GETTING STARTED

PACE Suite 4.2

Document version: 20170228-1

Table of Contents

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:

	• 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.
	• 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
	• 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:

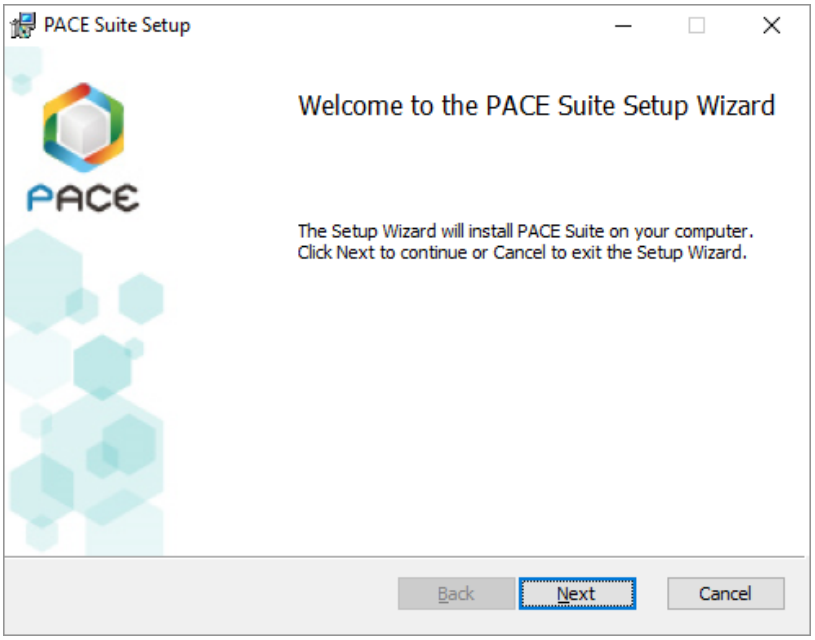
Processor	32-bit (x86) or 64-bit (x64) processor at 2 GHz or greater NOTE To repackage 64-bit applications or create 64-bit App-V packages, use PACE Suite on a 64-bit Windows operating system.
RAM	2 GB
Hard drive free space	1 GB NOTE Additional storage is required for your projects and packages and depends 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.

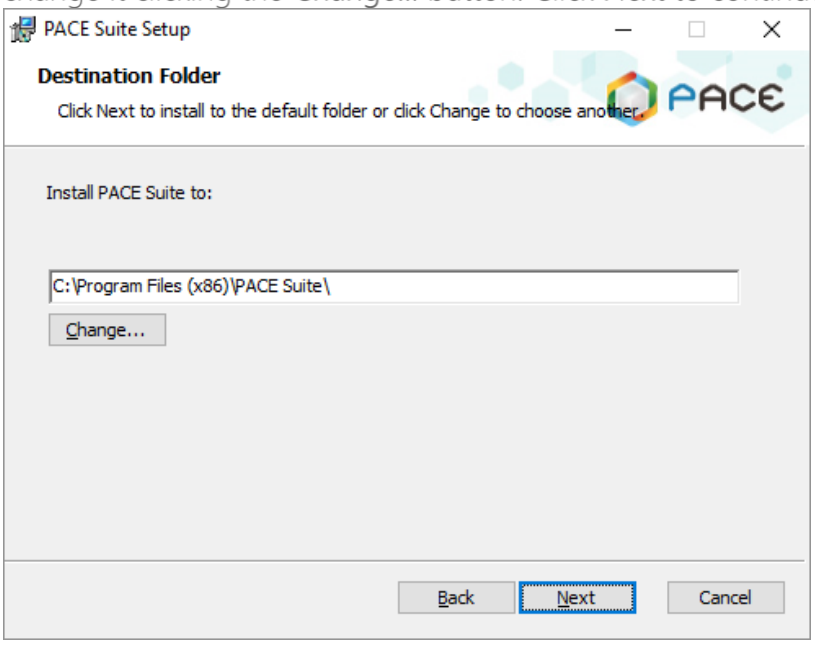
[1]. Run the downloaded PACE Suite installation (MSI package).

[2]. Click Next.

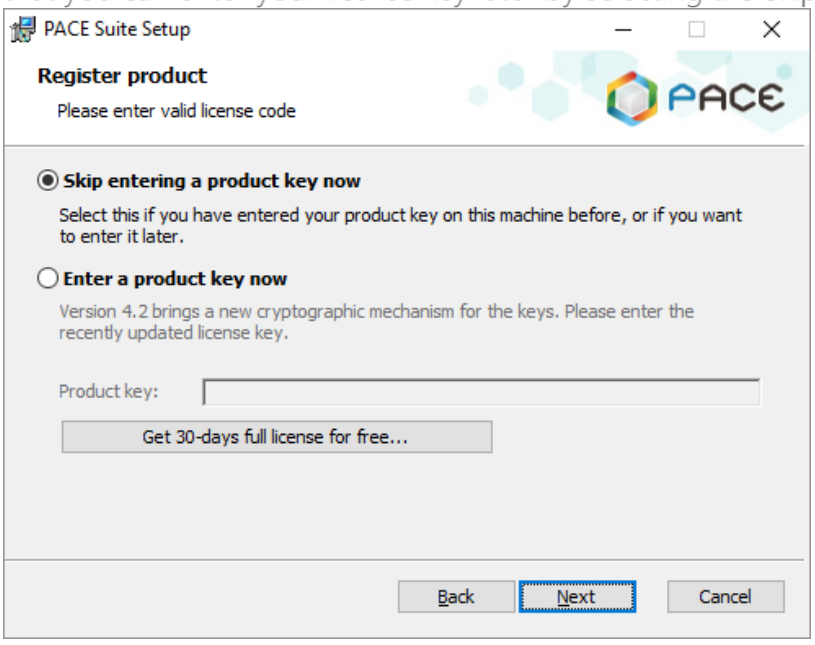


[3]. Read and accept the END USER LICENSE AGREEMENT and click Next.

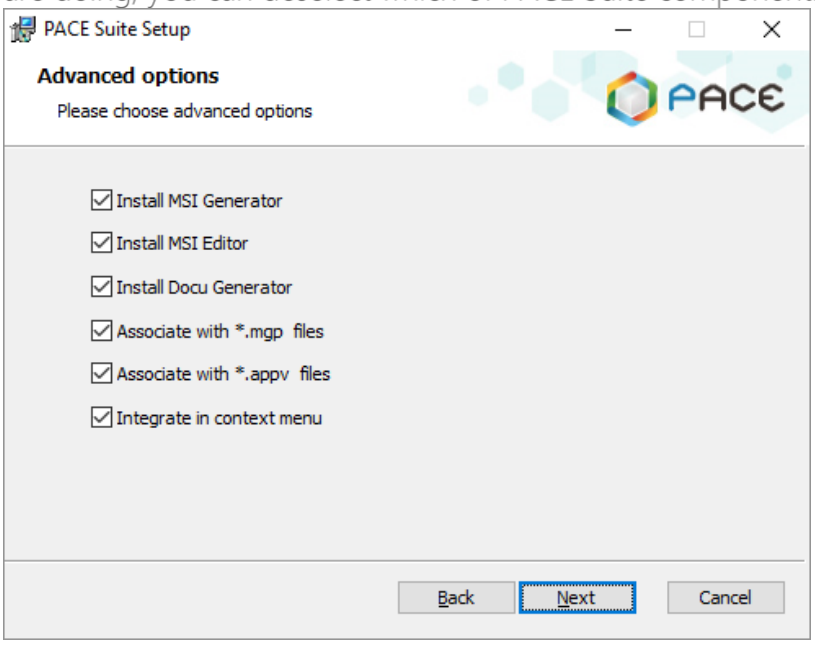
[4]. We recommend using default PACE Suite installation location, but if needed you can change it clicking the Change... button. Click Next to continue the installation.



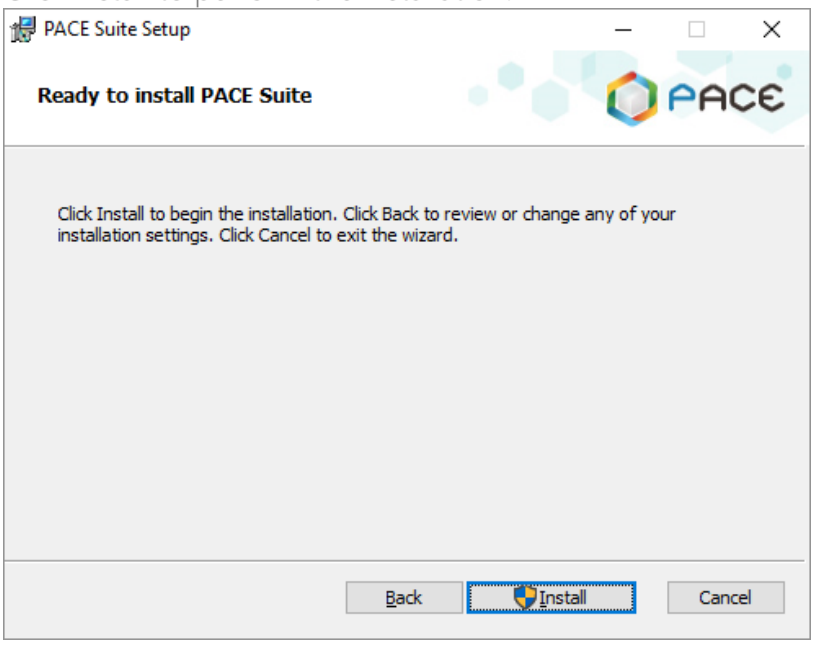
[5]. Select the Enter a product key now option, enter your License Key and click Next. Note that you can enter your license key later by selecting the Skip entering a product key now.



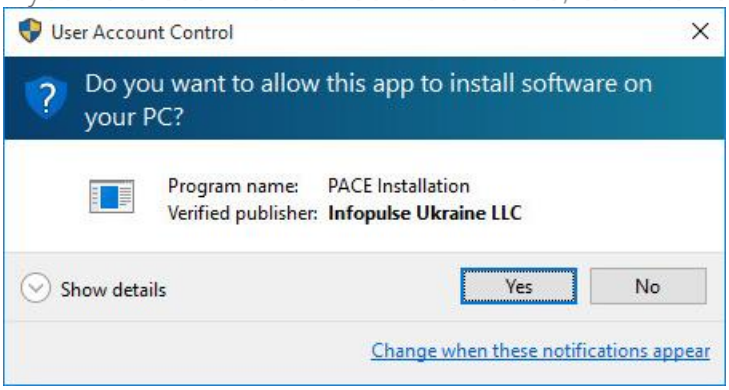
[6]. Leave all advanced options selected by default and click **Next**. Only if you know what you are doing, you can deselect which of PACE Suite components will not be installed.



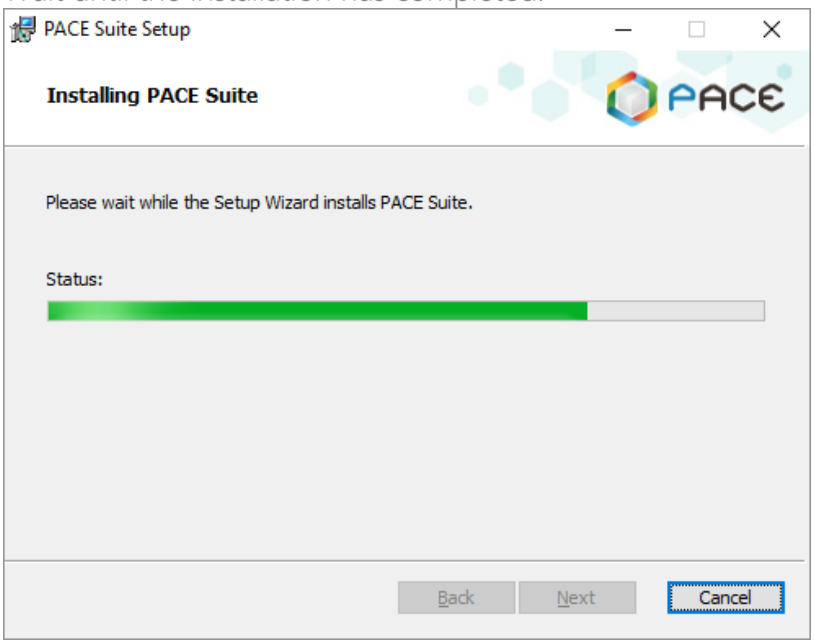
[7]. Click **Install** to perform the installation.



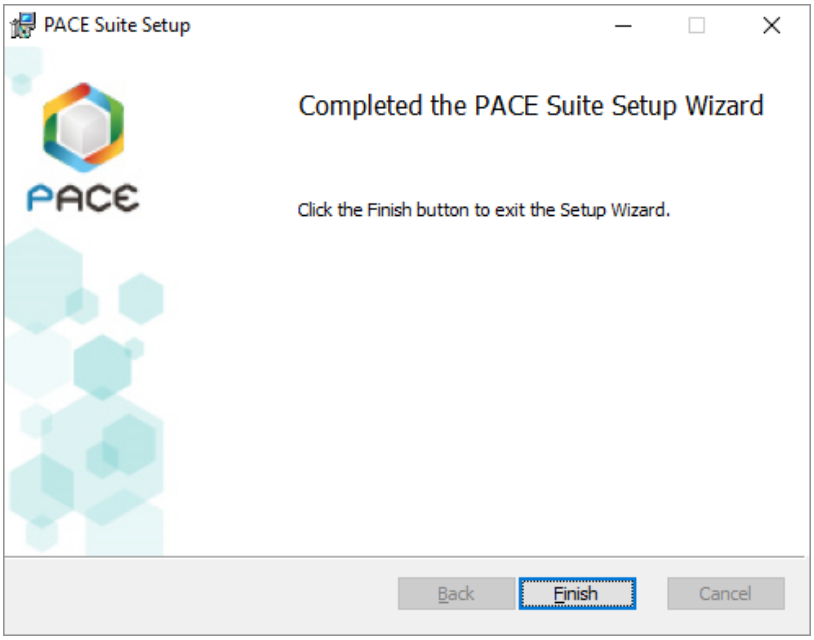
[8]. If you have **User Account Control** enabled, click the **Yes**.



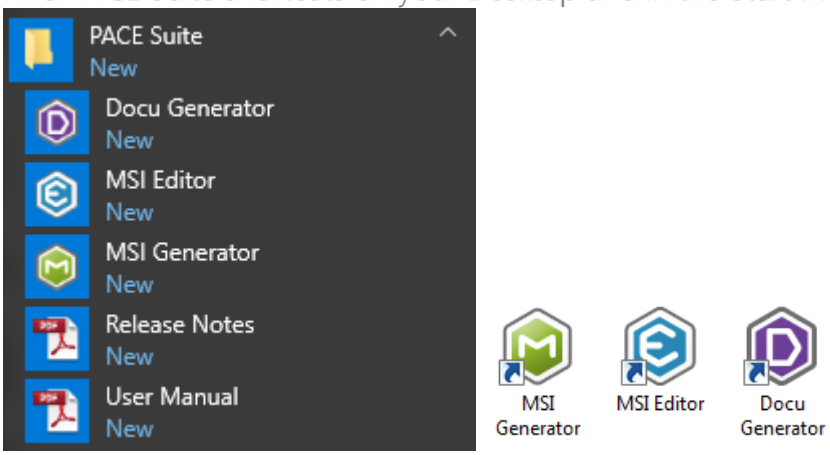
[9]. Wait until the installation has completed.



[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.

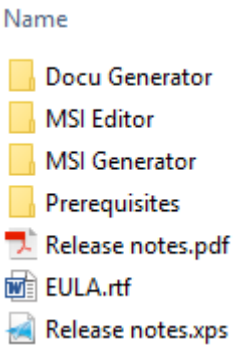
[1]. Unpack downloaded portable distributive (ZIP archive) of PACE Suite to

[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



3 How-To Manuals

3.1 New MSI

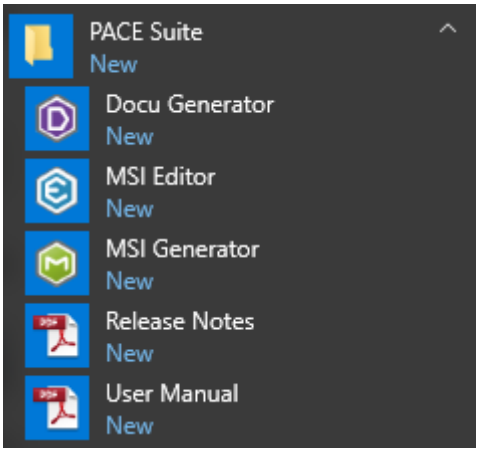
Choose a scenario that better suits your needs:

- 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.

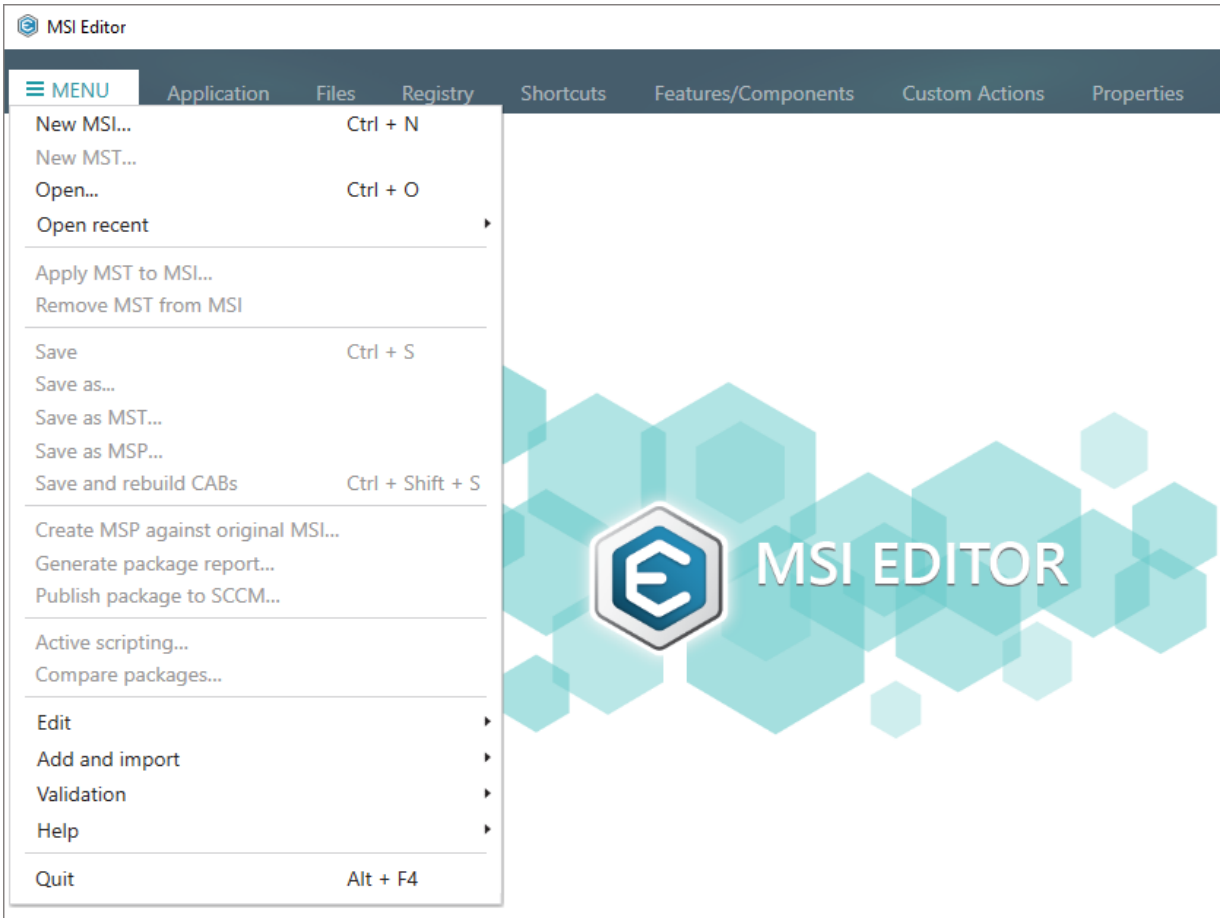
3.1.1 Create Blank MSI

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

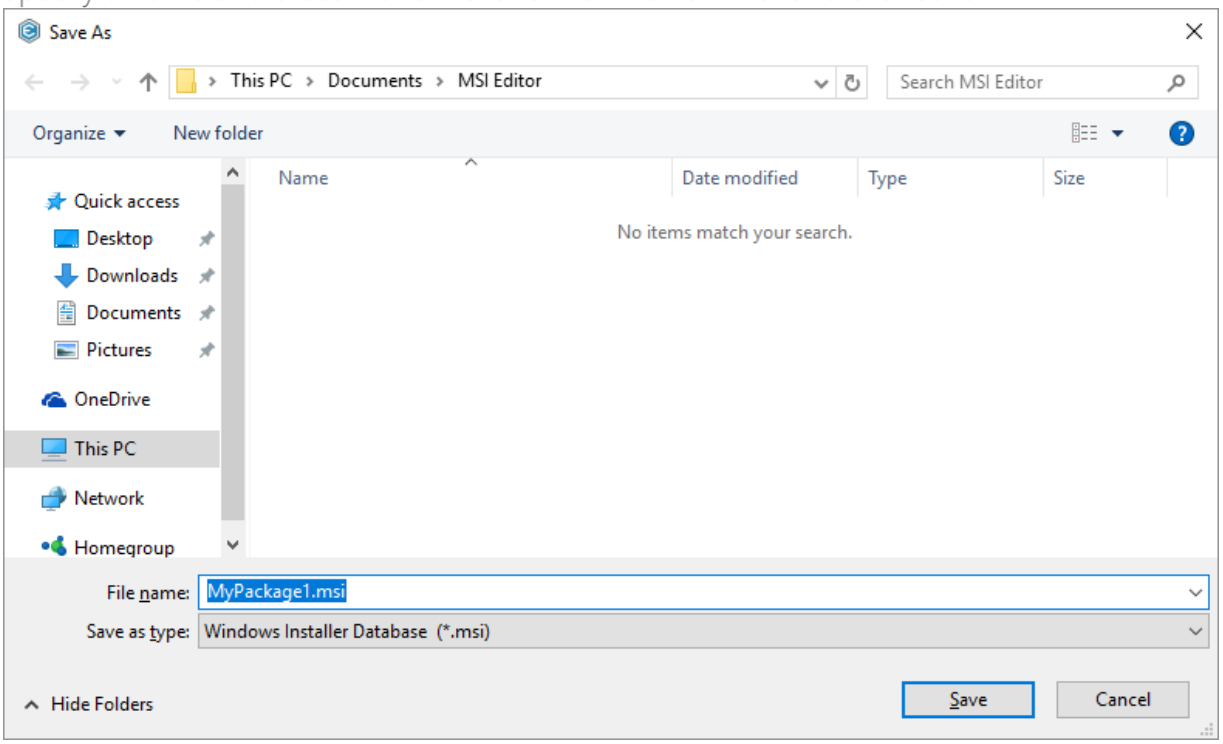
[1]. Launch MSI Editor.



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

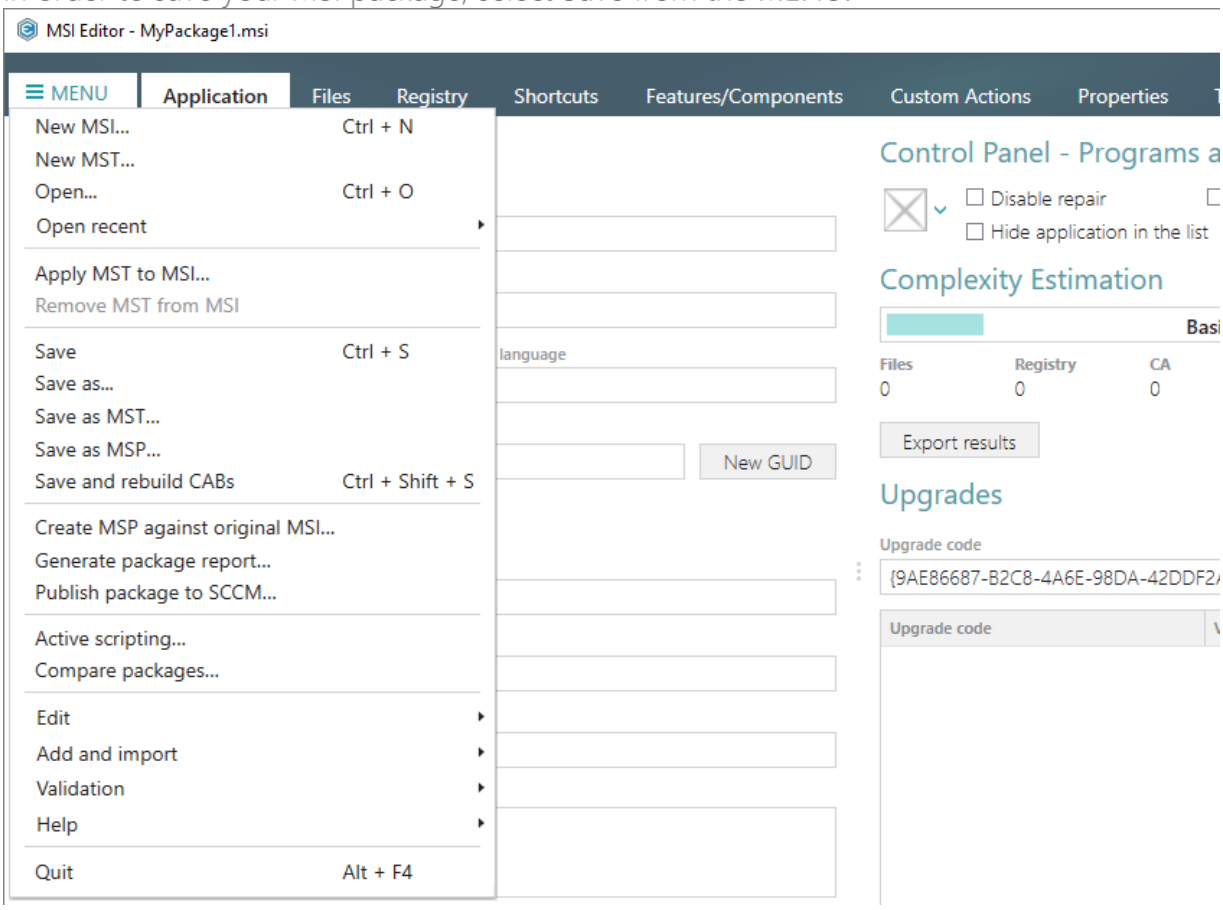


[3]. Specify a name and a destination location for the new MSI and click Save.



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

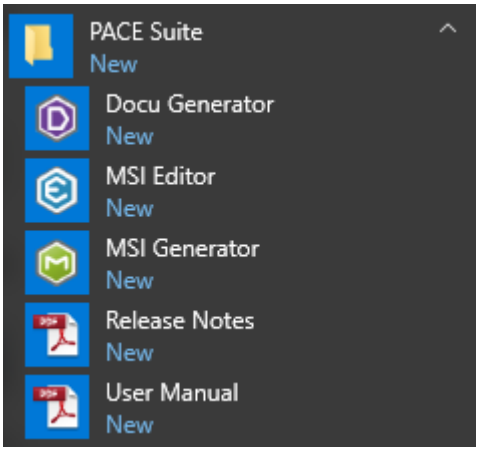
[5]. In order to save your MSI package, select Save from the MENU.



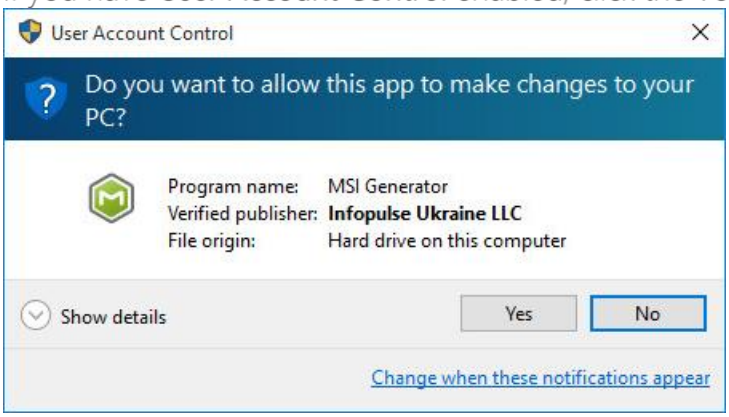
3.1.2 Create MSI from Scratch

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

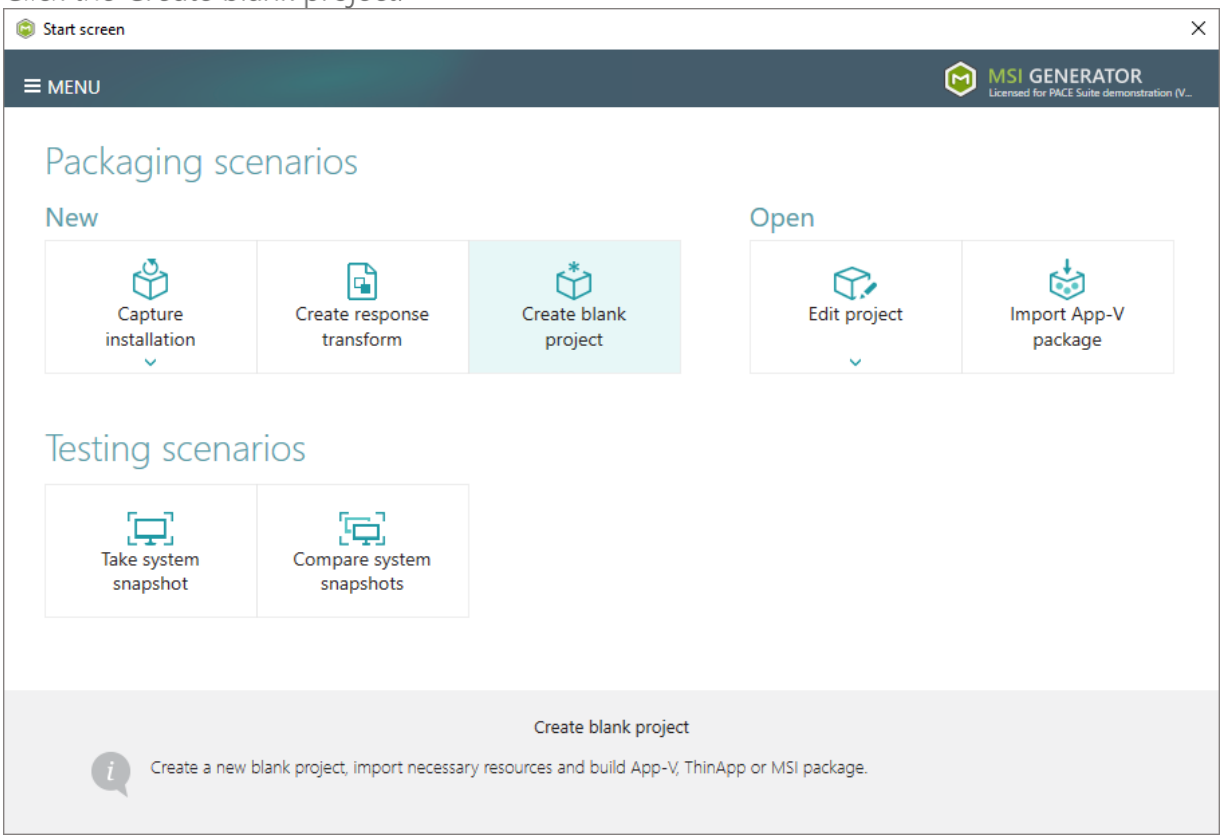
[1]. Launch MSI Generator.



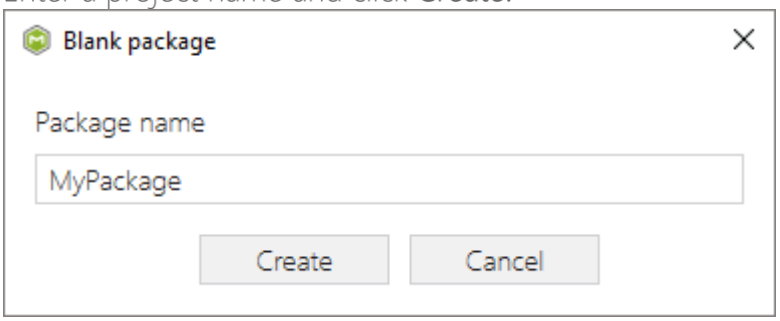
[2]. If you have User Account Control enabled, click the Yes in the opened window.



[3]. Click the Create blank project.

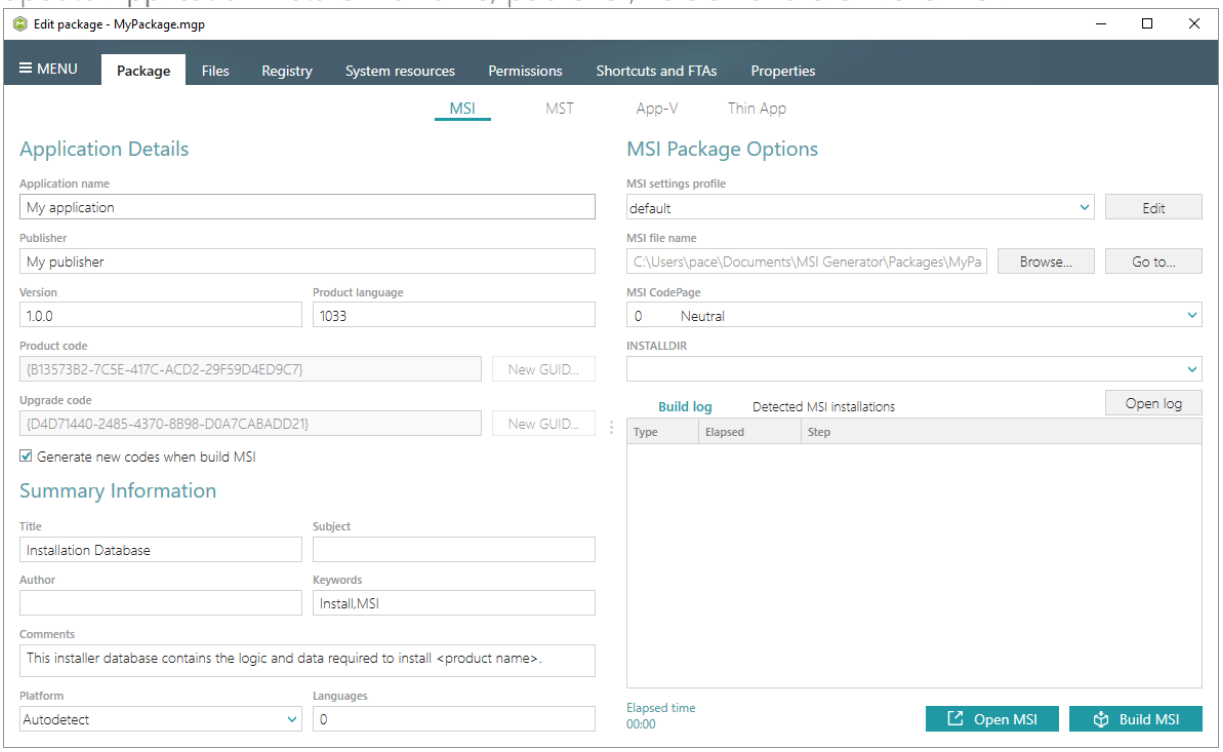


[4]. Enter a project name and click Create.

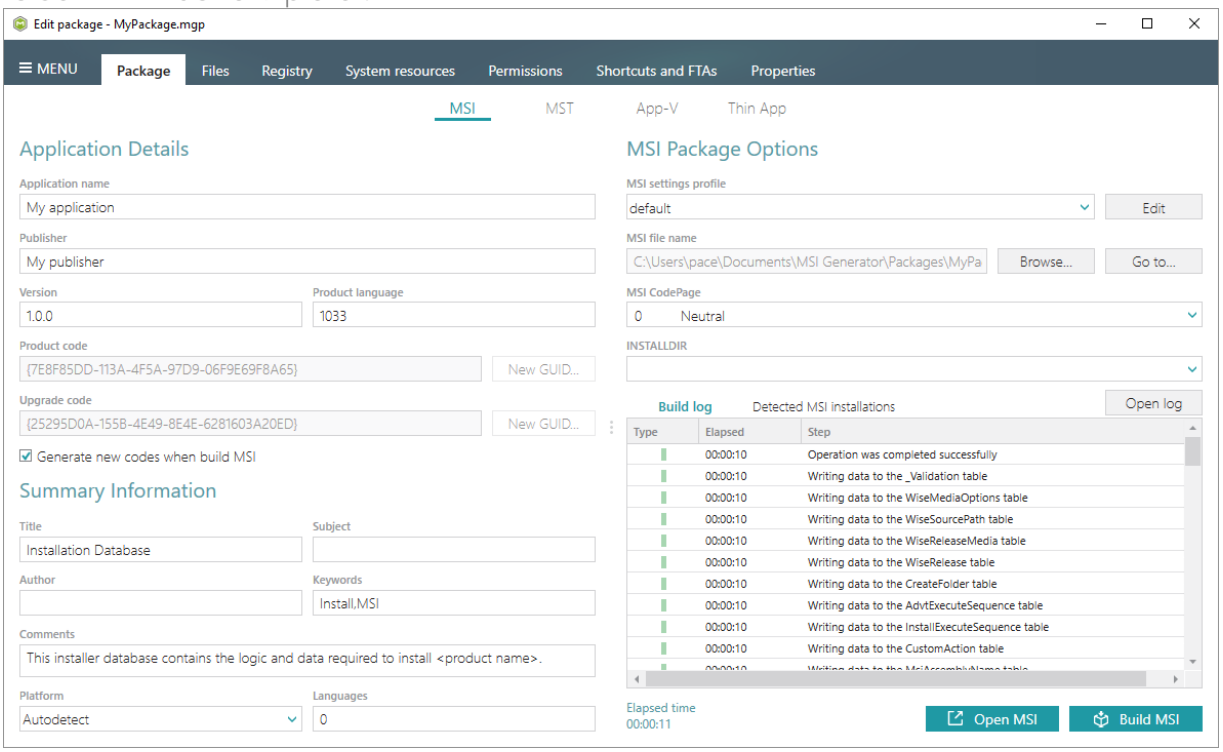


[5]. Add necessary resources (like files, registry, shortcuts, etc.) to your project file, which later will be saved to your package. Find instructions on how to edit project in section 3.7

[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**.



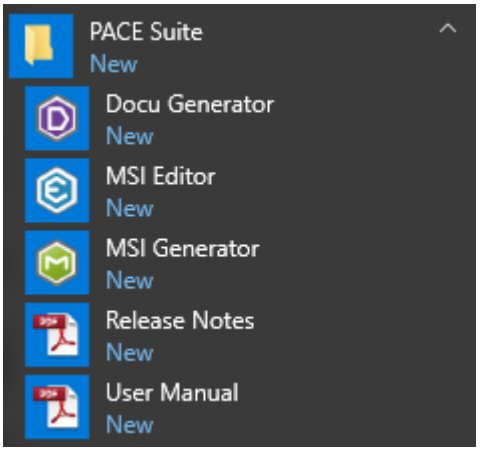
[7]. Click **Go to...**, located next to the **MSI file name** field, to open the package containing folder in Windows Explorer.



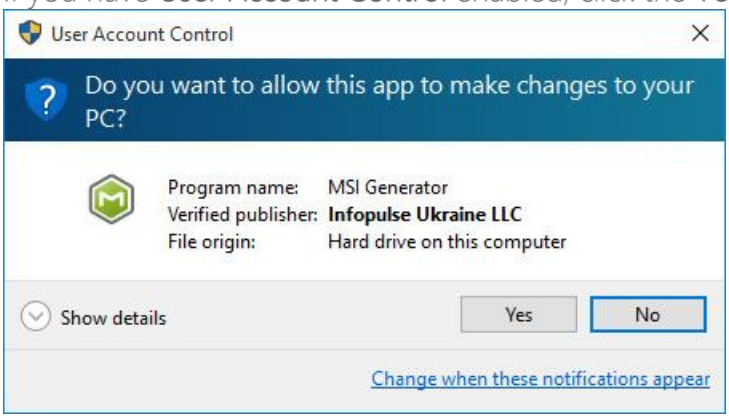
3.1.3 Repackage EXE to MSI

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

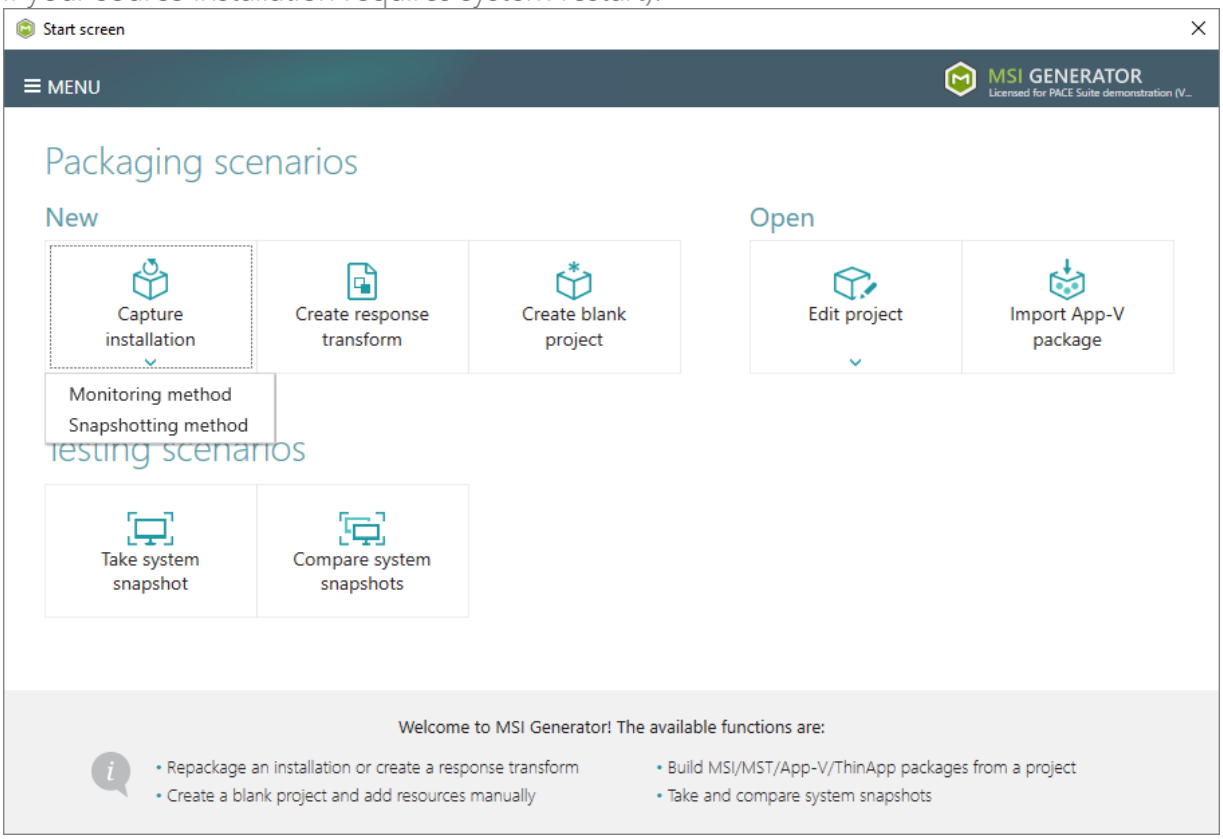
[1]. Launch MSI Generator.



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

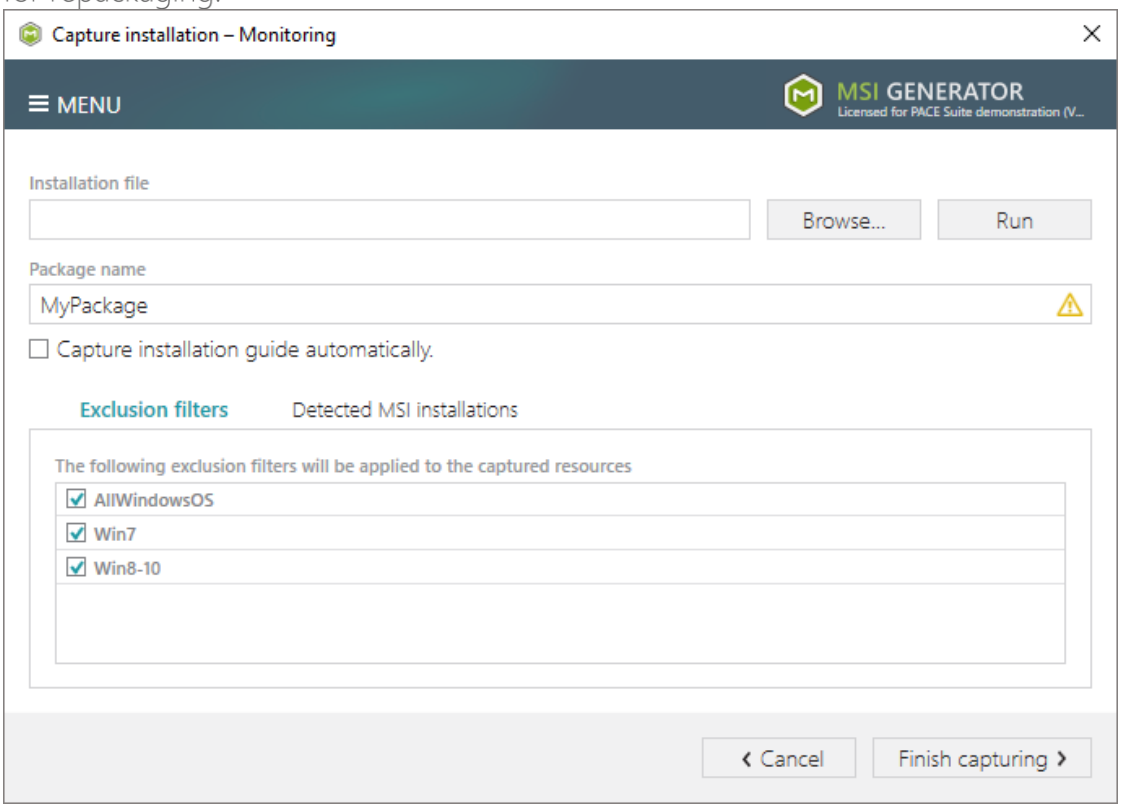


[3]. Click **Capture installation** and select the **Monitoring method** (use the **Snapshotting method** if your source installation requires system restart).

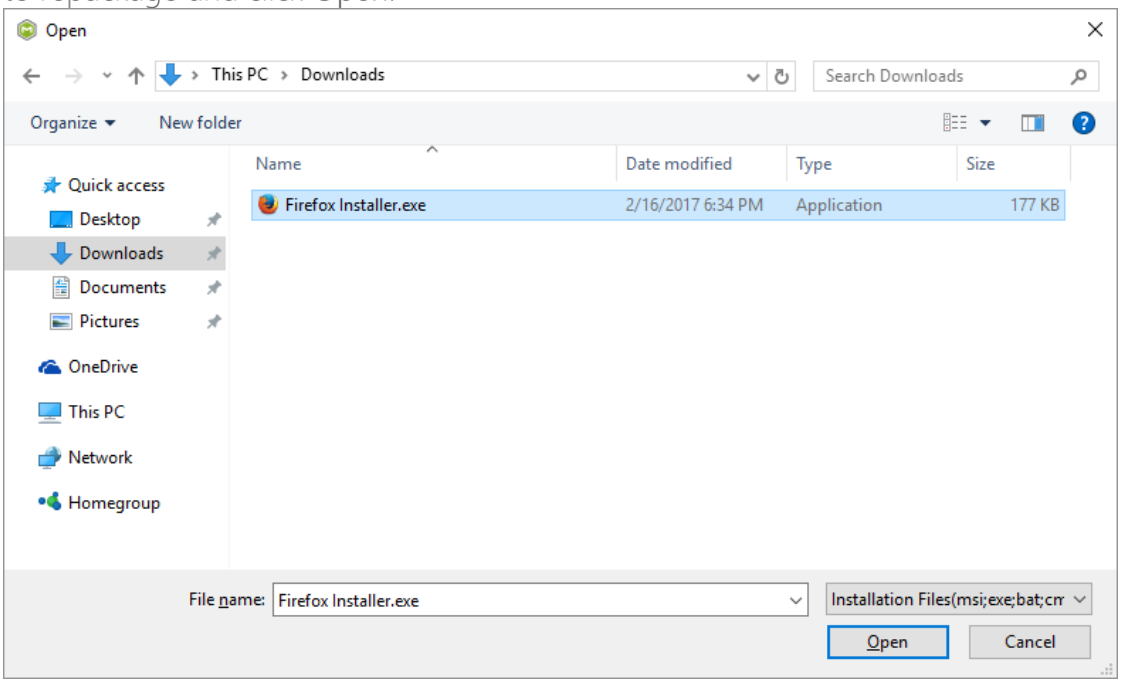


[4]. Please wait a little, while the capturing process is starting (in case you have selected the **Monitoring method** on the previous step, wait while the initial system snapshot is taking).

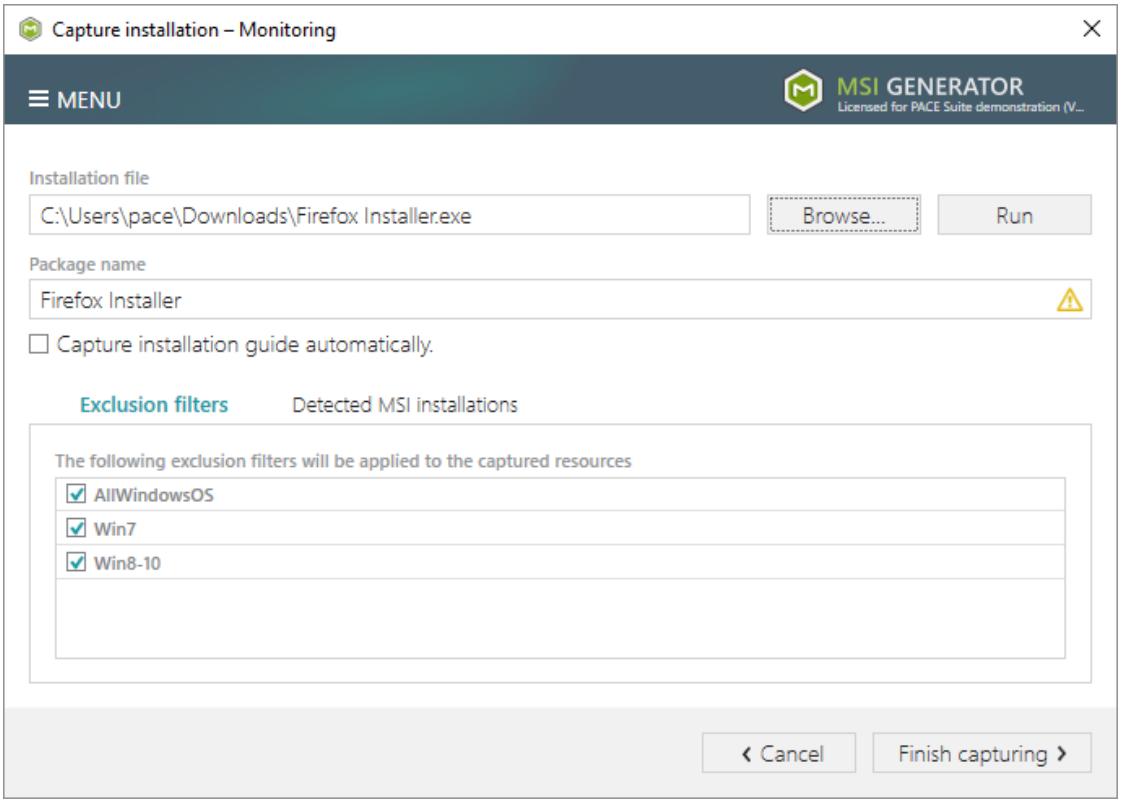
[5]. Once the capturing process is started, click **Browse...** to choose your source installation file for repackaging.



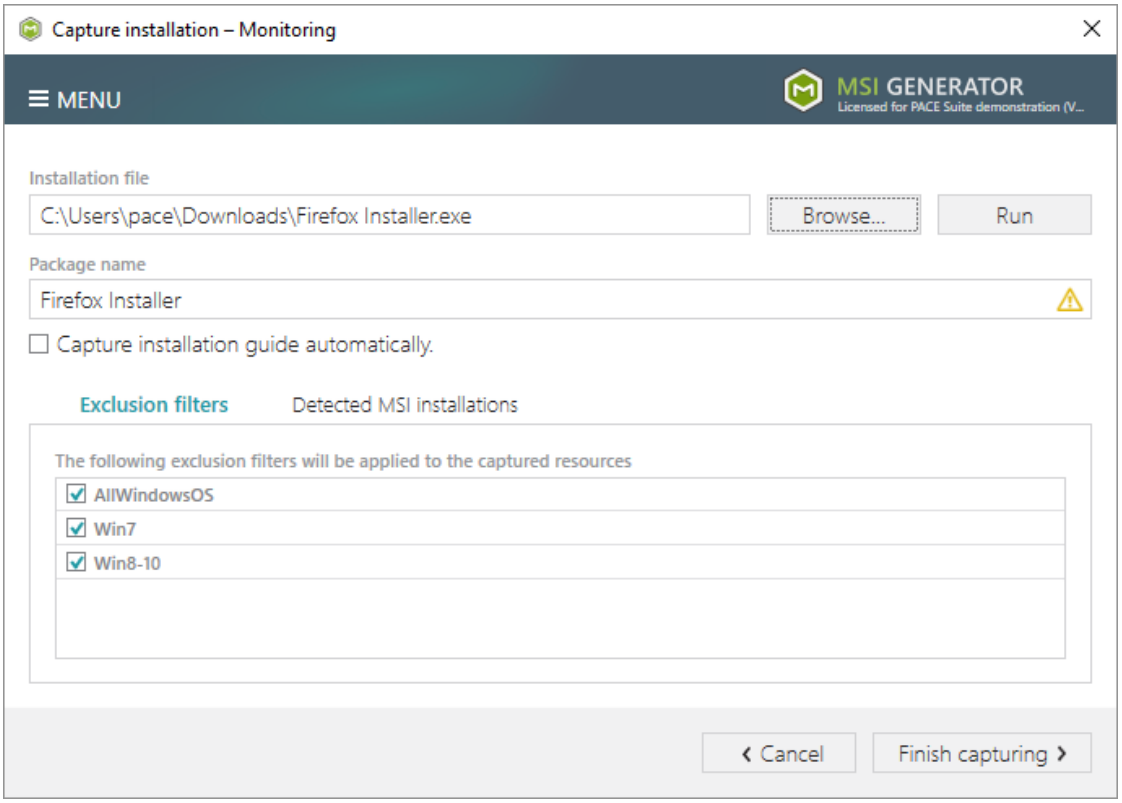
[6]. Choose an executable file of source installation (e.g. Firefox Installer.exe), which you want to repackage and click Open.



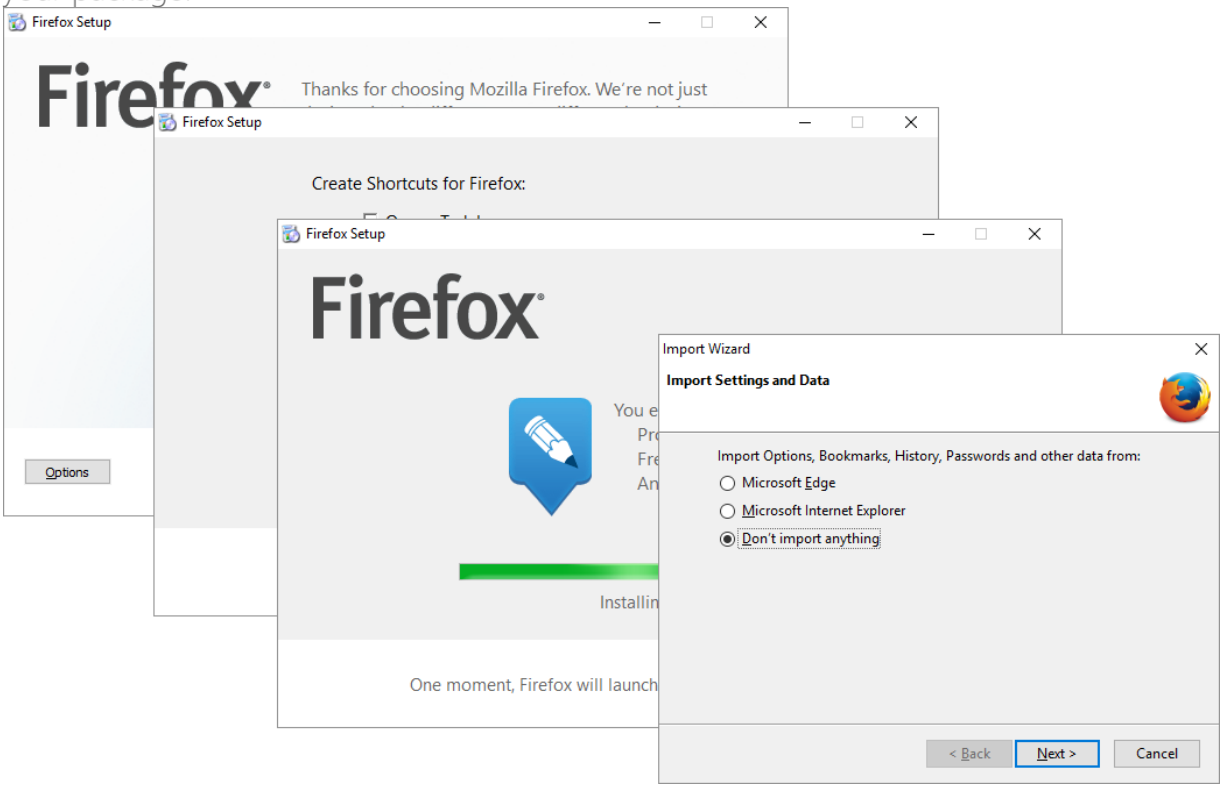
[7]. If needed, change the package name typing new value to the Package name field, or disable exclusion filters by unchecking checkboxes next to filters in the list. Note that we do not recommend disable exclusion filters, becase they detect and exclude system resources, which are not a part of your 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.

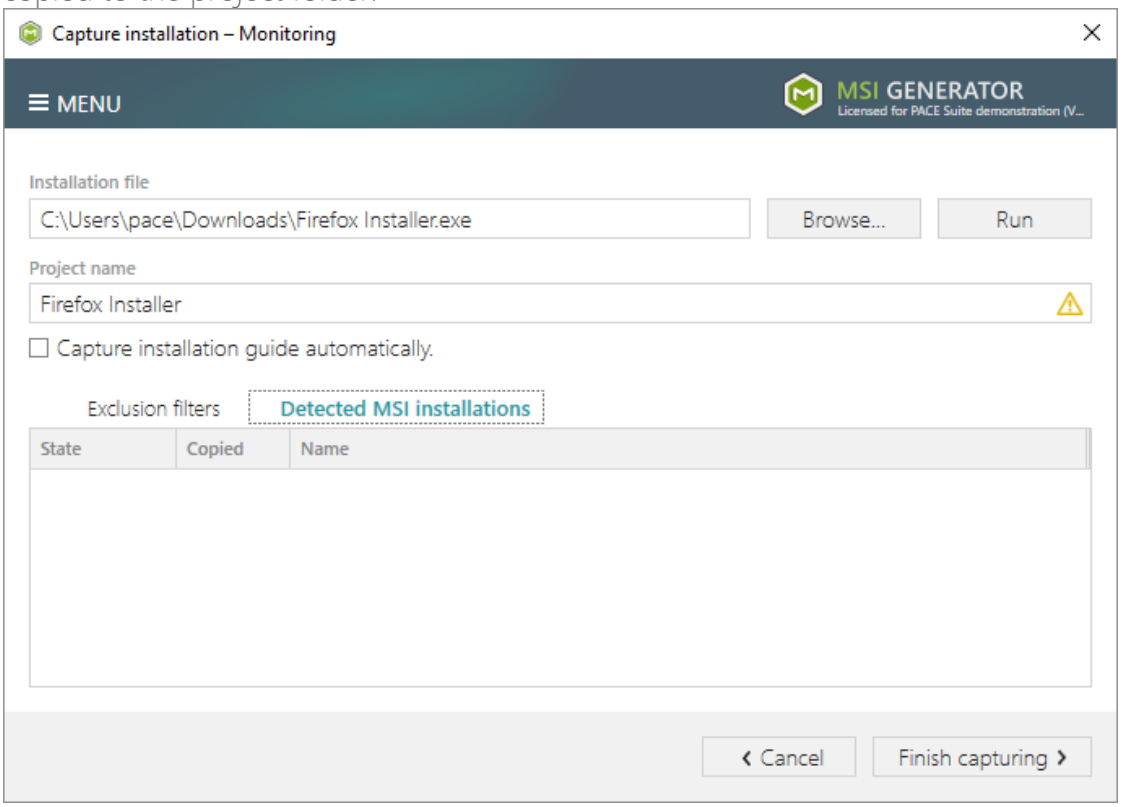


[9]. Follow installation steps of the launched source installation to complete it. At this phase you can make any application configuration you need to be captured and included into your package.



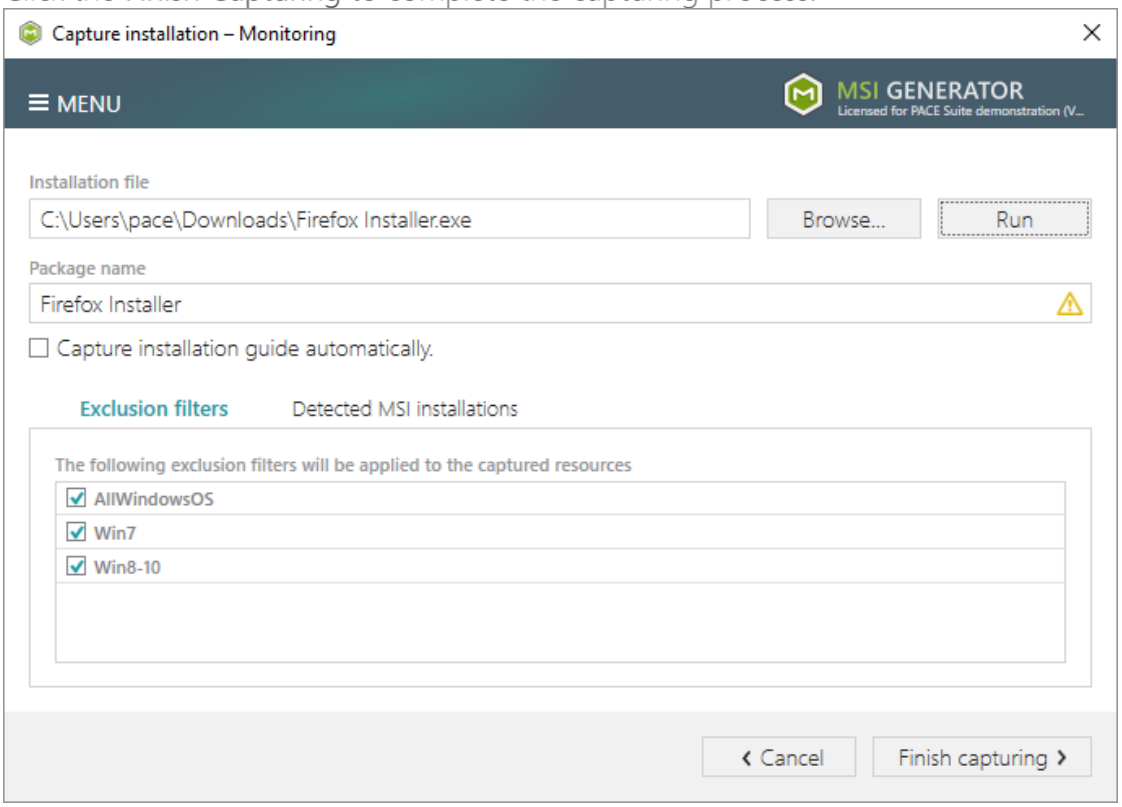
[10]. Once the source installation is completed, check if the Detected MSI installations tab contains discovered MSI installers. Your source installation (EXE) could contain embedded MSI installers, launched hiddednly. As you may know, it is not recommended to recapture

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.



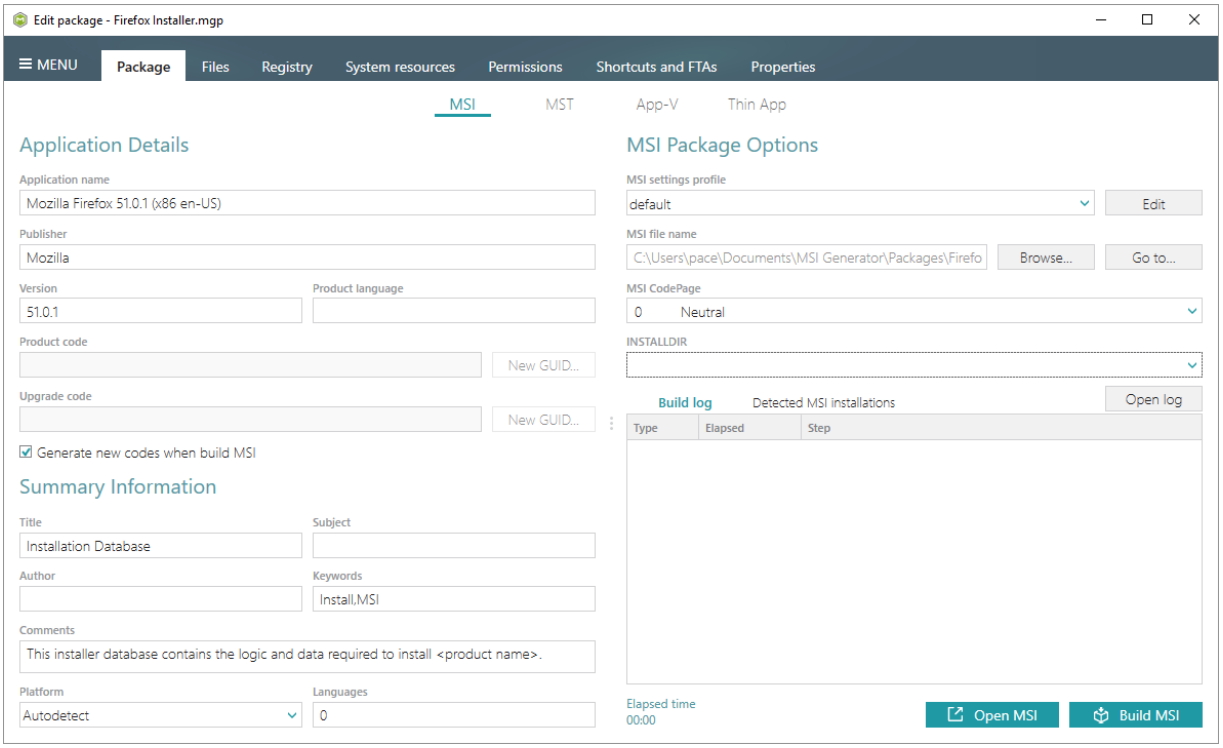
In our example, 'Firefox Installer.exe' does not have embedded MSI installations, so we go next to complete the capturing process.

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

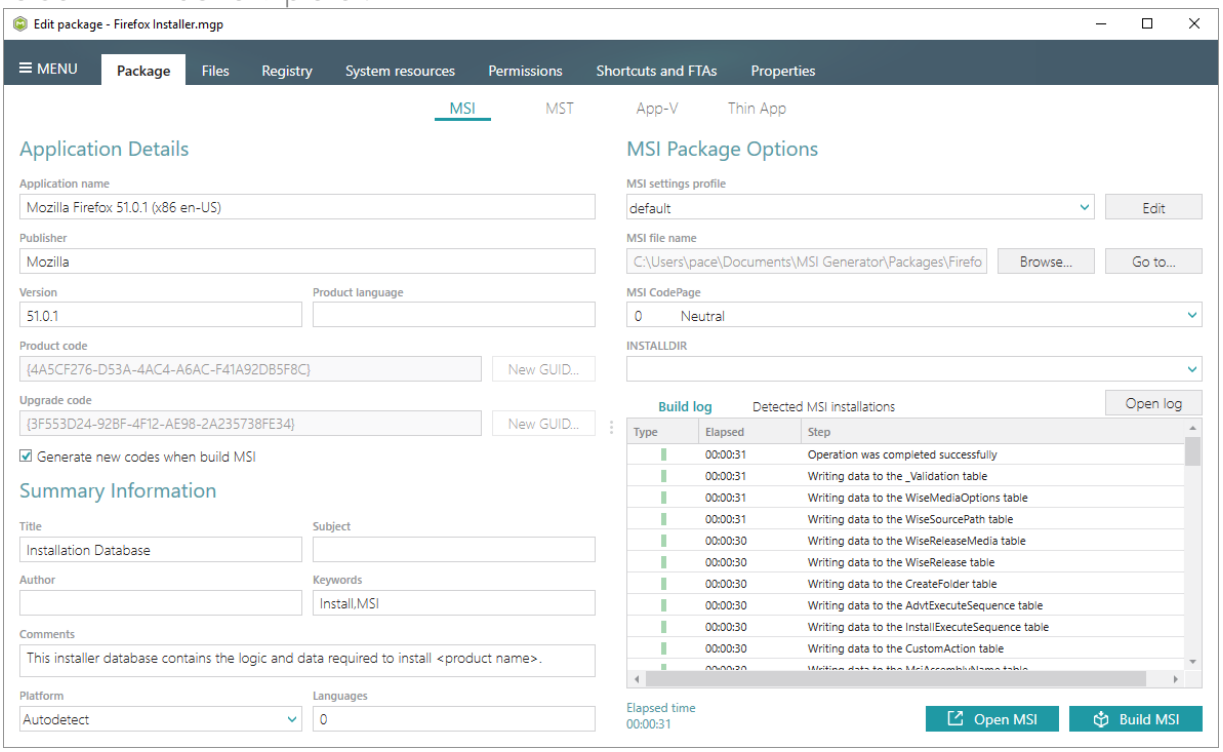


[12]. Please wait a little, while the capturing process is finishing, filtering captured data and creating the project. Once the project is opened, go through the Files, Registry and Shortcuts tabs in order to review captured resources and exclude unnecessary ones from the project. Unnecessary resources 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. Unfortunetly, 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**.



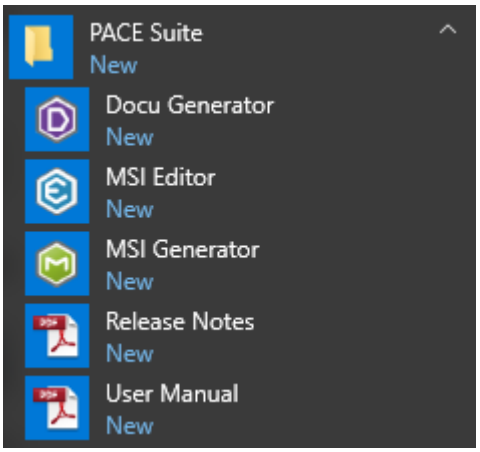
[14]. Click **Go to...**, located next to the **MSI file name** field, to open the package containing folder in Windows Explorer.



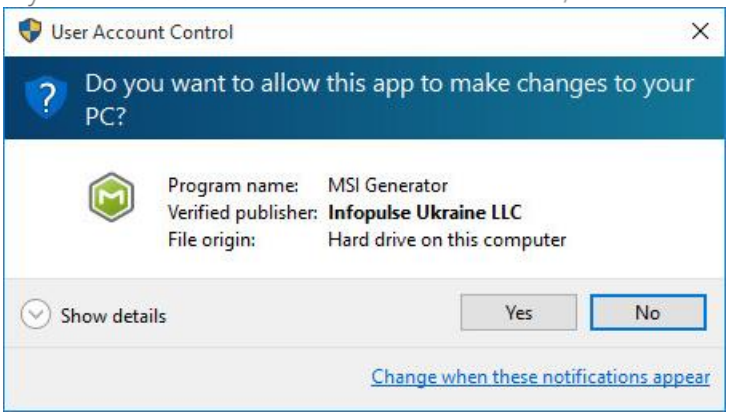
3.1.4 Capture System Changes to MSI

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

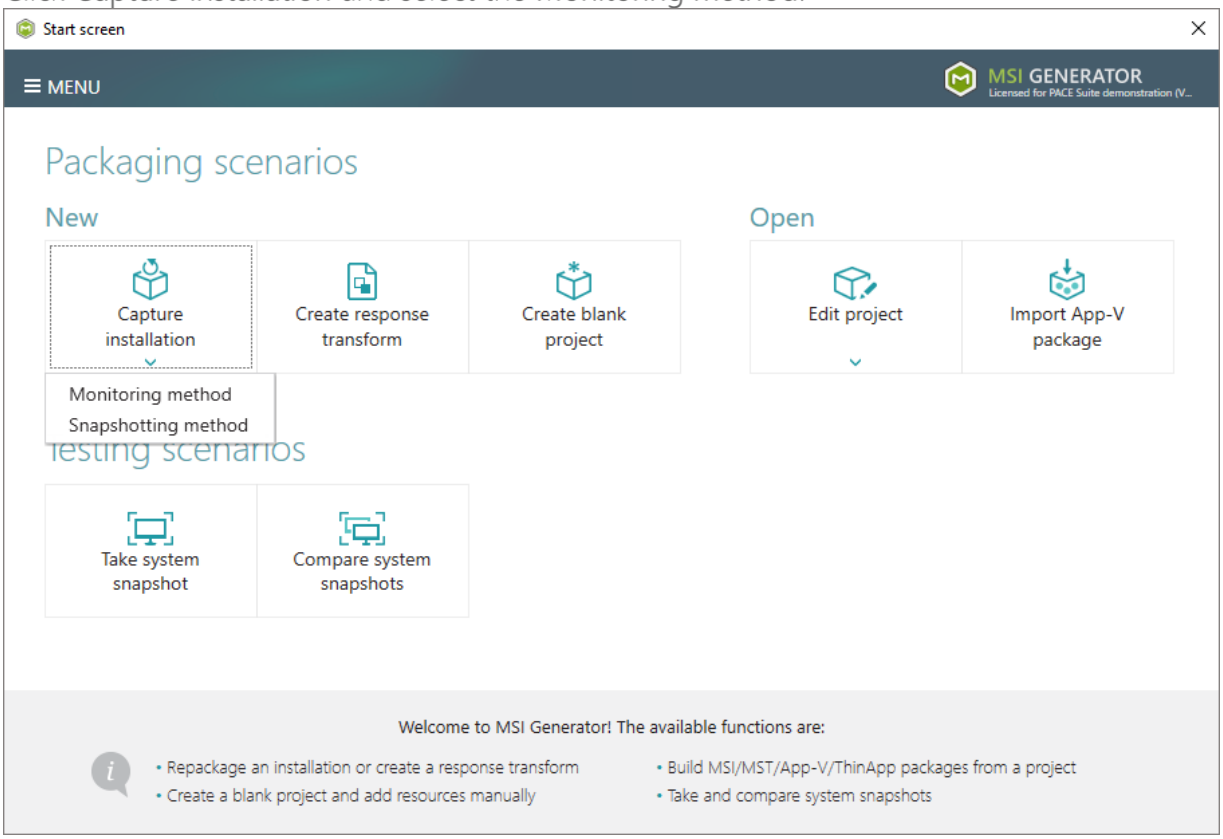
[1]. Launch MSI Generator.



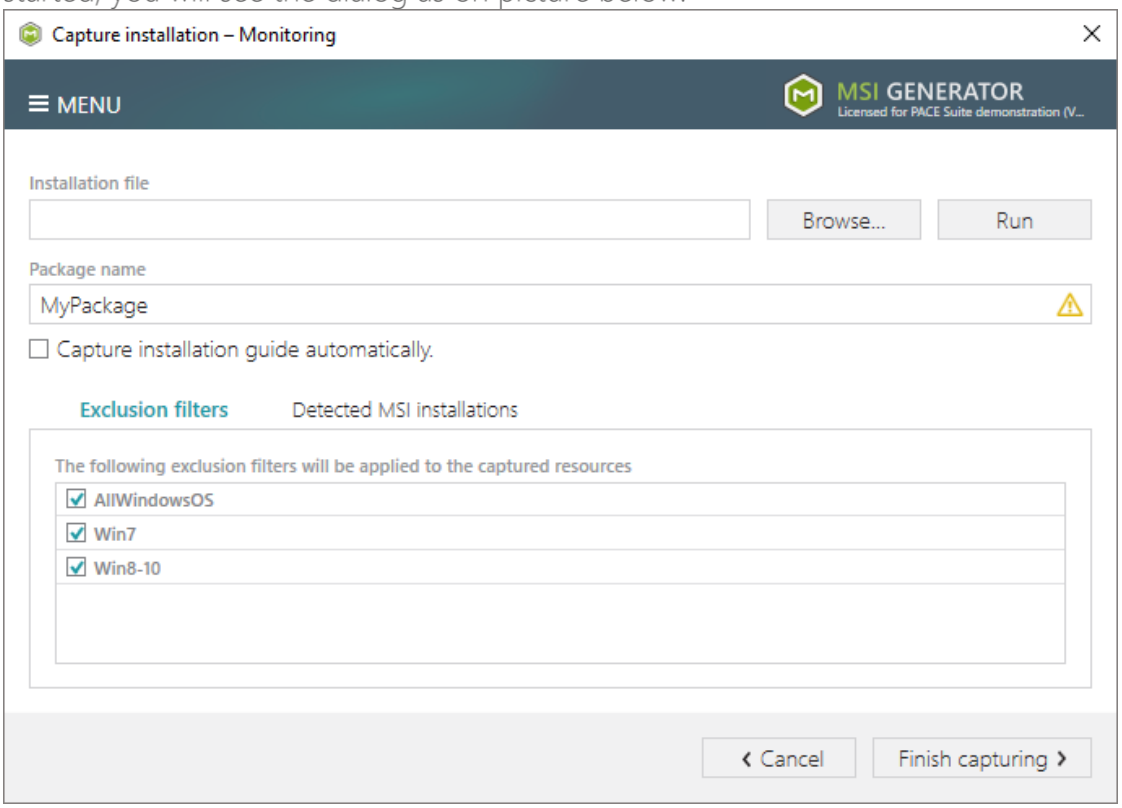
[2]. If you have User Account Control enabled, click the Yes in the opened window.



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



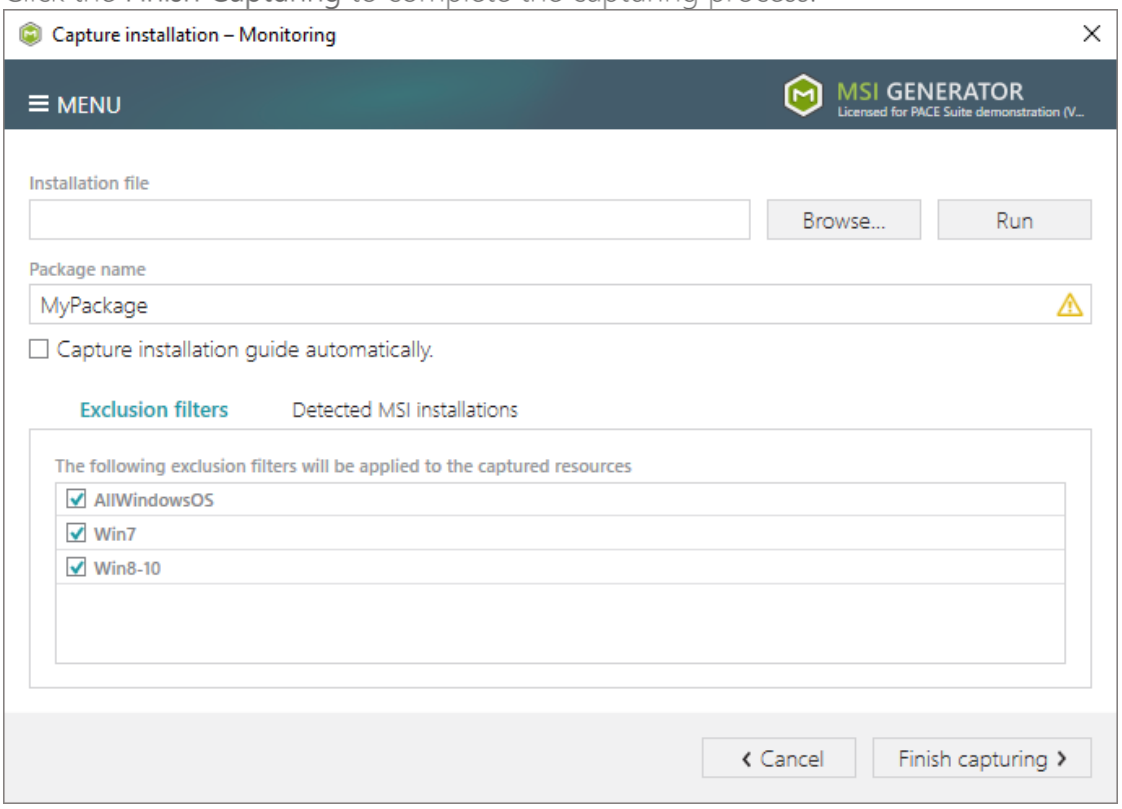
[4]. Please wait a little, while the capturing process is starting. Once the capturing process is started, you will see the dialog as on picture below.



[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,

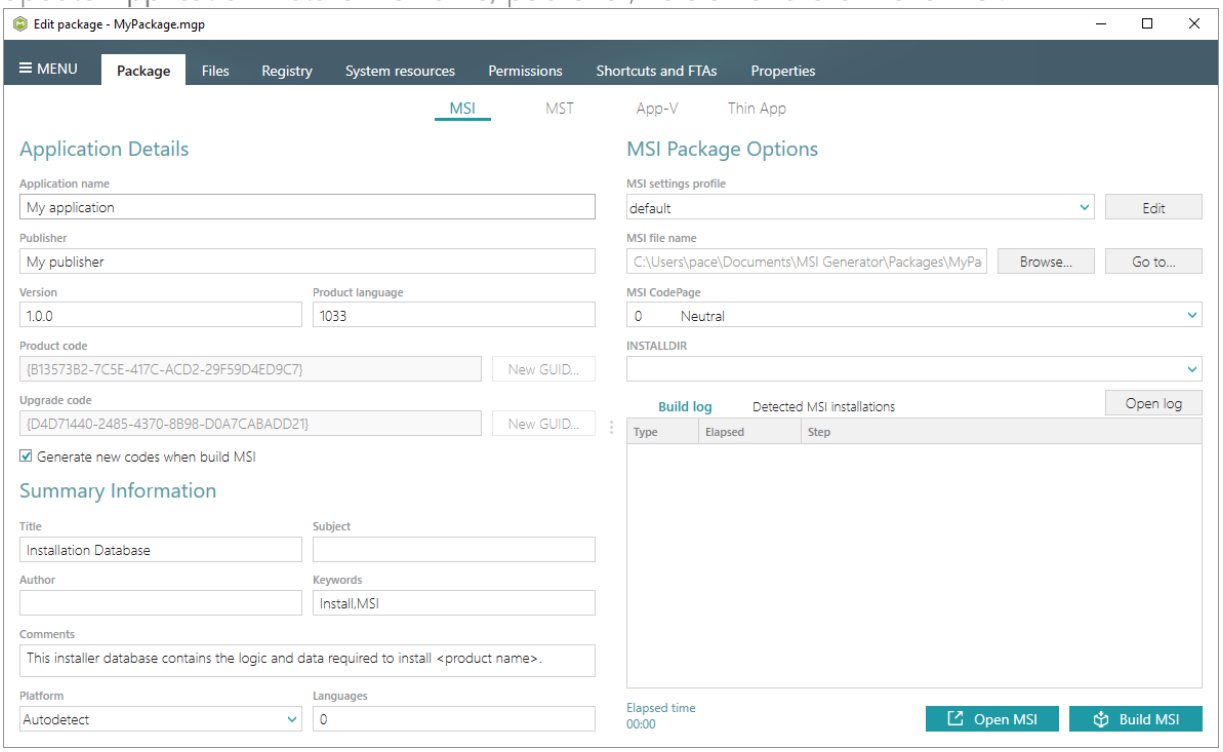
import registry, or, as alternative option, you can launch the application in order to capture necessary application configuration like disabled updates and so on.

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

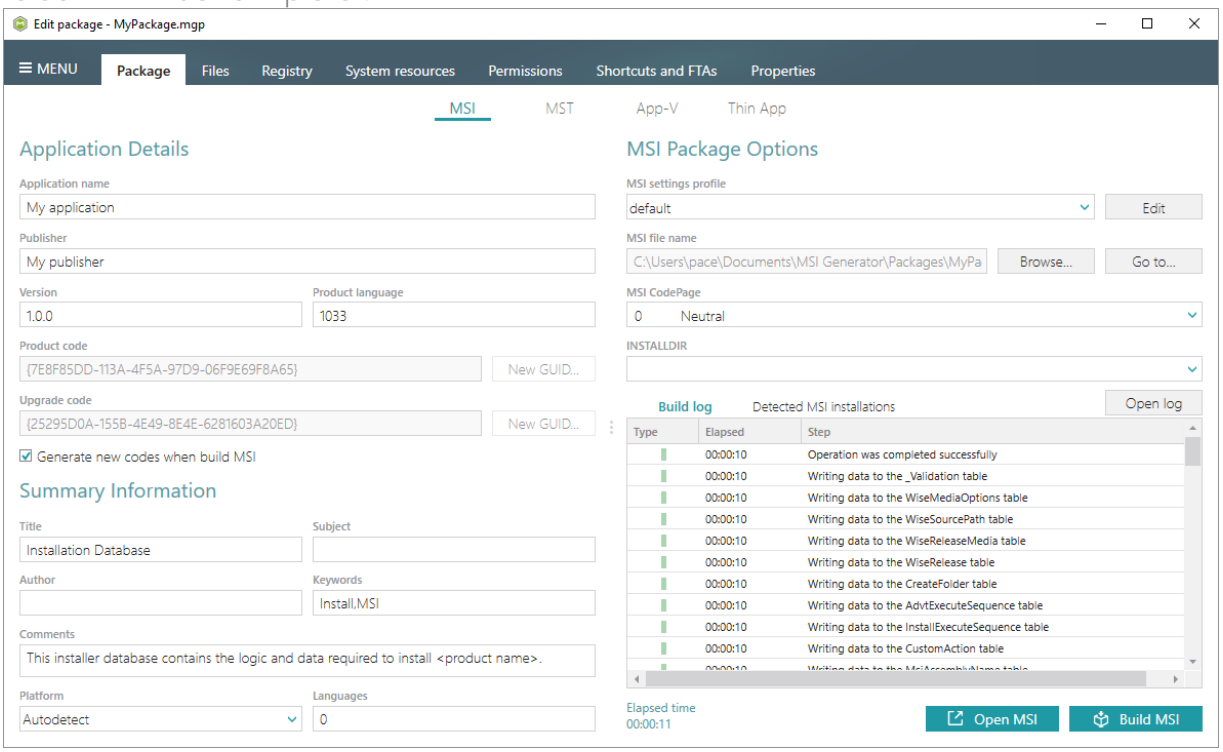


[7]. Please wait a little, while the capturing process is finishing, filtering captured data and creating the project. Once the project is opened, go through the Files, Registry and Shortcuts tabs in order to review captured resources and exclude unnecessary ones from the project. Unnecessary resources 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. Unfortunetly, 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**.



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



3.2 New MST

Choose a scenario that better suits your needs:

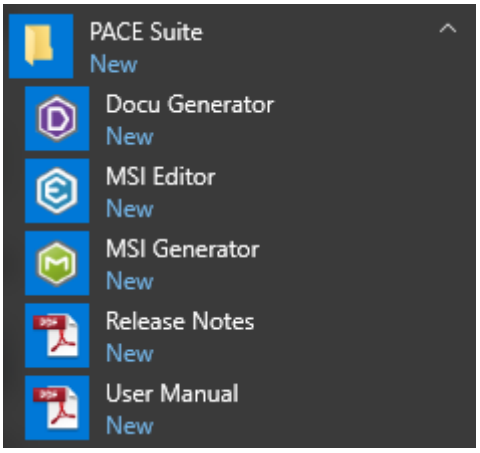
- Create Blank MST, described in section 3.2.1
  Create a new empty transform file (MST) for your MSI package using MSI Editor. All changes, made to the opened MSI database, will be saved to the MST file.
- Create Response MST, described in section 3.2.2
  Capture all your inputs and changes, made to 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

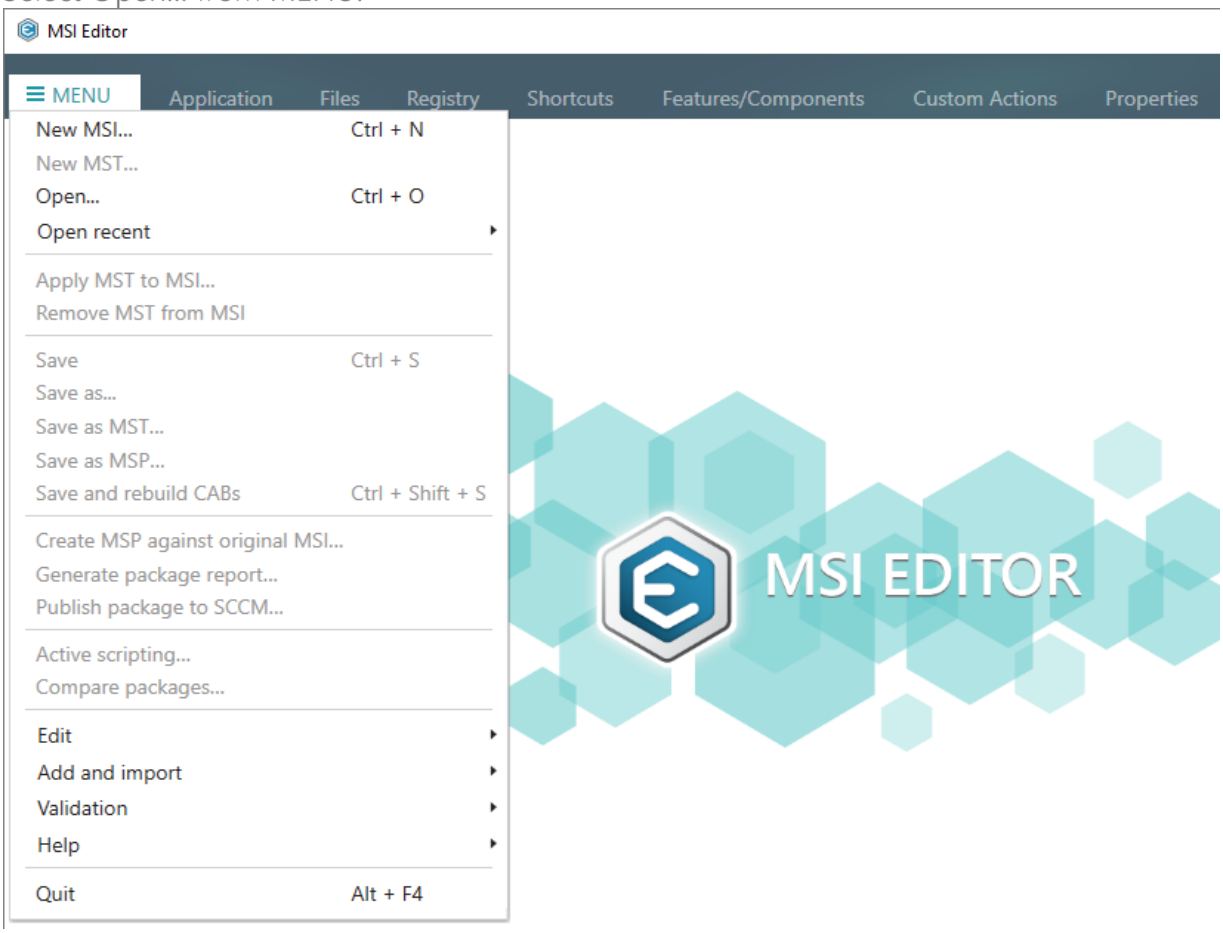
Create a new empty transform file (MST) for your MSI package using MSI Editor. All changes, made to the opened MSI database, will be saved to the MST file.

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.

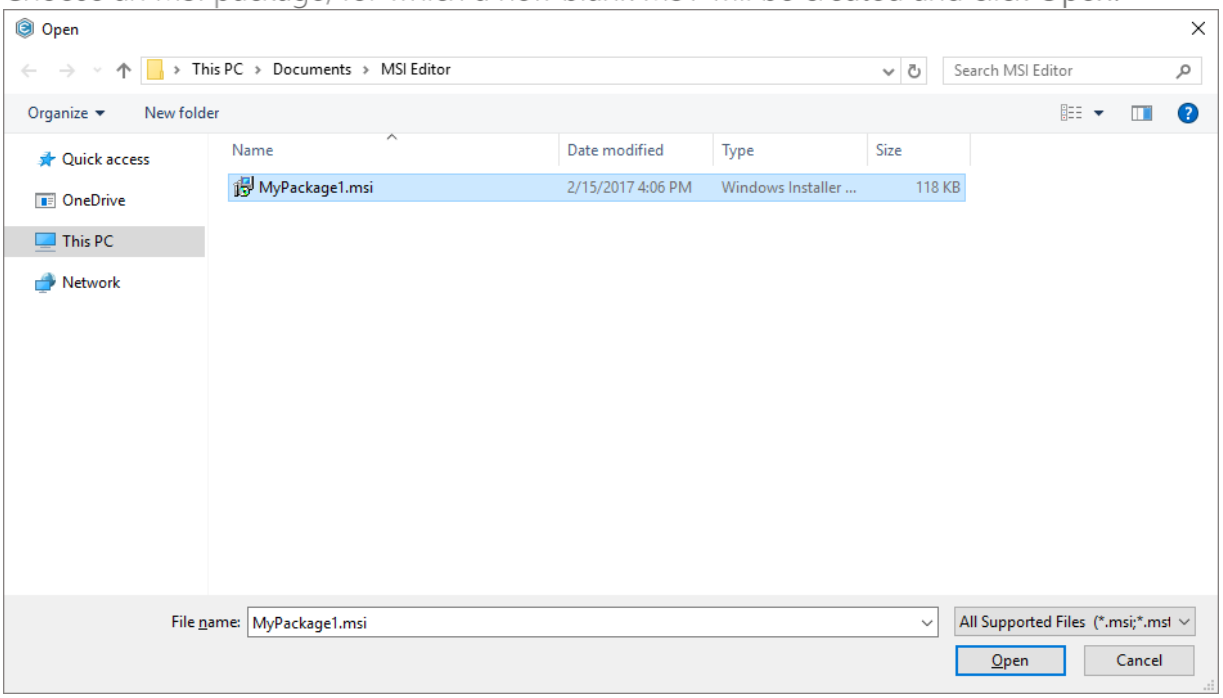
[1]. Launch MSI Editor.



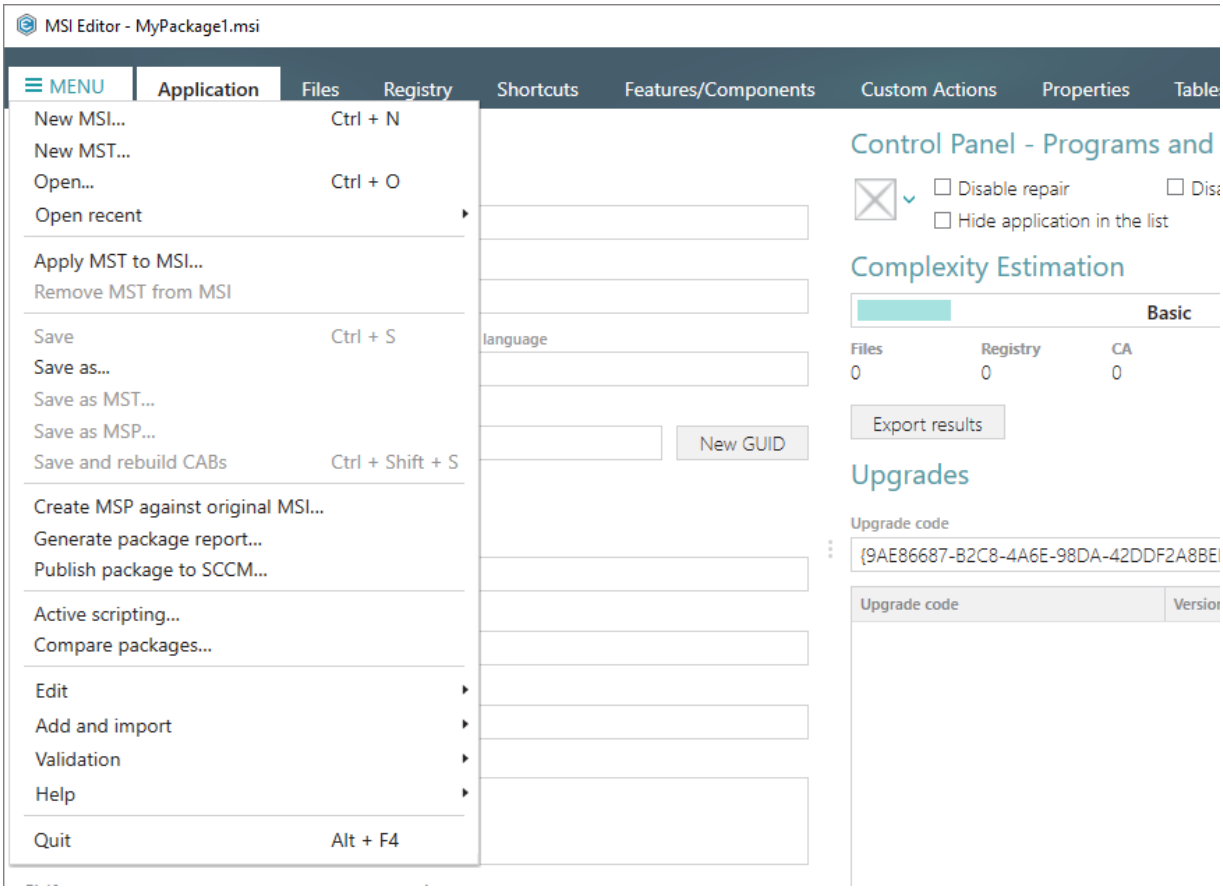
[2]. Select Open... from MENU.



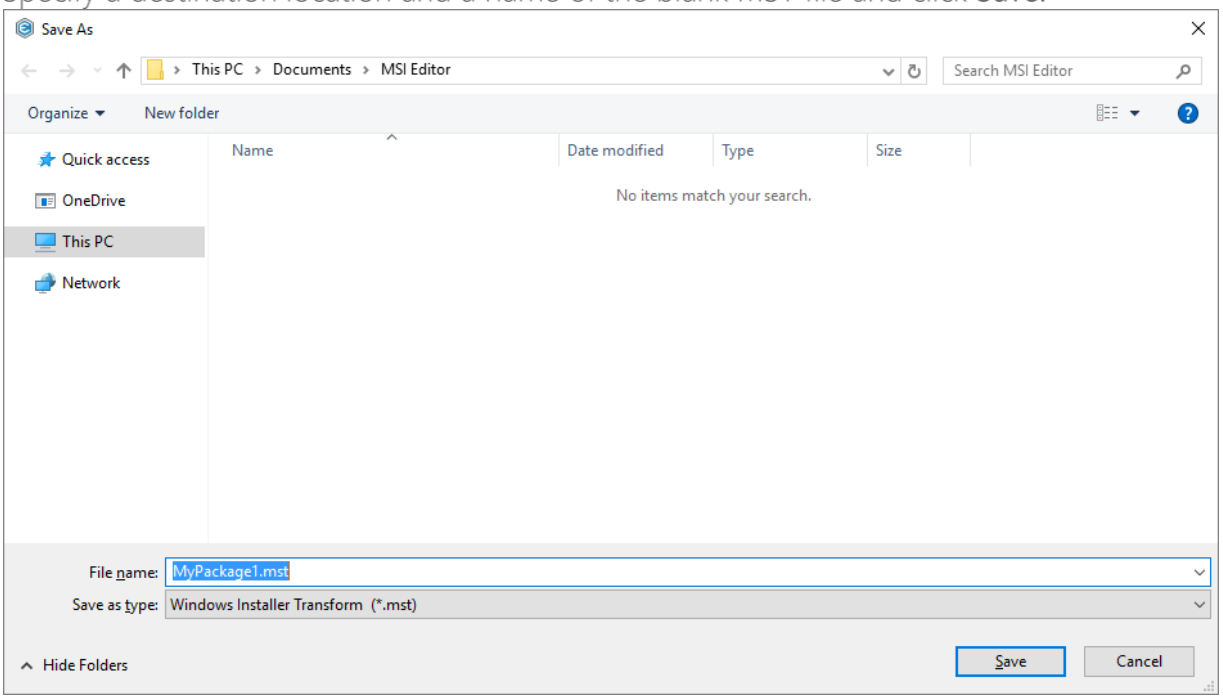
[3]. Choose an MSI package, for which a new blank MST will be created and click Open.



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

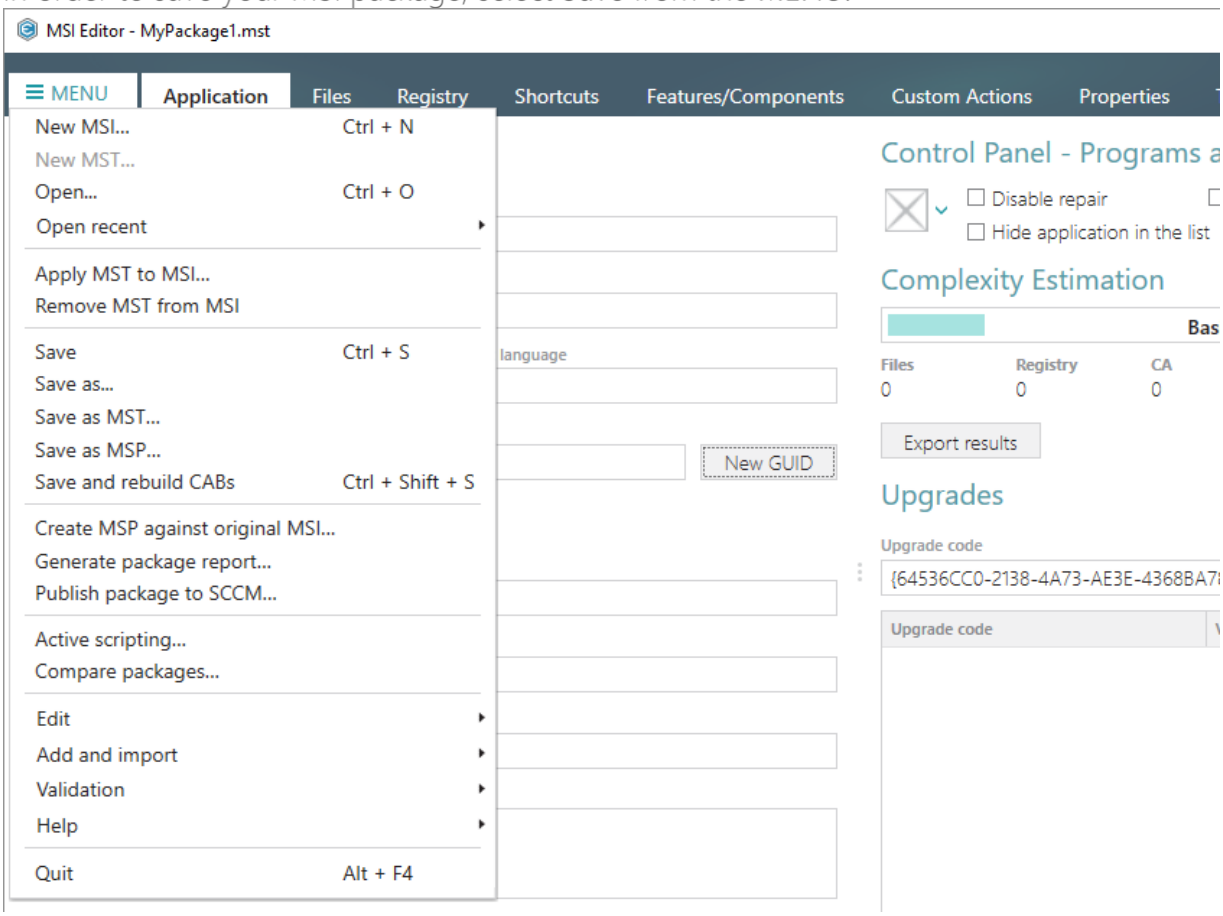


[5]. Specify a destination location and a name of the blank MST file and click Save.



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

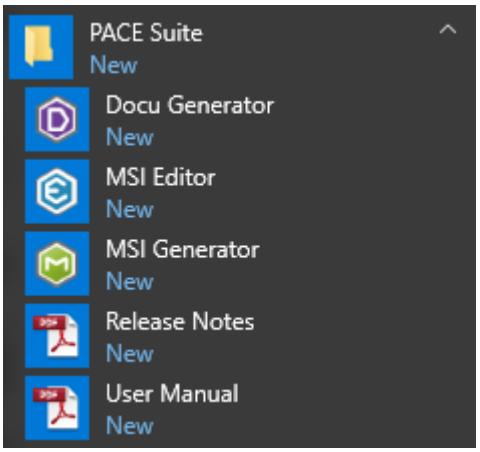
[7]. In order to save your MSI package, select Save from the MENU.



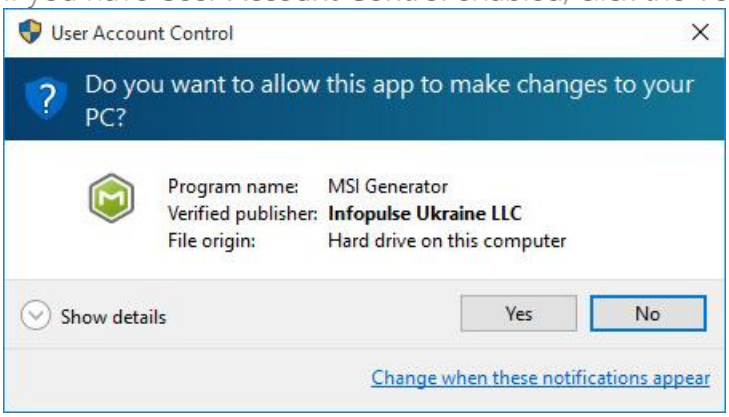
3.2.2 Create Response MST

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.

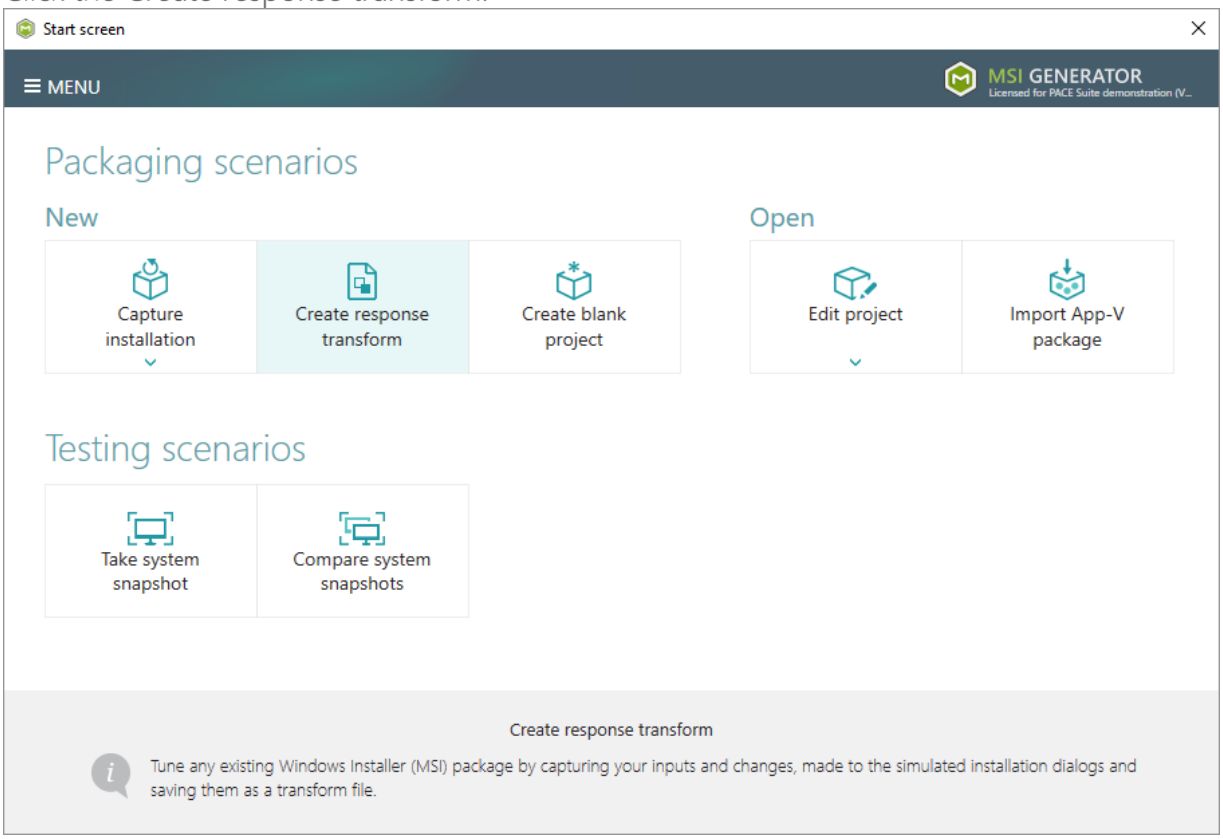
[1]. Launch MSI Generator.



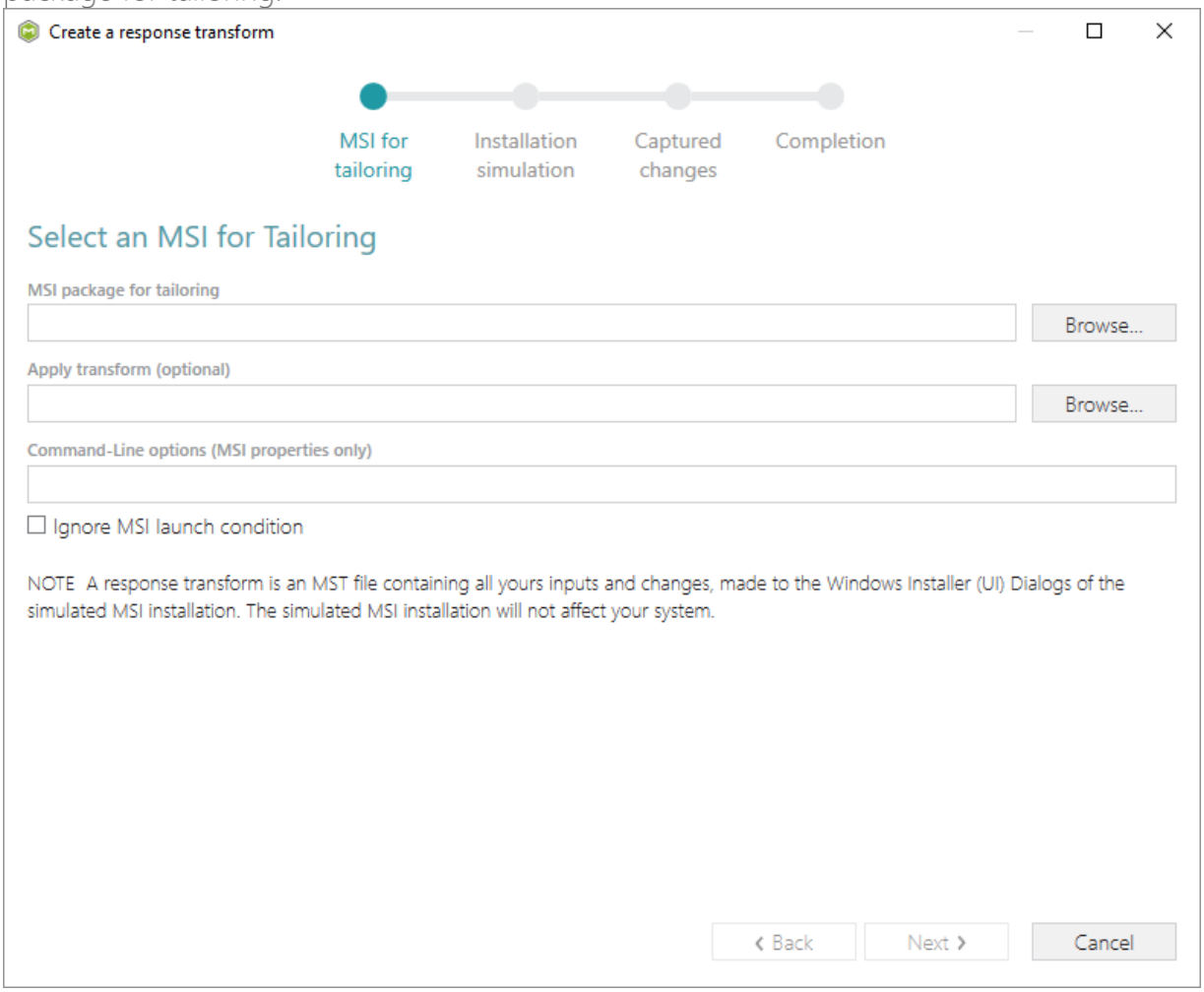
[2]. If you have User Account Control enabled, click the Yes in the opened window.



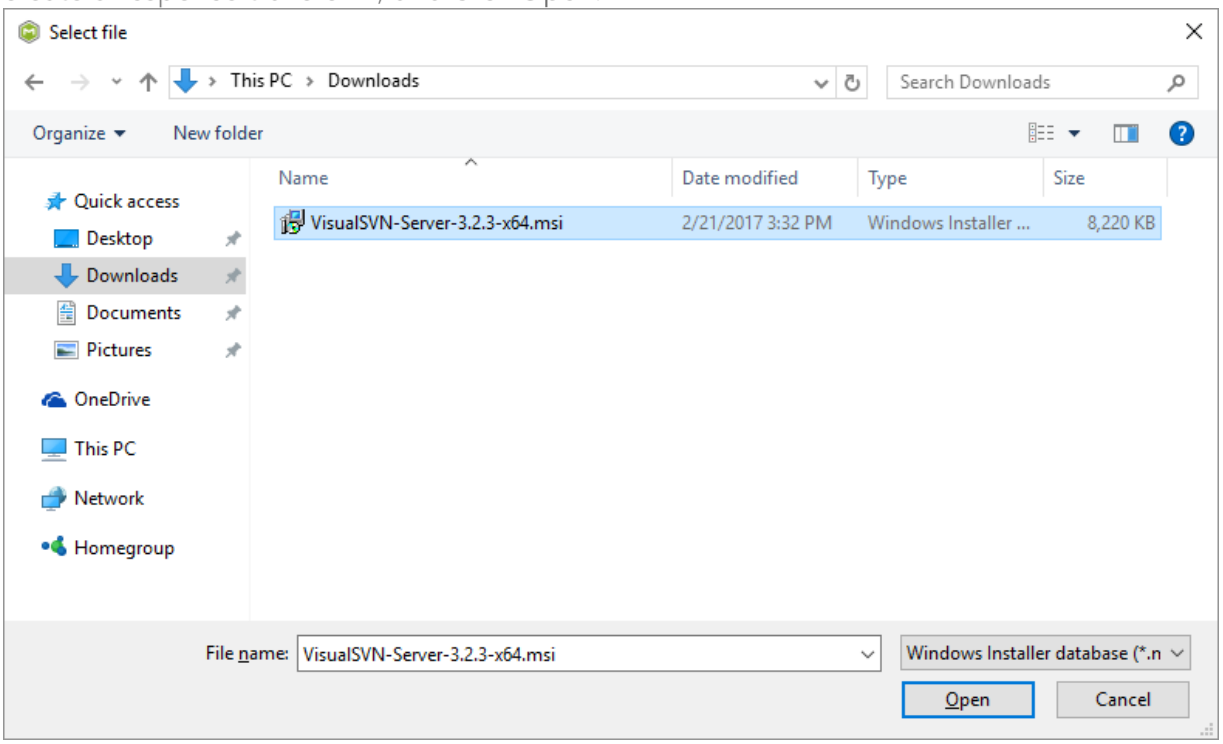
[3]. Click the Create response transform.



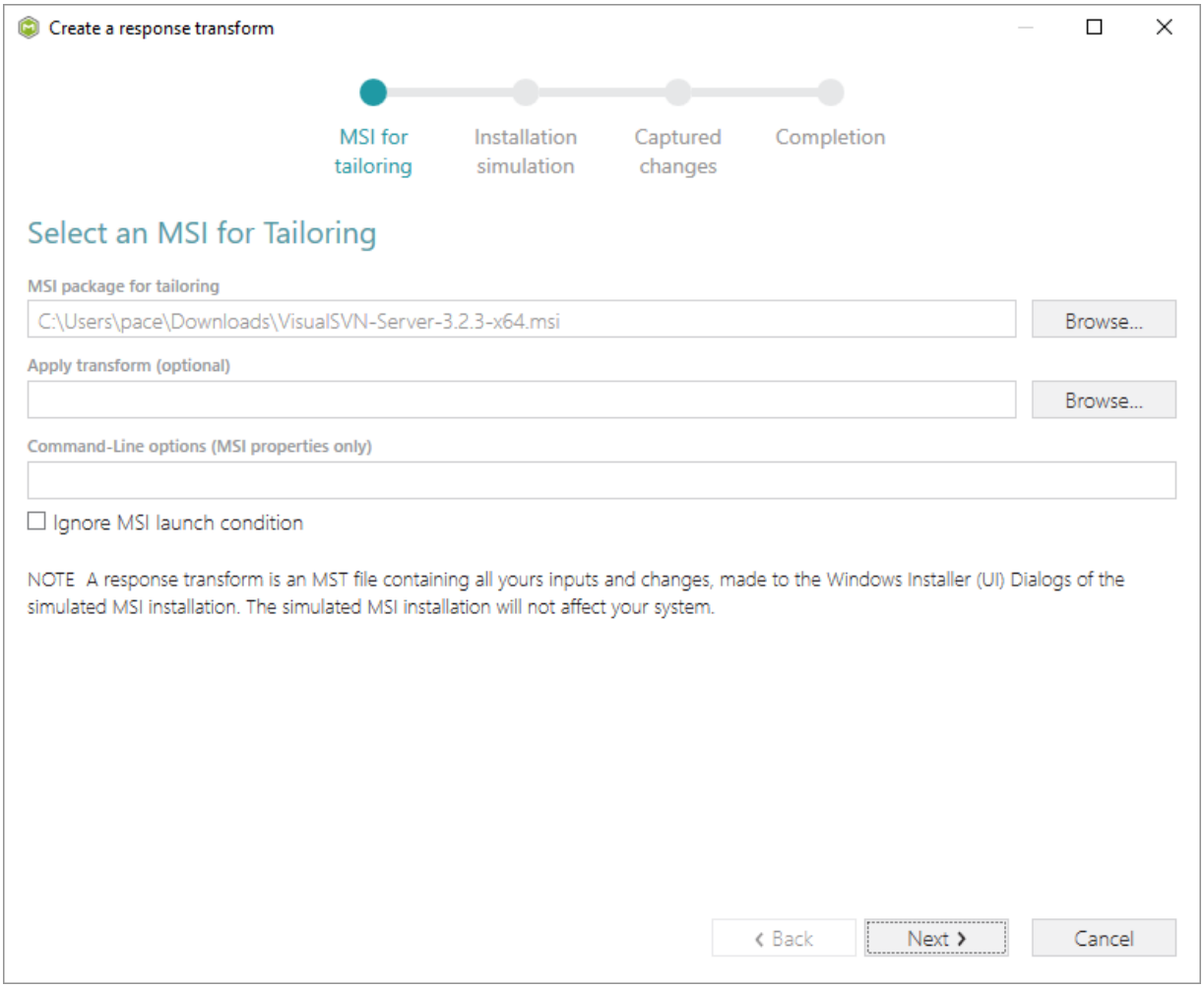
[4]. Click **Browse...**, which is located next to the **MSI package for tailoring** field, to select an MSI package for tailoring.



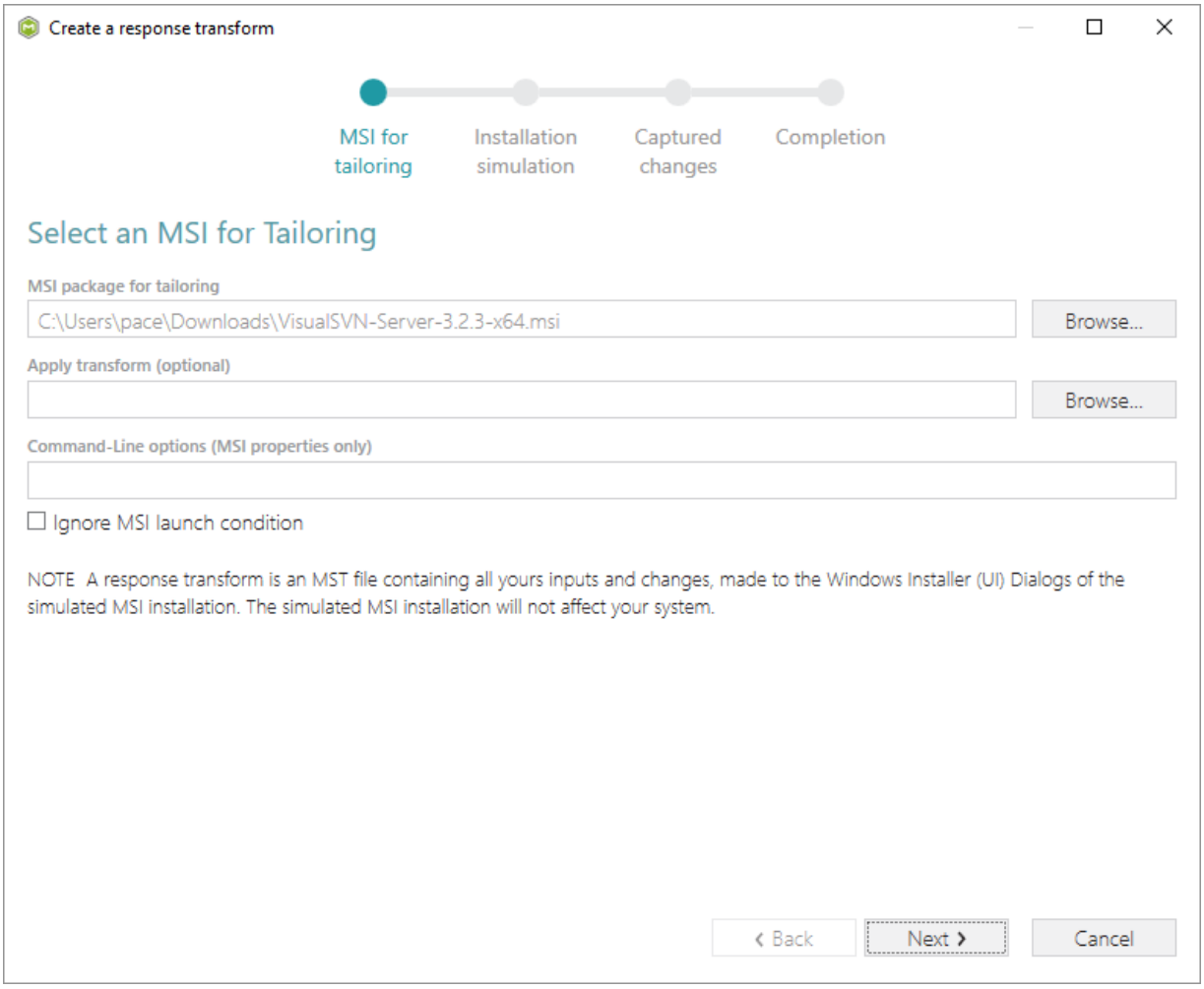
[5]. Choose an MSI package (e.g. VisualSVN-Server-3.2.3-x64.msi), for which you want to create a response transform, and click **Open**.



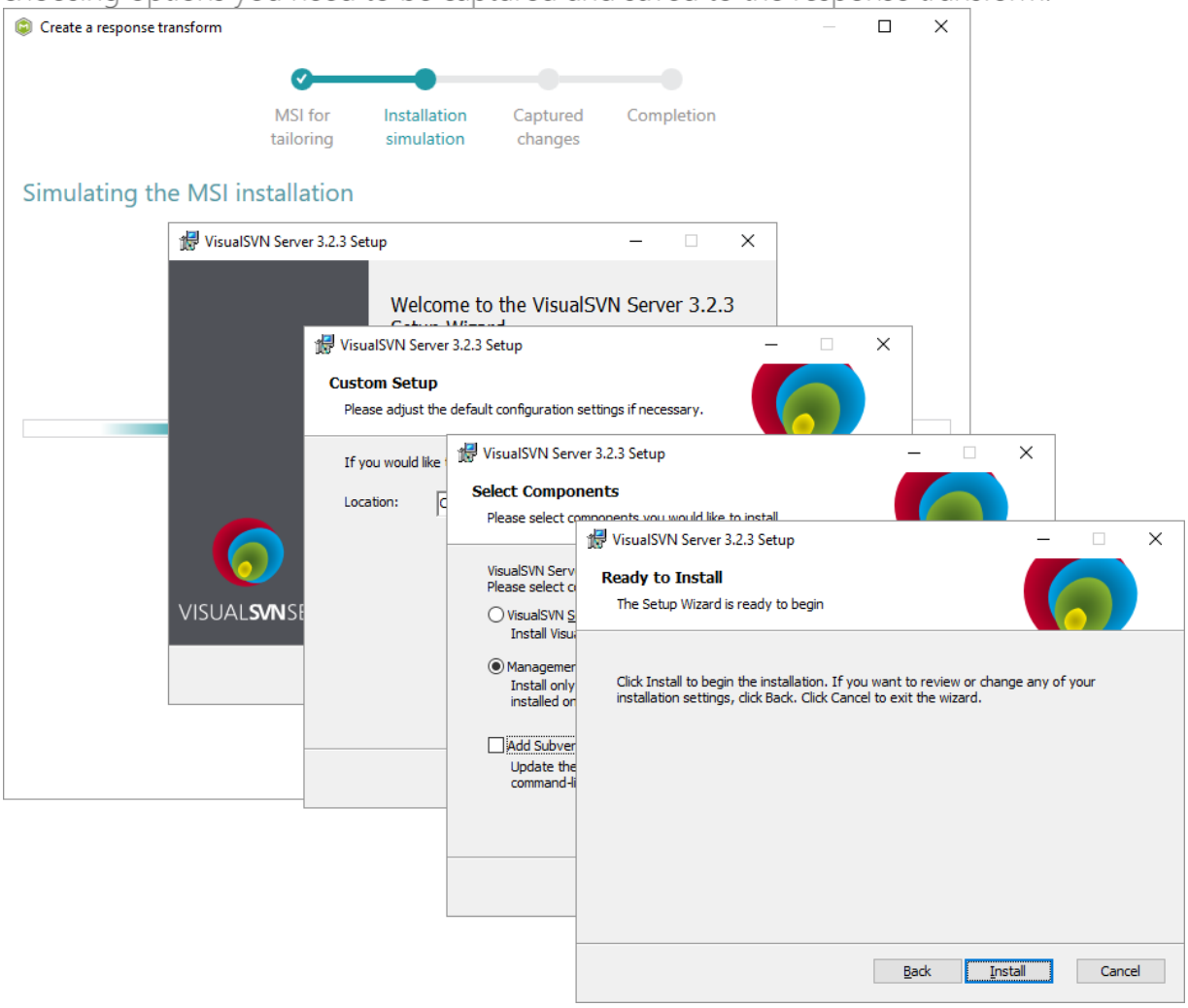
[6]. The **Apply transform (optional)** and **Command-Line options (MSI properties only)** fields are optional and they allow applying additional MST and setting MSI properties before the MSI tailoring. Select the **Ignore MSI launch condition** option to skip all condition from the LaunchCondition MSI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



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

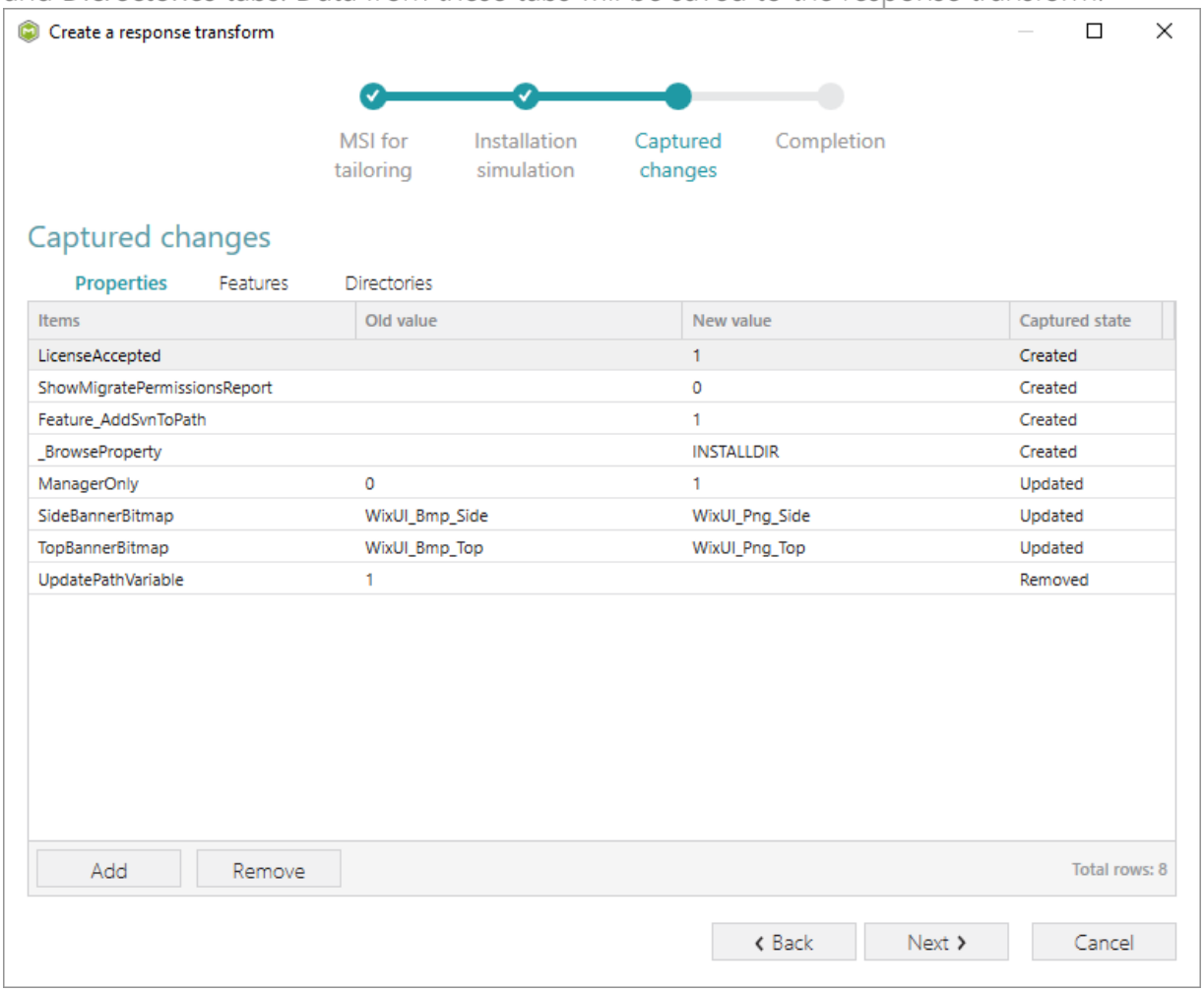


[8]. Complete the simulated MSI installation following the Windows Installer dialogs and choosing options you need to be captured and saved to the response transform.

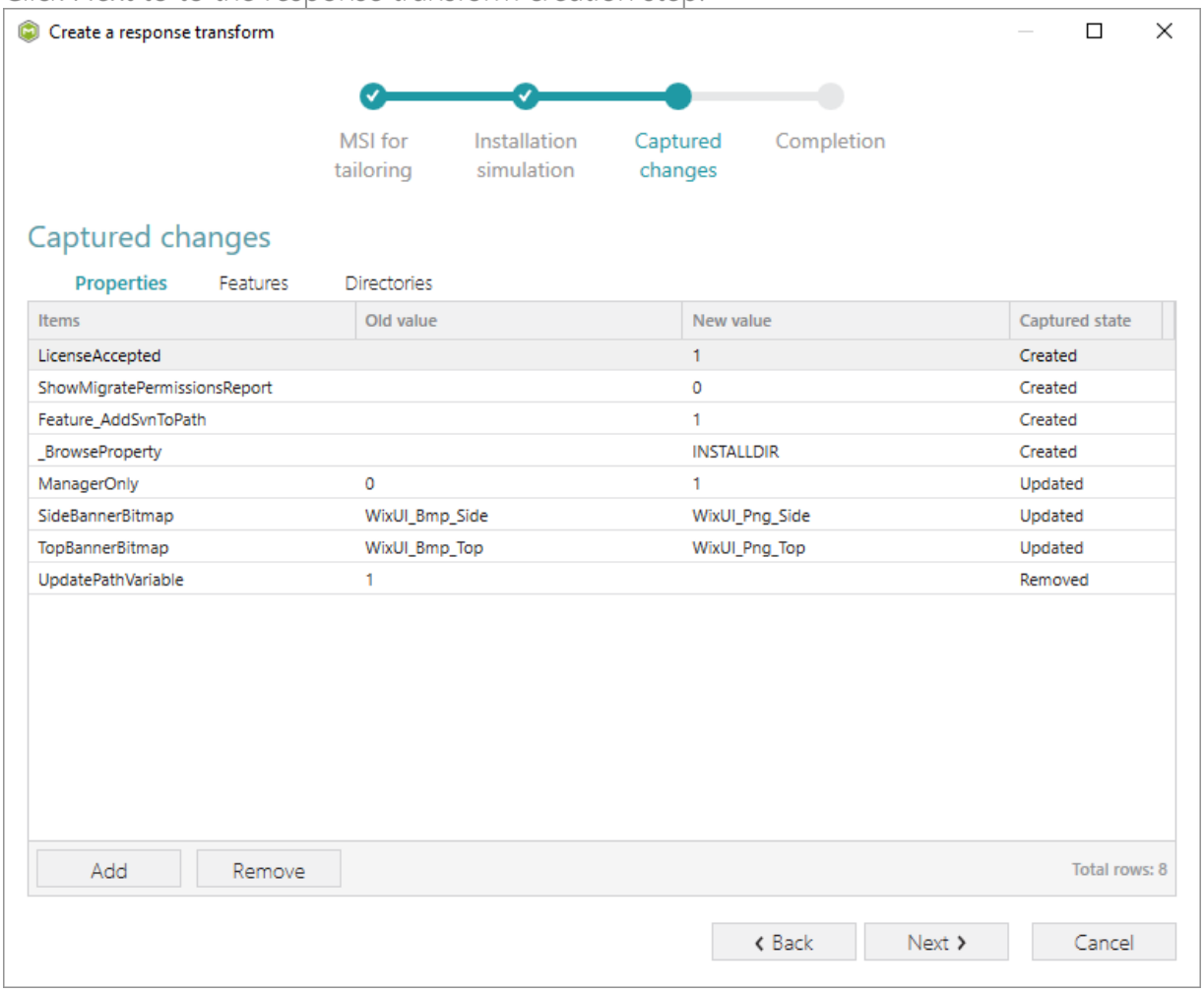


[9]. Review captured changes and inputs such as Properties, Features and Dicrectories by opening the respective tab. If needed, you can add or remove a property, a feature, and a directory by clicking the Add or Remove buttons on the respective Properties, Features

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

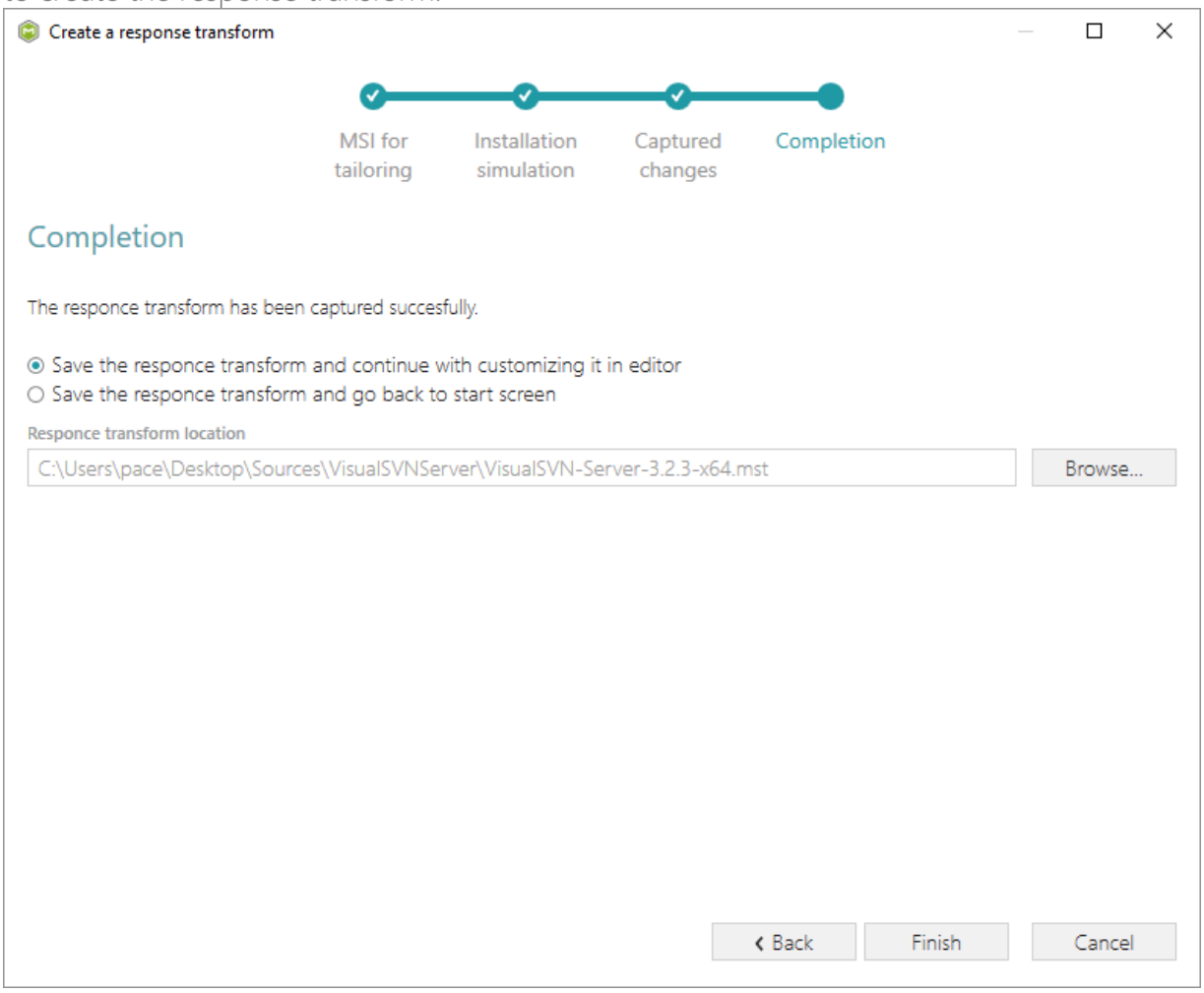


[10]. Click Next to to the response transform creation step.



[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

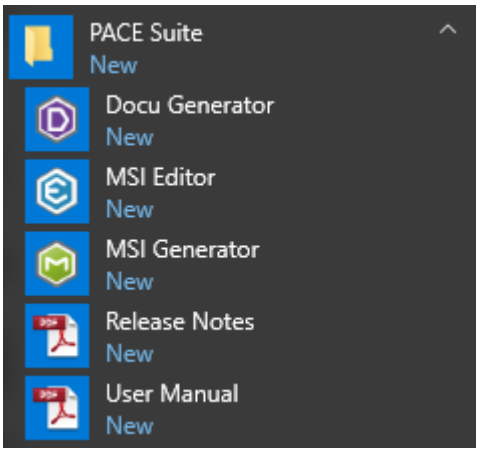
to create the response transform.



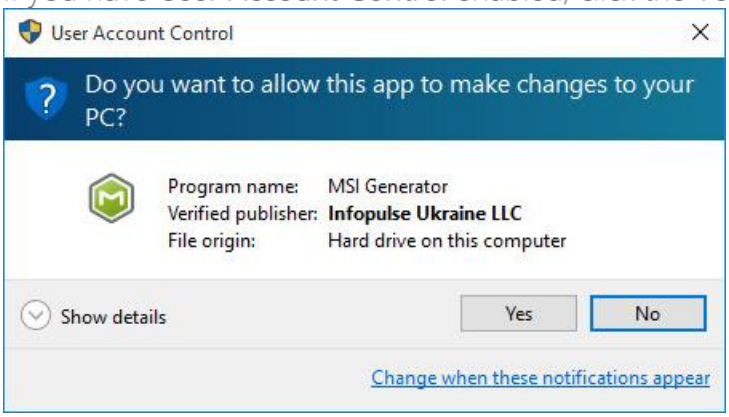
3.2.3 Capture System Changes to MST

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

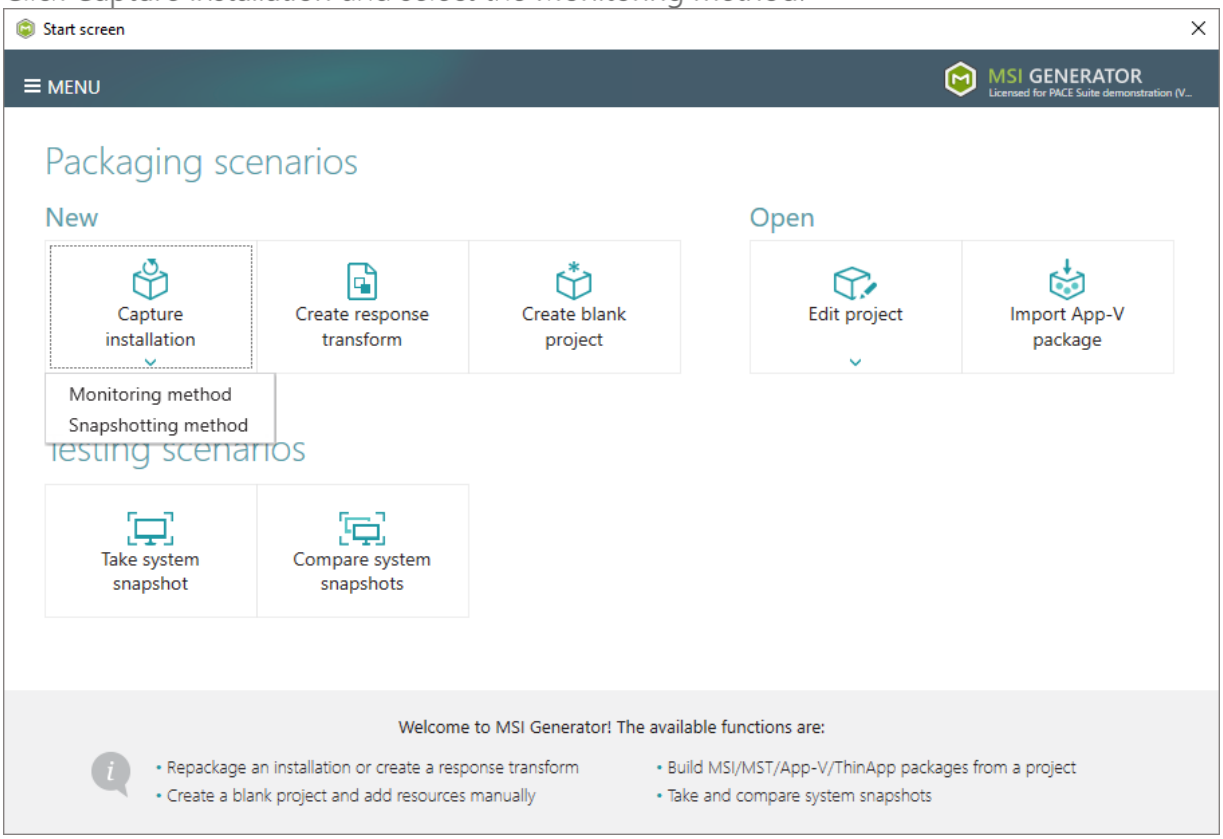
[1]. Launch MSI Generator.



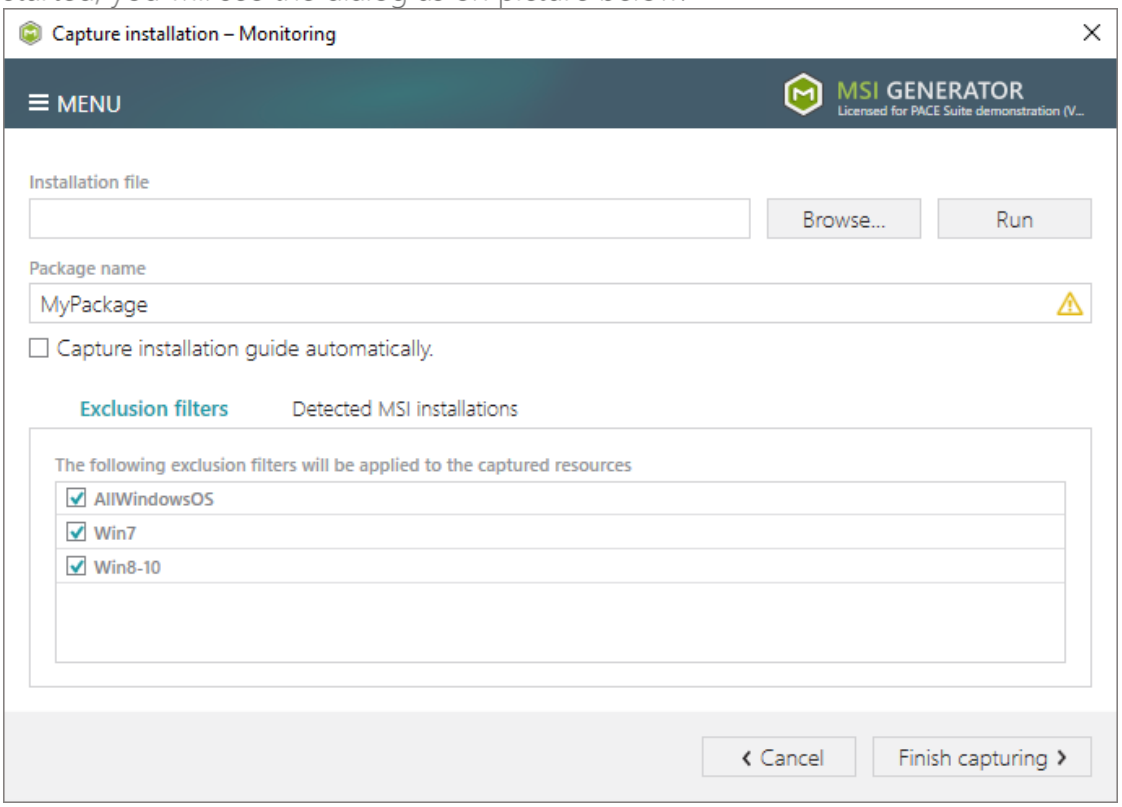
[2]. If you have User Account Control enabled, click the Yes in the opened window.



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

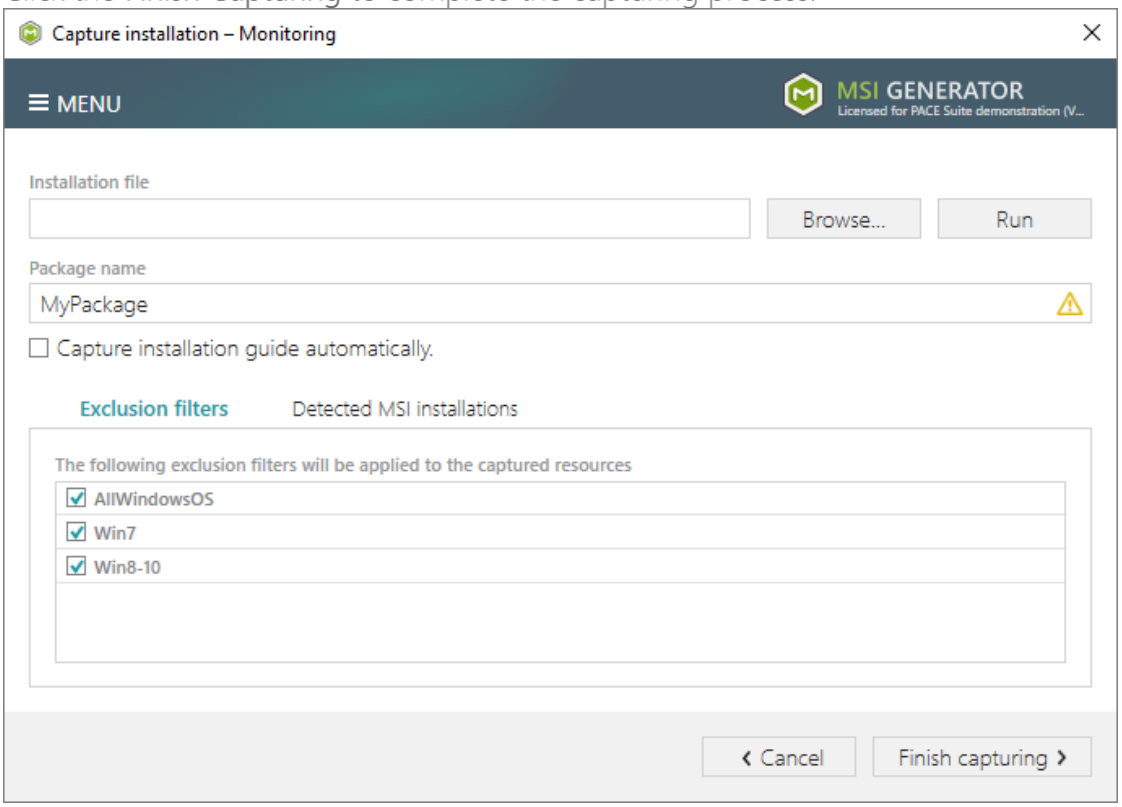


[4]. Please wait a little, while the capturing process is starting. Once the capturing process is started, you will see the dialog as on picture below.



[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.

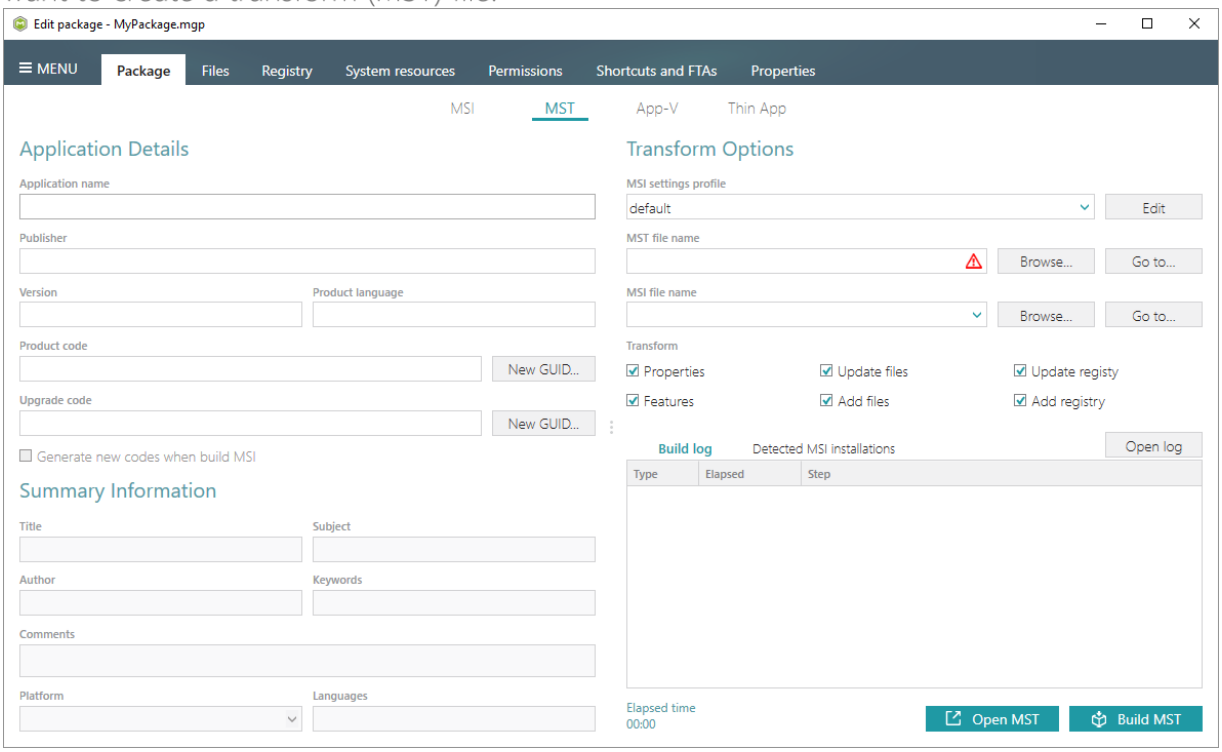
[6]. Click the Finish Capturing to complete the capturing process.



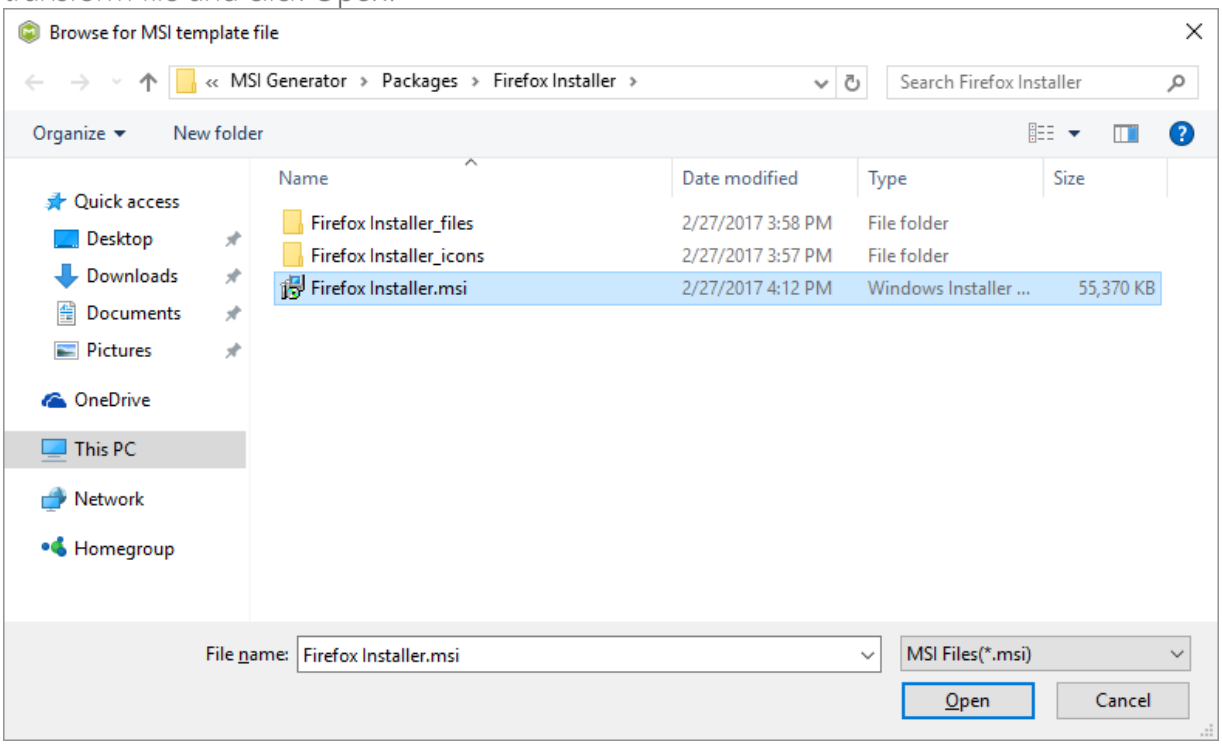
[7]. Please wait a little, while the capturing process is finishing, filtering captured data and creating the project. Once the project is opened, go through the Files, Registry and Shortcuts tabs in order to review captured resources and exclude unnecessary ones from the project. Unnecessary resources 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. Unfortunetly, 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

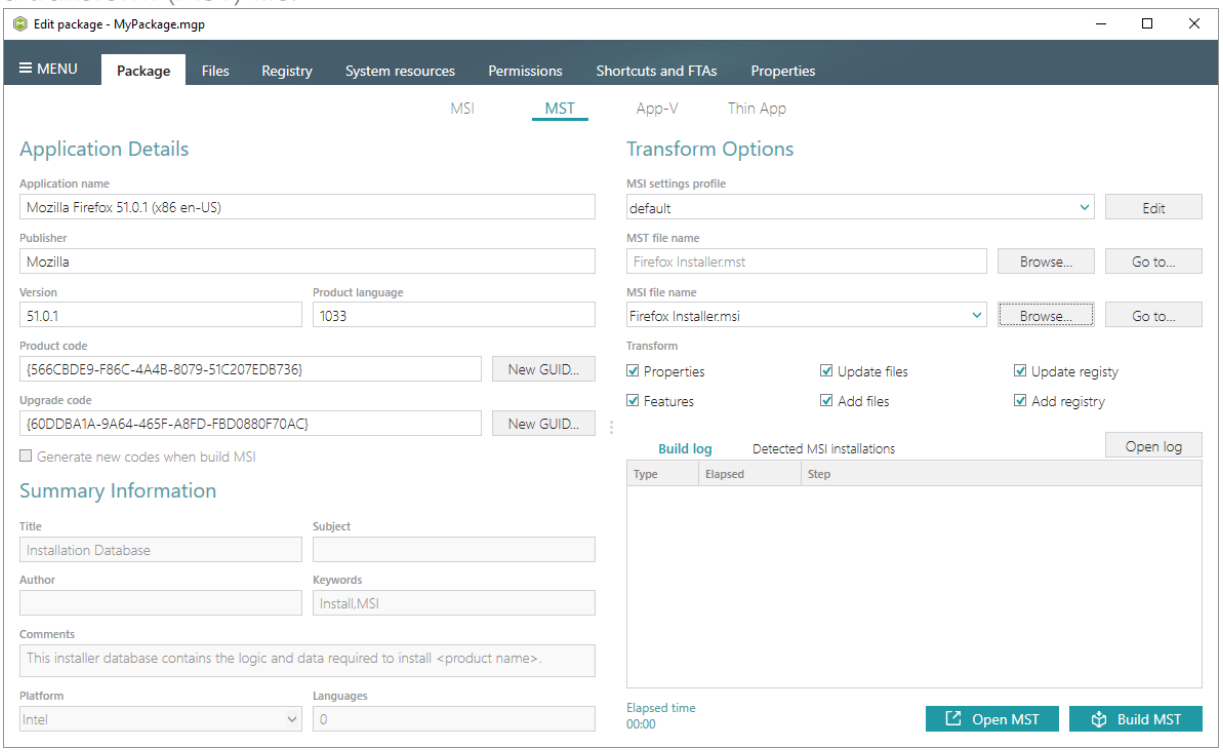
want to create a transform (MST) file.



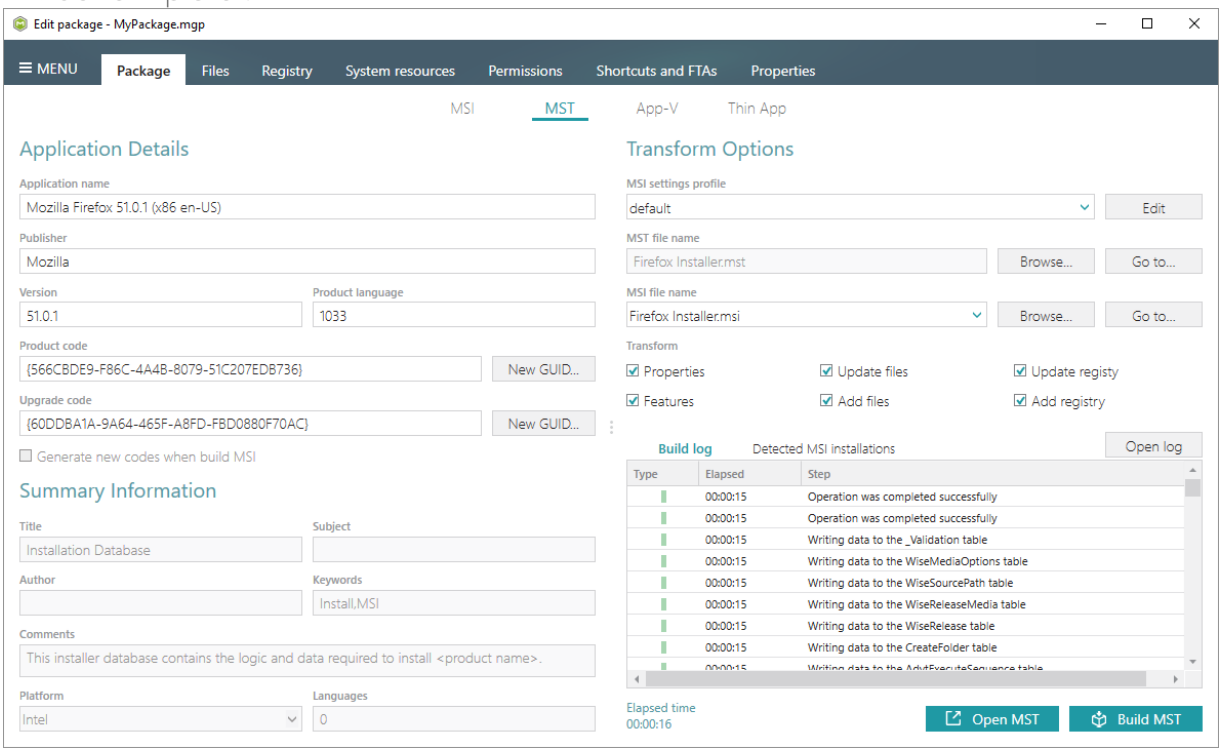
[9]. Choose an MSI package (e.g. Firefox Installer.msi), for which you want to create a transform file and click Open.



[10]. Review and update **Application Details**, **Transform** options and click **Build MST** to generate a transform (MST) file.



[11]. Click **Go to...**, located next to the **MST file name** field, to open the file containing folder in Windows Explorer.



3.3 New MSP

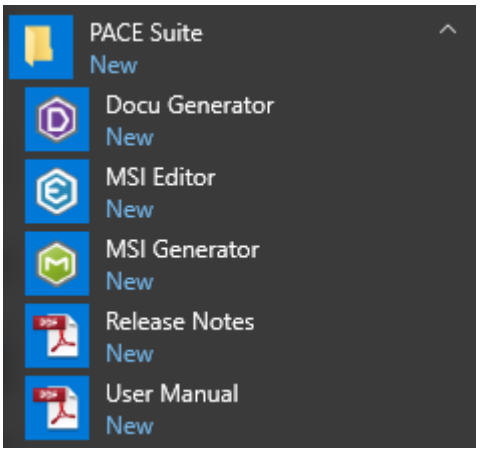
Choose a scenario that better suits your needs:

- 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.

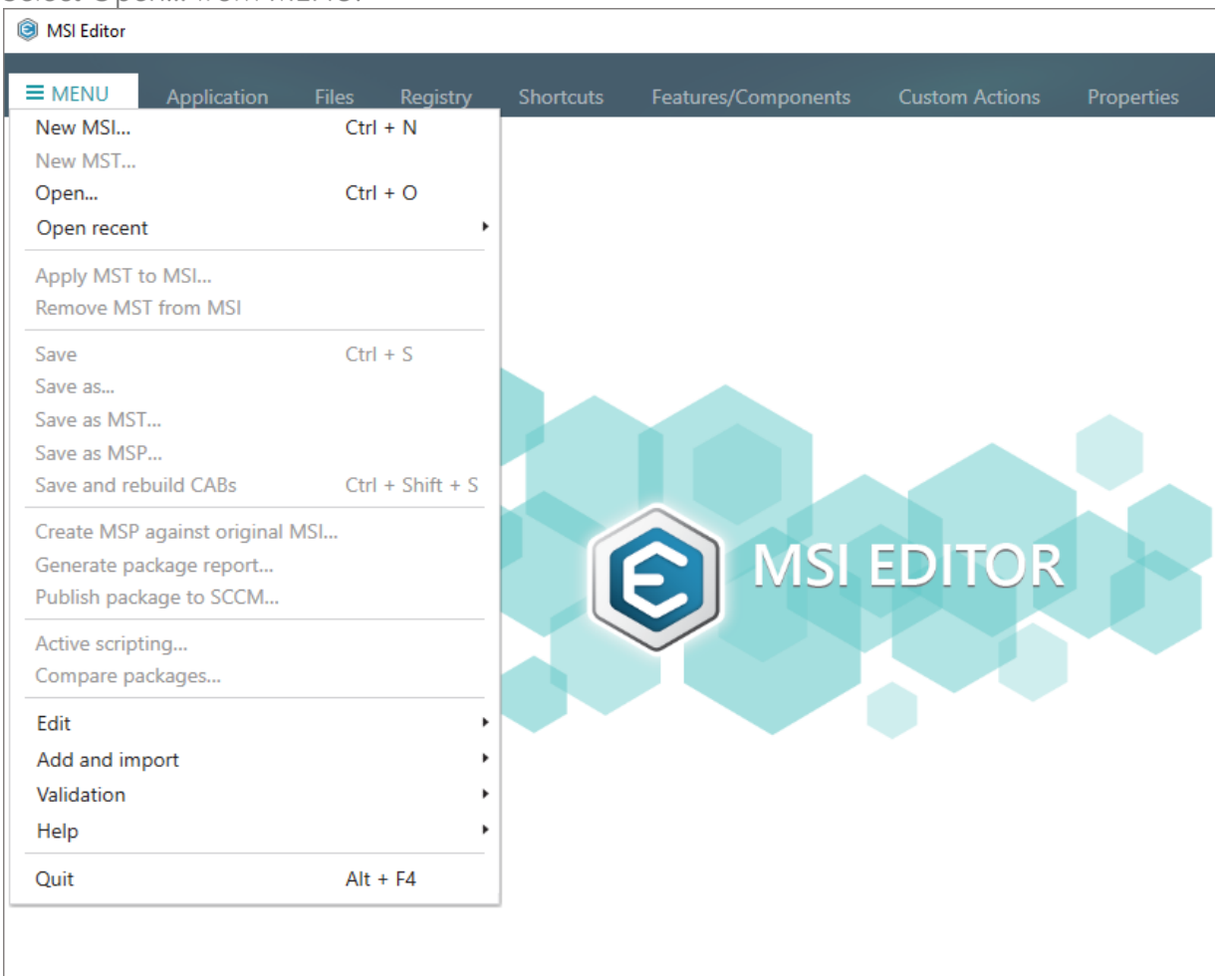
3.3.1 Create MSP Based On Difference

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.

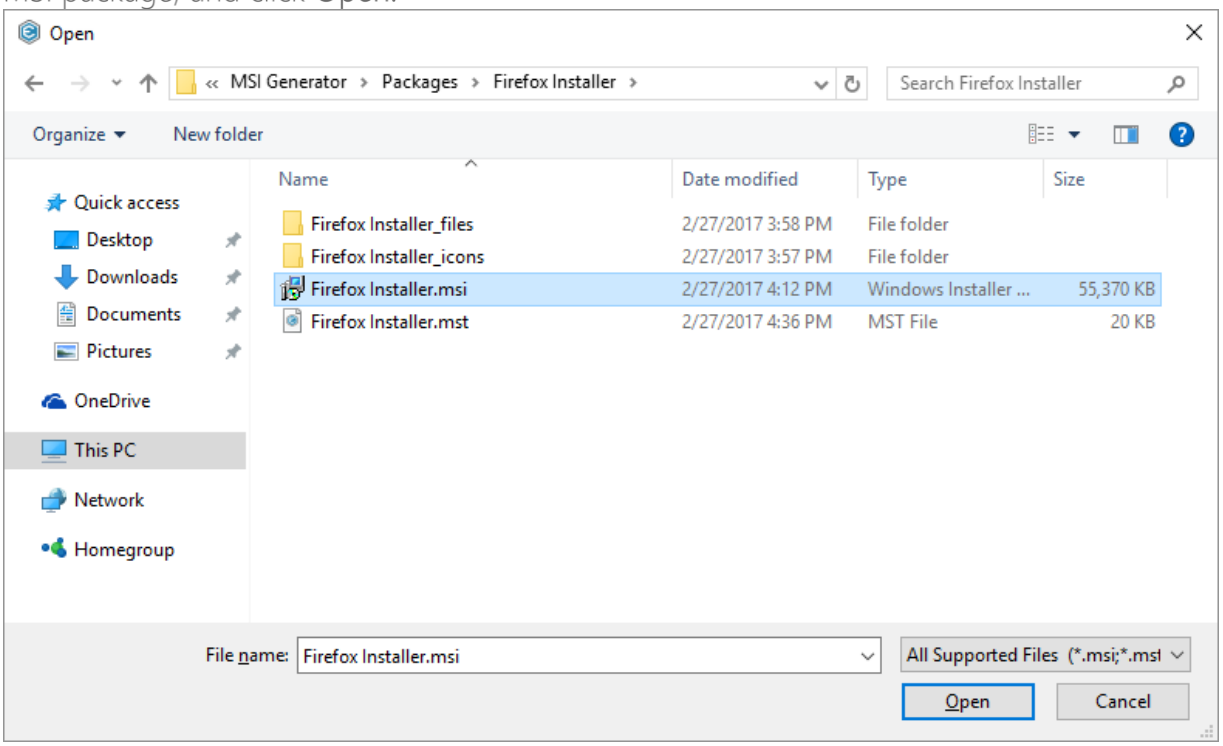
[1]. Launch MSI Editor.



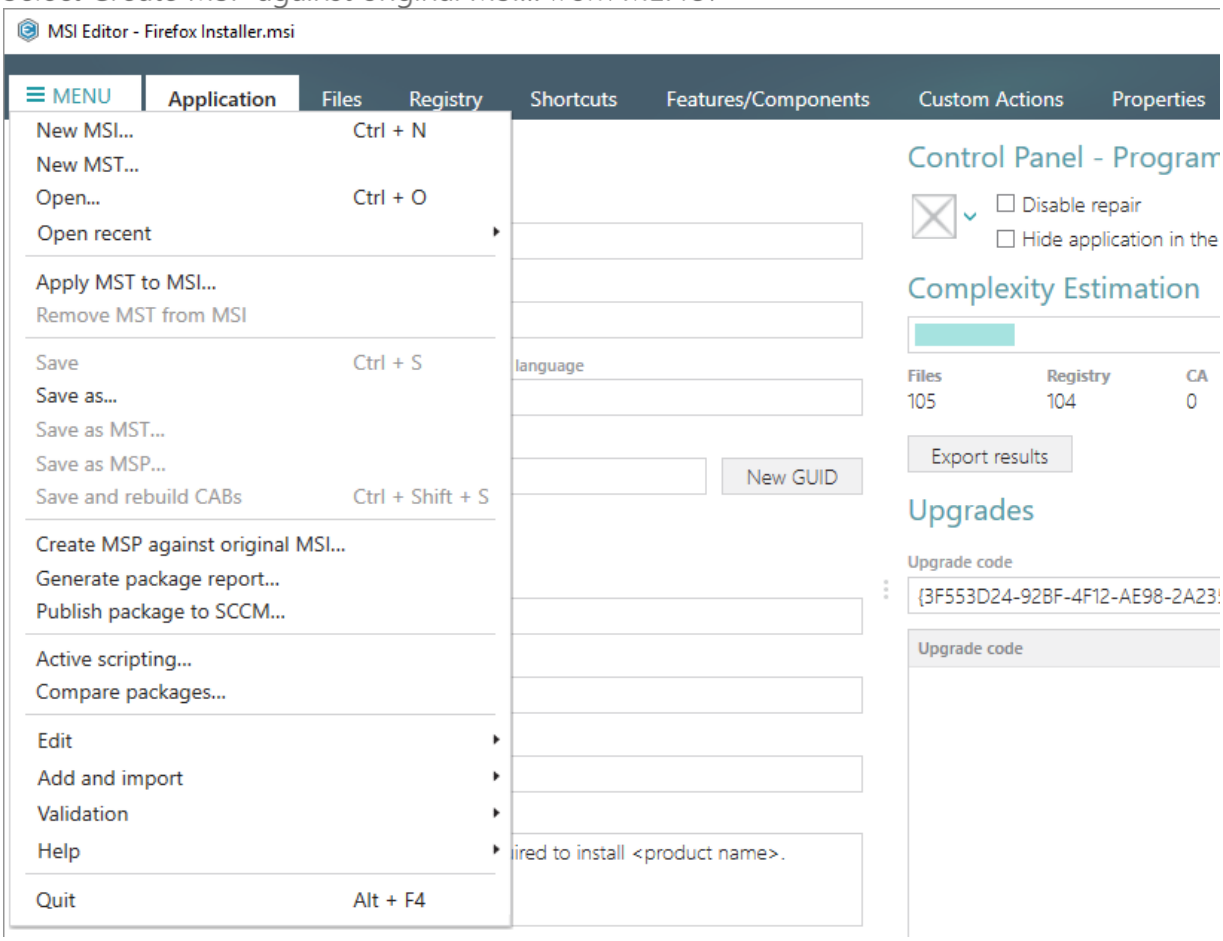
[2]. Select Open... from MENU.



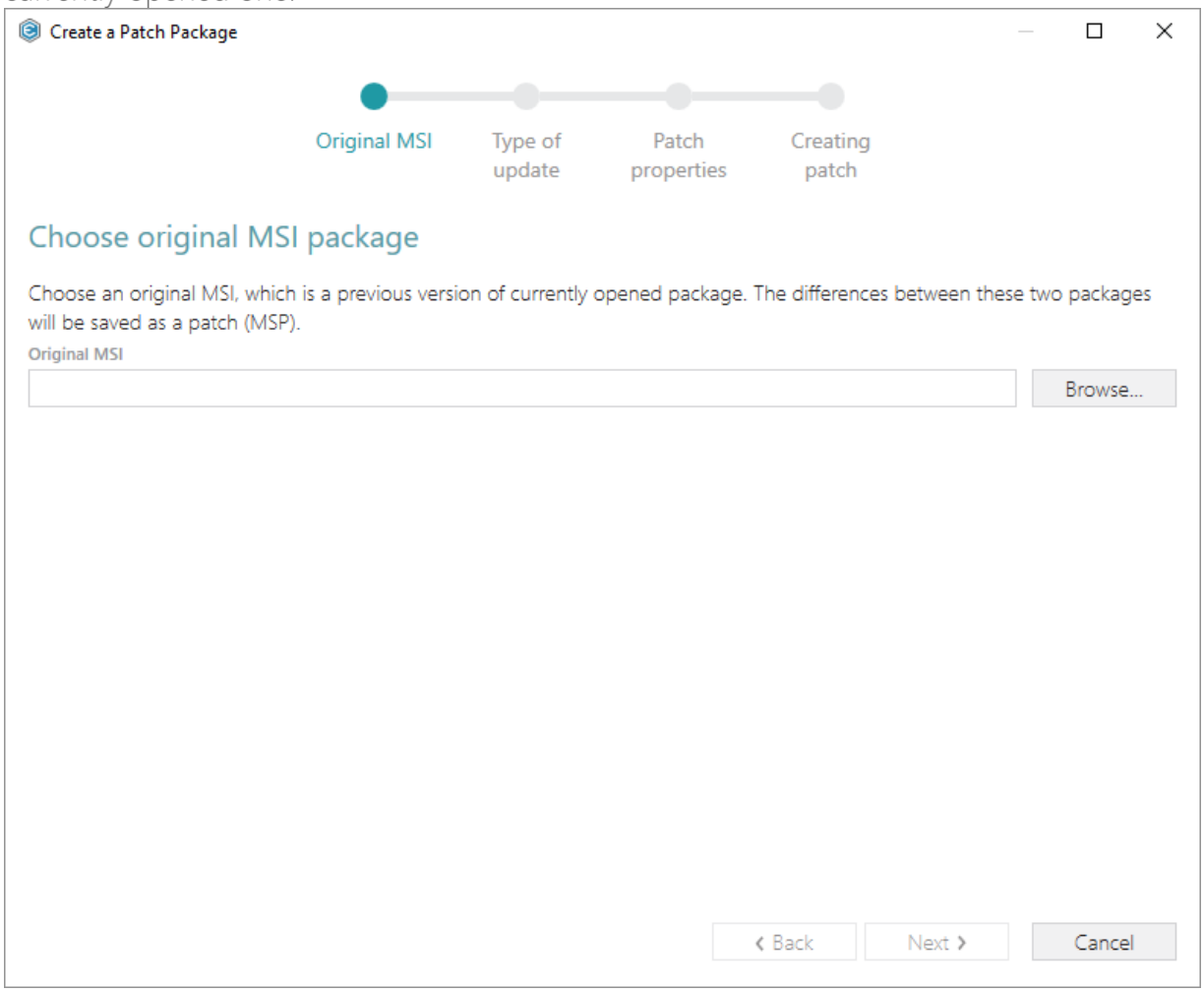
[3]. Choose a recent MSI package, containing new resources in comparison to the previous MSI package, and click Open.



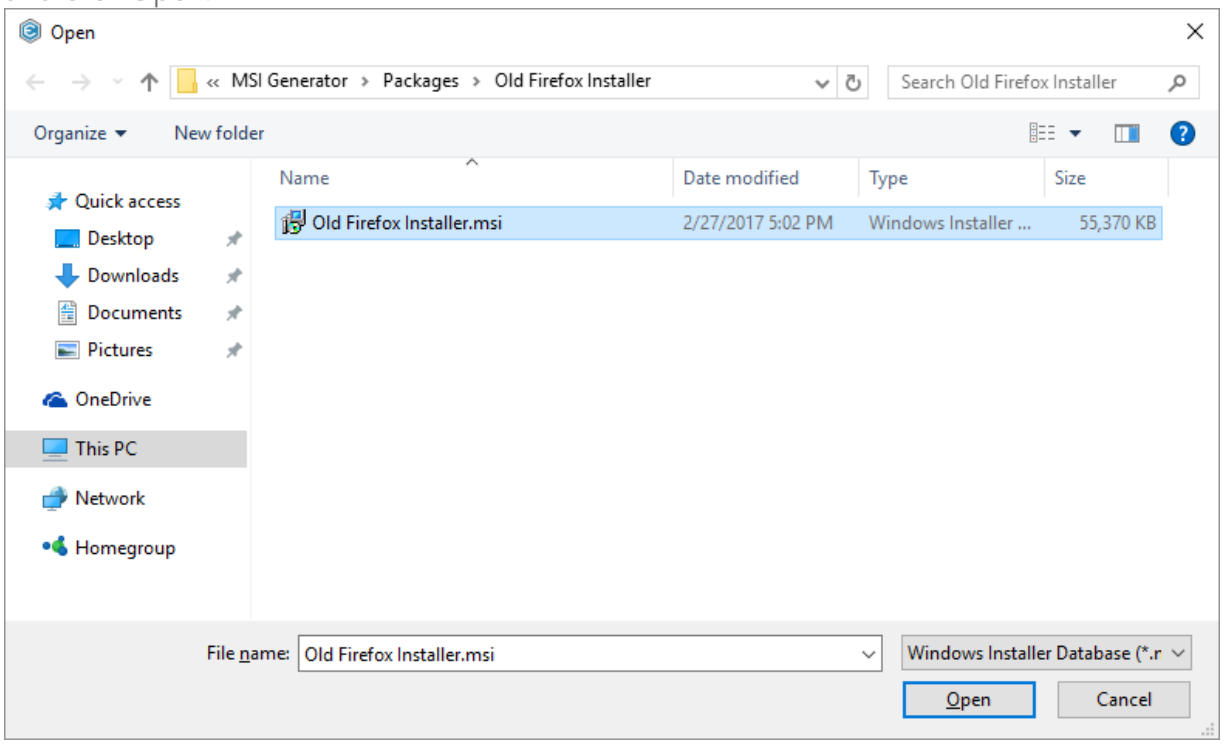
[4]. Select Create MSP against original MSI... from MENU.



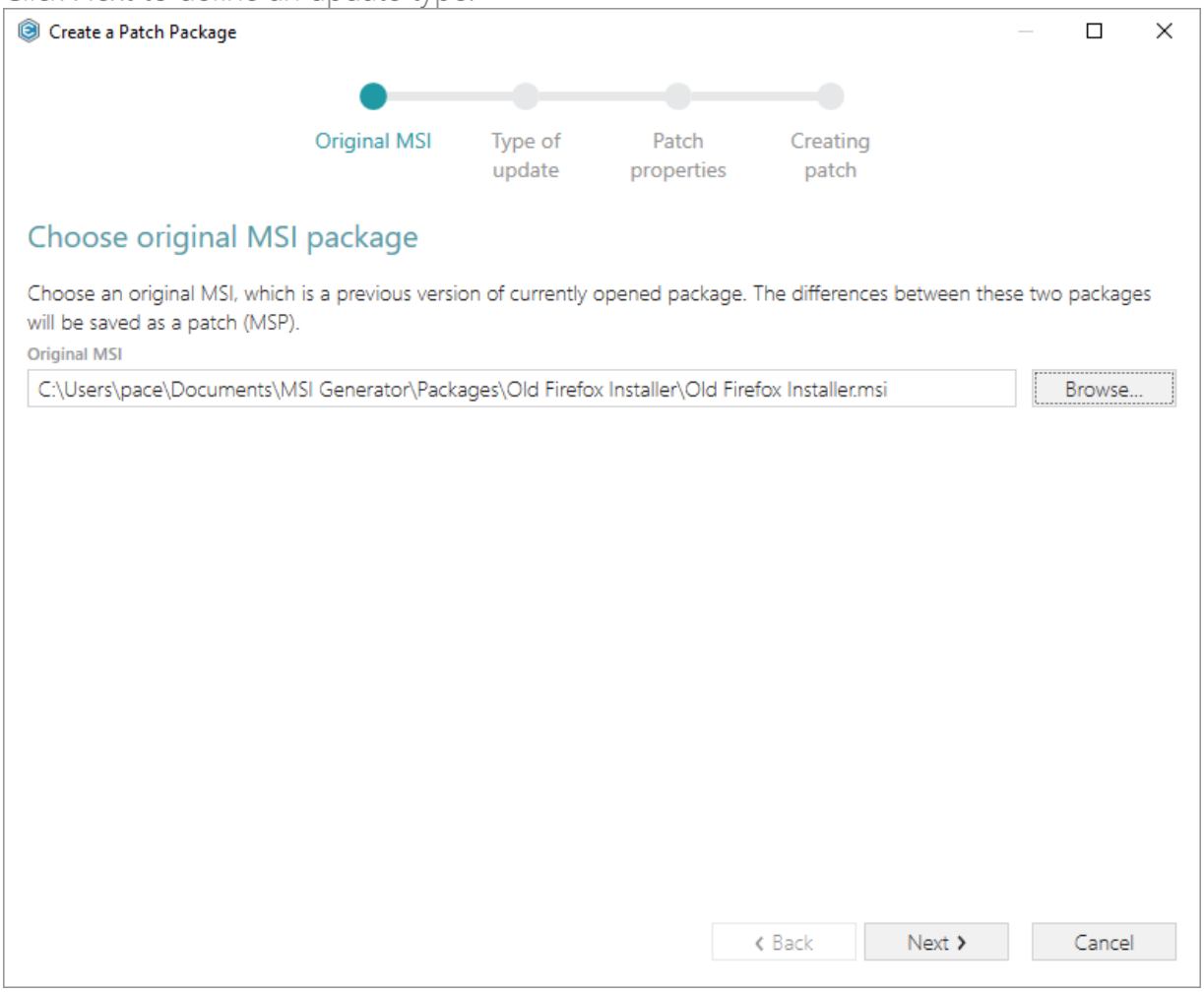
[5]. Click Browse... to choose an original MSI package, which is a previous version of the currently opened one.



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

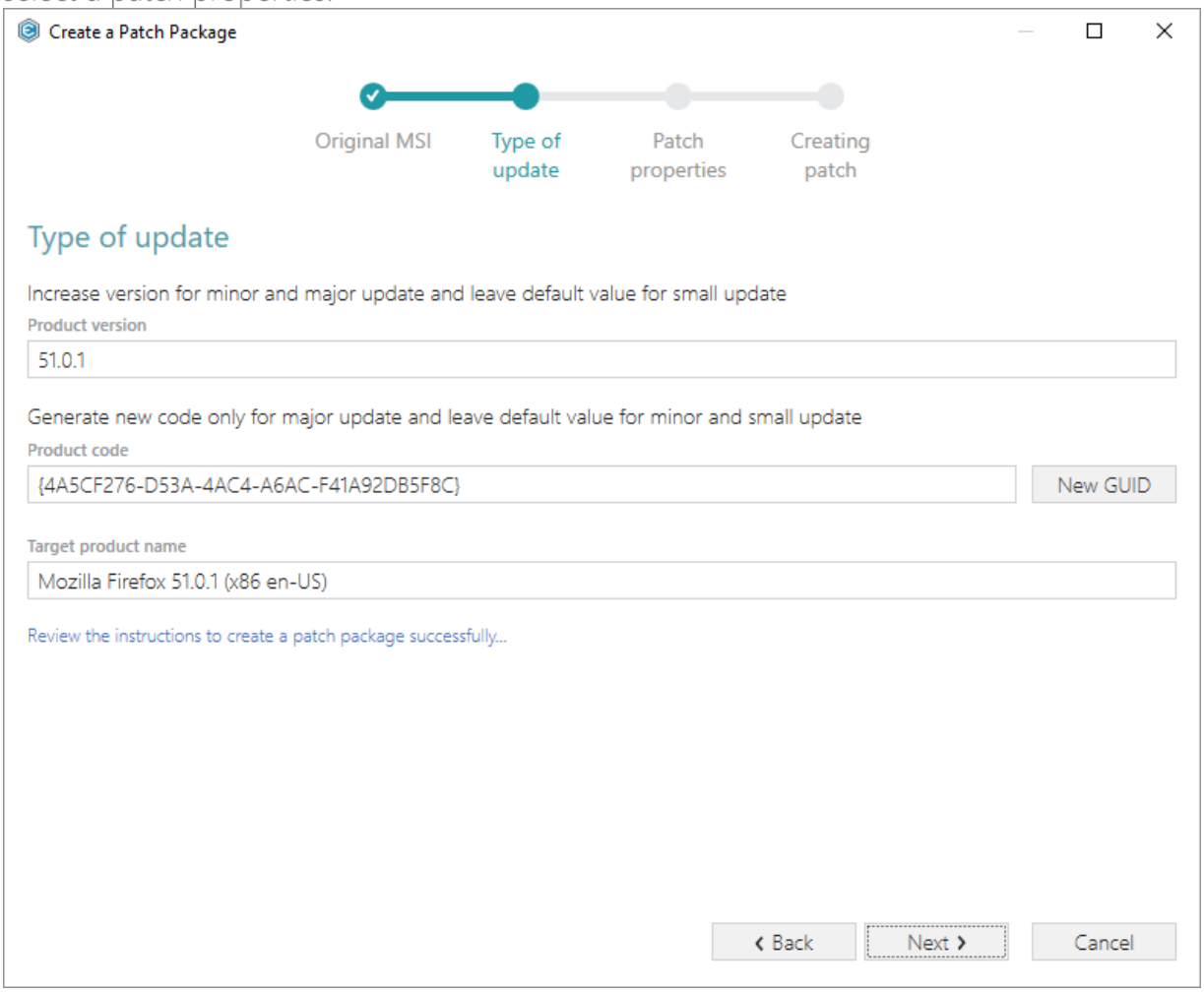


[7]. Click **Next** to define an update type.

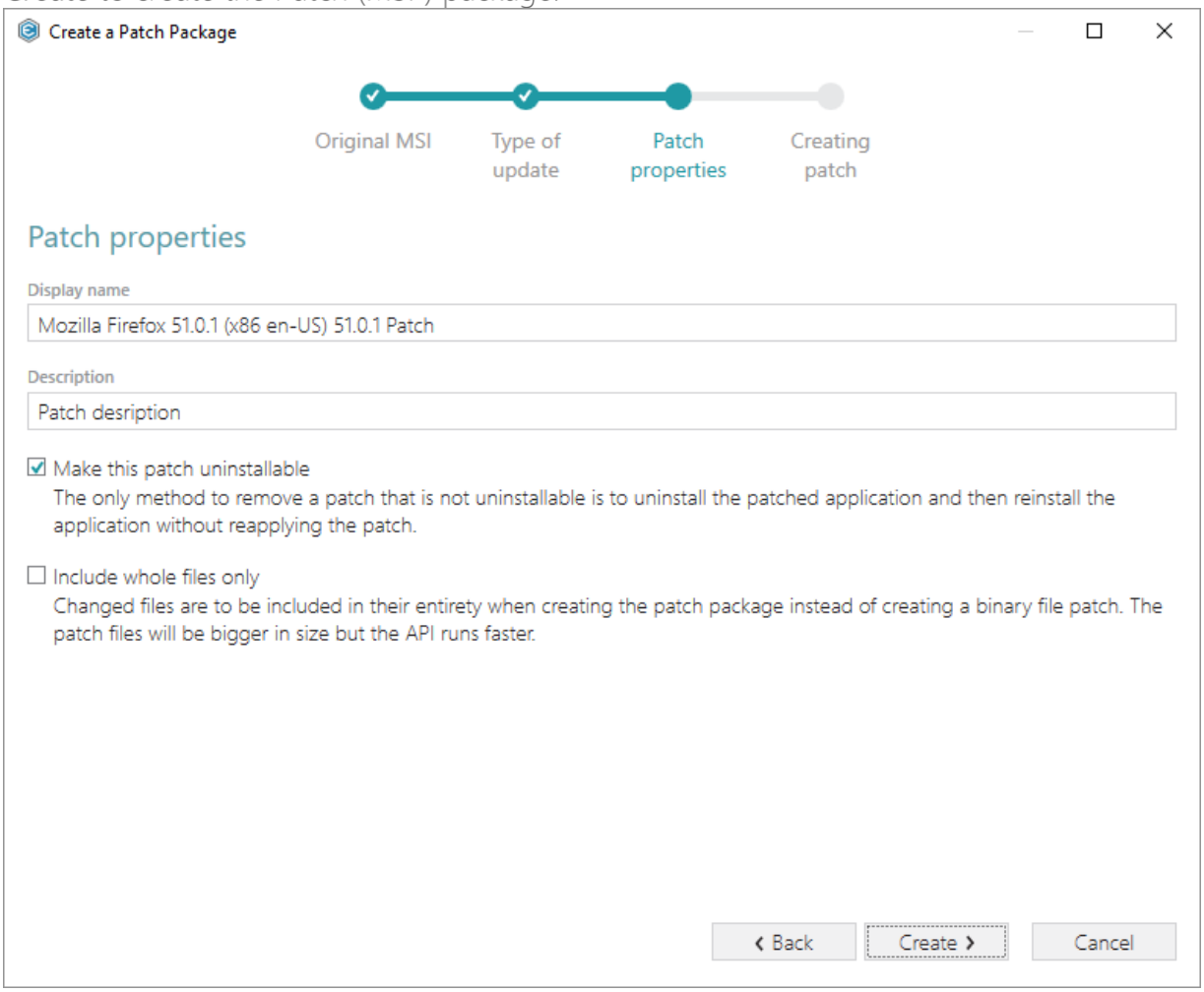


[8]. Increase a **Product version** value for the minor and major update and leave default one for the small update. Generate new **Product code** only for the major update and leave default one for the minor and small update. If needed, update a **Target product name** value in order to change the Product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

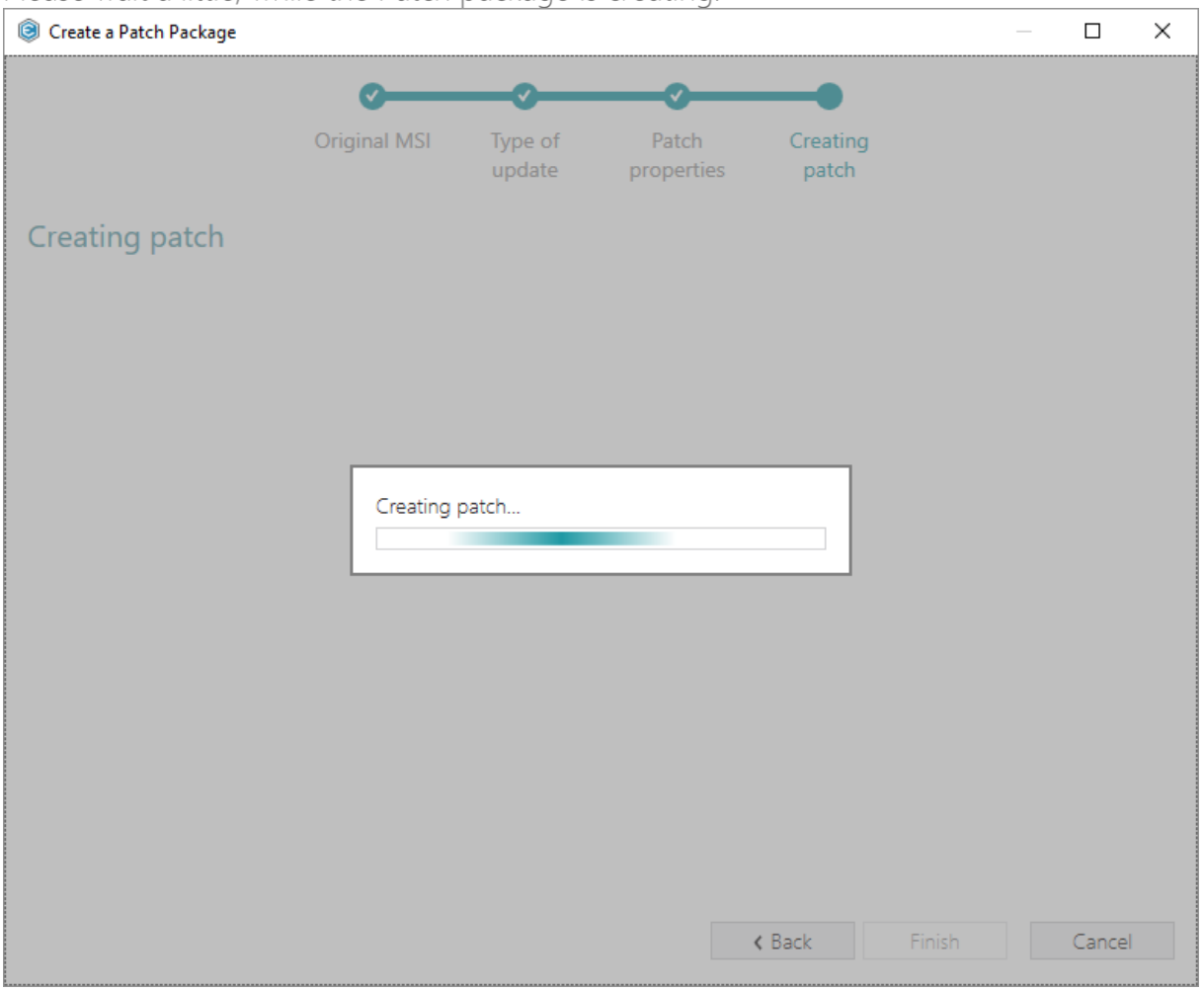
select a patch properties.



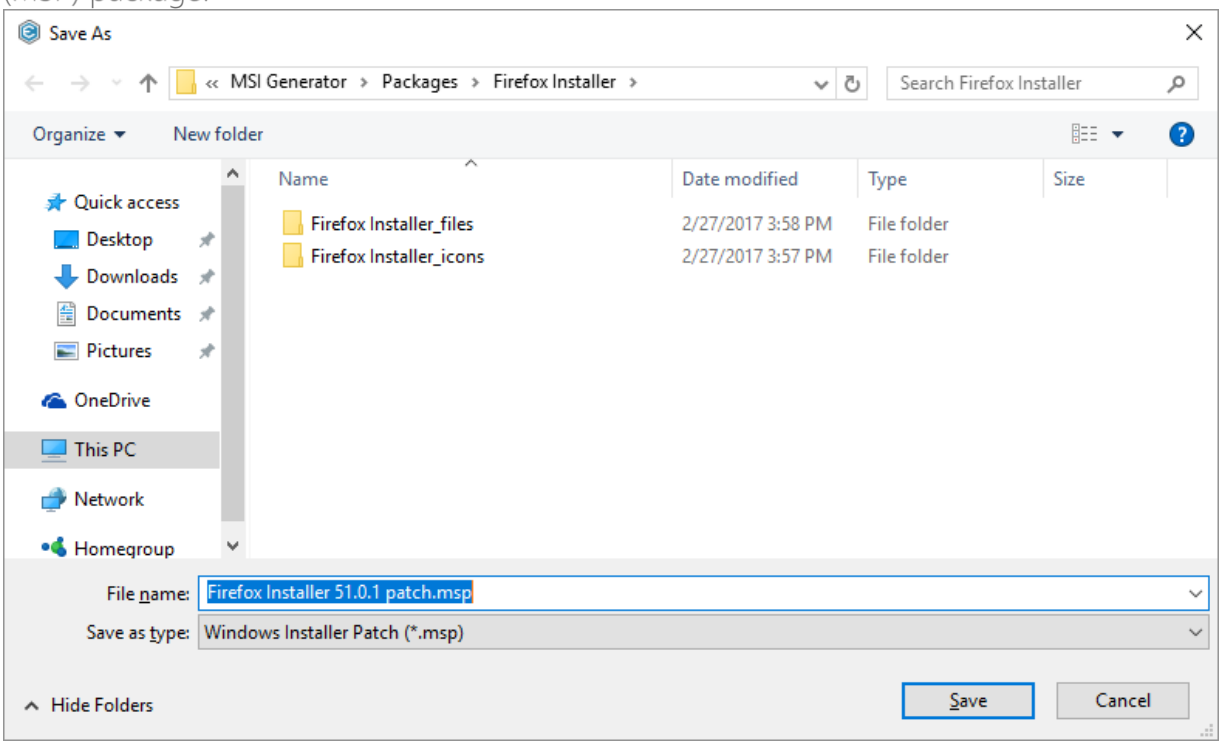
[9]. Update Patch **Display name**, **Description** and select the necessary Patch properties. Click **Create** to create the Patch (MSP) package.



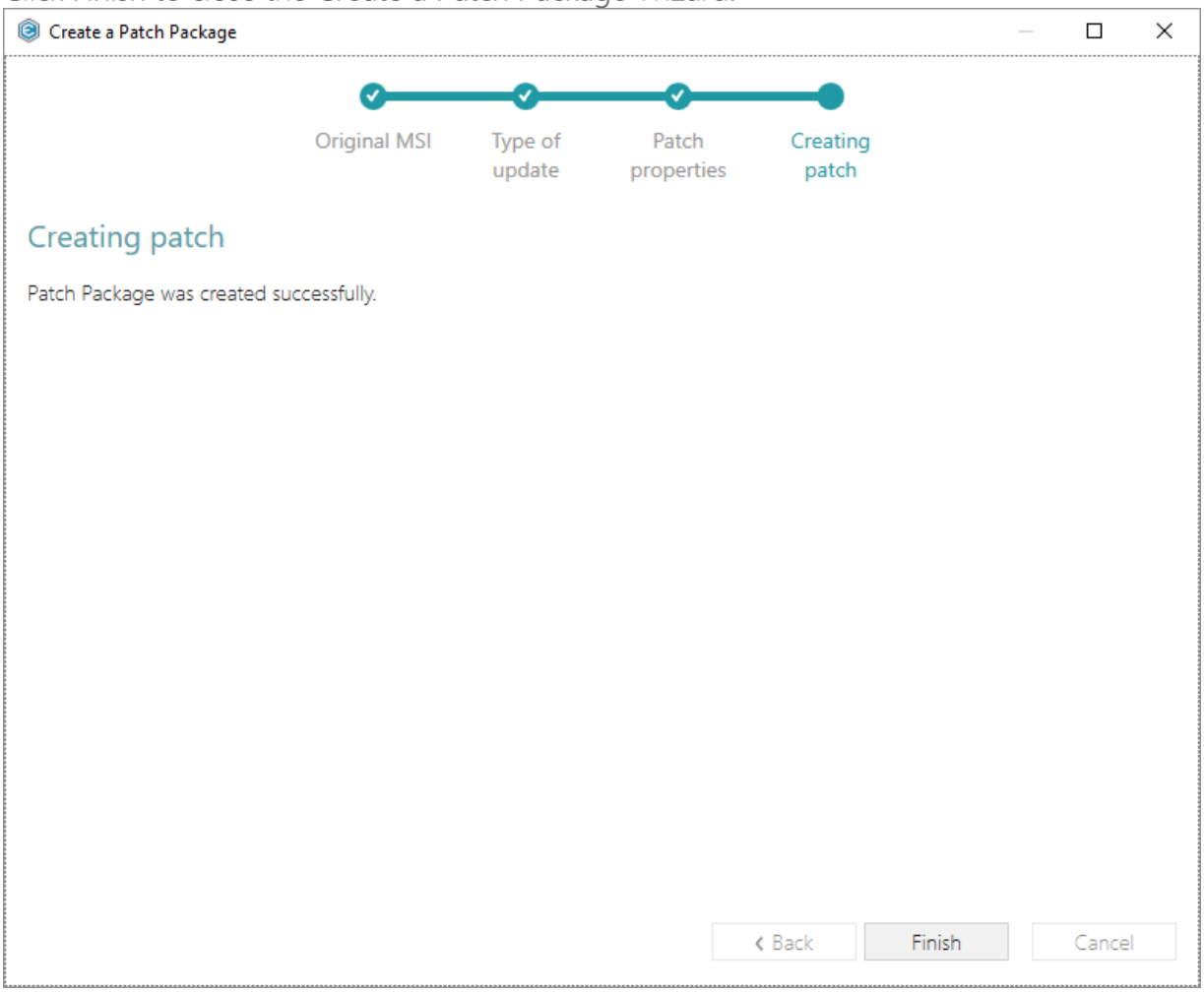
[10]. Please wait a little, while the Patch package is creating.



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



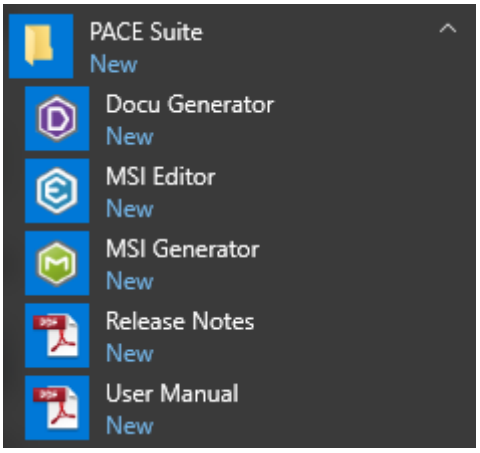
[12]. Click **Finish** to close the **Create a Patch Package** Wizard.



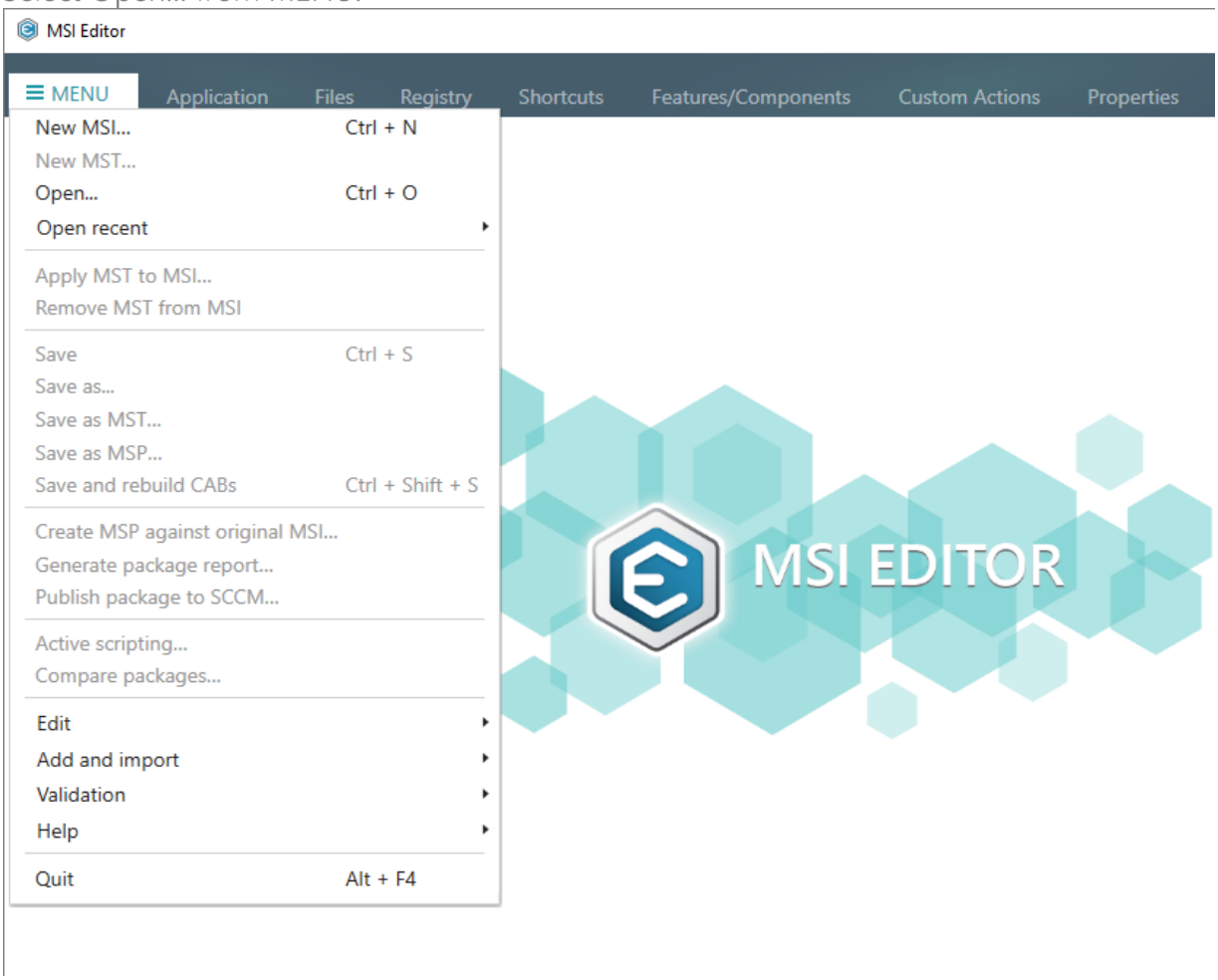
3.3.2 Save Changes to MSP

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

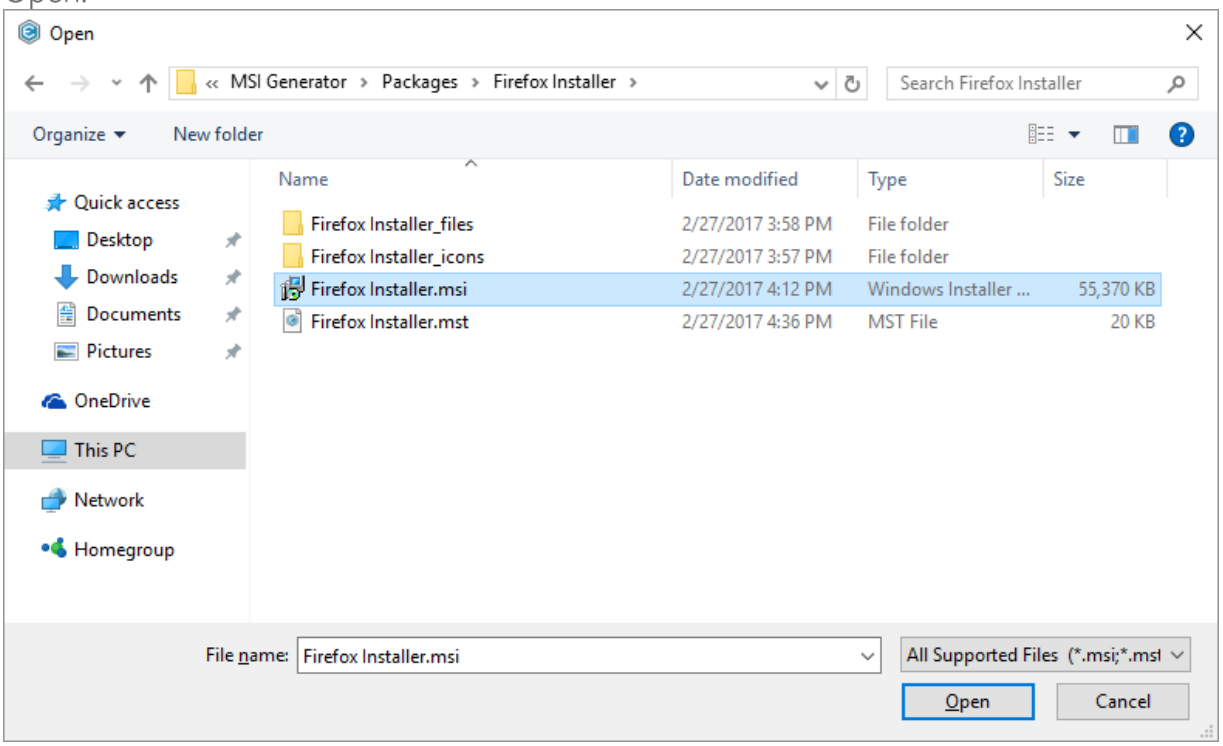
[1]. Launch **MSI Editor**.



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

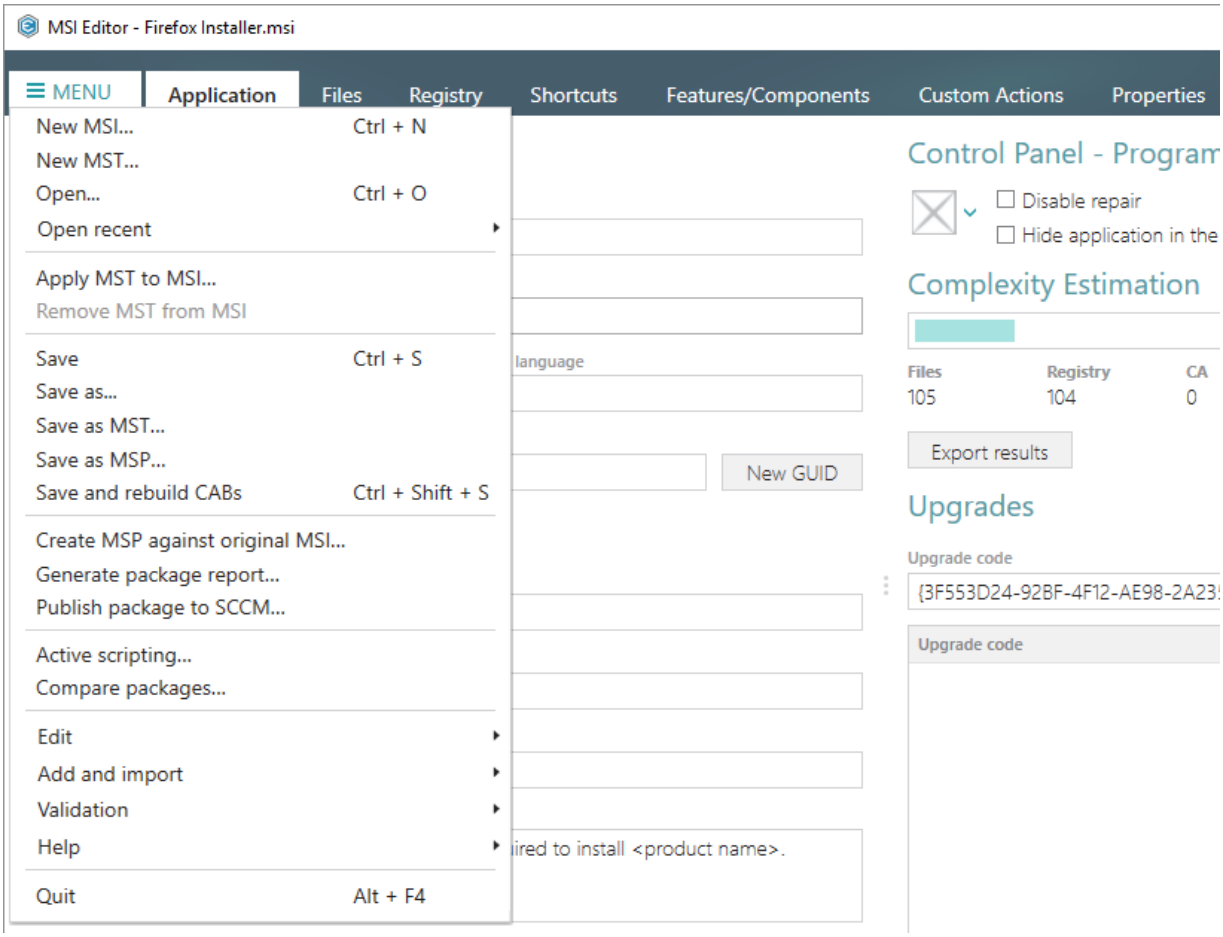


[3]. Choose an MSI package, for which you want to create a Patch (MSP) package and click Open.



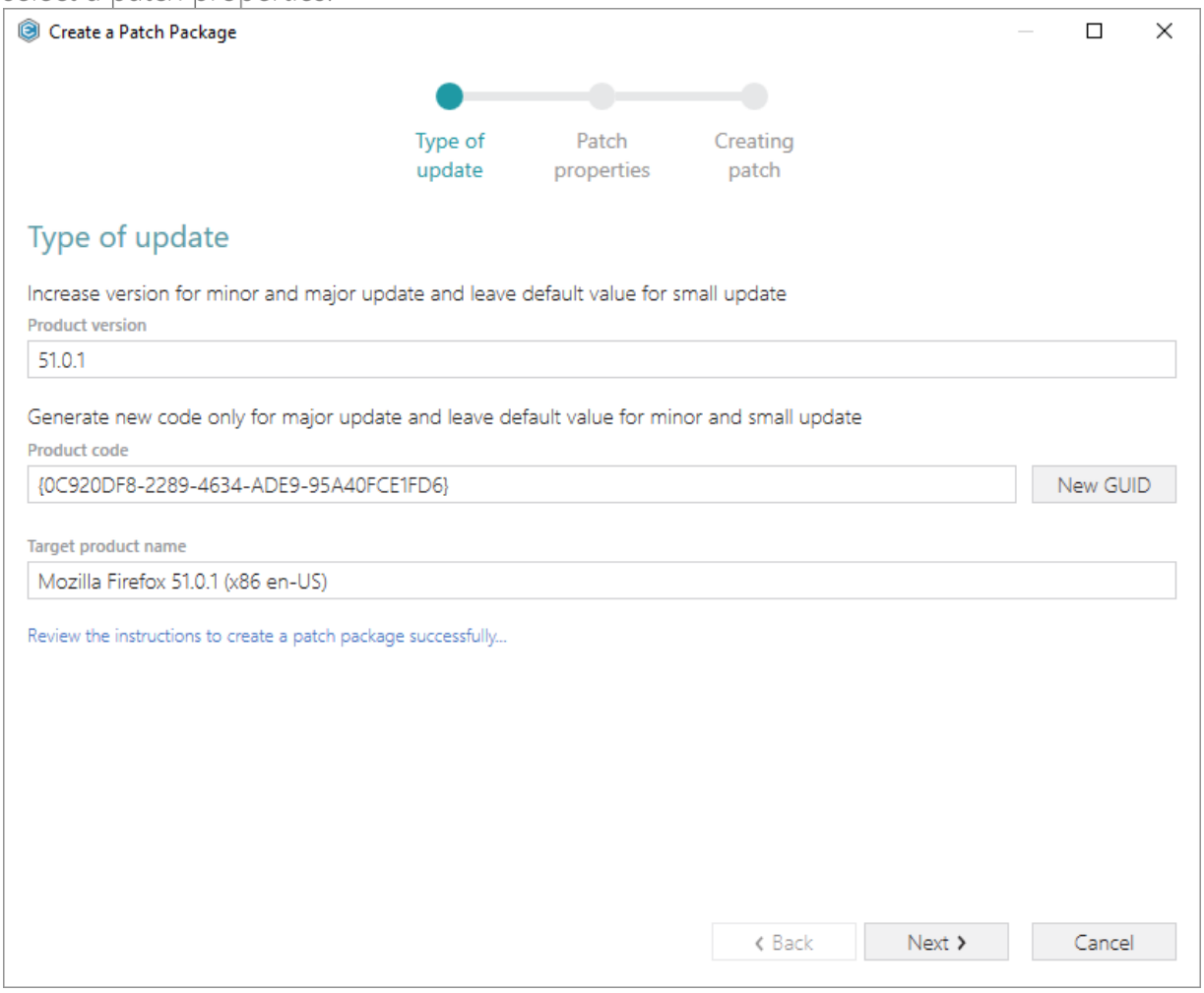
[4]. Add necessary new resources (like files, registry, shortcuts, etc.) to the opened MSI database, which should be saved to the Patch (MSP) package. Find instructions on how to edit MSI package in section 3.6

[5]. Select Save as MSP... from MENU.

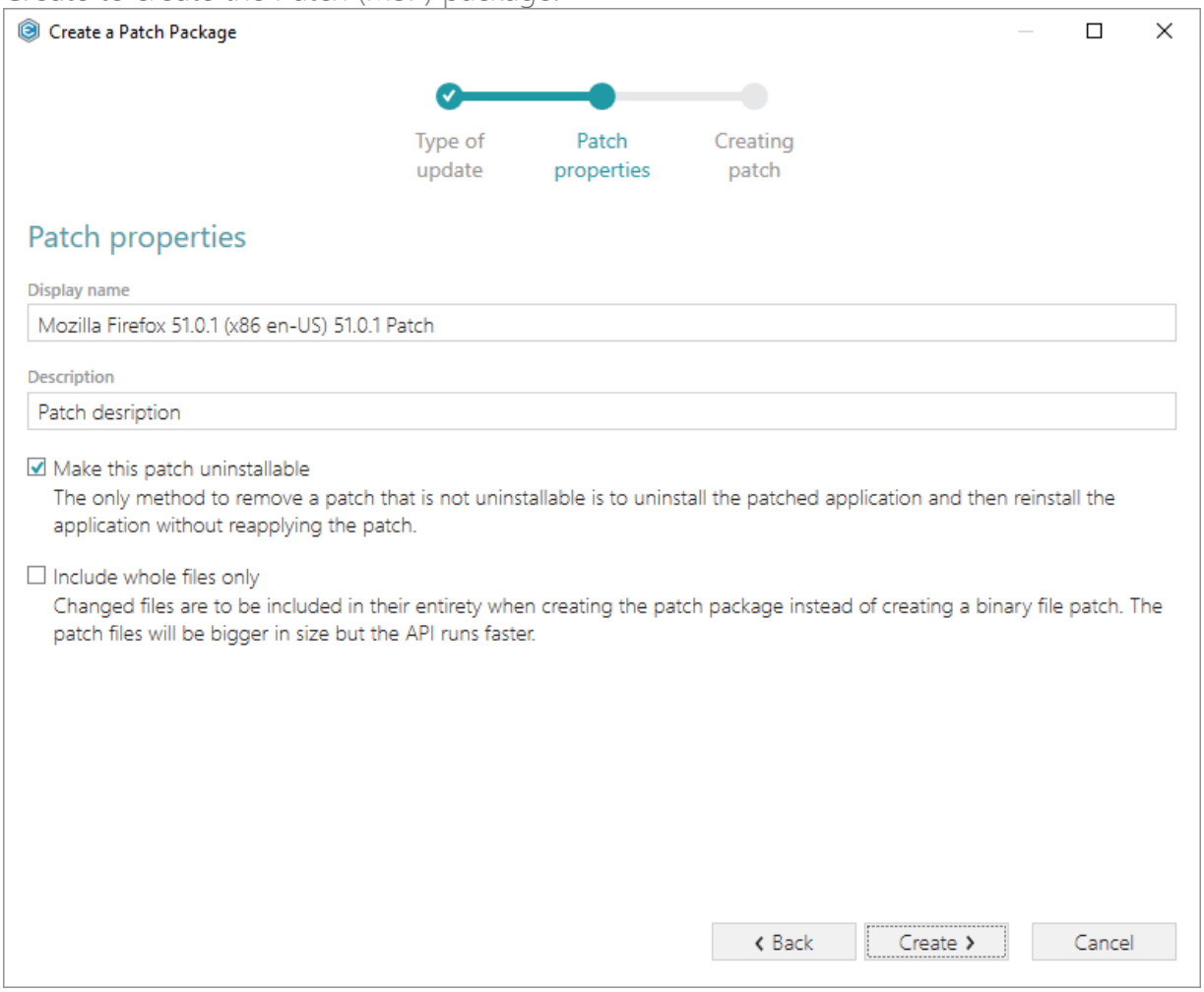


[6]. Increase a Product version value for the minor and major update and leave default one for the small update. Generate new Product code only for the major update and leave default one for the minor and small update. If needed, update a Target product name value in order to change the Product Name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

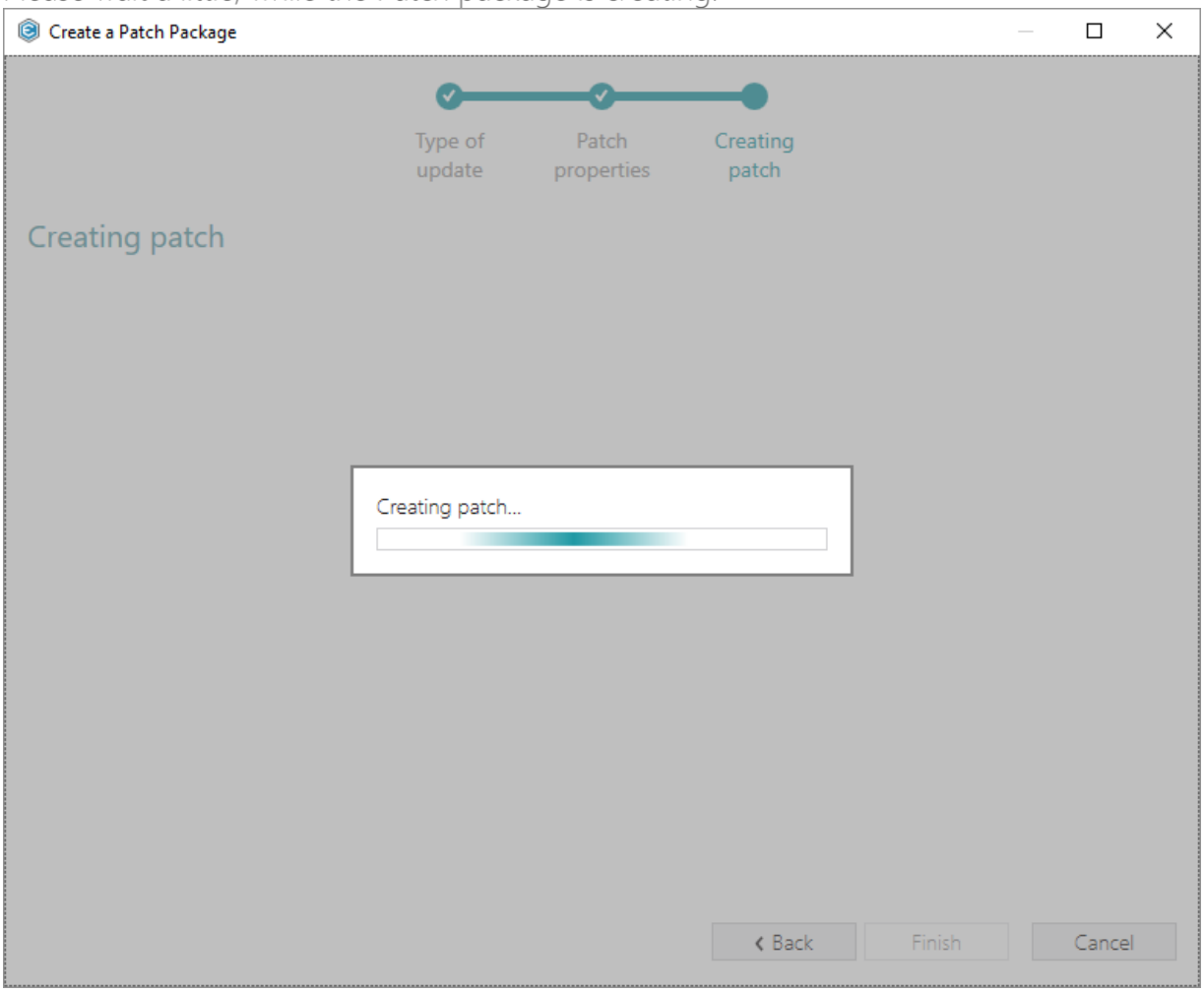
select a patch properties.



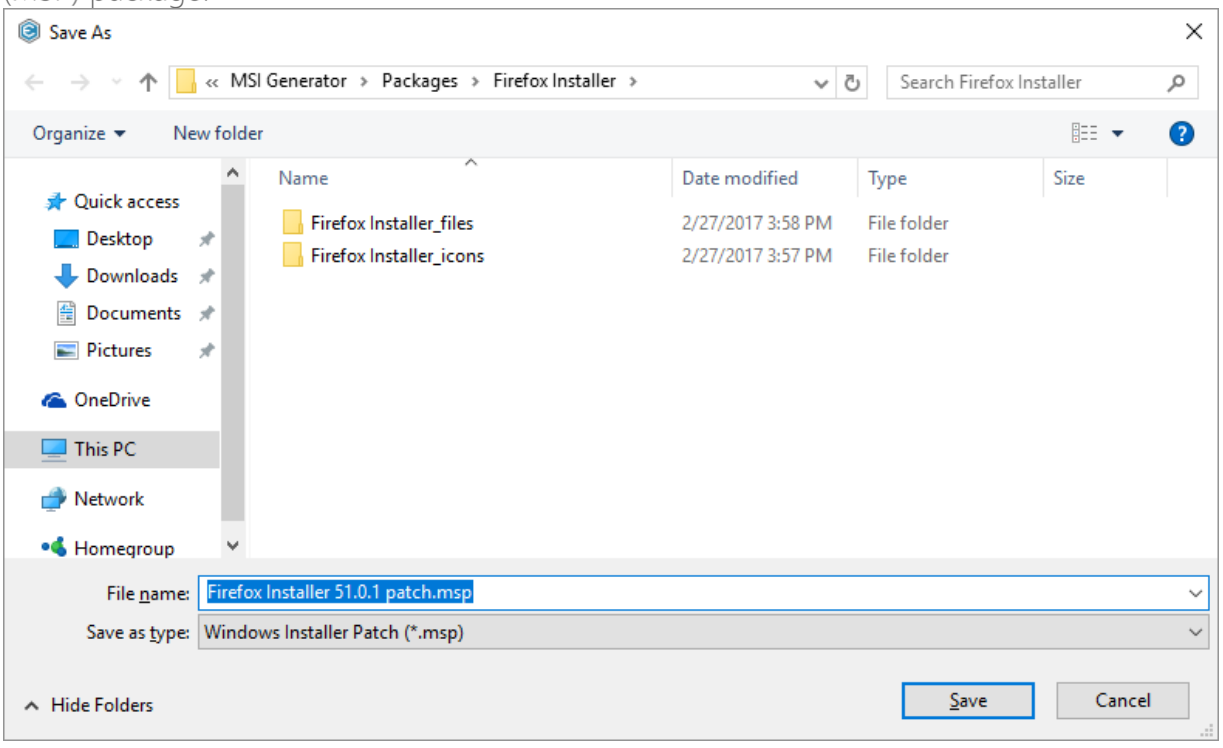
[7]. Update Patch **Display name**, **Description** and select the necessary Patch properties. Click **Create** to create the Patch (MSP) package.



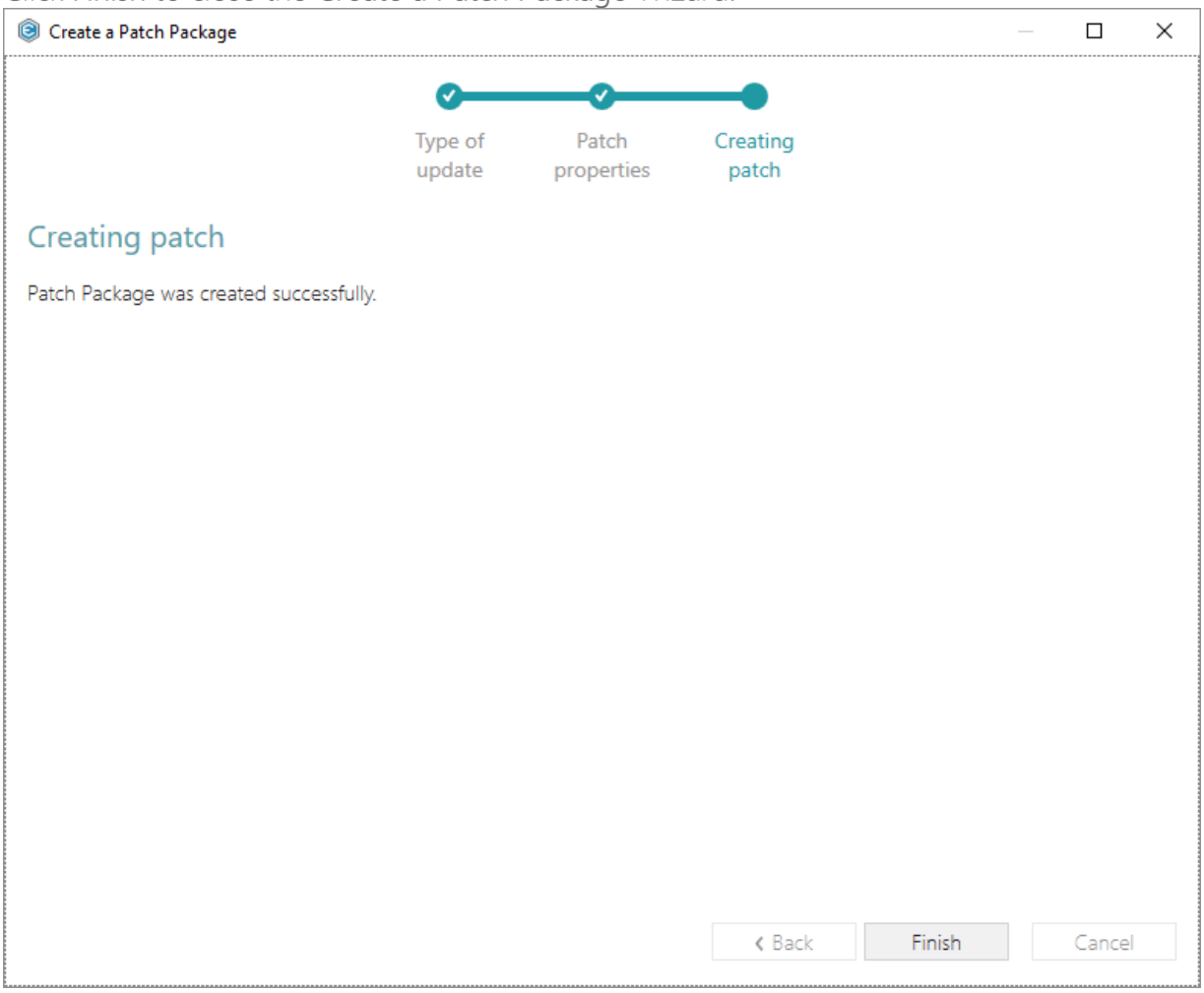
[8]. Please wait a little, while the Patch package is creating.



[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

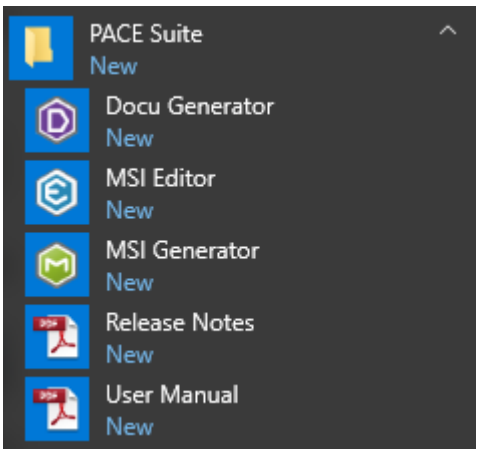
Choose a scenario that better suits your needs:

- 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.

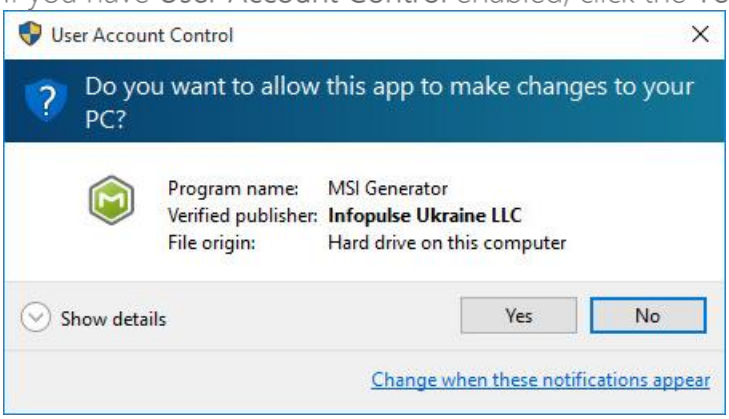
3.4.1 Create App-V from Scratch

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.

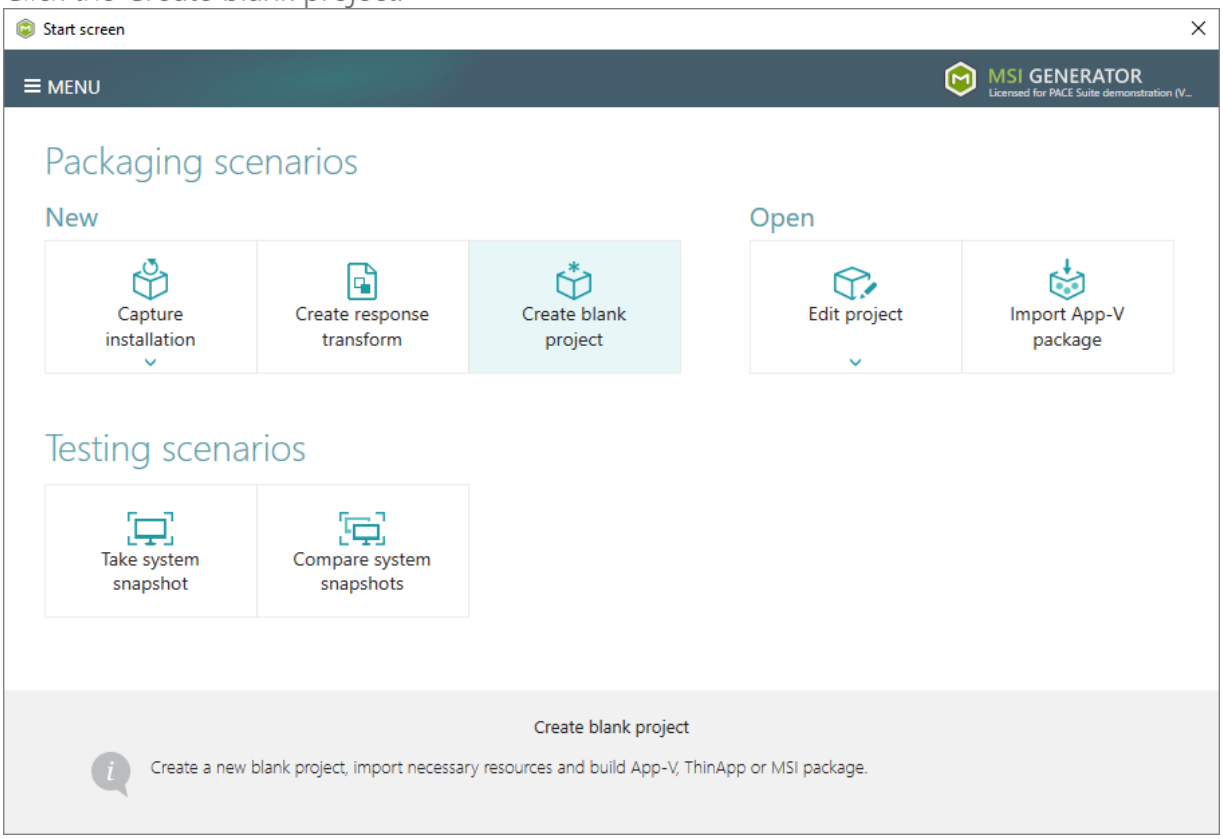
[1]. Launch MSI Generator.



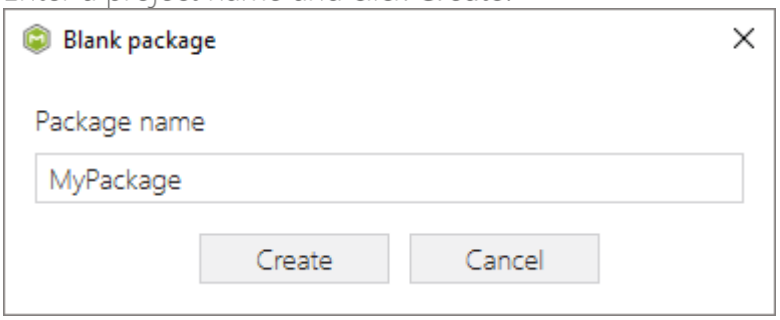
[2]. If you have User Account Control enabled, click the Yes in the opened window.



[3]. Click the Create blank project.



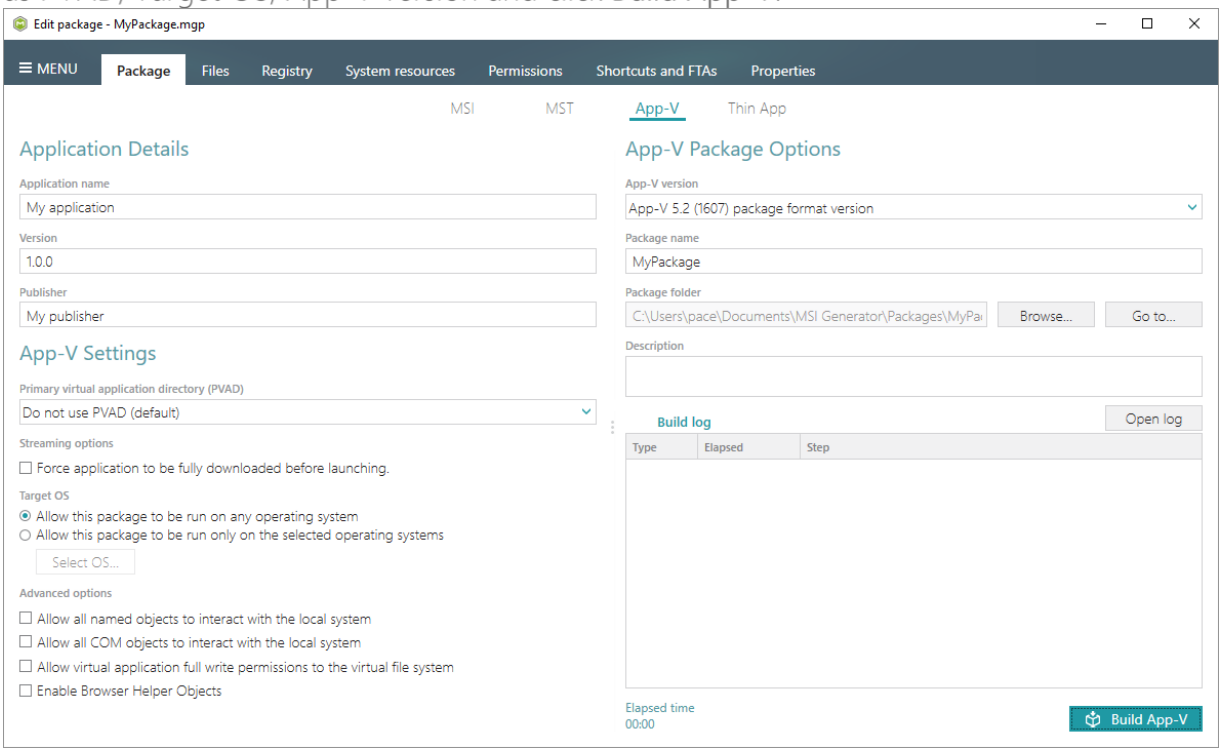
[4]. Enter a project name and click Create.



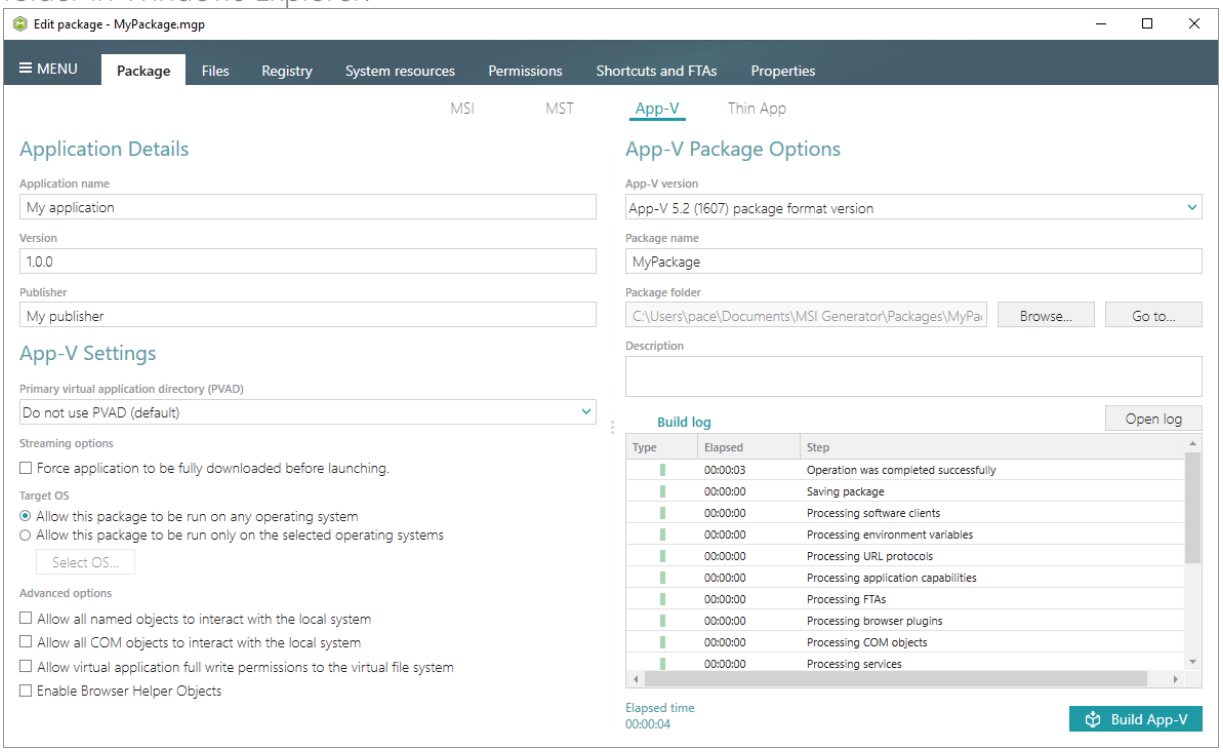
[5]. Add necessary resources (like files, registry, shortcuts, etc.) to your project file, which later will be saved to the App-V package. Find instructions on how to edit project in section 3.7

[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**.



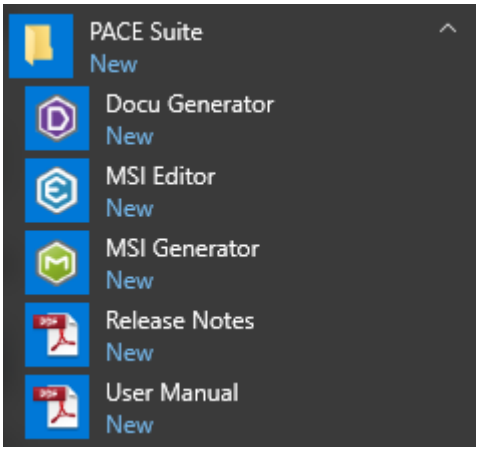
[7]. Click **Go to...**, located next to the **Package folder** field, to open the package containing folder in Windows Explorer.



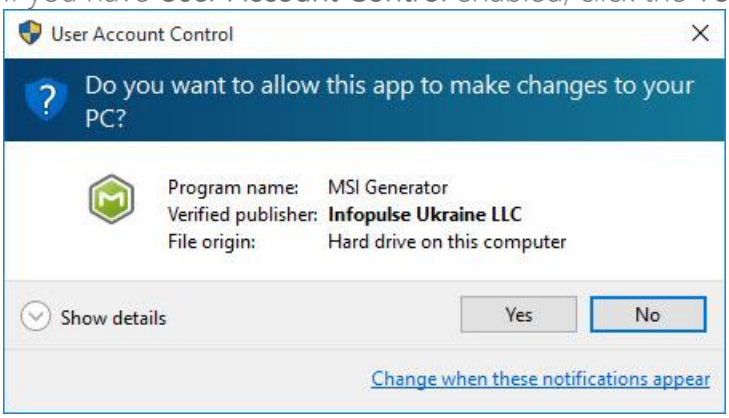
3.4.2 Repackage EXE to App-V 5.x

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

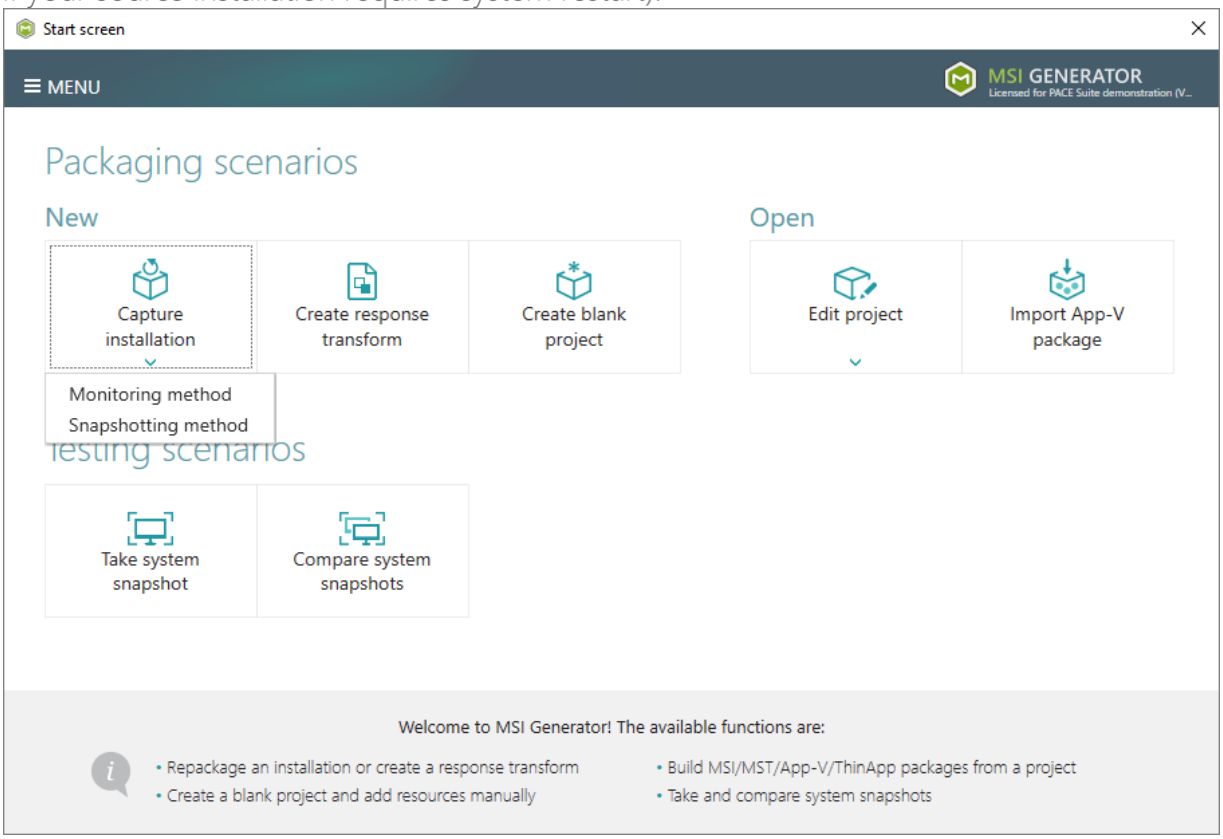
[1]. Launch MSI Generator.



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

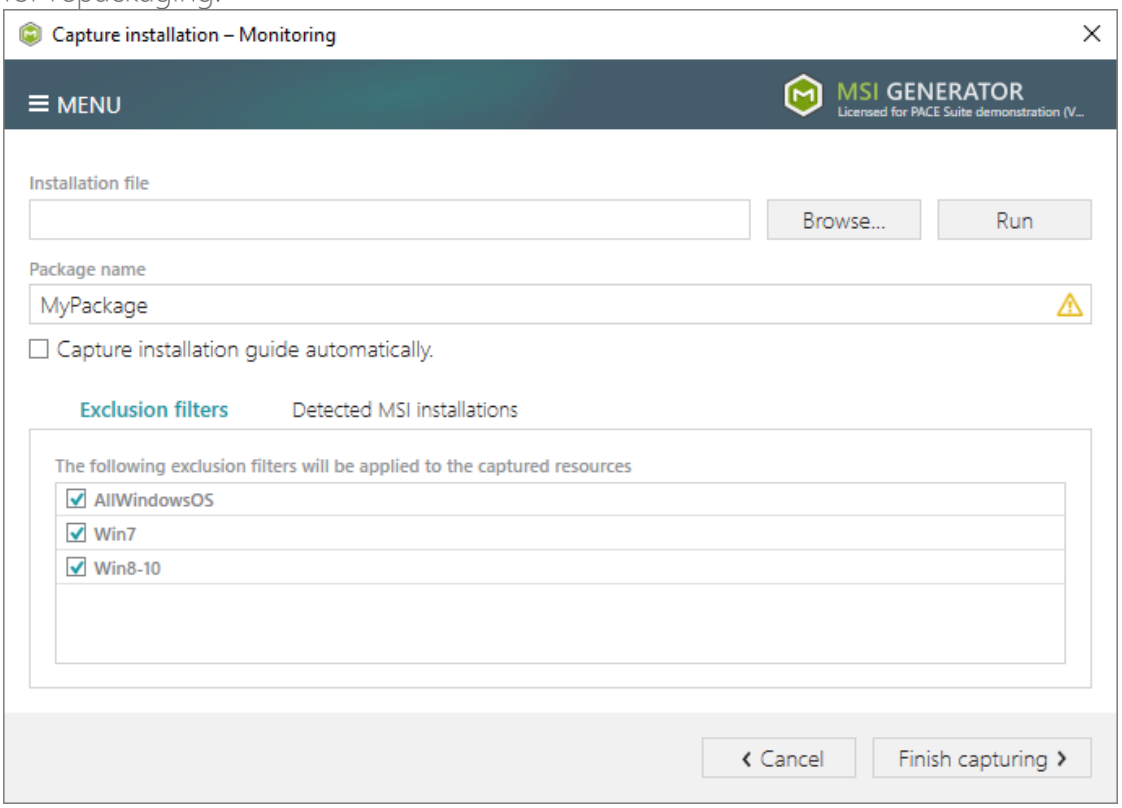


[3]. Click **Capture installation** and select the **Monitoring method** (use the **Snapshotting method** if your source installation requires system restart).

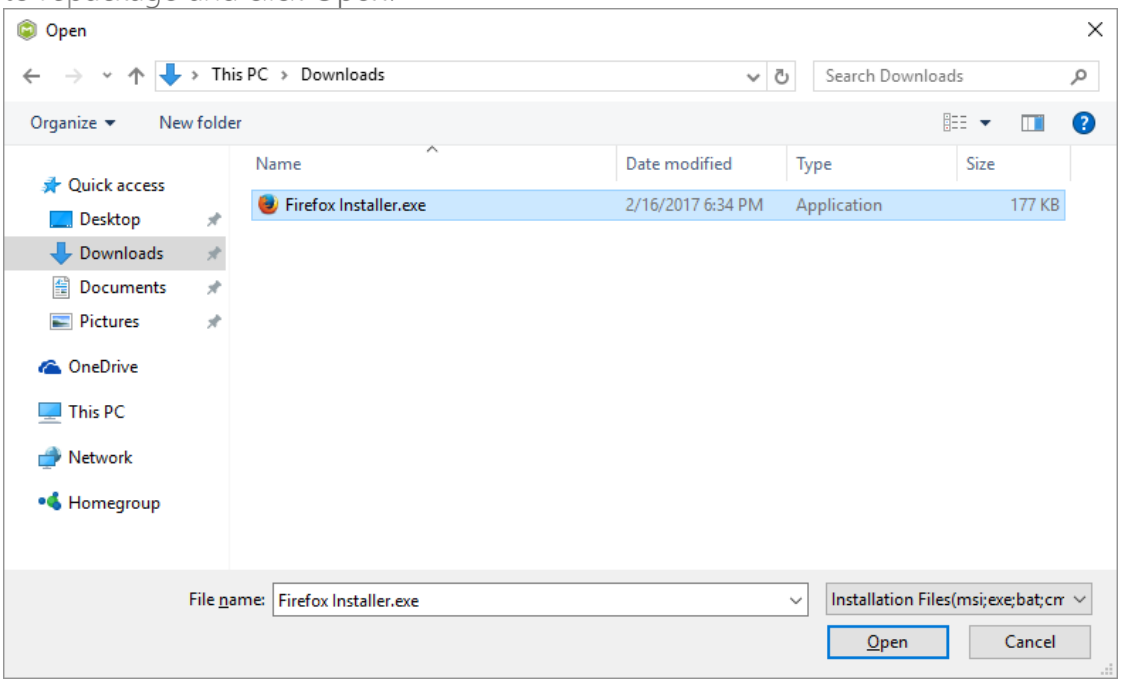


[4]. Please wait a little, while the capturing process is starting (in case you have selected the **Monitoring method** on the previous step, wait while the initial system snapshot is taking).

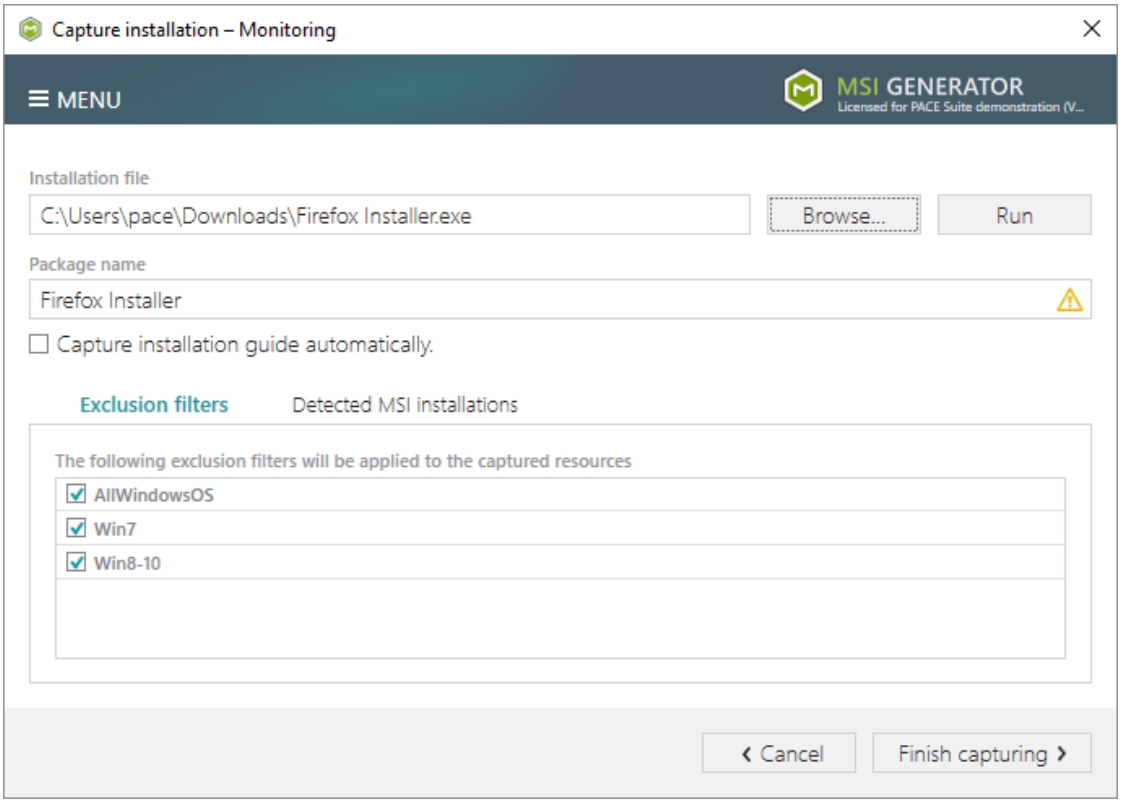
[5]. Once the capturing process is started, click **Browse...** to choose your source installation file for repackaging.



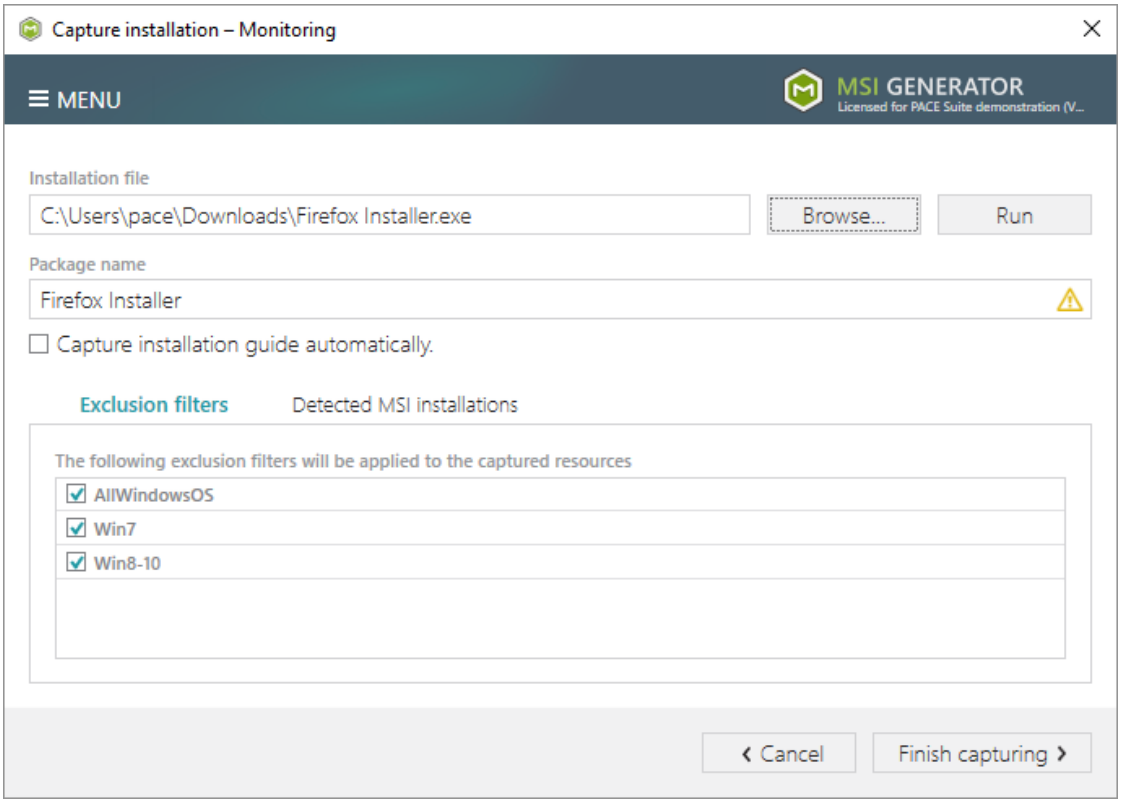
[6]. Choose an executable file of source installation (e.g. Firefox Installer.exe), which you want to repackage and click Open.



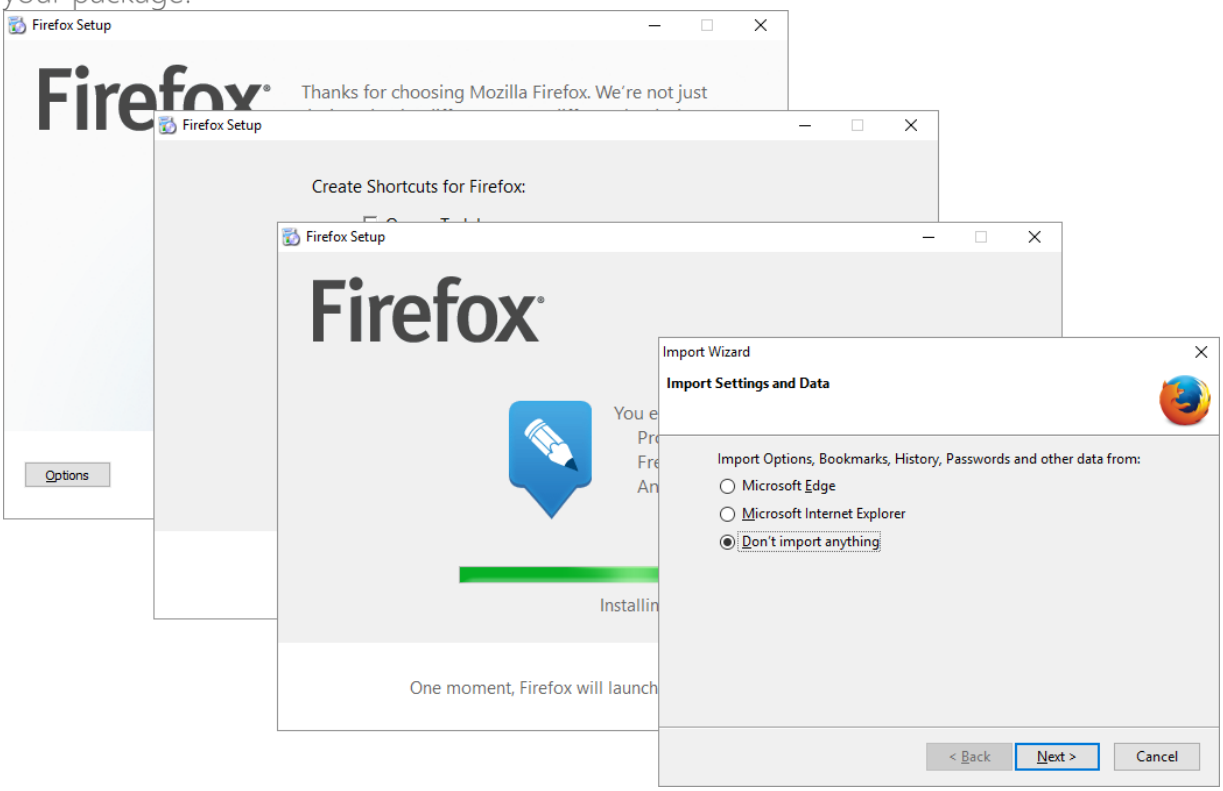
[7]. If needed, change the package name typing new value to the Package name field, or disable exclusion filters by unchecking checkboxes next to filters in the list. Note that we do not recommend disable exclusion filters, becase they detect and exclude system resources, which are not a part of your 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.



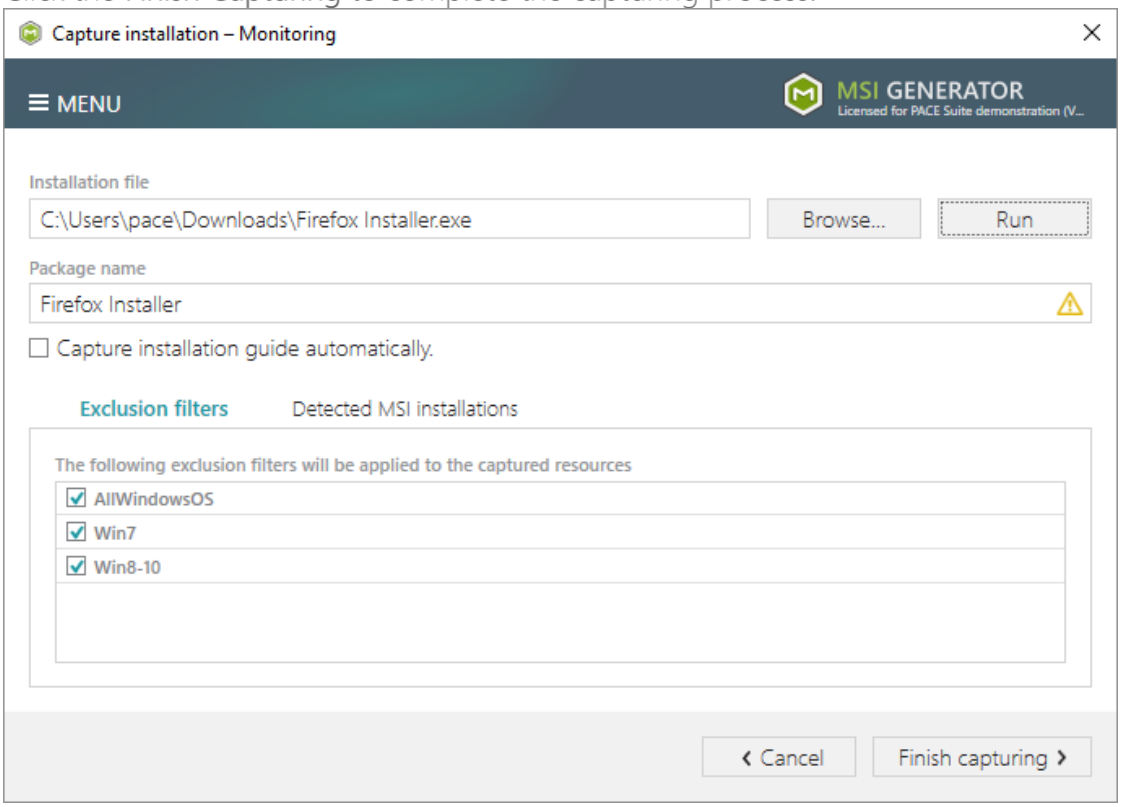
[8]. Click **Run** to launch the selected source installation file.



[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.



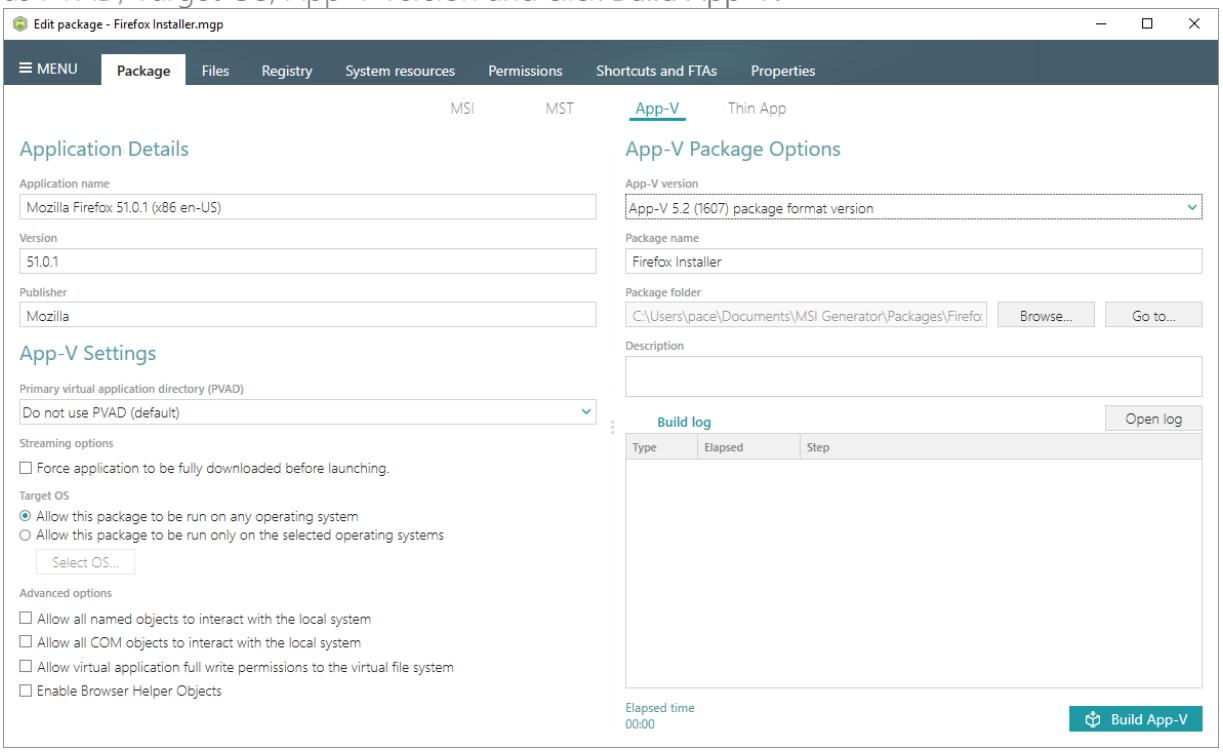
[10]. Click the Finish Capturing to complete the capturing process.



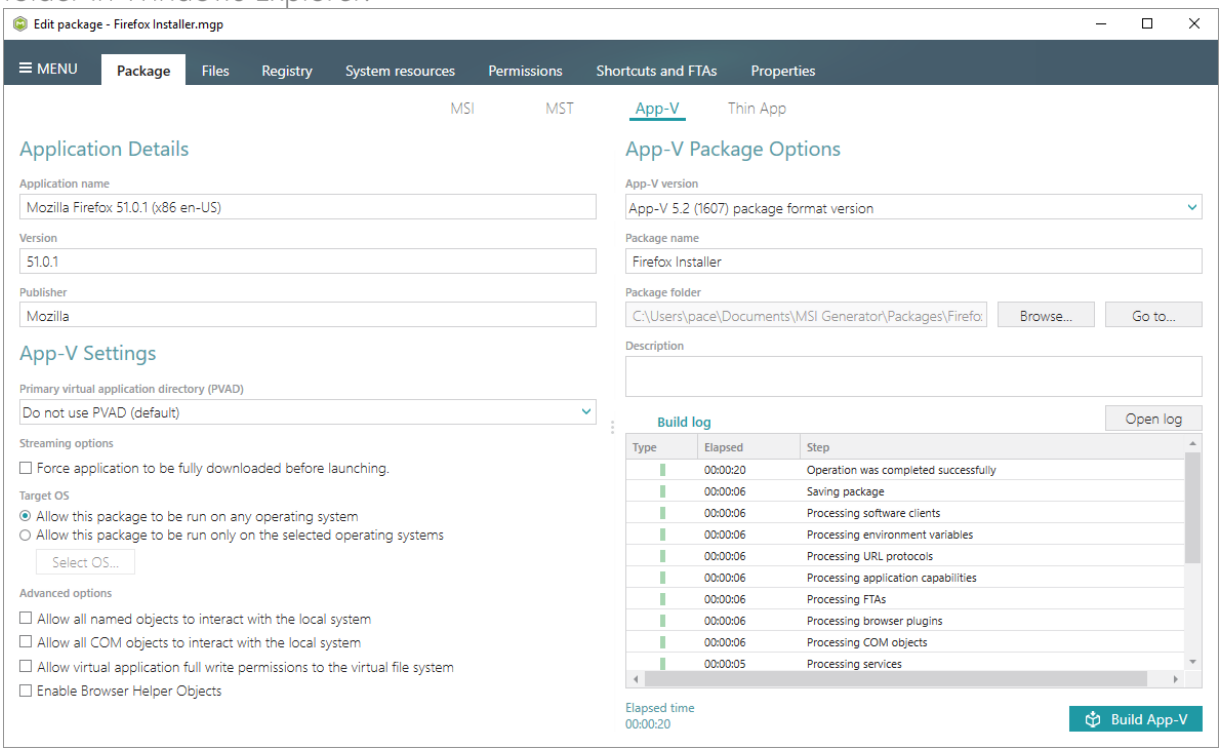
[11]. Please wait a little, while the capturing process is finishing, filtering captured data and creating the project. Once the project is opened, go through the Files, Registry and Shortcuts tabs in order to review captured resources and exclude unnecessary ones from the project. Unnecessary resources 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. Unfortunetly, 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**.



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



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.

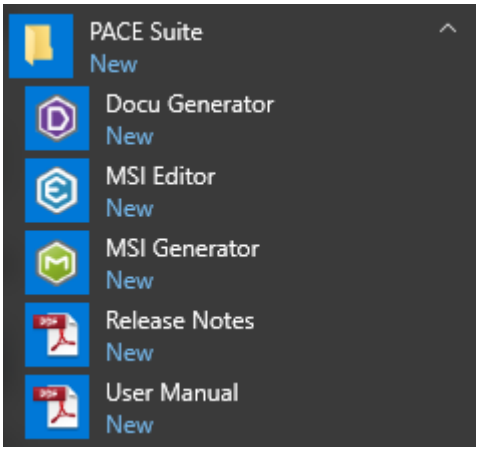
NOTE Ensure that the target system contains necessary software:

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

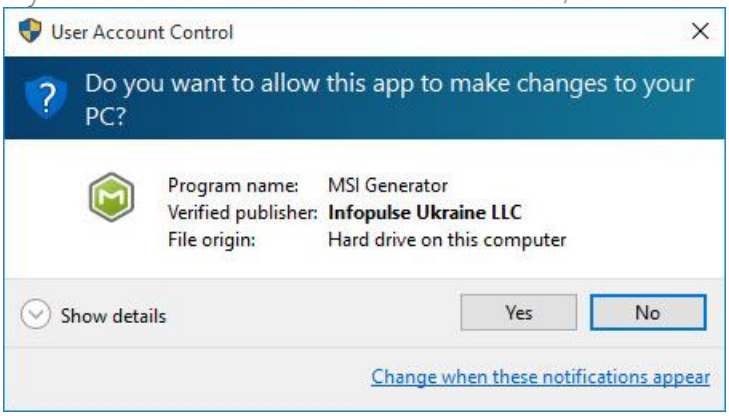
3.5.1 Create ThinApp from Scratch

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

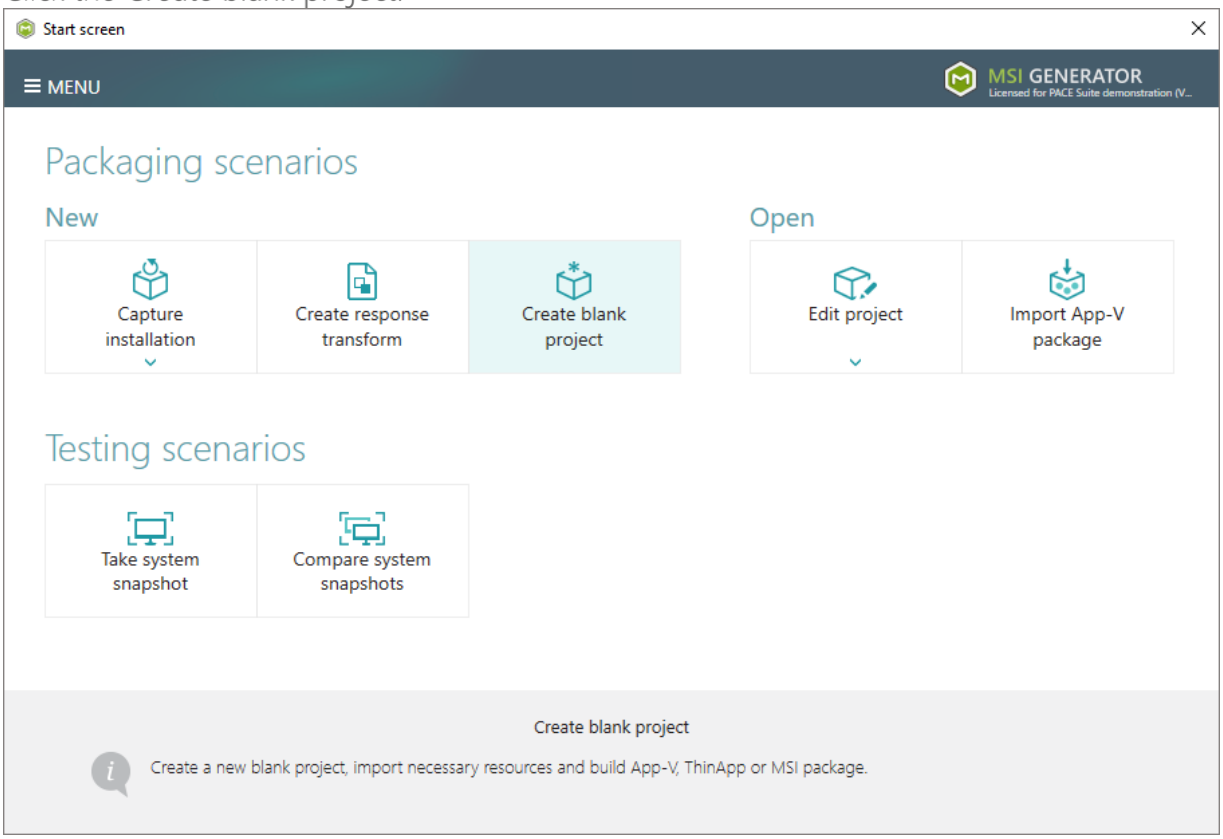
[1]. Launch MSI Generator.



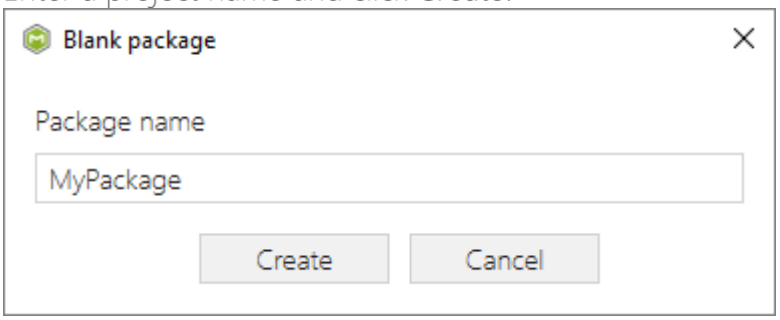
[2]. If you have User Account Control enabled, click the Yes in the opened window.



[3]. Click the Create blank project.



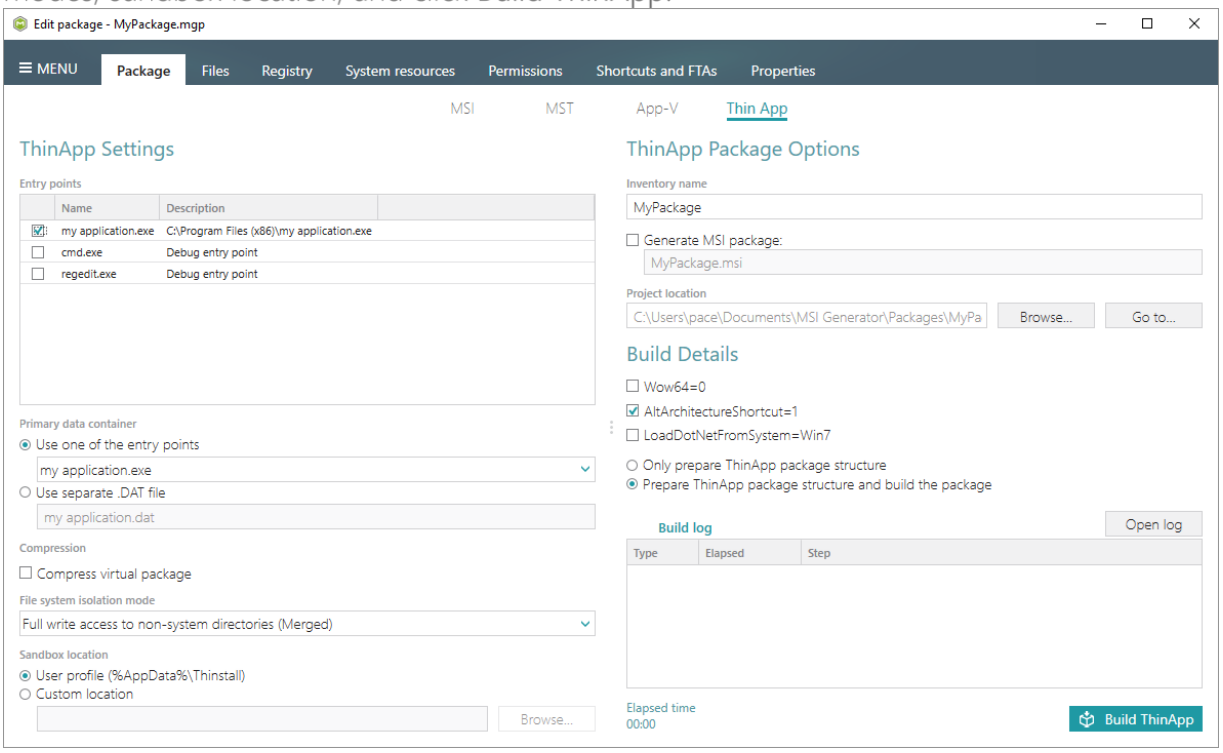
[4]. Enter a project name and click Create.



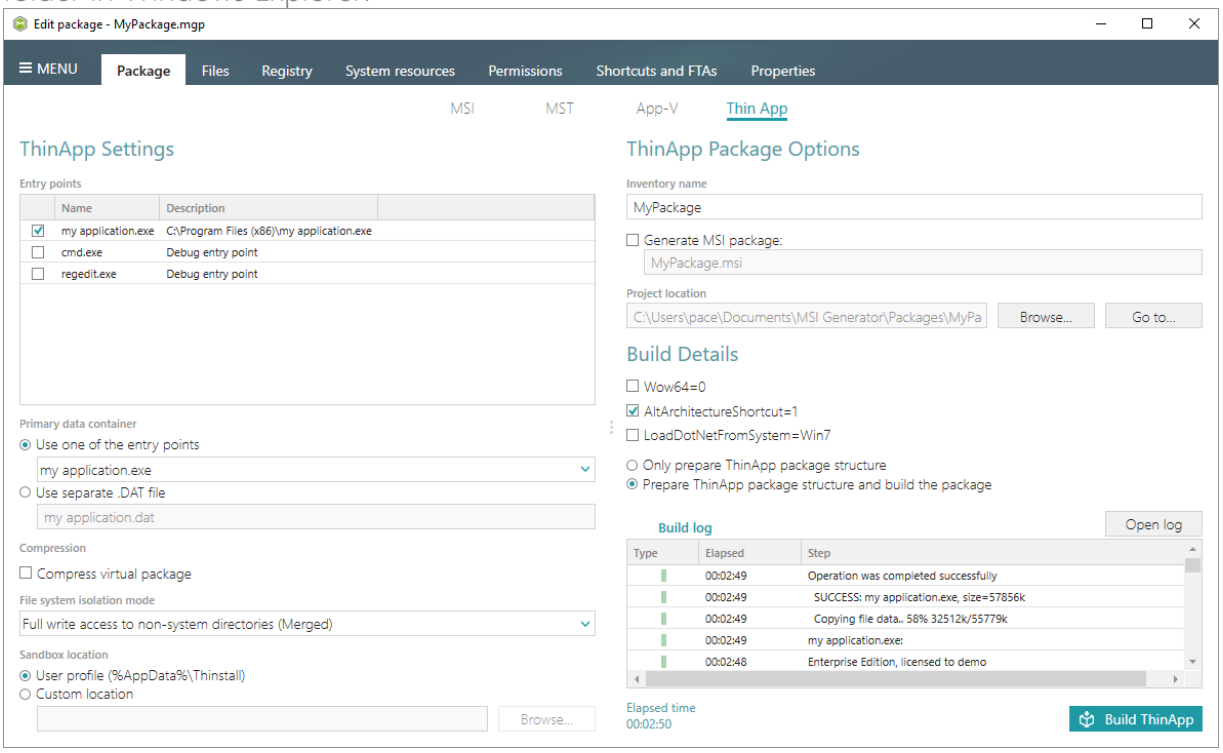
[5]. Add necessary resources (like files, registry, shortcuts, etc.) to your project file, which later will be saved to your package. Find instructions on how to edit project in section 3.7

[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**.



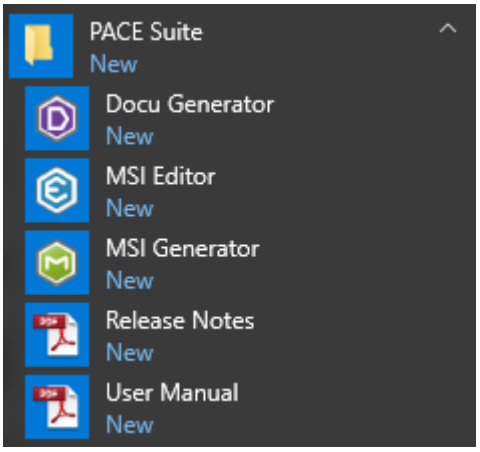
[7]. Click **Go to...**, located next to the **Project location** field, to open the package containing folder in Windows Explorer.



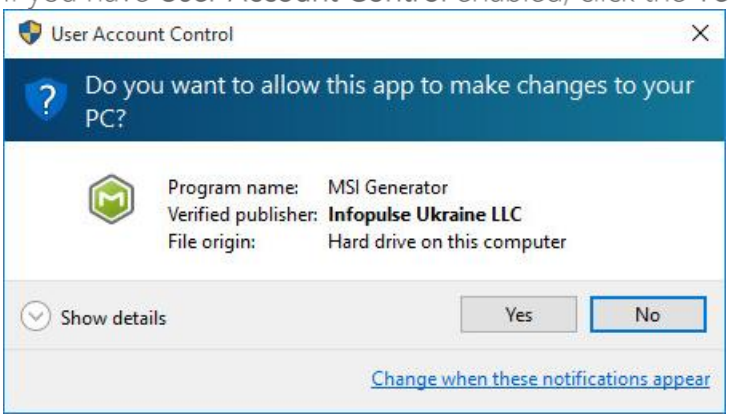
3.5.2 Repackage EXE to ThinApp

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

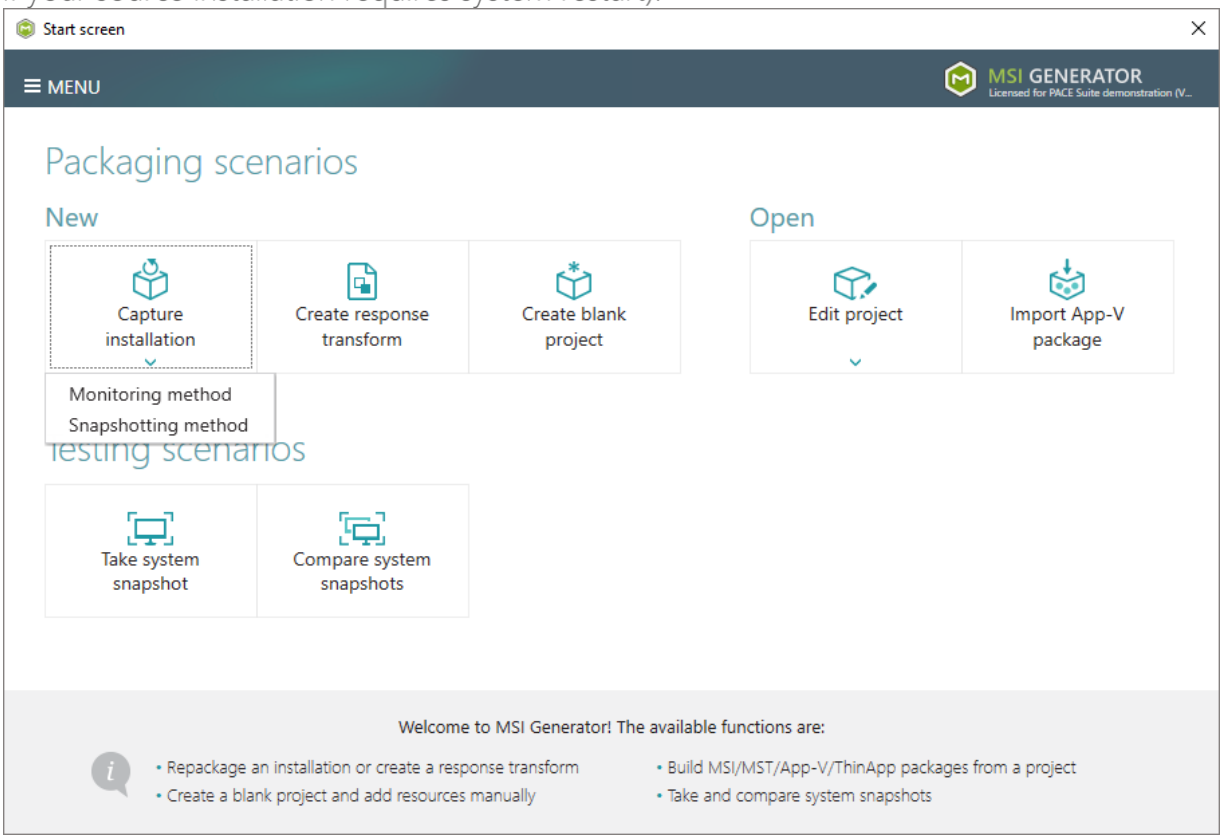
[1]. Launch MSI Generator.



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

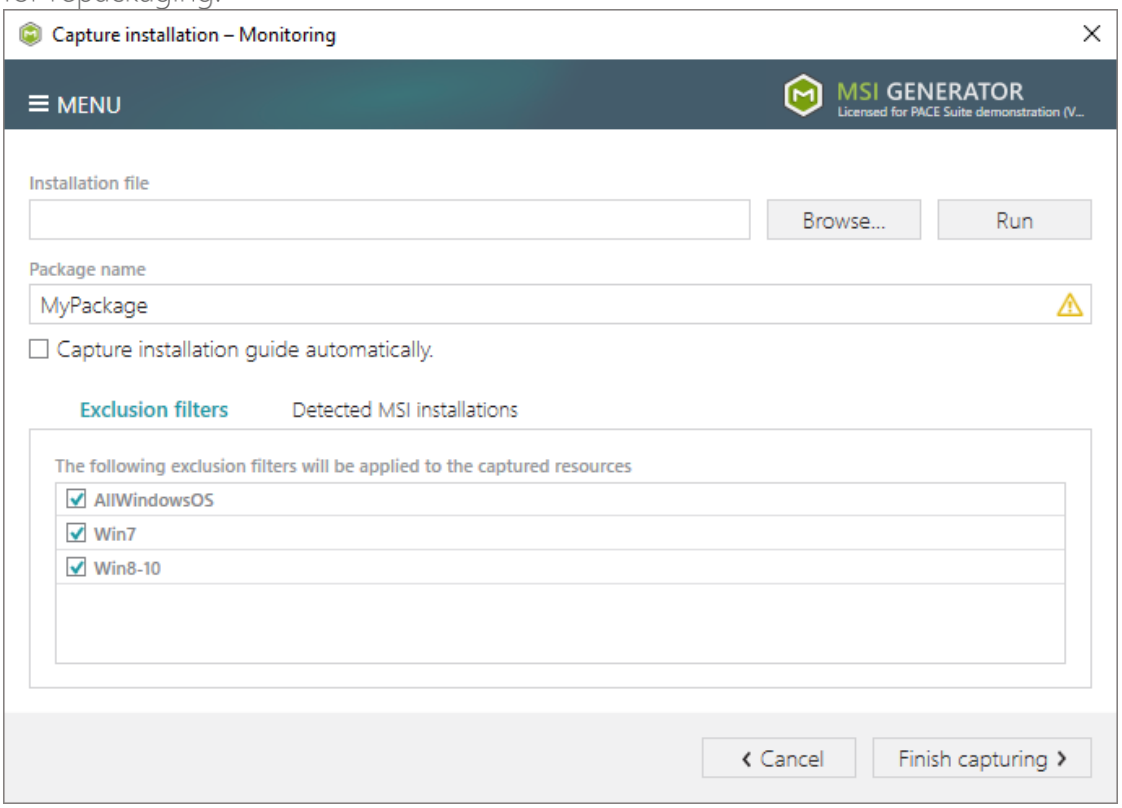


[3]. Click **Capture installation** and select the **Monitoring method** (use the **Snapshotting method** if your source installation requires system restart).

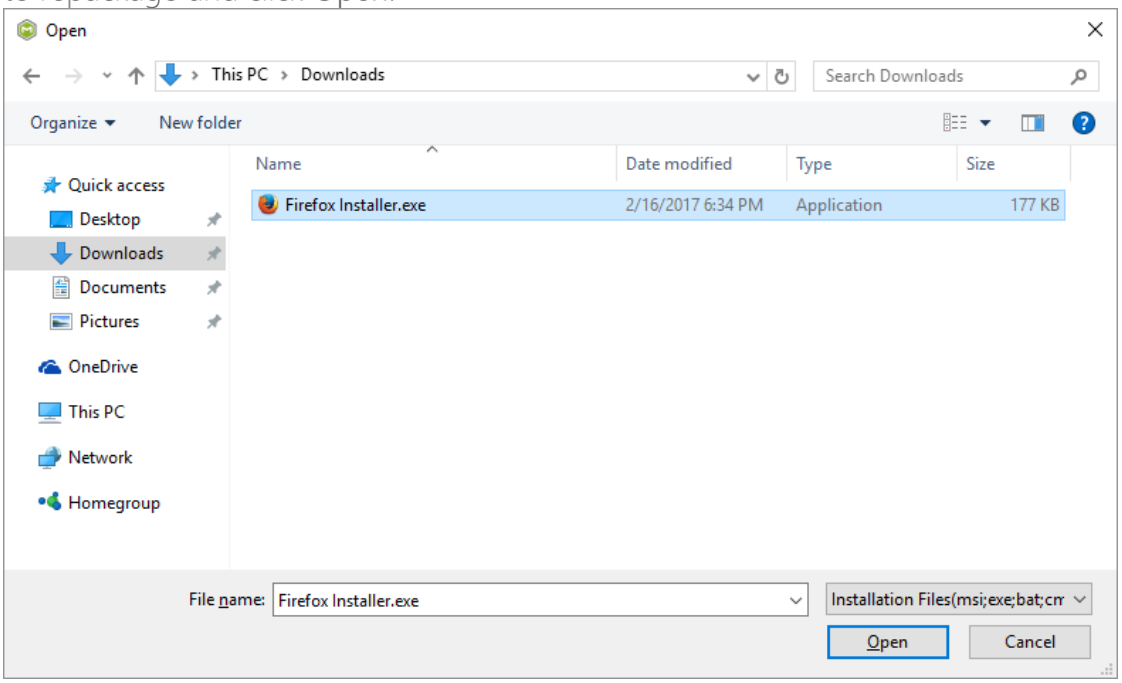


[4]. Please wait a little, while the capturing process is starting (in case you have selected the **Monitoring method** on the previous step, wait while the initial system snapshot is taking).

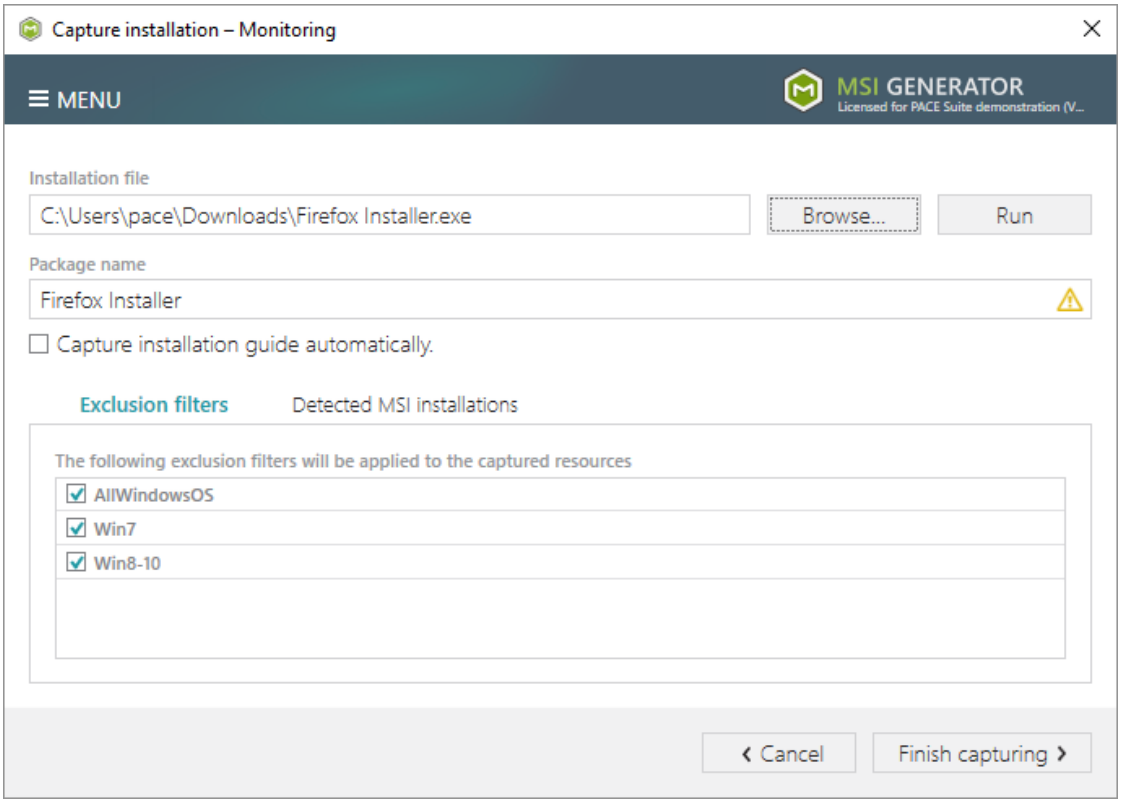
[5]. Once the capturing process is started, click **Browse...** to choose your source installation file for repackaging.



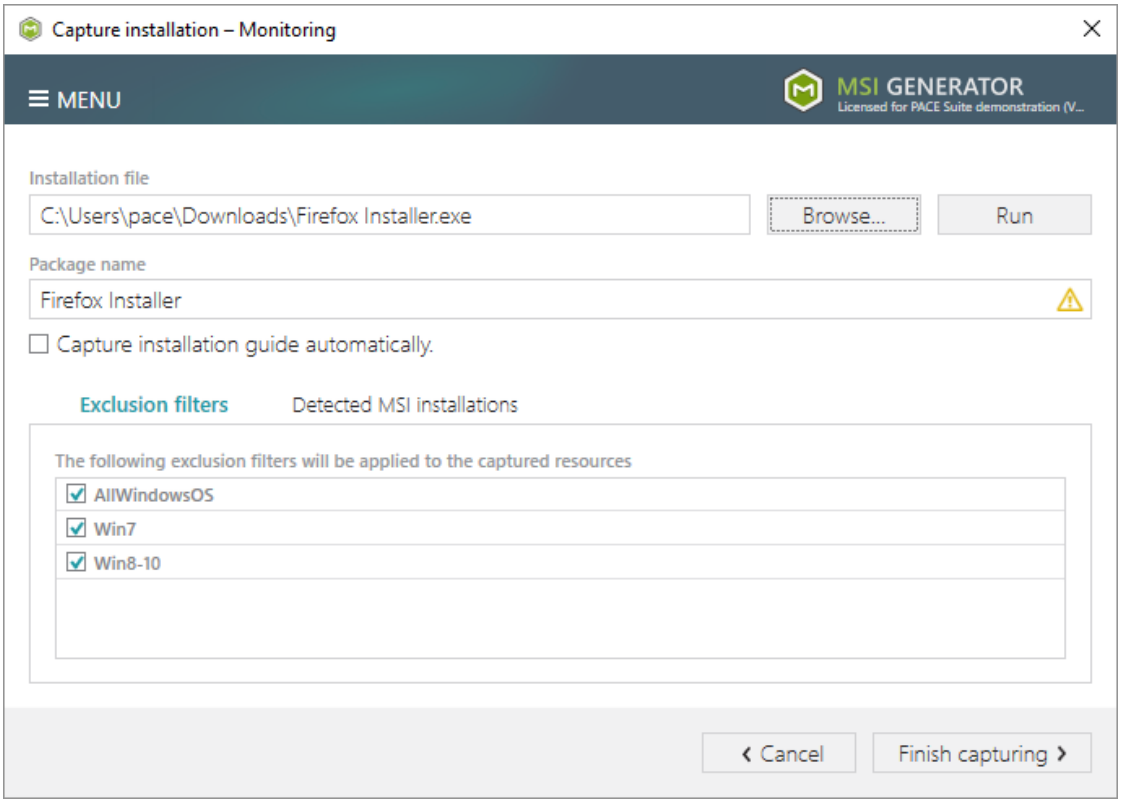
[6]. Choose an executable file of source installation (e.g. Firefox Installer.exe), which you want to repackage and click Open.



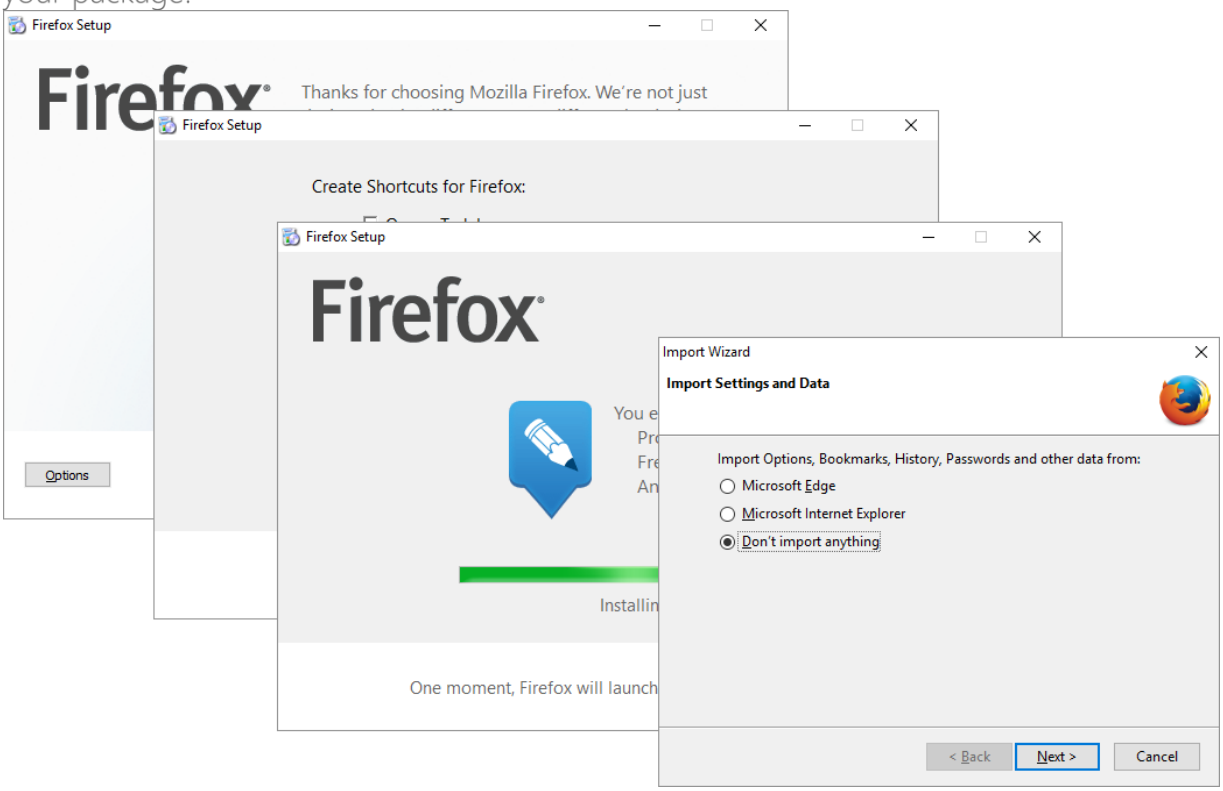
[7]. If needed, change the package name typing new value to the Package name field, or disable exclusion filters by unchecking checkboxes next to filters in the list. Note that we do not recommend disable exclusion filters, becase they detect and exclude system resources, which are not a part of your 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.



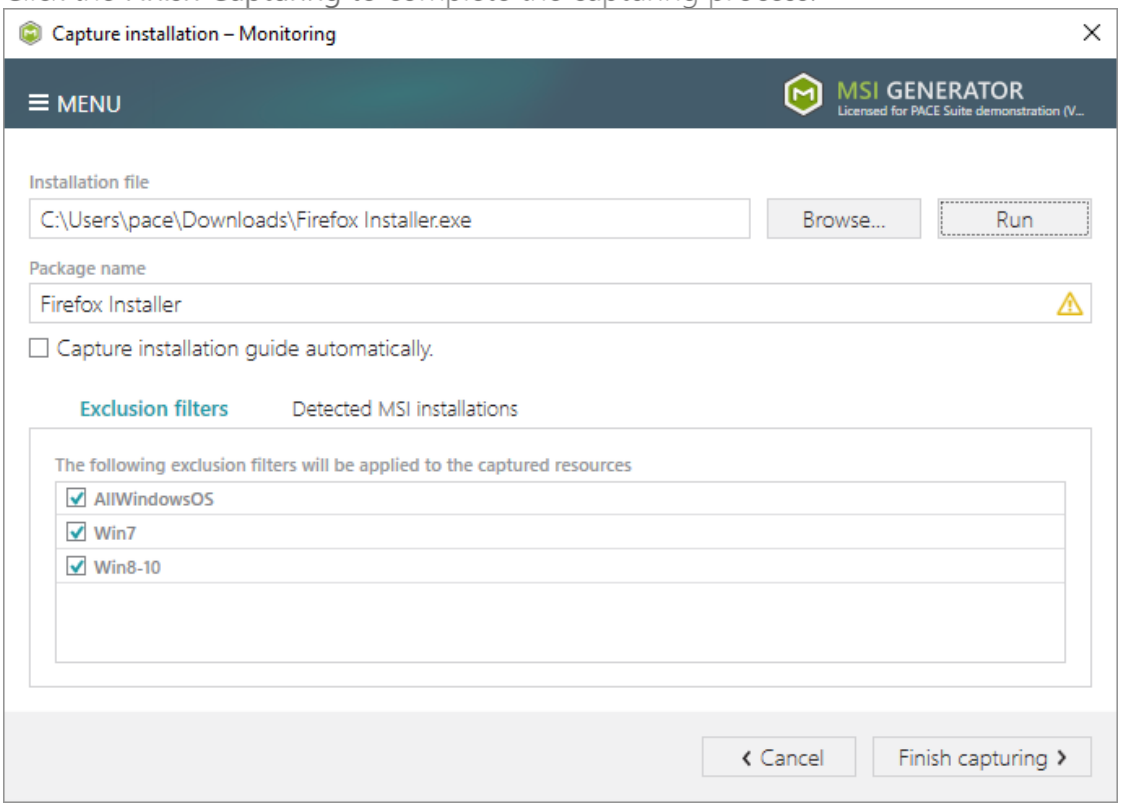
[8]. Click **Run** to launch the selected source installation file.



[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.



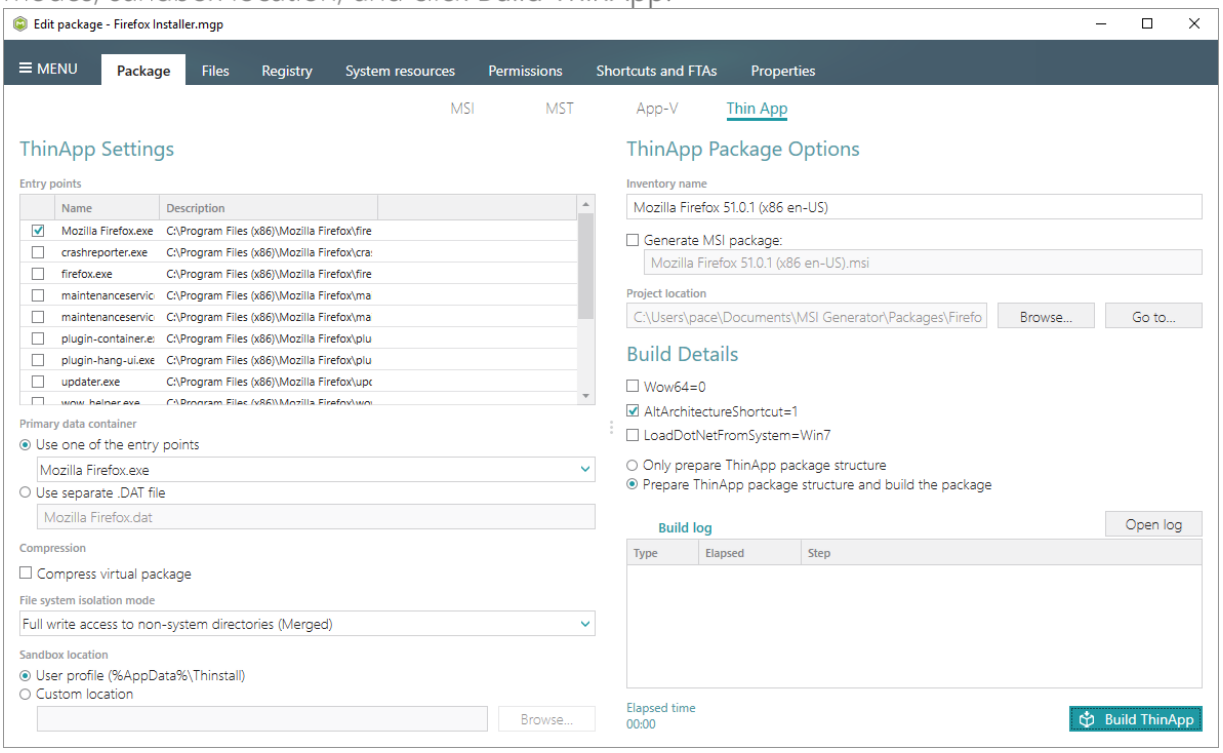
[10]. Click the Finish Capturing to complete the capturing process.



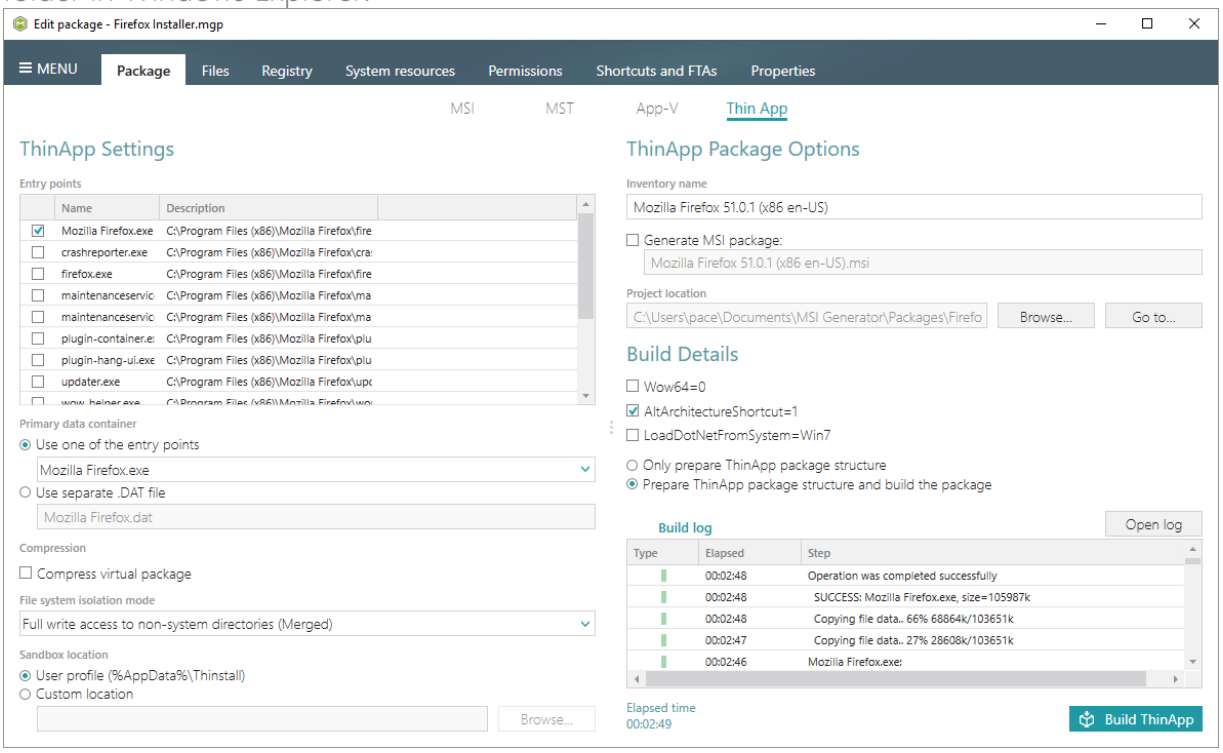
[11]. Please wait a little, while the capturing process is finishing, filtering captured data and creating the project. Once the project is opened, go through the Files, Registry and Shortcuts tabs in order to review captured resources and exclude unnecessary ones from the project. Unnecessary resources 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. Unfortunetly, 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

modes, sandbox location, and click **Build ThinApp**.



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

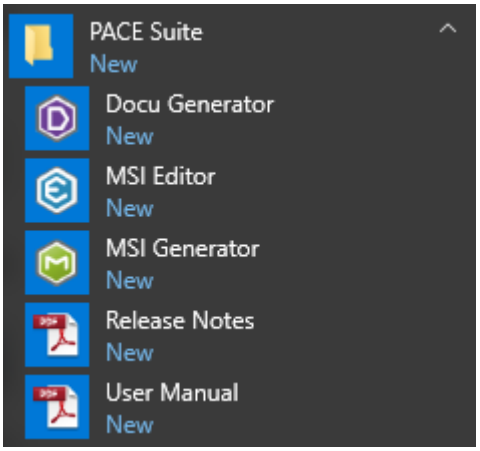


3.6 Edit MSI/MST

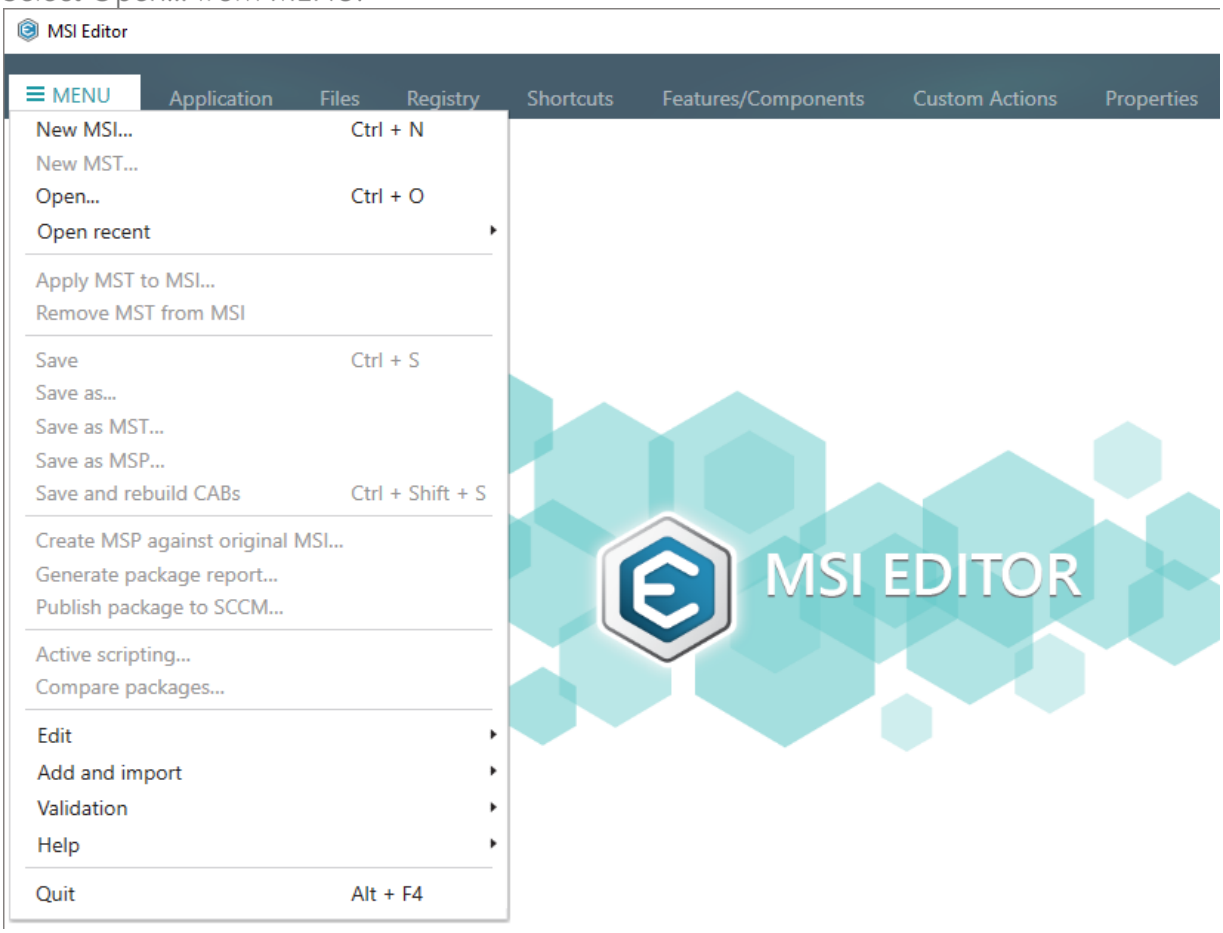
3.6.1 Pre-Condition

Open an MSI package following the instructions below:

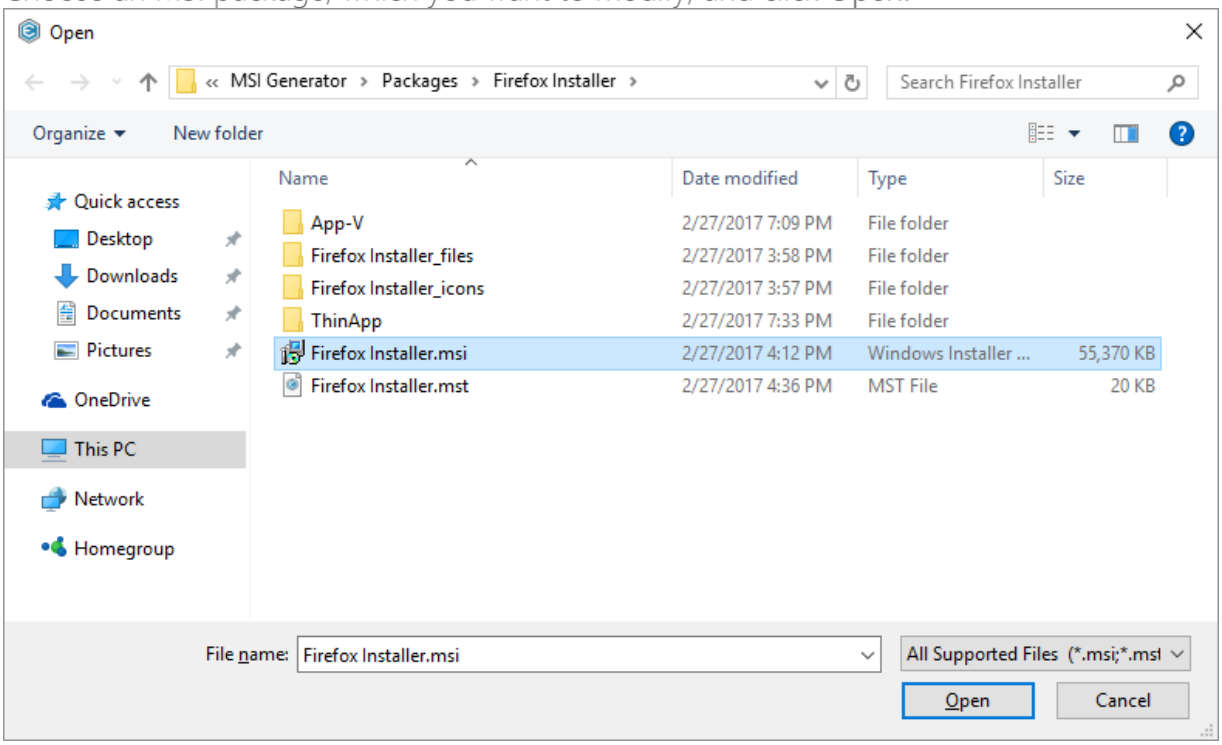
[1]. Launch MSI Editor.



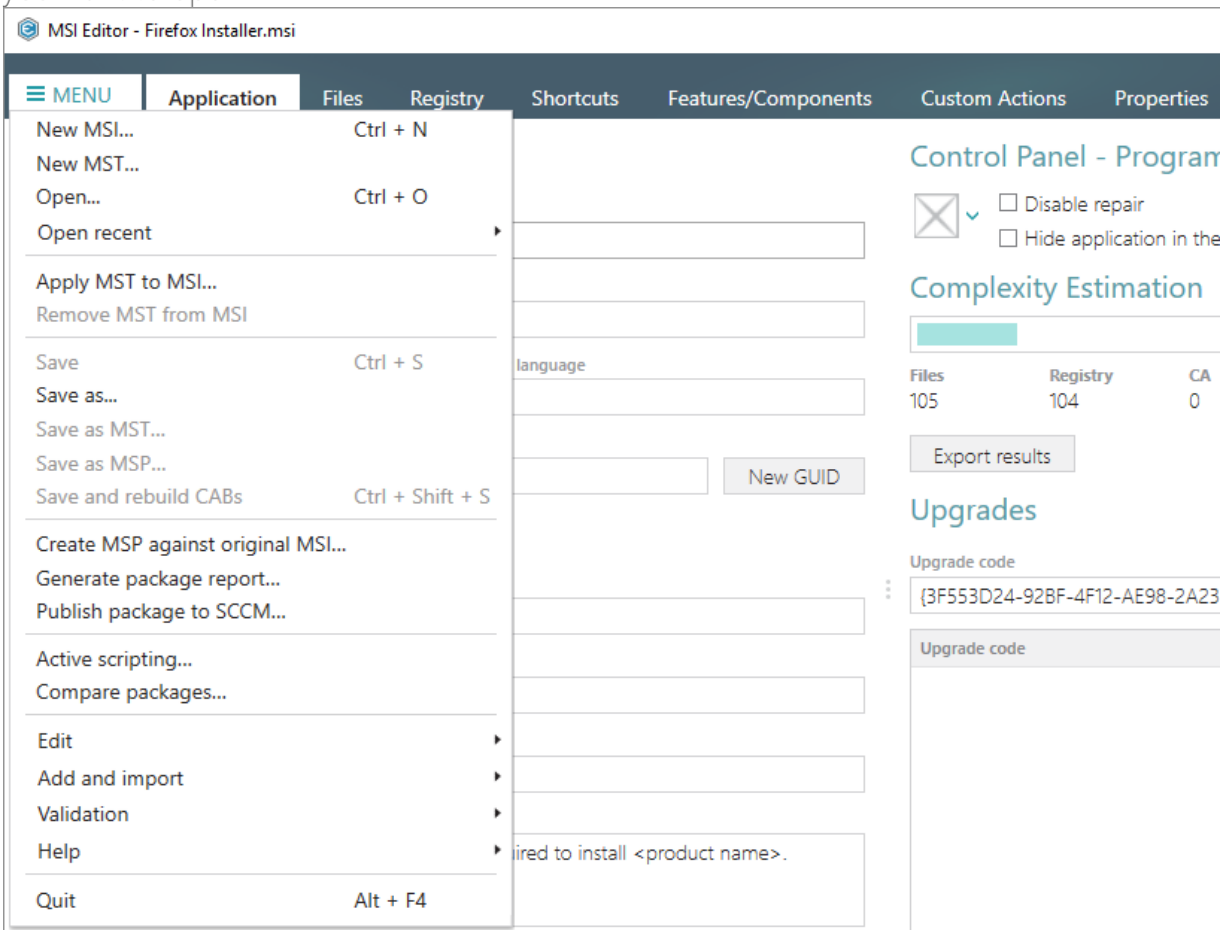
[2]. Select Open... from MENU.



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



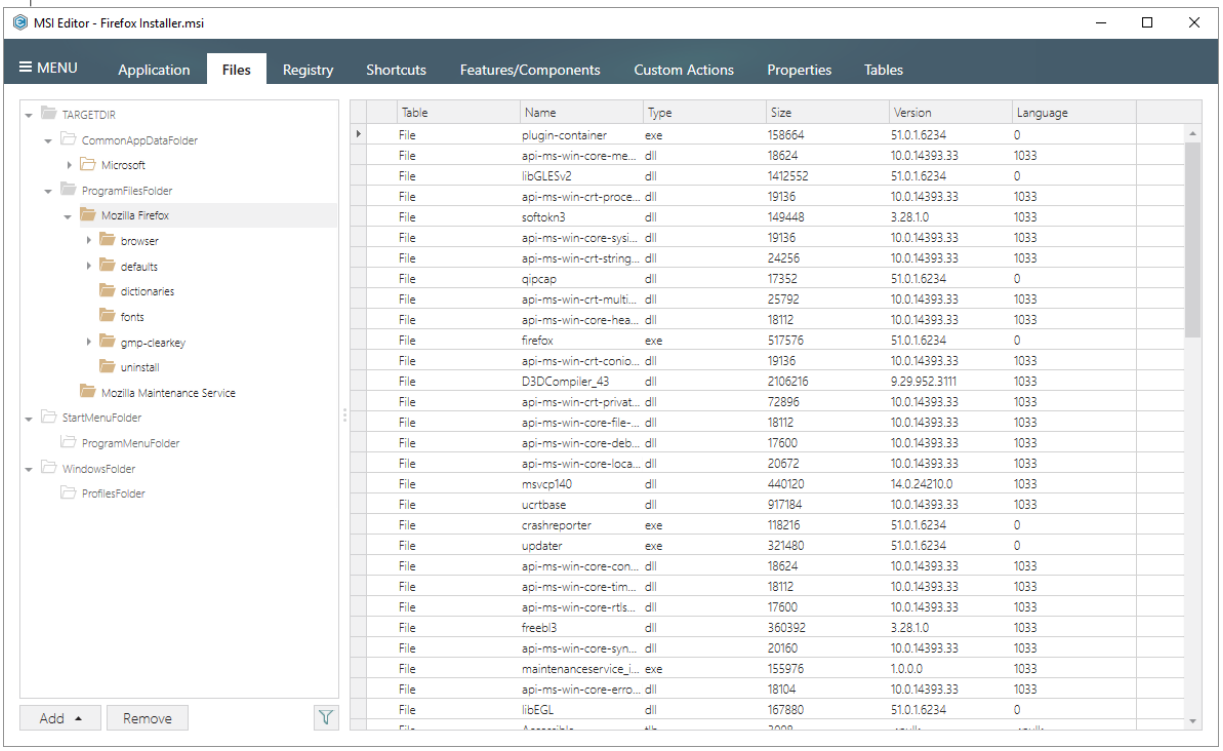
[4]. If needed, you can apply MST by selecting **Apply MST to MSI...** and choosing an MST file you want to open.



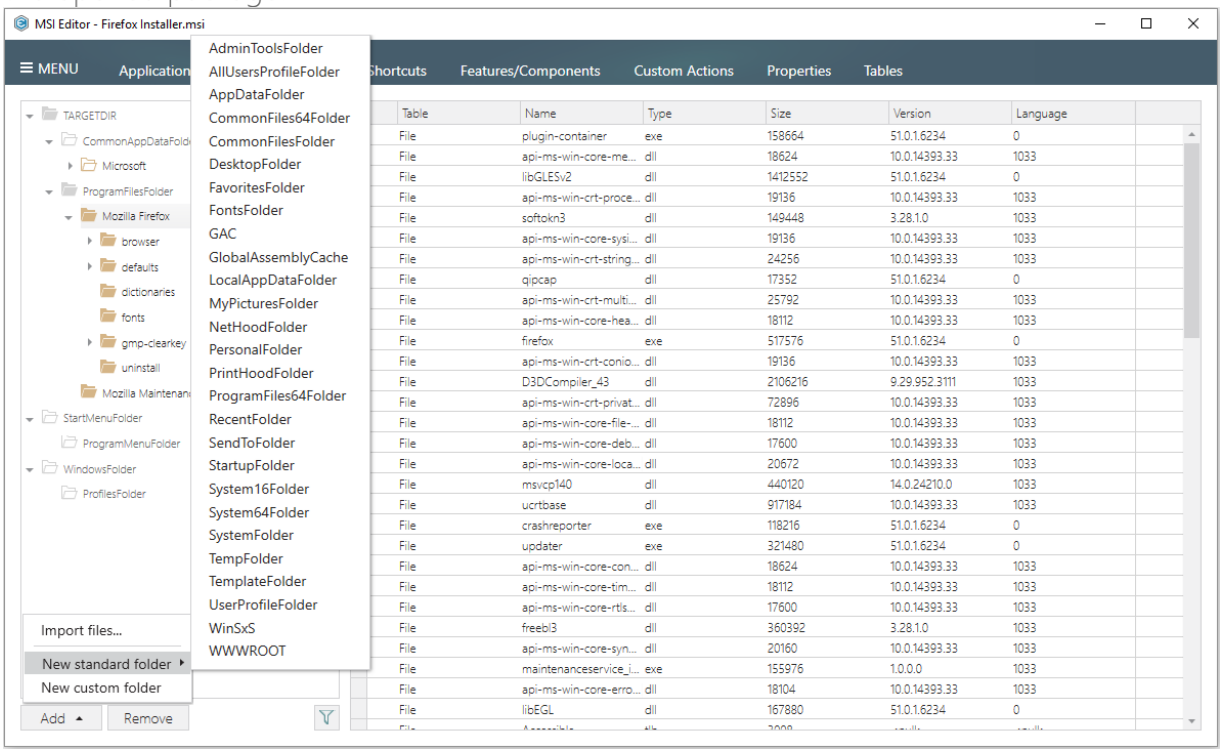
3.6.2 Files and Folders

3.6.2.1 Add Standard MSI Folder

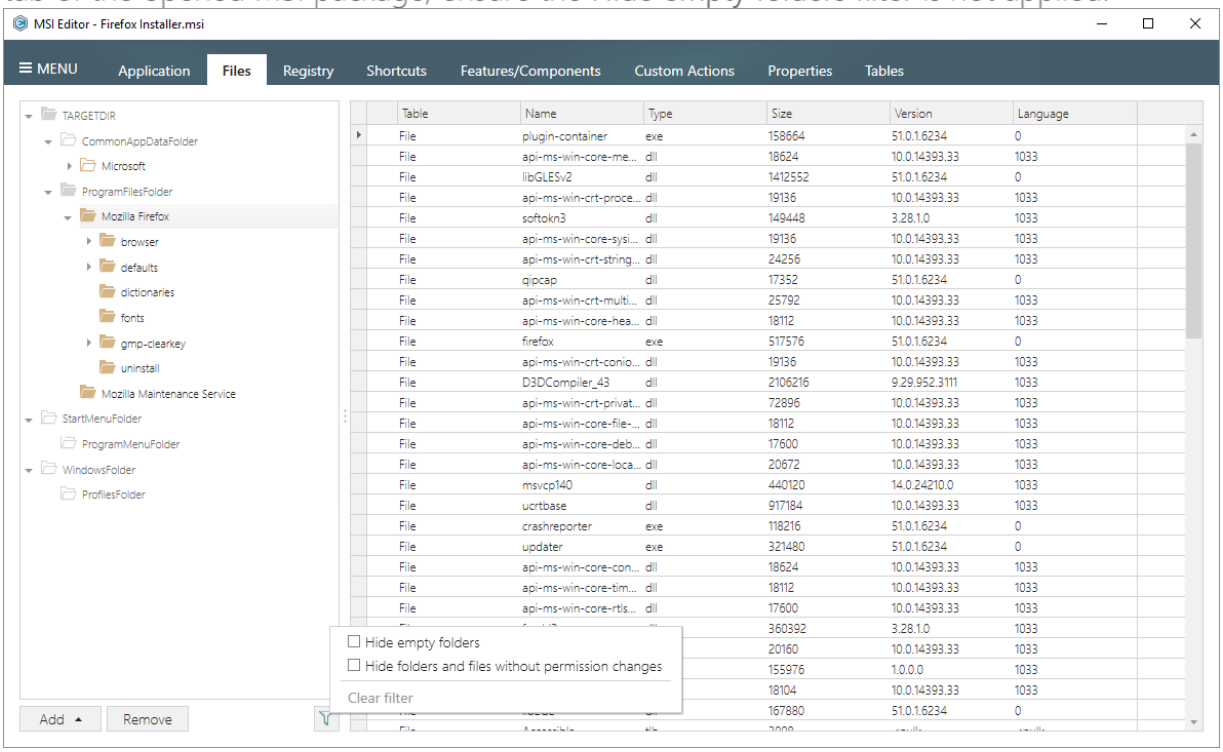
[1]. Open the **Files** tab.



[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.

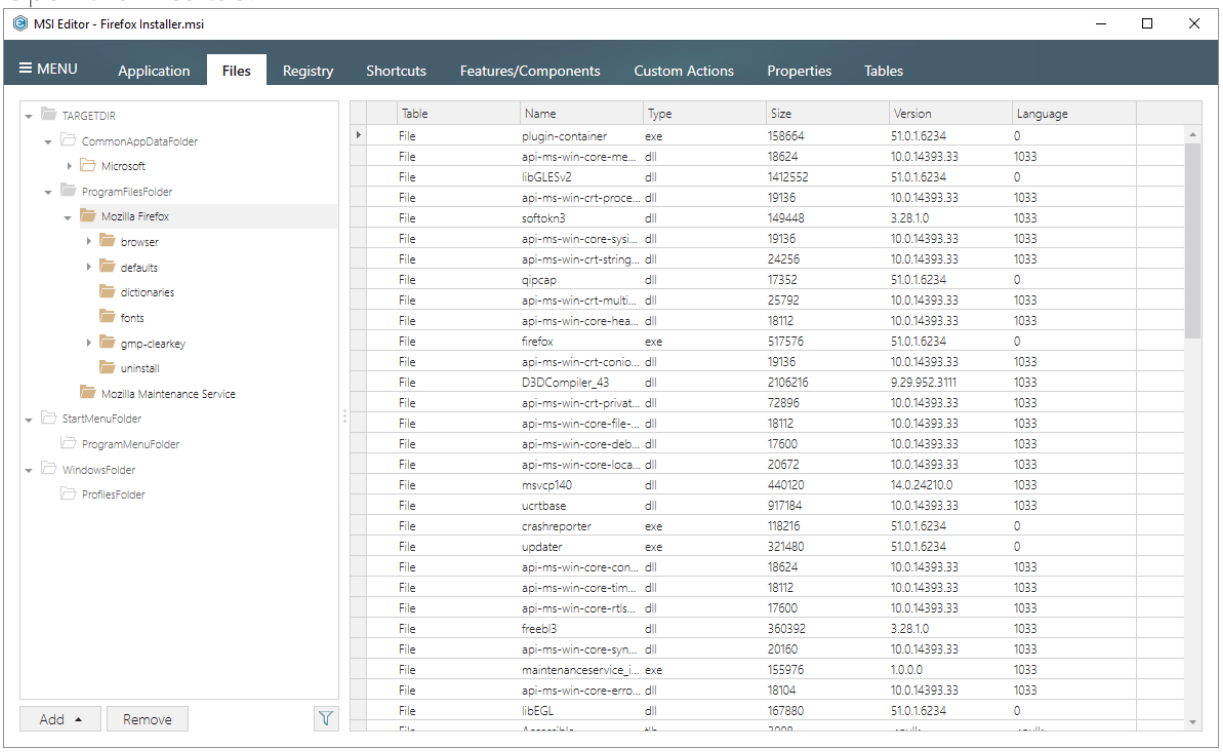


[3]. If you cannot find standard folder in the dropped list and in the folder Tree on the **Files** tab of the opened MSI package, ensure the **Hide empty folders filter** is not applied.

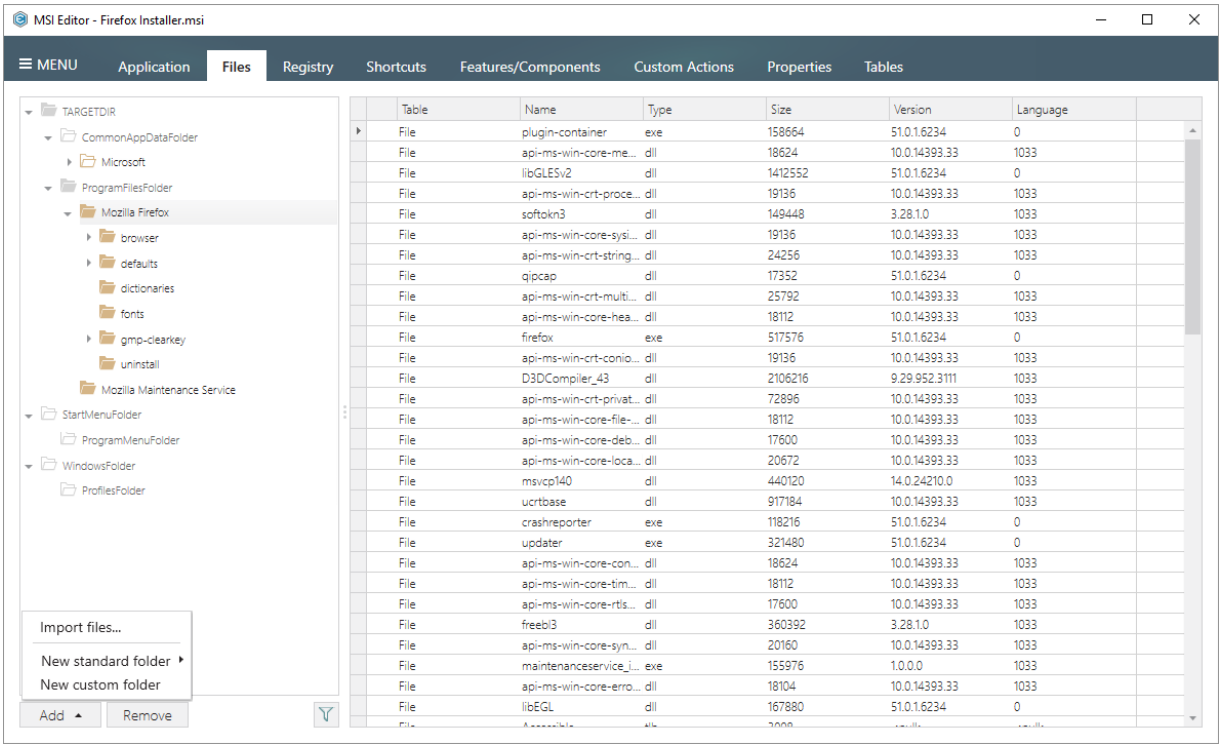


3.6.2.2 Add Custom Folder

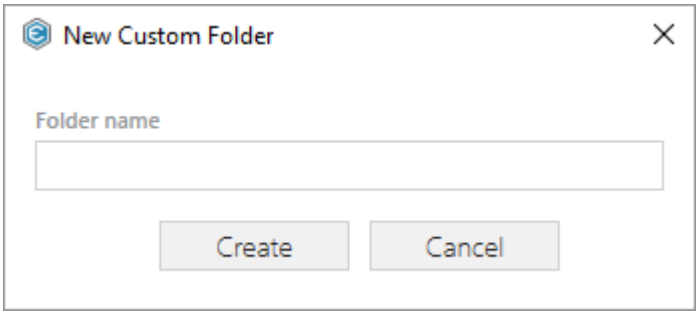
[1]. Open the **Files** tab.



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



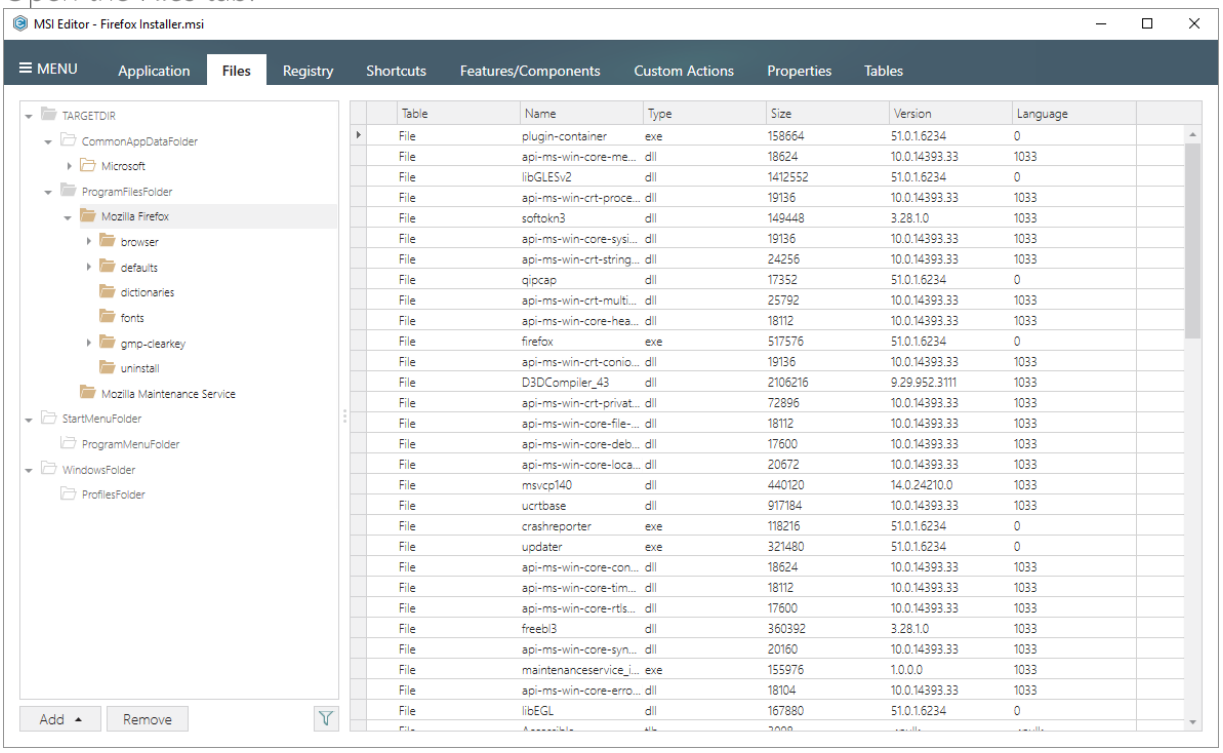
[3]. Enter a name of the folder and click **Create**.



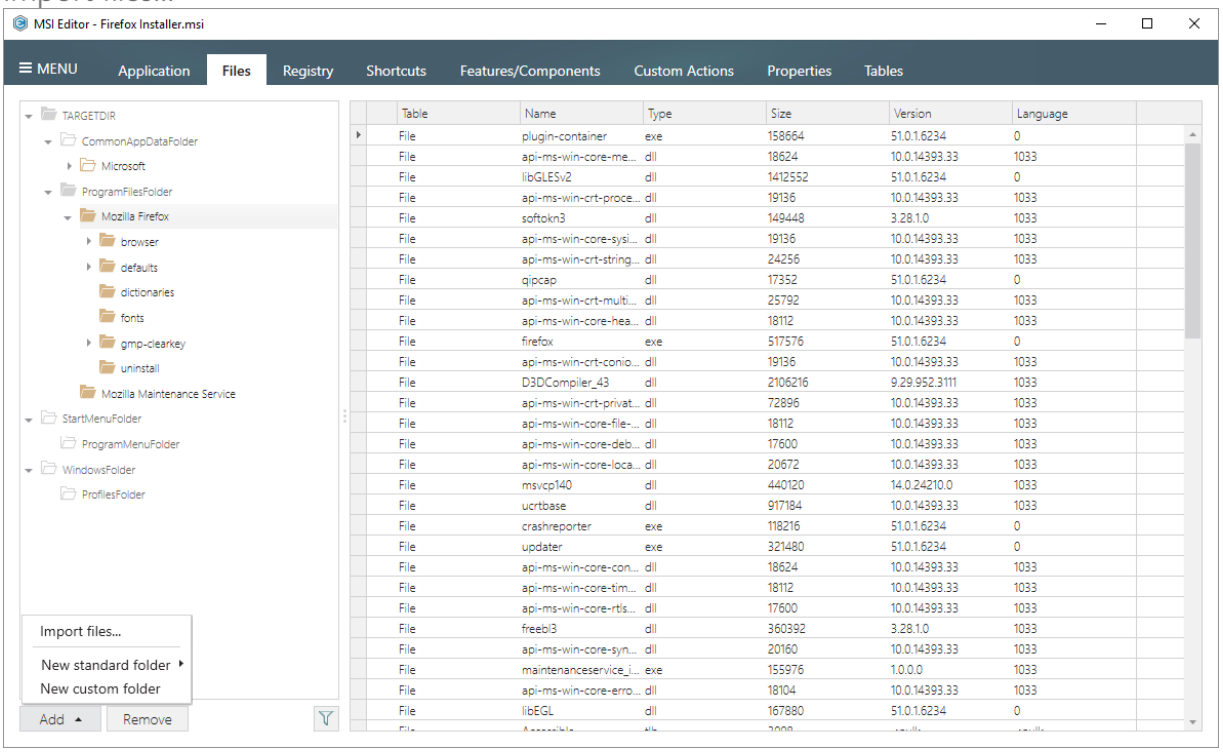
3.6.2.3 Import Files and COM Information

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

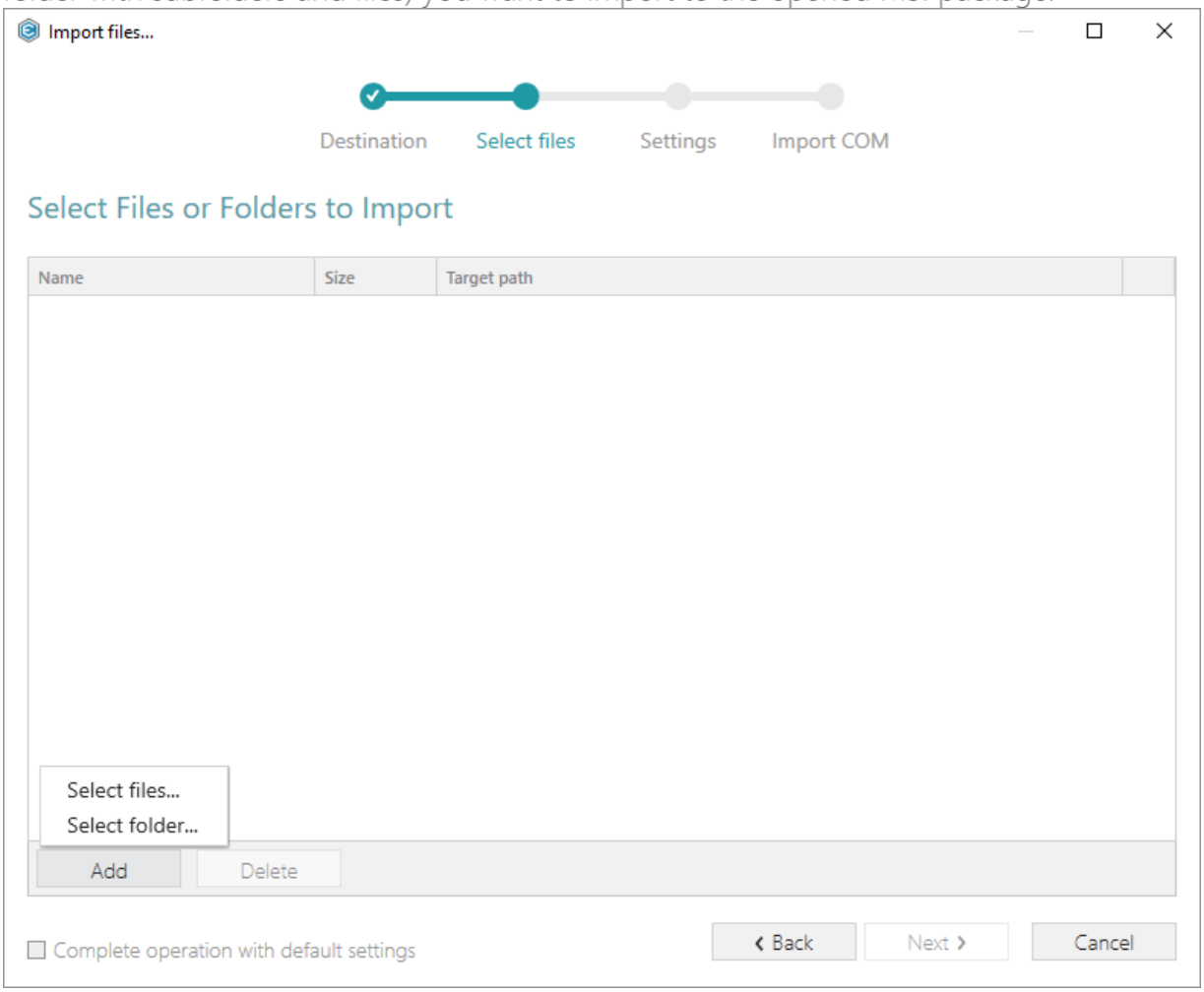
[1]. Open the **Files** tab.



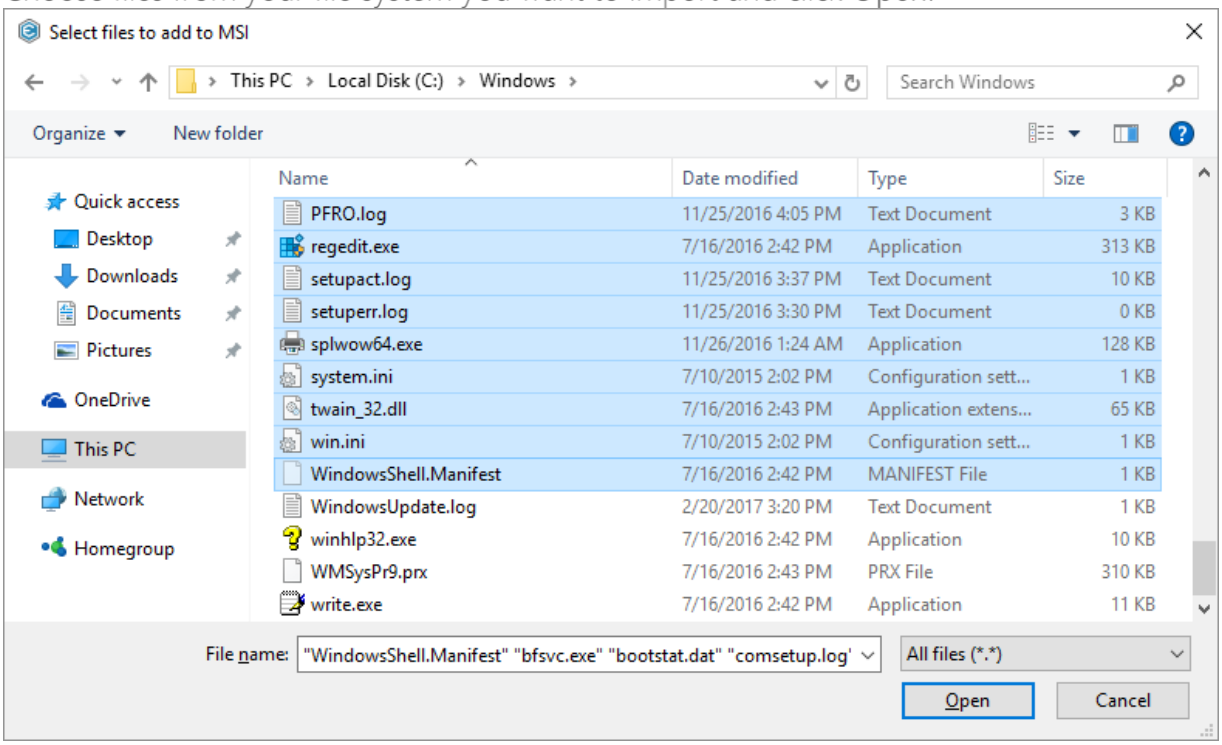
[2]. Select a folder in the folder Tree, to which you want to import files, and click **Add** -> Import files...



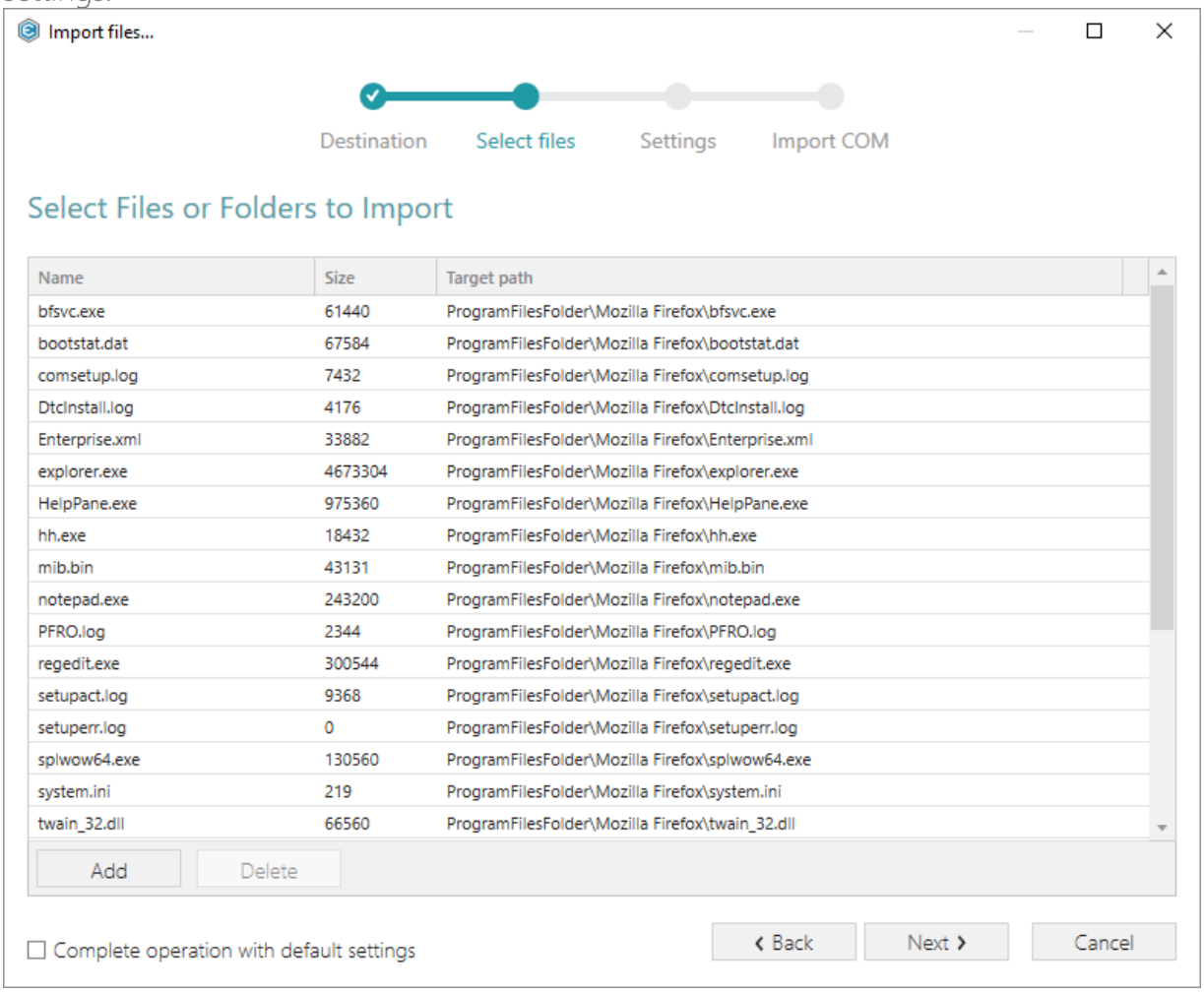
[3]. Click Add -> Select files... to choose files in a folder (or Add -> Add folder... to choose folder with subfolders and files) you want to import to the opened MSI package.



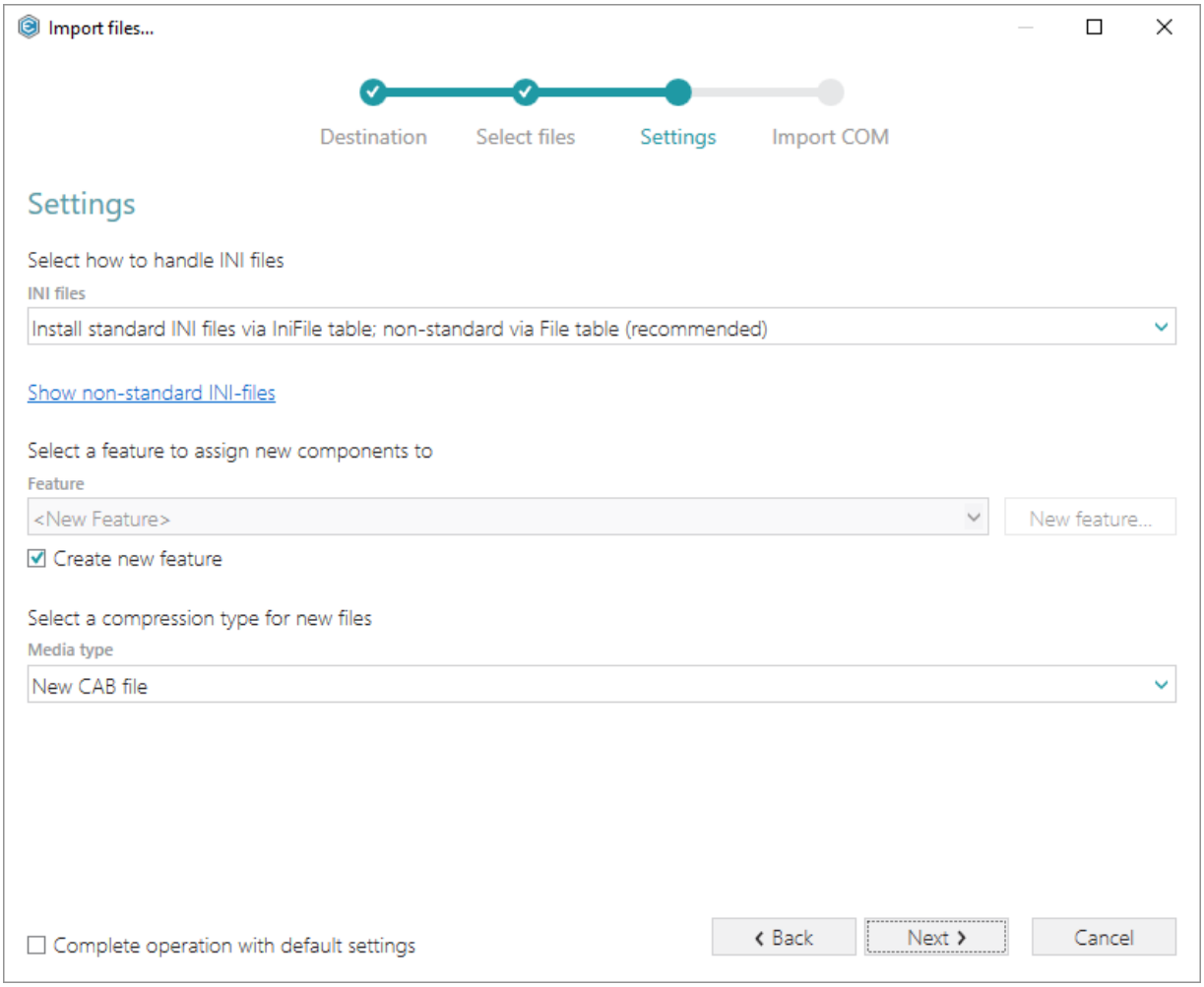
[4]. Choose files from your file system you want to import and click Open.



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



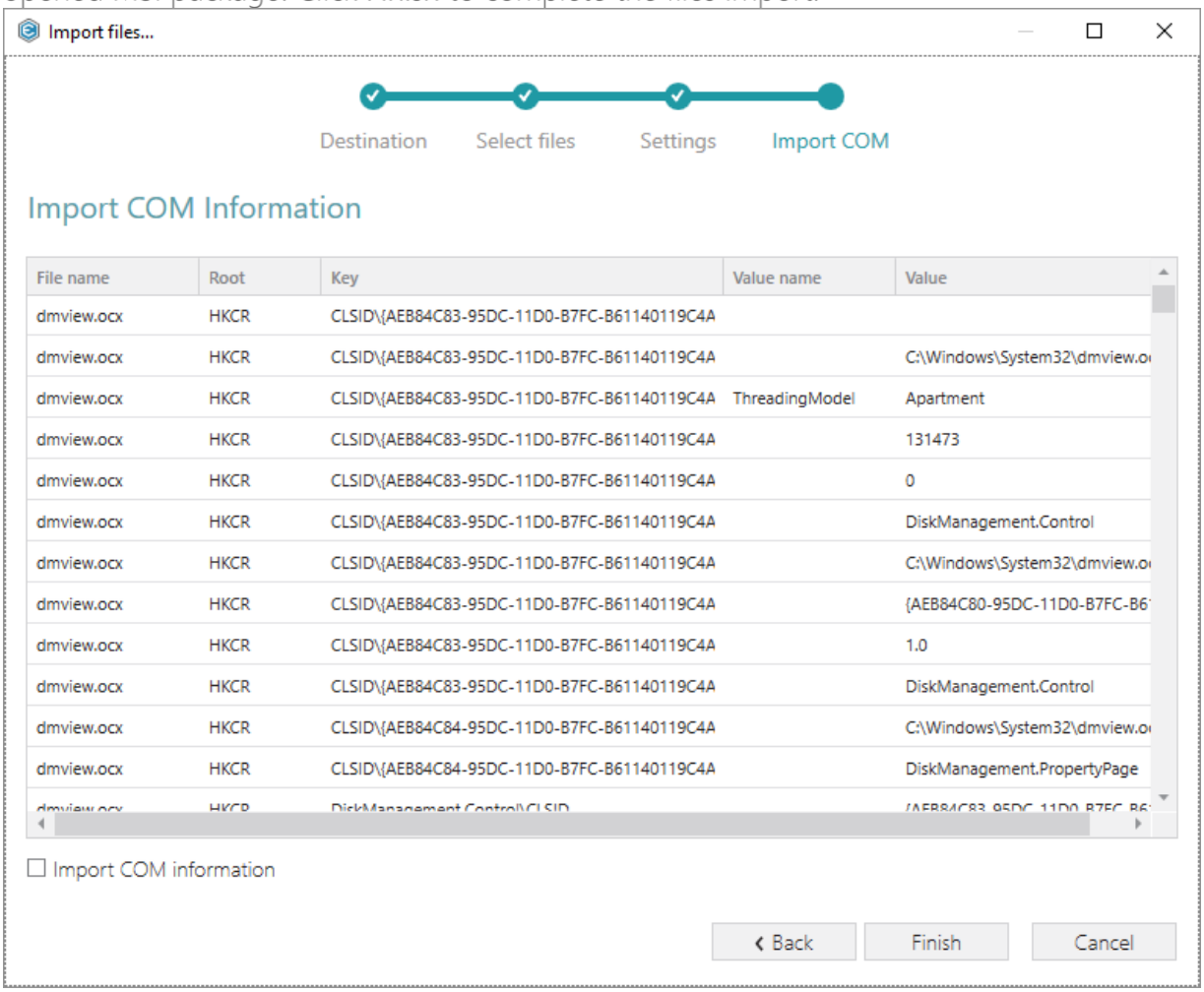
[6]. Choose options for INI file handling, MSI Featur assignment and Compression type for the choosen files and click **Next**.



Find settings description below in table.

Settting group	Selected Value	Description
INI files	• 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.
	• Install all INI files via File table	All INI files will be saved only to the File table as regular files.
	• Install all INI files via File table and duplicate to IniFile table	All INI files 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.

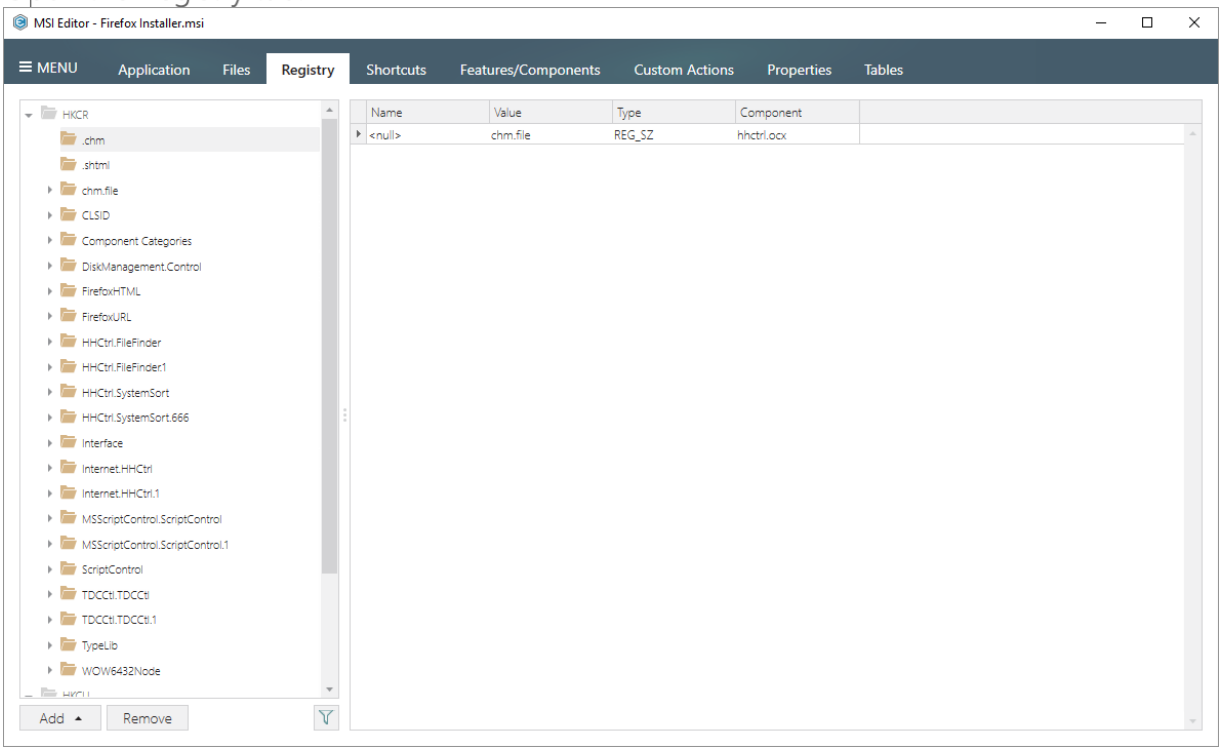
[7]. Review the COM information, extracted from the selected files, and select the Import COM information option to import this registration information into the Registry table of the opened MSI package. Click Finish to complete the files import.



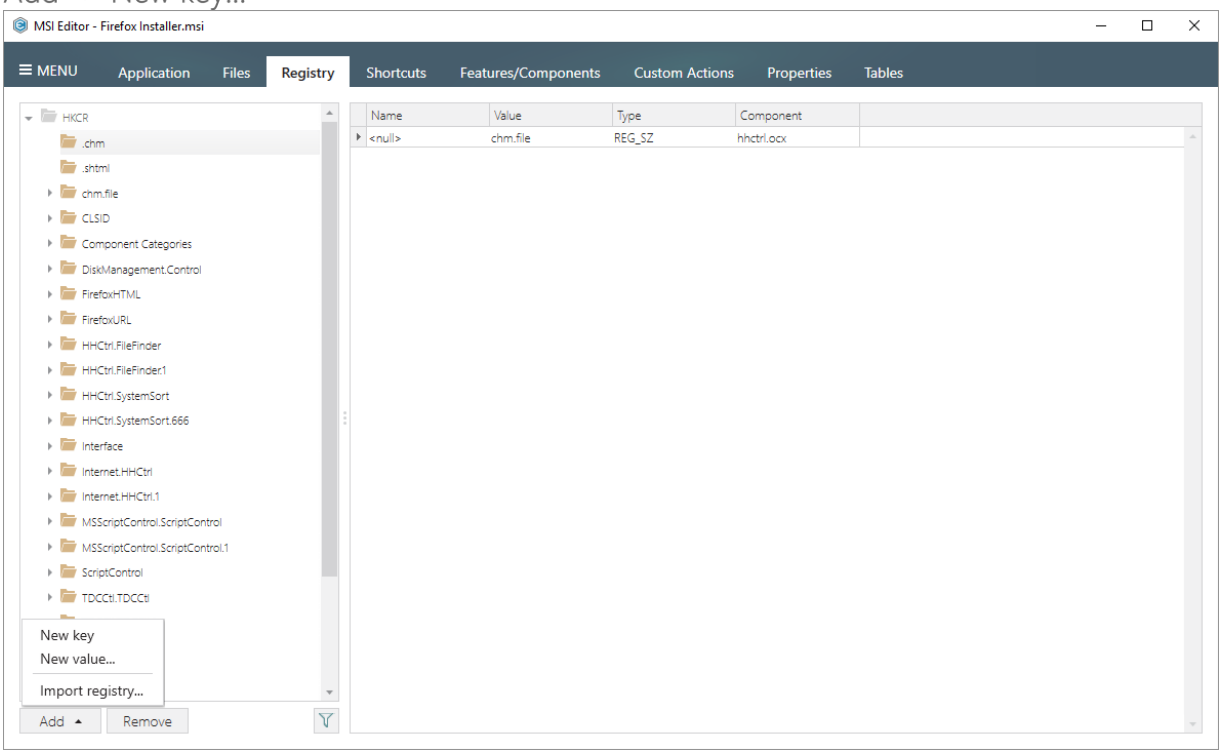
3.6.3 Registry

3.6.3.1 Add Registry Key

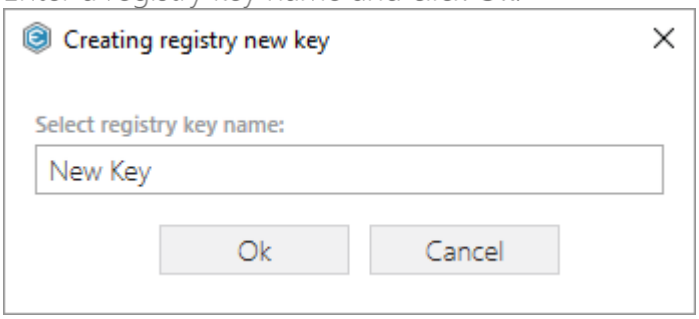
[1]. Open the **Registry** tab.



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

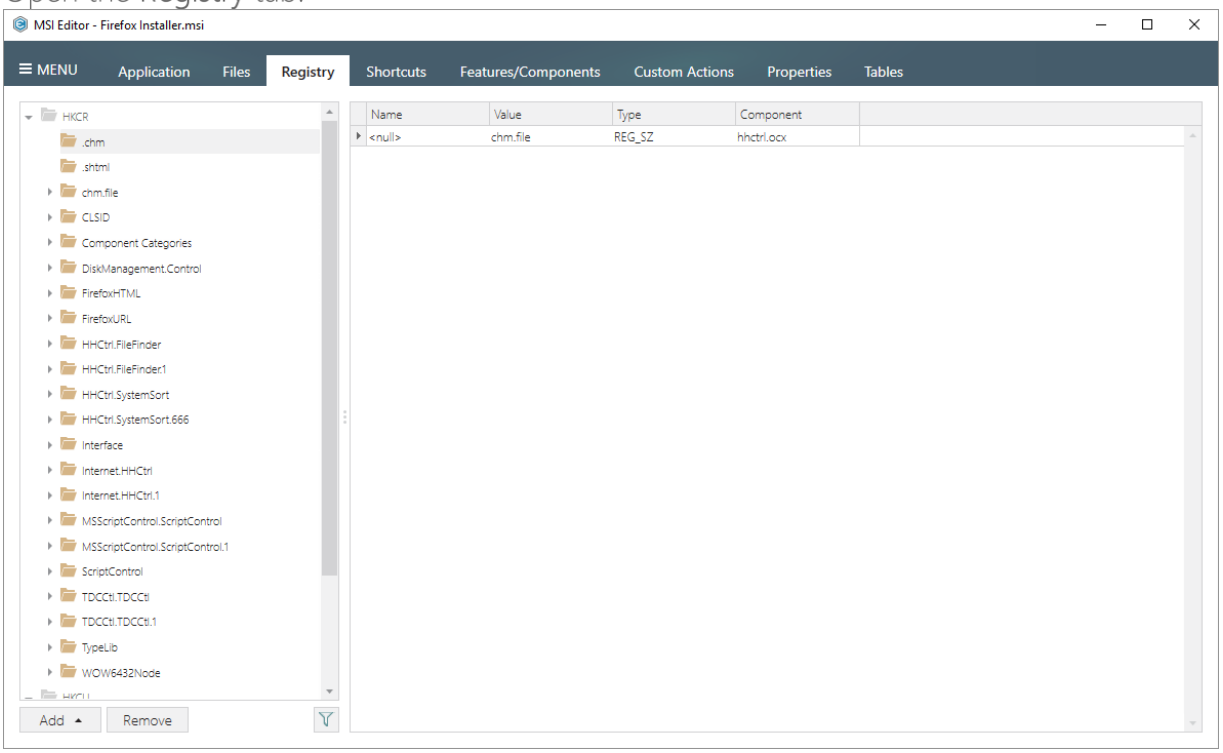


[3]. Enter a registry key name and click Ok.

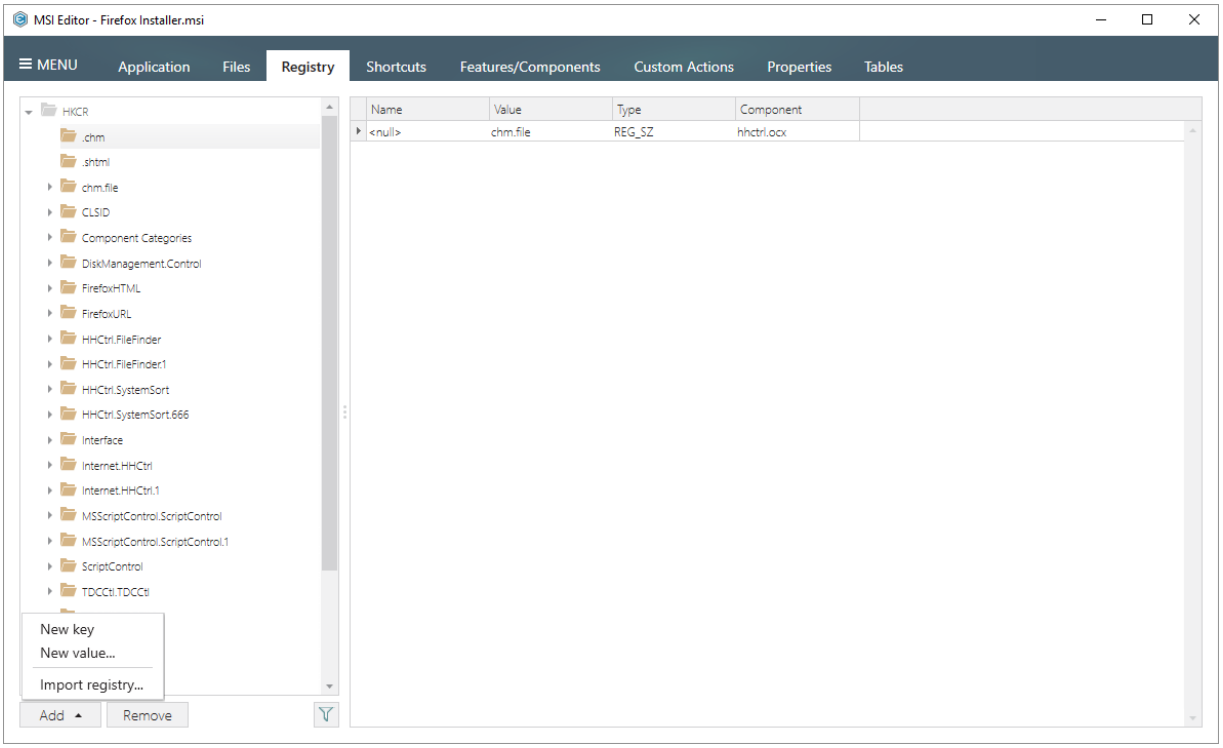


3.6.3.2 Add Registry Value

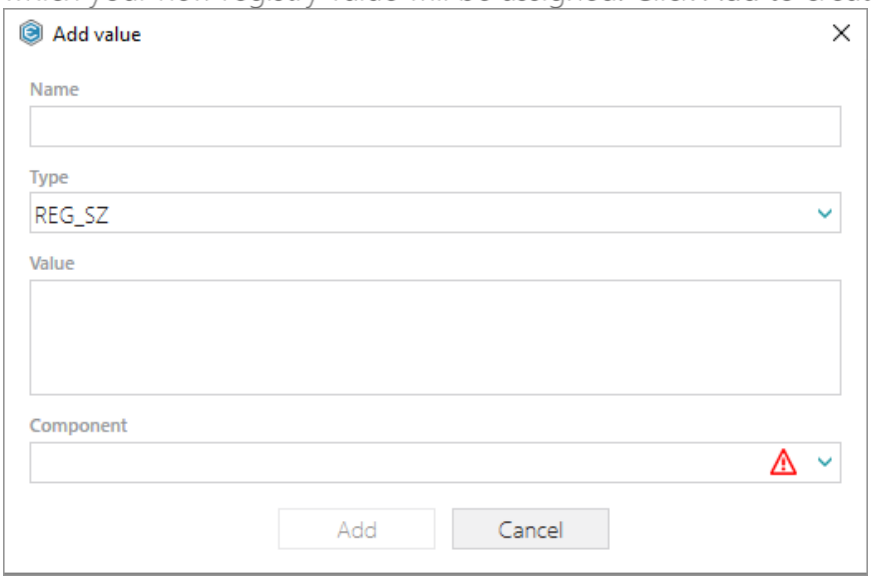
[1]. Open the Registry tab.



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

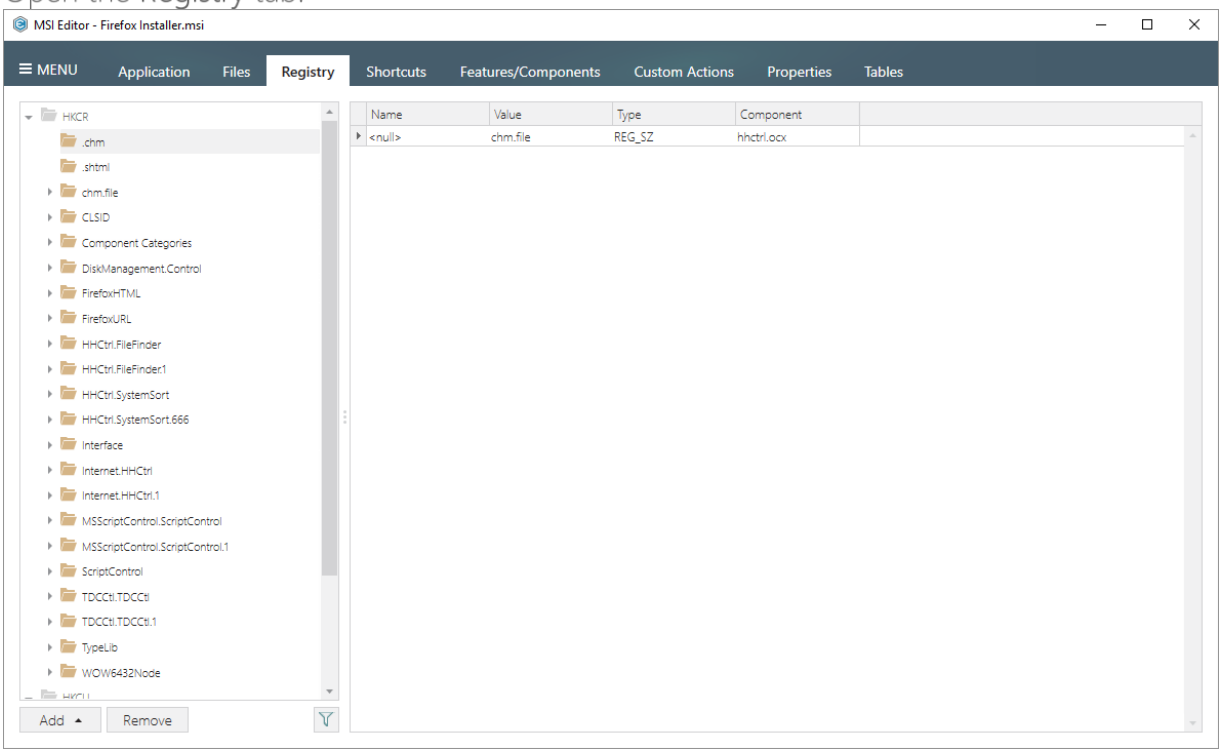


[3]. Enter a registry value **name**, select a registry **type** and choose one of components, to which your new registry value will be assigned. Click **Add** to create the registry value.

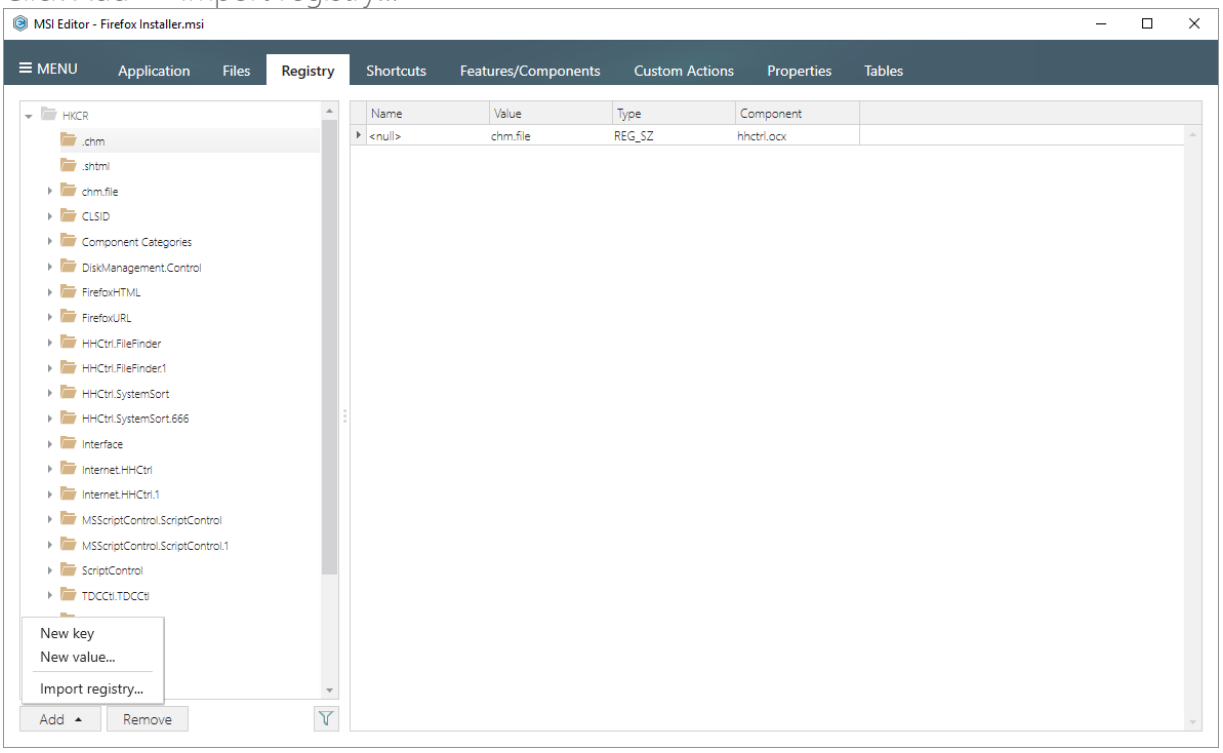


3.6.3.3 Import Registry

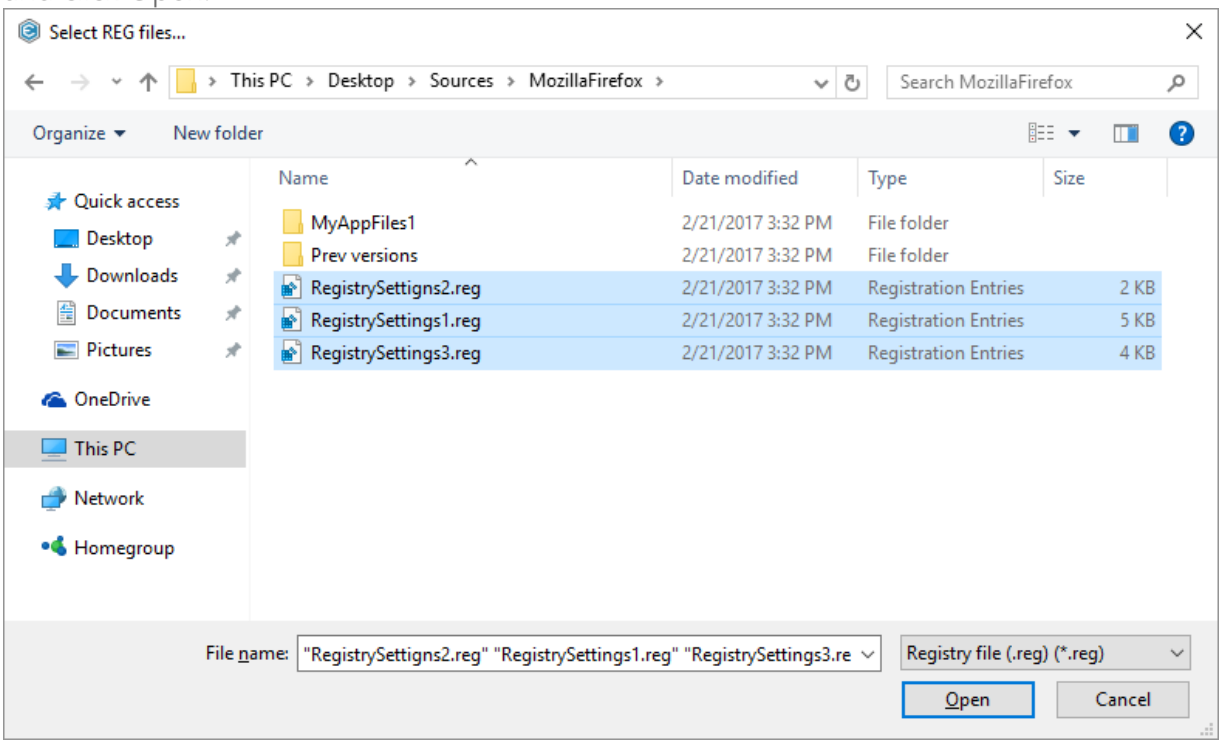
[1]. Open the **Registry** tab.



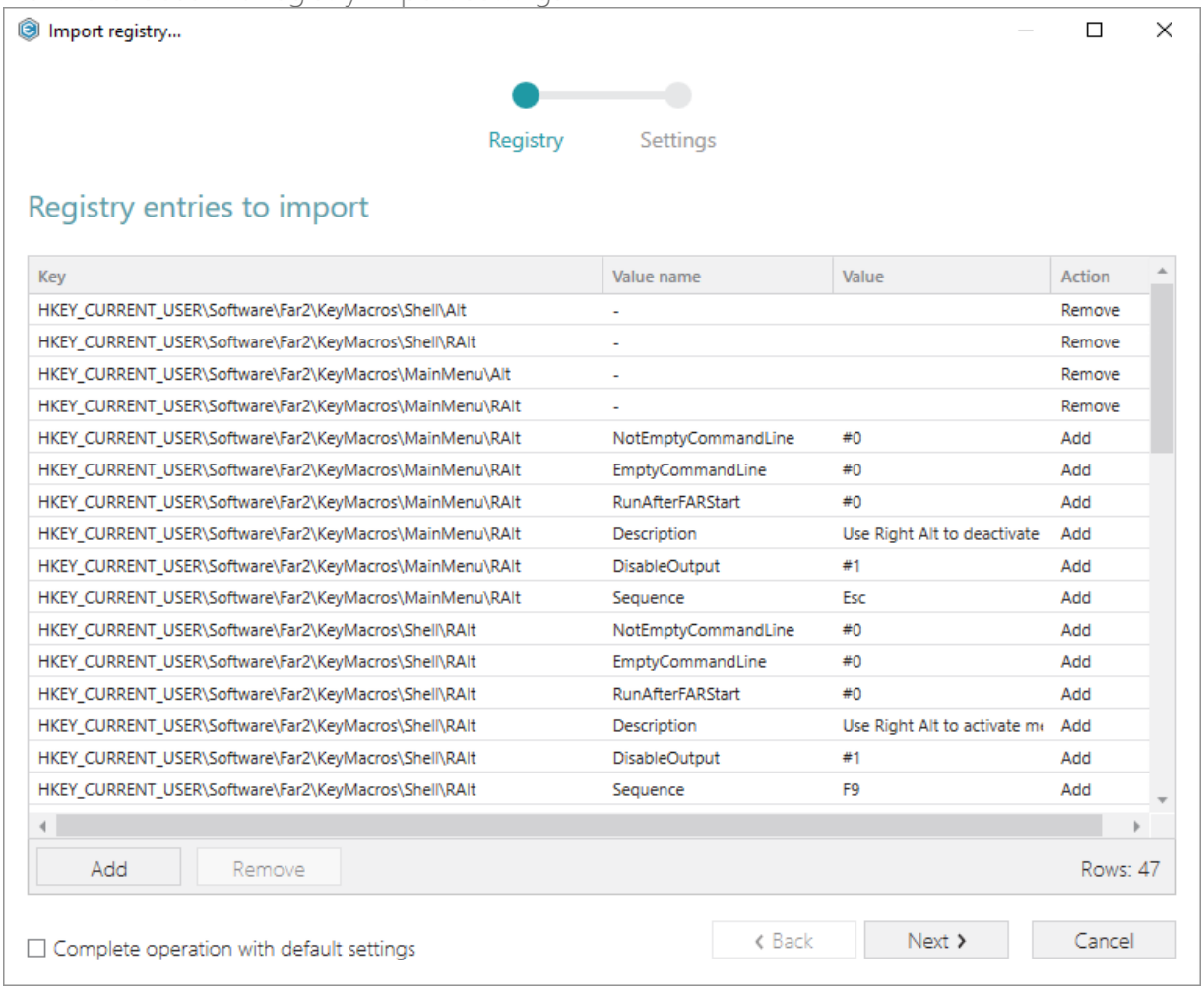
[2]. Click Add -> Import registry...



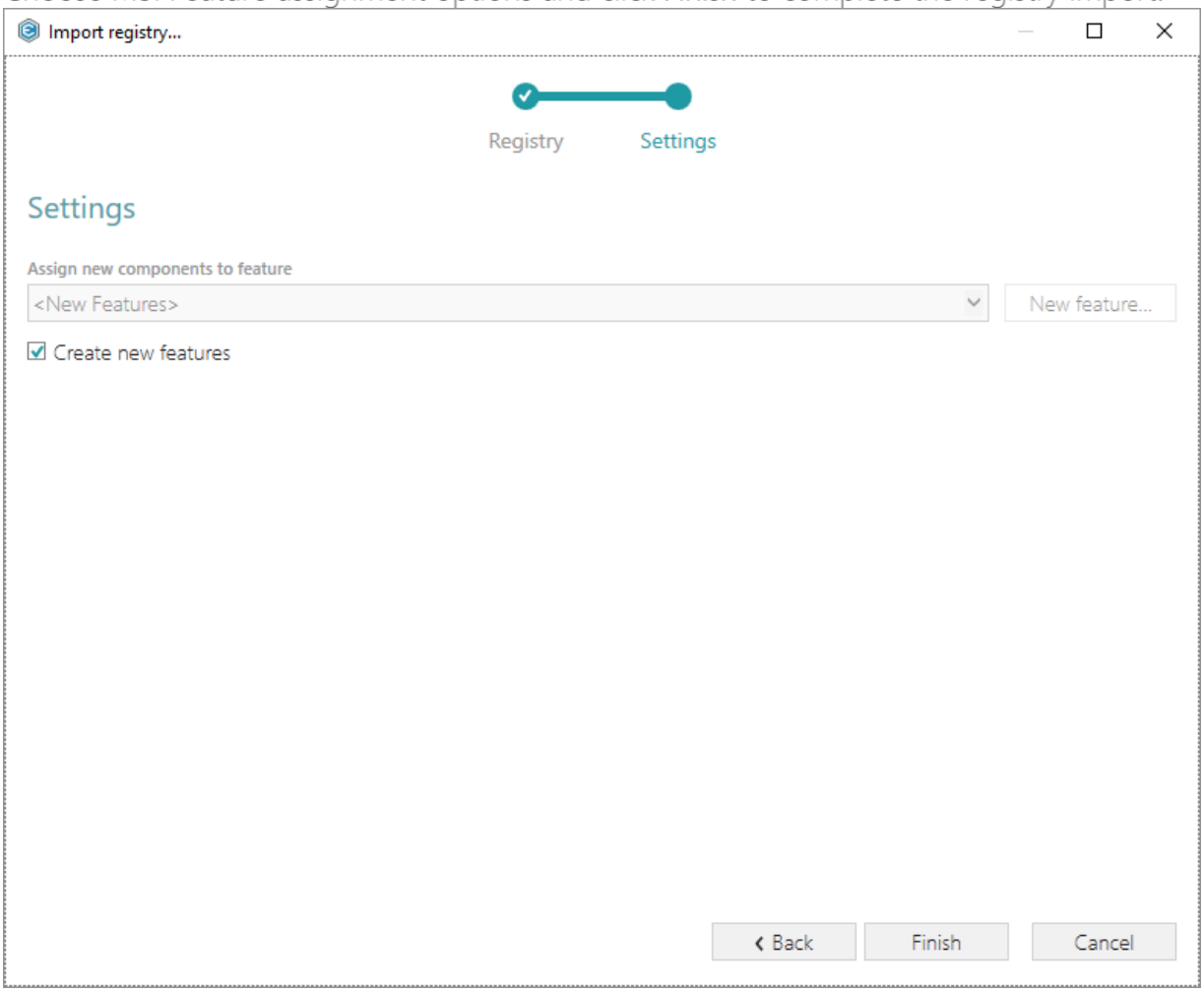
[3]. Choose REG files from your file system you want to import to the opened MSI package and click Open.



[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.



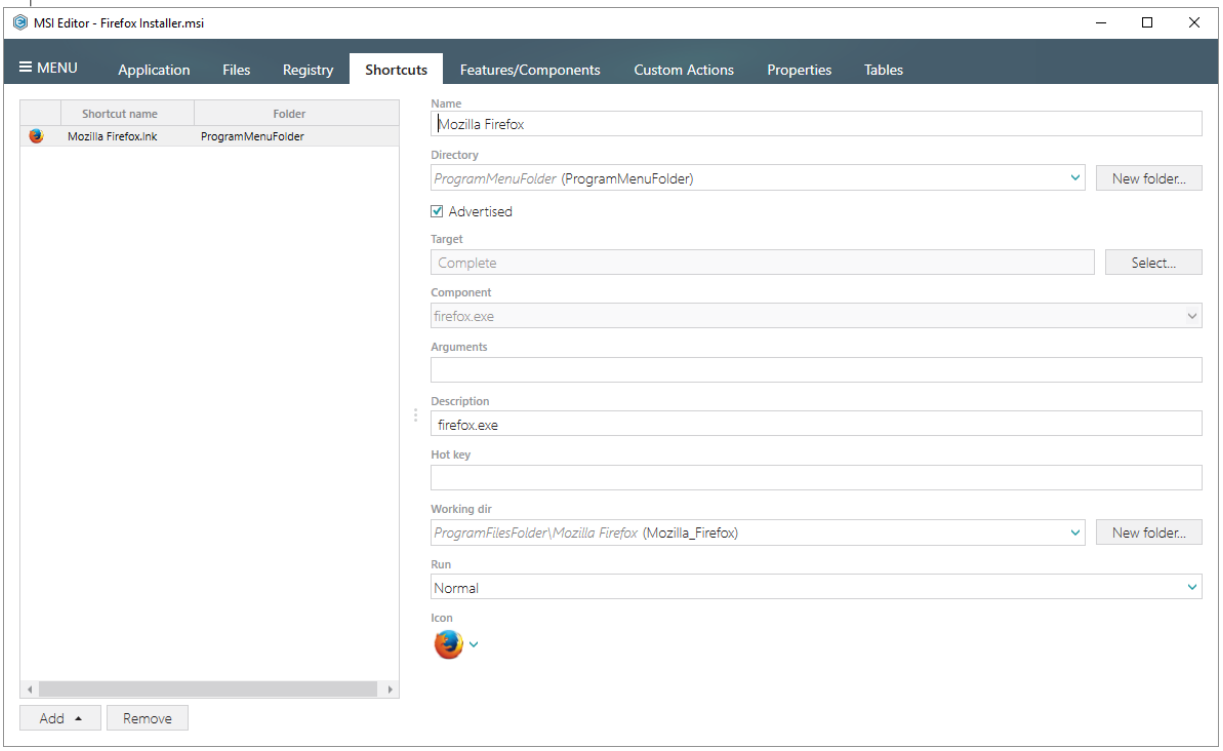
Find settings description below in table.

Settting 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.

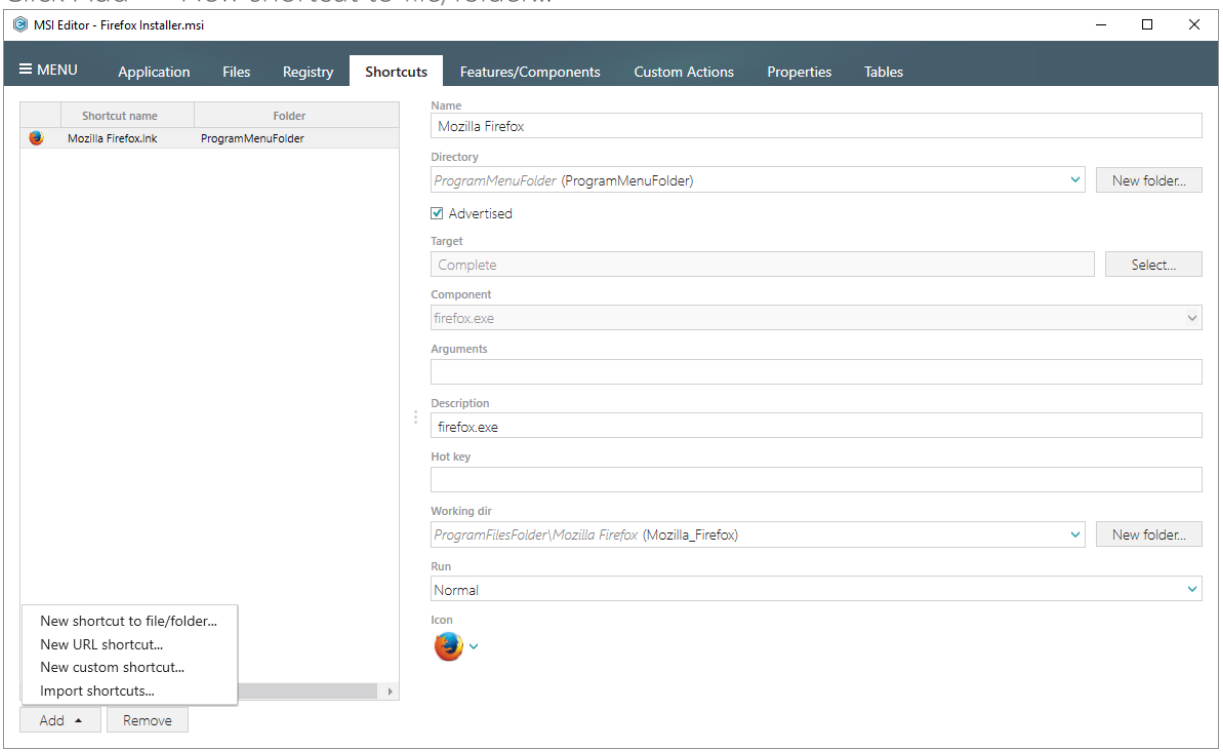
3.6.4 Shortcuts

3.6.4.1 Add Shortcut to File or Folder

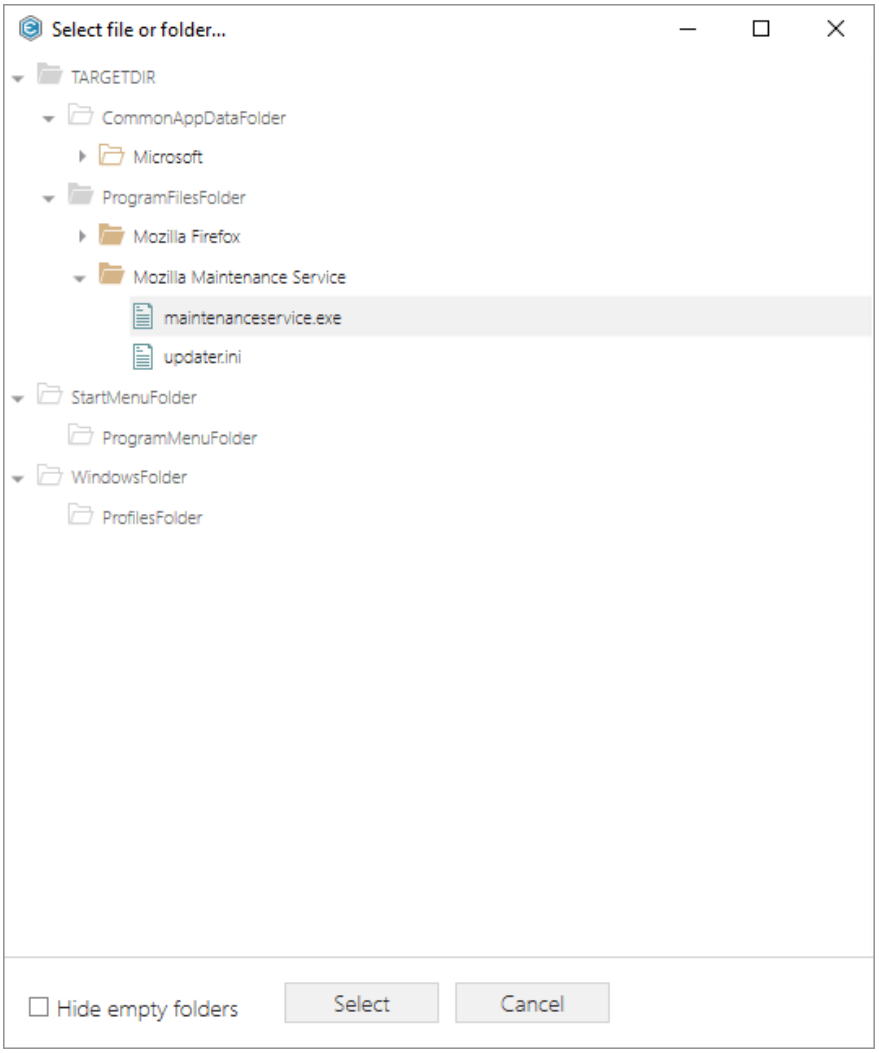
[1]. Open the **Shortcuts** tab.



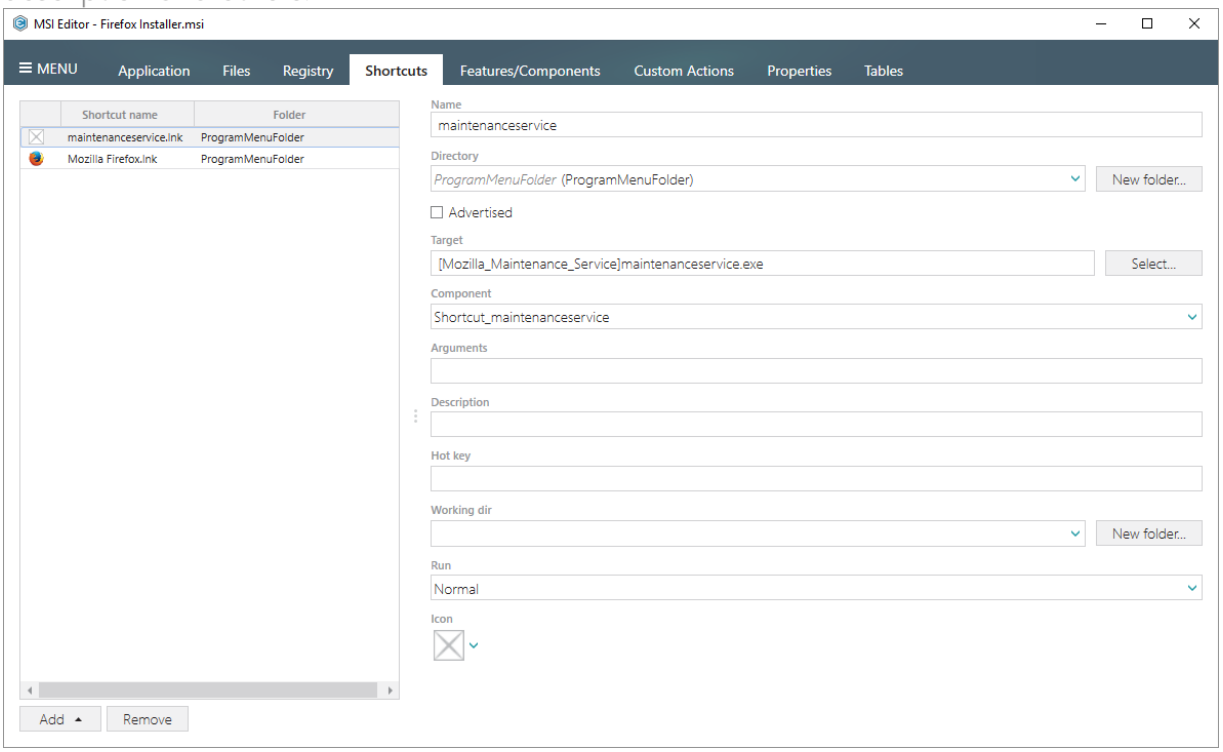
[2]. Click Add -> New shortcut to file/folder...



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

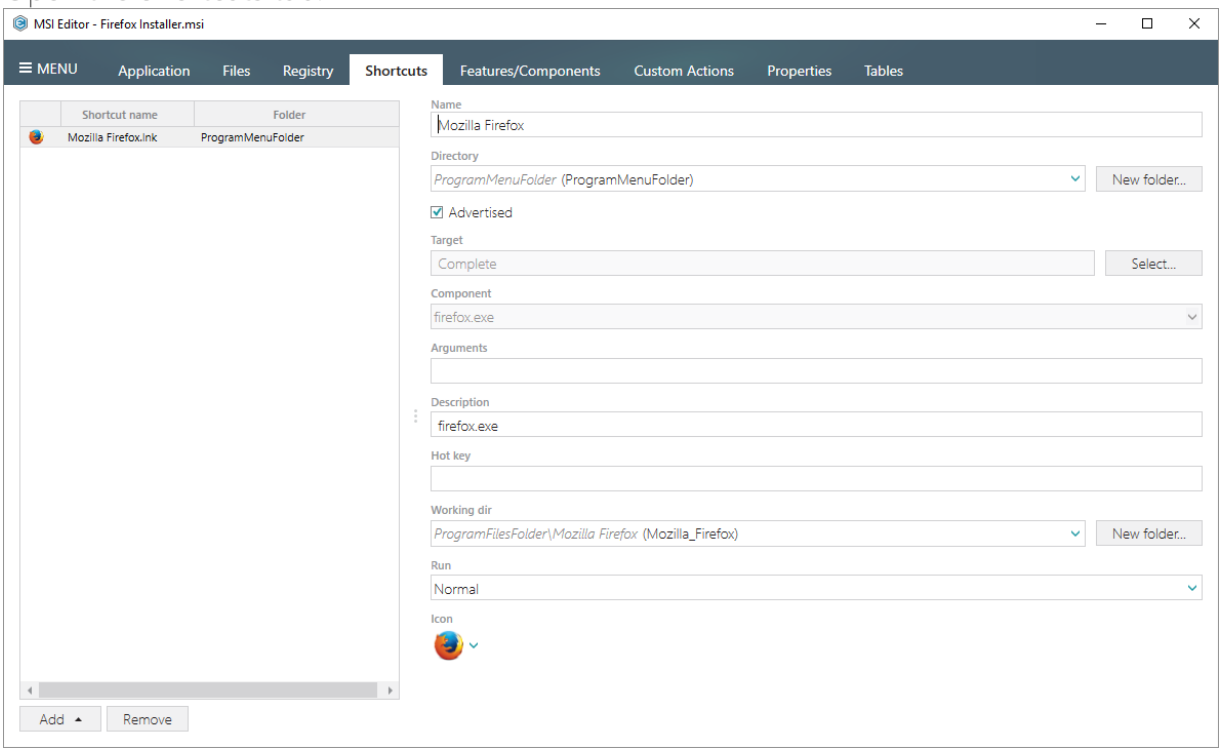


[4]. Review and modify details of the created shortcut such as name, directory, icon, description and others.

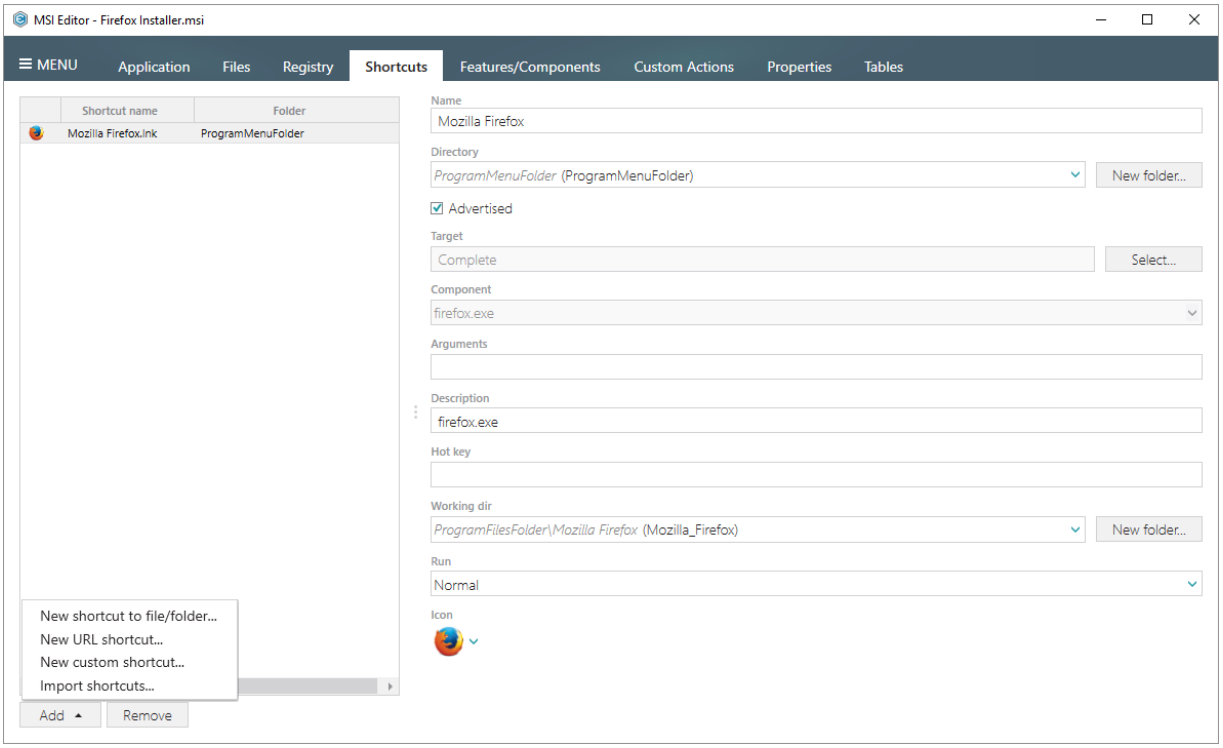


3.6.4.2 Add URL Shortcut

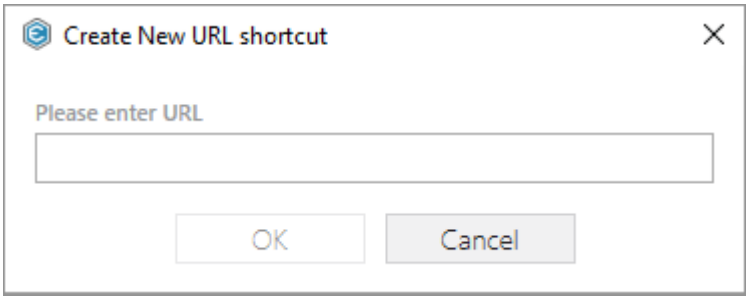
[1]. Open the **Shortcuts** tab.



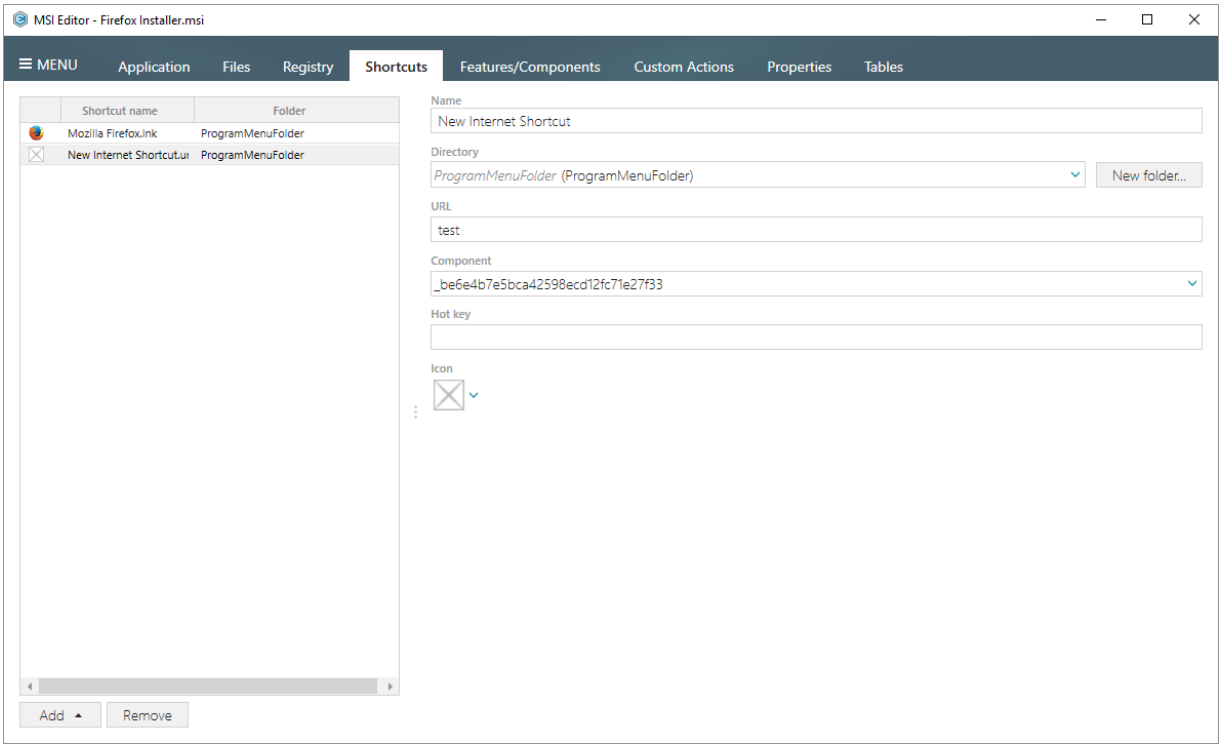
[2]. Click Add -> New URL shortcut...



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

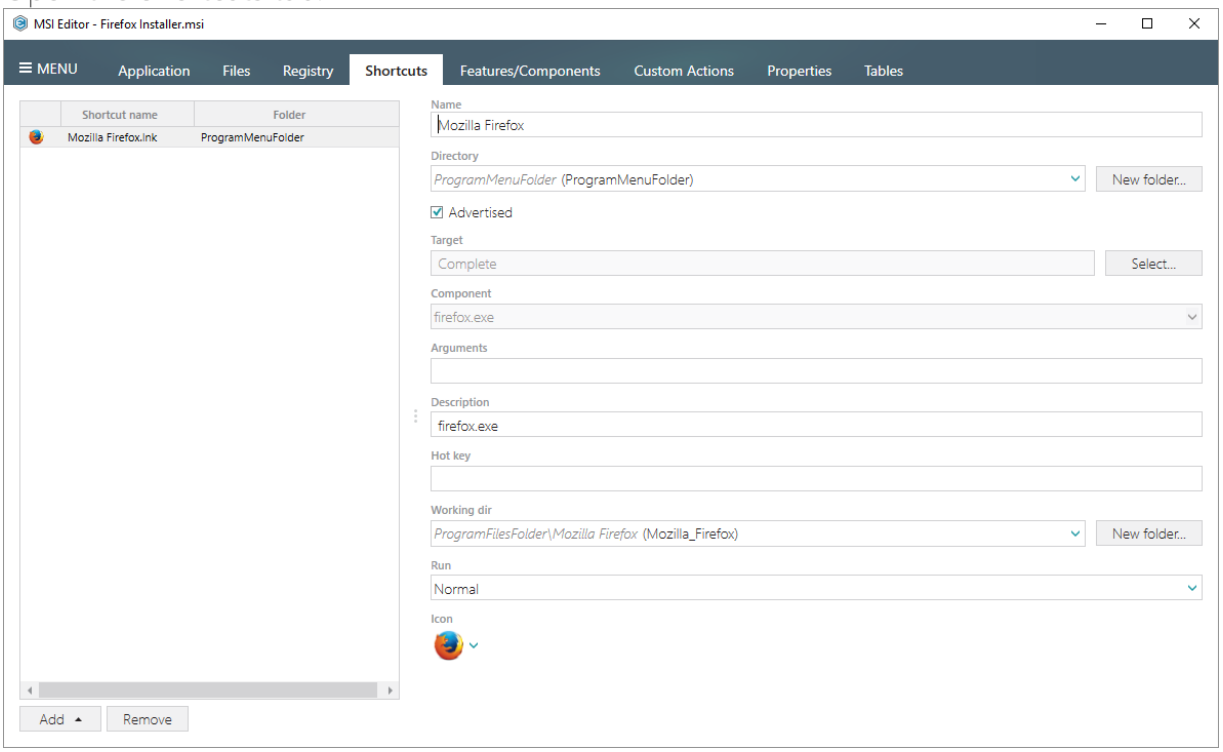


[4]. Review and modify details of the created shortcut such as name, directory, icon, URL and others.

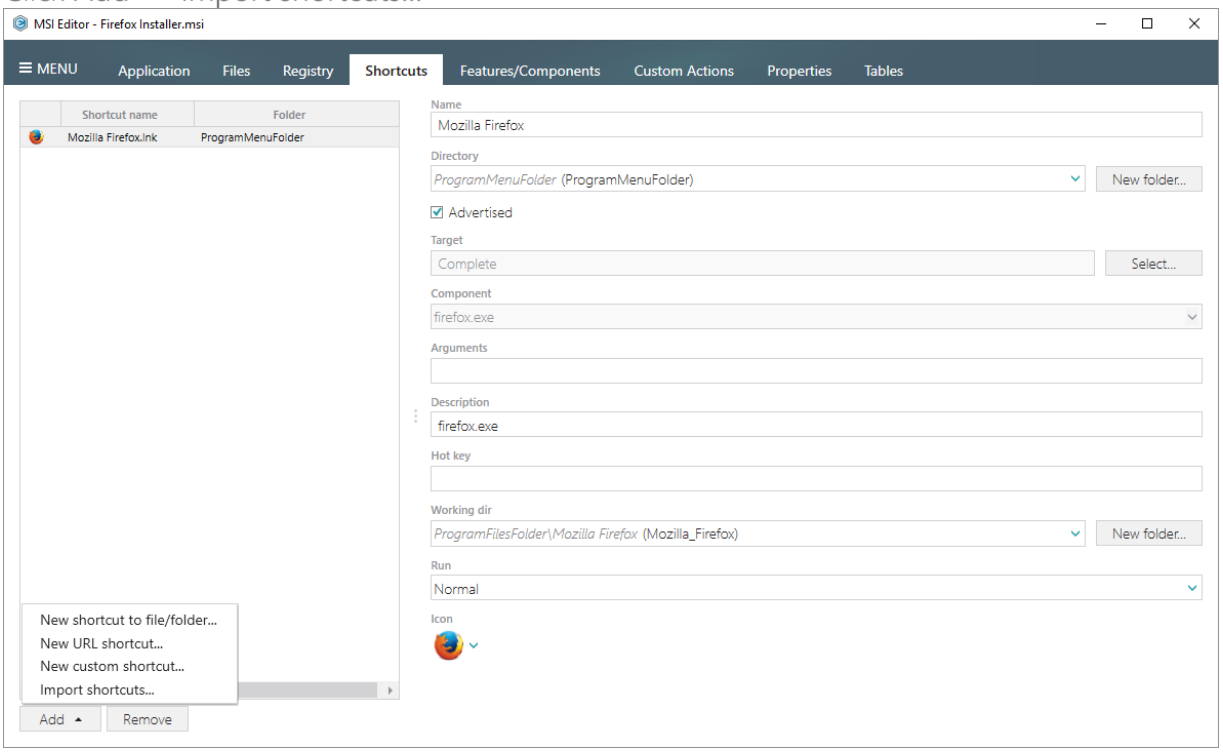


3.6.4.3 Import Shortcuts

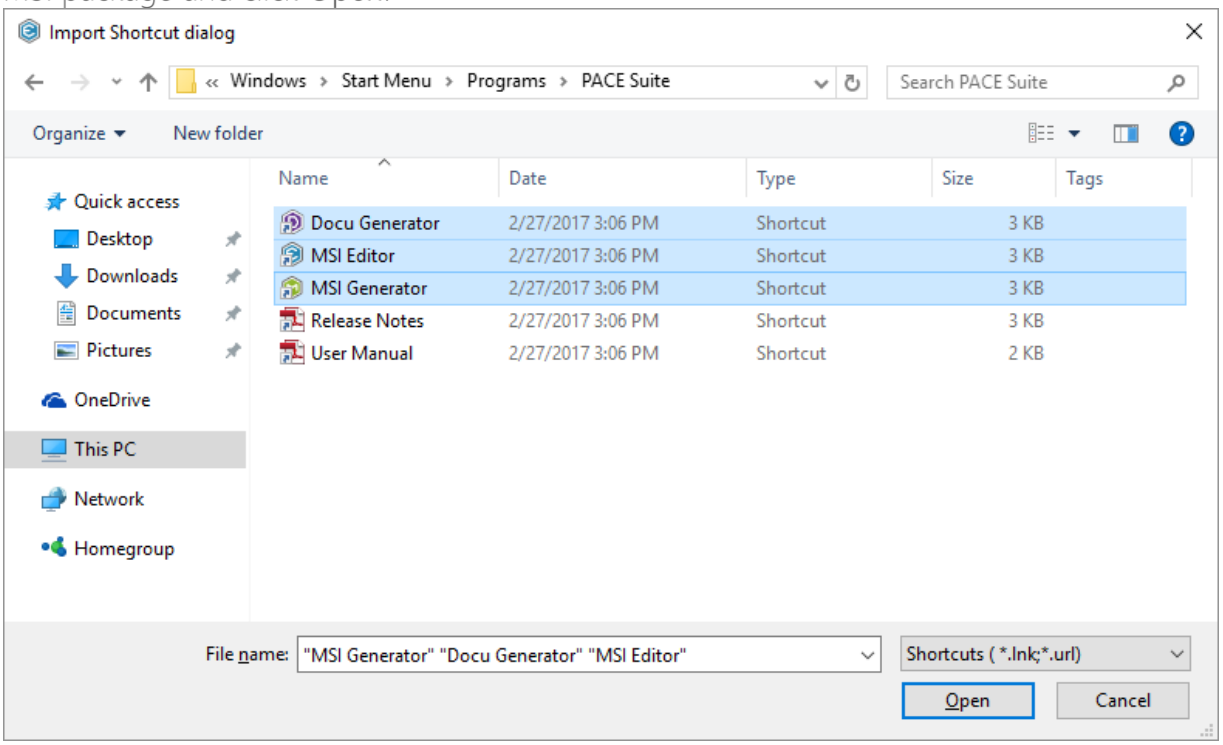
[1]. Open the **Shortcuts** tab.



[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.

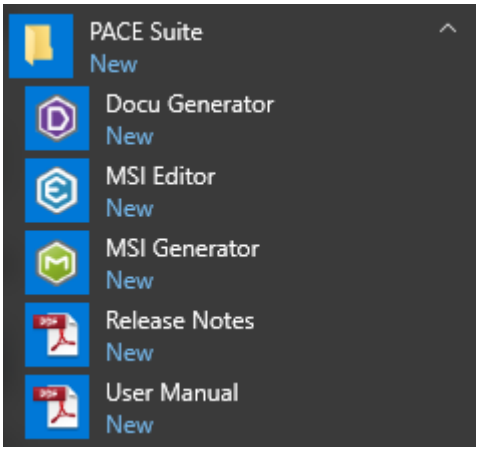


3.7 Edit Project

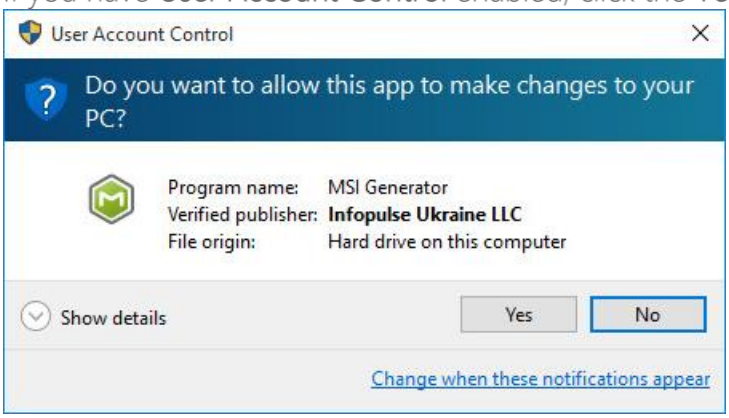
3.7.1 Pre-Condition

Open a project file following the instructions below:

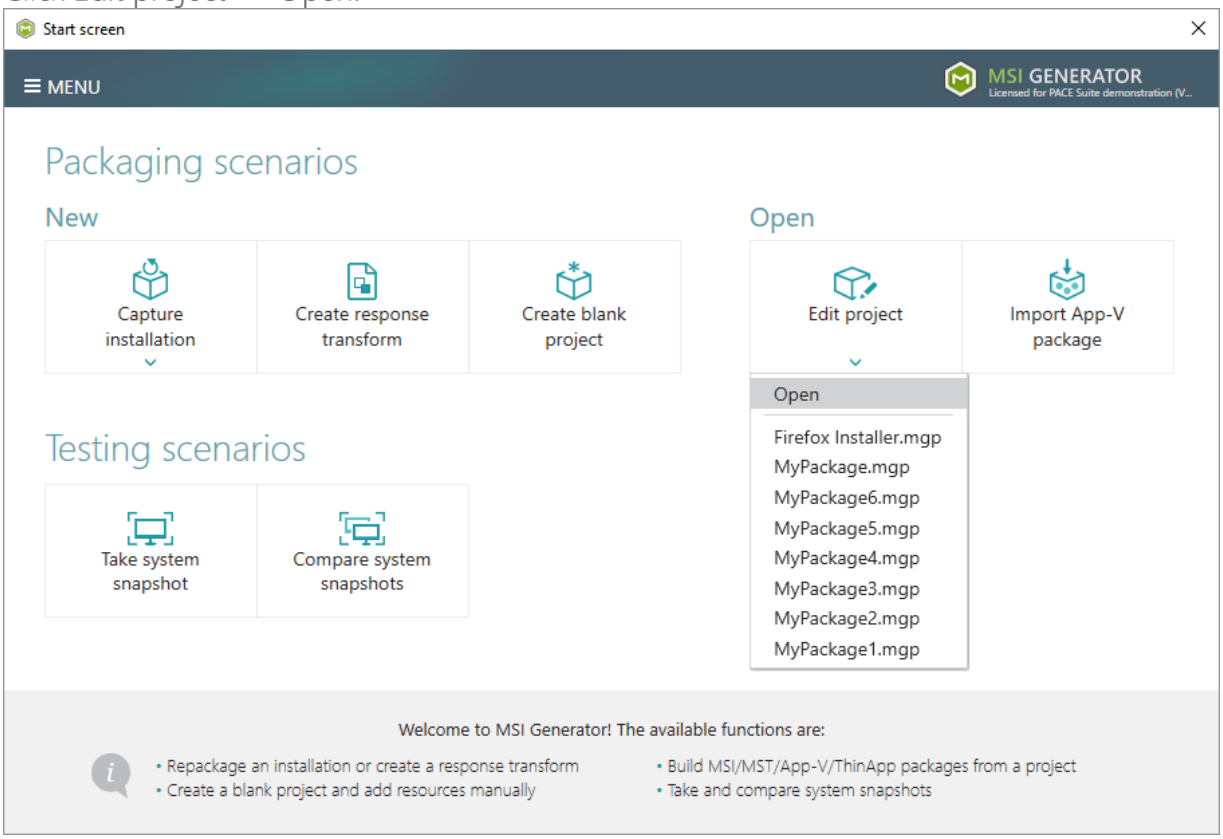
[1]. Launch MSI Generator.



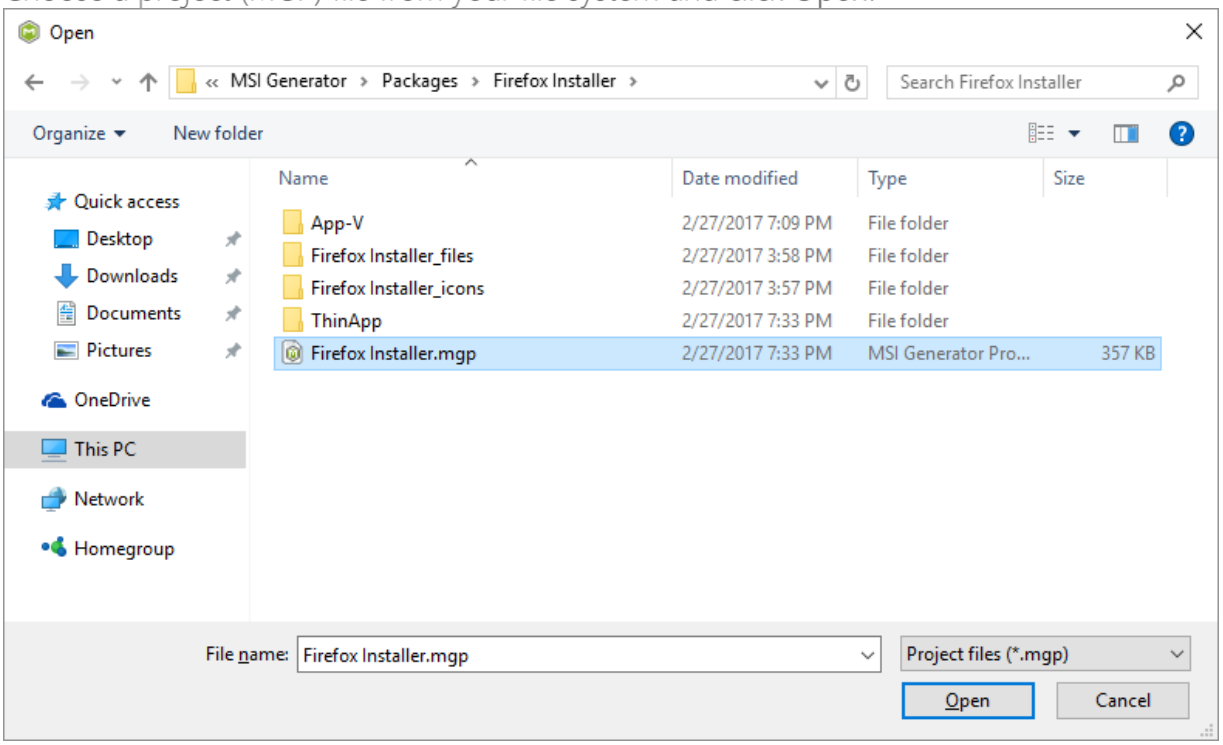
[2]. If you have User Account Control enabled, click the Yes in the opened window.



[3]. Click Edit project -> Open.



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



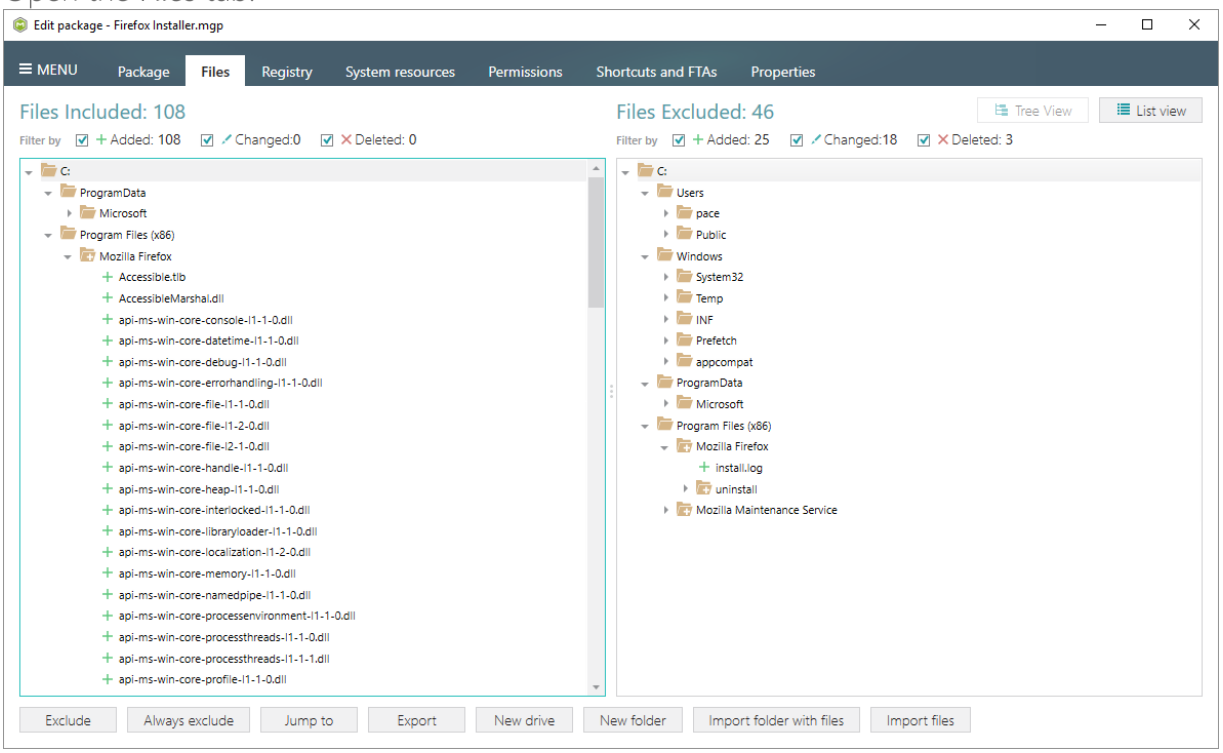
3.7.2 File and Folders

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.

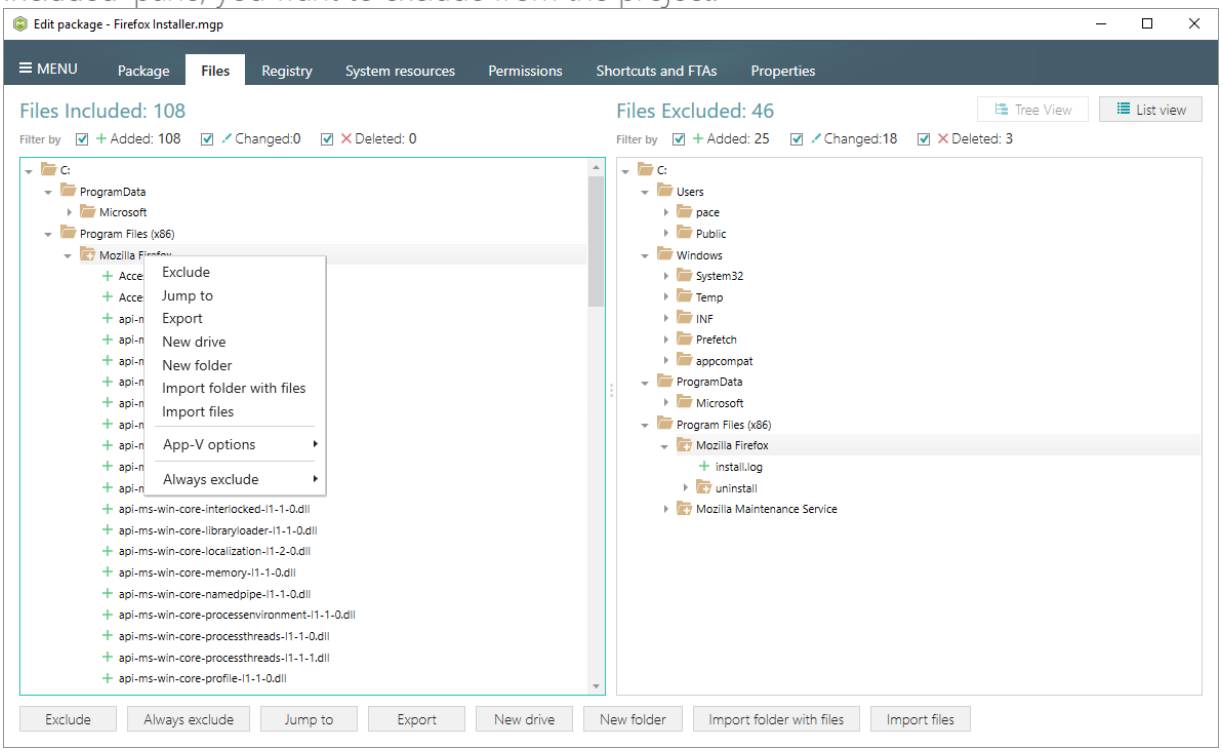
3.7.2.1 Exclude Files and Folders

Exclude unnecessary resources from the project.

[1]. Open the **Files** tab.



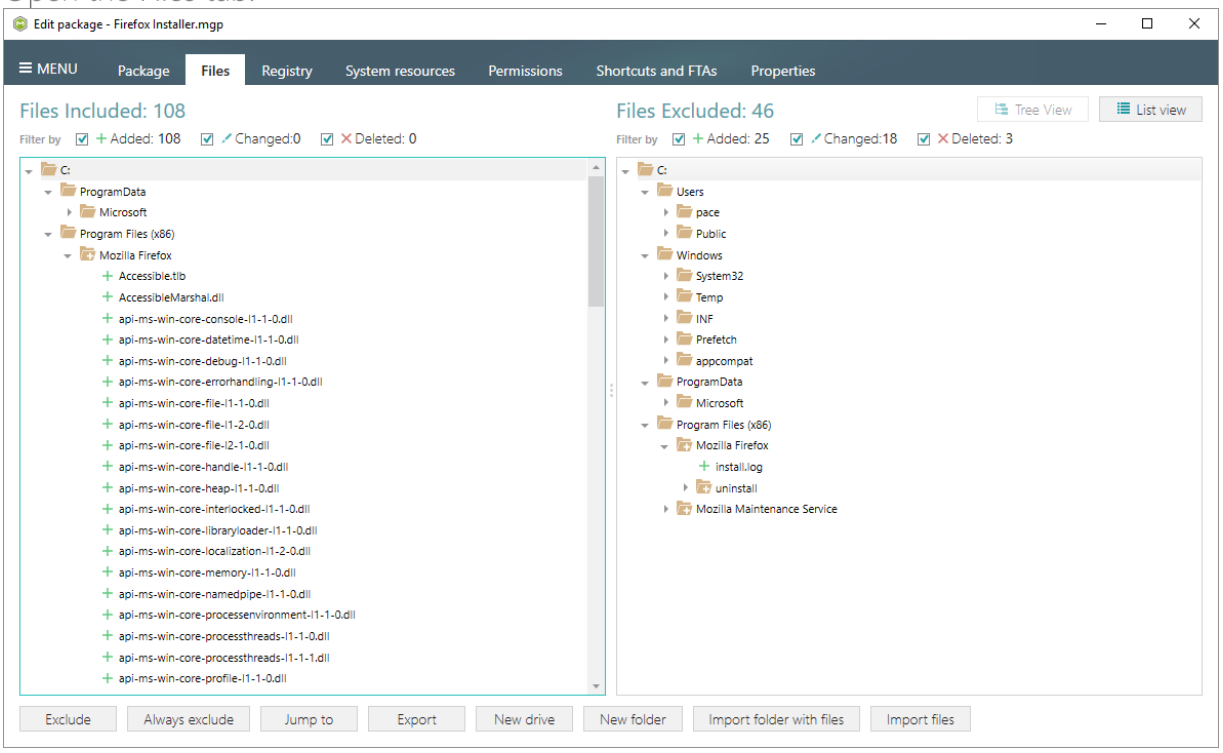
[2]. Select **Exclude** from the context menu of an item, which is located in the left '**Files Included**' pane, you want to exclude from the project.



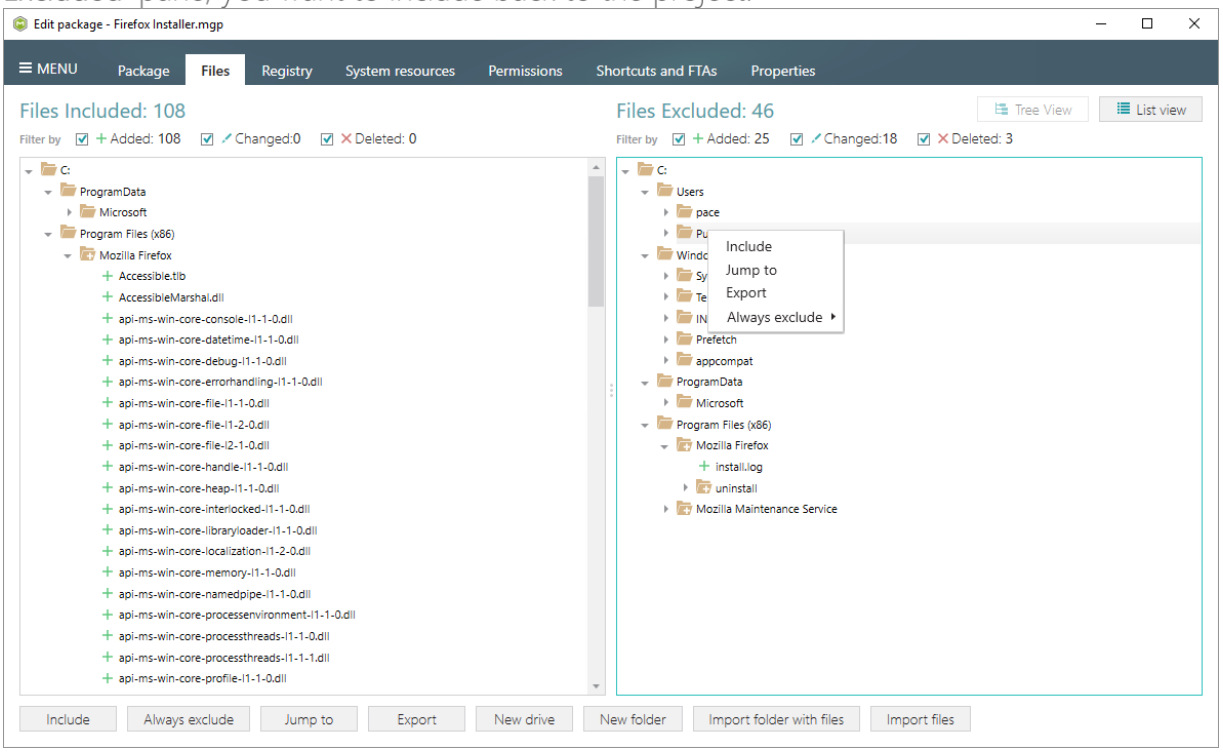
3.7.2.2 Include Files and Folders

Include necessary resources, previously excluded from the project.

[1]. Open the **Files** tab.

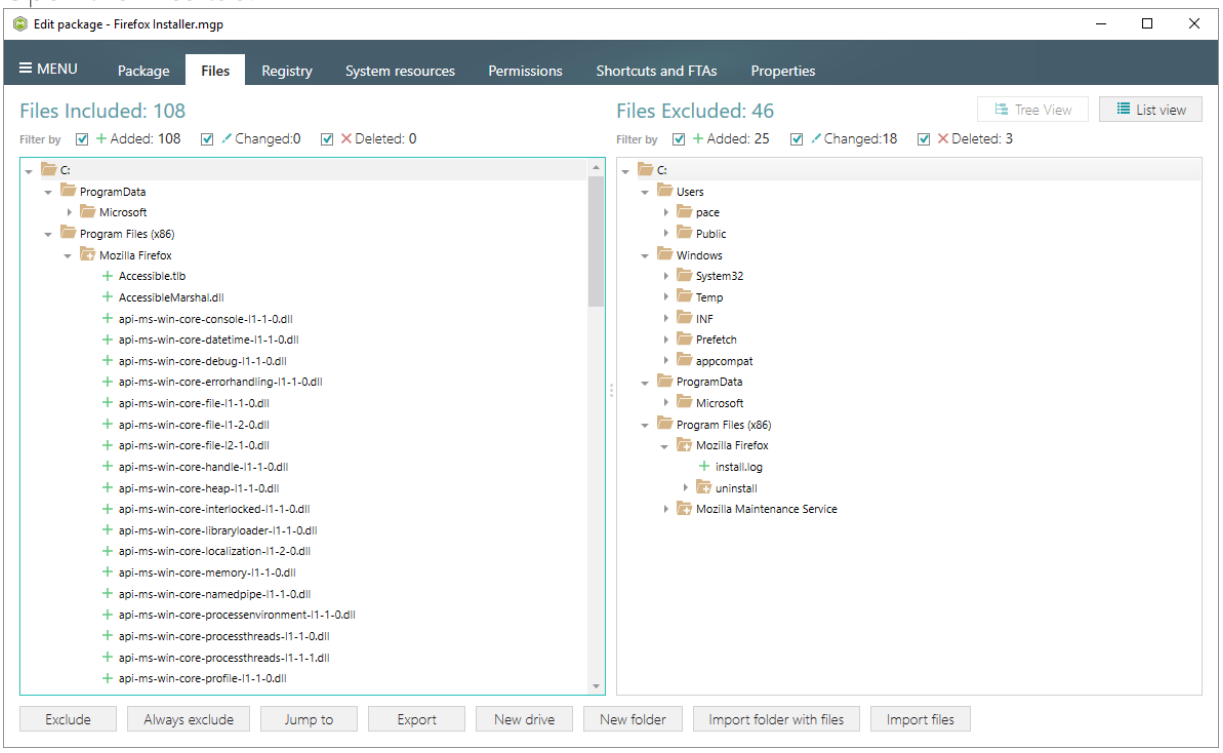


[2]. Select **Include** from the context menu of an item, which is located in the right '**Files Excluded**' pane, you want to include back to the project.

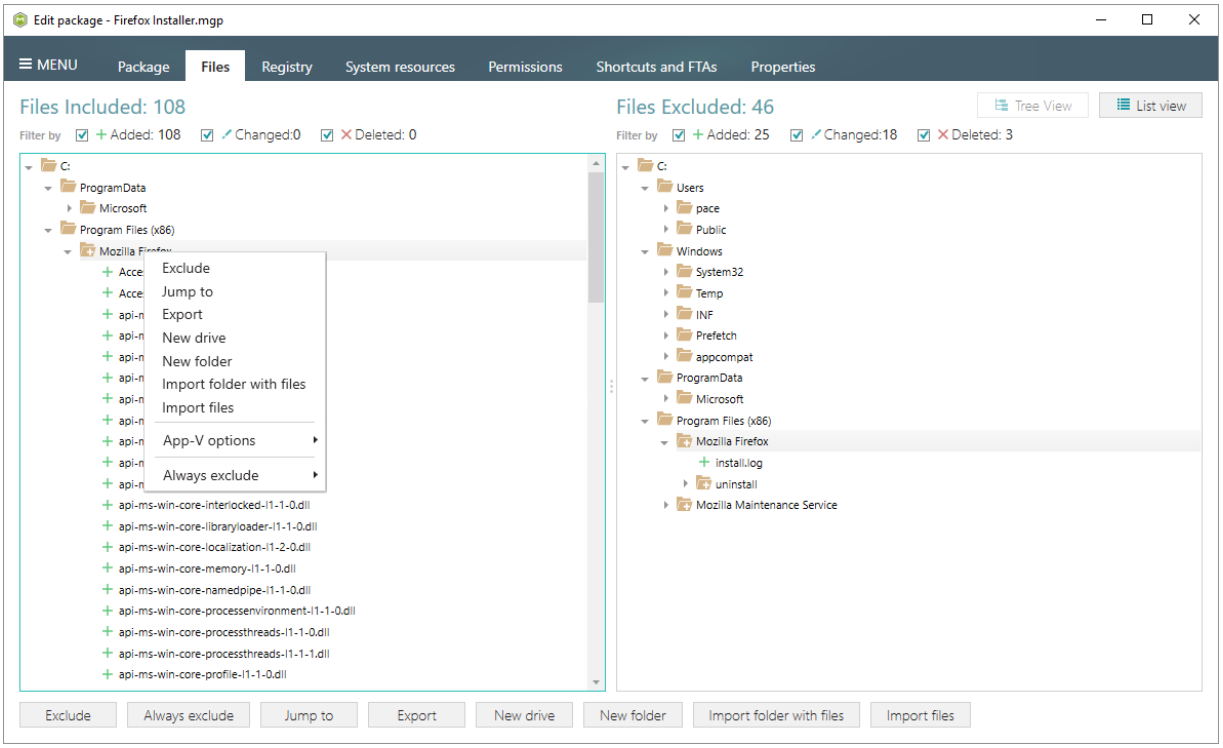


3.7.2.3 Add Custom Folder

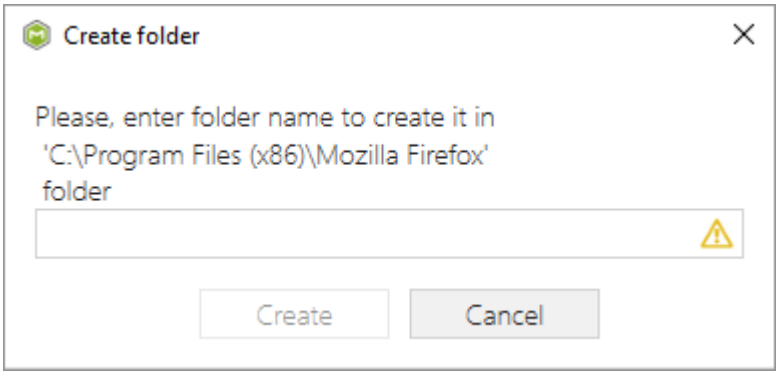
[1]. Open the **Files** tab.



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

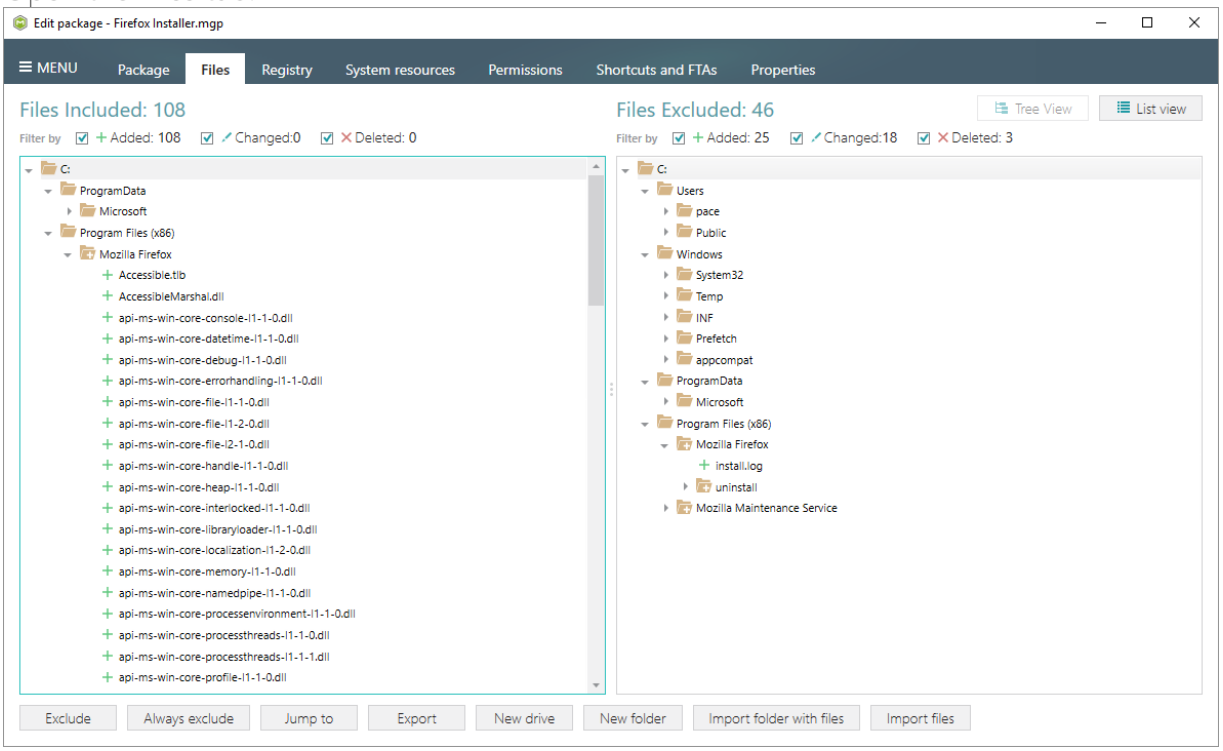


[3]. Enter a folder name and click **Create**.

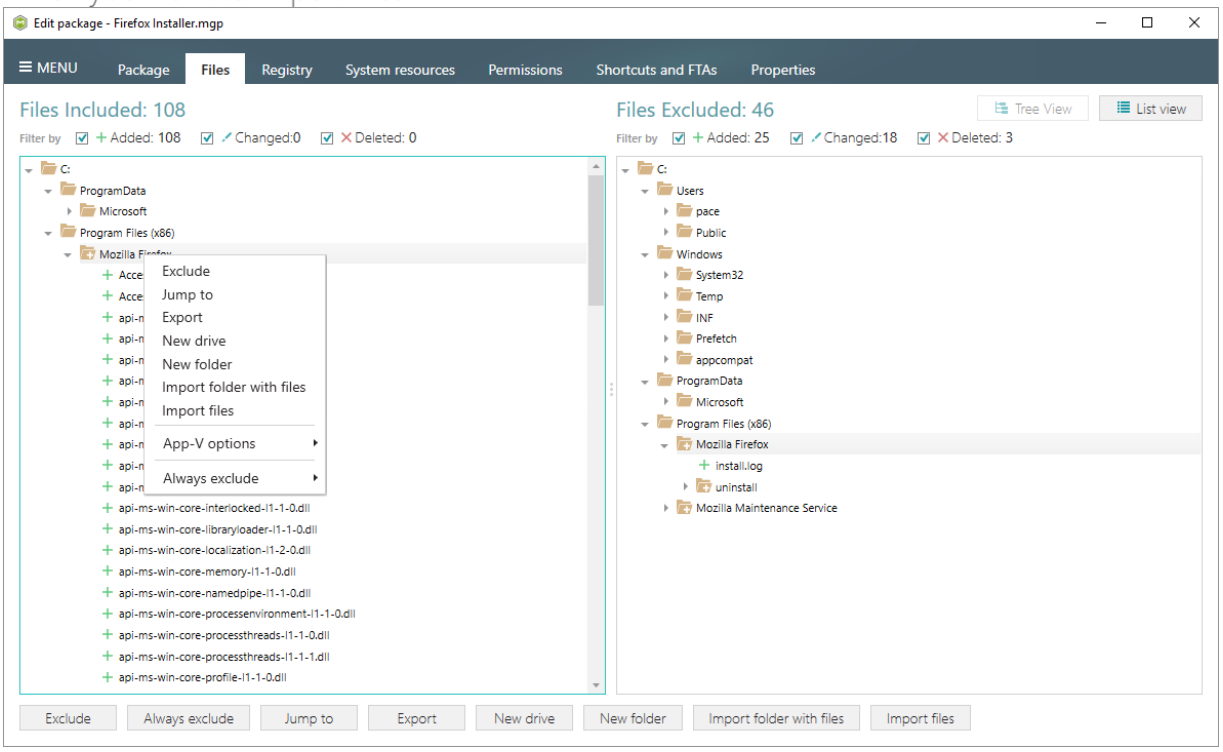


3.7.2.4 Import Files

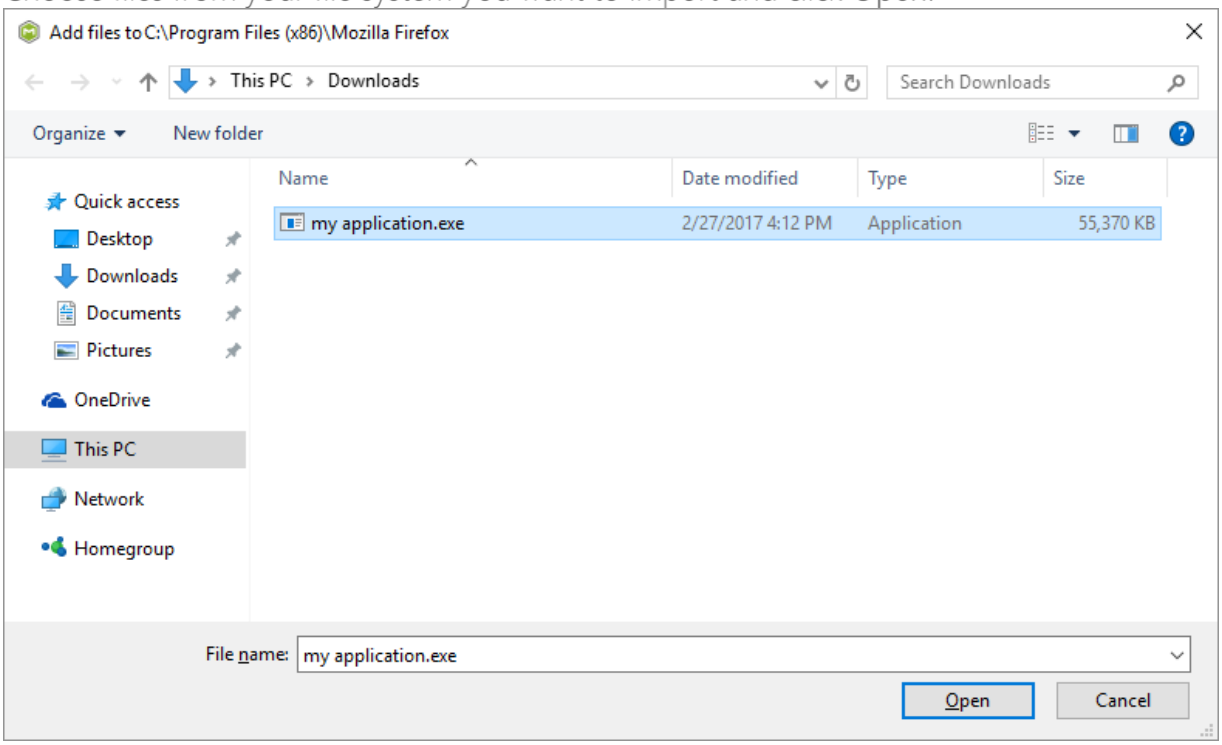
[1]. Open the **Files** tab.



[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.



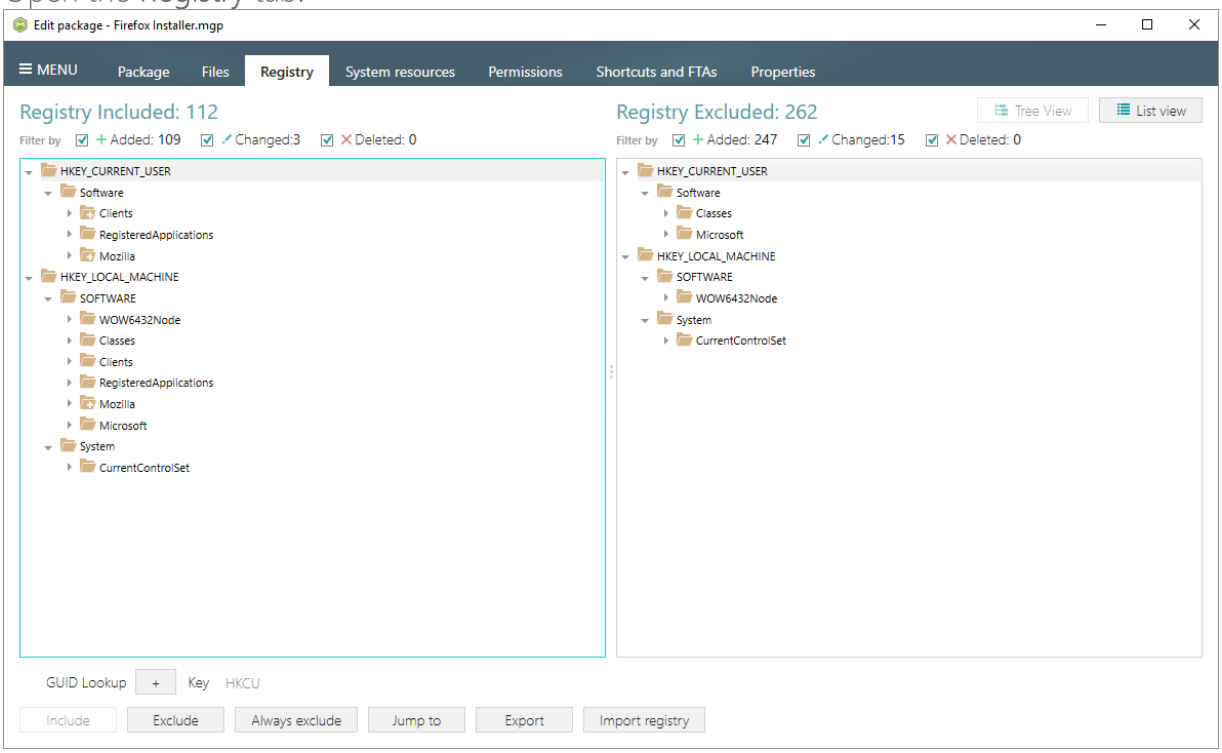
3.7.3 Registry

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.

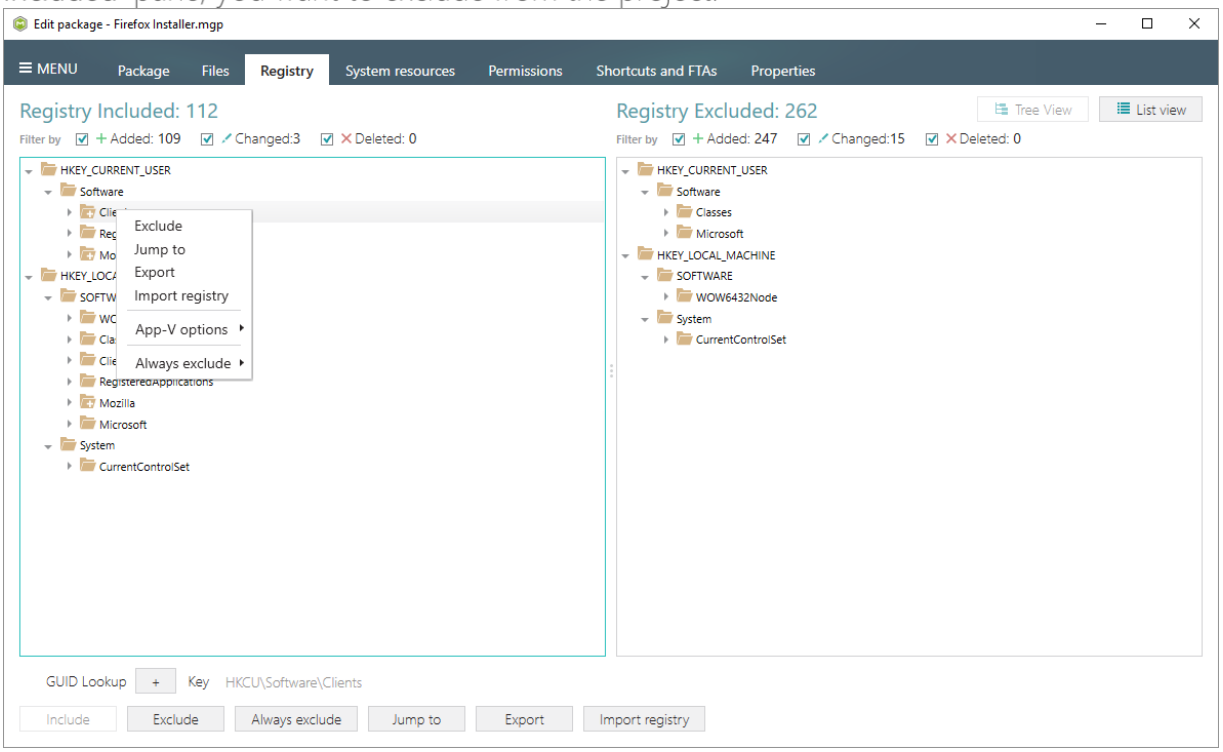
3.7.3.1 Exclude Registry Entries

Exclude unnecessary resources from the project.

[1]. Open the **Registry** tab.



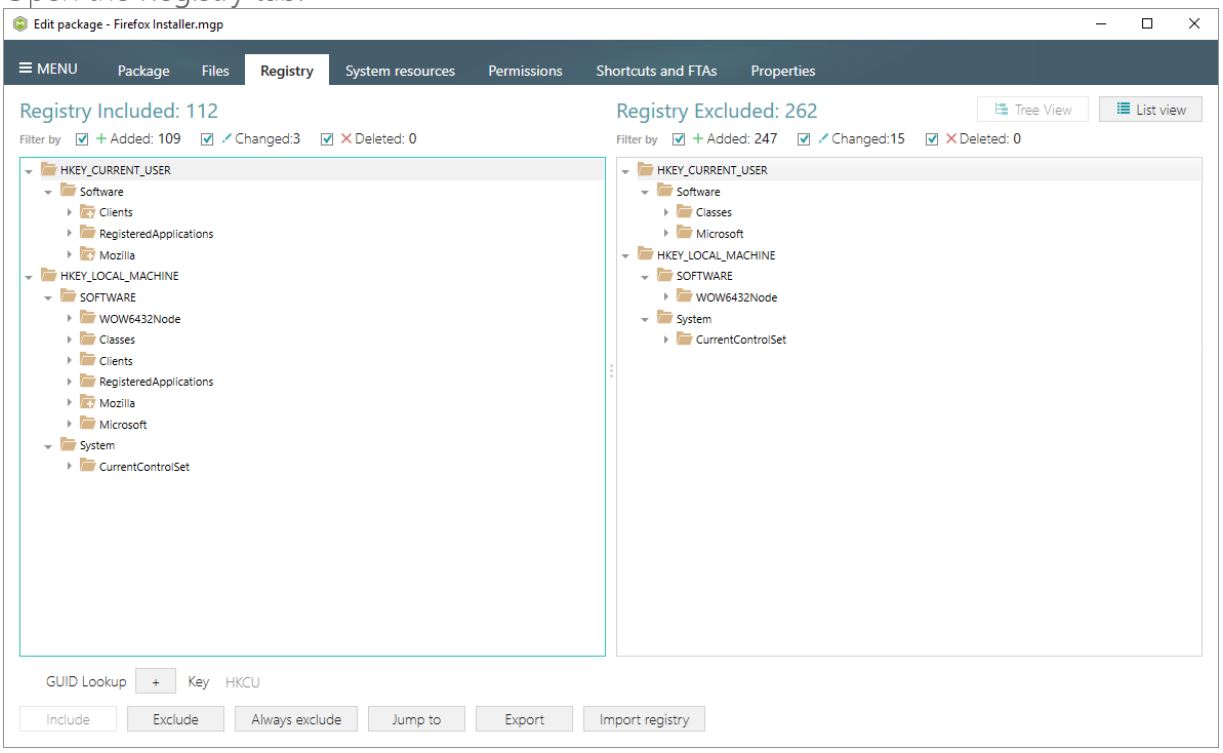
[2]. Select **Exclude** from the context menu of an item, which is located in the left '**Registry Included**' pane, you want to exclude from the project.



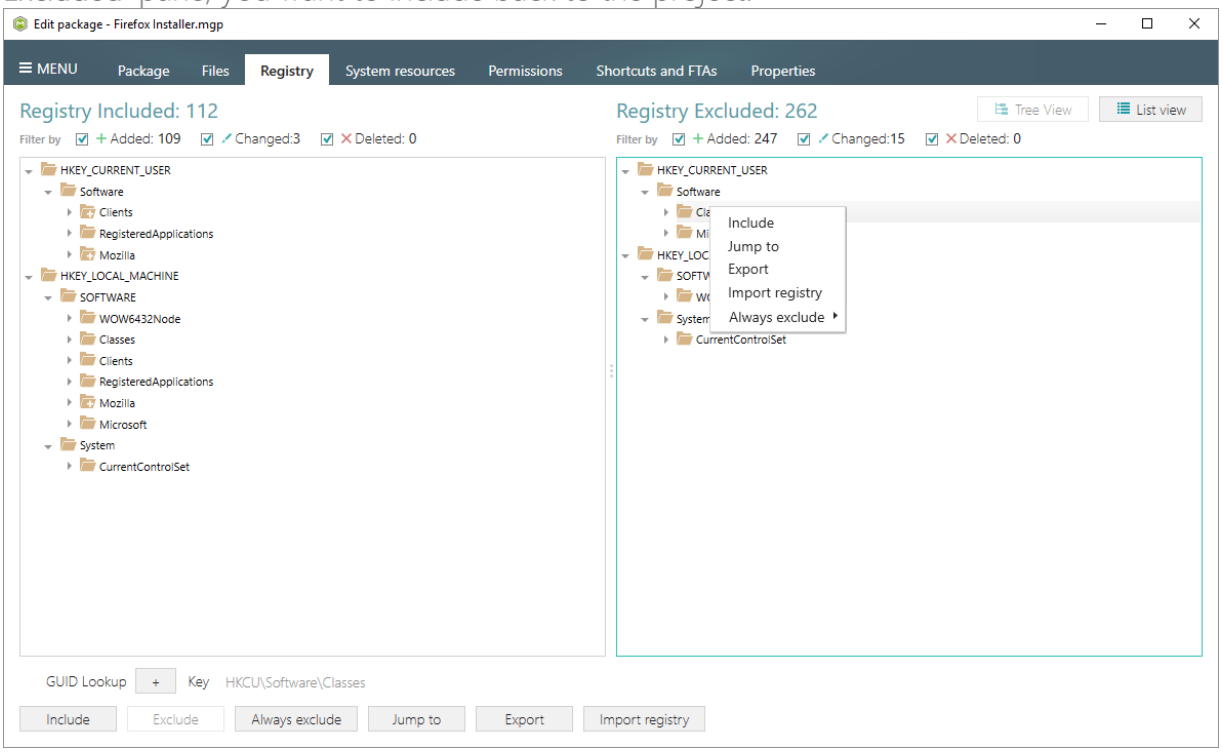
3.7.3.2 Include Registry Entries

Include necessary resources, previously excluded from the project.

[1]. Open the **Registry** tab.

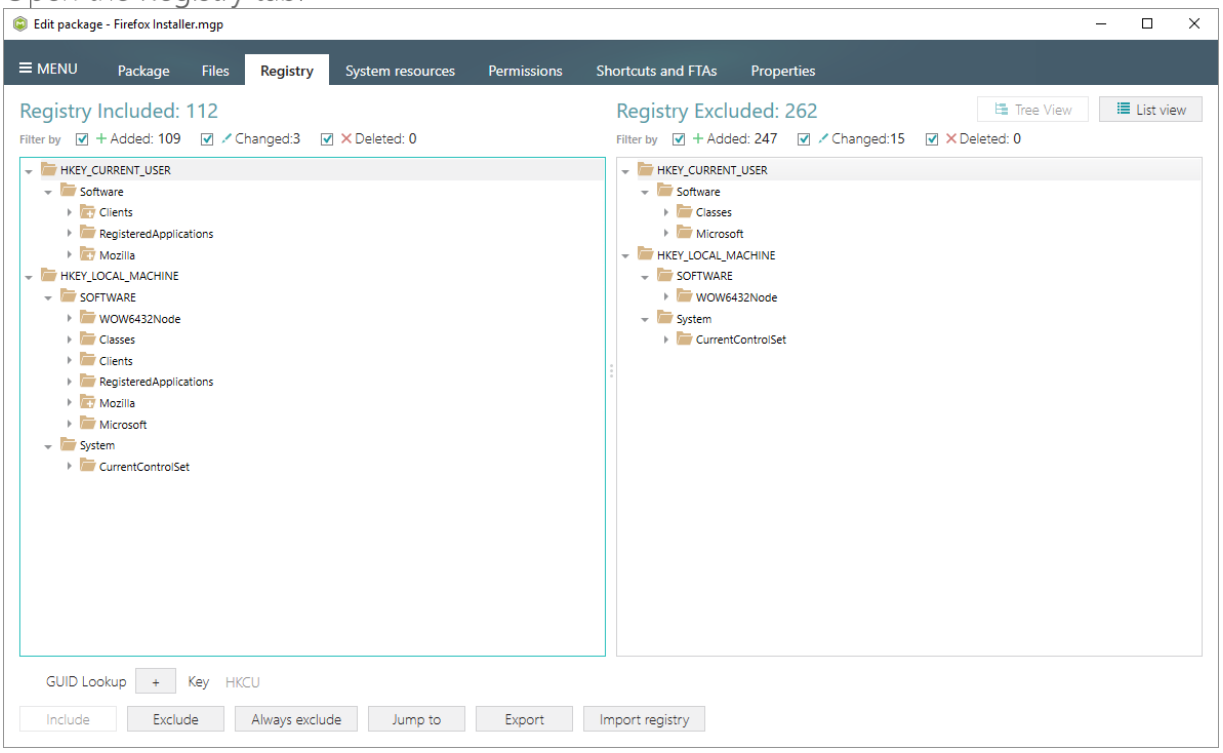


[2]. Select **Include** from the context menu of an item, which is located in the right '**Registry Excluded**' pane, you want to include back to the project.

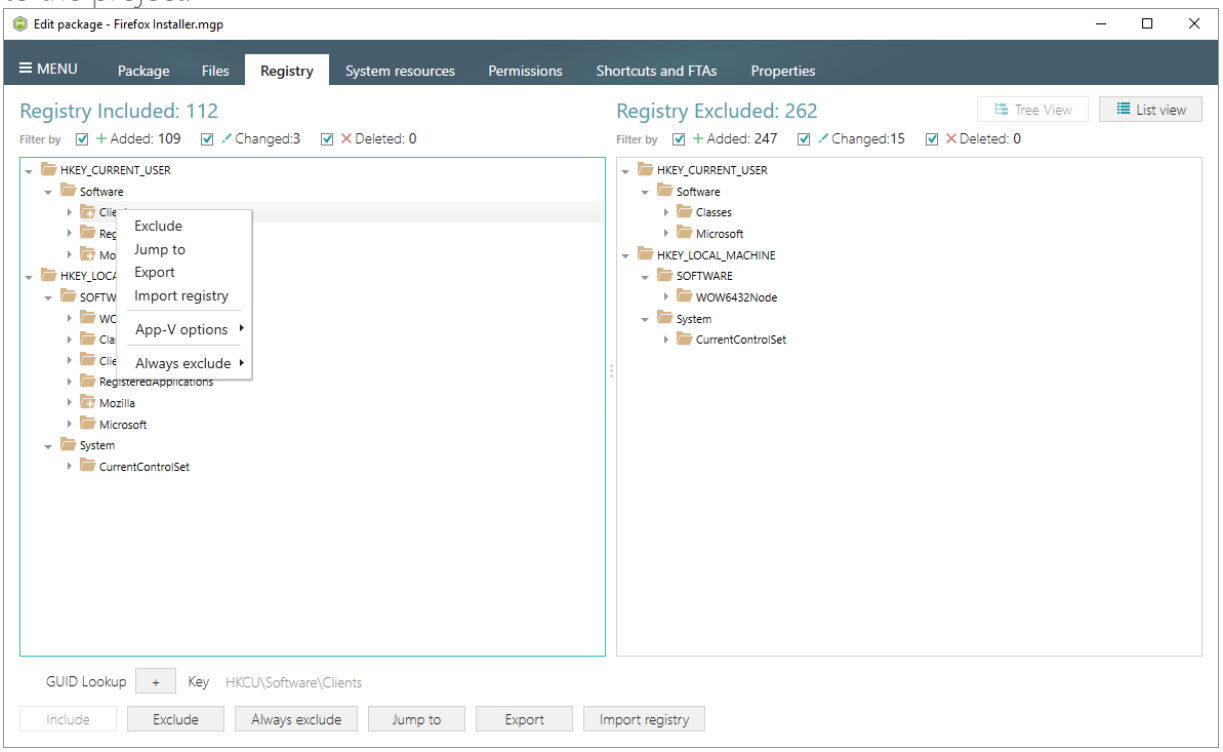


3.7.3.3 Import Registry

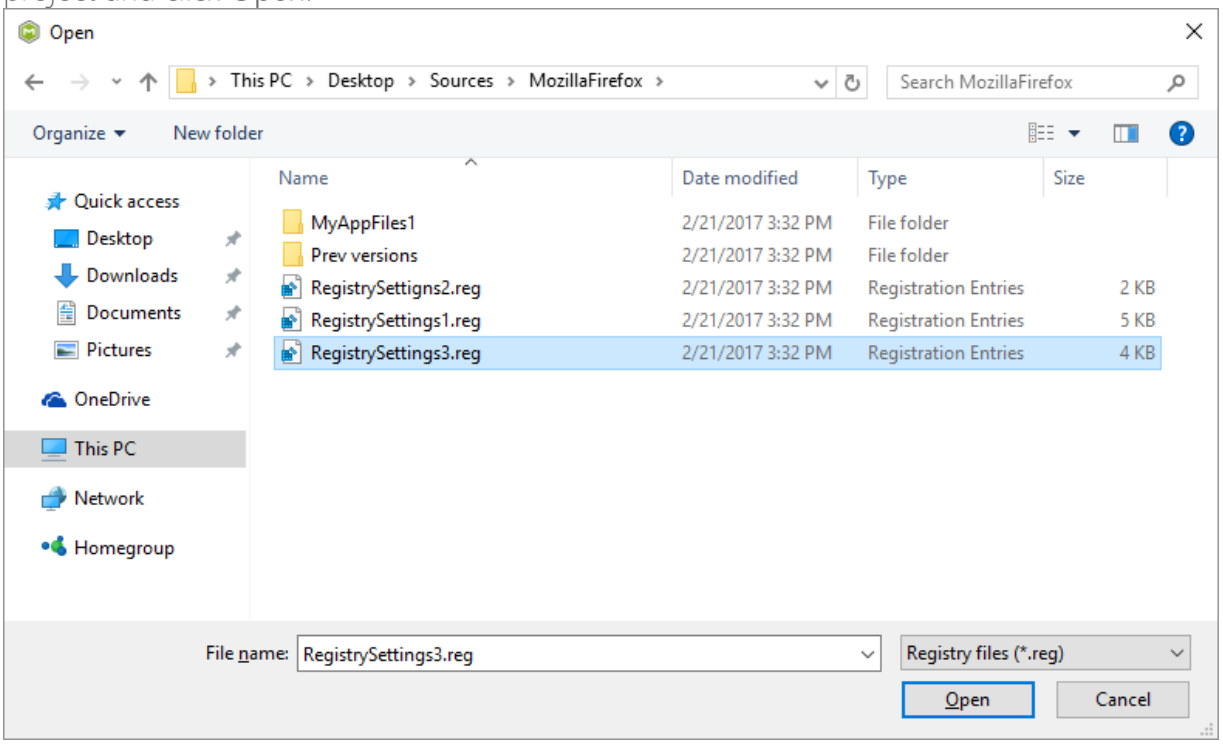
[1]. Open the **Registry** tab.



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

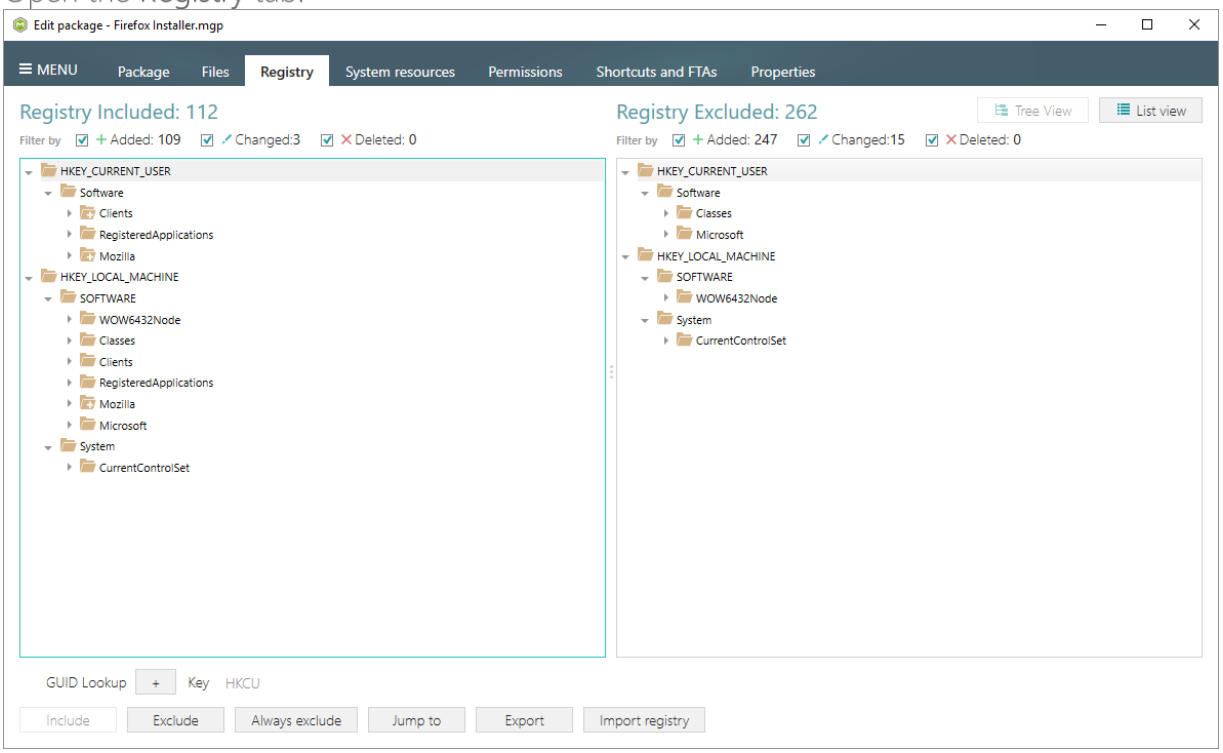


[3]. Choose a REG file from your file system, content of which you want to import to the project and click **Open**.

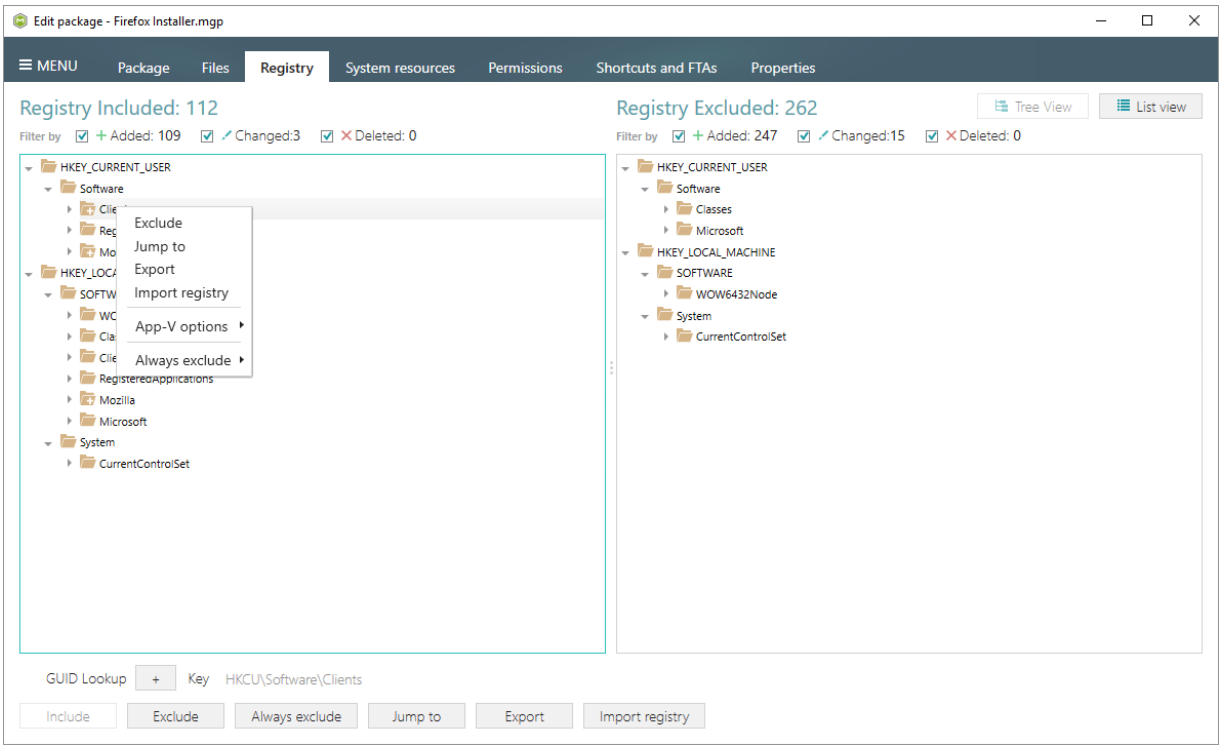


3.7.3.4 Export Registry

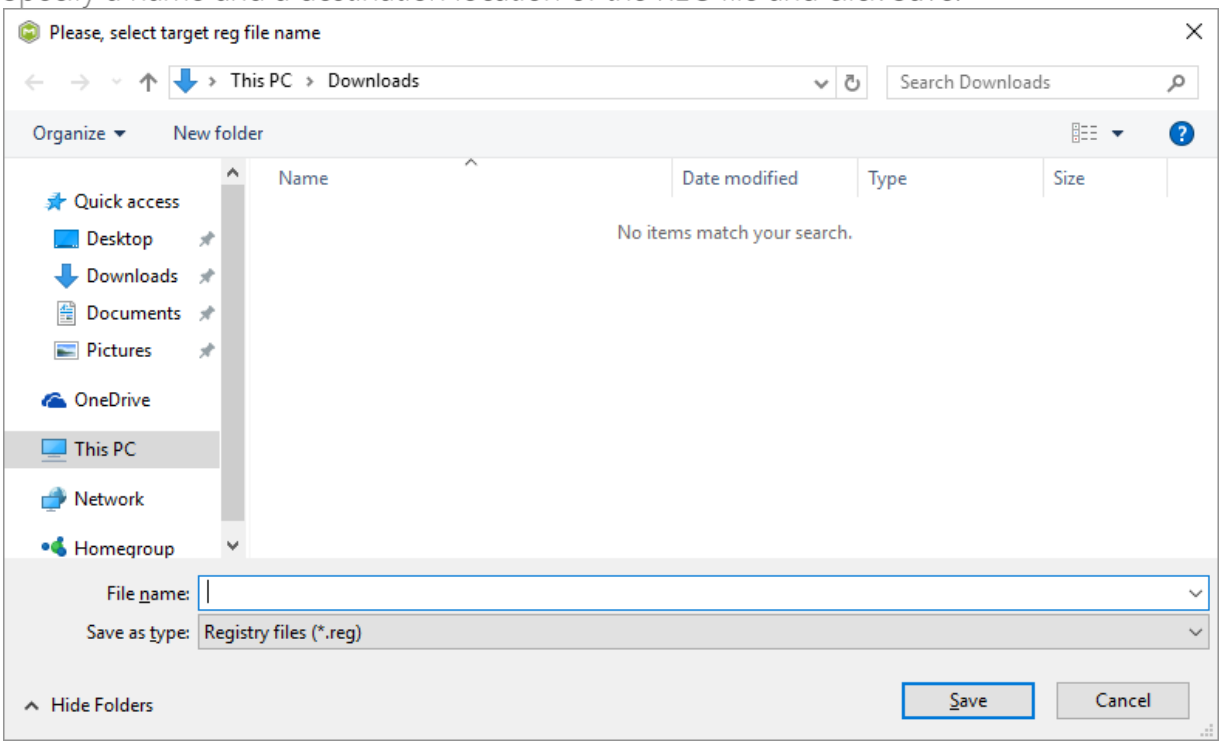
[4]. Open the **Registry** tab.



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



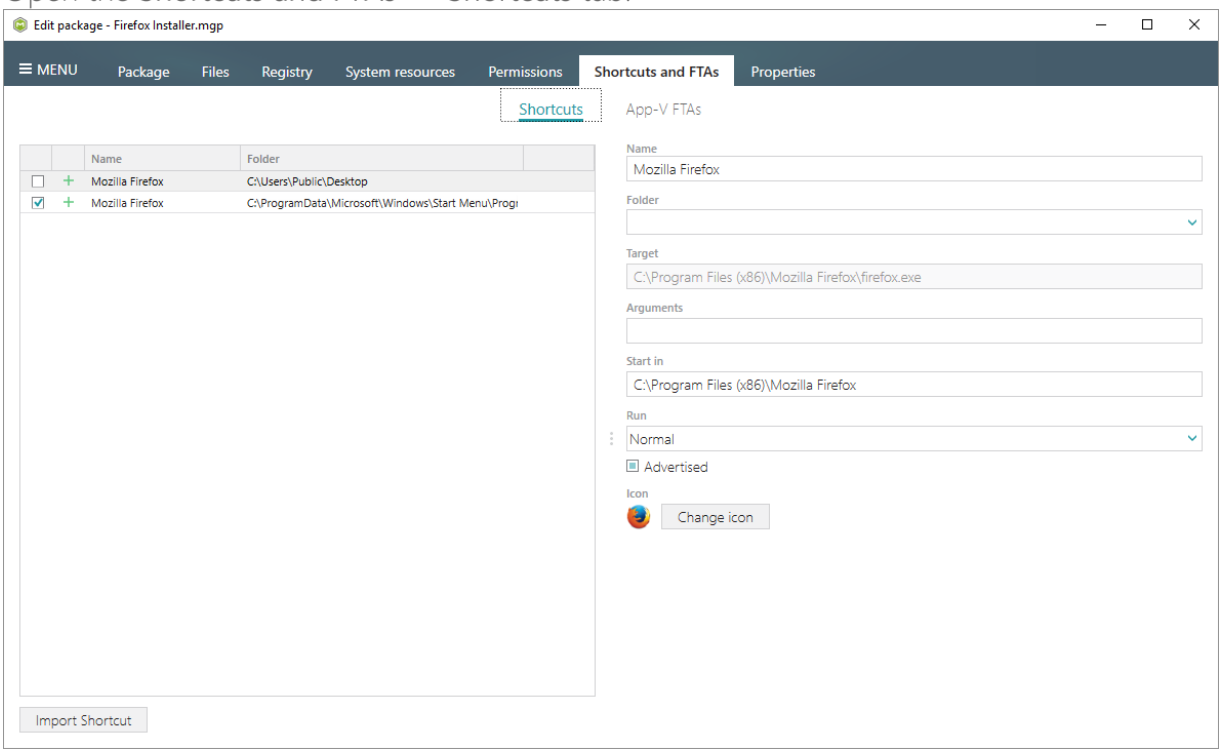
[6]. Specify a name and a destination location of the REG file and click Save.



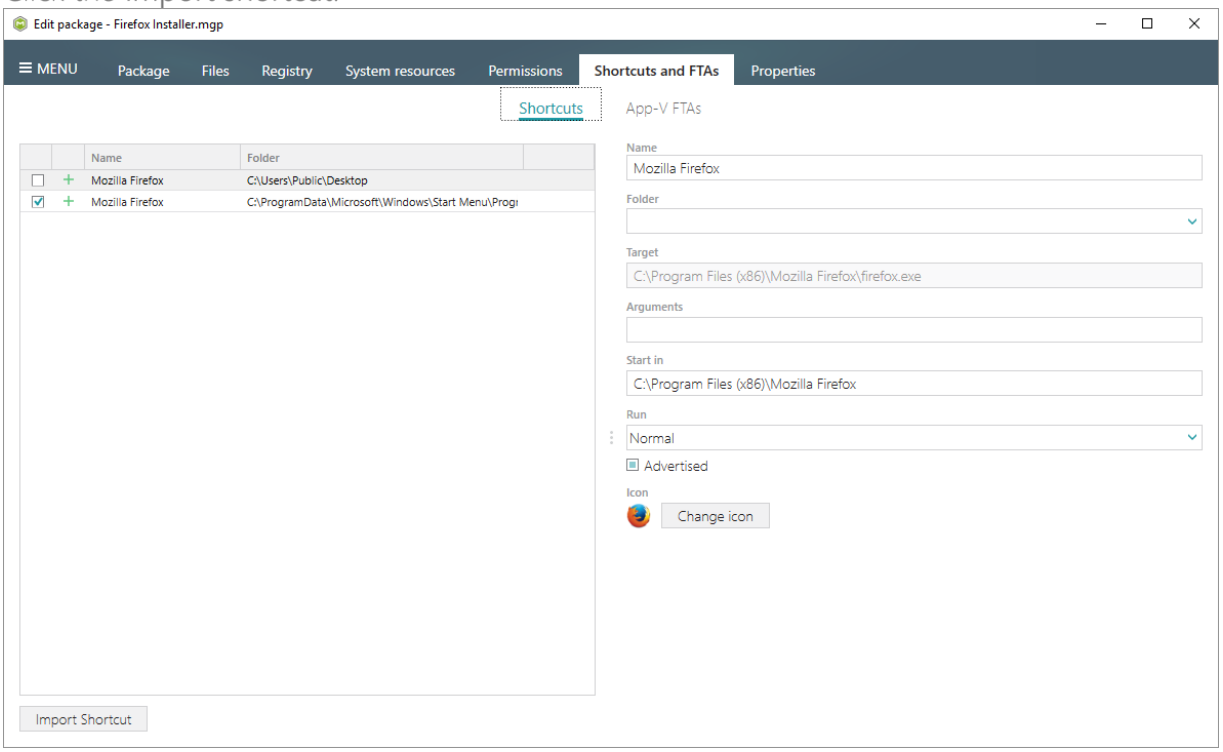
3.7.4 Shortcuts

3.7.4.1 Import Shortcut

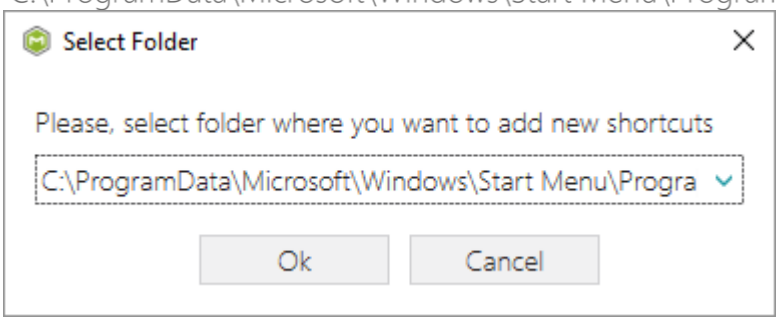
[1]. Open the Shortcuts and FTAs -> Shortcuts tab.



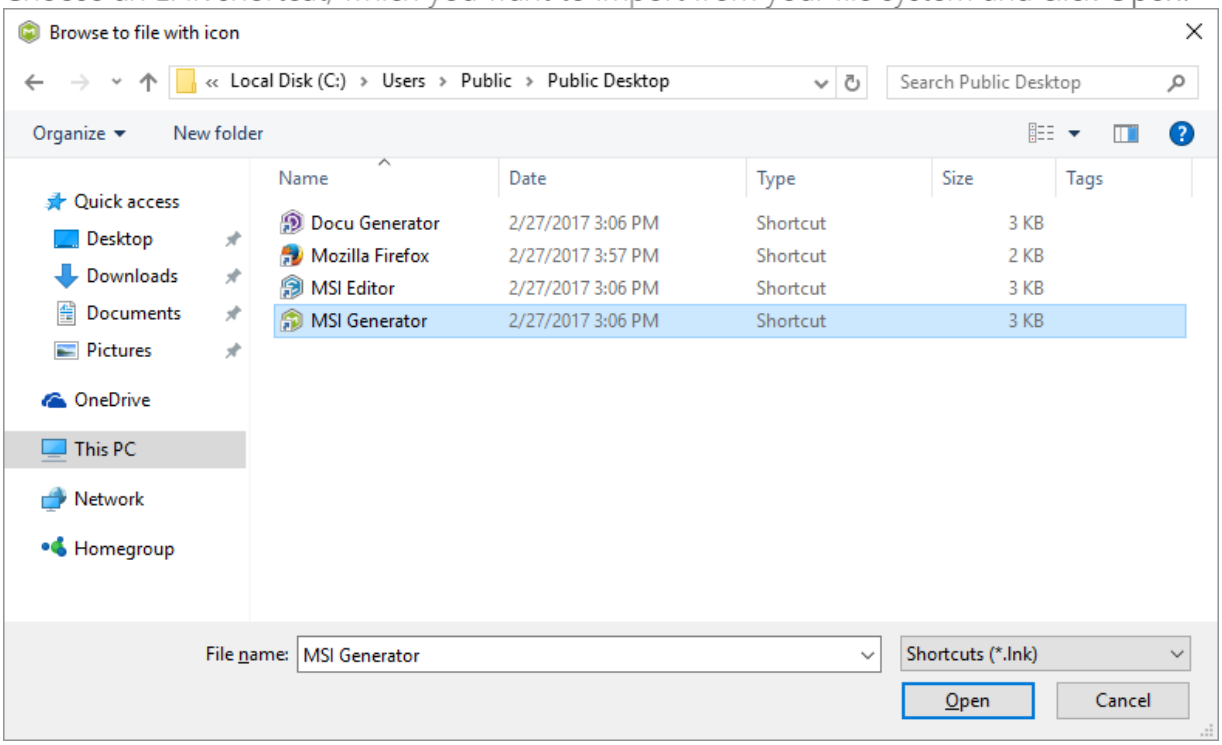
[2]. Click the Import shortcut.



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

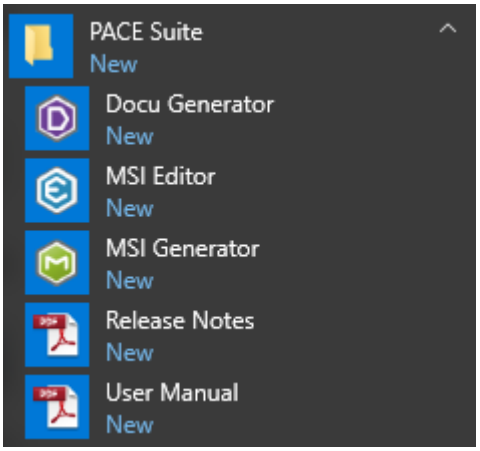


[4]. Choose an LNK shortcut, which you want to import from your file system and click Open.

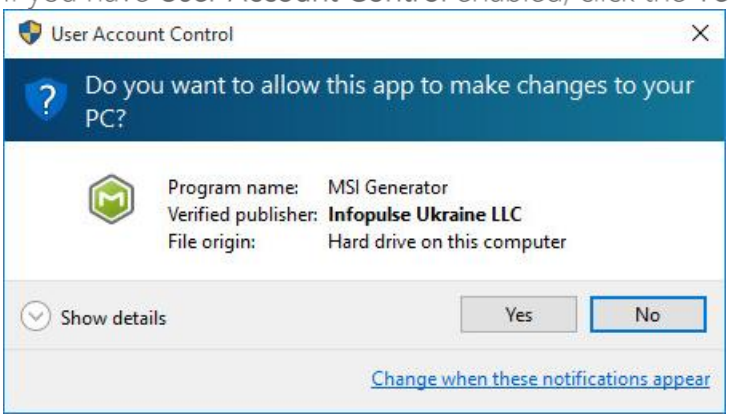


3.8 Edit App-V

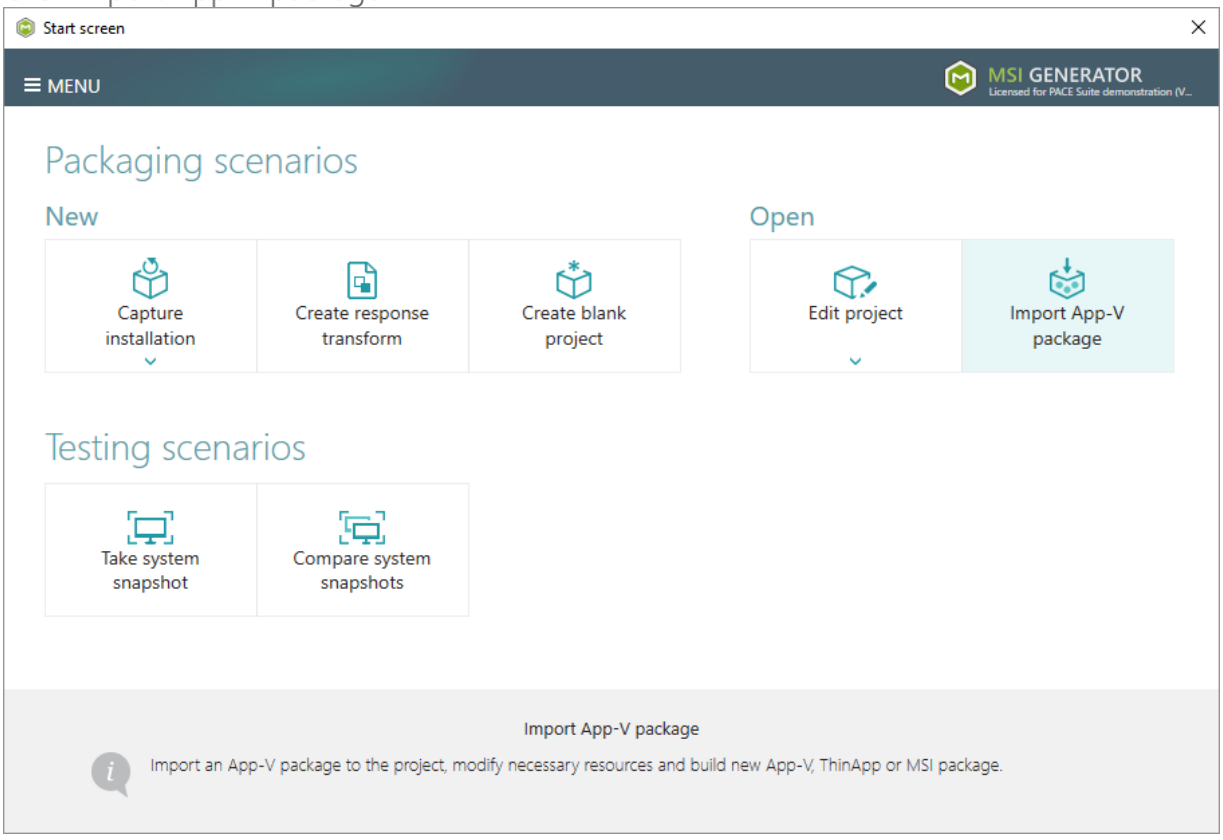
[1]. Launch MSI Generator.



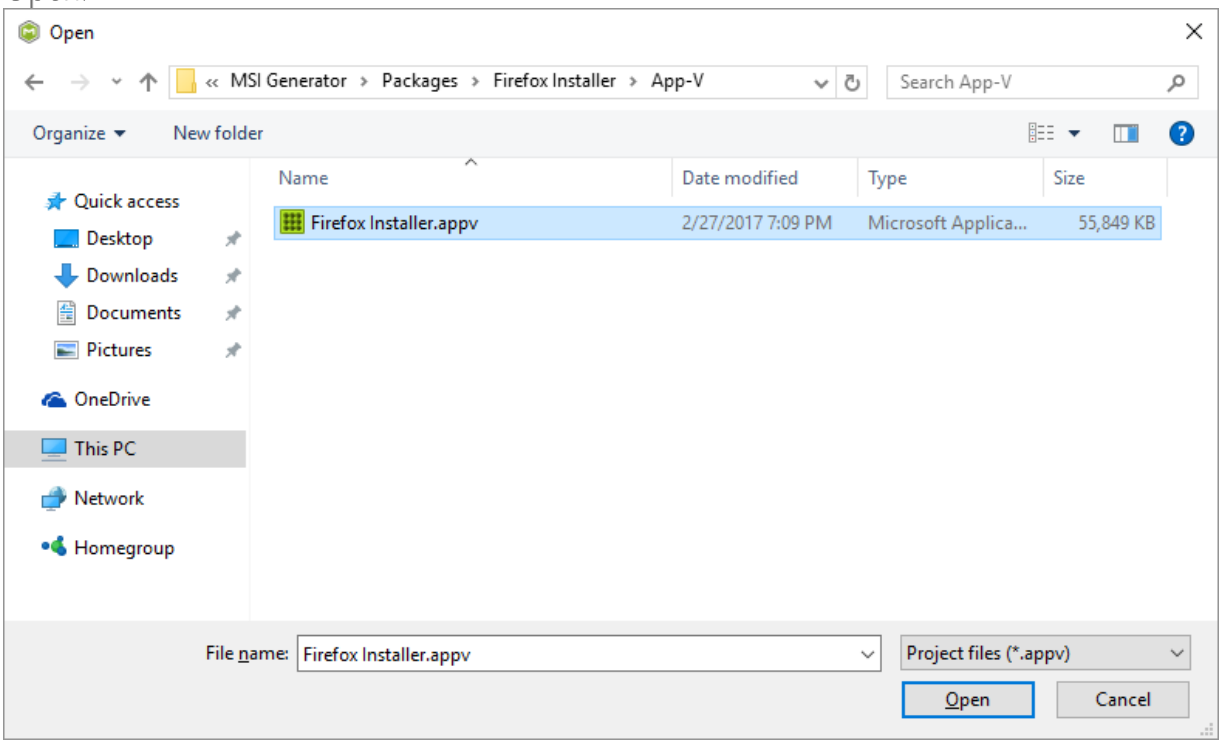
[2]. If you have User Account Control enabled, click the Yes in the opened window.



[3]. Click Import App-V package.

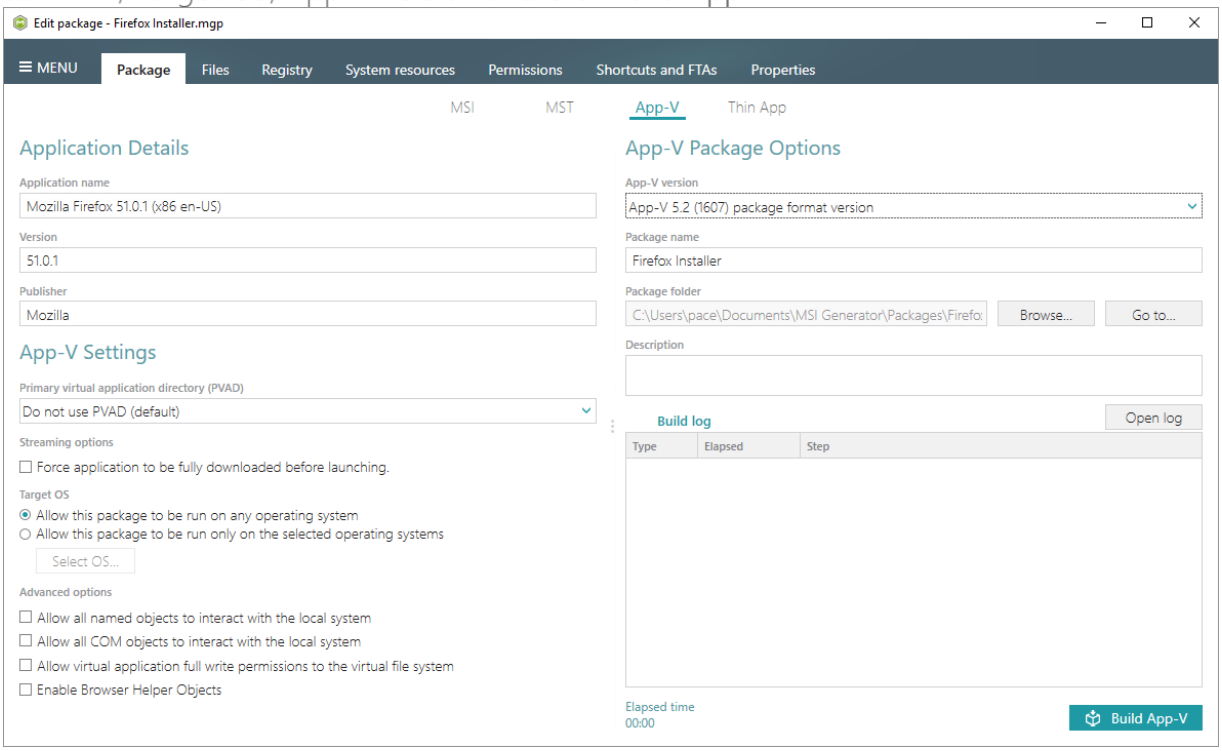


[4]. Choose an App-V package (APPV file), which you want to edit from your file system and Open.

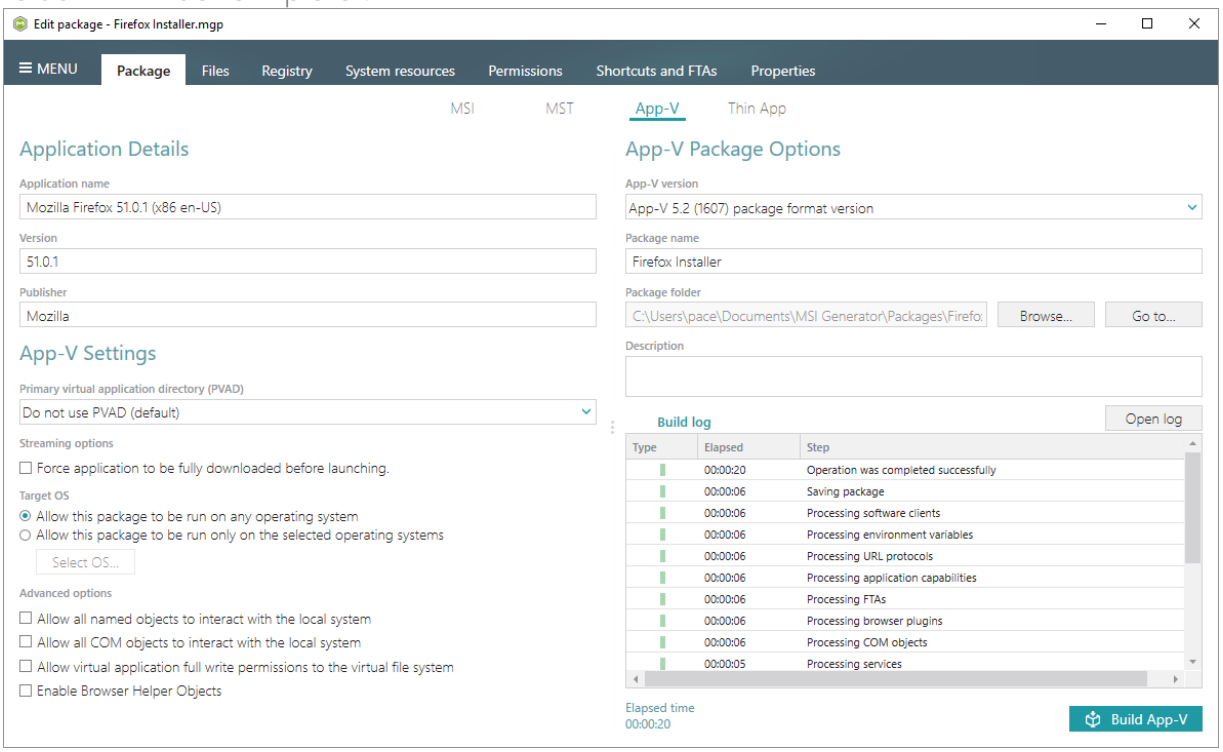


[5]. Review and update necessary resources (like files, registry, shortcuts, etc.) in your project, which is created from the opened App-V package. Find instructions on how to edit project in section 3.7

[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.

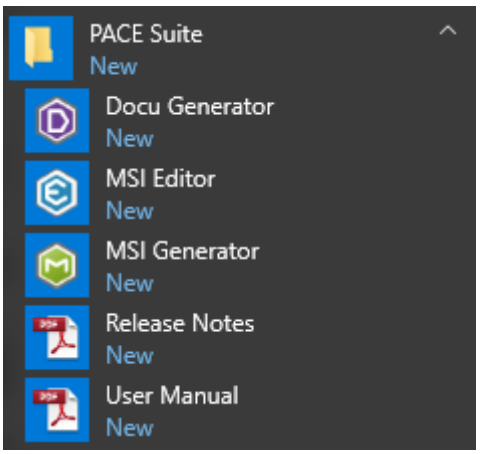


3.9 Publish Package to SCCM

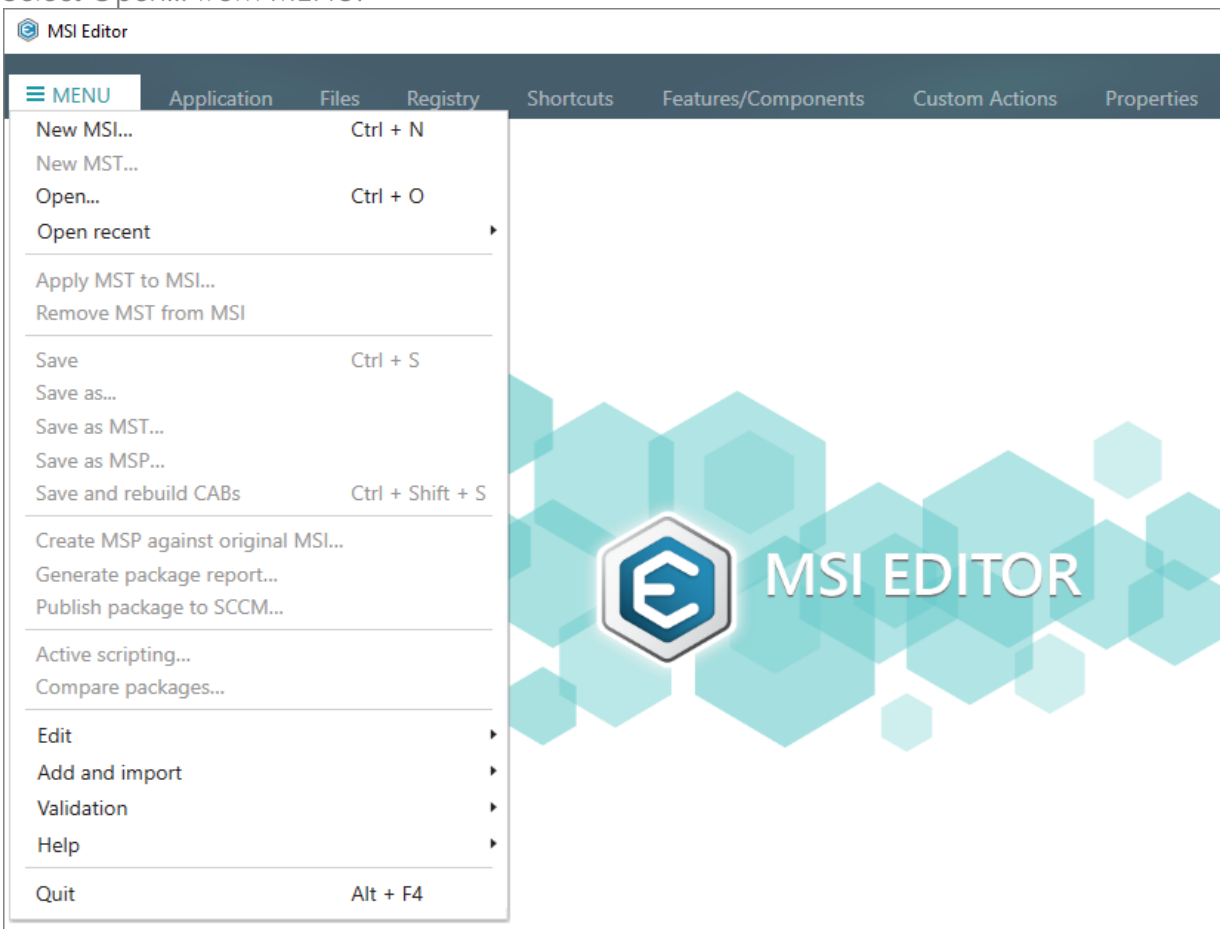
NOTE Please ensure that a target system contains necessary software:

- 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

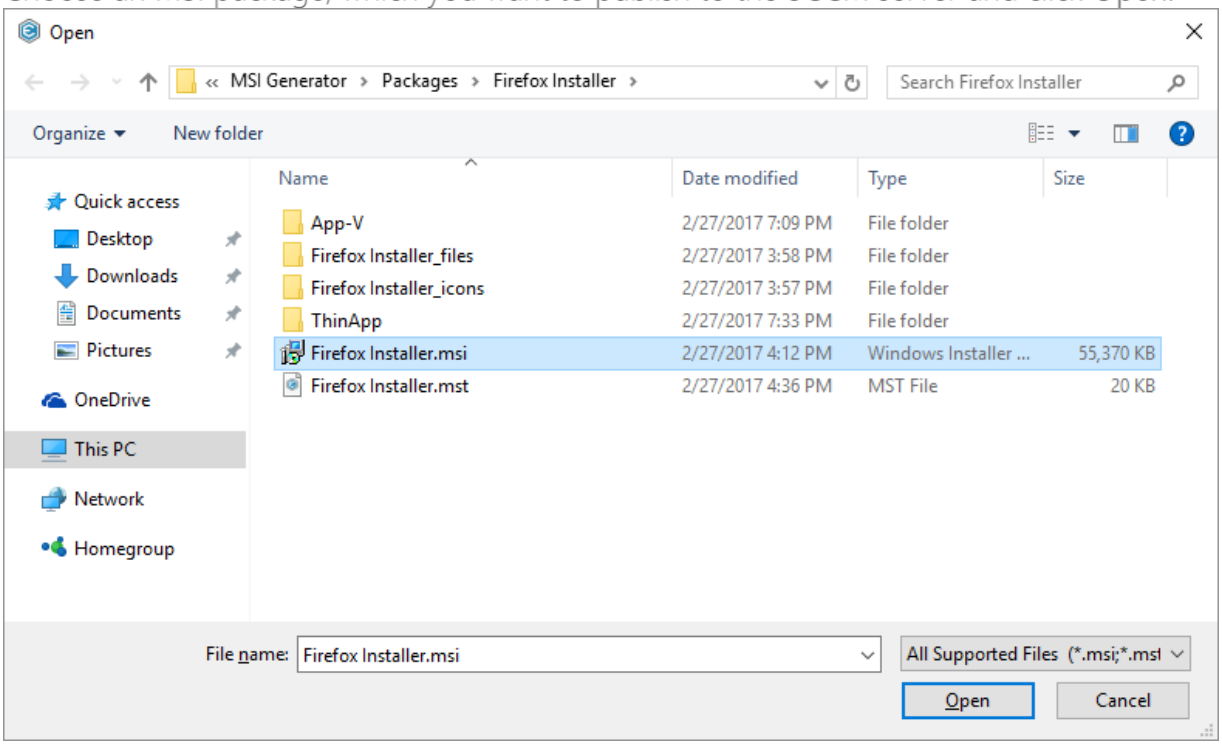
[1]. Launch MSI Editor.



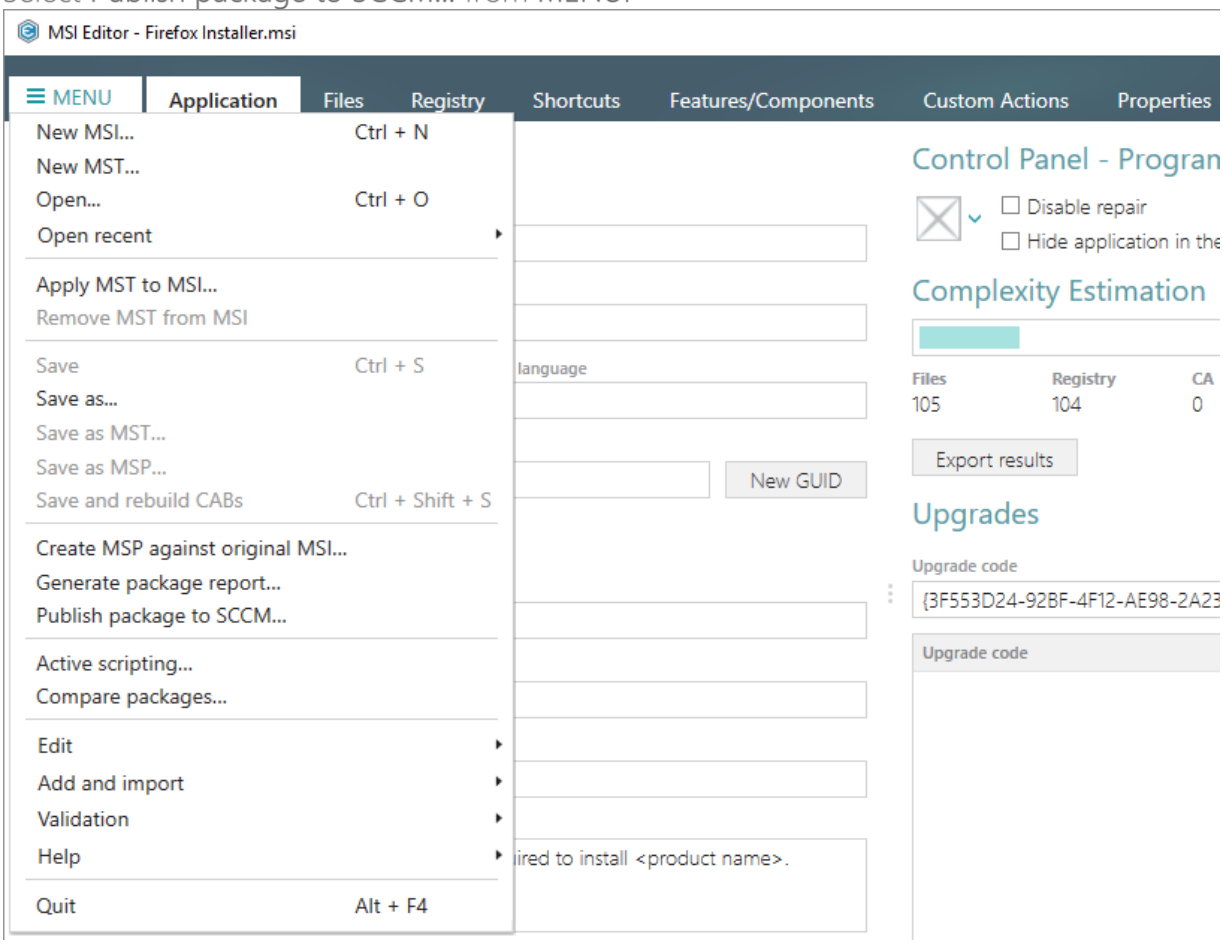
[2]. Select Open... from MENU.



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

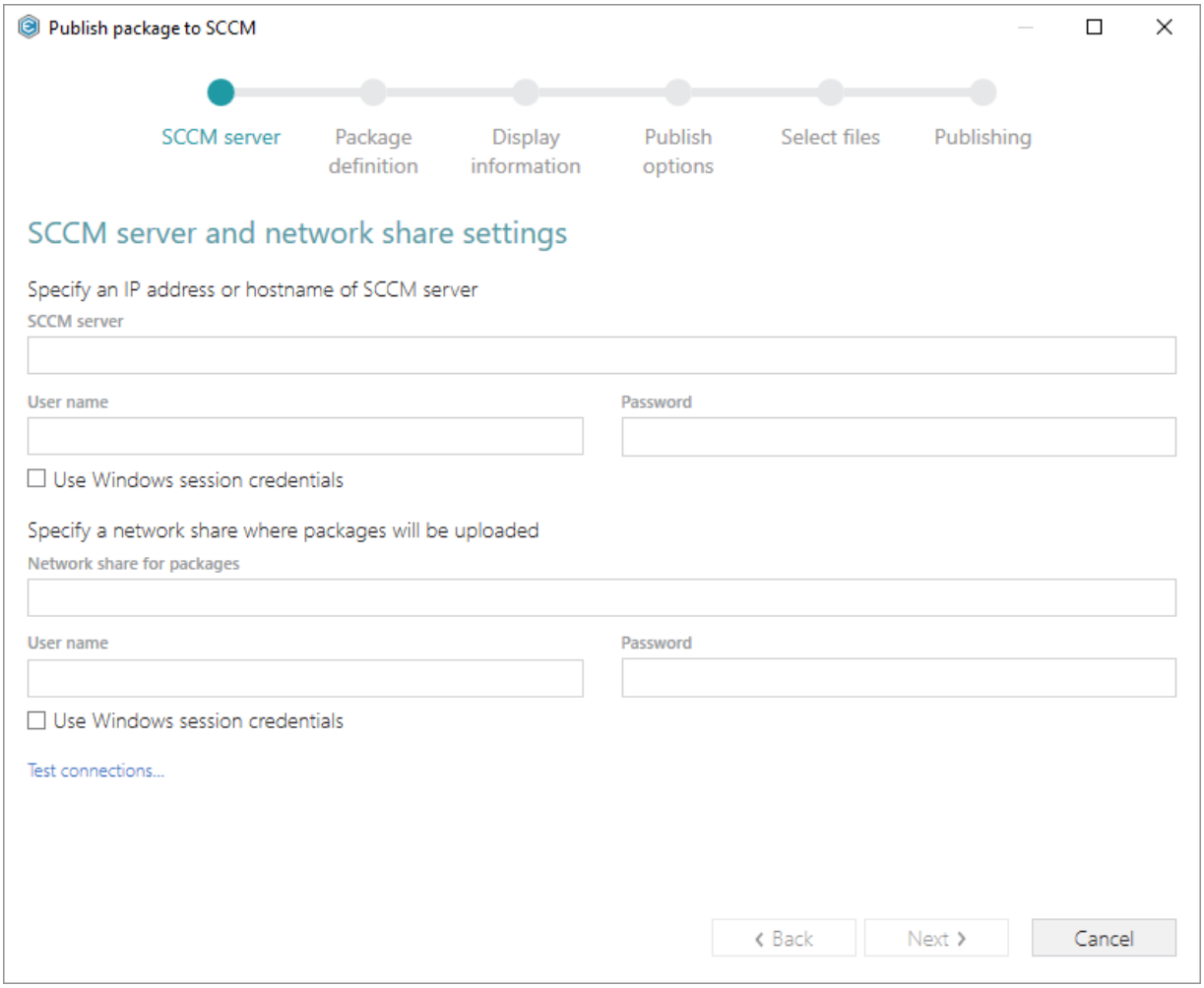


[4]. Select Publish package to SCCM... from MENU.

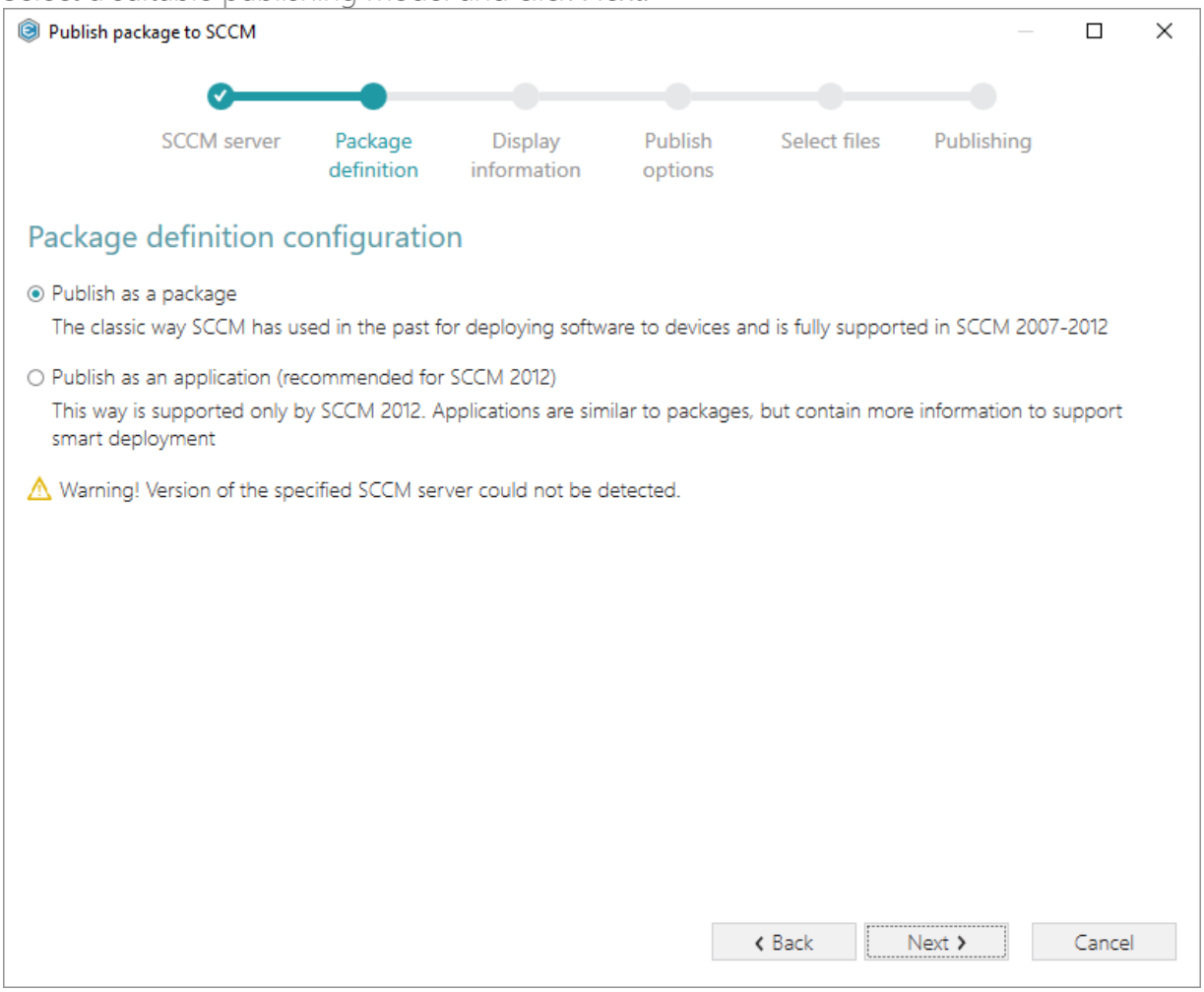


[5]. Specify an IP address or a hostname of your SCCM server, user name and password for connecting to the SCCM. Enter a network share, where the package should be uploaded and credentials for connecting to the network share. Click Next to choose a publishing

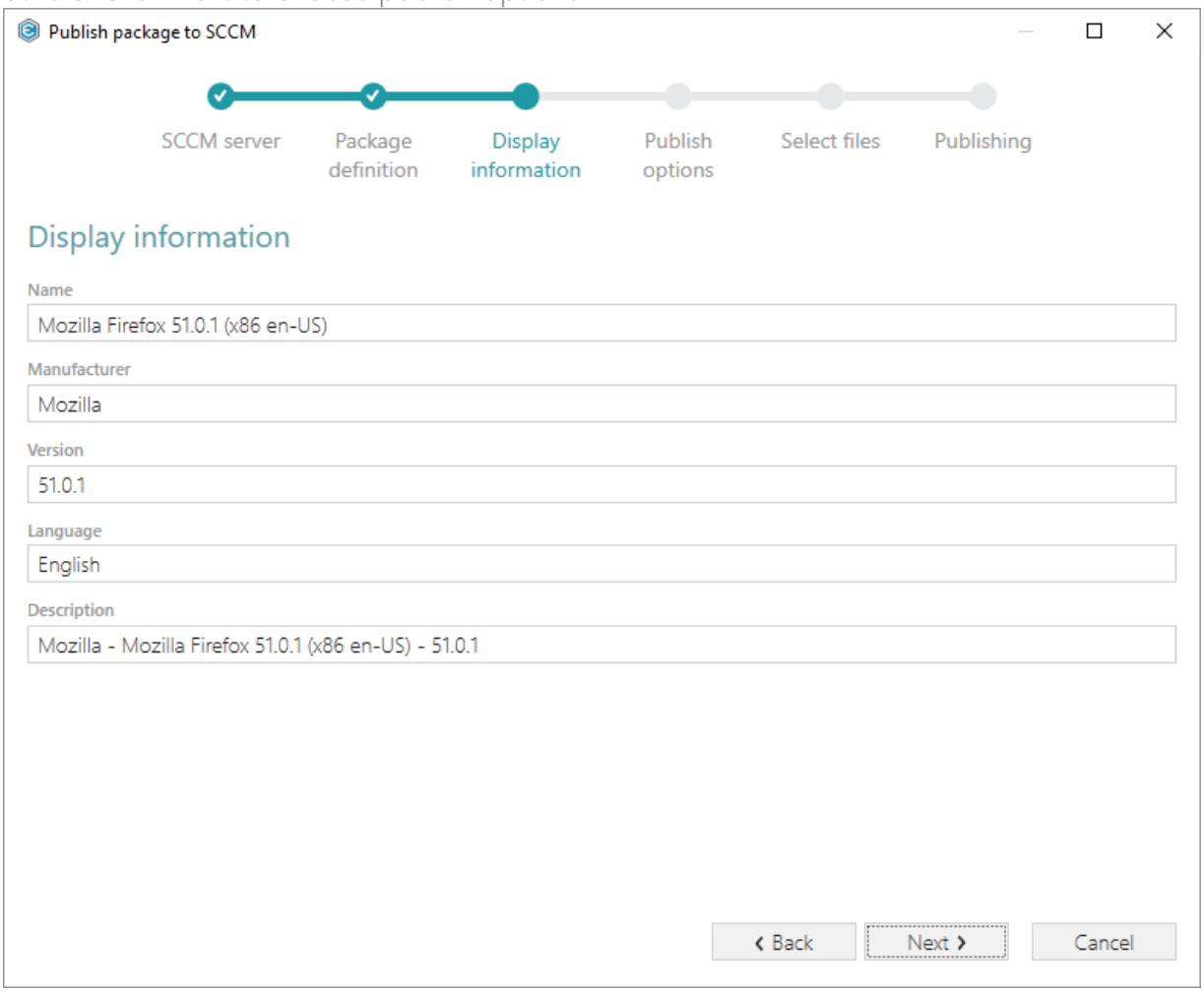
model. Click **Test connections...** to check connections to the SCCM server and network share.



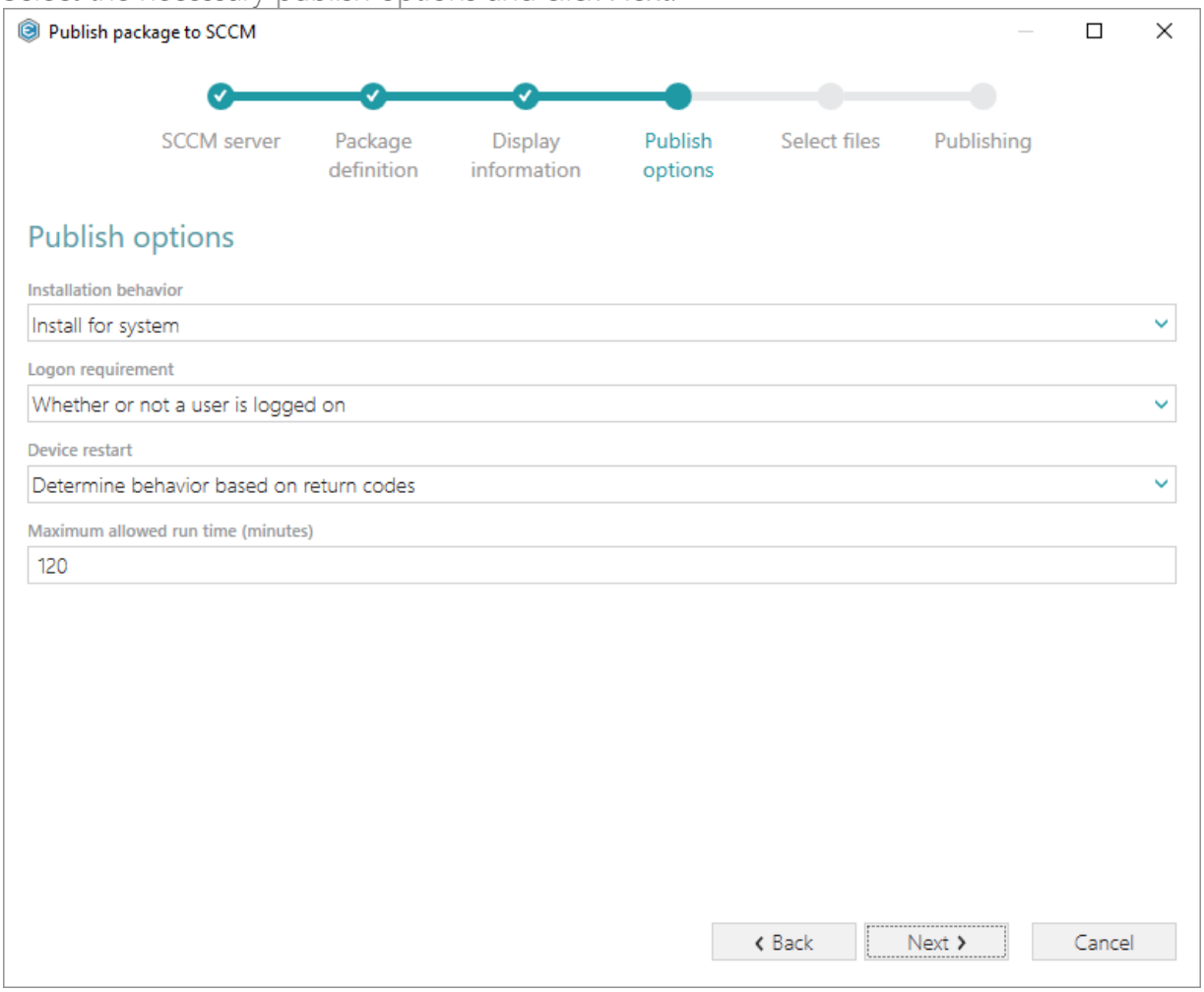
[6]. Select a suitable publishing model and click **Next**.



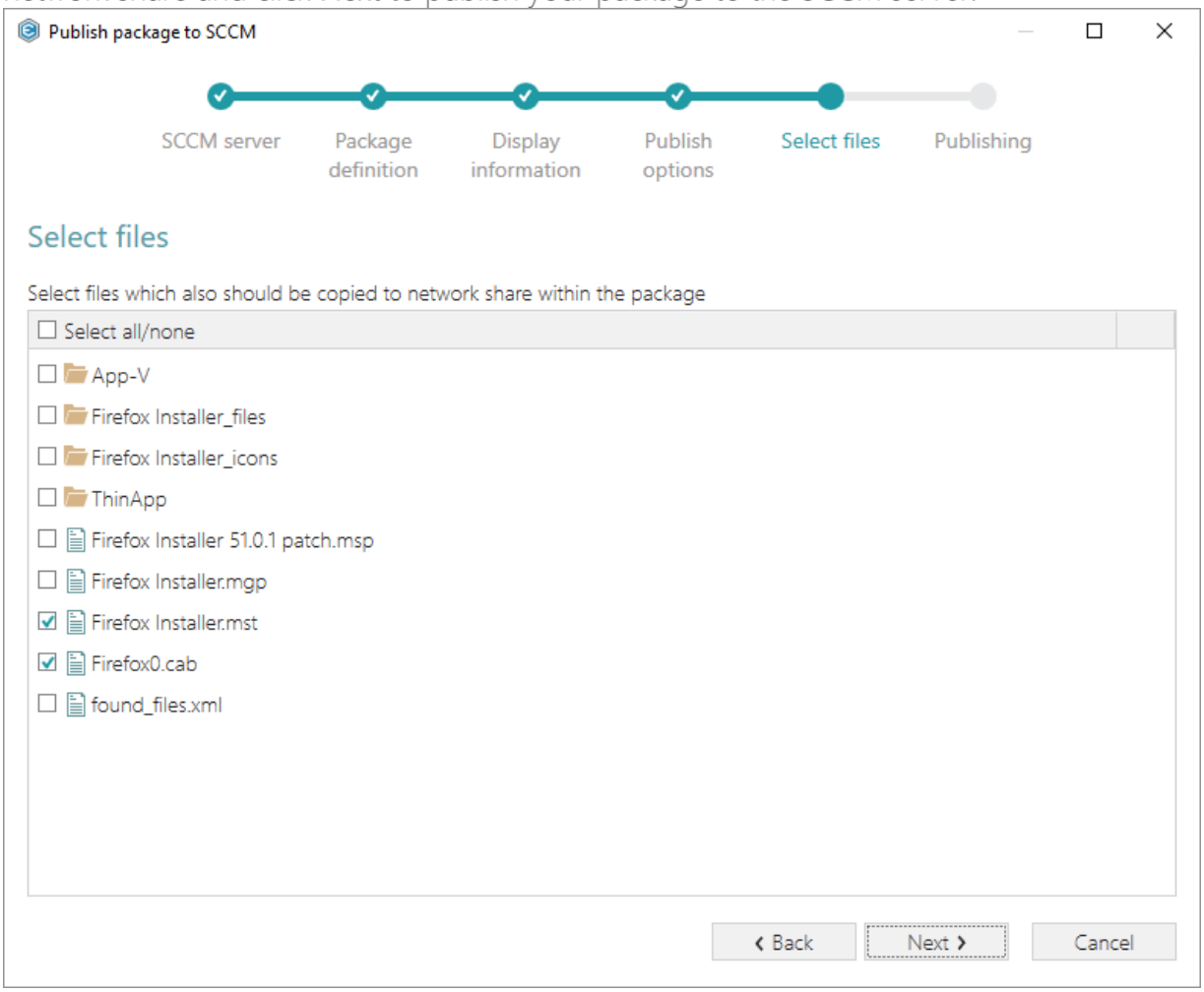
[7]. Review and update package display information such as name, manufacturer, version and others. Click **Next** to choose publish options.



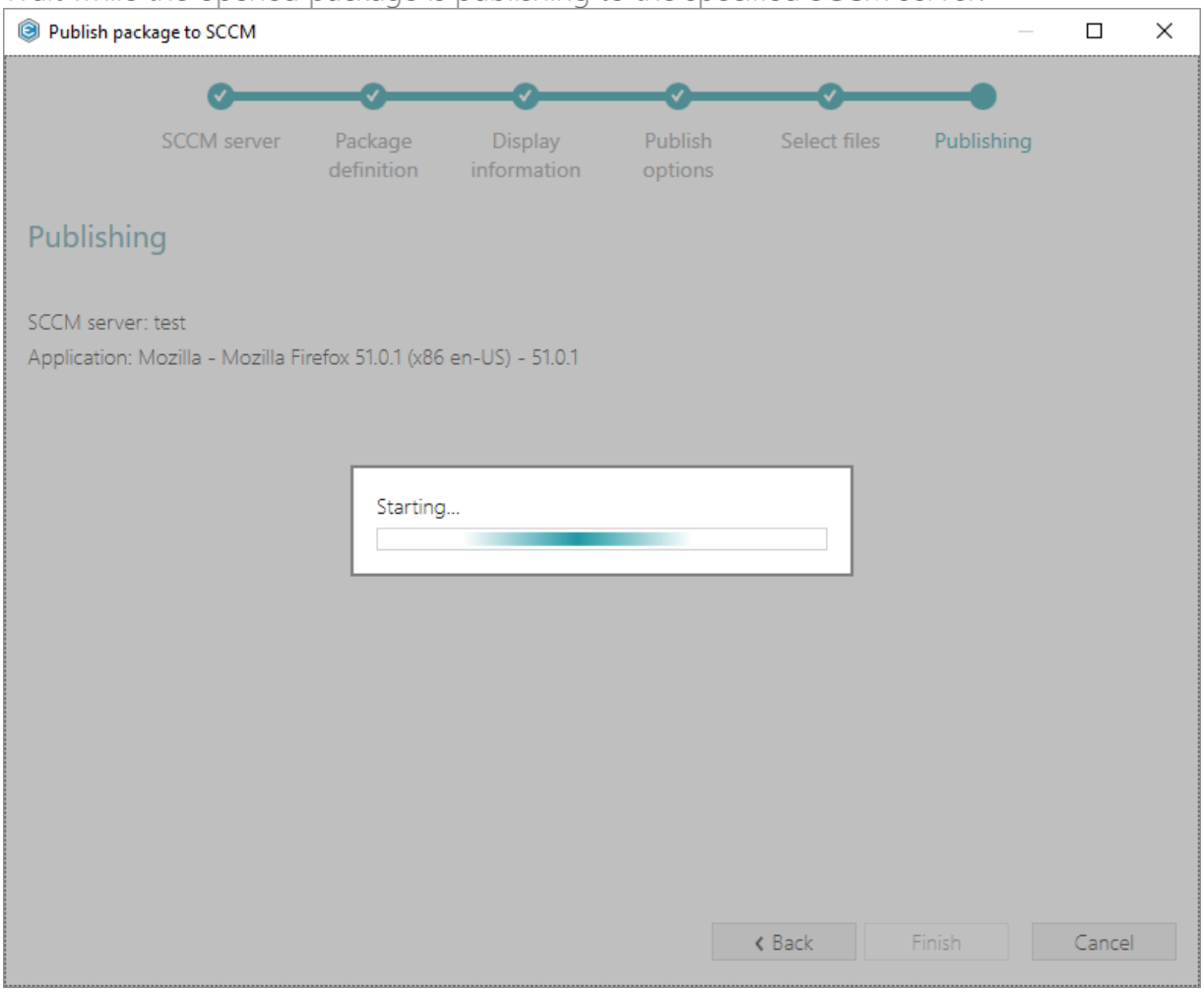
[8]. Select the necessary publish options and click **Next**.



[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.



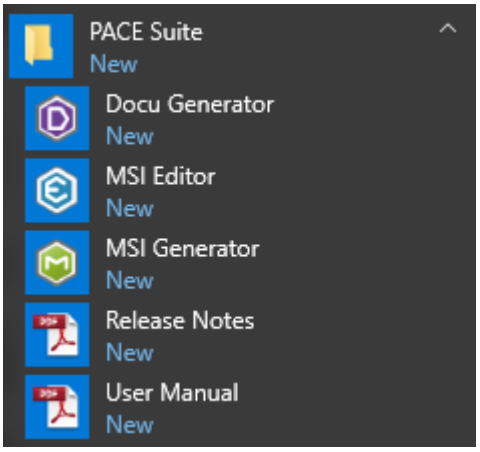
[10]. Wait while the opened package is publishing to the specified SCCM server.



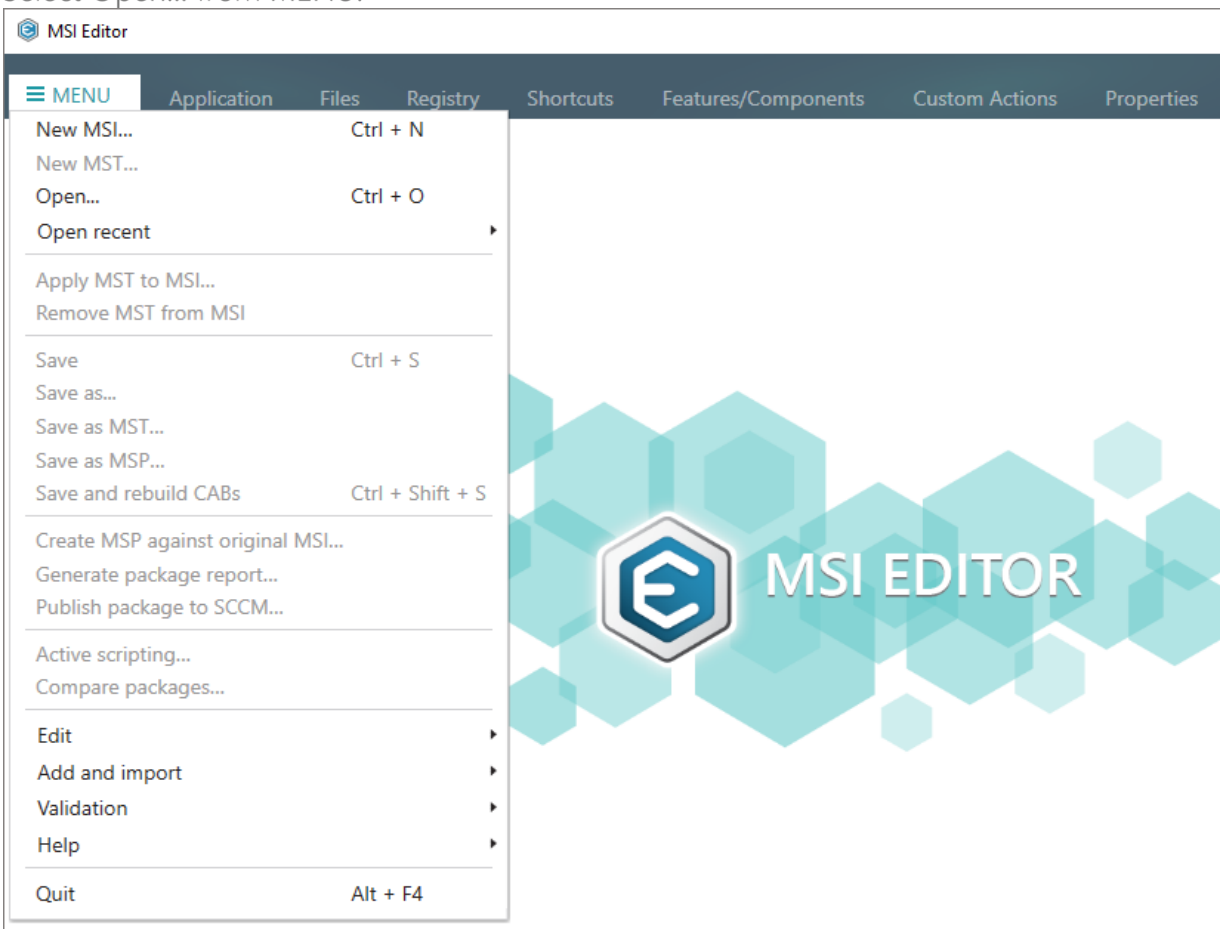
3.10 Generate Package Report

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.

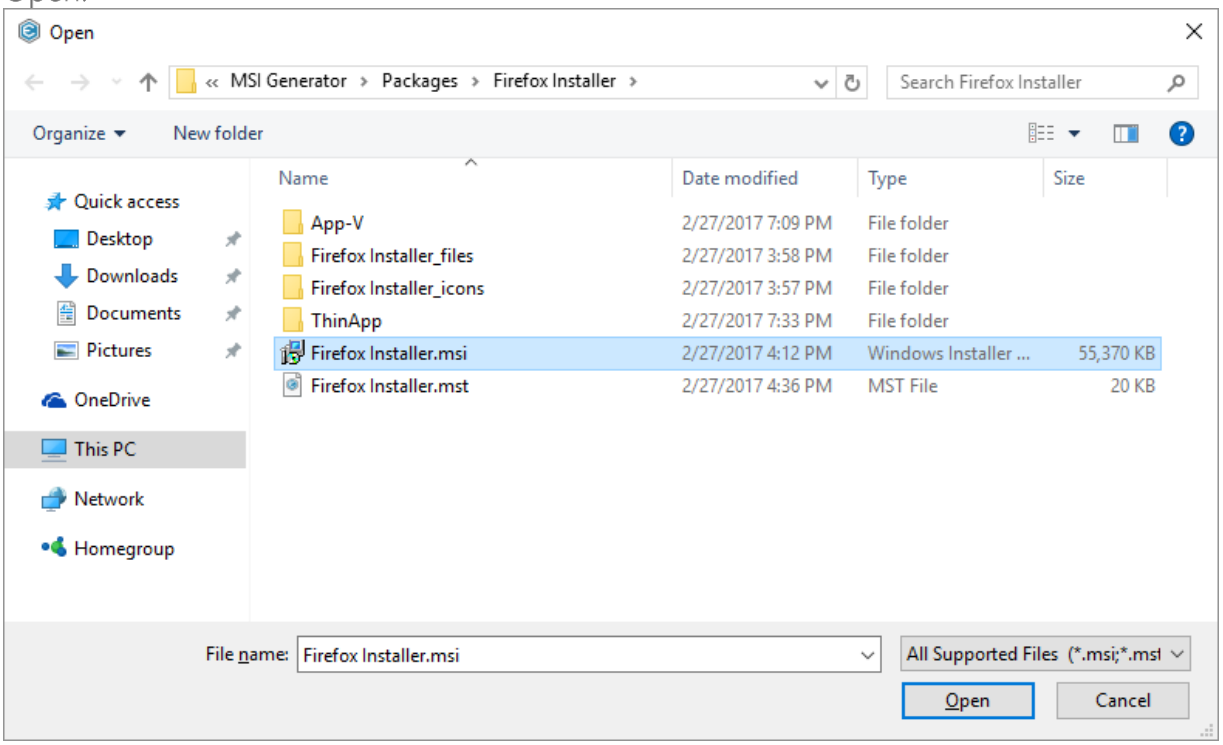
[1]. Launch MSI Editor.



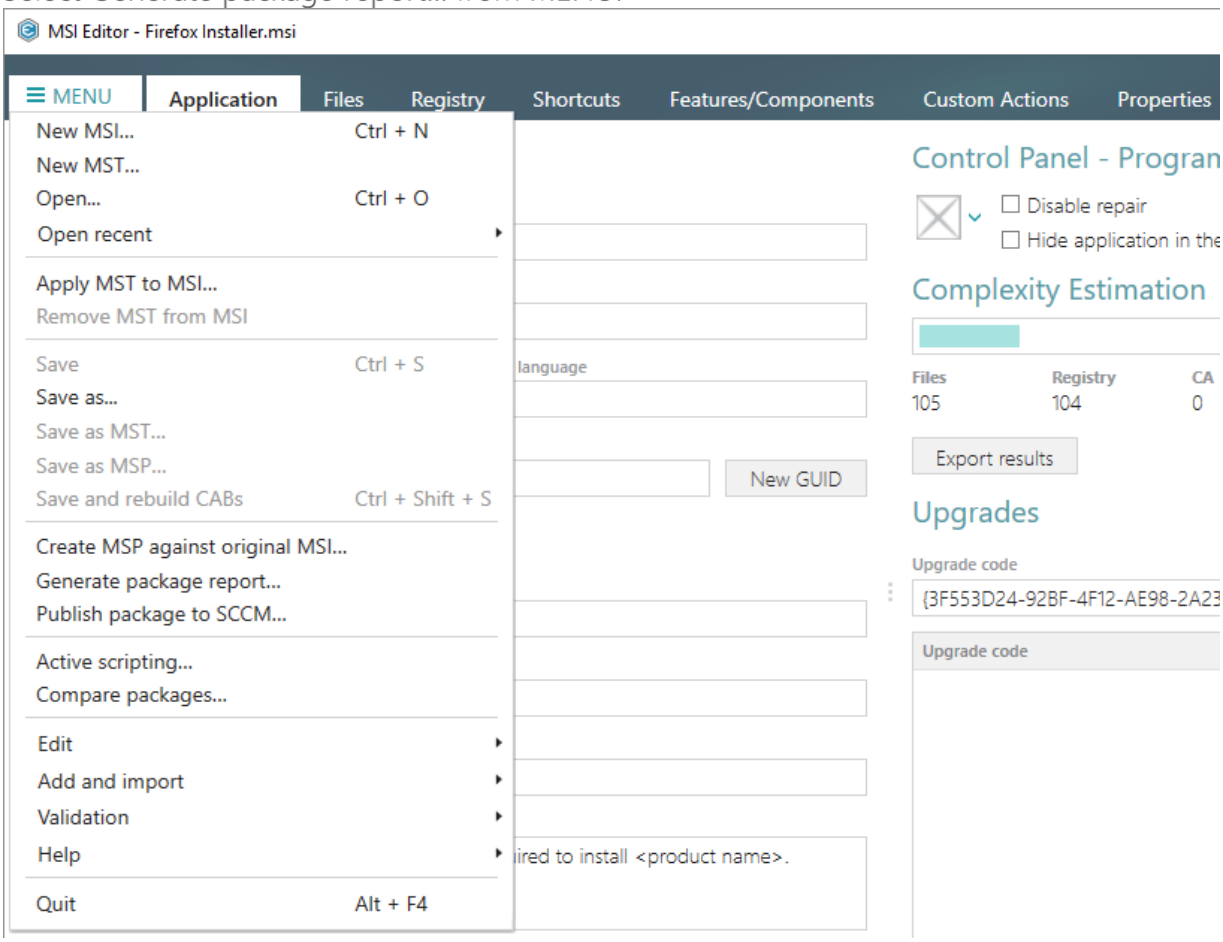
[2]. Select Open... from MENU.



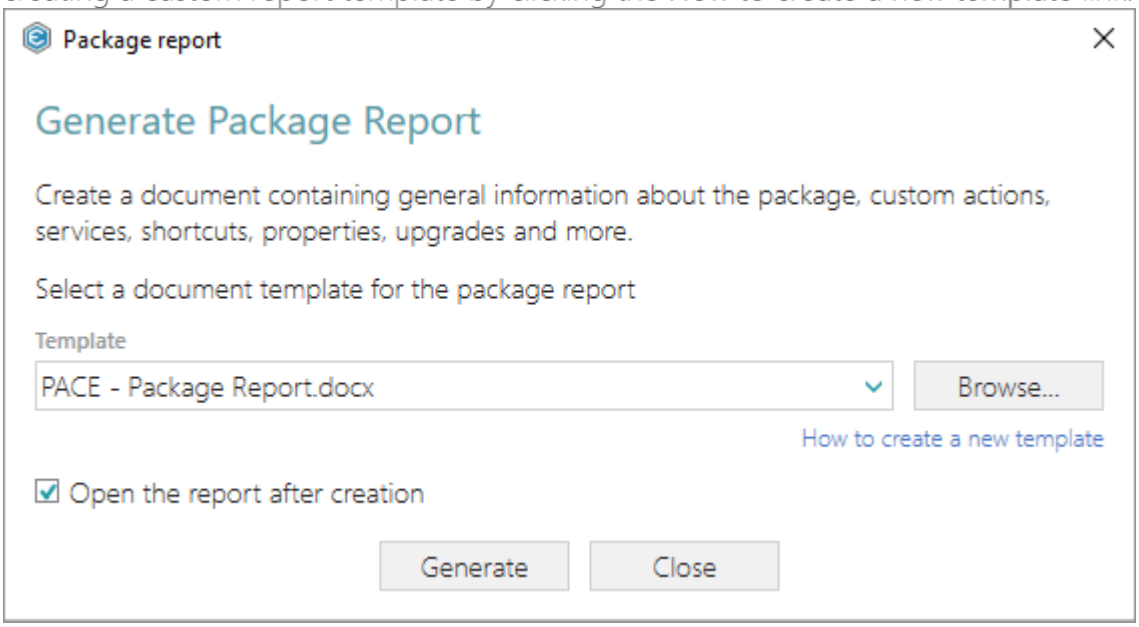
[3]. Choose an MSI package, for which you want to generate a package report and click Open.



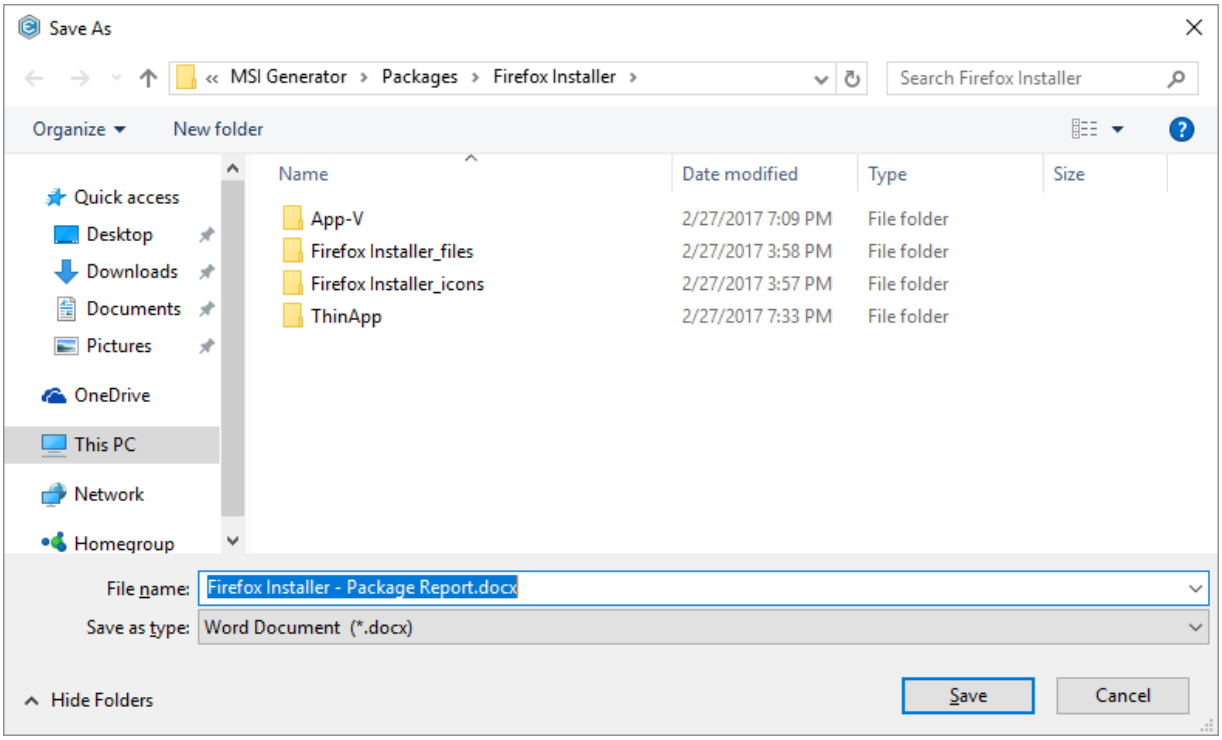
[4]. Select Generate package report... from MENU.



[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.

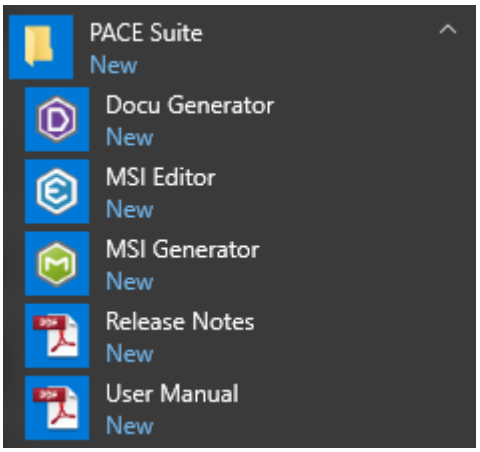


[6]. Specify a file name and a destination location of the generated package report and click Save.

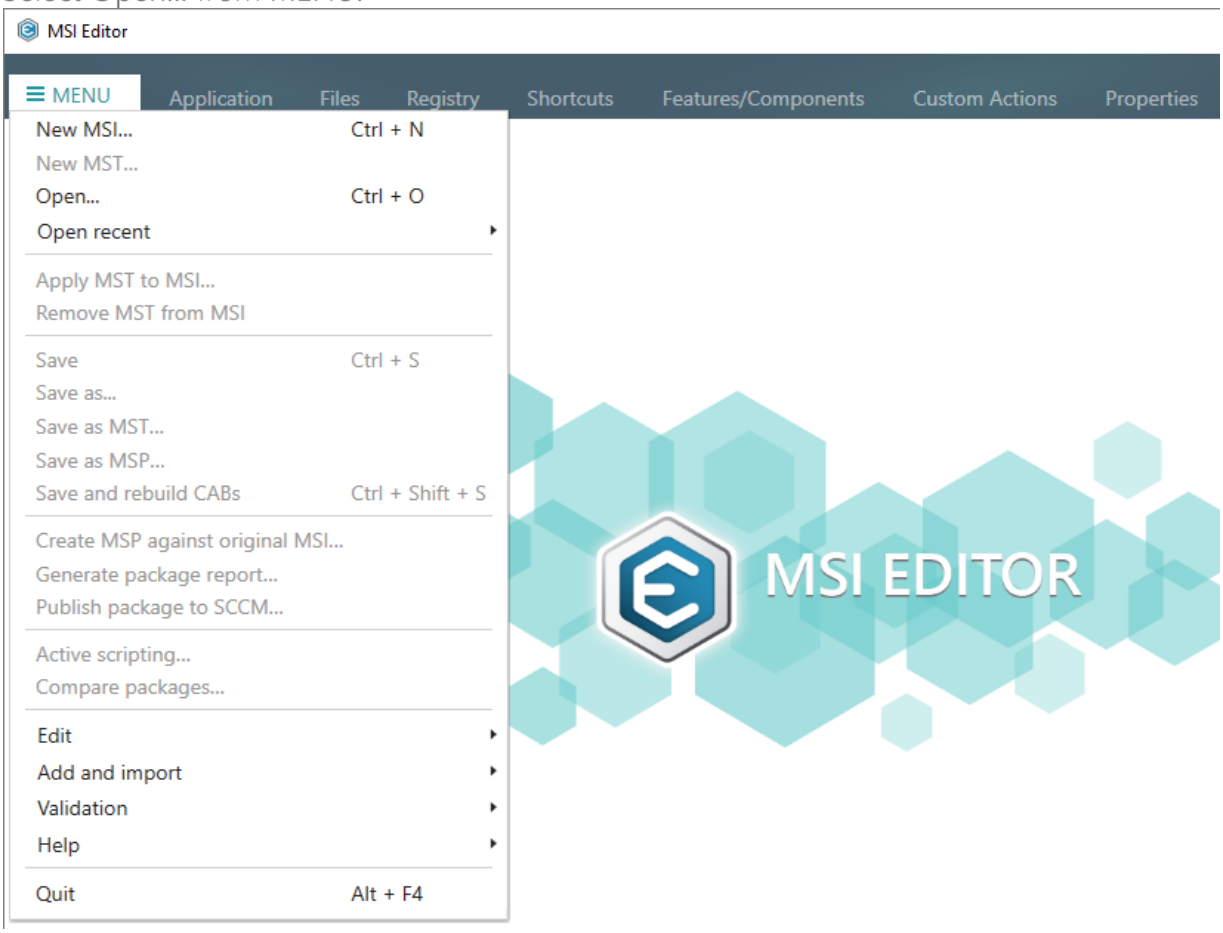


3.11 Validate Package

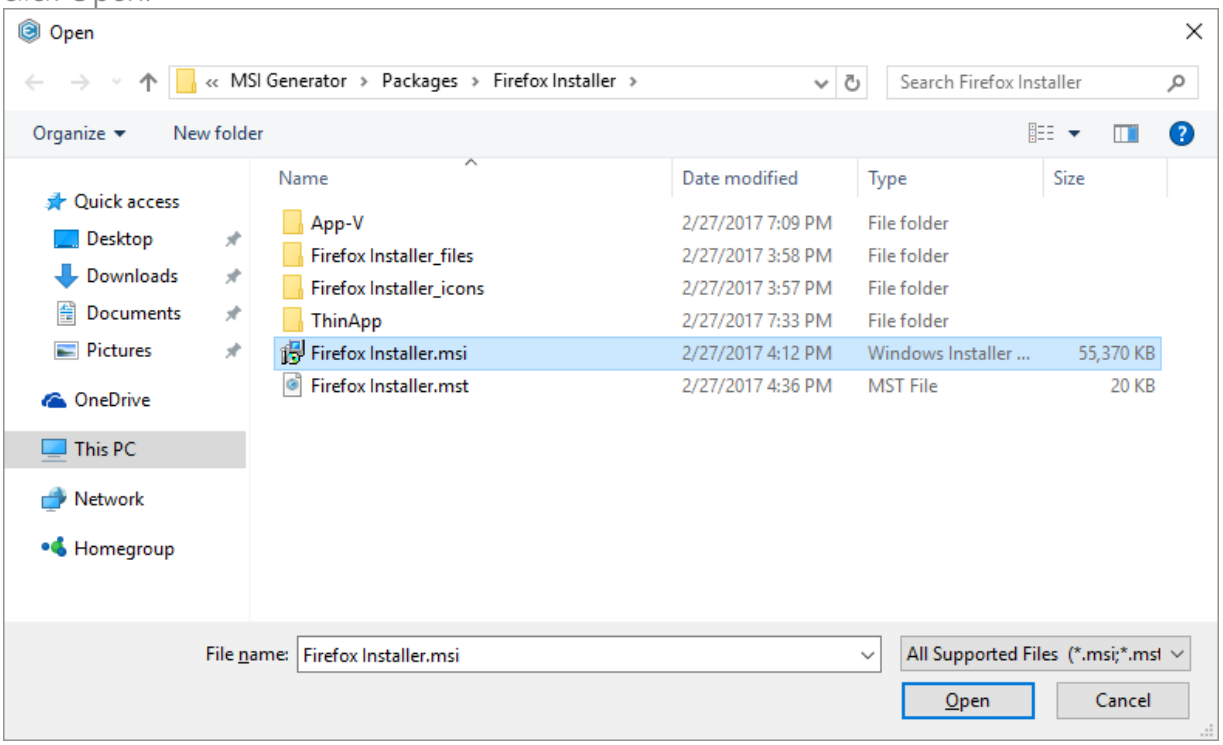
[1]. Launch MSI Editor.



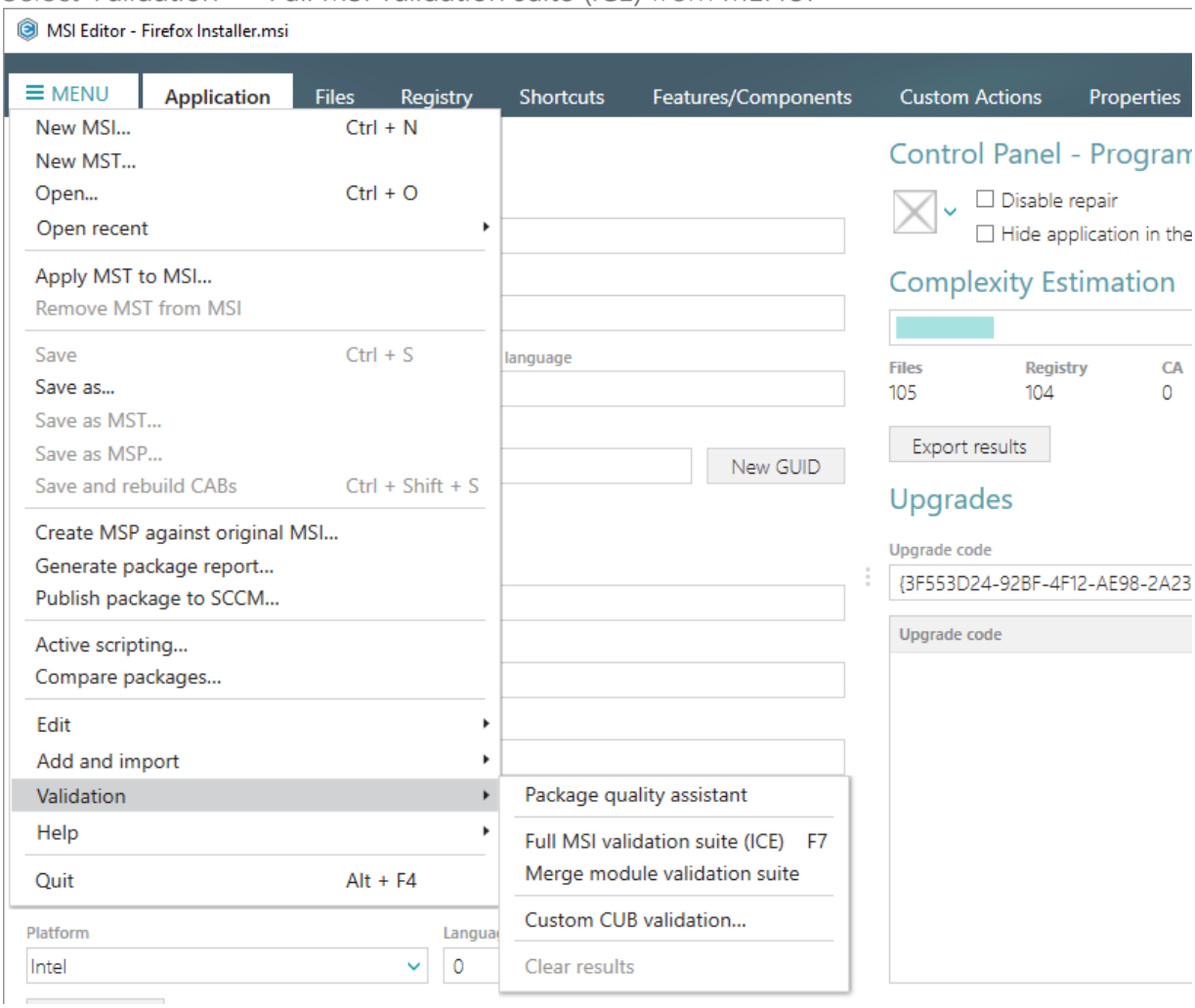
[2]. Select Open... from MENU.



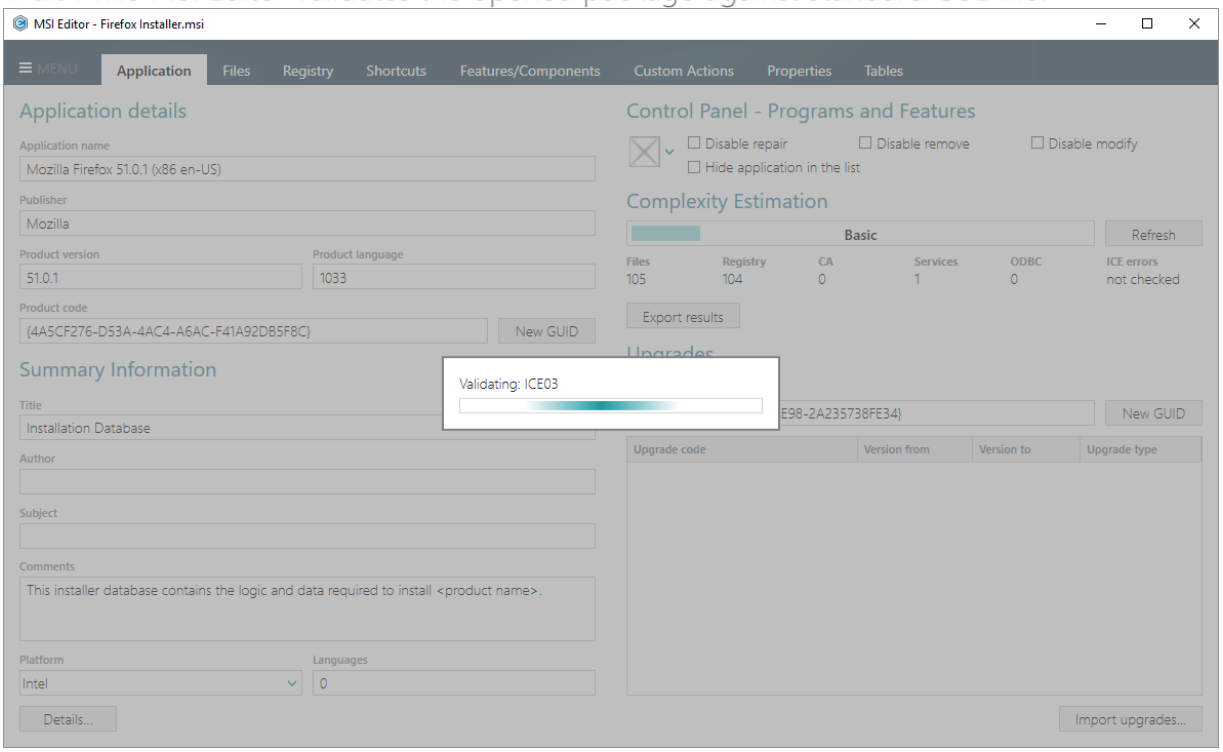
[3]. Choose an MSI package, which you want to validate against the standard CUB files and click Open.



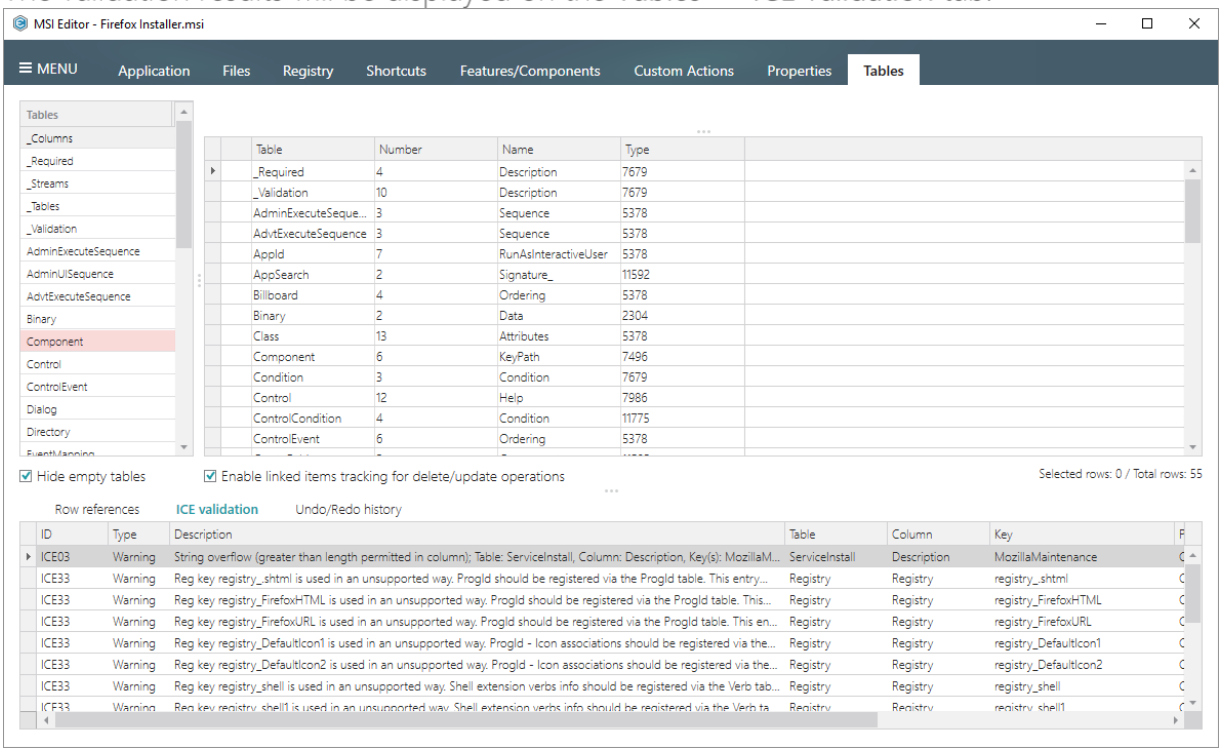
[4]. Select Validation -> Full MSI validation suite (ICE) from MENU.



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

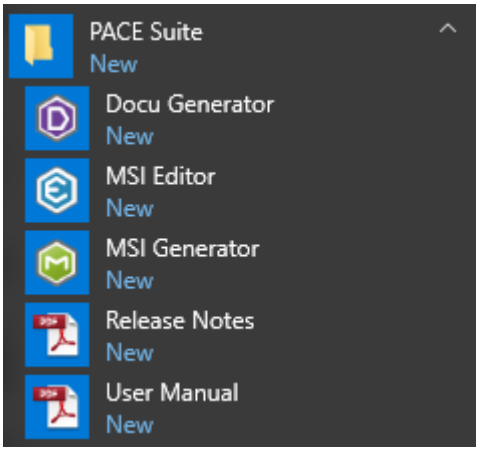


[6]. The validation results will be displayed on the Tables -> ICE validation tab.

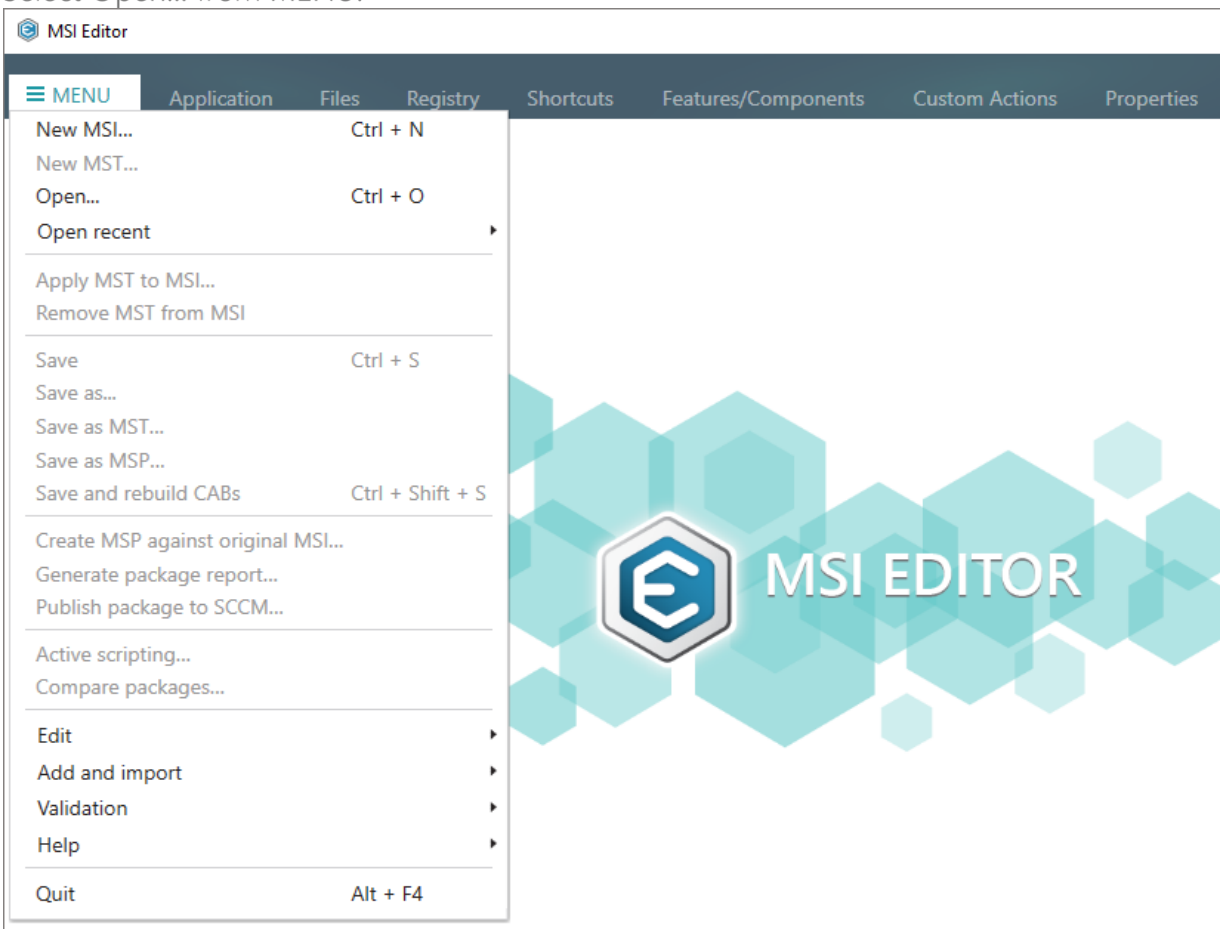


3.12 Calculate Package Complexity

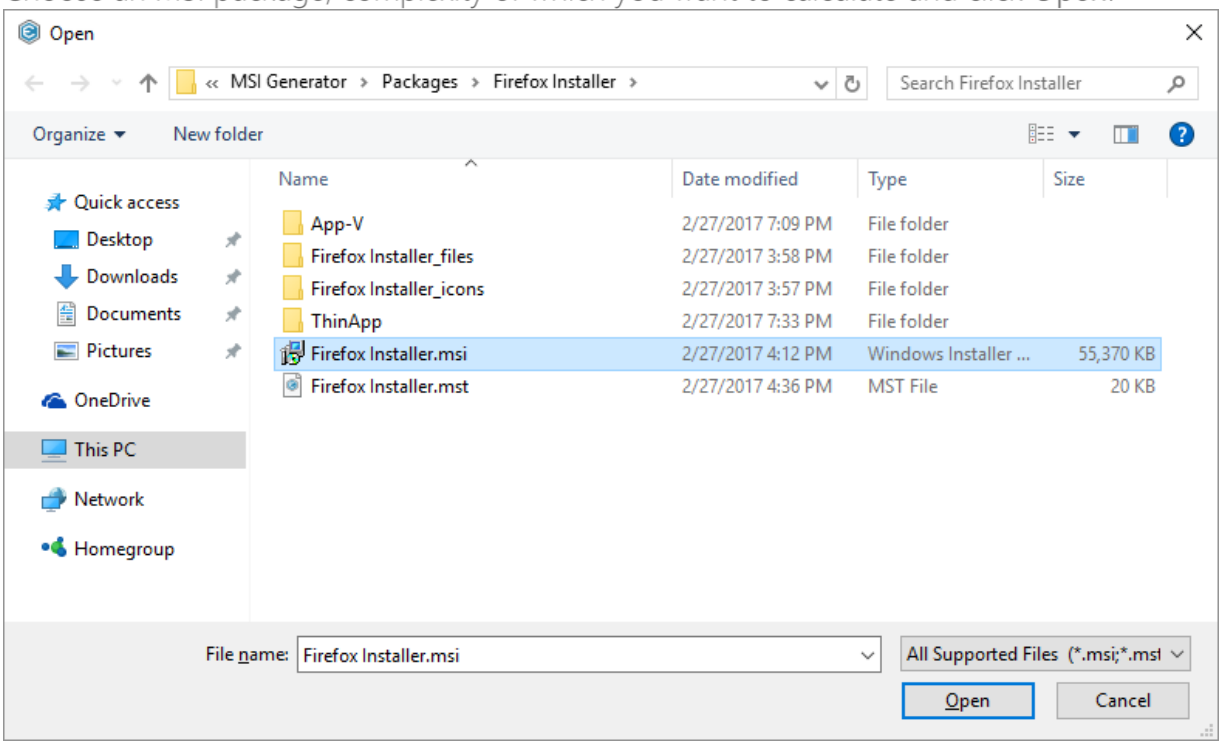
[1]. Launch MSI Editor.



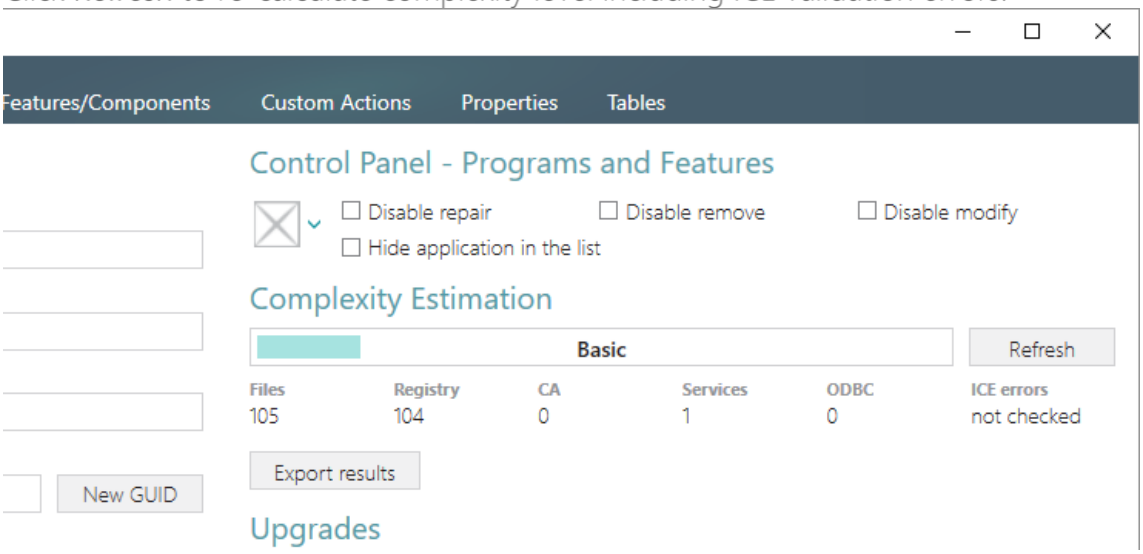
[2]. Select Open... from MENU.



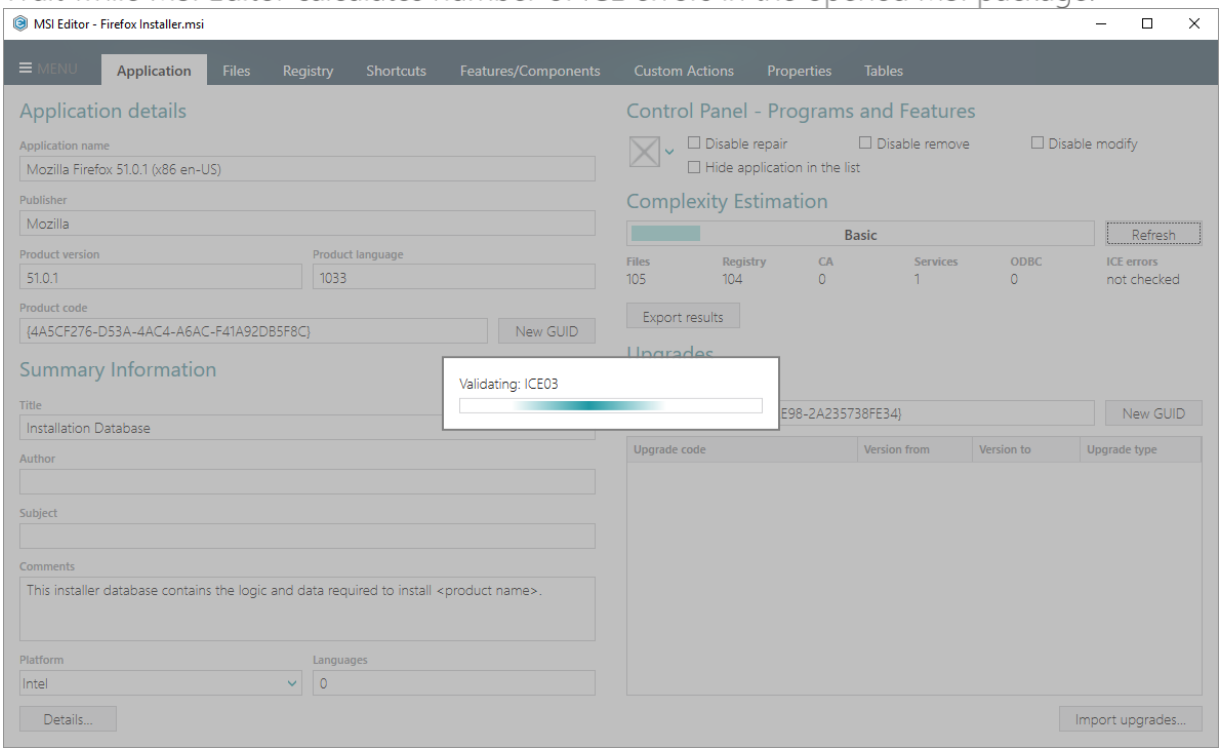
[3]. Choose an MSI package, complexity of which you want to calculate and click Open.



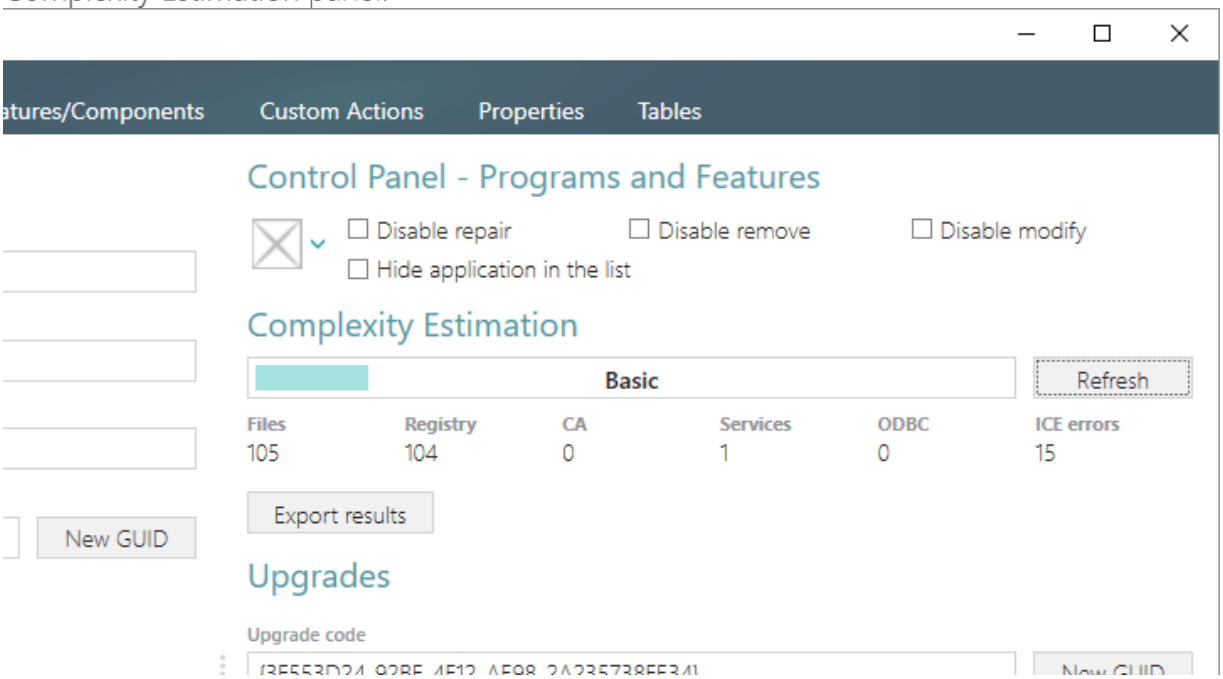
[4]. Click **Refresh** to re-calculate complexity level including ICE validation errors.



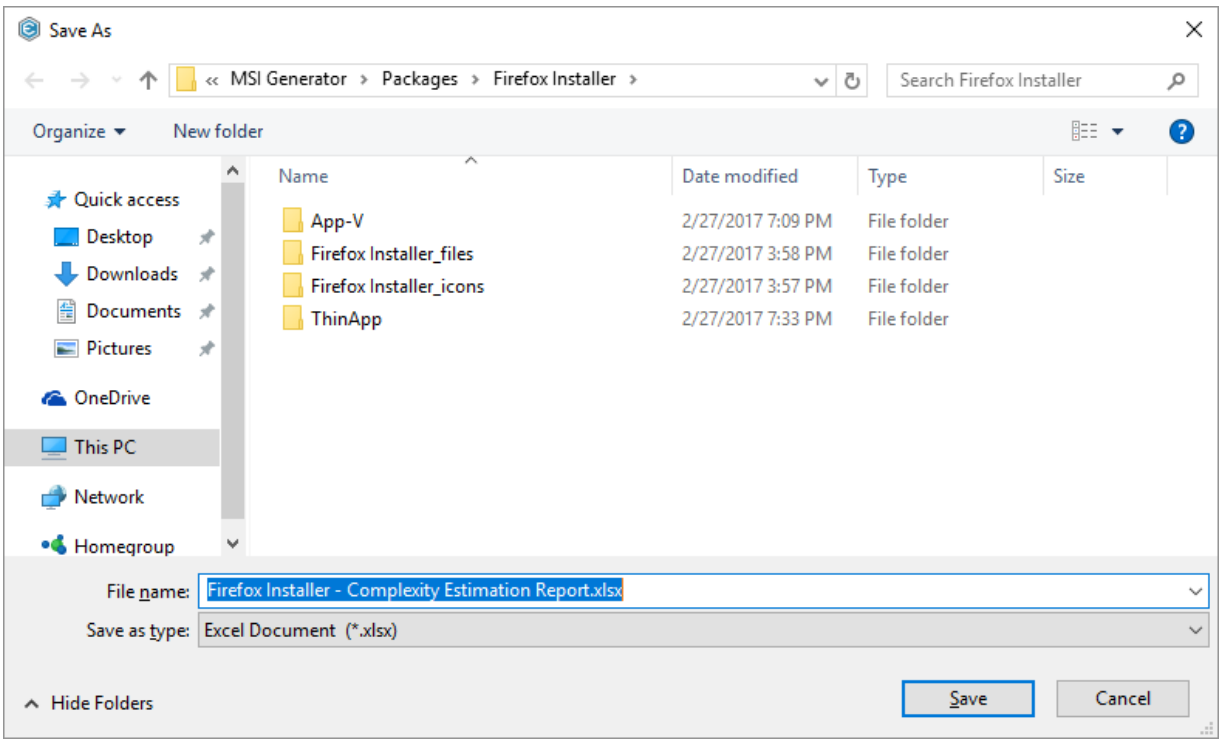
[5]. Wait while MSI Editor calculates number of ICE errors in the opened MSI package.



[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**.

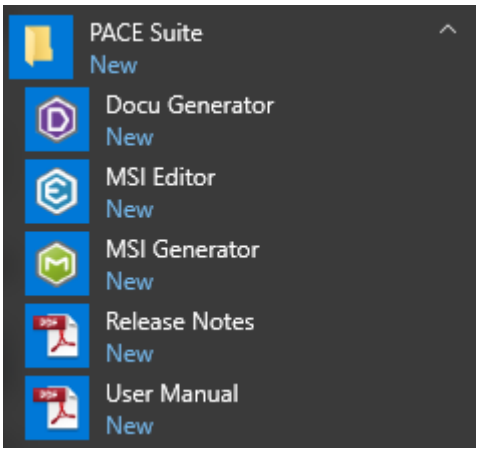


3.13 Create Discovery Documentation

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.

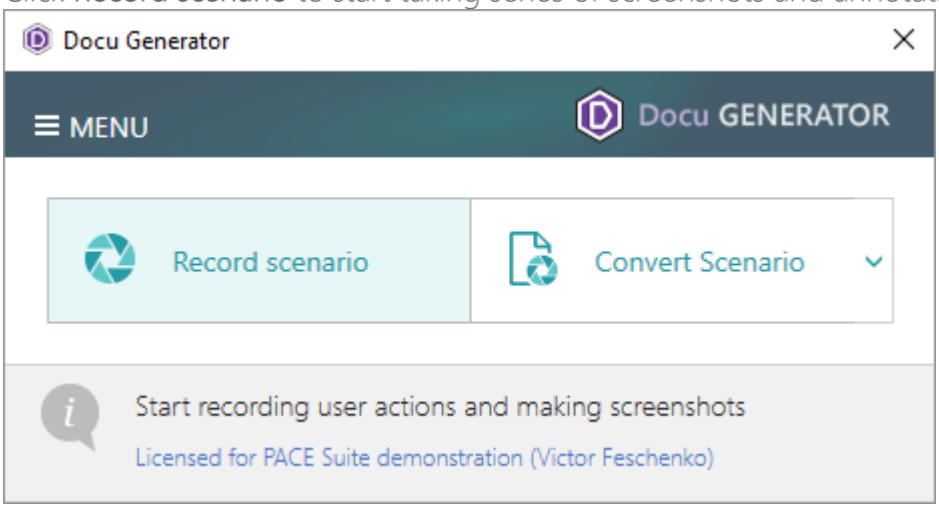
NOTE In order to take screenshots of application, which is launched with elevated permissions, launch Docu Generator also with elevated permissions.

[1]. Launch Docu Generator.



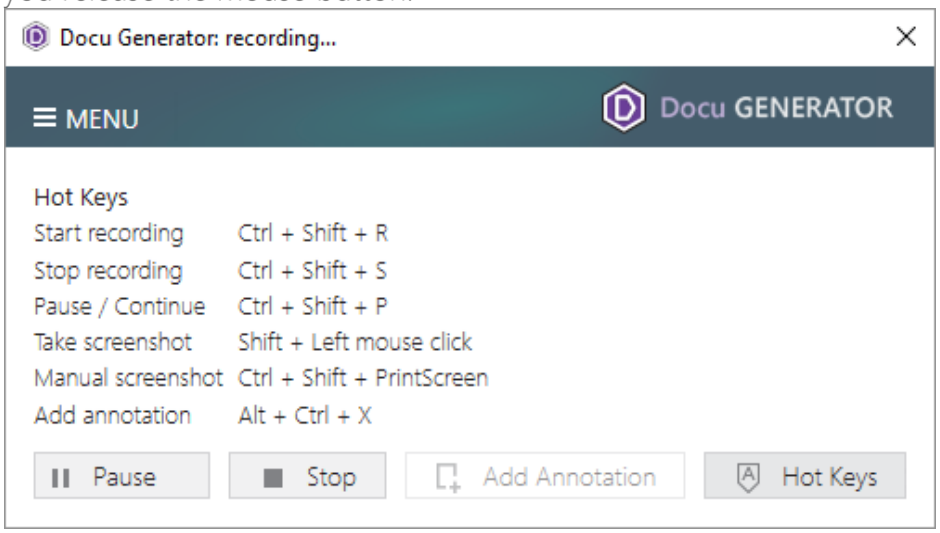
In order to launch Docu Generator with elevated permissions, press Shift and select Run as administrator from the context menu of the Docu Generator's shortcut.

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

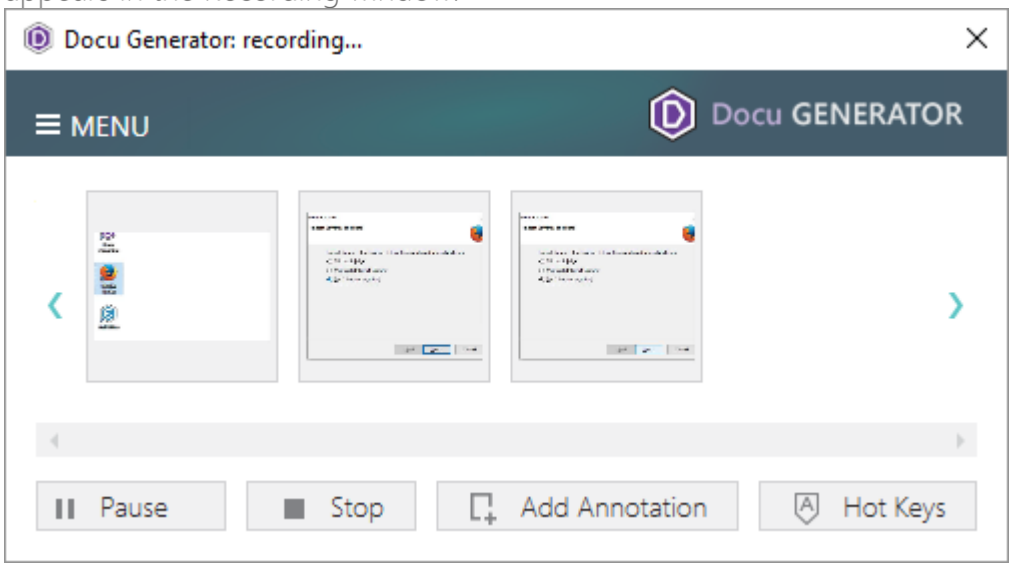


[3]. Hover your mouse pointer on the Hot Keys button to check which of hot keys are used to take screenshots. Press the Shift key + Left mouse click to take a screenshot of an active window, dialog or screen area. Press Ctrl + Shift + PrintScreen, then click and drag the mouse pointer to select a rectangular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

you release the mouse button.

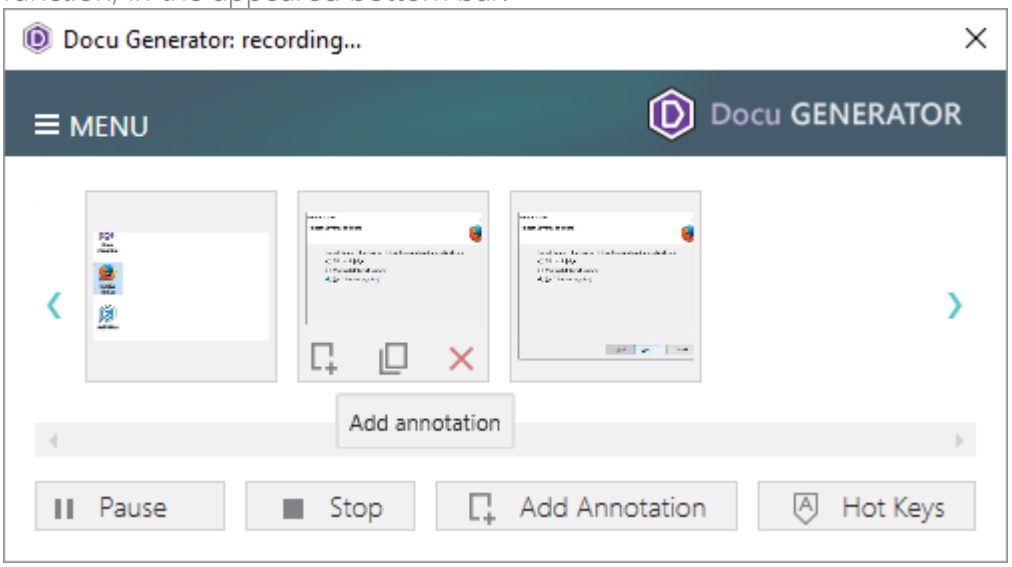


[4]. Now, do the actions you want to record into the document. Launch executables, go through dialogs, select options and enter values just telling Docu Generator when to take another screenshot, as described above. A preview of each new screenshot immediately appears in the Recording window.

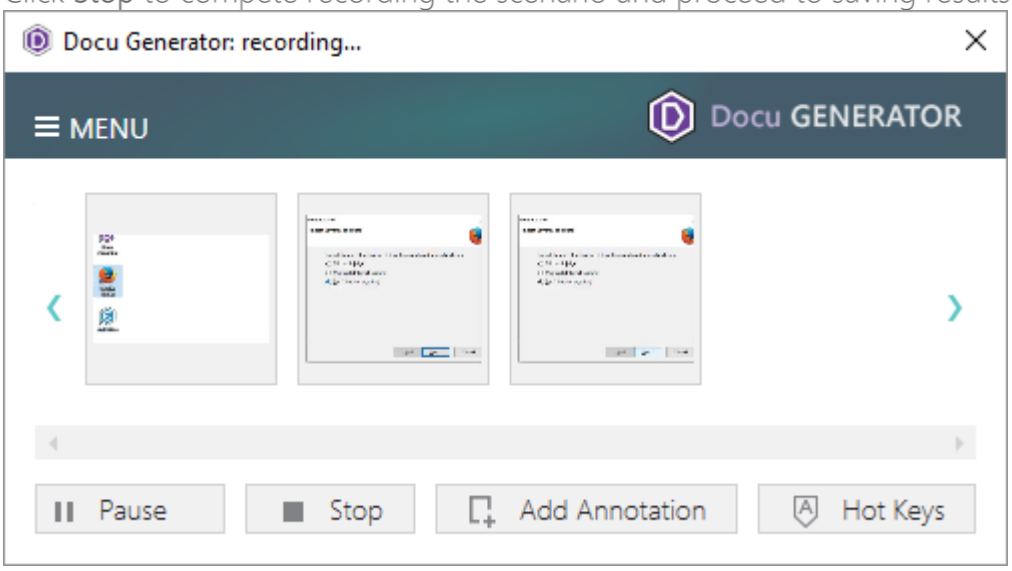


[5]. In order to Add annotation, Copy to clipboard or Remove a screenshot, hover mouse pointer on a preview of the screenshot in the Recording window and select the respective

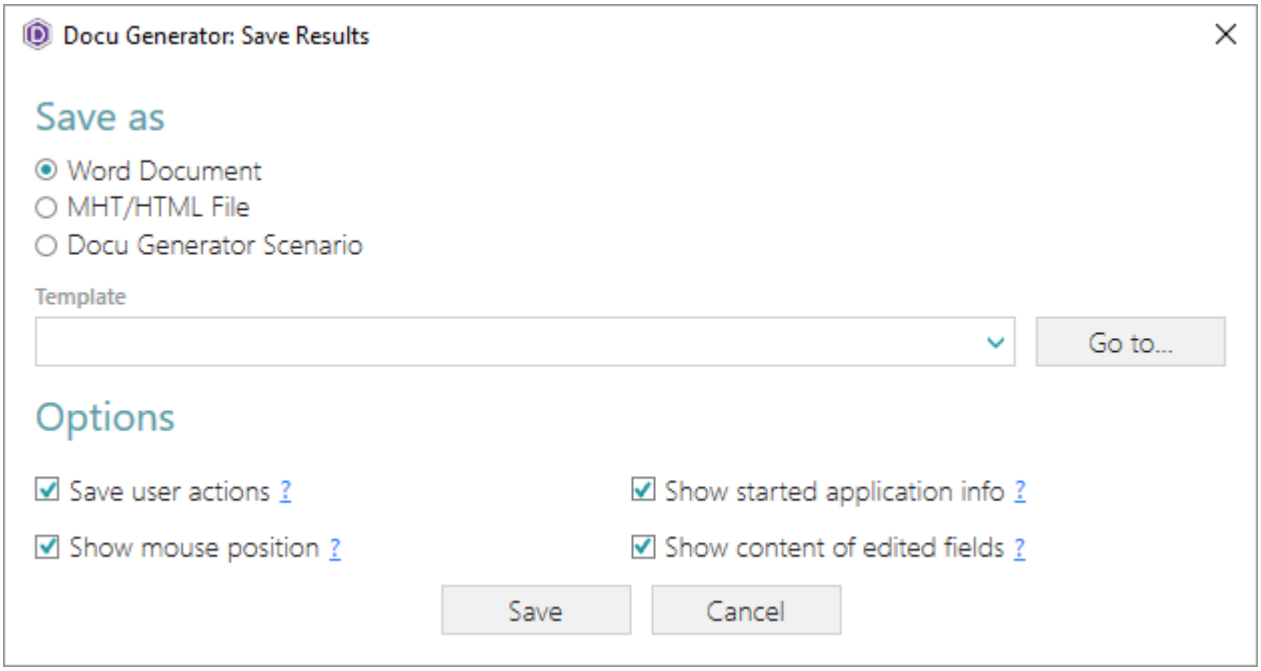
function, in the appeared bottom bar.



[6]. Click Stop to compete 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.



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	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. In order to mark a position where screenshots and comments are to be placed to, add the following textual placeholder into a template: [SCR] You can specify placeholder [SCR] in the existing table in a template. In this case, the placeholder points to a cell where screenshots should start, while a column to the right of it will be populated with comments. If the placeholder is located outside a table, then a new table for screenshots and comments will be created. A Docu Generator-default table style will be used. If a placeholder is not found, screenshots and comments will be appended to the end of the template. You will be warned about this in the Save Results window

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 The IT Professional's Software Community	itninja.com/pace
	@pacesuite
	fb.com/pacesuite
	https://www.linkedin.com/groups/PACE-Suite-APS-community-4765703