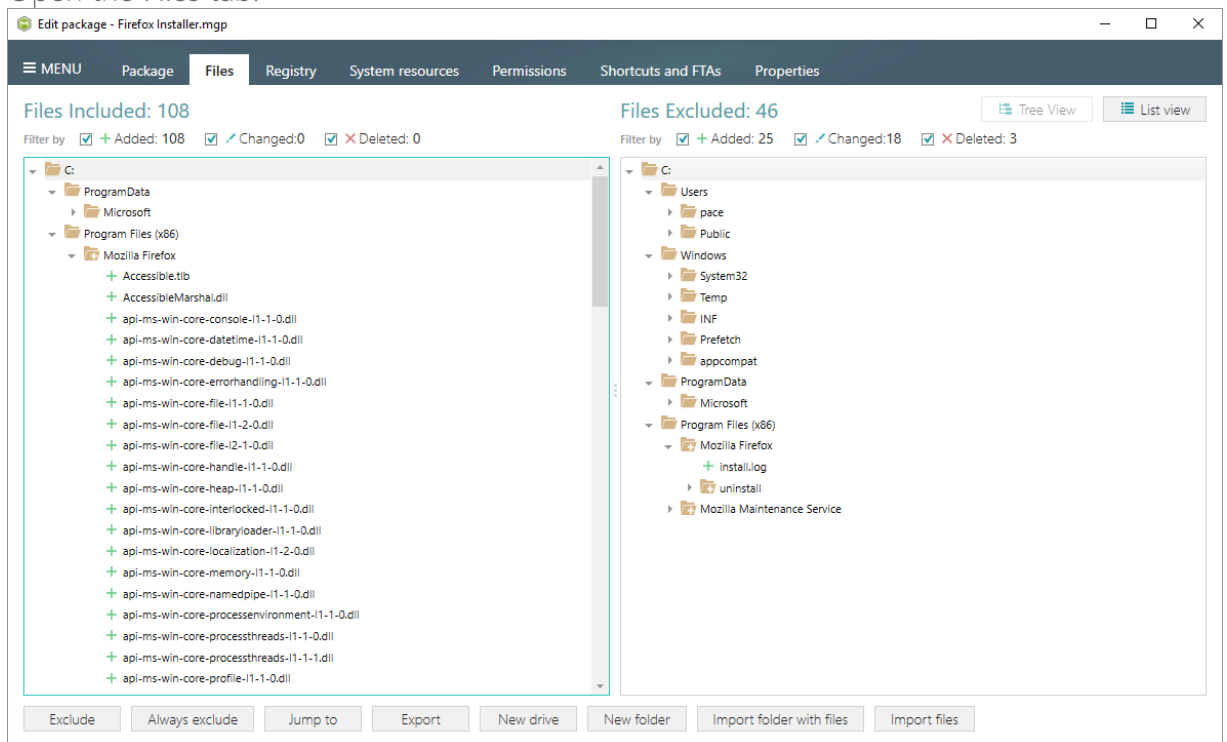


- [3]. Enter a folder name and click **Create**.

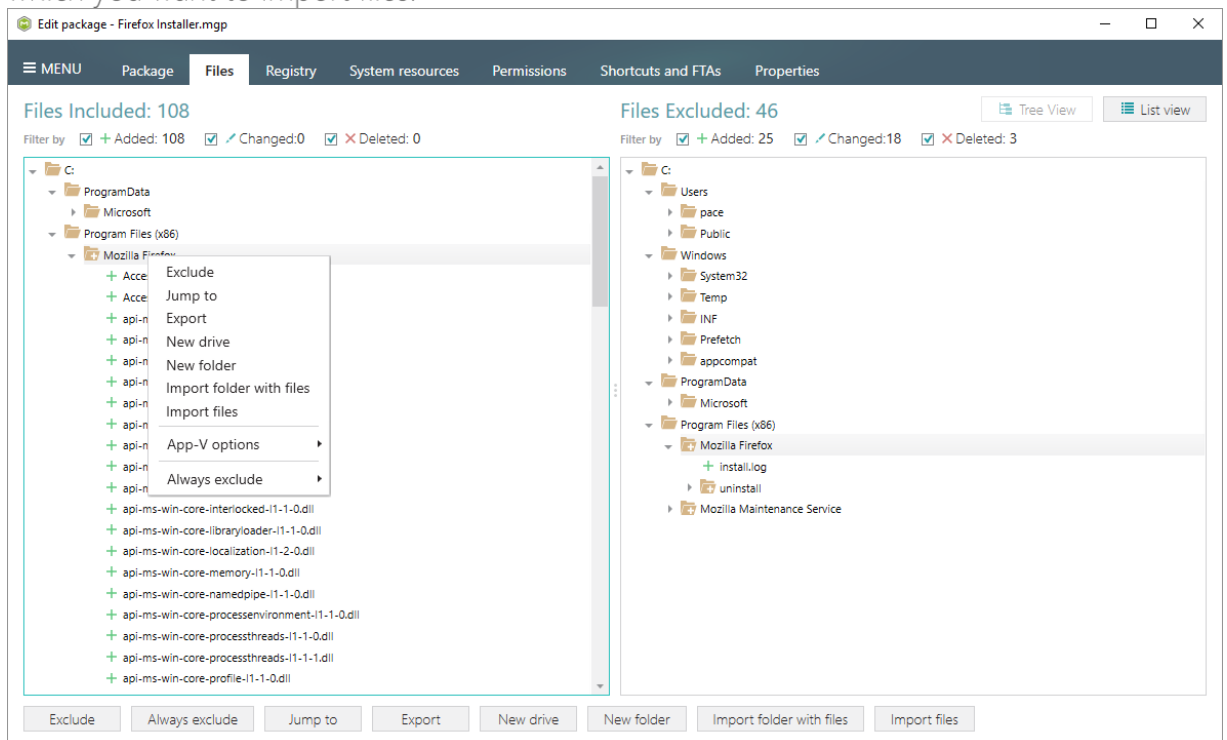


3.7.2.4 Import Files

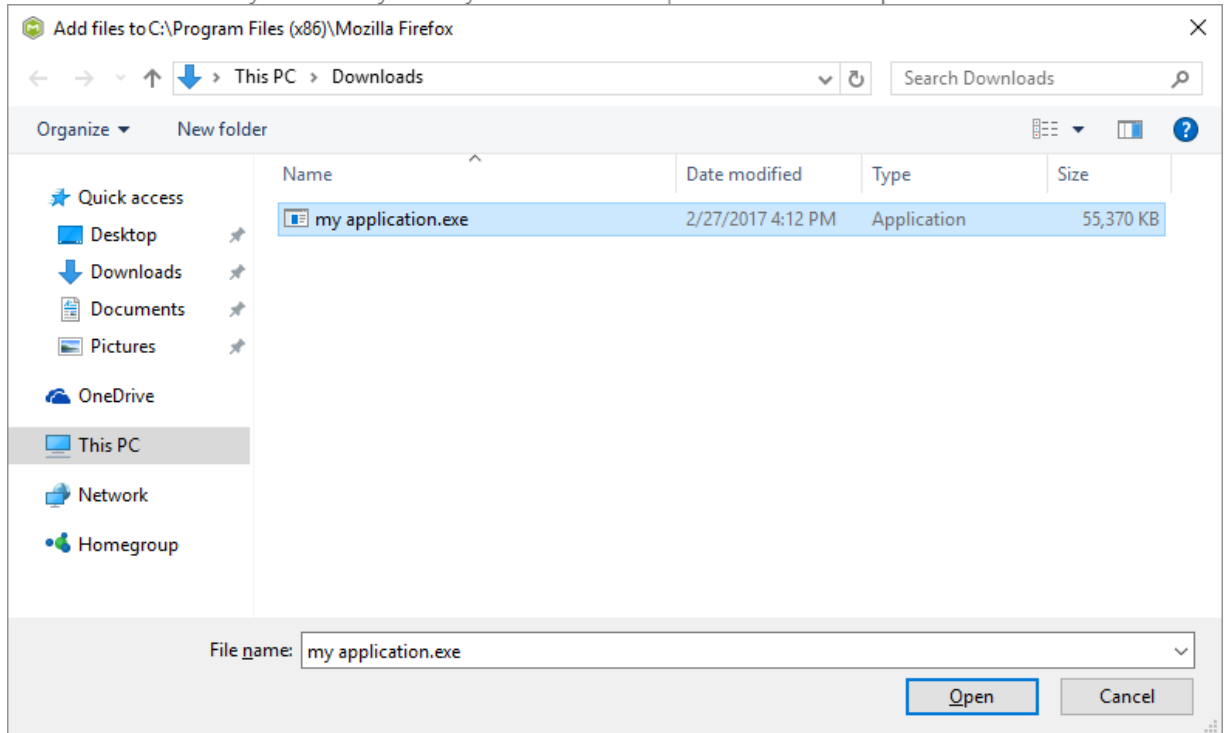
[1]. Open the Files tab.



[2]. Select Import files (or Import folder with files) from the context menu of a parent folder, to which you want to import files.



[3]. Choose files from your file system you want to import and click Open.



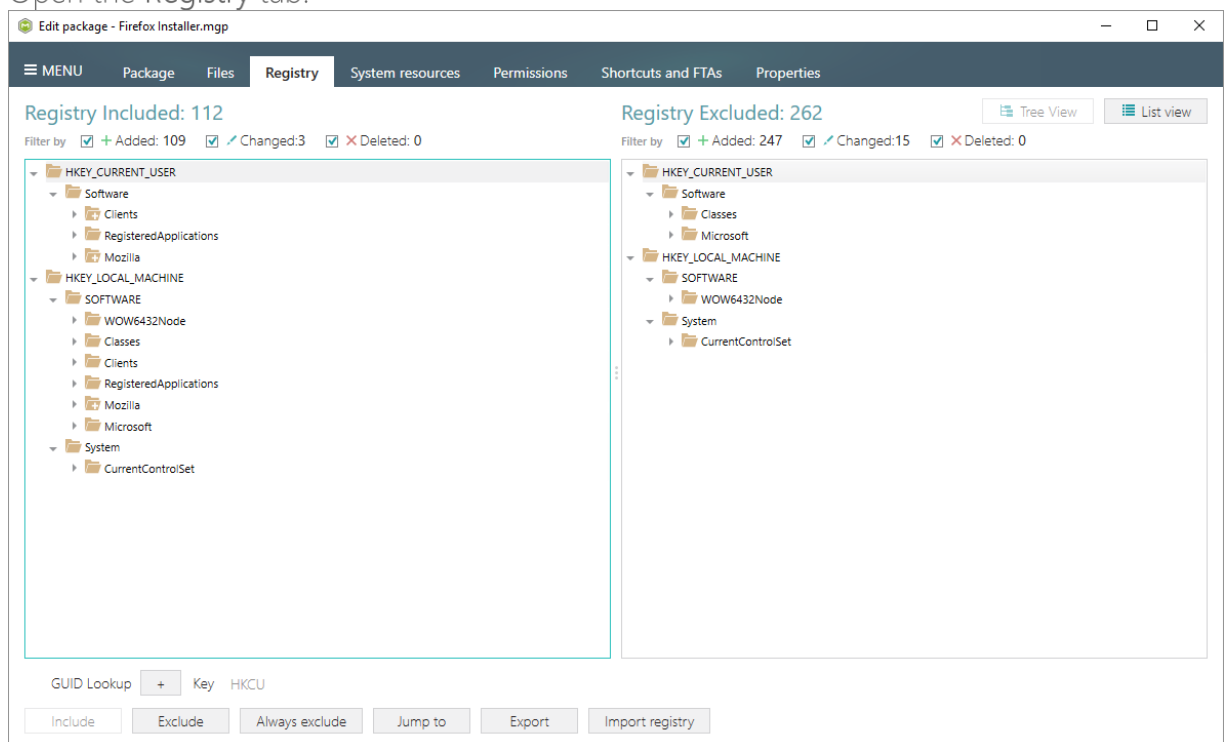
3.7.3 Registry

MSI Generator filters captured registry entries automatically, and puts excluded (filtered) ones to the right pane, named 'Registry Excluded', and the rest of resources – to the left pane, named 'Registry Included'. Resources from the 'Registry Included' pane will be saved to your package, and resources from the 'Registry Excluded' will not be a part of the package, it will be kept as excluded ones only in the project. Note that you can include or exclude necessary resources at any time.

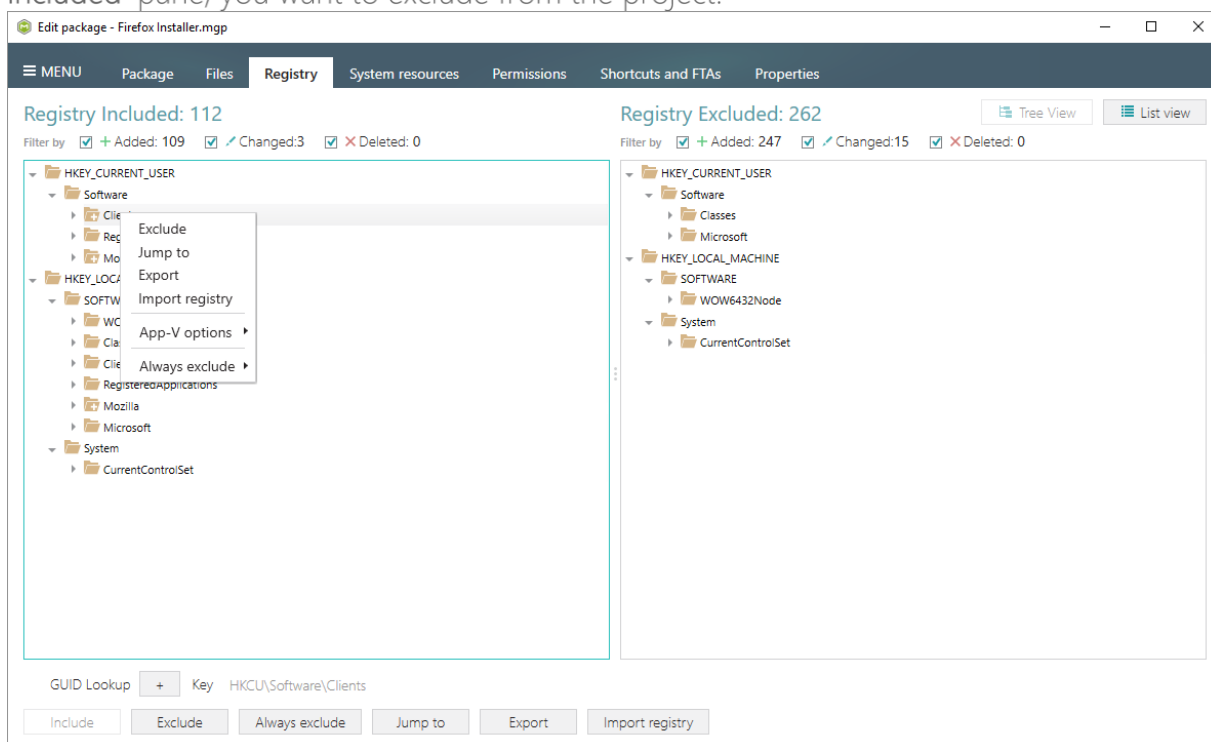
3.7.3.1 Exclude Registry Entries

Exclude unnecessary resources from the project.

[1]. Open the Registry tab.



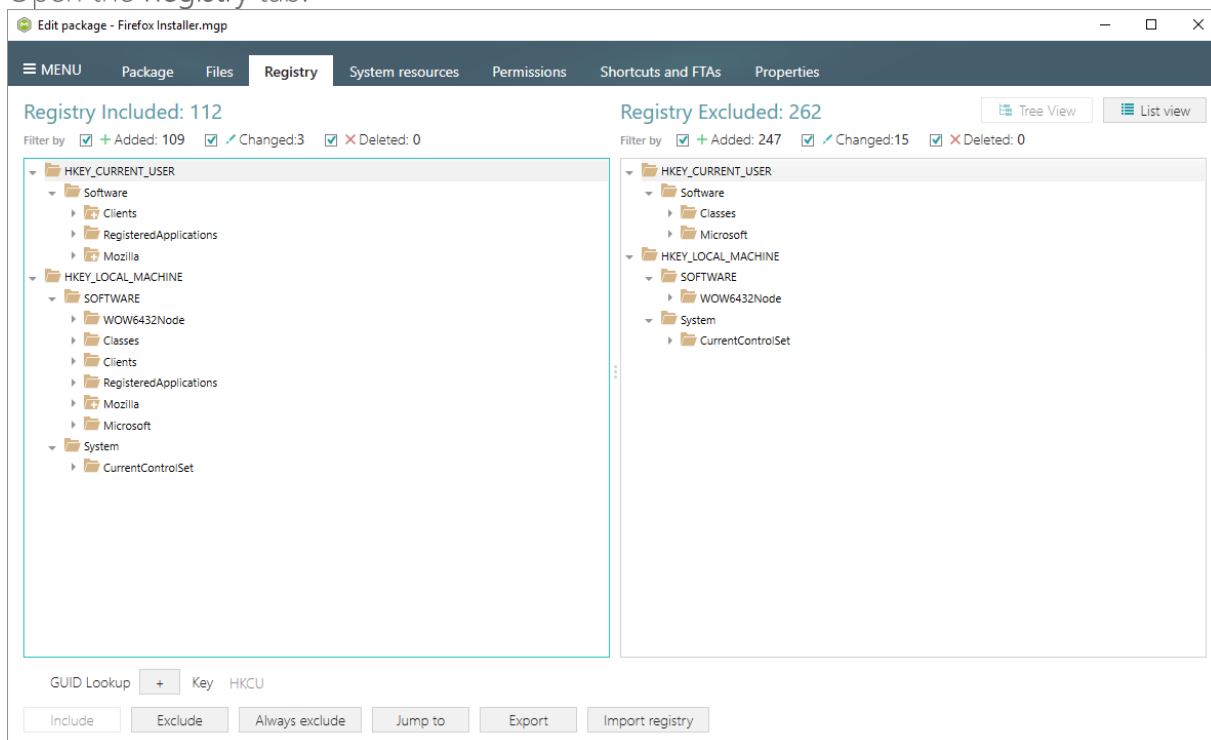
- [2]. Select Exclude from the context menu of an item, which is located in the left 'Registry Included' pane, you want to exclude from the project.



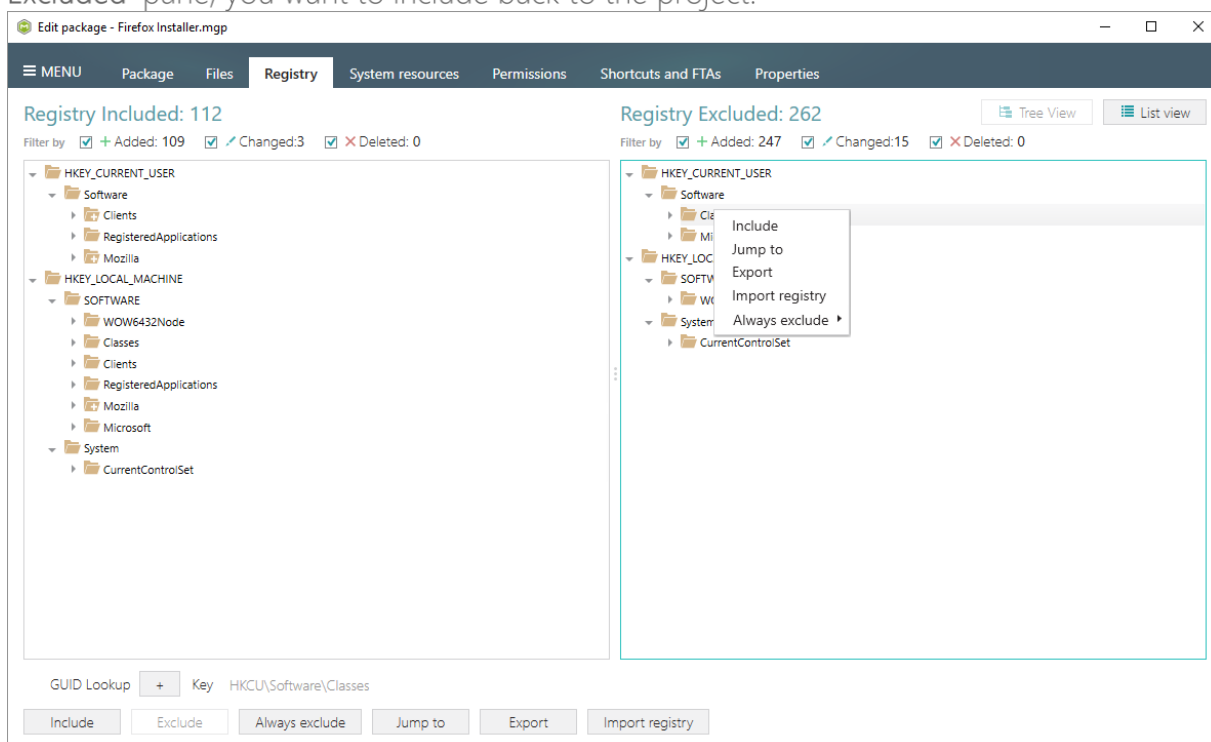
3.7.3.2 Include Registry Entries

Include necessary resources, previously excluded from the project.

- [1]. Open the Registry tab.

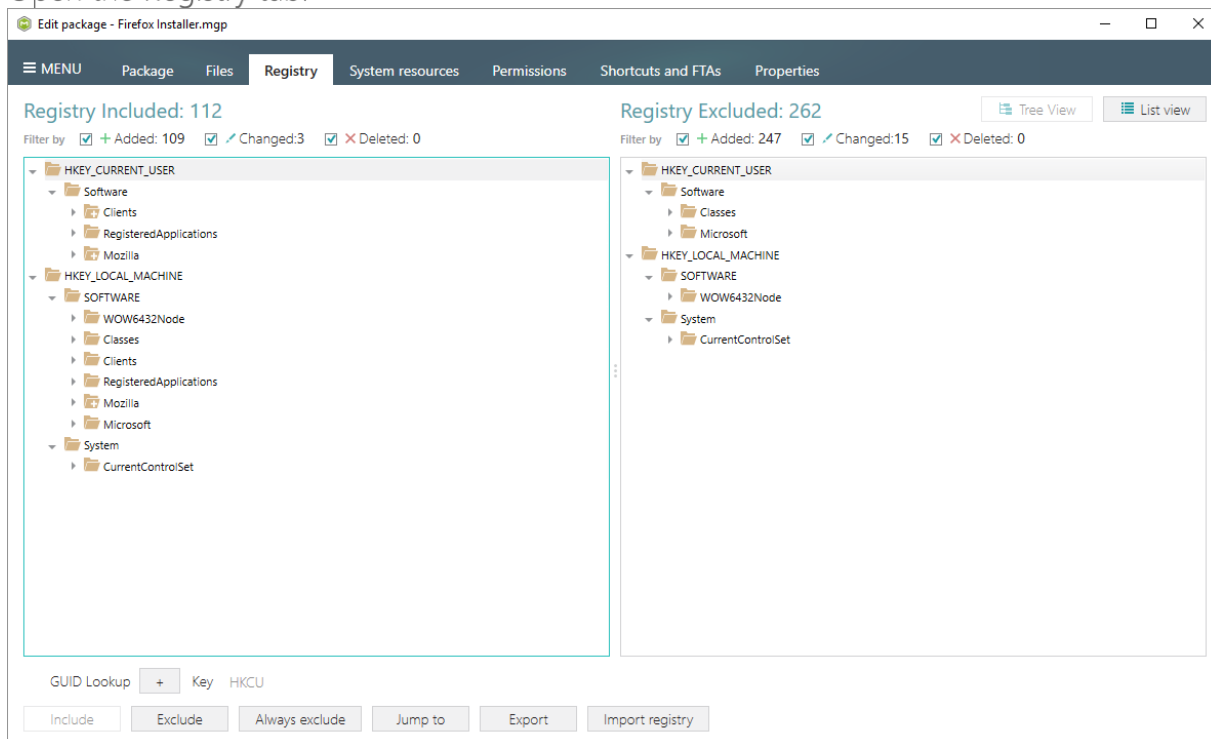


- [2]. Select Include from the context menu of an item, which is located in the right 'Registry Excluded' pane, you want to include back to the project.

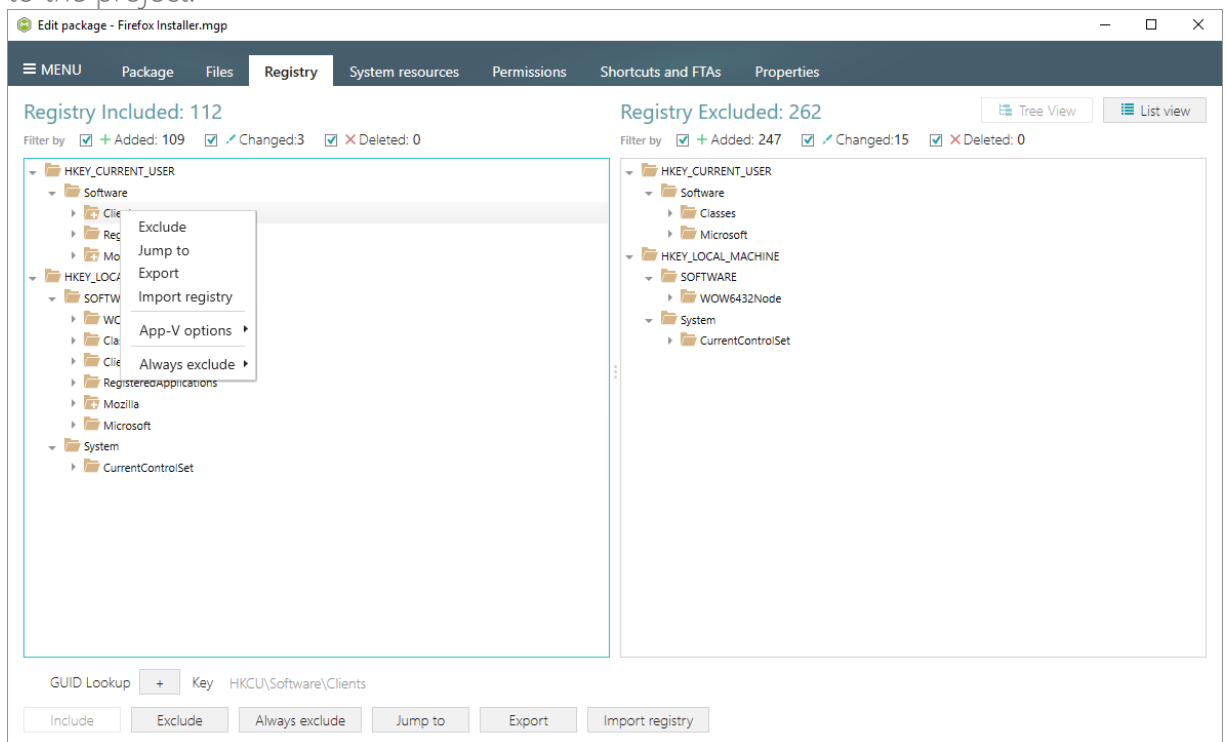


3.7.3.3 Import Registry

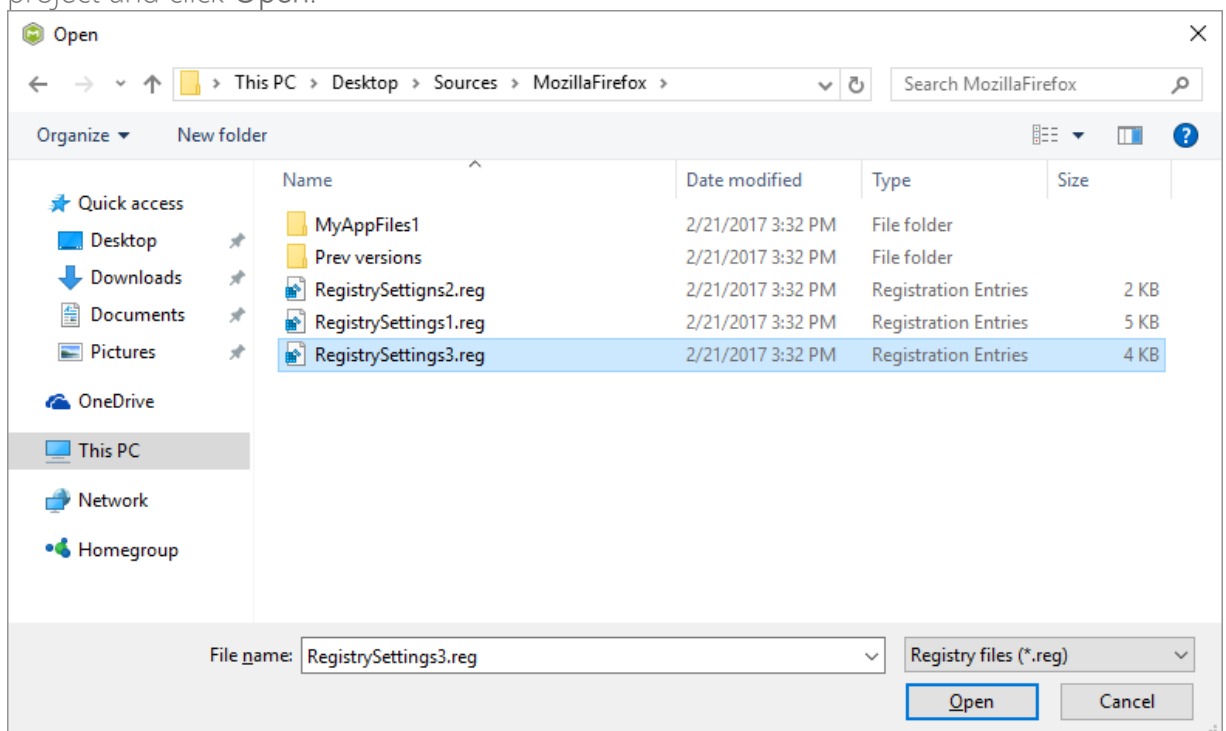
- [1]. Open the Registry tab.



- [2]. Select the **Import registry** from the context menu to import registry entries from a REG file to the project.

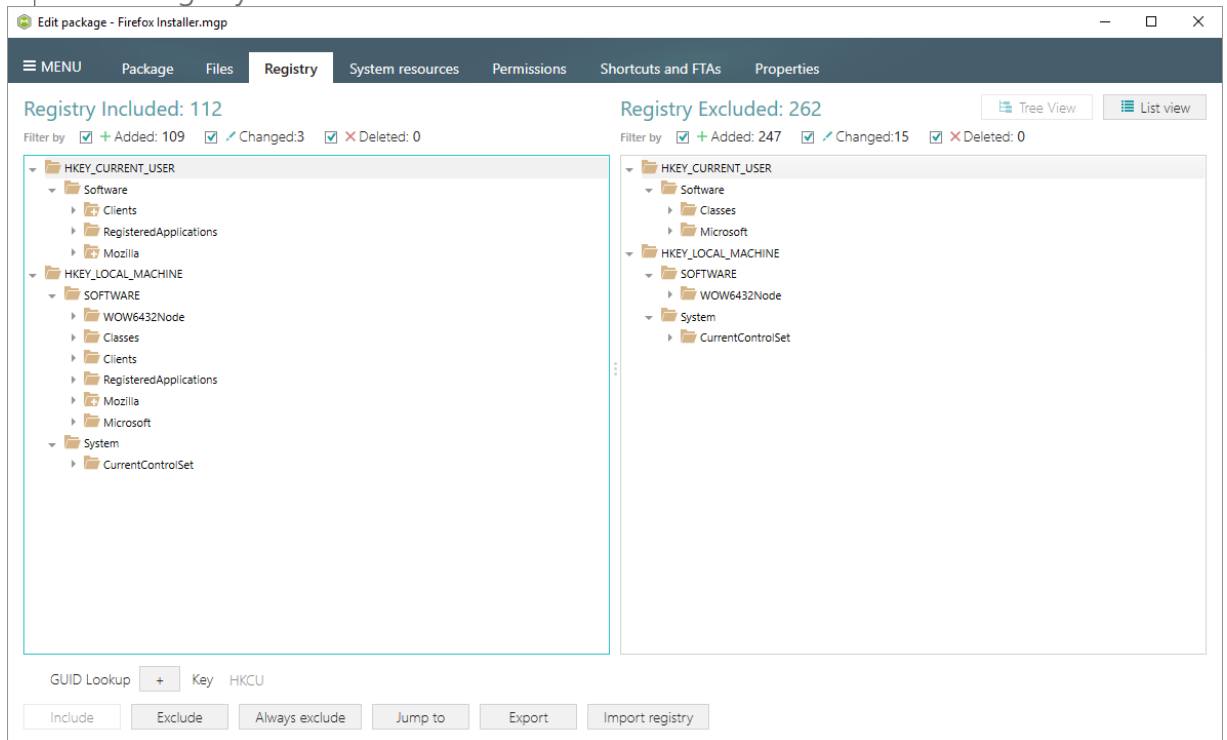


- [3]. Choose a REG file from your file system, content of which you want to import to the project and click **Open**.

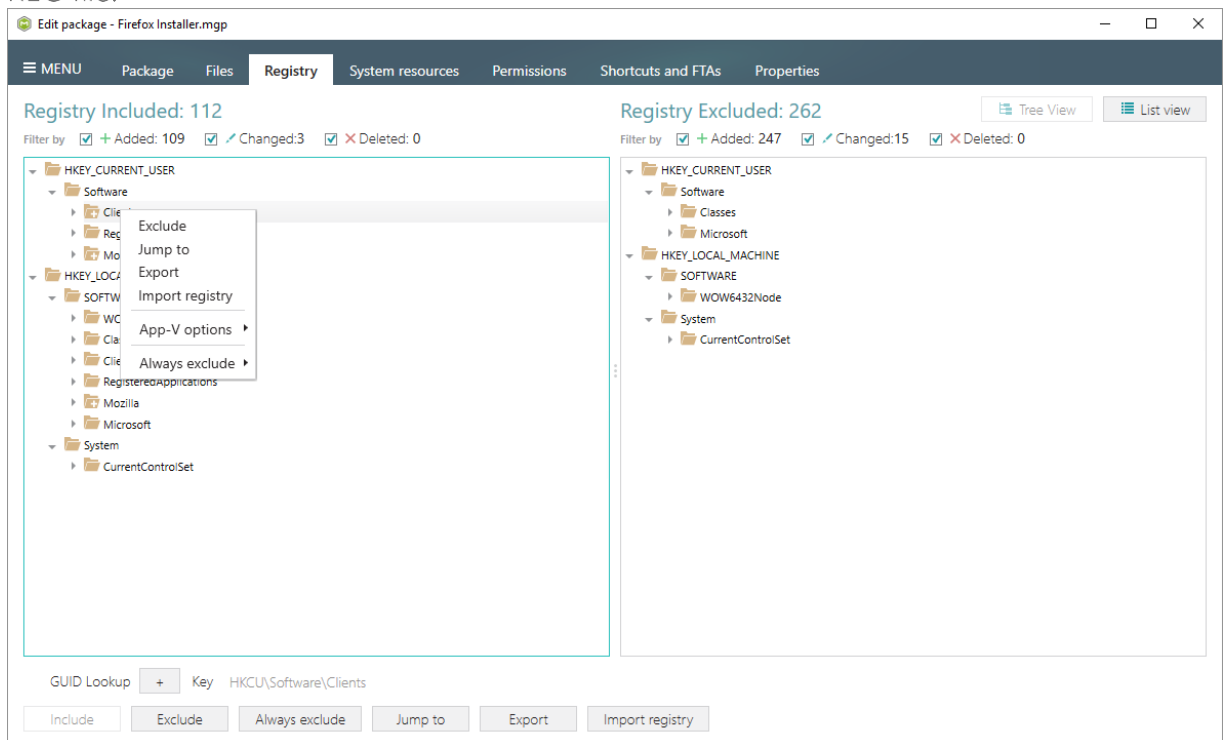


3.7.3.4 Export Registry

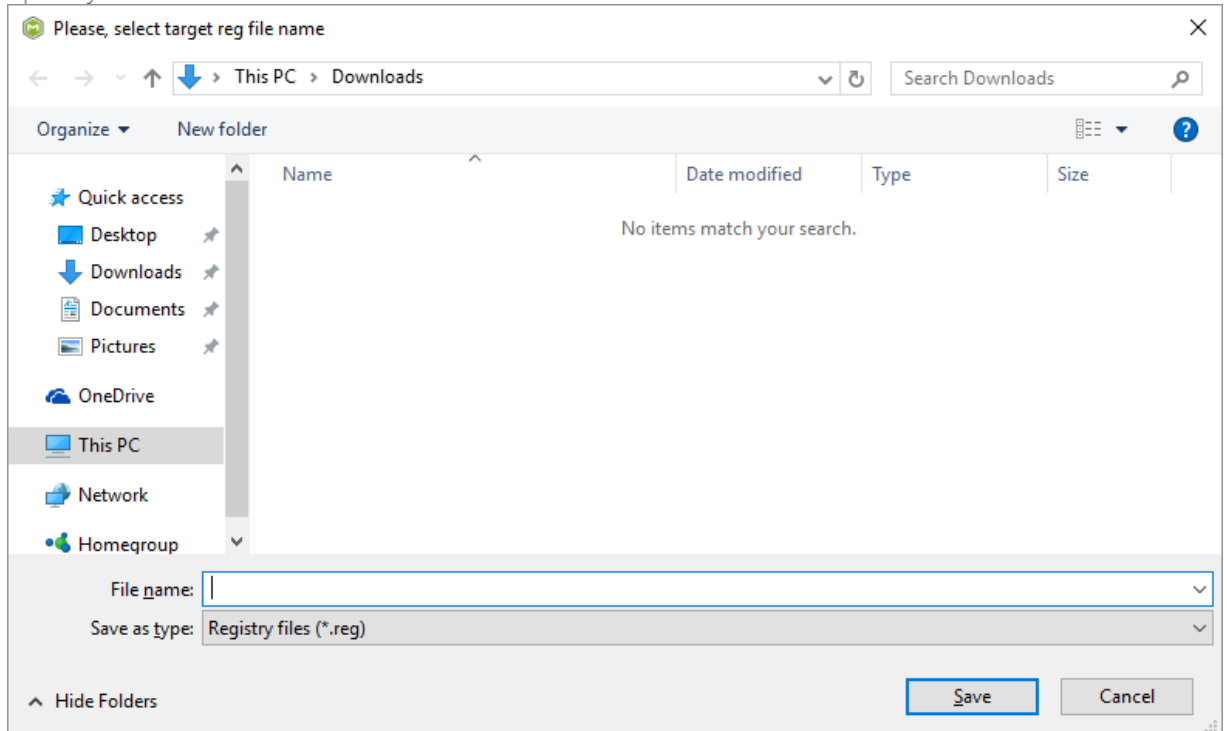
[4]. Open the Registry tab.



[5]. Select Export from the context menu of a registry entry, which you want to export to the REG file.



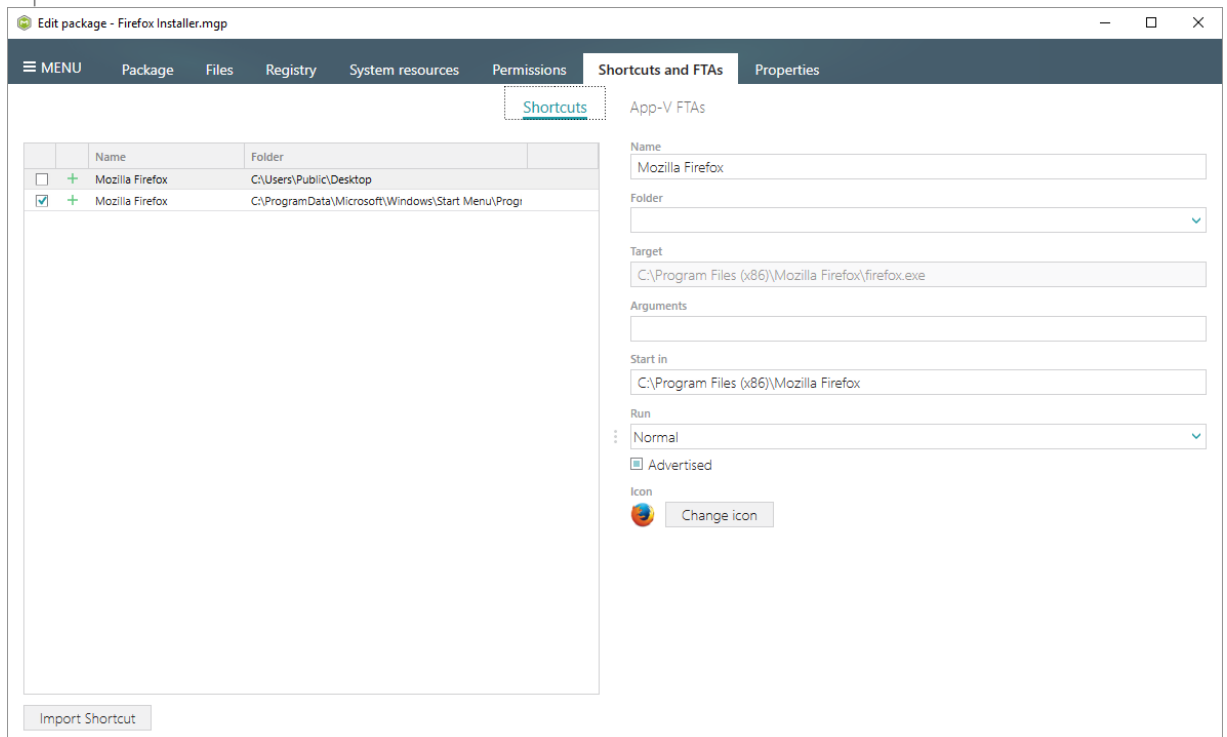
- [6]. Specify a name and a destination location of the REG file and click Save.



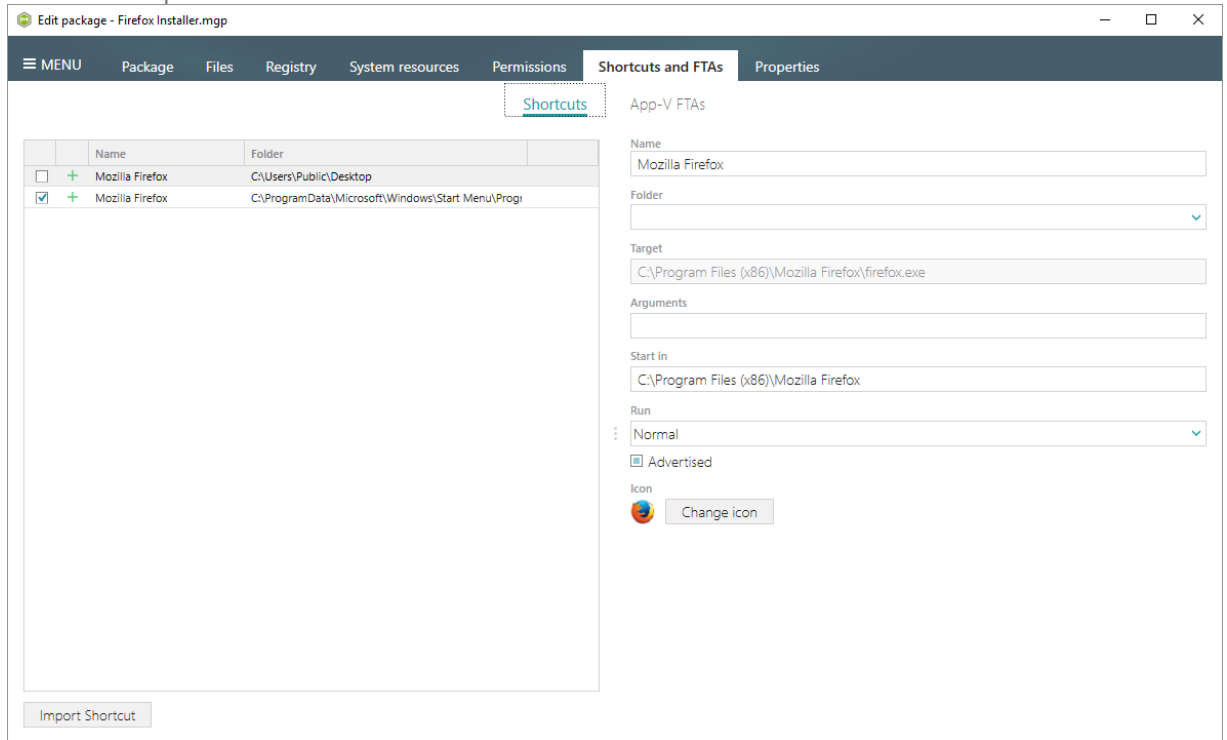
3.7.4 Shortcuts

3.7.4.1 Import Shortcut

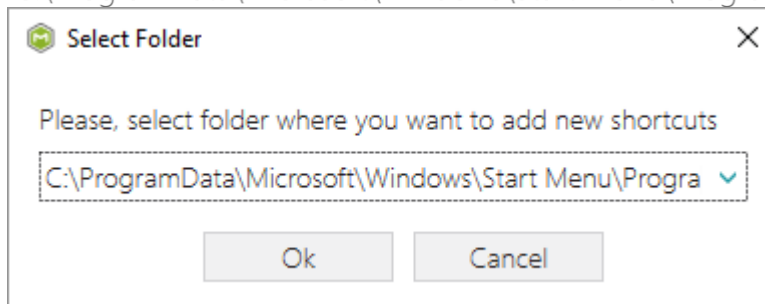
- [1]. Open the Shortcuts and FTAs -> Shortcuts tab.



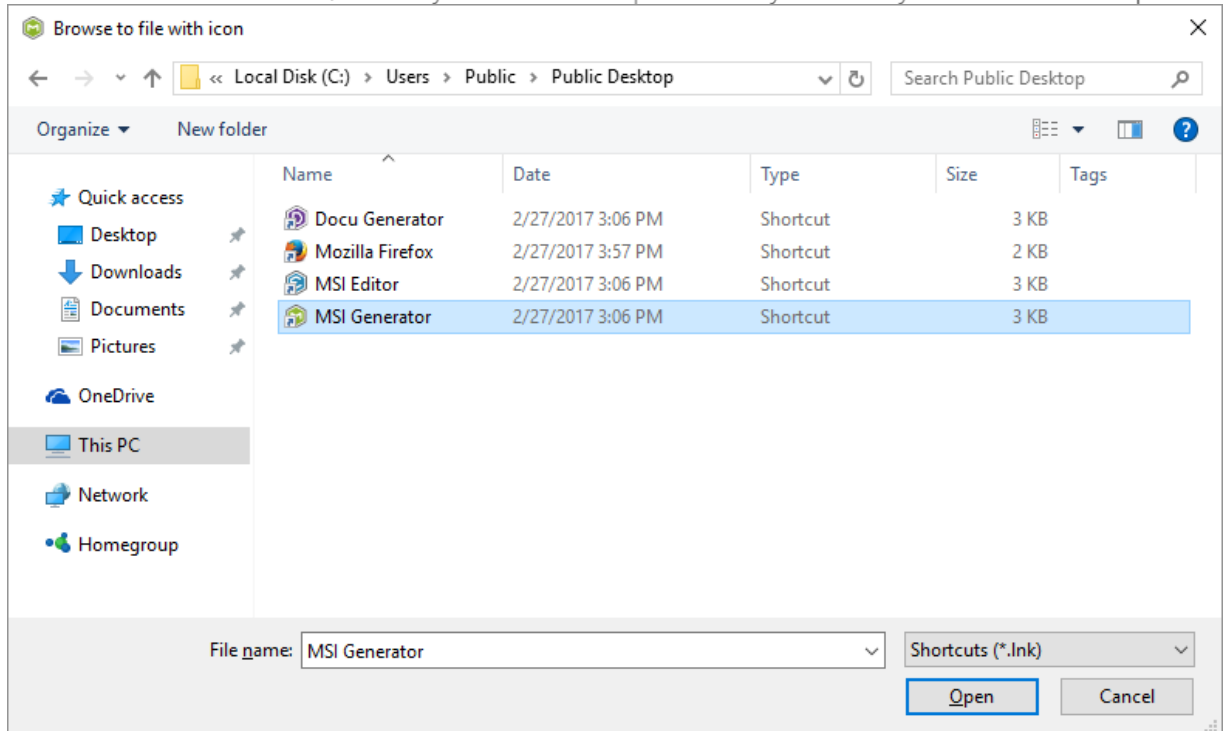
[2]. Click the Import shortcut.



[3]. Select a folder, to which you want to import shortcuts (e.g. 'C:\ProgramData\Microsoft\Windows\Start Menu\Programs') and click Ok.

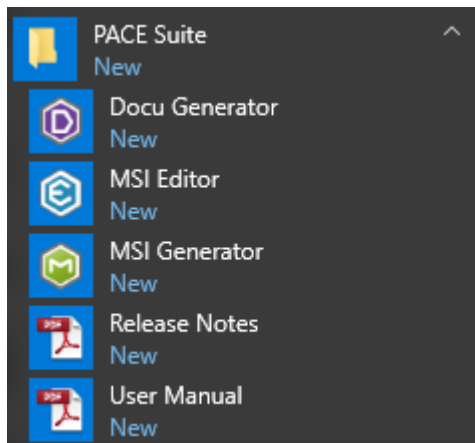


- [4]. Choose an LNK shortcut, which you want to import from your file system and click Open.

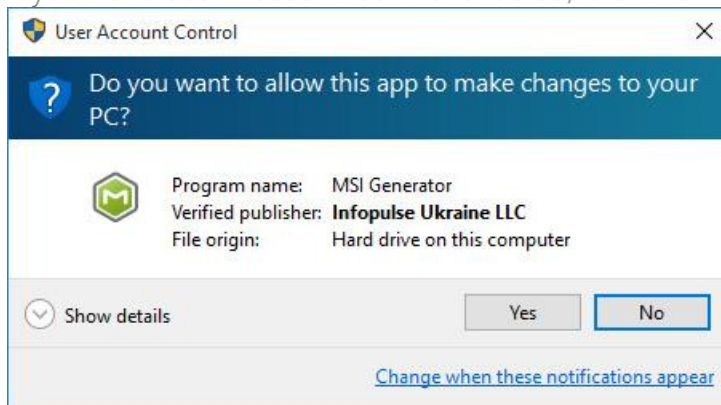


3.8 Edit App-V

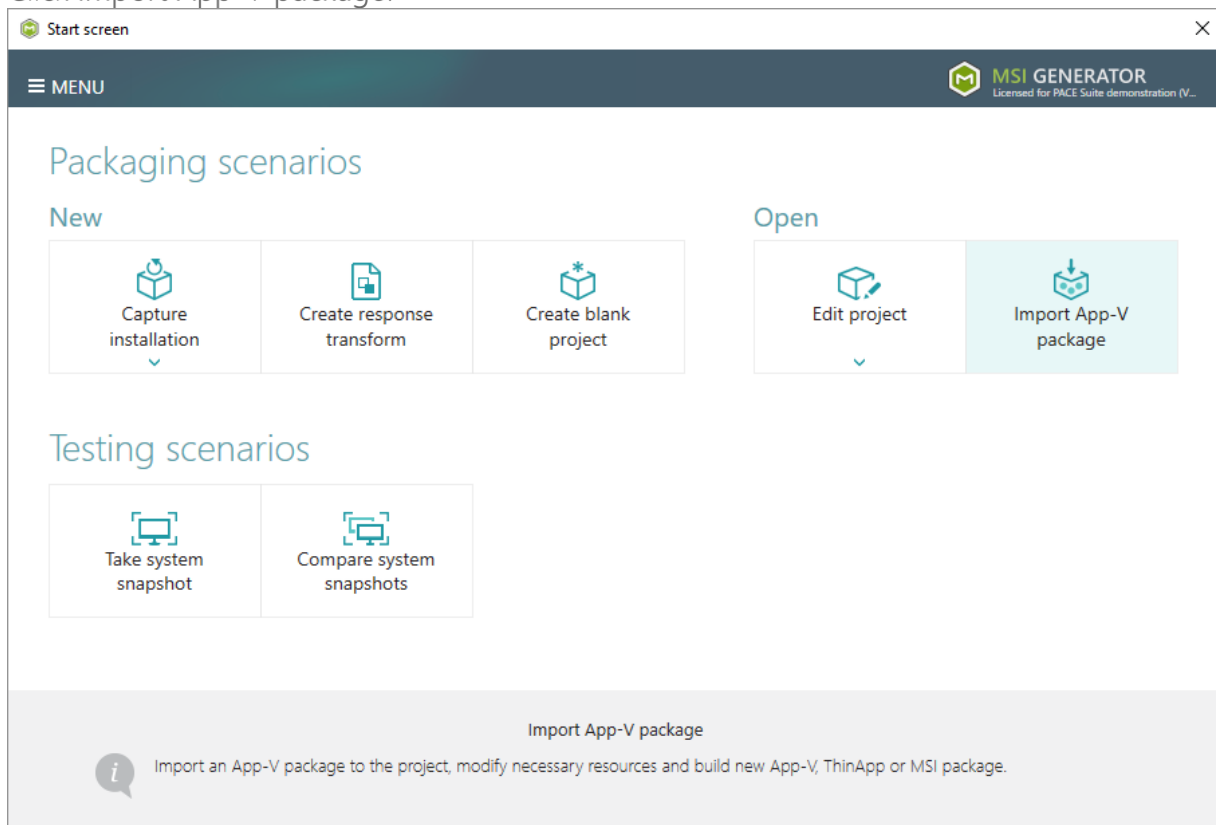
- [1]. Launch MSI Generator.



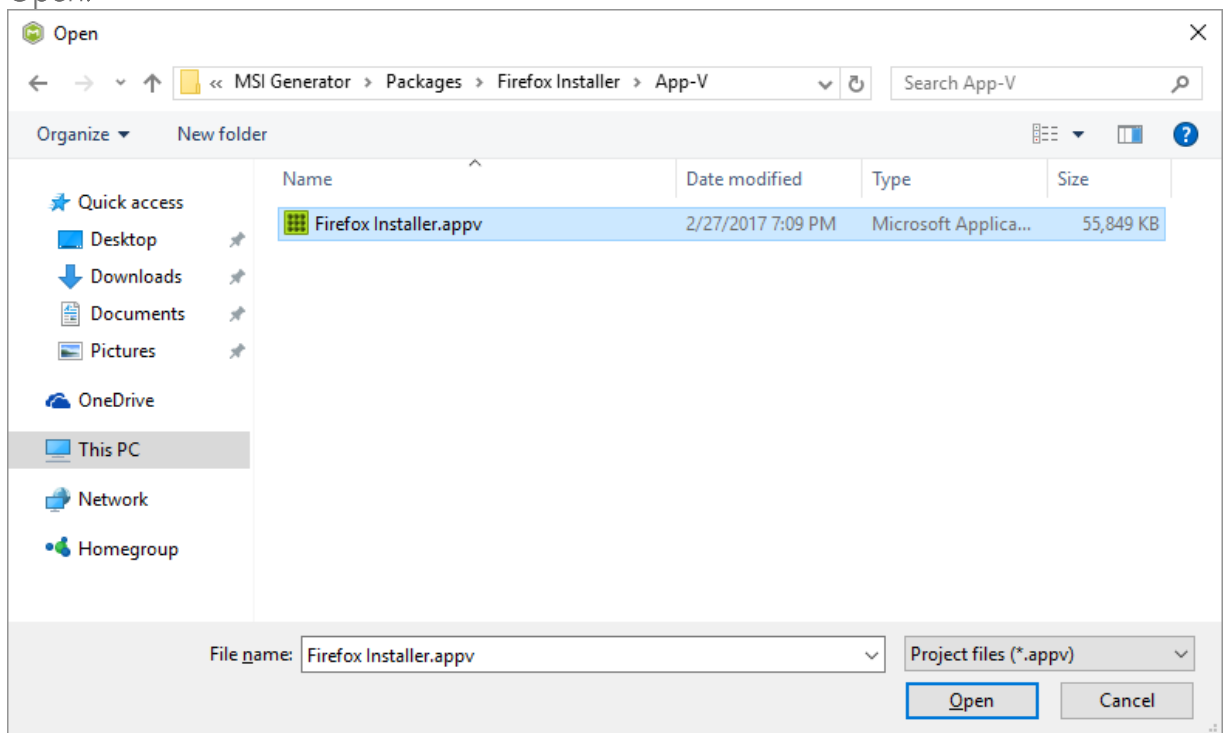
- [2]. If you have User Account Control enabled, click the Yes in the opened window.



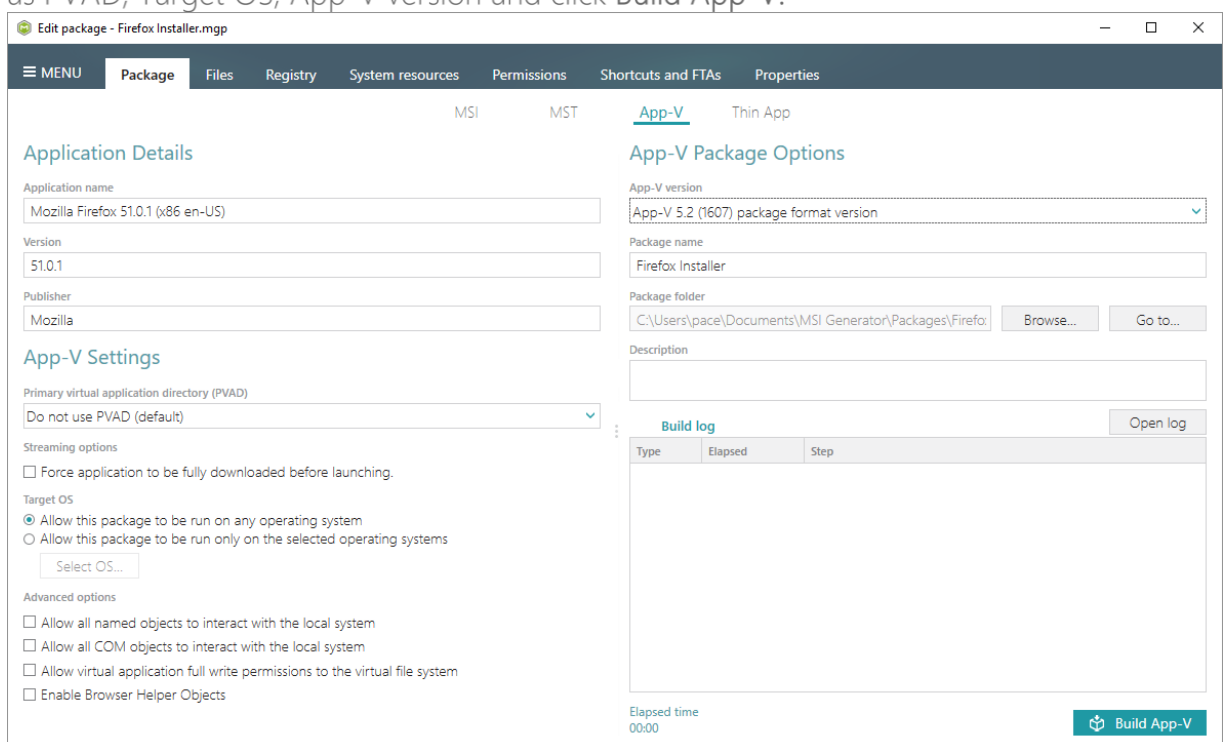
- [3]. Click Import App-V package.



- [4]. Choose an App-V package (APPV file), which you want to edit from your file system and Open.



- [5]. Review and update necessary resources (like files, registry, shortcuts, etc.) in your project, which is created from the opened App-V package. Find instructions on how to [edit project](#) in section 3.7
- [6]. In order to build App-V package from your project, navigate to the Package -> App-V tab, update Application Details like name, publisher, version, choose App-V Settings such as PVAD, Target OS, App-V version and click Build App-V.



- [7]. Click **Go to...**, located next to the **Package folder** field, to open the package containing folder in Windows Explorer.

Edit package - Firefox Installer.mgp

MENU Package Files Registry System resources Permissions Shortcuts and FTAs Properties

MSI MST **App-V** Thin App

Application Details

Application name: Mozilla Firefox 51.0.1 (x86 en-US)

Version: 51.0.1

Publisher: Mozilla

App-V Package Options

App-V version: App-V 5.2 (1607) package format version

Package name: Firefox Installer

Package folder: C:\Users\pace\Documents\MSI Generator\Packages\Firefox... **Browse...** **Go to...**

Description:

App-V Settings

Primary virtual application directory (PVAD): Do not use PVAD (default)

Streaming options:

- ☐ Force application to be fully downloaded before launching.

Target OS:

- ☒ Allow this package to be run on any operating system
- ☐ Allow this package to be run only on the selected operating systems

Select OS...

Advanced options:

- ☐ Allow all named objects to interact with the local system
- ☐ Allow all COM objects to interact with the local system
- ☐ Allow virtual application full write permissions to the virtual file system
- ☐ Enable Browser Helper Objects

Build log

Type	Elapsed	Step
■	00:00:20	Operation was completed successfully
■	00:00:06	Saving package
■	00:00:06	Processing software clients
■	00:00:06	Processing environment variables
■	00:00:06	Processing URL protocols
■	00:00:06	Processing application capabilities
■	00:00:06	Processing FTAs
■	00:00:06	Processing browser plugins
■	00:00:06	Processing COM objects
■	00:00:05	Processing services

Elapsed time: 00:00:20

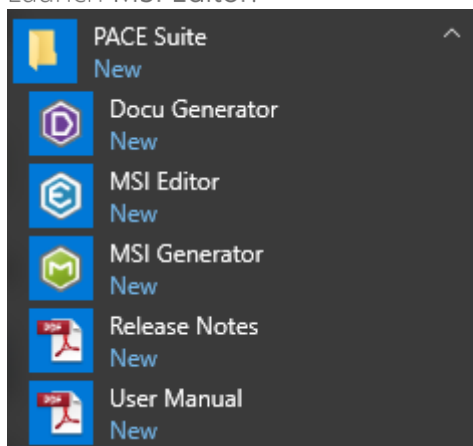
Build App-V

3.9 Publish Package to SCCM

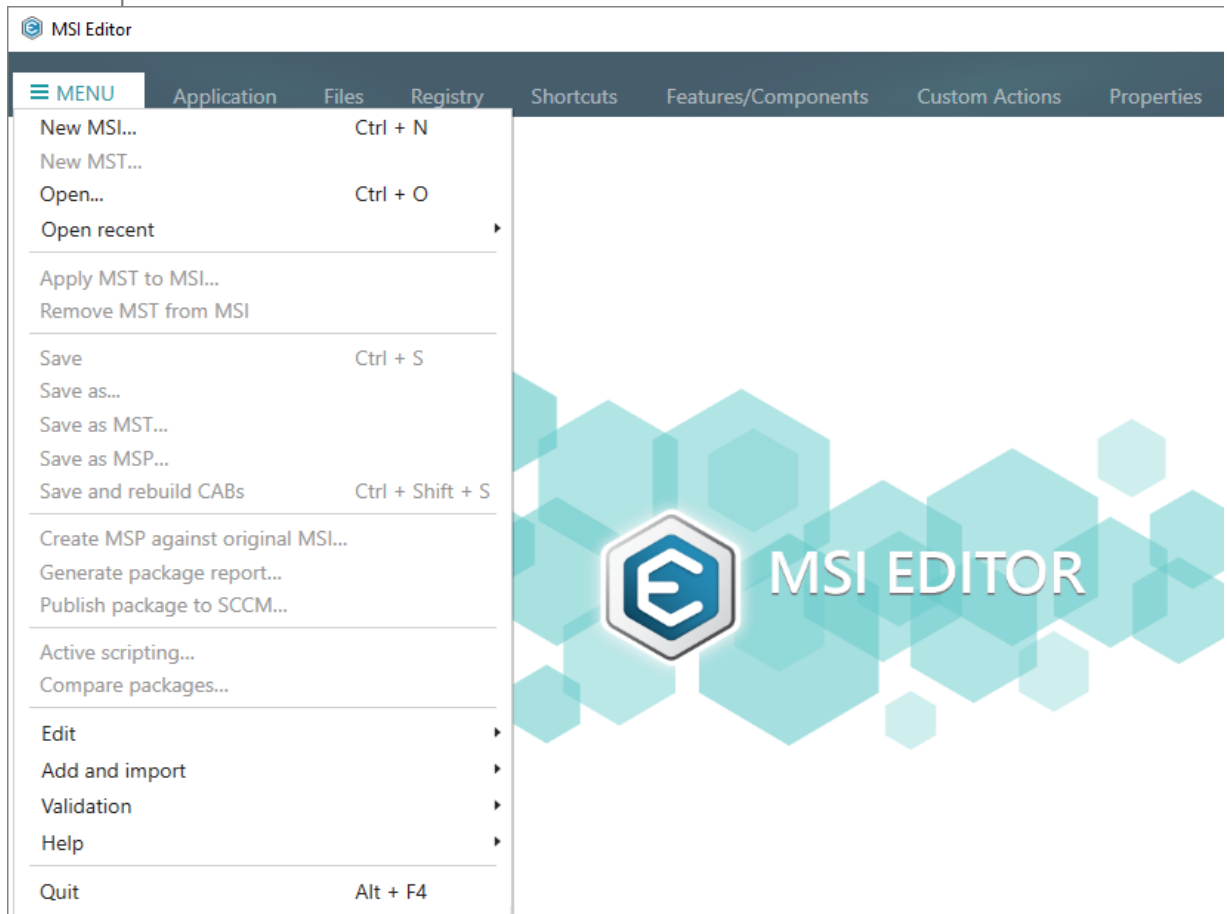
NOTE Please ensure that a target system contains necessary software:

- Microsoft SCCM server version: SCCM 2007 (SP1/SP2/R1/R2) or SCCM 2012 (SP1/SP2/R2/R2 SP1)
- Microsoft Management Framework 3.0
- Windows Remote Management (WinRM) service enabled

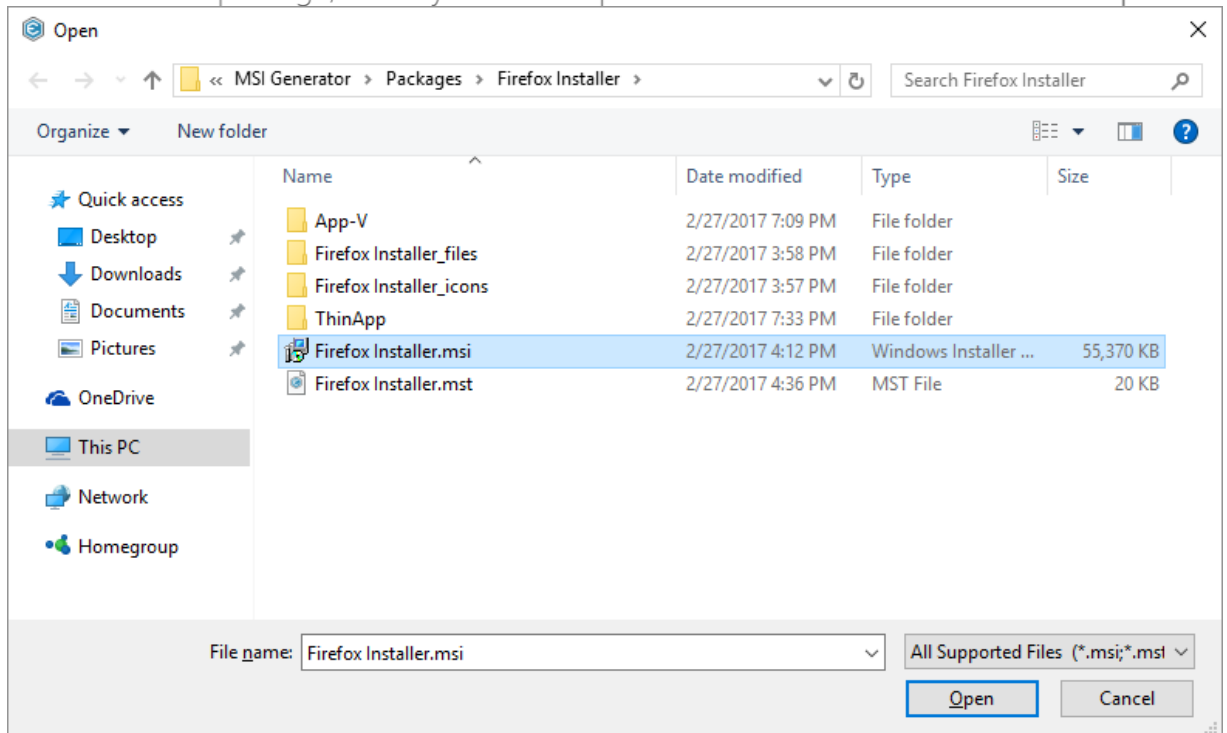
[1]. Launch MSI Editor.



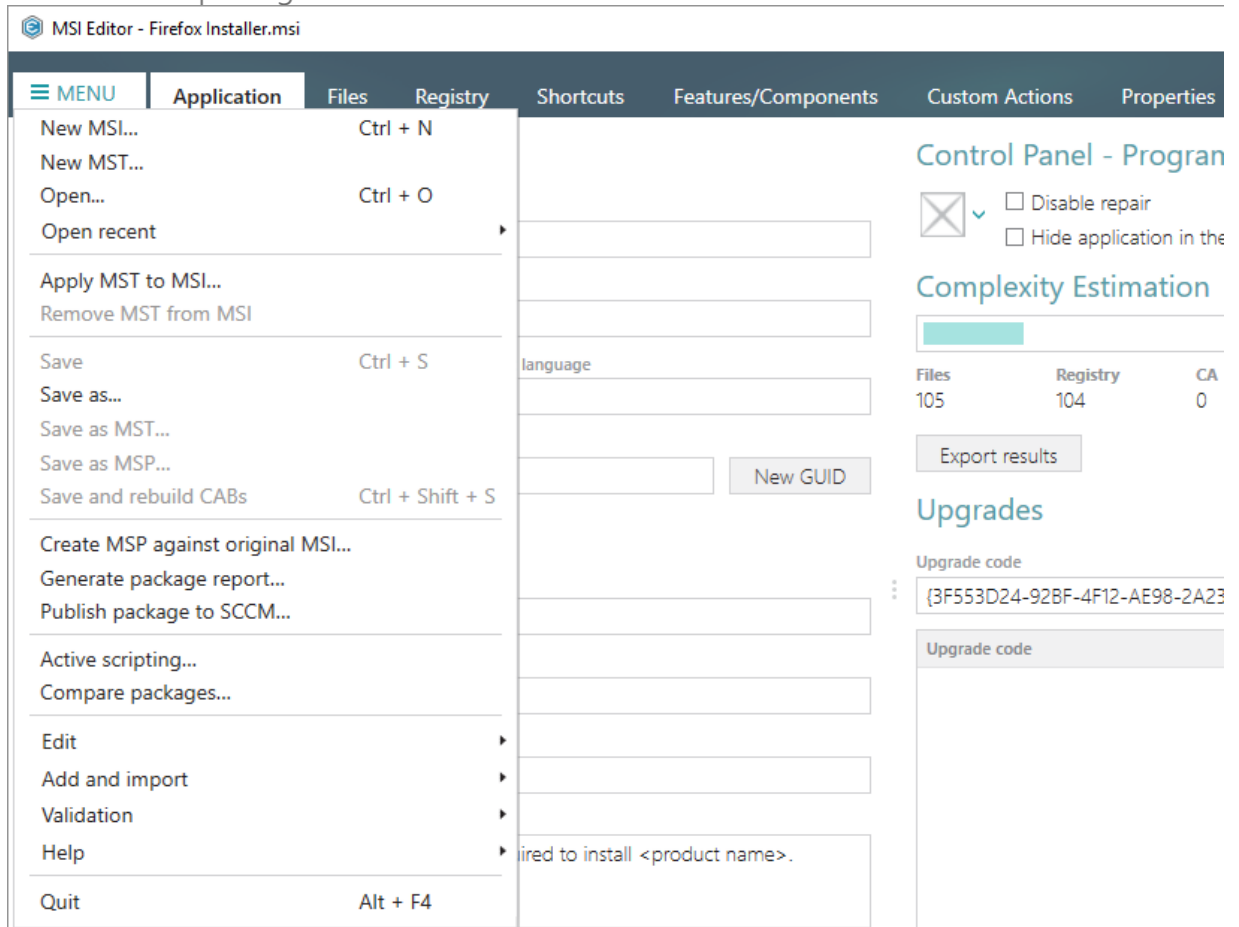
[2]. Select Open... from MENU.



- [3]. Choose an MSI package, which you want to publish to the SCCM server and click Open.



- [4]. Select Publish package to SCCM... from MENU.



- [5]. Specify an IP address or a hostname of your SCCM server, user name and password for connecting to the SCCM. Enter a network share, where the package should be uploaded and credentials for connecting to the network share. Click **Next** to choose a publishing

model. Click **Test connections...** to check connections to the SCCM server and network share.

SCCM server

Package definition

Display information

Publish options

Select files

Publishing

SCCM server and network share settings

Specify an IP address or hostname of SCCM server

SCCM server

User name

Password

☐ Use Windows session credentials

Specify a network share where packages will be uploaded

Network share for packages

User name

Password

☐ Use Windows session credentials

[Test connections...](#)

< Back

Next >

Cancel

[6]. Select a suitable publishing model and click **Next**.

The screenshot shows a wizard window titled "Publish package to SCCM". At the top, a progress bar indicates the current step is "Package definition", which is highlighted with a blue circle and a checkmark. The other steps in the sequence are "SCCM server", "Display information", "Publish options", "Select files", and "Publishing", each represented by a grey circle. Below the progress bar, the section "Package definition configuration" contains two radio button options: "Publish as a package" (selected) and "Publish as an application (recommended for SCCM 2012)". The "Publish as a package" option has a description: "The classic way SCCM has used in the past for deploying software to devices and is fully supported in SCCM 2007-2012". The "Publish as an application" option has a description: "This way is supported only by SCCM 2012. Applications are similar to packages, but contain more information to support smart deployment". Below these options is a warning message with a yellow triangle icon: "Warning! Version of the specified SCCM server could not be detected." At the bottom right of the window are three buttons: "< Back", "Next >" (which is highlighted with a dashed border), and "Cancel".

Publish package to SCCM

SCCM server **Package definition** Display information Publish options Select files Publishing

Package definition configuration

☒ Publish as a package
The classic way SCCM has used in the past for deploying software to devices and is fully supported in SCCM 2007-2012

☐ Publish as an application (recommended for SCCM 2012)
This way is supported only by SCCM 2012. Applications are similar to packages, but contain more information to support smart deployment

⚠ Warning! Version of the specified SCCM server could not be detected.

< Back **Next >** Cancel

- [7]. Review and update package display information such as name, manufacturer, version and others. Click Next to choose publish options.

The screenshot shows a wizard window titled "Publish package to SCCM". At the top, a progress bar indicates the current step is "Display information", which is highlighted in blue. The other steps are "SCCM server", "Package definition", "Publish options", "Select files", and "Publishing". Below the progress bar, the "Display information" section contains several text input fields:

- Name:** Mozilla Firefox 51.0.1 (x86 en-US)
- Manufacturer:** Mozilla
- Version:** 51.0.1
- Language:** English
- Description:** Mozilla - Mozilla Firefox 51.0.1 (x86 en-US) - 51.0.1

At the bottom right, there are three buttons: "< Back", "Next >" (which is highlighted with a dashed border), and "Cancel".

[8]. Select the necessary publish options and click Next.

The screenshot shows a wizard window titled "Publish package to SCCM". At the top, a progress bar indicates the sequence of steps: "SCCM server", "Package definition", "Display information", "Publish options" (the current step, highlighted in blue), "Select files", and "Publishing". Below the progress bar, the "Publish options" section contains four configuration items, each with a dropdown menu:

- Installation behavior:** Set to "Install for system".
- Logon requirement:** Set to "Whether or not a user is logged on".
- Device restart:** Set to "Determine behavior based on return codes".
- Maximum allowed run time (minutes):** Set to "120".

At the bottom right of the window, there are three buttons: "< Back", "Next >" (which is highlighted with a dashed border), and "Cancel".

- [9]. Select which of files and folders, located in the package folder should be copied to the network share and click **Next** to publish your package to the SCCM server.

The screenshot shows the 'Publish package to SCCM' wizard window. At the top, a progress bar indicates the current step is 'Select files', with previous steps (SCCM server, Package definition, Display information, Publish options) completed and the next step (Publishing) pending. Below the progress bar, the title 'Select files' is displayed. The main area contains the instruction 'Select files which also should be copied to network share within the package' and a list of files and folders with checkboxes. The files are: App-V, Firefox Installer_files, Firefox Installer_icons, ThinApp, Firefox Installer 51.0.1 patch.msp, Firefox Installer.mgp, Firefox Installer.mst (checked), Firefox0.cab (checked), and found_files.xml. At the bottom right, there are three buttons: '< Back', 'Next >' (highlighted with a dashed border), and 'Cancel'.

Publish package to SCCM

SCCM server Package definition Display information Publish options **Select files** Publishing

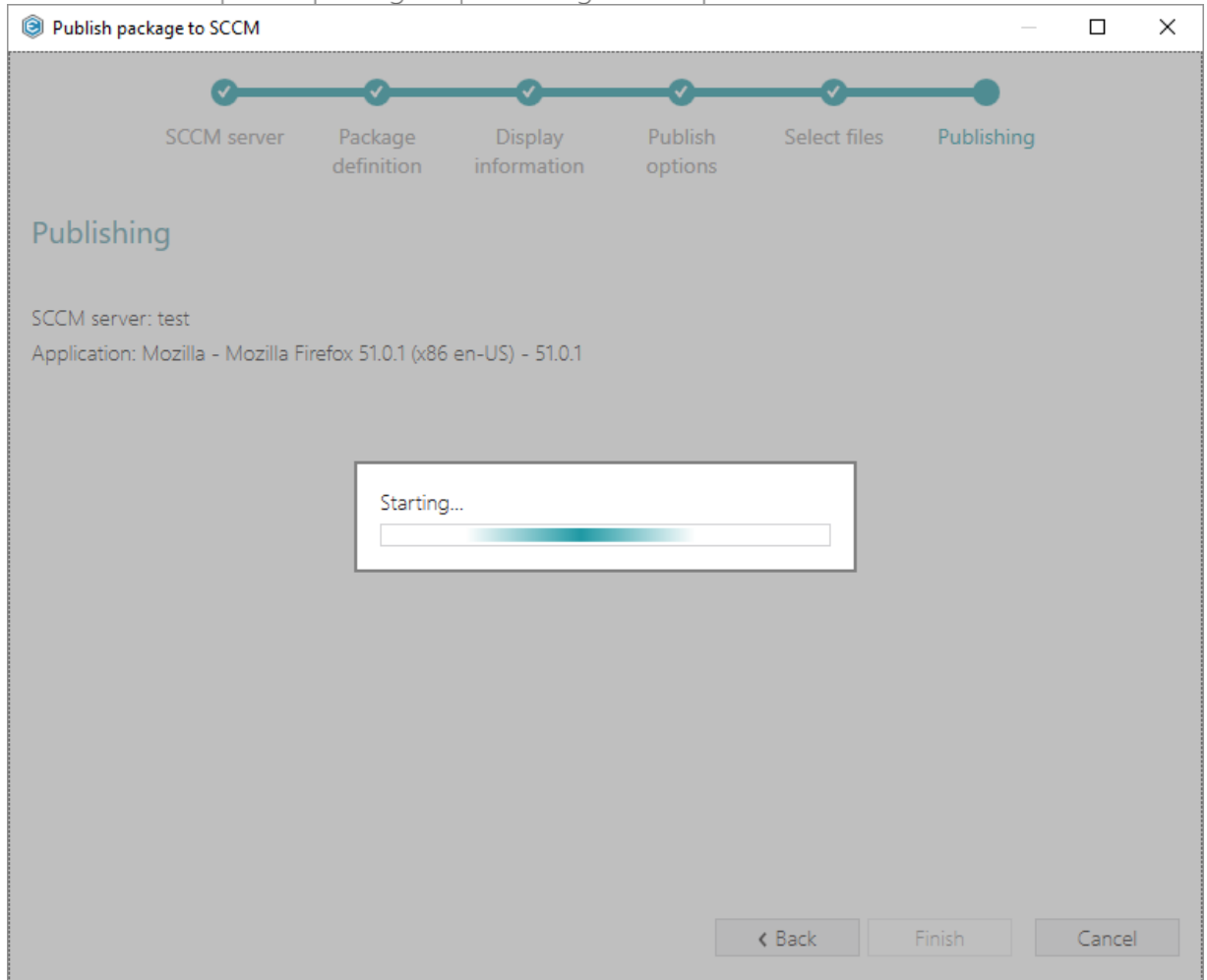
Select files

Select files which also should be copied to network share within the package

- ☐ Select all/none
- ☐ App-V
- ☐ Firefox Installer_files
- ☐ Firefox Installer_icons
- ☐ ThinApp
- ☐ Firefox Installer 51.0.1 patch.msp
- ☐ Firefox Installer.mgp
- ☒ Firefox Installer.mst
- ☒ Firefox0.cab
- ☐ found_files.xml

< Back **Next >** Cancel

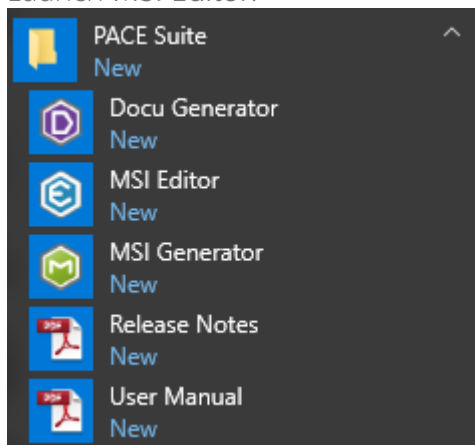
[10]. Wait while the opened package is publishing to the specified SCCM server.



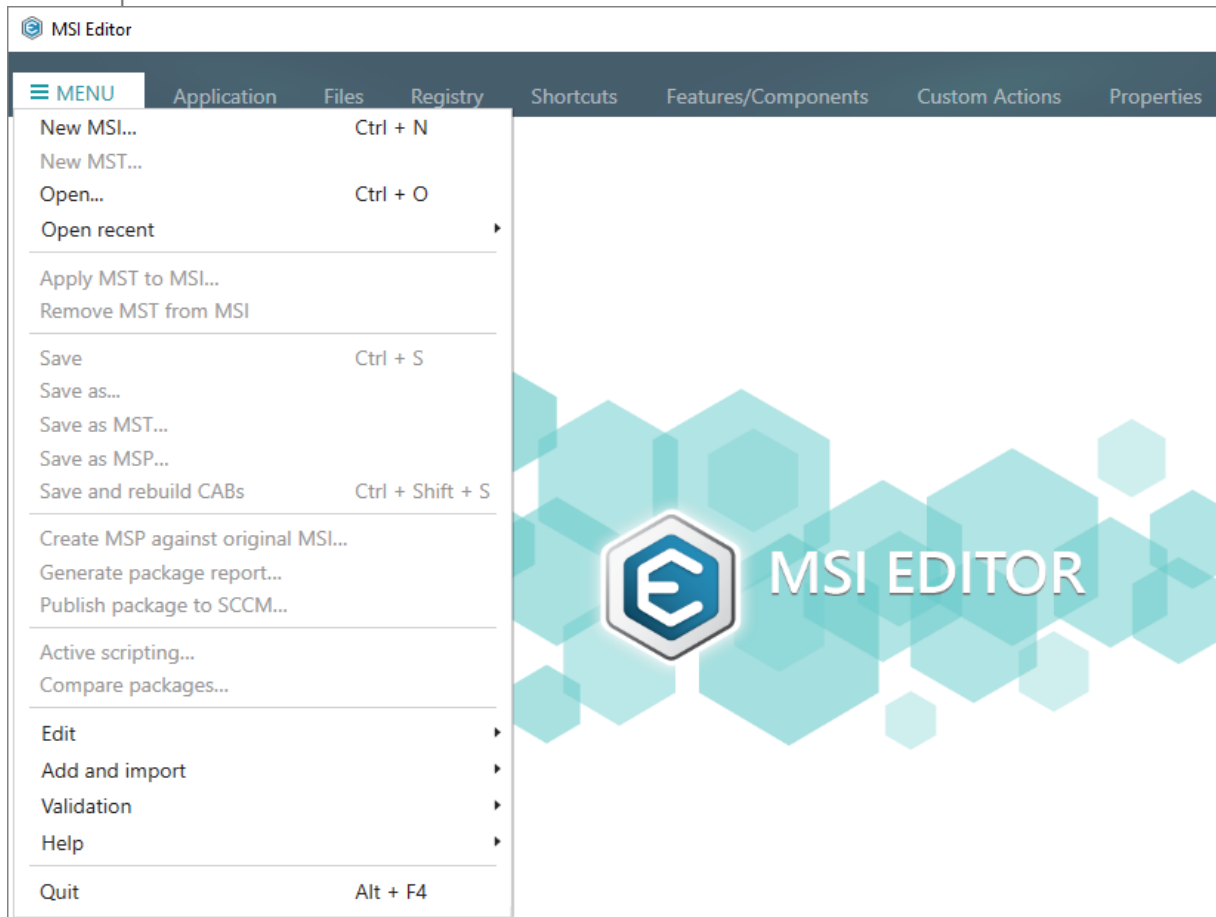
3.10 Generate Package Report

NOTE PACE Suite supports Word Document (.DOCX) and Excel Workbook (.XLSX) format types and allows generating a report with no Microsoft Office installed on the system.

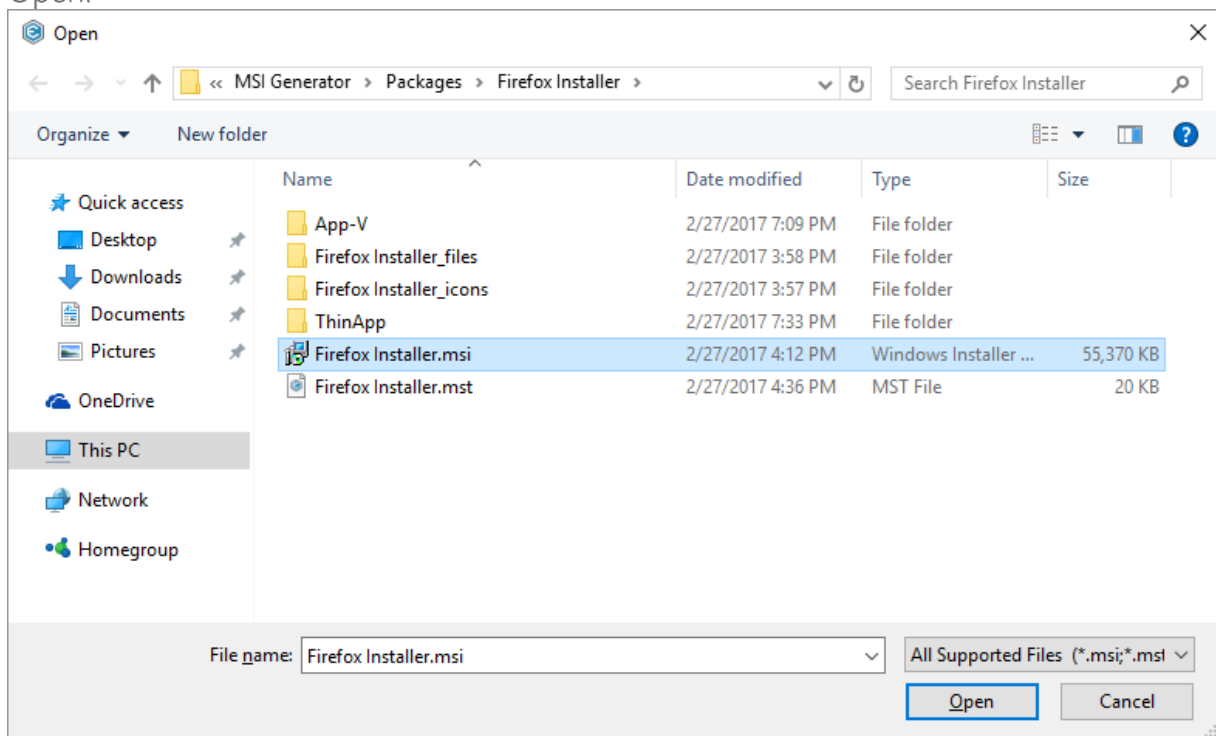
[1]. Launch MSI Editor.



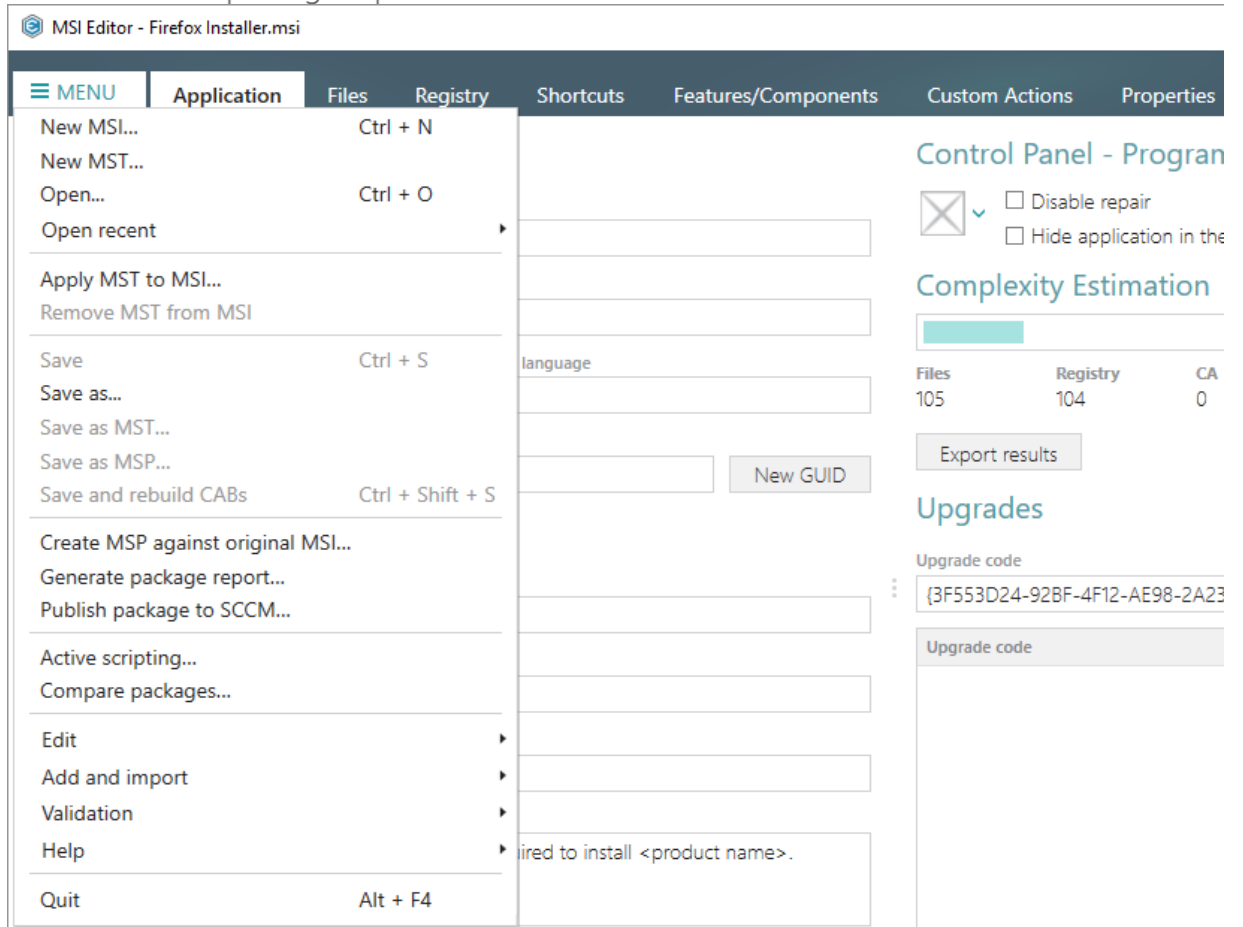
[2]. Select Open... from MENU.



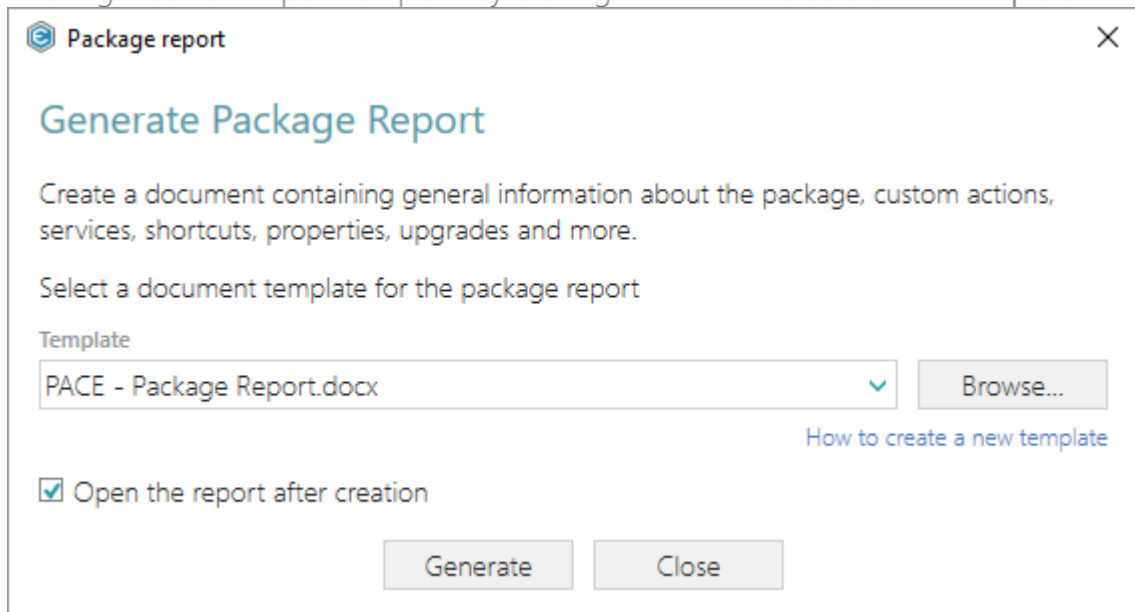
[3]. Choose an MSI package, for which you want to generate a package report and click Open.



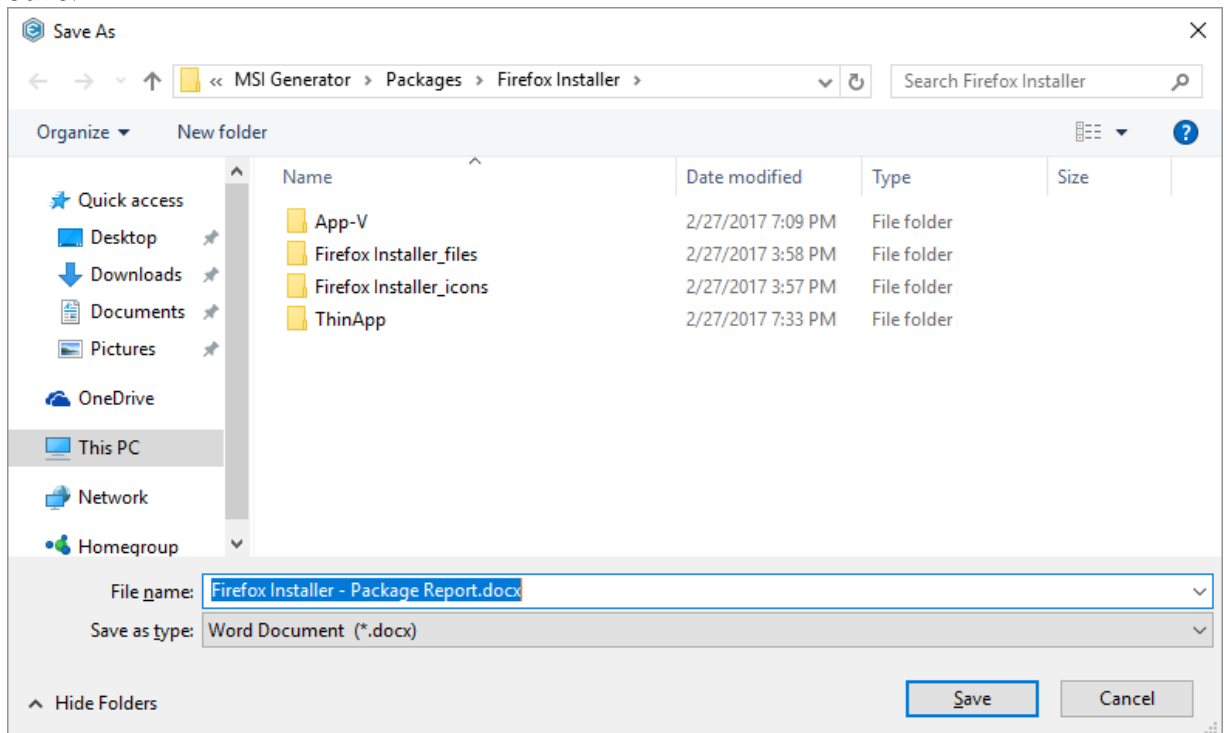
- [4]. Select Generate package report... from MENU.



- [5]. Select a template for your package and click Generate. Find more information about creating a custom report template by clicking the How to create a new template link.

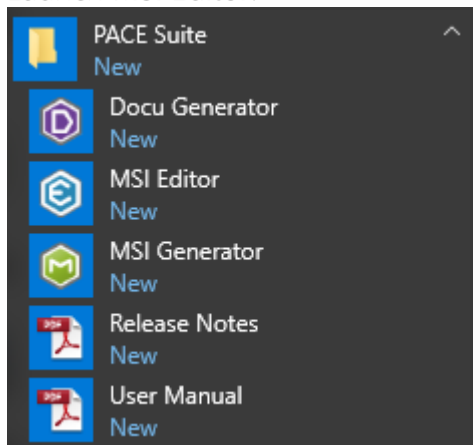


- [6]. Specify a file name and a destination location of the generated package report and click Save.

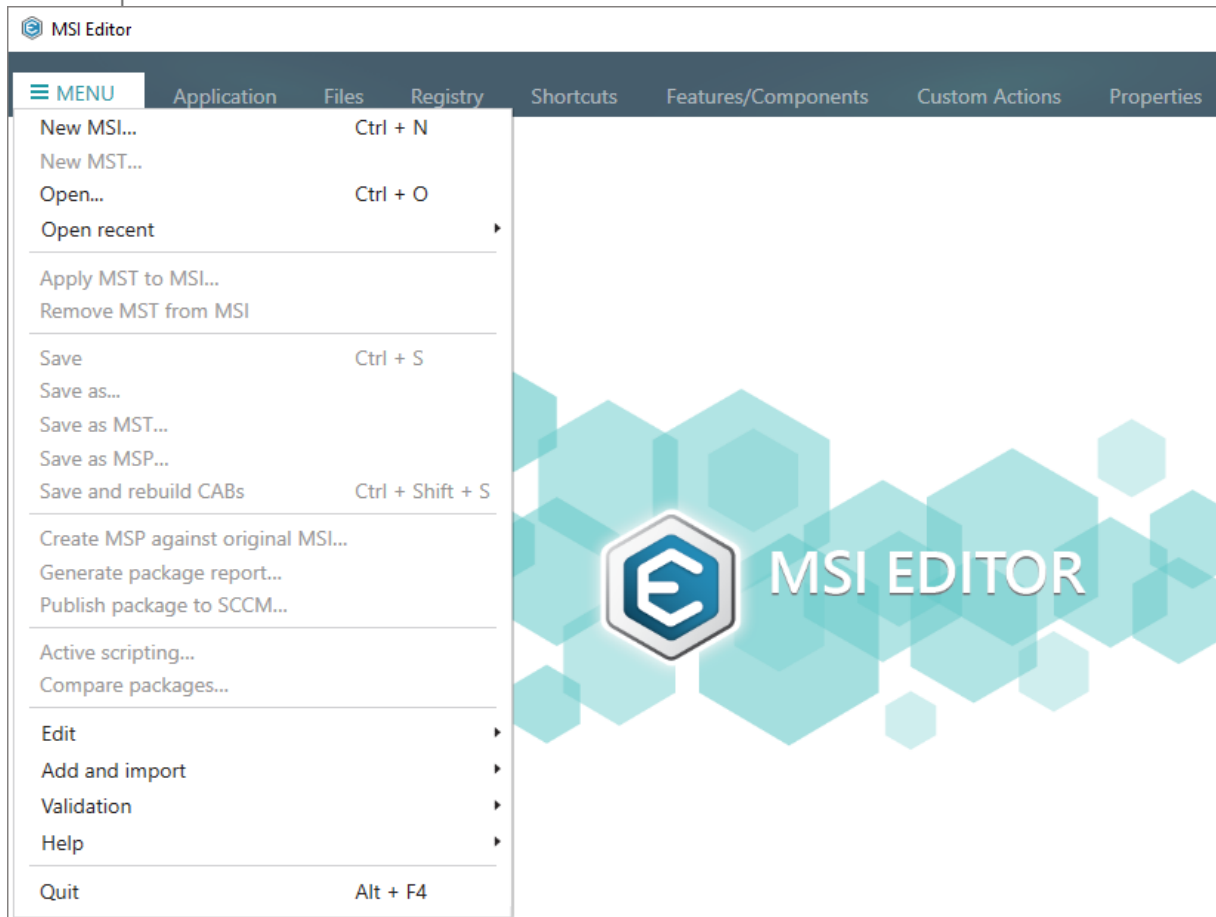


3.11 Validate Package

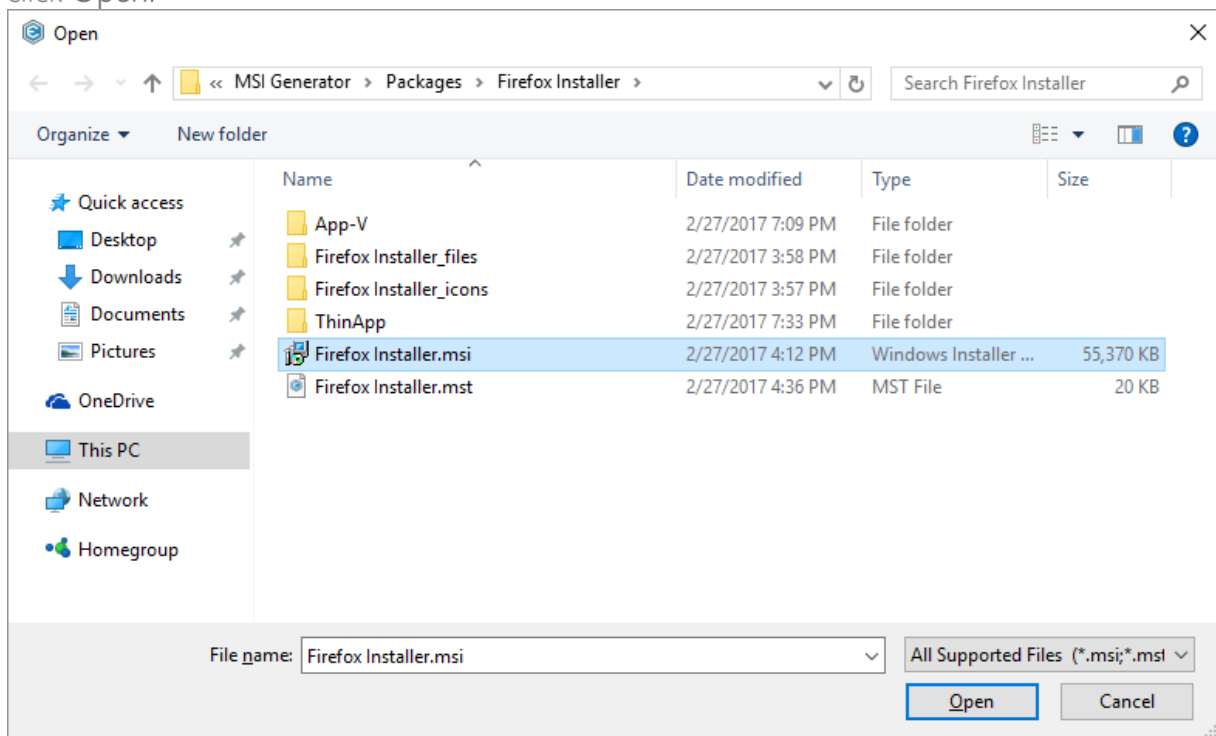
- [1]. Launch MSI Editor.



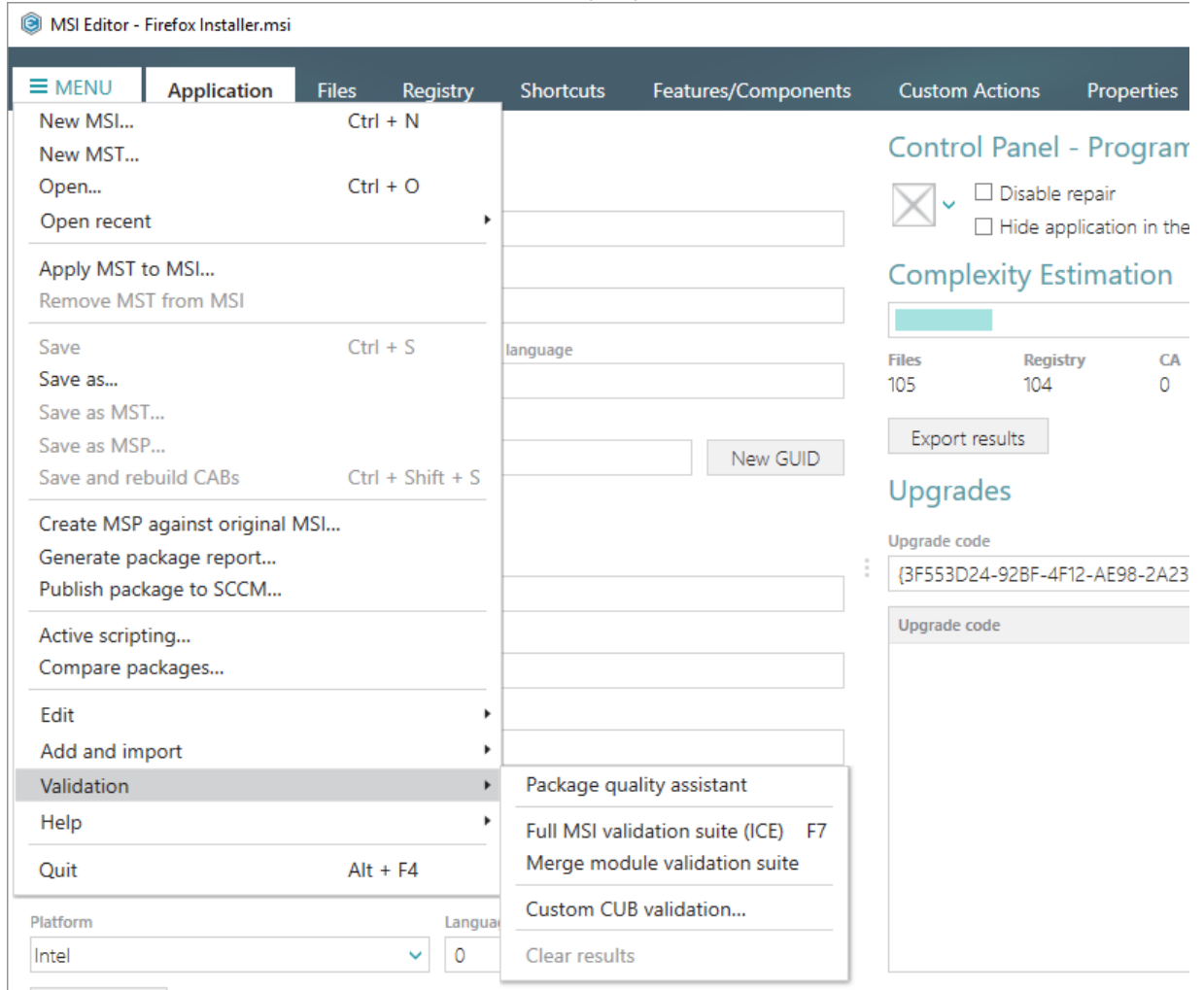
[2]. Select Open... from MENU.



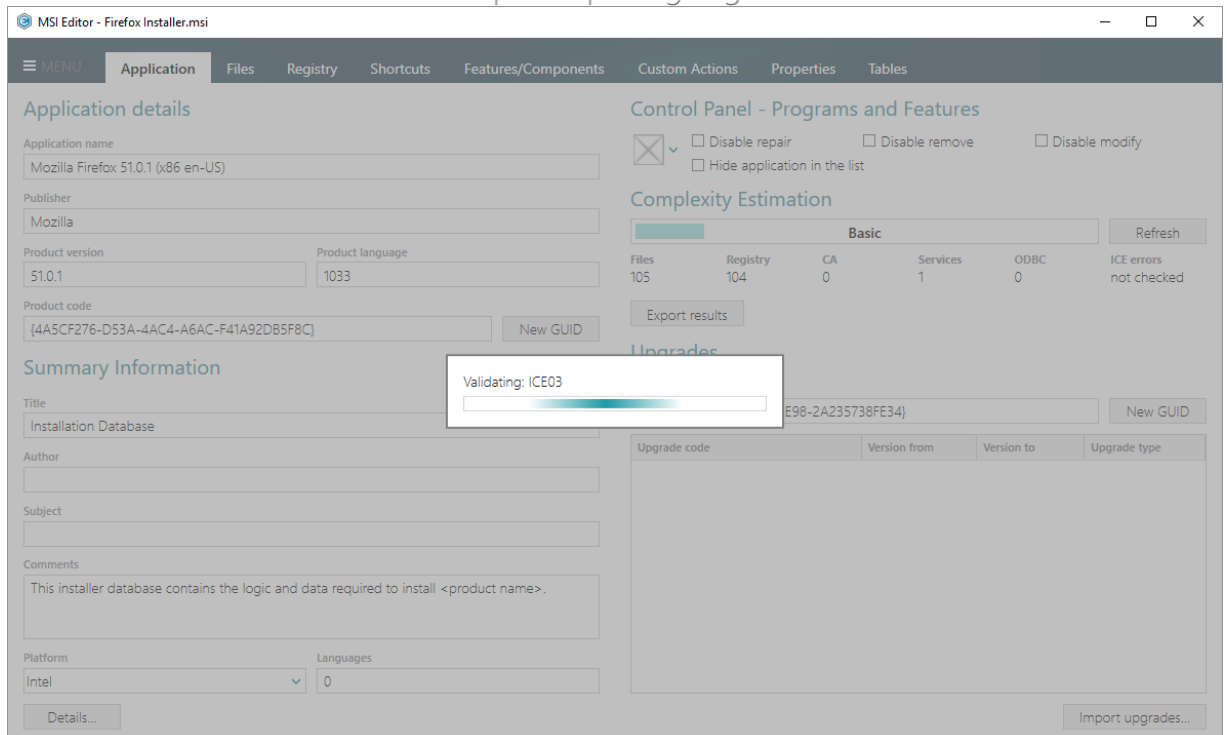
[3]. Choose an MSI package, which you want to validate against the standard CUB files and click Open.



- [4]. Select Validation -> Full MSI validation suite (ICE) from MENU.



- [5]. Wait while MSI Editor validates the opened package against standard CUB file.



[6]. The validation results will be displayed on the Tables -> ICE validation tab.

MSI Editor - Firefox Installer.msi

MENU Application Files Registry Shortcuts Features/Components Custom Actions Properties **Tables**

Tables

Table	Number	Name	Type
_Required	4	Description	7679
_Validation	10	Description	7679
AdminExecuteSeque...	3	Sequence	5378
AdvExecuteSequence	3	Sequence	5378
Appld	7	RunAsInteractiveUser	5378
AppSearch	2	Signature_	11592
Billboard	4	Ordering	5378
Binary	2	Data	2304
Class	13	Attributes	5378
Component	6	KeyPath	7496
Condition	3	Condition	7679
Control	12	Help	7986
ControlCondition	4	Condition	11775
ControlEvent	6	Ordering	5378

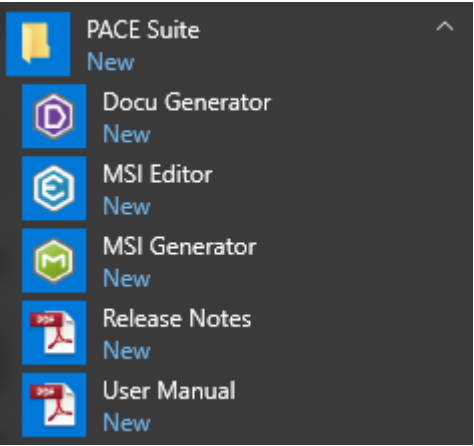
☒ Hide empty tables ☒ Enable linked items tracking for delete/update operations Selected rows: 0 / Total rows: 55

Row references ICE validation Undo/Redo history

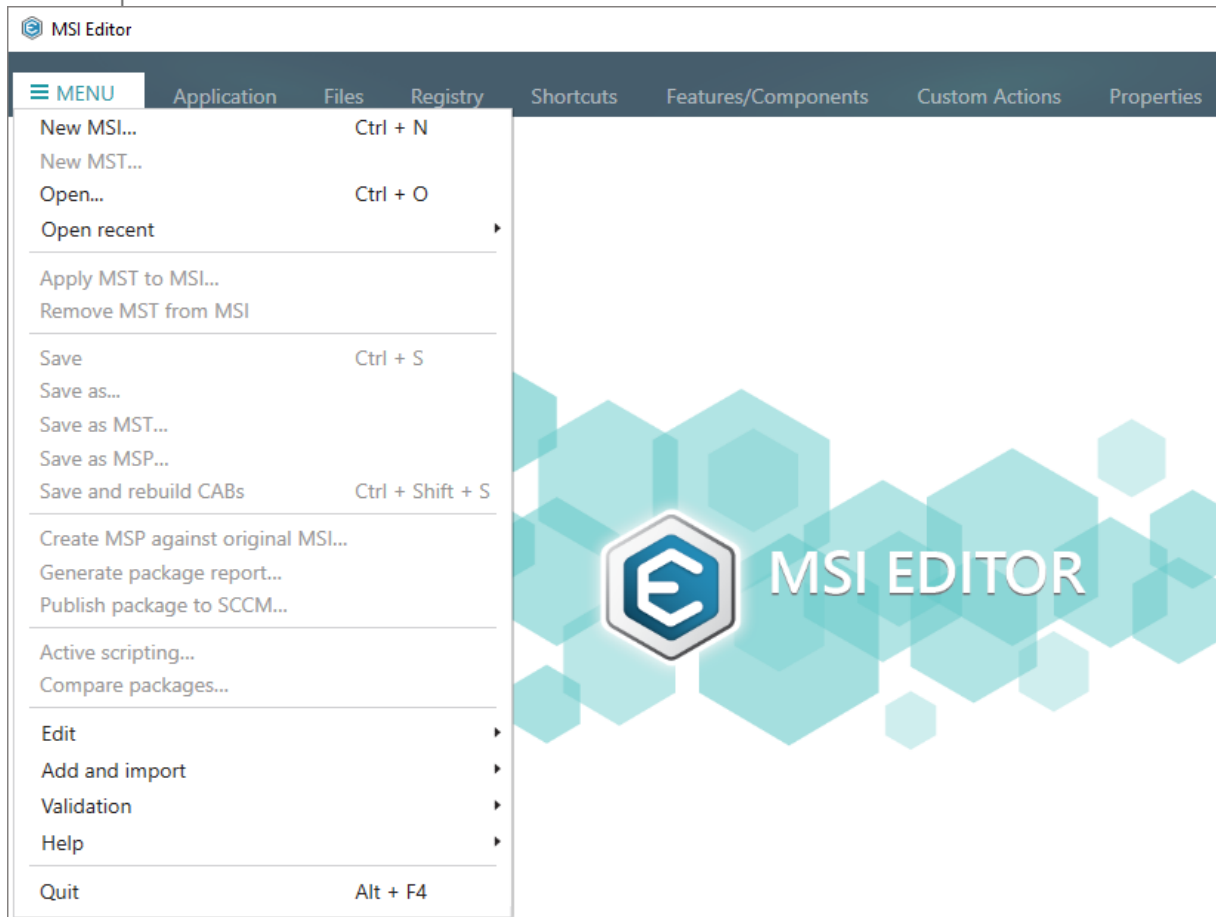
ID	Type	Description	Table	Column	Key
ICE03	Warning	String overflow (greater than length permitted in column); Table: ServiceInstall, Column: Description, Key(s): MozillaM...	ServiceInstall	Description	MozillaMaintenance
ICE33	Warning	Reg key registry_shtml is used in an unsupported way. ProgId should be registered via the ProgId table. This entry...	Registry	Registry	registry_shtml
ICE33	Warning	Reg key registry_FirefoxHTML is used in an unsupported way. ProgId should be registered via the ProgId table. This...	Registry	Registry	registry_FirefoxHTML
ICE33	Warning	Reg key registry_FirefoxURL is used in an unsupported way. ProgId should be registered via the ProgId table. This en...	Registry	Registry	registry_FirefoxURL
ICE33	Warning	Reg key registry_DefaultIcon1 is used in an unsupported way. ProgId - Icon associations should be registered via the...	Registry	Registry	registry_DefaultIcon1
ICE33	Warning	Reg key registry_DefaultIcon2 is used in an unsupported way. ProgId - Icon associations should be registered via the...	Registry	Registry	registry_DefaultIcon2
ICE33	Warning	Reg key registry_shell is used in an unsupported way. Shell extension verbs info should be registered via the Verb ta...	Registry	Registry	registry_shell
ICE33	Warning	Reg key registry_shell1 is used in an unsupported way. Shell extension verbs info should be registered via the Verb ta...	Registry	Registry	registry_shell1

3.12 Calculate Package Complexity

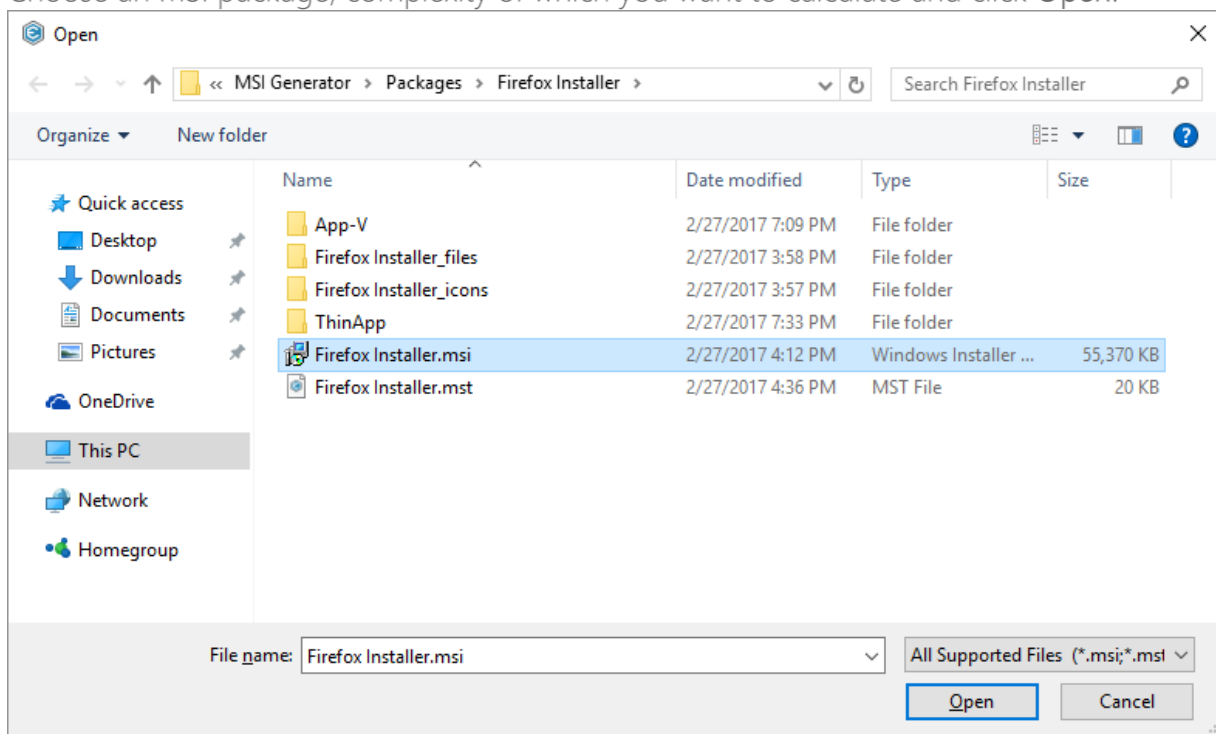
[1]. Launch MSI Editor.



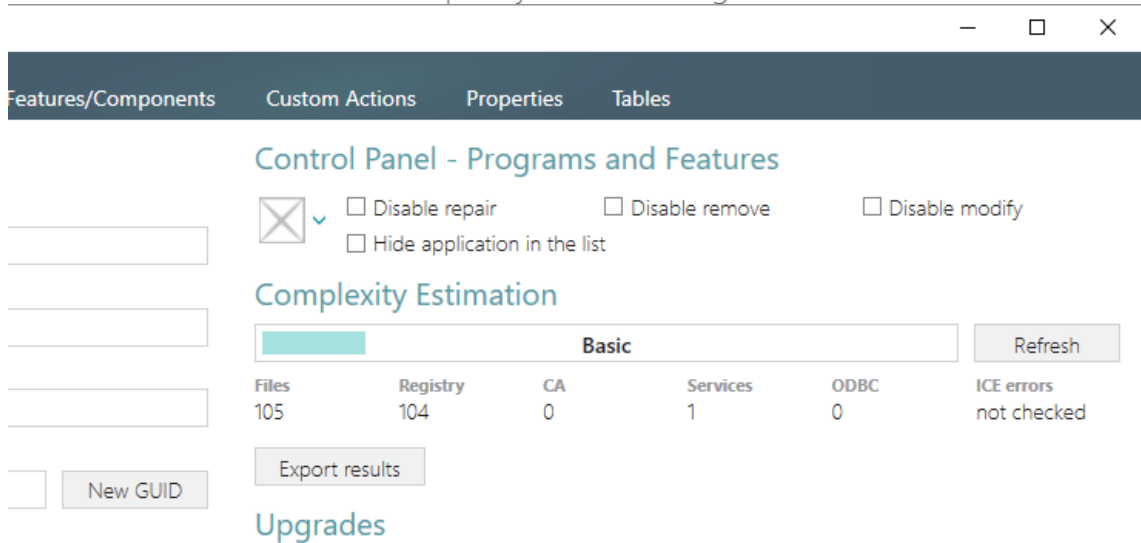
[2]. Select Open... from MENU.



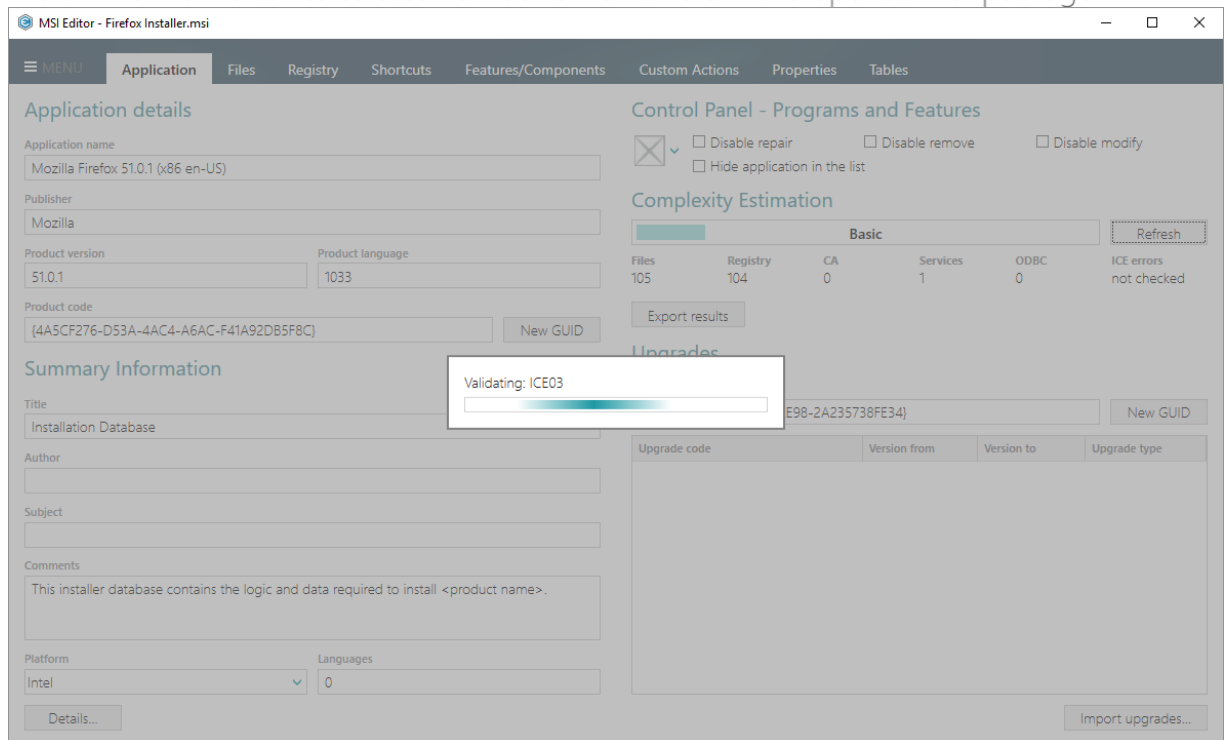
[3]. Choose an MSI package, complexity of which you want to calculate and click Open.



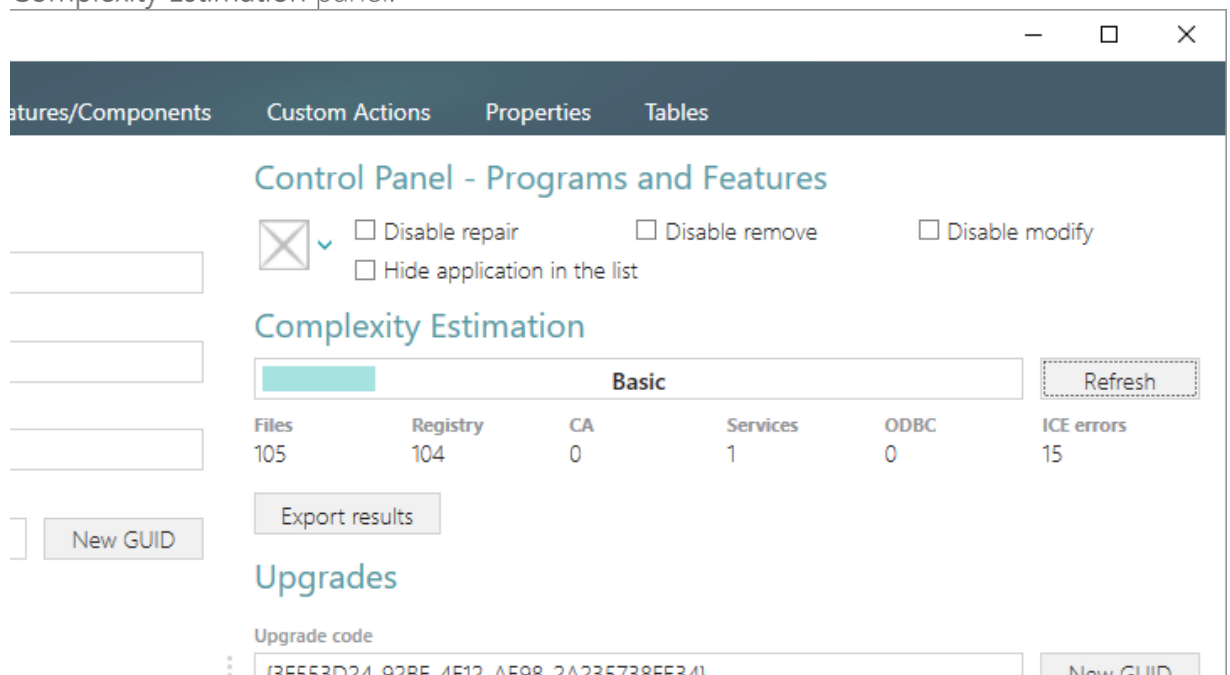
- [4]. Click **Refresh** to re-calculate complexity level including ICE validation errors.



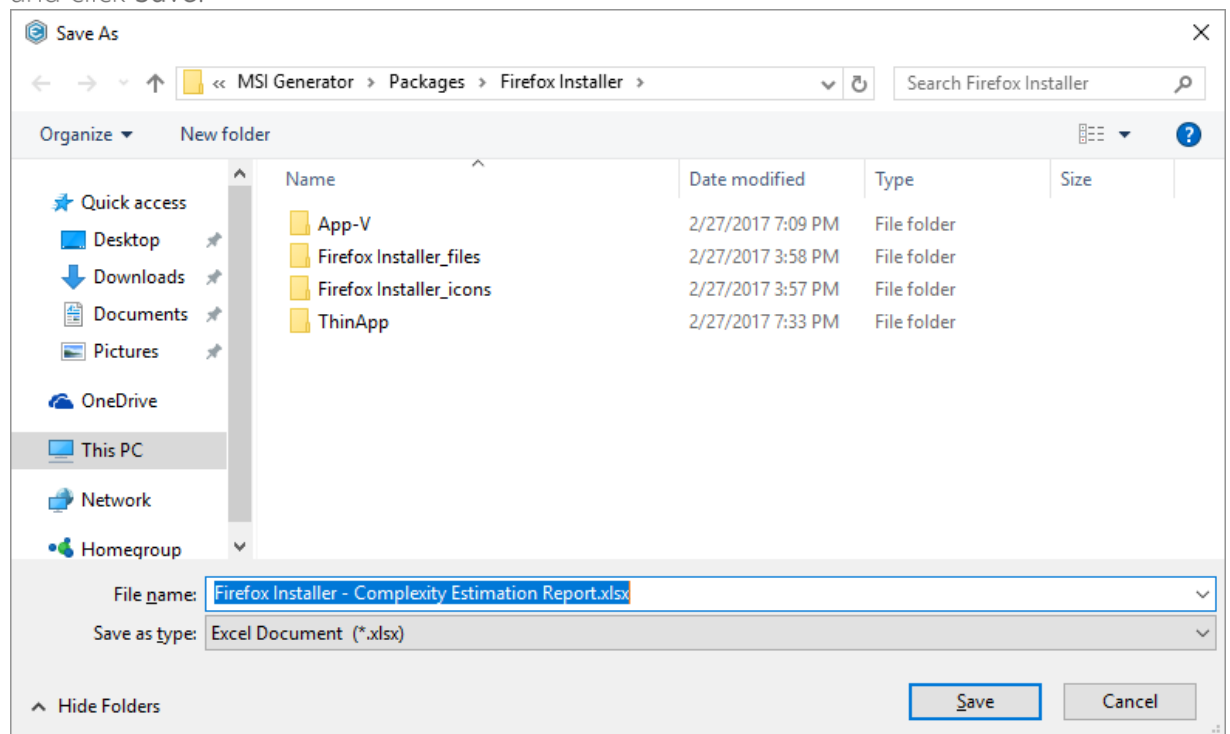
- [5]. Wait while MSI Editor calculates number of ICE errors in the opened MSI package.



- [6]. In order to export complexity estimation results to the XLSX file, click **Export results** at the Complexity Estimation panel.



- [7]. Specify a name and a destination location of the exported complexity estimation results and click **Save**.

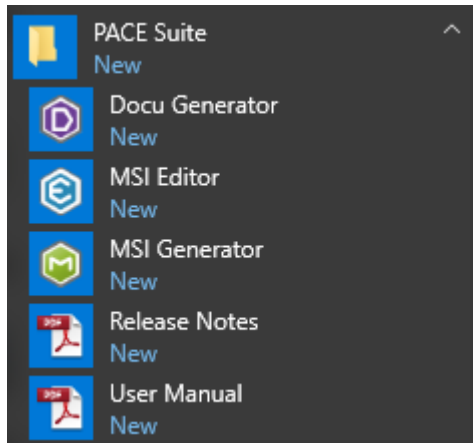


3.13 Create Discovery Documentation

Record all your on-screen actions into a nice looking document with screenshots and annotations. Such document could contain installation and configuration instructions and whatever.

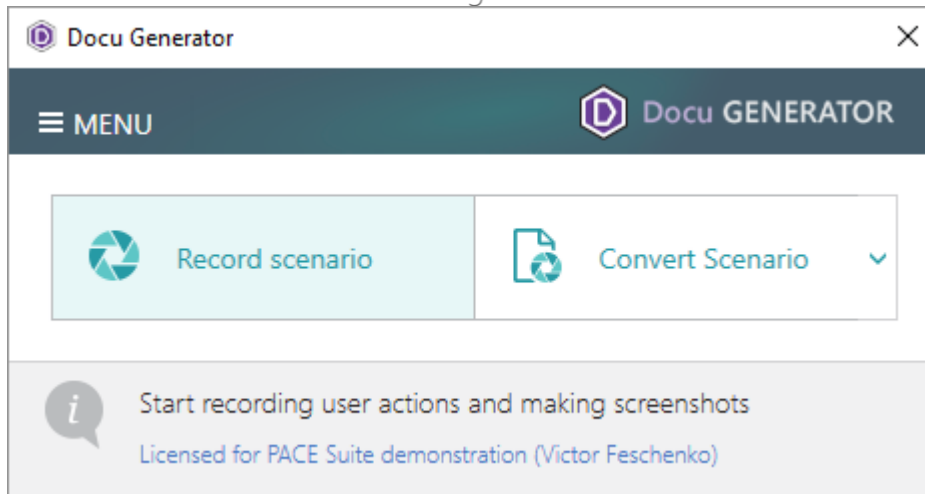
NOTE In order to take screenshots of application, which is launched with elevated permissions, launch Docu Generator also with elevated permissions.

- [1]. Launch Docu Generator.



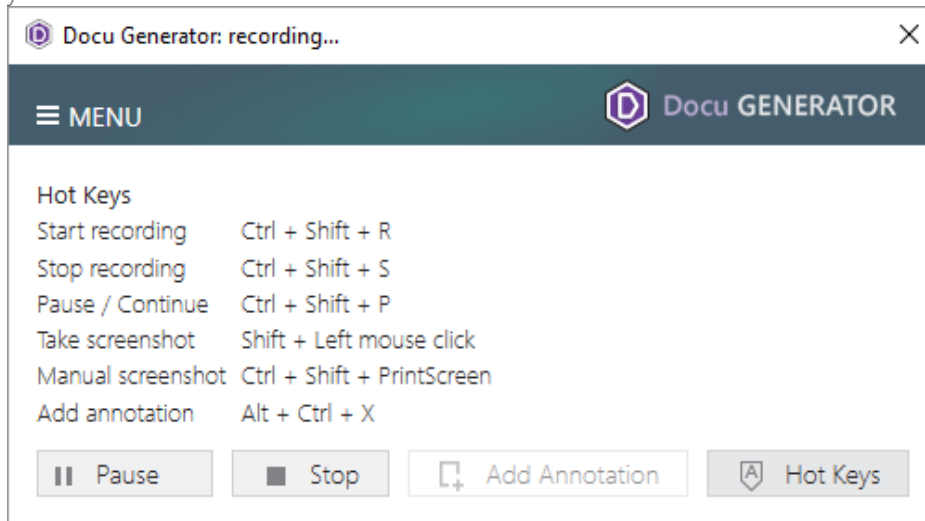
In order to launch Docu Generator with elevated permissions, press **Shift** and select **Run as administrator** from the context menu of the Docu Generator's shortcut.

- [2]. Click Record scenario to start taking series of screenshots and annotations.

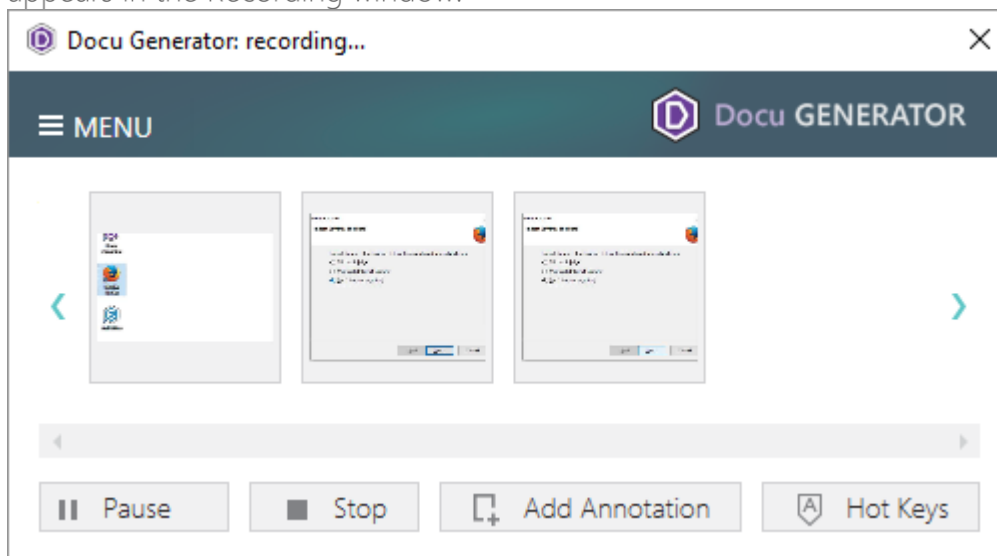


- [3]. Hover your mouse pointer on the Hot Keys button to check which of hot keys are used to take screenshots. Press the **Shift** key + **Left** mouse click to take a screenshot of an active window, dialog or screen area. Press **Ctrl + Shift + PrintScreen**, then click and drag the mouse pointer to select a rectangular area you want to grab. A screenshot is done when

you release the mouse button.

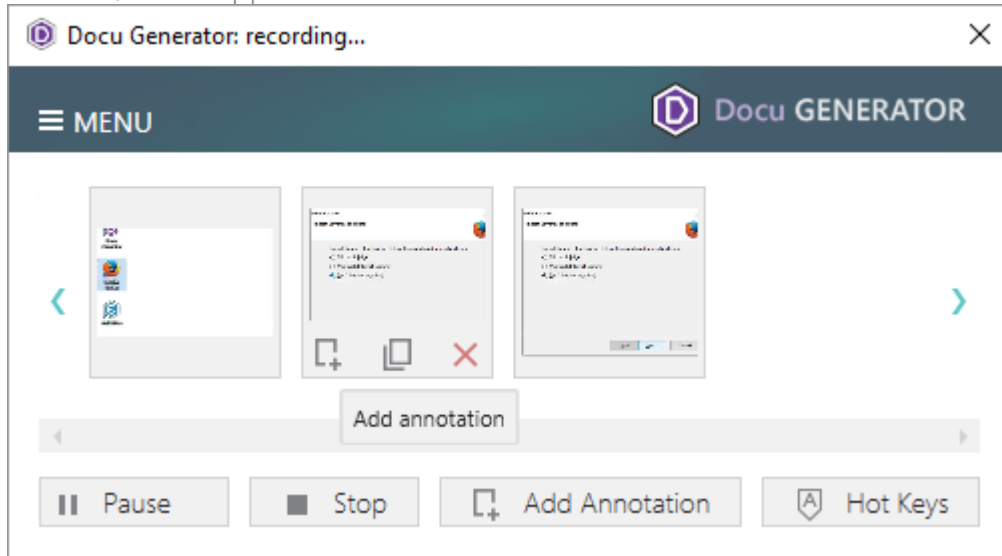


- [4]. Now, do the actions you want to record into the document. Launch executables, go through dialogs, select options and enter values just telling Docu Generator when to take another screenshot, as described above. A preview of each new screenshot immediately appears in the Recording window.

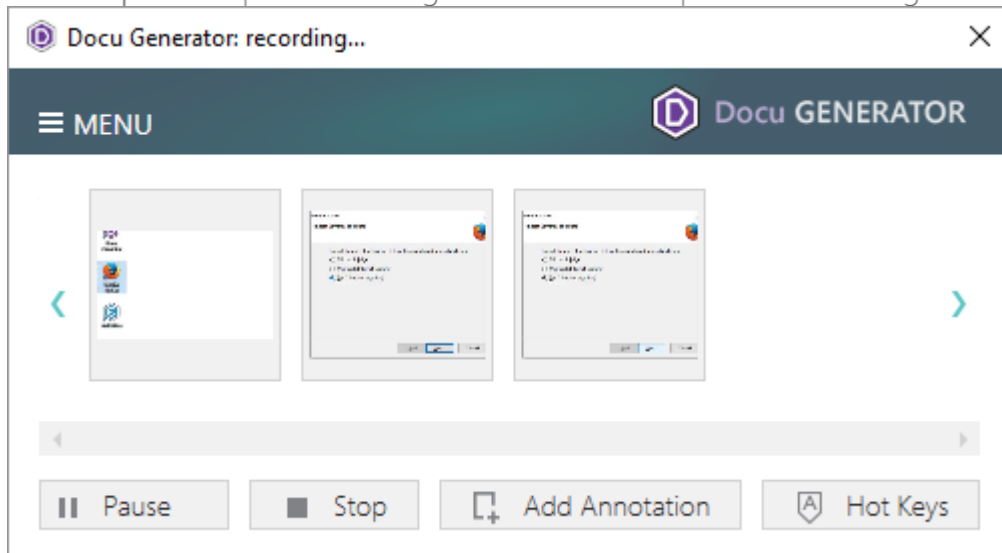


- [5]. In order to Add annotation, Copy to clipboard or Remove a screenshot, hover mouse pointer on a preview of the screenshot in the Recording window and select the respective

function, in the appeared bottom bar.



- [6]. Click Stop to complete recording the scenario and proceed to saving results.



- [7]. Select an output format of the document, saving options and click Save to create document. A Template is an optional field, described below.

Docu Generator: Save Results

Save as

☒ Word Document
☐ MHT/HTML File
☐ Docu Generator Scenario

Template Go to...

Options

☒ Save user actions [?](#) ☒ Show started application info [?](#)
☒ Show mouse position [?](#) ☒ Show content of edited fields [?](#)

Save Cancel

Find options description below in table.

Option	Description
Save user actions	This option adds to the document the information about names of controls (which were clicked on) and names of the captured windows and dialog boxes.
Show mouse position	This option adds to the document information about mouse pointer position and highlight it with a red circle on screenshots.
Show started application info	This option adds to the document information about paths and command line arguments of the launched application.
Show contents of edited fields	This option adds to the document contents of input fields of the captured windows and dialog boxes.
Template	<p>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.</p> <p>In order to mark a position where screenshots and comments are to be placed to, add the following textual placeholder into a template: [SCR]</p> <p>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.</p> <p>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.</p> <p>If a placeholder is not found, screenshots and comments will be appended to the end of the template. You will be warned about this in the Save Results window</p>

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.

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>